

# GARDEN COUNTY APPENDIX

## Table of Contents

**Garden County.....3**  
**Village of Lewellen.....21**  
**City of Oshkosh.....36**

This Page is Intentionally Blank

## County Profile

# GARDEN COUNTY

### North Platte NRD Hazard Mitigation Plan 2021

## Local Planning Team

**Table GCO.1: Garden County Local Planning Team**

NAME	TITLE	JURISDICTION
DAVID DYMAK	County Commissioner	Garden County
STEPH LOBNER	Deputy Emergency Manager	Garden County
RON LEAL	Emergency Manager	Region 21

## Location, Geography, and Climate

Garden County is located in northwest Nebraska and is bordered by Morrill, Sheridan, Grant, Arthur, Keith, Deuel and Cheyenne Counties. The total area of Garden County is 1,731 square miles. Major waterways within the county include the North Platte River. The county is not heavily forested, nor is it located in a geographic area of the state prone to landslides. Most of Garden County lies in the plains topographic region, with the vast majority of the county's land characterized by herbaceous grassland and shrub land.

### Climate

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

**Table GCO.2: Garden County Climate Normals**

	GARDEN COUNTY	STATE OF NEBRASKA
JULY NORMAL HIGH TEMP <sup>1</sup>	88.8°F	87.4°F
JANUARY NORMAL LOW TEMP <sup>1</sup>	11.0°F	13.8°F
ANNUAL NORMAL PRECIPITATION <sup>2</sup>	17.7"	23.8"
ANNUAL NORMAL SNOWFALL <sup>2</sup>	24.0"	25.9"

Source: NCEI 1981-2010 Climate Normals<sup>1</sup>, High Plains Regional Climate Center, 1981-2010<sup>2</sup>  
Precipitation includes all rain and melted snow and ice.

## Transportation

There are three major highways in the county: US Highway 26, NE Highway 92, and NE Highway 27. According to the Nebraska Department of Transportation, the average daily traffic count for US Highway 26 is 2,190 vehicles per day, 455 of which are heavy commercial vehicles. NE Highway 92 has an average traffic count of 545 vehicles per day, 55 of which are heavy commercial vehicles.<sup>3</sup> NE Highway 27 has an average traffic count of 860 vehicles per day, 90 of which are heavy commercial vehicles.

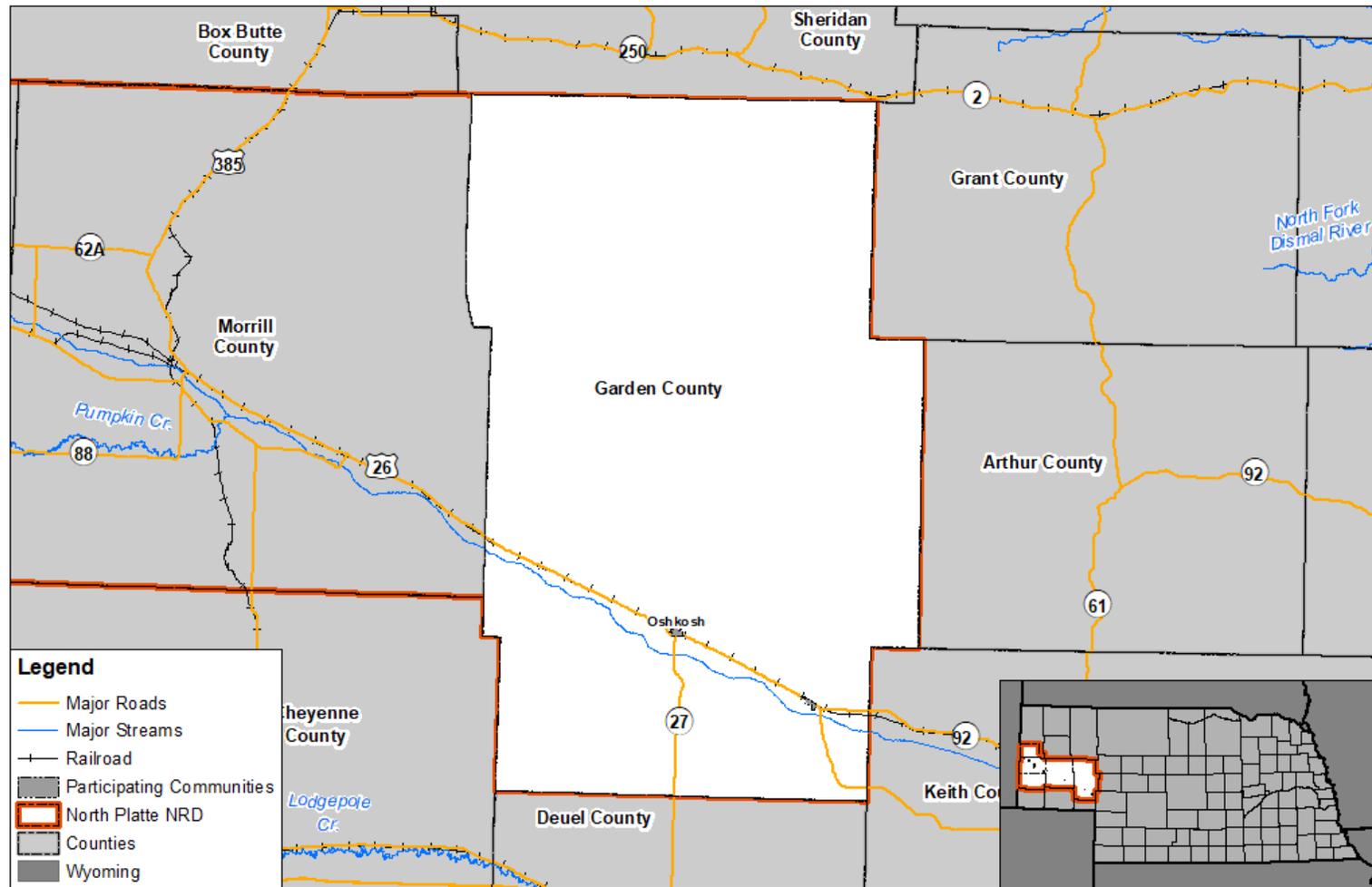
<sup>1</sup> National Centers for Environmental Information. "1981-2010 U.S. Climate Normals." Accessed December 2020. <https://www.ncdc.noaa.gov/cdo-web/datatools>.

<sup>2</sup> High Plains Regional Climate Center. "Monthly Climate Normals 1981-2010 – Oshkosh, NE." Accessed December 2020. <http://climod.unl.edu/>.

<sup>3</sup> Nebraska Department of Transportation. 2018. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

SECTION SEVEN: GARDEN COUNTY COMMUNITY PROFILE

Figure GCO.1: Garden County



**Legend**

- Major Roads
- Major Streams
- Railroad
- Participating Communities
- North Platte NRD
- Counties
- Wyoming

Created By: NL  
 Date: 3/9/2021  
 Software: ArcGIS 10.7.1  
 File Name: Planning Area - County Basemap.mxd

This map was prepared using information from record drawings supplied by JED and/or other applicable city, county, federal, or public or private entities. JED does not guarantee the accuracy of this map or the information used to prepare this map. This is not a scaled plot.

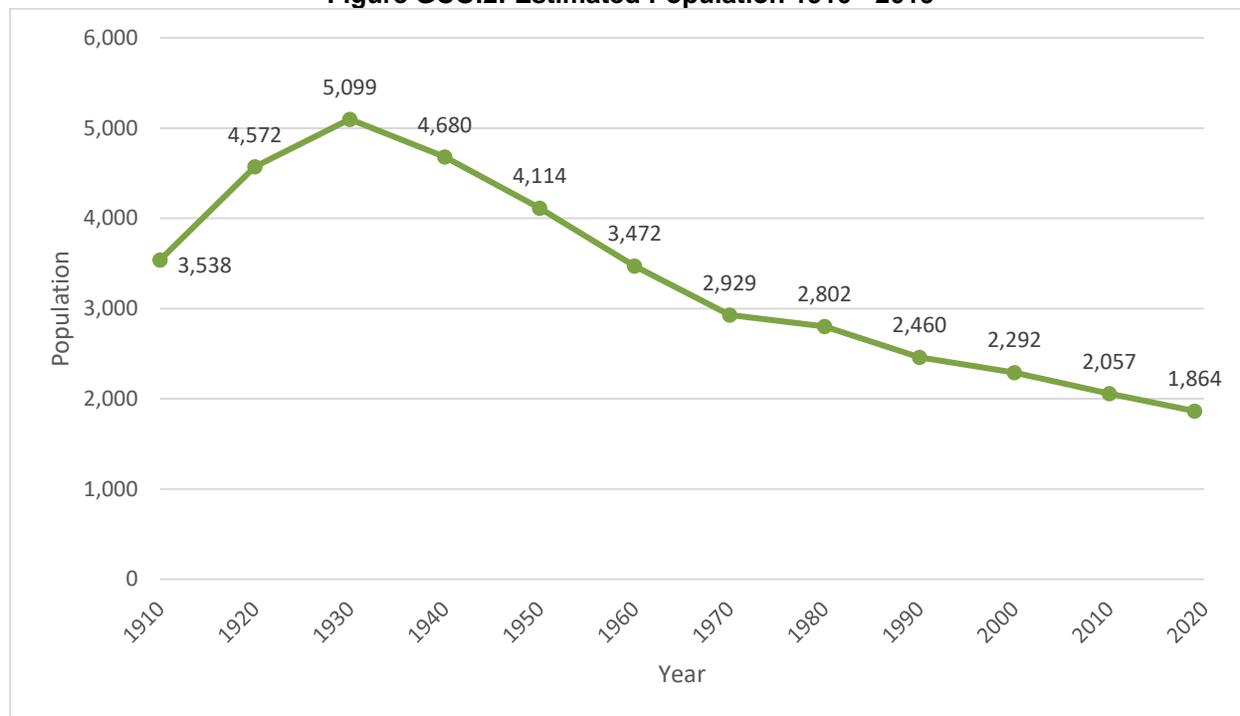
# Garden County

County Boundary

## Demographics

The following figure displays the historical population trend from 1910 to 2019. This figure indicates that the population of Garden County has decreased since 1930. The population in 2019 was estimated to be 1,864. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the county, which can make implementation of mitigation projects fiscally challenging.

