

COMMUNITY PROFILE

YORK COUNTY



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

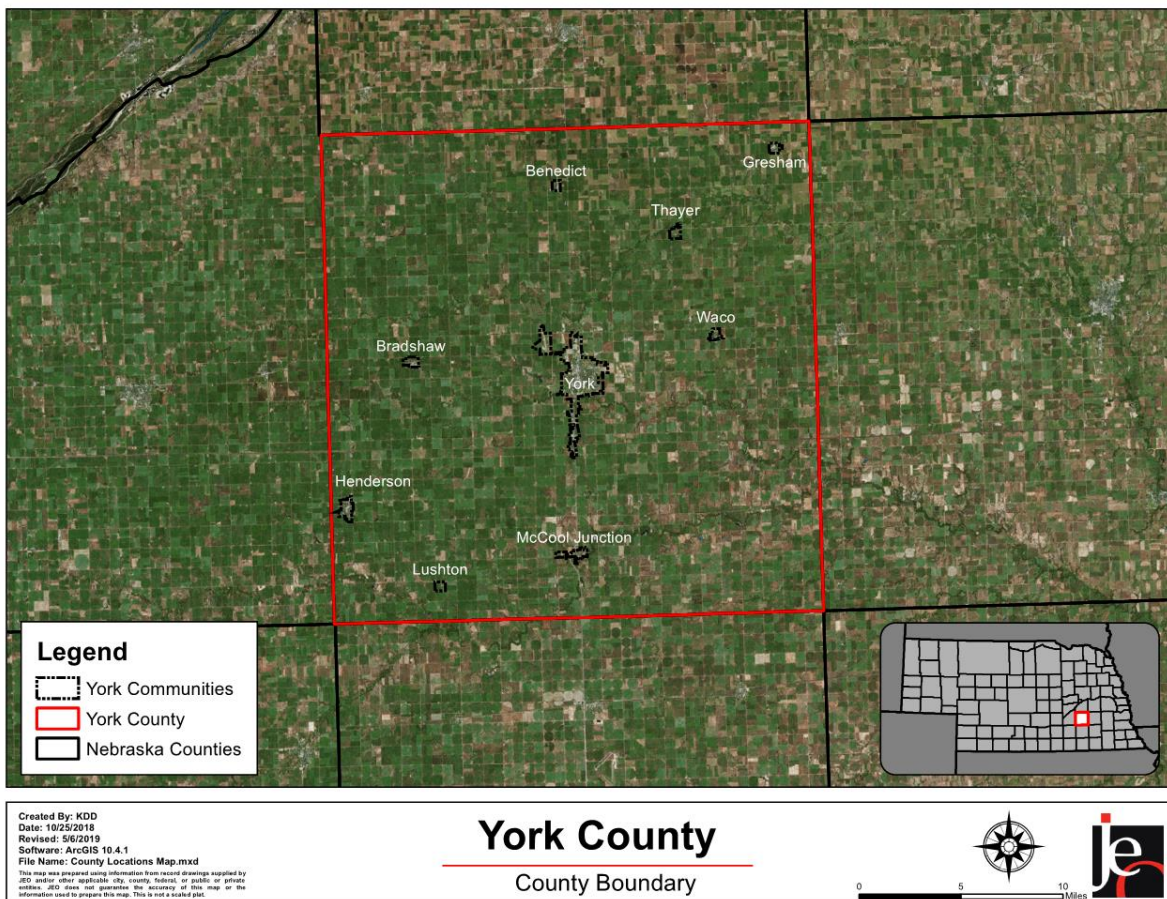
Table YCO.1: York County Local Planning Team

Name	Title	Jurisdiction
Gary Petersen	Seward/York County Emergency Manager	York County
Lisa Hurley	Executive Director	York County Development Corporation
Harvey Heim	Highway Superintendent	York County
Jack Sikes	County Commissioner	York County

Location and Geography

York County is located in east central Nebraska and is bordered by Hamilton, Polk, Seward, and Fillmore counties. The total area of York County is 576 square miles. Major waterways within the county include Lincoln Creek, West Fork Big Blue River, Spring Lake, and Sacks Lake. Most of York County lies in the plains topographic regionⁱ, with the vast majority of the county’s land characterized by agricultural fields.

Figure YCO.1: County Boundary



Climate

For York County, the normal high temperature for the month of July is 88.1°F and the normal low temperature for the month of January is 11.6°F. On average, York County receives 30.2 inches of rain and 23.7 inches of snow per year. The table below compares climate indicators with those of the entire state. Climate data is helpful in determining if certain events are higher or lower than normal. For example, if the high temperatures in the month of July are running well into the 90s, high heat events may be more likely, which could impact vulnerable populations.

Table YCO.2: Climate Indicators

	York County	State of Nebraska
July Normal High Temp	88.1°F	87.4°F
January Normal Low Temp	11.6°F	13.8°F
Annual Normal Precipitation	30.2"	23.8"
Annual Normal Snowfall	23.7"	25.9"

Source: NCEI 1981-2010 Climate Normalsⁱⁱ, High Plains Regional Climate Center, 1981-2010ⁱⁱⁱ
 Precipitation includes all rain and melted snow and ice.

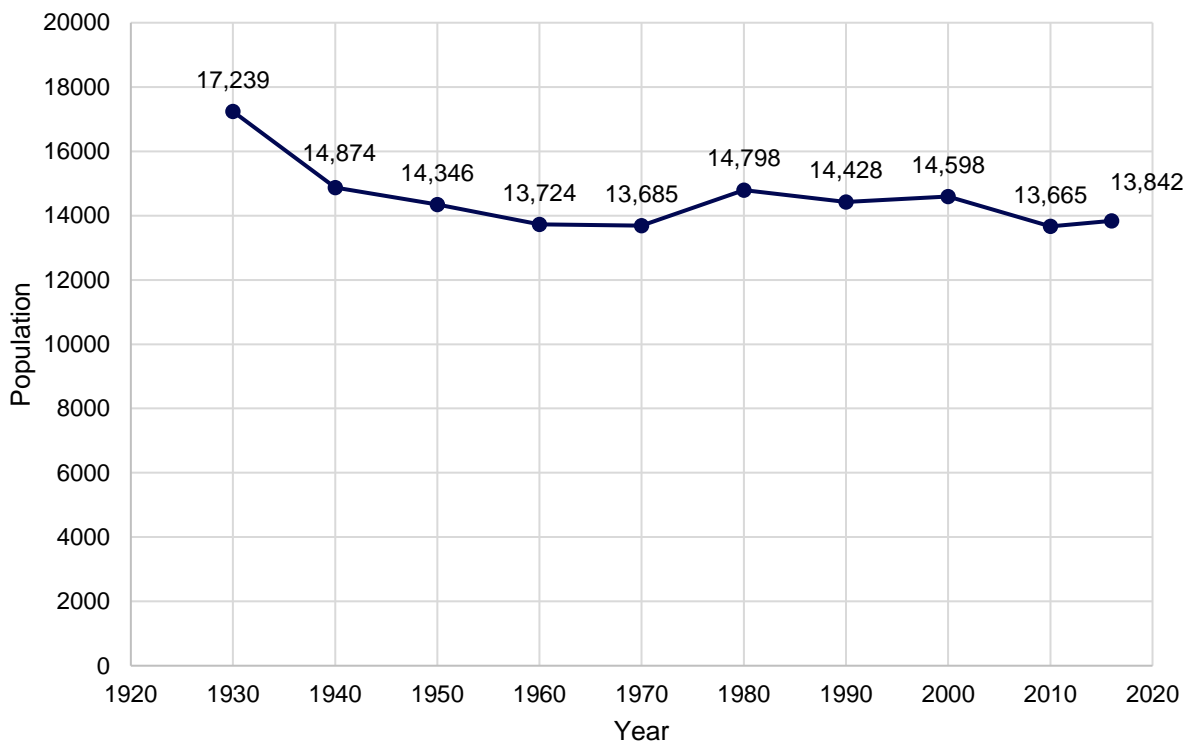
Transportation

York County's major transportation corridors include Interstate 80, U.S. Highway 34, U.S. Highway 81, Nebraska Highway 69, and two Burlington Northern rail lines. The county also has three airports dispersed throughout the county. This information is important to hazard mitigation plans insofar as it suggests possible evacuation corridors in the county, as well as areas more at risk to transportation incidents. Interstate 80, Highway 34, Highway 81, and Highway 69 all carry a large amount of traffic as well as large amounts of chemicals. Several multi-vehicle accidents and minor chemical spills have occurred along these routes. There are several community and county critical facilities that are located near these major transportation routes.

Demographics

The following figure displays the historical population trend from 1930 to 2016. This figure indicates that the population of York County has been decreased since 2000. This is notable for hazard mitigation because communities with a decreasing population may also have a higher level of unoccupied housing that is not being kept up. Furthermore, areas with decreasing population will be less prone to pursuing residential/commercial development in their areas, which may decrease the number of structures vulnerable to hazards in the future. Decreasing populations can also represent a decreasing tax revenue for the county which could make implementation of mitigation actions less fiscally feasible.

Figure YCO.2: Population 1930 – 2016



Source: U.S. Census Bureau^{iv}

The following table indicates the State of Nebraska has a higher percentage of people under the age of 5. York County has a higher percentage of people over the age of 64. This is relevant to hazard mitigation insofar as the very young and elderly populations may be at greater risk from certain hazards than others. For a more elaborate discussion of this vulnerability, please see *Section Four: Risk Assessment*.

Table YCO.3: Population by Age

Age	York County	State of Nebraska
<5	6.3%	6.9%
5-64	74.8%	78.7%
>64	18.9%	14.5%
Median	40.1	36.2

Source: U.S. Census Bureau^v

The following table indicates that median household income is higher than the State of Nebraska, but the per capita income is slightly lower when compared to the state. Median home values are lower than the rest of the state and rent is lower than the rest of the state. These economic indicators are relevant to hazard mitigation because they relative strength in some areas compared to the state as a whole. Areas with economic indicators which are relatively low may influence a county’s level of resilience during hazardous events.

Table YCO.4: Housing and Income

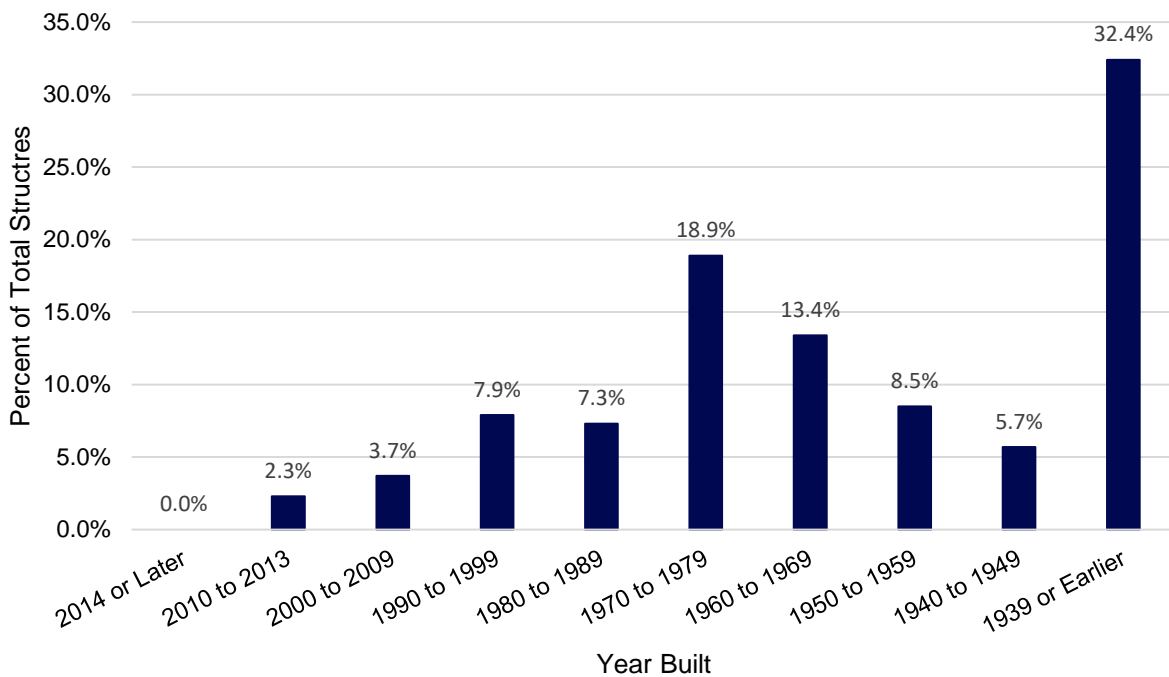
	York County	State of Nebraska
Median Household Income	\$55,156	\$54,384
Per Capita Income	\$27,962	\$28,596
Median Home Value	\$120,800	\$137,300
Median Rent	\$625	\$745

Source: U.S. Census Bureau^{vi,vii}

The following figure indicates that the majority of housing in York County was built prior to 1939 (32.4%). According to 2011-2016 ACS 5-year estimates, the county has 6,273 housing units with 90.4% of those units occupied. There are approximately 217 mobile homes in the county. The current Flood Insurance Rate Map (FIRM) was developed in 1977. Housing age can serve as an indicator of risk as structures built prior to state building codes may be at greater risk. Finally, residents that live in mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. There are no mobile home parks located in unincorporated areas of the county.

Figure YCO.3: Housing Units by Year Built

York County



Source: Source: U.S. Census Bureau^{viii}

Table YCO.5: Housing Units

Jurisdiction	Total Housing Units				Occupied Housing Units			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
York County	5,670	90.4%	603	9.6%	3,997	70.5%	1,673	29.5%
Nebraska	741,581	91.0%	73,425	9.0%	487,806	66.0%	251,775	34.0%

Source: U.S. Census Bureau^x

Major Employers

According to 2016 Business Patterns Census Data, York County had 518 business establishments. The following table presents the number of establishments, number of paid employees, and the annual pay role in thousands of dollars. This information is relevant to hazard mitigation insofar as it indicates the diversification of industry. Communities which have a diverse economic makeup may be more resilient following a hazardous event, especially if certain industries are more impacted than others.

Table YCO.6: Business in York County

	Total Businesses	Number of Paid Employees	Annual Payroll (in thousands)
Total for All Sectors	518	6,381	224,303

Source: U.S Census Bureau^x

Agriculture is also important to the economic fabric of York County, and the state of Nebraska as a whole. York County’s 541 farms cover 339,591 acres of land. Crop and livestock production are the visible parts of the agricultural economy, but many related businesses contribute as well by producing, processing and marketing farm and food products. These businesses generate income, employment and economic activity throughout the region.

Table YCO.7: York County Agricultural Inventory

York County Agricultural Inventory	
Number of Farms	541
Land in Farms	339,591

Source: USDA 2012 Census of Agriculture^{xi}

Future Development Trends

In the last five years, a new housing development was built on the east side of the City of York. The local planning team estimated that an average of 12 new residential houses are built a year in the county. In addition, new businesses were added in the City York, including Autozone, Dollar Tree, Tractor Supply, and a truck stop. According to the 2016 American Community Survey estimates, York County’s population has slightly grown since 2010. An increasing population may result in an expanding tax base, which may make implement mitigation actions more feasible. Over the next five years, a housing development is planned on the east side of the City of York and new businesses are planned as well.

Structural Inventory and Valuation

GIS parcel data was requested from GIS Workshop, which the county hires to manage the County Assessor data. This data was analyzed for the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table YCO.8: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
7,469	\$834,217,493	\$111,691	1,467	\$123,105,099

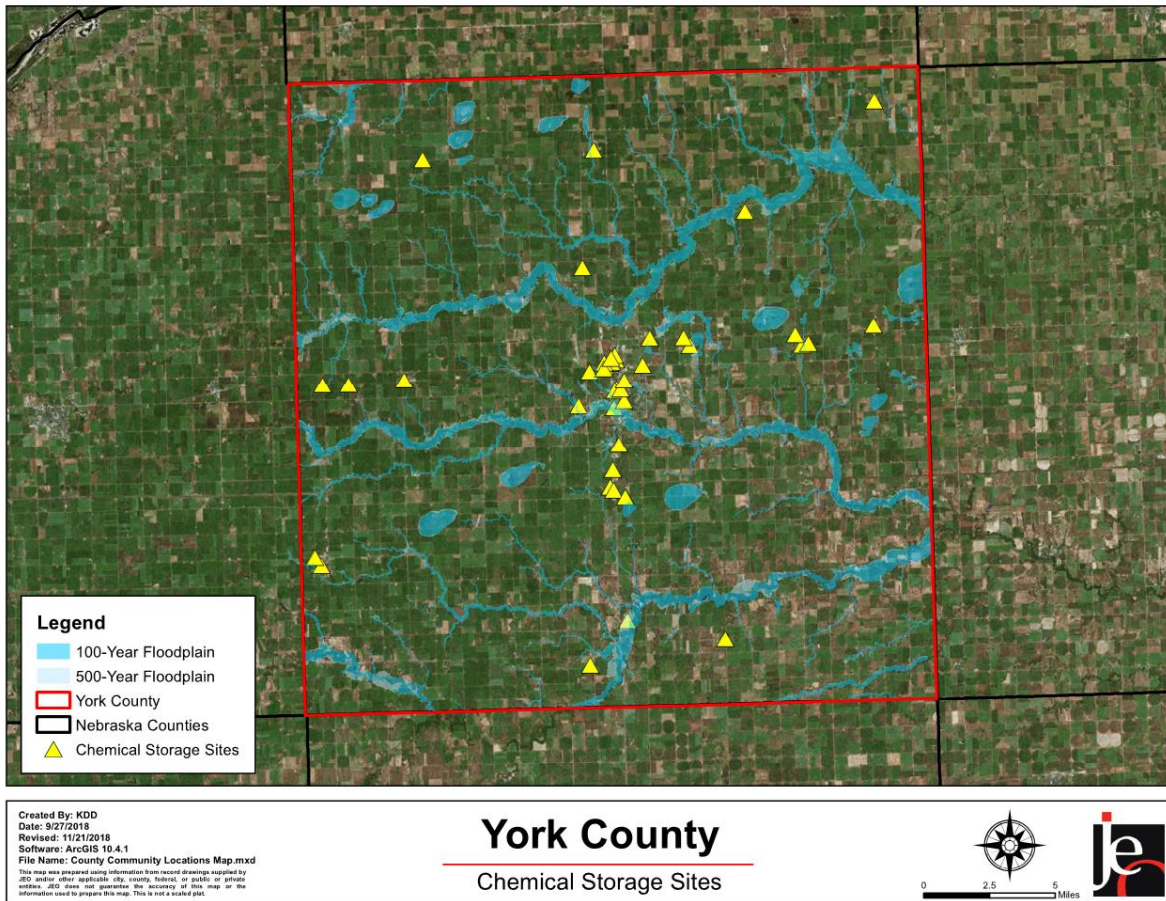
Source: GIS Workshop/York County Assessor^{xii}

Critical Infrastructure/Key Resources

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 46 chemical storage sites in York County. Two chemical storage sites are located in the 500-Year floodplain. For a description and map of the other chemical sites located in incorporated areas, please see the jurisdiction’s participant section.

Figure YCO.4: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy, 2018^{xiii}

*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

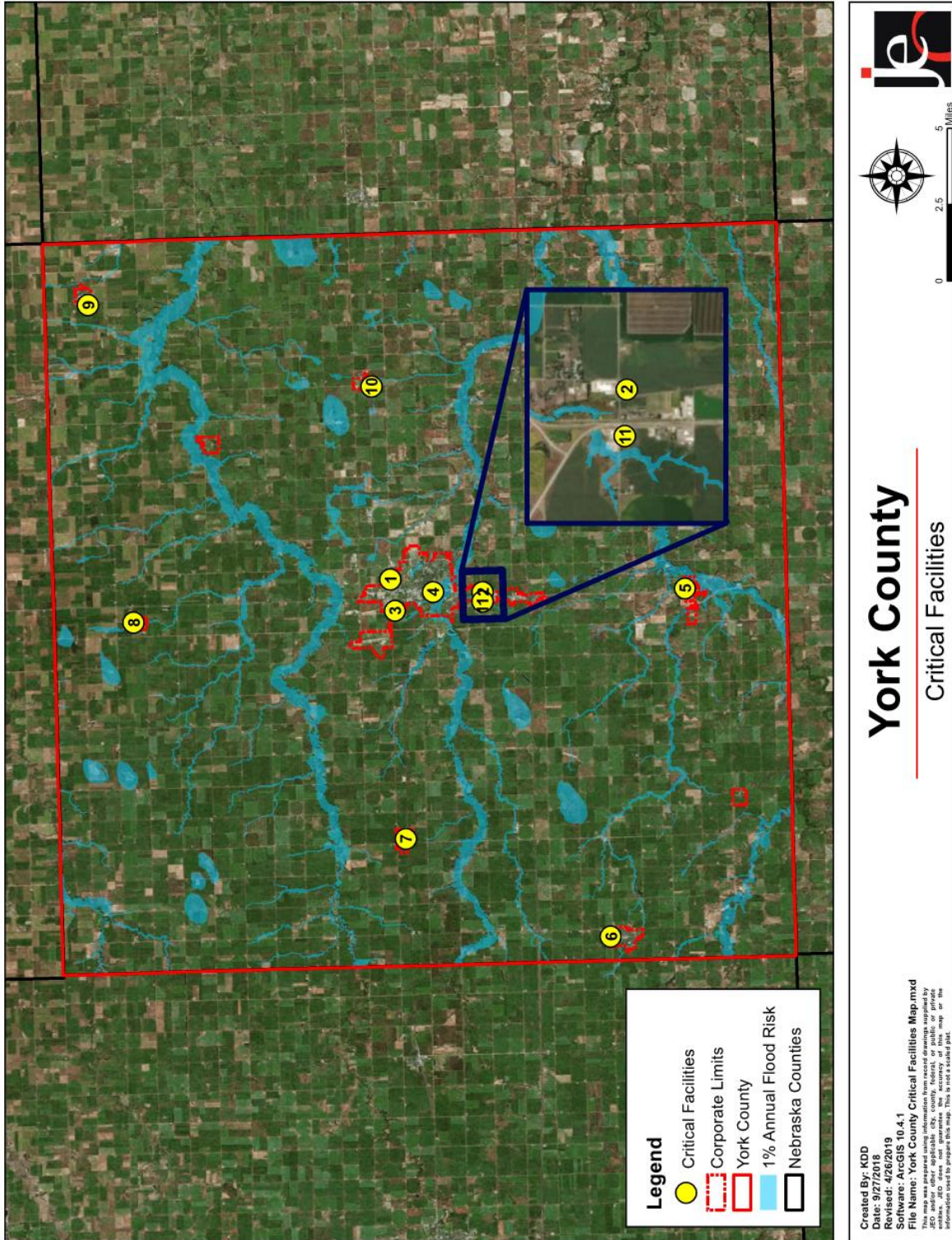
Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public (i.e. Red Cross Shelter), and essential for returning the jurisdiction’s functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Table YCO.9: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	County Main Maintenance Shop	N	N	N
2	State Road Department Shop	N	Y	N
3	NPPD Operations Center	N	Y	N
4	County Government / Courthouse / 911 Center / Jail	N	Y	N
5	County Road Equipment Shop McCool Junction	N	N	N
6	County Road Equipment Shop Henderson	N	N	N
7	County Road Equipment Shop Bradshaw	N	N	N
8	County Road Equipment Shop Benedict	N	N	N
9	County Road Equipment Shop Gresham	N	N	N
10	County Road Equipment Shop Waco	N	N	N
11	Perennial Public Power District Operations Center	N	Y	N

Figure YCO.5: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

The following table provides a statistical summary for hazards that have occurred in the county. The property damages from the NCEI Storm Events Database (January 1996 – December 2017) should be considered only as broad estimates. Sources include but are not limited to: emergency management; local law enforcement; Skywarn spotters; NWS damage surveys; newspaper clipping services; insurance industry; and the general public. Crop damages are from the USDA Risk Management Agency (RMA) between 2000 and 2017.

Table YCO.10: Severe Weather Events

Hazard Type		Count	Property Damage	Crop Damage ²
Agricultural Disease	Animal disease ⁹	13	156 animals affected	N/A
	Plant disease ²	7	N/A	\$40,651
Chemical Spills – Fixed Sites ⁴ <i>5 injuries</i>		11	\$0	N/A
Chemical Spills – Transportation ⁶		17	\$42,878	N/A
Dam Failure ⁵		0	\$0	\$0
Drought ¹⁰		412/1,485 months	N/A	\$8,844,000
Earthquake ⁷		0	\$0	N/A
Extreme Heat ⁸		Avg. 7 days/yr.	N/A	\$2,731,659
Flooding ¹	Flash Flood	16	\$2,825,000	\$21,894
	Flood	2	\$510,000	
Grass/Wildfires ³		284	\$0	\$0 ³
Hail ¹		178	\$5,182,000	\$12,939,481
High Winds ¹		17	\$1,019,000	\$869,362
Levee Failure ¹¹		0	N/A	N/A
Severe Thunderstorms ¹	Thunderstorm Wind <i>1 injury</i>	63	\$1,876,000	N/A
	Heavy Rain	22	\$205,000	\$1,104,729
	Lightning	2	\$140,000	N/A
Severe Winter Storms ¹	Blizzard	7	\$10,00	\$88,503
	Extreme Cold/Wind Chill	2	\$0	
	Heavy Snow	3	\$0	
	Ice Storm	7	\$1,070,000	
	Winter Storm <i>1 death</i>	41	\$325,000	
	Winter Weather	15	\$130,000	
Tornadoes ¹		18	\$7,660,000	\$264,751
Total		725	\$20,994,878	\$26,905,030

N/A: Data not available

1 - NCEI (January 1996 to December 2017)

2 - USDA RMA (2000-2017)

3 - NFS (2000-Dec 2017)

4 - U.S. Coast Guard NRC (1990-Jan 2018)

5 - Stanford NPDP (1911-2016)

6 - PHMSA (1971-Jan 2018)

7 - USGS (1872-2018)

8 – High Plains Regional Climate Center (MRCC) (1901-2018)
 9 - NDA (2014-2017)
 10 - NCDC (1895-Sept 2018)
 11 – United States Army Corps of Engineers (2010)

County Hazard Prioritization

For more information regarding these area wide hazards, please see *Section Four: Risk Assessment*. The following discussion provides county-specific information, reported in York County Risk Assessment Summary, relevant to each hazard. Only hazards identified either as a concern to the county by the local planning team or based on the occurrence and risk of the hazard to the county are discussed in detail below.

Agricultural Animal & Plant Disease

The agricultural sector makes up a major portion of York County's economic base and a large disease outbreak could have major economic and employment impacts. According to the 2012 U.S. Census of Agriculture, York County had 541 farms with crop sales of \$302,771,000. If a large scale or prolonged event were to occur, tax revenues and local capabilities may be impacted. The county has experienced seven plant disease outbreaks since 2000, resulting in over \$40,000 in crop damage. The largest event occurred in 2010 when a corn disease resulted in \$21,480 in damage.

Chemical Spills – Transportation

The county has experienced 17 transportation chemical spills since 1971. The largest of which occurred on Interstate 80 near the City of York. A tanker truck spilled 150 gallons of hydrochloric acid solution and caused \$25,000 in damages. In addition to the interstate, the county also has two rail lines and three U.S. and state highways which run across the county. All of these transportation routes carry a large amount of traffic and bulk/hazardous chemicals. If a large spill were to occur, traffic throughout the county may be impacted, as well as any neighboring residences, businesses, and jurisdictions. State patrol would likely be the first to respond.

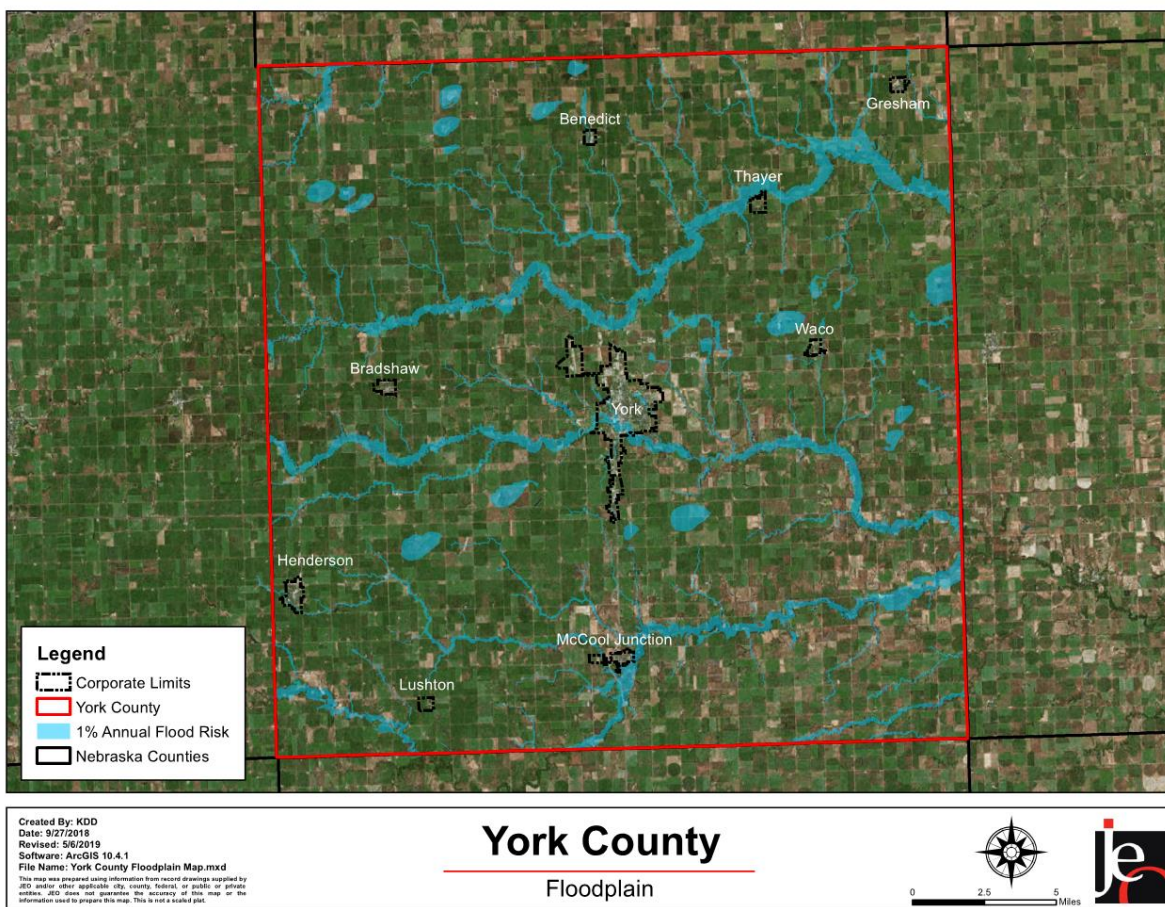
Drought

Drought is generally a regional event, with impacts from a single drought event impacting multiple communities, counties, and even states. The York communities, York County, Nebraska, and most of the Midwest experienced a severe drought for most of 2012. Past droughts have forced well shutoffs, water use reporting, and water restrictions. The county is largely economically tied to the agricultural sector, which may experience the impacts of drought the largest. The USDA estimated that drought has caused \$8,844,000 in crop loss since 2000.

Flooding

In March of 2019, York County along with many other counties in central and eastern Nebraska experienced a significant flood event. For York County, the floods damaged county roads and some individual homes. An exact amount of damages is not yet known, as many individuals and departments are still in the recovery process. In addition to this flood event, NCEI data shows that York County has experienced 18 flood events since 1997. These events have resulting in over \$3,000,000 in property damages. The most damaging event occurred in the Village of Bradshaw in 2015, when a flood caused \$500,000 in property damage. Figure YCO.6 shows the 100-year floodplain for the county. Of the nine incorporated communities in York County, three participate in the NFIP. The county also participates in the NFIP and currently has 16 policies in-force with a coverage of \$16,954.

Figure YCO.6: Floodplain



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Hail

NCEI data shows that York County has experienced 178 hail events since 1997 and those events have caused \$5,182,000 in property damage. The most damaging event occurred in 2011 when three-inch hail hit the City of York and caused \$1,000,000 in damage. Power loss can also occur from a hail event due to power lines and utilities being damaged. If power loss were to occur, it would likely be local in nature and not widespread over the entire county.

Severe Winter Storms

NCEI data shows that York County has experienced 75 severe winter storm events since 1997, resulting in over \$1,500,000 in property damage and one fatality. The most damaging event occurred in 2006 when a county wide ice storm caused approximately \$1,000,000 in property damage. Severe winter storms are most likely to cause transportation issues across the county. The state roads department is in charge of clearing the interstate, U.S., and state highways. The county roads department removes snow from county roads and prioritizes removal of high traffic roads first. If a severe winter storm event were to close the interstate, most individuals would be sent to the City of York.

Tornadoes

The county is primarily concerned with the potential damage to critical facilities, residences, and businesses that a tornado can have on the county. A catastrophic event could lead to major economic loss for the county. The county is also concerned with the potential for loss of life that could occur because of this hazard. NCEI data shows that York County has experienced 18 tornadoes since 1997, causing \$7,660,000 in property damage. In 2014 the Village of McCool Junction experienced an EF3 tornado which caused \$1,500,000 in damages. The local planning team indicated that the county does not own any public storm shelters, but local communities may have shelters available. In addition, all of the incorporated communities in the county have an alert siren.

Governance

A community’s governance structure impacts its capability to implement mitigation actions. York County is governed by a five member board of commissioners. The county also has the following offices and departments:

- County Clerk
- County Assessor
- County Attorney
- County Treasurer
- Emergency Management
- Highway Superintendent
- Planning and Zoning
- Sheriff’s Department
- County Court
- Weed Superintendent
- Surveyor

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table YCO.11: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	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
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	No

Survey Components/Subcomponents		Yes/No
	Community Rating System	No
	Other (if any)	-
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	Yes
	Other (if any)	-
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	No
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
Other (if any)	-	
<i>Education & Outreach Capability</i>	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
	Natural Disaster or Safety related school programs	No
	StormReady Certification	Yes
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Moderate
Does your community have the staff/expertise to implement projects?	Moderate
Does your community have the community support to implement projects?	Moderate
Does your community staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

York County has several plans and regulations which apply the principles of hazard mitigation. Plans include the Comprehensive Plan, Zoning Ordinance, Floodplain Regulations, and Subdivision Regulations which were all last updated in 2015. The county also has an Emergency Operations Plan which was last updated in 2019.

