

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

| | | | | | | |
|------------------------------------|---|--|-------------------------------|----------|-----------------|-----------------------|
| H | Continue with improvement to the storm water system | Flash Flood | City Council, Staff | On-Going | Low to Moderate | Local, State |
| H | Prevent inflow and infiltration into the sanitary sewer | Flash Flood, River Flood | City Council, Fire Department | On-Going | Minimal | Local |
| H | Purchase emergency signs to be used in case of an incident | Transportation | City Council | On-Going | Minimal | Local |
| H | Encourage floodproofing/elevating structures in the floodplain | River Flood | City Council, Staff | On-Going | Minimal | Local |
| H | Encourage construction of dikes, levees, dams, and retention ponds | River Flood | City Council, Police | On-Going | Minimal | Local |
| H | Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | River Flood | City Council, Staff | On-Going | Minimal | Local |
| H | Dig drainage ditch to west side of town, to river | River Flood | City Council | On-Going | Minimal | Local |
| H | Regularly inspect dams | Dam Failure | City Council | On-Going | Minimal | Local |
| H | Regularly inspect levees | Levee Failure | City Council | On-Going | Minimal | Local |
| H | Establish backup plan in case levees fail | Levee Failure | City Council | On-Going | Minimal | Local |
| M | Maintain a list of potential storm sewer projects | Thunderstorm/Lightning | City Council, Staff | On-Going | Minimal | Local |
| M | Continue an annual inspection program for commercial and industrial properties | Fire | City Council | On-Going | Low to Moderate | Local, State |
| M | Encourage the use of proper materials and construction techniques | Expansive Soils | City Council, Staff | On-Going | Minimal to Low | Local |
| M | Install tiling to help water move away from structures | Expansive Soils | Public Works | On-Going | Minimal to Low | Local |
| L | Install rip rap around wastewater treatment facility | Flash Flood | Fire Department | On-Going | Minimal | Local |
| Natural Resource Protection | | | | | | |
| H | Maintain and/or develop a wellhead protection program | Groundwater Contamination | City Council, Staff | On-Going | Low | Local |
| H | Monitor wells in areas of identified contamination | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Monitor the drinking water supply | Groundwater Contamination, Disease | City Council, Public Works | On-Going | Low | Local |
| H | Identify and map areas of past contamination | Groundwater Contamination | City Council, City Staff | On-Going | Minimal | Local |
| H | Maintain and/or develop storm water management program | Groundwater Contamination, Flash Flood | City Council, Staff | On-Going | Low | Local |
| H | Eliminate and cap private and abandoned wells in the city | Groundwater Contamination | City Council, Public Works | On-Going | Low | Local |
| H | Eliminate the use of septic tank systems in the city limits | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Follow monitoring requirements set forth by the Iowa DNR | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Groundwater Contamination | City Council | On-Going | Low | Local, State, Federal |
| H | Restrict water usage should it be necessary | Drought | City Council | On-Going | Minimal | Local, State |
| H | Purchase additional parkland in order to increase greens space and reducing surface flow | River Flood | City Council | On-Going | Moderate | Local |
| M | Maintain tree trimming program | Severe Winter Storm, | City Council | On-Going | Low | Local |

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| | | | | | | |
|---|--|----------------------|--------------|----------|----------------|--------------|
| | | Windstorm, Hailstorm | | | | |
| M | Encourage community to plant shade trees | Extreme Heat | City Council | On-Going | Minimal | Local |
| M | Plant trees along water bodies and slopes | Landslides/Mudflows | City Council | On-Going | Minimal to Low | Local, State |
| M | Clear ditches, streams, and waterways on a regular basis | River Flood | City Council | On-Going | Minimal to Low | Local, State |

APPENDIX E: CITY OF READLYN

COMMUNITY PROFILE

Geography

Readlyn is located in southeast Bremer County, in the northeastern quadrant of Iowa, at latitude 42.70 N x longitude 92.23 W. Elevations in Readlyn range from between 1,020 and 1,040 feet above sea level. The Wapsipinicon River runs to the east of the city, which is served by two major highways, State Highway 3 and County Highway V49.

The terrain, on which Readlyn is built, is generally the undulating topography that characterizes the agricultural areas of northeast Iowa. Most of the community is actually very similar, with very few areas of natural slope. The highest point in the community lies at approximately 1,040 feet above sea level and is located in the northern half of town.

History

The earliest non-American Indians to settle in the Readlyn area arrived in the early 1900's. Around this time, the Ohlendorf family emigrated from Germany, and settled on the prairie in the Maxfield Township.

It wasn't long before the rail would impact the young settlement. In 1903 a representative of Great Western Railroad inquired about buying land to build a station on the rail line between Waverly and Oelwein. In the following year Readlyn experienced several significant developments. In March of 1904 the first lots in the community were sold. In this same year, Readlyn was incorporated, and saw the construction of a creamery, meat market, and post office.

| TABLE E1: CITY OF READLYN DEMOGRAPHICS | |
|---|----------------------|
| <i>Government Framework</i> | Mayor – City Council |
| <i>General Population, 2010 Census</i> | |
| Total Population | 808 |
| Median Age | 37.8 |
| At-Risk Population, <18 Years | 227 |
| At-Risk Population, >64 Years | 135 |
| Total Males | 388 |
| Total Females | 420 |
| <i>Housing Characteristics, 2010 Census</i> | |
| Total Households | 338 |
| Households with children <18 Yrs. | 115 |
| Households with persons >65 Yrs. | 102 |
| Average Household Size | 2.39 |
| Average Family Size | 3.01 |
| Total Housing Units | 346 |
| Occupied Housing Units | 338 |
| Vacant Housing Units | 8 |
| Owner-Occupied Housing Units | 292 |
| Renter-Occupied Housing Units | 46 |
| Persons Living in Group Quarters | 0 |

By 1910 the City of Readlyn had reached a population of 100. Shortly thereafter, in 1912, fire destroyed a large part of the business district. The following year the city elected twelve citizens to be volunteer firemen, and voted to establish city water works.

During the 1930’s and 1940’s Readlyn again experienced significant developments within the community. In 1932 water mains were extended throughout various parts of the town. A new high school was built in 1935 to house both grade school and high school students. And in 1947 a new well was drilled to supply water to the residents of Readlyn. By the early 1950’s the community’s roads were blacktopped and the Readlyn Community Building was completed.

Readlyn’s modern history consists of several additions to the community. The first addition came in 1959 with the Meier addition, and the most recent in 1981 with the Fettkether addition.

Demographics

Population

Readlyn’s demographic data is outlined in Tables E1 and E2. In the recent 2010 U.S. Census, Readlyn’s population grew to 808, an increase of 2.8% percent over ten years. The previous U.S. Census, taken in 2000, recorded a population figure of 786 for Readlyn.

Community Services

The City of Readlyn has a municipal water supply with an elevated storage capacity of 150,000 gallons with an average daily water consumption of 95,000 gallons per day (gpd). The rated capacity of the overall system is 300,000 gpd. The peak demand is 196,000 gpd.

A primary sewer treatment plant serves Readlyn. Average load is 85,000 (gpd) with a peak load of 263,000 (gpd). The rated capacity of the sewer treatment plant is 172,000 gpd and is likely in need of expansion. The DNR noted that the city has had problems with wastewater bypassing the treatment facility because of the lack of capacity. The problems are especially apparent during heavy rainfall events, where storm water infiltrates into the sanitary sewer system. The city is working with their engineers and the DNR on the wastewater permit process and finding feasible solutions to address the problem.

| TABLE E2: CITY OF READLYN DEMOGRAPHICS | |
|--|----------|
| <i>Economics Characteristics, 2010-2014 ACS</i> | |
| Population 16 years and over | 662 |
| Population In Labor Force (16 years and over) | 475 |
| Persons Employed | 468 |
| Persons Unemployed | 7 |
| Persons Employed in Management, Business, Science, and Arts Occupations | 110 |
| Persons Employed in Service Occupations | 47 |
| Persons Employed in Sales and Office Occupations | 142 |
| Persons Employed in Natural Resources, Construction, and Maintenance Occupations | 83 |
| Persons Employed in Production, Transportation, and Material Moving Occupations | 86 |
| Median Household Income | \$57,438 |
| Mean Household Income | \$64,770 |
| Percent of Persons < 18 yrs. Below Poverty Level | 3.6% |
| Percent of Persons 18-64 Yrs. Below Poverty Level | 1.6% |
| Percent of Persons >65 Yrs. Below Poverty Level | 14.2% |
| <i>Social Characteristics, 2010-2014 ACS</i> | |
| School Enrollment (3 yrs and over) | 230 |
| Nursery School, Preschool | 24 |
| Kindergarten and Elementary School (grades 1-8) | 88 |
| High School (grades 9-12) | 45 |
| College or Graduate School | 43 |
| Education Attainment: Population 25 Years and Over | 557 |
| Less than High School Graduate | 6.4% |
| High School Graduate (includes equivalency) | 37.9% |
| Some College, Associate’s Degree | 50.0% |
| Bachelor’s Degree or Higher | 17.8% |

Table E3 shows the primary utility providers for the City of Waverly.

| TABLE E3: READLYN UTILITY PROVIDERS | | | | | | |
|--|--------------------|---------------------------|-----------------------|-----------------|-----------------|----------------------------|
| Electric | Natural Gas | Telephone/Internet | Cable | Water | Sewer | Sanitation |
| City of Readlyn | Black Hills Energy | Readlyn Telephone Co. | Readlyn Telephone Co. | City of Readlyn | City of Readlyn | Tripoli-Readlyn Sanitation |

HAZARDS & RISK ASSESSMENT

Section 3 identified and profiled the hazards for the entire planning area. However, each community analyzed their own vulnerability to those hazards applicable to their jurisdiction. Using the methodology outlined in Section 3 (Vulnerability Assessment), the City of Readlyn evaluated the risk associated with a specific hazard, defined by probability and frequency of occurrence, magnitude, severity, exposures, and consequences. Readlyn’s vulnerability assessment provides in-depth knowledge of the hazards and vulnerabilities that affect the community. This analysis provides an all-hazard approach when evaluating the hazards of that affect the city, and the associated risks and impacts each hazard presents.

As mentioned previously in Section 3, the vulnerability assessment requires a five-year review with periodic updates, as needed. Potential future hazards and impacts may result from changing technology, new critical facilities, infrastructures, and development patterns, as well as demographic and socioeconomic changes that occur within or outside the area.

Disaster frequency and its effects or severity are important as a basis for planning emergency response and mitigation. Natural hazards tend to reoccur on a predictable seasonal basis, whereas manmade or technological events tend to change over time with advancement in technology and methods of operation. Five criteria were used by the Committee to assure a systematic and comprehensive approach to hazard analysis for their individual jurisdictions including: Historical Occurrence, Probability, Magnitude or Severity, Warning Time, and Duration.

