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County Profile

Boyd County

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table BCO.1: Boyd County Local Planning Team

Name	Title	Jurisdiction
Dolly Kienke	Planning/Zoning/Floodplain Administrator	Boyd County
Alan Nicolaus	Board of Supervisors	Boyd County
Ronald Bernt	Board of Supervisors	Boyd County
Steve Spencer	Chairman of the Board of Supervisors	Boyd County
Gary Connot	Highway Superintendent	Boyd County
Chuck Wrede	Sheriff	Boyd County
Leslie Purviance	Board of Supervisors	Boyd County

Location, Geography, and Climate

Boyd County is located in north-central Nebraska and is bordered by Keya Paha, Rock, Holt, and Knox Counties, as well as South Dakota. The total area of Boyd County is 545 square miles. The largest community is the Village of Spencer. The county seat is the Village of Butte. Boyd County also had six other villages: Anoka, Bristow, Gross, Lynch, Monowi, and Naper. There are also nine designated administrative townships in the county; Butte, Basin, Bush, Bristow, Lynch, McCulley, Morton, Mullen, and Spencer.

The county is located in the high plains section of the Great Plains, which is characterized by a mixed-grass prairie on grass-stabilized sand dunes. The Missouri River, the Niobrara River, and the Keya Paha River (a tributary of the Niobrara and Ponca Creek) constitute the major drainage basins in the county.

Climate

The table below compares climate indicators with those of the entire state. Climate data is helpful in determining if certain events are higher or lower than normal. For example, if the high temperatures in the month of July are running well into the 90s, high heat events may be more likely which could impact vulnerable populations.

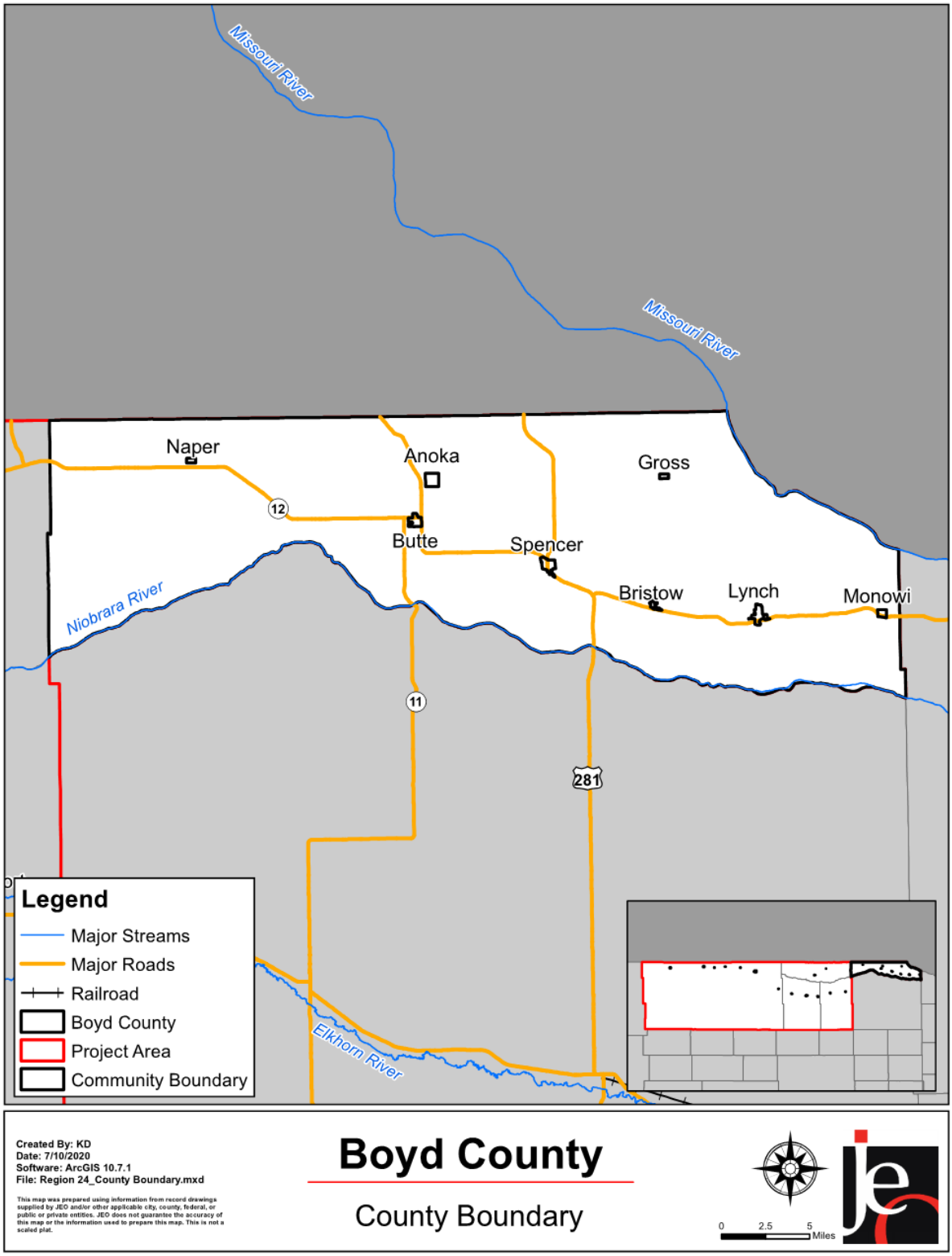
Table BCO.2: Boyd County Climate

	Boyd County	State of Nebraska
July Normal High Temp[1]	85.9	87.4
January Normal Low Temp[1]	13.8	13.8
Annual Normal Precipitation[2]	23.8	23.8
Annual Normal Snowfall[2]	25.9	25.9

Source: NCEI Climate Normals[1], High Plains Regional Climate Center[2]
Precipitation includes all rain and melted snow and ice.

1 National Centers for Environmental Information. "1981-2010 U.S. Climate Normals." Accessed July 2020. https://www.ncdc.noaa.gov/cdo-web/datatools.
2 High Plains Regional Climate Center. "Monthly Climate Normals 1899-2020 – Lynch NE." Accessed July 2020. http://climod.unl.edu/.

Figure BCO.1: Boyd County



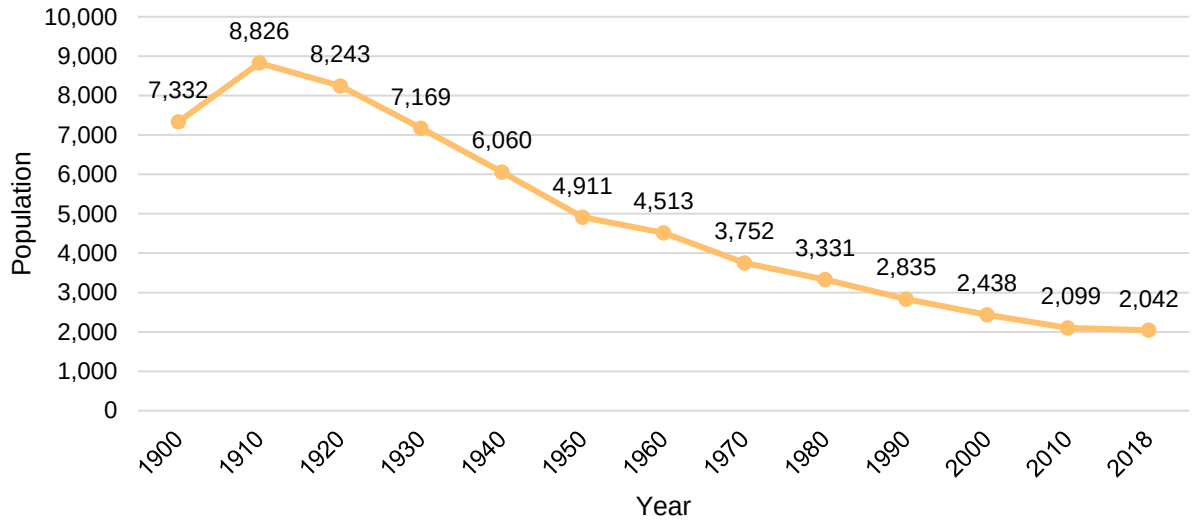
Transportation

Boyd County's major transportation corridors include US Highway 281 and Nebraska State Highways 11 and 12. There are no rail lines traveling through the county. The county also has one air landing strip located in the Village of Lynch. The local planning team indicated that all three highways are the transportation routes of most concern for the county. Agricultural chemicals are regularly transported on these highways, but no large spills have occurred. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors, as well as areas more at risk of transportation incidents.

Demographics, Economics, and Housing

The following figure displays the historical population trend from 1900 to 2018.[3] This figure indicates that the population of Boyd County has been decreasing since 1910. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the county, which could make implementation of mitigation projects more fiscally challenging.

Figure BCO.2: Population 1900 - 2018



Source: U.S. Census Bureau

The following table indicates Boyd County has a lower percentage of people under the age of five and a higher percentage of people over the age of 64. This is relevant to hazard mitigation because the very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see Section Four: Risk Assessment.

Table BCO.3: Population by Age

Age	Boyd County	State of Nebraska
<5	5.0%	6.9%
5-64	66.8%	78.1%
>64	28.2%	15.0%
Median	52.3	36.4

Source: U.S. Census Bureau[3]

3 United States Census Bureau. 2018. "S0101: Age and Sex." [database file]. https://data.census.gov/cedsci/.

The following table indicates that median household income and per capita income for the county is lower than the State of Nebraska. Median home value and rent are also both lower than the rest of the state. These economic indicators are relevant to hazard mitigation because they indicate the relative economic strength compared to the state as a whole. Areas with economic indicators which are relatively low may influence a county's level of resilience during hazardous events.

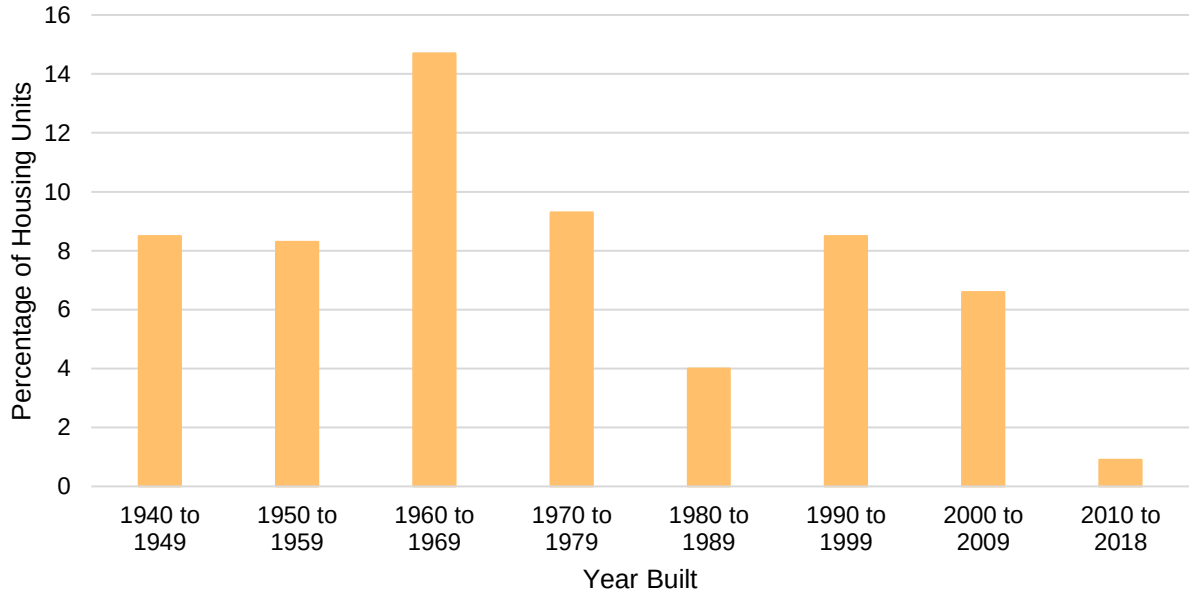
Table BCO.4: Housing and Income

	Boyd County	State of Nebraska
Median Household Income	$50,729	$59,116
Per Capita Income	$27,951	$31,101
Median Home Value	$67,100	$147,800
Median Rent	$463	$803

Source: U.S. Census Bureau[4],[5]

The following figure indicates that the majority of housing in Boyd County was built between 1960 and 1969 (14.7%). According to 2018 ACS 5-year estimates, the county has 1,408 housing units with 64.1 percent of those units occupied. There are approximately 177 mobile homes in the county. There are three mobile home parks in unincorporated areas of the county. All three are located north of Lynch. Housing age can serve as an indicator of risk, as structures built prior to the development of state building codes may be at greater risk. Finally, residents that live in mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if not anchored correctly.

Figure BCO.3: Housing Units by Year Built



Source: U.S Census Bureau[4]

4 United States Census Bureau. 2018. "DP04: Selected Housing Characteristics." [database file]. https://data.census.gov/cedsci/.
5 United States Census Bureau. 2018. "DP03: Selected Economic Characteristics." [database file]. https://data.census.gov/cedsci/.

Table BCO.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Boyd County	903	64.1%	505	35.9%	734	81.3%	169	18.7%
Nebraska	754,063	90.8%	76,686	9.2%	498,567	66.1%	255,496	33.9%

Source: U.S. Census Bureau[4]

Major Employers

According to 2016 Business Patterns Census Data, Boyd County had 70 business establishments. The following table presents the number of establishments, number of paid employees, and the annual payroll in thousands of dollars.

Table BCO.6: Business in Boyd County

	Total Businesses	Number of Paid Employees	Annual Payroll
Total for All Sectors	70	397	$11,112,000

Source: U.S Census Bureau[6]

Agriculture is important to the economic fabric of the State of Nebraska. Boyd County's 229 farms cover 116,564 acres of land, about 33% of the county's total area. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute to agriculture by producing, processing and marketing farm products. These businesses generate income, employment and economic activity throughout the region.

Table BCO.7: Agricultural Inventory

	Agricultural Inventory
Number of Farms with Harvested Cropland	229
Acres of Harvested Cropland	116,564

Source: USDA Census of Agriculture, 2017[7]

Future Development Trends

Over the past five years, a few new homes and farm buildings were built in the county. One house was built in the floodplain and several cabins and garages were built along the Niobrara River. Those structures were elevated to at least one foot above base flood elevation. There are fewer businesses and occupied houses than in 2015. According to the 2018 American Community Survey estimates, Boyd County's population is declining. The local planning team attribute this to low employment opportunities and very little industry. In the next five years, a new seed house in Butte is planned. No other housing or businesses are planned in unincorporated areas.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

6 United States Census Bureau. "2016 County Business Patterns and 2016 Nonemployer Statistics" [database file]. https://data.census.gov/cedsci/.

7 U.S. Department of Agriculture. "2017 Census of Agriculture." https://www.nass.usda.gov/Publications/AgCensus/2017/.

Table BCO.8: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in the Floodplain
1,555	$58,154,345	436	$17,253,500	28.0%

Source: County Assessor, 2018

Community Lifelines

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are a total of 10 chemical storage sites throughout Boyd County. The following table lists the name, location, and whether they are in the floodplain. The hospital in Lynch and nursing home in Butte are both located near chemical fixed sites.

Table BCO.9: Chemical Storage Fixed Sites

Facility Name	Nearest Community	In Floodplain (Y/N)
Butte Farms Supply Inc.	Butte	N
Farmers Union Cooperative Co	Spencer	N
NDOT Naper Yard	Naper	N
NDOT Spencer Yard	Spencer	N
Ponca Valley Oil Company	Lynch	Y
Ponca Valley Oil Company	Bristow	N
Sapp Bros Petroleum Inc	Naper	N
Sapp Bros Petroleum Inc	Lynch	N
Sapp Bros Petroleum Inc	Spencer	N
Sapp Bros Petroleum Inc	Butte	N

Source: Nebraska Department of Environment and Energy, 2019[8]

Critical Facilities

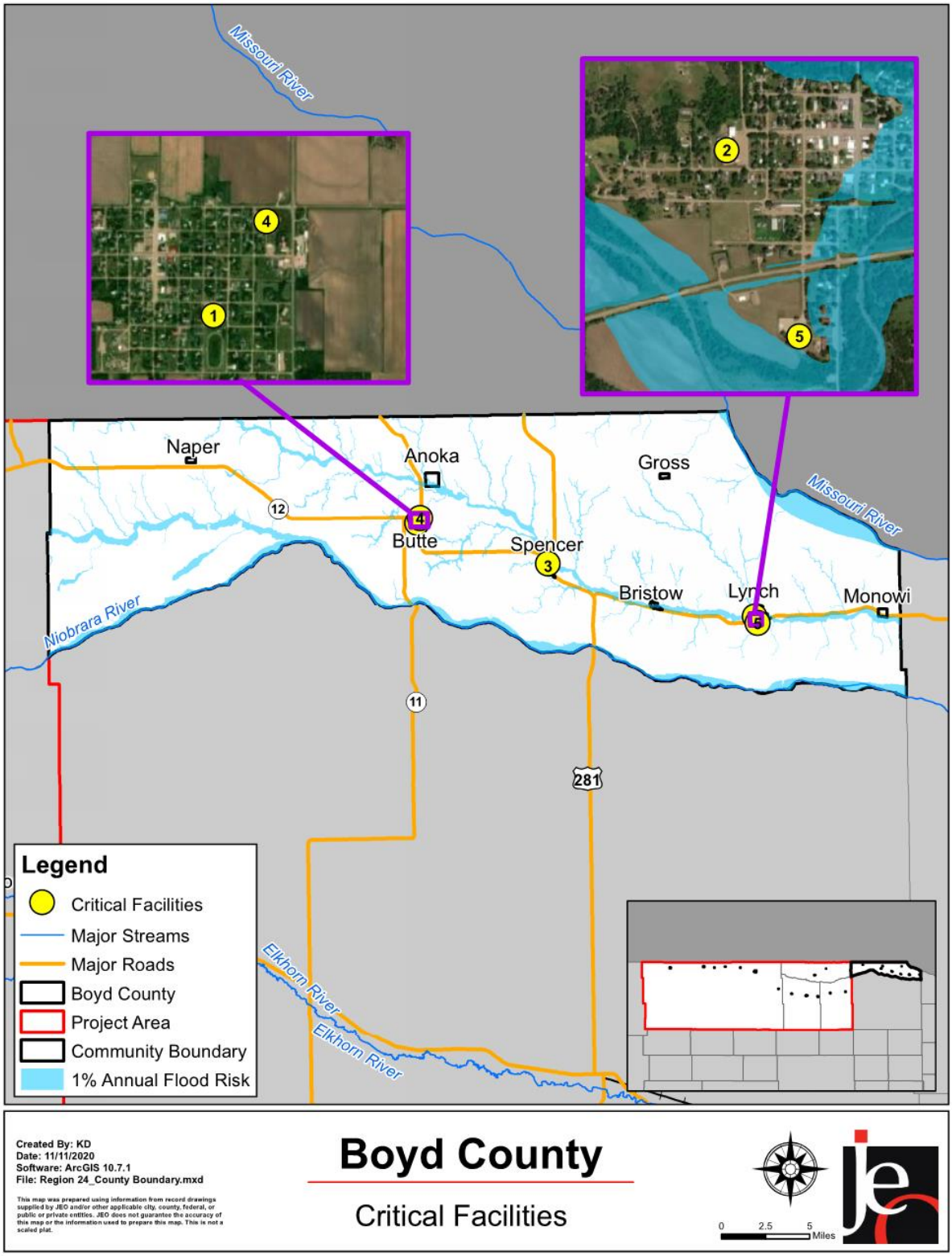
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during 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 the jurisdiction. All five facilities are located near major transportation routes.

Table BCO.10: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Boyd County Butte Elementary	Y	Y	N
2	Boyd County Lynch Elementary	Y	Y	N
3	Boyd County MS/HS	Y	Y	N
4	Butte Senior Living	N	Y	N
5	Niobrara Valley Hospital	N	Y	N

8 Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed July 2020. https://deq-iis.ne.gov/tier2/tier2Download.html.

Figure BCO.4: Critical Facilities



Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. The property damages from the NCEI Storm Events Database (January 1996 – March 2020) should be considered only as broad estimates. Crop damages reports come from the USDA Risk Management Agency for Boyd County between 2000 and June 2020.

Table BCO.11: County Hazard Loss History

Hazard Type		Count	Property Damage	Crop Damage[2]
Agricultural Disease	Animal Disease[1]	11	20 animals	N/A
	Plant Disease[2]	5	N/A	
Chemical and Radiological Hazards (Fixed Site)[3]		0	$0	N/A
Chemical and Radiological Hazards (Transportation)[4]		0	$0	N/A
Civil Disorder		0	N/A	N/A
Dam Failure[5,6]		0	N/A	N/A
Drought[7]		432 of 1,502 months	$30,000,000	$30,979,122
Earthquakes[17]		0	$0	N/A
Extreme Heat[8]		Avg. 5 days a year	N/A	$1,233,165
Flooding[9]	Flash Flood 1 Fatality	8	$12,300,000	$225,165
	Flood	6	$9,575,000	
Grass/Wildfires[10] 3 Injuries		146	11,140 acres	$72,244
Hail[9] Average: 1.19 inch Range: 0.75 – 4.5 inches		125	$211,400	$726,992
High Wind[9] Average: 52 mph Range: 40-62 mph		15	$0	$83,050
Landslides[15]		56	$0	N/A
Levee Failure[16]		0	$0	N/A
Public Health Emergency		2	N/A	N/A
Severe Thunderstorms[9]	Thunderstorm Wind Average: 66 mph Range: 60-81 mph	36	$280,000	$3,285,533
	Heavy Rain	1	$0	
	Lightning	0	$0	
Severe Winter Storms[9]	Blizzard 1 Fatality	11	$271,000	$578,413
	Extreme Cold/Wind chill	12	$0	
	Heavy Snow	6	$0	
	Ice Storm	2	$0	
	Winter Storm	40	$72,000	
	Winter Weather	0	$0	
Terrorism[14]		0	$0	N/A
Tornadoes[9] Average: EF0		1	$0	$0

Hazard Type		Count	Property Damage	Crop Damage[2]
Range: EF0				
Transportation Incidents	Auto[11] 7 Fatalities, 115 Injuries	240	N/A	N/A
	Aviation[12] 1 Fatality, 1 Injury	8	N/A	N/A
	Highway Rail[13]	0	$0	N/A
Total		**729**	**$52,709,400**	**$37,209,775**

N/A: Data not available
1 - NDA, 2014 – March 2020
2 - USDA RMA, 2000 – June 2020
3 - NRC, 1990 – February 2020
4 - PHSMA, 1971 – June 2020
5 - Stanford NPDP, 1890 – 2018
6 – DNR Dam Inventory, July 2020
7 - NOAA, 1895 – May 2020
8 – NOAA Regional Climate Center, 1893 – May 2020
9 – NCEI, 1996 – March 2020
10 – NFS, 2000 – April 2020
11 – NDOT, 2006 – 2018
12 – NTSB, 1962 – June 2020
13 – DOT FRA, 1975 – 2020
14 – University of Maryland, 1970 – 2018
15 – University of Nebraska, 1960 – 2013
16 – USACE NLN, 1900 – June 2020
17 – USGS, 1900 – June 2020

The following table provides a summary of hazards that have or have the potential to affect each participating jurisdiction in Boyd County. Each jurisdiction was evaluated for previous hazard occurrence and the probability of future hazard events on each of the 20 hazards profiled in this plan. The evaluation process was based on data collected and summarized in Table BCO.11; previous impacts or the potential for impacts to infrastructure, critical facilities, people, and the economy; and the proximity to certain hazards such as dams and levees. For example, while there have not been instances of dam failure in the county, there exists a possibility for a dam to fail in the future due to the presence of dams in the county.

