

City of Lawler, Iowa

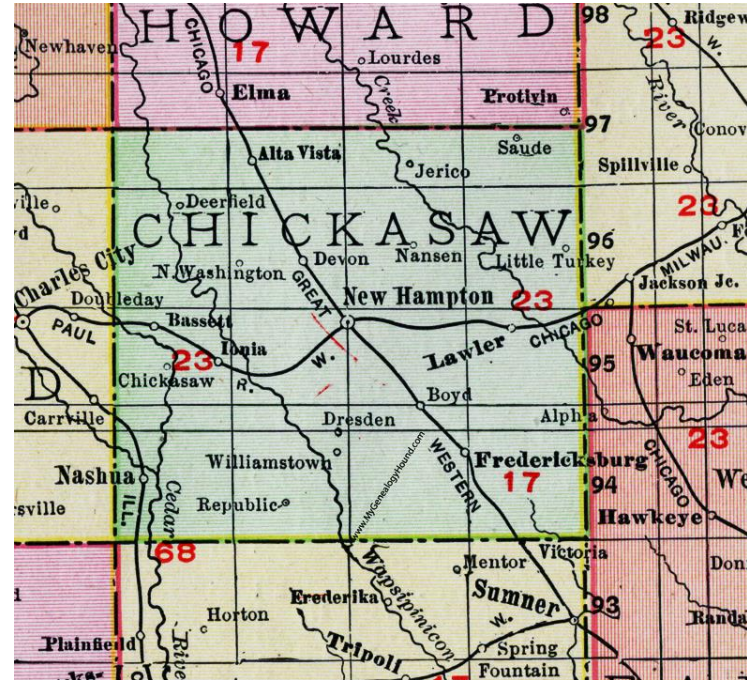
Hazard Mitigation Plan 2024 Update

Appendix E of Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan

Funded by the Chickasaw County Emergency
Management Agency

Prepared by Iowa Northland Regional Council
of Governments (INRCOG)

April 2024



Page left intentionally blank

Page Reserved for Resolution Adopting Plan by City Council

Table of Contents	
About	2
The Planning Process.....	3
City Profile	5
Highway Traffic and Crash Data	7
Housing Data	8
Vulnerable Assets	9
Critical Facilities	10
Future Development.....	14
National Flood Insurance Program.....	16
Hazard Risk Assessment	17
Hazard Mitigation Goals.....	21
Previous Mitigation Activities by Type	22
Components of the Implementation Strategy	24
Implementation Guides (by Mitigation Type) for Hazard Mitigation Activities in Lawler	26

Table Index

Table 1: Population Data	6
Table 2: Employment Data	6
Table 3: Industry Data	6
Table 4: Vehicle Crash Data from 2019-2023	7
Table 5: Housing Data	8
Table 6: Utility Providers	8
Table 7: Valuation of All Parcels in the City of Lawler (2023)	11
Table 8: Potential Property Losses from a 1% Annual Chance Flood	11
Table 9: National Flood Insurance Program Information	16
Table 10: Hazard Risk Assessment	20
Table 11: Local Capability Assessment	24
Table 12: <i>Education and Awareness Programs</i> Mitigation Activities	26
Table 13: Emergency Services Mitigation Activities	26
Table 14: <i>Structure and Infrastructure Projects</i> Mitigation Activities	27
Table 15: <i>Local Plans and Regulations</i> Mitigation Activities	28

Figure Index

Figure 1: County Map	5
Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2023)	7
Figure 3: Critical Facilities Map	10
Figure 4: Flood Plain Map	12
Figure 5: Flood Scenario Map	13
Figure 6: Historical Precipitation Data and Trend for Chickasaw County, Iowa	14
Figure 7: Historical Temperature Data and Trend for Chickasaw County, Iowa	15

About

The City of North Washington developed this local Hazard Mitigation Plan to update their previous plan. That Plan was part of the 2019 Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan. The 2024 Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan is a sequential 5-year update to the previous hazard mitigation document. Federal hazard mitigation grant programs require an updated hazard mitigation plan approved by FEMA to be in good standing and remain eligible for grant funding. The Plan was developed to meet the requirements in Title 44 CFR § 201.6.

Elected officials, city clerks, planners, first responders, and other stakeholders were invited to attend planning committee meetings as participants while they completed worksheets that were returned to the Chickasaw County's Emergency Management Agency (EMA) and INRCOG. Chickasaw County's EMA initiated and funded this effort for all participating communities and contracted INRCOG to coordinate a multi-jurisdictional approach to this plan development process.

Participating communities included all nine (9) incorporated jurisdictions in Chickasaw County. Other participating members were representing their respective County departments. The school district superintendents of three public school districts participated and represented their jurisdictions. Four (4) committee meetings were held between March 19th and April 23rd wherein each participant provided data and completed work sheets to develop their hazard mitigation plans.

FEMA's Emergency Management Cycle



What is Hazard Mitigation?

Hazard Mitigation is any *sustained* action taken to reduce or eliminate long-term risk to life and property from hazards.

The emergency management cycle has 4 phases:

- **Preparedness** is the assessment of potential risks, hazards, and vulnerabilities that a community may face. The development and updating of activities, programs, and systems before an event occurs is included in this phase of the cycle.
- **Response** is the immediate effects after a disaster.
- **Recovery** is a long-term phase that focuses on returning the community to normal after a disaster.
- **Mitigation** is an action that can occur at any phase.

The Benefits of Hazard Mitigation

For local governments, there are benefits in knowing hazards, their risks, and planning for mitigation strategies.

Those Include:

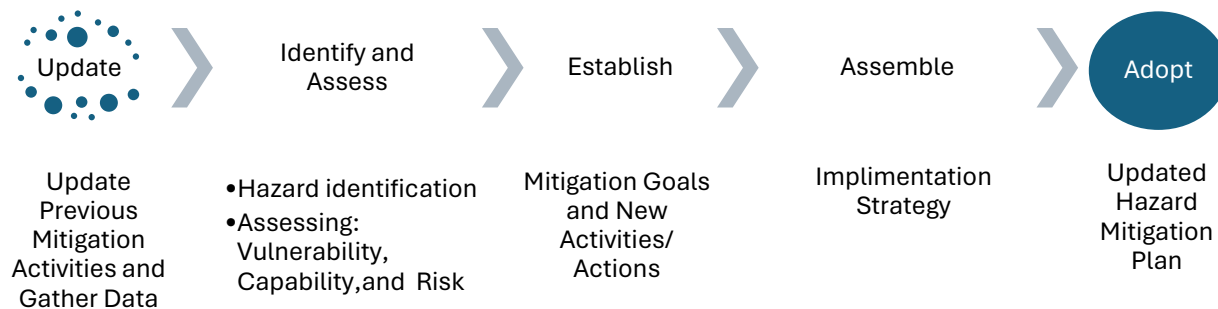
- ✓ An increased understanding of natural, technical, and man-made hazards faced by communities.
- ✓ Taking an opportunity to create more sustainable and disaster-resistant communities.
- ✓ Participating in this collaborative intergovernmental effort is cost effective for all participants.
- ✓ Using limited resources on hazards that have the biggest impacts on a community.
- ✓ Reducing or preventing damage to existing structures, subsequently reducing repair costs.
- ✓ Identifying vulnerable populations to establish equitable outcomes.
- ✓ Setting long-term goals that can be compatible with city policies or planning documents.