The Committee assessed the defined hazards relevant to potential impact on the city. Using the scoring criteria previously defined (Tables 19-22) the city assessed each of the identified hazards based on probability, magnitude/severity, warning time, and duration. The scores for each of the factors were weighted using the formula below to develop the final hazard assessment score.

$$\begin{aligned}
 & \text{(Probability x .45) + (Magnitude/Severity x .30) + (Warning Time x .15) + (Duration x .10)} \\
 & \text{= Final Hazard Assessment Score}
 \end{aligned}$$

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Table E4 is the analysis scores for the City of Readlyn. As shown, the top hazards for Readlyn are: Flash Flood, Severe Winter Storm, Tornado/Windstorm, and Drought.

| TABLE E4: CITY OF READLYN HAZARD RISK ASSESSMENT | | | | | | |
|---|-----------------------------|--------------------|--------------------------------|-------------------------|-----------------|-------------------------|
| Hazard Rank | Hazard | Probability | Magnitude/ Severity | Warning Time | Duration | Hazard Score |
| 1 | Flash Flood | 4 | 2 | 4 | 2 | 3.20 |
| 2 | Severe Winter Storm | 4 | 2 | 2 | 3 | 3.00 |
| 3 | Tornado/Windstorm | 3 | 3 | 4 | 1 | 2.95 |
| 4 | Drought | 3 | 3 | 1 | 4 | 2.80 |
| 5 | Thunderstorm/Lightning/Hail | 3 | 2 | 3 | 2 | 2.60 |
| 6 | Extreme Heat | 3 | 2 | 1 | 3 | 2.40 |
| 6 | Infrastructure Failure | 2 | 2 | 4 | 3 | 2.40 |
| 8 | Animal/Plant/Crop Disease | 3 | 1 | 1 | 4 | 2.20 |
| 9 | Transportation Incident | 1 | 1 | 4 | 7 | 2.05 |
| 10 | River Flooding | 2 | 2 | 1 | 3 | 1.95 |
| 11 | HAZMAT Incident | 1 | 2 | 4 | 1 | 1.75 |
| 11 | Terrorism | 1 | 1 | 4 | 4 | 1.75 |
| 13 | Earthquake | 1 | 1 | 4 | 1 | 1.45 |
| 13 | Grass/Wild Land Fire | 1 | 1 | 4 | 1 | 1.45 |
| 13 | Landslide | 1 | 1 | 4 | 1 | 1.45 |
| 13 | Sinkholes | 1 | 1 | 4 | 1 | 1.45 |
| 17 | Expansive Soils | 1 | 1 | 1 | 4 | 1.30 |
| 17 | Human Disease | 1 | 1 | 1 | 4 | 1.30 |
| 19 | Radiological Incident | 1 | 1 | 1 | 1 | 1.00 |
| 19 | Dam / Levee Failure | 1 | 1 | 1 | 1 | 1.00 |

Vulnerability – Identifying Critical Facility Assets

This section will describe the vulnerability for existing and future buildings, infrastructure, and critical facilities in those areas that can be impacted by the prioritized hazards. Since the majority of the hazards have an undefined hazard area (i.e., affecting an entire community or larger area) the following vulnerability assessment will only address those hazards that affect a specified area – flooding (river and flash). However, due to the community’s historical occurrences of tornadoes this hazard was added to the assessment. The following discussion only considers the assets in the community of Readlyn.

| TABLE E5: CRITICAL FACILITIES IN READLYN | |
|--|--------------------------------|
| Readlyn Elementary School (shelter) | Public Library |
| St. Paul Lutheran Church (shelter) | Zion Lutheran Church (shelter) |
| Wastewater Treatment Plant | Fire Station |
| Water Plant and Tower | |

Source: Community

According to available data, Readlyn is projected to see an increase in population over the next thirty years. This population increase most likely result in a greater need for additional critical facilities such as schools, daycare centers, or healthcare centers. However, the need for more critical facilities should be closely monitored these next 5-years and readdressed when this HMP is updated.

Critical Facilities

Identifying the location of critical facilities and designated shelters (see TableE5) in Readlyn is important in order to assess their vulnerability to hazards. These critical facilities are important to the community’s operations, quality of life, and the key components of the economic sector. For instance, high-density residential or commercial development, schools, police stations, government buildings, hospitals and care facilities, airports, gas stations, hardware stores, grocery stores, and water supply systems. It is important to know the threats each hazard poses to these facilities. *Attachment 6F* illustrates the location of identified critical facilities throughout the community.

Homes In Hazardous Areas

Homes and facilities vulnerable to flooding is normally low, since these structures are not often constructed within the 100-year floodplain. According to the information provided, bridges and roadways would be impacted by flooding. This disruption in the transportation infrastructure would create a longer time period to receive and provide services and supplies to an area if a bridge was washed away due to flooding. According to the data provided by INRCOG and Bremer County there are three structures in the 100-year floodplain. See *Attachment 5F: Flood Scenario Map of the City*.

| TABLE E4: CITY OF READLYN 100-YEAR FLOODPLAIN PROPERTIES | |
|---|------------|
| Number of Structures | 3 |
| Building Value | \$ 292,740 |
| Dwelling Value | \$ 168,900 |
| Total Value | \$ 461,640 |

Source: INRCOG & Bremer County Assessor (2011 \$)

As stated on the FEMA website²⁶, mobile homes are highly vulnerable to tornadoes. Even mobile homes that are tied down, offer little protection from tornadoes. According to Census information, there are no mobile homes located in the community.

²⁶ Federal Emergency Management Agency (FEMA), <http://www.fema.gov/areyouready/tornadoes.shtml>

Nursing homes or skilled living centers are also highly vulnerable to tornadoes. These facilities are designed for caring for the elderly population, majority of which use wheelchairs or other assistance devices, limiting mobility. There are no nursing homes in the City of Readlyn.

Vulnerability – Identifying Social Asset Populations

The social vulnerability assessment identified how the hazards affect the population of Readlyn and it is assumed that the identified populations are more likely to require assistance during times of disaster; therefore, are considered, generally speaking, more “at-risk” than the remaining population. The “at-risk” population must be identified and targeted in successful mitigation efforts. Table E5 presents an overview of the at-risk population in Readlyn according to information retrieved from the 2000 U.S. Census and Iowa Data Center.

According to Table E5, 17 percent (135 persons) of Readlyn residents are 65 years and older.

Children are also at higher risk during some disasters. This is mostly due to the fact that young persons often are not aware of the proper actions to take in the event of a disaster. In addition, very young children would be more susceptible to a disaster such as a disease epidemic simply due to their age. In 2010, 23 percent (188 persons) of the city’s population was under the age of 15.

Only a small portion of the city of Readlyn is within the 100-year floodplain. Therefore, very few of the community’s residents are vulnerable to river flooding. However, the town has experienced flash flooding. Using the 2010 Census figure (2.39) for average household size for Readlyn, approximately seven persons are living within the floodplain.

Vulnerability – Estimating Potential Property Losses

Valuations are an important component of hazard mitigation planning insomuch as it provides measurable data that can be used to form some type of estimate as to the potential losses a community could face in the event of a catastrophic disaster.

The valuations for the City of Readlyn are available from the County Assessors and Auditors offices. City of Readlyn’s property valuations are in Table E6. This

| | |
|--|-----|
| Total City Population (2010) | 808 |
| Elderly (65 yrs and older) | 135 |
| Youth (under 18 yrs old) | 227 |
| Householder Living Alone | 109 |
| Non-English Speaking Population (speaks English less than ‘very well’) | 0% |
| Population Living in Poverty | 4% |
| Population in Mobile Homes | 0 |
| Group Quarters Population | 0 |

Source: 2010 US Census, 2014 ACS

| | Total Valuation | Average Valuation per Unit or Parcel |
|------------------------|----------------------|--------------------------------------|
| Residential Property | \$ 35,644,960 | \$ 114,247/parcel |
| Commercial Property | \$ 5,515,340 | \$ 172,354/unit |
| Industrial Property | \$ 152,440 | \$ 76,220/unit |
| Agricultural Buildings | \$ 0 | N/A |
| Agricultural Land | \$ 7,740 | \$ 1,395/acre |
| Utilities | \$ 259,308 | N/A |
| Railroads | \$ 0 | N/A |
| Exemptions (military) | \$ 96,304 | N/A |
| Gross Valuation | \$ 41,579,788 | N/A |
| Total Valuation | \$ 41,483,484 | N/A |

Source: Bremer County Assessor (2011 \$)

information was made available from the Butler County Assessor’s office. It should be noted however that these dollar amounts do not include gas and electric utility valuations nor do the evaluations include exempt properties, including government buildings, infrastructure, and religious/nonprofit properties. These results should be considered preliminary, as a full accounting of assets has not been completed.

Future Development

Future development within identified hazard areas can change the threat level of an area by placing critical facilities, businesses, transportation networks, utilities, and populations within vulnerable areas. While it can be difficult to curb development in the planning area, it is the jurisdiction’s advantage to be aware of development trends in order to successfully mitigation future hazards as risks increase. However, continued conformity with the State Building Codes and local land use ordinances and regulations (zoning, subdivision, floodplain management, etc.) will help to mitigate the effects hazards have on new and future development.

National Flood Insurance Program/Repetitive Loss Properties

The city participates in the National Flood Insurance Program (NFIP) and has a flood ordinance in place. However, as Table E7 shows, there are currently no NFIP policies in place within the city.

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. As of 11/30/2016, there are no repetitive loss properties in Readlyn.

River flooding is the most common cause of repetitive loss in Bremer County. According to Table E7, Readlyn participates in the NFIP, but has no active policies in force. Readlyn has no repetitive loss properties.

| TABLE E7: NFIP AND REPETITIVE LOSS DATA FOR READLYN | | | | | | | |
|---|--------------------|-------------------------|----------------|-------------|-----------------|------------------|--------------------|
| CID # | # of NFIP Policies | NFIP Insurance in Force | Total # of RLB | RLB Insured | # of Active RLB | Total RLB Losses | RLB Losses Insured |
| 190645 | 0 | \$0 | 0 | 0 | 0 | \$0 | \$0 |

Source: Federal Emergency Management Agency (FEMA); Note: RLB = Repetitive Loss Building; NFIP data current as of 9/30/2016; Repetitive loss data current as of 11/30/2014

This HMP attempts to reduce loss by identifying potential natural and manmade hazards. As a result of many natural and manmade hazards, repairs and reconstruction area often completed in a way that returns the structure to pre-disaster condition yet does little to prevent a reoccurrence of damage. Replication of the pre-disaster conditions allows for the repetitive cycle of property damage, reconstruction, and re-damage. Hazard mitigation is needed to ensure that such cycles are broken, that post-disaster repairs and reconstruction are analyzed, and sound, less vulnerable conditions are produced. Additionally, other mitigation strategies may be considered, such as voluntary property buy-outs.

