# COUNTY PROFILE

# SAUNDERS COUNTY

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table SAU.1: Saunders County Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Terry Miller | Emergency Management Director | Saunders County |
| Mitch Polacek | Planning & Zoning Department Office Manager | Saunders County |

## LOCATION AND GEOGRAPHY

Saunders County is bordered by Douglas, Sarpy, Cass, Lancaster, Butler, and Dodge Counties in eastern Nebraska. The majority of Saunders County is located in the rolling hills topographic region of Nebraska, though the central region is comprised of plains, and the lands along the Platte River are valleys. The total area of Saunders County is 760 square miles. The Platte River forms the county's northern border.

## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors and areas more at risk of transportation incidents. Saunders County's major transportation corridors include US Highway 77 and Nebraska State Highways 63, 66, 79, 92, 109, and 592. The county also hosts several air landing strips at the Wahoo Municipal Airport. Highways 66, 77, and 92 are the transportation routes of most concern in the county because they are the most heavily traveled. Petroleum, fertilizer, and agricultural chemicals are frequently transported along all local routes. Past vehicular crashes have caused anhydrous ammonia and agricultural chemical spills.

**Figure SAU.1: Saunders County**

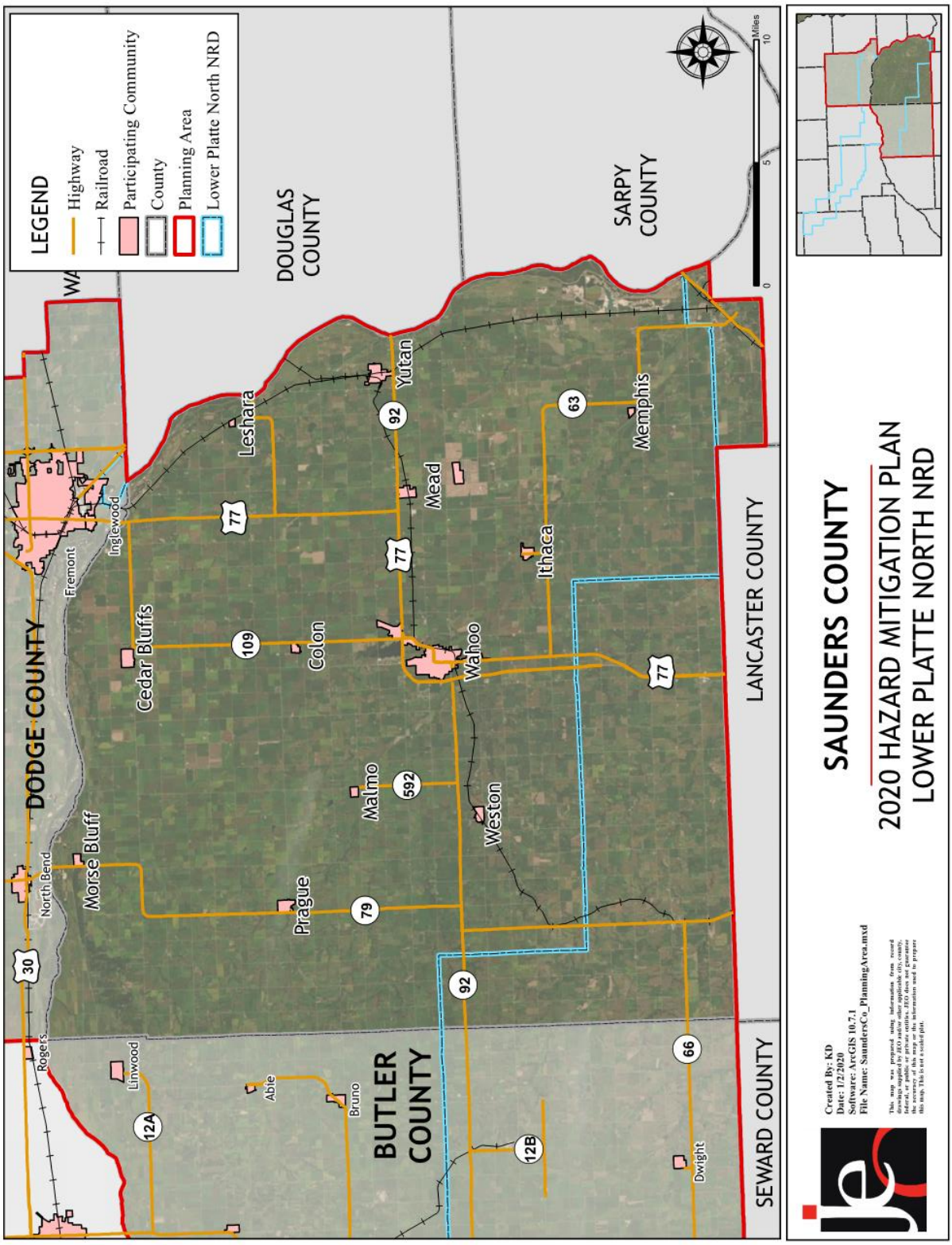
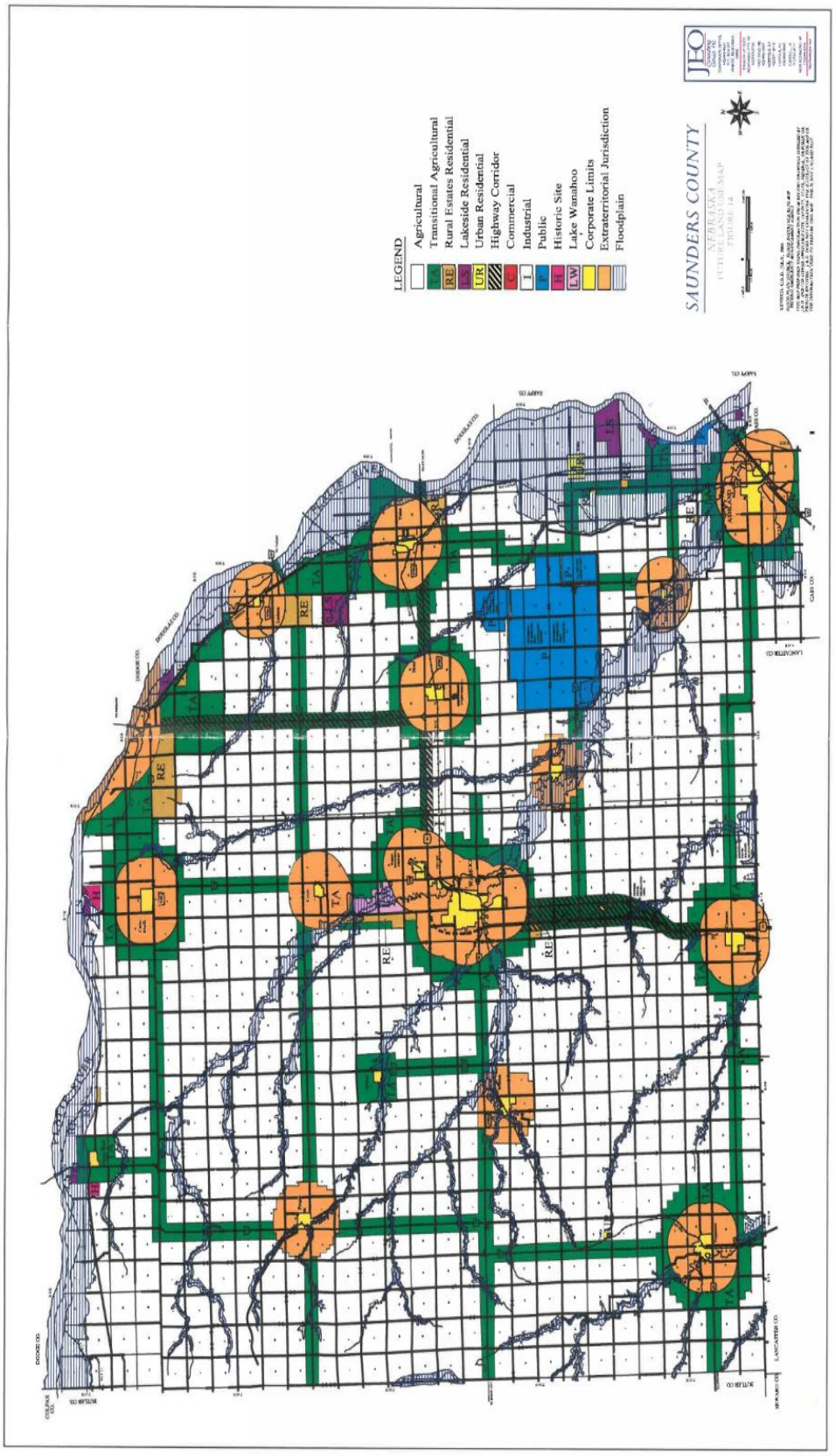


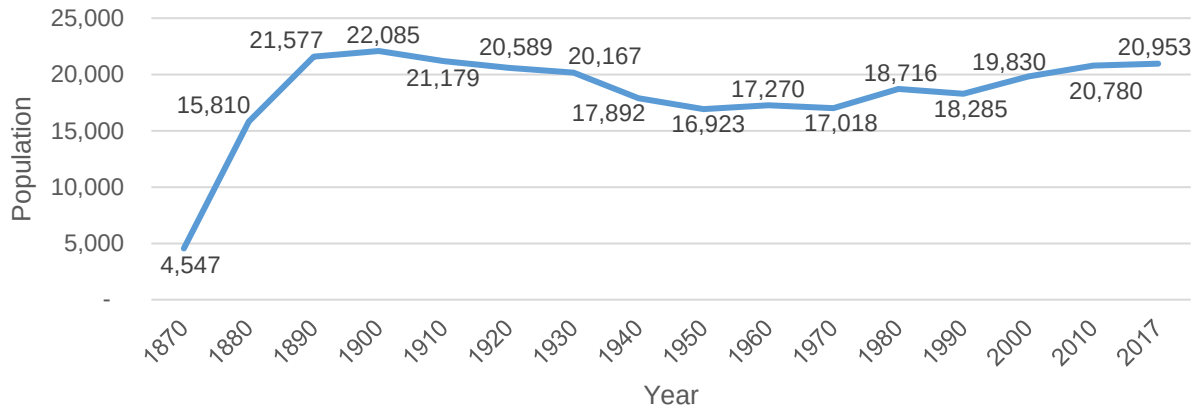
**Figure SAU.3: Future Land Use Map**



## DEMOGRAPHICS, EMPLOYMENT, AND ECONOMICS

The following figure displays the historical population trend from 1870 to 2017. This figure indicates that the population of Saunders County has been slowly increasing since 1970. An increasing population will provide a stable tax base to fund mitigation projects.

**Figure SAU.1: Population**




*Source: U.S. Census Bureau, 1870 – 2017*[1]

The very young and elderly populations may be at greater risk from certain hazards than others. The following table indicates that the county is slightly older than the state, has a less diverse population, and has a lower poverty rate. The per capita income in Saunders County is similar to the State of Nebraska. A more detailed discussion of the vulnerabilities associated with age, ethnicity, and poverty can be found in *Section Four: Risk Assessment*.

**Table SAU.2: Demographics**

| | SAUNDERS COUNTY | STATE OF NEBRASKA |
|---|---|---|
| Median age | 41 years old | 36.3 years old |
| Hispanic | 2.1% | 10.5% |
| Below the federal poverty line | 9.0% | 12.0% |
| Per capita income | $31,163 | $29,866 |

*Source: U.S. Census Bureau*[2]

### MAJOR EMPLOYERS

Communities with a diversified economy are more resilient to hazardous events, especially if certain industries are more impacted than others. Saunders County hosts 537 business establishments. The following table presents the number of businesses, number of paid employees, and the annual payroll. The major employers in the county are the University of Nebraska Research Center, Omaha Steel, Frontier Co-op, and the county government.

1 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Table SAU.3: Business in Saunders County**

| | TOTAL BUISNESSES | NUMBER OF PAID EMPLOYEES | ANNUAL PAYROLL (IN THOUSANDS) |
|---|---|---|---|
| Total for all sectors | 537 | 3,993 | $131,621 |

*Source: U.S Census Bureau*[2]

Agriculture is important to the economic fabric of the State of Nebraska. Saunders County's 873 farms cover 401,777 acres of land. 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 SAU.4: Agricultural Inventory**

| | AGRICULTURAL INVENTORY |
|---|---|
| Number of farms with harvested cropland | 873 |
| Acres of harvested cropland | 401,777 |

*Source: USDA Census of Agriculture, 2019*[3]

## HOUSING

Housing age can serve as an indicator of vulnerability, as structures that are poorly maintained or that were built prior to state building codes are at greater risk to damage from hazards. The following figure indicates that most of the housing in Saunders County was built prior to 1970 (51.8 percent). The current Flood Insurance Rate Map (FIRM) was developed in August 2016. Housing built in the floodplain after the FIRM was adopted is built to a standard of 1 foot above the base flood elevation, as required by the floodplain ordinance; housing built prior to 2016 will be vulnerable to flood damage.

In the county, about 2.5% of housing units are mobile homes in the county; 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 homes in the unincorporated areas of the community are located along the Platte River, and are generally a secondary home or used for recreation. Saunders County has less renter-occupied but more vacant housing than the state. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

2 United States Census Bureau. "American Fact Finder: Geography Area Series County Business Patterns 2016 Business Patterns." [database file]. https://factfinder.census.gov.

3 U.S. Department of Agriculture. 2019. "2017 Census of Agriculture." https://www.nass.usda.gov/Publications/AgCensus/2017/.

**Table SAU.5: Housing**

| | SAUNDERS COUNTY | STATE OF NEBRASKA |
|---|---|---|
| Housing built before 1970 | 51.8% | 47.2% |
| Mobile and manufactured | 2.5% | 3.4% |
| Renter-occupied | 20.9% | 34.0% |
| Vacant | 14.4% | 9.2% |

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

## FUTURE DEVELOPMENT TRENDS

Two ethanol plants were built in Saunders County in the last ten years, one in Mead and one in Wahoo. The plant in Mead has been operational since, while the Wahoo plant never produced ethanol and us now being used for agricultural production. No new businesses are anticipated. The county population is slowly increasing because of urban sprawl from neighboring counties.

## PARCEL IMPROVEMENTS AND VALUATION

GIS parcel data was acquired from the County Assessor. This data was analyzed for the location, number, and value of property improvements at the parcel level. Property improvements include any built structures such as roads, buildings, and paved lots. 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 SAU.6: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 9,468 | $1,298,193,590 | 2,076 | 21.9% | $372,295,208 |

*Source: GIS Workshop/Saunders County Assessor, 2019[6]*

## CRITICAL INFRASTRUCTURE

### CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are eight hazardous chemical storage sites in the unincorporated areas of Dodge County. One chemical storage site is located in the floodplain. For chemical sites located within two miles of incorporated areas, please see each community's participant section. Some of these communities are profiled in the Lower Platte South NRD Hazard Mitigation Plan.

**Table SAU. 7: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| Darling Ingredients Inc | 1547 County Road 13, Wahoo | Yes |
| Kavan Propane & Oil Inc | 2311 County Road 20, Cedar Bluffs | No |
| Musiel Propane Co | 2568 County Road U, Prague | No |

4 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov.

5 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov.

6 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| Nutrien Ag Solutions | 1077 County Road B, Ashland | No |
| OPPD Substation No 1214 | 480 County Road C, Ashland | No |
| OPPD Substation No 6846 | 452 County Rd J, Yutan | No |
| OPPD Substation No 992 | Jct Highway 77 & County Road W, Fremont | No |
| Otte Enterprises Inc | 2725 Road 30, Linwood | No |

*Source: Nebraska Department of Environment and Energy, 2019*[7]

The biggest concern regarding fixed chemical storage sites in the county is the possibility of chemical spills or fires. There have not been any spills at fixed sites to date, but the risk persists. The Frontier Co-ops near the county's communities are particularly high hazard because of the health hazards of the anhydrous ammonia that they produce and because of the proximity of these sites to communities. The co-op located outside of the Village of Mead is only a half mile west of their water well. More education could be provided to residents on the risks of and appropriate response to chemical spills. The local volunteer fire department has some training on hazardous material spill response, but the closest fully qualified HazMat teams are with the Omaha Fire Department.

The ethanol plant outside of the Village of Mead has also been a source of contention. The seed corn biproduct of ethanol production can no longer be sold as cattle feed because of the insecticide on the seed, so it is being stored outside until it can be sold as fertilizer in the spring. This seed corn biproduct has a strong odor and has been affecting the quality of the life of nearby residents who have filed complaints with the county and the company.

## CRITICAL FACILITIES

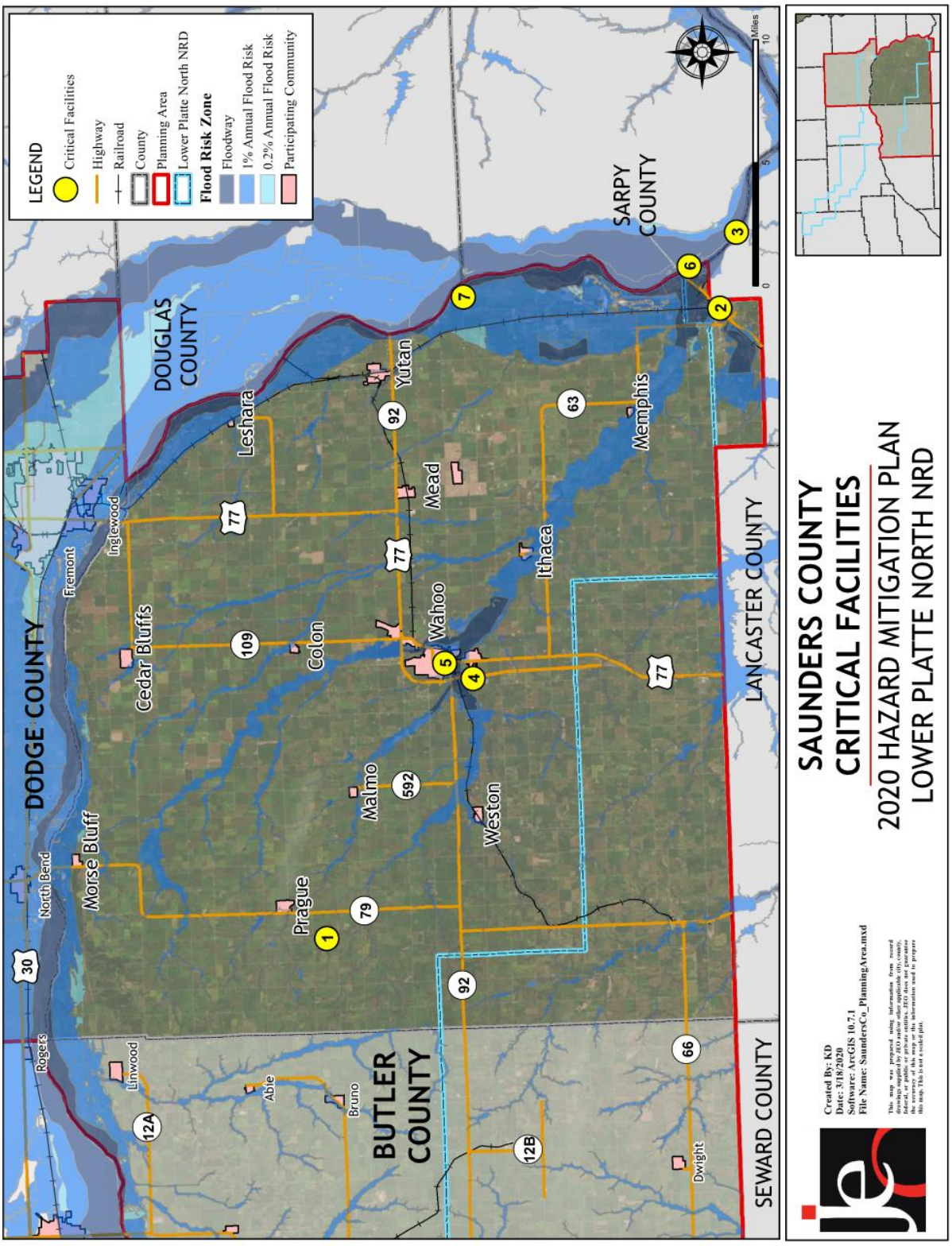
The planning team identified critical facilities necessary for Saunders County's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the county.

**Table SAU.8: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | 911 Tower | No | Yes | No |
| 2 | Lincoln Water System Plant | No | No | No |
| 3 | Platte River Bridge | No | No | Yes (Floodway) |
| 4 | Saunders County Community Hospital | No | Yes | No |
| 5 | Saunders County District Courthouse | No | Yes | No |
| 6 | City of Lincoln Water Wells | No | No | Yes |
| 7 | MUD Water Wells | No | No | Yes |

7 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure SAU.4: Critical Facilities**



## HISTORICAL OCCURRENCES

The following table provides a statistical summary for hazards that have occurred in the county. These are county-specific broad estimates.

**Table SAU.9: County Hazard Loss History**

| HAZARD TYPE | | COUNT | PROPERTY DAMAGE | CROP DAMAGE[2] |
|---|---|---|---|---|
| Agricultural disease | Animal disease[1] | 15 | 36 animals | N/A |
| | Plant disease[2] | 16 | N/A | $171,333 |
| Chemical spills (Fixed site)[3] | | 3 | $0 | N/A |
| Chemical spills (Transportation)[4] | | 5 | $57,407 | N/A |
| Dam failure[5] | | 0 | $0 | N/A |
| Drought[6] | | 412/1,492 months | N/A | $30,097,012 |
| Extreme heat[7] | | Avg. 2 days/year | N/A | $3,915,194 |
| Flooding[8] | Flash flood | 24 | $266,500 | $930,104 |
| | Flood | 42 | $2,145,000 | |
| Grass/wildfires[9]<br>2 injuries, 2 fatalities | | 377 | 2,203 acres | $11,308 |
| Hail[8]<br>Range 0.75 – 3.0 in<br>Average 1.1 in | | 179 | $250,000 | $8,836,801 |
| High winds[8]<br>Range 35 – 57 EG<br>Average 47 EG | | 20 | $0 | $1,490,393 |
| Levee failure[10, 11] | | 4 | N/A | N/A |
| Severe thunderstorms[8]<br>5 injuries | Thunderstorm wind<br>Range 50 – 100 EG<br>Average 56 EG | 105 | $700,000 | N/A |
| | Heavy rain | 2 | $0 | $7,303,664 |
| | Lightning | 2 | $103,000 | N/A |
| Severe winter storms[8]<br>2 injuries, 1 fatality | Blizzard | 9 | $0 | $309,351 |
| | Extreme cold/Wind chill | 4 | $0 | |
| | Heavy snow | 6 | $2,000,000 | |
| | Ice storm | 3 | $0 | |
| | Winter storm | 47 | $0 | |
| | Winter weather | 11 | $0 | |
| Terrorism & civil disorder[12, 13] | | 0 | $0 | N/A |
| Tornadoes[8]<br>Range EF0 – ef1<br>Average EF0 | | 15 | $365,000 | $1,985 |

*N/A: Data not available*
*1 - NDA, 2014 - 2019*
*2 - USDA RMA, 2000 - 2018*
*3 - NRC, 1990 - February 2019*
*4 - PHSMA, 1971 - May 2019*
*5 - Stanford NPDP, 1911 - 2018*
*6 - NOAA, 1895 - April 2019*
*7 - NOAA Regional Climate Center, 1897 - May 2019*
*8 - NCEI, 1996 - February 2019*
*9 - NFS, 2010 - 2018*
*10 - USACE NLD, 1900 - 2019*
*11 - USACE, 2019*
*12 - University of Maryland, 1970 - 2017*
*13 - University of Illinois, 1940 - 2017*

The following table provides a summary of hazards that have or have the potential to affect each jurisdiction in Saunders County. Each jurisdiction was evaluated for previous hazard occurrence and the probability of future hazard events on each of the 15 hazards profiled in this plan. The evaluation process was based on data collected and summarized in Table SAU.9; 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 SAU.10: Saunders County and Community Hazard Matrix**

| JURISDICTION | AG. DISEASE | CHEMICAL SPILLS – FIX SITE | CHEMICAL SPILLS – TRANSPORT. | DAM FAILURE | DROUGHT | EXTREME HEAT | FLOODING | GRASS/ WILDFIRE | HAIL | HIGH WINDS | LEVEE FAILURE | SEVERE T-STORMS | SEVERE WINTER STORMS | TERRORISM/ CIVIL DISORDER | TORANDOES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Saunders County | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Village of Cedar Bluffs | X | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Cedar Bluffs Suburban Fire Protection District | | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Cedar Bluffs Public School District | | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Village of Colon | X | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Colon Volunteer Fire Department | | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Village of Ithaca | X | | X | | X | X | X | X | X | X | X | X | X | X | X |
| Village of Leshara | X | | X | | X | X | X | X | X | X | | X | X | X | X |
| Village of Malmo | X | | X | X | X | X | X | X | X | X | | X | X | X | X |
| Village of Mead | X | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Mead Public School District | | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Village of Memphis | X | | X | | X | X | X | X | X | X | | X | X | X | X |
| Village of Morse Bluff | X | | X | | X | X | X | X | X | X | | X | X | X | X |
| Platte Valley Drainage District | | | | | X | | X | | | | X | | | X | X |
| Pohocco Township | | X | X | X | X | X | X | X | X | X | | X | X | X | X |
| Village of Prague | X | X | X | X | X | X | X | X | X | X | | X | X | X | X |
| City of Wahoo | X | X | X | X | X | X | X | X | X | X | | X | X | X | X |
| Village of Weston | X | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Weston Volunteer Fire & Rescue Department | | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Wood Cliff Lakes SID#8 | X | X | X | | X | X | X | X | X | X | | X | X | X | X |
| City of Yutan | X | X | X | | X | X | X | X | X | X | | X | X | X | X |
| Yutan Volunteer Fire Department | | X | X | | X | X | X | X | X | X | X | X | X | X | X |

## COUNTY HAZARD PRIORITIZATION

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the 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*.

### AGRICULTURAL ANIMAL AND PLANT DISEASE

The agricultural industry in Saunders County is a major segment of the county's economy. A major outbreak in animals or plants would have a devastating economic effect on the local economy. The primary concern related to this hazard is possible contamination and spread during the County Fair when animals from around the county are in close contact with one another. Cattle is the animal population of greatest concern due to the feedlots in the county. There have been no large widespread disease outbreaks in the past. Response to an outbreak would involve local, state, and other entities as no single agency has full authority to deal with a large-scale situation. Limited resources in some areas of the county may decrease response time to this hazard.

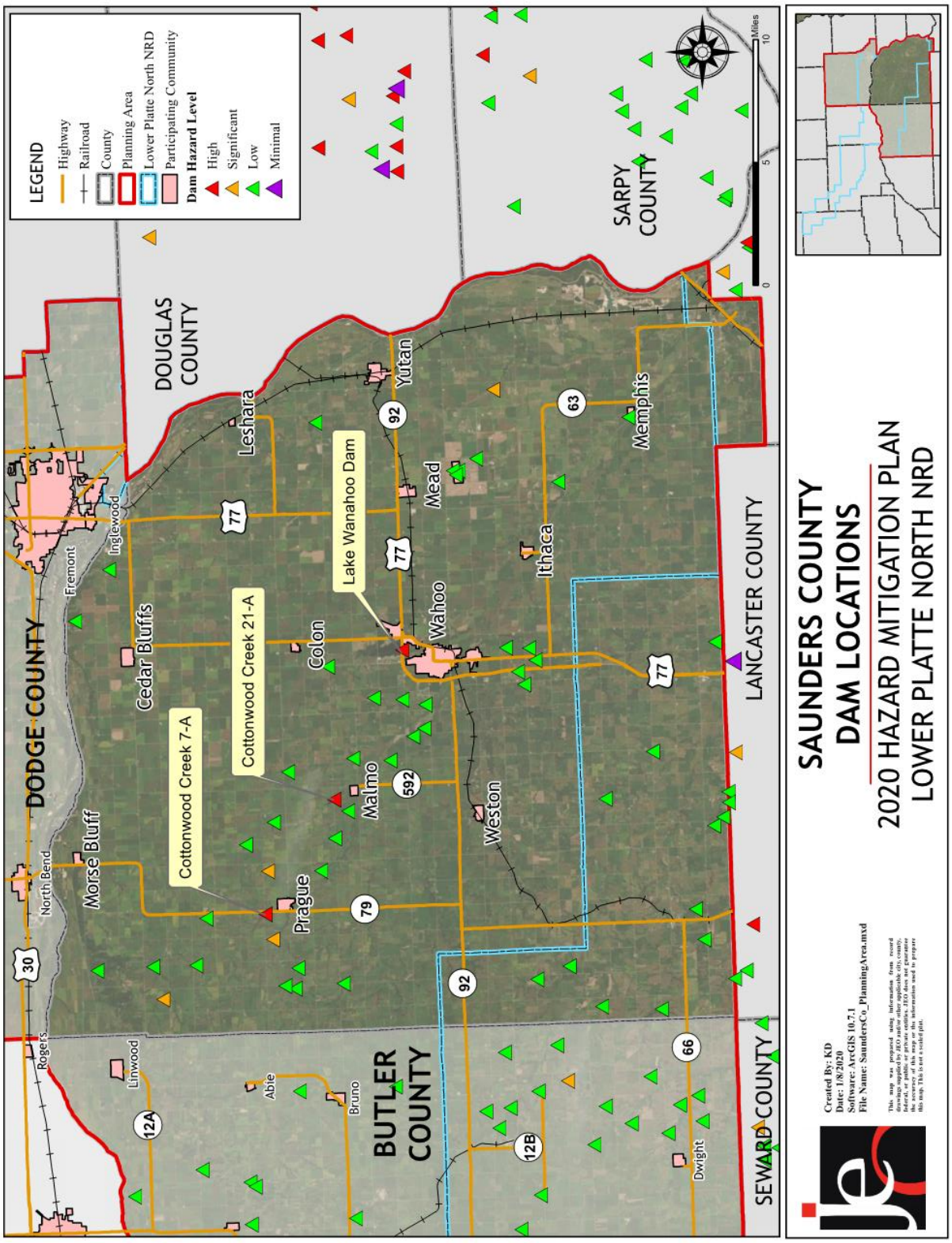
### DAM FAILURE

Lake Wanahoo dam is the dam of most concern for the county due to the possible impacts on the City of Wahoo should it fail. Other high hazard dams in the planning area include Cottonwood Creek 21-A and Cottonwood Creek 7-A. These dams are located near the Village of Prague and the Village of Malmo. Each high hazard dam has a response plan and an emergency action plan. There have been no historical dam failures in Saunders County.

### FLOODING

Flooding is an annual occurrence in the county. The March 2019 floods proved to be the costliest with repair projects totaling $666,000 as of March 2020. The local planning team expects that number to more than double once the levy repair projects are finalized. Lincoln Waterworks well fields were also damaged in the 2019 floods which caused voluntary water restrictions in the City of Lincoln. Bodies of water most likely to flood include the Platte River, Salt Creek, and Wahoo Creek.

**Figure SAU.5: Dam Locations**



### LEVEE FAILURE

The figure below shows the location and names of all the levees identified in the National Levee Database. All of the levees are non-accredited by FEMA and provide less than 100-year flood protection. During the March 2019 flood event four levees in the county breached flooding areas along the Platte River. Roads, farmland, and residential structures were all damaged due to the levee breaches. Clean up and repair is still ongoing across the county. Levees of most concern include the Leshara Drainage District Levee and the Platte Valley Drainage District Levee. Both were damaged during the flooding and repairs have yet to occur due to low budget.

### SEVERE THUNDERSTORMS

Severe thunderstorms are an annual occurrence across the county. The primary concern related to severe thunderstorms is getting residents and businesses proper notification that a storm will occur or is occurring. County residents are urged to sign up for the mass notification system through Alert Sense and have applications on their phone to local media outlets. However, these are voluntary and not all residents have signed up. Past impacts include 911 equipment failure when a lightning strike hit the courthouse roof. County Emergency Management and the National Weather Service have provided weather radios to all the school in the county.

## GOVERNANCE

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

- County Clerk
- County Assessor
- County Attorney
- County Treasurer
- Emergency Manager
- Health Director
- Highway Superintendent
- Planning & Zoning Department
- Sherriff
- Surveyor

## CAPABILITY ASSESSMENT

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

**Figure SAU.6: Levee Locations**

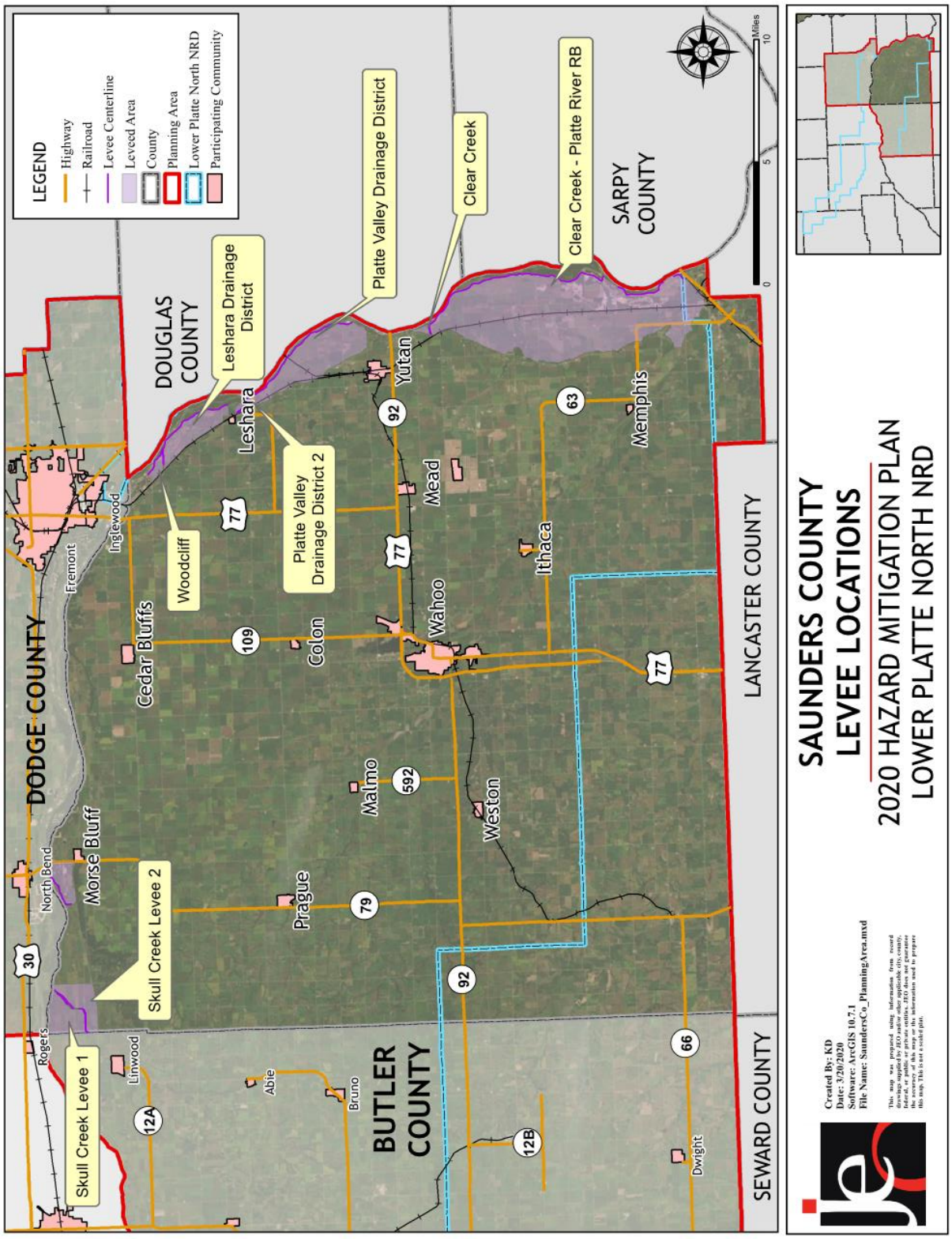


**Table SAU.11: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | Yes |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local staff who can assess community's vulnerability to hazards | Yes |
| | Grant Manager | Yes (DHS) |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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 |
| | Development Impact Fees | Yes |
| | 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, CERT and Long-Term Recovery |
| | Ongoing public education or information program (Ex. responsible water use, fire safety, household preparedness, environmental education, etc.) | Yes |
| | StormReady Certification | Yes |
| | Other (if any) | |

**Table SAU.12: Overall Capability Assessment**

| SAUNDERS COUNTY OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Moderate |
| Support to implement projects | Moderate |
| Time to devote to hazard mitigation | Moderate |

## PLAN INTEGRATION

Saunders County has a comprehensive plan (2004), emergency operations plan (2019), zoning ordinance (2015), building code (2003), floodplain regulations (2010), subdivision regulations (2015), and a transportation plan (2003). The comprehensive plan, zoning ordinance, floodplain regulations, and subdivision regulations direct development away from the floodplain, contain objectives aimed at safe growth, direct development away from chemical storage facilities, encourage infill development, encourage clustering of development, limit population density in the floodplain, require one-foot elevation above base flood elevation, and prohibit the filling of wetlands. Saunders County emergency operation plan contains information regarding; communications, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. The building code encourages the use of fire-resistant building materials and require mechanical systems in the floodplain to be elevated. No other examples of plan integration were identified. However, the County will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanisms and updates.