The Planning Process

In emergency management planning, reducing the community's risk to natural hazards is a multi-step process which involves collaboration among stakeholders, assessing risk and vulnerabilities of hazards facing the community, establishing actions or activities to reduce risk, and assembling an organized strategy to carry out all mitigation activities.

Participants in the Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan Planning Committee provided the information in this plan including community profile information, hazard mitigation goals, mitigation activities/action, updates to existing mitigation activities, and elements included in the strategy such as priorities, designated agencies, estimated costs, and overall strategic direction of this plan.

Participants in the Plan Followed This 5 Step Process



Community Data Sources

Population data is based on 2020 decennial Census data. The 2022 American Community Survey 5-year estimates are the latest and most reliable survey data sets to understand what is taking place in the county and each city. Most counties, cities, and towns rely on 5-year estimates. Employment, workforce, and industry figures in this Plan are estimates that have a margin of error.

It is important to note that the ACS estimates used for rural communities will have a degree of uncertainty associated with them, called sampling error, because they are based on a sample. In general, the larger the sample, the smaller the level of sampling error. Rural communities tend to have smaller samples than larger cities, so the “margin of error”—a measure of the precision of an estimate at a given level of confidence—likely will be larger for rural areas.

Crash data along roadways within each jurisdiction is collected between the period of 2019 and 2023. Using a map tool interface, the data was taken at a city level and presented to understand incident severity, casualties, and property damage from reported accidents. Accident data is added to the site daily and accessible through an online website, <https://icat.iowadot.gov/>.

In the risk analysis section of this Plan, estimates of property loss are measured using mapping of hazardous zones. For the vulnerability risk assessment, flood prone homes were determined using the boundaries of the 100 year (1%) annual chance flood zone. The value of potential property loss was derived from the 2023 assessed dollar value of structures and dwellings on affected parcels provided by the Chickasaw County Assessor’s Office.

Chickasaw County’s Freedom Rock (right) is located in Lawler’s Veteran’s Memorial Park. (center)

Photo Source: Google Maps and Darrin Oschner



City Profile

Jurisdiction: City of Lawler

County: Chickasaw County

Population (2020): 406

The City of Lawler lies between the upper and lower east quadrants of Chickasaw County. State Highway 24 and County Highway V56 intersect in Lawler.

The following data presented in tables on the following page include population, employment, and industry sector data for the community based on 2020 Census data and 2022 American Community Survey 5-year Estimates.

In 2020, the city's population was 406 and 91% White where the median age is 42. Working aged residents (15-60 years) make up 58% of the population. Children and teens (younger than 15 years) make up 19% of Lawler's population while older adults (older than 65 years) make up 23%.

The median household income in 2022 was \$58,750. The unemployment rate is 5.2%. Most people commute to work, and 19 people or 10% of the workforce work from home. The top three largest industry sectors in Lawler are as follows (in order from highest to lowest): 1) Construction; 2) Educational Services, and health care, and social assistance, and 3) Manufacturing.

Figure 1: Map of Chickasaw County

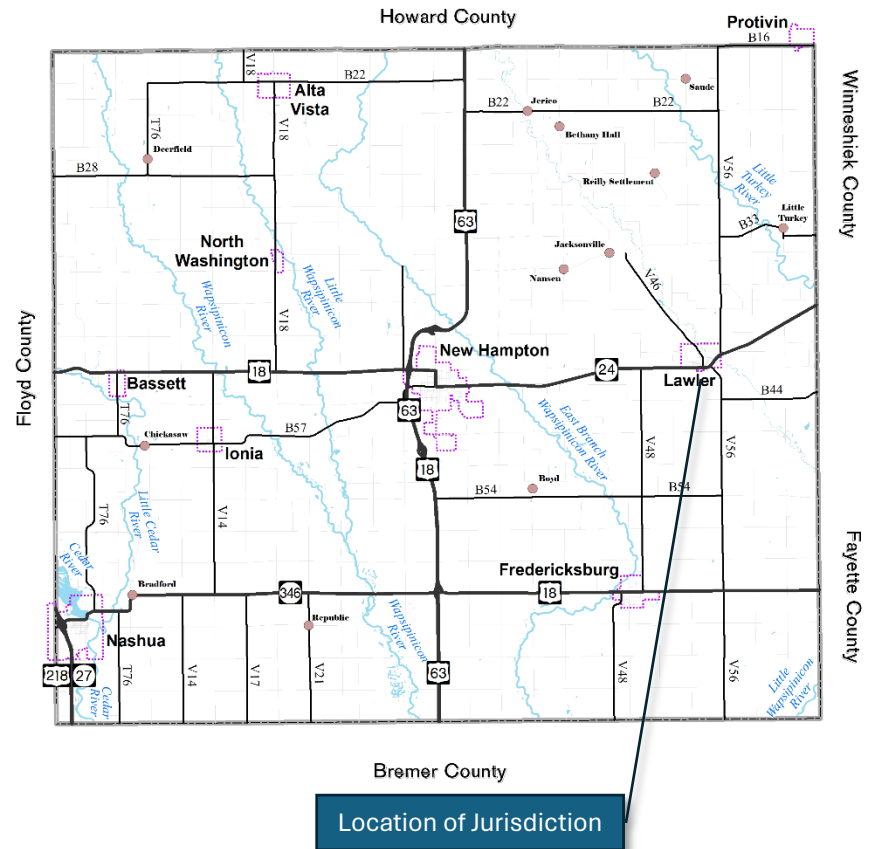


Table 1: Population Data (2020)		
City of Lawler		
	Total	% of Pop.
Total population	406	100%
AGE		
Under 5 years	23	6%
5 to 9 years	24	6%
10 to 14 years	30	7%
15 to 19 years	14	3%
20 to 24 years	26	6%
25 to 29 years	44	11%
30 to 34 years	11	3%
35 to 39 years	22	5%
40 to 44 years	17	4%
45 to 49 years	20	5%
50 to 54 years	13	3%
55 to 59 years	32	8%
60 to 64 years	38	9%
65 to 69 years	33	8%
70 to 74 years	14	3%
75 to 79 years	16	4%
80 to 84 years	7	2%
85 years and over	22	5%
Median Age	42	-
RACE		
White	370	91%
Black or African American	0	0%
Hispanic or Latino (of any race)	22	5%
American Indian and Alaska Native	3	1%
Asian	0	0%
Native Hawaiian/Other Pacific Islander	0	0%
Some Other Race	14	3%
Two or More Races	19	5%
<i>Source: 2020 Census</i>		

Table 2: Employment Data (2022)		
City of Lawler		
	Value	% of Population
Median Household Income	\$58,750	-
Unemployment Rate (2022)	5.2%	-
Workers that commute to work	182	91%
Workforce that works from home	19	10%
<i>Source: 2022 American Community Survey 5-Yr Estimates</i>		