MITIGATION STRATEGY

Hazard Mitigation Plan Goals

The hazard mitigation plan goals were reviewed by the Hazard Mitigation Planning Committee at their second committee meeting. The committee set as a priority the development of broad-based goals that would address a multitude of hazards and encompass a variety of mitigation activities. The hazard mitigation plan goals identified are as follows:

1. Reduce the chance of and impact of flooding in the community.
2. Take measures to minimize the occurrence of injuries and loss of life due to hazards.
3. Take measures to minimize or eliminate damages that may occur as a result of hazards.
4. Increase the city’s ability to respond to natural disasters and man-made hazards.
5. Return to the community to similar or improved pre-event conditions as quickly as possible following a disaster event.
6. Incorporate the City Plan into the proposed Multi-Jurisdictional Plan.
7. Continually re-assess and re-evaluate the plan and mitigation activities.

Current Mitigation Actions

Prevention Mitigation Actions

The city of Readlyn, in cooperation with FEMA, updated the existing firm map for the city. This process resulted in substantial area being removed from the identified flood hazard area. The effective date of the updated flood insurance rate map was March 4, 2008.

| TABLE E8: CURRENT PLANNING AND REGULATORY DOCUMENTS FOR READLYN | | | | | | | | |
|---|--------------------|---------------|------------------|-------------------------|---------------------------------|-------------------------|-----------------------|------------------------|
| Previous HMP | Comprehensive Plan | Building Code | Zoning Ordinance | Subdivision Regulations | Floodplain Management Ordinance | Tree-Trimming Ordinance | Storm Water Ordinance | Snow Removal Ordinance |
| Yes | Yes | Yes | Yes – RR | Yes | Yes | Yes | Yes | Yes |

Source: Community, Note: RR=Restricted Residential

Property Protection Mitigation Actions

Due to the fact that Readlyn has only a small area located within the 100-year floodplain, the city has not historically experienced flooding events, and therefore the city has not participated in a Housing Buy Out program funded through FEMA, IDED, and the Iowa Emergency Management Division (IEMD).

According to statistics obtained from the FEMA NFIP Loss Statistics Report for the State of Iowa, the City of Readlyn has had no losses dating back to 1978.

Public Education and Awareness Mitigation Actions

The existing early warning siren is approximately ten years old. The siren is has a battery back-up system, along with voice capability. The system is activated by the Bremer County Emergency Management Coordinator. The Police Department’s squad car cannot be used as a mobile warning system, but the city is looking into this capability.

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 (KWAY and KOEL).

Emergency Services Mitigation Actions

Readlyn works with the Bremer County Emergency Management Coordinator, based out of the City of Waverly, 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 current Emergency Management Coordinator is Kip Ladage and current contact information is as follows: Bremer County Emergency Management Agency, 111 4th St. NE, Bremer-Waverly LEC, Waverly, Iowa 50677, (319) 352-0133, email: kladage@co.bremer.ia.us

Law Enforcement

Police protection is provided by the Readlyn Police Department, Bremer County Law Enforcement, and the Iowa State Patrol. Currently, there is one full-time officer serving the Police Department. The Department uses one squad car, which is replaced every five years.

Fire Protection

Fire protection is provided for Readlyn with a force of 22 volunteer firemen. Fire equipment includes two firefighting pumper trucks, one tanker truck, one grass wildfire truck and one rescue unit. The fire station is located in the south-central area of the city. Readlyn’s rating for insurance is Class 7 within city limits.

Equipment used by the Readlyn Fire Department includes the following: 2004 Ford F-350 4x4 Pickup; 1996 Pierce/Frieghtliner Pumper (1,250 gpm pump); 1989 Chevy C-60 Tanker (1,500 gallon); 1974 Ford F-700 Rescue van w/ Command Center; 1964 Dodge Pumper (750 gpm pump); 13 SCBA units; 1 Hurst Jaw w/ cutter and spreader; and 4 Generators.

| TABLE E9: FIRE & FLOOD INFORMATION FOR READLYN | | |
|---|---|-------------------|
| Fire Insurance Rating | National Flood Insurance Program (NFIP) (Y or N & Year Joined) | NFIP CID # |
| 7 | Yes, Joined 8/12/08; Current Map 3/4/08 | 190645 |

Source: Community and FEMA

Ambulance

The city has and maintains an ambulance service. It is staffed with volunteer certified EMTs and paramedics. The EMS crew utilizes a 2009 Chevrolet G-4500 ambulance.

Medical Facilities

There is a part-time chiropractor in the community, but no medical facilities.

HAZMAT

Readlyn 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 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 with 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 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 the hazardous chemicals.

Natural Resource Protection Mitigation Actions

None.

Structural Projects Mitigation Actions

None.

Future Mitigation Actions

While the existing mitigation activities discussed above detail the City's efforts to mitigate hazards when possible and to respond to hazards in a timely and efficient manner, the Committee also recognizes that there are many more mitigation activities and projects that would benefit county residents. Thus, the Committee developed a list of future hazard mitigation activities that, if accomplished, would serve to further reduce the risk of hazards to the community. The list may include a combination of projects the Committee feels the community should try to accomplish and mitigation efforts that are ongoing that the Committee view as vital to the continued well-being of the public.

The Committee analyzed the potential mitigation activities. This analysis included a discussion of the potential benefits of implementing the activity, some hurdles that the community may face in implementing the action step, and the drawbacks of implementation. The analysis utilized the STAPLEE feasibility criteria. The STAPLEE technique is a FEMA suggested method of evaluation. The STAPLEE approach assesses both positive and negative impacts on the following aspects of a county: Social, Technical, Aministrative, Political, Legal, Economic, and Environmental. Based on this analysis, each activity was ranked as High (H), Medium (M) or Low (L). However, not all identified activities are applicable to all jurisdictions and is marked as such in Table E10.

Funding

Although in the long-term hazard mitigation actions will save money by avoiding the loss of lives or property damages, in the short-term each action will have an associated cost. The City will rely heavily on local funding sources to fulfill most of the plan obligations; however, they will also seek funds from State and Federal agencies for both pre- and post-disaster mitigation activities.

The estimated cost(s) for each mitigation action, program, or project is either: Minimal, Low, Moderate, or High depending upon various factors.

- Minimal: Cost estimate is \$10,000 or less based on using current staff, time commitment, continuous of current duties, proposed action/program/project, and funding sources.
- Low: Cost estimate for project range from \$10,001 - \$99,999 based on existing proposed treatment, time commitment, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.).
- Moderate : Cost estimate for project range from \$100,000 - \$299,999 based on existing conditions, time commitment, proposed action/program/project, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.), and funding sources.
- High : Cost estimate for project range is \$300,000 or higher based on existing conditions, time commitment, proposed action/ program/project, any further study that is needed, and level of engineering, project components (permits, acquisition, coordination, etc.), and funding sources.

Implementation Strategy

Once the Committee identified and ranked the future hazard mitigation activities, the activities were then analyzed. In addition, the Committee identified a time line for each activity, identified the responsible party (ies) for each activity and finally related each activity to at least one of the five Hazard Mitigation Plan Goals listed above. Table E10 is the City of Readlyn's Implementation Strategy.

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TABLE E10: CITY OF READLYN'S IMPLEMENTATION STRATEGY

| Priority | Mitigation Action/Program/Project | Associated Hazard | Primary Agency Responsible for Implementation | Date for Completion | Estimated Cost (s) | Funding Source |
|---------------------------|--|---|---|---------------------|--------------------|----------------|
| <i>Emergency Services</i> | | | | | | |
| H | Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | All | City Council | On-Going | Moderate | Local |
| H | Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | All | City Council | On-Going | Minimal | Local |
| H | Provide emergency shelters for evacuees | All | Bremer County EMA, Council | On-Going | Minimal | Local |
| H | Maintain mutual aid agreements | All | City Council | On-Going | Minimal | Local |
| H | Maintain storm spotter training for local fire departments/deputies and EMS crews | Thunderstorm/Lightning, Windstorm, Tornado, Hailstorm | Bremer County EMA, Fire Dept. | On-Going | Minimal | Local |
| H | Maintain law enforcement monitoring of large storage supplies | HAZMAT | City Council, Sheriff | On-Going | Minimal | Local |
| H | Maintain mutual aid agreements with the Northeast Iowa response Group | HAZMAT | City Council | On-Going | Minimal | Local |
| H | Keep HAZMAT manuals/information current and easily accessible | HAZMAT | All City personnel | On-Going | Minimal | Local |
| H | Maintain or install GPS units in all emergency service and city/county vehicles | Communications Failure | City Council | On-Going | Minimal | Local |
| H | Continue training and promotion of the Incident Command System | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| H | Complete continuity of government plan | Communications Failure | City Council | On-Going | Minimal | Local |
| H | Upgrade radio communications equipment as needed | Communications Failure | City Staff | On-Going | Minimal | Local |
| H | Regularly review and amend fire and medical HAZMAT response standard operating procedures | Communications Failure | City Staff | On-Going | Minimal | Local |
| H | Improve standard operating procedures for schools | Communications Failure | City Council, Schools | On-Going | Minimal | Local |
| H | Keep supply of backup radios and cellphones | Communications Failure | City Council, Staff | On-Going | Minimal | Local |

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| | | | | | | |
|------------------------------------|--|--------------------------|---------------------------------|----------|-----------------|--------------|
| H | Maintain list of county emergency contacts | Communications Failure | All City Departments | On-Going | Minimal | Local |
| H | Improve water system to enhance firefighting capacity/ability | Fire | City Council | On-Going | Minimal | Local |
| H | Purchase emergency signs to be used in case of an incident | Transportation | City Council, Fire Dept. | On-Going | Low | Local |
| H | Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain and update emergency response plans | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain lists of personnel and equipment available to use with response plans | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain communication with county contacts | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain NIMS compliance | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| M | Make available a cleanup crew for after a storm | Thunderstorm/Lightning | City Council, EMA | On-Going | Minimal to Low | Local |
| M | Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| M | Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| M | Stockpile sand and sandbags | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| M | Develop sandbagging procedures for the community | River Flood | City Council, Fire Department | On-Going | Minimal | Local |
| M | Develop and maintain staging area for dumping during cleanup | River Flood | City Council, Fire Department | On-Going | Moderate | Local |
| L | Maintain list of potential translators to be called upon in case of an emergency | Communications Failure | Bremer County EMA, City Council | On-Going | Minimal | Local |
| Natural Resource Protection | | | | | | |
| H | Continue with improvement to the storm water system | Flash Flood | City Staff, Council | On-Going | Low to Moderate | Local, State |
| H | Prevent inflow and infiltration into the sanitary sewer | Flash Flood, River Flood | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain and keep storm drains clear of debris | Flash Flood | Public Works | On-Going | Minimal | Local |