Table BCO.12: Boyd County and Community Hazard Matrix

Hazard	Boyd County	Village of Bristow	Village of Butte	Village of Lynch	Village of Naper	Village of Spencer	Boyd County Rural Water District #2	Boyd County Schools	Naper Rural Fire District
Ag. Disease	X	X	X	X	X	X			
Chemical (Fixed Site)	X	X	X	X	X	X	X	X	X
Chemical (Transportation)	X	X	X	X	X	X	X	X	X
Civil Disorder	X	X	X	X	X	X		X	X
Dam Failure	X	X				X	X	X	X
Drought	X	X	X	X	X	X	X	X	X
Earthquakes	X	X	X	X	X	X	X	X	X
Extreme Heat	X	X	X	X	X	X	X	X	X
Flooding	X	X	X	X	X	X	X	X	X
Grass/Wildfires	X	X	X	X	X	X	X	X	X
Hail	X	X	X	X	X	X	X	X	X
High Wind	X	X	X	X	X	X	X	X	X
Landslides	X	X	X	X	X	X	X	X	X
Levee Failure									
Public Health Emergency	X	X	X	X	X	X	X	X	X
Severe Thunderstorms	X	X	X	X	X	X	X	X	X

Hazard	Boyd County	Village of Bristow	Village of Butte	Village of Lynch	Village of Naper	Village of Spencer	Boyd County Rural Water District #2	Boyd County Schools	Naper Rural Fire District
Severe Winter Storms	X	X	X	X	X	X	X	X	X
Terrorism	X	X	X	X	X	X	X	X	X
Tornadoes	X	X	X	X	X	X	X	X	X
Transportation Incidents	X	X	X	X	X	X		X	X

County Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the county. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the county's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Drought

Given the rural nature of Boyd County and its heavy reliance on agriculture and ranching, Boyd County identified drought as a top concern. At present, the county does not have water conservation programs nor is there a drought monitoring board. The county also indicated that the water supply is sufficient. However, due to the 2019 flooding, the rural water supply was damaged. It will be quite a while until it is fully repaired so until then, parts of the water supply are down.

Extreme Heat

The county expressed concerns about extreme heat, especially in regard to its impact on the county's aging population. Boyd County has an older population compared to other parts of the states, and therefore as a whole may be more vulnerable to the effects of extreme heat. The county does have public meeting and event cancellation procedures for this hazard. The county expressed no concerns regarding their power supply during extreme heat events.

Flooding

Boyd County has experienced damages from flooding in the past. Flooding occurred in 1997 when snow melt and ice to break up on Ponca Creek and Keya Paha River caused flooding from Bristow east to the Boyd County line. Numerous homes and businesses incurred damage. County roads and bridges also sustained damage. Also, considerable soil erosion occurred to agricultural land. The county also sustained large impacts from the 2019 floods. Many roads and bridges were washed out and had to be rebuilt. The Highway 281 bridge south of Spencer was destroyed after the Spencer Dam failed and is still in the process of being rebuilt. Farmland from Bristow to the county line was impacted with floodwaters and sand. Community impacts from the floods will be discussed in their individual community profiles. Total estimated damages from the event was $8,200,000.

The Niobrara River, Keya Paha River, and Ponca Creek represent the main sources of flooding. Boyd County officials indicated that they do not restrict development in the floodplain in unincorporated areas but indicated that they do participate in the NFIP and have a designated floodplain manager.

Landslides
Concerns regarding landslides include restricted water flows from landslides near creeks and rivers, and road damage. The University of Nebraska-Lincoln reported 56 landslides in the county from 1960 to 2013. This is by far the most landslides of any county in Nebraska. Reported landslides were typically small ranging from 30 to 1400 feet by 50 to 1,100 feet.

Severe Winter Storms
Boyd County identified severe winter storms as a hazard of concern, especially as it relates to the impacts it has on the local economy. Located on the northern border of Nebraska, severe winter storms are an annual occurrence that can induce secondary hazards, such as prolonged power outages. Boyd County indicated that at present there are no power lines buried in the county, nor are there designated snow routes. The county supervisor is in charge of clearing the roads. The county also indicated that it uses snow fences.

Tornadoes
Although only one tornado has been sighted in Boyd County within the past 24 years, there were 10 tornadoes between 1950 and 1992. As a mitigation effort, the county does use a backup system for record maintenance. There are also mutual aid agreements in place with neighboring counties which may alleviate the impacts of these hazards should they occur. The county courthouse is also used as a safe room during tornado events. There are no other designated safe room options in the county. The county does not have a database for vulnerable populations. The county does not issue text alerts during severe weather events.

Governance
The county's governmental structure impacts its capability to implement mitigation actions. Boyd County is governed by a board of supervisors. The county also has the following offices and departments:

- County Clerk
- County Assessor
- County Treasurer
- County Attorney
- Floodplain Administrator
- Emergency Manager
- Highway Superintendent
- Maintenance Department
- Planning & Zoning
- Sheriff
- Surveyor
- Weed Superintendent

Capability Assessment
The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the county's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table BCO.13: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	Community Wildfire Protection Plan
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess County's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to levy taxes for specific purposes such as mitigation projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible	No

Survey Components/Subcomponents		Yes/No
	water use, fire safety, household preparedness, environmental education)	
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited

Plan Integration

Boyd County has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan. In addition, the county has a building code, but it has not been integrated with the hazard mitigation plan. The county will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Boyd County Local Emergency Operations Plan (2018)

The local emergency operations plan establishes standardized policies, plans, guidelines and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding, direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

Capital Improvements Plan

The capital improvements plan lists projects the county would like to do in the future. Projects within the plan include upsizing culverts and drainage structures, improving transportation routes for drainage, widening roadways, bridge improvements, and constructing a new fire hall.

Comprehensive Plan

The comprehensive plan is designed to guide the future actions of the county. It contains goals and objectives aimed at safe growth, directs development away from the floodplain, directs development away from chemical storge facilities, encourages the elevation of structures located in the floodplain, and encourages the preservation of open space. Currently the plan is being updated with plans for completion by the end of 2021.

North Central Nebraska Community Wildfire Protection Plan (2020)

The purpose of the North Central Nebraska Community Wildfire Protection Plan (CWPP) is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection

capabilities, and identifies wildfire mitigation strategies. This document is updated every five years and has been integrated with the current hazard mitigation plan.

Wellhead Protection Plan

The wellhead protection plan helps protect the county's groundwater from contamination by identifying potential sources of contamination and managing the potential contaminant sources.

Zoning Ordinance and Floodplain Regulations

The county's zoning ordinance and floodplain regulations outline where and how development should occur in the future. They contain floodplain maps, discourage development in the floodplain, discourage development near chemical storage sites, consider the wildland urban interface, and include well setback requirements. Both of these documents are currently being updated with anticipated completion by the end of 2021.

Mitigation Strategy

Boyd County's funds are insufficient to maintain current systems and facilities. Funds have increased over recent years but not enough to meet current needs. A large portion of funds are already dedicated to rebuilding and fixing roads and bridges. Assistance from grants will likely be needed to implement many of the mitigation actions listed below. The county has experience applying for and has been awarded several grants in the last five years.

New Mitigation Actions

Mitigation Action	Elevator for Courthouse
Description	An elevator is needed to be installed at the courthouse.
Hazard(s) Addressed	All Hazards
Estimated Cost	$300,000
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Boyd County Supervisors
Status	Not Started

Continued Mitigation Actions

Mitigation Action	Adopt a No Adverse Impact
Description	Adopt a no adverse impact approach to floodplain management.
Hazard(s) Addressed	Flooding, Dam Failure, Levee Failure
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors, Floodplain Administrator
Status	Not Started

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	All Hazards
Estimated Cost	$15,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Backup and Emergency Generators
Description	Provide a portable or stationary source of backup power to offer redundant power supplies, county wells, lift stations, and other critical facilities and shelters.
Hazard(s) Addressed	All Hazards
Estimated Cost	$60,000
Funding	General Budget
Timeline	1 Year
Priority	Medium
Lead Agency	Boyd County Supervisors, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Business Continuity Plans
Description	Educate local businesses on the value of continuity planning.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	Medium
Lead Agency	Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This could include fire equipment, ATVs, water tanks/truck, snow removal equipment, pumps, etc. This would also include developing backup systems for emergency vehicles, identifying and training additional personnel for emergency response, and/or continuing educational opportunities for current personnel.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors, Fire Departments
Status	Not Started

Mitigation Action	Continuity Plan
Description	Develop continuity plans for critical community services.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500 - $1,000
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies 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. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Drought Monitoring Plan and Procedures
Description	Develop and implement a plan/program to monitor the effects of drought.
Hazard(s) Addressed	Drought
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Emergency Communications
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Boyd County Supervisors, Fire Departments, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Expand Water Storage Capacity / Emergency Water Supplies / Dry Hydrants
Description	Evaluate the need to expand water storage capacity through a new water tower, standpipe, etc., to provide a safe water supply for the community and additional water for fire protection. Establish emergency water supplies such as dry hydrants and individual or community cisterns for defending structures from wildland fires.
Hazard(s) Addressed	Drought, Extreme Heat, Grass/Wildfire
Estimated Cost	Varies
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Facilities for Vulnerable Populations
Description	Ensure that facilities which will house vulnerable populations in the future are placed in the least vulnerable areas of the community.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	High
Lead Agency	Boyd County Supervisors, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Flood-Prone Property Acquisition
Description	Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the NFIP.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies
Funding	General Budget
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Floodplain Management
Description	Improve floodplain management practices such as adoption and enforcement of floodplain management requirements (regulation of construction in SFHAs), floodplain identification and mapping (local requests for map updates), description of community assistance and monitoring activities, Community Rating System participation, and participation in FEMA's Cooperating Technical Partners Program to increase local involvement in the flood mapping process.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Boyd County Supervisors, Floodplain Administrator
Status	Not Started

Mitigation Action	Firewise Community
Description	Work to become a Firewise Community/USA participant through the Nebraska Forest Service and US Forest Service in order to educate homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire. The Firewise Communities approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance. Boyd County would like to work with and encourage communities in its boundaries to join.
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	$20,000
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors, Individual Communities
Status	Not Started

Mitigation Action	Groundwater/Irrigation/Water Conservation Management Plan
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 or improvements such as sprinklers or soil moisture monitoring. Potential restrictions on water could include limitations 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 modified crop selection and use of xeriscaping in communities.
Hazard(s) Addressed	Drought
Estimated Cost	$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Hail Resistant Roofing
Description	Encourage the use of hail resistant roofing for any new construction.
Hazard(s) Addressed	Hail
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	$20,000
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Improve Snow/Ice Removal Program / Snow Fence
Description	Revise and improve the snow and ice removal program for county roads. Revisions should address situations such as plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris. This would include updating the emergency routes, acquiring equipment that is needed, paving routes, and ordinances as necessary. Consider purchase of snow fence for critical areas and installation of living snow fence.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	$20,000+
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Maintenance Department
Status	Not Started

Mitigation Action	Install Vehicular Barriers
Description	Install vehicular barriers to protect critical facilities and key infrastructure where possible.
Hazard(s) Addressed	Transportation Incidents, Terrorism, Civil Disorder
Estimated Cost	Varies
Funding	General Budget
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Low Impact Development
Description	Utilize low impact development practices and green infrastructure to reduce flood risk.
Hazard(s) Addressed	Flooding, Dam Failure, Levee Failure
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors, Floodplain Administrator
Status	Not Started

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Boyd County can work with their Nebraska Public Power District to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. Rural Water Districts can work with their county or NRD to identify vulnerable distribution lines near river crossings or creek beds and plan to place lines underground to reduce vulnerability from storm events and erosion.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	$50,000 - $70,000
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	NPPD, Boyd County Supervisors
Status	Not Started

Mitigation Action	Preserve Natural Floodplain
Description	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds; and preserving open space in the floodplain.
Hazard(s) Addressed	Flooding, Dam Failure, Levee Failure
Estimated Cost	Varies
Funding	General Budget, Park Funds
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors, Floodplain Administrator
Status	Not Started

Mitigation Action	Promote First Aid
Description	Promote first aid training for all residents.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500+
Funding	General Budget, Corporate Donations, Volunteer Time
Timeline	5+ Years
Priority	Medium
Lead Agency	County Hospital, Schools, Fire Departments, Boyd County Supervisors
Status	In Progress. First responder classes have been held.

Mitigation Action	Promote Higher Codes
Description	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Year
Priority	High
Lead Agency	Planning/Zoning, Boyd County Supervisors
Status	In Progress. The county is working on writing new regulations into the comprehensive plan.

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education, increase public awareness of natural 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. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	$0 - $5,000+
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Emergency Management Director
Status	Not Started

Mitigation Action	Safe Rooms and Storm Shelters
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as campgrounds, schools, and across the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$200 - $300 per square foot
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Boyd County Supervisors, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Source Water Contingency Plan
Description	Villages and cities can evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur. Also, identify and develop water sources for fire protection.
Hazard(s) Addressed	Drought, Grass/Wildfire
Estimated Cost	$5,000+
Funding	CDBG, State Revolving Fund, General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel, and Propane Tanks
Description	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in a tornado or high wind event. Boyd County indicated a willingness to partner with the City of Spencer to complete this action.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$1,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Boyd County Supervisors, City of Spencer
Status	Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. Smaller communities may utilize stormwater systems comprised of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossings can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges and other flow restrictions may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Medium
Lead Agency	Boyd County Supervisors
Status	In Progress. Some drainage issues have been improved.

Mitigation Action	Stream Bank Stabilization / Grade Control Structures / Channel Improvements
Description	Stream bank/ bed degradation can occur along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Grade control structures including sheet-pile weirs, rock weirs, ponds, road dams, etc. can be implemented and improved to maintain the channel bed. Channel stabilization can protect structures, increase conveyance and provide flooding benefits.
Hazard(s) Addressed	Flooding
Estimated Cost	$50,000 - $100,000+
Funding	General Budget
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors
Status	In Progress. NRCS projects have been completed.

Mitigation Action	Tree City USA
Description	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	$1,000+
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Boyd County Supervisors
Status	Not Started

Mitigation Action	Vulnerable Population Support Database
Description	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	Low
Lead Agency	Boyd County Supervisors, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Warning Systems
Description	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Boyd County Supervisors, Fire Departments, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Region 24 Emergency Management Agency
Status	Not Started

Removed Mitigation Actions

Mitigation Action	Maintain Good Standing with National Flood Insurance Program
Hazard(s) Addressed	Flooding
Reason for Removal	While the county will continue to participate and maintain compliance in the NFIP, this project is considered an ongoing action.

Mitigation Action	Mitigation Education
Hazard(s) Addressed	All Hazards
Reason for Removal	This action will be a part of the public awareness/education action.

Community Profile

Village of Bristow

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table BRS.1: Bristow Local Planning Team

Name	Title	Jurisdiction
Gail Spencer	Clerk/Treasurer/Floodplain Administrator	Village of Bristow
Marlo Johnson	Board Chairperson	Village of Bristow
Gary Flanders	Board Member	Village of Bristow
Max Korb	Board Member	Village of Bristow
Shawn Holmberg	Board Member	Village of Bristow
Paul Spencer	Board Member	Village of Bristow

Location and Geography

The Village of Bristow is in south-central Boyd County and covers an area of 102 acres. The community of Bristow lies in the Ponca Creek valley. Ranching is the primary land use in the area surrounding the community. Hilly land with moderate to steep slopes and rounded ridge crests is prevalent along with steam deposited sediments in the southern portion of the community. Bristow lies immediately north of the Ponca Creek. The watershed flows generally from the west to the east.

Transportation

Bristow's major transportation corridor includes State Highway 12. The most traveled route is Highway 12 with an average of 750 vehicles daily, 65 of which are trucks.[9] The village does not have a rail line traveling through or near the community. The local planning team indicated that Highway 12 and Highway 281 were the transportation routes of most concern due to chemicals (fuel, herbicides, insecticides) being regularly transported on them. No large chemical spills have occurred, but a landslide occurred on Highway 12 near Bristow and Highway 281 was washed out from the Niobrara River flooding. Both events caused extended road closures. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

Demographics

The Village of Bristow's population has increased to about 86 people since 2010. Increasing populations are associated with increased hazard mitigation and emergency planning requirements for new development. Increasing populations can also contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Bristow's population accounted for 4.2% of Boyd County's population in 2018.[10]

9 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

10 United States Census Bureau. 2018. "DP05: Demographic and Housing Estimates [database file]. https://data.census.gov/cedsci/.

Figure BRS.1: Village of Bristow

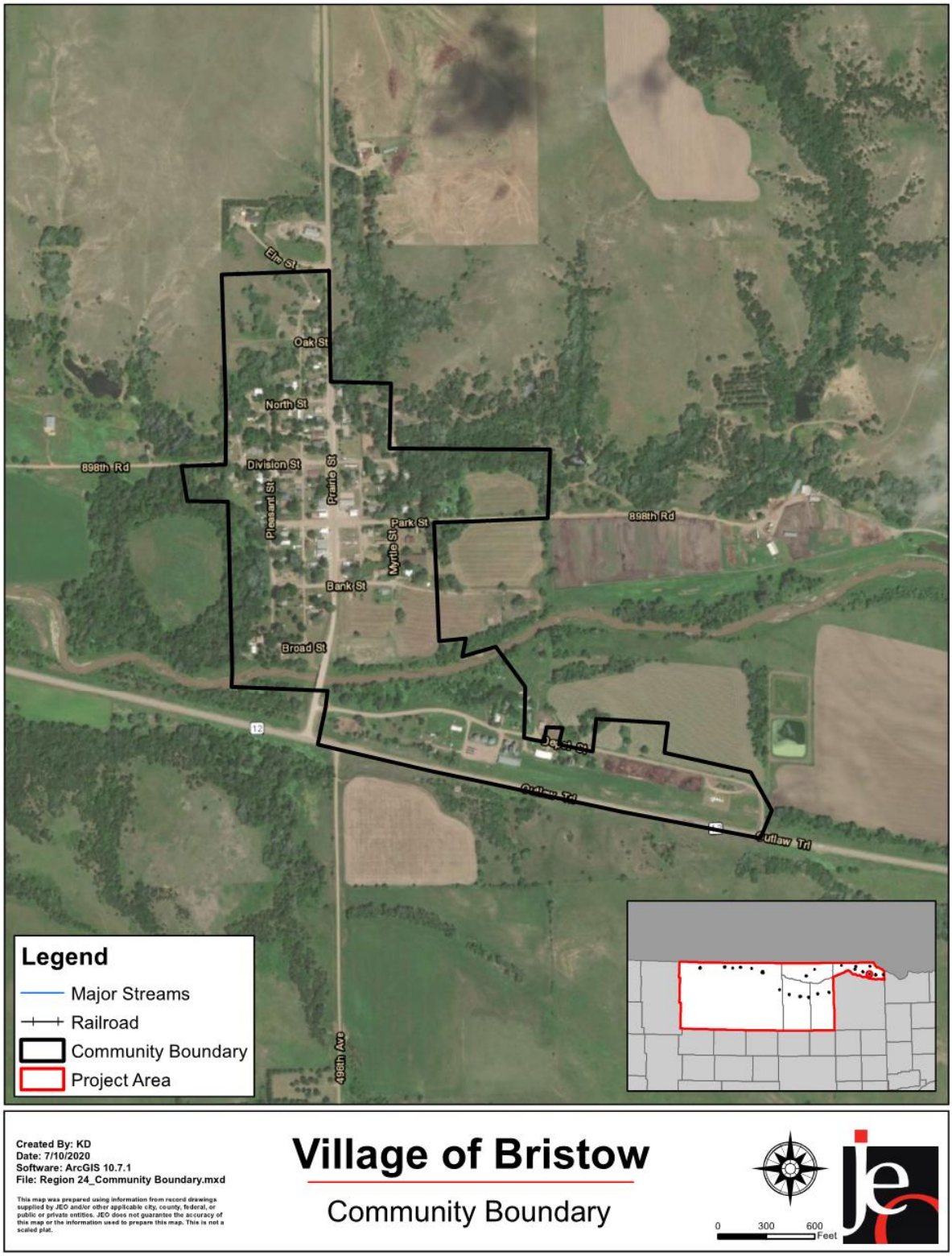
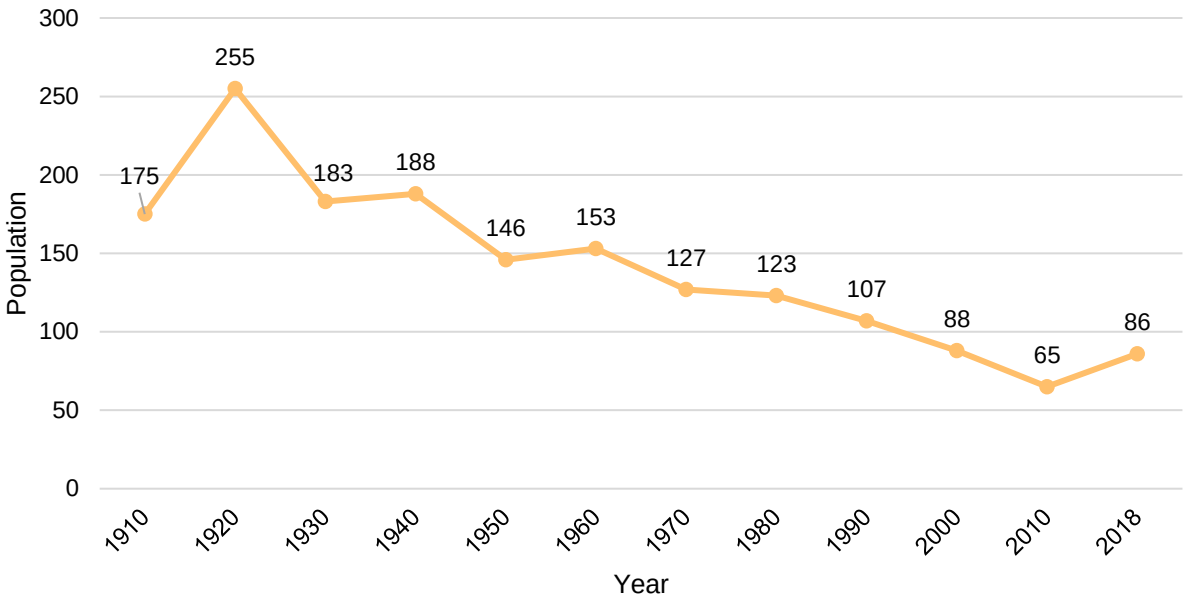


Figure BRS.2: Population 1910 - 2018



Source: U.S. Census Bureau

The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Bristow's population was:

- **Younger.** The median age of Bristow was 50.5 years old in 2018, compared with Boyd County's median of 52.3 years. Bristow's population grew younger since 2010, when the median age was 63.5 years old.[10]
- **Less ethnically diverse**. Since 2010, 0% of Bristow's population has been non-white. During that time, the non-white population in the county grew from 3.1% in 2010 to 4.5% in 2018.[10]
- **More likely to be below the federal poverty line.** The poverty rate in the Village of Bristow (24.4% of people living below the federal poverty line) was higher than the county's poverty rate (10.6%) in 2018.[11]

Employment and Economics

In comparison to Boyd County, Bristow's economy had:

- **Different mix of industries.** Bristow's major employment sectors, accounting for 10% or more of employment each, were: agriculture, construction, and transportation.[11]
- **Lower median household income.** Bristow's median household income in 2018 ($36,875) was about $14,000 lower than the county ($50,729).[11]
- **More long-distance commuters.** About 17.8% of workers in Bristow commuted for fewer than 15 minutes, compared with about 56.8% of workers in Boyd County. About 67.9% of workers in Bristow commuted 30 minutes or more to work, compared to about 23.3% of county workers.[12]

11 United States Census Bureau. 2018. "DP03: Selected Economic Characteristics." [database file]. https://data.census.gov/cedsci/.
12 United States Census Bureau. 2018. "S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://data.census.gov/cedsci/.

Major Employers

Nebraska State Bank is the major employer in the community. The local planning team estimates that 75% of residents commute to Spencer, Lynch, and O'Neill for employment.

Housing

In comparison to Boyd County, Bristow's housing stock was:

- **Older.** Bristow had a larger share of housing built prior to 1970 than the county (88.3% compared to 70.7%).[13]
- **More mobile and manufactured housing.** The Village of Bristow had a larger share of mobile and manufactured housing (15%) compared to the county (12.6%).[13]
- **More renter-occupied**. About 25% of occupied housing units in Bristow were renter-occupied compared with 18.7% of occupied housing in Boyd County.[13]
- **Less occupied.** Approximately 40% of Bristow's housing units were vacant compared to 35.9% of units in Boyd County.[13]

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

Future Development Trends

Over the past five years, the local planning team indicated that there have been no changes within the community. According to the 2018 American Community Survey Estimates, Bristow's population is growing. This was attributed to affordable housing and low utility rates. In the next five years, there are no planned housing developments or businesses.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table BRS.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in Floodplain
74	$1,054,130	30	$526,235	40.5%

Source: County Assessor, 2018

13 United States Census Bureau. 2018. "DP04: Selected Housing Characteristics." [database file]. https://data.census.gov/cedsci/.