The comprehensive plan does discuss natural hazards, specifically flood hazard areas. The county encourages elevation of structures that are currently located in the floodplain and has goals aimed at safe growth. The Emergency Operations Plan address hazards of greatest concern, assigns specific individual responsibilities, identifies evacuation routes, and sheltering locations. Copies of the plan are given to county officials and every community with the planning area. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Ongoing and New Mitigation Actions

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

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, critical facilities, shelters, and other county buildings as needed.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$15,000 - \$30,000 per generator
Funding	County General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	County Roads Department, County Emergency Management
Status	Currently identifying locations in need of generators.

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$0 - \$5,000+
Funding	County General Fund
Timeline	5+ Years
Priority	High
Lead Agency	County Emergency Management
Status	In progress. County Emergency Management currently and other County departments have existing public education programs that will have hazard mitigation incorporated into them.

Mitigation Action	Storm Shelter / Safe Rooms
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	\$200-\$300/sf stand alone; \$150-200/sf addition/retrofit
Funding	County General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	County Emergency Management, County Roads Department
Status	In Progress. The County Emergency Management received a FEMA grant for a residential safe room project. The county may look into offering this project again.

Mitigation Action	Stormwater System and Drainage Improvements
Description	Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	County General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	County Roads Department, UBB NRD
Status	In progress. Drainage improvements are pursued as opportunities are identified.

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

Removed Mitigation Actions

Mitigation Action	Civil Service Improvements
Hazard(s) Addressed	All Hazards
Reason for Removal	This action was removed by the local planning team because this is something that is already done as needed. The county will continue to provide civil service improvements as the need arises.

Mitigation Action	Drainage Study / Stormwater Master Plan
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed by the local planning team because it would be better implemented by local communities with help from the UBB NRD.

Mitigation Action	Emergency Communication
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Reason for Removal	The local planning team removed this mitigation action. An action plan is no longer needed to improve communication as communications are analyzed and improved on a yearly basis.

Mitigation Action	Hazardous Tree Removal
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Reason for Removal	This mitigation action was removed by the local planning team. Removing hazards limbs and trees will primarily need to be done by private land owners. The County Roads Department will continue to identify trees/limbs on county property that needs to be removed.

Mitigation Action	Improve Snow / Ice Removal Program
Hazard(s) Addressed	Severe Winter Storms
Reason for Removal	The local planning team removed this mitigation action. The snow removal program is evaluated on a yearly basis.

Mitigation Action	Maintain Good Standing with National Flood Insurance Program (NFIP)
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. York County will continue to maintain good standing with NFIP.

Mitigation Action	Obtaining Missing Data For Future Updates
Hazard(s) Addressed	All Hazards
Reason for Removal	The local planning team chose to remove this action. Missing data is obtained during plan updates. The county will continue to improve GIS capabilities.

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel, and Propane Tanks
Hazard(s) Addressed	Tornadoes, High Winds, Chemical Spills (Fixed Site)
Reason for Removal	The local planning team removed this action as this will primarily need to be done by private land owners and businesses. The county will continue to identify bulk and hazardous chemical storage sites.

Mitigation Action	Weather Radios
Hazard(s) Addressed	All Hazards
Reason for Removal	This mitigation action was removed by the local planning team. York County does not have very good reception for weather radios and other options are available and more reliable.

Mitigation Action	Windbreaks / Living Snow Fence
Hazard(s) Addressed	Drought
Reason for Removal	The local planning team removed this action because the UBB NRD would likely be the lead for this project. The County Roads Department is unable to install windbreaks on the right of way, as the line of sight must stay open.

i Center for Applied Rural Innovation. "Topographic Regions Map of Nebraska." 2001. <http://digitalcommons.unl.edu/caripubs/62>.

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iii High Plains Regional Climate Center. "Monthly Climate Normals 1981-2010". Accessed November 2018. <http://climod.unl.edu/>.

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x United States Census Bureau. "American Fact Finder: Geography Area Series County Business Patterns 2015 Business Patterns." [database file]. <https://factfinder.census.gov>.

xi United States Department of Agriculture, National Agricultural Statistics Server. 2012. "2012 Census of Agriculture – County Data." <https://www.agcensus.usda.gov/Publications/2012/>.

xii York County Assessors. Personal Correspondence, February 2019.

xiii Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

COMMUNITY PROFILE

VILLAGE OF BENEDICT



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2019

Local Planning Team

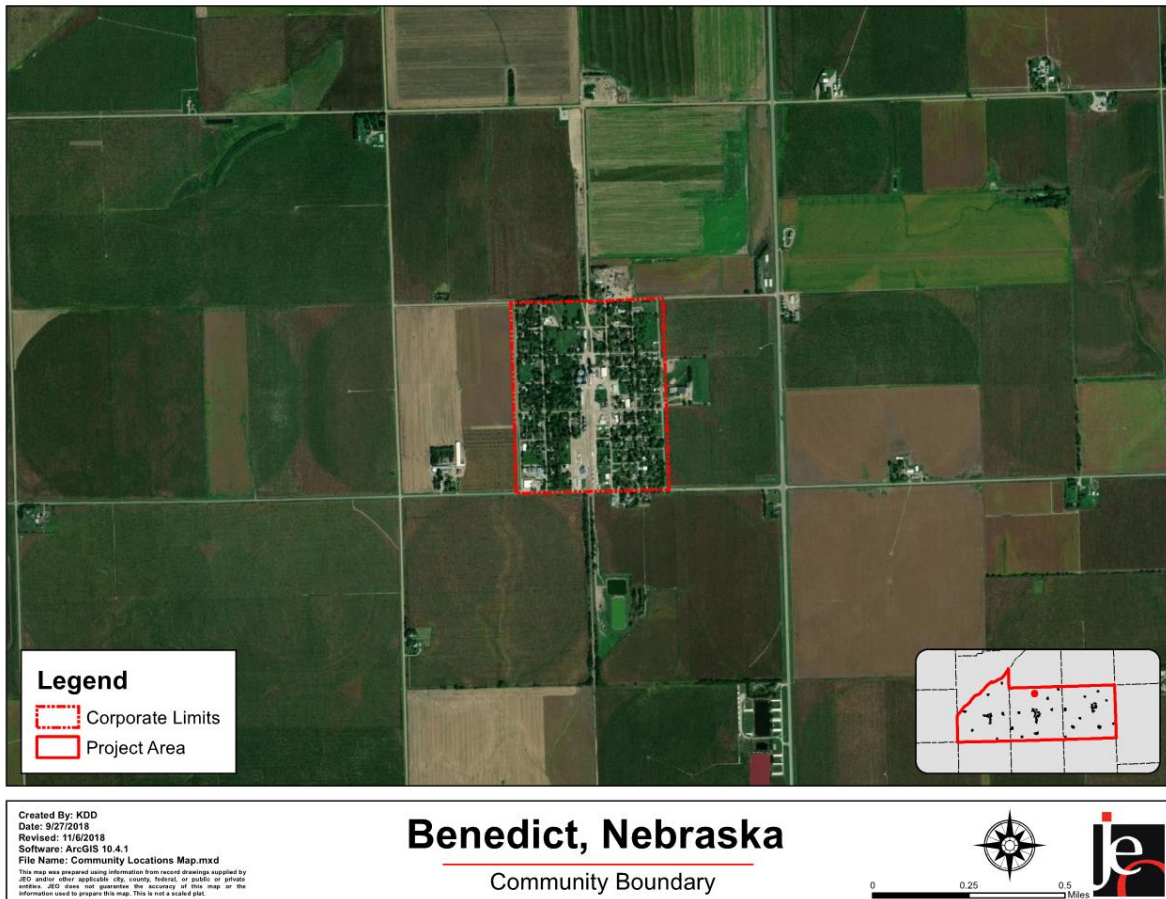
Table BND.1: Benedict Local Planning Team

Name	Title	Jurisdiction
Miranda Martin	Board Chairperson	Village of Benedict
Erich Heiden	Board Chairperson Pro Tempore	Village of Benedict
Lonney Schlegelmilch	Board Member	Village of Benedict
Brad Brooke	Board Member	Village of Benedict
Aaron Reetz	Board Member	Village of Benedict
Kelly Brooke	Village Clerk	Village of Benedict
Brenda Clark	Planning Commission Member	Village of Benedict
Gary Hild	Planning Commission Member	Village of Benedict
Patty Hansen	Planning Commission Member	Village of Benedict
Janet Beck	Planning Commission Member	Village of Benedict
Mary Heiden	Planning Commission Member	Village of Benedict

Location and Geography

The Village of Benedict is located in the north central portion of York County and covers an area of 121 acres. There are no creeks, streams, or rivers near Benedict.

Figure BND.1: Community Boundary



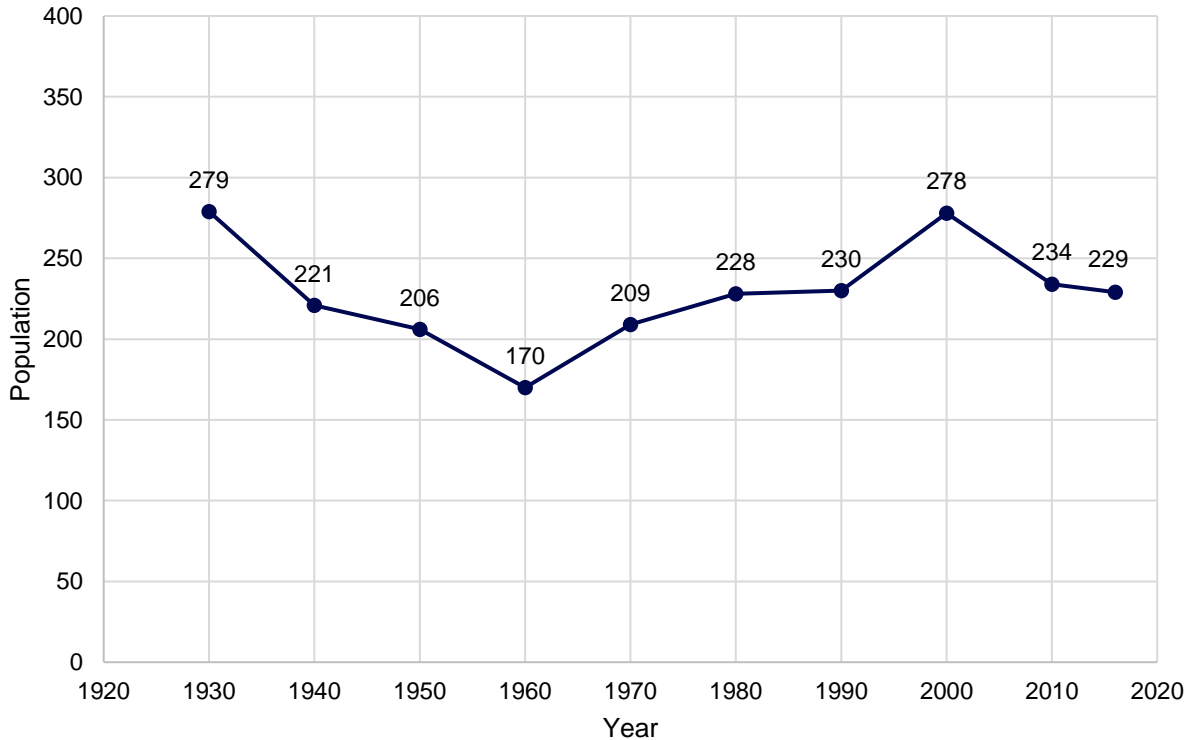
Transportation

Benedict’s major transportation corridor includes U.S. Highway 81 with 3,970 vehicles a day and Nebraska Highway S-93C with 710 vehicles a day.^{xiv} Benedict has one Burlington Northern rail line running north south through the center of the community. Benedict does not have any airports within or near village boundaries. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents. The local planning team identified U.S. Highway 81 as a route of concern due to the lack of turning lanes. The local planning team also indicated that chemicals such as gasoline, propane, anhydrous ammonia, and dry/liquid fertilizers are regularly transported along the highways.

Demographics

Benedict’s population declined from about 278 people in 2000 to 229 people in 2016, an average annual decrease of 1.10%. This is important because the population decline means a decreasing tax revenue. Benedict’s population accounted for 1.65% of York County’s population in 2016.^{xv}

Figure BND.2: Population 1930 - 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Benedict’s population was:

- **Younger.** The median age of Benedict was 36.9 years old in 2016, compared with the county average of 40.1 years. Benedict’s population grew younger since 2010, when the median age was 40.2 years old. Benedict had a slightly larger proportion of people under 20 years old (25.8%) than the county (25.5%).^{xvi}

- **Less ethnically diverse.** In 2010, 0.4% of Benedict’s population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, Benedict became less ethnically diverse, with 0.0% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{xvii}
- **Less likely to be below the federal poverty line.** The poverty rate in Benedict (2.9% of families living below the federal poverty line) was much lower than the county’s poverty rate (7.5%) in 2016.^{xviii}

Employment and Economics

The Benedict economic base is a mixture of educational and manufacturing uses. In comparison to York County, Benedict’s economy had:

- **Different mix of industries.** Benedict’s major employment sectors, accounting for 10% or more of employment each, were: manufacturing; retail trade; and educational services, and health care and social assistance.^{xix}
- **Lower household income.** Benedict’s median household income in 2016 (\$48,125) was about \$7,000 lower than the county (\$55,156).^{xx}
- **More long-distance commuters.** The local planning team indicated that a large percentage of residents commute to other communities.

Major Employers

Major employers within Benedict include Central Valley Ag, Moore-Built, PK’s, and Haack Service. A large percentage of residents commute to York, Stronsburg, and Columbus for employment.

Housing

In comparison to York County, Benedict’s housing stock was:

- **Less renter-occupied.** About 12.2% of occupied housing units in Benedict are renter occupied compared with 29.5% of occupied housing in York County.^{xxi}
- **Younger.** Benedict had a smaller share of housing built prior to 1970 than the county (56.1% compared to 60.0%).^{xxii}
- **Less multifamily.** Although the predominant housing type in the village is single family detached, Benedict contains much less multifamily housing with five or more units per structure compared to the county (0.0% compared to 8.9%). About 88.8% of housing in Benedict was single-family detached, compared with 80.2% of the county’s housing. Benedict has a larger share of mobile and manufactured housing (11.2%) compared to the county (3.5%).^{xxiii}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. The village does have a few mobile homes spread throughout the community.

Future Development Trends

In the last five years, the village has been working on cleaning up of vacant housing and mobile homes. According to the 2016 American Community Survey estimates, Benedict’s population has experienced a slight decline since 2010. A declining population may result in a shrinking tax base,

which may make implementing mitigation actions more difficult. The local planning team indicated that lack of housing could be contributing to the decline. No new businesses, industry, or housing is planned in the next five years as many empty lots are not being sold and banks are wary of loaning to residents building new homes.

Figure BND.3: Future Land Use Map



Source: Village of Benedict

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel

level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table BND.2: Structural Inventory/Parcel Improvements

NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	MEAN VALUE OF IMPROVEMENTS PER PARCEL	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN
138	\$6,686,615	\$48,454	23	\$979,482

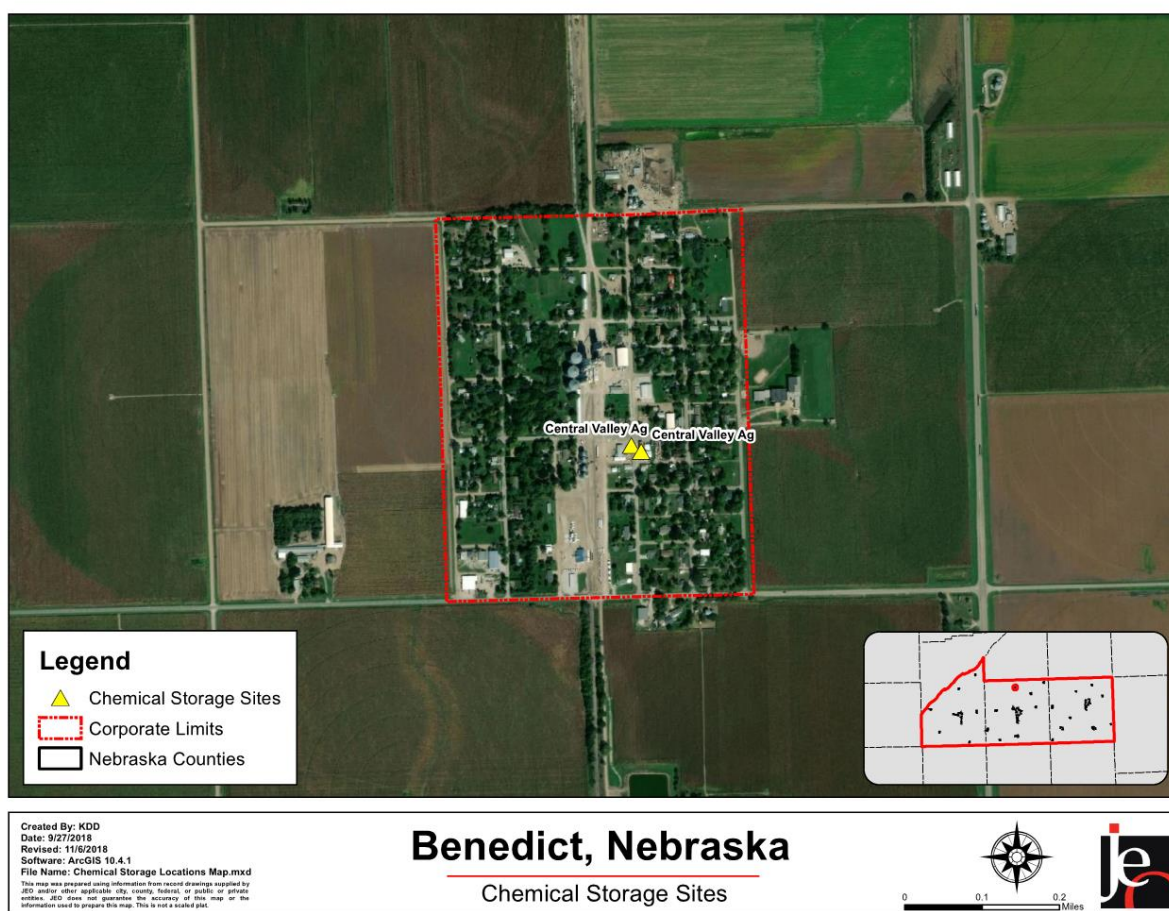
Source: Nebraska Department of Revenue, Property Assessment Division^{xxiv}

Critical Infrastructure/Key Resources

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 chemical storage sites in Benedict. The map below shows the name and location of the chemical storage sites.

Figure BND.4: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{xxv}

Critical Facilities

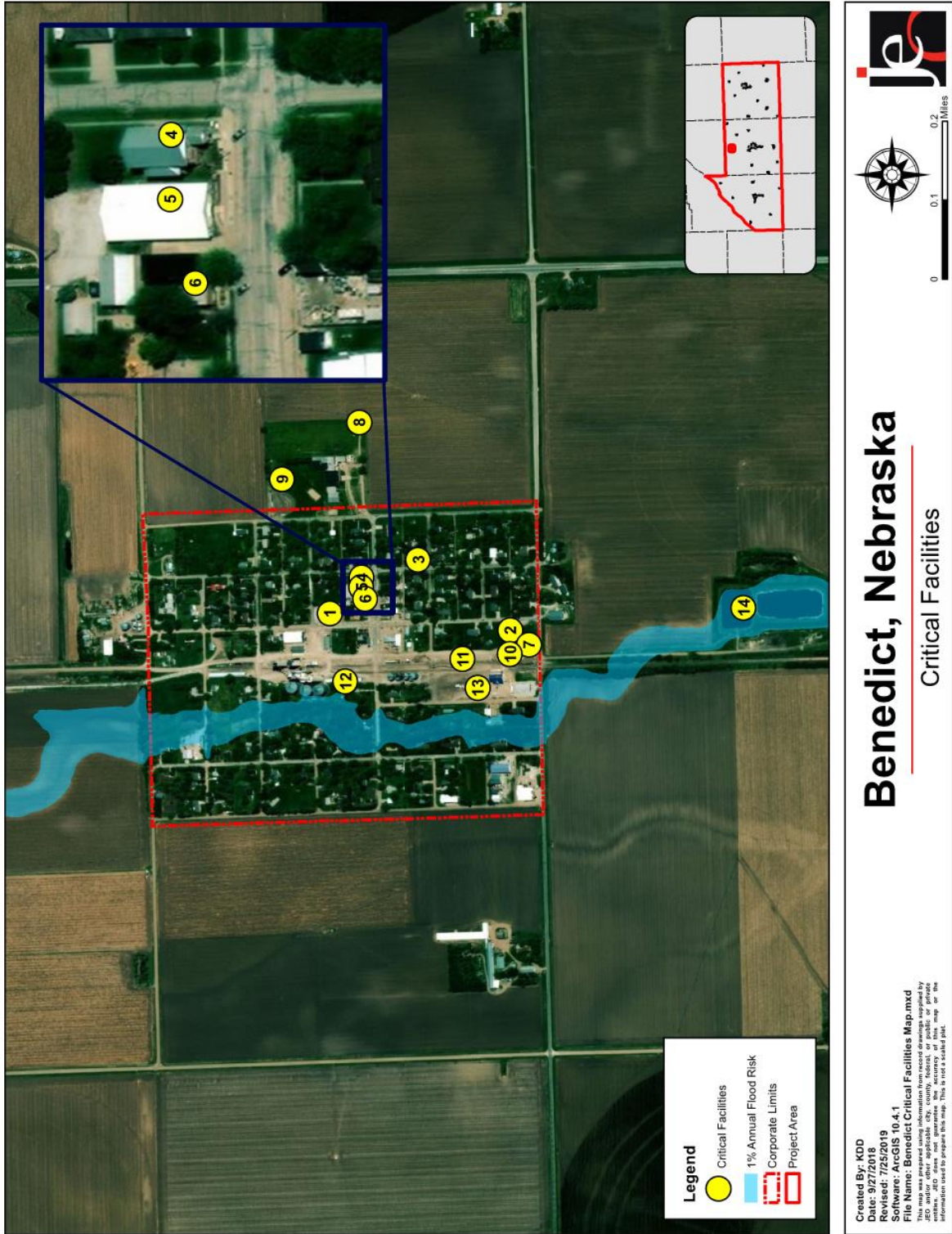
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated

by the local planning team as a part of this plan update. The following table and figure provide a summary of the critical facilities for the jurisdiction.

Table BND.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Fire Station	N	Y	N
2	Village Shop	N	N	N
3	United Methodist Church	N	N	N
4	Zion Lutheran Church	N	N	N
5	Community Center	Y	N	N
6	Post Office	N	N	N
7	Water Tower & Tower House	N	N	N
8	Well #1	N	Y	N
9	Well #2	N	N	N
10	Anhydrous Storage Tanks	N	N	N
11	Propane Tank	N	N	N
12	Dry Chemical Storage	N	N	N
13	Fertilizer Storage	N	N	N
14	Wastewater Lagoon	N	N	Y

Figure BND.5: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills – Fixed Site

The Village of Benedict contains several chemical fixed sites and storage tanks. Anhydrous ammonia, propane, and dry/liquid fertilizer storage are all located in the center of the community. There are several critical facilities located near these chemical sites, including the community center, fire station, and village shop. Many residents also live near chemical storage locations and most are not educated about the threat and what actions to take should a spill occur. Vandalism caused a recent chemical spill when a plug was pulled, and chemical went into the storm sewer and draw. If a chemical spill were to occur, both Central Valley Ag employees and the Benedict Volunteer Fire Department have the gear and training to respond.

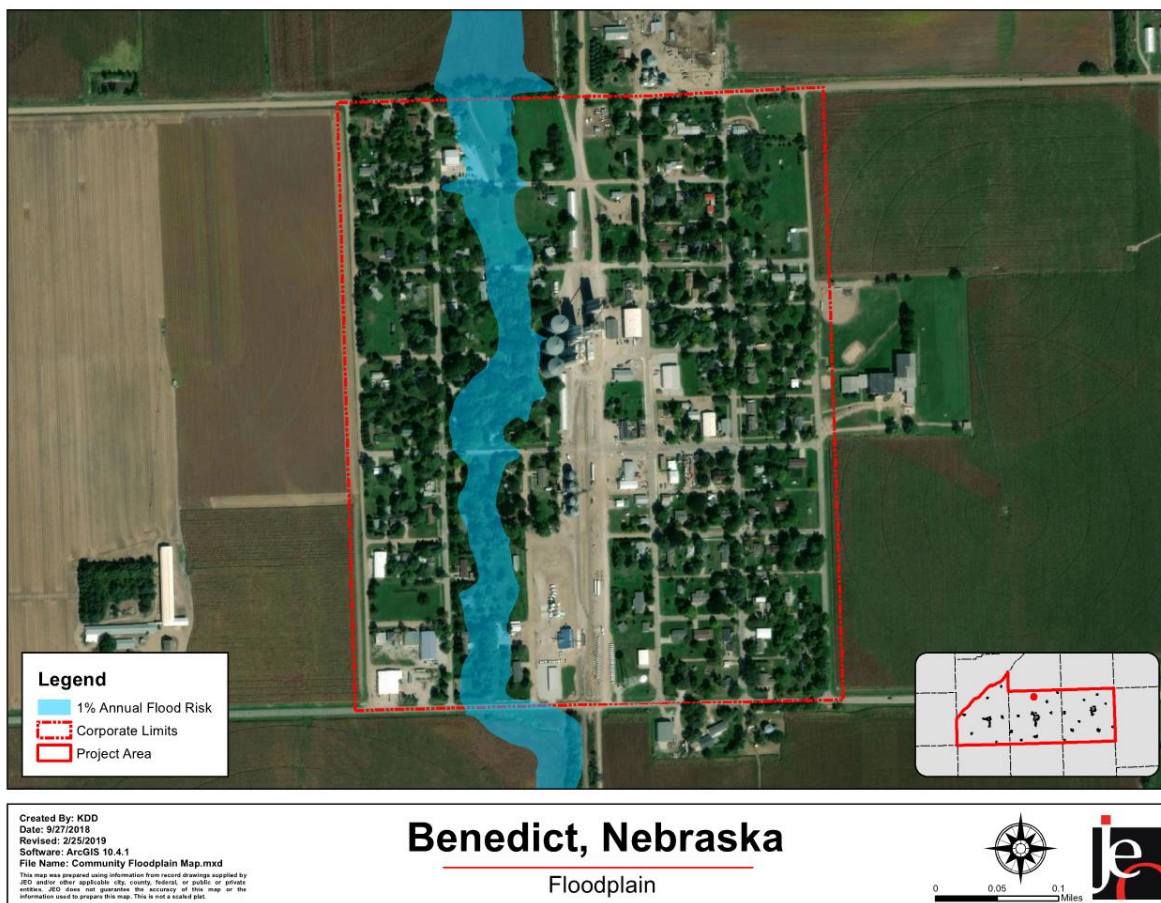
Extreme Heat

For extreme heat, the village is primarily concerned with vulnerable populations such as the elderly or families with low income who may not have sufficient air conditioning. In the event of an extreme heat event, the Benedict Volunteer Fire Department would be available to assist individuals who may be feeling the effects of extreme heat. The community center is also available to residents as a cooling center during periods of high heat.

Flooding

The primary risk of flooding for the community occurs from a draw that runs through the middle of the village. The local planning team indicated that the draw is most likely to flood during a flash flood event. The village did not indicate any past significant flood events; however, the potential still exists. During the spring 2019 flood event the village did have any damage occur. Figure BND.6 shows the preliminary floodplain for the community.

Figure BND.6: Floodplain



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

High Winds

The local planning team identified high winds as a top hazard to the community due to power loss and downed trees, branches, and power lines. Past high wind events have caused several downed trees and tore off insulation on the water tower. The Village of Benedict does have one safe room at the fire station, and residents can also seek shelter at the two churches, which have basements. The community does not do education outreach to residents but would like to in the future. There are several chemical storage tanks located throughout the village, which could be damaged due to a high wind event.

Severe Winter Storms

The top concerns for the community regarding this hazard are ice/wind, loss of electricity, and the welfare of elderly. The village has five snow routes: Work Avenue, Elmer Avenue, Groff Avenue, Sherman Street, and Logan Street. Benedict does not use snow fences and removes snow using a plow truck, tractor loader, and snow blower. The local planning team indicated that these snow removal resources are insufficient for the community. The village indicated there was a severe winter storm in 2010 that resulted in a power outage for about three days. During the 2010 winter storm, roads were impassable as local snow removal equipment was not sufficient for such a large winter storm event.

Tornadoes

NCEI data indicates that the Village of Benedict has experienced two tornado events since 1996. Both tornadoes were rated as F0 and caused \$285,000 in property damages. The local planning team indicated that vulnerable populations were impacted by these tornado events. The community has one warning siren which reaches all areas of the community and can be activated via radio or key. In the event of a tornado, Benedict has a community safe room at the fire department and residents are able to seek shelter at one of the two church basements. If a disaster were to occur, both the volunteer fire department and village has mutual aid agreements with the City of York, Village of Waco, Village of Gresham, Village of Bradshaw, and Village of Stromsburg.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Benedict has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Benedict has five village board members and the following offices that may help implement mitigation actions.

- Clerk/Treasurer
- Utility Superintendent
- Attorney
- Maintenance Superintendent
- Street Superintendent
- York County Sheriff
- Engineer
- Planning Commission
- Floodplain Administrator
- Board of Health

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table BND.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	No
	Economic Development Plan	No
	Emergency Operational Plan	Yes – County
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
National Flood Insurance Program	Yes	

Section Seven | Village of Benedict Community Profile

Survey Components/Subcomponents		Yes/No
	Community Rating System	No
	Other (if any)	-
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes – Clerk
	GIS Capabilities	Yes – County
	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)	-
	<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan
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)	-	
<i>Education & Outreach Capability</i>	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
	Natural Disaster or Safety related school programs	Yes
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	Limited
Does your community have the community support to implement projects?	Limited
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

Benedict’s Comprehensive Plan was last updated in 2002. The plan does not discuss natural hazards, however, there are components which relate to the ideas of hazard mitigation. The plan directs development away from major transportation routes and encourages elevation of structures located in the floodplain. The local planning team indicated that they would like to update the comprehensive plan, however, there is no timeline for when the update will occur.

The Local Emergency Operations Plan (LEOP) is an annex to the county’s plan. This plan was last updated in 2019. The LEOP addresses hazards of greatest concern, assigns specific responsibilities, identifies scenarios that would require evacuation, addresses evacuation routes, and identifies sheltering locations. The local planning team indicated that the identified shelters are not sufficient to meet the local need. The clerk, board members, fire department, village maintenance, and village water department are all familiar with the LEOP.

The Zoning Ordinance for Benedict was last updated in 1992. Although it has not been updated for some time, it still contains several principles of hazard mitigation. The ordinance discourages development in the floodplain, identifies areas for open space, discourages development near chemical storage sites/transportation routes, and limits population density in the floodplain. Currently, there are no plans to update the zoning ordinance.

Benedict has a Wellhead Protection Plan which was updated in 2002. There are signs in place to alert community members of the location of the wellhead protection area. The local planning team indicated that there are decommissioned wells that should be sealed, and the village is in the process of sealing them. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Ongoing and New Mitigation Actions

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, lift stations, and other critical facilities and shelters.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$15,000 - \$30,000 per generator
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board, Emergency Management
Status	Not Started

Mitigation Action	Emergency Communication
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inner-operable communications.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$10,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village, Emergency Management
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees. Pass and enforce a tree care ordinance to improve tree health and remove dangerous trees and limbs.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	\$20,000
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Maintenance
Status	In Progress. Hazardous trees are removed as they are identified.

Mitigation Action	Improve Snow / Ice Removal Program
Description	During winter events, the community will have designated snow routes for the community to use.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	\$1,000 plus Staff Time
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops. Implement a tornado safety program.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$0 - \$5,000+
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village
Status	In Progress. Hazard mitigation will be woven into current public education efforts.

Mitigation Action	Relocate Chemical Storage
Description	Explore a plan and potential funding for relocation of tanks and hazardous storage located in the village.
Hazard(s) Addressed	Chemical Spills – Fixed Site
Estimated Cost	\$2,500
Funding	Staff Time, Co-op Private Funds
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Snow Fences
Description	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure. Snow fences are needed along Work Avenue, Logan Street, Lincoln Avenue, Myer Street, and the highway spur into the community.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	\$50 per 100 Linear Feet
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Maintenance
Status	Not Started. New Action

Mitigation Action	Stabilize/Anchor Fertilizer, Fuel, and Propane Tanks
Description	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in tornado or high wind event.
Hazard(s) Addressed	Tornadoes, High Winds
Estimated Cost	\$1,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, Central Valley Ag
Status	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	\$10,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Planning Commission, Village Board
Status	Not Started. New Action

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities. Provide new radios as needed.
Hazard(s) Addressed	Tornadoes, Severe Thunderstorms, High Winds, Severe Winter Storms, Hail
Estimated Cost	\$50 per unit
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started. New Action

Removed Mitigation Actions

Mitigation Action	Electrical System Looped Distribution / Redundancies
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Reason for Removal	Mitigation action would be better addressed by local power district. The community will continue to monitor and work with York Public Power District to reduce their vulnerability.