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| | | | | | | |
|-------------------|---|--|---------------------------------|-------------|----------------|-----------------------|
| H | Maintain and/or develop a wellhead protection program | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Monitor wells in areas of identified contamination | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Monitor the drinking water supply | Groundwater Contamination, Disease | City Council, Public Works | On-Going | Low | Local |
| H | Identify and map areas of past contamination | Groundwater Contamination | City Council, City Staff | On-Going | Minimal | Local |
| H | Maintain and/or develop storm water management program | Groundwater Contamination, Flash Flood | City Council, Public Works | On-Going | Low | Local |
| H | Eliminate and cap private and abandoned wells in the city | Groundwater Contamination | City Council, Public Works | On-Going | Low | Local |
| H | Eliminate the use of septic tank systems in the city limits | Groundwater Contamination | City Council | On-Going | Moderate | Local |
| H | Follow monitoring requirements set forth by the Iowa DNR | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Groundwater Contamination | City Council | On-Going | Minimal | Local, State, Federal |
| M | Develop rationing procedures | Drought | City Council | On-Going | Minimal | Local |
| M | Restrict water usage should it be necessary | Drought | City Council | On-Going | Minimal to Low | Local |
| Prevention | | | | | | |
| H | Maintain tree trimming program | Severe Winter Storm, Windstorm, Hailstorm | City Council | On-Going | Low | Local |
| H | Determine locations for potential heating shelters and volunteer organization | Severe Winter Storm | Bremer County EMA, City Council | On-Going | Minimal | Local |
| H | Purchase and maintain backup generators for lift station, water tower, fire station, and other sites as determined | All | City Council | Medium-Term | Moderate | Local |
| H | Maintain public works equipment | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| H | Backup all digital data | Thunderstorm/Lightning | Staff | On-Going | Minimal | Local |
| H | Enforce and update building codes, as needed | Thunderstorm/Lightning, Windstorm, Tornado, Hailstorm, Expansive Soils, Earthquake | City Council | On-Going | Minimal | Local |
| H | Continue enforcement of city sump pump | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |

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| | | | | | | |
|---|---|---|--------------------------|------------|-----------------|----------------|
| | discharge ordinance | | | | | |
| H | Place alarms on storage facilities containing hazardous materials | Hazardous Materials (HAZMAT) | City Council | On-Going | Minimal | Local |
| H | Acquire necessary response and detection equipment for city/county employees | HAZMAT | City Staff | On-Going | Minimal | Local |
| H | Maintain, test, and replace warning sirens | Windstorm, Tornado, Hailstorm, Thunderstorm/Lightning, Communications Failure | EMA, Council | On-Going | Minimal to Low | Local |
| H | Seek to improve communications with other agencies | Communications Failure, Terrorism | City Council, Staff | On-Going | Minimal | Local |
| H | Continue cooperation between county roads department and local fire departments during snow emergencies | Severe Winter Storm | City Council, Staff | On-Going | Minimal to Low | Local |
| H | Establish snow ordinance requiring vehicles to be remove from streets for clearing | Severe Winter Storm | City Council | Short-Term | Minimal | Local |
| H | Continue fire prevention program | Fire | City Council, Fire Dept. | On-Going | Low | Local, State |
| H | Maintain membership in the NFIP | Flash Flood, River Flood | City Staff | On-Going | Minimal | Local |
| H | Maintain, enforce and update floodplain ordinance | Flash Flood, River Flood | City Staff | On-Going | Minimal | Local |
| H | Identify, purchase and remove structures from flood hazard areas | Flash Flood, River Flood | City Council, Staff | On-Going | Moderate | Local, Federal |
| H | Initiate and enforce burn ban in times of drought or as needed | Grass/Wildfire, Drought | City Council | On-Going | Minimal | Local |
| H | Enforce no parking designations at special events | Transportation | City Council | On-Going | Minimal | Local |
| H | Keep communication lines open with Nuclear Plant in Palo, IA | Radiological/Nuclear Event | City Council | On-Going | Minimal | Local |
| H | Maintain and update anti-virus software | Terrorism | Staff | On-Going | Minimal | Local |
| H | Review and update fire codes as necessary | Fire, Explosion | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Purchase a new tanker and/or pumper | Fire, Explosion | City Council, Fire Dept. | On-Going | Low to Moderate | Local |
| H | Provide fans and/or cooling shelter | Extreme Heat | City Council | On-Going | Minimal | Local |
| H | Maintain air conditioner(s) in community | Extreme Heat | Public Works | On-Going | Minimal | Local |

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| | | | | | | |
|-----------------------------------|---|----------------------------|-------------------------------|-----------|----------------|--------------|
| | buildings | | | | | |
| H | Keep a supply of drinking water to distribute | Extreme Heat | City Council, Fire Department | On-Going | Minimal | Local |
| H | Initiate and enforce burn ban in times of drought or as needed | Drought | City Council | On-Going | Minimal | Local |
| H | Encourage the use of proper materials and construction techniques | Expansive Soils | Public Works | On-Going | Minimal to Low | Local |
| H | Enforce a curfew | Riot/Violent Demonstration | Sheriff | On-Going | Minimal | Local |
| H | Identify and inventory potential sinkhole sites | Sinkholes | City Council | On-Going | Minimal | Local |
| H | Secure the area (around a sinkhole) | Sinkholes | Fire Dept. | On-Going | Minimal | Local |
| H | Enforce the local zoning ordinances | Landslides/Mudflows | City Council, Staff | On-Going | Minimal | Local |
| H | Develop water conservation policy to take effect in event of water rationing | All | City Council | Shot-Term | Minimal | Local |
| H | Clear ditches, streams, and waterways on a regular basis | River Flood | City Council | On-Going | Minimal | Local |
| H | Update flood maps/flood studies for areas throughout the county | River Flood | Staff | On-Going | Minimal | Local |
| H | Continue cooperation with county in developing flood mitigation efforts | Flash Flood, River Flood | City Council, Staff | On-Going | Minimal | Local |
| H | Continue working with the Bremer County Recovery Coalition | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| M | Enforce sidewalk clearance ordinance | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| M | Maintain use of snow fences in the city/county | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| L | Install a snow fence around the wastewater treatment facility | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| L | Provide a local hazardous waste dropoff site | HAZMAT | City Council | On-Going | Minimal to Low | Local, State |
| L | Identify areas throughout the county that would substantially benefit from outdoor warning sirens | Windstorm, Tornado | City Council | On-Going | Minimal | Local |
| Public Education/Awareness | | | | | | |
| H | Educate the public | All | City Council, Staff | On-Going | Minimal | Local |

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| | | | | | | |
|---|---|---|-------------------------------|----------|---------|-------|
| H | Notify the media on shelter locations | Severe Winter Storm, Extreme Heat, Tornado | City Council | On-Going | Minimal | Local |
| H | Encourage and maintain enrollment in emergency notification system | Thunderstorm/Lightning, Windstorm, Tornado, Communication Failure | City Council, EMA | On-going | Minimal | Local |
| H | Encourage home owners to keep emergency kits | Windstorm, Tornado | Bremer County EMA | On-Going | Minimal | Local |
| H | Encourage use of Iowa One call before digging | Communications Failure, Explosion | City Council, Staff | On-Going | Minimal | Local |
| H | Keep the county updated on personnel changes | Communications Failure | City Staff | On-Going | Minimal | Local |
| H | Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Educate the public on maintaining their sump pumps | Flash Flood | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain and improve signals/signage along roadways and at railroad crossings | Transportation | City Council | On-Going | Minimal | Local |
| H | Establish alternative transportation routes should a road need to be closed | Transportation | Fire Department, Council | On-Going | Minimal | Local |
| H | Continue to cooperate with pipeline owners and operators to ensure locations are marked | Fire, Explosion | Public Works, Council | On-Going | Minimal | Local |
| H | Encourage community to plant shade trees | Extreme Heat | City Council, Public Works | On-Going | Minimal | Local |
| H | Encourage the public to receive vaccinations | Disease | City Council | On-Going | Minimal | Local |
| H | Cooperate with any countywide mass vaccination plan | Disease | City Council | On-Going | Minimal | Local |
| H | Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Disease | City Staff | On-Going | Minimal | Local |
| H | Educate city personnel to identify risk areas | Expansive Soils | Staff | On-Going | Minimal | Local |
| H | Educate city personnel to handle a sinkhole situation | Sinkholes | City Council | On-Going | Minimal | Local |
| H | Establish transportation evacuation routes and protocols | River Flood | City Council, Fire Department | On-Going | Minimal | Local |
| H | Inform the public of reputable and ill | Emergency Management | City Council, Staff | On-Going | Minimal | Local |

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| | | | | | | |
|----------------------------|--|--|----------------------------|-------------|------------------|-----------------------|
| | reputable contractors following disasters | | | | | |
| H | Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| M | Purchase NOAA weather radios | Thunderstorm/Lightning, Windstorm, Tornado, Radiological/Nuclear Event | City Council | On-Going | Minimal | Local |
| M | Encourage lead based paint and asbestos removal | HAZMAT | City Council, Fire Dept. | On-Going | Minimal | Local |
| M | Identify fallout shelter locations | Radiological/Nuclear Event | City Council | On-Going | Minimal | Local |
| Structural Projects | | | | | | |
| H | Implement storm water user fee/ordinance to generate funds for future improvements | Flash Flood, River Flood, Infrastructure Failure | City Council | Short-Term | Low | Local |
| H | Increase capacity of storm water drainage system | Flash Flood, River Flood, Infrastructure Failure | City Council | Medium-Term | Moderate | Local |
| H | Develop redundancies/plan in event the city's one well becomes compromised | Infrastructure Failure | City Council | Short-Term | Moderate | Local |
| H | Encourage utility providers and developers to place all utilities underground | Severe Winter Storm, Communications Failure, Thunderstorm/Lightning | City Council | On-Going | Moderate | Local |
| H | Use surge protectors to prevent electrical damage to critical and sensitive equipment | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| H | Placement of lighting arrestors on power lines | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| H | Construct or designate a safe room or storm shelter | Windstorm, Tornado, Hailstorm | City Council, Schools | On-Going | Moderate to High | Local, State, Federal |
| H | Encourage backup power generation for local telephone systems and cellular operations | Communications Failure | Bremer County EMA, Council | On-Going | Minimal | Local |
| H | Inspect any utility lines that are near a sinkhole | Sinkholes | Public Works | On-Going | Minimal | Local |
| H | Maintain pump station | River Flood | City Council, Public Works | On-Going | Minimal | Local |
| M | Maintain a list of potential storm sewer projects | Thunderstorm/Lightning | City Council, Staff | On-Going | Minimal | Local |
| M | Acquire more water pumps | Flash Flood, River Flood, Dam Failure, Levee Failure | City Staff | On-Going | Minimal | Local |