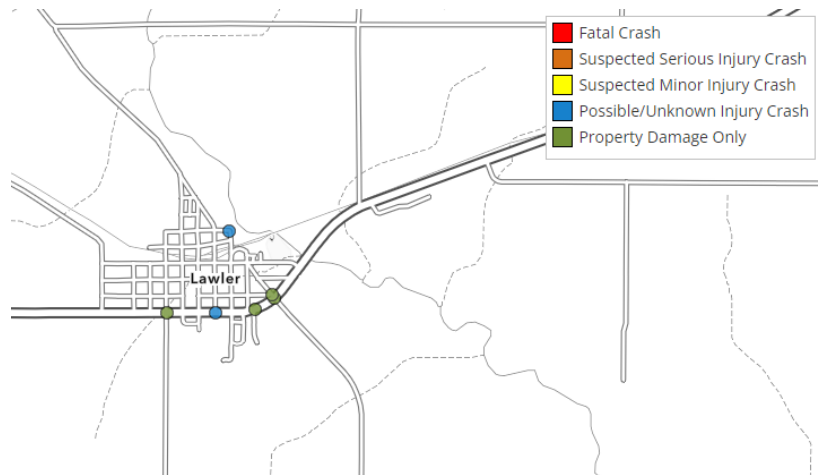
Table 3: Employment Industry Data (2022)		
City of Lawler		
Workforce Industry	# of Workers	% of Workforce
Workforce	201	100%
Agriculture, forestry, fishing and hunting, and mining	15	8%
Construction	43	21%
Manufacturing	29	14%
Wholesale trade	5	3%
Retail trade	20	10%
Transportation -warehousing, utilities	9	5%
Information	0	0%
Finance and insurance, and real estate and rental and leasing	3	2%
Professional, scientific, and management, and administrative and waste management services	17	9%
Educational services, and health care and social assistance	36	18%
Arts, entertainment, and recreation, and accommodation and food services	5	3%
Other services, except public administration	11	6%
Public administration	8	4%
<i>Source: 2022 American Community Survey 5-Yr Estimates</i>		

Highway Traffic and Crash Data

Based on Iowa DOT crash data, between 2019 and 2023 there have been 6 incidents. No fatalities or casualties were reported. However, there was \$39,300 in property damage from 4 of these crashes.

Table 4: Vehicle Crash Data from 2019-2023	
Total Crashes	6
Crash Severity	
Fatal	0
Suspected Serious Injury	0
Suspected Minor Injury	0
Unknown	2
Property Damage Only	4
Property Damage Total	\$39,300
<i>Source: Iowa DOT</i>	

Figure 2: Iowa Crash Analysis for All Traffic Incidents (2019-2023)



Source: Iowa DOT

Table 5: Housing Data (2022)		
City of Lawler		
	Total	% of Occupied Units
Occupied housing units	177	100%
Housing Unit Type	Total	% of Occupied Units
1, detached	152	86%
1, attached	0	0%
Duplex (2)	3	2%
More than 2 apartments	20	11%
Mobile home or other type of housing	2	1%
Year Structure Built	Total	% of Occupied Units
2020 or later	0	0%
2010 to 2019	1	1%
2000 to 2009	11	6%
1980 to 1999	23	13%
1960 to 1979	69	39%
1940 to 1959	16	9%
1939 or earlier	57	32%
House Heating Fuel	Total	% of Occupied Units
Utility gas	101	57%
Bottled, tank, or LP gas	56	32%
Electricity	18	10%
Fuel oil, kerosene, etc.	0	0%
Coal or coke	0	0%
All other fuels	2	1%
No fuel used	0	0%
<i>Source: 2022 American Community Survey 5-Year Estimates</i>		

Housing Data

The City of Lawler has 177 occupied housing units. Nearly 86% of them are single family detaching housing. Approximately 2 housing units are mobile homes.

A large portion of the housing stock was built between the years 1960-79 (39%). About 59% of the housing stock is under 60 years old. Most homes heat their units with utility gas (57%).

Community Utility Providers

Lawler Municipal provides utility electric services. Black Hills Energy is the natural gas service provider. Windstream telephone services and broadband internet services. Residents receive water and sewer utility services from the city. Sanitation is contracted to Jendro Services.

Table 6: Utility Providers	
City of Lawler	
<i>Electric</i>	Lawler Municipal
<i>Natural Gas</i>	Black Hills Energy
<i>Telephone/Internet</i>	Windstream
<i>Cable TV</i>	Windstream
<i>Water Services</i>	City of Lawler
<i>Sewer Services</i>	City of Lawler
<i>Sanitation</i>	Jendro Contract Services

Vulnerable Assets

People

Vulnerability to hazard losses increases where there are larger concentrations of people. In towns where population density increases, the number of people that can be harmed during a hazard event (tornado, flood, etc) increases. In addition, there are segments of the population that may be more susceptible to impacts and/or harm from a hazard depending on their location within the area (ie. flood zone or near industrial plants with hazardous materials). This includes underserved or socially vulnerable populations.

Vulnerable Age Groups

Both younger and older aged groups are likely to require assistance with physically moving to shelters or finding safety. Elderly residents may not have a personal vehicle to move away from a hazard quickly. Cognitive impairments among older adults may cause some to get easily confused.

Households Facing Poverty or With Limited Income

Families or older adults living at, near, or below poverty are more likely to be impacted by hazards than other households with higher incomes. The costly repairs from a tornado or deracho for a low income household is the reason why they may be more adversely affected than another household that has the same damage but may be able to afford the repairs without much change to their lifestyles or needs. That disparity is also different during extreme weather events such as a heat wave. Low income households who may not be able to afford the electricity

have to turn off air conditioning and many may face complications that involve heat stroke, fatigue, or death due to their age (infants or the infirm) and health conditions (obesity, heart conditions, diabetes).

Lawler's Vulnerable Populations

In Lawler, 16% of occupied households are below the poverty level. About 43% of occupied households have elderly occupants (60 years and over). About 57% have elderly residents (65 years and over) living alone. Most (91%) residents have access to a vehicle but 9% do not. Nearly 27% of households have a person living with a disability. This is broadly defined from the data estimates for Lawler but note that persons with mobility disabilities or severe intellectual disabilities with dependent needs are the most at risk to hazard events when they occur without much warning.

Manufactured homes are unsafe in a tornado. Fatality rates are significantly higher than sturdy buildings. An alternative shelter should be identified prior to a tornado watch or warning. There are 1 or 2 mobile homes estimated in North Washington. With an average household size of 2.3 persons, that puts potentially 4-5 people at a greater fatality risk than others based on their housing type.

Critical Facilities

Identifying structures that may be affected from a hazard event and also serve a critical function for the community are shown in the table on the following page.

The City of Lawler has a municipal water system with a 50,000-gallon storage capacity. The community's water is taken from two local wells, and supplies water to approximately 250 users. The system has an average use of approximately 42,000 gallons per day with a peak demand of 48,000 gallons. It provides water for fire protection within the City of Lawler and surrounding rural areas. The City of Lawler's wastewater is treated through a lagoon stem.

These treatment lagoons are located northeast of the City on the opposite side of Crane Creek. Treated water is then drained into Crane Creek, a process that is allowed only by permit. According to the City, the existing system can handle a population of approximately 700 persons. The 2020 Census showed that Lawler had a population of 406 people.