Mitigation Action	Floodplain Regulations
Hazard(s) Addressed	Flooding
Reason for Removal	The local planning team determined that this action was no longer necessary as continuing to enforce regulations is not a mitigation action. The village will continue to enforce floodplain regulations.

xiv Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

xv United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

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

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

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

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

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

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

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

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

xxiv County Assessor. Personal correspondence, February 2019.

xxv Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

COMMUNITY PROFILE

VILLAGE OF BRADSHAW



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

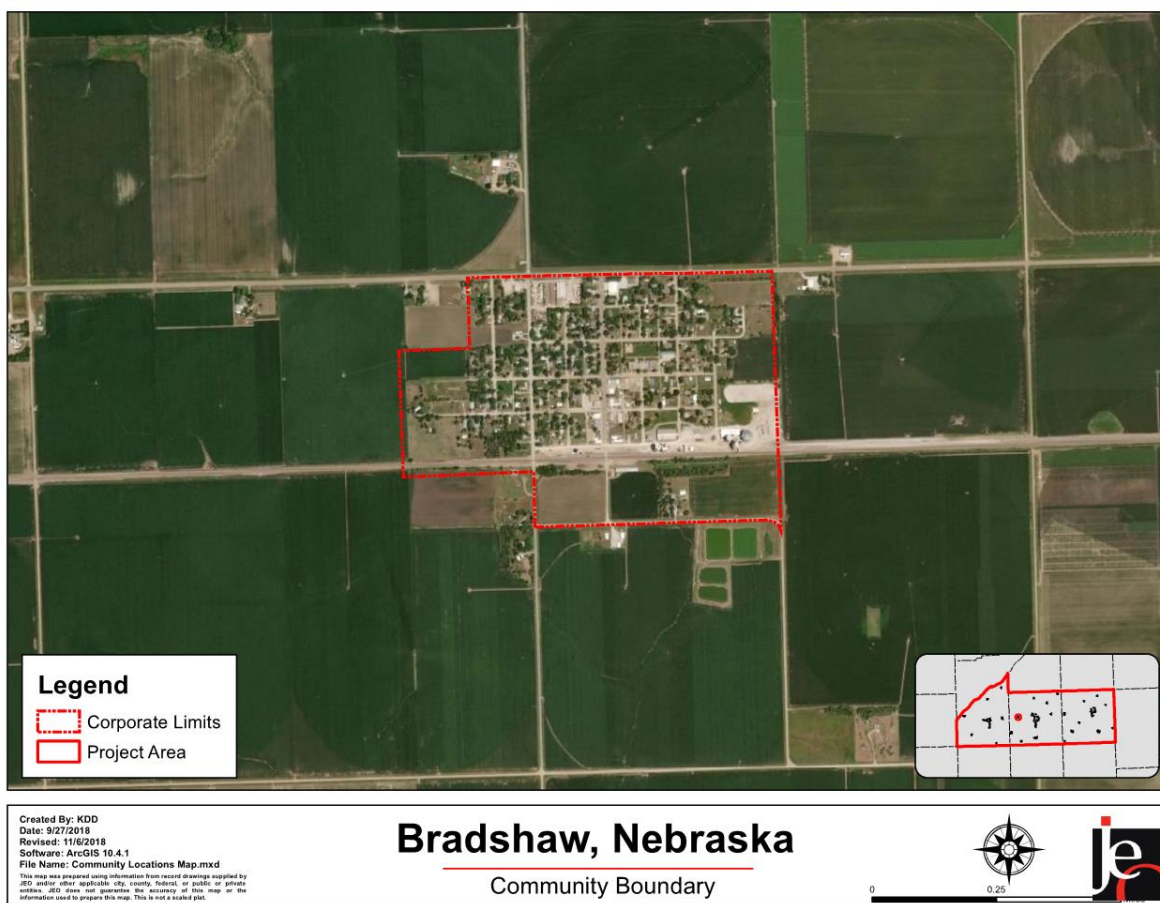
Table BDW.1: Bradshaw Local Planning Team

Name	Title	Jurisdiction
Kent Will	Town Superintendent	Village of Bradshaw
James Gordan	Board Chairperson	Village of Bradshaw

Location and Geography

The Village of Bradshaw is located in the west central portion of York County and covers an area of 210 acres. There are no creeks, lakes, or rivers near Bradshaw.

Figure BDW.1: Community Boundary



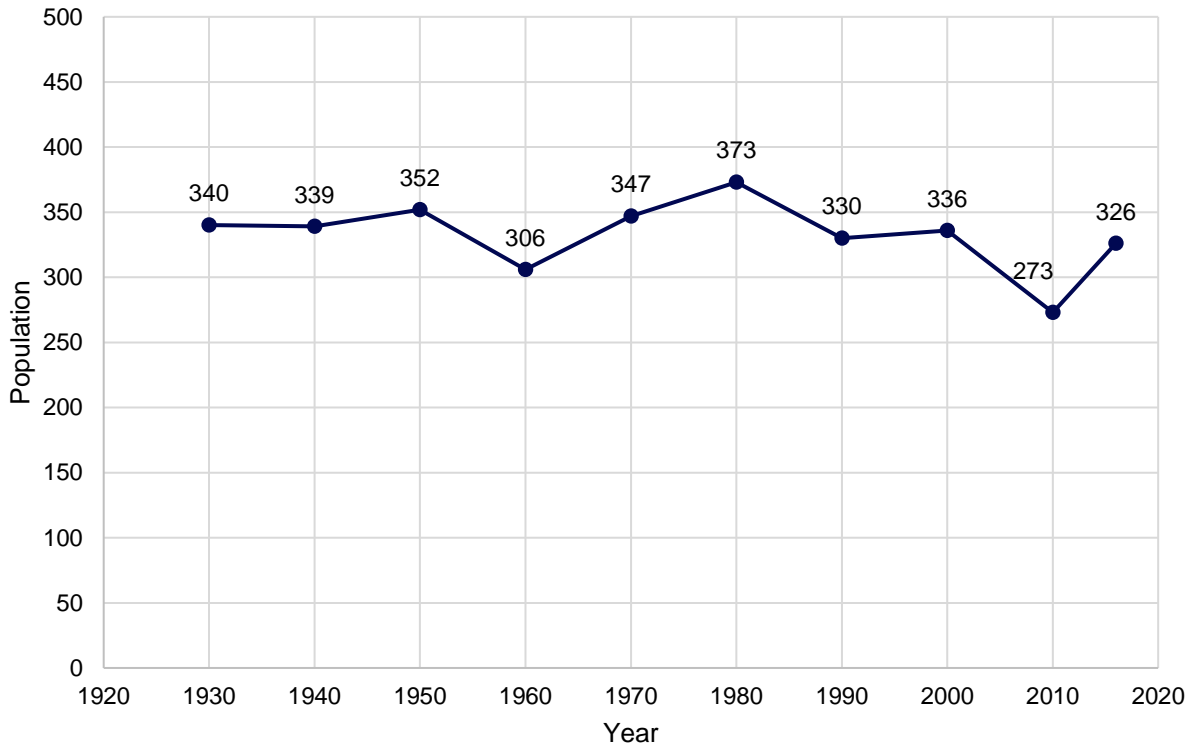
Transportation

Bradshaw’s major transportation corridor includes U.S. Highway 34 with 2,000 vehicles a day.^{xxvi} Bradshaw has one Burlington Northern rail line running east west through the southern portion of the community. Bradshaw does not have any airports within or near village boundaries. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents. The local planning team indicated that chemicals such as fuel and agricultural pesticides/herbicides are regularly transported along Highway 34.

Demographics

Bradshaw's population declined from about 336 people in 2000 to 326 people in 2016, an average annual decrease of 0.19%. This is important because the population decline means a decreasing tax revenue. Bradshaw's population accounted for 2.36% of York County's population in 2016.^{xxvii}

Figure BDW.2: Population 1930 – 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

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

- **Younger.** The median age of Bradshaw was 38.5 years old in 2016, compared with the county average of 40.1 years. Bradshaw's population grew younger since 2010, when the median age was 42.8 years old. Bradshaw had a larger proportion of people under 20 years old (26.5%) than the county (25.5%).^{xxviii}
- **Less ethnically diverse.** In 2010, 5.5% of Bradshaw's population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, Bradshaw became less ethnically diverse, with 4.0% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{xxix}
- **Less likely to be below the federal poverty line.** The poverty rate in Bradshaw (2.2% of families living below the federal poverty line) was much lower than the county's poverty rate (7.5%) in 2016.^{xxx}

Employment and Economics

The Bradshaw economic base is a mixture of educational and manufacturing uses. In comparison to York County, Bradshaw's economy had:

- **Similar mix of industries.** Bradshaw's major employment sectors, accounting for 10% or more of employment each, were: manufacturing and educational services, and health care and social assistance.^{xxxix}
- **Higher household income.** Bradshaw's median household income in 2016 (\$56,000) was about \$900 higher than the county (\$55,156).^{xxxix}
- **More long-distance commuters.** The local planning team indicated that a large percentage of residents commute to other communities.

Major Employers

Major employers within Bradshaw include Klute Truck, Klute Metals, and Central Valley Ag. A large percentage of residents commute to Grand Island and York for employment.

Housing

In comparison to York County, Bradshaw's housing stock was:

- **Less renter-occupied.** About 16.2% of occupied housing units in Bradshaw are renter occupied compared with 29.5% of occupied housing in York County.^{xxxix}
- **Older.** Bradshaw had a larger share of housing built prior to 1970 than the county (63.1% compared to 60.0%).^{xxxix}
- **Less multifamily.** Although the predominant housing type in the village is single family detached, Bradshaw contains much less multifamily housing with five or more units per structure compared to the county (0.0% compared to 8.9%). About 87.2% of housing in Bradshaw was single-family detached, compared with 80.2% of the county's housing. Bradshaw has a larger share of mobile and manufactured housing (12.8%) compared to the county (3.5%).^{xxxix}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Future Development Trends

In the last five years, a few new houses have been completed in the village. According to the 2016 American Community Survey estimates, Bradshaw's population has experienced a decline since 2010. A declining population may result in a shrinking tax base, which may make implementing mitigation actions more difficult. The local planning team indicated that the declining population was due to the community not having a school. Although population has declined, there are plans for adding additional housing units in the next five years.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table BDW.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
178	\$8,918,097	\$50,102	0	\$0

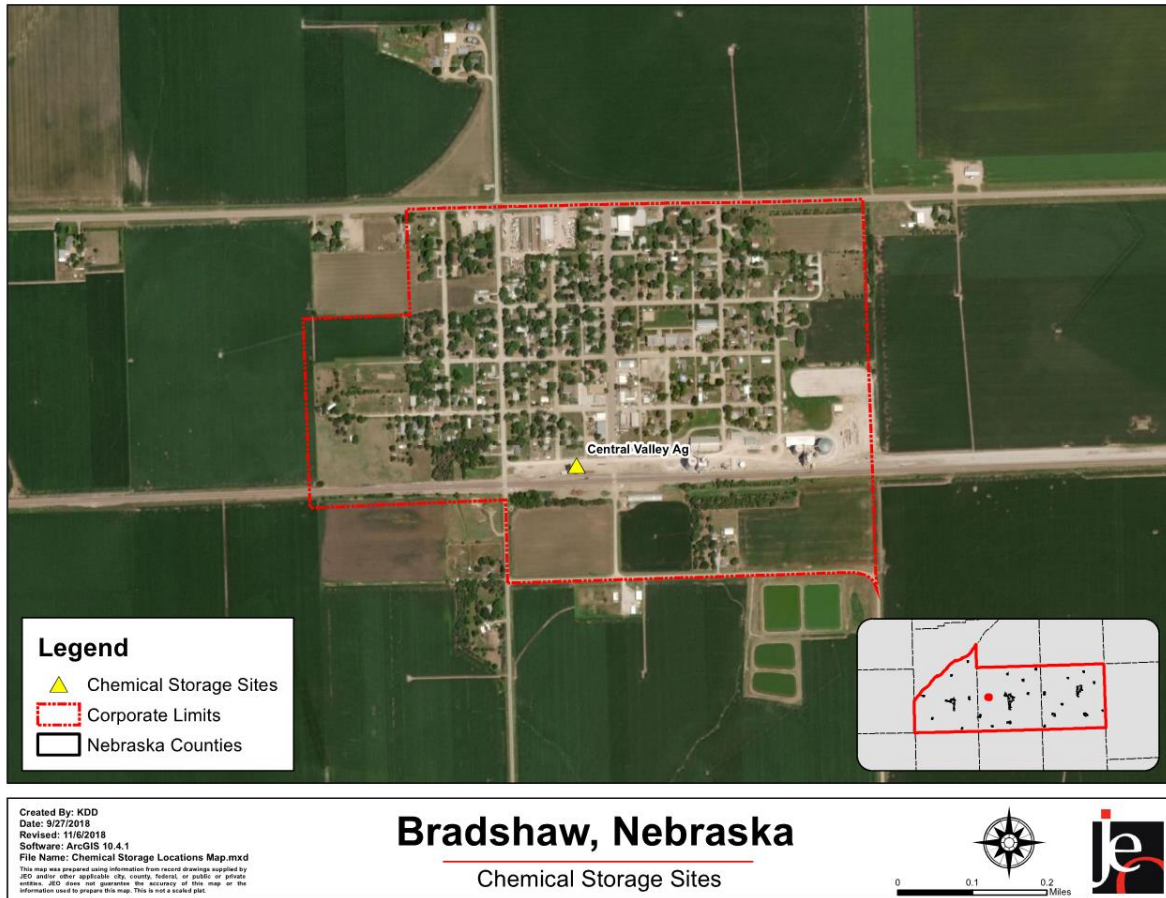
Source: Nebraska Department of Revenue, Property Assessment Division^{xxxvi}

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is a total of one chemical storage site in Bradshaw. The map below shows the name and location of the chemical storage sites.

Figure BDW.3: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{xxxvii}

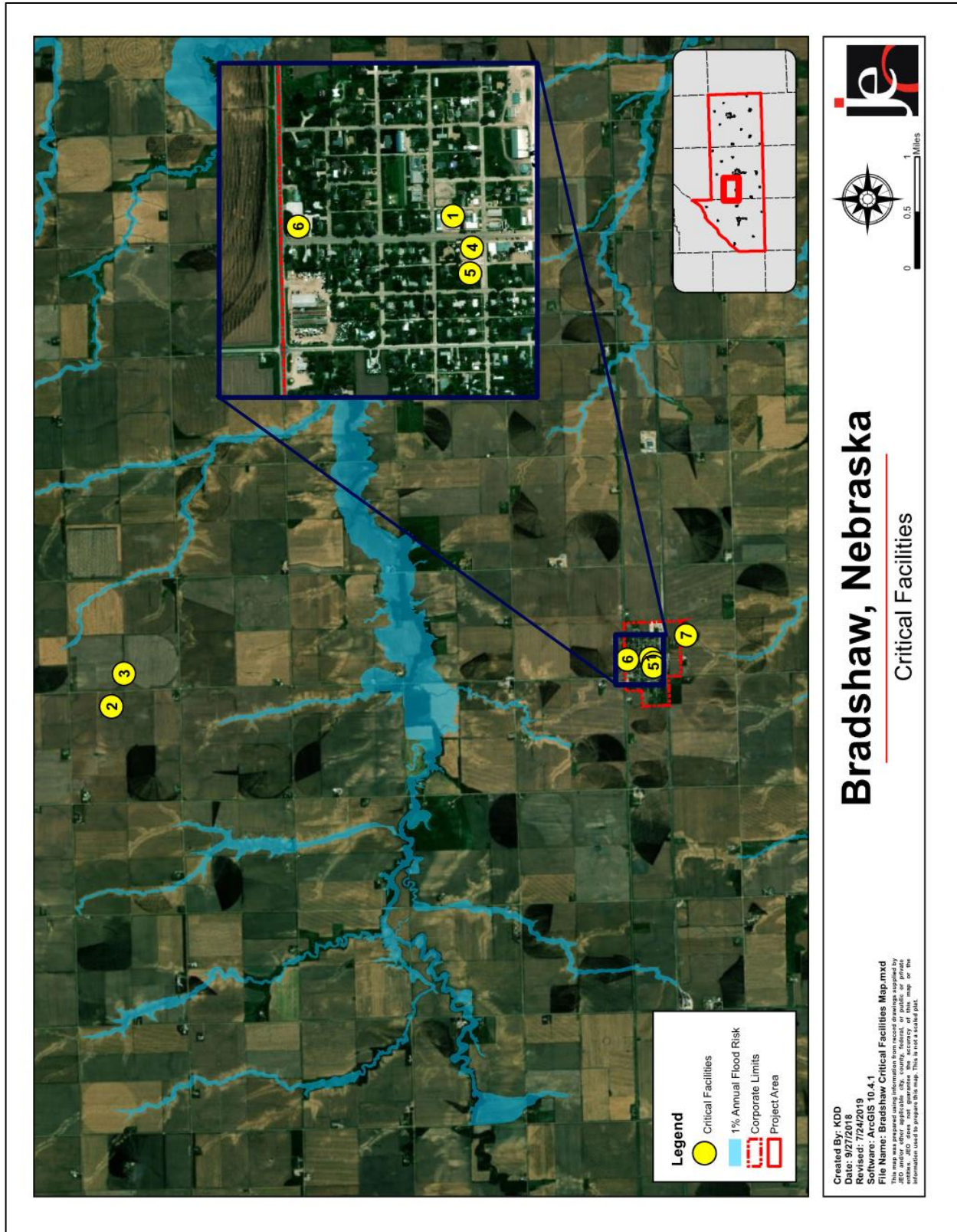
Critical Facilities

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

Table BDW.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Water Tower & Stand Pipe	N	N	N
2	North Well	N	N	N
3	South Well	N	Y	N
4	City Hall and Community Center	N	N	N
5	United Methodist Church	N	N	N
6	Fire Station	N	N	N
7	Wastewater Lagoon	N	N	N

Figure BDW.4: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills – Fixed Site

The greatest concern for the village from fixed site chemical spills was potential contamination of surface and ground water. The village contains one fixed site chemical storage facility which contains fuel oil and gasoline. The water tower which serves Bradshaw is located within two blocks of the chemical storage facility. There are also vulnerable populations which are located to the north of the facility. Should a spill occur, the local fire department would be the first to respond. The local fire department has been trained in spill response and has the appropriate protective gear.

High Winds

Tree damage and mobile home damage were the major concerns related to high winds. Past high wind events have caused a loss of water well communication and downed power lines. If a high wind event should occur in Bradshaw, the community does have a safe room in the fire department. The church and community center are other options for community members to seek shelter.

Severe Thunderstorms

The village indicated that damage from fallen trees and limbs was of greatest concern. In 2014 and 2018 the Village of Bradshaw experienced significant tree and home damage from severe thunderstorms. There are hazardous trees within the community that need to be removed, specifically in the alleyways. None of the power lines within the community have been buried, which leaves them more vulnerable to fallen trees and high winds. Should a loss of power occur, both the south well and siren have back power generators.

Severe Winter Storms

The local planning team identified severe winter storms as a significant concern for the community. Specifically, the team was concerned with the closure of Highway 34 due to snow and ice. Closure of this highway would make it very difficult for outside responders to reach the community and make it difficult for residents to leave. The village superintendent is in charge of removing snow and the community indicated that snow removal resources were sufficient. If additional resources were needed, local farmer would be willing and able to assist. NCEI data records severe winter storms as “zonal” events, meaning there is not a specific record of what communities were impacted by each event. However, the local planning team identified a snow storm in 2009 as having a significant impact on the community.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Bradshaw has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Bradshaw has five village board members and the following offices that may help implement mitigation actions.

- Clerk/Treasurer
- Utility Superintendent
- Attorney
- Engineer

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table BDW.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	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	No
	Community Rating System	No
Other (if any)	-	
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	No
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	Yes – Contract
	Local Staff Who Can Assess Community’s Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	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

Survey Components/Subcomponents		Yes/No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
<i>Education & Outreach Capability</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc. Ex. CERT Teams, Red Cross, etc.	No
	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	No
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	Limited
Does your community have the community support to implement projects?	Limited
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The village’s comprehensive plan, zoning ordinance, building code, and subdivision regulations were all last updated in 2002. Due to the age of the plans only a few hazard mitigation principles are discussed. These plans contain goals aimed at safe growth, direct development away from the floodplain, chemical storage facilities, and major transportation routes, encourage elevation of structures located in the floodplain, encourage the use of fire-resistant materials, and encourage strengthening historic structures. There are plans in place to update all of these plans within the next one to two years.

The local emergency operations plan (LEOP) for the village was last updated in 2019. The LEOP contains hazards of greatest concern, assigns specific responsibilities, identifies scenarios that would require evacuation, identifies critical evacuation routes, and lists sheltering locations. The local planning team indicated that the all offices and departments in the village are familiar with the LEOP. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Ongoing and New Mitigation Actions

Mitigation Action	Alert Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$15,000+
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, County Emergency Management
Status	In Progress. Currently evaluating existing alert sirens.

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, lift stations, and other critical facilities and shelters.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$15,000-\$30,000 per generator
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, Village Maintenance Department
Status	Not Started

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This could include fire equipment, ATVs, water tanks/truck, snow removal equipment, pumps, etc. This would also include developing backup systems for emergency vehicles, identifying and training additional personnel for emergency response, or continuing educational opportunities for current personnel.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000 to \$400,000 per vehicle, varies depending on what equipment is needed.
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Fire Department, York County Emergency Management
Status	Not Started

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Utility Department
Status	Not Started

Mitigation Action	Emergency Communication
Description	Update LEOP and 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	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$10,000+
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, County Board, Emergency Management
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	\$20,000
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Village Maintenance Department
Status	In Progress. The village removes hazardous trees as they are identified.

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

Mitigation Action	Power, Service, Electrical, and Water Distribution 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, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. Provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	\$50,000-\$70,000 (per mile for electrical)
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$500-\$5,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, County Emergency Management Agency
Status	Not Started

Mitigation Action	Storm Shelter / Safe Rooms
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	\$200-250 per Square Foot
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Clerk, Utility Superintendent, Village Board
Status	Not Started. New Action

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Village Maintenance Department
Status	Not Started

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

Mitigation Action	Update Comprehensive Plan
Description	Update the village’s Comprehensive Plan. Integrate plan with Hazard Mitigation Plan components.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$10,000+
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Utility Superintendent, Village Clerk, Village
Status	Not Started. New Action

Mitigation Action	Warning Systems
Description	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$10,000+
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50 per Radio
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board, Emergency Management
Status	Not Started

Mitigation Action	Windbreaks
Description	Installation of windbreaks to increase water storage capacity in soil. Prevents snow from collecting on rural roadways, increases accessibility to residents.
Hazard(s) Addressed	Drought, Severe Winter Storms, High Winds
Estimated Cost	\$2,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board, Village Maintenance Department
Status	Not Started

Removed Mitigation Actions

Mitigation Action	Obtaining Missing Data For Future Updates
Hazard(s) Addressed	All Hazards
Reason for Removal	The local planning team determined this mitigation action was no longer necessary. During this plan update and future updates, data will be provided by the village.

xxvi Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

xxvii United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

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

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

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

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

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

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

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

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

xxxvi County Assessor. Personal correspondence, February 2019.

xxxvii Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

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COMMUNITY PROFILE

VILLAGE OF GRESHAM



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

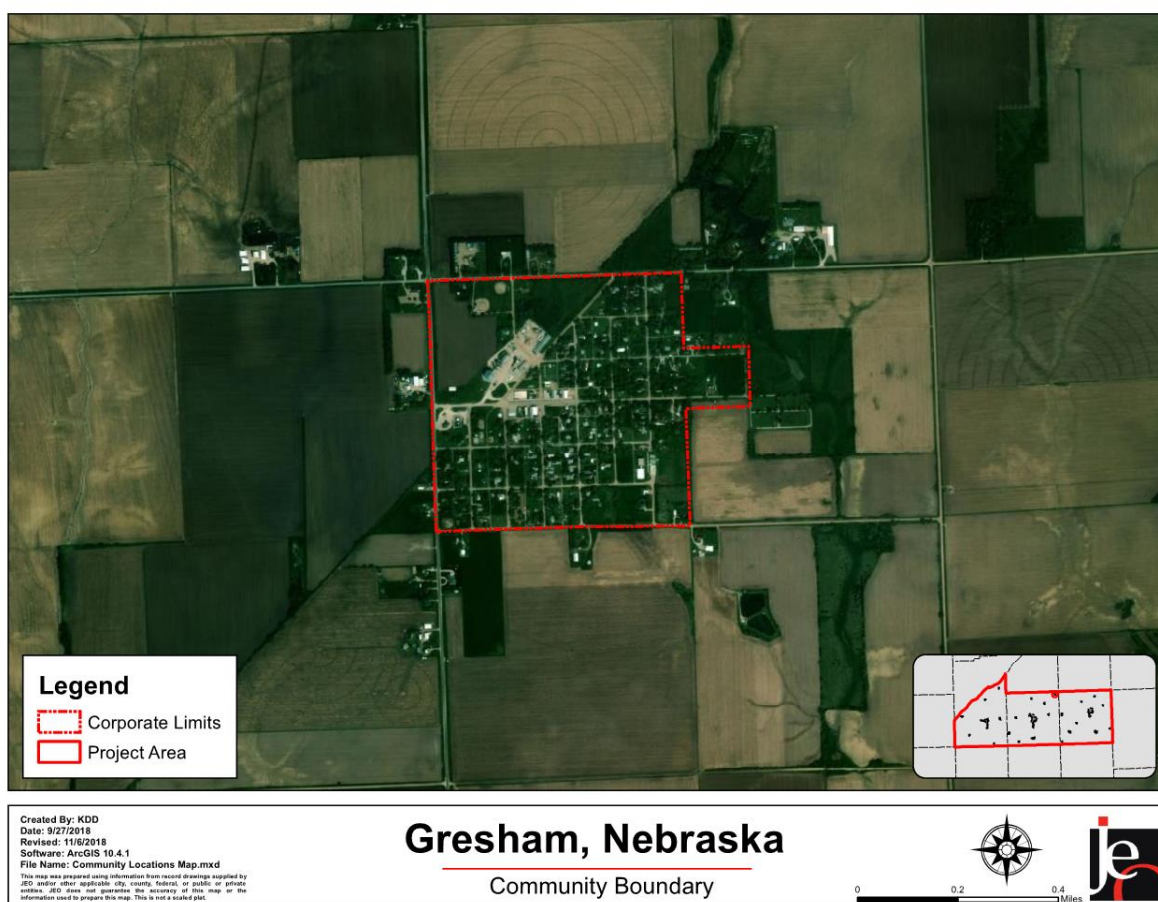
Table GSM.1: Gresham Local Planning Team

Name	Title	Jurisdiction
James O'Donnell	Maintenance Supervisor	Gresham
Amanda O'Donnell	Village Board Member	Gresham
Monte Rohmor	Fire Chief	Gresham

Location and Geography

The Village of Gresham is located in the northeast corner of York County and covers an area of 173 acres. Lincoln Creek is located five miles to the south of Gresham.

Figure GSM.1: Community Boundary



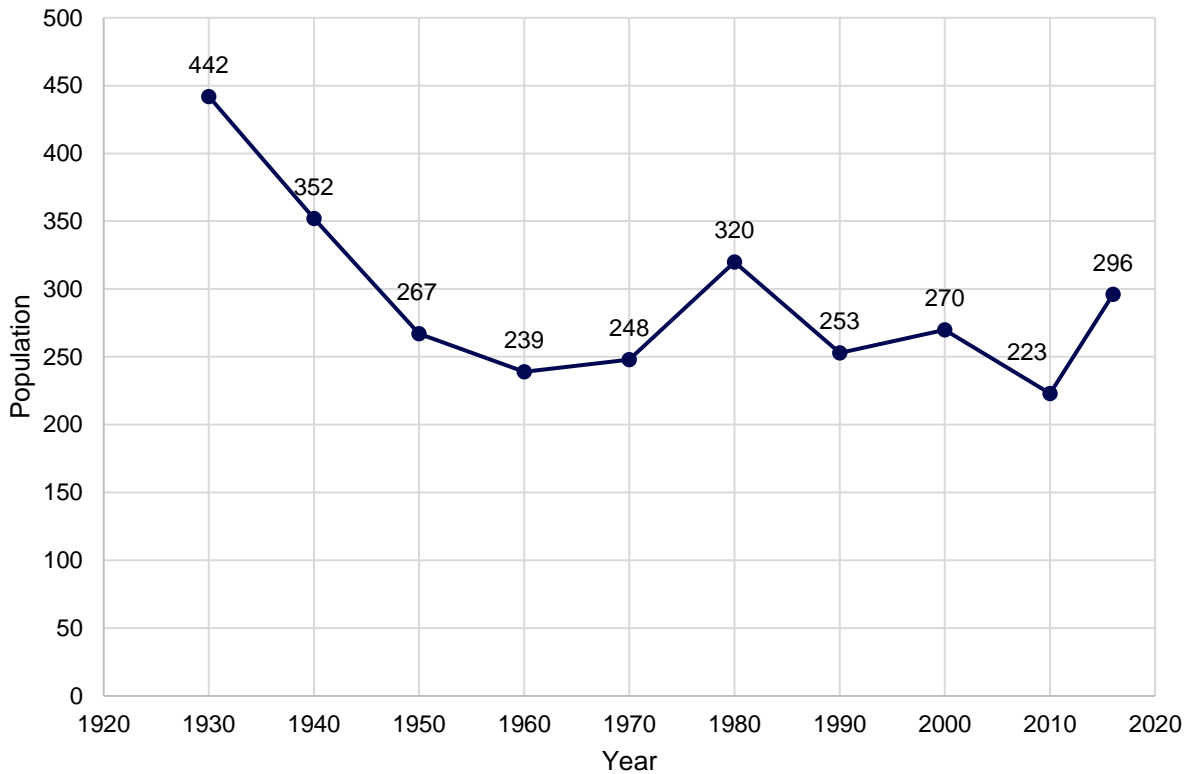
Transportation

Gresham's major transportation corridor includes Nebraska Highway 69 with 1,235 vehicles a day.^{xxxviii} Gresham does not have any rail lines running through the community. Gresham also does not have any airports within or near village boundaries. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents. The local planning team indicated that chemicals such as anhydrous ammonia, propane, diesel, gasoline, and liquid fertilizers are regularly transported along Highway 69.

Demographics

Gresham’s population grew from about 270 people in 2000 to 296 people in 2016, an average annual increase of 0.60%. This is important because the population increase means an increasing tax revenue. Gresham’s population accounted for 2.14% of York County’s population in 2016.^{xxxix}

Figure GSM.2: Population 1930 - 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Gresham’s population was:

- **Younger.** The median age of Gresham was 35.0 years old in 2016, compared with the county average of 40.1 years. Gresham’s population grew younger since 2010, when the median age was 41.5 years old. Gresham had a larger proportion of people under 20 years old (29.3%) than the county (25.5%).^{xi}
- **Less ethnically diverse.** In 2010, 0.0% of Gresham’s population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, Gresham stayed as ethnically diverse, with 0.0% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{xii}
- **More likely to be below the federal poverty line.** The poverty rate in Gresham (8.3% of families living below the federal poverty line) was greater than the county’s poverty rate (7.5%) in 2016.^{xiii}

Employment and Economics

The Gresham economic base is a mixture of transportation and arts uses. In comparison to York county, Gresham's economy had:

- **Different mix of industries.** Gresham's major employment sectors, accounting for 10% or more of employment each, were: retail trade; transportation and warehousing, and utilities; arts, entertainment, and recreation, and accommodation and food services; and other services, except public administration.^{xliii}
- **Lower household income.** Gresham's median household income in 2016 (\$50,865) was about \$4,300 lower than the county (\$55,156).^{xliv}
- **More long-distance commuters.** The local planning team indicated that a high percentage of residents commute to other communities.

Major Employers

Major employers within Gresham include the CVA Co-op and C-Store, the village, and Big Horn Bar. A large percentage of residents commute to York, Seward, Columbus, and Lincoln for employment.

Housing

In comparison to York County, Gresham's housing stock was:

- **Less renter-occupied.** About 18.6% of occupied housing units in Gresham are renter occupied compared with 29.5% of occupied housing in York County.^{xlv}
- **Older.** Gresham had a much larger share of housing built prior to 1970 than the county (87.5% compared to 60.0%).^{xlvi}
- **Less multifamily.** Although the predominant housing type in the village is single family detached, Gresham contains less multifamily housing with five or more units per structure compared to the county (3.9% compared to 8.9%). About 87.5% of housing in Gresham was single-family detached, compared with 80.2% of the county's housing. Gresham has a slightly larger share of mobile and manufactured housing (3.9%) compared to the county (3.5%).^{xlvii}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. Gresham does not have any mobile home parks and only has one mobile home located within the community.