Community Lifelines

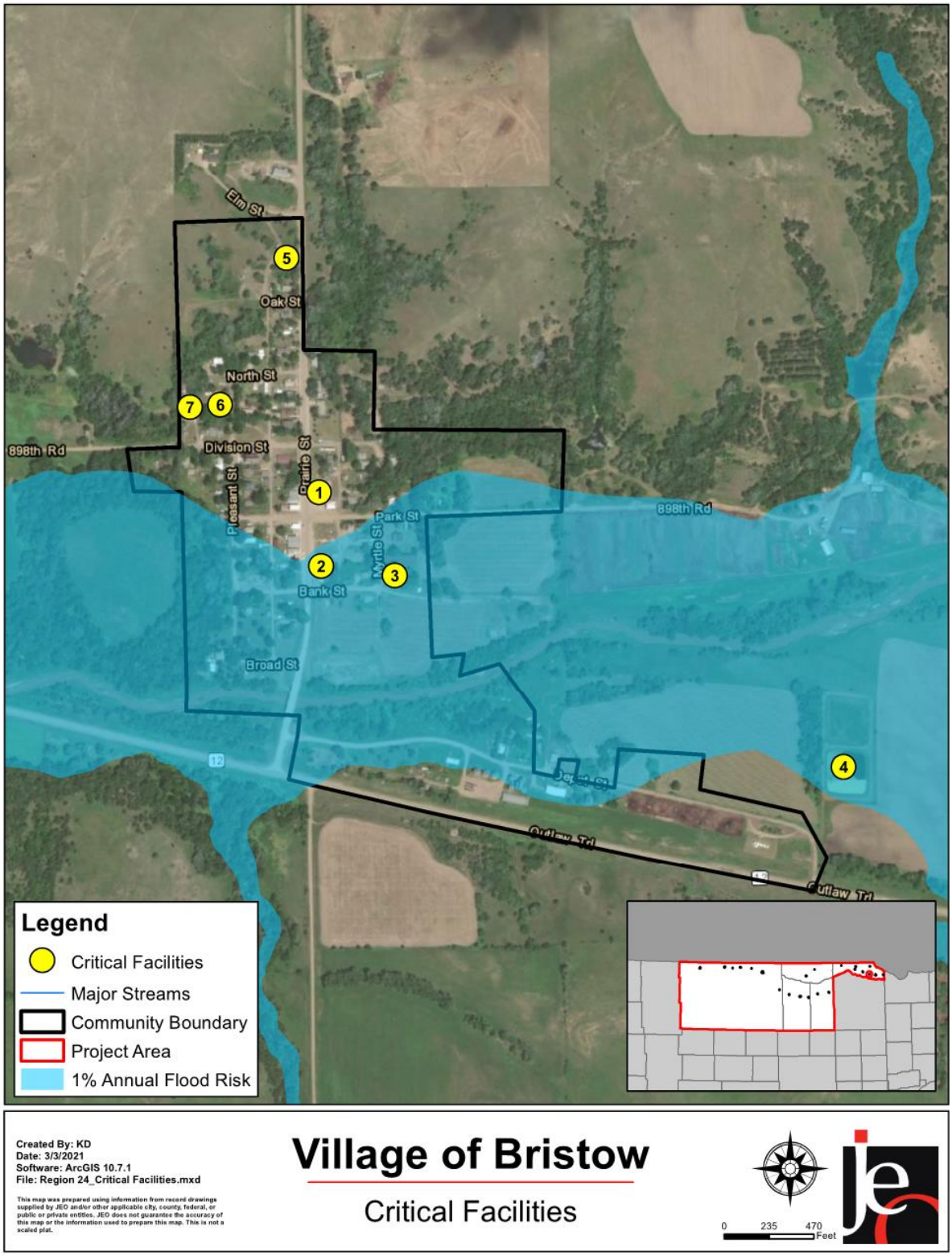
Critical Facilities

Each participating jurisdiction 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 the jurisdiction.

Table BRS.3: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Community Center	N	N	N
2	Fire Department	N	N	Y
3	Sewer Lift Station	N	Y	Y
4	Sewer Lagoon	N	N	Y
5	Water Tower	N	N	N
6	Water Treatment Plant	N	N	N
7	Well	N	N	N

Figure BRS.3: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Extreme Heat

Extreme Heat was identified as a top concern for Bristow. The main concern was how this hazard may impact the older population in Bristow. The community center would act as a cooling center if needed. However, it does not have a backup generator and would not be able to operate should power loss occur. Should events need to be cancelled due to extreme heat, it would be done by word of mouth. The fire department would be available to assist vulnerable populations during extreme heat events if necessary.

Flooding

Flooding was identified as a top concern for Bristow. The village recently experienced a flooding event in March 2019. Impacts included damage to several houses, sand being washed into the sewer system, washed out streets, and damage to the park. Approximately 50 percent of Bristow is located in the floodplain. The northern half and southern edge of the community are not in the floodplain. Although Bristow does allow development in the floodplain, it does participate in the NFIP. They have also constructed a wetland area in order to preserve natural open spaces in the floodplain. Bristow has a committed floodplain administrator and strives to maintain compliance with the NFIP. In order to reduce vulnerability from flooding, the community raised the generator for the sewer lift station.

Grass/Wildfires

Bristow indicated that the outer edges of the community are most vulnerable to wildfire. There is a dense urban wildland interface in Bristow, with numerous trees surrounding the village. Bristow presently takes several actions to mitigate the impacts of this hazard, including continued education through the fire department and the county, emergency services, and requiring burning permits.

Hail

Hail was identified as a top concern for Bristow, especially as it relates to property damage and economic impacts. The largest recorded hail even occurred in 2004 with up to 2.75-inch hail. Some critical facilities have hail resistant roofing, and all are insured for hail damage. During this plan update, Bristow has identified a desire to promote hail resistant roofing moving forward.

High Winds

High winds were identified as a top concern for Bristow. Bristow has a high number of housing units built prior to 1939, which may be more vulnerable to the impacts of high winds. Bristow is also concerned about the impacts that this hazard would have on critical facilities and the economy. There are no official safe rooms in the community, but the churches have basements that residents can use for shelter.

Severe Thunderstorms

Severe thunderstorms were identified as a top concern for Bristow, specifically with potential damage to critical facilities such as the community center and water treatment plant. The local planning team indicated that there are no powerlines buried in the community. This leaves Bristow with a higher vulnerability of power loss from downed trees and power poles. The sewer lift station is the only critical facility that has a backup generator; however, the village would like add backup generators to the well, community center, and sewer system.

Severe Winter Storms

Severe winter storms were identified as a top concern for Bristow, specifically for its impacts related to critical facilities and the local economy. Winter storms occur annually in the community and the county. Snow removal is handled by the village street superintendent using a tractor and blade. Village equipment is upgraded when funding is available.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Bristow is governed by a village board; other governmental offices and departments are listed below.

- Clerk/Treasurer
- Floodplain Administrator
- Attorney
- Water Commissioner
- Street Commissioner
- Sewer Operator
- Fire Department

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table BRS.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No

Survey Components/Subcomponents		Yes/No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Limited

Plan Integration

The Village of Bristow has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan. The village will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Boyd County Local Emergency Operations Plan (2018)

The Village of Bristow is an annex in the Boyd County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding, direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

Floodplain Ordinance (1989)

The village's floodplain ordinance outlines how development will occur in the floodplain. It requires that any development in the floodplain get a development permit, any new construction or substantial improvement be elevated to one foot above base flood elevation, construction materials be resistant to flood damage, and subdivisions have adequate drainage.

Water System Emergency Response Plan (2017)

A water system emergency response plan serves as a guideline for water operators and administration of the village to minimize the disruption of normal services to consumers and to provide public health protection during an emergency event. The document identifies several natural and manmade events and discusses the water system's response during those events.

Mitigation Strategy

Bristow's municipal funds are limited to maintaining current facilities/systems and have decreased over recent years. Assistance from grants is likely needed to help pay for many of the mitigation actions listed below. The village has experience applying for grants and has applied for and won three grants in the last five years. Continuing and expanding partnerships with the Lower Niobrara NRD, Boyd County, and state agencies will help in implementing these projects.

Completed Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Status	A new warning siren was purchased for the community.

Continued Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, lift stations, and other critical facilities and shelters. A backup generator is needed for the village water supply, sewer system and community hall.
Hazard(s) Addressed	All Hazards
Estimated Cost	$15,000 - $30,000 per generator
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Region 24 Emergency Management
Status	Not Started

Mitigation Action	Business Continuity Plans
Description	Educate local businesses on the value of continuity planning.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This could include fire equipment, ATVs, water tanks/truck, snow removal equipment, pumps, etc. This would also include developing backup systems for emergency vehicles, identifying and training additional personnel for emergency response, or continuing educational opportunities for current personnel.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies
Funding	General Budget
Timeline	1 Year
Priority	High
Lead Agency	Village Board, Fire Department
Status	Not Started

Mitigation Action	Continuity Plan
Description	Develop continuity plans for critical community services.
Hazard(s) Addressed	All Hazards
Estimated Cost	$1,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies 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. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements. This action would focus on residential and commercial areas within a quarter mile of Ponca Creek.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	CDBG, General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Emergency Communications
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	1 Year
Priority	High
Lead Agency	Village Board, Fire Department
Status	Not Started

Mitigation Action	Expand Water Storage Capacity / Emergency Water Supplies / Dry Hydrants
Description	Evaluate the need to expand water storage capacity through a new water tower, stand pipe, etc., to provide a safe water supply for the community and additional water for fire protection. Establish emergency water supplies such as dry hydrants and individual or community cisterns for defending structures from wildland fires.
Hazard(s) Addressed	Drought, Extreme Heat, Grass/Wildfire
Estimated Cost	Varies
Funding	General Budget
Timeline	1 Year
Priority	High
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Flood-Prone Property Acquisition
Description	Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the NFIP. This action would focus on residential and commercial areas within ¼ of a mile of Ponca Creek.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies on Value of Structure
Funding	CDBG, Loan, General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Floodplain Administrator
Status	Not Started

Mitigation Action	Floodplain Management
Description	Improve floodplain management practices such as adoption and enforcement of floodplain management requirements (regulation of construction in SFHAs), floodplain identification and mapping (local requests for map updates), description of community assistance and monitoring activities, Community Rating System (CRS) participation, and participation in FEMA's Cooperating Technical Partners Program to increase local involvement in the flood mapping process.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Floodplain Administrator
Status	Not Started

Mitigation Action	Groundwater/Irrigation/Water Conservation Management Plan
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 or improvements such as sprinklers or soil moisture monitoring. Potential restrictions on water could include limitations 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 modified crop selection and use of xeriscaping in communities.
Hazard(s) Addressed	Drought
Estimated Cost	$10,000+
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Hail Resistant Roofing
Description	Encourage the use of hail resistant roofing for any new construction.
Hazard(s) Addressed	Hail
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Private Landowners
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	$20,000
Funding	Village Board
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Bristow can work with NPPD to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. Rural Water Districts can work with their County or NRD to identify vulnerable distribution lines near river crossings or creek beds and plan to place lines underground to reduce vulnerability from storm events and erosion.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	$50,000 - $70,000 per Mile for Electrical
Funding	Village Board
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, NPPD, Rural Water Districts
Status	Not Started

Mitigation Action	Promote First Aid
Description	Promote first aid training for all residents.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500+
Funding	General Budget, Corporate Donations, Volunteer Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village 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 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. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	$5,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Sheltering in Place Outreach
Description	Ensure that all critical facilities, businesses, and residents located near major transportation corridors and near fixed site chemical facilities are aware of how to safely shelter in place in the event of a chemical incident.
Hazard(s) Addressed	Fixed Site Chemical and Radiological Hazards, Transportation Chemical and Radiological Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel, and Propane Tanks
Description	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in tornado or high wind event.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$1,000+
Funding	General Budget, Private Funds
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Private Landowners
Status	Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossing can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges and other flow restrictions may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	CDBG, General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Vulnerable Population Support Database
Description	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Removed Mitigation Actions

Mitigation Action	Drought Monitoring Plan and Procedures
Hazard(s) Addressed	Drought
Reason for Removal	The village would like to focus on other actions.

Mitigation Action	Floodplain Regulation Enforcement
Hazard(s) Addressed	Flooding
Reason for Removal	While the village will continue to enforce all local regulations, this project is considered an ongoing action.

Mitigation Action	Maintain Good Standing with National Flood Insurance Program
Hazard(s) Addressed	Flooding
Reason for Removal	While the village will continue to participate and maintain compliance in the NFIP, this project is considered an ongoing action.

Mitigation Action	Source Water Contingency Plan
Hazard(s) Addressed	Drought, Grass/Wildfire
Reason for Removal	The village would like to focus on other actions.

Community Profile

Village of Butte

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table BTE.1: Butte Local Planning Team

Name	Title	Jurisdiction
Shanna Brooks	Clerk	Village of Butte
Donavan Reiser	Chairman	Village of Butte
Scott Brewster	Board of Trustee	Village of Butte
Larry Hermsen	Board of Trustee	Village of Butte
Douglas Sextro	Board of Trustee	Village of Butte
Bradley Bernt	Board of Trustee	Village of Butte
Todd Reiser	Public Works Supervisor	Village of Butte
Linda Hazen	Finance Manager	Village of Butte

Location and Geography

The Village of Butte is in southwestern Boyd County and covers an area of 267 acres. The community of Butte lies between the Niobrara River Valley and the Ponca Creek Valley and is surrounded by dissected plains which are older, eroded plains and are hilly land with moderate to steep slopes and sharp ridge crests with remnants of the older, nearly level plains. The land use surrounding the community is primarily agricultural crops with some ranching. The watershed flows generally from the south to the north.

Transportation

Butte's major transportation corridors include State Highway 11 and 12. The most traveled route is Highway 12 with an average of 590 vehicles daily, 50 of which are trucks.[14] Chemicals are not regularly transported along either route and no major incidents have occurred. The village does not have any rail lines traveling through or near the community. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

Demographics

The Village of Butte's population has been stable at about 326 to 330 people since 2010. A stable population can lead to more occupied housing. Furthermore, with the same number of residents, there is stable tax revenue for the community, which could make implementation of mitigation projects more fiscally achievable. Butte's population accounted for 16.2% of Boyd County's population in 2018.[15]

14 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

15 United States Census Bureau. 2018. "DP05: Demographic and Housing Estimates [database file]. https://data.census.gov/cedsci/.

Figure BTE.1: Village of Butte

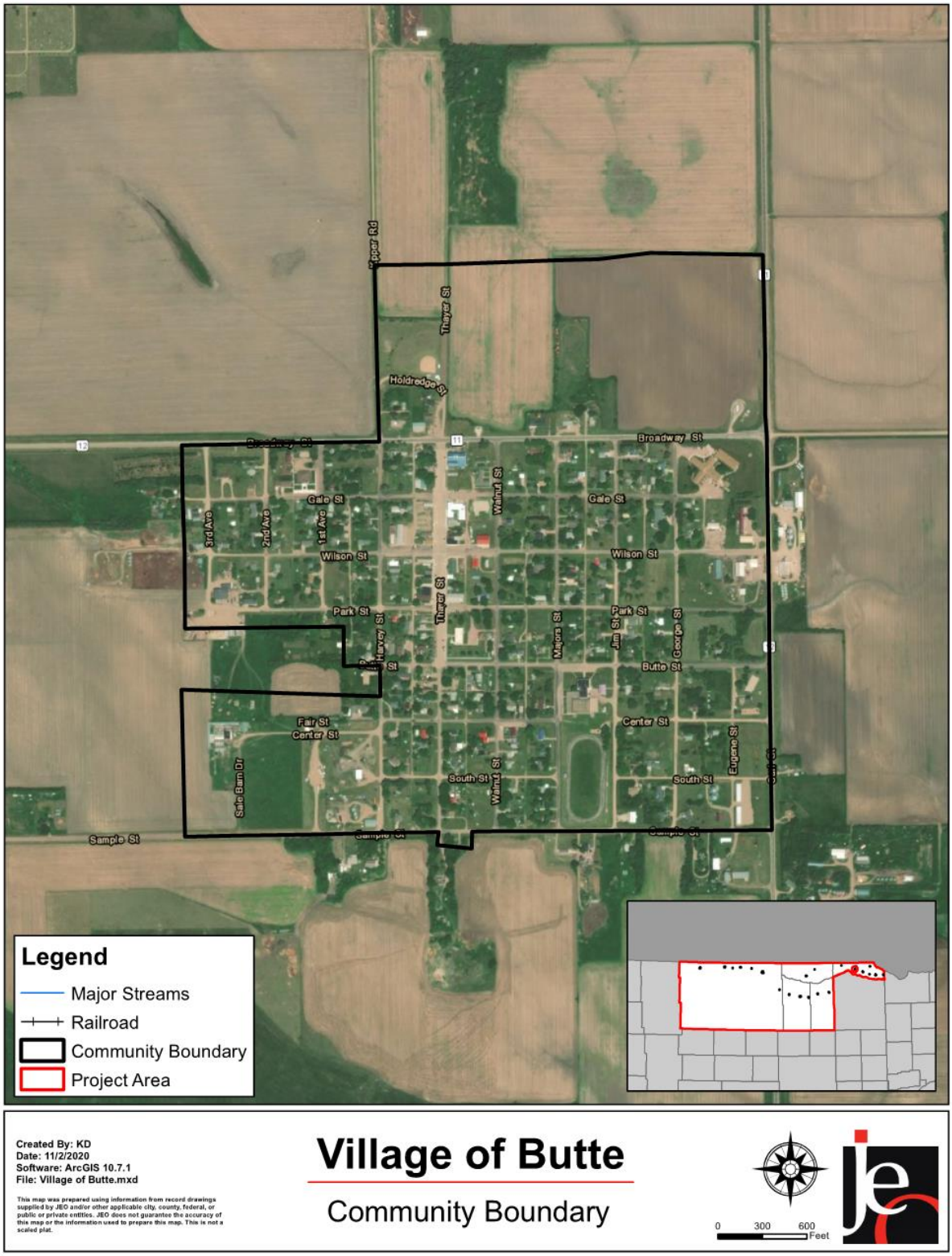
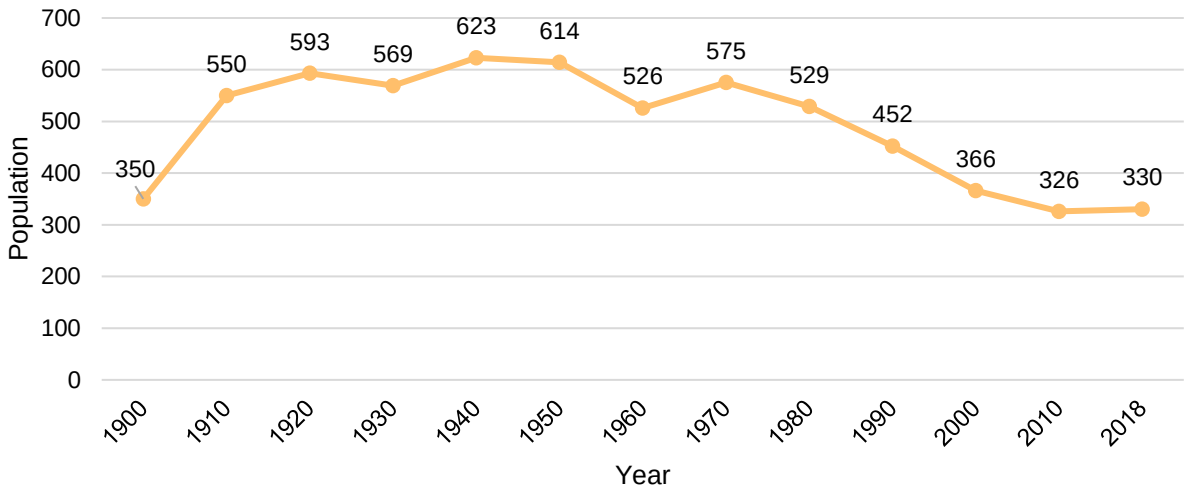


Figure BTE.2: Population 1900 - 2018



Source: U.S. Census Bureau

The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Butte's population was:

- **Older.** The median age of Butte was 53.3 years old in 2018, compared with Boyd County's median of 52.3 years. Butte's population grew older since 2010, when the median age was 51.8 years old.[15]
- **Equally ethnically diverse**. Since 2010, Butte stayed as ethnically diverse. In 2010, 4% of Butte's population was non-white. By 2018, about 3.9% was non-white. During that time, the non-white population in the county grew from 3.1% in 2010 to 4.5% in 2018.[15]
- **As likely to be below the federal poverty line.** The poverty rate in the Village of Butte (9.9% of people living below the federal poverty line) was similar to the county's poverty rate (10.6%) in 2018.[16]

Employment and Economics

In comparison to Boyd County, Butte's economy had:

- **Similar mix of industries.** Butte's major employment sectors, accounting for 10% or more of employment each, were: agriculture, retail trade, and edcuation.[16]
- **Similar median household income.** Butte's median household income in 2018 ($50,000) was about $700 lower than the county ($50,729).[16]
- **Fewer long-distance commuters.** About 69.7% of workers in Butte commuted for fewer than 15 minutes, compared with about 56.8% of workers in Boyd County. About 21.7% of workers in Butte commuted 30 minutes or more to work, compared to about 23.3% of county workers.[17]

16 United States Census Bureau. 2018. "DP03: Selected Economic Characteristics." [database file]. https://data.census.gov/cedsci/.
17 United States Census Bureau. 2018. "S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://data.census.gov/cedsci/.

Major Employers

Major employers in the community include Butte Senior Living/Country View Manor, Butte Farm Supply, Butte Implement, Boyd County Courthouse, Butte State Bank, and Boyd County School. The local planning team estimates that approximately 50% or more of residents commute to South Dakota or Holt County for employment.

Housing

In comparison to Boyd County, Butte's housing stock was:

- **Older.** Butte had a larger share of housing built prior to 1970 than the county (79.5% compared to 70.7%).[18]
- **Less mobile and manufactured housing.** The Village of Butte had a smaller share of mobile and manufactured housing (0.5%) compared to the county (12.6%).[18]
- **Less renter-occupied**. About 17.6% of occupied housing units in Butte were renter-occupied compared with 18.7% of occupied housing in Boyd County.[18]
- **More occupied.** Approximately 22.1% of Butte's housing units were vacant compared to 35.9% of units in Boyd County.[18]

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

Future Development Trends

Over the past five years, five houses have been demolished and eight homes have been renovated. In addition, Ponca Valley Seed was constructed. According to the 2018 American Community Survey estimates, Butte's population is relatively stable. The local planning team attribute this to the younger generation moving back to the community to work in family businesses. In the next five years, a new grocery store is planned to come to the community. Figures BTE.3 and BTE.4 show the future land use maps for the community. As the community expands, mobile homes will go in the east central portion of the community and residential housing will be on the southern edge.

18 United States Census Bureau. 2018. "DP04: Selected Housing Characteristics." [database file]. https://data.census.gov/cedsci/.