In the next 20 years, Lawler is likely to see small population changes and the existing water plant and wastewater treatment lagoons have capacity to manage existing demands or steady growth.

Figure 3: Critical Facilities Map



Measuring Vulnerability to Selected Hazards

Assessing the community’s vulnerability to both tornado and flood hazards is determined with values collected from the county assessor office.

Tornado Hazard

All buildings in Lawler are prone to being damaged by a tornado. Therefore, the vulnerability of the community was determined by the assessed valuation of all buildings and dwellings on all parcels within the city’s limits.

Since 2000, there have been no recent tornados recorded in or around Lawler. In 1984 and 1989, two EF 1 tornado events occurred each year causing \$250,000 and \$25,000 in property damage for the tornado in 1984 and 1989, respectively.

Lawler’s vulnerability to a tornado hazard is determined with a summation of all structures susceptible to damage from a tornado. There are 303 parcels in Lawler and all buildings and dwellings in Lawler have a summation in value of \$14,768,300. The City of Lawler’s vulnerability from a

tornado is measured as the potential property loss totaling \$14,768,300 (in 2023 dollars).

Flood Hazard

The potential property losses of structures prone to flooding was calculated using the effective flood insurance rate map (FIRM) flood hazard zones for a 100-year (1%) annual chance flood.

In Figure 4, the flood plain map shows the 1% annual chance of flooding in and around the City of Lawler. The river basin is depicted in the topography shown on the map.

There are 32 parcels affected by the 1% annual chance flood hazard. This hazardous zone covers 8.5% of the city’s total number of parcels. The assessed value of all structures on those affected parcels is \$1,263,100 in 2023 dollars. Therefore, the value of potential losses from a 100 year flood (1% annual chance) in Lawler is \$1,263,100.

Table 7: Valuation of All Parcels in City of Lawler (2023)

Percent of City at Risk to a Tornado	100%
# of Parcels	303
Total Value in 2023 (Structures and Dwellings)	\$14,768,300

Source: Chickasaw County Assessor’s Office

Table 8: Potential Property Losses from the 1% Annual Chance Flood

Percent of City Affected by 1% Annual Chance Flood	8.5%
# of Affected Parcels	32
Total Assessed Value of Buildings and Dwellings on Affected Parcels in 2023	\$1,263,100

Source: Chickasaw County Assessor’s Office

Figure 4: Flood Plain Map

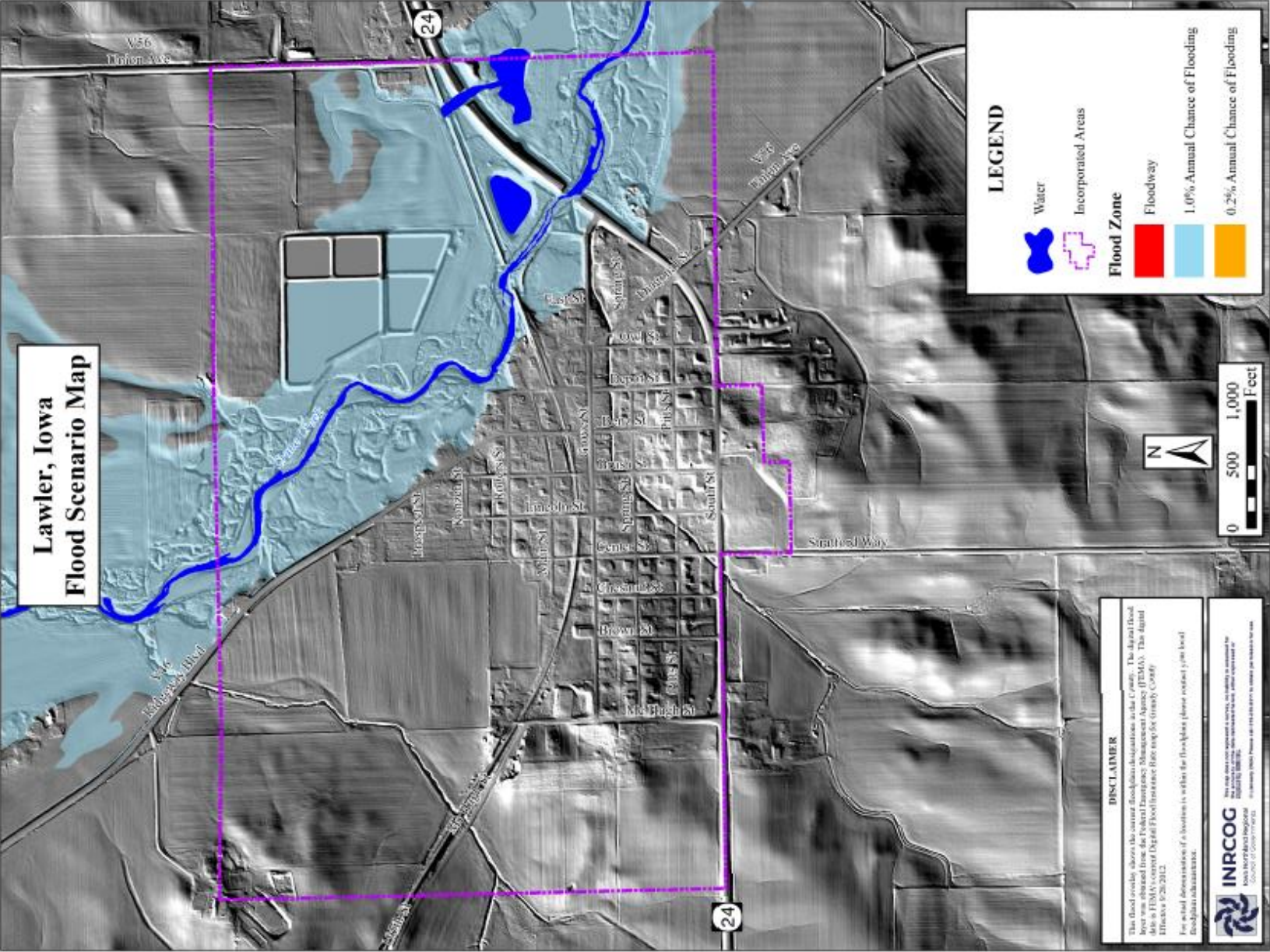
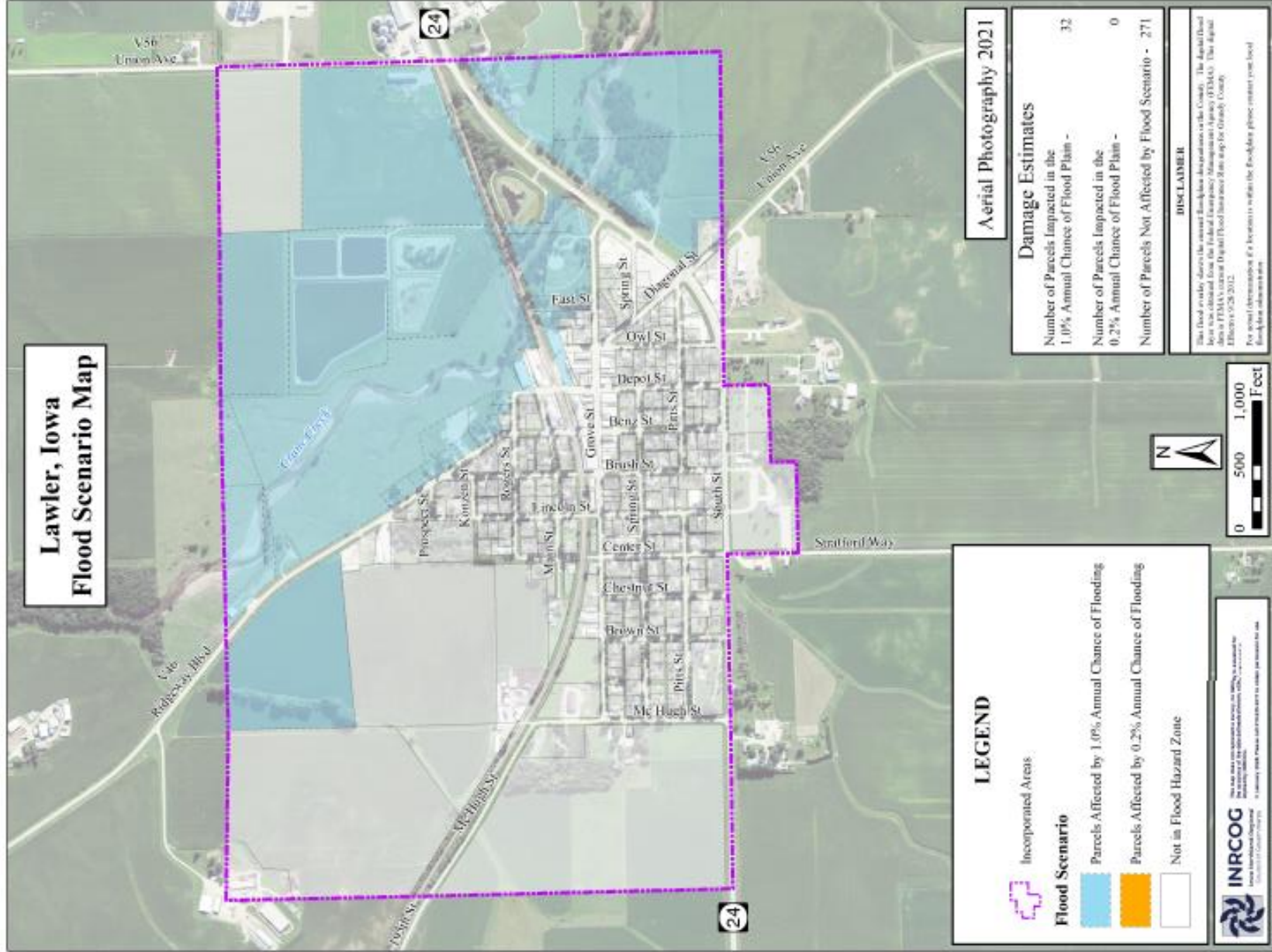