## MITIGATION STRATEGY

### COMPLETED MITIGATION ACTIONS

| MITIGATION ACTION | ENERGY ELEMENTS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Status | Completed in March of 2015 by the county Planning and Zoning Department as part of their normal operations |

| MITIGATION ACTION | FLOODPLAIN REGULATION ENFORCEMENTS AND UPDATES |
|---|---|
| Hazard(s) Addressed | Flooding |
| Status | Regulation enforcements and updates are completed annually at a convention in Kearney that costs $190 each year, funded by the county general fund |

| MITIGATION ACTION | UPDATE ZONING REGULATIONS |
|---|---|
| Hazard(s) Addressed | Flooding |
| Status | Completed in March of 2015 by the county Planning and Zoning Department as part of their normal operations |

| MITIGATION ACTION | WEATHER RADIOS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Status | Weather radios were provided for those schools without them in the communities of Ashland, Cedar Bluffs, Mead, Wahoo, and Yutan using funds from the National Weather Service |

## ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | ACQUIRE HIGH RISK FLOODING PROPERTY |
|---|---|
| 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. Repetitive loss structures are typically highest priority |
| Hazard(s) Addressed | Flooding, levee failure, dam failure |
| Estimated Cost | Varies by number of properties |
| Funding | County funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | County Emergency Management, Local Jurisdictions |
| Status | New action. One repetitive loss property located in Saunders County |

| MITIGATION ACTION | ALERT/WARNING SIRENS |
|---|---|
| Description | Perform an evaluation of existing alert sirens to determine sirens which should be replaced or upgraded. Install new sirens where lacking |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $20,000/siren |
| Funding | South East Nebraska Development (SEND) funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Local community |
| Status | The identification and replacement of outmoded sirens is in progress, with help from county emergency management |

| MITIGATION ACTION | CIVIL SERVICE IMPROVEMENTS |
|---|---|
| Description | Small communities require more EMT personnel |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $2,500/emt |
| Funding | Rural Fire Department funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Local fire departments |
| Status | Adding EMT personnel is an ongoing project in the county |

| MITIGATION ACTION | COMMUNITY EDUCATION AND AWARENESS |
|---|---|
| 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. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $1,000 |
| Funding | Emergency Management funding |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | County Emergency Management |
| Status | Public education is an ongoing project |

| MITIGATION ACTION | COMPREHENSIVE DISASTER / EMERGENCY RESPONSE PLAN |
|---|---|
| Description | Develop and/or update a Comprehensive Disaster and Emergency Response Plan |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000 |
| Funding | County funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | County Emergency Management, Planning/Zoning |
| Status | New action. Ongoing, the emergency operations plan is updated every five years |

| MITIGATION ACTION | CONTINUITY PLANNING |
|---|---|
| Description | Develop continuity plans for critical community services. Develop continuity plans for critical services in order to increase resiliency after a hazardous event. Encourage businesses to develop continuity plans |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $10,000 |
| Funding | County funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Clerk's Office |
| Status | New action. Not started |

| MITIGATION ACTION | DATABASE OF VULNERABLE POPULATION |
|---|---|
| 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 | County funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | County Emergency Management |
| Status | New action. Not started |

| MITIGATION ACTION | DEVELOP WEATHER ALERT PROTOCOL |
|---|---|
| Description | In collaboration with the National Weather Service, develop a warning protocol for severe weather |
| Hazard(s) Addressed | Extreme heat, flooding, high winds, severe thunderstorms, severe winter storms, tornadoes |
| Estimated Cost | $5,000 annually |
| Funding | County funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Emergency Management |
| Status | Will continue to provide storm spotter training. County residents are urged to sign up for alerts through AlertSense |

| MITIGATION ACTION | DRAINAGE STUDY/STORMWATER MASTER PLAN |
|---|---|
| Description | Drainage studies can be conducted to identify and prioritize improvements to address a site-specific localized flooding/ drainage problem. Storm water master plans can be conducted to perform a community-wide storm water evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Unknown |
| Funding | County funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | County Planning and Zoning Department and local zoning committees |
| Status | A stormwater master plan is |

| MITIGATION ACTION | EVENT CANCELATION AND NOTIFICATION PROCEDURES |
|---|---|
| Description | Develop and/or update event cancelation notification procedures during hazardous events |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | County funds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | County Emergency Management |
| Status | New action. Not started |

| MITIGATION ACTION | FACILITIES FOR VULNERABLE POPULATIONS |
|---|---|
| Description | Evaluate vulnerable population or placement of vulnerable populations throughout community. Ensure facilities which house vulnerable populations are placed in the least vulnerable areas of the community. Reinforce existing facilities housing vulnerable populations if unable to relocate |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | County funds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Building, Planning/Zoning |
| Status | New action. Not started |

| MITIGATION ACTION | FIRST AID TRAINING |
|---|---|
| Description | Promote first aid training for all residents and staff |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $100 per person |
| Funding | County funds |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | County Emergency Management |
| Status | New action. Not started |

| MITIGATION ACTION | FLOODPRONE PROPERTY MITIGATION |
|---|---|
| Description | Decrease the number of structures in the floodplain or at risk to flooding by raising structures or filling in basements. |
| Hazard(s) Addressed | Flooding, levee failure, dam failure |
| Estimated Cost | Varies by number of properties |
| Funding | County funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | County Emergency Management, Local Jurisdictions |
| Status | New action. Not started. |

| MITIGATION ACTION | IMPROVE CONSTRUCTION STANDARDS AND BUILDING SURVIVABILITY |
|---|---|
| Description | Evaluate building standards/codes/requirements. Implement new or improved building standards/codes/requirements. Promote use of higher codes and standards, such as 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 | County funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Building, Planning/Zoning |
| Status | New action. Not started |

| MITIGATION ACTION | INFRASTRUCUTRE ASSESSMENT STUDY |
|---|---|
| Description | Conduct an assessment of bridges and infrastructure in potential areas of concern |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | County funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Roads Department |
| Status | New action. Not started |

| MITIGATION ACTION | INFRASTRUCTURE HARDENING |
|---|---|
| Description | Harden critical facilities to withstand high winds, hail, heavy snow, etc. by: hardening roofs, hail resistant barriers to HVAC systems, shatter-proofing windows, building tie-downs and anchors, flood walls, and other architectural designs that reduce damage |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | County funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Maintenance |
| Status | New action. Not started |

| MITIGATION ACTION | SAFE ROOMS AND STORM SHELTERS |
|---|---|
| Description | Design and construct storm shelters and safe rooms in highly vulnerable areas such as churches, schools, and other areas |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | Department of Homeland Security |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Emergency Management |
| Status | More safe rooms are needed but this project remains low priority because construction costs are very high even with a matching grant |

| MITIGATION ACTION | STORMWATER SYSTEM IMPROVEMENTS |
|---|---|
| Description | Based on Saunders County's flooding problems, the county is planning to upsize culverts across the county. Culverts are not presently fitted large enough |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | Department of Roads funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Department of Roads |
| Status | This project will continue as the budget allows because of the number of culverts that could be replaced |

| MITIGATION ACTION | STREAM BANK STABILIZATION.GRADE CONTROL STRUCTURES/CHANNEL IMPROVEMENTS |
|---|---|
| Description | Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Channel stabilization can protect structures, increase conveyance and provide flooding benefits |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Unknown |
| Funding | USDA Nebraska Soil and Conservation |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Department of Roads, townships, drainage districts, and private entities |
| Status | The March 2019 flood event damaged many banks and flood protection structures. Repairing and maintaining existing structures is of particular importance though construction costs are very high even with a matching grant |

| MITIGATION ACTION | STREAM GAUGES |
|---|---|
| Description | Add stream gauges across the county, above the dam at Salt Creek, below the dam on Wahoo Creek, and on Cotton Creek |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $35,000 |
| Funding | County funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Emergency Management |
| Status | Locations have been identified but funding is currently being allocated |

# COMMUNITY PROFILE

# VILLAGE OF CEDAR BLUFFS

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table CDR.1: Village of Cedar Bluffs Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Matt Baker | Utilities Superintendent | Village of Cedar Bluffs |

## LOCATION AND GEOGRAPHY

The Village of Cedar Bluffs is in the northern portion of Saunders County and covers an area of 0.39 square miles. It is located in the plains topographic region of Nebraska in Todd Valley, the historic path of the Platte River. The river now travels west to east about 2.5 miles north of the village. The land surrounding the village is used primarily for row-crop production and pasturing.

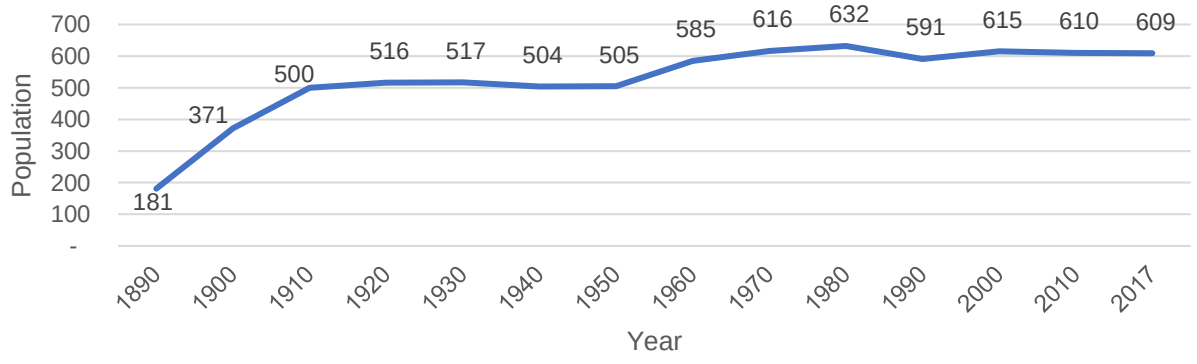
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Cedar Bluffs' major transportation corridor is Nebraska State Highway 109. It is traveled by a total annual average of 3,095 vehicles daily, 225 of which are trucks.[8] County Road X has the heaviest traffic near the village. Anhydrous ammonia is regularly transported along these routes, with a co-op just west of town and a storage facility in town. The most significant transportation event to occur recently occurred because of a severe winter storm. About five years ago, blizzard-like conditions caused a nine-car pileup on the highway.

## DEMOGRAPHICS

Though the overall population trend is static, Cedar Bluffs' population declined slightly from 610 people in 2010 to about 609 people in 2017. A stable population base will provide a stable tax base to fund mitigation projects. The village's population accounted for 2.9% of Saunders County's population in 2017.[9]

**Figure CDR.1: Population**

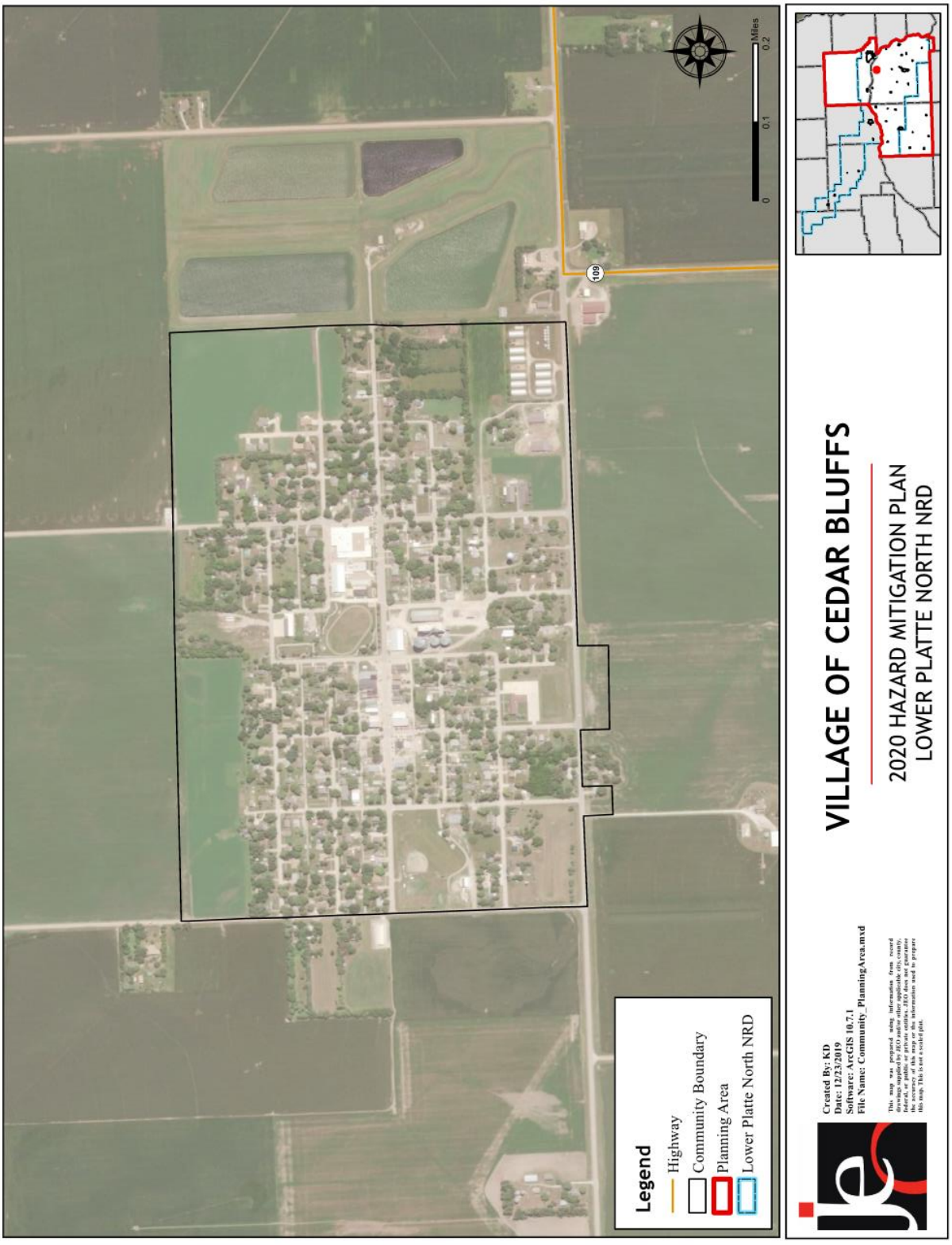



*Source: U.S. Census Bureau, 1890 - 2017*

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

9 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure CDR.2: Village of Cedar Bluffs**



The young, elderly, minority populations and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Cedar Bluffs' population was:

- **Similarly aged.** The median age of Cedar Bluffs was 38.8 years old in 2017, compared with Saunders County's median of 41 years. Cedar Bluffs' population grew younger since 2010, when the median age was 41.6 years old.[2]
- **More ethnically diverse**. Since 2010, Cedar Bluffs grew more ethnically diverse. In 2010, 1.1% of Cedar Bluffs' population was Hispanic or Latino. By 2017, about 5.1% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Cedar Bluffs (12.0% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[10]

## EMPLOYMENT AND ECONOMICS

The Village of Cedar Bluffs' economic base is a mixture of industries. In comparison to Saunders County, Cedar Bluffs economy had:

- **Similar mix of industries.** Three major employment sectors, accounting for 10% or more of employment each, were: professional, scientific, and management, and administrative and waste management services; educational services, and health care and social assistance; and arts, entertainment, and recreation, and accommodation and food services.[3]
- **Lower per capita income.** Cedar Bluffs' per capita income in 2017 ($24,209) was about $6,954 lower than the county ($31,163).[3]
- **Fewer long-distance commuters.** About 25.8% of workers in Cedar Bluffs commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 30.7% of workers in Cedar Bluffs commuted 30 minutes or more to work, compared to about 43.2% of county workers.[11]

### MAJOR EMPLOYERS

The major employs in Cedar Bluffs are the Cedar Bluffs Public Schools District, SECO Electric, the village government, and a branch of Commercial State Bank. Many residents commute to the City of Fremont for work at Hormel Foods and Methodist Fremont Health or to the City of Columbus for work at Valmont Industries.

## HOUSING

In comparison to Saunders County, Cedar Bluffs' housing stock was:[12]

- **Older.** Cedar Bluffs had a larger share of housing built prior to 1970 than the county (80.9% compared to 51.8%).

10 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

11 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

12 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **Slightly more mobile and manufactured housing.** Cedar Bluffs had a slightly larger share of mobile and manufactured housing (3.3%) compared to the county (2.5%). Mobile homes are located on the 100 block of Cedar Street, the intersection of 4th Street and W Cedar Street, and the intersection of 2nd Street and W Oak Street.
- **Slightly less renter-occupied**. About 18.5% of occupied housing units in Cedar Bluffs were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 7.0% of Cedar Bluffs' housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

In the last ten years Cedar Bluffs has added one new business while two businesses relocated to other communities. A new house was built in 2019 and one company will be moving their business to town. There are plans for two new housing developments on the northeast corner of Queen and Elm Streets. The population of Cedar Bluffs has been static to this point because of limited developed land for housing.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table CDR.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 337 | $17,285,950 | 23 | 6.8% | $786,480 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[13]

13 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## 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 six fixed hazardous chemical storage sites within two miles of Cedar Bluffs. The following table lists these sites. Despite the school being located near a chemical fixed site, spills are not a concern for the community. Residents living near these sites are educated about the threat and appropriate response to spills. The fire department and their mutual aid network are available to respond to spills.

**Table CDR.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| Farmers Union Co-op Assn | 205 S Park St | No |
| Farmers Union Co-op Assn | 1751 County Road X | No |
| Miown Fuel Company | 100 W Main St | No |
| Miown Fuel Company | 200 N Park St | No |
| Musiel Propane Co | Highway 109 E | No |
| Schuyler Co-op Assn | 2645 County Road 18 | No |

*Source: Nebraska Department of Environment and Energy, 2019*[14]

## CRITICAL FACILITIES

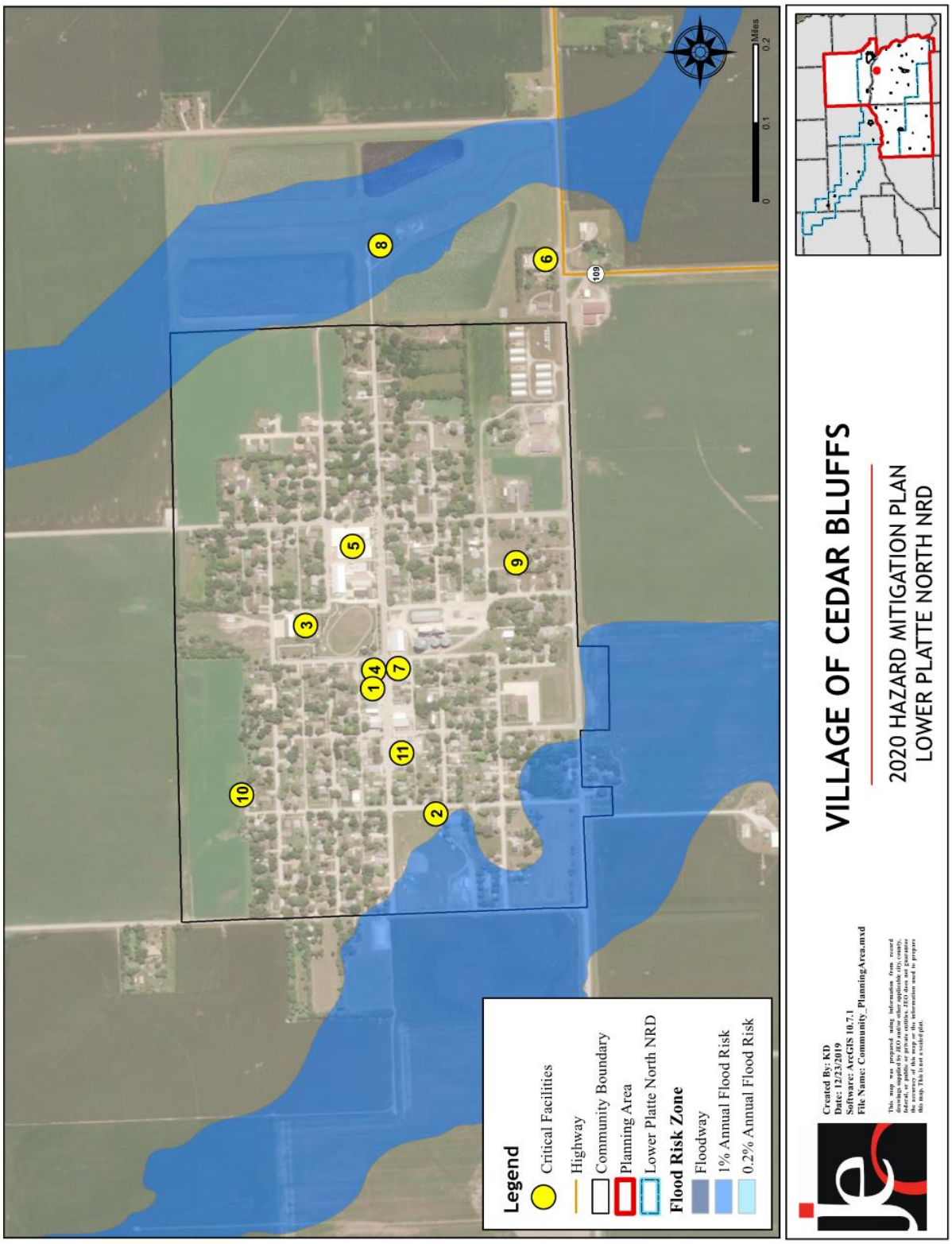
The planning team identified critical facilities necessary for the Village of Cedar Bluffs disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table CDR.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Auditorium | No | No | No |
| 2 | Lift Station | No | Yes | No |
| 3 | Miown Fuel Co | No | No | No |
| 4 | Miown Gas Station | No | No | No |
| 5 | School | No | No | No |
| 6 | Touch ‘N’ Go | No | No | No |
| 7 | Village Hall | No | No | No |
| 8 | Wastewater Treatment, Lagoons, and Lift Station | No | Yes | Yes |
| 9 | Water Tower | No | No | No |
| 10 | Well Head | No | No | No |
| 11 | Well Head | No | No | No |

14 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure CDR.4: Critical Facility**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were then prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the community's capabilities. For an in-depth discussion of regional hazards, please see *Section Four: Risk Assessment*.

### DROUGHT

Drought is a concern for the village because of its potential to cause field fires and to threaten the water supply because of higher irrigational demand. The village has a 150,000-gallon water tower and two wells that provide a maximum of 250 gallons per minute. Water use is metered and well levels are monitored by the village. There have been no nitrates issues with the groundwater, but the water supply has not been sufficient in the past, particularly during drought.

### FLOODING

While the local planning team did not identify flooding as a hazard of top concern for the community, a special flood hazard area is delineated along the southwestern portion of the community that includes 23 parcel improvements in the floodplain (Table CDR.2) totaling nearly $800k in value. Cedar Bluffs is a member of the NFIP.

### HIGH WINDS

The village has frequent power surges, usually multiple in a month. In the past they have immobilized the wells, though that has since been mitigated with surge protectors. In case of a power outage, data backup systems are in place for municipal records. The cause of these surges is unknown, but they happen more frequently when the wind is strong. High wind events occur regularly within the village, at their worst causing damage to trees and power lines. Critical facilities have not been damaged by high winds in the past. During severe weather events community members can seek shelter in their basements. The County Emergency Manager offers emergency text alerts but otherwise no outreach is done on high winds with community members.

### SEVERE THUNDERSTORMS

During heavy rain events, N King Street in front of the Cedar Bluffs Public Schools floods because it overwhelms the capacity of the storm sewer. No homes have been flooded but the water does encroach on a few properties. These events usually occur two to three times per year. Each time the road is closed for about an hour while the flooding subsides. Critical facilities have been impacted by power outages caused my thunderstorms in the past. The main lift station has a backup generator. The village has a large mobile generator that is shared between the wells and west lift station and a small generator for the water tower and miscellaneous needs, but dedicated backup power supplies could be used at the village hall, wells, and west lift station. Most power lines in the village are not buried, making the village vulnerable to power outages. Severe thunderstorms are a frequent occurrence.

### SEVERE WINTER STORMS

Severe winter storms occur frequently in Cedar Bluffs, at worst resulting in a loss of power. A portable generator is available to power critical facilities, but heavy snow and ice can make it difficult to transport between facilities. Not many power lines are buried in the village, making them vulnerable to severe storms. Ice often builds up on power lines or along transmission lines. Snow removal is aided by the use of snow routes along King Street, Main Street from King Street to 4th Street, and 2nd Street from Main Street to Highway 109. Snow fences are located on the 100 block of E Cedar Street, the 100 and 200 blocks of W Cedar Street, and the 300 block of W Pine Street. The Village Maintenance Department is responsible for snow removal in Cedar Bluffs using a backhoe with a blade; a surplus dump truck with plow, sander, and liquid deicer; a backhoe with a blade; a pickup with a blade; and snow blowers. These snow removal resources are sufficient at this time.

### TORNADOES

No tornadoes have occurred in Cedar Bluffs to date, but a future event could be catastrophic. Municipal records are protected from such an event with a backup system where records are kept at offsite locations and computers are backed up multiple times in a day. The emergency siren is activated by the Saunders County Sheriff's Office or by hand at the local fire hall. County Emergency Management also offers text alerts for emergencies. The community does not have a safe room. Community tornado education is done with tips and posts on the village's Facebook page, website, and in the community, letter sent with each water bill.

## GOVERNANCE

The Village of Cedar Bluffs is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Maintenance Superintendent
- Police Department
- Fire Department
- Sewage & Water Operator
- Zoning Administrator
- 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 CDR.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Yes |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | 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 | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| | Other (if any) | |
| Fiscal Capability | 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 | 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) | Yes |

| SURVEY COMPONENTS/SUBCOMPONENTS | YES/NO |
|---|---|
| Natural Disaster or Safety related school programs | Yes |
| StormReady Certification | No |
| Firewise Communities Certification | No |
| Tree City USA | No |
| Other (if any) | |

**Table CDR.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Moderate |
| Community support to implement projects | Moderate |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Garrison has a comprehensive plan, capital improvements plan, emergency operations plan, zoning ordinance, floodplain regulations, and subdivision ordinance. The village is an annex to Saunders County emergency operations plan. The plan contains information on communication, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. No other plans identified plan integration with the hazard mitigation plan. However, the community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanism and updates.

## MITIGATION STRATEGY

### COMPLETED MITIGATION ACTIONS

| MITIGATION ACTION | HAZARDOUS TREE REMOVAL PROGRAM |
|---|---|
| Hazard(s) Addressed | High winds, severe thunderstorms, severe winter storms, tornadoes |
| Status | Hazardous trees in the village were removed from at the intersection of Main Street and King Street in the spring of 2019. All of the ash trees in the village park, along with two cottonwood trees, were removed in the spring of 2017. The trees were removed by property owners and using JPA funds. |

| MITIGATION ACTION | PUBLIC AWARENESS/EDUCATION |
|---|---|
| Hazard(s) Addressed | All hazards |
| Status | The village prints monthly educational pieces in the Cedar Bluffs Standard (newspaper) on subjects like winterizing, backflow education, and basic safety tips. |

| MITIGATION ACTION | IMPROVE SNOW/ICE REMOVAL PROGRAM |
|---|---|
| Hazard(s) Addressed | Severe winter storms |
| Status | A state surplus fund and a Geo fund was used to purchase a dump truck for snow costing $27,000. |

## NEW 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 with remote activation options |
| Hazard(s) Addressed | Tornadoes and high winds, severe thunderstorms |
| Estimated Cost | $5,000+ |
| Funding | General Fund |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | New action. Not started |

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. Provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | Varies by size |
| Funding | General Fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | New action. Not started |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | SAFE ROOMS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This project is not feasible due to the cost and the size needed for the community |

| MITIGATION ACTION | MAINTAIN GOOD STANDING WITH THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the community will continue to participate and maintain compliance in the NFIP, this project is no longer considered a mitigation action by FEMA. |

| MITIGATION ACTION | EMERGENCY COMMUNICATIONS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This project is not a priority for the community |

# COMMUNITY PROFILE

# VILLAGE OF COLON

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table CLN.1: Village of Colon Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Cynthia Ouranda | Village Clerk/Treasurer | Village of Colon |
| Doug Novotny | Village Chair/ Sewer & Street Commissioner | Village of Colon |
| Jim Ondracek | Fire Chief | Colon Volunteer Fire District |

## LOCATION AND GEOGRAPHY

The Village of Colon is in the central Saunders County and covers an area of 0.13 square miles. The village is located in the plains topographic region of Nebraska, surrounded by agricultural land used primarily for row crop production and pasturing.

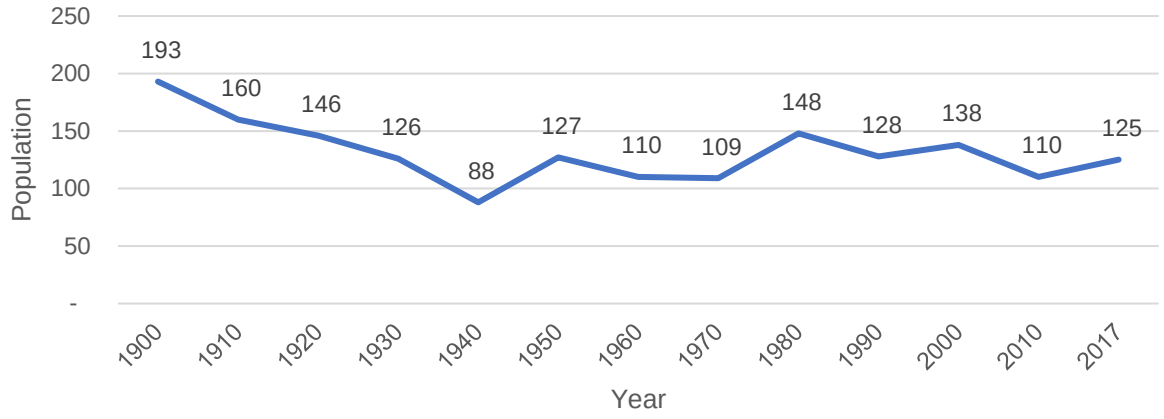
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Colon's major transportation corridor is Nebraska State Highway 109. It is traveled by a total annual average of 2,295 vehicles daily, 130 of which are trucks.[15] Highway 109, Spruce Street, and County Road R are the transportation routes of most concern because they are the most heavily traveled in the community.

## DEMOGRAPHICS

Colon's population increased from 110 people in 2010 to about 125 people in 2017. A growing population may indicate a larger tax base to fund mitigation projects. The village's population accounted for 0.6% of Saunders County's population in 2017.[16]

**Figure CLN.1: Population**




*Source: U.S. Census Bureau, 1900 – 2010; Local Planning Team 2017*

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

16 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure CLN.2: Village of Colon**

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

- **Older.** The median age of Colon was 51.6 years old in 2017, compared with Saunders County's median of 41 years. Colon's population grew older since 2010, when the median age was 37.5 years old. Colon had a smaller proportion of people under 18 years old (12.9%) than the county (25.0%), and a larger proportion of people over 65 years old (27.1%) than the county (17.4%).[2]
- **Less ethnically diverse**. In 2010 and 2017, Colon had no Hispanic or Latino population. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **Less likely to be below the federal poverty line.** The poverty rate in Colon (5.9% of people living below the federal poverty line) was lower than the county's poverty rate (9.0%) in 2017.[17]

## EMPLOYMENT AND ECONOMICS

The Village of Colon's economic base is a mixture of industries. In comparison to Saunders County, Colon's economy had:

- **Similar mix of industries.** Three major employment sectors, accounting for 10% or more of employment each, were: manufacturing; transportation and warehousing, and utilities; and other services, except public administration.[3]
- **Higher per capita income.** Colon's per capita income in 2017 ($34,240) was about $3,077 higher than the county ($31,163).[3]
- **Fewer commuters.** About 71.1% of workers in Colon commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 8.8% of workers in Colon commuted 30 minutes or more to work, compared to about 43.2% of county workers.[18]

### MAJOR EMPLOYERS

The local restaurant, bank, grain elevator, and farm supply store are the largest employers in the community. Many Colon residents commute to the nearby cities of Lincoln and Fremont for work.

## HOUSING

In comparison to Saunders County, Colon's housing stock was:[19]

- **Older.** Colon had a larger share of housing built prior to 1970 than the county (81.5% compared to 51.8%).
- **No mobile or manufactured housing.** Colon had a no mobile or manufactured housing, compared to the county with 2.5%.

17 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

18 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

19 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **Slightly more renter-occupied**. About 26.2% of occupied housing units in Colon were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Though the 2017 ACS indicated that approximately 22.2% of Colon's housing units were vacant, the local planning teams indicated that after three unoccupied homes were demolished, most if not all housing in Colon is occupied. This is compared to 14.4% of units left vacant in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

In the last ten years Colon has constructed a new wastewater lagoon. Two houses were demolished using the nuisance abatement ordinance and one new house was built. There are no plans for new housing or building developments, but the village hopes to construct a new electrical shop. A new fire hall was also completed in late 2019 with an expected move in date in early 2020.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table. The local planning team indicated that most of the houses located in the floodplain have be elevated above the 100-year floodplain.

**Table CLN.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 110 | $3,627,100 | 23 | 20.9% | $1,057,540 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[20]

20 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## 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 two fixed hazardous chemical storage sites within two miles of the village. The following table lists these sites. In addition to these most private farms store chemicals on site. Residents are not educated on the threat and appropriate response to chemical spills. The Colon Volunteer Fire Department has limited chemical response resources.

**Table CLN.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| GFG Ag Services LLC | 1646 County Road R | No |
| Oop Inc | Jct 1st & Spruce Sts | No |

*Source: Nebraska Department of Environment and Energy, 2019*[21]

## CRITICAL FACILITIES

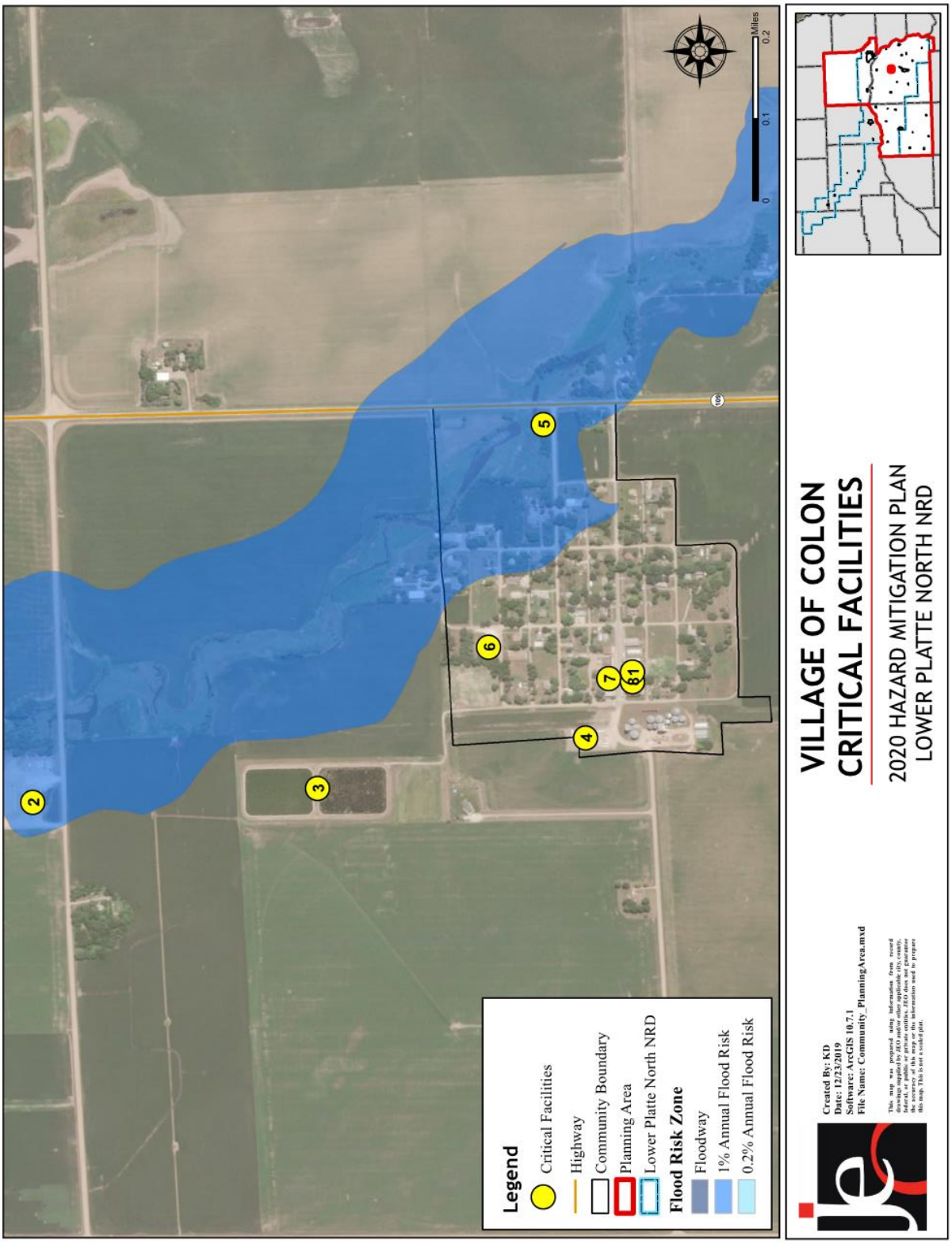
The planning team identified critical facilities necessary for the Village of Colon's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table CLN.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Cedar Township Building/Equipment Storage | No | No | No |
| 2 | GFG Agservices | No | Yes | Yes |
| 3 | Lagoons | No | No | No |
| 4 | Otte's OOP, Inc. Anhydrous | No | No | No |
| 5 | Sewer Lift Station, Water Utilities, & Pump | No | Yes | Yes |
| 6 | St. Joseph's Church | No | No | No |
| 7 | Village Hall/Fire Meeting Hall/Records | No | No | No |
| 8 | Village/Street Maintenance, Snowplow & Tractor Storage | No | No | No |

21 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure CLN.4: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### CHEMICAL SPILLS – FIXED SITE

There are two chemical storage facilities located in or near the village. GFG Ag Services stores a variety of agricultural chemicals. They recently built additional chemical containment devices to reduce the likelihood and potential impact of a chemical spill. Ott Inc has large storage tank of Anhydrous Ammonia which people use to fill smaller tanks. The storage tank is located within the village and a large release could force the entire village to evacuate. If a large release were to occur, the fire department would be the first to respond. The department has training on spill response, but additional equipment may need to be brought in.