Future Development Trends

In the last five years, no new housing or buildings have been built, however, a couple of older homes were removed. According to the 2016 American Community Survey estimates, Gresham's population has grown since 2010. An increasing population may result in an expanding tax base, which may make implementing mitigation actions more feasible. The local planning team indicated that the growth can be attributed to the inexpensive housing that can be found in the community. Although the village is growing, no new housing developments, industry, or businesses are planned over the next five years.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table GSM.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
154	\$5,872,208	\$38,131	0	\$0

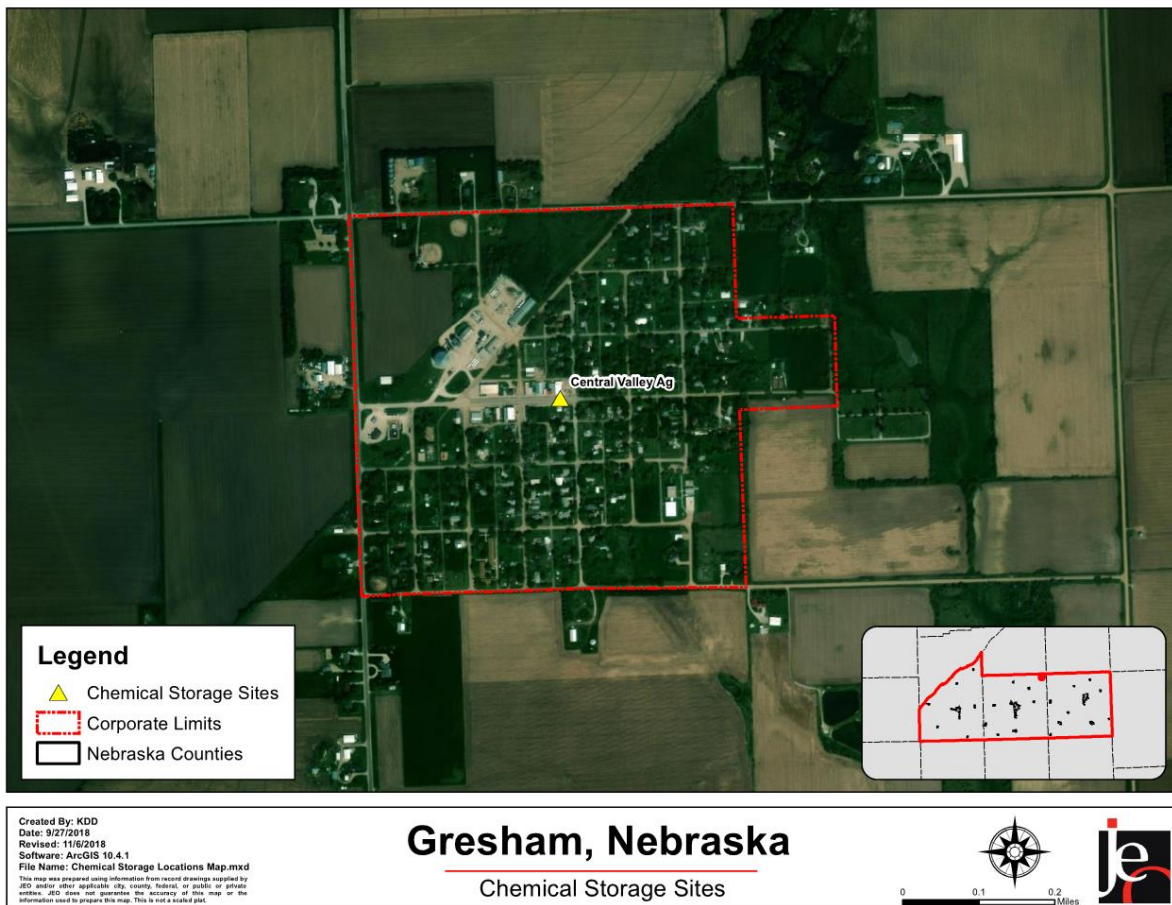
Source: Nebraska Department of Revenue, Property Assessment Division^{xviii}

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is a total of one chemical storage sites in Gresham. The map below shows the name and location of the chemical storage site.

Figure GSM.3: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{xlix}

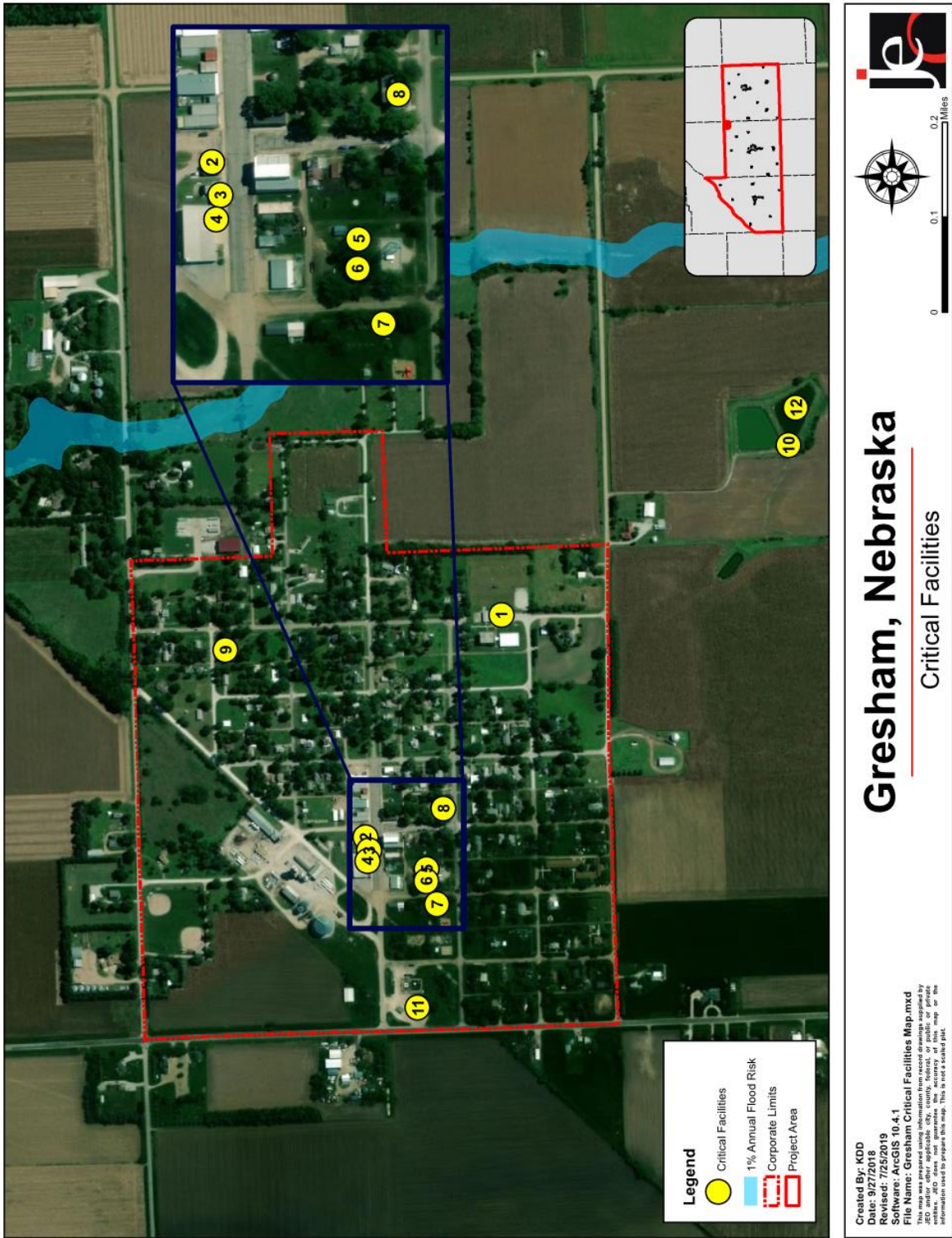
Critical Facilities

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

Table GSM.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Community Center	N	N	N
2	Post Office	N	N	N
3	Village Office	N	N	N
4	Fire Department	N	Y	N
5	Water Tower	N	N	N
6	Village Maintenance Shop	N	N	N
7	Well House #3	N	N	N
8	United Presbyterian Church	Y	N	N
9	Well House #4	N	Y	N
10	Lift Station	N	Y	N
11	CVA Gas Station	N	N	N
12	Wastewater Lagoons	N	N	N

Figure GSM.4: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills – Fixed Site

Fixed site chemical spills are a concern to the local planning team because the Co-op has an anhydrous ammonia tank. With residents and critical facilities located near the Co-op, a spill could significantly impact the community. In the past the Co-op has had minor vaporization during product transfers and valve leaks. In addition to the anhydrous ammonia tank, the village also has individual fuel storage sites. Should a spill occur, Co-op and fire department staff have gear and training to respond to the leak. However, wind direction may greatly affect emergency response as storage tanks are located across the street from the fire department. A major concern for the planning team is the need to educate the public on this hazard. Many residents live near chemical storage sites and are not educated about the threat or the appropriate response should a spill occur.

Chemical Spills – Transportation

Like fixed site chemical spills, the local planning team indicated that anhydrous ammonia leaks during transportation is the primary concern for the village. Specifically, the team is concerned with anhydrous vapor drift toward residences and businesses. Anhydrous ammonia is primarily transported along Nebraska Highway 69, Depot Street, and Elm Street. No significant events have occurred locally, however, minor leaks have led to citizen complaints and worry. There are also several critical facilities located along main transportation routes, including CVA gas station, fire department, village office, post office, and both churches. If a leak were to occur near any of these facilities, the village could be significantly impacted.

Grass/Wildfires

Wildfires have occurred in nearby rural areas but have not affect the village thus far. Smoke hazard in the village and rural property damage are the main concerns regarding wildfires in the county. A smoke hazard may require door-to-door communication with residents in the event of a nearby wildfire/grass fire. The village does have an active fire department, which consists of 30 members. Historically, there have been 18 wildfires to which the Gresham Fire Department have had to respond to. Those 18 fires have resulted in 153 burned acres. An aging housing stock which lacks ignition-resistant materials and no wildland urban interface code means much of the village is at an increased risk in the event of a nearby fire.

Hail

The local planning team indicated that the primary concern regarding hailstorms is damage to property both from the hail itself and fallen trees/branches. The village's critical facilities are fitted with hail resistant building materials and are insured, however, a significant proportion of housing in Gresham was built prior to 1970 and is unlikely to be fitted with hail resistant building materials. There have been 17 historical hail events reported in Gresham causing \$380,000 in property damage. The largest event occurred in 1998 when 2.75-inch hail caused \$75,000 in damages. To mitigate the effects of hail, the village board serves as the tree board and hazardous tree removal is determined by both the village board and maintenance supervisor.

Severe Thunderstorms

No significant severe thunderstorm occurred locally in the last five years. However, severe thunderstorms are an annual occurrence across the state. The local planning team identified disruption of village services, power utility disruption, and property damage as their main concerns regarding severe thunderstorms. Severe storms are likely to cause power and village services disruption as the village office, maintenance shop, water tower, post office, community center, and both churches do not have generators. In addition, 90% of power lines are not buried which leaves them vulnerable to damage from trees and wind.

Tornadoes

According to NCEI data, there were zero tornadoes between 1996 and 2017. Although there are no previous occurrences, the potential for significant damages and loss of life caused tornadoes to be a top concern for the village. The community does not have any safe rooms for their residents, however most community members have basements where they can seek shelter during a tornado event. The village does have a warning siren which can be activated by the York County Communication Center or locally at the fire station. All areas of the community are able to hear the siren.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Gresham has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Gresham has five village board members and the following offices that may help implement mitigation actions.

- Clerk/Treasurer
- Utility Superintendent
- Attorney
- Fire Chief
- Engineer
- Planning Commission
- Co-op Branch Supervisor

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table GSM.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	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

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

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	Limited
Does your community have the community support to implement projects?	Moderate
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The Village of Gresham has a comprehensive plan, local emergency operations plan, zoning ordinance, building code, capital improvements plan, and a wellhead protection plan. The comprehensive plan and capital improvement plan will all be updated by the end of 2019.

The emergency operations plan was last updated in early 2019. The plan discusses hazards of greatest concern and includes shelter locations for the public during these hazardous events. In addition, the plan identifies scenarios that would require an evacuation and the evacuation routes that would be used. The zoning ordinance and building code were last updated in 2012. These codes discourage development in the floodplain and near chemical storage sites. The building code does not require elevation of structures in the floodplain but does require the mechanical systems in those structures be elevated. The building code also requires use of fire-resistant building materials. The capital improvement plan and municipal budget are fairly limited and primarily addresses streets. The capital improvement plan does include installing emergency generators in critical facilities and improving drainage routes. Finally, the wellhead protection plan was last updated in 2011. The plan identifies an area one mile west of Gresham as an area with ground water contamination. A water conservation plan is in place within the wellhead protection plan. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Ongoing and New Mitigation Actions

Mitigation Action	Acquire Identification Resource
Description	Provide the opportunity to purchase and have available the most current Emergency Response Guidebook. This guidebook outlines emergency protocol and visually identifies hazardous materials labels. This would aid in the identification of which chemicals were being transported, to further informed action on the part of the observer and responders. The village would like to purchase four guidebooks.
Hazard(s) Addressed	Chemical Spills (Transportation & Fixed Site)
Estimated Cost	\$36+
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board
Status	New Action, Not Started

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power. The village is looking at having a stationary generator for the village office building.
Hazard(s) Addressed	High Winds, Severe Winter Storms, Severe Thunderstorms, Tornadoes, Hail
Estimated Cost	\$3,500+ depending on site requirements
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board
Status	New Action, Not Started

Mitigation Action	Backup Municipal Records
Description	Develop protocol for back up critical municipal records and purchase external storage devices for records.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$100+
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board
Status	New Action, Not Started

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional, or updating existing, emergency response equipment. Ex: fire trucks, ATV's, water tanks/trucks, snow removal equipment, etc. This would also include developing backup systems for emergency vehicles and identifying and training additional personnel for emergency response. The Gresham Fire and Rescue Department has identified a need for 10-20 sets of bunker gear and six new steer tires for fire trucks.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$60,000
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Gresham Volunteer Fire and Rescue
Status	New Action, Not Started

Mitigation Action	Emergency Communication
Description	Establish an action plan to improve communication between agencies to better assist residents and businesses during and following emergencies. Establish inter-operable communications. The Gresham Fire and Rescue Department has identified a need for 20 new hand-held radios by Kenwood.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$12,000
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Gresham Volunteer Fire and Rescue
Status	New Action, Not Started

Mitigation Action	Public Awareness/Education
Description	Outreach projects, distribution of maps, and environmental education increase public awareness of natural hazards, and how people can protect themselves. Other examples include educating citizens on water conservation methods, evacuation plans, etc. In addition, purchase equipment such as overhead projectors and laptops to facilitate presentation of information. The village is looking at purchasing an overhead projector and lap top for educational purposes.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$3,000+
Funding	General Fund
Timeline	1 Year
Priority	Medium
Lead Agency	Village Board
Status	New Action, Not Started

Mitigation Action	Stormwater System and Drainage Improvements
Description	Smaller communities may utilize stormwater systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. This project will take place in various places around Gresham. They still need to identify problem areas and get cost estimates.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

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

Removed Mitigation Actions

Mitigation Action	Storm Shelter / Safe Rooms
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Reason for Removal	The local planning team determined that this mitigation action was not practical. Nearly all residents in Gresham have a safe place or have access to safe place should a hazard occur.

Mitigation Action	Weather Radios
Hazard(s) Addressed	All Hazards
Reason for Removal	The local planning team determined that this mitigation action was no longer necessary. Residents have access to radios and cell phones which can give weather alerts as soon as they are issued.

xxxviii Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

xxxix United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

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

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

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

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

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

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

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

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

xlvi County Assessor. Personal correspondence, February 2019.

xlix Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

COMMUNITY PROFILE

CITY OF HENDERSON



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

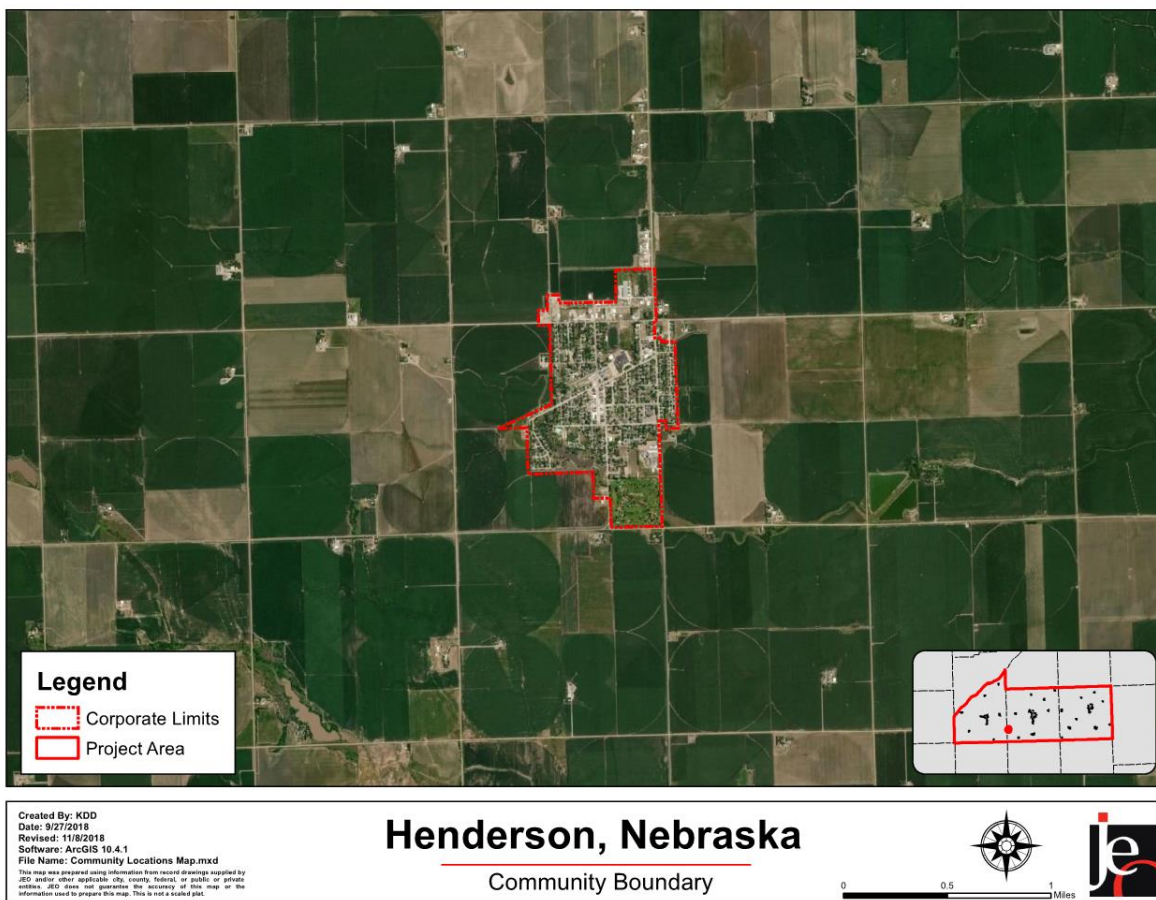
Table HND.1: Henderson Local Planning Team

Name	Title	Jurisdiction
Mike Yoder	Mayor	City of Henderson
Connie Brown	City Clerk	City of Henderson
Brian Hiebner	Councilman	City of Henderson
Matt Holbein	Utility Supervisor	City of Henderson
Jim Epp	Fire Chief	City of Henderson

Location and Geography

The City of Henderson is located in the southwestern edge of York County and covers an area of 358 acres. The west fork of the Big Blue River is located four miles to the south of Henderson.

Figure HND.1: Community Boundary



Transportation

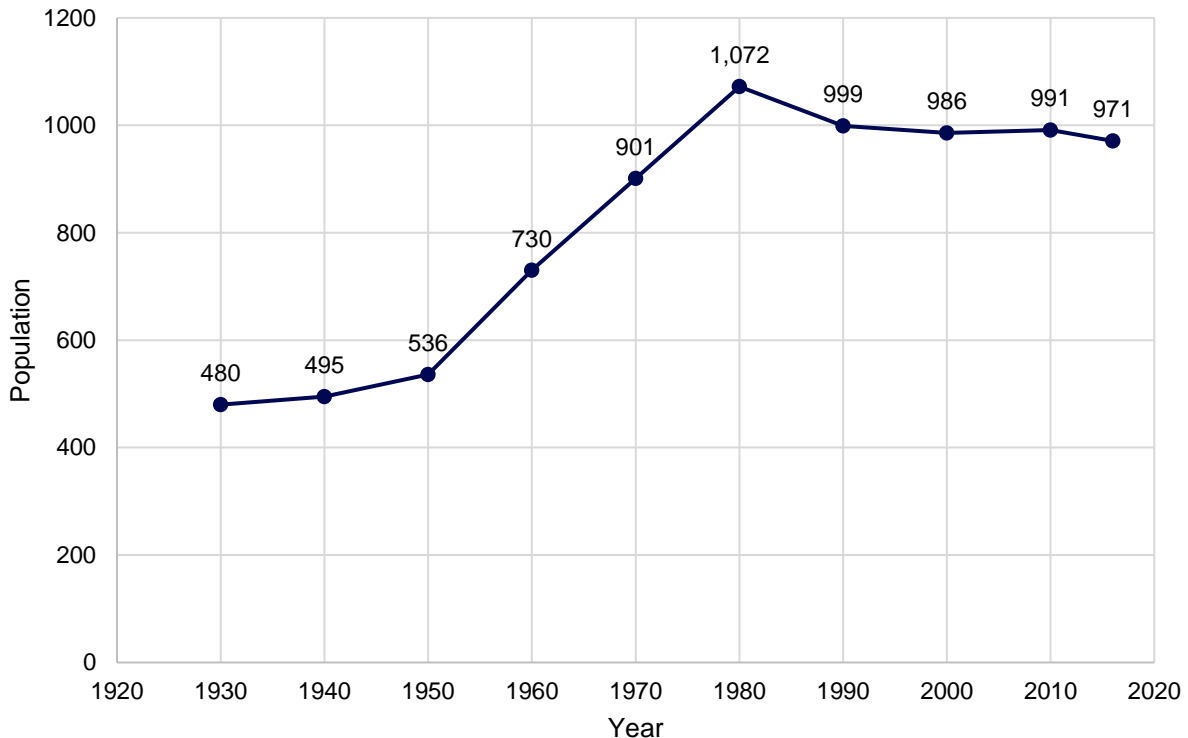
Henderson’s major transportation corridor includes Nebraska Highway S-93A with 2,595 vehicles a day.¹ Henderson does not have a rail line running through the community. Henderson has two private airports, Boardman Aerial Airport, located four miles to the southwest of the city and one owned by the Aurora Cooperative. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more

at risk to transportation incidents. The transportation routes of most concern include 17th Street, Front Street, Oak Street, Main Street, Cedar Street, Parkview Drive, 18th Street, and Birch Street. The local planning team indicated that agricultural chemicals, anhydrous ammonia, and gasoline are regularly transported along these local routes. On November of 2017, a semi-truck tipped over and spilled dry fertilizer at the intersection of Front and 17th Streets.

Demographics

Henderson’s population declined from about 986 people in 2000 to 971 people in 2016, an average annual decrease of 0.10%. This is important because the population decline means a decreasing tax revenue. Henderson’s population accounted for 7.01% of York County’s population in 2016.ⁱⁱ

Figure HND.2: Population 1930 - 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Henderson’s population was:

- **Older.** The median age of Henderson was 52.7 years old in 2016, compared with the county average of 40.1 years. Henderson’s population grew slightly younger since 2010, when the median age was 53.0 years old. Henderson had a slightly larger proportion of people under 20 years old (25.7%) than the county (25.5%).ⁱⁱⁱ
- **More ethnically diverse.** In 2010, 2.0% of Henderson’s population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, Henderson became much more ethnically diverse, with 9.8% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.ⁱⁱⁱ

- **More likely to be below the federal poverty line.** The poverty rate in Henderson (14.6% of families living below the federal poverty line) was higher than the county's poverty rate (7.5%) in 2016.^{liv}

Employment and Economics

The Henderson economic base is a mixture of educational and transportation uses. In comparison to York County, Henderson's economy had:

- **Different mix of industries.** Henderson's major employment sectors, accounting for 10% or more of employment each, was: transportation and warehousing, and utilities; educational services, and health care and social assistance; and other services, except public administration.^{lv}
- **Higher household income.** Henderson's median household income in 2016 (\$57,604) was about \$2,400 higher than the county (\$55,156).^{lvi}
- **Fewer long-distance commuters.** About 58.4% of workers in Henderson commuted for fewer than 15 minutes, compared with about 57.2% of workers in York County. About 15.2% of workers in Henderson commute 30 minutes or more to work, compared to about 17.4% of the county workers.^{lvii}

Major Employers

Major employers within Henderson include Henderson Health Care Services, Heartland Community School, and the Henderson Community Coop. A large percentage of residents commute to the City of York, the City of Lincoln, and the City of Aurora.

Housing

In comparison to York County, Henderson's housing stock was:

- **Less renter-occupied.** About 15.2% of occupied housing units in Henderson are renter occupied compared with 29.5% of occupied housing in York County.^{lviii}
- **Younger.** Henderson had a slightly smaller share of housing built prior to 1970 than the county (58.2% compared to 60.0%).^{lix}
- **More multifamily.** Although the predominant housing type in the city is single family detached, Henderson contains slightly more multifamily housing with five or more units per structure compared to the county (9.0% compared to 8.9%). About 81.7% of housing in Henderson was single-family detached, compared with 80.2% of the county's housing. Henderson has a smaller share of mobile and manufactured housing (0.0%) compared to the county (3.5%).^{lx}

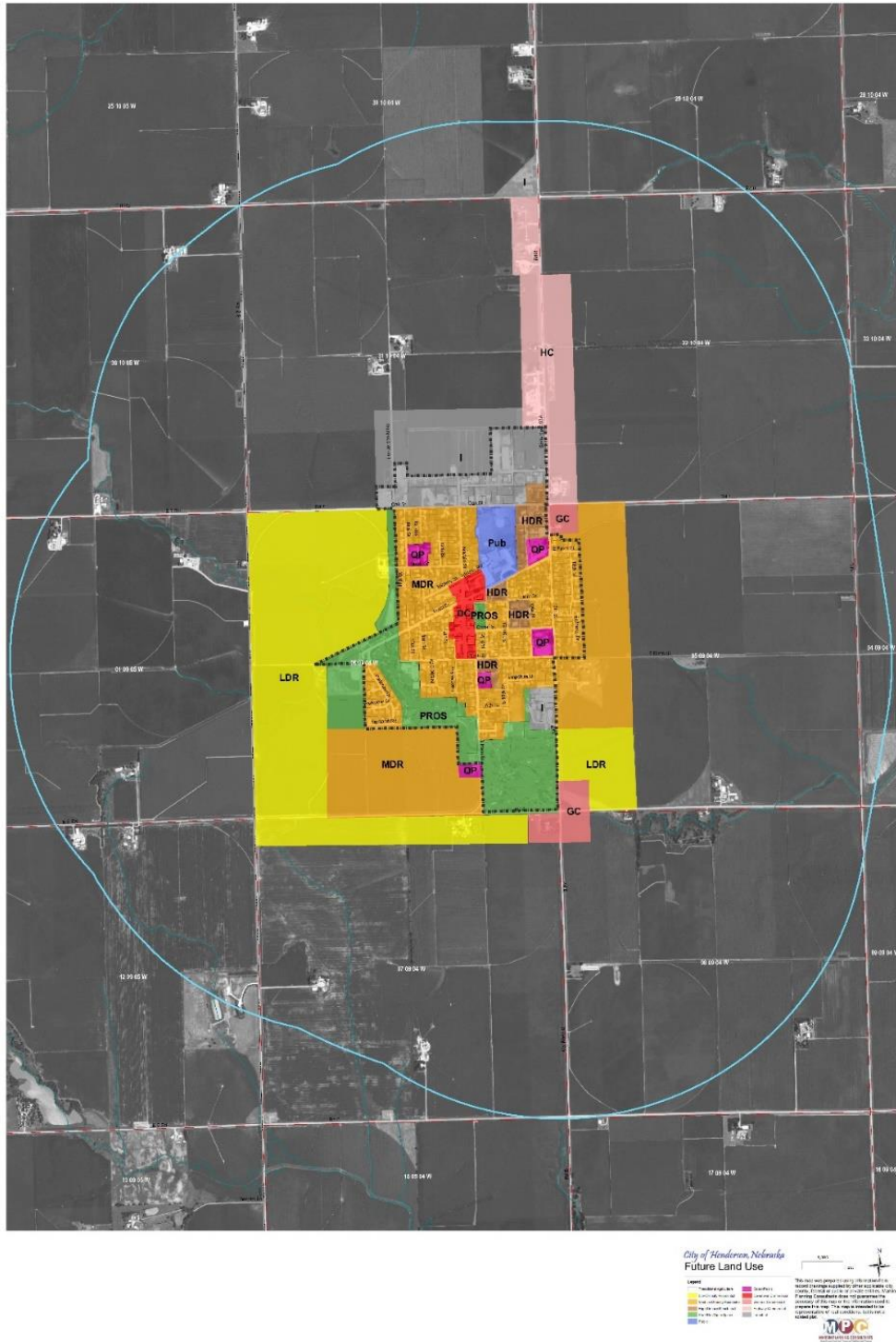
This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornados, and severe winter storms. There are no mobile homes located within the community.

Future Development Trends

In the last five years, the Providence Housing Subdivision, a Long-Term Care Facility at the hospital, and storage units were built in the city. According to the 2016 American Community Survey estimates, Henderson's population is slightly declining. However, the local planning team

indicated that with the new housing subdivision the population is now increasing. An increasing population may result in a growing tax base, which may make implementing mitigation actions more feasible. Over the next five years new housing developments are planned, along with new businesses and industry.

Figure HND.3: Future Land Use Map



Source: City of Henderson

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table HND.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
501	\$51,622,993	\$103,040	2	\$379,789

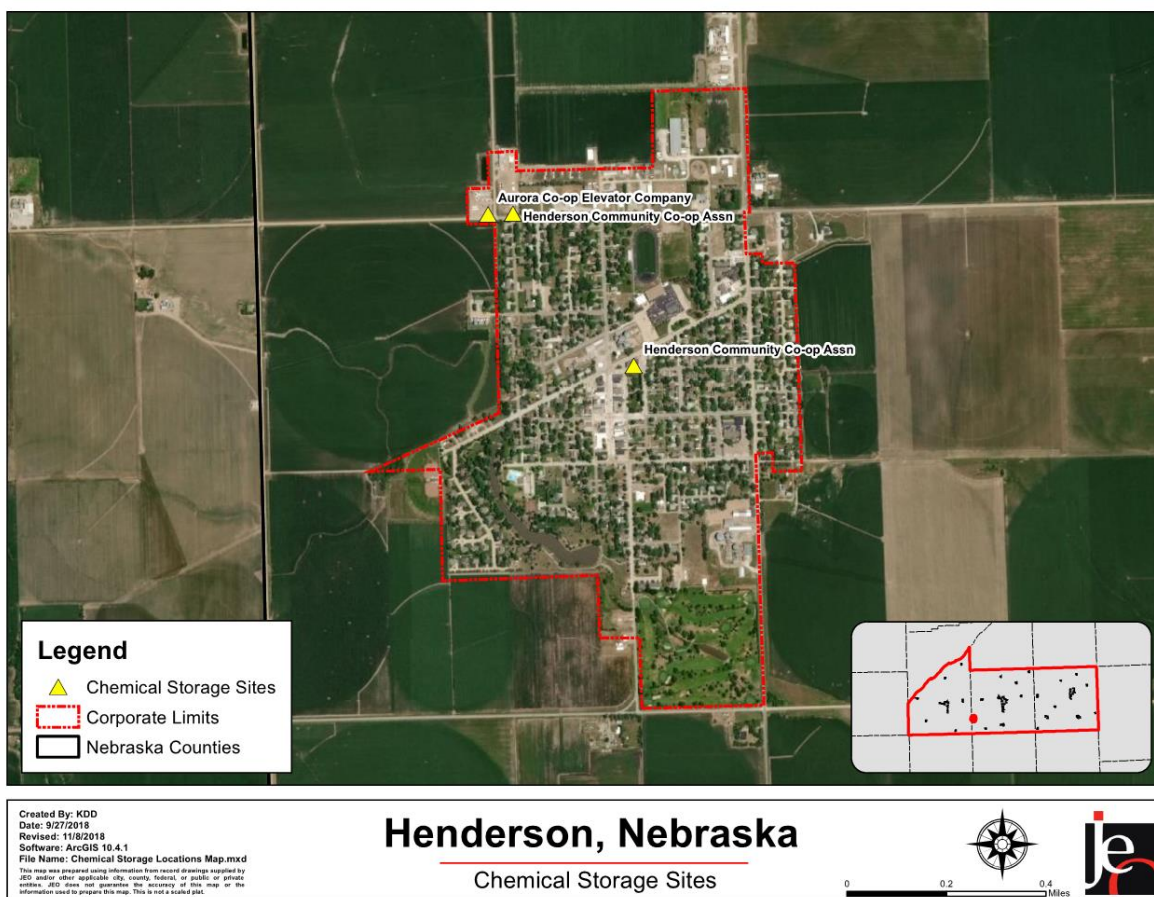
Source: Nebraska Department of Revenue, Property Assessment Division^{xi}

Critical Infrastructure/Key Resources

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 three chemical storage sites in Henderson. The map below shows the name and location of the sites.