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| | | | | | | |
|---|---|--------------------------|---------------------|----------|----------------|--------------|
| M | Purchase additional trash pumps | Flash Flood, River Flood | City Council | On-Going | Minimal to Low | Local |
| L | Pursue partnership with rural water as the system expands | Fire, Explosion | City Council | On-Going | Minimal | Local |
| L | Encourage floodproofing/elevating structures in the floodplain | River Flood | City Council | On-Going | Minimal to Low | Local, State |
| L | Encourage construction of dikes, levees, dams, and retention ponds | River Flood | City Council, Staff | On-Going | Minimal | Local |
| L | Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | River Flood | City Council, Staff | On-Going | Minimal | Local |

APPENDIX F – CITY OF SUMNER

COMMUNITY PROFILE

Location

Sumner is located in northeast Bremer County (a small portion of the city lies within Fayette County), in the northeastern quadrant of Iowa,

Geography

At latitude 42.85 N x longitude 92.10 W. the majority of Sumner lies at an elevation of between 1,050 and 1,100 feet (see Attachment 1: Sumner Topographic Map of the City). The Little Wapsipinicon River runs to the east of the community, then curves to the west running immediately south of the community. Two highways, State Highway 93 and County Road V62, serve the City of Sumner.

The terrain on which Sumner is built is relatively flat topography. There are very few areas of steeper than normal slope with these being dispersed throughout the community. The highest points of the community lie at approximately 1,100 feet above sea level, and are located in the northern and eastern areas of the city.

History

The earliest non-American Indians to settle in the Sumner area arrived in 1852, establishing homes in Wilson Grove. In 1865 Stephen F. Cass establishes another nearby settlement called Cassville. In 1869 Chauncy Carpenter purchased land in what is now the City of Sumner. It was in 1872 that Carpenter would decide to establish a town. This was decided after the Iowa and Pacific Railroad suggested that their line run through Carpenter’s Land.

In 1875 residents of Wilson Grove and Cassville moved into Sumner after receiving news of the possibility of a railroad coming through the town. Many developments would come

TABLE F1: CITY OF SUMNER DEMOGRAPHICS

| Government Framework | | Mayor – City Council |
|---|--|----------------------|
| General Population, 2010 Census | | |
| Total Population | | 2,038 |
| Median Age | | 45.3 |
| At-Risk Population, <18 Years | | 456 |
| At-Risk Population, >64 Years | | 516 |
| Total Males | | 929 |
| Total Females | | 1,099 |
| | | |
| One Race-White | | 1,997 |
| Black of African American | | 0 |
| American Indian and Alaskan Native | | 1 |
| Asian | | 16 |
| Two or More Races | | 12 |
| Housing Characteristics, 2010 Census | | |
| Total Households | | 869 |
| Households with children <18 Yrs. | | 235 |
| Households with persons >65 Yrs. | | 320 |
| Average Household Size | | 2.24 |
| Average Family Size | | 2.83 |
| Total Housing Units | | 944 |
| Occupied Housing Units | | 869 |
| Vacant Housing Units | | 75 |
| Owner-Occupied Housing Units | | 699 |
| Renter-Occupied Housing Units | | 170 |
| Persons Living in Group Quarters | | 78 |

soon thereafter. In 1875 the first church was established. The first schoolhouse was built in 1876. Mr. Cass himself would build the first bank in 1879. A significant development occurred in 1882, when telephone lines connected Sumner with the City of Waverly.

The City of Sumner was incorporated in 1894. Other noteworthy improvements were also made that same year. These included the establishment of the Sumner Fire Department, and the construction of City Hall. In 1901 a new brick school building was erected. The Sumner Public Library opened its doors for the first time in 1938.

Some more recent historically significant developments took place in the 1950’s. In 1950 the Sumner Community Memorial Hospital opened its doors. Later that decade, in 1959, Sumner established its first police force, which initially consisted of three men.

Demographics

Population

Sumner’s demographic data is outlined in Tables F1 and F2. In the recent 2010 U.S. Census, Sumner’s population declined to 2,028, a decrease of 3.7% percent over ten years. The previous U.S. Census, taken in 2000, recorded a population figure of 2,106 for Sumner. Much of the data included in the tables are from the 2000 U.S. Census, since detailed data from the 2010 Census is not yet available.

Community Services

The City of Sumner has a municipal water supply with an elevated storage capacity of 500,000 gallons with an average consumption of 180,000 gallons per day (gpd). The rated capacity of the overall system is 500,000 gpd. The peak demand is 240,000 gpd.

A primary sewer treatment plant serves Sumner. Average load is 180,000 (gpd) with a peak load of 240,000 (gpd). The rated capacity of the sewer treatment plant is 1,400,000 gpd and is more than sufficient to handle Sumner’s current level of development as well as future development.

In 2016 the city completed approximately \$1,000,000 of improvements to the city’s wastewater treatment facility. The project included: installation of a backup generator; new Ultraviolet light treatment process to treat e. coli; and installation of clarifier covers to prevent lagoons from freezing during the winter.

Table F3 shows the primary utility providers for the City of Sumner.

| TABLE F2: CITY OF SUMNER DEMOGRAPHICS | |
|--|----------|
| <i>Economics Characteristics, 2010-2014 ACS</i> | |
| Population 16 years and over | 1,659 |
| Population In Labor Force (16 years and over) | 1,106 |
| Persons Employed | 1,023 |
| Persons Unemployed | 83 |
| Persons Employed in Management, Business, Science, and Arts Occupations | 1,023 |
| Persons Employed in Service Occupations | 267 |
| Persons Employed in Sales and Office Occupations | 223 |
| Persons Employed in Natural Resources, Construction, and Maintenance Occupations | 217 |
| Persons Employed in Production, Transportation, and Material Moving Occupations | 101 |
| Median Household Income | \$48,641 |
| Mean Household Income | \$53,851 |
| Percent of Persons < 18 yrs. Below Poverty Level | 17.7% |
| Percent of Persons 18-64 Yrs. Below Poverty Level | 10.9% |
| Percent of Persons >65 Yrs. Below Poverty Level | 11.8% |
| <i>Social Characteristics, 2010-2014 ACS</i> | |
| School Enrollment (3 yrs and over) | 519 |
| Nursery School, Preschool | 59 |
| Kindergarten and Elementary School (grades 1-8) | 242 |
| High School (grades 9-12) | 119 |
| College or Graduate School | 89 |
| Education Attainment: Population 25 Years and Over | 1,434 |
| Less than High School Graduate | 2.4% |
| High School Graduate (includes equivalency) | 44.5% |
| Some College, Associate’s Degree | 35.0% |
| Bachelor’s degree or Higher | 18.0% |

| TABLE F3: SUMNER UTILITY PROVIDERS | | | | | | |
|------------------------------------|--------------------|-------------------------|----------|----------------|----------------|----------------------------------|
| Electric | Natural Gas | Telephone/Internet | Cable | Water | Sewer | Sanitation |
| Sumner Municipal Light Plant | Black Hills Energy | Windstream/ Mediacom | Mediacom | City of Sumner | City of Sumner | City of Sumner/ Bremer County |

The city has recycling containers located at 300 Pleasant Street which are open 24 hours per day, 7 days per week. Residents are able to drop off milk jugs, plastics, office paper, newspaper, magazines, tin cans, chipboard, and cardboard.

HAZARDS & RISK ASSESSMENT

Section 3 identified and profiled the hazards for the entire planning area. However, each community analyzed their own vulnerability to those hazards applicable to their jurisdiction. Using the methodology outlined in Section 3 (Vulnerability Assessment), the City of Sumner evaluated the risk associated with a specific hazard, defined by probability and frequency of occurrence, magnitude, severity, exposures, and consequences. Sumner’s vulnerability assessment provides in-depth knowledge of the hazards and vulnerabilities that affect the community. This analysis provides an all-hazard approach when evaluating the hazards of that affect the city, and the associated risks and impacts each hazard presents.

As mentioned previously in Section 3, the vulnerability assessment requires a five-year review with periodic updates, as needed. Potential future hazards and impacts may result from changing technology, new critical facilities, infrastructures, and development patterns, as well as demographic and socioeconomic changes that occur within or outside the area.

Disaster frequency and its effects or severity are important as a basis for planning emergency response and mitigation. Natural hazards tend to reoccur on a predictable seasonal basis, whereas manmade or technological events tend to change over time with advancement in technology and methods of operation. Five criteria were used by the Committee to assure a systematic and comprehensive approach to hazard analysis for their individual jurisdictions including: Historical Occurrence, Probability, Magnitude or Severity, Warning Time, and Duration.