### CHEMICAL SPILLS – TRANSPORTATION

The routes near GFG Ag services are a concern because of agricultural chemicals frequently being transported along them. A significant transportation incident involving a semi-truck accident released chemicals near the intersection of Highway 109 and County Road R about a half mile north of town in 2017. Several fire departments responded and shut down the highway until the spill could be cleaned up. No damages to structures were reported and no evacuations were necessary. The fire department has mutual aid agreements with several other fire districts in the area.

### FLOODING

The primary flood risk for the community comes from the high-water table which causes basements to flood regularly. Issues started to occur when nearby Lake Wanahoo was filled. After heavy rains or snow melt basements face flooding issues. The east and north sides of town typically see more flooding than other areas. The creek on the north east side of town creates a floodplain; however, most of the houses have been elevated out of the floodplain so damages are typically minimal. During the 2019 floods, the village lagoon filled too quickly and had to be pumped so that it would not over top. No community buildings were damaged but individual homes did sustain damage. Stormwater drainage is also an issue with ditches filling up very quickly and get silted in.

### TORNADOES

There are no shelters within the community and very few homes have basements due to the high-water table. This leaves several residents without a proper place to go during a tornado. There is also a high elderly population which may struggle to find shelter. There have been no historic tornado events, however, in 2019 there was a high wind and hail event which damaged lots of trees and roofs. A new tornado siren was installed in 2012 and reaches all areas of the community.

In the event of power loss, records are backed up on two computers and paper copies are kept. The village removes hazardous trees and limbs as necessary and very few remain.

## GOVERNANCE

The Village of Colon is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Street Commissioner
- Water Commissioner
- Volunteer Fire Department
- Planning Commission

## 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. The community also completed a vulnerability assessment on the sewer system in early 2020.

**Table CLN.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | No |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | No |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | No |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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 | 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) | |

**Table CLN.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Limited |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Colon has a comprehensive plan (2003), zoning ordinance (2003), building code (2003), floodplain regulations (2003), a wellhead protection plan, and subdivision regulations (2003). The comprehensive plan contains goals aimed at safe growth, directs development away from the floodplain, limits density in known hazardous areas, and encourages clustering of development. There are plans to update the plan when funds are available. The zoning ordinance and floodplain regulations discourage development in the floodplain, prohibit development in the floodway, discourage development near chemical storage sites, discourage development along major transportation routes, and encourage maintaining open space within the floodplain. There are

plans to update the zoning ordinance when funds are available. Colon's building code adhere to all State of Nebraska recommendations. The budget for the village has increased slightly over recent years and typically goes towards general expenses and maintenance. No other examples of plan integration were identified. However, 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

### COMPLETED MITIGATION ACTIONS

| MITIGATION ACTION | IMPROVE SNOW AND ICE REMOVAL PROGRAM |
|---|---|
| Hazard(s) Addressed | Severe winter storms |
| Status | In the last five years a snowplow and tractor were purchased using village funds |

### ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | COMPREHENSIVE DISASTER / EMERGENCY RESPONSE PLAN |
|---|---|
| Description | Develop a Comprehensive Disaster and Emergency Response Plan. Develop an Emergency Communication Action plan. Plan should establish inner-operable communications |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000 |
| Funding | General fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Planning Commission |
| Status | New action. Not started |

| MITIGATION ACTION | CULVERT UPSIZING AND CLEANING |
|---|---|
| Description | Deepen drainage ditches and clean out culverts |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | Street fund |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | New action. Ongoing, work on drainage ditches and culverts in ongoing to continually improve the floodplain |

| MITIGATION ACTION | INSTALL PERMANENT EFFLUENT PUMPING STATION |
|---|---|
| Description | Purchase and install a permanent effluent pumping station at the village's north lagoon cell so that the village can discharge when wastewater levels in the lagoon reach unsafe levels. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $15,000 |
| Funding | Loan |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village Board |
| Status | New action. Planning stage, currently seeking funding |

| MITIGATION ACTION | RELOCATE MUNICIPAL INFRASTRUCTURE |
|---|---|
| Description | Identify and evaluate current placement and vulnerability of municipal infrastructure. Relocate infrastructure identified at risk. The community's meeting hall and storage site of documents is currently being sold. A new space to store documents is needed |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village Board |
| Status | New action. Not started |

| MITIGATION ACTION | SAFE ROOMS AND STORM SHELTERS |
|---|---|
| Description | Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school, and other areas. A potential location is a village owned property across the street from the church |
| Hazard(s) Addressed | Tornadoes, high winds, severe thunderstorms |
| Estimated Cost | $350+ per square foot |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village Board |
| Status | New action. Not started |

| MITIGATION ACTION | UPDATE COMPREHENSIVE PLAN |
|---|---|
| Description | Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components. The plan was last updated in 2003 |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000+ |
| Funding | General fund |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Planning Commission |
| Status | New action. Not started |

REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | FLOODPLAIN REGUALTION ENFORCEMENTS AND UPDATES |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | FEMA no longer considers this a mitigation action |

# COMMUNITY PROFILE

# VILLAGE OF ITHACA

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table ICA.1: Village of Ithaca Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Victor Hanson | Village Board Char / Sewer & Water Superintendent | Village of Ithaca |
| Michelle Thompson | Village Clerk / Floodplain Administrator | Village of Ithaca |

## LOCATION AND GEOGRAPHY

The Village of Ithaca is in the southeastern portion of Saunders County and covers an area of 0.23 square miles. It is in the rolling hills region of Nebraska, surrounded by agricultural land used for row crop production and pasturing. Wahoo Creek runs from north to south along the western edge of the village, and Silver Creek runs along the eastern edge of the village.

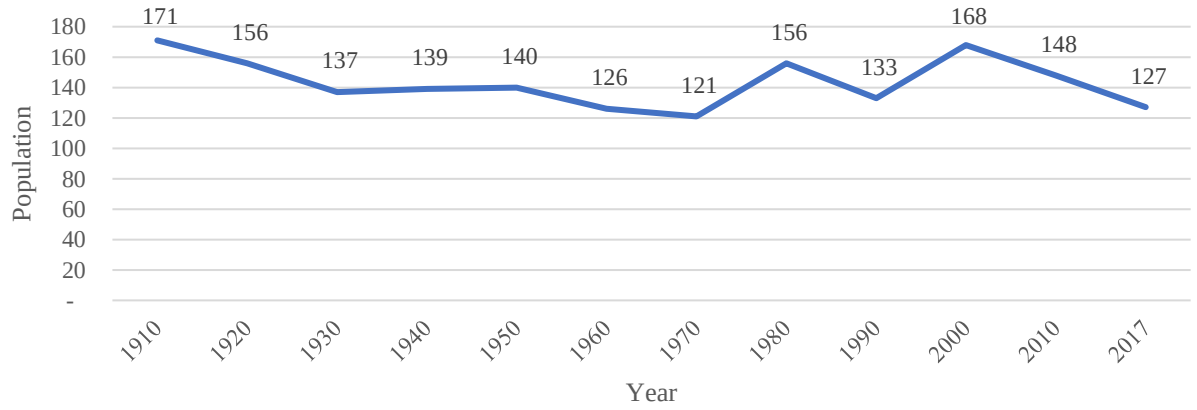
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Ithaca's major transportation corridor is Nebraska State Highway spur 78, which runs east to west about half a mile south of town. It is traveled by a total annual average of 1,360 vehicles daily, 205 of which are trucks.[22] Spur 78 is the transportation route of greatest concern. It is the only paved road in and out of Ithaca and when it floods it is difficult to leave the community.

## DEMOGRAPHICS

Though the population trend has remained static, the Village of Ithaca's population declined from 148 people in 2010 to about 127 people in 2017. The village's population accounted for 0.6% of Saunders County's population in 2017.[23]

**Figure ICA.1: Population**




*Source: U.S. Census Bureau, 1910 - 2017*

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

23 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/..

**Figure ICA.2: Village of Ithaca**

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

- **Similarly aged.** The median age of Ithaca was 42.5 years old in 2017, compared with Saunders County's median of 41 years. Ithaca's population grew older since 2010, when the median age was 36 years old. Ithaca had a larger proportion of people over 65 years old (11.0%) than the county 17.4%).[2]
- **More ethnically diverse**. Since 2010, Ithaca grew less ethnically diverse. In 2010, 11.3% of Ithaca's population was Hispanic or Latino. By 2017, about 9.4% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Ithaca (15.7% of people living below the federal poverty line) was [lower] than the county's poverty rate (9.0%) in 2017.[24]

## EMPLOYMENT AND ECONOMICS

The Village of Ithaca's economic base is a mixture of industries. In comparison to Saunders County, Ithaca's economy had:

- **Larger mix of industries.** Six major employment sectors, accounting for 10% or more of employment each, were: manufacturing; wholesale trade; retail trade; transportation and warehousing, and utilities; educational services, and health care and social assistance; and public administration.[3]
- **Lower per capita income.** Ithaca's per capita income in 2017 ($29,903) was about $1,260 lower than the county ($31,163).[3]
- **More commuters.** About 9.6% of workers in Ithaca commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 61.6% of workers in Ithaca commuted 30 minutes or more to work, compared to about 43.2% of county workers.[25]

### MAJOR EMPLOYERS

The primarily employer in Ithaca is the University of Nebraska Research and Development Center, located just a few miles east of Ithaca. Many residents also commute to neighboring communities for employment.

## HOUSING

In comparison to Saunders County, Ithaca's housing stock was:[26]

- **Older.** Ithaca had a larger share of housing built prior to 1970 than the county (69.6% compared to 51.8%).

24 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

25 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

26 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **Less mobile and manufactured housing.** Ithaca had a smaller share of mobile and manufactured housing (1.6%) compared to the county (2.5%).
- **More renter-occupied**. About 26.8% of occupied housing units in Ithaca were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 11.1% of Ithaca's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

There have been no recent housing or business developments in the village, and no plans in place for new housing or business developments. The population stability is due to houses being sold quickly.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table ICA.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 101 | $4,245,760 | 50 | 49.5% | $1,197,890 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[27]

27 GIS Workshop/Sanders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no fixed hazardous chemical storage sites within two miles of Ithaca.[28]

## CRITICAL FACILITIES

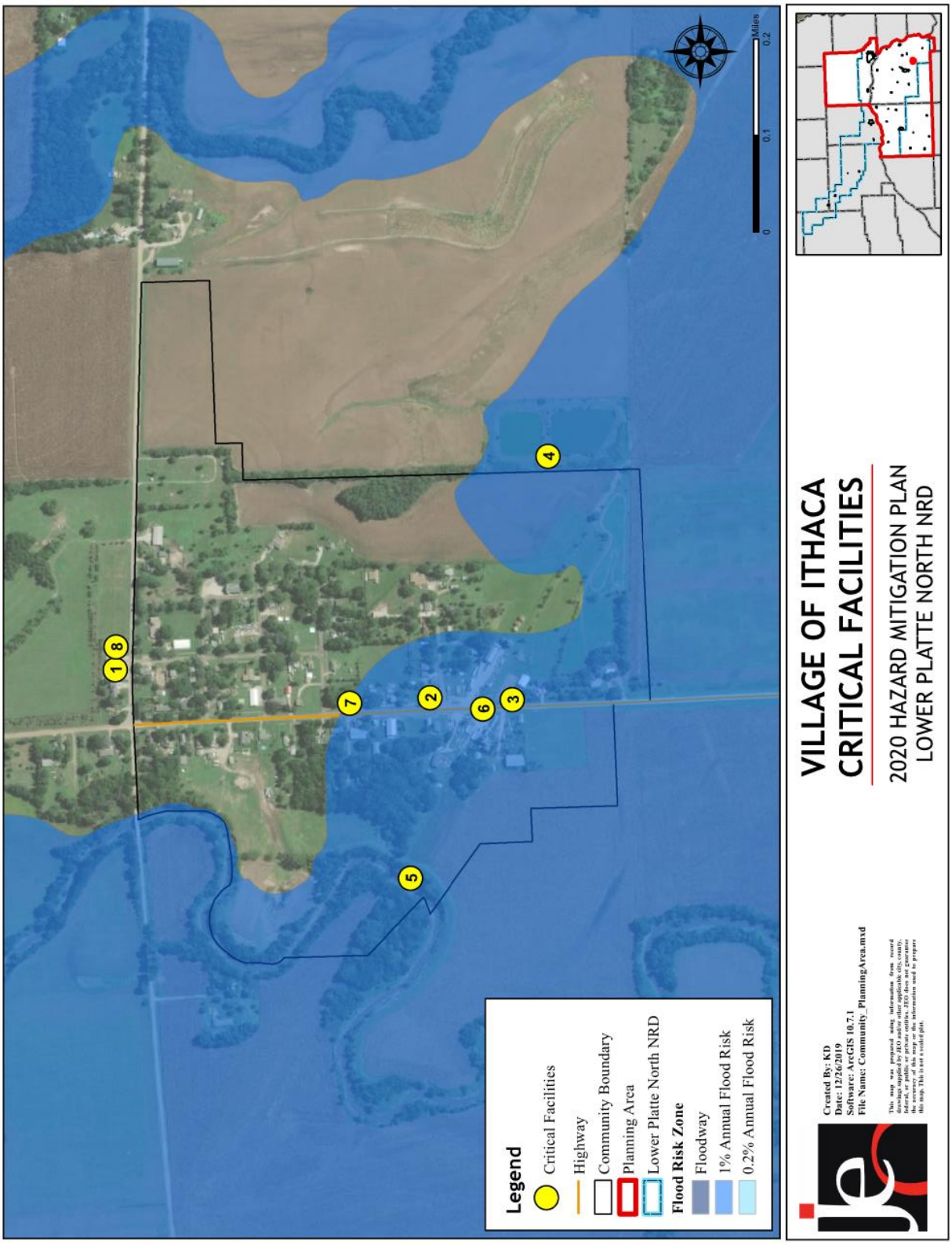
The planning team identified critical facilities necessary for the Village of Ithaca's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table ICA.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Fire Hall | No | Yes | No |
| 2 | Post Office | No | No | Yes |
| 3 | Lift Station | No | Yes | Yes |
| 4 | Lagoon | No | No | Yes |
| 5 | Dike | No | No | Yes |
| 6 | Community Center | No | No | Yes |
| 7 | Old Railroad Bend | No | No | Yes |
| 8 | Pump House & Well | No | Yes | No |

28 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure ICA.4: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### FLOODING

Historic floods have occurred in the community in May 1951, August 1959, June 1963, June 1982, and March 2019. Downtown Ithaca was flooded with buildings damaged during the 1951 flood. Water bodies of most concern are Wahoo Creek which runs along the western border and Silver Creek which runs near the eastern border. The floodplain for the community is primarily along the western and southern sides of the community. The local planning team also indicated that areas of the community have poor stormwater drainage and water can back up during heavy rains. As indicated in Table ICA.2 and Figure ICA.4, nearly 50 percent of the community is located within the 1 percent annual chance flood risk area.

### HAIL

Primary concern regarding hail is potential damage to critical systems. The most recent large hail event occurred in September 2010 and damage roofs, siding, and windows across the community. Community critical facilities do not have hail resistant building materials but are insured. The village does not have a local tree board and there are hazardous trees that need to be removed from the right of way.

### LEVEE FAILURE

The village has a non-certified levee located on the west side of the community along Wahoo Creek and an old railroad grade on the south side of the village. The levee on the west side is the highest priority. It was raised approximately 10 years ago. There has been some talk of raising the old rail grade, but it is on private property. If the west side levee were to fail 6$^{th}$ Street to the south end of the village would be impacted. Currently, the west side levee and railroad grade provide less than 100-year flood protection for the village.

### SEVERE THUNDERSTORMS

Severe thunderstorms are an annual occurrence for Ithaca and Saunders County. The primary concerns for the village are maintaining water and sanitary systems during a severe thunderstorm event. In the event of power loss, both the water and sewer system have backup power generators. The village also has municipal records protected with surge protectors. The local planning team estimated that 5% of power lines in the community are buried. No critical facilities have weather radios at this time.

### SEVERE WINTER STORMS

Primary concerns regarding severe winter storms is being able to provide water and sewer services to residents. Both systems have backup generators and the village is currently working on a backup generator for the village hall so that it can be used as a shelter location. Severe winter storms are an annual occurrence for the village; however, no historical damage to facilities has occurred. Snow removal within the village is contracted out as the village does not have snow removal equipment. The local planning team indicated that snow removal resources are sufficient at this time. Ithaca does not use snow fences to prevent snow drifts.

## GOVERNANCE

The Village of Ithaca is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Volunteer Fire Department
- Sewer/Water Superintendent
- Engineer
- Planning Commission

## 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 ICA.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | No |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | No |
| | Building Codes | No |
| | National Flood Insurance Program | No |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & | Planning Commission | Yes |
| | Floodplain Administration | No |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Technical Capability | GIS Capabilities | No |
| | Chief Building Official | No |
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| | Other (if any) | |
| Fiscal Capability | 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 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) | |

**Table ICA.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Moderate |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Ithaca has a comprehensive plan (2013), zoning ordinance (2011), and subdivision regulations (2011). The comprehensive plan contains goals aimed at safe growth, directs development away

from the floodplain, directs development away from major transportation routes, limits density in known hazardous areas, and encourages infill. The zoning ordinance discourages development in the floodplain, identifies floodplain as open space and parks, discourages development along major transportation routes, and limits population density in the floodplain. All three planning documents are currently in the process of being updated by the planning commission. Ithaca's municipal budget is limited to maintaining current facilities. No other planning documents were identified. There are no plans to further integrate planning mechanisms in the future.

## MITIGATION STRATEGY

### ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | ACQUIRE HIGH RISK FLOODING PROPERTY |
|---|---|
| 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. Repetitive loss structures are typically highest priority. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | General Fund |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | Not started |

| 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. |
| Hazard(s) Addressed | Tornadoes and high winds, severe thunderstorms |
| Estimated Cost | $5,000+ |
| Funding | Taxes |
| 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 the lift station and village hall |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by size |
| Funding | General Fund |
| Timeline | 1 year |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | In progress, the village is currently getting bids for a generator. |

| MITIGATION ACTION | COMMUNITY EDUCATION AND AWARENESS |
|---|---|
| Description | Through activities such as outreach projects, distribution of maps and environmental education to 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. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $500+ |
| Funding | Staff Time |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Ongoing. Education on social media and water reports are published |

| MITIGATION ACTION | DRAINAGE STUDY / STORMWATER MASTER PLAN |
|---|---|
| Description | Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/ drainage problems. Storm water master plans can be conducted to perform a community wide storm water evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $50,000+ |
| Funding | Taxes |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not started |

| MITIGATION ACTION | EMERGENCY COMMUNICATIONS |
|---|---|
| Description | Update LEOP & local 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 | Varies |
| Funding | Taxes |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village Board, Emergency Manager |
| Status | Not started |

| MITIGATION ACTION | EXPAND WATER STORAGE CAPACITY |
|---|---|
| Description | Add additional sources and capacity for water for the community, particularly during drought |
| Hazard(s) Addressed | Drought |
| Estimated Cost | Varies |
| Funding | Taxes |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | Not started |

| MITIGATION ACTION | HAZARDOUS TREE REMOVAL |
|---|---|
| Description | Identify and remove hazardous limbs and/or trees |
| Hazard(s) Addressed | Severe thunderstorms, severe winter storms, tornadoes and high winds |
| Estimated Cost | $100 per tree |
| Funding | Taxes |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | Not started |

| MITIGATION ACTION | LEVEE/FLOODWALL CONSTRUCTION AND/OR IMPROVEMENTS |
|---|---|
| Description | Create a levee or floodwall to protect critical facilities and residents |
| Hazard(s) Addressed | Levee failure, flooding |
| Estimated Cost | Varies |
| Funding | Taxes |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Ongoing. The levee along Wahoo Creek has been completed but there are additional places that could benefit from additional levees |

| MITIGATION ACTION | SAFE ROOMS AND STORM SHELTERS |
|---|---|
| Description | Design and construct storm shelter and safe rooms in highly vulnerable areas such as churches, schools, and other areas. The likely location would be the community center |
| Hazard(s) Addressed | Tornadoes and high winds, severe thunderstorms |
| Estimated Cost | $350+ per square foot |
| Funding | General Fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board, Emergency Manager |
| Status | Not started |

| MITIGATION ACTION | STORMWATER SYSTEM IMPROVEMENTS |
|---|---|
| Description | Storm water system improvements may include pipe upsizing and additional inlets. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other storm water system improvements. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | Taxes |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Ongoing. Ditches and culverts are improved and cleaned out as needed |

| MITIGATION ACTION | STREAM BANK STABILIZATION / GRADE CONTROL STRUCTURES / CHANNEL IMPROVEMENTS |
|---|---|
| Description | Stabilization improvements including rock rip rap, vegetative cover, j-hooks, boulder vanes, etc. can be implemented to reestablish the channel banks. Channel stabilization can protect structures, increase conveyance and provide flooding benefits. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | Taxes |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | In progress. Along Wahoo Creek rip rap has been removed |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | FLOODPLAIN MANAGEMENT |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This is action is already covered by other actions the village is pursuing |

| MITIGATION ACTION | FLOODPLAIN REGULATIONS ENFORCEMENTS AND UPDATES |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This is not a true mitigation action. The village will continue to enforce all floodplain regulations |

| MITIGATION ACTION | MAINTAIN GOOD STANDING WITH THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This is not a true mitigation action. The village will continue to maintain good standing the NFIP. |

| MITIGATION ACTION | OBTAIN MISSING DATA |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This is done during every update of the hazard mitigation plan |

# COMMUNITY PROFILE

# VILLAGE OF LESHARA

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table LSH.1: Village of Leshara Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Mel Ruhe-Langfeldt | Board Chairperson | Village of Leshara |

## LOCATION AND GEOGRAPHY

The Village of Leshara is in the northeastern portion of Saunders County and covers an area of 0.07 square miles. It is in the rolling hills region of Nebraska, about one mile west of the Platte River. Otoe Creek runs from west to east along the southern border of Leshara. The land surrounding the village is agricultural, used primarily for row crop production and pasturing.

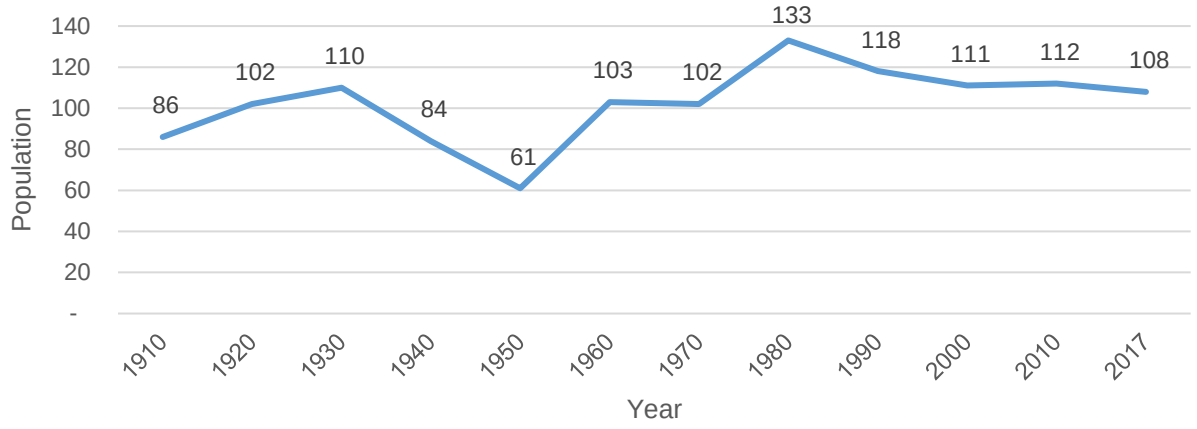
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Leshara's major transportation corridor is Country Road 7, connecting it to Nebraska State Highway 64. Country Road 7 is traveled by a total annual average of 570 vehicles daily, 55 of which are trucks.[29] A Burlington Northern Santa Fe rail line runs along the eastern border of the village. County Road 7 and the rail line are the transportation routes of most concern because they are the most heavily traveled. Pesticides, herbicides, and other agricultural chemicals are transported along County Road 7 and a variety of chemicals are transported on the rail line.

## DEMOGRAPHICS

The Village of Leshara's population remained stable at 112 people in 2010 to about 108 people in 2017. A stable population indicates a reliable tax base to fund mitigation projects. Leshara's population accounted for 0.5% of Saunders County's population in 2017.[30]

**Figure LSH.1: Population**




*Source: U.S. Census Bureau, 1910 - 2017*

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. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure LSH.2: Village of Leshara**

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

- **Younger.** The median age of Leshara was 35 years old in 2017, compared with Saunders County's median of 41 years. Leshara's population grew younger since 2010, when the median age was 36.3 years old. [2]
- **Less ethnically diverse**. Since 2010, Leshara grew less ethnically diverse. In 2010, 8.4% of Leshara's population was Hispanic or Latino. By 2017, about 1.2% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Leshara (12.7% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[31]

## EMPLOYMENT AND ECONOMICS

The Village of Leshara's economic base is a mixture of educational services, and health care and social assistance. In comparison to Saunders County, Leshara's economy had:

- **Smaller mix of industries.** Two major employment sectors, accounting for 10% or more of employment each, were: educational services, and health care and social assistance; and retail trade.[3]
- **Lower per capita income.** Leshara's per capita income in 2017 ($26,748) was about $4,415 lower than the county ($31,163).[3]
- **Fewer long-distance commuters.** About 34.8% of workers in Leshara commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 30.3% of workers in Leshara commuted 30 minutes or more to work, compared to about 43.2% of county workers.[32]

### MAJOR EMPLOYERS

Most residents of Leshara commute to other communities for work. Many are employed at Valmont Industries and 3M Manufacturing in the City of Valley.

## HOUSING

In comparison to Saunders County, Leshara's housing stock was:[33]

- **Older.** Leshara had a larger share of housing built prior to 1970 than the county (67.4% compared to 51.8%).
- **The same amount of mobile and manufactured housing.** Leshara had a similar share of mobile and manufactured housing (2.4%) compared to the county (2.5%). Mobile homes in the community are located west of Main Street, west of Summit Street, west of

31 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

32 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

33 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

Riverview Street, north of Pohocco Avenue, and on the northeast corner of Eastin Avenue and Riverview Street.

- **More renter-occupied**. About 22.8% of occupied housing units in Leshara were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 6.6% of Leshara's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding.

## FUTURE DEVELOPMENT TRENDS

No major developments have occurred within Leshara in the past ten years, and none are currently planned. Leshara's population has grown then stabilized since the 1950s, likely as a result of the economic growth in the nearby community of Fremont.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table LSH.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 54 | $2,947,340 | 21 | 38.9% | $643,370 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[34]

34 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no fixed hazardous chemical storage sites within two miles of Leshara.[35]

## CRITICAL FACILITIES

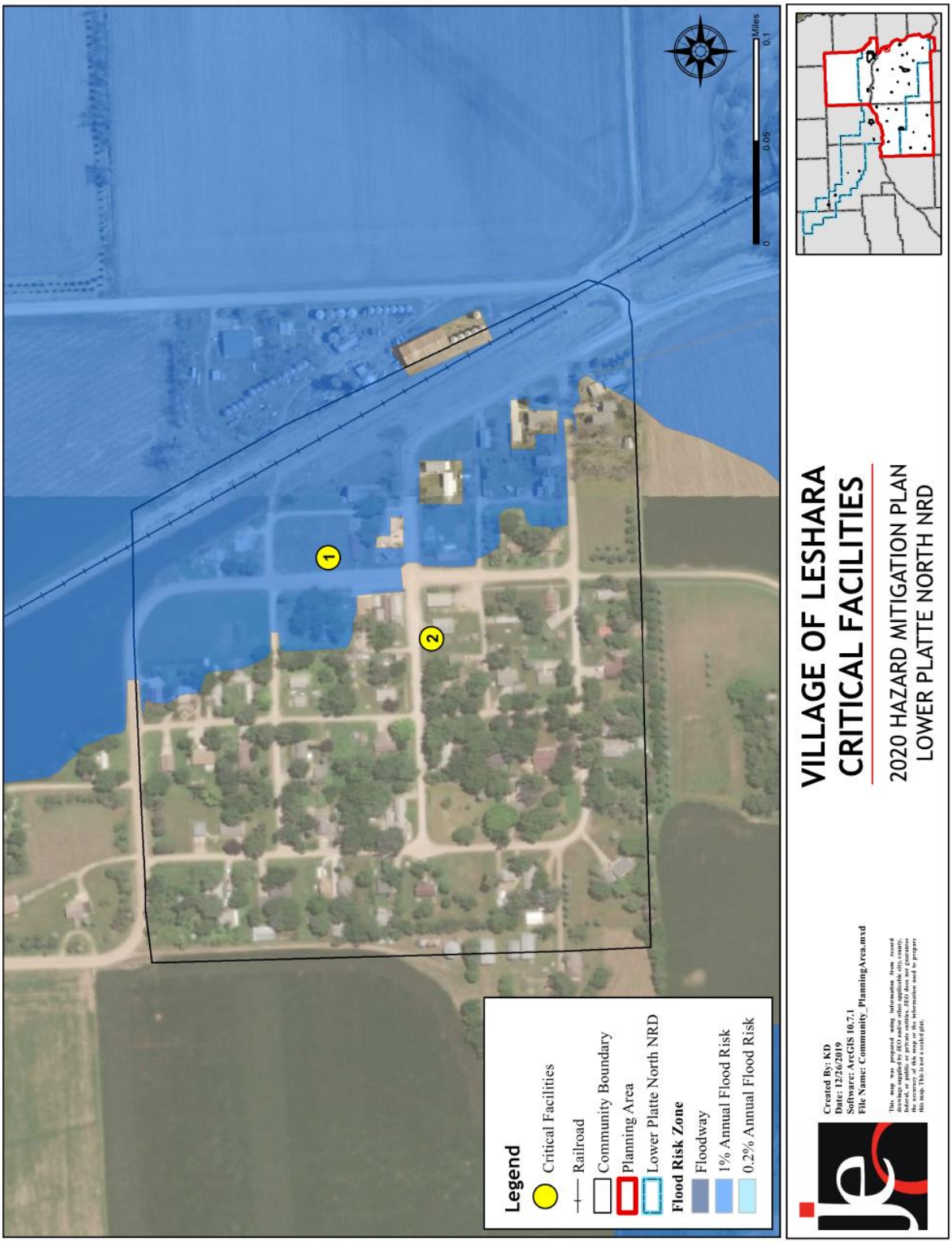
The planning team identified critical facilities necessary for the Village of Leshara's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table LSH.3: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Fire Well | No | No | Yes |
| 2 | Warning Siren | No | No | No |

35 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure LSH.3: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### FLOODING

The 2019 floods caused frost boils, surface road gravel loss, and road base damage. These events are usually flash floods that affect the eastern 1/3rd of the village, further compounded by the village's poor stormwater drainage on the majority of the roads. The Platte River and Otoe Creek are most likely to threaten the community.

### HIGH WINDS

Leshara has experienced several high wind events, usually resulting in downed tree limbs that then damage property and power lines. Municipal records have a backup system to protect them during power outages. In case of a severe weather event community members can seek shelter in their basements. The County Emergency Manager offers emergency text alerts but otherwise no outreach is done on high winds with community members.

### SEVERE THUNDERSTORMS

Severe thunderstorms occur frequently in Leshara. Loss of power is the most concerning impacts. Several high wind and heavy rain events have occurred in the village. None of the power lines in the village are buried, making them vulnerable to a severe storm. Critical facilities do not have weather radios to alert them to severe weather.

### SEVERE WINTER STORMS

Rapid thaw events, such as those that caused the March 2019 floods, are the village's biggest concern regarding severe winter storms. The 2019 rapid thaw caused frost boils, surface road gravel loss, and road base damage. Loss of power is another major concern. Most power lines in Leshara are not buried, making them vulnerable during severe winter storms. Snow removal is done by a contractor; Leshara does not own any snow removal equipment. Snow removal by the contractor is sufficient for the village's snow removal needs at this time.

## GOVERNANCE

The Village of Leshara is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer

## 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 LSH.4: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | In Process |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes - County |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | In Process |
| | Subdivision Regulation/Ordinance | No |
| | Floodplain Ordinance | No |
| | Building Codes | In Process |
| | 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 | No |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| | Other (if any) | |
| Fiscal Capability | 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 | No |
| | Development Impact Fees | No |
| | General Obligation Revenue or Special Tax Bonds | No |
| | Other (if any) | |
| Education & | Local citizen groups or non-profit organizations focused on environmental protection, | Yes |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Outreach Capability | emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | |
| | 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) | |

**Table LSH.5: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Moderate |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Leshara is an annex to Saunders County 2019 emergency operations plan. It contains information regarding communications, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. The village is currently in the process creating or updating the comprehensive plan, zoning ordinance, and building code and will try to make them consistent with the Hazard Mitigation Plan. No other examples of plan integration were identified. However, the community will seek out and evaluate any opportunities to integrate the results of the current HMP into other planning mechanism and updates.

## MITIGATION STRATEGY

### ONGOING AND NEW 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 with remote activation options. Location will be by the new community building |
| Hazard(s) Addressed | Tornadoes, high winds, severe thunderstorms |
| Estimated Cost | $40,000 |
| Funding | Tax levee |
| Timeline | 2 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | New action. Not started |

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Provide a portable or stationary source of backup power to municipal wells, lift stations, shelters, and other critical facilities. The new community building will need a backup generator |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by size |
| Funding | Village funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | The need for backup generators has been identified but no further progress has been made |

| MITIGATION ACTION | COMMUNITY EDUCATION AND AWARENESS |
|---|---|
| Description | Use postings at the local mailbox for public awareness education materials on hazard mitigation and severe weather preparedness |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $500+ |
| Funding | Village funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | No progress has yet been made on public awareness and education |

| MITIGATION ACTION | CULVERT UPSIZING AND CLEANING |
|---|---|
| Description | Improve the drainage on gravel roadways by deepening ditches and adding culverts |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $50,000 |
| Funding | Tax levee |
| Timeline | 1-2 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | Plans are in place to improve the stormwater system throughout the community |

| MITIGATION ACTION | ENROLL IN THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Description | Enroll in the National Flood Insurance Program |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Staff time |
| Funding | Village funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | No progress has yet been made to enroll in the NFIP |

| MITIGATION ACTION | IMPROVE EMERGENCY TEXT WARNING SYSTEM |
|---|---|
| Description | Improve cable TV interrupt warning system and implement telephone interrupt system such as Reverse911, emergency text message warning system, etc. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | Village funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | The need for warning systems has been identified but no further progress has been made |

| MITIGATION ACTION | POWER, SERVICE, AND ELECTRICAL LINES |
|---|---|
| Description | Communities can work with their local Public Power District or Electricity Department to identify vulnerable transmission and distribution lines and plan to bury lines underground 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. Communities should also work with their water providers to ensure that distribution strategies are protected against natural disasters |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | NPPD, Village funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | The need for an updated distribution line system has been identified but no further progress has been made |

| MITIGATION ACTION | SAFE ROOMS AND STORM SHELTERS |
|---|---|
| Description | Design and construct storm shelters and safe rooms in highly vulnerable areas such as churches and schools |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $350 per square foot |
| Funding | Village funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | The need for safe rooms has been identified but no further progress has been made |

| MITIGATION ACTION | UPDATE COMPREHENSIVE PLAN |
|---|---|
| Description | Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000+ |
| Funding | Tax levee |
| Timeline | 3 years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | New action. Not started |

REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | FLOODPLAIN REGULATION ENFORCEMENTS AND UPDATES |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | FEMA no longer considers this a mitigation action |

# COMMUNITY PROFILE

# VILLAGE OF MALMO

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table MLO.1: Village of Malmo Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Gary Swartz | Village Clerk & Floodplain Administrator | Village of Malmo |

## LOCATION AND GEOGRAPHY

The Village of Malmo is in the central portion of Saunders County and covers an area of 0.14 square miles. It is in the rolling hills region of Nebraska, surrounded by agricultural land used for row crop production. Cotton wood Creek runs west to east along the southern border of Malmo.

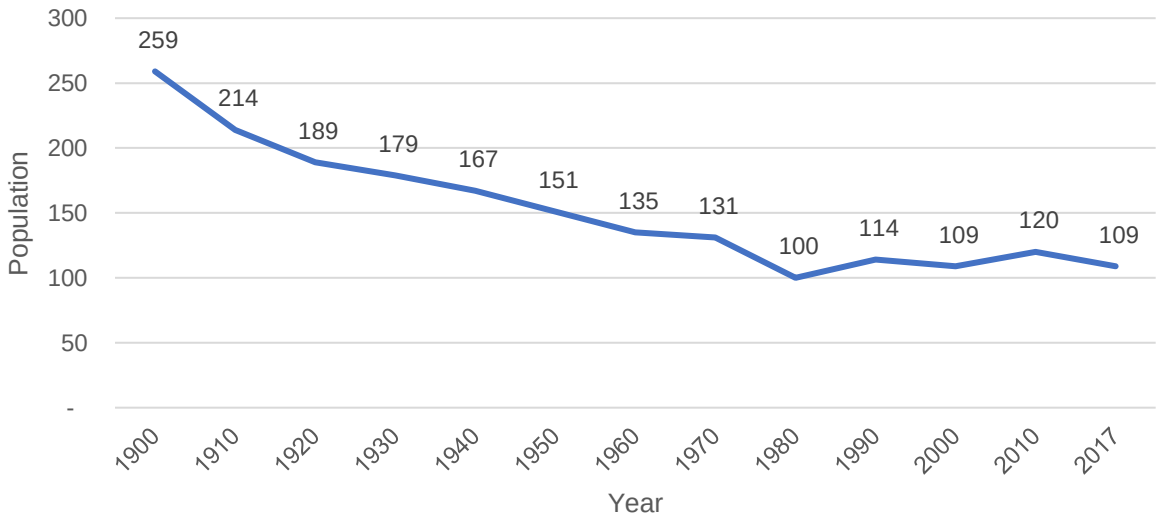
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Malmo's major transportation corridor is Nebraska State Spur 78E. It is traveled by a total annual average of 620 vehicles daily, 55 of which are trucks.[36] State Spur 78E is the transportation route of most concern in the community because it has the heaviest traffic.