Figure HND.4: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{xii}

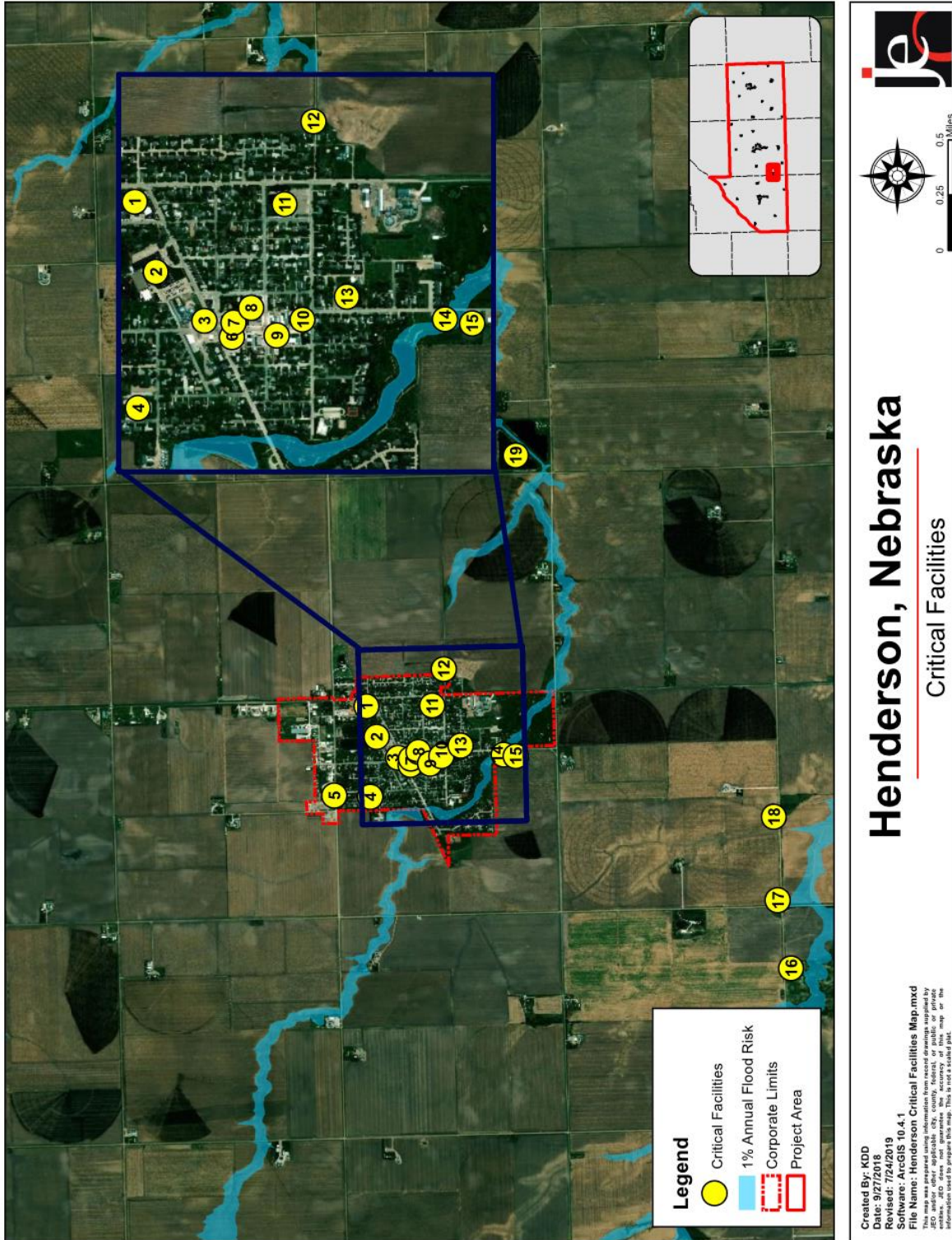
Critical Facilities

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

Table HND.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Henderson Health Care Services	N	Y	N
2	Heartland Community School	Y	N	N
3	Water Tower	N	N	N
4	Mennonite Brethren Church	N	N	N
5	North Lift Station	N	Y	N
6	Post Office	N	N	N
7	City Hall	N	N	N
8	Park/Theater	N	N	N
9	Police Department	N	N	N
10	Fire Station	N	N	N
11	Bethesda Mennonite Church	N	N	N
12	East Lift Station	N	Y	N
13	Faith Evangelical Bible Church	N	N	N
14	South Lift Station	N	Y	N
15	Helicopter Pad	N	N	N
16	City Well #1	N	N	N
17	City Well #2	N	Y	N
18	City Well #3	N	Y	N
19	Wastewater Lagoons	N	N	N

Figure HND.5: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Extreme Heat

The local planning team identified extreme heat as a top hazard for the city. Elderly individuals are at high vulnerability from extreme heat. According to the 2016 American Community Survey, the City of Henderson has a high percentage of elderly individuals (age 65 and older) at 36.4%. Extreme heat is also likely to cause power outages due to overloaded electrical systems. If a loss of power were to occur, the only location with a backup generator and capable to house individuals for cooling would be Henderson Health Care Services. The city would like the Heartland Community School to have a backup power generator, so that it could serve as a meeting location for residents during a disaster or extreme heat event.

High Winds

High winds can cause loss of power from downed power lines and trees/limbs. The local planning team indicated the city had completed hazardous tree removal in 2019 throughout the community. Currently two city wells, all the lift stations, and the Henderson Care Center all have backup power generators. The community would like to add additional generators to the community school and other public buildings.

Severe Thunderstorms

The most damaging severe thunderstorm event occurred June 14, 2006, when 64 mph thunderstorm winds caused \$125,000 in property damages. Henderson does not have a certified storm shelter; however, the Heartland Community School would be able to hold people during a disaster events and is a designated Red Cross shelter. The local planning team indicated that critical municipal records are protected with surge protectors on electronic devices should a power surge from a lightning strike occur.

Severe Winter Storms

Similar to extreme heat, elderly individuals are more vulnerable to severe winter storms than other populations. According to the 2016 American Community Survey, the City of Henderson has a high percentage of elderly individuals at 36.4%. The city also has a higher percentage of families living below the poverty line (14.6%). These two groups may not have the ability or income to stay warm during a winter storm event.

Tornadoes

NCEI data shows that Henderson has experienced one tornado event since 1996. June 20, 2011 saw the outbreak of multiple tornados across central Nebraska. The EF2 reported in York County and near Henderson was the longest tornado tracked on this given day. The \$3.5 million in damages is a regional estimate and not specific to the City of Henderson. The city does not have a certified safe room in the community, so residents must use basements or the community school for shelter. Henderson would like to add a community safe room to either the downtown park, ballfields, or Lakeview Park area. The city does have a tornado siren located within the city limits.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Henderson has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Henderson has four city council members and the following offices that may help implement mitigation actions.

- Mayor
- Clerk/Treasurer
- Utility Superintendent
- Fire Chief
- Chief of Police
- Sewer/Water Commissioner
- Street Commissioner
- Recreation Department
- Planning Commission
- Engineer
- Rescue Captain
- MCC Mennonite Disaster Team

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table HND.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	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)	-	
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	Yes
	Civil Engineering	Yes – Contract

Survey Components/Subcomponents		Yes/No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	-
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	Yes – Franchise
	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)	-	
<i>Education & Outreach Capability</i>	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
	Natural Disaster or Safety related school programs	No
	StormReady Certification	Yes
	Firewise Communities Certification	No
	Tree City USA	No
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Moderate
Does your community have the staff/expertise to implement projects?	High
Does your community have the community support to implement projects?	High
Does your community staff have the time to devote to hazard mitigation?	Moderate

Plan Integration

The City of Henderson's Comprehensive Plan was last updated in 2010. The hazards discussed within the plan include flooding and fire. Within the comprehensive plan it contains goals aimed at safe growth, directs development away from the floodplain, chemical storage facilities, and major transportation routes, limits density in hazardous areas, encourages infill, identifies areas that need emergency shelters, encourages elevation of structures in the floodplain, and strengthening of historic structures. The local planning team indicated that the plan will be updated

by the end of 2020. The city plans to incorporate the hazard mitigation plan principles into the future update.

The city’s Local Emergency Operations Plan (LEOP) was last updated in 2019 and is an annex to York County’s plan. The plan addresses hazards of greatest concern, assigns specific responsibilities, identifies scenarios that would require evacuation, shows routes vulnerable to flooding, and identifies sheltering locations. The local planning team indicated that the fire chief, public works director, city clerk, police chief, and mayor are all familiar with the LEOP.

The zoning ordinance and subdivision regulations were last updated in 2010 with the comprehensive plan and will be updated in by the end of 2020. They follow similar principles to the comprehensive plan by discouraging development in the floodplain, prohibiting filling in of wetlands, and limiting development in the extra jurisdictional jurisdiction.

Henderson’s building code was also last updated in 2010 and is based on the 2009 International Building Code. The code requires elevation of structures and mechanical systems in the floodplain. In addition, it requires onsite stormwater detention for commercial structures, encourages the use of hail resistant building materials, and requires the use of fire-resistant building materials.

The city is part of a Wellhead Protection Plan which was developed in 2004. The plan includes well setback requirements and contains a water conservation plan. The local planning team indicated that there are decommissioned/abandoned wells that need to be properly sealed. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Completed Mitigation Actions

Mitigation Action	Hazardous Tree Removal Program
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Status	Completed in 2019

Mitigation Action	Stream Bank Stabilization / Grade Control Structures / Channel Improvements
Hazard(s) Addressed	Flooding
Status	Completed in 2003. Project was located upstream from the lake and was funded by taxes and a grant.

Ongoing and New Mitigation Actions

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, county wells, lift stations, and other critical facilities and shelters. The city would like to have a generator located at the school for disaster meeting/safe room.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$40,000
Funding	General Fund, Grant
Timeline	2-5 Years
Priority	High
Lead Agency	City of Henderson, Heartland Community School
Status	Planning Stage

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements. Project will be located along the north city limits.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	City of Henderson, NRD, Engineers
Status	Not Started

Mitigation Action	Power, Service, Electrical, and Water Distribution 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, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe thunderstorms, Flooding
Estimated Cost	\$50,000 to \$70,000 per mile (for electrical)
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	City of Henderson, Perennial Public Power
Status	Not Started

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$0 - \$5,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	City of Henderson, York County Emergency Management
Status	Ongoing. The city currently engages citizens regarding water conservation during drought conditions.

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

Mitigation Action	Storm Shelter / Safe Room
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting. The city would like a safe room in either the ballfields, downtown park, or lakeview park areas.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	\$850,000
Funding	General Fund, Grant
Timeline	1 Year
Priority	High
Lead Agency	City of Henderson
Status	In Progress

Mitigation Action	Stormwater System and Drainage Improvements
Description	Stormwater system improvements may include pipe upsizing and additional inlets. Smaller communities may utilize stormwater systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements. Project will be located at Industrial Park and along 10 th Street.
Hazard(s) Addressed	Flooding
Estimated Cost	\$4,000,000
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	City of Henderson
Status	Ongoing

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

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities and provide new radios as needed.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$50 per radio
Funding	General Fund
Timeline	1 Year
Priority	Medium
Lead Agency	City Clerk, Utility Supervisor
Status	Planning Stage

Removed Mitigation Actions

Mitigation Action	Flood-Prone Property Acquisition
Hazard(s) Addressed	Flooding
Reason for Removal	The local planning team removed this mitigation action. The city has very few properties in the floodplain and property acquisition would not have a large impact.

Section Seven | City of Henderson Community Profile

Mitigation Action	Floodplain Regulation Enforcement and Updates
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. The city will continue to enforce all floodplain regulations in the future.

Mitigation Action	Maintain Good Standing with National Flood Insurance Program (NFIP)
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. The city will continue to maintain good standing with the NFIP.

- i* Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>
- ii* United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.
- iii* United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.
- liii* United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.
- liv* United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.
- lv* United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.
- lvi* United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.
- lvii* United States Census Bureau. "American Fact Finder: S0804: Means of Transportation to Work by Selected Characteristics." [database file]. <https://factfinder.census.gov/>.
- lviii* United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.
- lix* United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.
- lx* United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.
- lxi* County Assessor. Personal correspondence, February 2019.
- lxii* Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

COMMUNITY PROFILE

VILLAGE OF MCCOOL JUNCTION



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

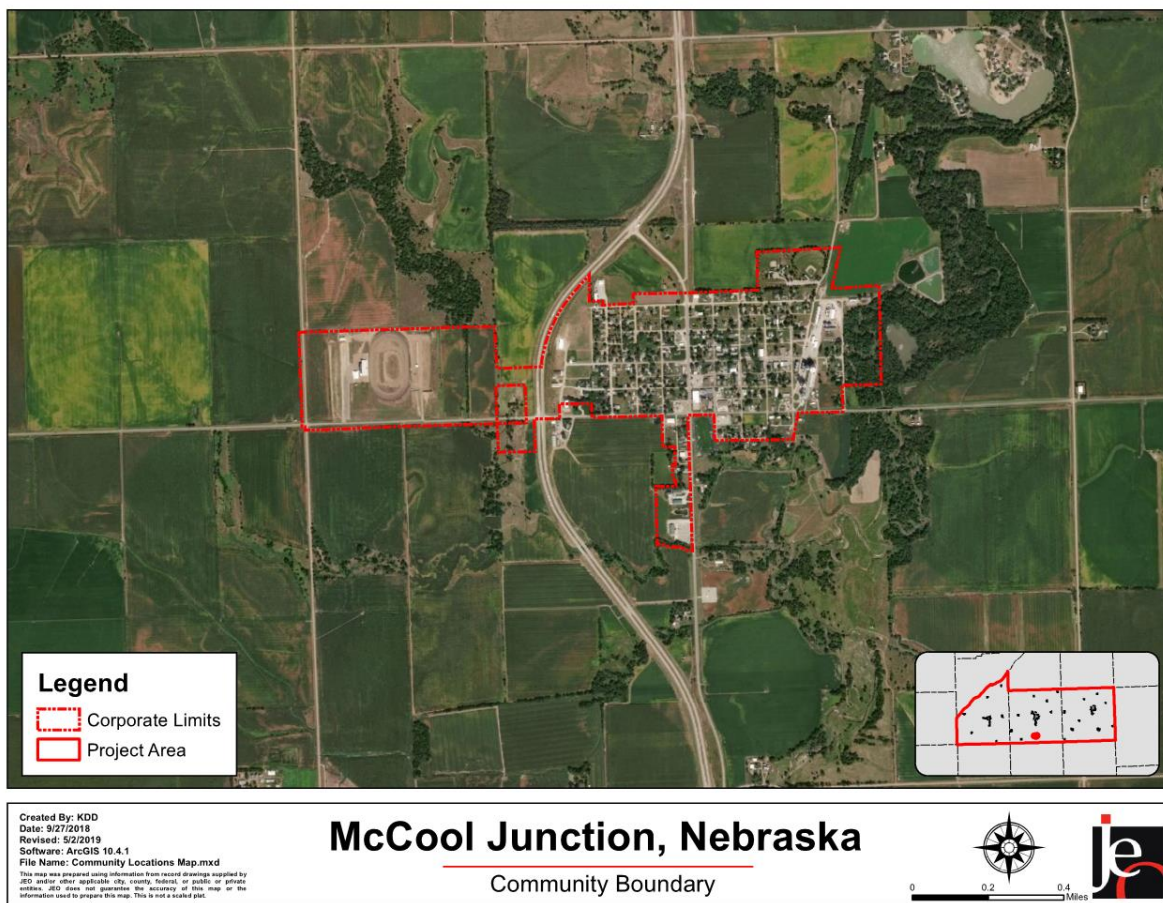
Table MCJ.1: McCool Junction Local Planning Team

Name	Title	Jurisdiction
Jim Green	Maintenance & Utilities Superintendent	Village of McCool Junction
Brain White	Village Chairperson	Village of McCool Junction
Steve Green	Board Member	Village of McCool Junction

Location and Geography

The Village of McCool Junction is located in the south-central portion of York County and covers an area of 316 acres. The west fork of the Big Blue River runs through the east side of the community. Spring Lake is located less than one mile to the northeast of McCool Junction.

Figure MCJ.1: Community Boundary



Transportation

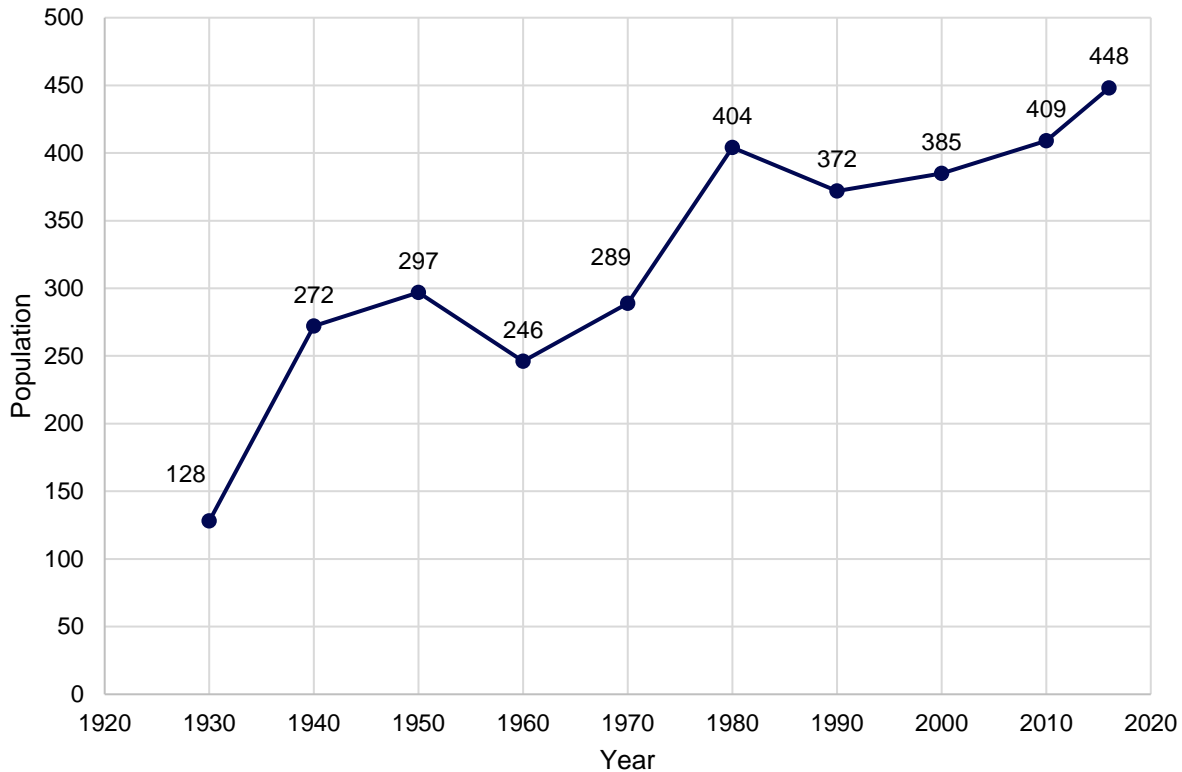
McCool Junction’s major transportation corridor includes U.S. Highway 81 with 7,780 vehicles a day.^{lxiii} McCool Junction does not have any rail lines or airports within or near the village boundaries. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to

transportation incidents. The local planning team indicated that Highway 81 and County Road 4 were of most concern and chemicals were regularly transported along those routes.

Demographics

McCool Junction’s population increased from about 385 people in 2000 to 448 people in 2016, an average annual increase of 1.02%. This is important because the population growth means an increasing tax revenue and less empty housing. McCool Junction’s population accounted for 3.24% of York County’s population in 2016.^{lxiv}

Figure MCJ.2: Population 1930 – 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, McCool Junction’s population was:

- **Younger.** The median age of McCool Junction was 38.3 years old in 2016, compared with the county average of 40.1 years. McCool Junction’s population grew slightly younger since 2010, when the median age was 38.6 years old. McCool Junction had a larger proportion of people under 20 years old (31.2%) than the county (25.5%).^{lxv}
- **Less ethnically diverse.** In 2010, 2.9% of McCool Junction’s population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, McCool Junction became less ethnically diverse, with 0.9% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{lxvi}
- **More likely to be below the federal poverty line.** The poverty rate in McCool Junction (11.4% of families living below the federal poverty line) was higher than the county’s poverty rate (7.5%) in 2016.^{lxvii}

Employment and Economics

The McCool Junction economic base is a mixture of educational and manufacturing uses. In comparison to York County, McCool Junction's economy had:

- **Similar mix of industries.** McCool Junction's major employment sectors, accounting for 10% or more of employment each, were: manufacturing; construction; and educational services, and health care and social assistance.^{lxviii}
- **Lower household income.** McCool Junction's median household income in 2016 (\$52,857) was about \$2,300 lower than the county (\$55,156).^{lxix}
- **More long-distance commuters.** The local planning team indicated that a large percentage of residents commute to other communities.

Major Employers

Major employers within McCool Junction include Farmers Cooperative, McCool Public School, Kerry's Restaurant/Catering, Neville Const, Norquist Agricultural Systems, Real Cattle Company, Clark Feedlots, Dawson Electric, McCool Heating & Air Conditioning, Coffee Scrapmetal, and Donrich Machine. A large percentage of residents commute to Lincoln and York for employment.

Housing

In comparison to York County, McCool Junction's housing stock was:

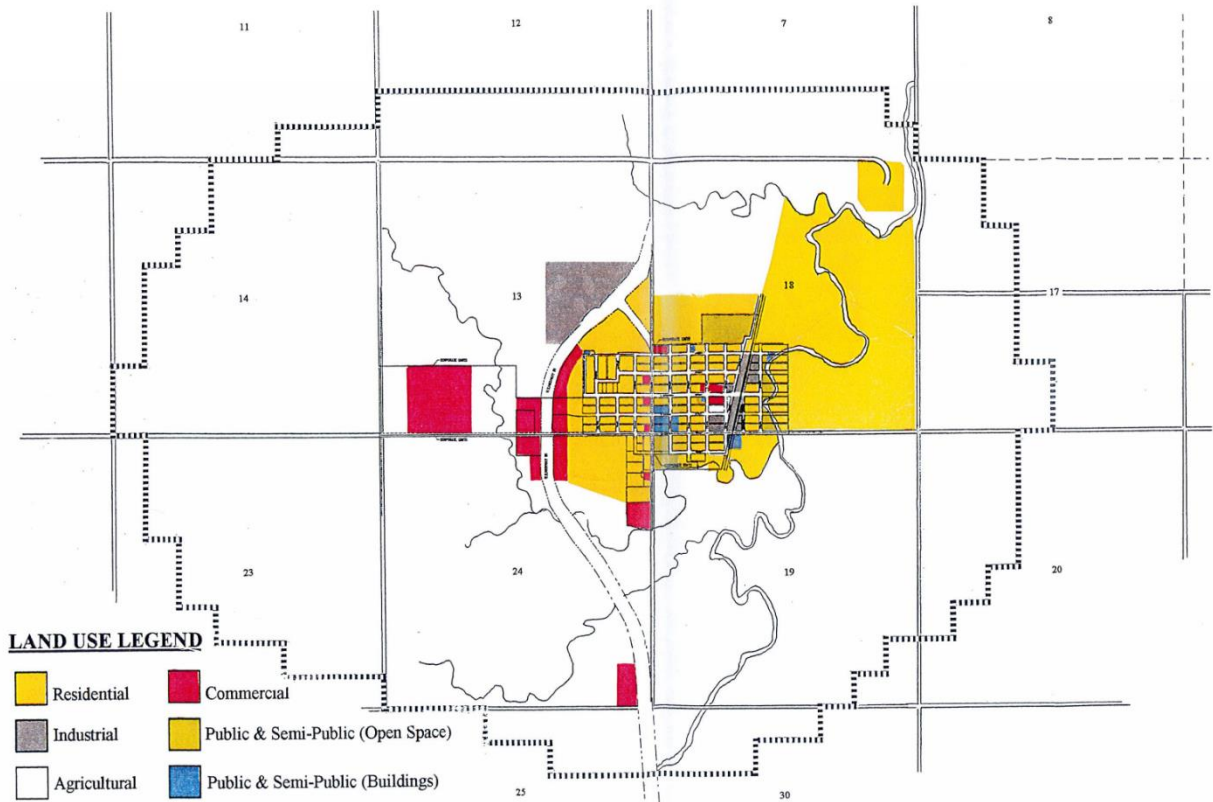
- **Less renter-occupied.** About 22.2% of occupied housing units in McCool Junction are renter occupied compared with 29.5% of occupied housing in York County.^{lxx}
- **Younger.** McCool Junction had a slightly smaller share of housing built prior to 1970 than the county (59.7% compared to 60.0%).^{lxxi}
- **Less multifamily.** Although the predominant housing type in the village is single family detached, McCool Junction contains much less multifamily housing with five or more units per structure compared to the county (0.0% compared to 8.9%). About 92.9% of housing in McCool Junction was single-family detached, compared with 80.2% of the county's housing. McCool Junction has a smaller share of mobile and manufactured housing (1.0%) compared to the county (3.5%).^{lxxii}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms.

Future Development Trends

In the last five years, the community has averaged three newly constructed houses a year. The village has also removed one house and refurbished another. According to the 2016 American Community Survey estimates, McCool Junction's population has experienced an increase since 2010. An increasing population may result in an expanding tax base, which may make implementing mitigation actions more feasible. The local planning team indicated that the primary reason for the growth was due to the great local school system. In addition, employment opportunities allow younger individuals to move to the community. Over the next five years, the village has new housing developments planned on the west and north sides of the village. A new car wash and repair shop are also planned to be built in the next five years. A new fire station with a certified storm shelter is planned to be completed in 2019-2020.

Figure MCJ.3: Future Land Use Map



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FIGURE 6

FUTURE LAND USE PLAN

McCool Junction, Nebraska and Planning and Zoning Jurisdiction Area

Source: Village of McCool Junction

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table MCJ.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
221	\$20,067,492	\$89,085	7	\$1,009,423

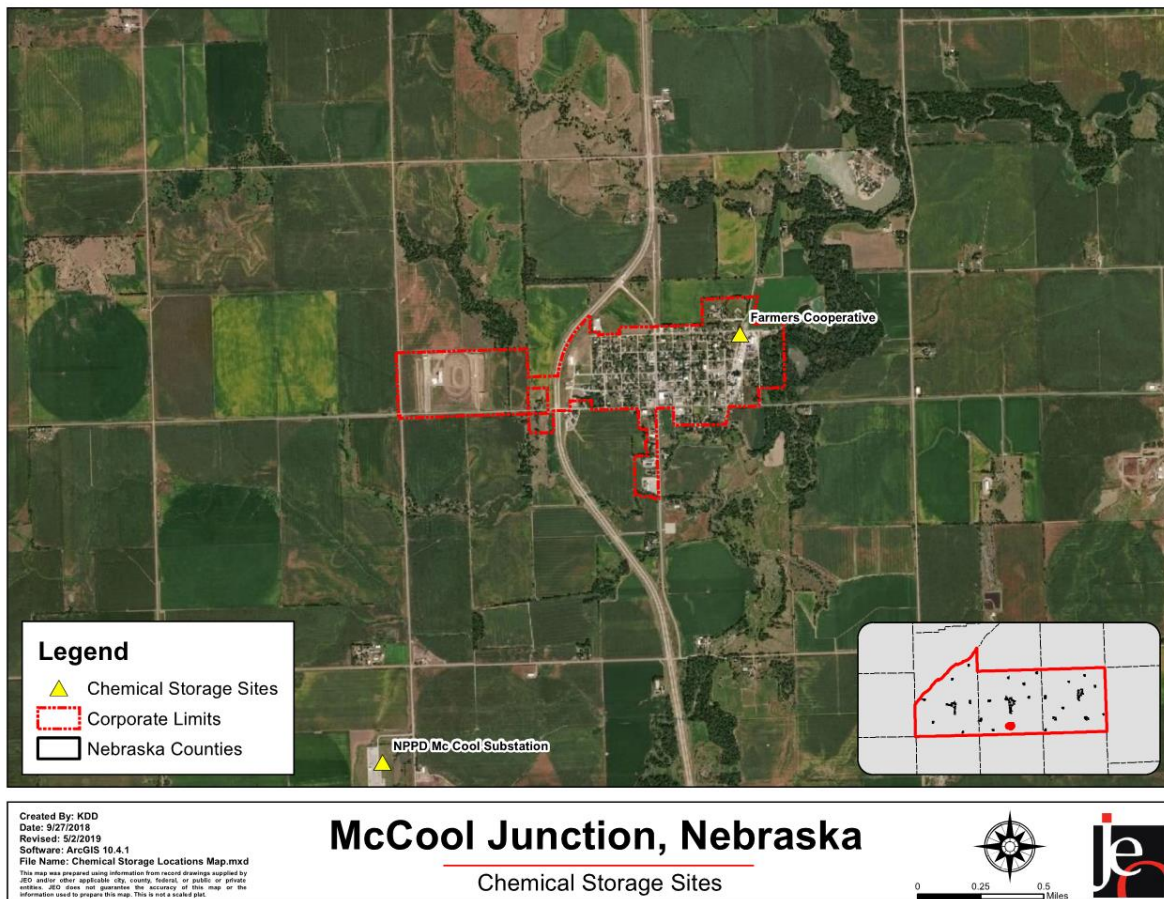
Source: Nebraska Department of Revenue, Property Assessment Division^{lxviii}

Critical Infrastructure/Key Resources

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 chemical storage sites near McCool Junction. The map below shows the name and location of the chemical storage sites.

Figure MCJ.4: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{xxiv}

Critical Facilities

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

Table MCJ.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Fire Station	N	N	N
2	*McCool Public School	Y	N	N
3	**Town Hall	N	Y	N
4	***Water Tower & Well #1	N	Y	N
5	****Well #2	N	Y	N
6	Village Lagoon	N	Y	Y
7	St. Patrick's Catholic Church	N	N	N
8	First Lutheran Church	N	N	N
9	United Methodist Church	N	N	N

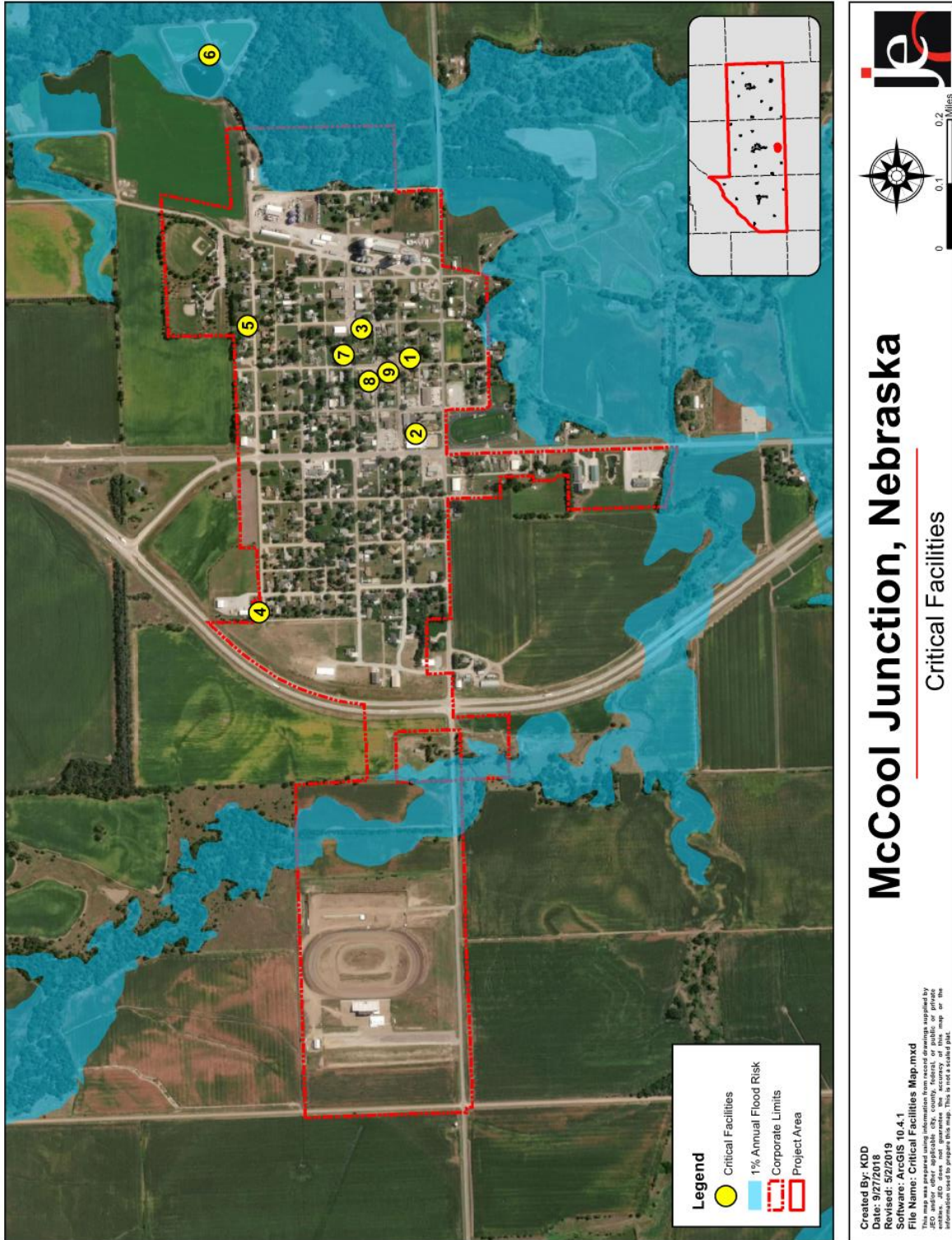
*McCool Public School considered a shelter, but not a Red Cross shelter

**Town Hall has an 8KW generator to run the furnaces, Village Office computers, SCADA system, 1st floor kitchen 110-volt outlets, and some of the 1st floor dining area 110-volt outlets. Considered a shelter, but not a Red Cross shelter.