**Figure GCO.2: Estimated Population 1910 - 2019**



Source: U.S. Census Bureau<sup>4</sup>

The following table indicates Garden County has a smaller percentage of people under the age of five than the State of Nebraska. The county has a smaller percentage of people between the ages of 5 and 64 and a larger percentage of those over 64. The median age in Garden County is much higher than the state. This information is relevant to hazard mitigation 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 GCO.3: Population by Age**

AGE	GARDEN COUNTY	STATE OF NEBRASKA
<5	4.2%	6.9%
5-64	68.1%	77.7%
>64	27.7%	15.4%
<b>MEDIAN</b>	50.4	36.5

Source: U.S. Census Bureau<sup>5</sup>

<sup>4</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

<sup>5</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

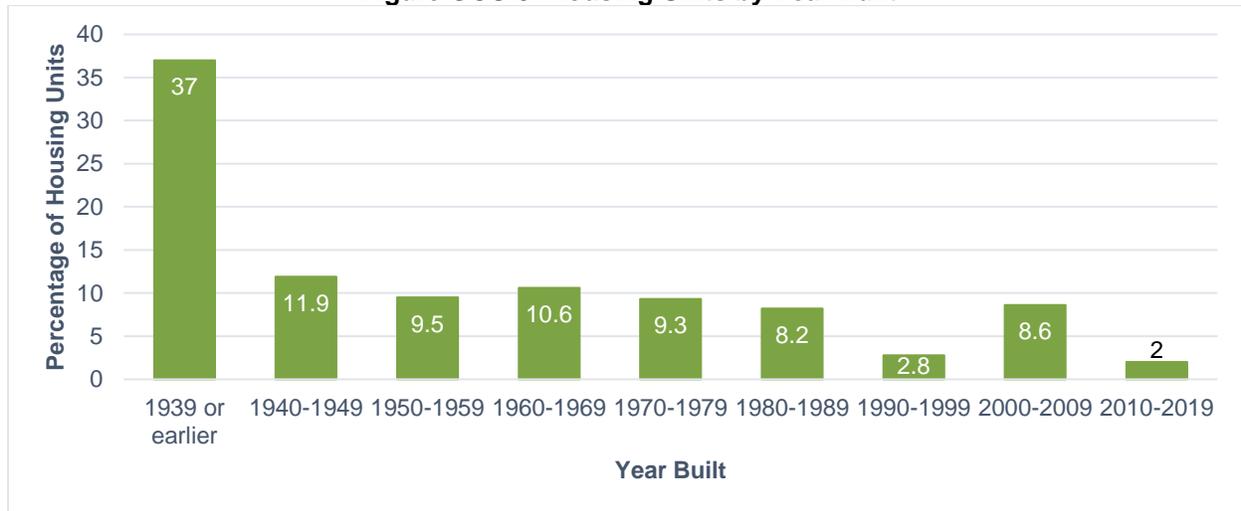
The following table indicates that median household income is lower but per capita income for the county is higher than the State of Nebraska. Median home value and rent are also both lower than the rest of the state. These economic indicators are relevant to hazard mitigation because they indicate lower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

**Table GCO.4: Housing and Income**

	GARDEN COUNTY	STATE OF NEBRASKA
<b>MEDIAN HOUSEHOLD INCOME</b>	\$43,750	\$61,439
<b>PER CAPITA INCOME</b>	\$35,050	\$32,302
<b>MEDIAN HOME VALUE</b>	\$81,800	\$155,800
<b>MEDIAN RENT</b>	\$668	\$833

The following figure indicates that most houses in Garden County were built in 1939 or earlier at 37.0 percent. According to the Census Bureau, the county has 1,239 housing units; with 70.1 percent of those units occupied. Approximately 5.8 percent of the county’s housing is classified as mobile homes. Housing age can serve as an indicator of risk as structures built prior to the development of state building codes may be more vulnerable to hazards. The State of Nebraska first adopted building codes in 1987, the state currently has adopted the 2018 International Building Code. Finally, communities with a substantial number of mobile homes may have a higher number of residents 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 GCO.3: Housing Units by Year Built**



Source: U.S. Census Bureau<sup>6</sup>

<sup>6</sup> United States Census Bureau. “2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics.” [database file]. <https://data.census.gov>.

**Table GCO.5: Housing Units**

JURISDICTION	TOTAL HOUSING UNITS				OCCUPIED HOUSING UNITS			
	Occupied		Vacant		Owner		Renter	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>GARDEN COUNTY</b>	868	70.1%	371	29.9%	640	73.7%	228	26.3%
<b>NEBRASKA</b>	759,176	90.7%	78,300	9.3%	501,679	66.1%	257,497	33.9%

Source: U.S. Census Bureau<sup>7</sup>

## Major Employers

According to 2018 Business Patterns Census Data, Garden County had 50 business establishments. The following table presents the number of establishments, number of paid employees, and the annual payroll in thousands of dollars. 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 GCO.6: Businesses in Garden County**

	TOTAL BUSINESSES	NUMBER OF PAID EMPLOYEES	ANNUAL PAYROLL (IN THOUSANDS)
<b>TOTAL FOR ALL SECTORS (2012)</b>	52	397	\$9,454
<b>TOTAL FOR ALL SECTORS (2018)</b>	50	246	\$5,129

Source: U.S. Census Bureau<sup>8</sup>

Agriculture is also important to the economic fabric of Garden County, and the state of Nebraska as a whole. Garden County's 221 farms cover 200,926 acres of land, about 18% of the county's total area. 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 GCO.7: Garden County Agricultural Inventory**

GARDEN COUNTY AGRICULTURAL INVENTORY	
<b>NUMBER OF FARMS</b>	221
<b>LAND IN FARMS (ACRES)</b>	200,926

Source: USDA 2017 Census of Agriculture<sup>9</sup>

## Future Development Trends

Over the past five years, some buildings along Main Street in Oshkosh were demolished and roadways across the county were demolished. According to the 2018 American Community Survey estimates, Garden County's population is declining. The local planning team attribute this to being a primarily agriculturally based county. In the next five years, there are no planned housing or business developments.

<sup>7</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

<sup>8</sup> United States Census Bureau. "2018 Census Bureau American Community Survey: Geography Area Series County Business Patterns 2018 Business Patterns." [database file]. <https://data.census.gov>.

<sup>9</sup> United States Department of Agriculture, National Agricultural Statistics Server. 2019. "2017 Census of Agriculture – County Data." <https://www.nass.usda.gov/Publications/AgCensus/2017/index.php>.

## Structural Inventory and Valuation

GIS parcel data as of July 2021 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 GCO.8: Garden County Parcel Valuation**

TOTAL NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	% OF IMPROVEMENTS IN FLOODPLAIN
1,344	\$93,902,044	355	\$30,589,435	26%

Source: County Assessor

## Community Lifelines

### Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are three chemical storage sites throughout Garden County that contain hazardous chemicals.<sup>10</sup> In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident. Locations of the sites can be found in individual community participant sections.

### Critical Facilities

Each participating jurisdiction identified critical facilities vital for disaster response, providing shelter to the public, and are 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.

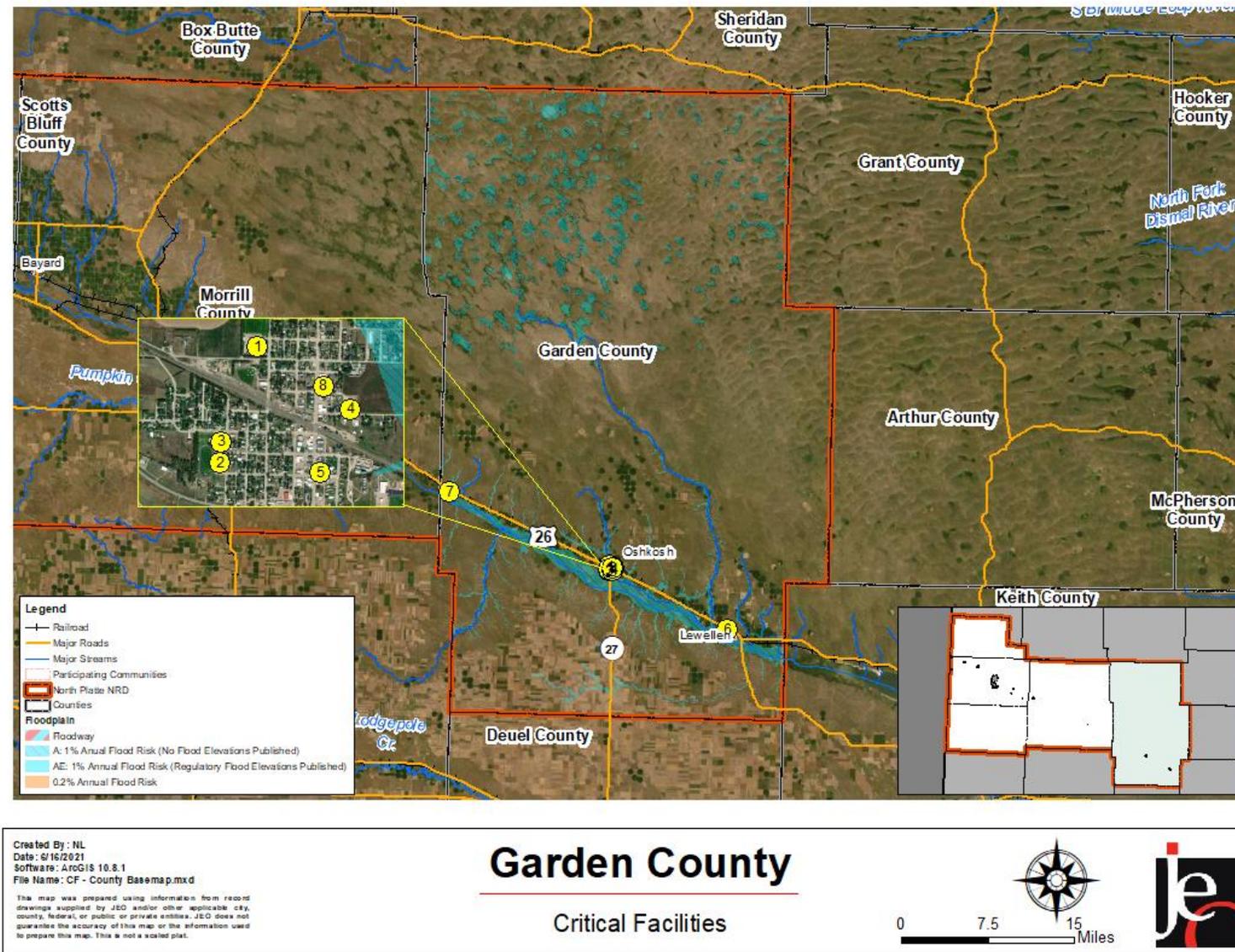
**Table GCO.9: Critical Facilities**

CF #	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
1	GC Elementary-Oshkosh	Y	N	N
2	GC High School-Oshkosh	Y	N	N
3	St. Elizabeth Catholic Church	Y	N	N
4	St. Mark's Lutheran Church	Y	N	N
5	Eagles Building	Y	N	N
6	The Tiger Den	Y	N	N
7	American Legion	Y	N	N
8	Courthouse	Y	N	N

<sup>10</sup> Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed December 2020. <https://deq-iis.ne.gov/tier2/search.faces>.

SECTION SEVEN: GARDEN COUNTY COMMUNITY PROFILE

Figure GCO.3: Critical Facilities



## Governance

A county's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Garden County has a three-member board of commissioners and the following departments and offices.

- Assessor
- Attorney
- Clerk
- Emergency Manager
- Highway Superintendent
- Sheriff
- Treasurer
- Veteran Services Officer
- Weed Superintendent
- Zoning Administrator

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The 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 GCO.10: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	Yes
	Capital Improvements Plan	Yes
	Economic Development Plan	Yes
	Emergency Operational Plan	Yes
	Floodplain Management Plan	Yes
	Storm Water Management Plan	No
	Zoning Ordinance	Yes
	Subdivision Regulation/Ordinance	Yes
	Floodplain Ordinance	Yes
	Building Codes	Yes
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
<b>Administrative &amp; Technical Capability</b>	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)	
<b>Fiscal Capability</b>	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
	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)	
<b>Education &amp; Outreach Capability</b>	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	N/A
	Other (if any)	No

**Table GCO.11: Overall Capability**

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

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (e.g., annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to

other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The local planning team will include the Emergency Manager, County Commissioners, and Highway Superintendent. The local planning team will review the plan no less than annually and will include the public in the review and revision process by sharing information at county board meetings.

## Plan Integration

Garden County has limited planning documents that discuss or relate to hazard mitigation. The county does not have any zoning ordinances in place for unincorporated Garden County. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan.