## DEMOGRAPHICS

Malmo's population has been steady. In 2017 it was at about 120 residents, accounting for 0.5% of Saunders County's population.[37] A static population indicates a steady tax revenue to pursue mitigation projects.

**Figure MLO.1: Population**




*Source: U.S. Census Bureau, 1900 – 2010, Local Planning Team, 2017*

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

37 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure MLO.2: Village of Malmo**

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

- **Younger.** The median age of Malmo was 25.6 years old in 2017, compared with Saunders County's median of 41 years. Malmo's population is the same as 2010. Malmo had a smaller proportion of people over 65 years old (6.6%) than the county (17.4%).[2] However, the local planning team indicated that median age is likely much higher.
- **More ethnically diverse**. Since 2010, Malmo grew more ethnically diverse. In 2010, 2.9% of Malmo's population was Hispanic or Latino. By 2017, about 4.0% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **Less likely to be below the federal poverty line.** The poverty rate in Malmo (6.2% of people living below the federal poverty line) was lower than the county's poverty rate (9.0%) in 2017.[38]

## EMPLOYMENT AND ECONOMICS

The Village of Malmo's economic base is a mixture of industries. In comparison to Saunders County, Malmo's economy had:

- **Similar mix of industries.** Four major employment sectors, accounting for 10% or more of employment each, were: manufacturing; retail trade; professional, scientific, and management, and administrative and waste management services; educational services, and health care and social assistance; and public administration.[3]
- **Lower per capita income.** Malmo's per capita income in 2017 ($21,162) was about $10,001 lower than the county ($31,163).[3] However, the local planning team indicated that the per capita income was likely similar to the county.
- **More commuters.** About 6.5% of workers in Malmo commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 70.3% of workers in Malmo commuted 30 minutes or more to work, compared to about 43.2% of county workers.[39]

### MAJOR EMPLOYERS

The major employers in Malmo are a local branch of Corner Stone Bank, RK's Bar and Grill, and Innovative Systems Inc. Many residents commute to the nearby City of Lincoln for employment.

## HOUSING

In comparison to Saunders County, Malmo's housing stock was:[40]

- **Older.** Malmo had a larger share of housing built prior to 1970 than the county (92.9% compared to 51.8%).

38 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

39 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

40 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

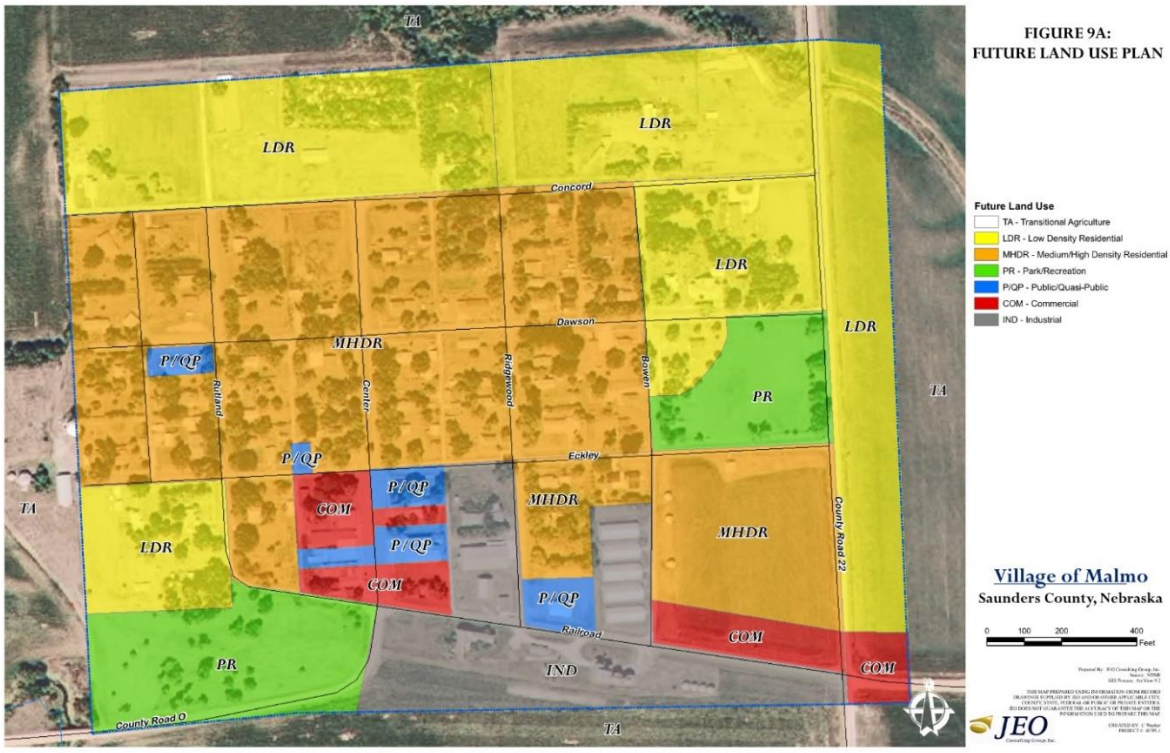
- **Less mobile and manufactured housing.** Malmo had a smaller share of mobile and manufactured housing (0%) compared to the county (2.5%).
- **Less renter-occupied**. About 11.5% of occupied housing units in Malmo were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Unoccupied.** Approximately 26.8% of Malmo's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

Three buildings have been demolished in the past ten years, and a new fire hall was built in 2018. There are no plans in place for new developments within the Village of Malmo. The village's population is generally static because of stable economic conditions and its friendly small-town culture.

**Figure MLO.3: Future Land Use Map**



## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table MLO.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 69 | $3,409,070 | 0 | 0% | $0 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[41]

## CRITICAL INFRASTRUCTURE

### CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no fixed hazardous chemical storage sites within two miles of Malmo.[42]

### CRITICAL FACILITIES

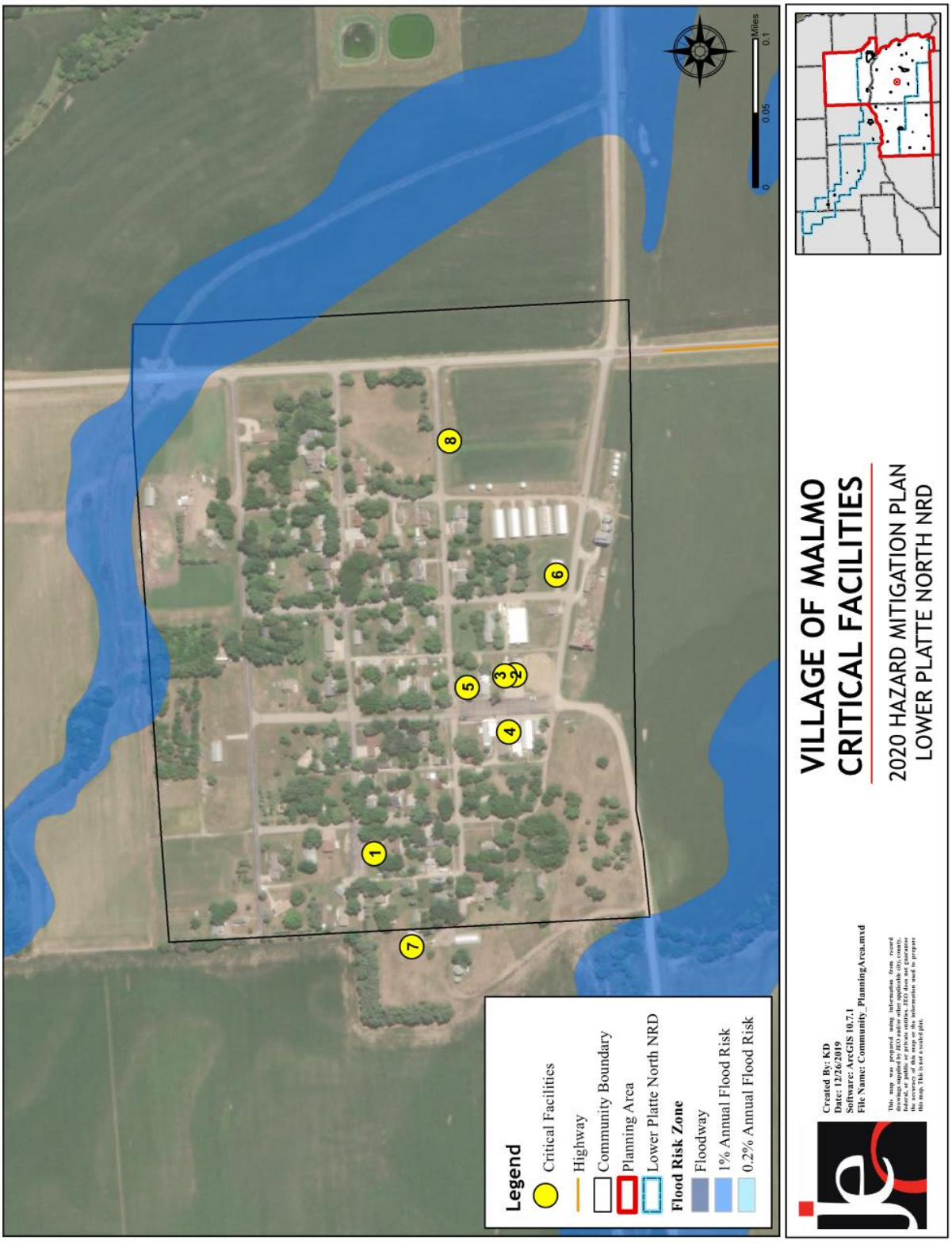
The planning team identified critical facilities necessary for the Village of Malmo's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table MLO.3: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Edensburg Lutheran Church | No | No | No |
| 2 | Fire Department Building #1 | No | No | No |
| 3 | Fire Department Building #2 | No | Yes | No |
| 4 | Legion Hall | No | No | No |
| 5 | Post office | No | No | No |
| 6 | Township Shed | No | No | No |
| 7 | Water Tower & Well | No | No | No |
| 8 | Well/Sanitary Lift Station | No | No | No |

41 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].
42 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure MLO.4: Critical Facilities**



## HISTORICAL OCCURRENCES

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

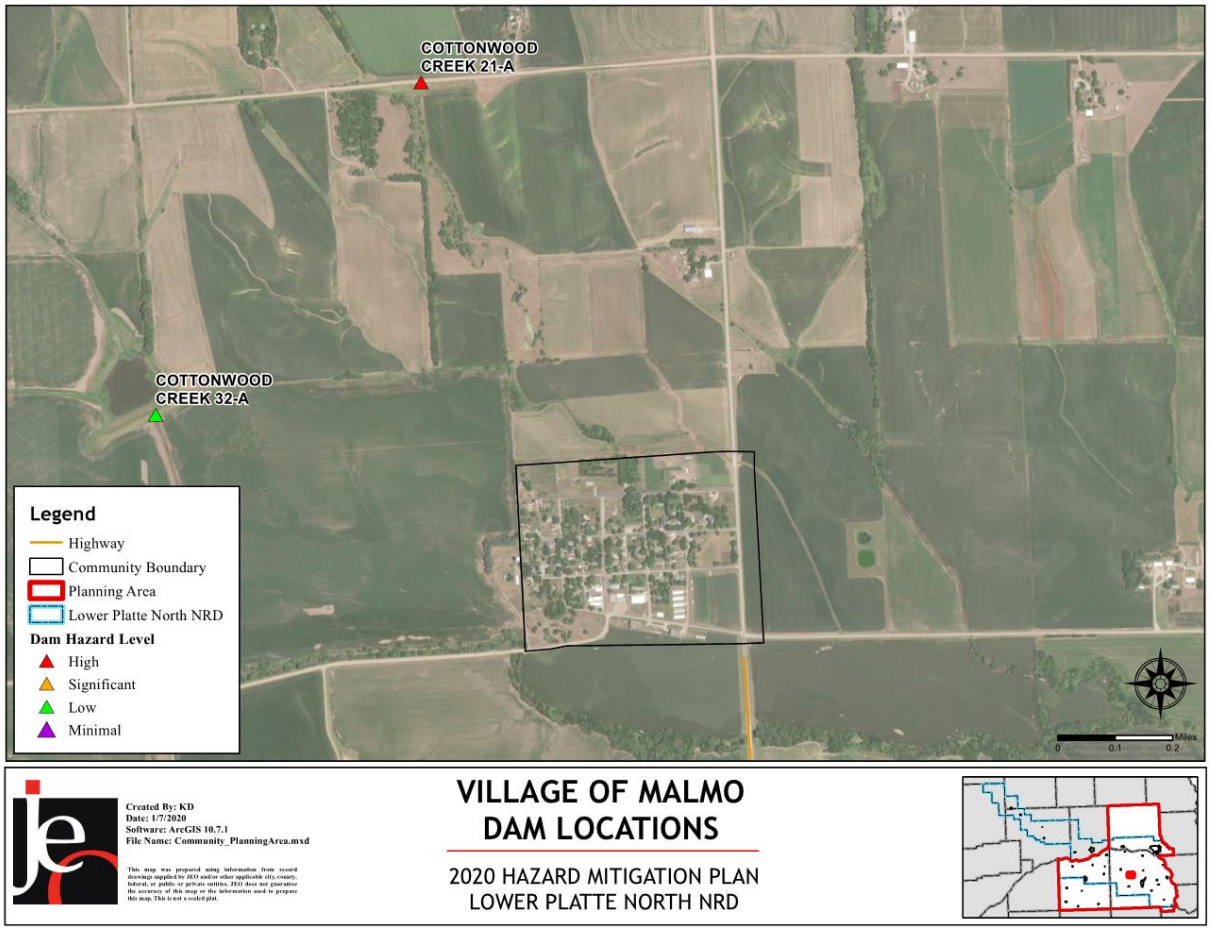
## HAZARD PRIORITIZATION

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### DAM FAILURE

The Cottonwood Creek 21-A Dam, located just north of Malmo, would have large impacts on the village if it were to fail. It is a high hazard dam that could have a large impact on the community if it failed. The dam does not have a history of failure. LPNNRD is responsible for maintaining the dam, including an EAP in case of dam failure. Figure MLO.5 shows the exact location of the dam.

**Figure MLO.5: Dam Locations**



### FLOODING

While the local planning team did not identify flooding as a hazard of top concern for the community, a special flood hazard area is delineated, which puts the community at risk to riverine flooding. Currently, there are no structures located within the floodplain, and no additional development is expected. Malmo is a member of the NFIP.

### HAIL

Water tower and building roofs were damaged in a large hailstorm in September of 2010. Power line damage is also a concern. The largest hailstones to fall in Malmo reached up to 2.5 inches diameter in June of 2014. Critical facilities are not fitted with hail resistant building material, though they are insured against hail damage.

### HIGH WINDS

High winds in Malmo threaten to damage tress and power lines. The most recent high wind events to cause property damage occurred in the 1990's. There are no safe rooms available in the community, no educational outreach, and no text alerts.

### SEVERE THUNDERSTORMS

Two severe thunderstorms have occurred in Malmo between 1996 and 2018, uprooting trees and downing power lines. severe thunderstorms are a concern for Malmo because of Power outages from damaged power lines. The fire department is the only critical facility in the village that has a backup generator, though less than 10% of the power lines are buried.

### SEVERE WINTER STORMS

Severe winter storms are a common occurrence in the village, often resulting in delayed travel. The most significant storm in recent history occurred in October 1994, resulting in a power outage across the village that lasted several days. Power losses are the biggest concern regarding winter weather – less than 10 percent of the village's power lines are buried. Their hired contractor is sufficient to move all snow. No snow routes or fences are used.

### TORNADOES

No significant tornado events have occurred locally, but a future event could be catastrophic – the village does not have certified safe rooms or options available for community members without basements, there are no Mutual Aid Agreements in place for response, and characteristics of the water tower and sewer system make them particularly vulnerable to an event. Their municipal records, kept on paper, are not backed up. The village is protected by a siren that is activated by the Saunders County dispatch team.

## GOVERNANCE

The Village of Malmo is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Utility Superintendent
- Volunteer Fire Department

- Engineer
- Sewage Plant Operator
- Sewer/Water/Street Commissioner
- Purchasing Officer

## 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 MLO.4: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | No |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | No |
| | Floodplain Ordinance | No |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | No |
| | GIS Capabilities | No |
| | Chief Building Official | No |
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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 | No |
| | Gas/Electric Service Fees | No |
| | Storm Water Service Fees | No |
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | No |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/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) | |

**Table MLO.5: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Limited |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Malmo has a comprehensive plan (2009), emergency operations plan (2019), zoning ordinance (2009), building code (2016), streets capital improvements plan (annually), floodplain regulations, and subdivision regulations (2009). Goals within the comprehensive plan are consistent with the hazard mitigation plan, but due to the age of the document, natural hazards are not discussed. Development within the village is directed away from major transportation routes. The comprehensive plan expires in 2028 and there are no plans in place at this time to update the plan. The emergency operations plan discusses communicates, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, contact information, and resource management. Zoning ordinance for the village limits development in the extraterritorial jurisdiction, discourages development near major transportation routes and the floodplain, and accounts for population trends. The building code for the village is an adoption of the 2009 International Building Code. The annual budget for the village has stayed the same over recent years and is limited to maintaining current systems. No other examples of plan integration were identified. However, 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

## COMPLETED MITIGATION ACTIONS

| MITIGATION ACTION | BACKUP GENERATORS |
|---|---|
| Hazard(s) Addressed | Extreme heat, flooding, high winds, severe thunderstorms, severe winter storms, tornadoes |
| Status | The fire department obtained a backup generator. |

## ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evacuation. Provide portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and critical facilities and shelters. The village would like a generator for the wells. |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | Varies by size |
| Funding | General Budget |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | DRAINAGE STUDY/STORMWATER MASTER PLAN |
|---|---|
| Description | Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/drainage problems. Storm water master plans can be conducted to perform a community wide storm water evaluation, identifying multiple problem areas and potentially multiple drainage improvements for each problem area. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $5,000 – $10,000 |
| Funding | General Fund |
| Timeline | 1 year |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | This project is in process, focusing on ditches throughout the village. |

| MITIGATION ACTION | HAZARDOUS TREE REMOVAL |
|---|---|
| Description | Conduct tree inventory. Develop and implement tree maintenance and trimming program to remove hazardous limbs and trees. |
| Hazard(s) Addressed | Tornadoes, High Winds, Severe Thunderstorms, Severe Winter Storms |
| Estimated Cost | $200 per tree |
| Funding | General Budget |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Village Board |
| Status | New Action. Ongoing. Approximately $2,500 worth of tree work is identified annually. |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | MAINTAIN GOOD STANDING WITH THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the community will continue to participate and maintain compliance in the NFIP, this is no longer considered a mitigation action by FEMA. |

# COMMUNITY PROFILE

# VILLAGE OF MEAD

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table MED.1: Village of Mead Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| June Moline | Village Clerk/Floodplain Administrator | Village of Mead |

## LOCATION AND GEOGRAPHY

The Village of Mead is in the eastern portion of Saunders County and covers an area of 0.62 square miles. It is in the plains region of Nebraska.

## TRANSPORTATION

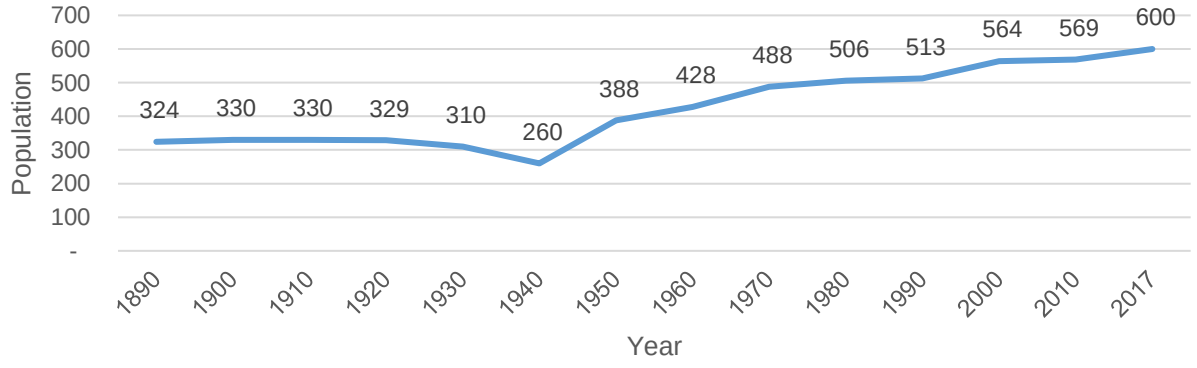
Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Mead's major transportation corridors are US Highway 77 and Nebraska State Highway 92. US Highway 77 is traveled by a total annual average of 4,850 vehicles daily, 775 of which are trucks Nebraska State Highway is traveled by a total annual average of 6,220 vehicles daily, 625 of which are trucks.[43] A Union Pacific Railroad rail line travels east to west through the community.

Nebraska State Highways 92 and 77 are the transportation routes of most concern for the village. Chemicals are regularly transported along these routes, especially anhydrous ammonia. No significant transportation incidents have occurred to date.

## DEMOGRAPHICS

Mead's population grew from 569 people in 2010 to about 600 people in 2017. Any increasing population will reduce the amount of vulnerable, vacant housing in the community and increase the tax base available to fund mitigation projects. Mead's population accounted for 3.0% of Saunders County's population in 2017.[44]

**Figure MED.1: Population**

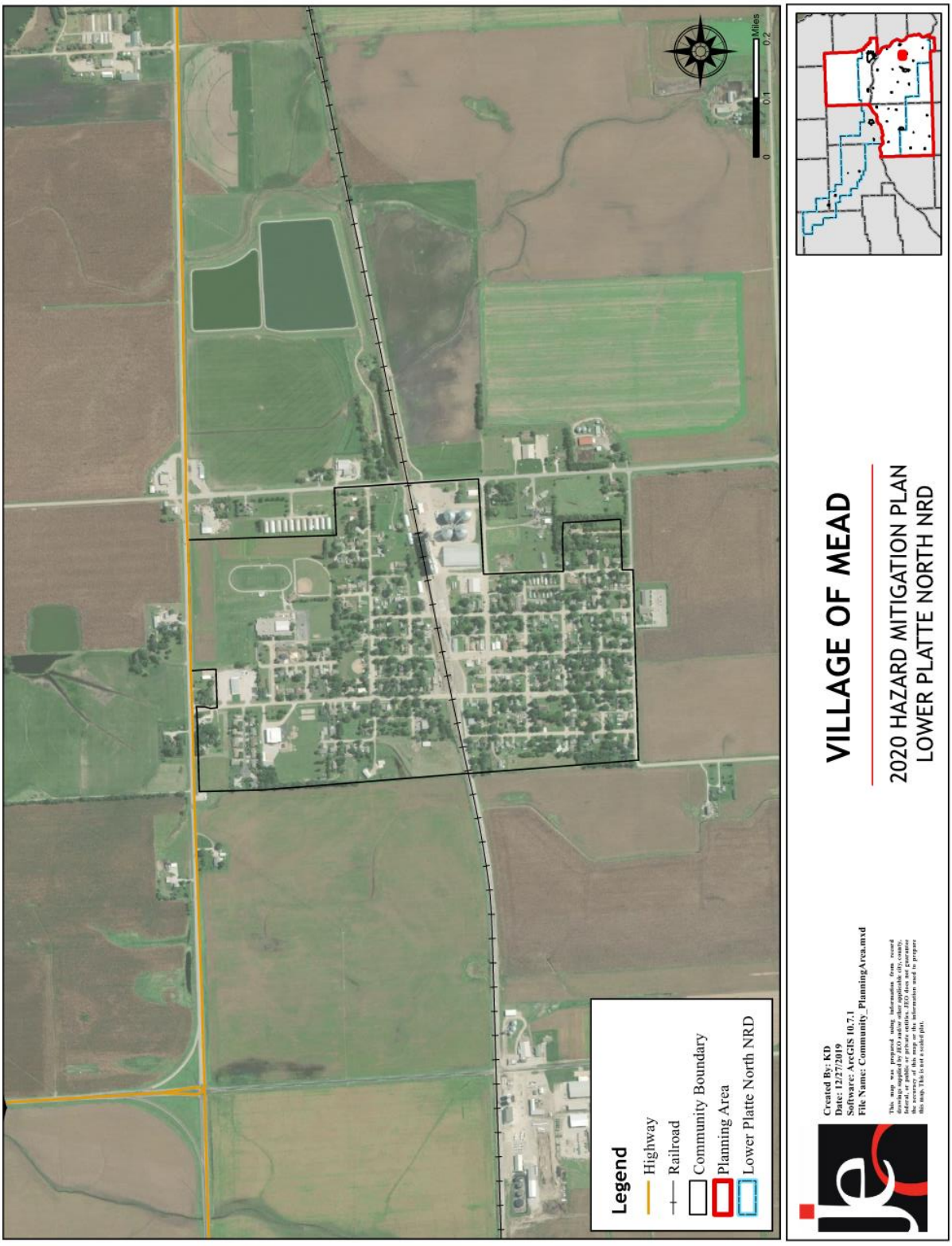



*Source: U.S. Census Bureau, 1890 - 2017*

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

44 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure MED.2: Village of Mead**



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

- **Younger.** The median age of Mead was 34 years old in 2017, compared with Saunders County's median of 41 years. Mead's population grew younger since 2010, when the median age was 42.3 years old. Mead had a smaller proportion of people over 65 years old (11.7%) than the county (17.4%).[2]
- **More ethnically diverse**. Since 2010, Mead grew more ethnically diverse. In 2010, none of Mead's population was Hispanic or Latino. By 2017, about 4.2% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Mead (13.9% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[45]

## EMPLOYMENT AND ECONOMICS

The Village of Mead's economic base is a mixture of industries. In comparison to Saunders County, Mead's economy had:

- **Smaller mix of industries.** Two major employment sectors, accounting for 10% or more of employment each, were: manufacturing, and educational services, and health care and social assistance.[3]
- **Lower per capita income.** Mead's per capita income in 2017 ($27,496) was about $3,667 lower than the county ($31,163).[3]
- **Similar amount of commuters.** About 25.1% of workers in Mead commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 46.7% of workers in Mead commuted 30 minutes or more to work, compared to about 43.2% of county workers.[46]

### MAJOR EMPLOYERS

The major employers in Mead are the Frontier Co-op, Mead Public Schools, Mead Cattle, AltEn, LLC, and InsulFoam Industries. Many residents commute to local communities for work, particularly to Methodist Health System in the City of Fremont or to the 3M Manufacturing plant in the City of Valley.

## HOUSING

In comparison to Saunders County, Mead's housing stock was:[47]

- **Similarly aged.** Mead had a similar share of housing built prior to 1970 than the county (55.4% compared to 51.8%).

45 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

46 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

47 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **More mobile and manufactured housing.** Mead had a larger share of mobile and manufactured housing (12.5%) compared to the county (2.5%). Mobile homes are located on 6th and 5th Streets between Cedar and Spruce Streets, and on 8th Street about half a block east of Oak Street.
- **Similarly renter-occupied**. About 20.7% of occupied housing units in Mead were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 11.3% of Mead's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

In the last ten years Mead has demolished a concrete grain elevator. They village has also built a new lagoon on Country road M. Future plans for the community include new businesses, including a new restaurant and the re-opening of the AltEn ethanol manufacturing plant. In 2021, construction will be complete on major additions to the village's water infrastructure including lagoons, two wells, a water treatment plant, and a water tower. These developments come with a growing population, drawn by new housing and the sale of several lots by Mead Public Schools. The village plans abandoning the old water tower and the two wells once the new ones are constructed and operating.

## PARCEL IMPROVEMENTS AND VALUATION

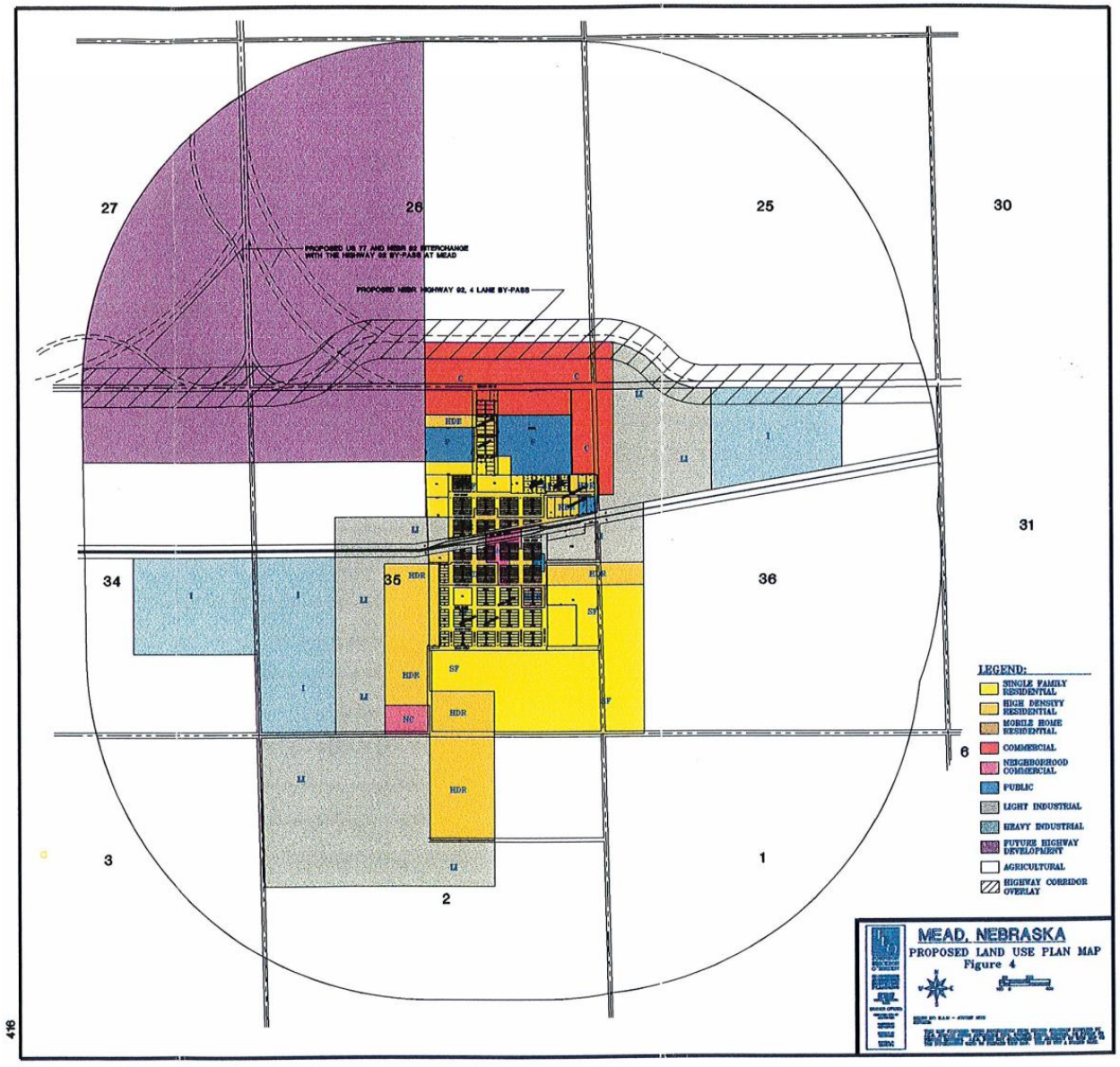
The planning team acquired GIS parcel data from the County Assessor to analyze the location, number, and value of property improvements (e.g. buildings, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table MED.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 228 | $36,471,641 | 0 | 0% | $0 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[48]

**Figure MED.3: Future Land Use Map**




48 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## 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 five fixed hazardous chemical storage sites within two miles of Mead. The following table lists these sites. The village has identified chemical fixed sites as a concern and more information is provided in the Hazard Prioritization discussion below.

**Table MED.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| AltEn LLC | 1344 County Road 10 | No |
| Frontier Co-op Company | 410 E 3rd St | No |
| Frontier Co-op Company | 1551 County Road 11 | No |
| Insulfoam | 1057 Sunburst Ln | No |
| NE ARNG UTES-2/FMS-6 | 1249 County Road 10 | No |

*Source: Nebraska Department of Environment and Energy, 2019*[49]

## CRITICAL FACILITIES

The planning team identified critical facilities necessary for Mead's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

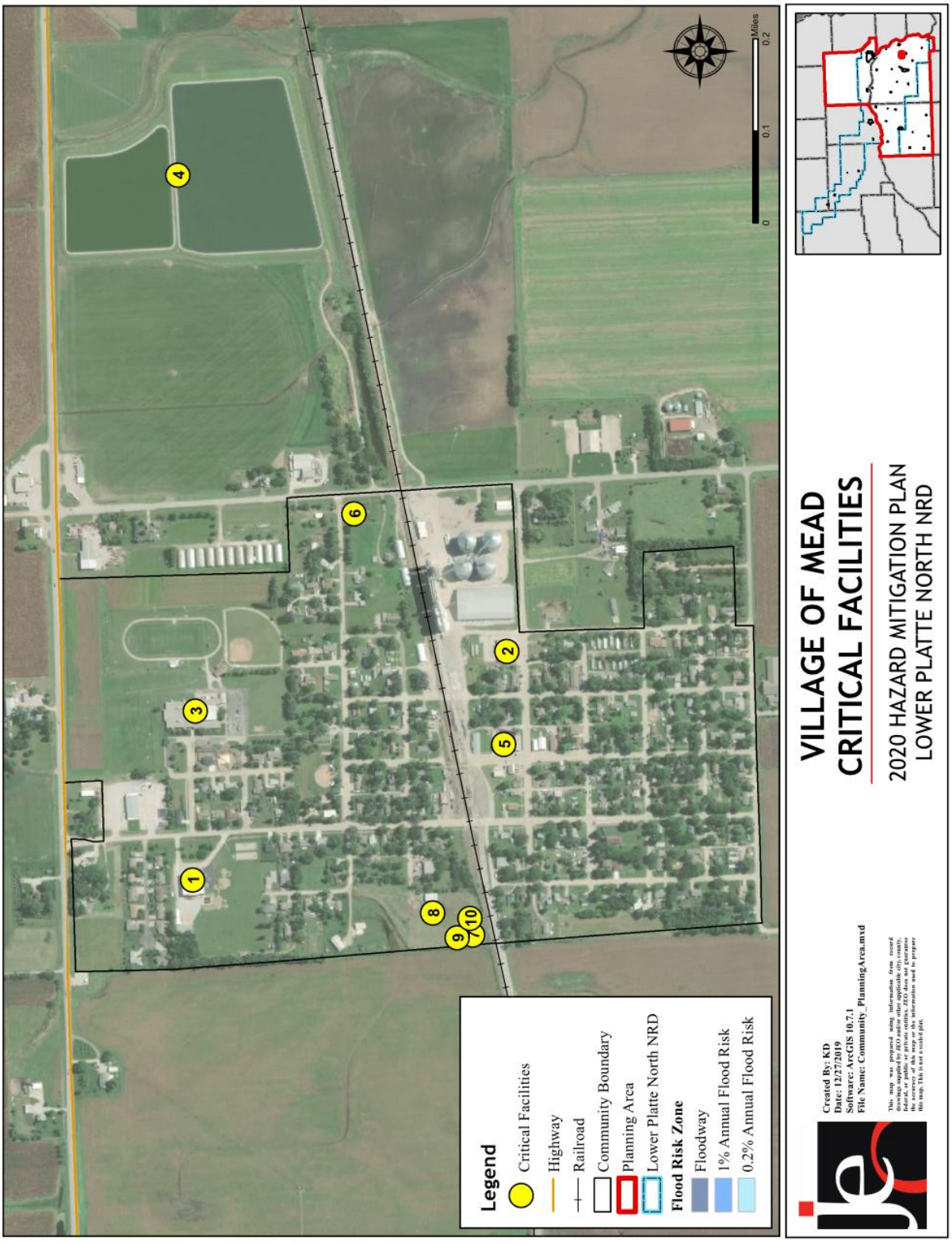
**Table MED.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Elementary School | Yes | No | No |
| 2 | Fire Station/Community Hall | Yes | Yes | No |
| 3 | High School | Yes | No | No |
| 4 | Lagoon | No | No | No |
| 5 | Village Office | No | No | No |
| 6 | Lift Station | No | Yes | No |
| 7* | Water Tower | No | No | No |
| 8* | Water treatment Facility (New) | No | Yes | No |
| 9* | Well (New) | No | Yes | No |
| 10* | Well (New) | No | Yes | No |

**Not constructed yet. Will be completed in 2020/2021*

49 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure MED.4: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### CHEMICAL FIXED SITES

AltEn LLC is a methanol production plant located just south of Mead. There has been concern from the community about chemical runoff from the plant contaminating surface and groundwater, especially as reports surface of sick dogs and a variety of illness in humans (including swollen eyes). The smell from the product has made the village less attractive to residents and potential residents, with some considering moving. State and federal government agencies have been notified and are in contact with community members about the issue. A co-op is located outside of the village and has Anhydrous Ammonia storage tanks.

### EXTREME HEAT

Extreme heat is a concern for the village when it leads to drought. There are no public cooling centers for community members. Public meeting and event cancelations from extreme weather events are posted on Mead's webpage and social media.

### HIGH WINDS

High winds are a concern for the village because they cause power outages and property damage. High wind events have caused a consistent loss of electricity in the last few years. Municipal records are backed up on thumb drives and CDs and have surge protectors to secure them against power surges. Critical facilities have backup generators. Approximately 20% of power lines are buried. There are hazardous trees located on personal property, and around the wells, lagoon system, and Fire Station that could be removed. The restrooms at the community building/fire station and the Alma Lutheran Church basement can be used as safe rooms for community member in case of a high wind event. The community has been informed of the church basement saferoom through postings and newsletters. County Emergency Management offers text alerts for severe weather.