The Committee assessed the defined hazards relevant to potential impact on the city. Using the scoring criteria previously defined (Tables 19-22) the city assessed each of the identified hazards based on probability, magnitude/severity, warning time, and duration. The scores for each of the factors were weighted using the formula below to develop the final hazard assessment score.

$$\begin{aligned}
 & \text{(Probability x .45) + (Magnitude/Severity x .30) + (Warning Time x .15) + (Duration x .10)} \\
 & \text{= Final Hazard Assessment Score}
 \end{aligned}$$

Table F4 is the analysis scores for the City of Sumner. As shown, the top hazards for Sumner are: River Flooding, Tornado/Windstorm, and Severe Winter Storm.

| TABLE F4: CITY OF SUMNER HAZARD RISK ASSESSMENT | | | | | | |
|---|-----------------------------|-------------|------------------------|-----------------|----------|-----------------|
| Hazard Rank | Hazard | Probability | Magnitude/ Severity | Warning Time | Duration | Hazard Score |
| 1 | River Flooding | 3 | 2 | 1 | 3 | 2.4 |
| 2 | Tornado/Windstorm | 2 | 2 | 3 | 2 | 2.15 |
| 3 | Severe Winter Storm | 2 | 2 | 1 | 2 | 1.85 |
| 4 | Thunderstorm/Lightning/Hail | 2 | 1 | 2 | 2 | 1.7 |
| 5 | Grass/Wild Land Fire | 1 | 1 | 4 | 2 | 1.55 |
| 6 | HAZMAT Incident | 1 | 2 | 1 | 3 | 1.5 |
| 7 | Human Disease | 1 | 1 | 2 | 4 | 1.45 |
| 8 | Extreme Heat | 1 | 2 | 1 | 2 | 1.4 |
| 8 | Infrastructure Failure | 1 | 2 | 1 | 2 | 1.4 |
| 10 | Transportation Incident | 1 | 1 | 3 | 1 | 1.3 |
| 11 | Flash Flood | 1 | 1 | 1 | 3 | 1.2 |
| 12 | Dam / Levee Failure | 1 | 1 | 2 | 1 | 1.15 |
| 13 | Animal/Plant/Crop Disease | 1 | 1 | 1 | 2 | 1.1 |
| 14 | Drought | 1 | 1 | 1 | 1 | 1 |
| 14 | Earthquake | 1 | 1 | 1 | 1 | 1 |
| 14 | Expansive Soils | 1 | 1 | 1 | 1 | 1 |
| 14 | Landslide | 1 | 1 | 1 | 1 | 1 |
| 14 | Sinkholes | 1 | 1 | 1 | 1 | 1 |
| 14 | Radiological Incident | 1 | 1 | 1 | 1 | 1 |
| 14 | Terrorism | 1 | 1 | 1 | 1 | 1 |

Vulnerability – Identifying

This section will describe the vulnerability for existing and future buildings, infrastructure, and critical facilities in those areas that can be impacted by the prioritized hazards. Since the majority of the hazards have an undefined hazard area (i.e., affecting an entire community or larger area) the following vulnerability assessment will only address those hazards that affect a specified area – flooding (river and flash). However, due to the community’s historical occurrences of tornadoes this hazard was added to the assessment. The following discussion only considers the assets in the community of Sumner.

According to available data, Sumner is projected to see a decrease in population over the next thirty years. This population decrease most likely result in a lesser need for additional critical facilities such as schools, daycare centers, or healthcare centers. However, the need for more critical facilities should be closely monitored these next 5-years and readdressed when this HMP is updated.

Critical Facilities

Identifying the location of critical facilities and designated shelters (see Table F5) in Sumner is important in order to assess their vulnerability to hazards. These critical facilities are important to the operation of a community, the quality of life, and the key components of the economic sector. For instance, high-density residential or commercial development, schools, police stations, government buildings, hospitals and care facilities, airports, gas stations, hardware stores, grocery stores, and water supply systems. *Attachment 6G* illustrates the location of identified critical facilities in Sumner.

Nursing homes or skilled living centers are also highly vulnerable to tornadoes/windstorms. These facilities are designed for caring for the elderly population, majority of which use wheelchairs or other assistance devices, limiting mobility. Also, the majority of nursing homes are constructed as a single-level building with or without basements. Therefore, additional attention needs to be taken to ensure the safety of the residents and employees before, during, and after a tornado event. Hillcrest Nursing Home is the only nursing home in the community. The facility houses 86 beds. According to 2014 ACS, there were 78 persons living in group quarters within the city. In addition, Sumner Housing Corporation has 28 apartments available for rent to the elderly population (62 or older) or disabled persons of any age.

Homes In Hazardous Areas

A facility vulnerable to flooding is normally low, since these structures are not often constructed within the 100-year floodplain. According to the information provided, bridges and roadways will be impacted by flooding. This disruption in the transportation infrastructure would create a longer time period to receive and provide services and supplies to an area if a bridge was washed away due to flooding.

| TABLE F5: CRITICAL FACILITIES IN SUMNER | |
|---|--------------------------------------|
| Sumner High School (shelter) | Sumner Jr. High School (shelter) |
| Sumner Community Hospital (shelter) | St. John’s Lutheran Church (shelter) |
| Sumner City Hall | Sumner Public Library |
| United Methodist Church (shelter) | Wastewater Treatment Plant |
| Fire Station | Public Works Building |
| Light Plant | |

Source: Community

| TABLE F6: CITY OF SUMNER 100-YEAR FLOODPLAIN PROPERTIES | |
|--|--------------|
| Number of Structures | 229 |
| Building Value | \$ 2,557,820 |
| Dwelling Value | \$ 5,824,740 |
| Total Value | \$ 8,382,560 |

Source: INRCOG & Bremer County Assessor (2011)

.An INRCOG count of structures in the floodplain showed 90 dwellings located within the floodplain. Using the 2010 Census figure (2.24) for average household size, and assuming all of the households are occupied, there are approximately there are approximately 201 persons living in the floodplain in Sumner.

Table F6 lists the number properties that are located within the 100-year floodplain in Sumner. According to the data provided by INRCOG and Bremer County, there are 229 structures with a total value of \$ 8,382,560 located within the 100-year floodplain. Of those structures, 90 are residential dwellings and 139 are buildings. See *Attachment 5G: Flood Scenario Map of the City*.

As stated on the FEMA website²⁷, mobile homes are highly vulnerable to tornadoes. Even mobile homes that are tied down, offer little protection from tornadoes.

According to Census information, there are 22 mobile homes in Sumner. Based on the city’s average household size of 2.24 persons, it estimated that approximately 50 persons live in mobile homes. General observation would suggest a recent increase in the number of manufactured homes in the area. This increased popularity has the potential to increase the potential risk of damage to people and property in the community. Currently, no FEMA certified tornado safe shelters are known to exist in the community.

The primary reason for the increased popularity of mobile and manufactured homes is affordability. Although HUD regulations and local building codes have increased the safety components of these types of houses significantly in recent history, this affordability has often been accompanied with a reduced level of safety. Based on national data on circumstance of tornado fatalities between 1985 and 1997, it was found that 38% of fatalities were occupants of mobile or manufactured homes, 27% were in permanent homes, 11% in vehicles, 9% outdoors (open), 4% in businesses, 4% in structures with long-span roofs, and 2% in schools. These data highlight the high exposure of occupants of mobile and manufactured homes (*AR State Hazard Mitigation Plan, 1999*).

| TABLE F7: CITY OF SUMNER “AT-RISK” POPULATION | |
|--|-------------|
| | 2010 |
| Total City Population (2010) | 2,028 |
| Elderly (65 yrs and older) | 516 |
| Youth (under 18 yrs old) | 456 |
| Householder Living Alone | 287 |
| Non-English Speaking Population (speaks English less than ‘very well’) | 0.3% |
| Population Living in Poverty | 12.8% |
| Population in Mobile Homes | 50 |
| Group Quarters Population | 78 |

Source: U.S. Census, 2010 and Iowa Data Center

²⁷ Federal Emergency Management Agency (FEMA), <http://www.fema.gov/areyouready/tornadoes.shtml>

Vulnerability – Identifying Social Asset Populations

The social vulnerability assessment also identified how the hazards affect the population of Sumner and it is assumed that the identified populations are more likely to require assistance during times of disaster and are therefore, generally speaking, more at-risk than the remaining population. The at-risk population must be identified and targeted in successful mitigation efforts. Table F5 identifies the population of various segments of the population that may consider “at-risk” in the event of a hazard.

According to Table F7, 25 percent (561) of the city’s residents are 65 years and older. There are 77 persons living in group quarters.

Children are also at higher risk during some disasters. This is mostly due to the fact that young persons often are not aware of the proper actions to take in the event of a disaster. In addition, very young children would be more susceptible to a disaster such as a disease epidemic simply due to their age. In 2010, 24 percent (456 persons) were under the age of 18.

Portions of Bremer County are highly vulnerable to floods, especially along the Little Wapsipinicon River in Sumner. Flooding puts the entire population at some level of risk, whether through the flooding of their homes, businesses, or places of employment, or the road, sewer, and water infrastructure that serve them daily. High floodwaters can devastate homeowners with property damage, property loss, and extensive, time-consuming cleanup. Secondary effects caused by flooding can add to the property damage. Power loss can leave citizens without heat or air conditioning for extended periods of time. The transportation infrastructure of the community can be impacted by flooding events, which can endanger citizens attempting to travel or evacuate the area, as well as leave those remaining without goods and services.

Populations living in the 100-year floodplain are also at risk of sustaining personal injury or property damage. According to INRCOG data, there are approximately 201 persons living within the 100-year floodplain.

Vulnerability – Estimating Potential Property Losses

Valuations are an important component of hazard mitigation planning inasmuch as it provides measurable data that can be used to form some type of estimate as to the potential losses a community could face in the event of a catastrophic disaster.

The valuations for the City of Sumner are available from the County Assessors and Auditors offices. It should be noted however that these dollar amounts do not include gas and electric utility valuations nor do the evaluations include exempt properties, including government buildings, infrastructure, and religious/nonprofit properties. These results should be considered preliminary, as a full accounting of assets has not been completed.

City of Sumner’s property valuations are in TableF8.

Future Development

Future development within identified hazard areas can change the threat level of an area by placing critical facilities, businesses, transportation networks, utilities, and populations within vulnerable areas. While it can be difficult to curb development in the planning area, it is the jurisdiction’s advantage to be aware of development trends in order to successfully mitigate future hazards as risks increase. However, continued conformity with the State Building Codes and local land use ordinances and regulations (zoning, subdivision, floodplain management, etc.) will help to mitigate the effects hazards have on new and future development.

Repetitive Loss Properties

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. There are two repetitive loss properties in Sumner.

This HMP attempts to reduce loss by identifying potential natural and manmade hazards. As a result of many natural and manmade hazards, repairs and reconstruction area often completed in a way that returns the structure to pre-disaster condition yet does little to prevent a reoccurrence of damage. Replication of the pre-disaster conditions allows for the repetitive cycle of property damage, reconstruction, and re-damage. Hazard mitigation is needed to ensure that such cycles are broken, that post-disaster repairs and reconstruction are analyzed, and sound, less vulnerable conditions are produced. Additionally, other mitigation strategies may be considered, such as voluntary property buy-outs.