Figure BTE.3: Future Land Use Map – Corporate Limits

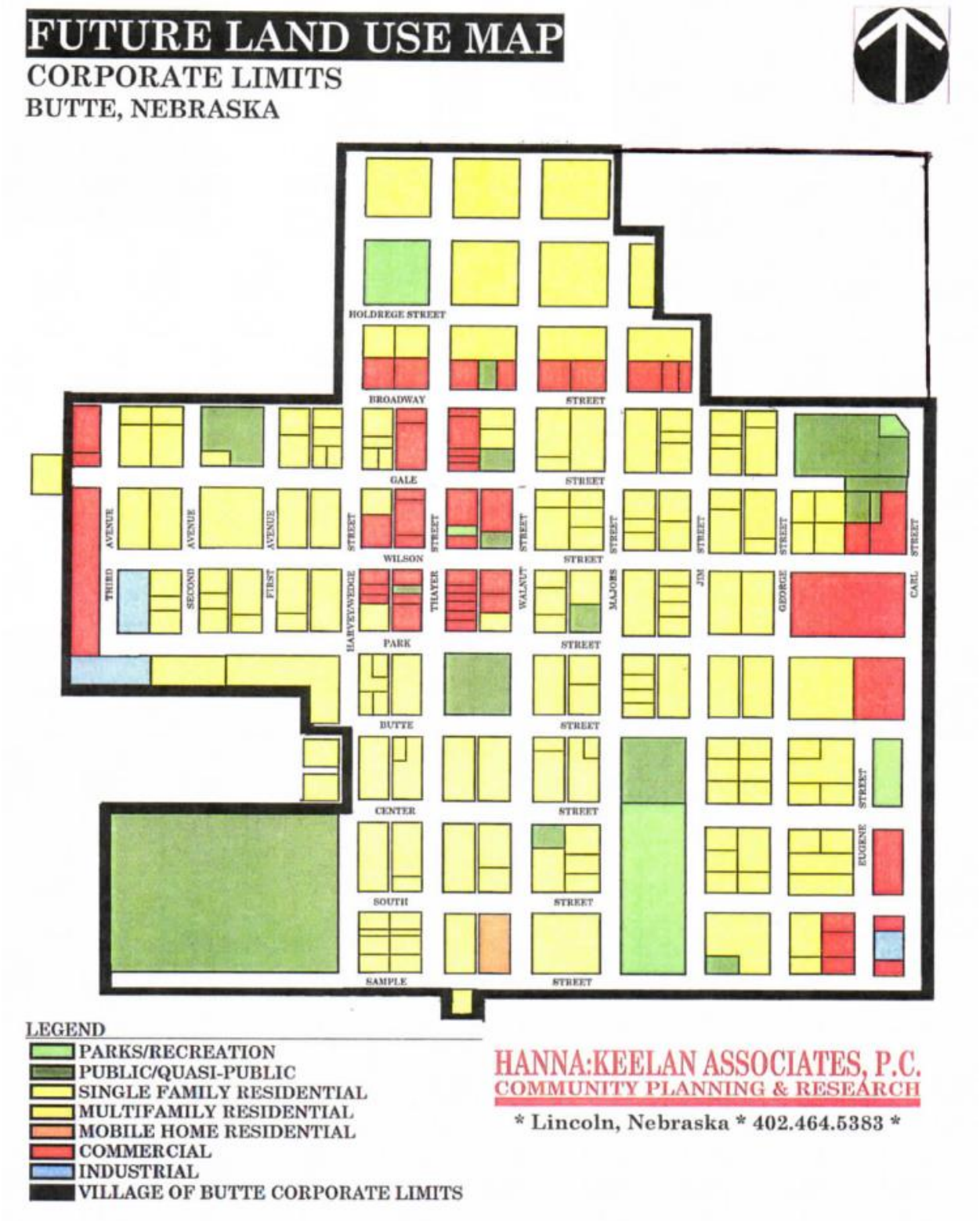
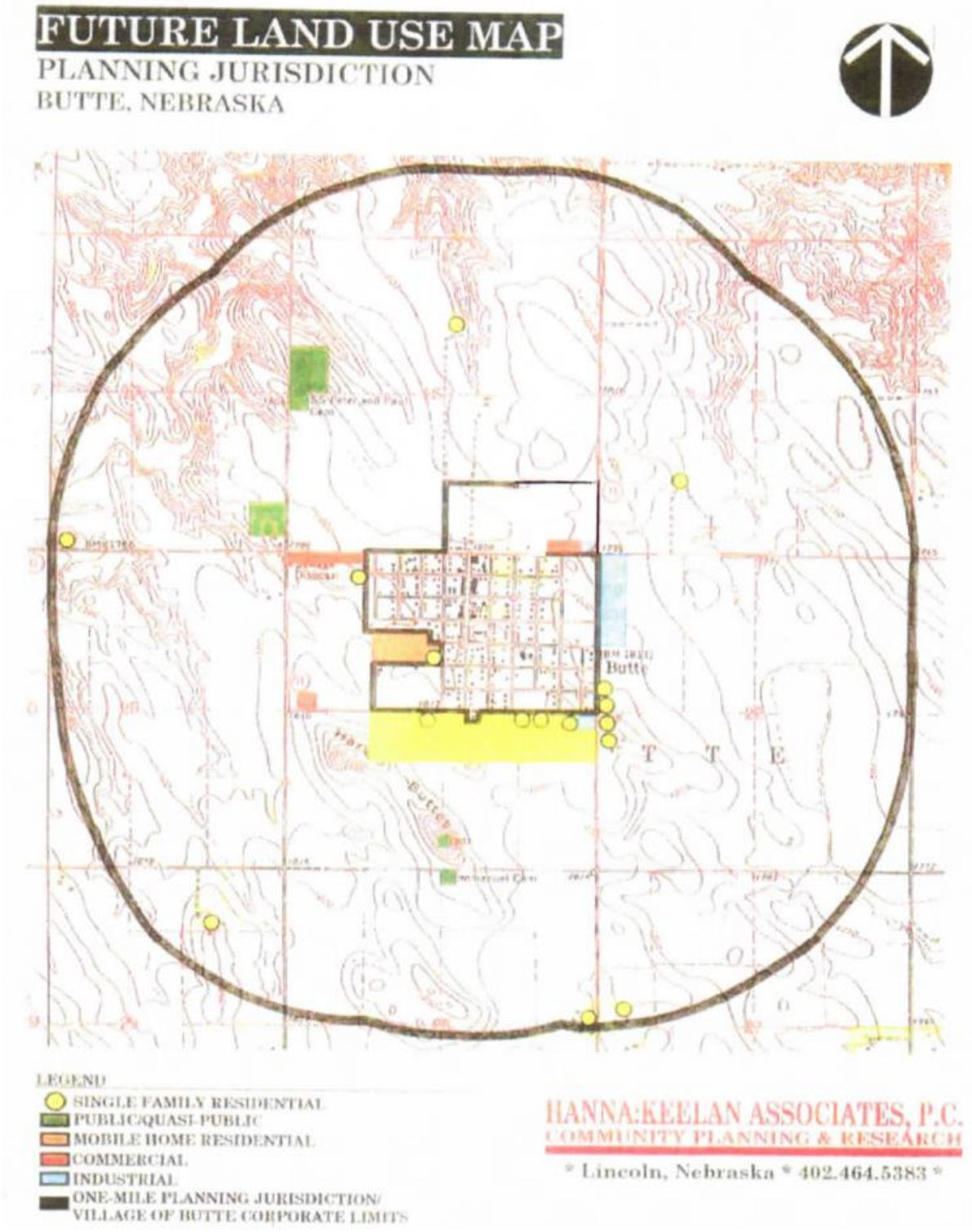


Figure BTE.4: Future Land Use – Planning Jurisdiction



Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table BTE.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in the Floodplain
228	$7,125,275	0	$0	0%

Source: County Assessor, 2018

Community Lifelines

Critical Facilities

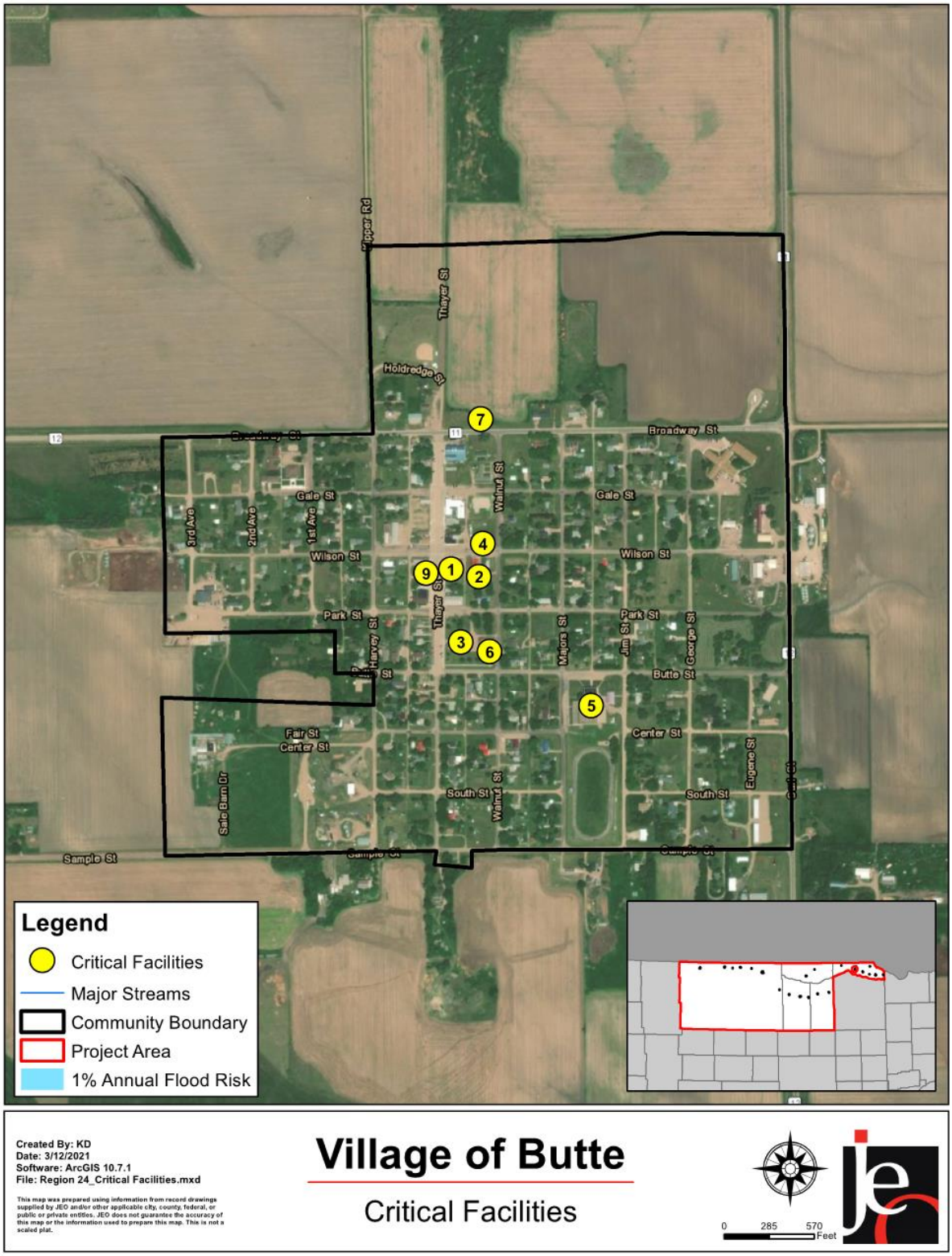
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during 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 the jurisdiction.

Table BTE.3: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Butte Community Center	Y	Y	N
2	Communication Towers and Satellite Dishes	N	N	N
3	County Courthouse	Y	Y	N
4	Fire Department	Y	Y	N
5	Elementary School	Y	N	N
6	Lower Niobrara NRD	N	N	N
7	Substation	N	Y	N
8*	Treatment Plant	N	Y	N
9	Village Office	N	N	N
10**	Water Tower	N	N	N
11***	Well House	N	Y	Y

**Treatment Plant is not mapped but is located directly north of the community off 900th Road.*
***Water Tower is not mapped but is located directly north of the community off 902nd Road.*
****Well house is not mapped but it is located north of the Niobrara River off Highway 11.*

Figure BTE.3: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Grass/Wildfire

Butte identified wildfire as a top concern, identifying vulnerabilities to its population, property, critical facilities, and the economy. Butte does have a number of trees on individual parcels, however there is no tree line surrounding the community. Instead, the wildfire threat stems mostly from hay bales in surrounding agricultural fields that occasionally catch fire, typically from lightning events. The Butte Emergency Operations Plan contains a section on fires at the well house or treatment plant but does not provide an approach to the management of wildfire. Butte's presence of building codes and zoning ordinances can also potentially reduce the impact of wildfire.

Hail

The most recent damaging event occurred in 2017. Butte is mainly concerned with hail's impact on the property in the village. Butte has a strong commitment to planning, as indicated by their planning commission, updating building codes and zoning ordinances. These actions can assist in minimizing the damage from hail events, provided building codes are enforced.

Severe Thunderstorms

Butte identified severe thunderstorms as a top concern, specifically as it related to property vulnerability and economic impacts. Butte indicated that this a frequent hazard, occurring nearly every summer. The Butte Emergency Operations Plan contains a section on handling power outages, which could be a secondary hazard caused by a severe thunderstorm. Butte also completed a backup generator project and now has a backup generator at the well house, treatment plant, community center, and lift station.

Severe Winter Storms

Butte identified severe winter storms as a top concern, especially in regard to the potential impact on Butte's population and economy. Recent events which caused property damage and economic impacts in Butte included an ice storm in March 2019. The Butte Emergency Operations Plan contains a section on managing power outages, which could be a secondary hazard caused by a severe winter storm. The community plans to work with local businesses and citizens who have generators to see if any would be willing to help during a disaster event.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Butte is governed by a village board; other governmental offices and departments are listed below.

- Clerk/Treasurer
- Administrator
- Attorney
- Planning and Zoning
- Water/Sewer Operator
- Sewer/Water/Street Commissioner
- EMS Officers
- Fire Board

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table BTE.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	Yes
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	No
	Building Codes	Yes
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes

Survey Components/Subcomponents		Yes/No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	No
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Moderate

Plan Integration

The Village of Butte has several planning documents that discuss or relate to hazard mitigation. The plans and how they are integrated with the hazard mitigation plan are listed below. In addition to those documents, the village also has a zoning ordinance, subdivision regulations, and building codes that have not been integrated at this time. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Boyd County Local Emergency Operations Plan (2018)

Butte is an annex in the Boyd County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding, direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law

enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

Comprehensive Plan (2012)

The comprehensive plan is designed to guide the future actions of the community. It contains goals and objectives aimed at safe growth, directs housing and vulnerable populations away from major transportation routes, encourages infill development, and encourages clustering of development. An update of the document will occur in 2022 with additional mitigation principles planned to be added.

Wellhead Protection Plan

The wellhead protection plan helps protect Butte's groundwater from contamination by identifying potential sources of contamination and managing the potential contaminant sources.

Mitigation Strategy

Butte's municipal funds are currently limited to maintaining current facilities and systems, with a large portion already dedicated to water and road projects. Funds have decreased over recent years and the community will likely need assistance from grants in order to implement many of the mitigation actions listed below. The village has experience applying for grants and has been awarded three in the past five years. Butte would also benefit from partnerships with the county, local NRD, and various state agencies.

Continued Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine which sirens should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$15,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Region 24 Emergency Management, Fire Board
Status	Not Started

Mitigation Action	Business Continuity Plans
Description	Educate local businesses on the value of continuity planning.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	2-5 Years
Priority	Low
Lead Agency	Clerk, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Expand Water Storage Capacity / Emergency Water Supplies / Dry Hydrants
Description	Evaluate the need to expand water storage capacity through a new water tower, standpipe, etc. to provide a safe water supply for the community and additional water for fire protection. Establish emergency water supplies such as dry hydrants and individual or community cisterns for defending structures from wildland fires.
Hazard(s) Addressed	Drought, Wildfire
Estimated Cost	$30,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Medium/High
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Communities can work with their local North Central Public Power District to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	$50,000 - $70,000
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Clerk
Status	Not Started

Mitigation Action	Promote First Aid
Description	Promote first aid training for all residents.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500+
Funding	General Budget, Corporate Donations, Volunteer Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Fire Department
Status	Not Started

Mitigation Action	Source Water Contingency Plan
Description	Village can evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur. Also, identify and develop water sources for fire protection.
Hazard(s) Addressed	Drought, Grass/Wildfire
Estimated Cost	$5,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	High
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprised of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossing can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges and other flow restrictions may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Community Profile

Village of Lynch

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table LYN.1: Lynch Local Planning Team

Name	Title	Jurisdiction
Cathy Wade	Clerk / Floodplain Administrator	Village of Lynch
Jeff Hart	Board Member	Village of Lynch
Kenneth Crooks	Board Chairperson	Village of Lynch

Location and Geography

The Village of Lynch is in southeastern Boyd County and covers an area of 341 acres. The community of Lynch lies in the Ponca Creek Valley. The land use surrounding the community is mainly grazing and ranching. Steep, rugged gullies and eroded hill sides surround Lynch. The watershed flows generally from the west to the east.

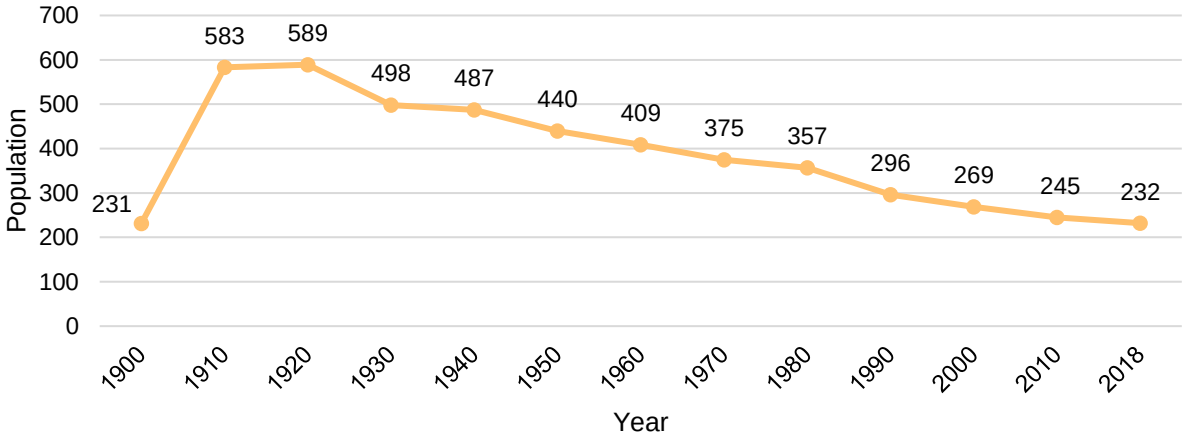
Transportation

Lynch's major transportation corridor includes State Highway 12. The most traveled route is Highway 12 with an average of 605 vehicles daily, 55 of which are trucks.[19] Only minor accidents and no spills have occurred in the community. Critical facilities located along major transportation routes include the Niobrara Valley Hospital, lift station, and substation. The village does not have a rail line traveling through or near the community, however, the Woolf Brothers Airport is located two miles east. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

Demographics

The Village of Lynch's population has been declining to about 232 people since 1920. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Lynch's population accounted for 11.4% of Boyd County's population in 2018.[20]

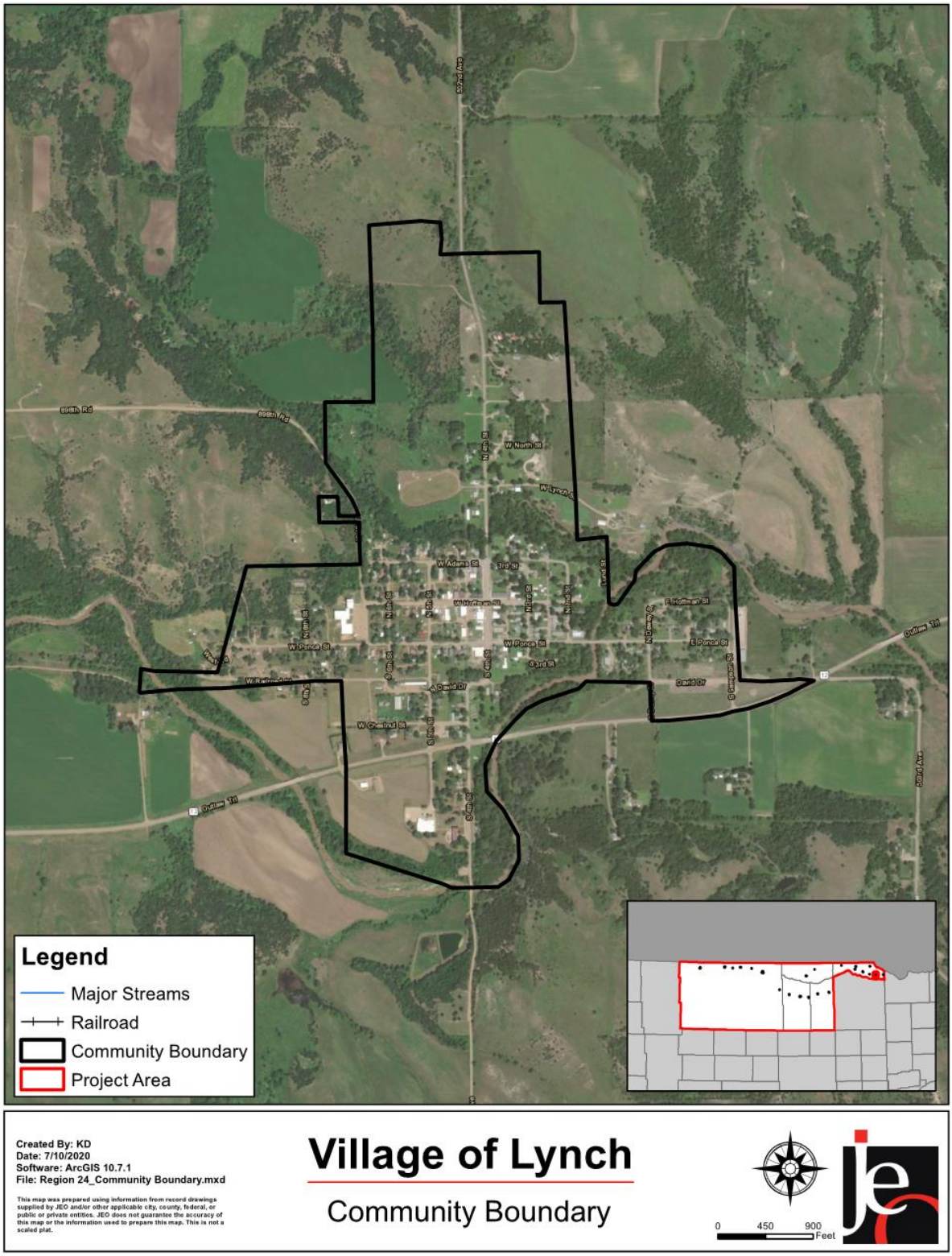
Figure LYN.1: Population 1900 - 2018



Source: U.S. Census Bureau

19 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.
20 United States Census Bureau. 2018. "Demographic and Housing Estimates [database file]. https://data.census.gov/cedsci/.

Figure LYN.2: Village of Lynch



The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Lynch's population was:

- **Older.** The median age of Lynch was 60.1 years old in 2018, compared with Boyd County's median of 52.3 years. Lynch's population grew older since 2010, when the median age was 53.5 years old.[20]
- **More ethnically diverse**. Since 2010, Lynch grew more ethnically diverse. In 2010, 5.8% of Lynch's population was non-white. By 2018, about 9.9% was non-white. During that time, the non-white population in the county grew from 3.1% in 2010 to 4.5% in 2018.[20]
- **More likely to be below the federal poverty line.** The poverty rate in the Village of Lynch (19% of people living below the federal poverty line) was higher than the county's poverty rate (10.6%) in 2018.[21]

Employment and Economics

In comparison to Boyd County, Lynch's economy had:

- **Similar mix of industries.** Lynch's major employment sectors, accounting for 10% or more of employment each, were: agriculture, construction, retail trade, education, and arts.[21]
- **Lower median household income.** Lynch's median household income in 2018 ($32,083) was about $18,600 lower than the county ($50,729).[21]
- **Fewer long-distance commuters.** About 66.3% of workers in Lynch commuted for fewer than 15 minutes, compared with about 56.8% of workers in Boyd County. About 16.9% of workers in Lynch commuted 30 minutes or more to work, compared to about 23.3% of county workers.[22]

Major Employers

Boyd County Schools, Niobrara Valley Hospital, and Three River Telco are major employers in the community. The local planning team estimated that 20% of residents commute to schools in other communities for employment.