### SEVERE THUNDERSTORMS

Power outages, downed trees, and property damage are the village's concerns regarding severe thunderstorms. Surge protectors and backup protocol protect municipal records from power surges. Critical facilities are protected from power outages with backup generators. Approximately 20% of power lines are buried. Hazardous trees around the wells, lagoon system, Fire Station and some on personal property could be removed. All critical facilities have weather radios.

### SEVERE WINTER STORMS

The winters of 2009-2010 and 2010-2011 were particularly severe, with significant snow removal needs and prolonged power outages. Power outages and blocked transportation routes are of most concern to the community. Approximately 20% of power lines are buried. Every road in the village is considered a snow route, so vehicles are required to be moved from the streets after two inches of snow. Utility maintenance personnel are responsible for snow removal, equipped with a truck and blade. A tractor with a scoop and a dump trailer are also available for particularly heavy snow events. These snow removal resources are sufficient for Mead's needs.

### TORNADOES

One EF0 tornadic events has not occurred in Mead in March 2006 causing $50,000 in property damage. Municipal records are protected with a backup protocol on thumb drives and CDs. Warning sirens in the community are activated by the County Sheriff's Department. A siren in northern Mead would benefit the community. FEMA certified safe rooms are located at the Mead Community Building/Fire Station. The Alma Lutheran Church basement is also open for community member seeking safe shelter. County Emergency Management offers text alerts for severe weather events. Community tornado drills educate community members on property tornado response. Mutual Aid Agreements between local fire departments are in place in case of a disaster.

## GOVERNANCE

Mead is governed by a five-member village board of trustees; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Village Librarian
- Accountant
- Utility Superintendent
- Street Superintendent
- Sewage Plant Operator
- Water Operator
- Police Chief
- Nuisance Enforcement Officer
- Volunteer Fire Department
- Planning Commissioner
- Building Inspector
- Zoning Administrator
- 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 MED.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Regulatory Capability | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | No |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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 | 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) | Yes |
| | Natural Disaster or Safety related school programs | Yes |
| | StormReady Certification | No |
| | Firewise Communities Certification | No |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| | Tree City USA | No |
| | Other (if any) | |

**Table MED.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Limited to Moderate |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Mead has a comprehensive plan (1996), emergency operations plan (2019), zoning ordinance (1996), building code (2018), a roads capital improvement plan (annually), floodplain regulations (2016), wellhead protection plan (2015), subdivision regulations (1996), and a code which outlines a drought emergency plan. Due to the age of the comprehensive plan, natural hazards are not discussed. However, it does direct development away from and limits density adjacent to chemical sites. At this time these is no plan to update the comprehensive plan. The village is an annex in the Saunders County Emergency Operations Plan. Within the plan it discusses communication, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelter, public works, and resource management. The zoning ordinance and subdivision regulations are currently being updated. Both will discuss natural hazards including the floodplain. Mead's building code is an adoption of the 2018 International Building Code. The drought emergency contingency plan outlines stages of drought and gives triggers for regulation actions. The village's budget has increased over recent years but is still limited to maintaining current systems. No other examples of plan integration were identified. However, 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

### COMPLETED MITIGATION ACTIONS

| MITIGATION ACTION | DRAINAGE STUDY/STORM WATER PLAN |
|---|---|
| Hazard(s) Addressed | Flooding |
| Status | Project completed in May 2014. The study cost approximately $2,000,000, funded by an NDEE grant. |

## ONGOING AND NEW 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 with remote activation options. A new alert siren may be needed on the north side of the village. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $5,000+ |
| Funding | General budget |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Utility superintendent |
| Status | New action. Not started. |

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. The village would like backup generators on the new wells and the lift station. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $30,000 per generator |
| Funding | Loan |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Utility superintendent |
| Status | New action. Not started. |

| MITIGATION ACTION | BACKUP RECORDS |
|---|---|
| Description | Develop protocol for backing up critical records onto a portable storage device or service. Maintain routine backup of records. Old ordinances and minutes dating back several decades needs to be digitized. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | General budget |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village clerk |
| Status | New action. Not started. |

| MITIGATION ACTION | EXPAND WATER STORAGE CAPACITY |
|---|---|
| Description | Complete construction on a new water tower that accommodates 100,000 gallons of water. |
| Hazard(s) Addressed | Drought |
| Estimated Cost | $3,467,000 water infrastructure updates + $95,000 land |
| Funding | USDA grant |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Utilities department |
| Status | In progress. This project will be accompanied by two new wells, a new water treatment plant, and the demolition of the old water tower. The new water tower will have 150,000-gallon capacity. |

| MITIGATION ACTION | UPDATE COMPREHENSIVE PLAN |
|---|---|
| Description | Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000+ |
| Funding | General Budget, CDBG |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village board, village clerk |
| Status | New action. Not Started |

| MITIGATION ACTION | WELL IMPROVEMENTS |
|---|---|
| Description | Complete construction on two new wells located at 309 W Second St and decommission the other two wells. |
| Hazard(s) Addressed | Drought |
| Estimated Cost | $3,467,000 water infrastructure updates + $95,000 land |
| Funding | USDA grant |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Utilities department |
| Status | In progress. The new wells will be accompanied by a new water treatment plant, new water tower, and the demolishment of the old water tower. |

# COMMUNITY PROFILE

# VILLAGE OF MEMPHIS

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table MMP.1: Village of Memphis Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Dave Gautier | Clerk | Village of Memphis |

## LOCATION AND GEOGRAPHY

The Village of Memphis is in the southeastern portion of Saunders County and covers an area of 0.09 square miles. It is in the rolling hills region of Nebraska and is surrounded by agricultural land used primarily for row crop production and pasturing. Memphis is south of Memphis Lake, now a State Recreation Area. Silver Creek runs along the village's western boundary.

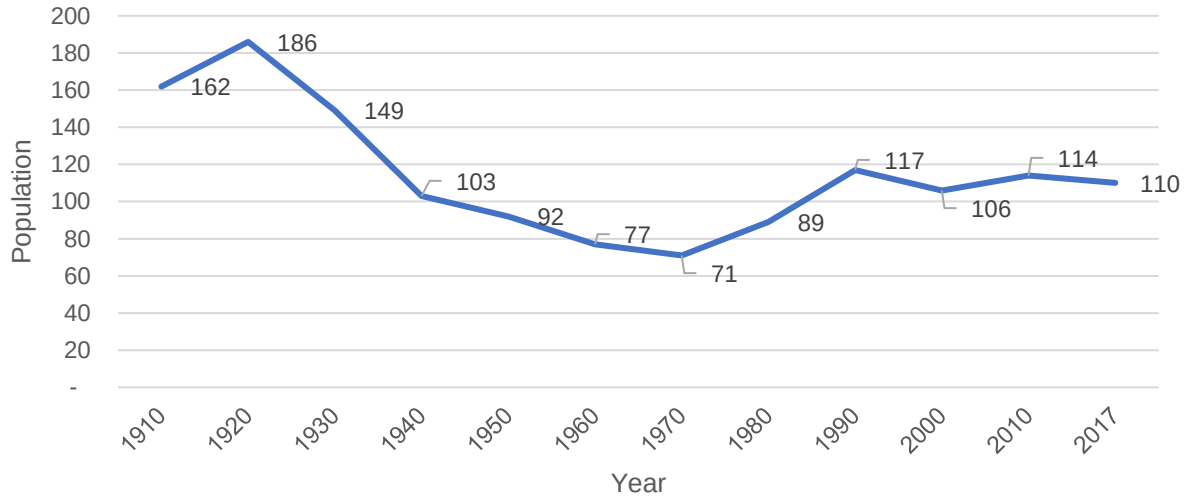
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Memphis' major transportation corridor is Nebraska State Highway 66. It is traveled by a total annual average of 1,360 vehicles daily, 205 of which are trucks.[50]

## DEMOGRAPHICS

Memphis' population declined from 114 people in 2010 to about 110 people in 2017. A decreasing population could lead to a declining tax base, which may make implementing mitigation projects more difficult. Memphis' population accounted for 0.5% of Saunders County's population in 2017.[51]

**Figure MMP.1: Population**




*Source: U.S. Census Bureau, 1910 – 2010; Local Planning Team, 2017*

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

51 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure MMP.2: Village of Memphis**

The young, elderly, minority populations and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Memphis' population was:

- **Similarly aged.** The median age of Memphis was 38.5 years old in 2017, compared with Saunders County's median of 41 years. Memphis' population grew slightly younger since 2010, when the median age was 39.5 years old. [2]
- **Less ethnically diverse**. From 2010 to 2017, Memphis has had no Hispanic or Latino population. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **Less likely to be below the federal poverty line.** The poverty rate in Memphis (6.3% of people living below the federal poverty line) was lower than the county's poverty rate (9.0%) in 2017.[52]

## EMPLOYMENT AND ECONOMICS

The Village of Memphis' economic base is a mixture of industries. In comparison to Saunders County, Memphis' economy had:

- **Similar mix of industries.** Three major employment sectors, accounting for 10% or more of employment each, were: retail trade; educational services, and health care and social assistance; and arts, entertainment, and recreation, and accommodation and food services.[3]
- **Lower per capita income.** Memphis' per capita income in 2017 ($24,559) was about $6,604 lower than the county ($31,163).[3]
- **Similar amount of commuters.** About 31.3% of workers in Memphis commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 45.9% of workers in Memphis commuted 30 minutes or more to work, compared to about 43.2% of county workers.[53]

### MAJOR EMPLOYERS

Within the Village of Memphis, the only employer is a locally owned restaurant. Most residents commute to the nearby communities of Omaha and Lincoln for work.

## HOUSING

In comparison to Saunders County, Memphis' housing stock was:[54]

- **Newer.** Memphis had a smaller share of housing built prior to 1970 than the county (44.4% compared to 51.8%).
- **More mobile and manufactured housing.** Memphis had a larger share of mobile and manufactured housing (33.3%) compared to the county (2.5%).

52 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

53 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

54 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **Less renter-occupied**. About 13.5% of occupied housing units in Memphis were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Unoccupied.** Approximately 17.8% of Memphis' housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 homes and prefabricated homes are located throughout 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

Over the last five years, there have been no housing or business developments within Memphis. According to the most recent American Community Survey estimates, Memphis' population is declining. The local planning team attributes the decline to recent deaths, but population has grown recently with younger families moving in. In the next five years, no new housing is planned. The village plans on moving the town hall into the old post office building as the current location is deteriorating.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table MMP.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 53 | $2,588,165 | 15 | 28.3% | $497,190 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[55]

55 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no fixed hazardous chemical storage sites within two miles of Memphis.[56]

## CRITICAL FACILITIES

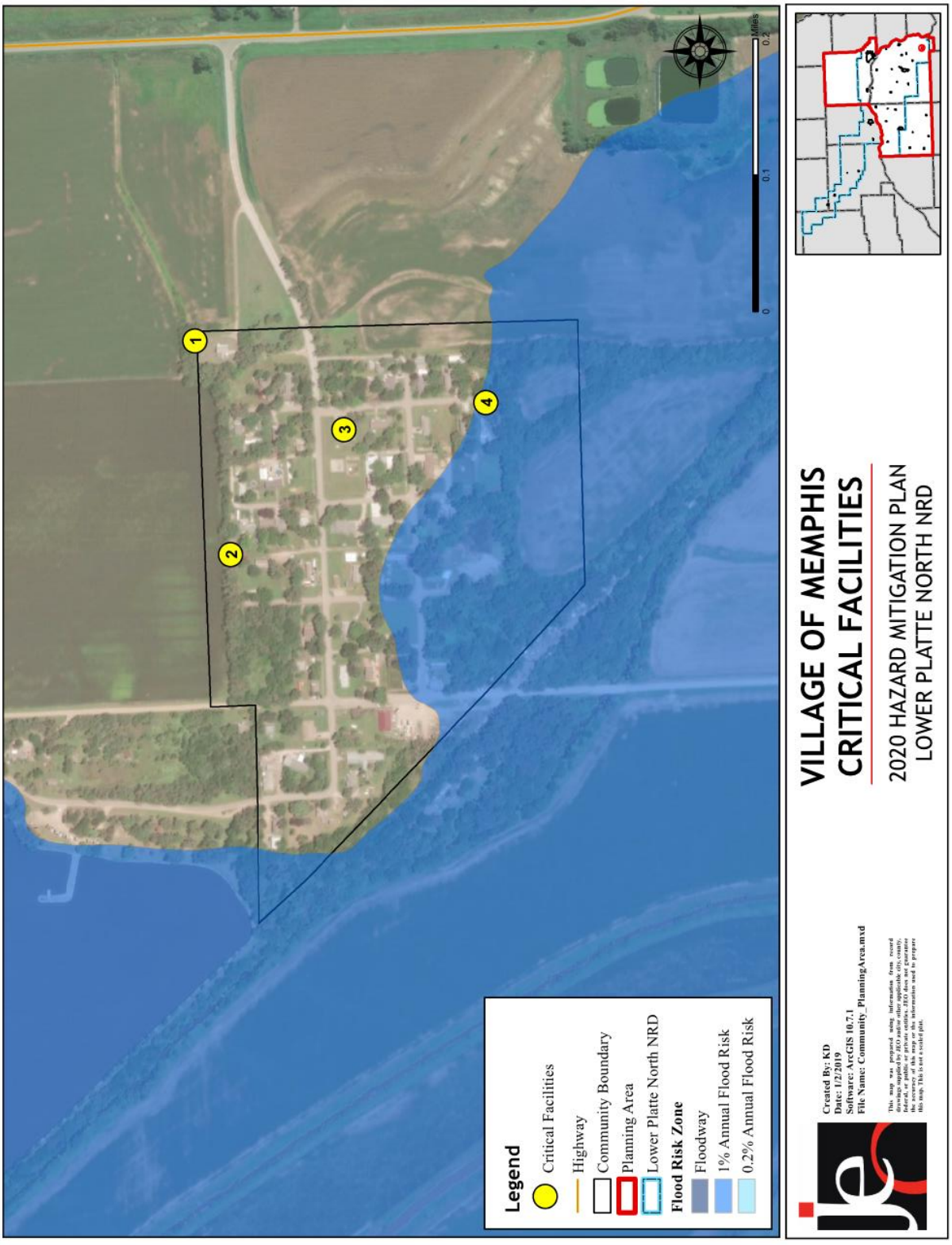
The planning team identified critical facilities necessary for the Village of Memphis' disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table MMP.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Well House | No | N | No |
| 2 | Well House | No | N | No |
| 3 | Town Hall | No | N | No |
| 4 | Pump Station | No | N | Yes |

56 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure MMP.3: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### FLOODING

The most recent flood event occurred in March 2019. Flood waters in Wahoo Creek caused the levee to fail. Two houses were damaged in the flood, but no critical facilities were damaged. Other floods have had similar impacts with water damage to homes. Wahoo Creek causes the most flood concern as drainage in the village is good. The 100-year floodplain is located mainly along the western boarder and southern half of the community.

### GRASS/WILDFIRES

Memphis is completely surrounded by agricultural land, so the potential for wildfires to impact the village is high. In addition, all the structures in the community other than the bar are wooden, which means the potential damage from a fire is also high. There is no fire department in the village. The Ashland Fire Department is the nearest at about 15 minutes away. There have been no historic wildfires which have impacted the village.

### LEVEE FAILURE

The levee protecting the village is a farm levee and is not identified in the National Levee Database. It provides some flood protection from Wahoo Creek, but it is not known what level of protection. The levee is located all along the western edge of the community. In March 2019 the levee failed causing floodwaters to damage two homes. Since the event, the levee has been repaired back to previous levels.

### SEVERE THUNDERSTORMS, TORNADOES, AND HIGH WINDS

The primary concerns for these hazards are damage to buildings, lightning strikes causing fires, and power loss. Severe thunderstorms occur on an annual basis, but no large storms were noted. Tornadoes have occurred near the village, but none have touched down in the community. There have been no major damages from these events. In the event of a tornado, the bar is the primary shelter location as many houses do not have basements. The bar is not a certified storm shelter, but it is the only block building in the village. People from the nearby recreation shelter have come into the village in the past seeking shelter. In the event of power loss, financial records are kept on a computer and hard copies are kept. Village ordinances and planning documents are hard copy only. Very few power lines are buried which leads to a higher risk of power loss due to fallen limbs and trees. Last year the village trimmed trees throughout the community in order to reduce this risk.

## GOVERNANCE

The Village of Memphis is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Water 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 MMP.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | No |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | 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 | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| | Other (if any) | |
| Fiscal Capability | 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 | No |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/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 | 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) | |

**Table MMP.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Limited |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

The village's comprehensive plan contains information related to flooding and tornadoes. It also includes goals aimed at safe growth, encourages infill, and encourages elevation of structures in the floodplain. There is no timeline in place to update the comprehensive plan. Memphis is an annex to the 2019 Saunders County Local Emergency Operations Plan. It discusses communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, and resource management. The zoning ordinance and subdivision regulations for the village discourage development in the floodplain, prohibits filling of wetlands, encourages maintaining open space in the floodplain, and limits population density in the floodplain. Due to the age of the building codes, there is little discussion of natural hazards. However, it does require elevation of structures in the floodplain and encourages the use of hail resistant building materials.

# MITIGATION STRATEGY

## ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | ACQUIRE HIGH RISK FLOODING PROPERTY |
|---|---|
| Description | Voluntary acquisition and demolition of properties prone to flooding will reduce the general threat of flooding for communities. Local planning team members indicated some homes in the floodplain are nearly condemned. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | ALERT/WARNING SIREN |
|---|---|
| Description | Identify location and install a new warning siren |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000+ |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board, County Emergency Manager |
| Status | New action. Not started |

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations and other critical facilities and shelters. |
| Hazard(s) Addressed | Severe thunderstorms, severe winter storms, tornadoes and high winds |
| Estimated Cost | Varies by size |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | COMMUNITY EDUCATION AND AWARENESS |
|---|---|
| Description | While Memphis does not directly participate in any public awareness activities, the village allows other entities to distribute educational material to residents. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $500+ |
| Funding | General fund |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Ongoing, public awareness is done on a regular basis |

| MITIGATION ACTION | DRAINAGE STUDY/STORMWATER MASTER PLAN |
|---|---|
| Description | Drainage studies can be conducted to identify and prioritize improvements to address site specific localized flooding/drainage problems. Storm water master plan can be conducted to perform a community-wide storm water evaluation, identifying multiple problem areas, and potentially multiple drainage improvements for each. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | ENROLL IN THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Description | Enroll in the National Flood Insurance Program |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Staff Time |
| Funding | Staff Time |
| Timeline | 2-5 years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | SAFE ROOMS AND STORM SHELTERS |
|---|---|
| Description | Design and construct storm shelters and safe rooms in highly vulnerable areas such as churches, schools, and other areas. |
| Hazard(s) Addressed | Tornadoes and high winds |
| Estimated Cost | $350+ per square foot |
| Funding | State Emergency Fund, General fund |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | STORMWATER SYSTEM IMPROVEMENTS |
|---|---|
| Description | Memphis has indicated that while storm water generally drains relatively well, some areas may need additional light maintenance. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | General fund |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | In progress, drainage is currently being upgraded. |

| MITIGATION ACTION | STREAM BANK STABILIZATION / GRADE CONTROL STRUCTURES / CHANNEL IMPROVEMENTS |
|---|---|
| Description | Stabilization improvements including rock rip-rap, vegetative cover, j-hooks, boulder vanes, can be implemented to reestablish the channel banks. Channel stabilization can protect structures, increase conveyance and provide flooding benefits. These improvements would be made in south Memphis along Wahoo Creek. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not started |

| MITIGATION ACTION | TREE CITY USA |
|---|---|
| Description | Work to become a Tree City by establishing a tree board, enacting a tree care ordinance, establishing a forestry care program, enacting an Arbor Day observance and proclamation. |
| Hazard(s) Addressed | Severe thunderstorms, severe winter storms, tornadoes and high winds |
| Estimated Cost | Staff Time |
| Funding | Staff Time |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Village Board |
| Status | Not Started |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | FLOODPLAIN REGUALTIONS ENFORCEMENTS AND UPDATES |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This is not a true mitigation action. The village will continue to enforce all local regulations. |

# COMMUNITY PROFILE

# VILLAGE OF MORSE BLUFF

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table MBL.1: Village of Morse Bluff Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Joe Zeleny | Utility Superintendent | Village of Morse Bluff |

## LOCATION AND GEOGRAPHY

The Village of Morse Bluff is in the northern portion of Saunders County and covers an area of 0.18 square miles. It is in the Platte River Valley, about one mile south of the river. The land surrounding the village is used primarily for agriculture, especially row crop production and pasturing.

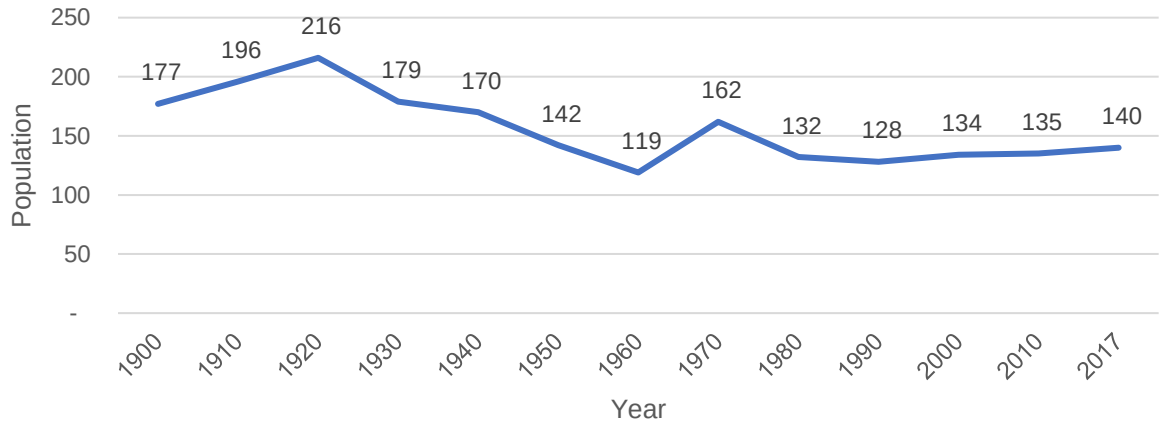
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Morse Bluff's major transportation corridor is Nebraska State Highway 79. It is traveled by a total annual average of 2,245 vehicles daily, 205 of which are trucks.[57] Highway 79 and Highway 30 (across the Platte River) are the transportation routes of most concern because of their importance for transportation in the region.

## DEMOGRAPHICS

The Village of Morse Bluff grew from 135 people in 2010 to about 140 people in 2017, though the overall population trend is remaining stable. A stable population may provide a reliable tax base to fund mitigation projects. The village's population accounted for 0.7% of Saunders County's population in 2017.[58]

**Figure MBL.1: Population**




*Source: U.S. Census Bureau, 1990 – 2010; Local Planning Team, 2017*

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

58 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure MBL.2: Village of Morse Bluff**

The young, elderly, minority populations and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Morse Bluff's population was:

- **Similarly aged.** The median age of Morse Bluff was 36.9 years old in 2017, compared with Saunders County's median of 41 years. Morse Bluff's population grew older since 2010, when the median age was 34 years old.[2]
- **Less ethnically diverse**. Morse Bluff does not have a Hispanic or Latino population. The Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Morse Bluff (36.8% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[59]

## EMPLOYMENT AND ECONOMICS

The Village of Morse Bluff's economic base is a mixture of industries. In comparison to Saunders County, Morse Bluff's economy had:

- **Similar mix of industries.** Three major employment sectors, accounting for 10% or more of employment each, were: manufacturing; transportation and warehousing, and utilities; and educational services, and health care and social assistance.[3]
- **Lower per capita income.** Morse Bluff's per capita income in 2017 ($19,679) was about $11,484 lower than the county ($31,163).[3]
- **Fewer commuters.** About 45.4% of workers in Morse Bluff commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 22.7% of workers in the village commuted 30 minutes or more to work, compared to about 43.2% of county workers.[60]

### MAJOR EMPLOYERS

The major employers in Morse Bluff include Webster Well Services, Hampl Transportation, Bluff Gravel Company, Otte's Propane, Bottom Road Bar, and Steel Creation. Approximately 70% of the community's residents commute to work in nearby communities, including 3M Manufacturing in the City of Valley, Cargill in the City of Schuyler, BD Medical in the City of Columbus, or the Methodist Fremont Health in the City of Fremont.

## HOUSING

In comparison to Saunders County, Morse Bluff's housing stock was:[61]

- **Older.** Morse Bluff had a larger share of housing built prior to 1970 than the county (85% compared to 51.8%).

59 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

60 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

61 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **More mobile and manufactured housing.** Morse Bluff had a larger share of mobile and manufactured housing (8.3%) compared to the county (2.5%). The mobile homes in the community are located on Ann Street.
- **Slightly more renter-occupied**. About 22% of occupied housing units in Morse Bluff were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 1.7% of Morse Bluff's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

In the past ten years, one building has been demolished. There are no plans for new housing or business developments. Morse Bluff's population remains static with no room for growth within village limits.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table MBL.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMRPOVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 73 | $4,088,735 | 1 | 1.4% | $23,360 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[62]

62 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no fixed hazardous chemical storage sites within two miles of Morse Bluff.[63]

## CRITICAL FACILITIES

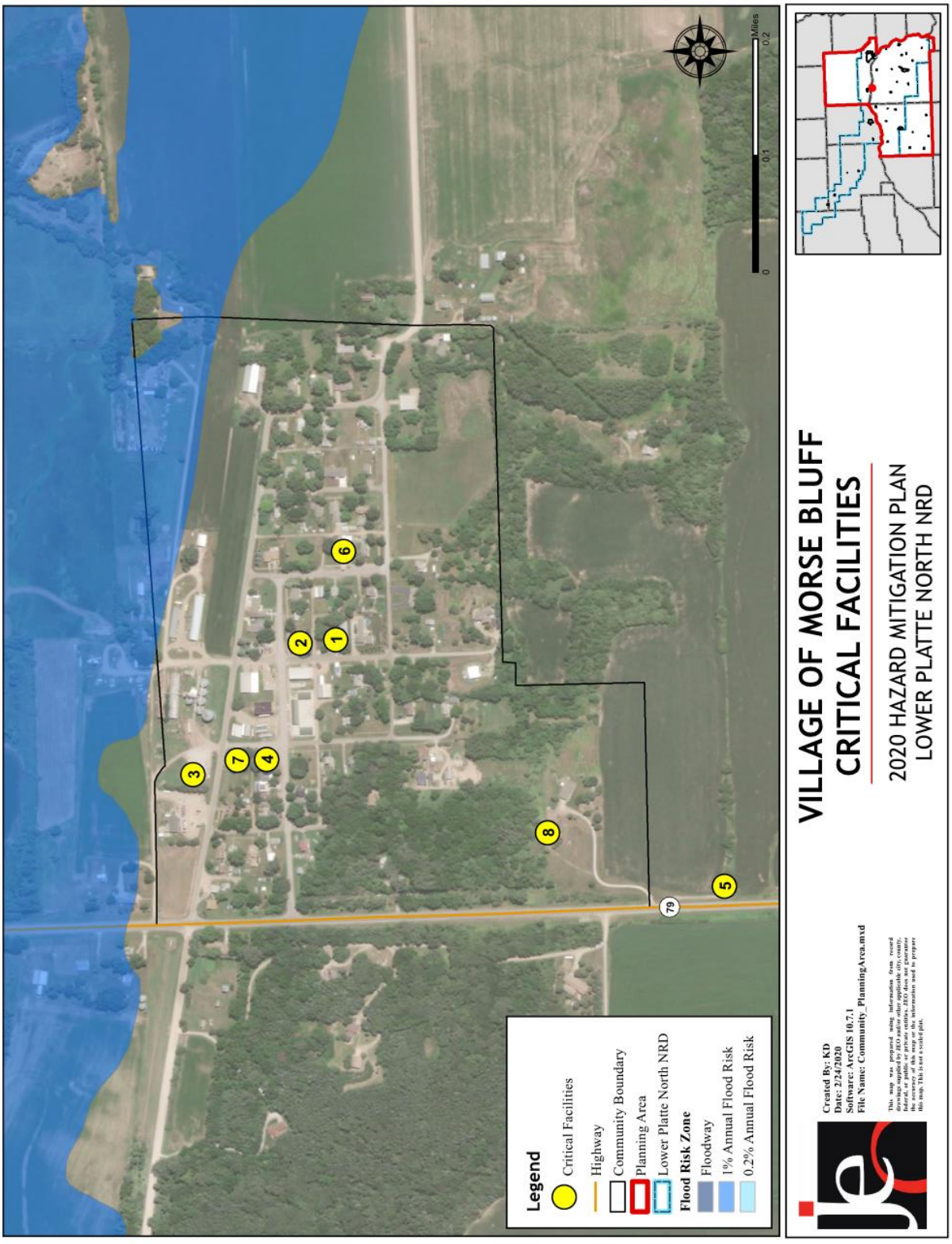
The planning team identified critical facilities necessary for the Village of Morse Bluff's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table MBL.3: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | American Legion | No | No | No |
| 2 | Centennial Park | No | No | No |
| 3 | Fire Hall | No | No | No |
| 4 | Post Office | No | No | No |
| 5 | Pump House | No | Yes | No |
| 6 | St. George Church | No | No | No |
| 7 | Village Hall | No | No | No |
| 8 | Water Tower | No | No | No |

63 Nebraska Department of Environment and Energy. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure MBL.3: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### DROUGHT

Higher water demands during drought make it a concern for the community. Drought is locally defined as three or more months of below average rainfall. The municipal water supply is monitored monthly by measuring static and pumping levels. The residential water supply is metered. Morse Bluff has a drought response plan, Ordinance #212, to address water concerns during a drought. There has been no water quantity of quality issues during past droughts. A new well is being constructed in 2020.

### FLOODING

Morse Bluff experienced some impacts from the March 2019 floods, with flood waters from the Platte River traveling within a half mile north of the village. Highway 79 was closed for a couple of days until floodwaters went down. With the Platte River so close to the village, riverine flooding is the biggest flooding concern for the village, though the north quarter of the town also floods occasionally.

### HAIL

The largest hail stones recently recorded fell in May 2015 – they were 1.5 inches in diameter. The community's critical facilities are fitted with hail resistant building materials and are insured against hail damage. There is no local tree board to monitor the condition of local trees and residents do not receive information regarding hail resistant building materials with building permits.

### SEVERE THUNDERSTORMS

Thunderstorms have damaged trees throughout town during several storms in the past. Home and tree damage are the largest concerns in the community regarding severe thunderstorms. Critical municipal records are protected from power surges with surge protectors on electronic devices. The municipal well needs a generator in case of a power outage. Most power lines are not buried. It is the responsibility of property owners to maintain their own trees.

### SEVERE WINTER STORMS

Power outages are the largest concern regarding severe winter storms in Morse Bluff. Almost none of the power lines in the village are buried, making them vulnerable to severe storms. There are no designated snow routes in town and no snow fences. Snow removal is done by a private contractor.

## GOVERNANCE

The Village of Morse Bluff is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Utility Superintendent
- Volunteer Fire Department
- Street Superintendent
- Water 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 MBL.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | No |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational 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 | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | No |
| | Other (if any) | |
| Fiscal | Applied for grants in the past | Yes |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Capability | 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) | |

**Table MBL.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | Limited |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

The Village of Morse Bluff has an annex in the 2019 Saunders County Emergency Operations Plan. Within the emergency operations plan there is a discussion of communications and warning, direction and control, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, public works, and resource management. The village's water system also has an emergency operations plan on what to do in the event of a natural hazard event. No other examples of plan integration were identified. Morse Bluff's annual budget has minimally increased in recent years but is limited to maintaining current systems. 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

## ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | BACKUP RECORDS |
|---|---|
| Description | Develop protocol for backing up critical records onto a portable storage device or service. Maintain routine backup of records. |
| Hazard(s) Addressed | All Hazards |
| Estimated Cost | Staff Time |
| Funding | General Budget |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village Clerk |
| Status | New Action. Not Started |

| MITIGATION ACTION | NEW COLLECTION SYSTEM |
|---|---|
| Description | This item was included on the Morse Bluff CWSRF Needs Survey for the Nebraska Department of Environment and Energy. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | General Budget |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not Started |

| MITIGATION ACTION | NEW MUNICIPAL WELL |
|---|---|
| Description | Communities can evaluate the need to install a new well to provide a safe backup water supply for the community, replace existing wells affected by drought, and additional water for fire protection |
| Hazard(s) Addressed | Drought, grass/wildfire |
| Estimated Cost | $1,400,000 |
| Funding | CDBG and USDA Rural Development grants |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Village Board |
| Status | A location for the new well has been determined and construction will begin in 2020 |

| MITIGATION ACTION | UPDATE LAGOON |
|---|---|
| Description | This item was included on the Morse Bluff CWSRF Needs Survey for the Nebraska Department of Environment and Energy. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $25,000+ |
| Funding | General Budget |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | Not Started |

# COMMUNITY PROFILE

# VILLAGE OF PRAGUE

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table PRG.1: Village of Prague Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Kelly Havlovic | Village Clerk | Village of Prague |
| Dan Havlovic | Village Board | Village of Prague |
| Matt Muessignman | Village Board | Village of Prague |
| Debi Wade | Village Board | Village of Prague |
| Greg Ourada | Village Board | Village of Prague |
| Marlene Wade | Village Chairman | Village of Prague |

## LOCATION AND GEOGRAPHY

The Village of Prague is in the northwestern portion of Saunders County and covers an area of 0.33 square miles. Cottonwood Creek flows along its western edge. The village is in the rolling hills region of Nebraska, surrounded by agricultural land used primarily for row crop production and pasturing.

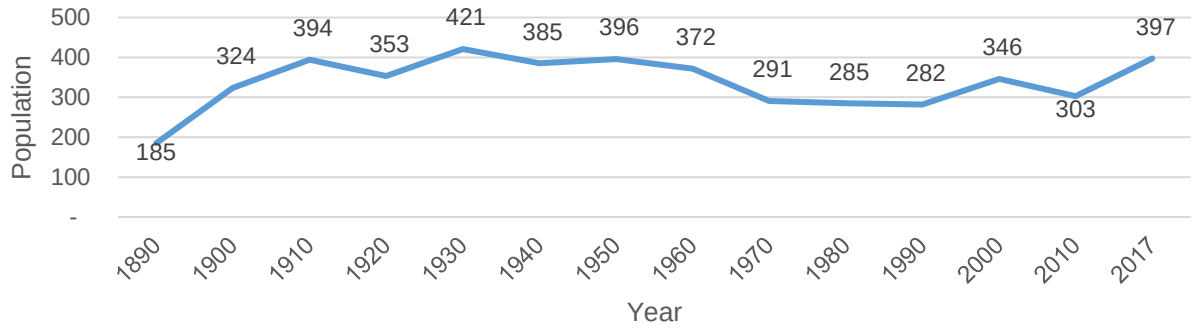
## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Prague's major transportation corridor is Nebraska State Highway 79. It is traveled by a total annual average of 1,400 vehicles daily, 140 of which are trucks.[64] Highway 79 and Railway Street are the transportation routes of most concern to the village because of their heavy traffic.

## DEMOGRAPHICS

The Village of Prague's population grew from 303 people in 2010 to about 397 people in 2017. An increased population will provide a sustainable tax base to fund hazard mitigation projects. The population accounted for 1.9% of Saunders County's population in 2017.[65]

**Figure PRG.1: Population**




*Source: U.S. Census Bureau, 1890 - 2017*

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

65 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure PRG.2: Village of Prague**

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

- **Similarly aged.** The median age of Prague was 38.5 years old in 2017, compared with Saunders County's median of 41 years. Prague's population grew younger since 2010, when the median age was 46.3 years old.[2]
- **More ethnically diverse**. Since 2010, Prague retained a constant proportion of Hispanic and Latino residents. In 2010, 2.1% of Prague's population was Hispanic or Latino. By 2017, about 2.3% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Prague (18.9% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[66]

## EMPLOYMENT AND ECONOMICS

The Village of Prague's economic base is primarily educational services, and health care and social assistance. In comparison to Saunders County, Prague's economy had:

- **Larger mix of industries.** Four major employment sectors, accounting for 10% or more of employment each, were: manufacturing; transportation and warehousing, and utilities; educational services, and health care and social assistance; and arts, entertainment, and recreation, and accommodation and food services.[3]
- **Lower per capita income.** Prague's per capita income in 2017 ($21,754) was about $9,409 lower than the county ($31,163).[3]
- **More commuters.** About 11.2% of workers in Prague commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 57.8% of workers in Prague commuted 30 minutes or more to work, compared to about 43.2% of county workers.[67]

### MAJOR EMPLOYERS

The major employers within the village are the local gas station and bank. Most residents commute to the nearby communities of Omaha, Lincoln, Fremont, and Columbus for work.

## HOUSING

In comparison to Saunders County, Prague's housing stock was:[68]

- **Older.** Prague had a larger share of housing built prior to 1970 than the county (72.4% compared to 51.8%).

66 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

67 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

68 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **Less mobile and manufactured housing.** Prague had a smaller share of mobile and manufactured housing (0.6%) compared to the county (2.5%). Mobiles homes are located throughout the village.
- **More renter-occupied**. About 24.1% of occupied housing units in Prague were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 9.2% of Prague's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

The school has recently closed, but the community has continued their effort to maintain and improve the village's housing stock. There are no plans for future housing or business developments. Prague's population is generally increasing, likely because job opportunities near the village are attracting younger families.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table PRG.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 161 | $8,285,750 | 16 | 9.9% | $1,150,670 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[69]

69 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

# CRITICAL INFRASTRUCTURE

## CHEMICAL STORAGE FIXED SITES

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is one fixed hazardous chemical storage site within two miles of Prague. The following table lists this site. The village has no concerns regarding chemical fixed sites at this time. The Prague Volunteer Fire Department has the property equipment and training to respond to chemical spills.