Figure 5: Flood Scenario Map



Future Development

Recent updates in Title 44 CFR §201.6 (c) (2) (i) require this risk assessment include a section with future conditions on the type, location, and range of anticipated intensities of natural hazards.

Long term trends of climate patterns for the region were summarized in the Fourth National Climate Assessment Midwest Section.¹ The National Climate Report is mandated to be updated every 4 years and deliver results to Congress and President on the effects to agriculture, energy productions, land use, transportation, and human health.

Yearly precipitation levels and annual average temperatures offer insights into future conditions of our climate system.

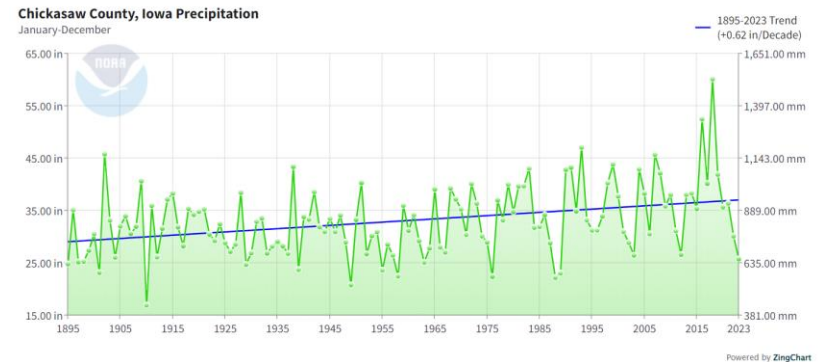
Annual Precipitation Levels in Chickasaw County

Taking the monthly precipitation records from January to December between 1895 and 2023 is shown in Figure 6. The values hover between 25 - 35 inches of precipitation levels recorded. The average precipitation level for the year is plotted and a linear trend of those values is shown in Figure 7. The trend shows a growing level of annual precipitation on average of 0.62 in more than the decade before. Based on

¹ USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.

this historical trend, precipitation is likely to continue to increase in the coming years.

Figure 6: Historical Precipitation Data and Trend for Chickasaw County, Iowa²

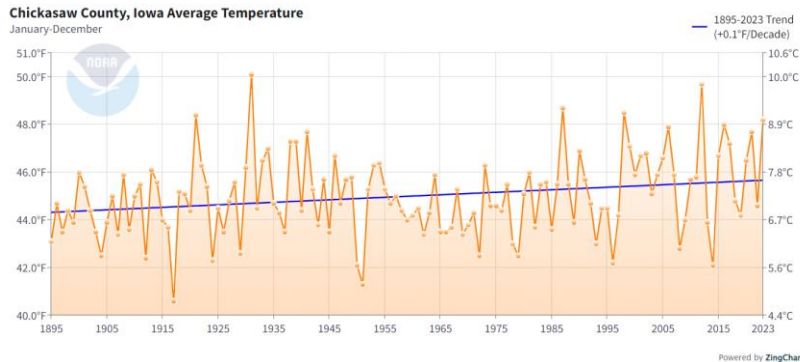


Average Annual Temperatures in Chickasaw County

The monthly average temperature is plotted over a 12-month period from 1885 to 2023 in Figure 7. The annual average temperature is also shown with a linear trend in Figure 7. This trend shows the average temperature in Chickasaw County increasing at a rate of +0.1° F every 10 years.

² NOAA National Centers for Environmental information, Climate at a Glance: County Time Series, published February 2024, retrieved on April 15, 2024 from <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series>

Figure 7: Historical Temperature Data and Trend for Chickasaw County, Iowa²



Climate Patterns from Increasing Precipitation and Higher Temperatures

Drought

The relationship between increasing precipitation, temperature, and drought is complex, and often counterintuitive at first thinking about it. While increasing precipitation may seem like it would mitigate drought conditions, higher temperatures can exacerbate the situation in several ways:

- Evapotranspiration: Higher temperatures lead to increased evaporation rates from soil, bodies of water, and plants. This means that even if there is more precipitation, it may quickly be evaporated before it can effectively replenish soil moisture or water sources.
- Changes in precipitation patterns: Increasing temperatures can alter precipitation patterns, leading

to more intense rainfall events but also longer periods of drought between these events. This pattern can result in rapid runoff and soil erosion during heavy rain, followed by extended dry periods that contribute to drought conditions.