### Comprehensive Plan

Garden County's Comprehensive Plan includes some discussion on natural hazards in the county including agricultural disease, dam failure, drought, earthquake, grass/wildfire, and hazardous materials. The plan contains goals and objectives aimed at safe growth, limits future development growth near hazardous areas, and identifies areas in need of storm shelters. At this time there is no timeline established to update the Comprehensive Plan, but the local planning team indicated that efforts will be made to ensure the objectives and strategies identified in the hazard mitigation plan will be integrated for future updates.

### Capital Improvements Plan

The county maintains a capital improvement plan which also acts as a 1- & 6- year road improvement plan. This plan is updated annually and includes projects such as: upsizing of culverts and drainage structures, upgrades and maintenance to storm sewer systems, improving transportation routes for drainage, increasing drinking water capacity, and updating electrical infrastructure.

### Garden County Local Emergency Operations Plan (2018)

Garden County update their Local Emergency Operations Plan (LEOP) in 2018. The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

## 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 – September 2020) 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 reports come from the USDA Risk Management Agency for Garden County between 2000 and 2020.

## SECTION SEVEN: GARDEN COUNTY COMMUNITY PROFILE

Table GCO.12: Hazard Events for Garden County

HAZARD TYPE		COUNT	PROPERTY	CROP <sup>2</sup>
<b>AGRICULTURAL DISEASE</b>	Animal Disease <sup>1</sup>	7	54 animals	N/A
	Plant Disease <sup>2</sup>	32	N/A	\$1,810,755
<b>DAM FAILURE<sup>5</sup></b>		0	\$0	N/A
<b>DROUGHT<sup>7</sup></b>		438/1,512 months	\$0	\$9,639,101
<b>EARTHQUAKES<sup>8</sup></b>		0	\$0	\$0
<b>EXTREME HEAT<sup>6</sup></b>		Avg. 3 days/yr	\$0	\$866,300
<b>FLOODING<sup>9</sup></b>	Flash Flood	7	\$272,000	\$9,298
	Flood	0	\$0	
<b>GRASS/WILDFIRE<sup>10</sup></b>		545	28,143 acres	\$14,710
<b>HAZARDOUS MATERIALS - FIXED SITES<sup>3</sup></b>		0	\$0	N/A
<b>HAZARDOUS MATERIALS - TRANSPORTATION<sup>4</sup></b>		2	\$198	N/A
<b>LEVEE FAILURE<sup>11</sup></b>		0	\$0	N/A
<b>PUBLIC HEALTH EMERGENCY<sup>13</sup></b> <i>Fatalities: 1</i>		108 cases		N/A
<b>SEVERE THUNDERSTORMS<sup>9</sup></b>	Thunderstorm Wind <i>Average: 64 mph Range: 50-93 mph</i>	97	\$3,953,500	N/A
	Hail <i>Average: 1.1 in. Range: 0.75-3 in.</i>	265	\$575,000	\$18,556,401
	Heavy Rain	1	\$0	\$1,173,899
	Lightning	1	\$1	N/A
<b>SEVERE WINTER STORMS<sup>9</sup></b>	Blizzard	7	\$100,000	\$2,568,783
	Extreme Cold/Wind Chill	9	\$0	
	Heavy Snow	3	\$10,000	
	Ice Storm	0	\$0	
	Winter Storm	37	\$0	
	Winter Weather	0	\$0	
<b>TERRORISM<sup>12</sup></b>		0	\$0	N/A
<b>TORNADOES AND HIGH WINDS<sup>9</sup></b>	Tornado <i>Average: EF0 Range: EF0-EF2</i>	10	\$185,000	\$0
	High Winds <i>Average: 55 mph Range: 40-66 mph</i>	30	\$10,000	\$0
<b>TOTALS</b>		<b>1,054</b>	<b>\$5,109,899</b>	<b>\$35,631,112</b>

N/A: Data not available

1 NDA (2014-2020)

2 USDA RMA (2000-2020)

3 NRC 1990 – 2020

SECTION SEVEN: GARDEN COUNTY COMMUNITY PROFILE

- 4 PHMSA (1971-2020)
- 5 Stanford NPDP (1911-2018)
- 6 NOAA 1889-2020
- 7 HPRCC (1897-2020)
- 8 USGS (1900-2020)
- 9 NCEI (January 1996 - September 2020)
- 10 NFS (January 2000 - May 2020)
- 11 USACE NLD (2020)
- 12 Global Terrorism Database (1970-2017)
- 13 Nebraska DHHS (Feb 12, 2021)

The following table provides a summary of hazards that have or have the potential to affect each participating jurisdiction in Garden County. Each jurisdiction was evaluated for previous hazard occurrence and the probability of future hazard events on each of the 15 hazards profiled in this plan. The evaluation process was based on data collected and summarized in Table GCO.12; previous impacts or the potential for impacts to infrastructure, critical facilities, people, and the economy; and the proximity to certain hazards such as dams and levees. For example, while there have not been instances of dam failure in the county, there exists a possibility for a dam to fail in the future due to the presence of dams in the county.

**Table GCO.13: Garden County Hazard Matrix**

HAZARD	GARDEN COUNTY	VILLAGE OF LEWELLEN	CITY OF OSHKOSH
<b>Agricultural Disease</b>	X	X	X
<b>Dam Failure</b>	X	X	X
<b>Drought</b>	X	X	X
<b>Earthquake</b>	X	X	X
<b>Extreme Heat</b>	X	X	X
<b>Flooding</b>	X	X	X
<b>Grass/Wildfire</b>	X	X	X
<b>Hazardous Materials – Fixed Sites</b>	X		X
<b>Hazardous Materials – Transportation</b>	X	X	X
<b>Levee Failure</b>			
<b>Public Health Emergency</b>	X	X	X
<b>Severe Thunderstorms</b>	X	X	X
<b>Severe Winter Storms</b>	X	X	X
<b>Terrorism</b>	X	X	X
<b>Tornadoes and High Winds</b>	X	X	X

## County Hazard Prioritization

For additional discussion regarding area-wide hazards, please see *Section Four: Risk Assessment*. The hazards discussed in detail below were either identified in the previous HMP and determined to still be of top concern or were added by the local planning team based on the identification of hazards of greatest concern, hazard history, and the jurisdiction's capabilities.

### Dam Failure

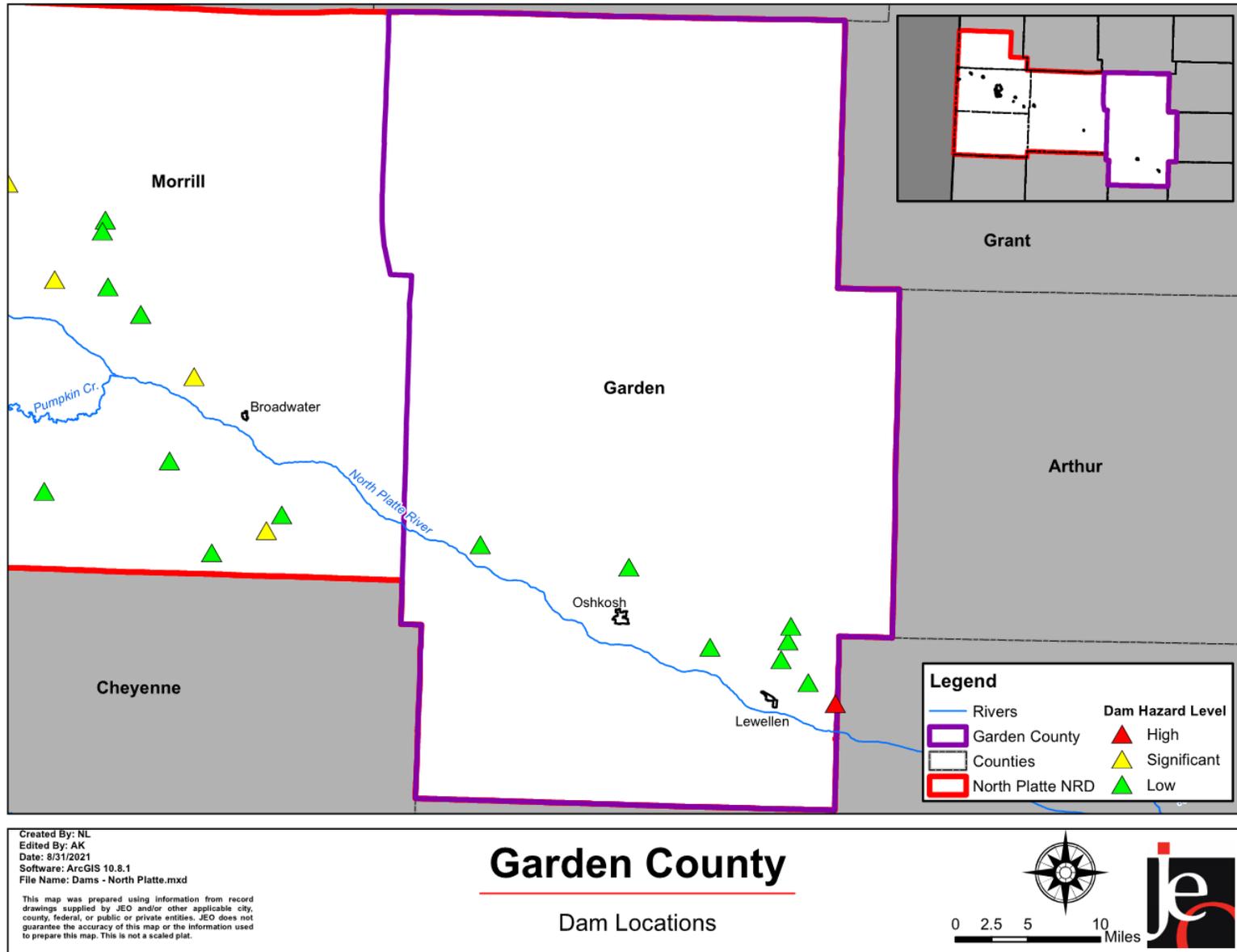
There are eight dams in Garden County. Of these, the Wes Clark Cat Dam has been identified as a high hazard dam with the rest being low hazard dams. The figure below shows the location of the dams. Dam inundation maps are not shown due to security reasons. The Grayrocks Dam in Wyoming could also affect the county. If it were to fail, it would likely flood an area slightly greater than the 100-year floodplain. No dam failure maps have occurred in the past.

**Table GCO.14: Dams in Garden County**

	NUMBER OF DAMS	LOW	SIGNIFICANT	HIGH
Garden County	8	7	0	1
Planning Area	74	52	14	8

Source: USACE, 2020

Figure GCO.4: Dam Locations in Garden County



### **Flooding**

Most flooding from the county is riverine based, coming from the North Platte River in the southern section of the county. Many of the areas between the high plains and the North Platte River Valley are steep and concentrate runoff from rain events. Recent flooding events had occurred in 2011 and 2015. While no buildings have been damaged as a result of flooding in the past, both county roads and bridges have been damaged previously from flooding events. The Garden County Local Emergency Operations Plan estimates that three percent of the population is located in the 100-year floodplain. Garden County does participate in the NFIP and has a current DFIRM.

### **Grass/Wildfire**

The biggest concern of the county is that a grass/wildfire may affect a bridge crossing the river. Previously, to assist with groundwater recharge, the county has opened water channels during times of high flow. Other locations of concern include population centers adjacent to grasslands, areas where eastern redcedar has encroached, and ranches on hills. The largest fire in the county occurred in July 2012 and burned 18,000 acres. This fire was caused by a lightning strike. The county has several volunteer fire departments, which would be dispatched in the case of a wildfire. The county's residents are slightly more vulnerable to a grass/wildfire event because the county does not conduct education on wildfire prevention or promote defensible space.