**Table PRG.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| Farmers Union Co-op Assn | 303 S Railway Ave | No |

*Source: Nebraska Department of Environment and Energy, 2019*[70]

## CRITICAL FACILITIES

The planning team identified critical facilities necessary for the Village of Prague's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table PRG.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | City Hall | Yes | No | No |
| 2 | Fire Hall | Yes | Yes | No |
| 3 | Sanitary Lift Station | No | Yes | No |
| 4 | Water Tower | No | No | No |
| 5 | Water Treatment Facility | No | Yes | No |

70 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure PRG.3: Critical Facilities**

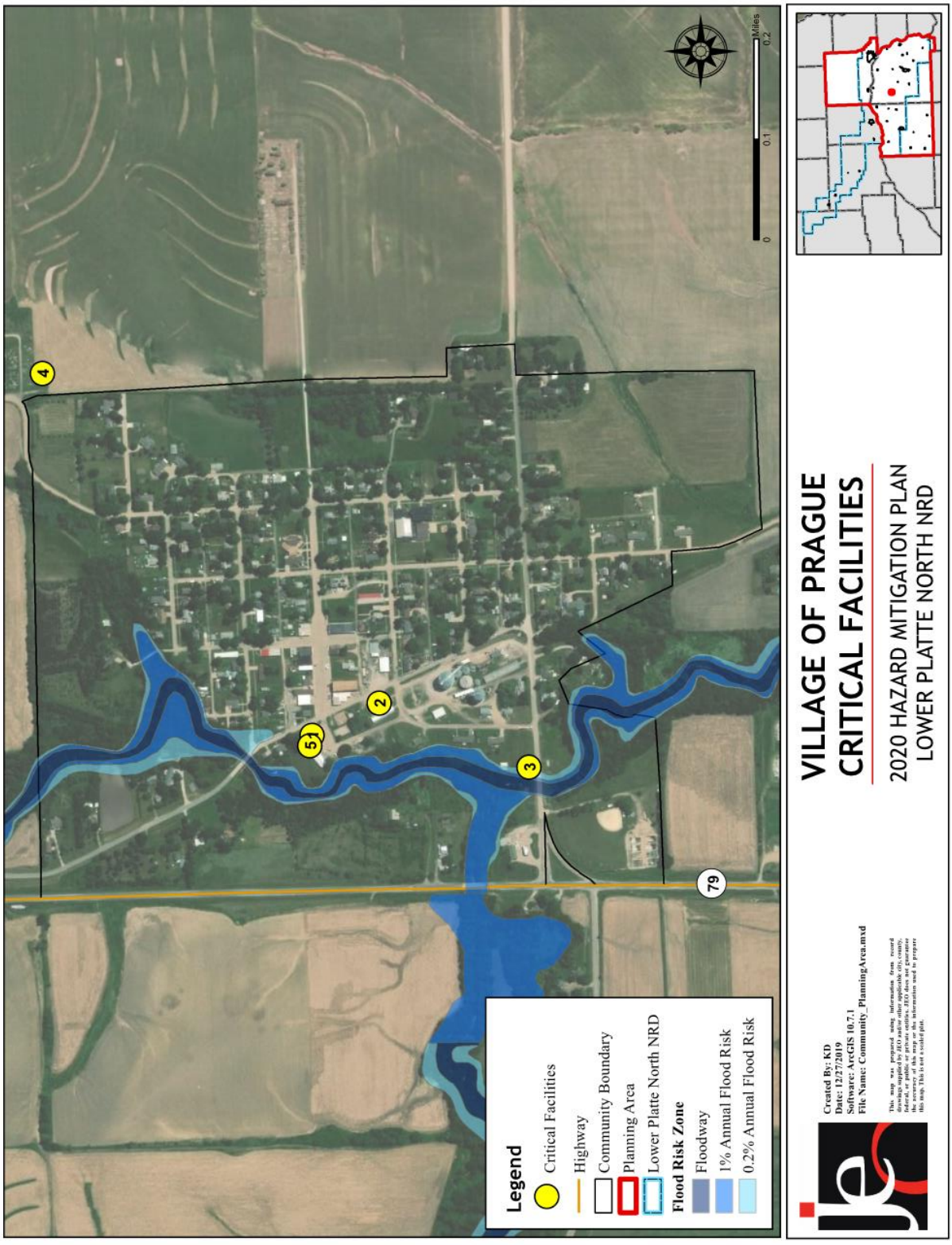


**Figure PRG.4: Existing Land Use Map**

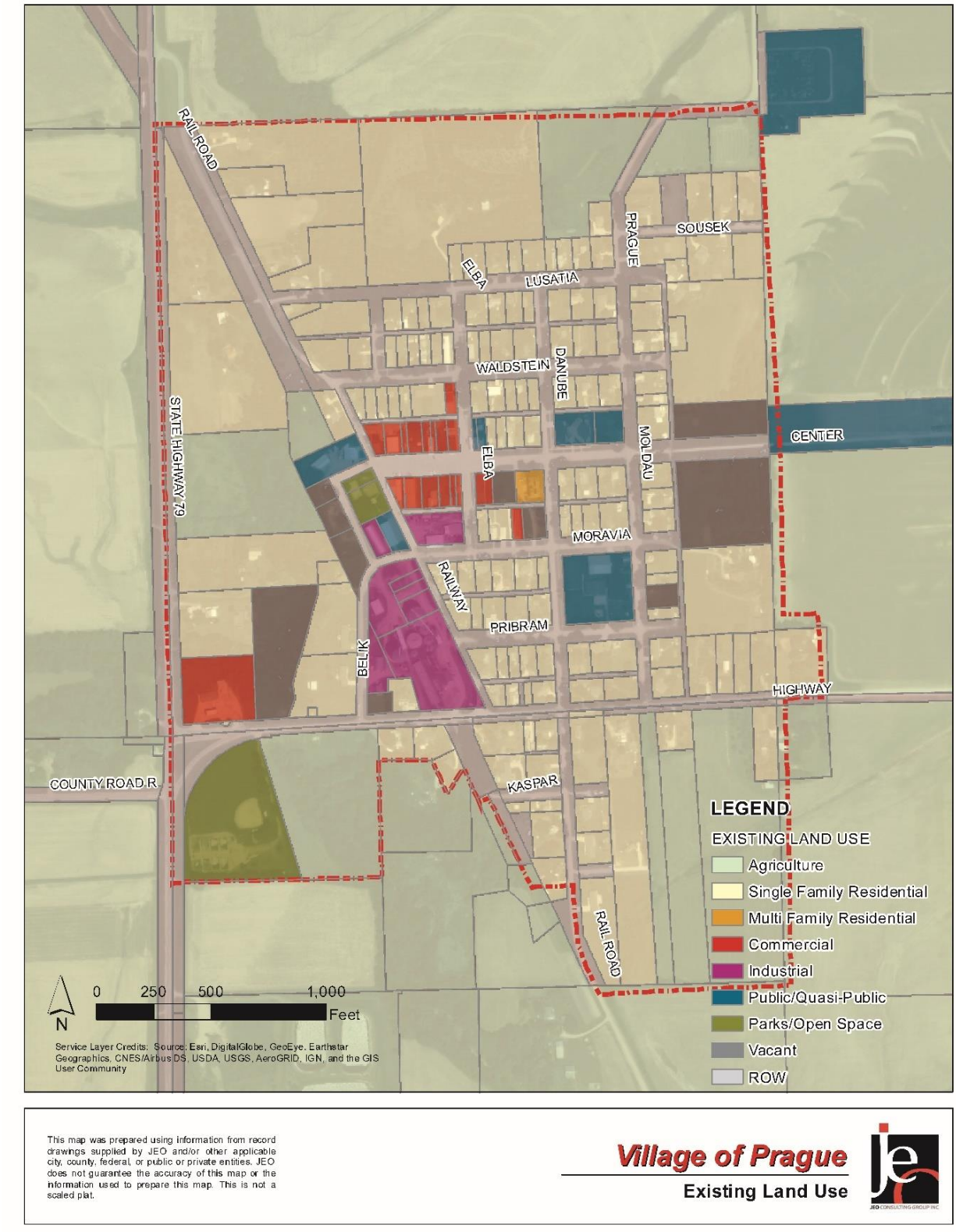
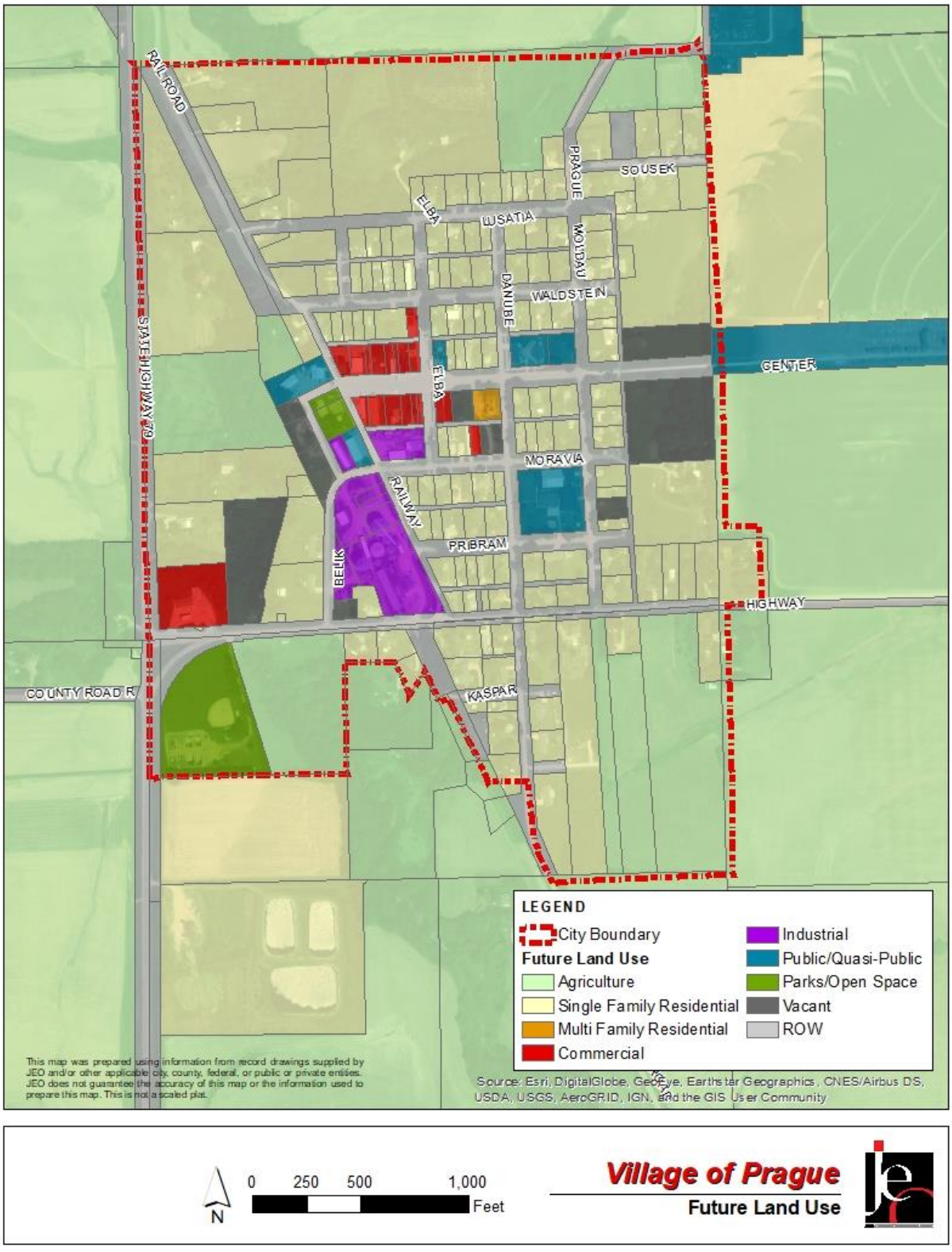


**Figure PRG.5: Existing Land Use Map**



## HISTORICAL OCCURRENCES

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

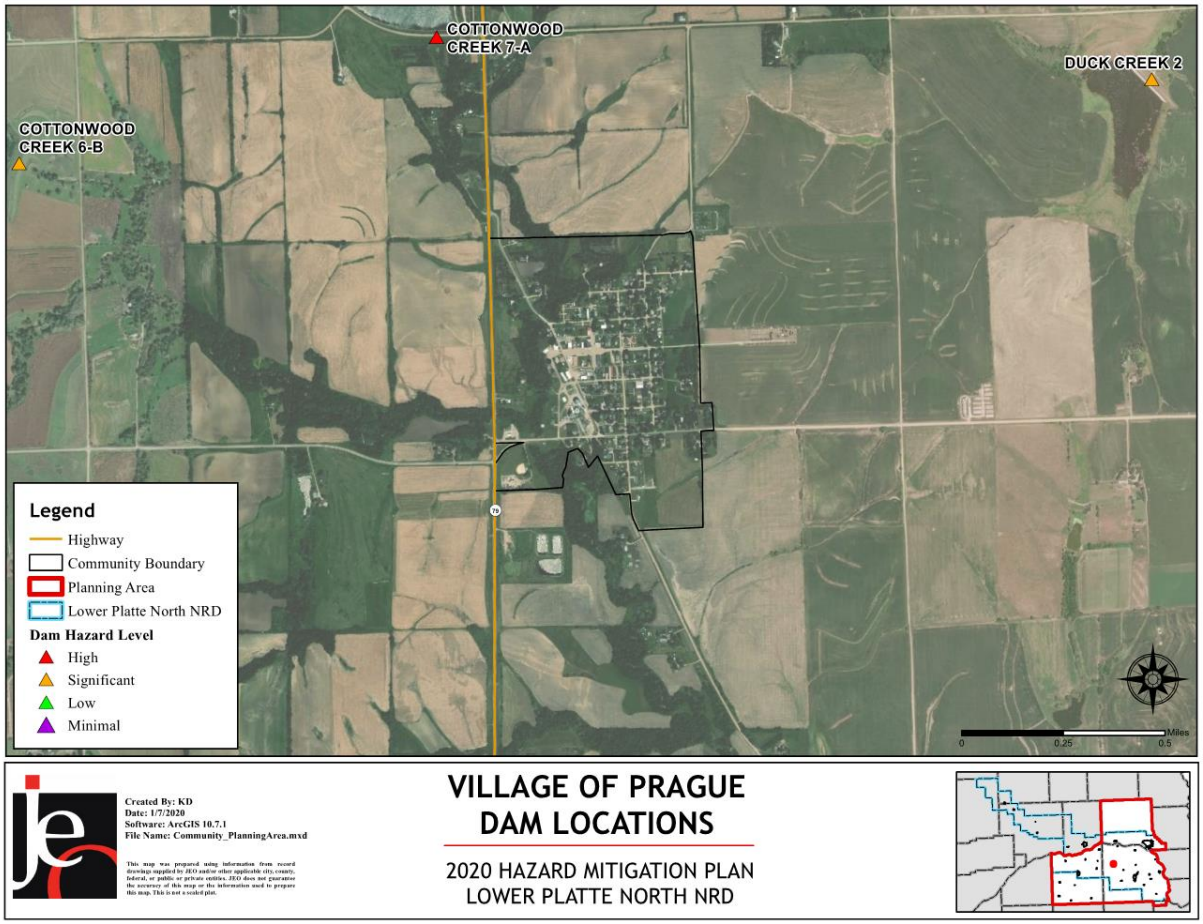
## HAZARD PRIORITIZATION

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### DAM FAILURE

The Cottonwood Creek 7-A Dam, located just north of Prague, would have large impacts on the village if it were to fail. It is a high hazard dam that forms Czechland Lake and could have a large impact on the community if it failed. The dam does not have a history of failure. LPNNRD is responsible for maintaining the dam, including an EAP in case of dam failure.

**Figure PRG.6: Dam Locations**



## DROUGHT

Drought is a concern for Prague because it could place stress on their water system. During a drought in 2011 water usage in the village increased significantly, though the water supply was still sufficient. Drought is qualitatively defined as a lack of rainfall over an extended period of time. Prague's was is supplied by two wells that are regularly monitored with drawdown checks and logs of daily water use. The residential water supply is metered. A water drought and emergency ordinance is in place to respond to future drought events. There are also landscape ordinances in place that establish irrigation limits.

## FLOODING

While the local planning team did not identify flooding as a hazard of top concern for the community, a special flood hazard area is delineated, which puts the community at risk to riverine flooding. Currently, there are 16 parcel improvements located within the floodplain totaling over $1 million (PRG.2). Prague is a member of the NFIP.

## HIGH WINDS

Fallen trees and broken tree branches that cause power outages are the largest concern regarding high winds, though no high wind events have occurred lately. In case of power outages, all municipal records are backed up offsite. There are no safe rooms in Prague – community members can take shelter from severe winter storms in their homes. County emergency management provides text alerts for emergencies and severe weather.

## SEVERE THUNDERSTORMS

In July 2007 thunderstorm wind gusts estimated as high as 75 mph blew entire trees down and caused damage to a house and garage southwest of Prague. The wind downed several tree limbs eight inches in diameter. A storm in June 2002 downed trees and blew the roofs off several grain bins located east of Prague. High winds and lightning causing power outages and power surges are the most significant impacts of severe thunderstorms. Municipal records are protected from power outages and surges with a surge protector are backed up. The water system and wastewater lift station have backup generators to reduce their vulnerability to power outages. Approximately 5% of power lines are buried.

## SEVERE WINTER STORMS

Power outages and road closures from high winds, ice, and heavy snow are the largest concern regarding severe winter storms in Prague. Approximately 5% of power lines are buried. There are designated snow routes in town on Highway Avenue, Railway Street, and Center Avenue. The Utilities Superintendent is responsible for removing snow using a pickup with a blade, a dump truck with a blade, a tractor with a loader and a blade, and a tractor with a loader and a 12-foot pusher.

## TORNADOES

The last recorded tornado in Prague occurred in June 1996. Another touched down in Prague in 1979. Both tornadoes caused minimal impacts. Critical municipal records are protected from disasters with a backup system. There are no public safe rooms in the village, but community members can seek shelter in the basements or cellars. County emergency management offers severe weather alerts. No outreach activities are done to educated community members on severe weather preparation and response. In the event of a disaster, the Prague Volunteer Fire Department has mutual aid agreements with all of the other fire departments in Saunders County,

the electric system has a mutual aid agreement with the Nebraska Public Power District, and the water and wastewater system has a mutual aid agreement with the communities in the Nebraska Water/Wastewater Response Network.

## GOVERNANCE

Prague is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Fire Department
- Utility Superintendent
- Sewage Plant Operator
- Engineer/Zoning Administrator

## 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 PRG.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | No |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| | Grant Manager | Yes |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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. | 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) | |

**Table PRG.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Moderate |
| Community support to implement projects | Moderate |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Prague has a comprehensive plan (2019), emergency operations plan (2019), zoning ordinance (2019), floodplain regulations (2010), wellhead protection plan (2014), and subdivision regulations (2019). The comprehensive plan contains goals aimed at safe growth, directs development away from the floodplain, encourages the elevation of structures located in the floodplain, and allows for emergency access to all areas of town. Prague is an annex to the Saunders County emergency operations plan. It contains information regarding communications, damage assessment,

emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. The zoning and floodplain ordinances discourage development in the floodplain, discourage development near chemical storage sites, encourage maintaining open space in the floodplain, and limit population density in the floodplain. Well setback requirements and a water conservation plan are in place in the wellhead protection plan. The subdivision regulations restrict the subdivision of land located in the floodplain. No other examples of plan integration were identified. However, 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

### COMPLETED MITIGATION ACTIONS

| MITIGATION ACTION | BACKUP GENERATORS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Status | This project was completed in October of 2018. A generator was installed at the fire hall, costing $6,000 and funded in part by a grant from the Nebraska Forestry Service |

### ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | COMMUNITY EDUCATION AND AWARENESS |
|---|---|
| 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. Also, educate citizens on water conservation methods, evacuation plans, etc. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $500+ |
| Funding | General fund |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Fire Department |
| Status | This is an ongoing project to educate the public |

| MITIGATION ACTION | EVALUATE WATER SUPPLY |
|---|---|
| Description | Evaluate and locate new sources of ground and/or surface water to ensure adequate supplies to support the existing community and any additional growth which may occur |
| Hazard(s) Addressed | Drought |
| Estimated Cost | $500,000 |
| Funding | Bonds, loans |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village Board |
| Status | New action. Not started |

| MITIGATION ACTION | IMPROVE EMERGENCY TEXT WARNING SYSTEM |
|---|---|
| Description | Improve city cable tv interrupt warning system and implement telephone interrupt system such as reverse 911, emergency text messaging warning system, etc. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies |
| Funding | General fund |
| Timeline | 5+ yeas |
| Priority | Medium |
| Lead Agency | Village Board |
| Status | This project has not been started but is still a priority for the community |

| MITIGATION ACTION | SAFE ROOM AND STORM SHELTERS |
|---|---|
| Description | Design and construct storm shelters and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, schools, and other areas |
| Hazard(s) Addressed | Tornadoes, high winds, severe thunderstorms |
| Estimated Cost | $350+ per square foot |
| Funding | General fund |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village Board, Fire Department |
| Status | New action. Not started |

| MITIGATION ACTION | STORMWATER SYSTEM IMPROVEMENTS |
|---|---|
| Description | Storm water system improvements may include pipe upsizing and additional inlets. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other storm water system improvements. During high rain events, sewer seepage may become a problem |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies |
| Funding | Bonds |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | Utilities Department |
| Status | This project is ongoing on the east side of Prague |

| MITIGATION ACTION | WEATHER RADIOS |
|---|---|
| Description | Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed. Radios are needed in the city hall, fire department, parish hall, and the apartments |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $50 per radio |
| Funding | General fund |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Village Board, Fire Department |
| Status | The project has not been started by is still a priority for the community |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | MAINTAIN GOOD STANDING WITH THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the community will continue to participate and maintain compliance in the NFIP, this project is no longer considered a mitigation action by FEMA |

# COMMUNITY PROFILE

# CITY OF WAHOO

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table WHO.1: City of Wahoo Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Melissa Harrell | City Administrator/Treasurer | City of Wahoo |
| Cody Hull | Fire Chief | Wahoo Fire and Rescue |

## LOCATION AND GEOGRAPHY

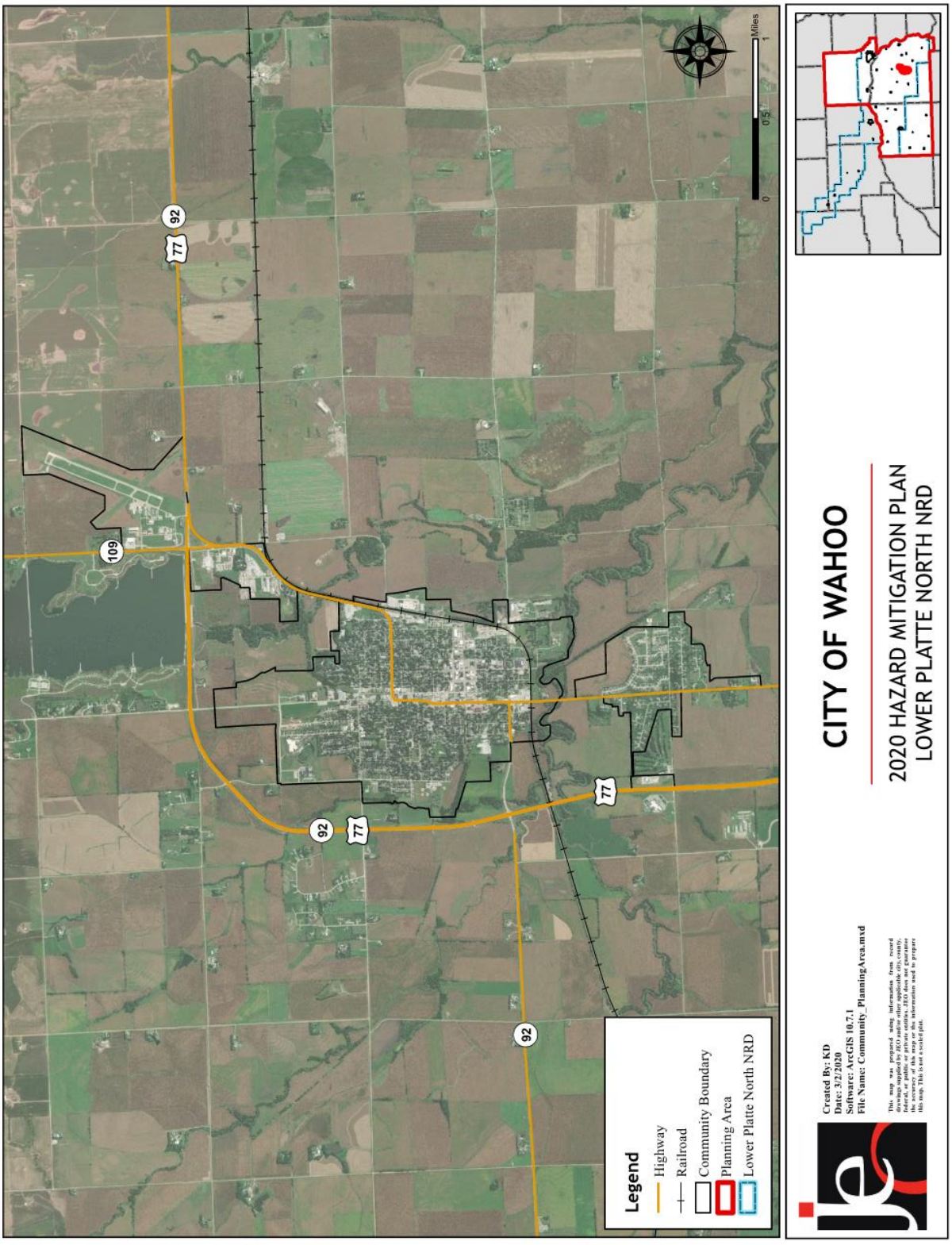
The City of Wahoo is in the central portion of Saunders County and covers an area of 2.92 square miles. It is in the rolling hills region of Nebraska, surrounded by agricultural land used primarily for row crop production and pasturing.

## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Wahoo's major transportation corridors include US Highway 77 and Nebraska State Highways 92 and 109. US Highway 77 is traveled by a total annual average of 11,680 vehicles daily, 1,355 of which are trucks. Nebraska State Highway 92 is traveled by a total annual average of 4,350 vehicles daily, 425 of which are trucks. Nebraska State Highways 109 is traveled by a total annual average of 2,295 vehicles daily, 130 of which are trucks.[71] A Union Pacific Railroad rail line travels east to west through the city. The Wahoo Municipal Airport is located on the northeast edge of the city. It is a publicly owned facility. Highway 77 and 92, 1st Street, and Chestnut Street are the transportation routes of most concern in the city because they are the most heavily traveled. Concentrated chlorine is frequently transported along local routes to the water treatment facility and anhydrous ammonia is frequently transported to the local co-op. There is also a large fireworks storage facility just outside the city, indicating that incendiaries are also frequently transported along local routes.

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

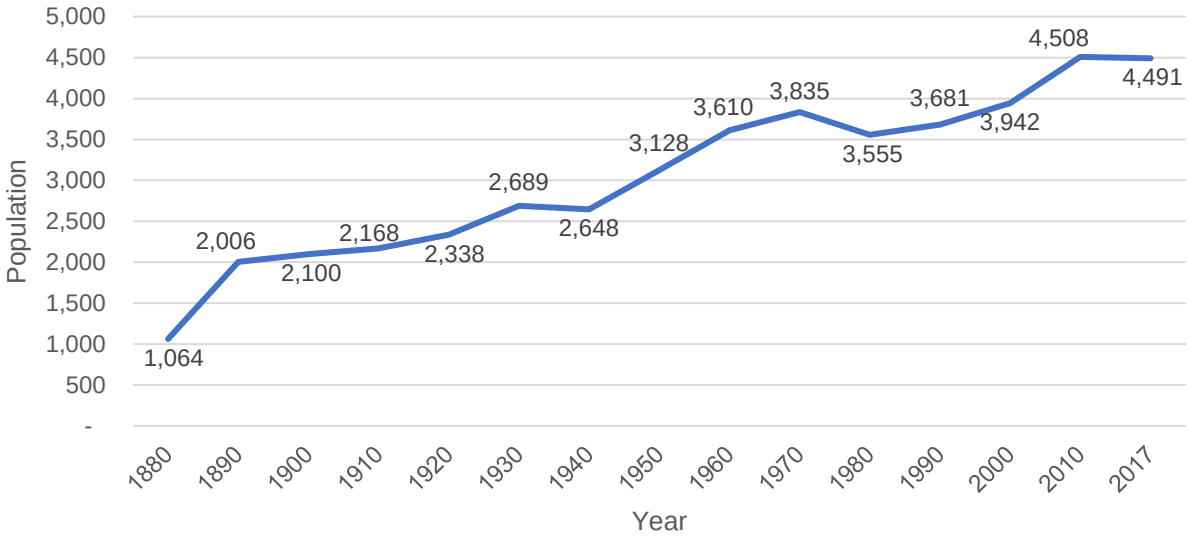
**Figure WHO.1: City of Wahoo**



## DEMOGRAPHICS

Wahoo's population decreased slightly from 4,508 people in 2010 to about 4,491 people in 2017, though the overall population trend shows growth. An increasing population indicates a stable tax base to fund mitigation projects. The city's population accounted for 21.4% of Saunders County's population in 2017.[72]

**Figure WHO.2: Population**




*Source: U.S. Census Bureau, 1880 - 2017*

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

- **Slightly younger.** The median age of Wahoo was 35.3 years old in 2017, compared with Saunders County's median of 41 years. Wahoo's population grew younger since 2010, when the median age was 38.8 years old. Wahoo had a slightly larger proportion of people under 18 years old (29.2%) than the county (25.0%).[2]
- **More ethnically diverse**. Since 2010, Wahoo grew less ethnically diverse. In 2010, 5.9% of Wahoo's population was Hispanic or Latino. By 2017, about 3.5% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Wahoo (16.1% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[73]

72 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

73 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

## EMPLOYMENT AND ECONOMICS

The City of Wahoo's economic base is primarily educational services, and health care and social assistance. In comparison to Saunders County, Wahoo's economy had:

- **Similar mix of industries.** Three major employment sectors, accounting for 10% or more of employment each, were: manufacturing; retail trade; and educational services, and health care and social assistance.[3]
- **Lower per capita income.** Wahoo's per capita income in 2017 ($25,703) was about $5,460 lower than the county ($31,163).[3]
- **Slightly fewer commuters.** About 48.4% of workers in Wahoo commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 40.3% of workers in Wahoo commuted 30 minutes or more to work, compared to about 43.2% of county workers.[74]

### MAJOR EMPLOYERS

Major employers in the community include the Saunders Medical Center, Wahoo Public Schools, ME Collins Contracting Company, and Saunders County. A number of residents commute to the nearby community of Lincoln, Omaha, and Fremont for work.

## HOUSING

In comparison to Saunders County, Wahoo's housing stock was:[75]

- **Similarly aged.** Wahoo had a similar share of housing built prior to 1970 than the county (52.4% compared to 51.8%).
- **Less mobile and manufactured housing.** Wahoo had no mobile or manufactured housing, compared to the county with 2.5%.
- **More renter-occupied**. About 35.3% of occupied housing units in Wahoo were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 8.8% of Wahoo's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A

74 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

75 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

In the past five years the Wahoo State Bank was demolished after a large fire. Old locations for Subway and Runza were also demolished. Three cell towers were added to the city and an old cell tower was moved. A new building to house the Wahoo State Bank was built, along with the expansion or relocation of nine businesses in town, and the addition of two new businesses. The Wahoo Municipal Airport expanded its hanger, Wahoo High School renovated its building, and the Saunders Medical Center renovated its exam room and enclosed its ambulance bay. The Lower Platte North NRD completed construction of an education building. One new cabin, 70 new homes, and four new duplexes were also constructed. In 2019, 25 new home permits were issued.

Wahoo's population has been growing, largely due to its reputable school system, recreation opportunities, and location near the large metropolitan communities of Lincoln and Omaha. No official plans are in place for new housing, but the local planning team expects to see further development just south of the elementary school or along the Highway 77/92 Expressway. In early 2020 the city had already allowed for 14 new home permits, all of which were infill properties. The Wahoo Municipal Airport is also expected to continue to infill the airport with new facilities.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

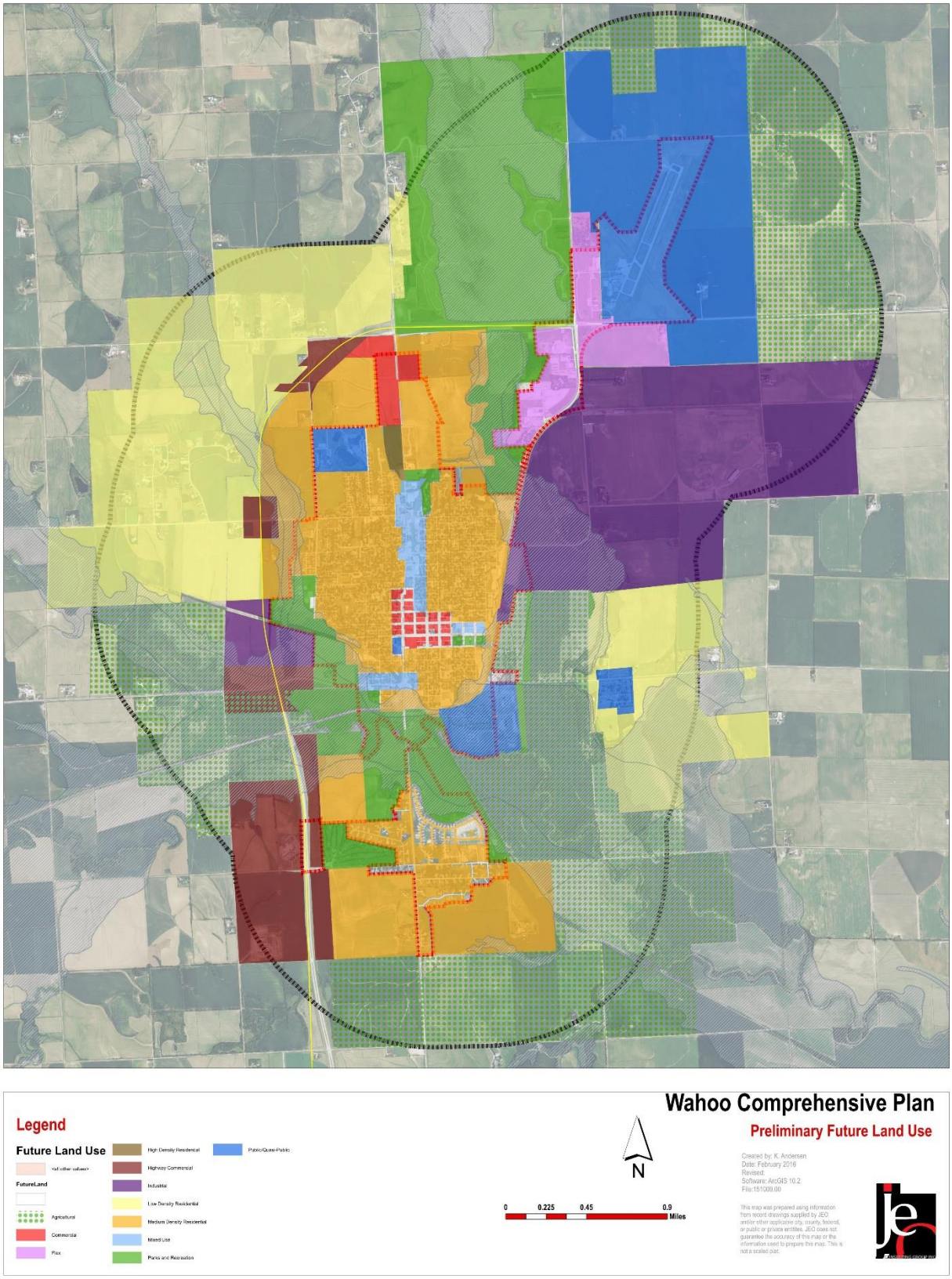
**Table WHO.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 1,810 | $217,621,187 | 67 | 3.7% | $14,021,445 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[76]

76 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

**Figure WHO.3: Future Land Use Map**



# CRITICAL INFRASTRUCTURE

## 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 11 fixed hazardous chemical storage sites within two miles of Wahoo. The following table lists these sites. Additionally, Ka-Boomers stores a significant number of fireworks just outside the city.

**Table WHO.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| Frontier Co-op Aerial Spraying | 1566 County Road M | No |
| Midtown Amoco | 703 N Chestnut St | No |
| NDOT Wahoo Yard | 2311 Aspen St | No |
| Nebraska Ash | 1511 County Road 15 | No |
| Omaha Steel Castings Co | 921 E 12th St | Yes |
| Oop Inc | 600 N Orange St | No |
| Oop Inc | 462 E 5th St | Yes |
| Oop Inc Bulk Propane Plant | County Roads 17 & I | No |
| Otte Oil Co Bulk Plant | 202 W 7th St | No |
| Windstream Communications | 640 N Broadway St | No |
| Zimmerman Oil Co | 544 N Pine | No |

*Source: Nebraska Department of Environment and Energy, 2019*[77]

Chemical storage sites are a concern for the city because Frontier Co-op is near the airport, Omaha Steel Castings Company is near the Wahoo Light Plant, and Windstream Communications in near City Hall, making each of these critical facilities vulnerable during a fixed site spill. Local residents are not educated on the threat and appropriate response to spills. The Wahoo Fire Department has sufficient protective gear and training to respond to a spill.