River flooding is the most common cause of repetitive loss in Bremer County. Table F9 illustrates the number of repetitive loss properties for Sumner.

| TABLE F8: COMMUNITY VALUATION AS FOR SUMNER | | |
|--|------------------------|---|
| | Total Valuation | Average Valuation per Unit or Parcel |
| Residential Property | \$ 75,920,060 | \$ 92,136/parcel |
| Commercial Property | \$ 10,078,790 | \$ 89,193/unit |
| Industrial Property | \$ 5,096,000 | \$ 566,222/unit |
| Agricultural Buildings | \$ 305,030 | \$ 76,258/unit |
| Agricultural Land | \$ 657,900 | \$1,198/acre |
| Utilities | \$ 679,309 | N/A |
| Railroads | 0 | N/A |
| Exemptions (military) | \$ 314,840 | N/A |
| Gross Valuation | \$ 92,737,089 | N/A |
| Total Net Valuation | \$ 92,422,249 | |

Source: City of Sumner & County Assessor (1/1/2011)

| TABLE F9: REPETITIVE LOSS PROPERTIES FOR SUMNER, | | | | | | | |
|---|---------------------------|-------------------------------------|--------------------------|---------------------------------|--|-------------------------------------|-----------------------------------|
| CID # | # of NFIP Policies | NFIP Insurance in Force (\$) | Total Paid Losses | Total Payments Made (\$) | # of Repetitive Loss Properties | Repetitive Loss Payment (\$) | Target Rep. Loss Buildings |
| 190029 | 18 | \$ 1,622,800 | 7 | \$ 59,473 | 2 | \$ 43,111 | 0 |

Source: Federal Emergency Management Agency (FEMA); Repetitive Loss data as of 11/30/2014; NFIP data as of 9/30/2016

MITIGATION STRATEGY

Hazard Mitigation Plan Goals

The hazard mitigation plan goals were reviewed by the Hazard Mitigation Planning Committee at their second committee meeting. The committee set as a priority the development of broad-based goals that would address a multitude of hazards and encompass a variety of mitigation activities. The hazard mitigation plan goals identified are as follows:

1. Reduce the chance of and impact of flooding in the community.
2. Take measures to minimize the occurrence of injuries and loss of life due to hazards.
3. Take measures to minimize or eliminate damages that may occur as a result of hazards.
4. Increase the city's ability to respond to natural disasters and man-made hazards.
5. Return to the community to similar or improved pre-event conditions as quickly as possible following a disaster event.
6. Incorporate the City Plan into the proposed Multi-Jurisdictional Plan.
7. Continually re-assess and re-evaluate the plan and mitigation activities.

Current Mitigation Actions

Sumner's current mitigation actions are listed below for the following categories: prevention, property protection, public education and awareness,

Prevention Mitigation Actions

On July 16, 1990 the City of Sumner became an active member in the National Flood Insurance Program (NFIP) by adopting its initial floodplain ordinance. The Federal Insurance Administration manages the insurance component of the NFIP, and works closely with FEMA's Mitigation Directorate, which oversees the floodplain management aspect of the program.

The City updated the Floodplain Ordinance most recently in July of 1990. In accordance with NFIP guidelines, the ordinance does not allow for new construction within the floodplain. In addition, it requires those structures within the 100-year flood to: (i) "be adequately anchored to prevent flotation, collapse or lateral movement of the structure"; (ii) "be constructed with materials and utility equipment resistant to flood damage" and; (iii) "be constructed by methods and practices that minimize flood damage."

FEMA revised the Flood Insurance Rate Maps for Sumner and several other communities in Bremer County on March 4, 2008.

TABLE F8: CURRENT PLANNING AND REGULATORY DOCUMENTS FOR SUMNER

| Previous HMP | Comprehensive Plan | Building Code | Zoning Ordinance | Subdivision Regulations | Floodplain Management Ordinance | Tree-Trimming Ordinance | Storm water Ordinance | Snow Removal Ordinance |
|--------------|--------------------|---------------|------------------|-------------------------|---------------------------------|-------------------------|-----------------------|------------------------|
| Yes | Yes | No | Yes | No | Yes | Yes | Yes | Yes |

Source: City of Sumner

Property Protection Mitigation Actions

The City of Sumner has contained in their Code of Ordinances a Flood Plain Regulations chapter. According to city officials, the City of Sumner has never participated in any housing buyout programs, or other flood protection programs.

Public Education & Awareness Mitigation Actions

The outdoor early warning siren system consists of two sirens, which are approximately ten years old. Both sirens have battery backup and are remotely operated.

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.

Natural Resource Protection Mitigation Actions

None.

Emergency Services Mitigation Actions

Sumner works with the Bremer County Emergency Management Coordinator, based out of the City of Waverly, 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 current Emergency Management Coordinator is Kip Ladage and current contact information is as follows: Bremer County Emergency Management Agency, 111 4th St. NE, Bremer-Waverly LEC, Waverly, Iowa 50677, (319) 352-0133, email: kladage@co.bremer.ia.us

Law Enforcement

The Sumner Police Department, Bremer County Sheriff’s Department, and the Iowa State Patrol provide police protection in the City of Sumner. The Sumner Police Department currently employs 3 officers.

Fire Protection

Fire protection is provided for Sumner with a force of 30 volunteer firemen. Service provided by the department includes fire protection, rescue, storm watch, search, and sand bagging. Equipment used by the Sumner Fire Department includes the following: 1996 Ford Pumper; 1972 Chevy Pumper; 1981 Ford Tanker; 1976 Chevy Tanker; 1968 Chevy Tanker; 1995 International Rescue Vehicle; 1979 Van; and a 1967 Jeep.

| Fire Insurance Rating | National Flood Insurance Program (NFIP) (Y or N & Year Joined) | NFIP CID # |
|------------------------------|---|-------------------|
| 6 | Yes, Joined 7/16/90, Current Map 3/4/08 | 190029 |

Source: Community and FEMA

Ambulance

The City of Sumner is also served by a local ambulance service of 25 volunteers and 2 ambulances.

Medical Facilities

The City of Sumner has a small hospital (Sumner Medical Clinic) and three doctor’s offices.

HAZMAT

Sumner 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 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 with 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 jurisdictions also partners 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 the hazardous chemicals.

Public Works / Street Department

The City of Sumner also views proper snow and ice removal from roadways to be essential in mitigating negative effects of severe winter storms. Snow removal and ice prevention techniques are practiced by City, County and State employees on the corresponding roadways within the city limits. The City of Sumner employs one full time and one part time workers in their public works department. Equipment used includes two dump trucks with snow blades, dump truck, grade, skid loader and Case tractor.

Structural Projects Mitigation Actions

None.

Future Mitigation Actions

While the existing mitigation activities discussed above detail the City's efforts to mitigate hazards when possible and to respond to hazards in a timely and efficient manner, the Committee also recognizes that there are many more mitigation activities and projects that would benefit county residents. Thus, the Committee developed a list of future hazard mitigation activities that, if accomplished, would serve to further reduce the risk of hazards to the community. The list may include a combination of projects the Committee feels the community should try to accomplish and mitigation efforts that are ongoing that the Committee view as vital to the continued well-being of the public.

The Committee analyzed the potential mitigation activities. This analysis included a discussion of the potential benefits of implementing the activity, some hurdles that the community may face in implementing the action step, and the drawbacks of implementation. The analysis utilized the STAPLEE feasibility criteria. The STAPLEE technique is a FEMA suggested method of evaluation. The STAPLEE approach assesses both positive and negative impacts on the following aspects of a county: Social, Technical, Aministrative, Political, Legal, Economic, and Environmental. Based on this analysis, each activity was ranked as High (H), Medium (M) or Low (L). However, not all identified activities are applicable to all jurisdictions and is marked as such in Table F10.

Funding

Although in the long-term hazard mitigation actions will save money by avoiding the loss of lives or property damages, in the short-term each action will have an associated cost. The City will rely heavily on local funding sources to fulfill most of the plan obligations; however, they will also seek funds from State and Federal agencies for both pre- and post-disaster mitigation activities.

The estimated cost(s) for each mitigation action, program, or project is either: Minimal, Low, Moderate, or High depending upon various factors.

- Minimal: Cost estimate is \$10,000 or less based on using current staff, time commitment, continuous of current duties, proposed action/program/project, and funding sources.
- Low: Cost estimate for project range from \$10,001 - \$99,999 based on existing proposed treatment, time commitment, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.).
- Moderate : Cost estimate for project range from \$100,000 - \$299,999 based on existing conditions, time commitment, proposed action/program/project, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.), and funding sources.
- High : Cost estimate for project range is \$300,000 or higher based on existing conditions, time commitment, proposed action/ program/project, any further study that is needed, and level of engineering, project components (permits, acquisition, coordination, etc.), and funding sources.

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Implementation Strategy

Once the Committee identified and ranked the future hazard mitigation activities, the activities were then analyzed. In addition, the Committee identified a time line for each activity, identified the responsible party (ies) for each activity and finally related each activity to at least one of the five Hazard Mitigation Plan Goals listed above. Table F10 below is the City of Sumner’s Implementation Strategy.

| TABLE F10: CITY OF SUMNER’S IMPLEMENTATION STRATEGY | | | | | | |
|--|--|---|--|----------------------------|---------------------------|-----------------------|
| Priority | Mitigation Action/Program/Project | Associated Hazard | Primary Agency Responsible for Implementation | Date for Completion | Estimated Cost (s) | Funding Source |
| Emergency Services | | | | | | |
| H | Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | All | City Council | On-Going | Low to Moderate | Local |
| H | Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | All | City Council | On-Going | Low to Moderate | Local |
| H | Maintain mutual aid agreements | All | City Council | On-Going | Minimal | Local |
| H | Maintain storm spotter training for local fire departments/deputies and EMS crews | Thunderstorm/Lightning, Windstorm, Tornado, Hailstorm | City Council, EMA | On-Going | Minimal | Local |
| H | Make available a cleanup crew for after a storm | Thunderstorm/Lightning | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain mutual aid agreements with the Northeast Iowa response Group | HAZMAT | City Council | On-Going | Minimal | Local |
| H | Keep HAZMAT manuals/information current and easily accessible | HAZMAT | All City personnel | On-Going | Minimal | Local |
| H | Maintain or install GPS units in all emergency service and city/county vehicles | Communications Failure | City Council | On-Going | Minimal | Local |
| H | Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| H | Continue training and promotion of the Incident Command System | Communications Failure | City Council | On-Going | Minimal | Local |
| H | Upgrade radio communications equipment as needed | Communications Failure | City Staff | On-Going | Minimal | Local |
| H | Maintain list of county emergency contacts | Communications Failure | City Staff | On-Going | Minimal | Local |
| H | Continue cooperation between county roads department and local fire departments during snow emergencies | Severe Winter Storm | City Council, Public Works | On-Going | Minimal | Local |
| H | Improve water system to enhance firefighting capacity/ability | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Maintain and keep storm drains clear of debris | Flash Flood | Public Works | On-Going | Minimal to Low | Local |
| H | Initiate and enforce burn ban in times of drought or as needed | Grass/Wildfire, Drought | Fire Department, Council | On-Going | Minimal | Local |
| H | Enforce no parking designations at special events | Transportation | City Council, Police | On-Going | Minimal | Local |