### **Severe Winter Storms**

The most significant event the local planning team could recall was a blizzard in 1949. The county has never experienced any structural damages to critical facilities as a result of severe winter storms. To prevent lasting impacts from severe winter storms, specifically snow drifts, the county installs snow fences on county roadways. The Garden County Roads Department is in charge of clearing roadways with road maintainers and loaders, which are sufficient for local events.

### **Tornadoes and High Winds**

Garden County has experienced 10 reported tornado events, which have caused a total of \$185,000 in damages. Most damages were to trees, power poles, and rural outbuildings. To protect the county from lasting damages from a tornado or high wind event, the county has invested in back-up systems to protect computer records from a storm surge. To protect citizens in a high wind event, the county has outfitted the courthouse with a safe room, and all schools have safe areas for students' protection. In order to improve awareness of severe weather, Region 21 and Region 22 Emergency Management Agencies provide access to CodeRED alert system, which is an opt-in messaging service, which lets residents know about severe weather in their area. To improve residents' awareness of how to respond to a significant tornado/high wind event, the county sponsors severe weather meetings and workshops. Finally, for events which may exhaust local resources, the county has signed mutual aid agreements with neighboring communities.

## Mitigation Strategy

### New Mitigation and Strategic Actions

MITIGATION ACTION	UPDATE RADIO EQUIPMENT
DESCRIPTION	Purchase and install updated radio equipment in emergency services vehicles
HAZARD(S)	All Hazards
ESTIMATED COST	\$250,000
FUNDING	General Fund, HMA
TIMELINE	5+ years
PRIORITY	High
LEAD AGENCY	Emergency Management
STATUS	This is a new mitigation action.

### Continued Mitigation and Strategic Actions

MITIGATION ACTION	CIVIL SERVICE IMPROVEMENTS
DESCRIPTION	Purchase an additional snowplow and backup generator for emergency systems.
HAZARD(S)	Severe Winter Storms
ESTIMATED COST	\$125,000
FUNDING	General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Garden County Highway Superintendent
STATUS	This project is currently in the planning stage. County is working to identify specific needs.

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 equipment such as overhead projectors and laptops.
HAZARD(S)	All hazards
ESTIMATED COST	\$5,000
FUNDING	General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Region 21 Emergency Manager
STATUS	Region 21 EMA has daily information posted on social media, to include Severe Weather in the area. Public Education is also shared. Region 21 EMA main format is Facebook. Additional information should be shared via the county website and social media.

SECTION SEVEN: GARDEN COUNTY COMMUNITY PROFILE

MITIGATION ACTION	SAFE ROOMS
<b>DESCRIPTION</b>	Design and construct storm structures and safe rooms in highly vulnerable areas such as mobile home parks, campgrounds, school and other areas.
<b>HAZARD(S)</b>	Tornadoes and High Winds
<b>ESTIMATED COST</b>	\$100,000
<b>FUNDING</b>	General Fund, HMA
<b>TIMELINE</b>	5+ years
<b>PRIORITY</b>	High
<b>LEAD AGENCY</b>	Region 21 Emergency Manager
<b>STATUS</b>	This project has not yet been started.

# Community Profile

## **VILLAGE OF LEWELLEN**

**North Platte NRD  
Hazard Mitigation Plan 2021**

## Local Planning Team

**Table LWL.1: Lewellen Local Planning Team**

NAME	TITLE	JURISDICTION
STEPHANIE LOBNER	Chairman	Village of Lewellen

## Location and Geography

The Village of Lewellen is located in the southeastern portion of Garden County and covers an area of 237 acres. The major waterway in the area includes the North Platte River, which runs just south of the city. Lake McConaughy is located 10 miles southeast of the village.

## Transportation

There is one major highway that passes near Lewellen, US HWY 26 / NE HWY 92. According to the Nebraska Department of Transportation, the average daily traffic count for US HWY 26 is 1,805 vehicles per day, 325 of which are heavy commercial vehicles.<sup>11</sup> There is one railroad line that passes through the northern portion of the village. No large spills or major transportation events have occurred locally.

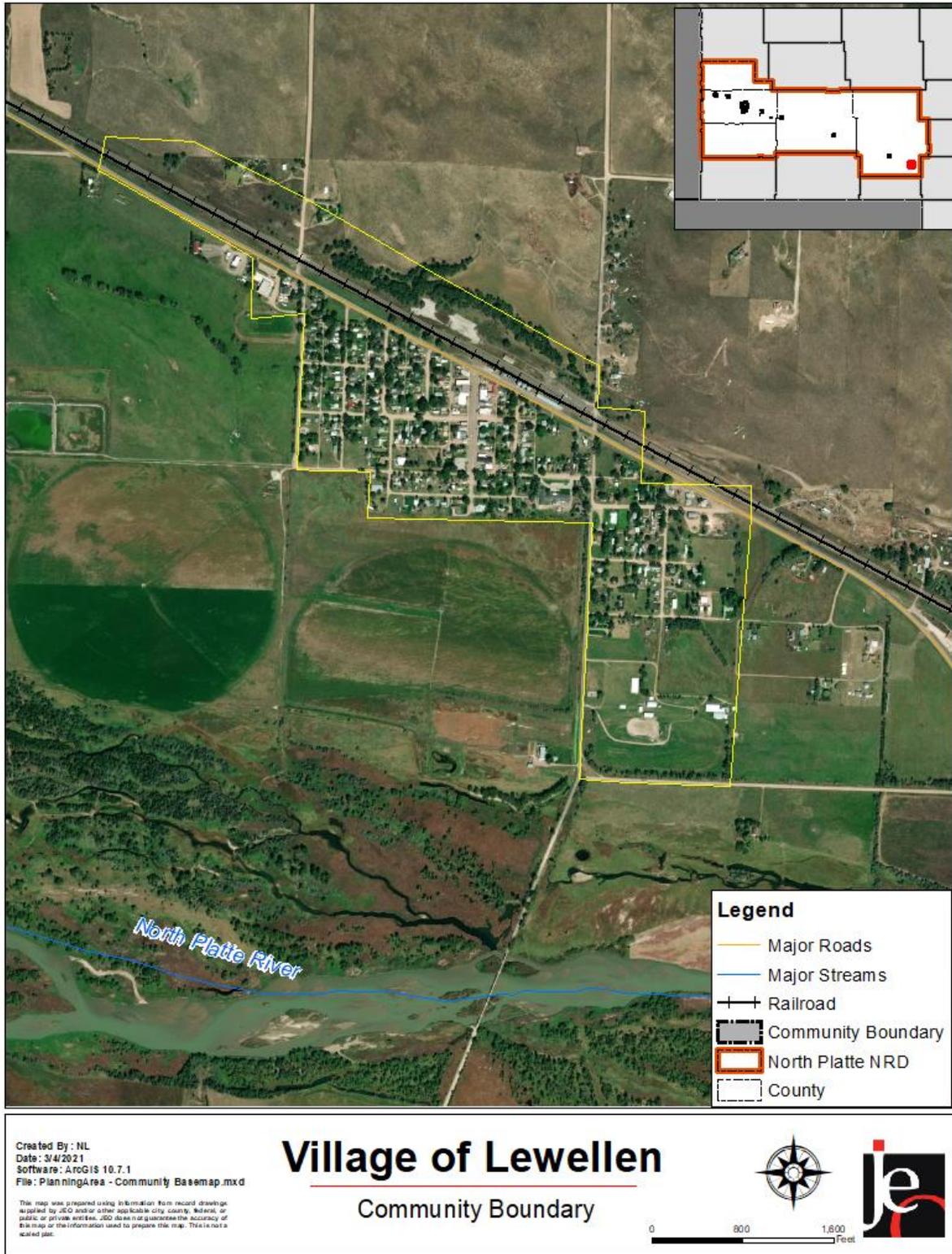
## Demographics

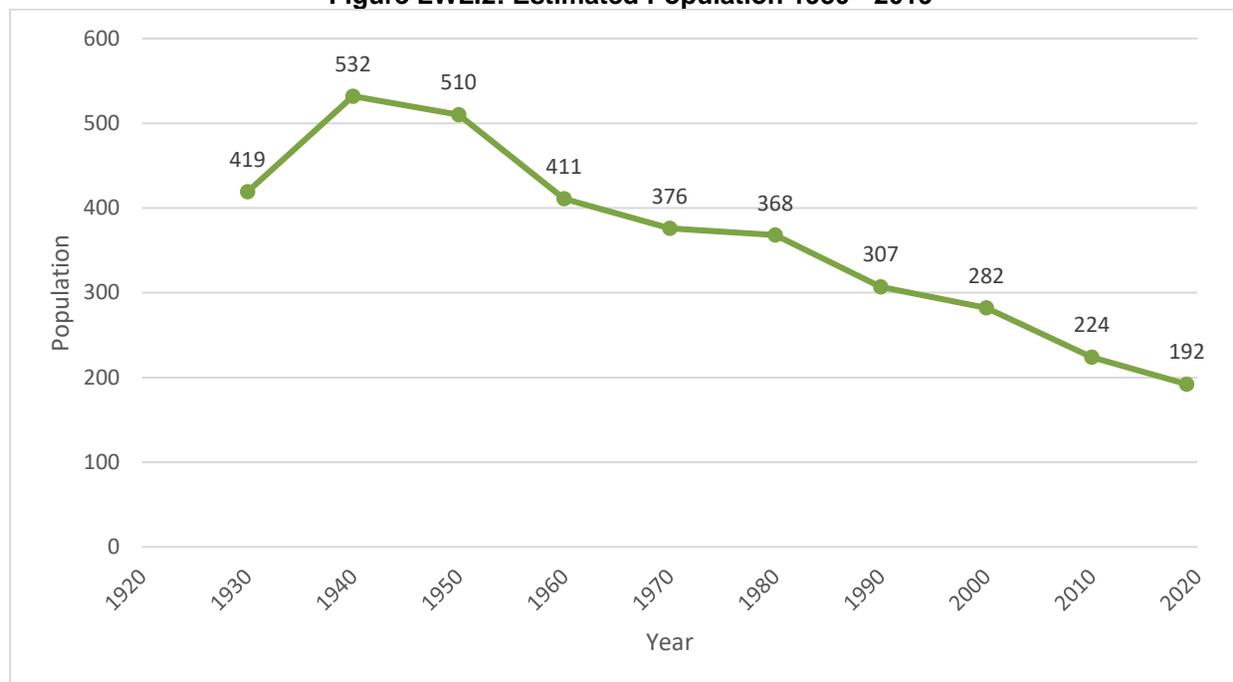
Lewellen's estimated population in 2019 was 192. The following figure displays the historical population trend from 1930 to 2019. This figure indicates that the population of Lewellen has generally decreased since 1930. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. Lewellen's population accounted for 10 percent of Garden County's population in 2019.<sup>12</sup>

<sup>11</sup> Nebraska Department of Transportation. 2018. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

<sup>12</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

Figure LWL.1: Village of Lewellen



**Figure LWL.2: Estimated Population 1930 - 2019**

Source: U.S. Census Bureau<sup>13</sup>

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

- **Older.** The median age of Lewellen was 55.0 years old in 2019, compared with the county average of 50.4 years. Lewellen's population became younger since 2010, when the median age was 63.3 years old. Lewellen had a smaller proportion of people under 20 years old (19.8%) than the county (21.0%).<sup>14</sup>
- **More ethnically diverse.** Since 2010, Lewellen grew more ethnically diverse. In 2010, 2.1% of Lewellen's population was non-white. By 2019, 2.6% of Lewellen's population was non-white. During that time, those who were non-white in the county stayed at 1.5%.<sup>15</sup>
- **Less likely to be at the federal poverty line.** The poverty rate in Lewellen (1.8% of families living below the federal poverty line) is less than the county's poverty rate (5.2%) in 2019.<sup>16</sup>

## Employment and Economics

The village's economic base is a mixture of industries. In comparison to Garden County, Lewellen's economy had:

- **Different mix of industries.** Employment sectors accounting for 10% or more of employment in Lewellen included: Retail Trade, Transportation, Educational Services, and Arts. Garden County's employment sectors included Agriculture, Construction, and Educational Services in 2019.<sup>17</sup>

<sup>13</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

<sup>14</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

<sup>15</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." [database file]. <https://data.census.gov>.