Overall, while increasing precipitation may provide temporary relief from drought, the combined effects of rising temperatures can outweigh this benefit, leading to more frequent and severe drought events in certain regions.

Pest Infestation

With more humidity, the daily minimum temperature may increase across all seasons. Warming winters can increase the survival and reproduction of existing insect pests which allow new insect pests and crop pathogens to move into the Midwest region.

Extreme Heat Domes

A heat dome is a weather phenomenon characterized by a high-pressure system that traps hot air beneath it, leading to prolonged periods of extremely high temperatures and often causing heatwaves. Extreme heat events during the summers may occur with more frequency in the Midwest.

The human impacts of extreme heat affect socially and economically vulnerable populations the most. The higher costs of energy during heat waves disproportionately impact cost-burdened households. Heat related illness may be more severe among infants, elderly populations, and those with chronic health conditions.

Projected Trends of Natural Hazards in Chickasaw County

- Prologued drought is probably as the atmosphere holds more moisture (even pulling moisture from plants) as the temperature increases. Longer periods between weather events means there are dryer and longer periods in between these events.
- Floods (flash or major types) will increase in intensity as the atmosphere holds more moisture to drive stronger storms and drop heavier rainfall over a shorter period during an event.
- Extreme heat may occur more frequently. The human health impacts are higher among socially vulnerable populations (the elderly, infants, those with chronic health issues, cost burdened households).
- Agricultural pests and pathogens may increase in growing plants and stored grain. Warming temperatures in the spring and summer have led to rising humidity. Higher dew and moisture conditions may increase the presence of these pests or crop diseases.

National Flood Insurance Program

The City of Lawler participates in the National Flood Insurance Program. The current effective map date is Sept. 28, 2012. No baseline elevations were determined for the flood hazard zones in the latest FIRM map.

Lawler has 2 policies. Those policies provide \$149,000 in coverage. There have been 2 claims for losses that had a net payout of \$9,000.

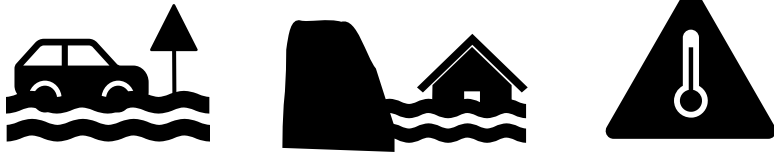
FEMA defines a repetitive loss property as an insurable building that has experienced two losses in a 10-year period in which each loss is \$1,000 or more. Lawler has 2 repetitive loss properties. The address of those properties is known to the City and not shown in this report due to privacy. However, the City will incorporate those properties in future considerations for flood mitigation activities.

Table 9: National Flood Insurance Program Information	
Community Name	City of North Washington
NFIP Participant (Yes/No)	Yes
Designee / Agency to implement NFIP Requirements	City Clerk
Participant in CRS (Yes/No)	No
Current Effective Map Date	September 28, 2012 (M)
Regular-Emergency Program Entry Date	August 1, 1986
Total Policy Count	2
Total Coverage	\$149,000
Total Losses	2
Total Net Dollars Paid	\$8,999
<i>(M) = No flood elevations determined - All Zone A, C, and X</i>	
Source: Source: FEMA National Flood Insurance Program, Data and Analytics, HUDEX Report. https://nfipservices.floodsmart.gov/reports-flood-insurance-data	

Hazard Risk Assessment

The top three hazards from the risk assessment are:

1. Flash Flooding
2. Levee/ Dam Failure
3. Extreme Heat



Methodology

This risk assessment identifies how people, property, and structures would be harmed or damaged by one of the listed hazard events. Iowa Homeland Security and Emergency Management Department (Iowa H.E.S.M.D.) provided the hazard risk score formula for determining the level of risk used in this analysis.

Risks to a hazard event may differ across geographical locations or even differ based on certain times of year. For example, tornado season in Iowa is usually in May and tornados have the highest risk during this time due to change in weather patterns from the western and central Gulf of Mexico causing higher chances of extreme weather.

For this analysis, four hazard risk factors are rated on a scale between 1 and 4 by committee participants after reviewing profiles of each hazard with the planning coordinator. Information was shared with the committee which described the hazard, historical occurrences, impact, duration, and

warning time. Participants used this information to strengthen their understanding to rate each hazard factor.

Hazard Risk Score Formula

$$\begin{aligned}
 &[\text{Probability}] \times 45\% + [\text{Magnitude or Severity}] \times 30\% \\
 &+ [\text{Warning Time}] \times 15\% + [\text{Duration}] \times 10\% \\
 &= \text{Final Hazard Assessment}
 \end{aligned}$$

Source: Provided by Iowa H.S.E.M.D.

Hazard scores were collected during the 2nd county committee meeting. INRCOG planners calculated the hazard risk score for each hazard based on the formula in this section. Results for North Washington are on page 21.

The factors in the hazard risk calculation are defined and the score values for each part is summarized in the following sections:

Score Value vs. Hazard Risk Level	Description of hazard with this rating
Scores with a value closer to 1: <u>Low risk hazard</u>	Hazard is not likely to affect people or property because the likelihood is minimal.
Scores with a value closer to 4: <u>High risk hazard</u>	The hazard has historically occurred and may have significant impacts to people and property.

Probability

The probability score reflects the likelihood of the hazard occurring in the near future. Historical data of the hazard event occurring in Chickasaw County or Iowa informed the likelihood of future occurrence.

Probability Score Definitions		
Score	Description	
1	Unlikely	<i>Less than 10%</i> probability in any given year (up to 1 in 10 chance of occurring), a history of events is less than 10% likely or the event is unlikely but there is a possibility of its occurrence.
2	Occasional	<i>Between 10% and 20%</i> probability in any given year (up to 1 in 5 chance of occurring), history of events is greater than 10% but less than 20% or the event could possibly occur.
3	Likely	<i>Between 20% and 33%</i> probability in any given year (up to 1 in 3 chance of occurring), history of events if greater than 20% but less than 33% or the event is likely to occur.
4	Highly Likely	<i>More than 33%</i> probability in any given year (event has up to a 1 in 1 chance of occurring), history of events is greater than 33% likely or the event is highly likely to occur.

Magnitude or Severity

The magnitude or severity of the hazard event is measured by the level of impact on the human environment. Property damage is assessed by the whole planning area.

Magnitude or Severity Score Definitions		
Score	Description	
1	Negligible	Less than 10% of property severely damaged, the shutdown of facilities and services for less than 24 hours, and/or injuries/illnesses treatable with first aid
2	Limited	10% to 25% of property severely damaged, shutdown of facilities and service for more than a week, and/or injuries/illnesses that do not result in permanent disability.
3	Critical	25% to 50% of property severely damaged, shutdown of facilities and services for at least two weeks, and/or injuries/illnesses that result in permanent disability.
4	Catastrophic	More than 50% of property severely damaged, shutdown of facilities and services for more than 30 days, and/or multiple deaths.