Housing

In comparison to Boyd County, Lynch's housing stock was:

- **Older.** Lynch had a larger share of housing built prior to 1970 than the county (77.4% compared to 70.7%).[23]
- **More mobile and manufactured housing.** The Village of Lynch had a larger share of mobile and manufactured housing (23.1%) compared to the county (12.6%).[23]
- **Less renter-occupied**. About 15% of occupied housing units in Lynch were renter-occupied compared with 18.7% of occupied housing in Boyd County.[23]
- **Less occupied.** Approximately 37.3% of Lynch's housing units were vacant compared to 35.9% of units in Boyd County.[23]

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly

21 United States Census Bureau. 2018. "DP03: Selected Economic Characteristics." [database file]. https://data.census.gov/cedsci/.
22 United States Census Bureau. 2018. "S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://data.census.gov/cedsci/.
23 United States Census Bureau. 2018. "DP04: Selected Housing Characteristics." [database file]. https://data.census.gov/cedsci/.

maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

Future Development Trends

Over the past five years, one new family home was built, and flood damaged roads were repaired. The new home was built outside the floodplain and is not located near other hazardous areas. According to the 2018 American Community Survey estimate, Lynch's population is declining. The local planning team indicated that this is due to a lack of job opportunities and youth leaving the community. In the next five years, there three homes planned to be built on 5th Street.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table LYN.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in the Floodplain
190	$4,251,835	82	$1,619,575	43.2%

Source: County Assessor, 2018

Community Lifelines

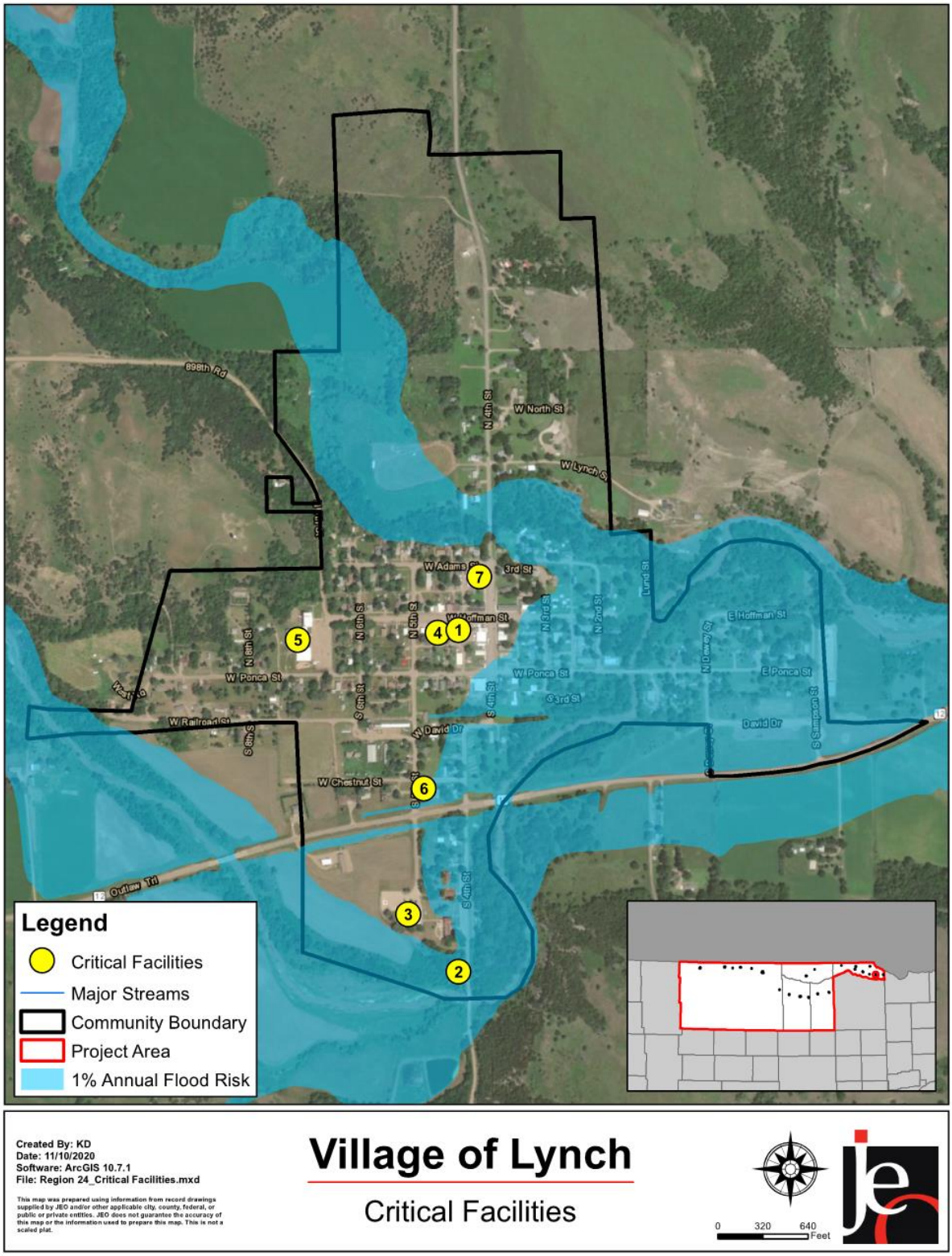
Critical Facilities

Each participating jurisdiction 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 the jurisdiction.

Table LYN.3: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Community Hall	N	N	N
2	Lift Station	N	Y	Y
3	Niobrara Valley Hospital	N	Y	N
4	Rural Fire Department	N	N	N
5	School	Y	N	N
6	Substation	N	N	N
7	Three Rivers Communications	N	Y	N

Figure LYN.3: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

Approximately half of the village is located in the floodplain. The main sources of flooding are Ponca and Whiskey Creeks. Whiskey Creek runs though the northern section of the community and Ponca Creek runs along the southern border and through the eastern portion of the community. Areas along and near Ponca Creek are most vulnerable to flooding. The structures in this vulnerable area are exclusively single-family homes. Lynch has one residential NFIP repetitive loss structure. The community indicated that there has not been any development in the floodplain for several years. Lynch indicated that it preserves open spaces in the floodplain. Future development in the floodplain, while highly unlikely, would be scrutinized and discouraged if such a request arose.

The village was heavily impacted by the March 2019 floods. In total 13 businesses were damaged, 60 homes were damaged, the water system was damaging causing approximately 500 people were without running water, 31 homes had to be evacuated, roads were damaged, and the wastewater system was damaged.

Lynch is also an NFIP member and currently uses floodplain management and regulations to regulate the floodplain. Lynch maintains a strict floodplain management program in order to maintain its continued compliance. Due to the 2019 floods, the village is currently working on a floodplain management plan.

Grass/Wildfire

Lynch indicated the areas most susceptible to wildfire are primarily pasture lands and the wooded areas along Ponca and Whiskey Creeks. Lynch does not have a Wildland-Urban Interface Code and do not specifically encourage defensible space around structures. However, the rural fire district does controlled burns to help reduce the fire load around the community. Lynch did indicate interest in pursuing a public awareness initiative, which may help mitigate the impacts of this hazard.

Severe Winter Storms

Severe winter storms were identified as a concern for Lynch, especially in terms of the impacts that it could have on structures and services. None of the powerlines in the village are buried which leaves the community more susceptible to power outages from heavy snow, winds, and ice. Snow removal is handled by the utilities superintendent using a tractor and blade. A new tractor was recently purchased and is sufficient for most snow events. The community has completed an emergency communication project, helps address this hazard during future events.

Tornadoes

The community recently completed an alert and warning siren project, which provided a siren located in the center of the village. Additionally, Lynch has also recently completed an initiative to improve its emergency communications system. Lynch indicated that it has a nine-unit RV park inside the village limits, which could benefit from pursuing a safe room related project.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Lynch is governed by a village board; other governmental offices and departments are listed below.

- Clerk
- Treasurer
- Floodplain Administrator
- Attorney
- Utility Superintendent
- Sewage Plant Operator
- Library Director
- Street Commissioner

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table LYN.4 Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No

Survey Components/Subcomponents		Yes/No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Limited

Plan Integration

The Village of Lynch has a floodplain ordinance which is several years old. Lynch is currently working with NeDNR to update the floodplain ordinance and building permit process to meet the NFIP program requirements. The village is also an annex to the Boyd County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding, direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years. No other examples of plan integration were identified. The community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

Lynch's municipal funds are limited to maintaining current facilities and systems and have stayed the same over recent years. Currently, a large portion of funds a dedicated to recovery from the 2019 floods. Because of this, the community will likely need assistance from grants to help pay for many of the mitigation actions listed below. The village has experience with grants and has applied for and won several over the past five years. Lynch would benefit from continued collaboration with the Region 24 Emergency Management Agency, the Lower Niobrara NRD, and state agencies.

Completed Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Hazard(s) Addressed	All Hazards
Status	Generators were installed at the lift station and community hall.

New Mitigation Actions

Mitigation Action Name	Levee / Dike Construction
Description	Construct a levee / dike to protect the hospital area from future flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	$100,000+
Local Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started. Waiting on the completion of the engineering study.

Continued Mitigation Actions

Mitigation Action	Continuity Plan
Description	Develop continuity plans for critical community services.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500 - $1,000
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies 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. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements. Lynch indicated the most concern regarding the east end of the village in the floodplain.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	In Progress. An engineering study is currently underway on a dike to protect the hospital area.

Mitigation Action	Floodplain Management
Description	Improve floodplain management practices such as adoption and enforcement of floodplain management requirements (regulation of construction in SFHAs), floodplain identification and mapping (local requests for map updates), description of community assistance and monitoring activities, explanation for failure to participate in the NFIP, Community Rating System (CRS), and participation in FEMA's Cooperating Technical Partners Program (CTP) to increase local involvement in the flood mapping process.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, NeDNR
Status	In Progress. The village is working with the NeDNR to update ordinances and the building permit process to meet the NFIP requirements.

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Communities can work with their local Public Power District to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. Rural Water Districts can work with their County or NRD to identify vulnerable distribution lines near river crossings or creek beds and plan to place lines underground to reduce vulnerability from storm events and erosion.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	$50,000 - $70,000
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Safe Rooms and Storm Shelters
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting. A safe room is needed at the RV park.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$350+ per square foot
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Community Club
Status	Not Started

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel, and Propane Tanks
Description	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in tornado or high wind event. Work with and educate private companies on the benefits of anchoring tanks.
Hazard(s) Addressed	Tornadoes, High Winds
Estimated Cost	$1,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Private Propane Companies
Status	Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossing can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges and other flow restrictions may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Stream Bank Stabilization / Grade Control Structures / Channel Improvements
Description	Stream bank/ bed degradation can occur along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Grade control structures including sheet-pile weirs, rock weirs, ponds, road dams, etc. can be implemented and improved to maintain the channel bed. Channel stabilization can protect structures, increase conveyance and provide flooding benefits.
Hazard(s) Addressed	Flooding
Estimated Cost	$50,000 - $100,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started

Removed Mitigation Actions

Mitigation Action	Floodplain Regulation Enforcement
Hazard(s) Addressed	Flooding
Reason for removal	While the village will continue to enforce all local regulations, this project can be removed as it is considered an ongoing effort.

Mitigation Action	Hazardous Tree Removal
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Status	Removed. The village would like to prioritize other projects.

Mitigation Action	Maintain Good Standing with National Flood Insurance Program
Hazard(s) Addressed	Flooding
Reason for removal	While the village will continue to participate and maintain compliance in the NFIP, this project can be removed as it is considered an ongoing effort.

Community Profile

Village of Naper

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table NPR.1: Naper Local Planning Team

Name	Title	Jurisdiction
Vernon Goodman	Board Chairperson	Village of Naper

Location and Geography

The Village of Naper is in northwestern Boyd County and covers an area of 86 acres. Naper is located two miles south of the South Dakota border and two miles north of the Keya Paha River.

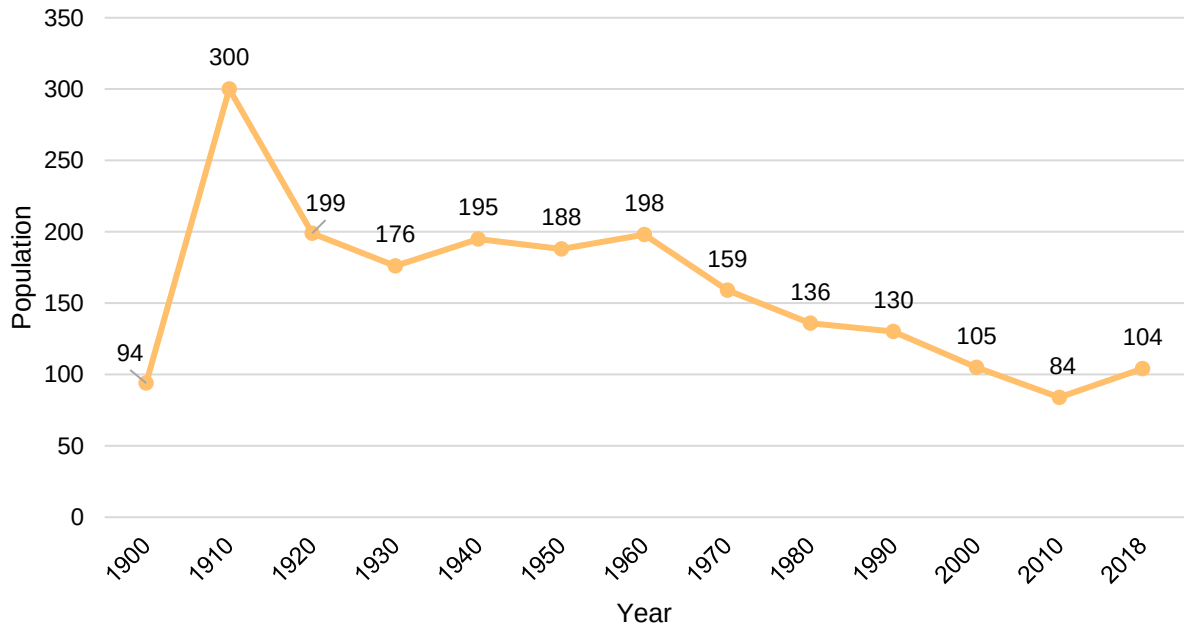
Transportation

Naper's major transportation corridor includes State Highway 12. It has an average of 335 vehicles daily, 25 of which are trucks.[24] Chemicals are not regularly transported on any local routes. No chemical spills or large accidents have occurred in the community. The Village does not have a rail line traveling through or near the community. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

Demographics

The Village of Naper's population has increased since 2010 to about 104 people. Increasing populations can contribute to increasing tax revenues, allowing communities to pursue additional mitigation projects. Naper's population accounted for 5.1% of Boyd County's population in 2018.[25]

Figure NPR.1: Population 1900 - 2018

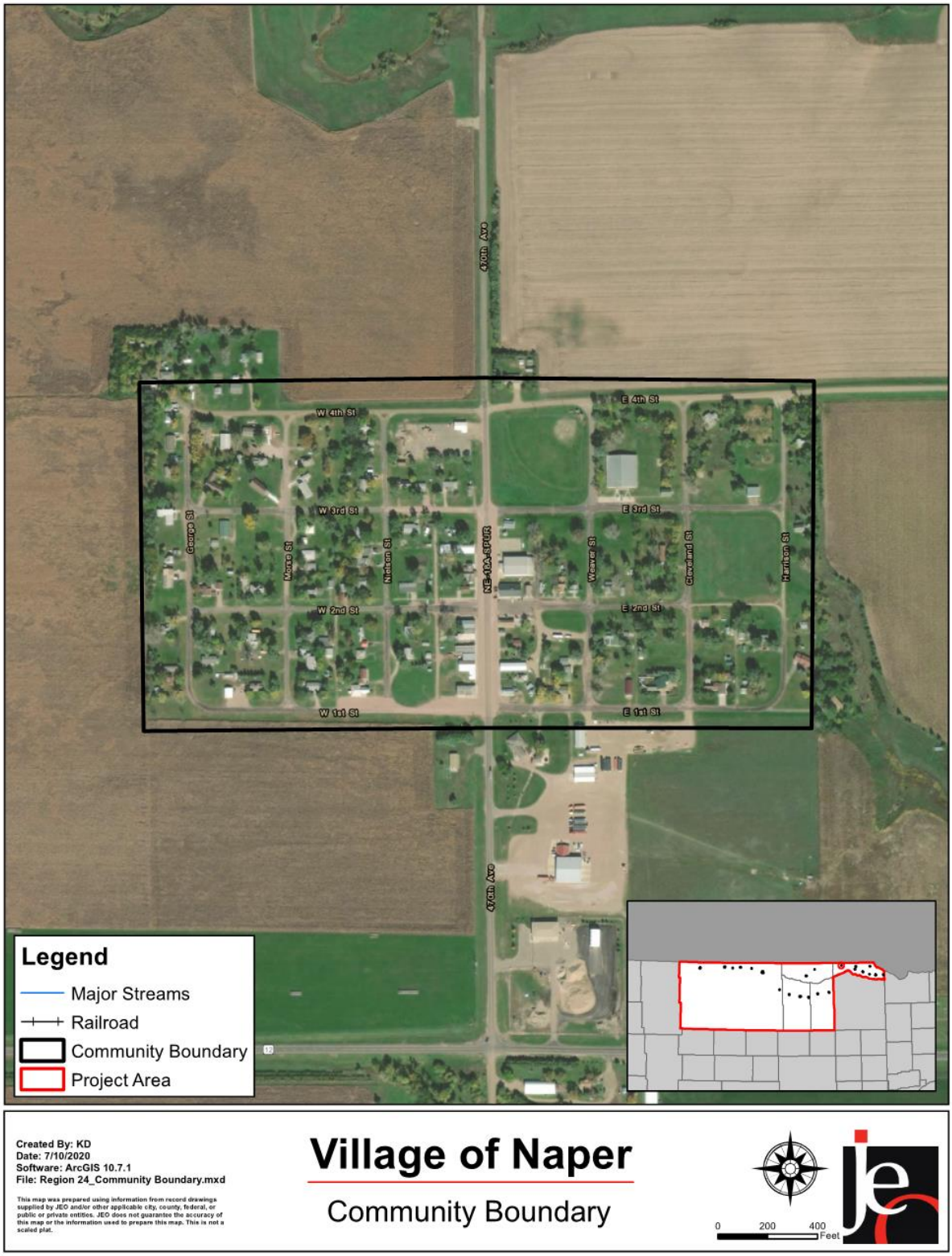


Source: U.S. Census Bureau

24 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

25 United States Census Bureau. 2018. "DP05: Demographic and Housing Estimates [database file]. https://data.census.gov/cedsci/.

Figure NPR.2: Village of Naper



The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Naper's population was:

- **Older.** The median age of Naper was 66.3 years old in 2018, compared with Boyd County's median of 52.3 years. Naper's population grew older since 2010, when the median age was 52years old.[25]
- **More ethnically diverse**. Since 2010, Naper grew more ethnically diverse. In 2010, 6% of Naper's population was non-white. By 2018, about 10.6% was non-white. During that time, the non-white population in the county grew from 3.1% in 2010 to 4.5% in 2018.[25]
- **More likely to be below the federal poverty line.** The poverty rate in the Village of Naper (17.8% of people living below the federal poverty line) was higher than the county's poverty rate (10.6%) in 2018.[26]

Employment and Economics

In comparison to Boyd County, Naper's economy had:

- **Different mix of industries.** Naper's major employment sectors, accounting for 10% or more of employment each, were: retail trade, transportation, and entertainment.[26]
- **Lower median household income.** Naper's median household income in 2018 ($27,125) was about $23,600 lower than the county ($50,729).[26]
- **Fewer long-distance commuters.** About 31% of workers in Naper commuted for fewer than 15 minutes, compared with about 56.8% of workers in Boyd County. About 10.3% of workers in Naper commuted 30 minutes or more to work, compared to about 23.3% of county workers.[27]

Major Employers

Major employers in Naper include the Naper Café and Lounge and Drucke Trucking Inc. The local planning team estimates that six percent of residents commute to nearby communities for employment.

Housing

In comparison to Boyd County, Naper's housing stock was:

- **Older.** Naper had a larger share of housing built prior to 1970 than the county (78.3% compared to 70.7%).[28]
- **Less mobile and manufactured housing.** The Village of Naper had a smaller share of mobile and manufactured housing (7.2%) compared to the county (12.6%).[28]
- **Less renter-occupied**. About 9.8% of occupied housing units in Naper were renter-occupied compared with 18.7% of occupied housing in Boyd County.[28]
- **More occupied.** Approximately 11.6% of Naper's housing units were vacant compared to 35.9% of units in Boyd County.[28]

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to

26 United States Census Bureau. 2018. "DP03: Selected Economic Characteristics." [database file]. https://data.census.gov/cedsci/.
27 United States Census Bureau. 2018. "S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://data.census.gov/cedsci/.
28 United States Census Bureau. 2018. "DP04: Selected Housing Characteristics." [database file]. https://data.census.gov/cedsci/.

occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

Future Development Trends

Over the past five years, there have been no changes in the community. According to the 2018 American Community Survey estimates, Naper's population is growing. The local planning team attribute this to the low cost of housing and being a retirement community. In the next five years, no new housing or businesses are planned at this time.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table NPR.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in the Floodplain
77	$1,360,160	0	$0	0%

Source: County Assessor, 2018

Community Lifelines

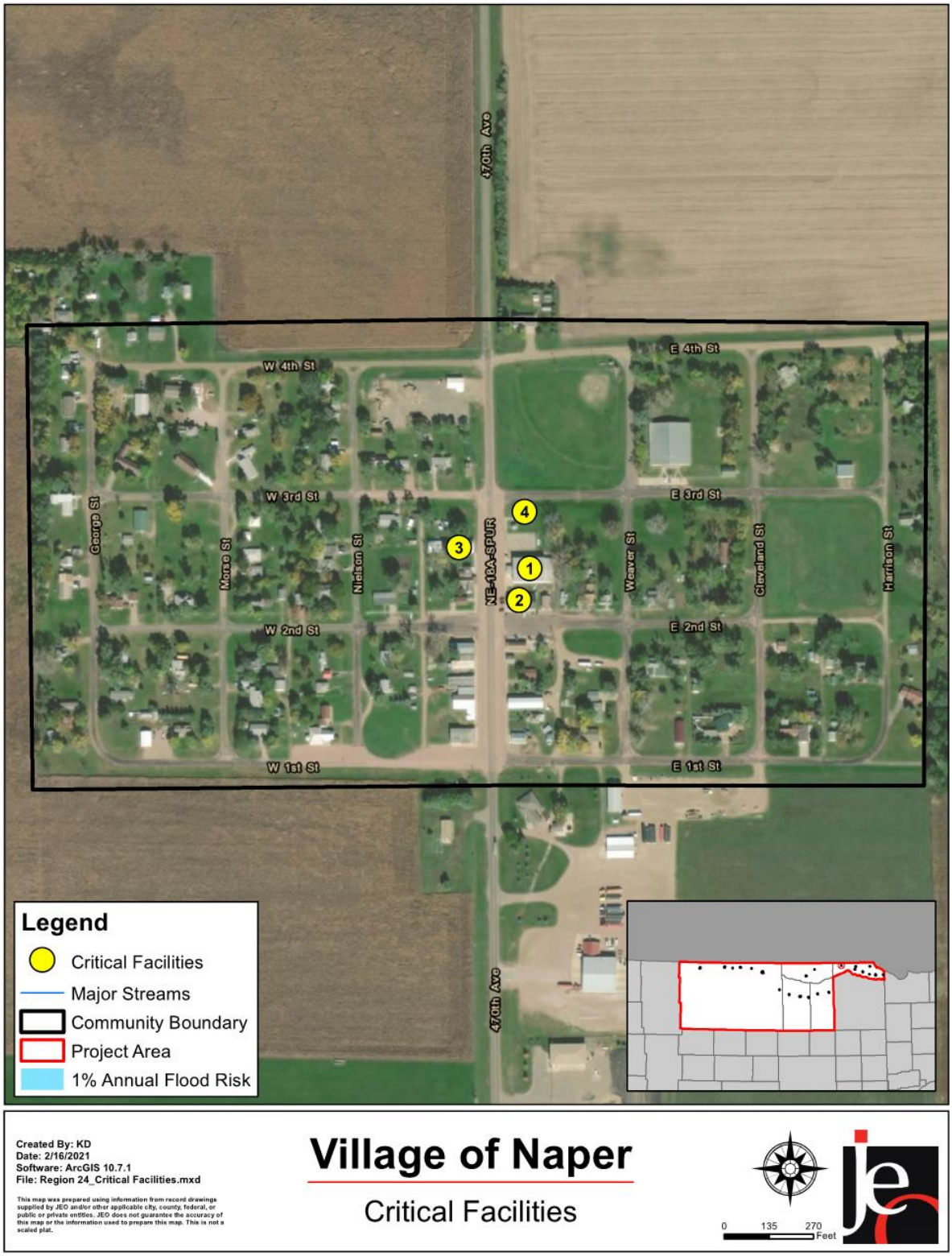
Critical Facilities

Each participating jurisdiction 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 the jurisdiction.

Table NPR.3: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Auditorium	N	N	N
2	Café	N	N	N
3	Fire Hall	N	N	N
4	Village Office	N	N	N

Figure NPR.3: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

Flash flooding from stormwater drainage is the primary concern for the village. Any heavy rain over a couple of inches causes water from the surrounding fields to drain across the community to the east. During the March 2019 flood event, there was significant damage to all the streets. The county road bridge eight miles south of Naper was also destroyed from the flood. The village does not participate in the National Flood Insurance Program and is located in an "area of minimal flood hazard".

Hail

NCEI data shows that village has experienced 34 hail events since 1996, resulting in $50,400 in property damages. Most of the damage was to windows, vehicles, siding, and crops. All community owned buildings have insurance for hail and high wind damage. The last reported hail event occurred in 2016. Naper's residents work together to help clean up after storms. Farms from surrounding areas will come in and help removed downed trees and limbs if needed.

High Winds

The primary concerns related to high winds is damage to buildings, power loss, and downed tree branches. Power loss is a common occurrence in the community but most outages only last for a couple of hours. The village gets its power from a rural public power district, so downed lines outside the community can affect power.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Naper is governed by a village board; other governmental offices and departments are listed below.