<sup>16</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

<sup>17</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

- **Lower household income.** Lewellen's median household income in 2019 (\$41,875) was about \$1,875 lower than the county (\$43,750).<sup>18</sup>
- **Fewer long-distance commuters.** 40.0% of workers in Lewellen commuted for fewer than 15 minutes, compared with 51.3% of workers in Garden County. 17.7% of workers in Lewellen commute 30 minutes or more to work, compared to 24.4% of the county workers.<sup>19</sup>

### Major Employers

Major employers in Lewellen include the village, Blind Goose, the local bank, and VOA. A large percentage of residents commute to Ogallala and Oshkosh for employment.

## Housing

In comparison to Garden County, Lewellen's housing stock was:

- **More owner occupied.** 86.3% of occupied housing units in Lewellen are owner occupied compared with 73.7% of occupied housing in Garden County in 2019.<sup>20</sup>
- **Older housing stock.** Lewellen has a larger share of housing built prior to 1970 than Garden County (79.0% compared to 69.0%).<sup>21</sup>
- **More multifamily homes.** Although the predominant housing type in the city is single family detached, Lewellen contains more multifamily housing with five or more units per structure compared to the county (2.8% compared to 1.9%). 88.4% of housing in Lewellen was single-family detached, compared with 90.9% of the county's housing. Lewellen has a larger share of mobile and manufactured housing (6.6%) compared to the county (5.6%).<sup>22</sup>

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. Manufactured and mobile homes are primarily located on the east side of the community.

## Future Development Trends

There have been no changes in development over the past five years. According to the 2019 American Community Survey estimates, Lewellen's population has decreased over the past few decades. The local planning team attribute this to an aging population and lack of new people moving in. In the next five years, Gander Inn will be built and small additions to houses are planned.

<sup>18</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

<sup>19</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://data.census.gov>.

<sup>20</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

<sup>21</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

<sup>22</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2021. 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 LWL.2: Lewellen Parcel Valuation**

TOTAL NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	% OF IMPROVEMENTS IN FLOODPLAIN
200	\$6,414,080	0	-	-

Source: County Assessor

## Community Lifelines

### Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are no chemical storage sites in Lewellen that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

### Critical Facilities

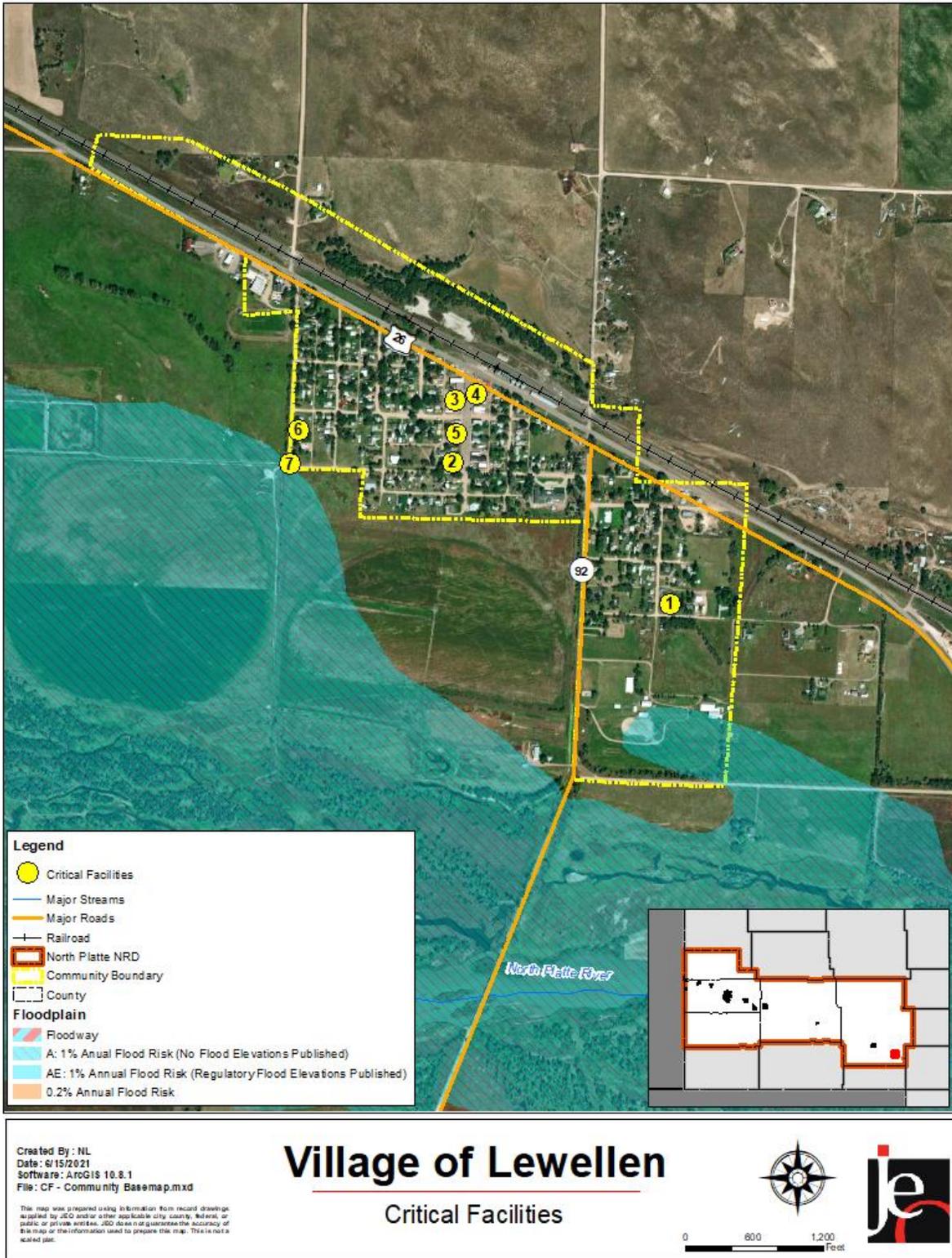
The local planning team identified critical facilities that are vital for disaster response, public shelter, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. Critical facilities were identified during the original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

The local planning team noted the village shop, community center, village hall, and Center for Health Promotion and Volunteer America building can be used as local shelters. There are no Red Cross designated mass care facilities identified in the village.

**Table LWL.3: Critical Facilities**

CF #	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
1	Village Shop	Y	Y	N
2	Post Office	N	N	N
3	Community Center and Fire Department	Y	N	N
4	Village Hall and Library	Y	N	N
5	Centers for Health Promotion and Volunteer America	Y	N	N
6	NPPD Substation	N	N	N
7	Pump Station	N	Y	Y

Figure LWL.3: Critical Facilities



## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Lewellen has a board chairperson, a four-member village board, and the following offices.

- Clerk/Treasurer
- Attorney
- Police Commissioner
- Fire Chief
- Sewage Plant Operator
- Sewer/Trash Commissioner
- Street Commissioner
- Park/Pool/Lifeguard Commission
- Library/ Community Center Admin
- Building/ Sewer Inspector
- Purchasing Officer
- Engineer

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The 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 LWL.4: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
<b>Planning &amp; Regulatory Capability</b>	Comprehensive Plan	No
	Capital Improvements Plan	Yes
	Economic Development Plan	No
	Emergency Operational Plan	Yes (County)
	Floodplain Management Plan	No
	Storm Water Management Plan	No
	Zoning Ordinance	No
	Subdivision Regulation/Ordinance	No
	Floodplain Ordinance	Yes
	Building Codes	No
	National Flood Insurance Program	Yes
	Community Rating System	No
Other (if any)		
<b>Administrative &amp; Technical Capability</b>	Planning Commission	No
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	No
	Civil Engineering	Yes

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
	Local Staff Who Can Assess Community's Vulnerability to Hazards	No
	Grant Manager	No
	Mutual Aid Agreement	No
	Other (if any)	
<b>Fiscal Capability</b>	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
	General Obligation Revenue or Special Tax Bonds	No
	Other (if any)	
<b>Education &amp; Outreach Capability</b>	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	No
	Other (if any)	

Table LWL.5: Overall Capability

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

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after

every major disaster event, alongside community planning documents (e.g. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The local planning team will include the Chairman of the Board and other board members. The plan will be reviewed no less than annually and will include the public in the review and revision process by sharing information at board meetings.

## Plan Integration

The Village of Lewellen has few planning documents that discuss or relate to hazard mitigation. Applicable planning mechanisms are listed below along with a short description of how it is integrated with the hazard mitigation plan. The village does have a capital improvements plan that has not been integrated with the hazard mitigation plan. The village will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### **Building Code (2018)**

The village has not adopted specific a building code; however, the State of Nebraska currently requires the 2018 International Building Code (IBC).

### **Floodplain Ordinance (no date)**

The village participates in the National Flood Insurance Program (NFIP) and is required to have and enforce a local floodplain ordinance. Floodplain ordinances outline where and how development should occur in flood hazard areas. The village's ordinance limits development in the floodplain and requires homes to be floodproofed or elevated. The document contains floodplain maps and identifies floodplain areas. These documents are reviewed and amended as needed on an annual basis.

### **Garden County Local Emergency Operations Plan (2018)**

The Village of Lewellen is an annex in the Garden County Local Emergency Operations Plan (LEOP) last updated in 2018. The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services, health and human services, law enforcement, mass care, protective shelters, and resource management. This plan is updated every five years.

### **Western Sandhills Community Wildfire Protection Plan (2021)**

The Nebraska Forest Service updated the Western Sandhills Community Wildfire Protection Plan (CWPP) which includes Garden County in October 2019. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

## Historical Occurrences

See the Garden County community profile for historical hazard events.

## Hazard Prioritization

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

### **Flooding**

The most recent flooding events to impact Lewellen are 2011 and 2015, when the North Platte River raised ground water and adversely affected the sewer system. Flooding also closed the road going south from Lewellen. Areas of the community which are most prone to flooding are along Fairgrounds Road in the south of town and the county fairgrounds. The county recently installed a large culvert on Fairgrounds Road to help reduce flooding. The local planning team indicated that part of the reason the village has such a significant flooding problem is due both the proximity to the North Platte River, and poor storm water drainage within the community.

### **Hazardous Materials – Transportation**

While no significant events have ever occurred locally, the potential for an event is present, due to the village's proximity to Highway 26 and the Union Pacific Railway line. Most chemicals which are transported in Lewellen is a result of agricultural chemicals to be used near the community. Lewellen's critical facilities are especially vulnerable because the town hall and fire hall are both located within one block of the highway and railroad. If a spill were to occur the local fire department would be the first to respond.

### **Severe Thunderstorms (includes Hail)**

The village has been hit by significant events in the past, which is consistent with the planning area. In the summer of 2015, a severe thunderstorm blew trees down, and resulted in the community losing power for two hours. Lewellen's specific concerns during a severe thunderstorm are primarily related to power outages, keeping the sewer pump station running and providing power to the fire water well. Magnifying the threat of prolonged power outages, is the fact that there are many old trees scattered throughout the village, which need to be trimmed. A few factors increase the resilience of Lewellen in the event of a severe thunderstorm, the village has outfitted municipal electronic devices to protect them from a significant storm surge, and the community has one portable generator for the pump station. In case of an emergency, this would be used for firefighting.