Warning Time

This should be taken as an anticipated warning time.

The warning time score assesses the ability to warn a population before the hazard occurs. The values of the score range from 1 (at least 24 hours) to 4 (minimal or no warning time).

For many of the climate hazards, there is a considerable amount of warning time as opposed to the human-caused hazards (transportation and hazardous materials incidents) that occur instantaneously or without any significant warning time.

Warning Time Score Definitions		
Score	Description	
1	Forecasted	More than 24 hours warning time.
2	Likely	12 to 24 hours warning time.
3	High Chance	6 to 12 hours warning time
4	Imminent	Minimal or no warning time (up to 6 hours warning)

Duration

The duration is the time of a typical or expected hazard event to occur. For an earthquake or traffic accident that is a score of 1. For infrastructure failure, it is likely a 4.

Table 6 displays rated risk scores for each associated hazard. This assessment was completed by city representatives based on hazard profiles prepared for the planning committee.

Duration Score Definitions	
Score	Description
1	Less than 6 hours
2	Less than 1 day
3	Less than 1 week
4	More than 1 week

Table 10: Hazard Risk Assessment					
Hazards	Probability	Magnitude	Warning Time	Duration	Score
Flooding - Flash	3	3	4	2	3.1
Levee/Dam Failure	2	3	4	4	2.8
Extreme Heat	3	2	1	4	2.5
Severe Winter Storm	3	2	1	3	2.4
Flooding - Riverine	2	2	2	4	2.2
Thunderstorm/ Lighting/ Hail	3	2	1	1	2.2
Tornado/Windstorm	3	2	1	1	2.2
Drought	2	2	1	4	2.1
Hazardous Materials	1	2	4	4	2.1
Earthquake	1	1	1	1	1.0
Expansive Soils	1	1	1	1	1.0
Grass/Wildland Fire	1	1	1	1	1.0
Landslide	1	1	1	1	1.0
Sinkholes	1	1	1	1	1.0
Animal/ Crop/ Plant Disease	1	1	1	1	1.0
Pandemic/ Endemic Human Disease	1	1	1	1	1.0
Infrastructure Failure	1	1	1	1	1.0
Radiological	1	1	1	1	1.0
Terrorism	1	1	1	1	1.0
Transportation Incidents	1	1	1	1	1.0

Source: Completed by City Representative. Calculated score completed by INRCOG

Hazard Mitigation Goals

for Hazard Mitigation in Lawler, Iowa

The following list of goals was developed by planning committee participants from the associated jurisdiction. Goals 1 through 7 were developed in the previous 2019 Chickasaw County Multi-Jurisdictional Hazard Mitigation Plan. The planning committee participants chose to adopt the same goals and add additional goals. Goals 8 through 11 were developed by planning committee members of which Lawler representatives provided the components that developed this Plan and Implementation Strategy.

Goal #1 Reduce the chance of and impact of flooding in the community.

Goal #2 Take measures to minimize the occurrence of injuries and loss of life due to hazards.

Goal #3 Take measures to minimize or eliminate damage that may occur as a result of hazards.

Goal #4 Increase the city's ability to respond to natural disasters and man-made hazards.

Goal #5 Return to the community to similar or improved pre-event conditions as quickly as possible following a disaster event.

Goal #6 Incorporate the City Plan into the proposed Multi-Jurisdictional Plan.

Goal #7 Continually re-assess and re-evaluate the plan and mitigation activities.

Goal #8 Create a hazard mitigation strategy for flood plain properties.

Goal #9 Enhance local transportation safety by installing or replacing railroad crossing systems/signage in Lawler.

Goal #10 Enhance the safety of Lawler residents with a modern warning system, including updated tornado sirens and register for Alert Iowa notifications through the online registration portals.

Goal #11 Ensure safe construction of all buildings in Lawler by adopting State Building Codes per Iowa Code Chapter 103A as the local construction standards for all building improvements: newly constructed, renovated, repaired work that may need a permit.

Goal #12 Ensure mutual aid agreements for all emergency response services are renewed and up to date.

Previous Mitigation Activities by Type

Mitigation actions and activities in this Plan will be organized according to these 5 categories.

Emergency Services in Alta Vista

Chickasaw County Emergency Management Agency

Lawler works with the Chickasaw County Emergency Management Coordinator, based out of the City of New Hampton, on various safety and emergency events. The Emergency Management Coordinator works in conjunction with local fire, rescue, police, and government officials to draft and implement workable emergency action plans in the community. The Chickasaw County Emergency Management Coordinator is Jeff Bernatz.

Law Enforcement

The community has a 28E agreement in place with Chickasaw County Sheriff's Department that will provide law enforcement services. Services include patrol in the city. The sheriff deputies provide a response time to the city up to 30 minutes and will provide extra people power when notified by the city.

Fire Protection and EMS Services

Fire protection is provided by Lawler's Fire Department located at 302 E. Grove Street in Lawler, Iowa. There are 16 volunteer firefighters that have fire, first response, HAZMAT, and emergency management training.

Equipment used by the Lawler Fire Department include the following:

- 1975 Ambulance
- 1982 Chevy Truck/Grass Buggy
- 1985 Chevy Blazer
- 1995 Ford/Central States Pumper
- 2007 Fouts Tanker with Pump
- 2016 Peirce Tanker with Pump
- 2001 Ford F350 Grass Buggy

EMS Services

Chickasaw Ambulance Service provides ambulance service to area hospitals. Chickasaw Ambulance Service is a private company that contracts service with local entities. The company is based out of New Hampton, approximately 14 miles southeast of Lawler.

Chickasaw County Rescue Squad also provides service in Lawler. There are 42 EMT certified individuals who volunteer to respond to emergency calls on a needed basis in the county.

Medical Facilities

There are no medical facilities in Lawler. The closest facility is the MercyOne New Hampton Medical Center in New Hampton, IA. This is the only medical facility with an ER unit located in the county. MercyOne has 11 private inpatient rooms and cares for over 20,000 outpatients each year.

MercyOne New Hampton offers a full range of services in an inpatient and outpatient setting as well as 24-hour

emergency care, surgical services, primary care clinic, therapy and rehabilitation, diagnostic services, speech and occupational therapy, Senior Life Solutions and specialty clinics.

HAZMAT Response Teams

Lawler contracts with Northeast Iowa Response Group for response to hazardous material spills. The Northeast Iowa Response Group is a division of Waterloo Fire Rescue as is the Hazardous Materials Regional Training Center. The Training Center provides training to fire departments and companies from around the state and country. Not only is this a training center, but it also serves as a hazardous materials quick response unit to Black Hawk County, surrounding counties, and many municipalities in a ten county region. The Unit provides local fire departments with hazard materials emergency procedures thus reducing additional contamination. An evacuation plan is also in place in conjunction with the activities of the local department. Contact information for the facility is as follows: Hazardous Materials Regional Training Center, 1925 Newell Street, Waterloo, Iowa 50707, Phone: (319) 291-4275, Toll Free: (800) 291-4682, Fax: (319) 291-4285

The jurisdiction also partners with the Northeast Iowa Response Group for assistance in responding to any methamphetamine labs located in the city limits. The Response Group assists the Police Departments in containment of the site and disposal of hazardous chemicals.