- Clerk/Treasurer
- Sewer Commissioner
- Water Commissioner
- Street Commissioner
- Board of Health
- Library Director

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table NPR.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	No
	Applied for grants in the past	No
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible	No

Survey Components/Subcomponents		Yes/No
	water use, fire safety, household preparedness, environmental education)	
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited

Plan Integration

The Village of Naper does not have any formal planning documents. However, it is an annex to the 2018 Boyd County Local Emergency Operations Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding, direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years. The village will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

Naper's municipal funds are limited to maintaining current facilities and systems and have decreased over recent years. A large portion of funds are already dedicated to street repairs. The village will likely need assistance from grants and partnerships to help pay for many of the mitigation actions listed below. The village does not have experience applying for grants in the past.

New Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine which sirens should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	Tornadoes, Severe Thunderstorms, High Winds
Estimated Cost	$15,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Backup and Emergency Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, lift stations, and other critical facilities and shelters.
Hazard(s) Addressed	All Hazards
Estimated Cost	$30,000+ per generator
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Participate in the National Flood Insurance Program
Description	Participate in the NFIP.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets. Smaller communities may utilize stormwater systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossing can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges and other flow restrictions may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Community Profile

Village of Spencer

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table SPE.1: Spencer Local Planning Team

Name	Title	Jurisdiction
Derek Bentz	Board Chairperson	Village of Spencer
Kyle Krotter	Board Member	Village of Spencer
Beth Binder	Clerk	Village of Spencer

Location and Geography

The Village of Spencer is in south-central Boyd County and covers an area of 333 acres. The community of Spencer lies in an area of moderate to steep slopes and canyons. As Spencer is on a plateau, it is not particularly vulnerable to flooding events. The land use surrounding the community is mainly agricultural crops with some ranching. The community lies between the Niobrara River Valley and the Ponca Creek Valley. The watershed flows generally from the west to the east.

Transportation

Spencer's major transportation corridors include State Highway 12 and US Highway 281. The most traveled route is Highway 281 with an average of 1,290 vehicles daily, 225 of which are trucks.[29] Highway 281 is the route of top concern for the village with Highway 12 being of secondary concern. No chemical spills have occurred but in 2019 floodwater took out Highway 281 for nearly five months until a temporary bridge was installed. A permanent bridge was completed in October 2020. The village does not have any rail lines traveling through or near the community. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk of transportation incidents.

Demographics

The Village of Spencer's population has been declining since 2000 to about 377 people. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which could make implementation of mitigation projects more fiscally challenging. Spencer's population accounted for 18.5% of Boyd County's population in 2018.[30]

29 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

30 United States Census Bureau. 2018. "DP05: Demographic and Housing Estimates [database file]. https://data.census.gov/cedsci/.

Figure SPE.1: Village of Spencer

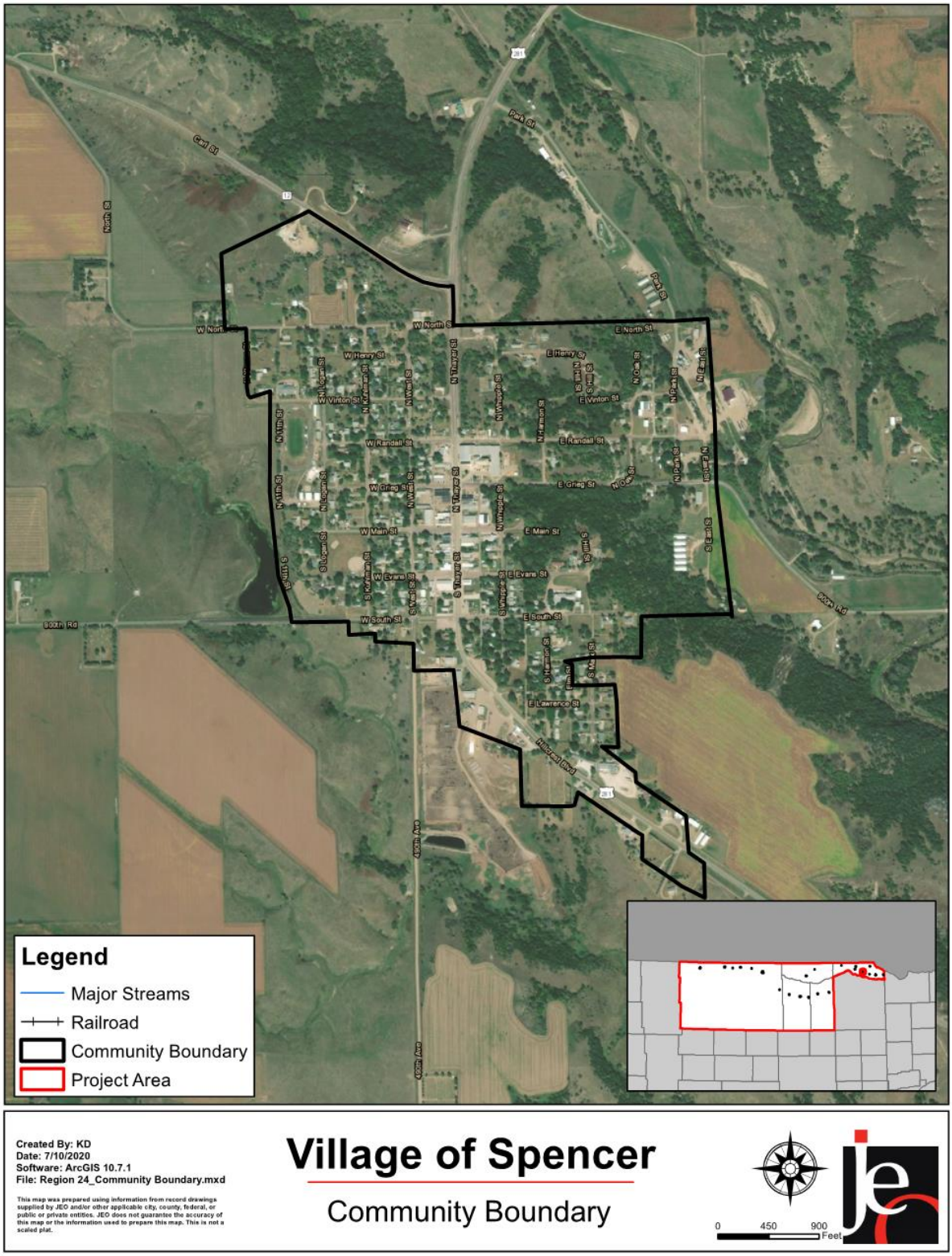
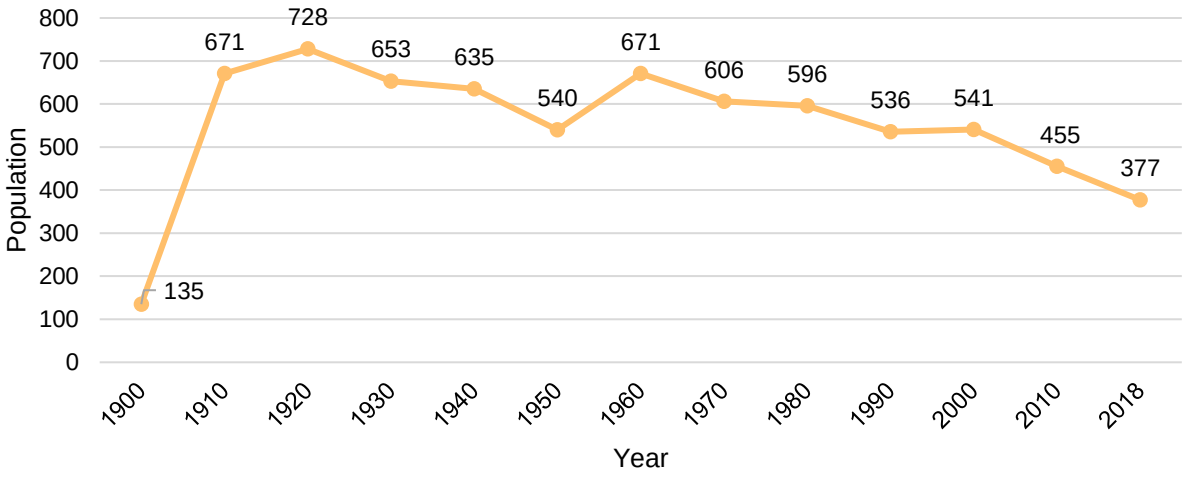


Figure SPE.2: Population 1900 - 2018



Source: U.S. Census Bureau

The young, elderly, minority, and low-income populations may be more vulnerable to certain hazards than other groups. In comparison to the county, Spencer's population was:

- **Older.** The median age of Spencer was 57.6 years old in 2018, compared with Boyd County's median of 52.3 years. Spencer's population grew older since 2010, when the median age was 51.1 years old.[30]
- **Equally ethnically diverse**. Since 2010, Spencer grew more ethnically diverse. In 2010, 4.2% of Spencer's population was non-white. By 2018, about 5% was non-white. During that time, the non-white population in the county grew from 3.1% in 2010 to 4.5% in 2018.[30]
- **More likely to be below the federal poverty line.** The poverty rate in the Village of Spencer (13.5% of people living below the federal poverty line) was higher than the county's poverty rate (10.6%) in 2018.[31]

Employment and Economics

In comparison to Boyd County, Spencer's economy had:

- **Similar mix of industries.** Spencer's major employment sectors, accounting for 10% or more of employment each, were: retail trade and education.[31]
- **Lower median household income.** Spencer's median household income in 2018 ($39,833) was about $10,900 lower than the county ($50,729).[31]
- **Fewer long-distance commuters.** About 68% of workers in Spencer commuted for fewer than 15 minutes, compared with about 56.8% of workers in Boyd County. About 15.6% of workers in Spencer commuted 30 minutes or more to work, compared to about 23.3% of county workers.[32]

Major Employers

Major employers in the community include Boyd County School, Wm. Krotter Co., Cahoy's, Farmers State Bank, Butte State Bank, and Country Café. The local planning team estimates that around 15% of residents commute to O'Neill for employment.

31 United States Census Bureau. 2018. "DP03: Selected Economic Characteristics." [database file]. https://data.census.gov/cedsci/.
32 United States Census Bureau. 2018. "S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://data.census.gov/cedsci/.

Housing

In comparison to Boyd County, Spencer's housing stock was:

- **Newer.** Spencer had a smaller share of housing built prior to 1970 than the county (63% compared to 70.7%).[33]
- **Less mobile and manufactured housing.** The Village of Spencer had a smaller share of mobile and manufactured housing (0%) compared to the county (12.6%).[33]
- **Less renter-occupied**. About 11.5% of occupied housing units in Spencer were renter-occupied compared with 18.7% of occupied housing in Boyd County.[33]
- **More occupied.** Approximately 23.5% of Spencer's housing units were vacant compared to 35.9% of units in Boyd County.[33]

The age of housing may indicate which housing units were built prior to the development of state building codes. Vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. Unoccupied housing may also suggest that future development may be less likely to occur. Communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms if those homes are not anchored correctly. Mobile and manufactured homes are spread out across the community. Renter-occupied housing depends on the initiative of landlords for proper maintenance and retrofitting to be resilient to disasters. They are less likely than homeowners to have flood insurance, or to know their risks to flooding and other hazards.

Future Development Trends

Over the past five years, two new storage buildings were built, one house was built, and six homes added additions. New businesses to the community include Country Café, 63 County Store, Dollar General, and Lilee Louise with Kit Kat Boutique. None of the new structures were built in the floodplain. The Country Café and firehall both had backup power generators installed. According to the 2018 American Community Survey estimates, Spencer's population is declining. The local planning team attributed this to a lack of housing, employment opportunities, and entertainment options. In the next five years, no new housing or businesses are planned at this time.

Parcel Improvements and Valuation

The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, garages, sheds etc.) at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table SPE.2: Parcel Improvements and Value in the Floodplain

Number of Improvements	Total Improvement Value	Number of Improvements in Floodplain	Value of Improvements in Floodplain	Percentage of Improvements in the Floodplain
288	$11,297,865	1	$2,950	0.3%

Source: County Assessor, 2018

33 United States Census Bureau. 2018. "DP04: Selected Housing Characteristics." [database file]. https://data.census.gov/cedsci/.

Community Lifelines

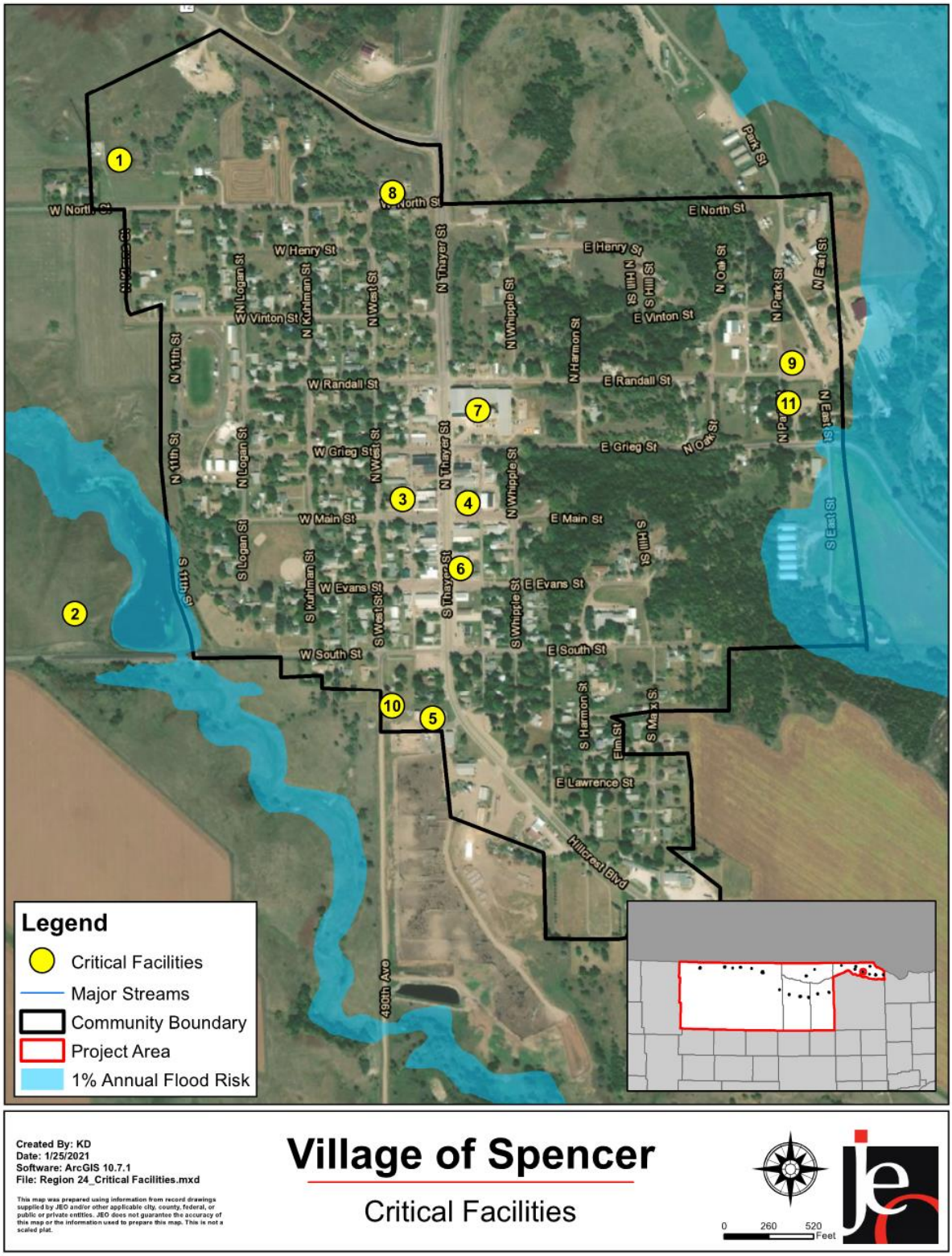
Critical Facilities

Each participating jurisdiction 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 the jurisdiction.

Table SPE.3: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Communication Tower #1	N	N	N
2	Communication Tower #2	N	N	N
3	Community Hall	N	N	N
4	Fire and Rescue Department	N	Y	N
5	Nebraska Department of Roads	N	N	N
6	Rural Water District #2	N	N	N
7	School	Y	N	N
8	USDA Service Center	N	N	N
9	Utilities	N	N	N
10	Water Tower	N	N	N
11	Sewer Plant	N	N	N

Figure SPE.3: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Chemical and Radiological Hazards – Fixed Site

Regarding potential chemical spills, the village pointed to the Farmers Union Elevator, which is located on the northeast part of town below the bluff. The village's pump house is located approximately two blocks to the south. The Nebraska Department of Transportation yard is also a Tier II facility according to the Nebraska Department of Environment and Energy. There have not been any major spills to impact the community.

Earthquake

While rare events, Spencer has experienced seismic activity in the past. Past events have been small and have not caused damages. If a large earthquake were to occur in the future, the community expressed concerns about the impact it could have on property, critical facilities, and the local economy.

Flooding

Although not identified by the local planning team as a hazard of top concern, part of the community is located in the 1% annual flood risk area. The floodplain is located on the eastern and western boarders of the community. There is one building located in the floodplain. During the March 2019 flood event, the Highway 281 bridge near the village was washed out and it took five months until a temporary bridge could be installed. This affected transportation to and from the village.

Grass/Wildfire

Spencer identified that the northeast portion of the community, by the school and down the hillside as the area most vulnerable to wildfire. It was also noted that the southeast quadrant of the community has a heavy forest cover. Spencer's fire department addresses this hazard through technical training and a routine upgrading of their equipment. In the past, Spencer has also had to evacuate people on the east side of town due to wildfires encroaching upon the area. There are many trees on the east side of the community. Village officials expressed concern over wildfires with the emphasis that most of the structures in the community are made of lumber.

High Winds

During the hazard identification meeting, officials from the Village of Spencer indicated that the village had sustained damage from straight line winds approximately eight years ago. These events damaged park area roofs, as well as the roof of the community pool facility. Spencer indicated the greatest concern that this hazard could have impacts on its population, property, critical facilities, and local economy. A relatively small percentage of power lines are buried, and hazardous trees are located throughout the community. This leaves Spencer more vulnerable to power loss from downed limbs and power lines. Trees that have grown into power lines have been removed or the power lines have been placed inground as much as possible.

Transportation Incidents

Highway 281 frequently traffics large agricultural equipment, such as wind turbines, which are a tight fit through this corridor. Spencer also noted that since the school is located along Highway 281, there is also potential for transportation accidents to occur. Spencer indicated the greatest concern that this hazard could have was on its population, property, critical facilities, and local economy.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. The Village of Spencer is governed by a village board; other governmental offices and departments are listed below.

- Clerk/Treasurer
- Floodplain Administrator
- Attorney
- Utility Superintendent
- Sewage Plant Operator
- Sewer/Street Commissioner
- Engineer

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table SPE.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning & Regulatory Capability	Comprehensive Plan	No
	Capital Improvements Plan	No
	Economic Development Plan	No
	Local Emergency Operations Plan	Yes
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
Administrative & Technical Capability	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No

Survey Components/Subcomponents		Yes/No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
Fiscal Capability	Capital Improvement Plan/ 1- & 6-Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	-
Education & Outreach Capability	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	Yes
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited/Moderate
Time to devote to hazard mitigation	Limited

Plan Integration

The Village of Spencer is an annex in the 2018 Boy County Local Emergency Management Plan (LEOP). The LEOP establishes standardized policies, plans, guidelines and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding, direction and control, communications and warning,

damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years. The community also has a floodplain ordinance, which dictates how and where buildings can be built in the floodplain. Spencer is also likely getting a housing study and comprehensive plan done in 2021. No other plans were identified during this process. The village will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

Mitigation Strategy

Spencer's municipal funds are limited to maintain current facilities and systems and have decreased some over recent years. A large portion of funds are dedicated to electric water meters. The community will likely need assistance from grants in order to implement many of the mitigation actions listed below. Spencer has experience applying for grants and has been awarded one grant in the past five years. Partnerships with the county, local NRD, and various state agencies would also benefit the community.

New Mitigation Actions

Mitigation Action	Comprehensive Plan
Description	Develop a comprehensive plan for the community.
Hazard(s) Addressed	All Hazards
Estimated Cost	$20,000+
Funding	General Budget
Timeline	1 Year
Priority	High
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Infrastructure Upgrades
Description	Replace and upgrade aging infrastructure across the community. The village specifically indicated that pumps may need to be replaced due to age.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board of Trustees
Status	Not Started

Continued Mitigation Actions

Mitigation Action	Adopt a No Adverse Impact
Description	Adopt a no adverse impact approach to floodplain management.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Alert/Warning Siren
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$15,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees, Region 24 Emergency Management Agency, County E911
Status	Not Started

Mitigation Action	Backup and Emergency Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, lift stations, and other critical facilities and shelters. This project would provide generators for the community hall, pumphouse/sewer plant, and the fire hall.
Hazard(s) Addressed	All Hazards
Estimated Cost	$15,000 - $30,000 per generator
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Village Board of Trustees
Status	In Progress. A generator was installed in the fire hall. Plans continue for installation of a generator in the community hall and pumphouse/sewer plant.

Mitigation Action	Business Continuity Plans
Description	Educate local businesses on the value of continuity planning.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This could include fire equipment, ATVs, water tanks/truck, snow removal equipment, pumps, etc. This would also include developing backup systems for emergency vehicles, identifying and training additional personnel for emergency response, or continuing educational opportunities for current personnel.
Hazard(s) Addressed	All Hazards
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Village Board, Fire Department
Status	Not Started

Mitigation Action	Continuity Plan
Description	Develop continuity plans for critical community (or school) services.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500 - $1,000
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Dam Engineering Analysis / Improvements and Reinforcement
Description	Conduct a preliminary engineering analysis for dam repairs and reinforcement. Dams serve to provide flood protection to businesses and residents during large storm events. Improvements to existing dams will increase flood protection. The Emergency Action Plan, Dam Breech Analysis, and/ or inspection/ safety equipment training may need to be updated along with improvements.
Hazard(s) Addressed	Dam Failure, Flooding
Estimated Cost	$500,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Natural Resources District
Status	Not Started

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies 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. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Drought Monitoring Plan and Procedures
Description	Develop and implement a plan or program to monitor the effects of drought.
Hazard(s) Addressed	Drought
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Emergency Communications
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Expand Water Storage Capacity / Emergency Water Supplies / Dry Hydrants
Description	Evaluate the need to expand water storage capacity through a new water tower, standpipe, etc., to provide a safe water supply for the community and additional water for fire protection. Establish emergency water supplies such as dry hydrants and individual or community cisterns for defending structures from wildland fires
Hazard(s) Addressed	Drought, Extreme Heat, Grass/Wildfires
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Facilities for Vulnerable Populations
Description	Create facilities for vulnerable populations after a hazard event has occurred.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Firewise Community
Description	Work to become a Firewise Community/USA participant through the Nebraska Forest Service and US Forest Service in order to educate homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire. The Firewise Communities approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance.
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	$20,000
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Fire Department
Status	Not Started

Mitigation Action	Flood-Prone Property Acquisition
Description	Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Additionally, this can provide flood insurance benefits to those communities within the NFIP.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Floodplain Management
Description	Improve floodplain management practices such as adoption and enforcement of floodplain management requirements (regulation of construction in SFHAs), floodplain identification and mapping (local requests for map updates), description of community assistance and monitoring activities, Community Rating System participation, and participation in FEMA's Cooperating Technical Partners Program to increase local involvement in the flood mapping process.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees, NeDNR
Status	Not Started

Mitigation Action	Groundwater/Irrigation/Water Conservation Management Plan
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 or improvements such as sprinklers or soil moisture monitoring. Potential restrictions on water could include limitations 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 modified crop selection and use of xeriscaping in communities.
Hazard(s) Addressed	Drought
Estimated Cost	$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees, Village Office
Status	Not Started

Mitigation Action	Hail Resistant Roofing
Description	Encourage the use of hail resistant roofing for any new construction.
Hazard(s) Addressed	Hail
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Hazardous Fuels Reduction
Description	The Nebraska Forest Service Forest Fuels Reduction Program creates strategically located corridors of thinned forests across the landscape, reduces fire intensity, improves fire suppression effectiveness, increases firefighter safety, and better protects lives and property.
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Nebraska Forest Service
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	$20,000
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Improve Snow/Ice Removal Program
Description	Revise and improve the snow and ice removal program for streets. Revisions should address situations such as plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris. This would include updating the emergency routes, acquiring equipment that is needed, paving routes, and ordinances as necessary.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	$20,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Install Vehicular Barriers
Description	Install vehicular barriers to protect critical facilities and key infrastructure where possible.
Hazard(s) Addressed	Transportation Incidents, Civil Disorder, Terrorism
Estimated Cost	Varies
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees, Region 24 Emergency Management Agency
Status	Not Started

Mitigation Action	Low Impact Development
Description	Utilize low impact development practices and green infrastructure to reduce flood risk.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Communities can work with MEAN, NPPD, and REA to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms, Severe Winter Storms, Flooding
Estimated Cost	$50,000 - $70,000
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Village Board of Trustees, MEAN, NPPD, REA
Status	In Progress. There have been various upgrades to electrical lines throughout the village and recently there was been a push to use underground lines wherever possible.