### **Tornadoes and High Winds**

While a tornado has never directly hit Lewellen, it is important to note that tornadoes are common across the entire planning area. According to the local planning team, in 2014, several funnel clouds began forming within 10 miles of the village. While this did not affect the village, it did affect the surrounding area. During high wind events in the past, electrical lines and sub stations have been damaged. Very few homes have basements which increases the village's vulnerability to tornadoes. In the event of a tornado, community members seeking safe shelter would find refuge at the bank's basement, old school's basement, or private basements. In the event of a disaster, the village has mutual aid agreements with Oshkosh and Garden County. The county provides text alerts for severe weather for those who sign up.

## Mitigation Strategy

### Continued Mitigation and Strategic Actions

MITIGATION ACTION	ALERT/WARNING SIRENS
<b>DESCRIPTION</b>	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. Location would be the eastern side of Lewellen, near the fairgrounds.
<b>HAZARD(S)</b>	All Hazards
<b>ESTIMATED COST</b>	\$15,000
<b>FUNDING</b>	General Fund
<b>TIMELINE</b>	2-5 years
<b>PRIORITY</b>	High
<b>LEAD AGENCY</b>	Village Board, Fire Department
<b>STATUS</b>	Not Started

MITIGATION ACTION	BACKUP GENERATORS
<b>DESCRIPTION</b>	Provide a portable or stationary source of backup power to redundant power supplies, municipal wells, lift stations, and other critical facilities and shelters. The community purchased one generator for a pump station. Generators are needed at the fire department and senior center.
<b>HAZARD(S)</b>	Tornadoes and High Winds, Severe Winter Weather, Severe Thunderstorms
<b>ESTIMATED COST</b>	\$15,000 - \$30,000
<b>FUNDING</b>	General Fund
<b>TIMELINE</b>	5+ years
<b>PRIORITY</b>	High
<b>LEAD AGENCY</b>	Village Board
<b>STATUS</b>	Not Started

MITIGATION ACTION	FLOODPLAIN MANAGEMENT
<b>DESCRIPTION</b>	Improve floodplain management practices such as adoption and enforcement of floodplain management requirements (regulation of construction in SFHAs), floodplain identification and mapping (local requests for map updates). Also, prevent chemical storage of chemicals within the floodplain.
<b>HAZARD(S)</b>	Flooding
<b>ESTIMATED COST</b>	Staff Time
<b>FUNDING</b>	General Fund
<b>TIMELINE</b>	1 year
<b>PRIORITY</b>	Medium
<b>LEAD AGENCY</b>	Village Board
<b>STATUS</b>	Not Started

SECTION SEVEN: VILLAGE OF LEWELLEN COMMUNITY PROFILE

MITIGATION ACTION	FLOODPLAIN REGULATION UPDATES
<b>DESCRIPTION</b>	Update the local floodplain regulations for structures located in the 100-year floodplain. Strict enforcement of the type of development and elevations of structures should be considered through issuance of building permits by any community or county.
<b>HAZARD(S)</b>	Flooding
<b>ESTIMATED COST</b>	\$4,000+
<b>FUNDING</b>	General Fund
<b>TIMELINE</b>	2-5 years
<b>PRIORITY</b>	Low
<b>LEAD AGENCY</b>	Village Board
<b>STATUS</b>	Not Started

MITIGATION ACTION	MAINTAIN GOOD STANDING IN THE NFIP
<b>DESCRIPTION</b>	Maintain good standing with the National Flood Insurance Program (NFIP) including floodplain management practices/ requirements and regulation enforcements and updates.
<b>HAZARD(S)</b>	Flooding
<b>ESTIMATED COST</b>	Staff Time
<b>FUNDING</b>	General Fund
<b>TIMELINE</b>	Ongoing
<b>PRIORITY</b>	Medium
<b>LEAD AGENCY</b>	Village Board
<b>STATUS</b>	Lewellen will continue to enforce floodplain management requirements, including regulating new construction in the Special Flood Hazard Areas.

MITIGATION ACTION	SAFE ROOM
<b>DESCRIPTION</b>	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. Construct safe rooms in areas of greatest need, as new construction or retrofitting. Possible location is the Senior Center (Tiger's Den).
<b>HAZARD(S)</b>	Tornadoes, High Winds
<b>ESTIMATED COST</b>	\$200-\$300/ sq ft stand alone, \$150-\$200/sq ft addition/retrofit
<b>FUNDING</b>	General Fund
<b>TIMELINE</b>	5+ years
<b>PRIORITY</b>	High
<b>LEAD AGENCY</b>	Village Board
<b>STATUS</b>	Not Started

SECTION SEVEN: VILLAGE OF LEWELLEN COMMUNITY PROFILE

MITIGATION ACTION	STORM SHELTER IDENTIFICATION
DESCRIPTION	Identify any private or public storm shelters.
HAZARD(S)	Tornadoes, High Winds
ESTIMATED COST	Staff Time
FUNDING	Village General Fund
TIMELINE	1 year
PRIORITY	High
LEAD AGENCY	Village Board
STATUS	Not Started

MITIGATION ACTION	STORM WATER SYSTEM AND DRAINAGE IMPROVEMENTS
DESCRIPTION	Larger communities generally utilize underground storm water systems comprising of pipes and inlets to convey runoff. Undersized systems can contribute to localized flooding. Storm water system improvements may include pipe upsizing and additional inlets. Smaller communities may utilize storm water systems comprising of ditches, culverts, or drainage ponds to convey runoff. Drainage improvements may include ditch upsizing, ditch cleanout and culvert improvements. Lower elevations throughout the village and ditch along Fairgrounds Road.
HAZARD(S)	Flooding
ESTIMATED COST	\$10,000 - \$100,000
FUNDING	General Fund
TIMELINE	5+ years
PRIORITY	Medium
LEAD AGENCY	Maintenance and Village Board
STATUS	In Progress. A large culvert was installed by the county on Fairgrounds Road.

**Removed Mitigation and Strategic Actions**

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.
STATUS	The village would like to focus on other actions.

MITIGATION ACTION	PUBLIC AWARENESS
DESCRIPTION	Through activities such as outreach projects, distribution of maps and environmental education increase public awareness of natural hazards to both public and private property owners, renters, businesses and local officials about hazards and ways to protect people and property from these hazards. In addition, educate citizens on erosion control and water conservation methods.
STATUS	The village would like to focus on other actions.

SECTION SEVEN: VILLAGE OF LEWELLEN COMMUNITY PROFILE

MITIGATION ACTION	<b>STABILIZE/ANCHOR FERTILIZER, FUEL, AND PROPANE TANKS AND SECURE AT RISK DEVELOPMENT</b>
<b>DESCRIPTION</b>	Anchor fuel tanks to prevent movement. If left unanchored, tanks could present a major threat to property and safety in a tornado or high wind event. "Tie downs" can be used to anchor manufactured homes to their pads or concrete foundations.
<b>STATUS</b>	The village would like to focus on other actions.

MITIGATION ACTION	<b>TREE CITY USA</b>
<b>DESCRIPTION</b>	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 limit potential tree damage and damages caused by trees in the 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.
<b>STATUS</b>	The village would like to focus on other actions.

MITIGATION ACTION	<b>WEATHER RADIOS</b>
<b>DESCRIPTION</b>	Conduct an inventory of weather radios at schools and other critical facilities to provide new radios as needed.
<b>STATUS</b>	The village would like to focus on other actions.

# Community Profile

## **CITY OF OSHKOSH**

### **North Platte NRD Hazard Mitigation Plan 2021**

## Local Planning Team

**Table OSK.1: Oshkosh Local Planning Team**

NAME	TITLE	JURISDICTION
<b>SCOTT SMITH</b>	Utilities Superintendent	City of Oshkosh
<b>BILL CAMPBELL</b>	City Administrator	City of Oshkosh

## Location and Geography

The City of Oshkosh is located in the southcentral portion of Garden County and covers an area of 427 acres. The major waterway in the area is the North Platte River, which is located one mile south of the city. Lost Creek travels through the northeast portion of the city.

## Transportation

There are two major highways that pass-through Oshkosh, US HWY 26 and NE HWY 27. According to the Nebraska Department of Transportation, the average daily traffic count for US HWY 26 is 2,210 vehicles per day, 415 of which are heavy commercial vehicles. NE HWY 27 has an average traffic count of 860 vehicles per day, 90 of which are heavy commercial vehicles.<sup>23</sup> There is one railroad line which goes through the center of the city. No significant transportation crashes or spills have occurred locally.

## Demographics

Oshkosh's estimated population in 2019 was 861. The following figure displays the historical population trend from 1920 to 2019. This figure indicates that the population of Oshkosh has generally decreased since 1970. A declining population can lead to more unoccupied housing that is not being maintained and is then at risk to high winds and other hazards. Furthermore, with fewer residents, there is decreasing tax revenue for the community, which can make implementation of mitigation projects fiscally challenging. Oshkosh's population accounted for 46 percent of Garden County's population in 2019.<sup>24</sup>

<sup>23</sup> Nebraska Department of Transportation. 2018. "Interactive Statewide Traffic Counts Map." [map]. <https://gis.ne.gov/portal/apps/webappviewer/index.html?id=bb00781d6653474d945d51f49e1e7c34>.