***Note: Well has power unit to pump water; 10KW generator to run SCADA systems, 220-volt heat and the 110-volt electrical circuits, but unable to run well

****Note: Well has a 10KW generator to run SCADA system, 220-volt heat and the 110-volt circuits, but unable to run well

Figure MCJ.5: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

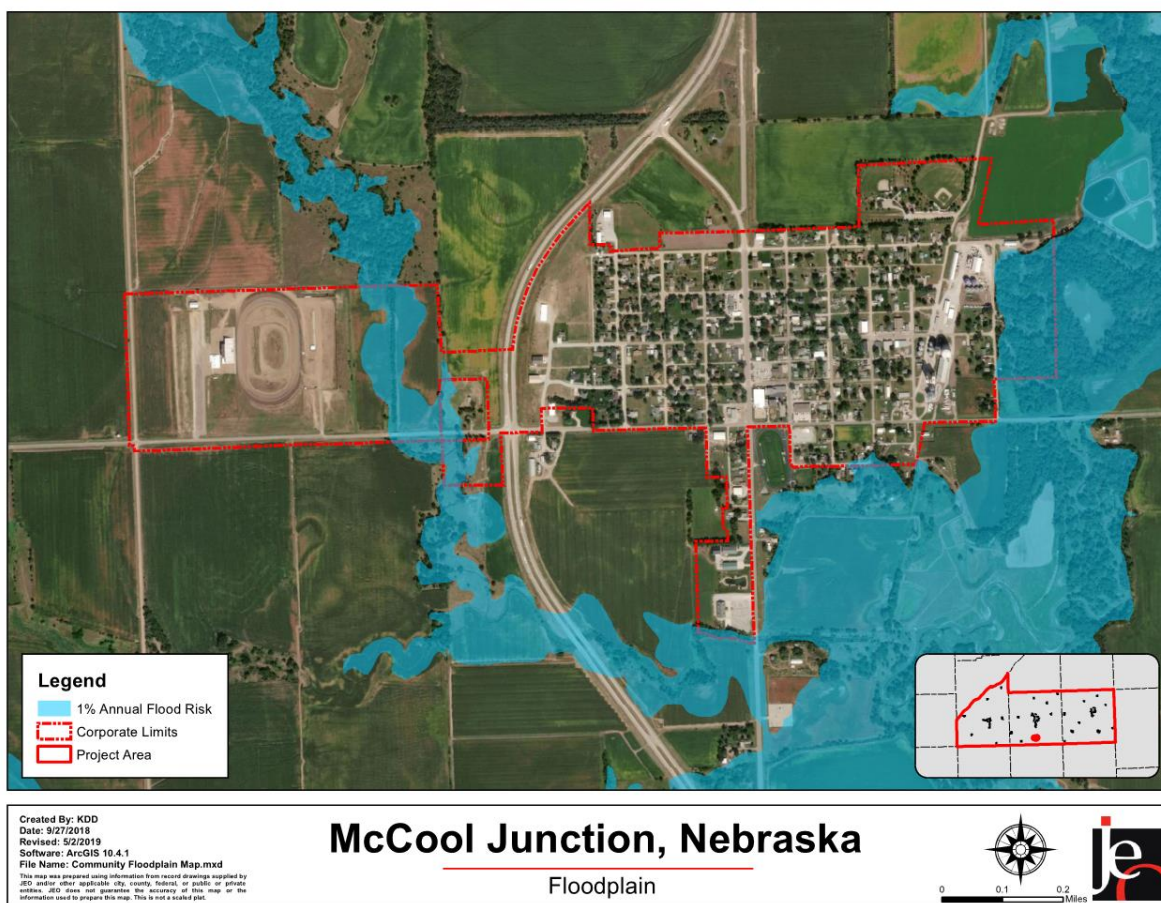
Flooding

On June 6th, 2015, McCool Junction experienced a significant flood event. The West Fork Big Blue River rose to a level that matched the latest proposed 100-year floodplain (Figure: MCJ.6) due to large amounts of rain up river. Three residential properties were damaged due to the flooding and since that time, the village has had a high-water table. Both flash flooding and riverine flooding are of concern for the community. There are several creeks which run through the community and any rain over five inches causes flash flooding. Many areas of the village are flooded due to flat terrain and filled ditches. Ditch cleaning is needed at least on a five-year cycle, but with limited staff time and equipment, the village is unable to maintain that schedule.

The local planning team identified several areas within the community that are most prone to flooding. Those areas are:

- Intersection of S. 1st Avenue and O Street running south along 1st Avenue for about 450 feet, then running west for 450 feet, then runs north 450 feet to W. O Street, and finally east 450 feet.
- E. O Street on both sides from S. Gragan Avenue to S. Lena Avenue.
- E. N Street on both sides from S. Gragan Avenue to S. Lena Avenue, then south on both sides of S. Lena Avenue to E. O Street.
- 150-foot radius around the intersection of N. Pennsylvania Avenue & E. K Street.
- 150-foot radius around the intersection of N. Lena Avenue and E. K Street.
- Intersection of E. M Street and Klinzman Avenue, running east on the north side of E. M Street to the S. Jack Avenue, then running south on the east side of S. Jack Avenue to E. O Street, then running west on the south side of E. O Street to the west side of S. Klinzman Avenue, then running north back to the original intersection.

Figure MCJ.6: Floodplain Map



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Hail

The most damaging hail event occurred in April 2012, when 1.75-inch hail caused \$150,000 in property damage. Some of the village’s critical facilities are fitted with hail resistant building materials. Approximately 30% of the structures have steel siding. The fire station has a metal roof and the well houses have been fitted with architectural shingles. The town hall and 50% of the school buildings have flat roofs, with the other 50% having architectural shingles. All of the critical facilities are insured should they be damaged from a hail event.

High Winds

Over the past three years, the local planning team indicated that high winds had occurred 11 times. One event in 2018 damaged Well #1. Access roof lids to the well house were blown off and found 80 feet from the well house. The community does not currently have a safe room; however, a new fire station is proposed which will have a certified storm shelter.

Severe Thunderstorms

The local planning team identified severe thunderstorms as a top hazard for the community due to falling limbs/trees, loss of electricity, and damage to recreational facilities. 95% of power lines in McCool Junction are above ground which are at risk of power outage due to high wind and downed trees. Some of the critical facilities in the community have backup power generators but

both the McCool Junction Public School and McCool Junction Area Rural Fire Protection District #7 station are in need of backup power generators.

The local planning team identified several hazardous trees that need to be removed. The trees which need to be removed are located at:

- Intersection of S. Pennsylvania Avenue and E. P Street.
- 100 feet north of E. K Street on N. Linzman Avenue.
- Intersection of N. Jack Avenue and E. K Street.
- 150 feet west of N. 2nd Avenue on W. M Street.

Severe Winter Storms

Severe winter storms have not damaged critical facilities but have caused damage to the community. The snow storm in October of 1997 caused the village to be without power for two days and damaged trees throughout the community. A winter storm in April of 1998 caused the village to be without power for 8 to 10 hours and damaged several trees. Finally, a severe winter storm in December of 2015 caused the village to be without power for 10 hours. The local planning team expressed that another primary concern regarding severe winter storms was the lack of emergency shelters when power is lost for extended periods of time. There is only one public facility that has back power that could be used as an emergency shelter during a severe winter storm and it has a capacity of 50 to 80 people.

For snow removal purposes, the village indicated that they have sufficient resources. The community uses snow fences at the intersection of County Road 4 and S. 5th Avenue, the water tower area, the NW corner at the intersection of N. 1st Avenue and W. K Street, and 165 feet west of the intersection of W. M Street and N. 4th Avenue. The village also has a sand spreader, grader, plow, John Deere Tract, Dump Truck, and Plow which the village personnel use to remove snow.

Tornadoes

NCEI data shows that McCool Junction has experienced six tornadoes since 1996 which caused \$3,310,000 in property damage. The largest tornado occurred on May 11th, 2014. The magnitude was EF3 and caused 1.5 million dollars in property damage. In addition to these tornadoes, the local planning team indicated two additional tornadoes occurred a few miles outside of the community in 2016 and 2017. The village has two tornado sirens, one on the corner of S. Pennsylvania and E. N Street and the other located on W. M Street, 160 feet west of the intersection of W. M Street and N. 4th Avenue. Both sirens can be activated by York County Communications Center in York or at the McCool Junction fire station. The fire department tours the school prior to the storm season and participates in a tornado drill with the school.

Currently the village does not have a safe room. However, a new safe room is planned to be part of the proposed new fire station. The local planning team identified a need for safe rooms at the school and Northside Park. The park has restrooms people can use for shelter, but they do not meet shelter standards. The park is in use on a daily basis beginning April 1 until July 15 which is a common time for tornadoes. The park also needs a second entrance/exit road to facilitate a quicker evacuation time. Presently there is only one way in/out.

In the event of a disaster, McCool Junction has mutual aid agreements with Fairmont, Exeter, Cordova, Waco, York, Bradshaw, and Henderson. The village also has mutual aid through NeWARN for utility help and the McCool Junction Rural Area Fire Protection District #7.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. McCool Junction has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. McCool Junction has five village board members and the following offices that may help implement mitigation actions.

- Clerk/Treasurer
- Utility Superintendent
- Attorney
- Fire Chief
- Engineer
- Planning Commission
- Development Corporation
- Floodplain Administrator
- McCool Junction Investment Club

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table MCJ.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes – County
	Floodplain Management Plan	No
	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)	Tree Survey – 2000	
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	Yes
	Chief Building Official	No
	Civil Engineering	Yes – Contract
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes

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

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	Limited
Does your community have the community support to implement projects?	Limited
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The Village of McCool Junction has several plans which relate to the principles of hazard mitigation. The Comprehensive Plan was last updated in 2010. It specifically addresses the hazards of flooding and severe weather. The plan contains goals aimed at safe growth, infill development, limiting density in hazardous areas. Development is directed away from the floodplain, open space around hazardous areas is encouraged, and elevation of existing structures located in the floodplain is encouraged.

The local Emergency Operations Plan is an annex to the county’s plan and was last updated in 2019. This plan address hazards of greatest concern, assigns specific individual responsibilities,

identifies scenarios that would require evacuation, identifies evacuation routes and sheltering locations, and notes transportation routes which are vulnerable to flooding.

The village’s Zoning Ordinance was last updated in 2010 and will likely be updated in 2020. Currently the ordinance discourages development in the floodplain, requires more than one-foot of elevation above Base Flood Elevation in the floodplain, and limits population density in the floodplain.

The village’s Annual Municipal Budget has increased over recent years and most of the funds are already dedicated to water system upgrades and a new municipal well. The local planning team indicated that municipal funds are not sufficient to pursue all of the new capital projects that they would like to pursue.

The Wellhead Protection Plan for the village was developed in 2005. The plan identifies specific areas with ground water contamination has a water conservation plan in place. There are no additional plans to further integrate the hazard mitigation plan at this time. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Ongoing and New Mitigation Actions

Mitigation Action	Alert Sirens
Description	Perform an evaluation of existing alert sirens in order to determine which sirens should be replaced or to inform the placement of new sirens. The current siren is 30+ years old and is very outdated.
Hazard(s) Addressed	Tornadoes, Severe Thunderstorms, High Winds
Estimated Cost	\$15,000+
Funding	General Fund, Fire Department Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board, McCool Junction Fire Department
Status	Not Started. New Action

Mitigation Action	Backup 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	All Hazards
Estimated Cost	\$30,000
Funding	General Fund, School Budget
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, McCool Junction Public School District, Fire Department
Status	In Progress. Generators were installed on West K Street, East K Street, and 323 E Main Street. The village would also like one at the high school gym and fire station.

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

Mitigation Action	Community Rating System (CRS)
Description	Participation in the CRS, part of the NFIP, can provide a movement for the community to undertake a number of projects and activities designed to increase the flooding mitigation efforts.
Hazard(s) Addressed	Flooding
Estimated Cost	\$5,000
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Comprehensive City/Village Disaster and Emergency Response Plan
Description	Develop a Comprehensive City/Village Disaster and Emergency Response Plan.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000+
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Ongoing. New Action

Mitigation Action	Continuity Plans
Description	Develop continuity plans for critical community services. Encourage businesses to do the same.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000+
Funding	Water Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	In Progress. Village already has a continuity plan for the water system.

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/draining issues to reduce and/or alleviate flooding. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements. Identify potential flooding sources and flood-vulnerable areas. Explore solutions and prioritize. Develop strategies to provide necessary services in the event of flooding.
Hazard(s) Addressed	Flooding
Estimated Cost	\$25,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Maintenance, Village Board
Status	Not Started. New Action

Mitigation Action	Emergency Communication
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	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$10,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Clerk, and Village Maintenance Department
Status	Not Started

Mitigation Action	Emergency Fuel Supply Plan
Description	Plan to ensure adequate fuel supply is available during an emergency. Actions might include: prioritization and rationing plan for gasoline and diesel uses in extended loss of fuel supply or electric power supply; a plan to purchase local fuel supply, etc.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$1,000+
Funding	General Fund
Timeline	2-5 Years
Priority	Low
Lead Agency	Village Maintenance Department
Status	Not Started. New Action

Mitigation Action	Enhanced Codes
Description	Enhance floodplain regulations to restrict types of development allowed in the floodplain.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Hail Insurance
Description	Ensure critical facilities have insurance for hail damage.
Hazard(s) Addressed	Hail, Severe Thunderstorms
Estimated Cost	Staff Time
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees throughout the village. Create tree inventory to identify problem trees that lose or drop branches. Develop village tree planting and maintenance guidelines. Pass and enforce a tree care ordinance to improve tree health and to remove dangerous trees and limbs.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	\$20,000
Funding	General Fund
Timeline	2-5 Years
Priority	Low
Lead Agency	Village Maintenance Department
Status	Hazardous trees are removed as they are identified.

Mitigation Action	Improve Snow / Ice Removal Program
Description	Revise and improve the snow and ice removal program for streets. Revisions should address situations such as plowing snow, ice removal, parking during snow and ice removal, and removal of associated storm debris. This would include updating the emergency routes, paving routes, and ordinances as necessary. Equipment has already been purchased. During winter events, the community will have designated snow routes for the community to use.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	\$20,000+
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Maintenance Department
Status	Not Started

Mitigation Action	Install Hail Resistant Roofing
Description	Use roofing materials that are resistant to hail impacts for new buildings. Retrofit existing buildings with hail resistant roofing.
Hazard(s) Addressed	Hail, Severe Thunderstorms
Estimated Cost	\$2.50 per Square Foot
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Intergovernmental Support
Description	Support other local governmental entities such as fire departments, schools, and townships in the identification and pursuit of mitigation actions. Establish mutual aid agreements through Water/Wastewater Agency Response Network (WARN) Program.
Hazard(s) Addressed	All Hazards
Estimated Cost	Staff Time
Funding	General Fund
Timeline	5+ Years
Priority	High
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Low Impact Development Practices
Description	Utilize low impact development practices and green infrastructure to reduce food risk.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	General Fund
Timeline	5+ Years
Priority	High
Lead Agency	Village Board
Status	Ongoing. New Action

Mitigation Action	Mobile Home Anchoring
Description	Require mobile homes located in the jurisdiction be properly anchored.
Hazard(s) Addressed	High Winds, Tornadoes, Severe Thunderstorms
Estimated Cost	Staff Time
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	New Municipal Well
Description	A new well will be a new production well to be blended with existing wells to reduce nitrate levels. It will be added on the northside of the Village – from East K Street to North Lenay Avenue, West to West K Street and 4 th Avenue.
Hazard(s) Addressed	Drought
Estimated Cost	\$850,000
Funding	Village Water Rates, General Fund, Bonds
Timeline	2-5 Years
Priority	High
Lead Agency	Village Maintenance and Utilities Department
Status	In Progress. Identified the location of the new well.

Mitigation Action	No Adverse Impact Adoption
Description	Adopt a no adverse impact approach to floodplain management.
Hazard(s) Addressed	Flooding
Estimated Cost	Staff Time
Funding	General Fund
Timeline	1 Year
Priority	High
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Description	Village can work with Perennial Public Power District to identify vulnerable transmission and distribution lines and plan to bury lines underground, upgrade, or retrofit existing structures to be less vulnerable to storm events. Electrical utilities shall be required to use underground construction methods where possible for future installation of power lines. Provide looped distribution service and other redundancies in the electrical system as a backup power supply in the event the primary system is destroyed or fails.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Estimated Cost	\$50,000 to \$70,000 (per mile for electrical)
Funding	General Fund
Timeline	5+ Years
Priority	High
Lead Agency	Village Maintenance Department, Perennial Public Power District
Status	Not Started.

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. Also, educate citizens on water conservation methods, evacuation plans, etc. In addition, purchasing education equipment such as overhead projectors and laptops.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$0 - \$5,000+
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Maintenance Department
Status	Not Started

Mitigation Action	Relocation of Chemical Storage
Description	Explore a plan and potential funding for relocation of tanks and hazardous storage located in the floodplain or floodprone areas.
Hazard(s) Addressed	Chemical Spills – Fixed Site, Flooding
Estimated Cost	\$2,500
Funding	General Fund, Private Funds
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board, Owners of chemical storage sites
Status	Not Started. New Action

Mitigation Action	Snow Fences
Description	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure.
Hazard(s) Addressed	Severe Winter Storms
Estimated Cost	\$50 per 100 Linear Feet
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Maintenance
Status	Not Started. New Action

Mitigation Action	Storm Shelter / Safe Rooms
Description	Identify and designate short term shelters for rural residents. These structures do not have to serve as FEMA approve safe rooms. The building could also be used for short term sheltering during a hazardous event. Identify any existing private or public storm shelters. Establish a community safe room or safe areas for residents living in vulnerable structures/locations. The village would like to put the storm shelter in the park.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$200-\$300/sf stand alone; \$150-200/sf addition/retrofit
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Stormwater System and Drainage Improvements
Description	Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Retention and detention facilities may also be implemented to decrease runoff rates while also decreasing the need for other stormwater system improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$5,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Maintenance
Status	Not Started. New Action

Mitigation Action	Update Comprehensive Plan
Description	Update comprehensive plan. Integrate plan with Hazard Mitigation Plan components. The current plan is nearly 10 years old.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$15,000 - \$18,000
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Vulnerable Population Database
Description	Work with stakeholders to develop a database of vulnerable populations and the organizations which support them.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$2,000+
Funding	General Fund
Timeline	1 Year
Priority	Low
Lead Agency	Village Board
Status	Not Started. New Action

Mitigation Action	Weather Radios
Description	Conduct an inventory of weather radios at schools and other critical facilities. Provide new radios as needed.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms, Hail
Estimated Cost	\$50 per unit
Funding	Village General Fund, Fire Department General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board, McCool Fire Department
Status	Not Started. New Action

Removed Mitigation Actions

Mitigation Action	Floodplain Regulation Enforcement and Updates
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed as continued enforcement and education is not a true mitigation action. Village will continue to enforce floodplain regulations and will continue to educate the Certified Floodplain Manager.

Mitigation Action	Maintain Good Standing with National Flood Insurance Program (NFIP)
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed as continued enforcement and education is not a true mitigation action. Village will continue to maintain good standing with National Flood Insurance Program.

lxiii Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>

lxiv United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.

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

Section Seven | Village of McCool Junction Community Profile

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

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

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

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

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

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

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

lxxiii County Assessor. Personal correspondence, February 2019.

lxxiv Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

COMMUNITY PROFILE

VILLAGE OF THAYER



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

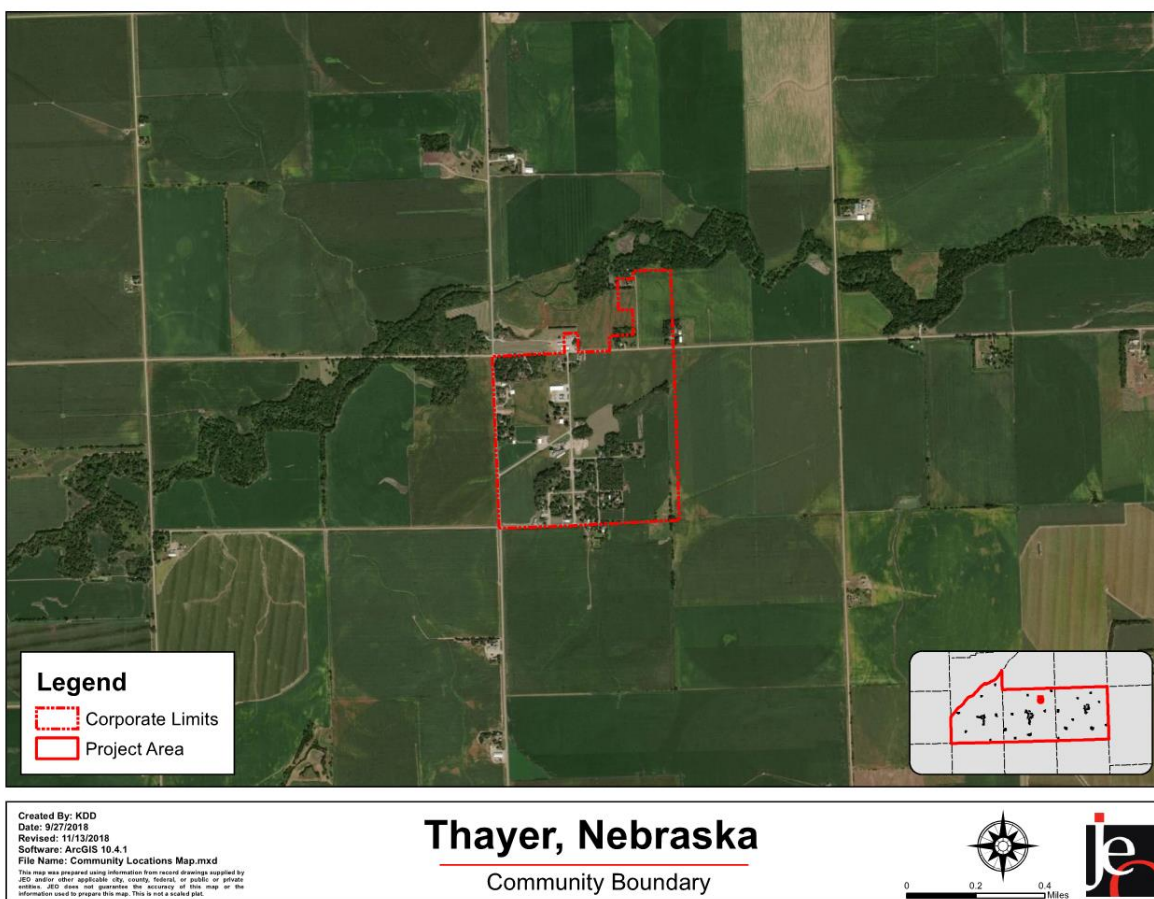
Table THR.1: Thayer Local Planning Team

Name	Title	Jurisdiction
Linda Eschenweck	Village Clerk	Village of Thayer
Sue Foutz	Village Board Member	Village of Thayer

Location and Geography

The Village of Thayer is located in the northeastern portion of York County and covers an area of 185 acres. Lincoln Creek is located directly to the north of Thayer.

Figure THR.1: Community Boundary



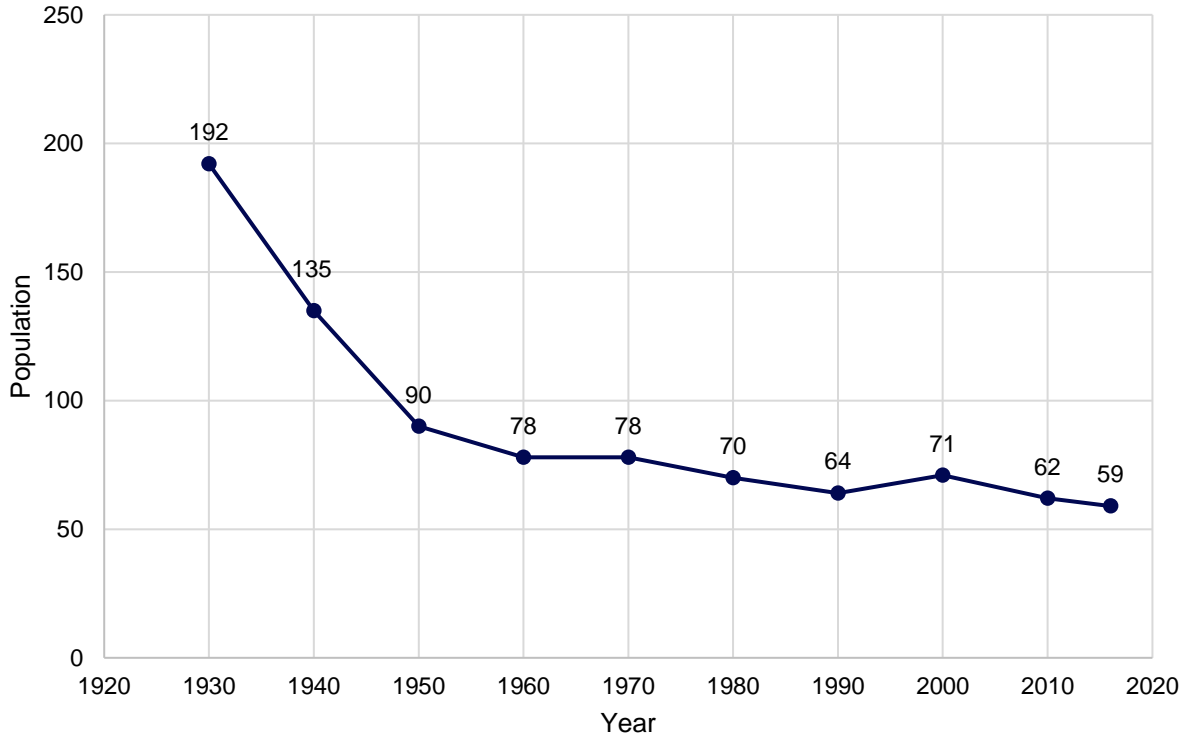
Transportation

Thayer's major transportation corridors are county roads Q and 20. Thayer does not have any rail lines or airports within or near village boundaries. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents. The local planning team indicated that chemicals such as propane, anhydrous ammonia, and diesel fuel are regularly transported along County Road 20.

Demographics

Thayer's population declined from 71 people in 2000 to about 59 people in 2016, an average annual decrease of 1.06%. This is important because the population decline means a decreasing tax revenue. Thayer's population accounted for 0.43% of York County's population in 2016.^{lxxv}

Figure THR.2: Population 1930 - 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

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

- Older.** The median age of Thayer was 42.5 years old in 2016, compared with the county average of 40.1 years. Thayer's population grew younger since 2010, when the median age was 50.8 years old. Thayer had a larger proportion of people under 20 years old (32.3%) than the county (25.5%).^{lxxvi}
- Less ethnically diverse.** In 2010, 0.0% of Thayer's population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, Thayer was as ethnically diverse, with 0.0% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{lxxvii}
- Less likely to be below the federal poverty line.** The poverty rate in Thayer (0.0% of families living below the federal poverty line) was much lower than the county's poverty rate (7.5%) in 2016.^{lxxviii}

Employment and Economics

The Thayer economic base is a mixture of educational and manufacturing uses. In comparison to York County, Thayer's economy had:

- **Different mix of industries.** Thayer's major employment sectors, accounting for 10% or more of employment each, were: manufacturing; finance and insurance, and real estate and rental and leasing; agriculture, forestry, fishing and hunting, and mining; and educational services, and health care and social assistance.^{lxxxix}
- **Higher household income.** Thayer's median household income in 2016 (\$57,500) was about \$2,300 higher than the county (\$55,156).^{lxxx}
- **More long-distance commuters.** The local planning team indicated that a large percentage of residents commute to other communities.

Major Employers

The Village of Thayer does not have any major employers. There is a Co-op; however, no residents work at the Co-op. A large percentage of residents commute to the City of York for employment.

Housing

In comparison to York County, Thayer's housing stock was:

- **Less renter-occupied.** About 15.0% of occupied housing units in Thayer are renter occupied compared with 29.5% of occupied housing in York County.^{lxxxix}
- **Older.** Thayer had a much older share of housing built prior to 1970 than the county (91.3% compared to 60.0%).^{lxxxii}
- **Less multifamily.** Although the predominant housing type in the village is single family detached, Thayer contains much less multifamily housing with five or more units per structure compared to the county (0.0% compared to 8.9%). About 100% of housing in Thayer was single-family detached, compared with 80.2% of the county's housing. Thayer has a much smaller share of mobile and manufactured housing (0.0%) compared to the county (3.5%).^{lxxxiii}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. Thayer does not have any mobile homes but does have some abandoned homes that are not structurally sound.

Future Development Trends

There have been no new housing, businesses, or demolished buildings in the last five years. According to the 2016 American Community Survey estimates, Thayer's population is declining and has been declining since 2000. A declining population may result in a shrinking tax base, which may make implementing mitigation actions more difficult. The local planning team does not anticipate any new housing developments, businesses, or industry being built over the next five years.

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table THR.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
47	\$1,577,247	\$33,558	0	\$0

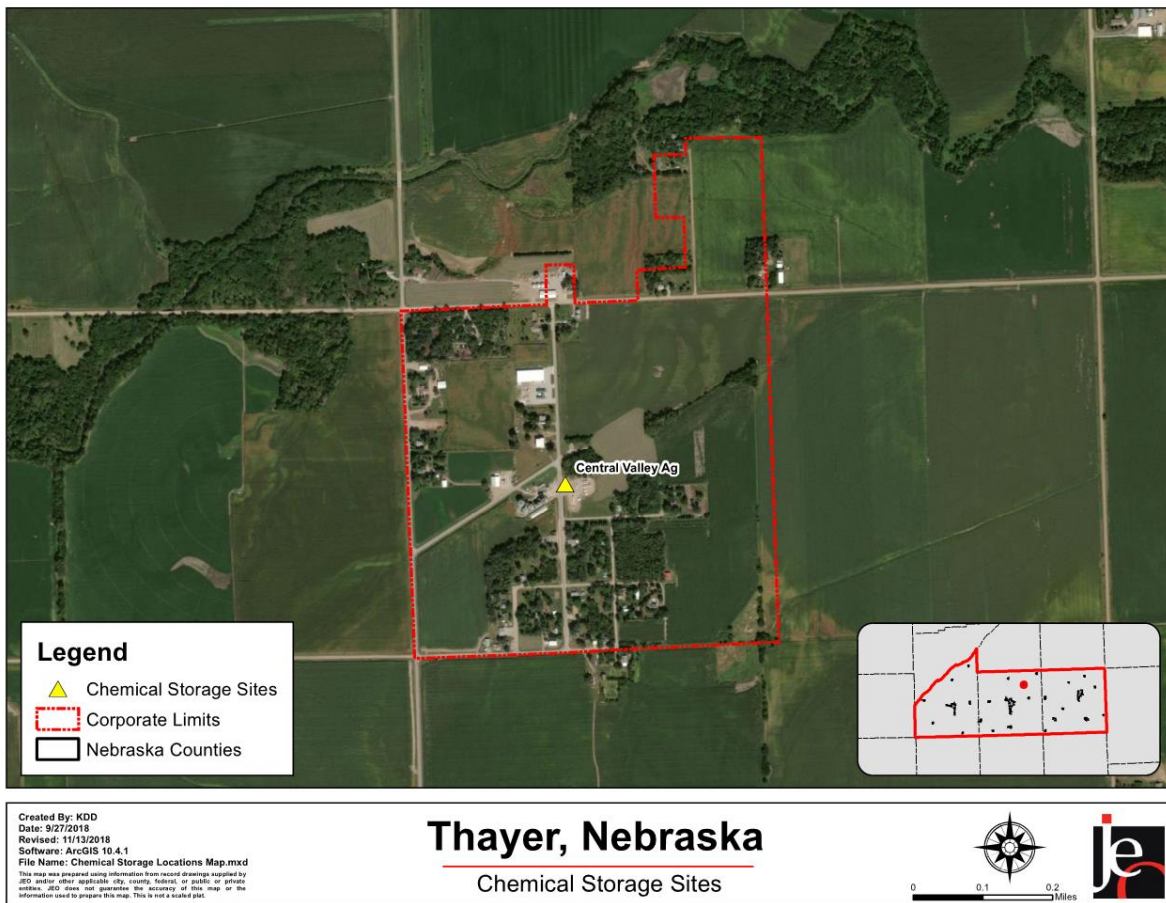
Source: Nebraska Department of Revenue, Property Assessment Division^{xxxxiv}

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there is a total of one chemical storage site in Thayer. The map below shows the name and location of the chemical storage site.

Figure THR.3: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{xxxxv}

Critical Facilities

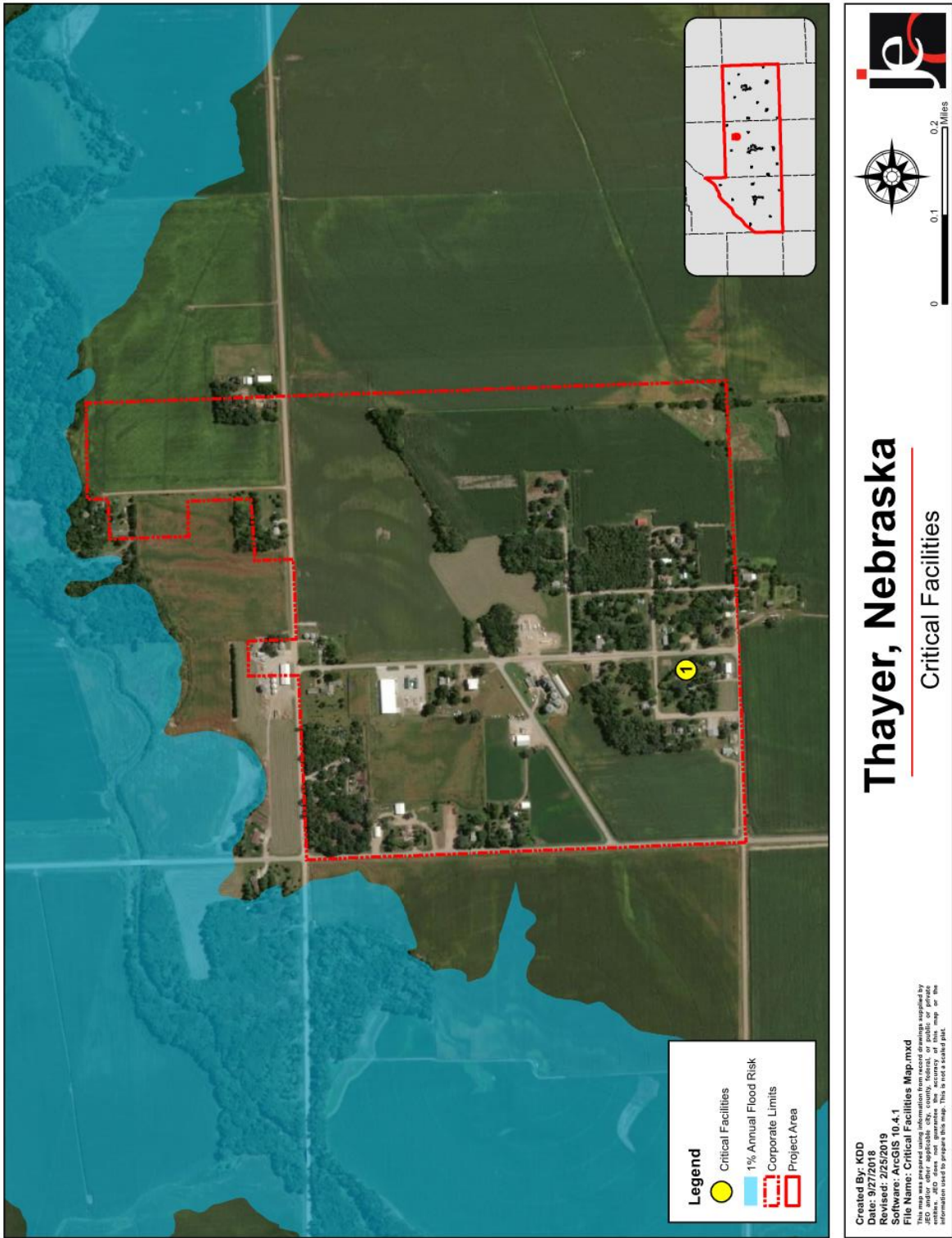
Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster. Critical facilities were identified during the original planning process and updated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

Table THR.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Park Well	N	N	N

*Note: There are no village owned buildings in the community.