Warning Systems in Lawler

1. *Tornado Sirens*

The outdoor early warning system consists of one siren that is activated either by the Sheriff's Department or the Emergency Management Office. The existing siren was installed in 2011 and has a battery backup.

2. *NOAA Weather Radio* broadcasts are also available in the community. NOAA Radio's provide up to the minute weather related alerts. Other locations that warnings and watches can be found are television, Internet, and radio.

3. *AlertIowa notification system*

AlertIowa is a mass emergency notifications system for all residents through an online registration process. Chickasaw County's Alert Iowa system is managed by the Chickasaw County Emergency Management Agency. The County will use their emergency notification network for all of the following events: blizzards, flash flooding, severe thunderstorms, and tornadoes.

Previous Education and Outreach Projects in Lawler

The City of Lawler provides annual training for fire department personnel, law enforcement personnel, and ambulance crews to address all hazards.

Lawler developed a NOAA weather radio awareness program, tree inspection and trimming program for dead Ash trees from EAB infestation in 2014,

Previous Natural Resource Protection in Lawler

The City of Lawler is regularly impacted by flood events, which have resulted in property damage and the loss of a bridge. The City established a levee on the eastern edge of town designed to keep the Crane Creek within its banks and protect the local park on that side of the community. Sandbagging has also been successful in preventing major flooding from Crane Creek.

Previous Structural Projects in Lawler

The City completed the installation of improved warning equipment at railroad crossings.

Local Plans and Regulations in Lawler

Lawler completed a local plan and regulation assessment. The results are shown in the table below.

Table 11: Local Capability Assessment	
Community	City of Lawler
Previous HMP Participant?	Yes
Comprehensive Plan?	No
Building Code?	No
Zoning Ordinance? RR=restricted residential	No
Subdivision Regulations?	No
Floodplain Management Ordinance?	Yes
Tree-Trimming Ordinance?	No
Storm Water Ordinance?	No
Snow Removal Ordinance?	No

Components of the Implementation Strategy

Presented below are tables prepared in consultation with the Lawler’s planning committee’s representative and INRCOG. This is a guide for a strategic approach when implementing the city’s efforts in hazard mitigation. The tasks in these tables are drawn from the city’s capabilities, goals, and hazard risks presented in previous sections of this Plan.

The designated agency or staff presented with each line item was written by Lawler’s planning committee.

Notes about the tasks (listed as line items) in each table.

- Each task (line item) stands on its own so it can be completed whenever possible.
- Each action item is not limited to the details presented below and may change based on future conditions.
- The tasks were categorized based on mitigation type. The mitigation types are not shown in any order (no priority over the other). This is presented to help with the general understanding of how hazard mitigation may feed into the City’s existing or future priorities.

Priority Level

The priority level was informed through discussions among planning committee members who considered potential benefits of implementing the activity, some hurdles that the city may face in implementing the action step, and the drawbacks of implementation. *Committee representatives considered a cost-benefit approach.*

Timeframe

Timeframe	Description
Immediate	1-6 months
Short Term	1-3 years
Mid-Term	3-5 Years
Long-Term	More than 5 Years

Estimated Costs

Cost estimates are based on the associated costs of additional staffing that may or may not be needed, time for planning/meetings/coordinating, and cost of the proposed action/program/ project.

Cost	Estimated Cost Range
Minimal	Less than \$10,000
Low	\$10K to \$99K
Moderate	\$100K to \$299K
High	Greater than \$300K

Implementation Guides (by Mitigation Type) for Hazard Mitigation Activities in Lawler

Table 12: 'Education and Awareness' Type Mitigation Activities						
Description: These types of actions keep residents informed about potential natural disasters.						
Priority	Tasks	Hazard(s)	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
Low	Distribute a monthly newsletter to Lawler residents for better communication and outreach.	All	City Clerk	Immediate: 1 month - 6 months	Minimal 0-\$10K	City general fund
Low	Get residents to register on Alert Iowa with outreach and education initiatives	Tornado	City Council	Immediate 1 - 6 months	Minimal 0-\$10K	County EMA, City General Fund
Medium	Ensure proper training and certification of floodplain manager	River flooding, flash flooding	City Clerk	Short Term 1-3 years	Minimal 0-\$10K	County EMA, City General Fund

Table 13: 'Emergency Services' Type Mitigation Activities						
Description: Actions that protect people and property during and immediately after a disaster or hazard event.						
Priority	Tasks	Hazard(s)	Primary Agency Responsible for Implementation	Time Frame to Complete	Estimated Cost (s)	Funding Source
High	Submit an application to receive grant funds to purchase new siren	Tornado	City Council	Short term 1-3 years	Low \$10K -\$99K	Hazard Mitigation Grant Program
High	Work with County to adopt the mutual aid agreements for Lawler's Fire Response Services	Wild/grass fire	Fire Dept, EMA	Immediate 1 month -6 months	Medium \$100K-\$300K	City general fund

Table 14: Structure and Infrastructure Project Type Mitigation Activities

Description: Actions that either modify existing buildings or structures to protect them from a hazard, or removal from the hazard area.

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete Action	Estimated Cost(s) to Implement	Funding Source
Medium	Prioritize dilapidated housing that poses the greatest threat to health, safety, and welfare and pursue one property acquisition through 657A	Infrastructure failure, Tornado/ Windstorms, Thunderstorms with Strong Hail, Winter storm	City council	Long Term 5-10 years	High \$300K +	City general fund, CBDG funding, Revitalization grants, USDA rural development programs, Iowa Nuisance Property & Abandoned Building Remediation Loan Program
Medium	Perform upkeep services for new railroad crossing improvements	Transportation Incidents	City Council	Moderate 3-5 years	High \$300K +	City general fund
Low	Widen and clear the southwest drainage channel of Crane Creek and widen Bush Street culver	Riverine Flooding, Flash Flooding	City Council	Long Term 5-10 years	High \$300K +	City general fund

Table 15: Local Plans and Regulations Mitigation Activities

Description: Actions by administrative or regulatory processes which direct how land and buildings are developed and built. These actions include regulations by public entities to reduce hazard losses.

Priority	Action/Activity	Hazard(s) Addressed by Action	Primary Agency Responsible for Implementation	Time Frame to Complete Action	Estimated Cost(s) to Implement	Funding Source
High	Control flooding of vulnerable low lying areas within Lawler with flood plain mitigation strategy	River flooding, flash flooding	City Council	Short term 1-3 years	High \$300K +	City general fund
Low	Create an annual fire inspection program for commercial and industrial properties	Fire, Infrastructural Failure	City Council and Lawler Fire	Short term 1-3 years	Medium \$100K - \$300K	City general fund
Medium	Work with local utility provider on how to prevent/prepare, respond, and recover from hazard events.	Windstorm/ Tornado, Thunderstorm with Heavy Hail and Lightning, Winterstorms	City Council and Lawler Municipal	Long Term 5-10 Years	High \$300K	Utility Provider