<sup>24</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

Figure OSK.1: City of Oshkosh

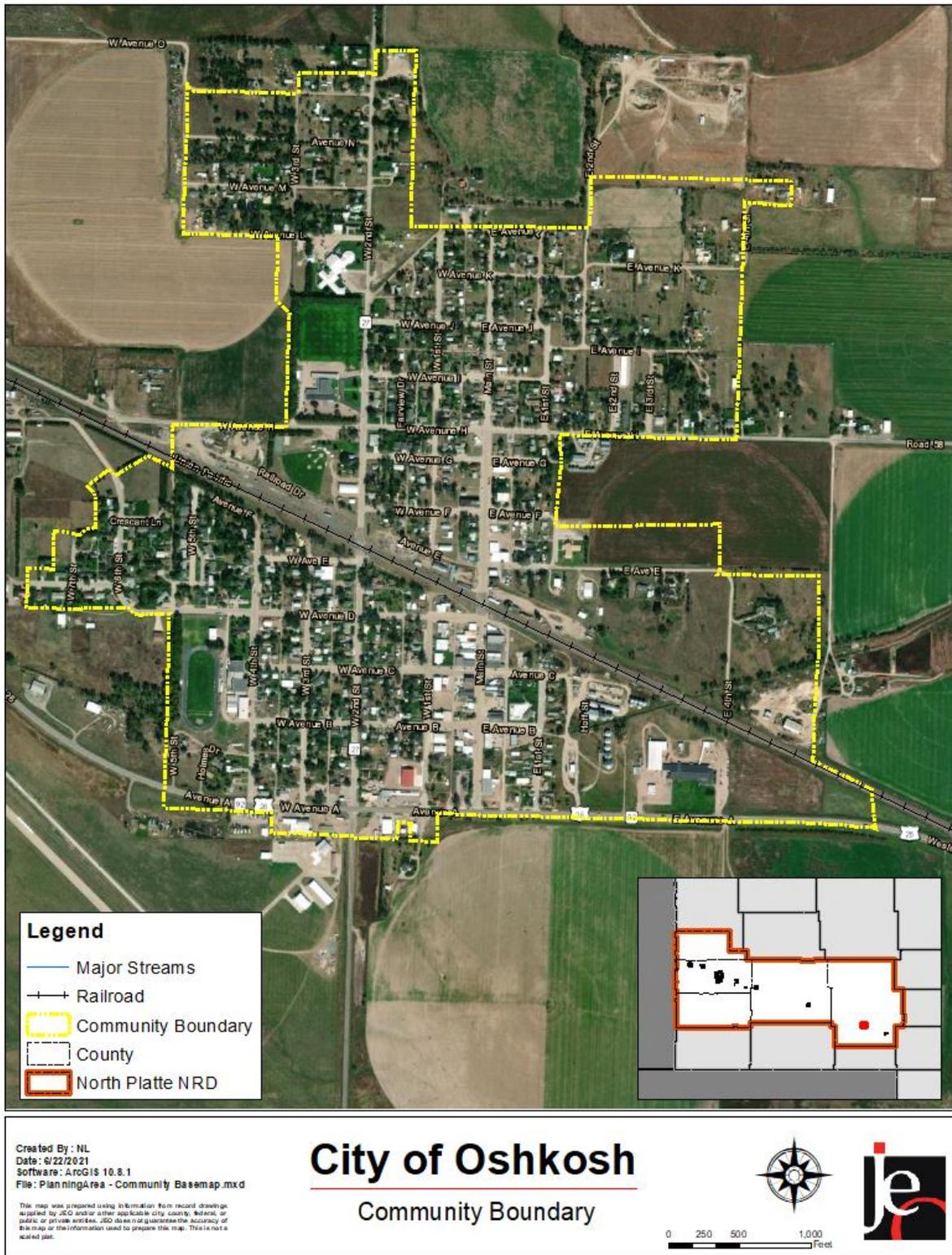
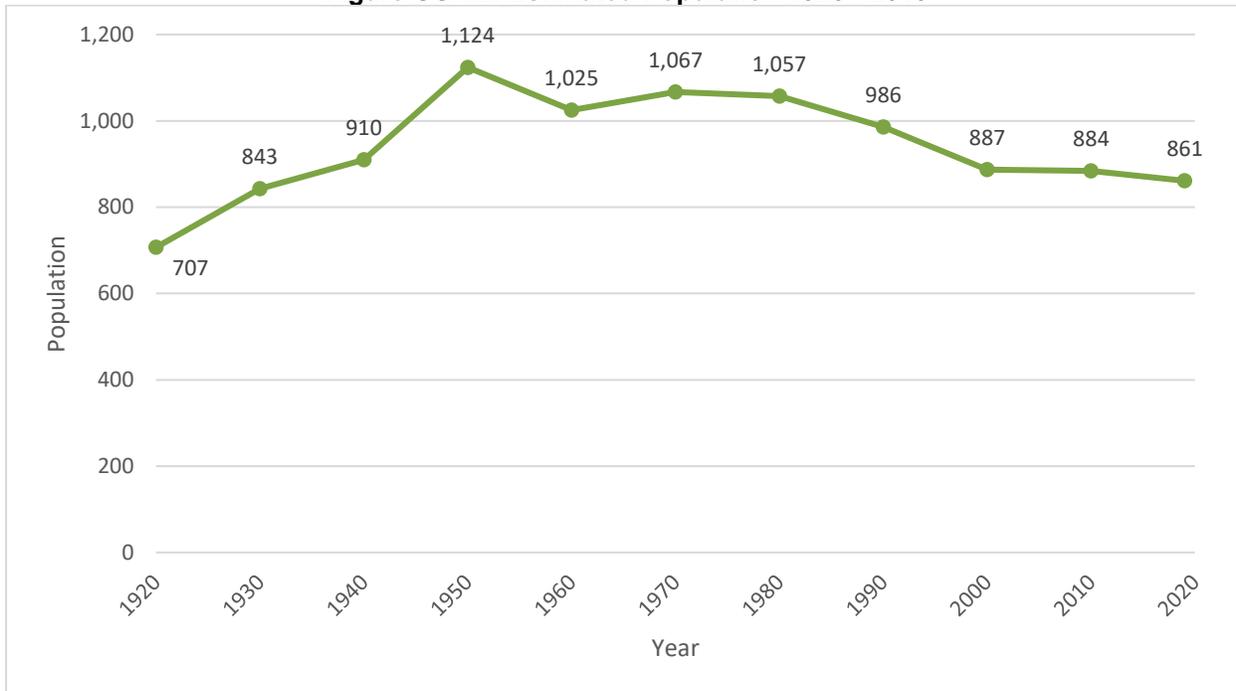


Figure OSK.2: Estimated Population 1920 - 2019



Source: U.S. Census Bureau<sup>25</sup>

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

- **Younger.** The median age of Oshkosh was 40.0 years old in 2019, compared with the county average of 50.4 years. Oshkosh's population became younger since 2010, when the median age was 53.1 years old. Oshkosh had a larger proportion of people under 20 years old (26.7%) than the county (21.0%).<sup>26</sup>
- **More ethnically diverse.** Since 2010, Oshkosh grew more ethnically diverse. In 2010, 0.7% of Oshkosh's population was non-white. By 2019, 2.0% of Oshkosh's population was non-white. During that time, those who were non-white in the county stayed at 1.5%.<sup>27</sup>
- **As likely to be at the federal poverty line.** The poverty rate in Oshkosh (5.2% of families living below the federal poverty line) is equal to the county's poverty rate (5.2%) in 2019.<sup>28</sup>

## Employment and Economics

The city's economic base is a mixture of industries. In comparison to Garden County, Oshkosh's economy had:

- **Different mix of industries.** Employment sectors accounting for 10% or more of employment in Oshkosh included: Construction, Retail Trade, Finance, and Educational Services. Garden County's employment sectors included Agriculture, Construction, and Educational Services in 2019.<sup>29</sup>

<sup>25</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

<sup>26</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0101: Age and Sex." [database file]. <https://data.census.gov>.

<sup>27</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." [database file]. <https://data.census.gov>.

<sup>28</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

<sup>29</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

## SECTION SEVEN: CITY OF OSHKOSH COMMUNITY PROFILE

- **Lower household income.** Oshkosh's median household income in 2019 (\$39,250) was about \$4,500 lower than the county (\$43,750).<sup>30</sup>
- **Fewer long-distance commuters.** 71.9% of workers in Oshkosh commuted for fewer than 15 minutes, compared with 51.3% of workers in Garden County. 16.0% of workers in Oshkosh commute 30 minutes or more to work, compared to 24.4% of the county workers.<sup>31</sup>

### Major Employers

Major employers in Oshkosh include Garden County Schools, Garden County Regional West, Garden County Courthouse, and Garden County Road Department. Very few residents commute to surrounding communities for employment.

## Housing

In comparison to Garden County, Oshkosh's housing stock was:

- **Similarly owner occupied.** 73.8% of occupied housing units in Oshkosh are owner occupied compared with 73.7% of occupied housing in Garden County in 2019.<sup>32</sup>
- **Older housing stock.** Oshkosh has a larger share of housing built prior to 1970 (77.6% compared to 69.0%).<sup>33</sup>
- **More multifamily homes.** Although the predominant housing type in the city is single family detached, Oshkosh contains more multifamily housing with five or more units per structure compared to the county (4.2% compared to 1.9%). 80.2% of housing in Oshkosh was single-family detached, compared with 90.9% of the county's housing. Oshkosh has a smaller share of mobile and manufactured housing (2%) compared to the county (5.6%).<sup>34</sup>

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. Mobile homes are allowed in Residential 2 zoned districts and manufactured homes are allowed in Residential 1 and Residential 2 zoned districts.

## Future Development Trends

Over the past five years, a three-story building on Main Street was demolished, four new homes were built, and the city has maintained the same number of businesses. According to the 2019 American Community Survey estimates, Oshkosh's population has decreased over the past few decades. The local planning team attribute this to a loss of job opportunities and a decline in the number of children. In the next five years, there are no planned housing developments. However, a car wash, parts store, and storage unit complex may be added.

<sup>30</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." [database file]. <https://data.census.gov>.

<sup>31</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: S0802: Means of Transportation to Work by Selected Characteristics." [database file]. <https://data.census.gov>.

<sup>32</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

<sup>33</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

<sup>34</sup> United States Census Bureau. "2019 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." [database file]. <https://data.census.gov>.

## Structural Inventory and Valuation

The planning team requested GIS parcel data from the County Assessor as of July 2021. 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 OSK.2: Oshkosh Parcel Valuation**

TOTAL NUMBER OF IMPROVEMENTS	TOTAL IMPROVEMENT VALUE	NUMBER OF IMPROVEMENTS IN FLOODPLAIN	VALUE OF IMPROVEMENTS IN FLOODPLAIN	% OF IMPROVEMENTS IN FLOODPLAIN
673	\$25,409,015	63	\$3,582,415	9%

Source: County Assessor

## Community Lifelines

### Hazardous Materials – Chemical Storage Fixed Sites

According to the Tier II System reports submitted to the Nebraska Department of Environment and Energy, there are three chemical storage sites in Oshkosh that contain hazardous chemicals. In the event of a chemical spill, the local fire department and emergency response may be the first to respond to the incident.

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

FACILITY NAME	ADDRESS
Westco	17560 Highway 26
Richards 1 Lease	Roads 92 & 60
NDOT Oshkosh Yard 51600	Highway 26 W

Source: Nebraska Department of Environment and Energy<sup>35</sup>

### Critical Facilities

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

The American Red Cross designated the Garden County High School and Elementary School as mass care facilities.

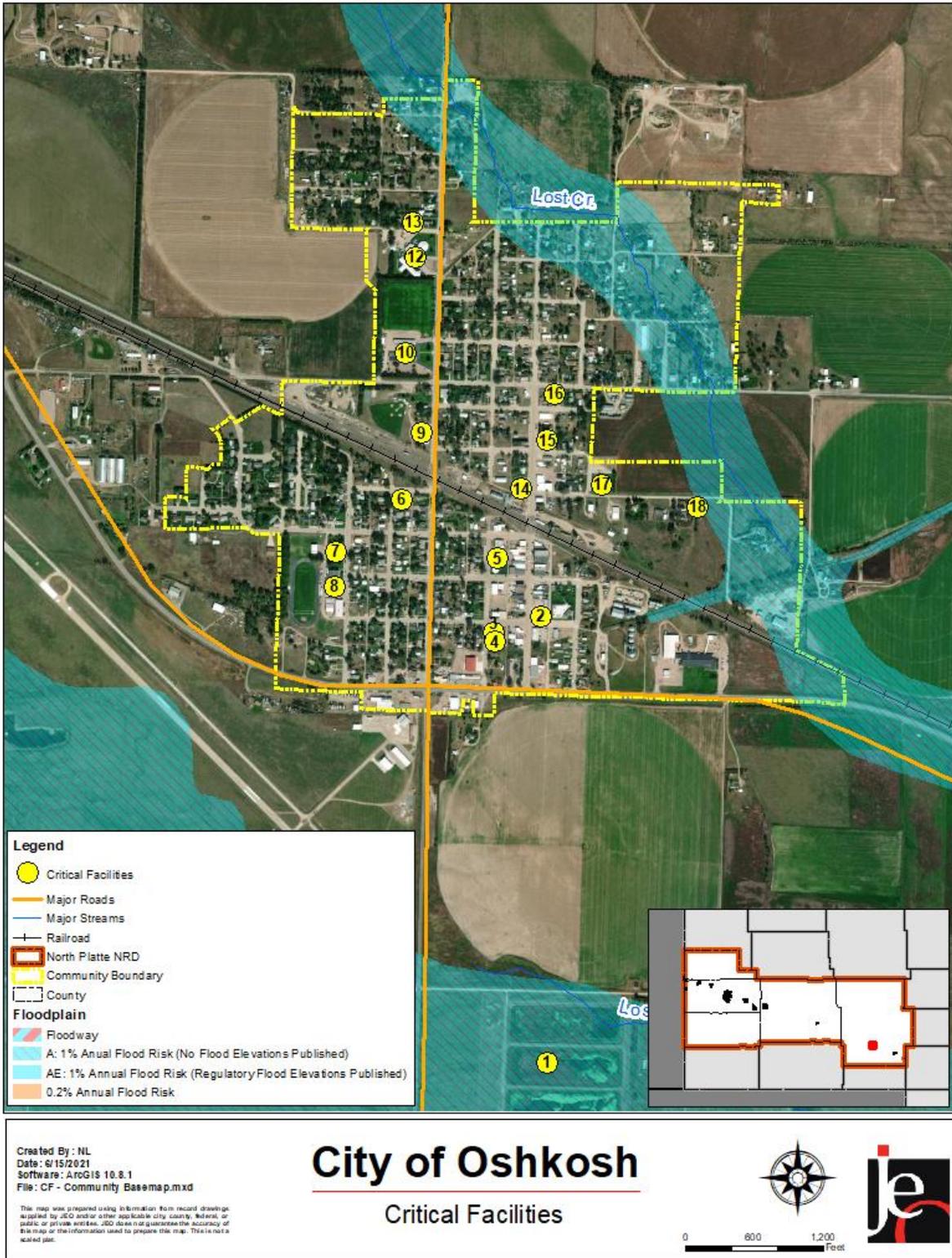
<sup>35</sup> Nebraska Department of Environment and Energy. "Search Tier II Data." Accessed December 2020. <https://deq-iis.ne.gov/tier2/search.faces>.