Figure THR.4: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills – Fixed Site

The local planning team indicated that fixed site chemical spills were a top hazard for the community. Thayer has a Co-op which stores anhydrous ammonia tanks. Depending on wind conditions an anhydrous spill could potentially impact the entire community. If a spill were to occur the Co-op personnel have been trained to respond, in addition the Waco Fire Department would also respond.

Hail

The primary concern regarding hail is damage to residential property. NCEI data shows that Thayer had one hail event since 1996. The event occurred in 2005 and did not cause any property damage. The local planning team also indicated that there have been other small hail events that have occurred. 2016 American Community Survey data suggests that Thayer's housing age is very old, with over 90% of houses being built before 1970. These houses are more vulnerable to hail damage as they are less likely to be built with hail resistant materials.

High Winds

The village does not provide maintenance for trees. Local property owners must take care of the trees, which leaves the possibility for power loss due to falling trees and limbs. This issue is likely to increase as the Emerald Ash Borer will likely move into the area in the next couple of years, killing most Ash trees in the area.

Tornadoes

NCEI data shows that Thayer has had one tornado event in 2008. The tornado was a magnitude EF0 and caused \$40,000 in property damage. The Village of Thayer does not have a community shelter or community buildings for residents to use in the event of a tornado. Most residents will have to find safety in their own homes or in the homes of their neighbors. The local planning team indicated that the majority of homes have a crawl space but very few have basements. The village has one siren that is activated in York and is tested every month.

Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Thayer has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Thayer has five village board members and the following offices that may help implement mitigation actions.

- Clerk/Treasurer
- Attorney

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table THR.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	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	County
	Subdivision Regulation/Ordinance	County
	Floodplain Ordinance	No
	Building Codes	No
	National Flood Insurance Program	No
	Community Rating System	No
	Other (if any)	-
<i>Administrative & Technical Capability</i>	Planning Commission	County
	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)	-
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	No
	Applied for grants in the past	No
	Awarded a grant in the past	No
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	-
<i>Education &</i>	Local citizen groups or non-profit organizations focused on environmental protection, emergency	No

Survey Components/Subcomponents		Yes/No
<i>Outreach Capability</i>	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)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	Limited
Does your community have the community support to implement projects?	Moderate
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The Local Emergency Operations Plan (LEOP) was last updated in 2019. The LEOP addresses hazards of greatest concern, identifies evacuation routes, and lists the locations of shelters. No additional examples of plan integration were identified by the village. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

New Mitigation Actions

Mitigation Action	Backup 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	All Hazards
Estimated Cost	\$15,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started, New Action

Mitigation Action	Continuity Plans
Description	Develop continuity plans for critical community services. Encourage businesses to do the same.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000+
Funding	General Fund
Timeline	2-5 Years
Priority	High
Lead Agency	Village Board
Status	Not Started, New Action

lxxv United States Census Bureau. "American Fact Finder: S0101: Age and Sex." [database file]. <https://factfinder.census.gov/>.
 lxxvi United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.
 lxxvii United States Census Bureau. "American Fact Finder: DP05: ACS Demographic and Housing Estimates." [database file]. <https://factfinder.census.gov/>.
 lxxviii United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.
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 lxxx United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.
 lxxxi United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.
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 lxxxiv County Assessor. Personal correspondence, February 2019.
 lxxxv Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

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COMMUNITY PROFILE

VILLAGE OF WACO



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

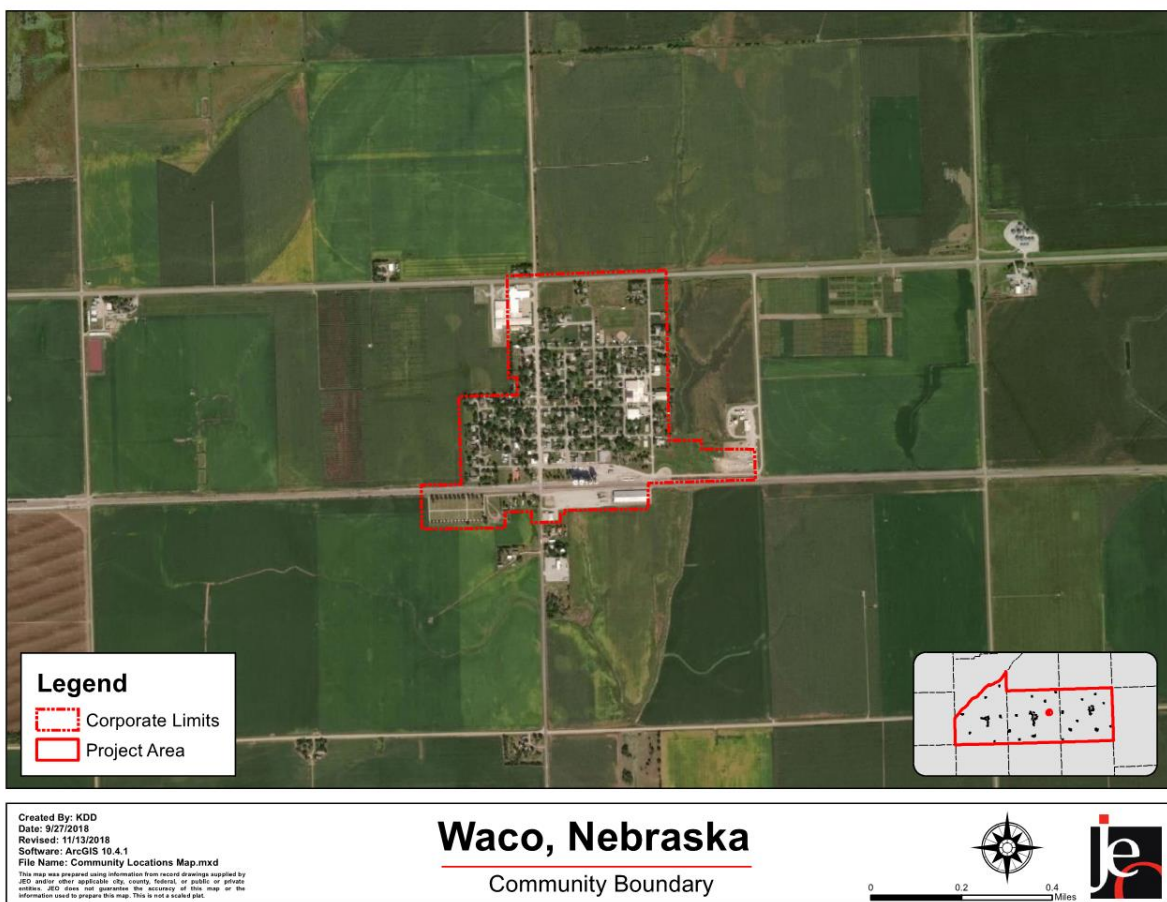
Table WAC.1: Waco Local Planning Team

Name	Title	Jurisdiction
Todd Bauder	Village Board Member	Village of Waco
Chris Farley	Sewage Plant Operator	Village of Waco
Cheryl Kraft	Village Clerk/Treasurer	Village of Waco

Location and Geography

The Village of Waco is located in the east central portion of York County and covers an area of 147 acres. The Waco Waterfowl Production Area is located one mile to the northwest of the village.

Figure WAC.1: Community Boundary



Transportation

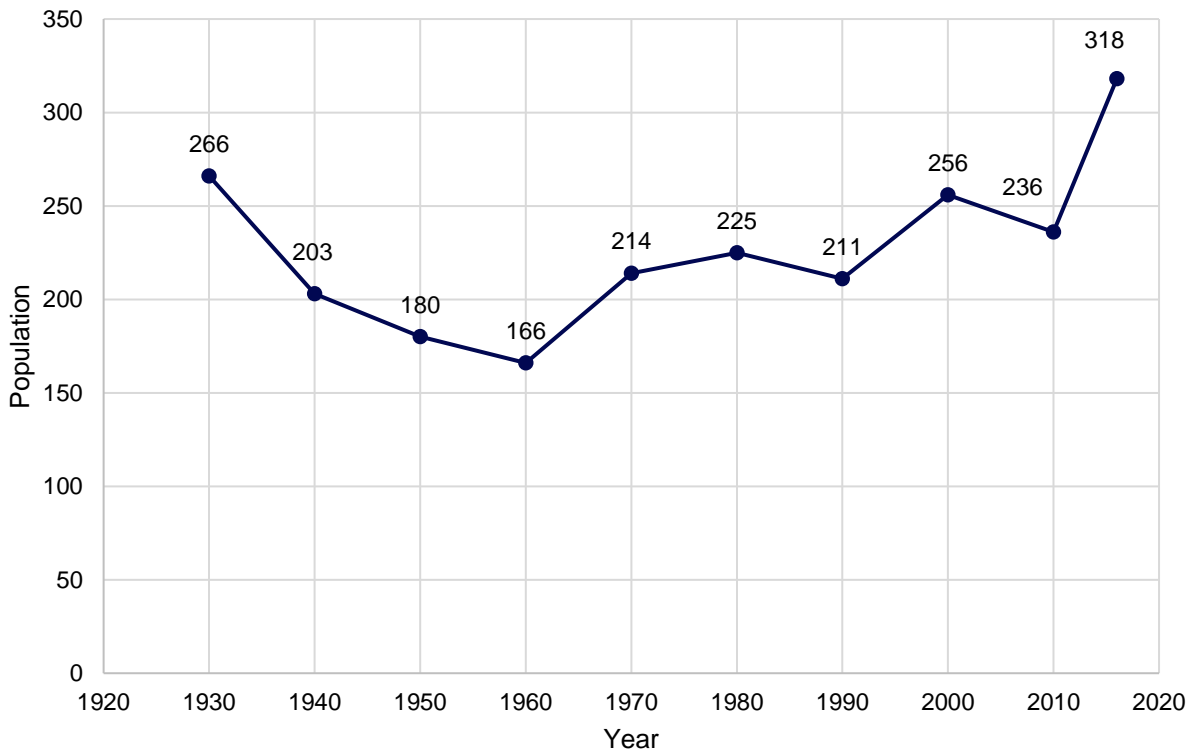
Waco’s major transportation corridor includes U.S. Highway 34 with 2,820 vehicles a day and Nebraska Highway L-93B with 1,360 vehicles a day.^{lxxxvi} Waco has one Burlington Northern rail line running east west through the southern portion of the community. Train derailments have occurred in the Village. Waco does not have any airports within or near village boundaries. Transportation information is important to hazard mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

The local planning team indicated that chemicals such as anhydrous ammonia, propane, and farm chemicals are regularly transported along Highway 34 and Highway L-93B.

Demographics

Waco’s population increased from about 256 people in 2000 to 318 people in 2016, an average annual increase of 1.51%. This is important because the population increase means an increasing tax revenue. Waco’s population accounted for 2.30% of York County’s population in 2016.^{lxxxvii}

Figure WAC.2: Population 1930 - 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, Waco’s population was:

- Older.** The median age of Waco was 52.3 years old in 2016, compared with the county average of 40.1 years. Waco’s population grew older since 2010, when the median age was 46.7 years old. Waco had a smaller proportion of people under 20 years old (19.8%) than the county (25.5%).^{lxxxviii}
- More ethnically diverse.** In 2010, 2.6% of Waco’s population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, Waco became more ethnically diverse, with 6.3% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{lxxxix}
- Less likely to be below the federal poverty line.** The poverty rate in Waco (7.4% of families living below the federal poverty line) was much lower than the county’s poverty rate (7.5%) in 2016.^{xc}

Employment and Economics

The Waco economic base is a mixture of educational and manufacturing uses. In comparison to York County, Waco's economy had:

- **Similar mix of industries.** Waco's major employment sectors, accounting for 10% or more of employment each, were: manufacturing; retail trade; and educational services, and health care and social assistance.^{xcvi}
- **Higher household income.** Waco's median household income in 2016 (\$55,833) was about \$600 higher than the county (\$55,156).^{xcvii}
- **More long-distance commuters.** The local planning team indicated that a large percentage of residents commute to other communities.

Major Employers

Major employers within Waco include Central Valley Ag, the local bank, and Hunters. A large percentage of residents commute to York, Seward, and Lincoln.

Housing

In comparison to York County, Waco's housing stock was:

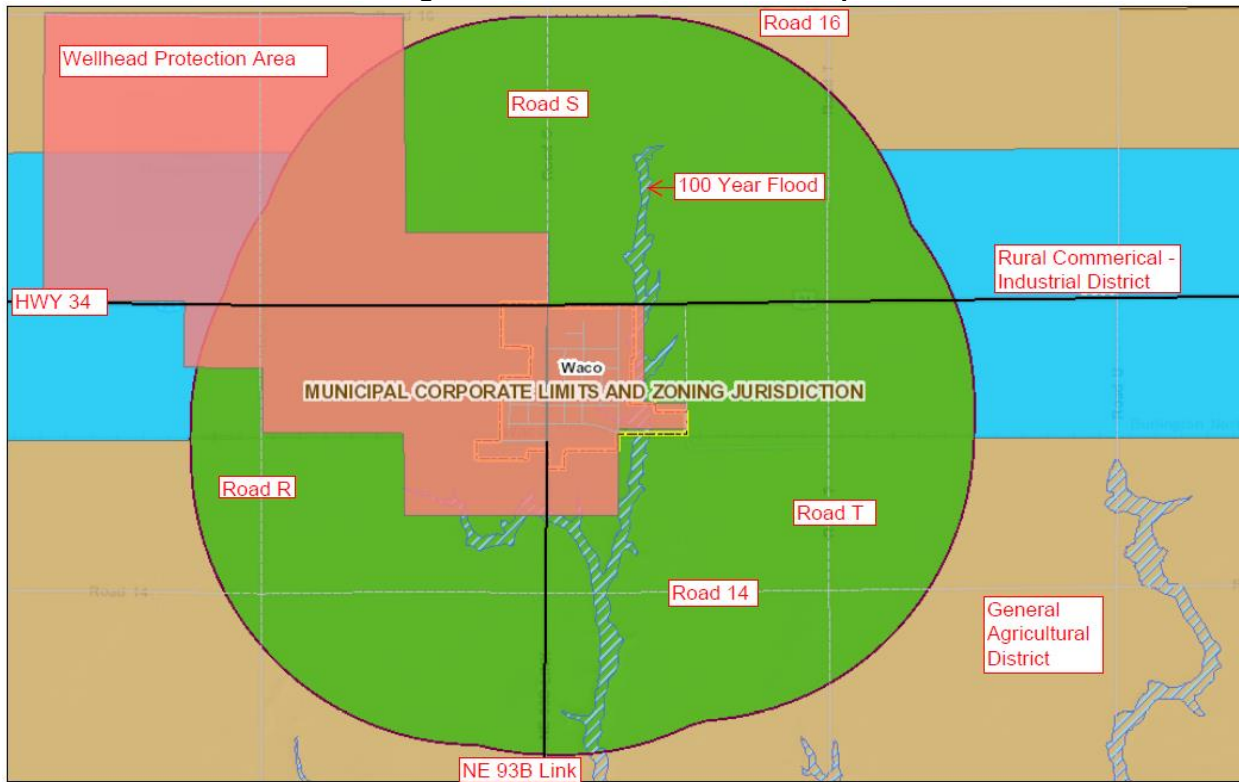
- **Less renter-occupied.** About 27.7% of occupied housing units in Waco are renter occupied compared with 29.5% of occupied housing in York County.^{xcviii}
- **Younger.** Waco had a smaller share of housing built prior to 1970 than the county (48.6% compared to 60.0%).^{xcix}
- **Less multifamily.** Although the predominant housing type in the village is single family detached, Waco contains much less multifamily housing with five or more units per structure compared to the county (0.0% compared to 8.9%). About 82.4% of housing in Waco was single-family detached, compared with 80.2% of the county's housing. Waco has a larger share of mobile and manufactured housing (4.7%) compared to the county (3.5%).^{cx}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. Waco has six mobile homes and 19 rental properties.

Future Development Trends

In the last five years, there has been no new construction, but two houses were demolished. According to the latest American Community Survey estimates, Waco's population is increasing. An increasing population may result in an expanding tax base, which may make implementing mitigation actions more feasible. No new housing developments, businesses, or industry is planned over the next five years. Figure WAC.3 shows the planned future land use for the Village of Waco.

Figure WAC.3: Future Land Use Map



Source: Village of Waco

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table WAC.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
153	\$9,997,403	\$65,343	5	\$779,213

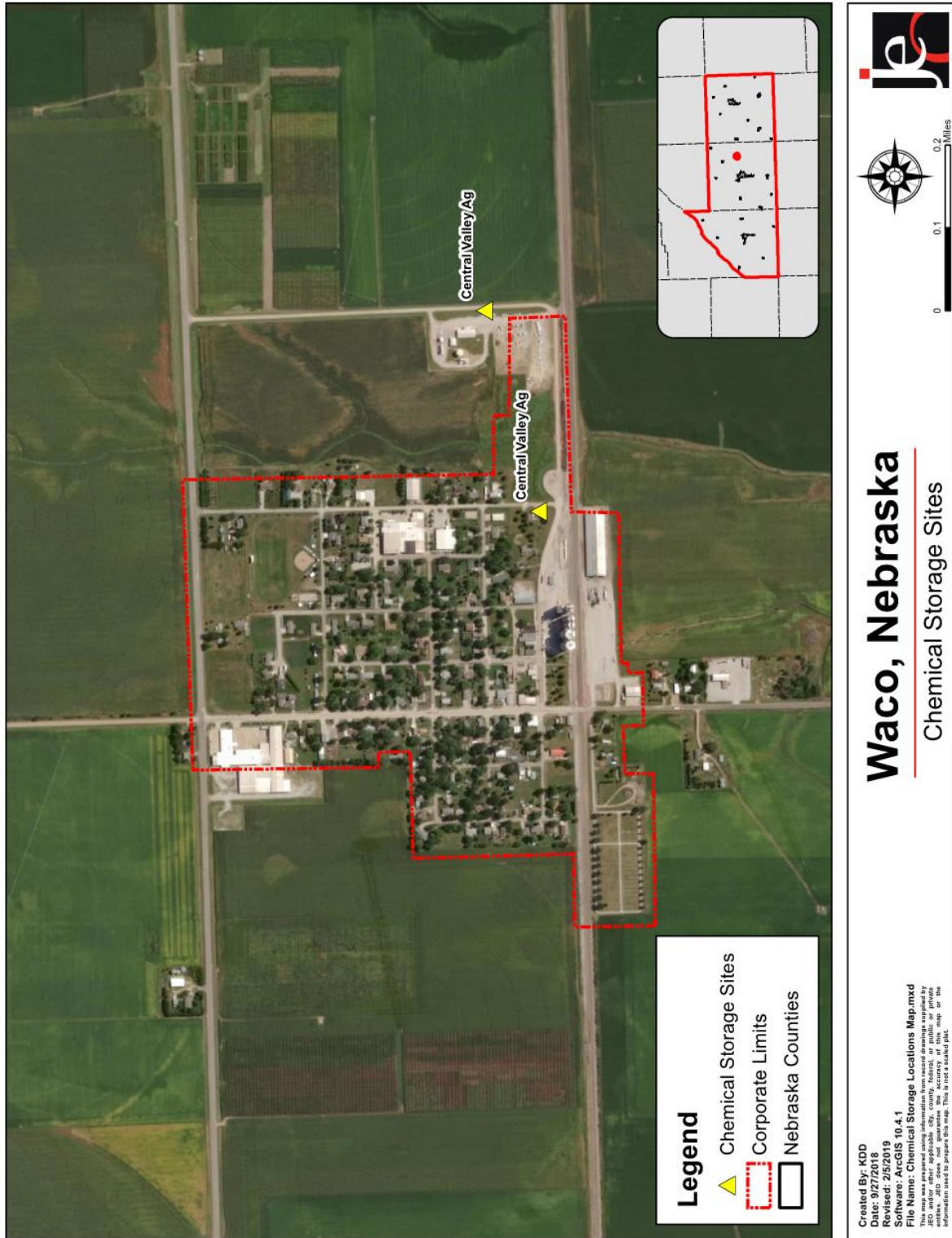
Source: Nebraska Department of Revenue, Property Assessment Division^{xcvi}

Critical Infrastructure/Key Resources

Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environmental Quality, there are a total of two chemical storage sites in Waco. The map below shows the name and location of the chemical storage sites.

Figure WAC.4: Chemical Storage Fixed Sites



Source: Nebraska Department of Environmental Quality^{xcvii}

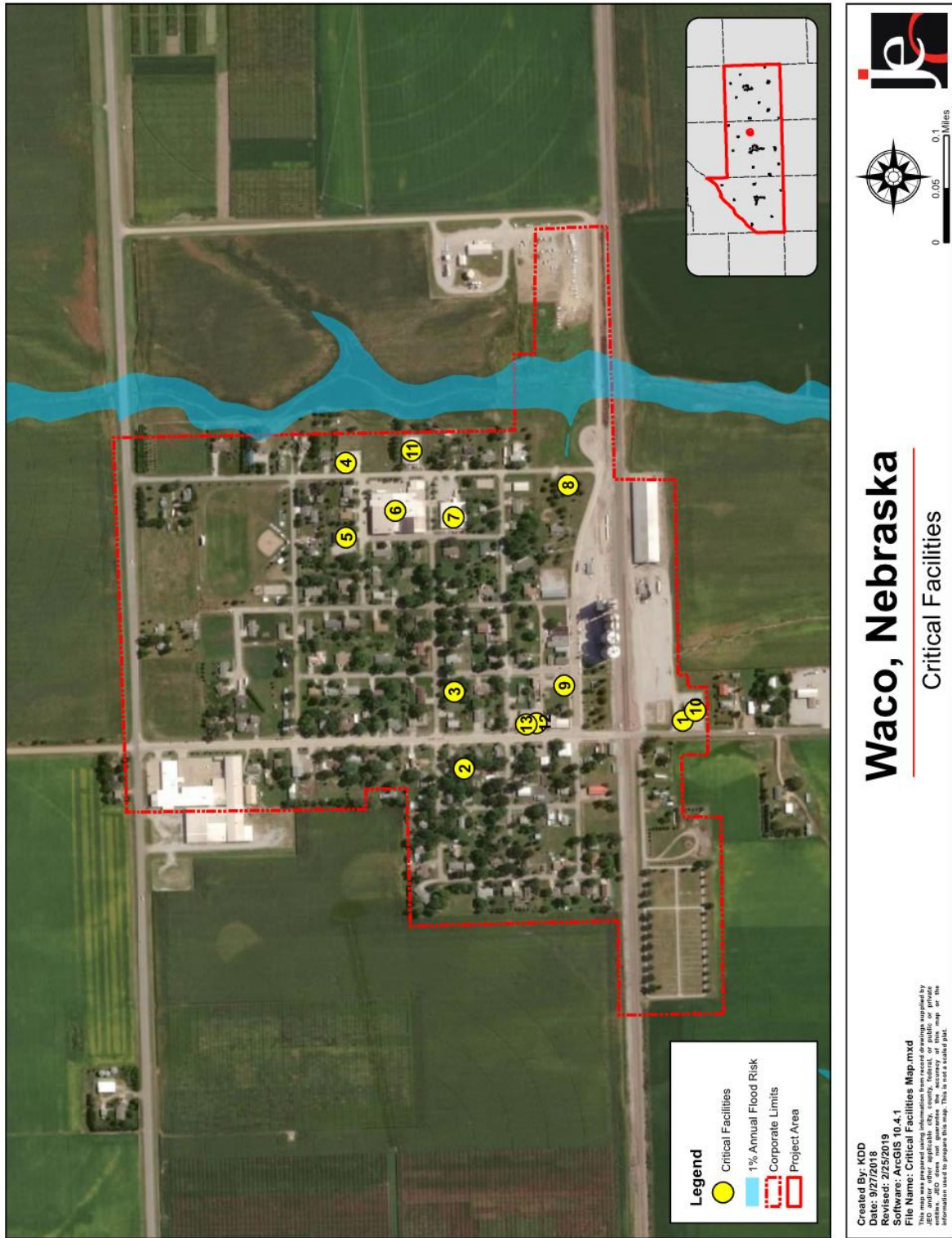
Critical Facilities

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

Table WAC.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	South Well House	N	N	N
2	North Well House	N	Y	N
3	Waco United Methodist Church	N	N	N
4	Trinity Lutheran School	N	N	N
5	Peace Lutheran Church	N	N	N
6	Nebraska Lutheran High School	Y	N	N
7	Nebraska Lutheran High School Cafeteria	N	N	N
8	Waste Water Treatment Facility	N	N	N
9	Village of Waco Office	N	N	N
10	Fire Department	N	N	N
11	Nebraska Lutheran High School	N	N	N
12	Community Building	Y	N	N
13	Water Tower	N	N	N

Figure WAC.5: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills – Transportation

The primary concern for the village regarding transportation chemical spills is that several critical facilities are located along the main transportation routes. The Village Office, Fire Department, South Well, and Waste Water Treatment Facility are located less than 300 feet from both the Highway L-93B and the railroad. Highway 34, Midland Street, L-93B, East Ridge Road, and the BNSF rail line all pass through the local Well Head Protection Area. If a spill were to occur along these routes, it is possible that it could contaminate wells in the area.

On October 20, 2014 a BNSF coal train derailed 28 cars within the Village of Waco. No critical facilities or structures were damaged, but the tracks and rail cars were significantly damaged. The derailment only spilled coal, however it could have just as easily been carrying liquid or hazardous chemicals.

Chemical Spills – Fixed Site

Several critical facilities are located near fixed chemical sites and may be impact should a chemical spill occur. The Lutheran High School is located 1,100 feet northwest of the Central Valley Ag (CVA) anhydrous storage and filling site. It is also located 200 feet north of the CVA propane tanks. Other critical facilities located near fixed chemical sites include the Village Office, Waste Water Treatment Facility, Fire Department, and South Well. If a propane or anhydrous leak were to occur, the entire village could be affected depending on wind conditions.

High Winds

NCEI data categorizes high winds as a “zonal” event, meaning high wind events are not broken down by community. According to NCEI data, 12 high wind events in York County were at or above 50 kts./58 mph). Winds of this magnitude, according to the Beaufort Wind Force Ranking, can cause trees to uproot, considerable structure damage, and over turning of improperly anchored mobile homes.

Severe Thunderstorms

NCEI data recorded six severe thunderstorm events in Waco, which resulted in \$235,500 in property damages. The most damaging event occurred in 2011 when thunderstorm winds reached 70 mph and caused \$120,000 in property damage. High winds and lighting during severe thunderstorms can cause power outages and downed power lines. If a power outage were to occur the south well does have a backup generator; however, no other critical facilities have back up power generators.

Severe Winter Storms

The local planning team identified severe winter storms as a significant concern for the community. NCEI data records severe winter storms as “zonal” events meaning there is not a specific record of what communities are impacted. Waco has an older population with 35% of

residents age 65 or older. Elderly citizens are at higher risk of injury or death, especially during extreme cold and heavy snow accumulations.

Tornadoes

The local planning team identified tornadoes as a significant concern for the community. According to the NCEI, there have been zero tornadoes that have occurred in Waco since 1996. However, this does not mean there is no risk. Over that same time period York County has experienced 18 tornado events. Despite the lack of occurrences, tornadoes are a significant concern due to the potential for loss of property and life.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Waco has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. Waco has five village board members and the following offices that may help implement mitigation actions.

- Clerk/Treasurer
- Attorney
- Engineer
- Maintenance Supervisor
- Fire Chief
- Sewer/Water Commission
- Street Commission
- Planning Commission
- Tree Board
- Parks and Recreation
- Animal Control
- Board of Health

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table WAC.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes – County
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes

Survey Components/Subcomponents		Yes/No
	National Flood Insurance Program	Yes
	Community Rating System	No
	Other (if any)	-
<i>Administrative & Technical Capability</i>	Planning Commission	Yes
	Floodplain Administration	Yes – Clerk
	GIS Capabilities	No
	Chief Zoning Inspector	Yes
	Civil Engineering	Yes – Contract
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	Yes
	Mutual Aid Agreement	No
	Other (if any)	-
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
Other (if any)	-	
<i>Education & Outreach Capability</i>	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	Yes
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	Moderate
Does your community have the community support to implement projects?	Moderate/High
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The Village of Waco has several plans and regulations which relate to the principles of hazard mitigation. The village has a Comprehensive Plan, Zoning Ordinance, and Subdivision Regulations which all were updated in 2014. In addition, the village has an Emergency Operations Plan which was updated in 2019, Floodplain Regulations updated in 2006, and a Wellhead Protection Plan which was updated in 2014. Below is a brief description of the hazard mitigation principles discussed in the different plans.

The Comprehensive Plan specifically discusses flooding, with specific concerns for the floodplain. The plan directs development away from the floodplain, and major transportation routes. It also encourages open space and limits density in hazardous areas. The comprehensive plan will likely be updated in 2024. The Local Emergency Operations Plan (LEOP) is an annex to the York County plan. The LEOP addresses hazards of greatest concern, assigns specific individual responsibilities, identifies evacuation routes, and sheltering locations. Village board members, the village employees, and fire department are all familiar with the LEOP. The Wellhead Protection Plan includes well setback requirements and has a water conservation plan in place. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Completed Mitigation Actions

Mitigation Action	Relocate Storage Tanks
Hazard(s) Addressed	All Hazards
Status	Completed in 2017. Owner (CVA) relocated storage tanks from 202 Midland Street to 1414 Ridge Road.

Ongoing and New Mitigation Actions

Mitigation Action	Alert Sirens
Description	Perform an evaluation of existing alert sirens in order to determine sirens which should be replaced or upgraded. Install new sirens where lacking and remote activation. Village is looking to add an alert siren in the park and the yard waste area.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$15,000+
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Backup Generators
Description	Provide a portable or stationary source of backup power to redundant power supplies, village wells, lift stations, and other critical facilities and shelters. Generators planned for Community Building, Nebraska Lutheran Cafeteria, Waste Water Treatment Facility, Fire Department, North Well House, and South Well House.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$15,000 - \$50,000 per generator
Funding	Bonds, Keno Funds
Timeline	1-5 Years
Priority	High
Lead Agency	Village Board
Status	Currently identifying locations in need of generator.

Mitigation Action	Emergency Communication
Description	Develop an emergency action plan to improve communications between agencies by establishing a portable communication suite with a base station with required wiring, antenna, storage case(s) as well as ten portable UHF radios with spare batteries programed to the local frequencies to include local tactical channels for use by the EOC personnel and responders in the event of a disaster.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$12,000
Funding	General Funds, Local Budget
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board, Waco Fire Department
Status	Not Started

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms
Estimated Cost	\$20,000
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	In Progress. Hazardous trees are removed as they are identified.

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

Mitigation Action	Storm Shelter / Safe Rooms
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	\$200-\$300/sf stand alone; \$150-200/sf addition/retrofit
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Village Board
Status	Not Started

Mitigation Action	Storm System and Drainage Improvements
Description	Develop a storm water maintenance plan for cleaning of existing ditches and culverts. Purchase a small excavator with "thumb" attachment (bobcat style with ten-foot reach and four-foot cleaning bucket) to implement the storm water maintenance plan. The village currently owns a jet truck which would be used for cleaning existing culverts. The excavator could also be used in clean-up operations after a disaster.
Hazard(s) Addressed	Flooding, Severe Thunderstorms
Estimated Cost	\$10,000 to \$100,000+
Funding	CDBG, General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Village Board
Status	Ongoing. This will become a part of the village's regular maintenance program. The Village will pursue drainage improvements as opportunities are identified.

Removed Mitigation Actions

Mitigation Action	Floodplain Regulation Enforcement and Updates
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. Village will continue to enforce floodplain regulations and educate building inspectors or Certified Floodplain Managers.
Mitigation Action	Maintain Good Standing with National Flood Insurance Program (NFIP)
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. Village will continue to maintain good standing with NFIP.

Mitigation Action	Weather Radios
Hazard(s) Addressed	All Hazards
Reason for Removal	This action was removed because other technology has replaced the need for radios. Emergency Management can send alerts through cell phone texts and emails.

Ixxxvi Nebraska Department of Roads. "Traffic Flow Map of the State Highways: State of Nebraska." [map]. Scale 1"= 20 miles. State of Nebraska: Department of Roads, 2015. <http://www.roads.nebraska.gov/media/2510/2014-statewide-traffic-flow-map.pdf>
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xcii United States Census Bureau. "American Fact Finder: DP03: Selected Economic Characteristics." [database file]. <https://factfinder.census.gov/>.
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xcv United States Census Bureau. "American Fact Finder: DP04: Selected Housing Characteristics." [database file]. <https://factfinder.census.gov/>.
xcvi County Assessor. Personal correspondence, February 2019.
xcvii Nebraska Department of Environmental Quality. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.