## CRITICAL FACILITIES

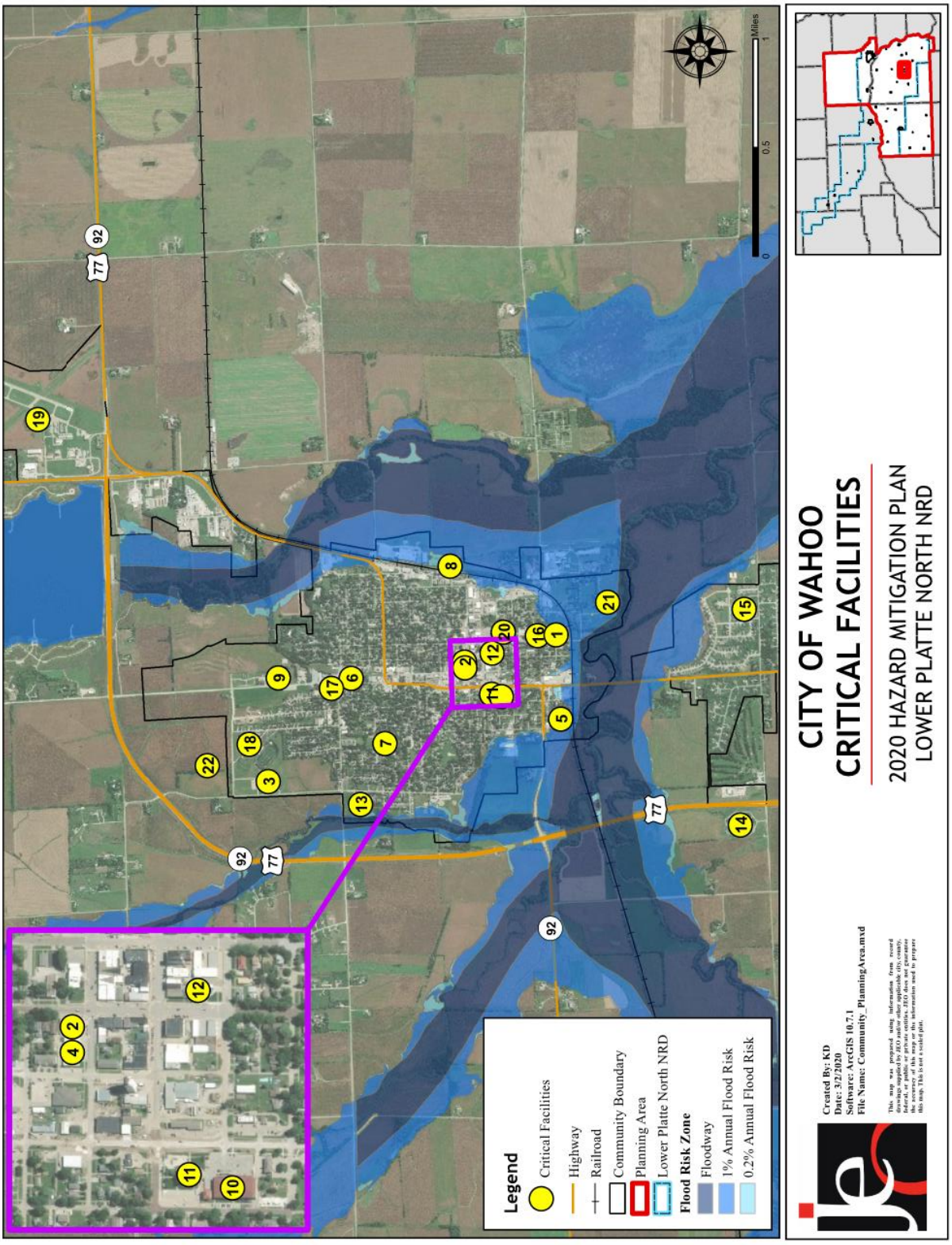
The planning team identified critical facilities necessary for the City of Wahoo's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community. In addition, critical facilities include all wells and lift stations. All wells and lift stations have backup power capability.

77 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Table WHO.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Bishop Neumann High School | No | No | No |
| 2 | City Hall and Wahoo Police Department | No | No | No |
| 3 | Elementary School | Yes | No | No |
| 4 | Fire Department | No | Yes | No |
| 5 | Half Pints Childcare & Preschool | No | No | No |
| 6 | Happy Hearts Daycare & Preschool | No | No | No |
| 7 | Liberty House Assisted Living | No | No | No |
| 8 | Municipal Light & Water Plant | No | Yes | No |
| 9 | Region V Services | No | No | No |
| 10 | Saunders County Correctional Facility | No | Yes | No |
| 11 | Saunders County Courthouse and Saunders County Sheriff's Department/EOC | No | Yes | No |
| 12 | Saunders County Public Transportation Department | No | No | No |
| 13 | Saunders House Assisted Living | No | Yes | No |
| 14 | Saunders Medical Center | No | Yes | No |
| 15 | South Haven Nursing Home | No | Yes | No |
| 16 | St. Wenceslaus Parochial School | No | No | No |
| 17 | US Army National Guard Armory | Yes | Yes | No |
| 18 | Wahoo Middle & High School | Yes | No | No |
| 19 | Wahoo Municipal Airport | No | No | No |
| 20 | Wahoo Senior Center and Civic Center | No | No | No |
| 21 | Wastewater Treatment Plant | No | Yes | Yes |
| 22 | Water Tower | No | Yes | No |

**Figure WHO.4: Critical Facilities**



## HISTORICAL OCCURRENCES

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

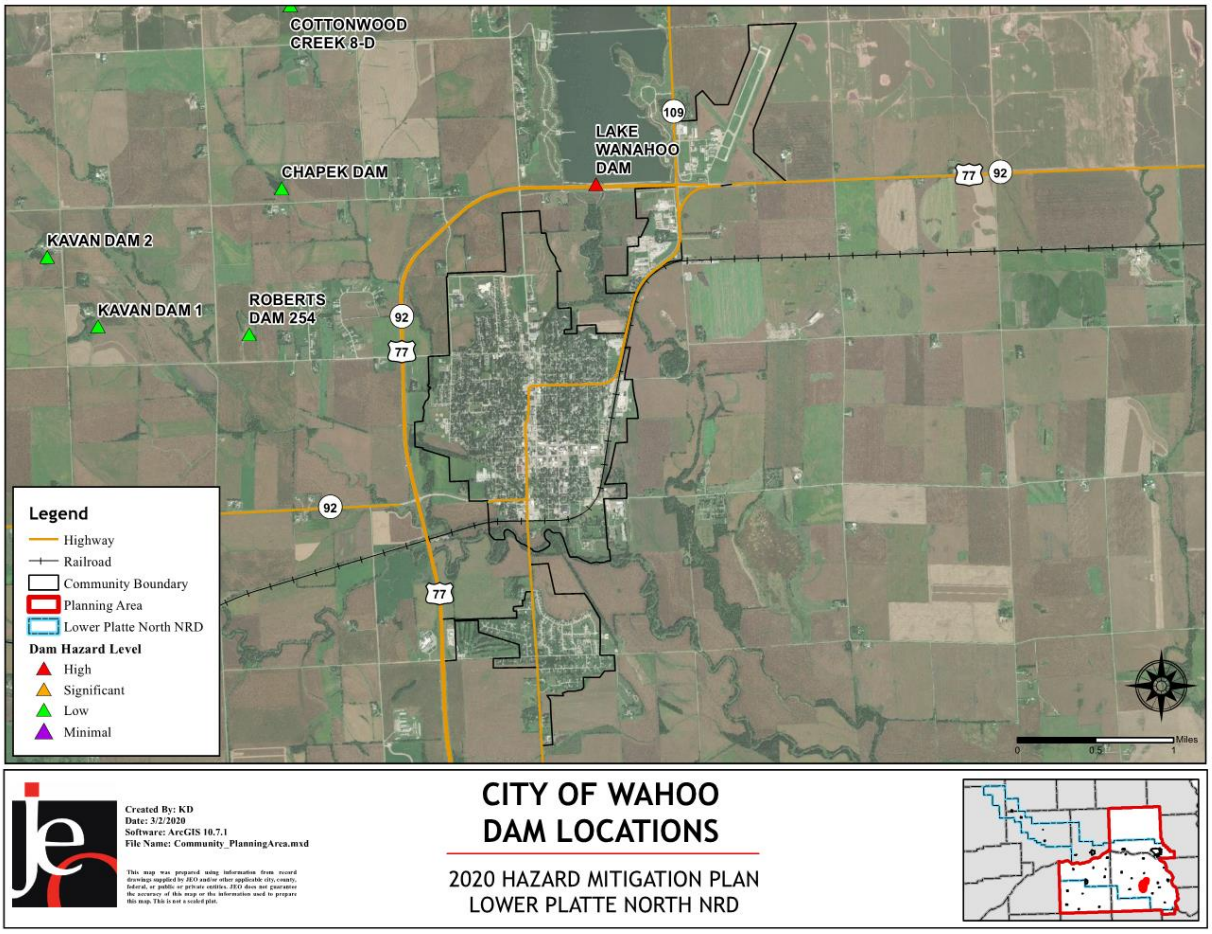
## HAZARD PRIORITIZATION

The hazards discussed in detail below were selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### DAM FAILURE

The Lake Wanahoo Dam, located just north of Wahoo, would have large impacts on the community if it were to fail. The high hazard dam, shown on the following figure, was completed in 2010 and provides flood risk reduction on Sand Creek for Wahoo, Ashland, and Ithaca. The dam does not have a history of failure. LPNNRD is responsible for maintaining the dam, including an EAP in case of dam failure.

**Figure WHO.5: Dam Locations**



## FLOODING

Although not identified as a top hazard for the community, the city does have a floodplain so it should be discussed. The floodplain for the city is primarily located along Sand Creek and Wahoo Creek. In 2019 flooding occurred on trails and scouring occurred on the bridge over Wahoo Creek. Highway 92 east and west of the four-way stop light was shut down until flood waters receded. No major flood damage occurred to homes or businesses as very few structures are located in the floodplain. Most of the businesses located in the floodplain have either been elevated or have some sort of protection. The Lower Platte North NRD is planning a series of dam along Wahoo Creek, which should reduce the floodplain in the future.

## HAIL

Hail events in the community are a concern because of the potential for property damage and the resulting low availability of repair materials, contractors, and supervisory staff for contracted repair work. In 2011 golf ball sized hail, 1.75 inches in diameter, caused tree and property damage throughout town. None of the community's critical facilities are fitted with hail resistant building materials though they are all insured against hail damage. A local tree board monitors the condition of trees in the city to mitigate tree damage during storms.

## HIGH WINDS

High winds are a concern for the city because of their potential to down power lines and damage homes, buildings, and trees. There have been no severe high wind events to date though they are likely to occur in the region. In case of a power outage there is a data backup system for digital municipal records. There are no safe rooms in the community in case of severe weather. Community members can seek shelter in the basement of the Wahoo Public Library, the Wahoo City Hall, the Wahoo Civic Center, or in their homes. County Emergency Management offers text alerts for emergencies and severe weather though the system has not been well implemented. No education is done in Wahoo on high wind safety and hazard mitigation.

## SEVERE THUNDERSTORMS

Severe thunderstorms occur annually in the region, which impacts ranging from downed trees to hail damage to power outages. The city is concerned about lightning safety and educating the public, heavy rain and driver education, and the protection of electronic response and notification systems from lightning damage. A lightning strike in 2007 set fire to a house, causing $100,000 in property damage. Critical municipal records are protected from power surges with surge protectors on electronic devices. Critical facilities do not have backup generators in case of a power failure, though City Hall and the Fire Hall need them. Approximately 85% of power lines are not buried, making them vulnerable during severe storms. Though a nuisance notification process is in place to help eliminate hazardous trees, some trimming and maintenance needs to be done around power lines in the city.

## SEVERE WINTER STORMS

Severe winter storms occur yearly in the region, with storms resulting in six to 12 inches of snowfall in a night occurring every two to three years. In January of 2009, near blizzard conditions, strong winds, and drifting snow caused a 14-vehicle pile-up east of Wahoo resulting in two injuries. In another severe storm in December 2009, 8 to 12 inches of snow fell in the region, closing Highways 77 and 92 near Wahoo. The primary concern regarding winter storms in Wahoo is

maintaining safe transportation routes in and around the city for travelers and for first responders on rescue calls, particularly on Highways 77 and 92. The city uses designated snow routes and snow fences to aid snow removal in the community. The Wahoo Street Department, with assistance from Wahoo Utilities employees, are responsible for snow removal in the community using six dump trucks with plowers and sander, a snow blower, a dresser loader, a motor grader, and front-end loader, and a skid loader. Their snow removal resources are aging, with the majority produced in the late 1990s, and will soon need to be updated or replaced. The Nebraska Department of Transportation removes snow on Highways 77, 92, and 109. Any other roads outside of the city limits are maintained by Saunders County.

### TORNADOES

There have been no tornadoes in Wahoo, but a future event could be catastrophic, particularly because there are no public safe rooms. Also, many people do not realize that the sirens are only meant to warn those outdoors of a possible tornado. Residents seeking shelter can go to the basement of the Wahoo Public Library, the Wahoo City Hall, the Wahoo Civic Center, or in their homes. There are four sirens in Wahoo, which cover the entire city except for the Lake Wanahoo Recreation Area. The sirens are activated by the Saunders County Dispatch. County Emergency Management offers emergency and severe weather text alerts though this system has not been well implemented. In case of a disaster all critical digital municipal records have a backup system, but some paper records have not been duplicated or backed up. Mutual Aid Agreements are in place with the Nebraska Municipal Power Pool, with area fire and rescue departments, and with the Nebraska Water and Wastewater Agency Response Network.

## GOVERNANCE

Wahoo is governed by a mayor and a six-member city council; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Administrator/Treasurer
- Clerk
- Attorney
- Utilities General Manager
- Police Department
- Volunteer Fire Department
- Sewage & Water Plant Operator
- Street Commissioner
- Street Superintendent
- Building Inspector
- Cemetery Commissioner
- Purchasing Officer
- Recreation Department
- Economic Development Department
- Library Director
- Engineer
- Board of Public Works
- EMS 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 WHO.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | Yes |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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 | Yes |
| | General Obligation Revenue or Special Tax Bonds | Yes |
| | Other (if any) | |
| Education & | Local citizen groups or non-profit organizations focused on environmental protection, emergency | Yes |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Outreach Capability | preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc. | |
| | 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 | Yes |
| | Other (if any) | |

**Table WHO.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Moderate |
| Staff/expertise to implement projects | High |
| Community support to implement projects | Moderate |
| Time to devote to hazard mitigation | Low |

## PLAN INTEGRATION

Wahoo has a comprehensive plan (2017), an emergency operations plan (2019), a zoning ordinance (annually), building code (2009), floodplain regulations (2016), and subdivision regulations (2017). The city's comprehensive plan has goals that are consistent with the hazard mitigation plan and discusses the floodplain. It also contains directs development away from chemical storage sites, major transportation routes, dam inundation areas, and the floodplain. The plan is updated every 10 years. Wahoo is an annex to Saunders County emergency operations plan. The plan discusses communications, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. In two to five years, the city would like to create its own stand along emergency operations plan. The zoning ordinance encourages maintain open space within the floodplain, limits population density in the floodplain, control development along major transportation routes and accounts for current population trends. Zoning also requires new developments to have the same pre-development stormwater runoff rate as post development stormwater runoff rate. The city uses the 2009 International Building Code as its building code. Wahoo's municipal budget has increased over recent years and allows for some new capital improvement projects. No other examples of plan integration were identified. However, 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

## ONGOING AND NEW MITIGATION ACTIONS

| MITIGATION ACTION | ACQUIRE HIGH RISK FLOODING PROPERTY |
|---|---|
| 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. Repetitive loss structures are typically highest priority. |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Varies by number of properties |
| Funding | General funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | City Administrator, Building and Zoning |
| Status | Not started |

| MITIGATION ACTION | ADDITIONAL PERSONNEL FOR EMERGENCY RESPONSE |
|---|---|
| Description | Identify and train personnel and citizens for emergency response. Plan for redundancy for every emergency position |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $50,000 |
| Funding | General funds, Southeast Community College partnership |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | City Administrator, City Emergency Coordinator |
| Status | Planning stage, considering pursuing a partnership with SCC staff and students to train extra personnel for emergency response |

| MITIGATION ACTION | ASSESSMENT OF ALL UTILITY POLES IN THE CITY |
|---|---|
| Description | An evaluation of the condition of all the utility poles in the city needs to be done in order to identify weak poles that may be more likely to be impacted during a severe weather event |
| Hazard(s) Addressed | Tornadoes, high winds, severe thunderstorms, severe winter storms |
| Estimated Cost | Staff time |
| Funding | Utility revenue |
| Timeline | 1-2 years |
| Priority | High |
| Lead Agency | Utility Department, Utility General Manager |
| Status | New action. Not started |

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. Generators are needed for the wastewater treatment plan, city hall, and the fire hall. Portable generators are needed for schools, nursing homes, and other critical facilities |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by size |
| Funding | Utility revenue, General funds |
| Timeline | 1-2 years |
| Priority | High |
| Lead Agency | Utility General Manager, Board of Public Works, City Administrator |
| Status | New action. Not started |

| MITIGATION ACTION | CAPITAL IMPROVEMENTS PROGRAM (CIP) |
|---|---|
| Description | Create a CIP to designate funding to priority projects such as hazard mitigation |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | General funds and utilities funds |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | City Administrator, Utilities General Manager |
| Status | The city is in the process of developing a comprehensive CIP |

| MITIGATION ACTION | CIVIL SERVICE IMPROVEMENTS |
|---|---|
| Description | Provide additional equipment to respond to hazards and emergencies, such as ATVs |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $50,000; varies depending on the equipment needed |
| Funding | General funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | City Council, Wahoo Police Department, Wahoo Fire and Rescue, Airport Authority |
| Status | Ongoing, equipment is purchased as needed. The need for a mobile command center for the Emergency Coordinator was recently identified |

| MITIGATION ACTION | COMMUNITY EDUCATION AND AWARENESS |
|---|---|
| Description | Develop a week-long program on tornado safety for the schools and purchase weather radios for schools without them |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $1,500 |
| Funding | General funds, National Weather Service |
| Timeline | 1 years |
| Priority | High |
| Lead Agency | City staff, Wahoo Fire and Rescue |
| Status | Not started, there is interest especially in purchasing weather radios for the schools, but no progress has been made on this project to date |

| MITIGATION ACTION | COMMUNITY RATING SYSTEM |
|---|---|
| Description | Pursue participation in the National Flood Insurance Program's Community Rating System program to mitigation flooding and reduce flood insurance premiums in the city |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Staff time |
| Funding | General funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | City Administrator, Zoning Administrator |
| Status | Not started, there is interest in becoming a CRS community as part of a larger flood mitigation strategy |

| MITIGATION ACTION | COMPREHENSIVE DISASTER / EMERGENCY RESPONSE PLAN |
|---|---|
| Description | Use the HMP and its findings to revise and improve the Wahoo Comprehensive Disaster and Emergency Response Plan, including providing necessary services during flooding. Develop a schedule for updating the plan |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $10,000 |
| Funding | General funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | City Administrator, City Council, Mayor, other departments as needed |
| Status | The city has an emergency response plan as an annex to the Saunders County plan, but would like to have their own standalone plan |

| MITIGATION ACTION | ELECTRIC DISTRIBUTION SYSTEM MASTER PLAN |
|---|---|
| Description | This plan will evaluate Wahoo's current electric distribution system, primarily focusing on the circuitry and improvements that could be made to ensure as much redundancy of service as possible. Part of the plan may incorporate some other projects like evaluation of the condition of poles or identification of those areas of lines that should be placed underground. It will likely identify locations where switching gear can be installed that will allow the city to feed an area if there were a damaged line or power outage. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $50,000 - $75,000 |
| Funding | Utility funds |
| Timeline | 2 years |
| Priority | High |
| Lead Agency | Utility General Manager |
| Status | New action. In progress with a contracted engineer |

| MITIGATION ACTION | GAS INFRASTRUCTURE GPS |
|---|---|
| Description | GPS/geocode the locations of gas infrastructure as required by new federal regulations. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | Utility revenue |
| Timeline | 1-3 years |
| Priority | High |
| Lead Agency | Utility General Manger |
| Status | New action. In progress, the city has started to geocode locations in the fall of 2019 |

| MITIGATION ACTION | IMPLEMENT DROUGHT WATER CONSERVATION REGULATIONS |
|---|---|
| Description | Research and develop a program to conserve water use during drought. Water use restrictions could limit lawn watering, car washing, or water outsourcing |
| Hazard(s) Addressed | Drought |
| Estimated Cost | Staff time |
| Funding | Utilities funds |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Board of Public Works |
| Status | This project has not been started because drought has not been a priority to date but it could be pursued in the future |

| MITIGATION ACTION | IMPROVE EMERGENCY TEXT WARNING SYSTEM |
|---|---|
| Description | Conduct a public outreach campaign in partnership with county emergency management to promote the AlertSense emergency text service to improve communication to residents and businesses during and following emergencies. Add Reverse911 capabilities. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $5,000 |
| Funding | General funds |
| Timeline | 1 years |
| Priority | High |
| Lead Agency | City Council, Saunders County Emergency Management, Wahoo Emergency Coordinator |
| Status | In process, the city has already bought into the AlertSense program with the county but public outreach needs to be done to increase participation |

| MITIGATION ACTION | MUTUAL AID |
|---|---|
| Description | Build and maintain interlocal agreements with other communities to provide mutual aid during disasters and to meet participation requirements for the National Incident Management System |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | General funds, Utilities funds |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Utilities General Manager |
| Status | Mutual aid agreements are in place, but an ongoing effort will focus on maintaining those agreements |

| MITIGATION ACTION | POWER, SERVICE, AND ELECTRICAL LINES |
|---|---|
| Description | Implement a plan for burying a percentage of overhead power lines each year to reduce the loss of power incurred from downed lines. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines |
| Hazard(s) Addressed | High winds, severe thunderstorms, severe winter storms |
| Estimated Cost | $5,000,000 |
| Funding | Utility funds |
| Timeline | Ongoing |
| Priority | Medium |
| Lead Agency | Utility General Manager, City Council, Board of Public Works |
| Status | Ongoing. New construction is required to have buried power lines. Old power lines will not be buried at this time |

| MITIGATION ACTION | REDUNDANT GAS AND UTILITY SYSTEM |
|---|---|
| Description | Construct additional gas utility mains to provide redundant gas supply to the city |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Unknown |
| Funding | Utility funds |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Board of Public Works, Utilities General Manager |
| Status | Ongoing, some areas of town have been completed but other areas are still in progress |

| MITIGATION ACTION | REVIEW AND UPDATE SECURITY PROCEDURE AND EQUIPMENT |
|---|---|
| Description | Install flood protection barriers where appropriate, renovate buildings for strength and safety, and otherwise protect critical facilities |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies, as needed |
| Funding | Board of Public Works or Utilities funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Board of Public Works |
| Status | Not started, the wastewater treatment plan in particular has been identified as needing improvements because it is in the floodplain and has been damaged repeatedly |

| MITIGATION ACTION | SAFE ROOMS AND STORM SHELTERS |
|---|---|
| Description | Identify current structures that could be retrofitted to include a storm shelter and identify areas where new storm shelters would be beneficial, such as the Wahoo Municipal Airport |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $1,000/person capacity |
| Funding | General funds |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | City Emergency Coordinator |
| Status | Planning stage, the Wahoo Municipal Airport has been identified as a priority area for a new storm shelter |

| MITIGATION ACTION | SEWER SYSTEM MASTER PLAN |
|---|---|
| Description | Complete a sewer system master plan to prioritize areas of improvement in the city |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Staff time |
| Funding | Utilities funds |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | Board of Public Works, Utilities General Manager |
| Status | A master plan is in progress that will outline how the sewer system will be updated to serve annexed areas of Wahoo and to identified areas that need to be updated |

| MITIGATION ACTION | STORMWATER DRAINAGE STUDY AND IMPROVEMENTS |
|---|---|
| Description | Perform a stormwater drainage study to identify and prioritize drainage and flood mitigation projects then improve areas identified by the study, such as the ditch near Chestnut Street and the railroad |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | Study and design about $75,000; construction costs depend on the study's findings |
| Funding | General funds |
| Timeline | 1-3 years |
| Priority | Medium |
| Lead Agency | City Administrator, City Council, Streets Department |
| Status | In process, the city has approached an engineering firm to start this project. A study has been done for the swimming pool and baseball field but there is need for a comprehensive study |

| MITIGATION ACTION | TREE PLANTING AND MAINTENANCE PLAN |
|---|---|
| Description | Develop an orderly system of tree planting and maintenance |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $4,000/year |
| Funding | Re-tree grant funds |
| Timeline | 5+ years |
| Priority | Medium |
| Lead Agency | City Administrator, Parks and Recreation Department Director, Streets Department |
| Status | Ongoing, the right-of-way trees are in particular need for a project, especially those trees abutting private property. All of the ash trees on public, city-owned and maintained land have been removed. Most tree removal on private property is done using the nuisance and abatement process |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | CABLE TV INTERRUPT WARNING SYSTEM |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This project is outdated. Public notification with text notification and sirens is sufficient |

| MITIGATION ACTION | CONTINUE FLOOD REGULATIONS |
|---|---|
| Hazard(s) Addressed | Flooding |
| Status | This is no longer considered a true mitigation action. The city will continue to enforce all floodplain regulations |

| MITIGATION ACTION | WAHOO CREEK WATERSHED DAMS |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This project is under the jurisdiction of LPNNRD |

| MITIGATION ACTION | EVALUATE AND IMPROVE BUILDING STANDARDS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | Higher building standards are already regularly reviewed and adopted |

| MITIGATION ACTION | IMPLEMENT DISCLOSURE REQUIREMENTS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This project is not a priority for the city |

| MITIGATION ACTION | LIST POTENTIAL FUNDING SOURCES |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This project is not necessary, funding sources will be identified as needed |

# COMMUNITY PROFILE

# VILLAGE OF WESTON

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table WES.1: Village of Weston Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Bruce Arp | Village Chairperson | Village of Weston |

## LOCATION AND GEOGRAPHY

The Village of Weston is in the central portion of Saunders County and covers an area of 0.22 square miles. It is in the rolling hills region of Nebraska, surrounded by agricultural land used primarily for row crop production and pasturing.

## TRANSPORTATION

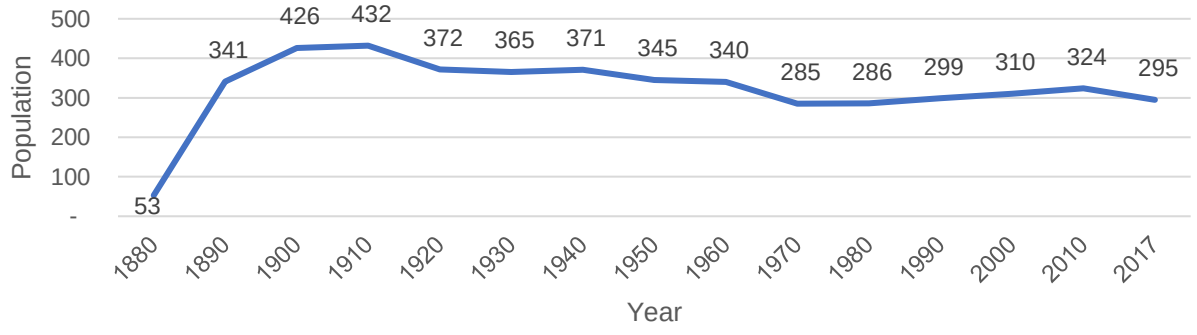
Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Weston's major transportation corridor is Nebraska State Highway 92, located about half a mile north of the village. It is traveled by a total annual average of 4,725 vehicles daily, 475 of which are trucks.[78] A Union Pacific Railroad rail line passes through the community, traveling east to west.

The transportation routes of most concern for Weston are State Highway 92, North T Corner Road, and County Road J. These routes are the most heavily traveled. Anhydrous ammonia, liquid fertilizer, pesticides, and herbicides are regularly transported along them.

## DEMOGRAPHICS

Weston's population declined slightly from 324 people in 2010 to about 295 people in 2017, though the overall trend suggests a stable population. This will provide a steady tax base to fund mitigation projects. The village's population accounted for 1.4% of Saunders County's population in 2017.[79]

**Figure WES.1: Population**

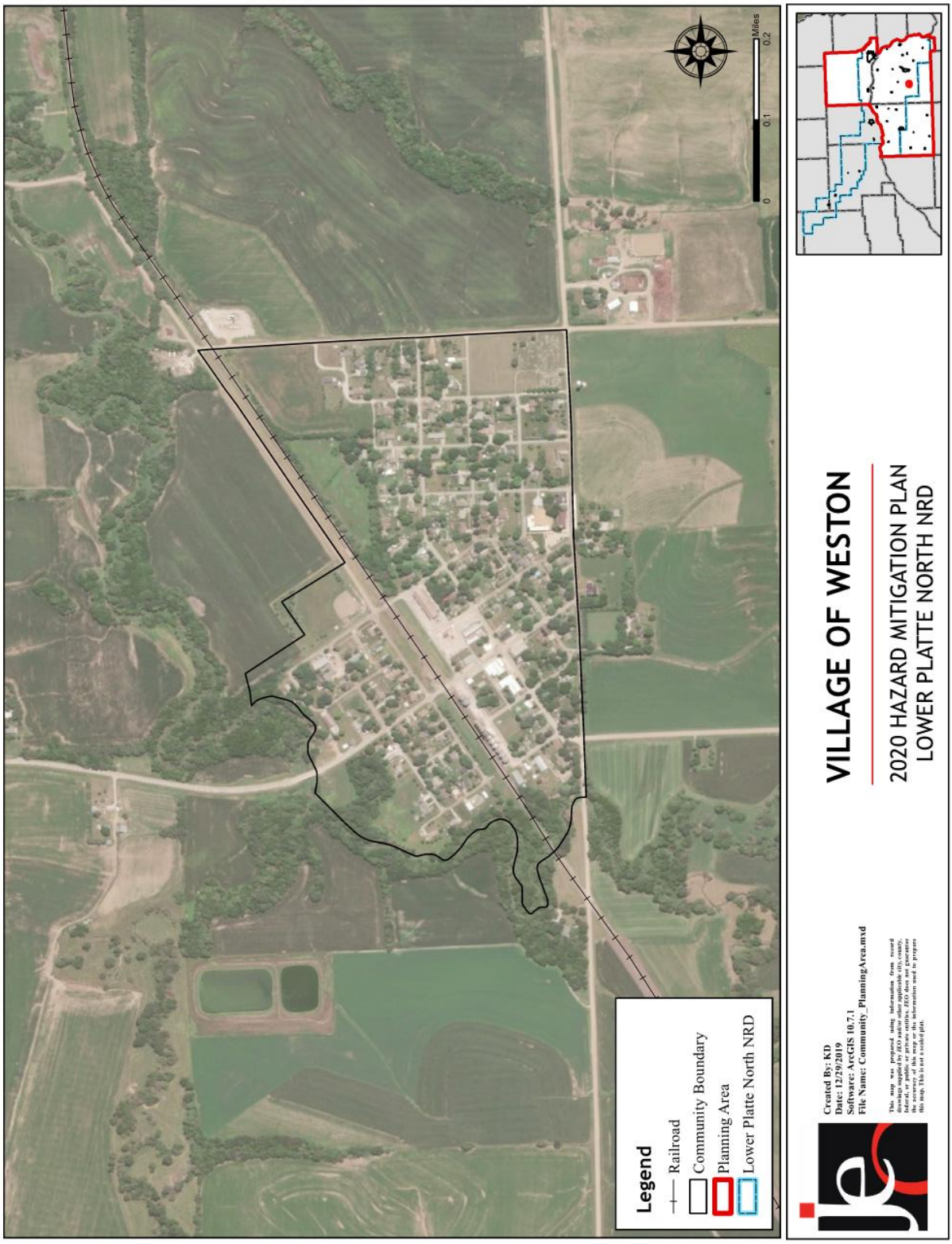



*Source: U.S. Census Bureau, 1880 - 2017*

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

79 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

**Figure WES.2: Village of Weston**



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

- **Similarly aged.** The median age of Weston was 46.1 years old in 2017, compared with Saunders County's median of 41 years. Weston's population grew older since 2010, when the median age was 40.4 years old.[2]
- **Less ethnically diverse**. Since 2010, Weston grew slightly more ethnically diverse. In 2010, 0.3% of Weston's population was Hispanic or Latino. By 2017, about 0.7% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **More likely to be below the federal poverty line.** The poverty rate in Weston (24.4% of people living below the federal poverty line) was higher than the county's poverty rate (9.0%) in 2017.[80]

## EMPLOYMENT AND ECONOMICS

The Village of Weston's economic base is a mixture of industries. In comparison to Saunders County, Weston's economy had:

- **Smaller mix of industries.** Two major employment sectors, accounting for 10% or more of employment each, were: retail trade; and educational services, and health care and social assistance.[3]
- **Lower per capita income.** Weston's per capita income in 2017 ($22,336) was about $8,827 lower than the county ($31,163).[3]
- **Similar amount of commuters.** About 38.3% of workers in Weston commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 39% of workers in Weston commuted 30 minutes or more to work, compared to about 43.2% of county workers.[81]

### MAJOR EMPLOYERS

Frontier Co-op is the major employer in Weston. A large percentage of residents commute to work in the nearby cities of Fremont, Lincoln, Omaha and Wahoo.

## HOUSING

In comparison to Saunders County, Weston's housing stock was:[82]

- **Older.** Weston had a larger share of housing built prior to 1970 than the county (66.1% compared to 51.8%).
- **More mobile and manufactured housing.** Weston had a larger share of mobile and manufactured housing (9.9%) compared to the county (2.5%). Mobile homes are located throughout the village.

80 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

81 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

82 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

- **Slightly less renter-occupied**. About 17.7% of occupied housing units in Weston were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** Approximately 12.7% of Weston's housing units were vacant compared to 14.4% of units in Saunders County.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

Six new houses, newly platted, were built on the northeast side of the village in the past five years. Two new businesses also opened over this time frame. Weston's population has been stable since about 1970, with population growth restricted by the lack of available housing and limited local employment opportunities. There are currently no plans in place for new housing developments or businesses in the village.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

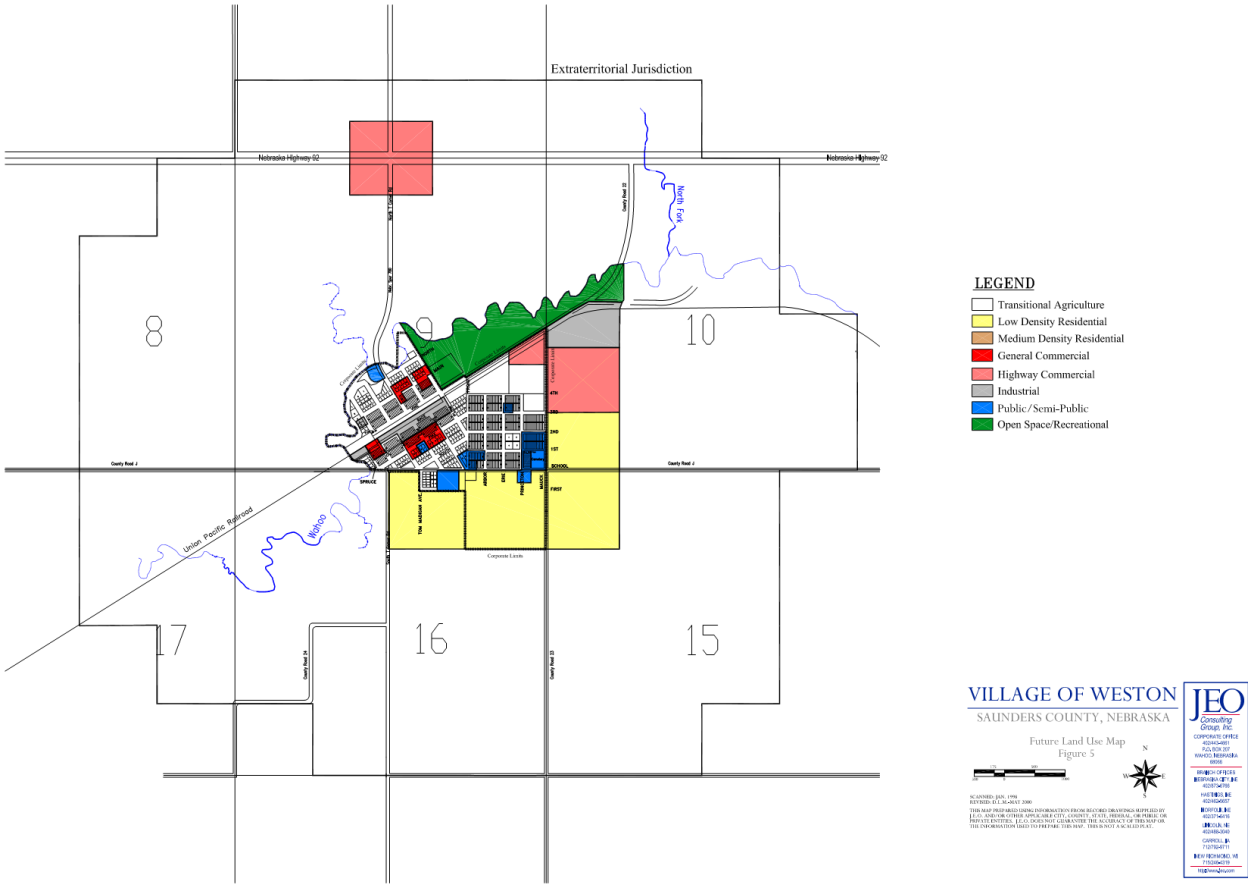
**Table WES.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMPROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 153 | $8,669,290 | 9 | 5.9% | $406,260 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[83]

83 GIS Workshop/Saunders County Assessor. 2019. [Personal correspondence].

**Figure WES.3: Future Land Use Map**




## CRITICAL INFRASTRUCTURE

### 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 two fixed hazardous chemical storage sites within two miles of Weston. The following table lists these sites.

**Table WES.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/NO) |
|---|---|---|
| Frontier Co-op Company | 335 N Pine St | No |
| Oop Inc | S T Corner Rd | No |

*Source: Nebraska Department of Environment Energy, 2019*[84]

84 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

The community's main concerns regarding chemical fixed sites are anhydrous ammonia leaks and spills. A leak in an anhydrous ammonia tank caused injury and illness to the family living next to the tank. In addition to the chemical fixed sites listed in the table above, a facility owned by Frontier Co-op at the intersection Country Road 23 and Vine Street is a concern. The post office, village maintenance building, fire hall, school, and church are located near the Frontier Co-op on location on Pine Street. The Frontier Co-op location on Vine Street is a quarter of a mile from the village water tower and well. Vulnerable populations are also located in the vicinity of the two storage sites. Residents of Weston are not educated on the threat and appropriate response to chemical spills, and the local fire department does not have the proper protective gear and training to respond.