SECTION SEVEN: CITY OF OSHKOSH COMMUNITY PROFILE

**Table OSK.4: Critical Facilities**

CF #	NAME	SHELTER (Y/N)	GENERATOR (Y/N)	FLOODPLAIN (Y/N)
1	Sewer Lagoons and Lift Station	N	Y	Y
2	Eagles Club	Y	N	N
3	Fire Department	N	N	N
4	City Shop	N	N	N
5	City Building	N	N	N
6	United Methodist	Y	N	N
7	St Elizabeth Catholic Church	Y	N	N
8	Garden County High School	Y	N	N
9	Oshkosh Auditorium	N	N	N
10	Elementary School	Y	N	N
11	Well Field and Storage Tank	N	Y	N
12	Garden County Health Services	N	Y	N
13	Ambulance Barn	N	Y	N
14	NPPD	N	N	N
15	Court House	N	Y	N
16	Substation	N	N	N
17	St Mark's Lutheran	Y	N	N
18	Well (Emergency)	N	N	Y

Figure OSK.3: Critical Facilities



## Governance

A community's governance indicates the number of boards or offices that may be available to help implement hazard mitigation actions. Oshkosh has a mayor, a four-member city council, and the following offices.

- Clerk/Treasurer
- Fire Chief
- Administrator & Director of Economic Development
- Health Board
- Planning Commission
- West Central Nebraska Development District

## Capability Assessment

The capability assessment consisted of a Capability Assessment Survey completed by the jurisdiction and a review of local existing policies, regulations, plans, and the programs. The 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 OSK.5: Capability Assessment**

SURVEY COMPONENTS/SUBCOMPONENTS		Yes/No
<b>Planning &amp; Regulatory Capability</b>	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)	
<b>Administrative &amp; Technical Capability</b>	Planning Commission	Yes
	Floodplain Administration	Yes
	GIS Capabilities	No
	Chief Building Official	Yes
	Civil Engineering	Yes
	Local Staff Who Can Assess Community's Vulnerability to Hazards	Yes
	Grant Manager	No
	Mutual Aid Agreement	Yes
	Other (if any)	Health Board

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

**Table OSK.6: Overall Capability**

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

## Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (e.g., annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this community profile as changes occur or after a major event. The local planning team will include the City Administrator, Mayor, and Utilities Superintendent. The plan will be reviewed no less than annually and will include the public in the review and revision process by sharing information at board meetings, via the local newspaper, city website, and social media posts.

## Plan Integration

The City of Oshkosh has several planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan. In addition, the city has a capital improvements plan that has not been integrated with the hazard mitigation plan. The city will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

### **Building Code (2018)**

The building code sets standards for constructed buildings and structures. The city has adopted its own building code, which is based off the 1997 Uniform Building Code.

### **Water System Emergency Response Plan (2021)**

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

### **Comprehensive Plan (2021)**

The comprehensive plan is designed to guide the future actions of the city. It contains goals aimed at safe growth, directs development away from hazardous areas including the floodplain or major transportation routes. The plan was last updated in 2021 and is anticipated to serve the city until 2026.

### **Floodplain Ordinance, Zoning Ordinance, Subdivision Regulations (2016)**

The city's floodplain ordinance, zoning ordinance, and subdivision regulations outline where and how development should occur in the future. These documents contain floodplain maps, discourage development in the floodplain, and require structures to be built to above base flood elevation in the floodplain. These documents are reviewed and amended as needed on an annual basis.

### **Garden County Local Emergency Operations Plan (2018)**

The Village of Lewellen is an annex in the Garden County Local Emergency Operations Plan (LEOP) last updated in 2018. The LEOP establishes standardized policies, plans, guidelines, and procedures for emergency resources and governmental entities to respond and recover when a disaster event occurs. It contains information regarding direction and control, communications and warning, damage assessment, emergency public information, evacuation, fire services,

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

### **Western Sandhills Community Wildfire Protection Plan (2021)**

The Nebraska Forest Service updated the Western Sandhills Community Wildfire Protection Plan (CWPP) which includes Garden County in October 2019. The purpose of the CWPP is to help effectively manage wildfires and increase collaboration and communication among organizations who manage fire. The CWPP discusses county specific historical wildfire occurrences and impacts, identifies areas most at risk from wildfires, discusses protection capabilities, and identifies wildfire mitigation strategies. This document is updated every five years.

## **Historical Occurrences**

See the Garden County community profile for historical hazard events.

## **Hazard Prioritization**

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

### **Drought**

Drought is very common in the planning area as a whole, and Oshkosh has been experiencing drought effects since 2000, according to the local planning team. The community has worked to mitigate the potential effects of drought, by passing an ordinance on water restrictions/drought emergency contingency plan in 2006 and daily well monitoring. Oshkosh has struggled with a clean municipal water supply in the past, due to arsenic and uranium concentrations. Two wells six miles north of the community were completed in 2017, each with a backup generator in case of a power outage. The community also installed a new water tower, with a capacity of 250,000 gallons. Monitoring for drought includes keeping track of static water levels in community wells, the National Weather Service, and water usage.

### **Flooding**

Although not a top concern for the local planning team, there is floodplain in the community. The floodplain is primarily located in the eastern portion of the city. The most recent flood event occurred in May 2018, but it did not cause any damages. The community is a part of the National Flood Insurance Program, but have relatively few participants, due to the program being cost prohibitive for many of the citizens.

### **Severe Thunderstorms (includes Hail)**

Severe thunderstorms are extremely common in the planning area, especially in the late spring and early summer. A hailstorm in 1997 caused many homes to need new roofs. After the 1997 event, between 5 and 10 percent of residents began putting in metal roofs. The local planning team also identified two large hail events in August of 2018. Past severe thunderstorm events have damaged the electrical grid and caused structural damage to some critical facilities. To protect against lasting impacts from a severe thunderstorm, the city backs up all of its digital municipal records. Most of the city's critical facilities are built with hail resistant materials. In previous years, the community has worked to educate citizens about the dangers of severe thunderstorms by hosting a storm spotter training course at the fire department.

### **Severe Winter Storms**

The most significant recent event occurred in the winter of 2014/2015. Smaller winter storms occur annually. The community has developed a snow route plan to prioritize main transportation routes through the city: Main Street, West 2<sup>nd</sup> Street, and areas around the school and hospital are the top priorities of Oshkosh. Snow removal is done by city employees using loaders and maintainers. The city recently purchased a snow-pusher which mounts to the front of a loader. This has saved snow removal time by 50%. Contractors can also be used for snow removal if needed. Additionally, Oshkosh sets out snow fences on the northern side of the city, to prevent snow drifts from forming on the roadways. In case of a power outage, Oshkosh has supplied generators to the hospital, courthouse, and sheriff's offices.

### **Tornadoes and High Winds**

Three tornadoes have been reported near the city, but none caused damages within city limits. In Oshkosh, about 50 percent of homes have basements to seek refuge in the case of a severe thunderstorm. For those homes which do not have basements, the local planning team indicated that these residents would likely go to a neighbor's home, or perhaps the school as the city there are no safe rooms in the city. A weather siren has been installed on the water tower to inform citizens of hazardous weather in the area. Oshkosh has also worked to place weather radios at the school and city hall to inform individuals about local severe weather, who may not hear the siren. The city would like to construct a safe house for its citizens to take refuge in during a tornado event.

## Mitigation Strategy

### Completed Mitigation and Strategic Actions

MITIGATION ACTION	NEW MUNICIPAL WELL
DESCRIPTION	Evaluate the need to install a new well to provide a safe backup water supply for the community, replace existing wells affected by drought, and additional water for fire protection.
HAZARD(S)	Drought
STATUS	Completed. A new wellfield has been established six miles north of Oshkosh. In addition, a 250,000-gallon storage tank was added. The project cost a total of \$4.2 million.

### Continued Mitigation and Strategic Actions

MITIGATION ACTION	FLOODPLAIN MANAGEMENT
DESCRIPTION	Improve floodplain management practices such as adoption and enforcement of floodplain management requirements (regulation of construction in SFHAs), floodplain identification and mapping (local requests for map updates), description of community assistance and monitoring activities, explanation for failure to participate in the NFIP, Community Rating System (CRS), and participation in FEMA's Cooperating Technical Partners Program (CTP) to increase local involvement in the flood mapping process.
HAZARD(S)	Flooding
ESTIMATED COST	\$10,000
FUNDING	Sewer Budget
TIMELINE	2-5 years
PRIORITY	Low
LEAD AGENCY	Street Superintendent
STATUS	Not Started

MITIGATION ACTION	MAINTAIN GOOD STANDING IN THE NFIP
DESCRIPTION	Maintain good standing with the National Flood Insurance Program (NFIP) including floodplain management practices/ requirements and regulation enforcements and updates.
HAZARD(S)	Flooding
ESTIMATED COST	Staff Time
FUNDING	General Fund
TIMELINE	Ongoing
PRIORITY	Medium
LEAD AGENCY	Utilities Department
STATUS	Oshkosh will continue to enforce floodplain management requirements, including regulating new construction in the Special Flood Hazard Areas.

SECTION SEVEN: CITY OF OSHKOSH COMMUNITY PROFILE

MITIGATION ACTION	STORM SHELTERS / SAFE ROOMS
<b>DESCRIPTION</b>	Assess, design and construct fully supplied safe rooms in highly vulnerable areas. 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.
<b>HAZARD(S)</b>	Tornadoes, High Winds
<b>ESTIMATED COST</b>	\$200-\$300/sq ft stand alone; \$150-\$200/ sq ft addition/retrofit
<b>FUNDING</b>	General Budget
<b>TIMELINE</b>	1 year
<b>PRIORITY</b>	Medium
<b>LEAD AGENCY</b>	City Council
<b>STATUS</b>	Not Started. Currently looking for funding.