Mitigation Action	Preserve Natural Floodplain
Description	Preserve natural and beneficial functions of floodplain land through measures such as: retaining natural vegetation, restoring streambeds; and preserving open space in the floodplain.
Hazard(s) Addressed	Flooding, Dam Failure, Levee Failure
Estimated Cost	Varies
Funding	General Budget, Park Funds
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Promote First Aid
Description	Promote first aid training for all residents.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500+
Funding	General Budget, Corporate Donations, Volunteer Time
Timeline	5+ years
Priority	Medium
Lead Agency	Village Board, Fire/Rescue
Status	Not Started

Mitigation Action	Promote Higher Codes
Description	Promote the use of higher codes and standards, such as the Fortified for Safer Living Standard, in order to provide greater protection for any new construction or building retrofits.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Public Awareness / Education
Description	Through activities such as outreach projects, distribute maps and environmental education pieces to increase public awareness of natural hazards. Distribute materials and share information about hazards and ways to protect people and property from these hazards to both public and private property owners, renters, businesses, and local officials. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchase education equipment such as projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	$0 - $5,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Safe Rooms and Storm Shelters
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$200 - $300 per square foot
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Source Water Contingency Plan
Description	Villages and cities can evaluate and locate new sources of groundwater to ensure adequate supplies to support the existing community and any additional growth which may occur. Also, identify and develop water sources for fire protection.
Hazard(s) Addressed	Drought, Grass/Wildfire
Estimated Cost	$5,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Medium
Lead Agency	Village of Board of Trustees
Status	In Progress. A potential emergency use water supply well was used after the flooding in 2019 took out the main water supply for the village.

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel, and Propane Tanks
Description	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in tornado or high wind event.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$1,000+
Funding	General Budget, Property Owners
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprised of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Bridges typically serve as flow restrictions along streams and rivers. Cleanout and reshaping of channel segments at bridge crossing can increase conveyance, reducing the potential for flooding. Replacement or modification of bridges and other flow restrictions may be necessary to provide greater capacity, maintain or improve structural integrity during flood events, and eliminate flooding threats and damages.
Hazard(s) Addressed	Flooding
Estimated Cost	$10,000 - $100,000+
Funding	General Budget, CDBG
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	In Progress. There have been some improvements in a few locations from simple cleanouts to new culverts; these areas still need additional improvements.

Mitigation Action	Stream Bank Stabilization / Grade Control Structures / Channel Improvements
Description	Stream bank/ bed degradation can occur along many rivers and creeks. Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Grade control structures including sheet-pile weirs, rock weirs, ponds, road dams, etc. can be implemented and improved to maintain the channel bed. Channel stabilization can protect structures, increase conveyance and provide flooding benefits. This project would focus on Ponca Creek and Spencer Pond
Hazard(s) Addressed	Flooding
Estimated Cost	$50,000 - $100,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Tree City USA
Description	Work to become a Tree City USA through the National Arbor Day Foundation in order to receive direction, technical assistance, and public education on how to establish a hazardous tree identification and removal program in order to limited potential tree damage and damages caused by trees in a community when a storm event occurs. The four main requirements include: 1) Establish a tree board; 2) Enact a tree care ordinance; 3) Establish a forestry care program; 4) Enact an Arbor Day observance and proclamation.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	1 Year
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Vulnerable Population Support Database
Description	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	Staff Time
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees, Rescue Unit
Status	Not Started

Mitigation Action	Warning Systems
Description	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	Not Started

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed. The village has identified the village office, maintenance department, and fire departments as facilities which could benefit from this action.
Hazard(s) Addressed	All Hazards
Estimated Cost	$50 per radio
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board of Trustees
Status	In Progress. A few new radios for the fire/rescue have been purchased in 2019.

Mitigation Action	Windbreaks / Living Snow Fence
Description	Installation of windbreaks to increase water storage capacity in soil and act as a snow fence.
Hazard(s) Addressed	Drought, Severe Winter Storms
Estimated Cost	$2,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board of Trustees
Status	Not Started

Removed Mitigation Actions

Mitigation Action	Maintain Good Standing with the NFIP
Hazard(s) Addressed	Flooding
Reason for Removal	While the village will continue to participate and maintain compliance in the NFIP, this project is no longer considered a mitigation action by FEMA.

District Profile

Boyd County Rural Water District #2

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

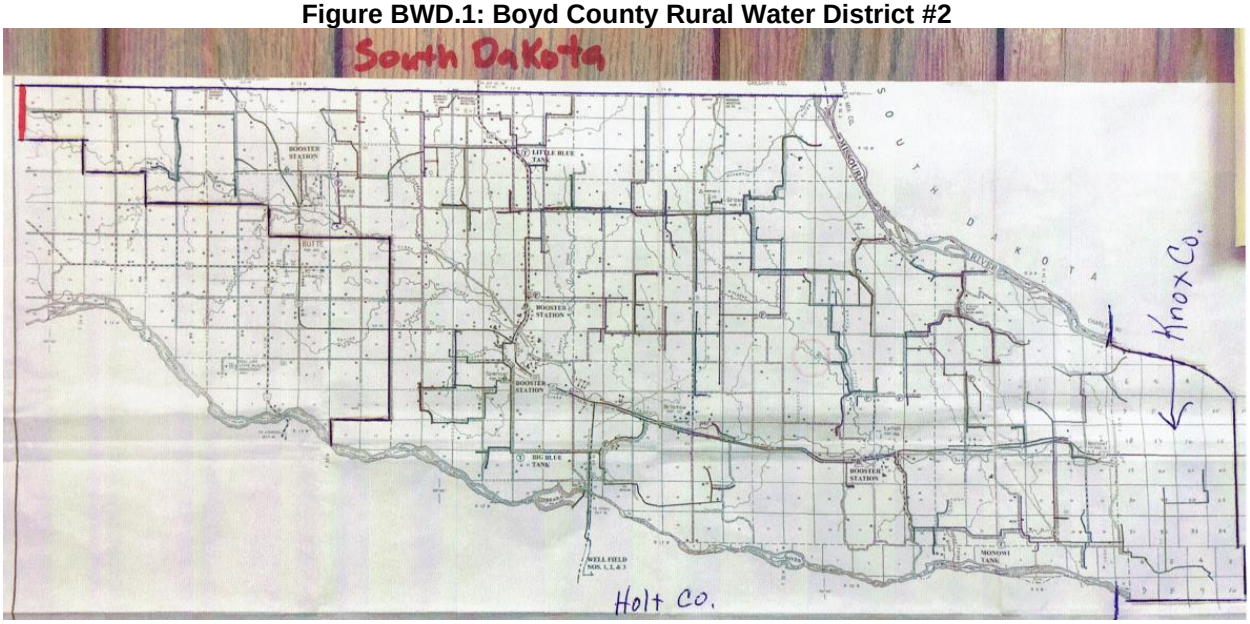
Table BWD.1: Boyd County Rural Water District #2 Local Planning Team

Name	Title	Jurisdiction
Gail Spencer	Bookkeeper	Boyd County Rural Water District #2

Location and Demographics

Boyd County Rural Water District #2 is a non-profit utility formed in 1978 that provides potable water to most of Boyd County plus a portion of Knox County. The district serves 450 rural customers plus the Village of Anoka, Village of Spencer, and the Village of Lynch. The Village of Bristow will be added in the spring of 2021. See the individual village profiles and the Boyd County profile for regional demographic information. Figure BWD.1 shows a map of the rural water district.

Figure BWD.1: Boyd County Rural Water District #2



Future Development Trends

In 2016, the water district replaced some lines with larger lines and boosters to add new customers. Due to flooding in March 2019, the main line under the Niobrara River had to be replaced in the fall of 2019. In the fall of 2020, the Nebraska Department of Transportation installed sheet piling crossing our line to protect the new highway bridge, although it is much shallower than the new main line. Backup generators have been installed to power boosters and wells if electricity is lost. Over the next five years, the water district will continue to add new customers on existing lines including the Village of Bristow.

Community Lifelines

Critical Facilities

Each participating jurisdiction 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 the district.

Table BWD.2: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Booster Pump Station #1	N	Y	N
2	Booster Pump Station #2	N	Y	N
3	Booster Pump Station #3	N	N	N
4	District Office	N	N	N
5	Water Tower #1	N	N	N
6	Water Tower #2	N	N	N
7	Water Tower #3	N	N	N
8	Well House #1	N	Y	N
9	Well House #2	N	N	N

Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the district. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the district's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Drought

Drought is a concern for the district as it could jeopardize the water supply. Drought is a fairly common occurrence in Boyd County with the last major event occurring in 2012 and 2013. During past drought events, the district monitors water levels so the wells do not pump below the top of the screen. Water restrictions are also able to be implemented in order to reduce demand. Another well may need to be added to help ensure the water supply during future droughts. Nitrates and other contaminants have not been an issue with the current wells.

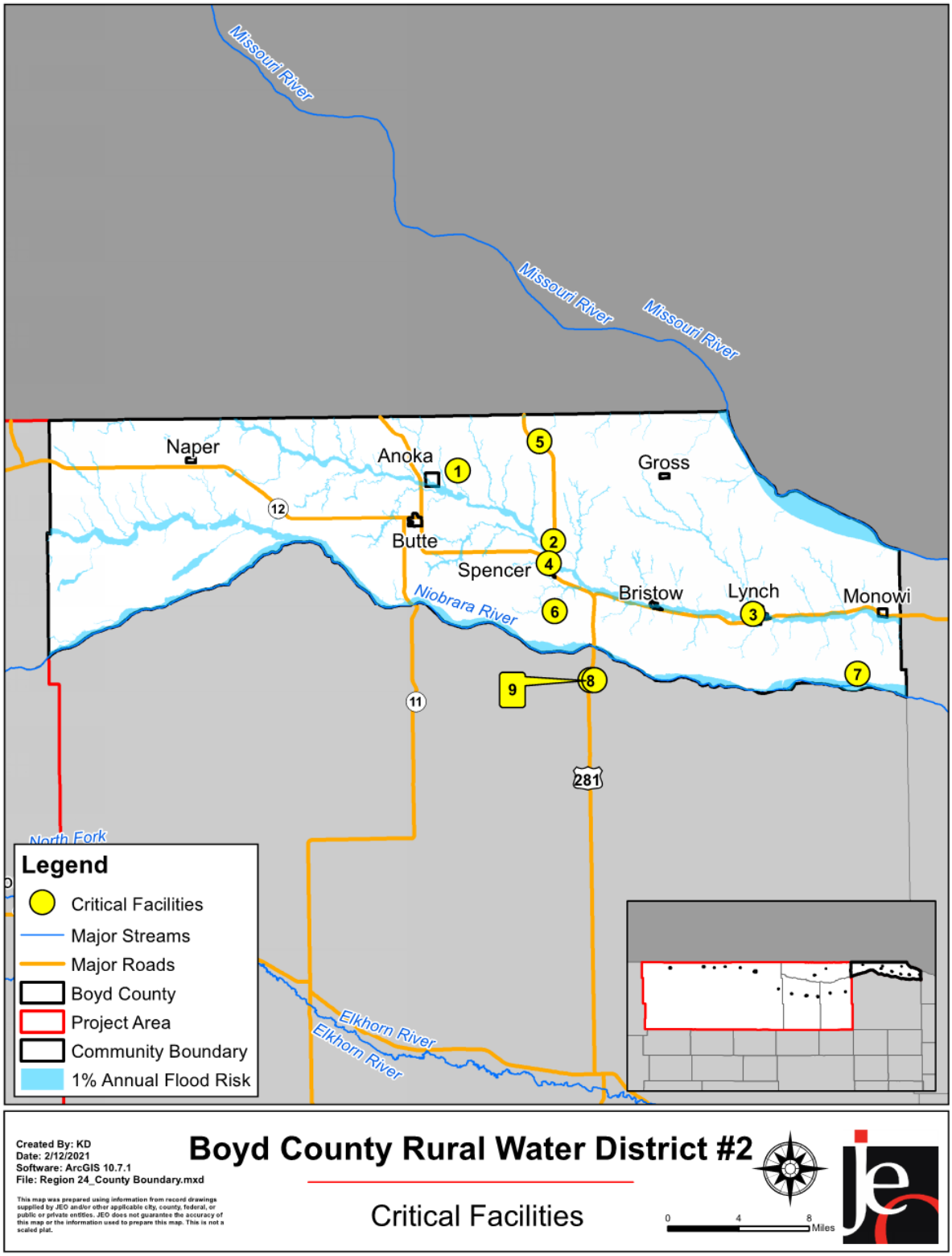
Flooding

Flooding has caused considerable damage to the district's infrastructure. Water lines under rivers and creeks are vulnerable to breakage due to banks eroding. In May 2019, a water line under the Ponca Creek near Monowi was lost due to flooding and bank erosion. In March 2019, the district's main line under the Niobrara River was lost due to flooding. Since then both lines have been replaced. Replacement costs for the Ponca Creek line was around $50,000 and the cost of the Niobrara main was around $1,391,500. The new main has been bored deeper to reduce the possibility of this occurring again. The district is currently working with the U.S. Army Corps of Engineers to stabilize the banks of Ponca Creek. In addition, the Nebraska Department of Roads is putting piling in the Niobrara River to protect the new bridge, which will also protect the district's line.

High Winds and Tornadoes

The primary concern regarding tornadoes and high winds is damage to infrastructure. The district has three water towers which could be damaged or destroyed by a tornado or high wind event. Since 1996 there has been one tornado and 15 high wind events reported in Boyd County. None of the past events have caused damage to the water towers.

Figure BWD.2: Critical Facilities



Landslides

Water lines for the district are vulnerable to breakage due to landslides. In September 2019, a water line near the Village of Bristow broke due a landslide. The cost to repair the line was around $1,000. Boyd County has experienced the highest number of landslides in the State of Nebraska with 56 recorded events. The Nebraska Department of Roads has done erosion control to stop landslides from damaging the highways. This erosion control also helps protect the water lines.

Severe Thunderstorms

Severe thunderstorms can damage the districts infrastructure in several ways. High winds and lightning strikes from thunderstorms have the potential to damage the water towers and cause power outages. In July of 2018 and August of 2019 lightning took out the district's wells. Severe thunderstorms are an annual occurrence across the county. In the event of a power loss, backup generators have been installed at the booster stations and wells. The district also has an automatic backup of the computer system daily.

Governance

A board made up of seven members governs the water district. Other staff positions are listed below.

- Manager/Water Operator
- Backup Water Operator
- Bookkeeper

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The water district's board members are responsible for implementing any mitigation projects. Revenue for the district is generated through sales of water and monthly meter fees. District funds are limited to maintaining current facilities and systems and have stayed the same over recent years. A large portion of funds is currently dedicated to paying off loans from the last expansion project.

Table BWD.3: Overall Capability

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Moderate

Plan Integration

Boyd County Rural Water District has a Water System Emergency Response Plan that was last updated in 2018. The plan serves as a guideline for the district to minimize the disruptions of normal services to consumers and to provide public health protection during an emergency event. The document identifies several natural and manmade events and discusses the water district's response during those evens. No other planning documents were identified during this process. The district will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Mitigation Strategy

Boyd County Rural Water District #2 is likely to need assistance from grants to help pay for several of the mitigation actions listed below. The district has experience applying for grants in the past but would still benefit from partnerships with Boyd County, Region 24 Emergency Management Agency, various state agencies, and local communities.

New Mitigation Actions

Mitigation Action	New Well
Description	Construct a new well for the rural water district to help protect the water supply.
Hazard(s) Addressed	Drought
Estimated Cost	$100,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	District Board
Status	Not Started

Mitigation Action	Stream Bank Stabilization / Grade Control Structures / Channel Improvements
Description	Work with the U.S. Army Corps of Engineers to add rock to the banks of Ponca Creek to help reduce erosion and protect the water lines.
Hazard(s) Addressed	Flooding
Estimated Cost	$70,000
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	District Board, U.S. Army Corps of Engineers
Status	In Progress. The rural water district is in contact with the U.S. Army Corps of Engineers.

School District Profile

Boyd County Schools

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table BCS.1: Boyd County Schools Local Planning Team

Name	Title	Jurisdiction
Michael Brown	Superintendent	Boyd County Schools

Location

Boyd County Schools covers almost all of Boyd County and parts of Holt and Knox counties. There are three schools that are part of the district. The school district provides services to students in the communities of Anoka, Bristow, Butte, Gross, Lynch, Monowi, Naper, and Spencer. In 2017 West Boyd Schools and Lynch Public Schools consolidated to form this school district.

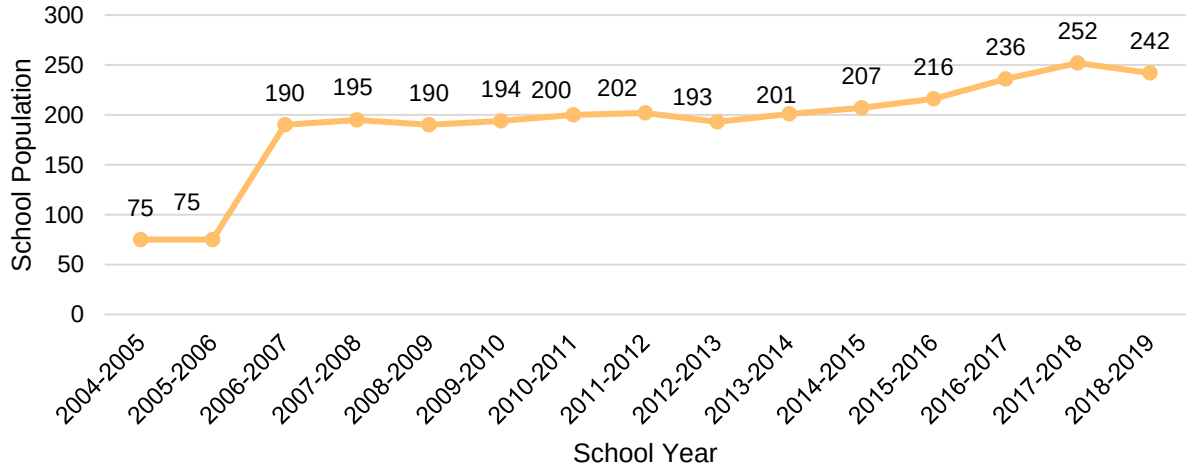
Transportation

Three major transportation corridors intersect near the district's schools: US Highway 281 and Nebraska State Highways 11and 12. The most travel route is Highway 281 with a total annual average of 1,290 vehicles daily, 225 of which are trucks. [34] The local planning team indicated that rural county routes are of most concern due poor road conditions and blind corners. In 2018 a semi-truck rear-ended a school bus near Osmond. No injuries resulted from the accident. Approximately 100 students take eight district owned busses to and from school. There are no rail lines in the district. Transportation information is important to hazard mitigation plans because it suggests areas more at risk of transportation incidents.

Demographics

The following figure displays the historical student population trend starting with the 2004-05 school year and ending with the 2018-19 year. It indicates that the student population has been declining since 2018. There are 242 students enrolled in the district.[35] The district anticipates little change is the student population over the next five years.

Figure BCS.2: Student Population 2004-2019



Source: Nebraska Department of Education

34 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

35 Nebraska Department of Education. August 2020. "2016-2017 Education Profile for District: Boyd County Schools." https://nep.education.ne.gov/snapshot.html#75-0100-000.

Figure BCS.1: Boyd County Schools

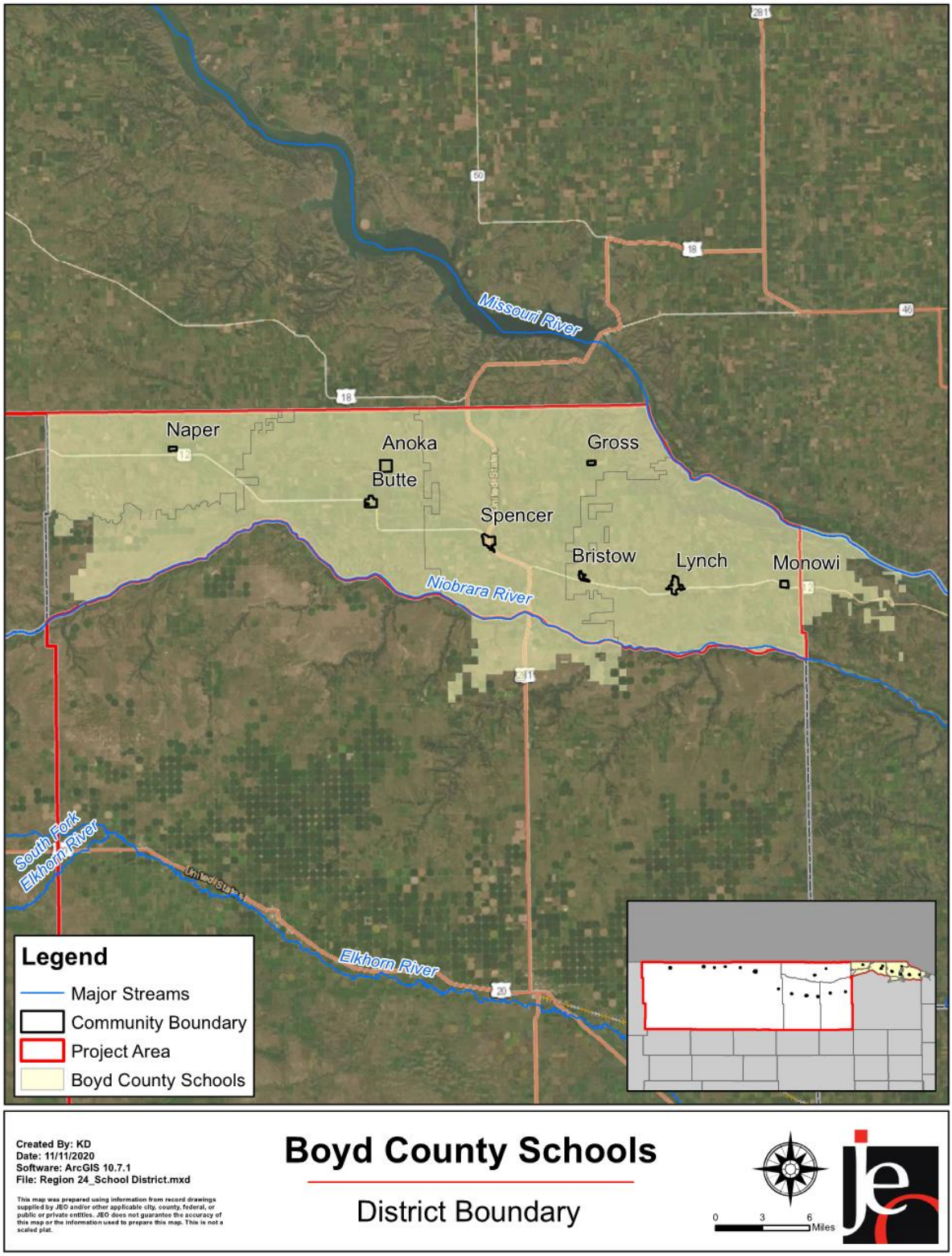
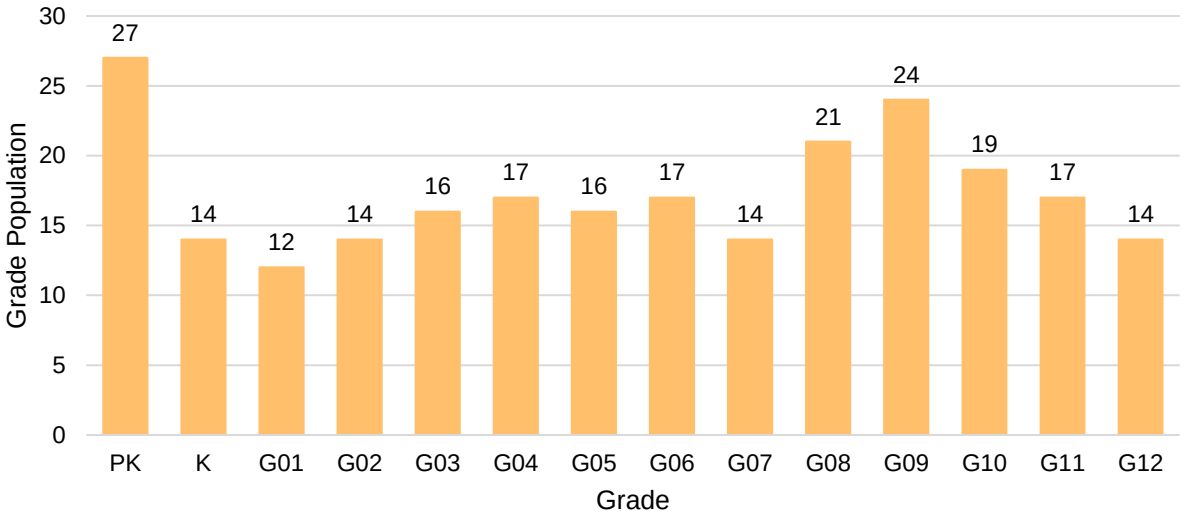


Figure BCS.3: Number of Students by Grade, 2018-2019



Source: Nebraska Department of Education

The figure above indicates that the largest number of students are in the pre-kindergarten, 8th, and 9th grades. The lowest population of students are in 1st grade. According to the Nebraska Department of Education (NDE), 42.2% of students receive either free or reduced priced meals at school. This is lower than the state average of 45.2%. Additionally, nearly 13.5% of students are in the Special Education Program and less than 10 students are English Language Learners. English Language Learners in the district primarily speak Spanish. These particular students may be more vulnerable during a hazardous event than the rest of the student population.