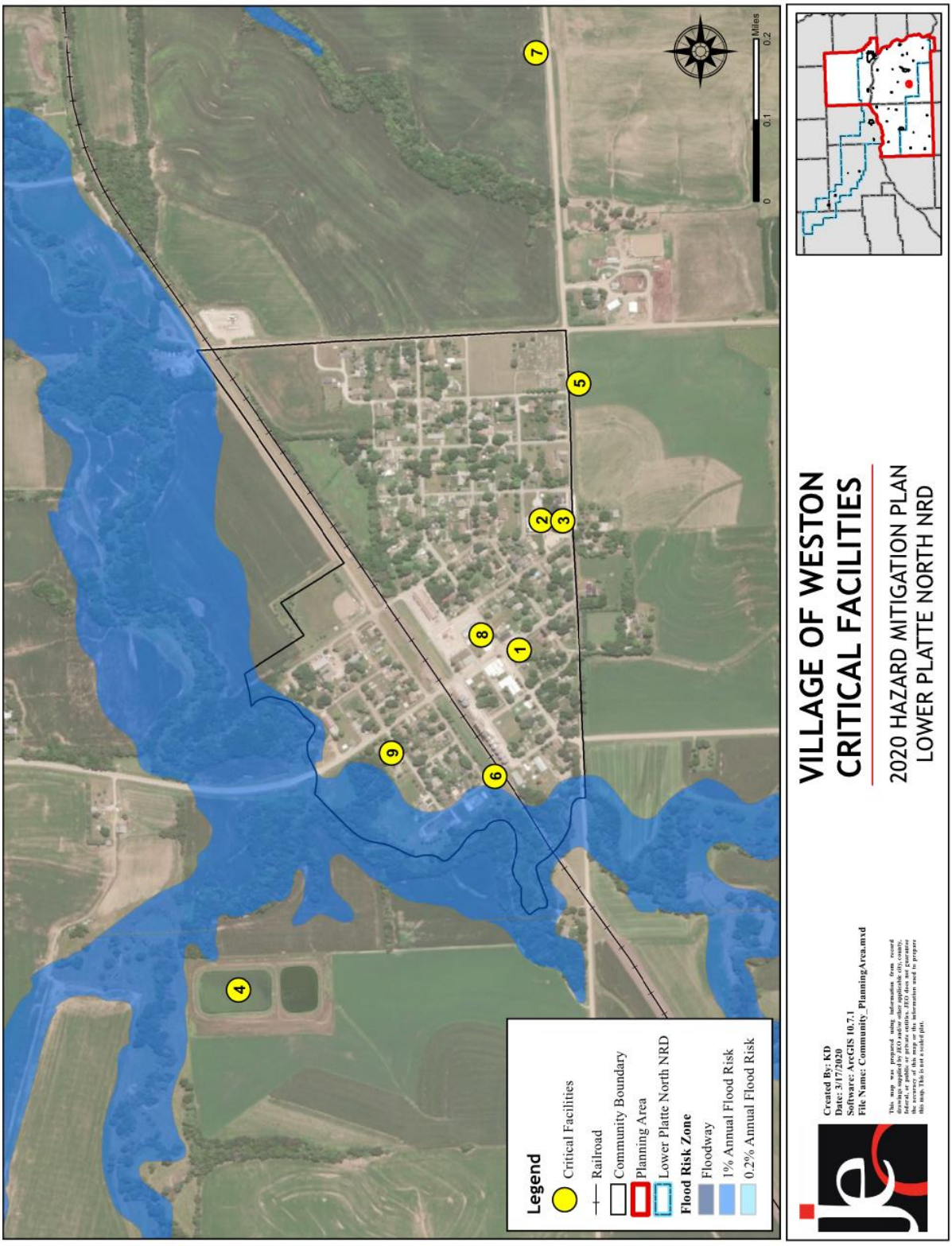
## CRITICAL FACILITIES

The planning team identified critical facilities necessary for the Village of Weston's disaster response and continuity of operations per the FEMA Community Lifelines guidance. The following table and figure provide a summary of the critical facilities for the community.

Table WES.4: Critical Facilities

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Fire Hall | No | No | No |
| 2 | St. Johns Nepomucene Catholic Grade School | No | No | No |
| 3 | St. John's Nepomucene Church | No | No | No |
| 4 | Wastewater Lagoons | No | No | No |
| 5 | Water Tower | No | No | No |
| 6 | Water Well #1 | No | No | No |
| 7 | Water Well #2 | No | Yes | No |
| 8 | Village Hall/Maintenance | No | No | No |
| 9 | Wastewater Lift Station | No | No | No |

**Figure WES.4: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### CHEMICAL FIXED SITES

There have been multiple leaks from mobile anhydrous tanks in and around the community at the surrounding co-op facilities. These leaks pose a community health threat, with one family already evacuated and treated for ammonia exposure. The entire community is at risk from chemical spills because sites are located in the east and central parts of town. Well #2 and the water tower are located near fixed chemical storage sites, putting the village's water at risk. Community members have not been educated about the threat of chemical spills and appropriate response measures. The fire department is not trained to respond to a chemical spill and does not have the appropriate gear.

### CHEMICAL TRANSPORTATION

Anhydrous ammonia is frequently transported to and from the local co-ops. There have been incidents of mobile anhydrous ammonia tanks leaking, both in town and other the northeast side of town. Another transportation incident occurred when a semi-tanker overturned with delivering anhydrous ammonia to a co-op facility, though no leak occurred. Highway 92, North T Corner Road, South T Corner Road, and the county roads surrounding Weston are all heavily traveled with vehicles transporting chemicals. The sewer lift station, well #2, water tower, village hall, and fire hall are all located along main transportation routes.

### FLOODING

Localized flooding occurs annually in Weston along the Wahoo Creek on the west and north side of town. A few houses have been flooded during these events, after the wastewater system was inundated with large amounts of water and backed up into basements. These events are usually flash floods caused by heavy rainstorms. These issues are further compounded by the village's poor stormwater drainage.

### HAIL

Hail has not caused damage to critical facilities, but the risk of future damage is a concern. All village critical facilities are insured for hail damage. Residents do not receive information regarding hail resistant building materials with building permits.

### HIGH WINDS

Weston usually experiences at least one high wind event every year. Straight line winds have caused a large amount of damage to power lines, causing power outages. Other impacts from high winds have included roof damage to the well houses. Municipal records are stored on paper

with no backup system, putting them at risk during power outages. Critical facilities were not damaged. In case of a severe weather event community members can seek shelter in their basements. The County Emergency Manager offers emergency text alerts but otherwise no outreach is done on high winds with community members.

### SEVERE WINTER STORMS

Weston experiences annual severe snow and ice storms. Severe winter storms are a concern because of power outages and road closures. Most power lines in Weston are not buried, making them vulnerable during severe winter storms. Snow removal is done by village maintenance and hired contracts with two snowplows on pickup trucks, one skid loader, and one backhoe. These resources are usually sufficient for the village's snow removal needs.

### TORNADOES

There has been no tornado in Weston, but a future occurrence could be catastrophic. Municipal records are stored on paper with no backup system, putting them at risk in a disaster. The County Emergency Manager maintains a warning siren in the village, activated by County Dispatch. They also offer emergency text alerts. The village does not offer education on tornado preparedness and response. There are no FEMA certified safe rooms in the community so in case of a severe weather event community members can seek shelter in their basements. In case of a disaster there are Mutual Aid Agreements in place with all surrounding fire departments.

## GOVERNANCE

The Village of Weston is governed by a five-member village board; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- Clerk/Treasurer
- Attorney
- Volunteer Fire Department
- Sewer/Water Commissioner
- Street Commissioner
- Electric Commissioner
- Maintenance
- Park Supervisor
- Planning Commission

## 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 WES.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | No |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | Yes |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | Yes |
| | Other (if any) | |
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | No |
| | Chief Building Official | No |
| | Civil Engineering | No |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | No |
| | Grant Manager | No |
| | Mutual Aid Agreement | Yes |
| | Other (if any) | |
| Fiscal Capability | 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 | Yes |
| | Water/Sewer Service Fees | Yes |
| | Development Impact Fees | Yes |
| | 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) | Yes |

| SURVEY COMPONENTS/SUBCOMPONENTS | YES/NO |
|---|---|
| Natural Disaster or Safety related school programs | No |
| StormReady Certification | No |
| Firewise Communities Certification | No |
| Tree City USA | No |
| Other (if any) | |

**Table WES.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Limited |
| Community support to implement projects | High |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Weston has a comprehensive plan (2001), emergency operations plan (2019), zoning ordinance (2001), building code, floodplain regulations, wellhead protection plan, and subdivision regulations (2001). The comprehensive plan, zoning ordinance, floodplain regulations, and subdivision regulations contain goals aimed at safe growth, direct development away from the floodplain, direct development away from chemical storage facilities, encourage the elevation of structures located in the floodplain, limit density in hazardous areas, and restrict subdivision of land within the floodplain. Weston is an annex in the Saunders County emergency operations plan. It contains information regarding; communication, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. The annual municipal budget is stayed the same over recent years and is limited to maintaining current facilities and minor upgrades or additions. No other examples of plan integration were identified. However, 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

### NEW MITIGATION ACTIONS

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Provide a backup generator for the village hall/maintenance building, water tower, lift station, water well #1, and water well #2 |
| Hazard(s) Addressed | High wind, severe thunderstorms, severe winter storms |
| Estimated Cost | Varies based on size |
| Funding | Utility Revenue |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village Board |
| Status | Planning stage, currently identifying generator options |

| MITIGATION ACTION | DREDGE LAGOONS |
|---|---|
| Description | Dredge the lagoons to improve capacity during flooding and heavy rain events |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $60,000 |
| Funding | Utility Revenue |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | Planning stage, have identified the cost of the project |

| MITIGATION ACTION | HAZARDOUS TREE REMOVAL |
|---|---|
| Description | Remove or trim hazardous trees |
| Hazard(s) Addressed | High wind, severe thunderstorms, severe winter storms |
| Estimated Cost | $100 per tree |
| Funding | Tax Revenue |
| Timeline | Ongoing |
| Priority | High |
| Lead Agency | Village Board |
| Status | Planning a tree inventory to identify hazardous trees |

| MITIGATION ACTION | LINE OLD SEWER MAIN |
|---|---|
| Description | Retrofit existing sewer main to prevent groundwater influx during high water/flood events |
| Hazard(s) Addressed | Flooding |
| Estimated Cost | $100,000+ |
| Funding | Utility Revenue |
| Timeline | 2-5 years |
| Priority | High |
| Lead Agency | Village Board |
| Status | Planning stage, the village is looking for funding options |

| MITIGATION ACTION | POWER, SERVICE, AND ELECTICAL LINES |
|---|---|
| Description | Bury existing power lines throughout the community and require that new construction bury power lines to prevent power outages |
| Hazard(s) Addressed | High winds, severe thunderstorms, severe winter storms, tornadoes |
| Estimated Cost | Varies |
| Funding | Utility revenue |
| Timeline | 5+ years |
| Priority | High |
| Lead Agency | Village Board |
| Status | Planning stage, the village is currently prioritizing lines to bury |

# COMMUNITY PROFILE

# CITY OF YUTAN

## LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

## MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE

**2020**

## LOCAL PLANNING TEAM

**Table YUT.1: City of Yutan Local Planning Team**

| NAME | TITLE | JURISDICTION |
|---|---|---|
| Cole Bockelmann | City Administrator | City of Yutan |
| Eric Wilke | Utility Superintendent & Floodplain Administrator | City of Yutan |

## LOCATION AND GEOGRAPHY

The City of Yutan is in the eastern portion of Saunders County and covers an area of 0.57 square miles. It is in the rolling hills region of Nebraska. The Platte River runs north to south about one mile east of the city. Clear Creek runs along the outer western edge of the city; Upper Clear Creek runs through the eastern edge of town. Clear Creek and Upper Clear Creek converge about one mile south of Yutan.

## TRANSPORTATION

Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community and areas more at risk of transportation incidents. Yutan's major transportation corridor is Nebraska State Highway 92. It is traveled by a total annual average of 9,110 vehicles daily, 725 of which are trucks.[85] The town is bisected east and west by two railroad lines, one owned by the Burlington Northern Santa Fe Railway and the other owned by the Union Pacific Railroad. Access to Highway 92 is essential for the community to commute to and from the city. Access to the highway is quickest from 2nd Street, County Road 5, and County Road 6 making these important transportation routes. Hillside Avenue, Country Road N, and Vine Street are important routes for east and west travel through the city.

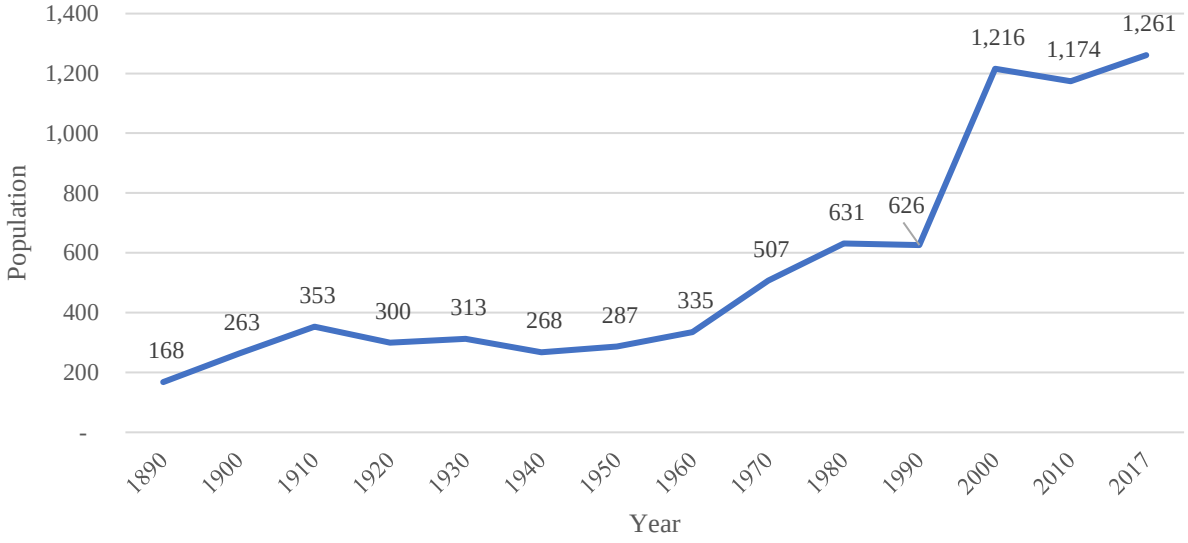
85 Nebraska Department of Roads. 2018. "Interactive Statewide Traffic Counts Map." [map]. https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34.

**Figure YUT.1: City of Yutan**

## DEMOGRAPHICS

Yutan's population was 1,261 people in 2017. The local planning team indicated that the population count is expected to grow after the 2020 census making for an overall growing or stable population trend. A stable population indicates a stable tax base to fund mitigation projects. The city's population accounted for 6.02% of Saunders County's population in 2017.[86]

**Figure YUT.2: Population**




*Source: U.S. Census Bureau, 1890 – 2010, Local Planning Team 2017*

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

- **Similarly aged.** The median age of Yutan was 35.6 years old in 2017, compared with Saunders County's median of 41 years. Yutan's population grew slightly older since 2010, when the median age was 34.3 years old. Yutan had a smaller proportion of people over 65 years old (11.2%) than the county (17.4%).[2]
- **More ethnically diverse**. Since 2010, Yutan grew more ethnically diverse. In 2010, 1.3% of Yutan population was Hispanic or Latino. By 2017, about 3.6% was Hispanic or Latino. During that time, the Hispanic population in the county grew from 1.9% in 2010 to 2.1% in 2017.[2]
- **Less likely to be below the federal poverty line.** The poverty rate in Yutan (4.2% of people living below the federal poverty line) was lower than the county's poverty rate (9.0%) in 2017.[87]

86 United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. https://factfinder.census.gov/.

87 United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. https://factfinder.census.gov/.

## EMPLOYMENT AND ECONOMICS

The City of Yutan's economic base is primarily educational services, and health care and social assistance. In comparison to Saunders County, Yutan's economy had:

- **Larger mix of industries.** Four major employment sectors, accounting for 10% or more of employment each, were: retail trade; transportation and warehousing, and utilities; finance and insurance, and real estate and rental and leasing; and educational services, and health care and social assistance.[3]
- **Lower per capita income.** Yutan's per capita income in 2017 ($28,754) was about $2,409 lower than the county ($31,163).[3]
- **More commuters.** About 12.1% of workers in Yutan commuted for fewer than 15 minutes, compared with about 31.4% of workers in Saunders County. About 38.0% of workers in Yutan commuted 30 minutes or more to work, compared to about 43.2% of county workers.[88]

### MAJOR EMPLOYERS

The major employer in Yutan is the Yutan School District. Most residents commute to the nearby communities of Omaha, Valley, Lincoln, and Fremont for work.

## HOUSING

In comparison to Saunders County, Yutan's housing stock was:[89]

- **Newer.** Yutan had a smaller share of housing built prior to 1970 than the county (39.8% compared to 51.8%).
- **Less mobile and manufactured housing.** According to the US Census Bureau Yutan had a smaller share of mobile and manufactured housing (1.7%) compared to the county (2.5%). No mobile homes are located within the corporate limits of the city.
- **Less renter-occupied**. About 16.8% of occupied housing units in Yutan were renter-occupied compared with 20.9% of occupied housing in Saunders County.
- **Occupied.** None of Yutan's housing units were vacant compared to 14.4% of units in Saunders County. However, the local planning team indicated that there are several vacant homes located in the community.

The age of housing may indicate which housing units were built prior to the development of state building codes. Homes built within a flood hazard area before the adoption of their community's Flood Rate Insurance Map (FIRM) are not likely to be built above the 1% annual chance floodplain. Older and vacant housing stock may also be more vulnerable to hazard events if it is poorly maintained. 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 renter's insurance or flood insurance, or to know their risks to flooding and other hazards. A

88 United States Census Bureau. "American Fact Finder: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. https://factfinder.census.gov/.

89 United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. https://factfinder.census.gov/.

significant number of unoccupied housing suggests that future development may be unlikely to occur in the area.

## FUTURE DEVELOPMENT TRENDS

In the past ten years, 45 new homes have been built in northeastern Yutan. This development, called Itan, is in the final phases of development. Plans are in place to construct 20 more residences in the same area. Development of more new residential areas has been proposed just outside the west end of the city's corporate limits. A portion of Yutan's extra-territorial jurisdiction is undergoing industrial development. At least six new industrial businesses are expected in the development southeast of the corporate limits abutting Highway 92.

Yutan's stable population trend is due to attractive new housing developments and new job opportunities as the city's industrial development expands.

## 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, paved lots, roads, etc.) at the parcel level. The data did not contain the number of structures on each parcel. The parcel data was analyzed to determine the number and valuation of property improvements located in the 1% annual chance floodplain. A summary of the results of this analysis is provided in the following table.

**Table YUT.2: Parcel Improvements and Value in the Floodplain**

| NUMBER OF IMPROVEMENTS | TOTAL IMPROVEMENT VALUE | NUMBER OF IMPROVEMENTS IN FLOODPLAIN | PERCENTAGE OF IMROVEMENTS IN FLOODPLAIN | VALUE OF IMPROVEMENTS IN FLOODPLAIN |
|---|---|---|---|---|
| 508 | $54,975,745 | 14 | 2.58% | $764,490 |

*Source: GIS Workshop/Saunders County Assessor, 2019*[90]

## CRITICAL INFRASTRUCTURE

### 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 two fixed hazardous chemical storage sites within two miles of Yutan. The following table lists these sites. The city has no concerns regarding chemical spills at this time. The Yutan Volunteer Fire Department is available to respond to all hazard events.

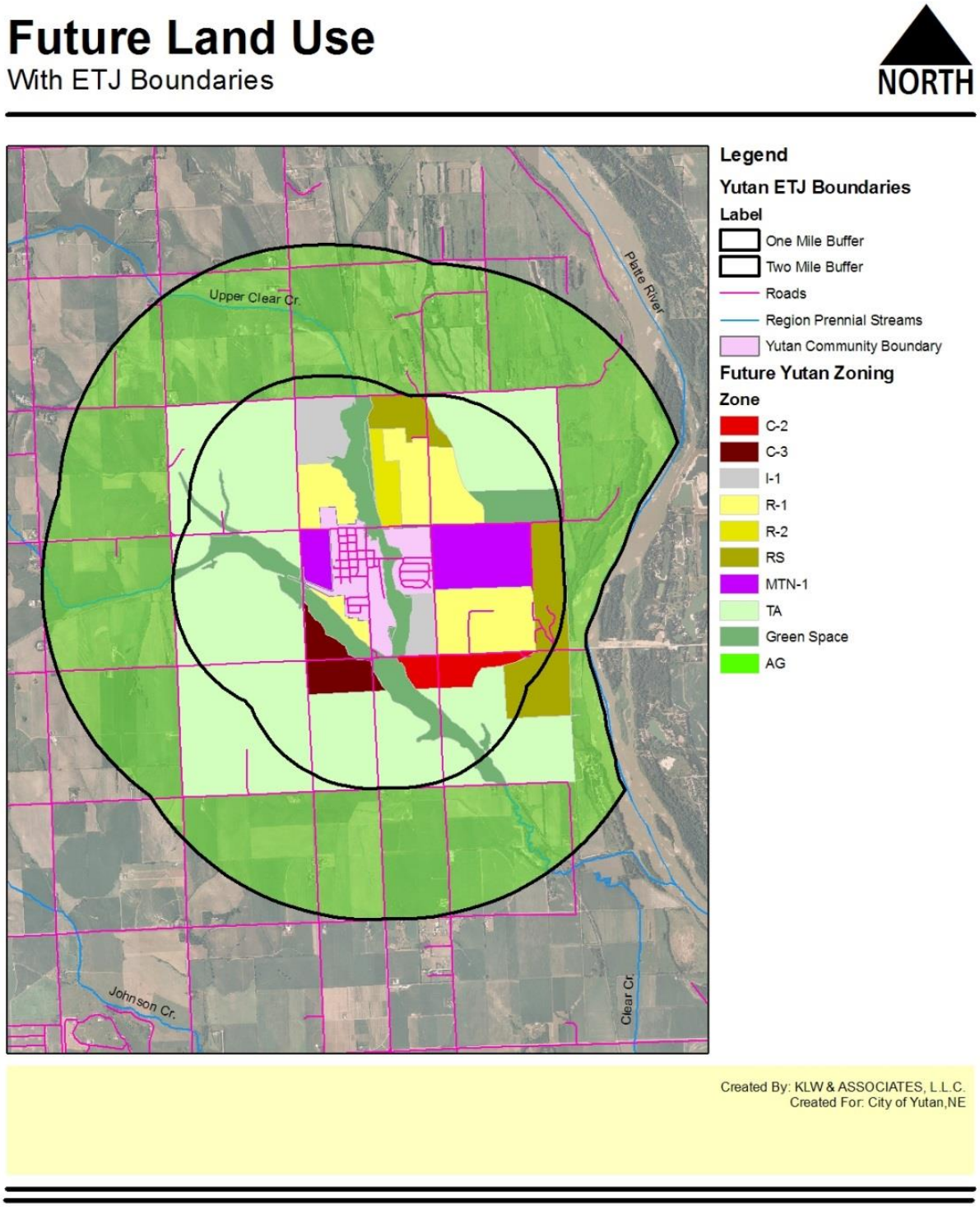
**Table YUT.3: Chemical Storage Fixed Sites**

| FACILITY NAME | ADDRESS | IN FLOODPLAIN (YES/N0) |
|---|---|---|
| NNG Yutan #1 Town Border Sta | 614 County Rd N | No |
| OPPD Substation No 983 | Highway 92 E | No |

*Source: Nebraska Department of Environment and Energy, 2019*[91]

90 GIS Workshop/Butler County Assessor. 2019. [Personal correspondence].
91 Nebraska Department of Environmental Quality. 2019. "Nebraska DEQ Tier 2 Data Download: 2018." https://deq-iis.ne.gov/tier2/.

**Figure YUT.3: Future Land Use Map**



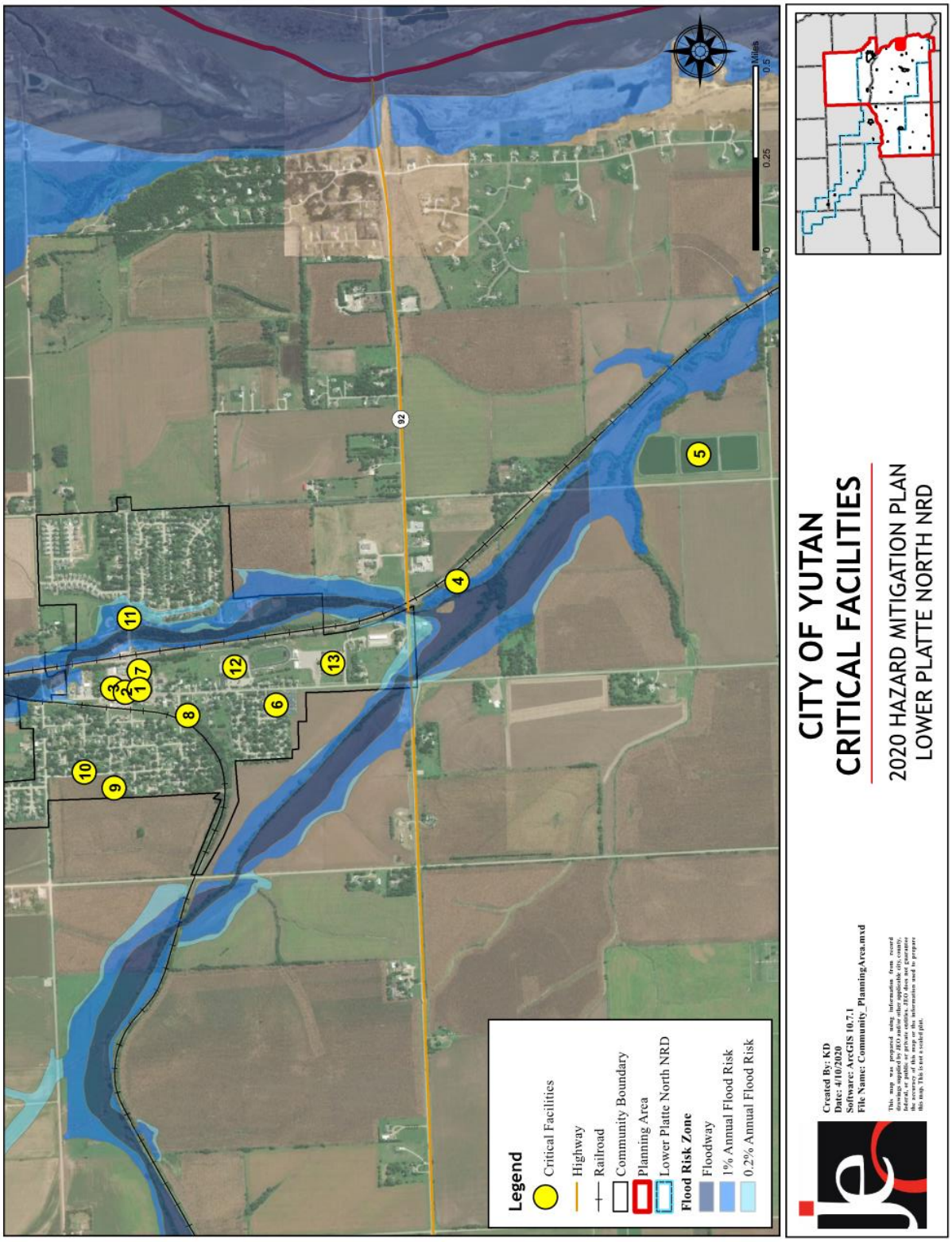
## CRITICAL FACILITIES

The planning team identified critical facilities necessary for the Yutan's disaster response and continuity of operations per the FEMA Community Lifelines guidance. Critical facilities were identified during the 2015 planning process and revised for this plan update. The following table and figure provide a summary of the critical facilities for the community.

**Table YUT.4: Critical Facilities**

| CF NUMBER | NAME | COMMUNITY SHELTER (YES/NO) | GENERATOR (YES/NO) | IN FLOODPLAIN (YES/NO) |
|---|---|---|---|---|
| 1 | Community Center | Yes | No | No |
| 2 | City Office | No | No | No |
| 3 | Fire Station | No | Yes | No |
| 4 | Sanitary Lift Station | No | Yes | Yes |
| 5 | Sewage Lagoons | No | No | No |
| 6 | St. John's Lutheran Church | Yes | No | No |
| 7 | US Post Office | No | No | No |
| 8 | Utilities Department / Well #2 | No | No | No |
| 9 | Water Tower | No | No | No |
| 10 | Well #1 | No | No | No |
| 11 | Well #3 | No | No | Yes |
| 12 | Yutan Elementary School | No | No | No |
| 13 | Yutan High School | Yes | No | No |

**Figure YUT.4: Critical Facilities**



## HISTORICAL OCCURRENCES

See the Saunders 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 selected by the local planning team from the regional hazard list as the relevant hazards for the community. The selected hazards were prioritized by the local planning team based on historical hazard occurrences, potential impacts, and the jurisdiction's capabilities. For more information regarding regional hazards, please see *Section Four: Risk Assessment*.

### FLOODING

Though no damage occurred within Yutan city limits, the March 2019 flooding of the Platte River damaged many roads around the city making transportation to and from Yutan difficult. Maintaining these transportation routes is important as most residents commute to work outside of the city. Clear Creek just southwest of the city limits and Upper Clear Creek running through the center of Yutan are also prone to flooding. Riverine flooding is more of a concern than flash flooding because of the city's proximity to the Platte River, Clear Creek, and Upper Clear Creek. Cedar Drive in the Timbercrest Subdivision has poor stormwater drainage.

### GRASS/WILDFIRES

Grass and wildfire are a concern for the city because they could damage the agricultural land around Yutan. The Yutan Volunteer Fire Department responds to fire in the region. The city's building codes and zoning ordinance both require space between structures that will help prevent fire spreading between structures.

### HAIL

The risk of hail damage to property, agriculture, and infrastructure is a concern for the community. The last large hailstorm occurred in May 2018 with penny-size hail stones that did not result in property damage. Critical facilities are not fitted with hail resistant materials, but they are insured for hail damaged. There is no local tree board to maintain trees and residents do not receive information regarding hail resistant building materials with building permits.

### SEVERE WINTER STORMS

Yutan is responsible for preparing for and responding to winter storms. For heavy snow this requires a significant amount of manpower, equipment, and resources. Snow and ice increase the risk of traffic accidents and impede residents from their commutes to work. Extreme cold increases the likelihood of water main breaks. Approximately 65% of power lines in the community are buried, protecting them from damage during severe storms. There are unofficial snow routes along 2nd Street and Vine Street to aid snow removal and ease of transportation. The Public Works Department is responsible for removing snow using two trucks with blades, a skid loader with a snow pusher attachment, and a salter that fits on a pickup.

### TORNADOES

No tornadoes have occurred in Yutan in the past, but a future tornado could be catastrophic. In case of a disaster electronic records are backed up on a secure server. Physical records are

stored in the city office with the older records in the basement. There are two sirens in town. They are activated by County Dispatch or the Yutan Fire Department. There are no public safe rooms in the city. County emergency management offers text alerts for emergencies and severe weather. The city does not have Mutual Aid Agreements in place.

## GOVERNANCE

Yutan is governed by a four-member city council and a mayor; other governmental offices and departments are listed below. The community government will oversee the implementation of hazard mitigation projects.

- City Administrator
- Clerk/Treasurer
- Attorney (Contract)
- Utility Superintendent
- Utility Assistant
- Police Department
- Volunteer Fire Department
- Library Director
- Community Redevelopment Authority
- Zoning Administrator (Contract)
- Engineer (Contract)
- Planning Commission

## 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 YUT.5: Capability Assessment**

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Planning & Regulatory Capability | Comprehensive Plan | Yes |
| | Capital Improvements Plan | Will be introduced in 2020 |
| | Economic Development Plan | No |
| | Emergency Operational Plan | Yes |
| | Floodplain Management Plan | No |
| | Storm Water Management Plan | No |
| | Zoning Ordinance | Yes |
| | Subdivision Regulation/Ordinance | Yes |
| | Floodplain Ordinance | Yes |
| | Building Codes | Yes |
| | National Flood Insurance Program | Yes |
| | Community Rating System | No |
| | Other (if any) | |

| SURVEY COMPONENTS/SUBCOMPONENTS | | YES/NO |
|---|---|---|
| Administrative & Technical Capability | Planning Commission | Yes |
| | Floodplain Administration | Yes |
| | GIS Capabilities | Yes |
| | Chief Building Official | Yes |
| | Civil Engineering | Yes |
| | Local Staff Who Can Assess Community's Vulnerability to Hazards | Yes |
| | Grant Manager | Yes: City Administrator |
| | Mutual Aid Agreement | Yes: Fire Department |
| | Other (if any) | |
| Fiscal Capability | 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 | 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 | Yes |
| | StormReady Certification | No |
| | Firewise Communities Certification | No |
| | Tree City USA | Yes |
| | Other (if any) | |

**Table YUT.6: Overall Capability Assessment**

| OVERALL CAPABILITY | LIMITED/MODERATE/HIGH |
|---|---|
| Financial resources needed to implement mitigation projects | Limited |
| Staff/expertise to implement projects | Moderate |
| Community support to implement projects | Moderate |
| Time to devote to hazard mitigation | Limited |

## PLAN INTEGRATION

Yutan has a comprehensive plan (2017), emergency operations plan (2019), zoning ordinance (2017), building codes (2017), floodplain regulations (2017), subdivision regulations (2017), and a redevelopment plan (2014) for blighted areas in the community. The city is currently in the process of creating a capital improvements plan. The comprehensive plan has goals aimed at safe growth, directs development away from the floodplain, encourages clustering development, and encourages elevation of structures located in the floodplain. Plans are in place to update the plan in 2021 and will incorporate the hazard mitigation plan components. The city is an annex in the Saunders County Emergency Operations Plan. It discusses communication, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelter, and resource management. The zoning ordinance discourages development, maintains open space, and limits population density in the floodplain. By the end of 2020 the ordinance will be updated. The building code for the city follows the ICC Code. Yutan's budget has increased over recent years but are limited to maintaining current facilities. Most of the city's current funds are already dedicated.

## MITIGATION STRATEGY

### COMPLETED ACTIONS

| MITIGATION ACTION | INFRASTRUCTURE ASSESSMENT STUDY |
|---|---|
| Hazard(s) Addressed | All hazards |
| Status | The city completed the infrastructure assessment in 2020. |

### NEW 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 with remote activation options |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $5,000+ |
| Funding | General levy |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | City administration, utilities |
| Status | New action. Not started. |

| MITIGATION ACTION | BACKUP AND EMERGENCY GENERATORS |
|---|---|
| Description | Identify and evaluate current backup and emergency generators. Obtain additional generators based on identification and evaluation. The city would like a backup generator for the city offices |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Varies by size |
| Funding | General levy |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | Utilities |
| Status | New action. Not started. |

| MITIGATION ACTION | BACKUP RECORDS |
|---|---|
| Description | Develop protocol for backing up critical records onto a portable storage device or service. Maintain routine backup of records |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | Staff time |
| Funding | General levy |
| Timeline | 1 year |
| Priority | High |
| Lead Agency | City administration |
| Status | New action. In Process. The city is currently backup up paper records |

| MITIGATION ACTION | CONTINUITY PLANNING |
|---|---|
| Description | Develop continuity plans for critical community services. Develop continuity plans for critical services in order to increase resiliency after a hazardous event. Encourage businesses to develop continuity plans. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $10,000+ |
| Funding | General levy |
| Timeline | 5+ years |
| Priority | Low |
| Lead Agency | City administration |
| Status | New Action. Not Started. |

| MITIGATION ACTION | UPDATE COMPREHENSIVE PLAN |
|---|---|
| Description | Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components. |
| Hazard(s) Addressed | All hazards |
| Estimated Cost | $15,000+ |
| Funding | General Levy |
| Timeline | 2-5 years |
| Priority | Medium |
| Lead Agency | City administration |
| Status | New Action Not Started. |

## REMOVED MITIGATION ACTIONS

| MITIGATION ACTION | COMPREHENSIVE DISASTER/EMERGENCY RESPONSE/RESCUE PLAN |
|---|---|
| Hazard(s) Addressed | All hazards |
| Status | The city is part of the Saunders County plan. This project was completed in April 2017. Saunders County will continue to update the plan |

| MITIGATION ACTION | MAINTAIN GOOD STANDING WITH THE NATIONAL FLOOD INSURANCE PROGRAM |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | While the community will continue to participate and maintain compliance in the NFIP, this project is no longer considered a mitigation action by FEMA |

| MITIGATION ACTION | SAFE ROOMS |
|---|---|
| Hazard(s) Addressed | High wind, tornadoes |
| Reason for Removal | Most homes in Yutan have basements, but storm shelters are also provided within the Yutan schools. There is no need for the city to create a new shelter |

| MITIGATION ACTION | STREAM BANK STABILIZATION/GRADE CONTROL STRUCTURES/CHANNEL IMPROVEMENTS |
|---|---|
| Hazard(s) Addressed | Flooding |
| Reason for Removal | This project is not a priority of the city council or city staff because there are no residential properties within the corporate limits in the floodplain or floodway |

| MITIGATION ACTION | WARNING SYSTEMS |
|---|---|
| Hazard(s) Addressed | All hazards |
| Reason for Removal | This information can be disseminated to the public via the city's website, social media accounts, and voluntary text message system |