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COMMUNITY PROFILE

CITY OF YORK



Upper Big Blue Natural Resources District Multi-Jurisdictional Hazard Mitigation Plan Update

2019

Local Planning Team

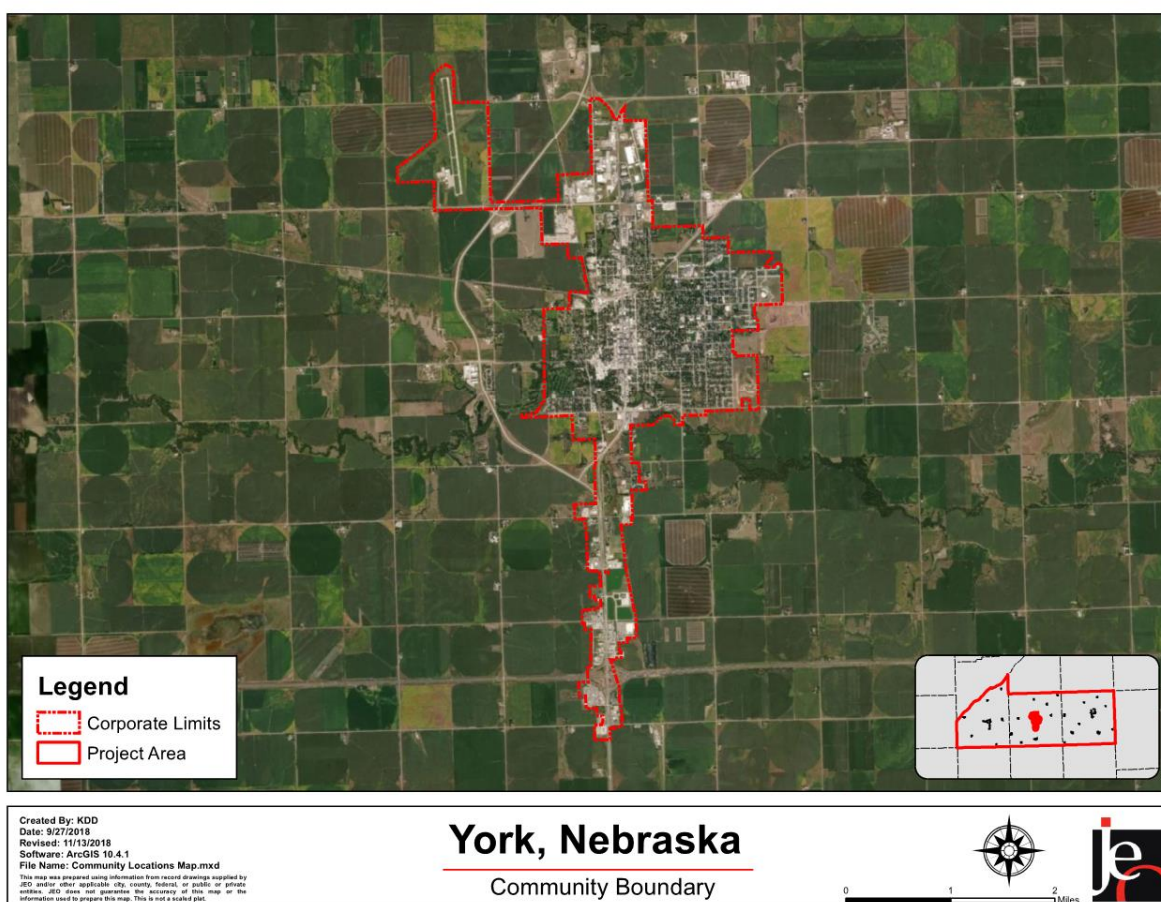
Table YRK.1: City of York Local Planning Team

Name	Title	Jurisdiction
Michael Lloyd	Fire Chief	City of York
Joe Frei	City Administrator	City of York
Joseph Colburn	Vice President/Administrator	York General Hearthstone

Location and Geography

The City of York is located in the center of York County and covers an area of 5.77 square miles. Lincoln Creek is located less than one mile to the north of the city.

Figure YRK.1: Community Boundary



Transportation

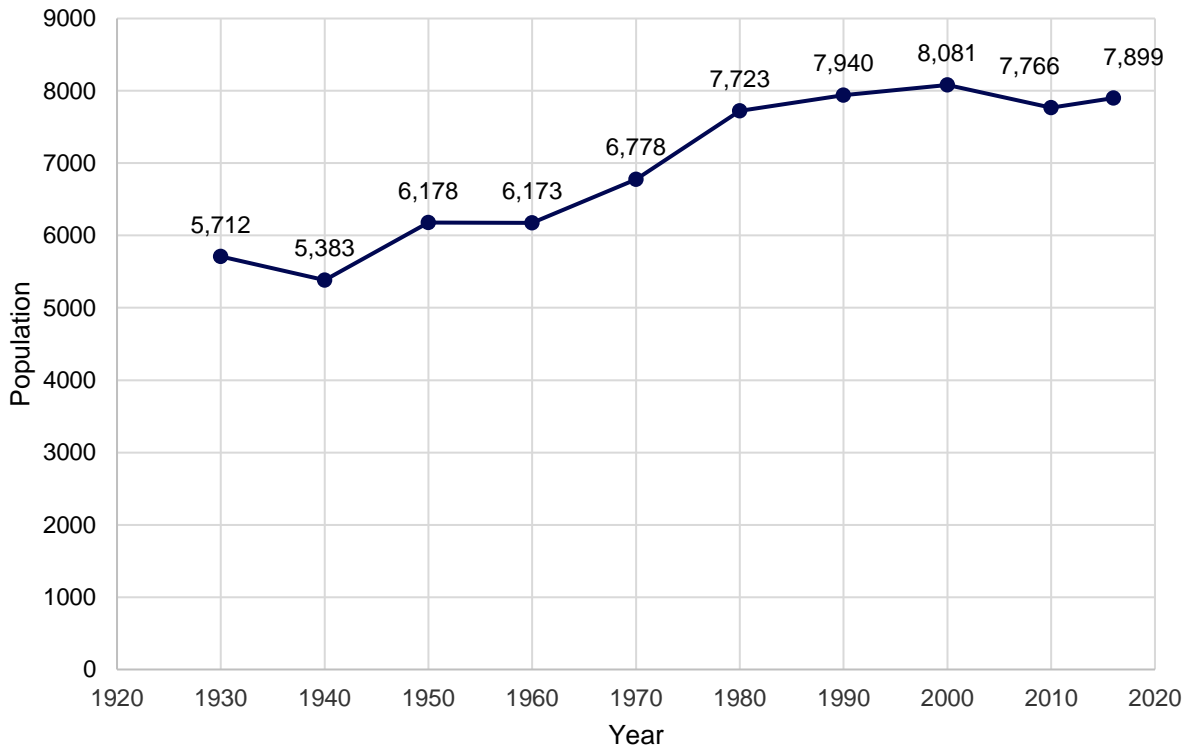
The City of York’s major transportation corridor includes U.S. Highway 81 with 4,265 vehicles a day, U.S. Highway 34 with 2,725 vehicles a day, and Interstate 80 with 24,790 vehicles a day.^{xcviii} The City of York has two Burlington Northern rail lines running east west through the center of the community and north through center of the community. The City of York has two airports, York Municipal Airport, located in the northwest portion of the city and Knox Landing Airport, located less than a mile to the south of the city. Transportation information is important to hazard

mitigation plans because it suggests possible evacuation corridors in the community, as well as areas more at risk to transportation incidents.

Demographics

The City of York’s population declined from 8,081 people in 2000 to about 7,899 people in 2016, an average annual decrease of 0.14%. However, since 2010 the City of York’s population has increased from 7,766 people in 2010 to 7,899 in 2016. This is important because the population growth means an increasing tax revenue. The City of York’s population accounted for 57.07% of York County’s population in 2016.^{xcix}

Figure YRK.2: Population 1930 – 2016



Source: U.S. Census Bureau
 *2016 Population from American Community Survey

The young, elderly, minorities, and poor may be more vulnerable to certain hazards than other groups. In comparison to the county, York’s population was:

- **Younger.** The median age of York was 37.1 years old in 2016, compared with the county average of 40.1 years. The City of York’s population grew younger since 2010, when the median age was 39.4 years old. York had a slightly larger proportion of people under 20 years old (26.0%) than the county (25.5%).^c
- **More ethnically diverse.** In 2010, 4.4% of York’s population was Hispanic or Latino. The Hispanic population in the county was 4.1%. By 2016, York became more ethnically diverse, with 5.1% of the population Hispanic or Latino. During that time, the Hispanic population in the county grew to 4.7%.^{ci}

- **More likely to be below the federal poverty line.** The poverty rate in the City of York (9.7% of families living below the federal poverty line) was higher than the county's poverty rate (7.5%) in 2016.^{cii}

Employment and Economics

The City of York economic base is a mixture of educational and arts uses. In comparison to York County, the City of York's economy had:

- **Different mix of industries.** York's major employment sectors, accounting for 10% or more of employment each, was: educational services, and health Care and social assistance; and arts, entertainment, and recreation, and accommodation and food services.^{ciii}
- **Lower household income.** The City of York's median household income in 2016 (\$50,539) was about \$4,600 lower than the county (\$55,156).^{civ}
- **Fewer long-distance commuters.** About 61.7% of workers in the City of York commuted for fewer than 15 minutes, compared with about 57.2% of workers in York County. About 15.2% of workers in York commute 30 minutes or more to work, compared to about 17.4% of the county workers.^{cv}

Major Employers

Major employers within the City of York include Cornerstone Bank, York General Health Care Services, ASI, Central Valley Ag, Champion Home Builders, Collins Aerospace, Corteval Agriscience, C-Tec Inc., NE Correctional Center for Women, Petro, Walmart, York College, and York Public Schools. The local planning team indicated that 58% of residents in York were employed in York. Those who do not work in York, typically commute to Lincoln and Grand Island.

Housing

In comparison to York County, the City of York's housing stock was:

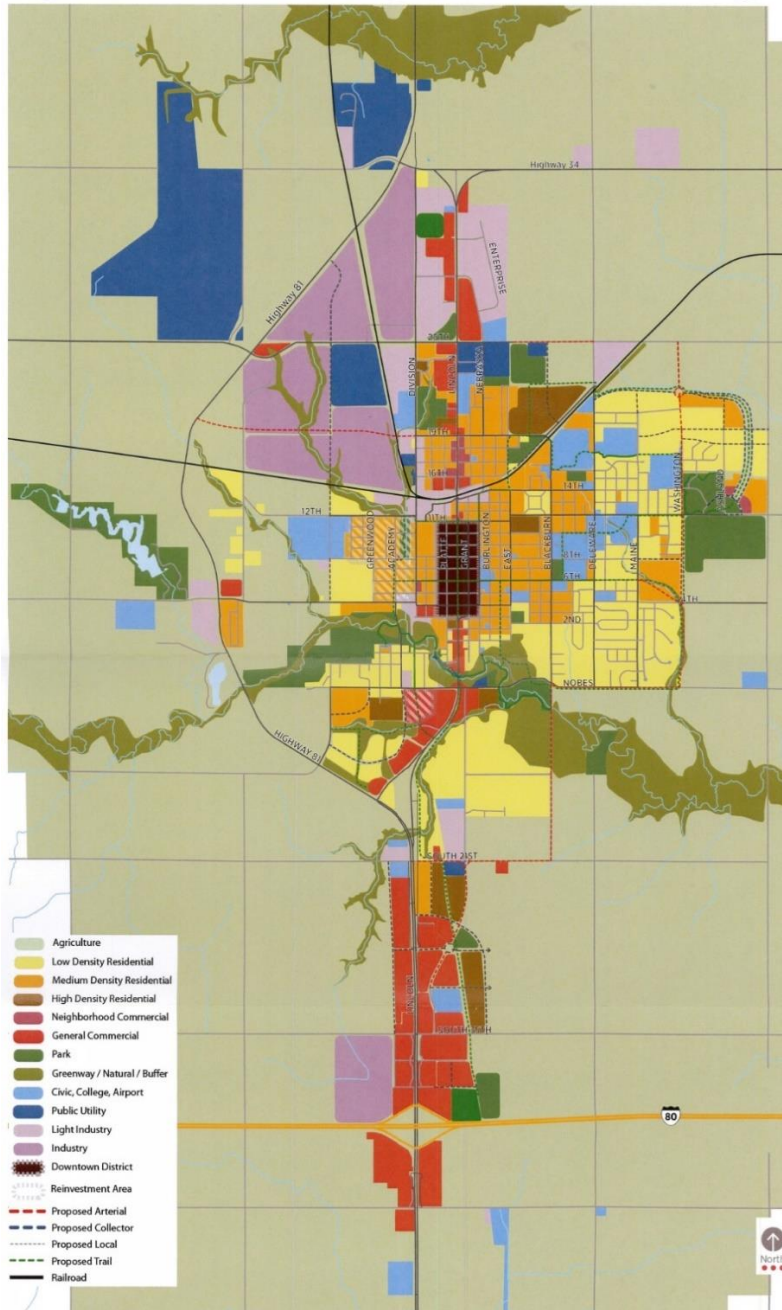
- **More renter-occupied.** About 37.4% of occupied housing units in the City of York are renter occupied compared with 29.5% of occupied housing in York County.^{cvi}
- **Younger.** York had a smaller share of housing built prior to 1970 than the county (49.4% compared to 60.0%).^{cvi}
- **More multifamily.** Although the predominant housing type in the city is single family detached, York contains slightly more multifamily housing with five or more units per structure compared to the county (14.0% compared to 8.9%). About 74.5% of housing in York was single-family detached, compared with 80.2% of the county's housing. The City of York has a smaller share of mobile and manufactured housing (1.4%) compared to the county (3.5%).^{cvi}

This housing information is relevant to hazard mitigation insofar as the age of housing may indicate which housing units were built prior to state building codes being developed. Further, unoccupied housing may suggest that future development may be less likely to occur. Finally, communities with a substantial number of mobile homes may be more vulnerable to the impacts of high winds, tornadoes, and severe winter storms. York contains mobile home parks at West 4th Street, near the Highway 81 bypass and on South Lincoln Avenue near South 21st.

Future Development Trends

In the last five years, several new businesses have been constructed. There have been 13 businesses that have broken new ground and a number of projects that have used existing space. The city has had five major housing developments which include single-family, duplex, and apartment buildings. According to the 2016 American Community Survey estimates, York's population has experienced a slight increase since 2010. An increasing population may result in an expanding tax base, which may make implementing mitigation actions more feasible. The local planning team indicated that additional development in both the business and housing markets is expected over the next five years. Figure YRK.3 shows the future land use for the City of York.

Figure YRK.3: Future Land Use Map



Source: City of York

Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor. This data allowed the planning team to analyze the location, number, and value of property improvements at the parcel level. The data did not contain the number of structures on each parcel. A summary of the results of this analysis is provided in the following table.

Table YRK.2: Structural Inventory/Parcel Improvements

Number of Improvements	Total Improvement Value	Mean Value of Improvements per Parcel	Number of Improvements in Floodplain	Value of Improvements in Floodplain
3,358	\$423,775,127	\$126,199	443	\$43,881,851

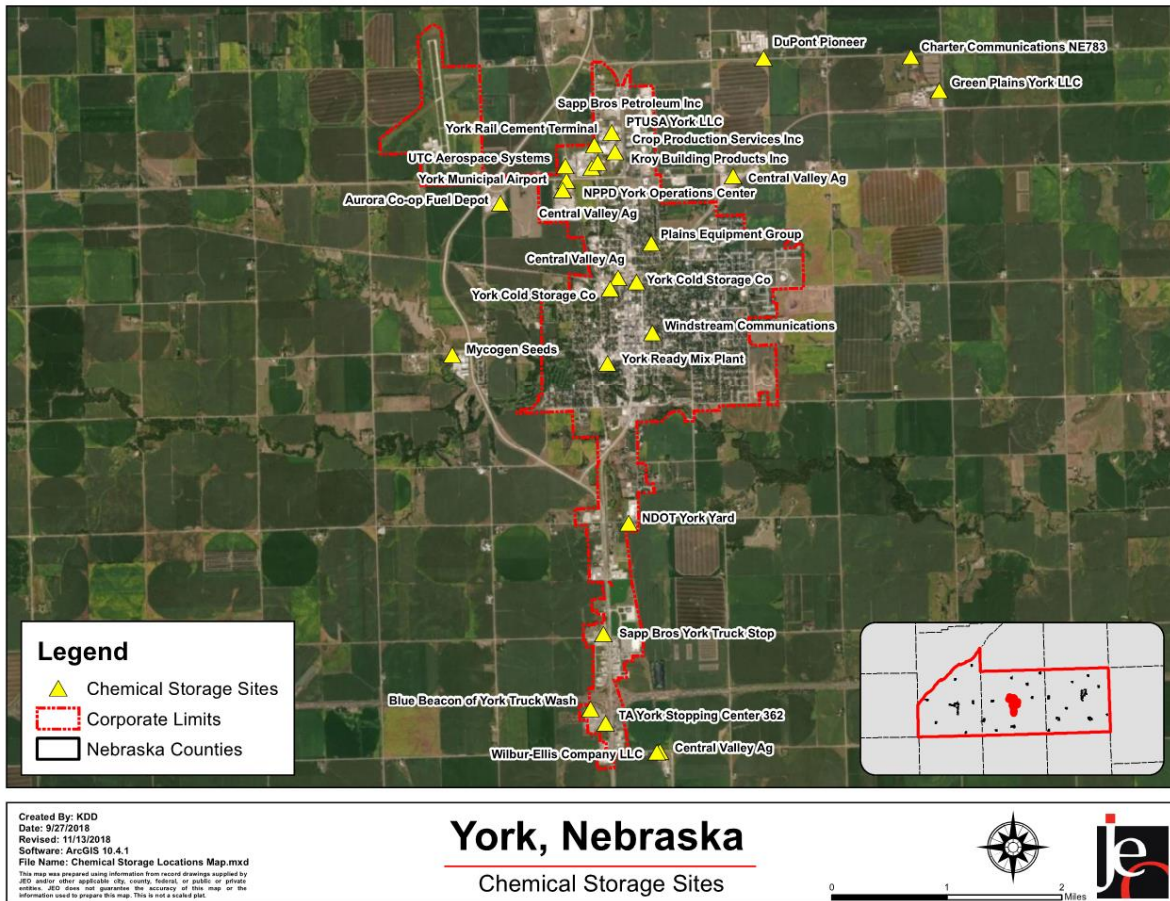
Source: Nebraska Department of Revenue, Property Assessment Division^{61x}

Critical Infrastructure/Key Resources

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 26 chemical storage sites in the City of York. The map below shows the name and location of the sites.

Figure YRK.4: Chemical Storage Sites



Source: Nebraska Department of Environment and Energy^{62x}

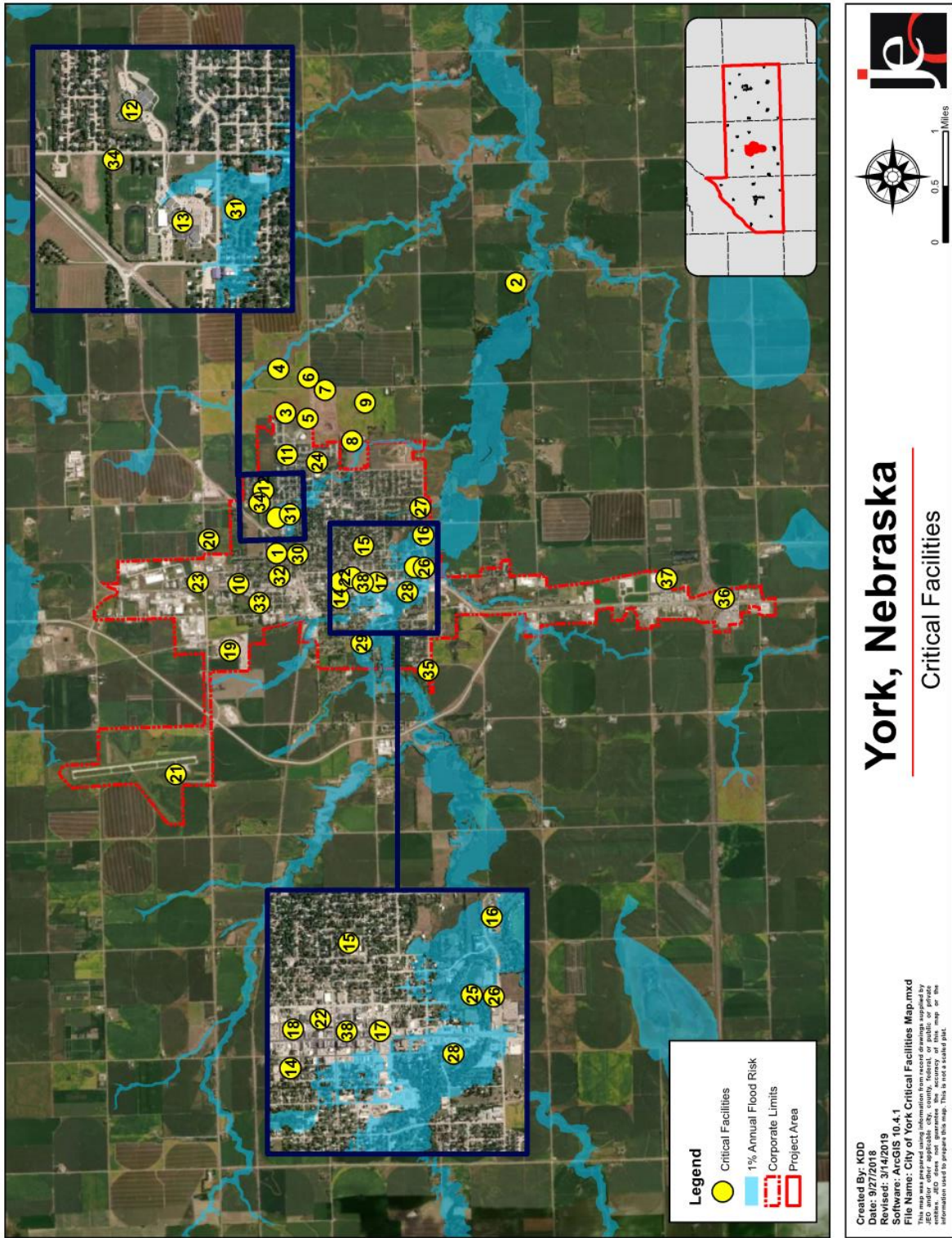
Critical Facilities

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

Table YRK.3: Critical Facilities

CF Number	Name	Red Cross Shelter (Y/N)	Generator (Y/N)	Located in Floodplain (Y/N)
1	Well	N	N	N
2	Wastewater Treatment Plant	N	N	N
3	Well	N	N	N
4	Well	N	N	N
5	Well	N	N	N
6	Well	N	Y	N
7	Well	N	N	N
8	Well	N	N	N
9	Well	N	Y	N
10	York General Hospital	N	N	N
11	Elementary School	N	N	N
12	Middle School	N	N	N
13	High School	Y	N	N
14	Emmanuel Lutheran School	N	N	N
15	St. Joseph’s Catholic School	N	N	N
16	Lift Station	N	Y	N
17	Police and City Offices	N	Y	N
18	Fire Department	N	N	N
19	NPPD Operations Center	N	N	N
20	County Highway Department	N	N	N
21	York Airport	N	N	N
22	US Post Office	N	N	N
23	York General Hearthstone	N	N	N
24	Mahoney House	N	N	N
25	Well	N	N	Y
26	Public Works and Water Control	N	Y	N
27	Well	N	N	N
28	Well	N	N	Y
29	Well	N	N	Y
30	Well	N	N	N
31	Well	N	N	Y
32	Well	N	N	N
33	Well	N	N	N
34	Well	N	N	N
35	Lift Station	N	N	N
36	Lift Station	N	N	N
37	Lift Station	N	N	N
38	Sheriff and County Government	N	Y	N

Figure YRK.5: Critical Facilities



*Note: Floodplain is based off preliminary FIRM maps. Final effective FIRM maps are currently being produced.

Historical Occurrences

See the York County community profile for historical hazard events.

Hazard Prioritization

For an in-depth discussion regarding area wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were prioritized by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

Chemical Spills – Fixed Site

Both the stakeholder group and local planning team identified fixed site chemical spills as a top hazard for the community. Since 1990 the City of York has experienced six major fixed site chemical spills. One of the spills released approximately 100 pounds of anhydrous ammonia. There are 26 Tier II facilities located within the city and many are located near critical facilities. If a large spill were to occur, an evacuation of residences, businesses, and critical facilities may be necessary.

Chemical Spills – Transportation

Both the stakeholder group and local planning team identified transportation chemical spills as a top hazard for the community. Since 1971, the City of York has experienced 12 major transportation chemical spills. The spills resulted in 370 liquid gallons of chemical being released and caused \$36,000 in damages. Major transportation routes in York include U.S. Highway 81, U.S. Highway 34 and Interstate 80. In addition, the city has two Burlington Northern rail lines running through the center of the community. Several critical facilities are located on or near these major transportation routes. Both the York High School and York Middle School are located near a Burlington Northern rail line. If a spill were to occur near these schools, they may need to be evacuated.

Flooding

Flooding was not identified as a top concern to the local planning team, however the city is vulnerable to this hazard. The NCEI reported one flash flooding event in 2005 that resulted in \$100,000 in property damages. There are 443 improvements located in the floodplain that have a total value of \$43,881,851. Several areas around the community were identified as having poor stormwater drainage, especially within the floodplain.

High Winds

The local planning team identified high winds as a top hazard for the community. NCEI data categorizes high winds as “zonal” in nature. This means that they are not broken down by community, but rather by county. Since 1996 York County has experienced 18 high wind events. One event in 2016 had 79 mph wind speed and caused \$1,000,000 in property damages. Unfortunately, it is not known where these damages occurred. The City of York has a high percentage of renter occupied structures (37%). These structures may be more susceptible to a high wind event if there is a lack of consistent maintenance and upkeep.

Severe Thunderstorms

Both the local planning team and stakeholder group identified severe thunderstorms as a top hazard for the community. NCEI data shows that the City of York has experienced 29 severe thunderstorm events since 1996. In 1998 York experienced a thunderstorm wind event which caused \$500,000 in property damage and caused one injury. In 2003 a thunderstorm wind event caused \$100,000 in property damage and in 2005 a heavy rain event caused \$100,000 in property

damage. If a loss of power were to occur several critical facilities have back-up power generators. The local planning team also indicated that several critical facilities have weather radios.

Severe Winter Storms

Both the local planning team and stakeholder group identified severe winter storms as a top hazard for the community. NCEI data records severe winter storms as “zonal” events meaning there is not a specific record of what communities are impacted. York County has experienced 75 severe winter storm events since 1996. The local planning team indicated there was a major severe winter storm in 2009 that resulted in significant snowfall and ice accumulation. Given the frequency of severe winter storms, snow removal resources have been determined as sufficient for local events.

Tornadoes

The stakeholder group identified tornadoes as top hazard for the community. NCEI data shows that the City of York has experienced three tornado events since 1996. The largest tornado event was a magnitude EF1 and caused \$500,000 in property damages. The City of York has a high percentage of multi-family housing (14% of all housing units). Individuals living in this type of housing may be more vulnerable to this hazard as they are less likely to contain areas for individuals to go during an event.

Governance

A community’s governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. York has a number of offices or departments that may be involved in implementing hazard mitigation initiatives. The City of York has eight city council members and the following offices that may help implement mitigation actions.

- Mayor
- Clerk
- Treasurer
- City Administrator
- Attorney
- Public Works Department
- Fire Chief
- Chief of Police
- Parks and Recreation Department
- Planning Commission

Capability Assessment

The capability assessment consisted of a survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. This survey is used to gather information regarding the jurisdiction’s planning and regulatory capability; administrative and technical capability; fiscal capability; and educational and outreach capability.

Table YRK.4: Capability Assessment

Survey Components/Subcomponents		Yes/No
<i>Planning & Regulatory Capability</i>	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes

Survey Components/Subcomponents		Yes/No
	Emergency Operational Plan	Yes – County
	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)	-
<i>Administrative & Technical Capability</i>	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	No
	Other (if any)	-
<i>Fiscal Capability</i>	Capital Improvement Plan/ 1 & 6 Year plan	Yes
	Applied for grants in the past	Yes
	Awarded a grant in the past	Yes
	Authority to Levy Taxes for Specific Purposes such as Mitigation Projects	Yes
	Gas/Electric Service Fees	No
	Storm Water Service Fees	No
	Water/Sewer Service Fees	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds	Yes
	Other (if any)	-
<i>Education & Outreach Capability</i>	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
	Natural Disaster or Safety related school programs	No
	StormReady Certification	No
	Firewise Communities Certification	No
	Tree City USA	Yes
	Other (if any)	-

Overall Capability	Limited/Moderate/High
Does your community have the financial resources needed to implement mitigation projects?	Limited
Does your community have the staff/expertise to implement projects?	High
Does your community have the community support to implement projects?	Moderate
Does your community staff have the time to devote to hazard mitigation?	Limited

Plan Integration

The city’s Comprehensive Plan was updated in 2019. It does not discuss many hazards but does cover flooding in-depth. The plan directs development away from the floodplain and encourages the elevation of structures located in the floodplain. The local planning team indicated that York is trying grow in a safe and sustainable way. There are several vacant properties that the city is trying to clean up in order to encourage infill. The city also plans to grow on the boundaries of the community. The Zoning Ordinance was last updated in 2007 and contains similar language as the comprehensive plan in regard to the floodplain.

The local emergency operations plan (LEOP) was last updated in 2019 and is an annex to the county’s plan. The LEOP addresses hazards of greatest concern, assigns specific responsibilities, identifies scenarios that would require evacuation, and locations of sheltering locations. The local planning team indicated that the city fire and police departments are familiar with the plan.

The Capital Improvement Plan is updated on a yearly basis and outlines the projects that the city plans on pursuing. Currently, the city has limited financial resources, which reduces the number and types of projects within the plan. Most projects within the plan are maintenance of infrastructure. There are no stormwater or water system projects identified at this time.

Other plans which the community has includes a Wellhead Protection Plan, Building Code, Subdivision Regulations, stormwater management regulations, and floodplain regulations. No other examples of plan integration were identified. There are currently no plans to further integrate existing or future planning mechanisms.

Mitigation Strategy

Ongoing and New Mitigation Actions

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

Mitigation Action	Civil Service Improvements
Description	Improve emergency rescue and response equipment and facilities by providing additional or updating existing emergency response equipment. This could include fire equipment, ATVs, water tanks/truck, snow removal equipment, pumps, etc. This would also include developing backup systems for emergency vehicles, identifying and training additional personnel for emergency response, or continuing educational opportunities for current personnel.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000 to \$400,000 per vehicle, varies depending on what equipment is needed
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Public Works, Fire Department, Police Department
Status	Not Started

Mitigation Action	Drainage Study / Stormwater Master Plan
Description	Preliminary drainage studies and assessments can be conducted to identify and prioritize design improvements to address site specific localized flooding/drainage issues to reduce and/or alleviate flooding. Stormwater master plans can be developed to help identify stormwater problem areas and potential drainage improvements.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	General Fund
Timeline	1 Year
Priority	Medium
Lead Agency	Public Works
Status	Not Started

Mitigation Action	Floodplain Management
Description	Create a floodplain management plan/flood risk assessment based on changes to the floodplain map.
Hazard(s) Addressed	Flooding
Estimated Cost	Varies by project
Funding	General Fund
Timeline	2-5 Years
Priority	Medium
Lead Agency	Public Works
Status	Not Started

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

Mitigation Action	Hazardous Tree Removal
Description	Identify and remove hazardous limbs and/or trees.
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$20,000
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Public Works, Nebraska Public Power District
Status	In Progress. Hazardous trees are removed as they are identified.

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

Mitigation Action	Public Awareness/Education
Description	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness 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	\$0 - \$5,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	City Council
Status	In progress. The City's existing public education program will be utilized for hazard mitigation education and awareness efforts.

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

Mitigation Action	Storm Shelter / Safe Rooms
Description	Assess, design and construct fully supplied safe rooms in highly vulnerable urban and rural areas such as mobile home parks, campgrounds, schools, and other such areas throughout the planning area. Assess the adequacy of current public buildings to be used as safe rooms. Construct safe rooms in areas of greatest need, either as new construction or retrofitting.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Thunderstorms
Estimated Cost	\$200-\$300/sf stand alone; \$150-200/sf addition/retrofit
Funding	General Fund
Timeline	2-5 Years
Priority	Low
Lead Agency	County Emergency Management, City Council
Status	Currently identifying appropriate locations for safe rooms.

Mitigation Action	Stormwater System and Drainage Improvements
Description	Larger communities generally utilize underground stormwater systems comprising of pipes and inlets to convey runoff. Undersized systems can contribute to localized flooding. Stormwater system improvements may include pipe upsizing and additional inlets.
Hazard(s) Addressed	Flooding
Estimated Cost	\$10,000 to \$100,000+
Funding	General Fund
Timeline	5+ Years
Priority	Medium
Lead Agency	Public Works
Status	Not Started

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

Mitigation Action	Warning Systems
Description	Improve city cable TV interrupt warning system and implement telephone interrupt system such as Reverse 911.
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Estimated Cost	\$10,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	City Council
Status	Not Started

Mitigation Action	Windbreaks
Description	Installation of windbreaks to increase water storage capacity in soil.
Hazard(s) Addressed	Drought
Estimated Cost	\$2,000+
Funding	General Fund
Timeline	5+ Years
Priority	Low
Lead Agency	Public Works
Status	Not Started

Removed Mitigation Actions

Mitigation Action	Electrical System Lopped Distribution / Redundancies
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms
Reason for Removal	The local planning team chose to remove this mitigation action. The city does not have the ability to perform this action. The distribution system is operated by the Nebraska Public Power District (NPPD). The city will work with NPPD to provide looped distribution and redundancies.

Mitigation Action	Floodplain Regulation Enforcement and Updates
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. The city will continue to enforce all floodplain regulations going forward.

Mitigation Action	Maintain Good Standing with National Flood Insurance Program (NFIP)
Hazard(s) Addressed	Flooding
Reason for Removal	This mitigation action was removed because it is not a true mitigation action. The city will continue to participate and maintain good standing with NFIP.

Mitigation Action	Power, Service, Electrical, and Water Distribution Lines
Hazard(s) Addressed	Tornadoes, High Winds, Severe Winter Storms, Severe Thunderstorms, Flooding
Reason for Removal	The local planning team chose to remove this mitigation action. The city does not have the ability to perform this action. The distribution system is operated by the Nebraska Public Power District (NPPD). The city will work with NPPD to identify vulnerable transmission and distribution lines. In addition, they will also work with NPPD to bury lines.

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- cix County Assessor. Personal correspondence, February 2019.
- cx Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed September 2018. <https://deq-iis.ne.gov/tier2/tier2Download.html>.