Table BCS.2: Student Statistics, 2018-2019

	School District	State of Nebraska
Free/Reduced Priced Meals	42.2%	45.2%
School Mobility Rate	11.2%	10.3%
English Language Learners	N/A	7.2%
Special Education Students	13.5%	15.5%

Source: Nebraska Department of Education[36]
N/A: Percentage not given if under 10 students.

Future Development Trends

Over the past five years, the school district has consolidated and remodeled all three of their buildings. The district also added attendance centers in Butte, Spencer, and Lynch. In the next five years there are plans to demolish and rebuild the oldest facility, the Boyd County Middle School/High School in Spencer. The rebuilt facility will be in the same location which is located outside the flood risk area.

36 Nebraska Education Profile. "School Report Card." Accessed August 2020. http://nep.education.ne.gov/Home/.

Community Lifelines

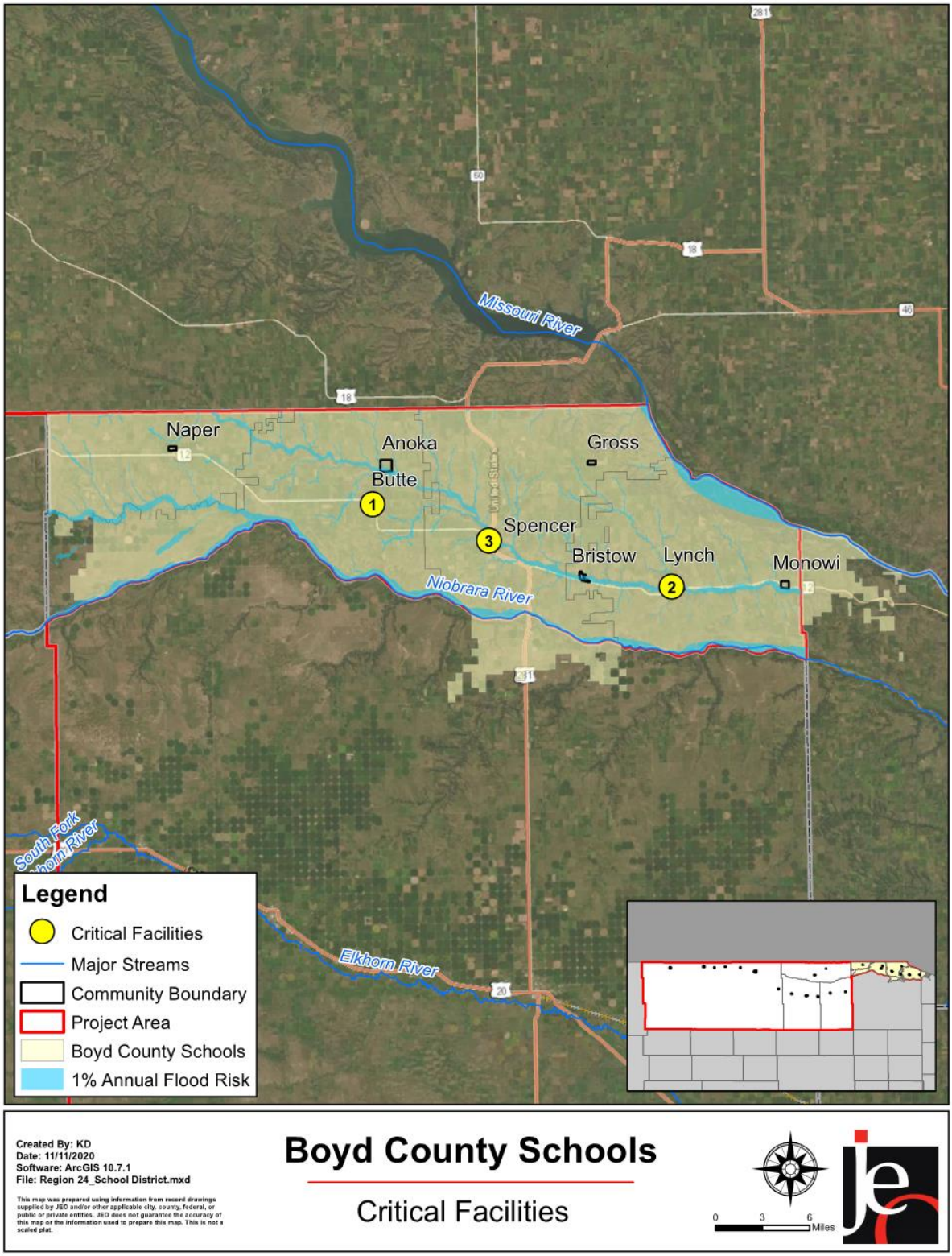
Critical Facilities

Each participating jurisdiction 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 the school. All three facilities have a weather radio.

Table BCS.3: Critical Facilities

CF Number	Name	# of Students	# of Staff	Community Shelter (Y/N)	Safe Room (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Boyd County Butte Elementary	125	12	Y	N	N	N
2	Boyd County Lynch Elementary	45	7	Y	N	N	N
3	Boyd County MS/HS	225	18	Y	N	N	N

Figure BCS.4: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the district. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the district's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Flooding

The primary concern related to flooding for the school district is transportation issues related to the bus routes. The district owns eight busses and approximately 100 students use them on a daily basis. During the March 2019 floods many of the bus routes had to be rerouted due to closed roads and bridges. Rural county routes are of most concern due poor road conditions from flooding and heavy rains. Flooding has not caused damage to any of the school buildings in the past.

Grass/Wildfires

The district indicated that in 2012 and 2013, wildfires posed a threat to the district, however, no damages or injuries were sustained. Boyd County Lynch Elementary is located on the western edge of the Village of Lynch, which has the greatest urban/wildland interface of any area in the village. The school indicated that there was a high probability of future occurrence for this hazard. In the event of a fire impacting one of the schools, the district would like fire sprinkler systems installed at all the schools.

Severe Winter Storms

Boyd County Schools is particularly vulnerable to severe winter storms, given its geographical location. The school noted that it is impacted by these events on a yearly basis mainly due to school closures and hazardous road conditions. Snow removal on school property is handled by the custodial staff and resources are sufficient to respond to most events.

Administration

The school district has a superintendent and three principals. The school board is made up of a six-member panel. Other positions and departments that may be involved in hazard mitigation are listed below.

- Communications
- Curriculum/Assessment
- Facilities
- Finance Department
- Human Resources
- Learning Coaches
- Library/Media Services
- PARA Education
- Technology
- Transportation

Capability Assessment

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the community's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Staff is trained about emergency procedures via in-service professional development. Students and families are educated about emergency procedures through information provided on the school website.

Table BCS.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	No
	Disaster Response Plan	Yes
	Other (if any)	Safety and Security Plan
Administration & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Local staff who can assess community's vulnerability to hazards	No
	Grant Manager	Yes
	Mutual Aid Agreement	No
	Other (if any)	-
Fiscal Capability	Applied for grants in the past	Yes
	Awarded grants in the past	Yes
	Authority to levy taxes for specific purposes such as mitigation projects	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Approved bonds in the past	No
	Flood Insurance	No
	Other (if any)	-
Education & Outreach Capability	Local school groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.)	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No
	StormReady Certification	No
	Other (if any)	-
Drills	Fire	10 / year
	Tornado	1 / year
	Intruder	2 / year
	Bus evacuation	2 / year
	Evacuation	1 / year

Survey Components/Subcomponents		Yes/No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Moderate
Staff/expertise to implement projects	Moderate
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Limited

Plan Integration

Boyd County School's Emergency Operations Plan was last updated in 2019 and covers staff and student response to evacuations, intruders, tornadoes, and fire. In addition, the district also has a safety and security plan. No other planning documents were identified in this process. The district will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Mitigation Strategy

Boyd County Schools funds are limited to maintaining current facilities and systems. Although a large portion of funds have not been dedicated to a specific project, the school would likely need assistance from grants to help pay for larger mitigation projects. The school district has experience applying for grants as it has applied for and won several grants in the last five years.

Completed Mitigation Actions

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and school facilities and provide new radios as needed.
Hazard(s) Addressed	All Hazards
Status	Completed. All buildings have weather radios.

Continued Mitigation Actions

Mitigation Action	Alert/Warning Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	All Hazards
Estimated Cost	$15,000+
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	School Board, Village Board
Status	Not Started.

Mitigation Action	Emergency Communications
Description	Establish an action plan to improve communication between schools and other government agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	1 Year
Priority	Medium
Lead Agency	School Superintendent, School Board
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees on school property.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	$20,000
Funding	General Budget
Timeline	1 Year
Priority	Low
Lead Agency	School Superintendent, School Board
Status	Ongoing. Trees are trimmed and removed as issues arise.

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Schools / School Districts can work with their local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines on school property and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	$50,000 - $70,000
Funding	General Budget
Timeline	5+ Years
Priority	Low
Lead Agency	School Board
Status	Ongoing. Lines are buried as funding is available.

Mitigation Action	Promote First Aid
Description	Promote first aid training for all staff.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500+
Funding	General Budget, Corporate Donations, Volunteer Time
Timeline	1 Year
Priority	High
Lead Agency	School Superintendent, School Nurse
Status	Ongoing. Occurring a regular basis via professional development.

Mitigation Action	Public Awareness/Education
Description	Educate staff, students, and parents about hazard vulnerability and mitigation measures. Activities may include classroom modules profiling certain hazards and discussing preparedness measures. Educational materials, such as brochures and fliers, can be developed and provided to parents to increase community wide hazard awareness. Staff training can be conducted regarding school hazard vulnerability. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	$0 - $5,000+
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	School Superintendent, School Board
Status	Ongoing. Education is done on a regular basis via professional development.

Mitigation Action	Safe Rooms and Storm Shelters
Description	Assess, design, and construct fully supplied safe rooms in school facilities.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	$200 - $300 per square foot
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	School Superintendent, School Board
Status	Planning Stage. The district is looking at potential locations.

Mitigation Action	School Continuity Plan
Description	Develop continuity plans for critical services to increase resiliency after a hazardous event.
Hazard(s) Addressed	All Hazards
Estimated Cost	$500 - $1,000
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	School Superintendent, Local Fire and Law Enforcement
Status	In Progress. The district is currently working with public organizations.

Mitigation Action	Warning Systems
Description	Implement telephone interrupt system such as Reverse 911, emergency text messaging warning system, etc.
Hazard(s) Addressed	All Hazards
Estimated Cost	$10,000+
Funding	General Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	School Superintendent
Status	In Progress. The district is working with county governmental agencies to complete.

Removed Mitigation Actions

Mitigation Action	Backup and Emergency Generators
Hazard(s) Addressed	All Hazards
Status	Removed, the district would like to focus on other projects.

Fire District Profile

Naper Rural Fire District

Region 24 Emergency Management
Multi-Jurisdictional Hazard Mitigation Plan Update

2021

Local Planning Team

Table NFD.1: Naper Rural Fire District Local Planning Team

Name	Title	Jurisdiction
Alan Nicolaus	Volunteer Fireman	Naper Rural Fire District

Location and Geography

The Naper Rural Fire District covers 83,500 acres in the eastern portion of Boyd County, including the Village of Naper. The fire district mainly addresses grass and wildfire in the region's rural areas.

Transportation

Nebraska Highway 12 travels through the Naper Rural Fire District. Highway 12 is traveled by a total annual average of 285 vehicles daily, 25 of which are trucks.[37] No rail lines travel through the district. The county roads in the district are of most concern as they are used regularly for response. Some of the county roads are regularly closed due to flooding or poor road conditions. Chemicals are not routinely transported along local routes. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors and areas more at risk of transportation incidents.

Demographics

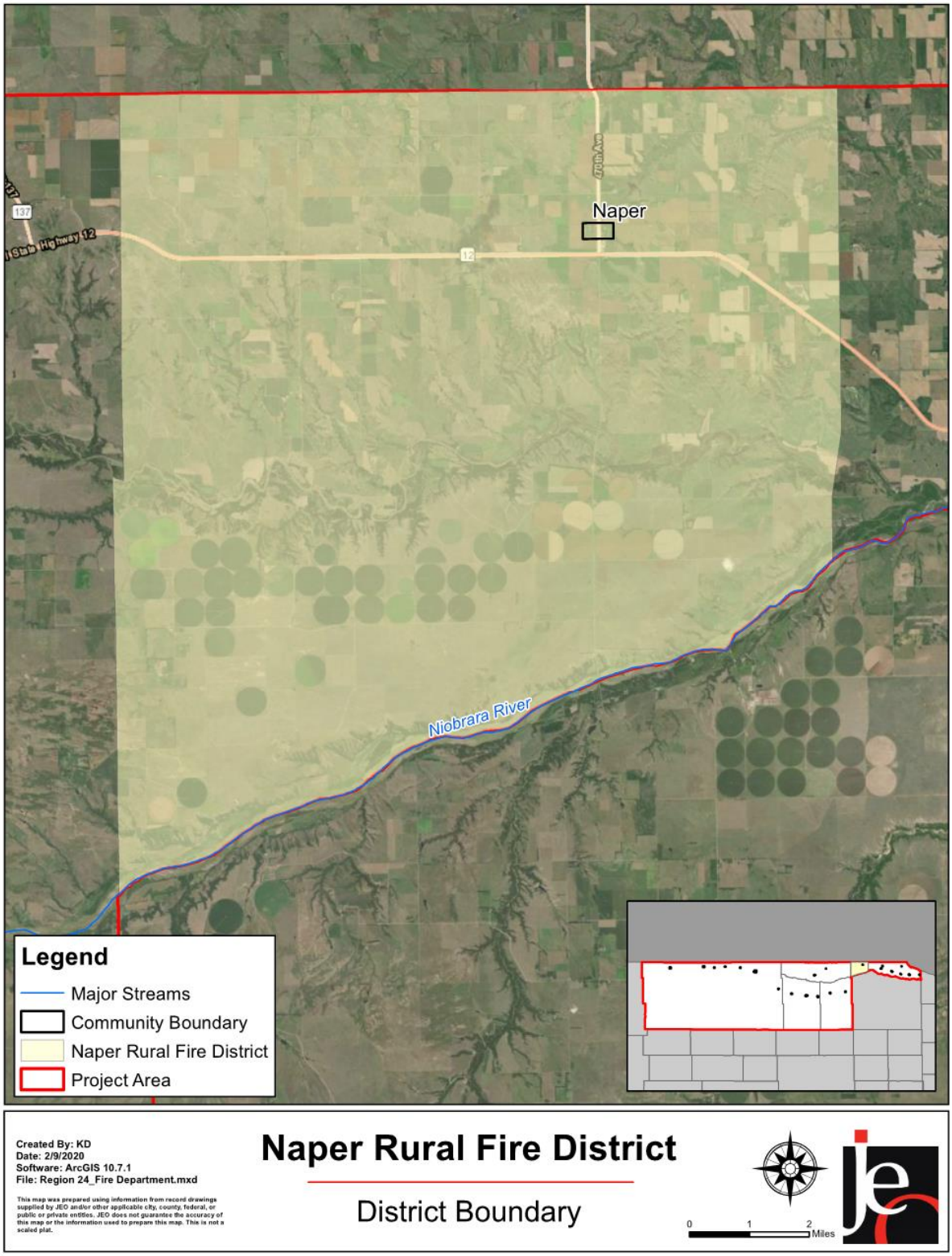
See the Village of Naper and the Boyd County profiles for regional demographic information. The district serves approximately 200 people.

Future Development Trends

Over the past five years, there have been no changes for the fire district. Currently, the district is saving for a new fire hall with plans for it to be constructed within the next five to ten years.

37 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

Figure NFD.1: Naper Rural Fire District



Community Lifelines

Chemical Storage Fixed Sites

There are no fixed chemical storage sites located in the district. Because of that the district does not have spill response resources and does not train on chemical spill response.

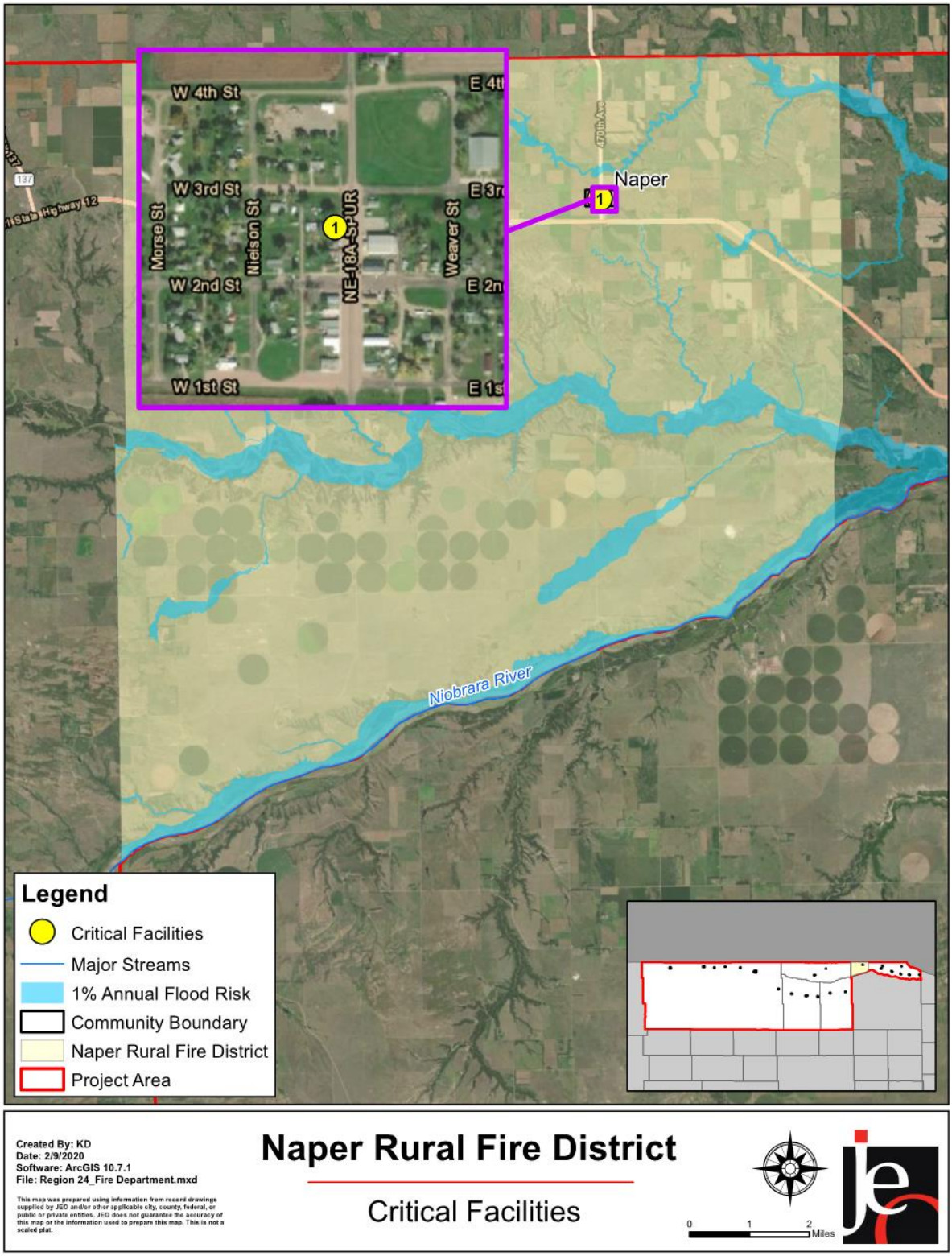
Critical Facilities

Each participating jurisdiction 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 the jurisdiction.

Table NFD.2: Critical Facilities

CF Number	Name	Community Shelter (Y/N)	Generator (Y/N)	Floodplain (Y/N)
1	Fire Hall	N	N	N

Figure NFD.2: Critical Facilities



Historical Occurrences

See the Boyd County profile for historical hazard events, including the number of events, damage estimates, and any fatalities or injuries.

Hazard Prioritization

The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were selected by the local planning team from the regional list as relevant hazards for the district. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the district's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

Drought

Concerns related to drought include the increased risk of wildfires and having enough water for fire response. The last significant drought in the district occurred in 2012/2013. Water for the district comes from the Village of Naper and has been sufficient during past drought events. River, windmills, and ponds can all be used as backup supplies if needed.

Grass/Wildfire

Areas most at risk to fire are primarily located along river and creek corridors. Eastern redcedar encroachment into pasture lands has also increased the fire risk in the area. Canyon areas around rivers and creeks are can be difficult to access. No major fires have occurred in the past, but the district has provided mutual aid to other major fire events in the planning area. Equipment includes three grass rigs, one tanker, one rescue unit, and one pumper rig.

Hail

Hail has the potential to cause roof damage at the fire hall and can cause power outages from fallen trees and limbs. Hail is a regular occurrence in the village and across the district. In June 2009, 2.75-inch hail hit the Village of Naper. The fire hall has hail insurance but does not have a backup generator. There are plans to build a new fire hall which may have a backup power generator.

Tornadoes and High Winds

Tornadoes and high winds have the potential to cause large scale damages across the district. There have been no reported tornadoes in the district. If a large tornado were to occur, the fire district would help in the response and recovery efforts. The fire hall does not have a FEMA certified safe room but does have identified tornado shelter areas for staff and volunteers. In the event of a disaster, the district is part of the Holt/Boyd Mutual Aid District.

Staffing

The Naper Rural Fire District is supervised by a fire chief and a five-member rural fire board who will oversee the implementation of hazard mitigation projects. Other offices are listed below.

- Assistant Fire Chief
- Treasurer
- Secretary

Capability Assessment

Due to the unique structure of fire districts, the typical capability assessment table was not used. The following table summarizes the district's overall capabilities. The Naper Rural Fire District will continue to utilize existing relationships with local, county, state, and federal agencies in the implementation of mitigation projects. No public outreach and education is done at this time.

Table NFD.3: Overall Capability

Overall Capability	Limited/Moderate/High
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Moderate

Plan Integration

The Naper Rural Fire District has standard operating procedures (SOPs). These SOPs outline the district's response to a variety of different calls that could be received. The district is also a part of the 2020 North Central Nebraska Community Wildfire Protection Plan (CWPP). The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years and has been integrated with the current hazard mitigation plan. No other planning documents were identified during this process. The fire district will work to integrate the hazard mitigation plan into any future planning documents.

Mitigation Strategy

District funds are limited to maintaining current facilities and systems and have stayed the same over recent years. The district is likely to need assistance from grants to help pay for the mitigation actions listed below. Grants have not been applied for in the past.

New Mitigation Actions

Mitigation Action	Backup and Emergency Generator
Description	A backup generator will be needed for the new fire hall.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Tornadoes, High Winds, Hail
Estimated Cost	$30,000+
Funding	General Budget
Timeline	5+ Years
Priority	Medium
Lead Agency	Fire Chief, Rural Fire Board
Status	Not Started

Mitigation Action	Civil Service Improvements
Description	A new tanker truck is needed for the district.
Hazard(s) Addressed	Grass/Wildfire
Estimated Cost	$100,000+
Funding	General Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Fire Chief, Rural Fire Board
Status	Not Started

Mitigation Action	New Fire Hall/Barn
Description	A new fire hall needs to be constructed for the district.
Hazard(s) Addressed	All Hazards
Estimated Cost	$200,000+
Funding	General Budget
Timeline	5+ Years
Priority	High
Lead Agency	Fire Chief, Rural Fire Board
Status	Planning Stage. The district is currently raising funds for the project.