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| | | | | | | |
|------------------------------------|---|--|---------------------------------|----------|----------------|-----------------------|
| H | Maintain air conditioner(s) in community buildings | Extreme Heat | City Council | On-Going | Minimal | Local |
| H | Initiate and enforce burn ban in times of drought or as needed | Drought | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Develop sandbagging procedures for the community | River Flood | City Council | On-Going | Minimal | Local |
| H | Develop and maintain staging area for dumping during cleanup | River Flood | City Council, Public Works | On-Going | Minimal | Local |
| H | Maintain and update emergency response plans | Emergency Management | City Council, Fire Department | On-Going | Minimal | Local |
| H | Maintain lists of personnel and equipment available to use with response plans | Emergency Management | City Council, Fire Department | On-Going | Minimal | Local |
| H | Maintain NIMS compliance | Emergency Management | City Council | On-Going | Minimal | Local |
| M | Provide emergency shelters for evacuees | All | Bremer County EMA | On-Going | Minimal | Local |
| M | Acquire necessary response and detection equipment for city/county employees | HAZMAT | City Council | On-Going | Minimal | Local |
| M | Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Communications Failure | City Council | On-Going | Minimal | Local |
| M | Complete continuity of government plan | Communications Failure | City Council, Staff | On-Going | Minimal | Local |
| M | Regularly review and amend fire and medical HAZMAT response standard operating procedures | Communications Failure | City Council, Staff | On-Going | Minimal | Local |
| M | Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Emergency Management | City Council, Fire Department | On-Going | Minimal | Local |
| L | Maintain list of potential translators to be called upon in case of an emergency | Communications Failure | Bremer County EMA, City Council | On-Going | Minimal | Local |
| L | Stockpile sand and sandbags | Flash Flood, River Flood | City Council, Fire Department | On-Going | Minimal to Low | Local |
| L | Purchase additional trash pumps | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| L | Purchase emergency signs to be used in case of an incident | Transportation | City Council, Police | On-Going | Minimal | Local |
| L | Purchase a new tanker and/or pumper | Fire, Explosion | City Council, Fire Department | On-Going | Low | Local |
| L | Provide fans and/or cooling shelter | Extreme Heat | City Council | On-Going | Minimal | Local |
| Natural Resource Protection | | | | | | |
| H | Maintain and/or develop a wellhead protection program | Groundwater Contamination | City Council | On-Going | Minimal | Local |
| H | Monitor wells in areas of identified contamination | Groundwater Contamination | City Council, Public Works | On-Going | Minimal | Local |
| H | Monitor the drinking water supply | Groundwater Contamination, Disease | City Council, Public Works | On-Going | Low | Local |
| H | Maintain and/or develop storm water management program | Groundwater Contamination, Flash Flood | City Council, Public Works | On-Going | Low | Local, State |
| H | Follow monitoring requirements set forth by the Iowa DNR | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Groundwater Contamination | City Council | On-Going | Minimal to Low | Local, State, Federal |
| H | Secure the area (around a sinkhole) | Sinkholes | Public Works, Fire Department | On-Going | Minimal | Local |

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| | | | | | | |
|-------------------|--|--|------------------------------------|----------|----------------|----------------|
| M | Identify and map areas of past contamination | Groundwater Contamination | City Council, Public Works | On-Going | Low | Local |
| M | Restrict water usage should it be necessary | Drought | Public Works, Council | On-Going | Minimal | Local |
| M | Clear ditches, streams, and waterways on a regular basis | River Flood | Public Works | On-Going | Minimal | Local |
| L | Eliminate and cap private and abandoned wells in the city | Groundwater Contamination | City Council | On-Going | Low | Local |
| L | Eliminate the use of septic tank systems in the city limits | Groundwater Contamination | City Council | On-Going | Minimal to Low | Local, State |
| L | Encourage community to plant shade trees | Extreme Heat | City Council | On-Going | Minimal | Local |
| L | Keep a supply of drinking water to distribute | Extreme Heat | City Council | On-Going | Minimal | Local |
| L | Develop rationing procedures | Drought | City Council | On-Going | Minimal | Local |
| L | Plant trees along water bodies and slopes | Landslides/Mudflows | City Council, Public Works | On-Going | Minimal | Local |
| L | Purchase additional parkland in order to increase greens space and reducing surface flow | River Flood | City Council | On-Going | Minimal to Low | Local |
| Prevention | | | | | | |
| H | Maintain public works equipment | Severe Winter Storm | City Council | On-Going | Minimal to Low | Local |
| H | Continue fire prevention program | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Maintain membership in the NFIP | Flash Flood, River Flood | City Staff | On-Going | Minimal | Local |
| H | Enforce a curfew | Riot/Violent Demonstration | City Council, Police | On-Going | Minimal | Local |
| H | Identify and inventory potential sinkhole sites | Sinkholes | Public Works | On-Going | Minimal | Local |
| H | Enforce the local zoning ordinances | Landslides/Mudflows | City Council, Zoning Admin. | On-Going | Minimal | Local |
| H | Maintain public works equipment | Severe Winter Storm | City Council | On-Going | Minimal to Low | Local |
| H | Continue working with the Bremer County Recovery Coalition | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| M | Maintain tree trimming program | Severe Winter Storm, Windstorm, Hailstorm | City Council | On-Going | Low | Local |
| M | Enforce sidewalk clearance ordinance | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| M | Enforce and update building codes, as needed | Thunderstorm/Lightning, Windstorm, Tornado, Hailstorm, Expansive Soils, Earthquake | City Council, Zoning Administrator | On-Going | Minimal | Local |
| M | Continue enforcement of city sump pump discharge ordinance | Thunderstorm/Lightning | City Council, Staff | On-Going | Minimal | Local |
| M | Maintain a list of potential storm sewer projects | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| M | Continue an annual inspection program for commercial and industrial properties | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| M | Maintain, enforce and update floodplain ordinance | Flash Flood, River Flood | City Staff | On-Going | Minimal | Local |
| M | Encourage the use of proper materials and construction techniques | Expansive Soils | City Council, Zoning Admin. | On-Going | Minimal | Local |
| M | Update flood maps/flood studies for areas throughout the county | River Flood | City Council | On-Going | Minimal to Low | Local, Federal |
| L | Determine locations for potential heating shelters and volunteer organization | Severe Winter Storm | Bremer County EMA, City Council | On-Going | Minimal | Local |

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| | | | | | | |
|-----------------------------------|---|---|------------------------------------|----------|----------------|-------|
| L | Purchase and maintain backup generators | Severe Winter Storm, Thunderstorm/Lightning, Tornado, Emergency Management | City Council | On-Going | Minimal to Low | Local |
| L | Maintain use of snow fences in the city/county | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| L | Backup all digital data | Thunderstorm/Lightning | Staff | On-Going | Minimal | Local |
| L | Maintain law enforcement monitoring of large storage supplies | HAZMAT | Police | On-Going | Minimal | Local |
| L | Encourage backup power generation for local telephone systems and cellular operations | Communications Failure | Bremer County EMA, City Council | On-Going | Minimal | Local |
| L | Keep supply of backup radios and cellphones | Communications Failure | All City Departments | On-Going | Minimal | Local |
| L | Maintain and update anti-virus software | Terrorism | Staff | On-Going | Minimal | Local |
| L | Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences | Terrorism | Police | On-Going | Minimal | Local |
| L | Review and update fire codes as necessary | Fire, Explosion | City Council, Fire Dept. | On-Going | Minimal | Local |
| Public Awareness/Education | | | | | | |
| H | Educate the public | All | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain, test, and replace warning sirens | Windstorm, Tornado, Hailstorm, Thunderstorm/Lightning, Communications Failure | City Council | On-Going | Minimal to Low | Local |
| H | Identify areas throughout the city that would substantially benefit from outdoor warning sirens | Windstorm, Tornado | City Council, Fire Department, EMA | On-going | Minimal | Local |
| H | Encourage and maintain enrollment in emergency notification system | Thunderstorm/Lightning, Windstorm, Tornado, Communication Failure | City Council, EMA | On-Going | Minimal | Local |
| H | Encourage use of Iowa One call before digging | Communications Failure, Explosion | City Staff | On-Going | Minimal | Local |
| H | Improve standard operating procedures for schools | Communications Failure | City Council, School Board | On-Going | Minimal | Local |
| H | Seek to improve communications with other agencies | Communications Failure, Terrorism | City Council | On-Going | Minimal | Local |
| H | Keep the county updated on personnel changes | Communications Failure | City Council, Staff | On-Going | Minimal | Local |
| H | Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Keep communication lines open with Nuclear Plant in Palo, IA | Radiological/Nuclear Event | City Council | On-Going | Minimal | Local |
| H | Cooperate with any countywide mass vaccination plan | Disease | City Council | On-Going | Minimal | Local |
| H | Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Disease | City Council | On-Going | Minimal | Local |
| H | Educate city personnel to handle a sinkhole situation | Sinkholes | City Council, Staff | On-Going | Minimal | Local |
| H | Continue cooperation with county in developing flood mitigation efforts | Flash Flood, River Flood | City Council, Staff | On-Going | Minimal | Local |

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| | | | | | | |
|----------------------------|--|--|------------------------------------|-------------|-----------------|-----------------------|
| H | Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Emergency Management | City Council | On-Going | Minimal | Local |
| H | Maintain communication with county contacts | Emergency Management | City Council | On-Going | Minimal | Local |
| M | Purchase NOAA weather radios | Thunderstorm/Lightning, Windstorm, Tornado, Radiological/Nuclear Event | Bremer County EMA, City Council | On-Going | Minimal | Local |
| M | Encourage lead based paint and asbestos removal | HAZMAT | City Council, Fire Department | On-Going | Minimal | Local |
| M | Encourage home owners to keep emergency kits | Windstorm, Tornado | Bremer County EMA | On-Going | Minimal | Local |
| M | Establish alternative transportation routes should a road need to be closed | Transportation | City Council, Police | On-Going | Minimal | Local |
| M | Identify fallout shelter locations | Radiological/Nuclear Event | City Council, Zoning Administrator | On-Going | Minimal | Local |
| M | Encourage the public to receive vaccinations | Disease | City Council, Fire Department, EMS | On-Going | Minimal | Local |
| M | Educate city personnel to identify risk areas | Expansive Soils | City Council | On-Going | Minimal | Local |
| M | Establish detour routes | Bridge Failure, Flash Flood, River Flood | City Council, Police | On-Going | Minimal | Local |
| M | Establish transportation evacuation routes and protocols | River Flood | City Council, Police | On-Going | Minimal | Local |
| M | Inform the public of reputable and ill reputable contractors following disasters | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| L | Notify the media on shelter locations | Severe Winter Storm, Extreme Heat, Tornado | City Council | On-Going | Minimal | Local |
| L | Educate the public on maintaining their sump pumps | Flash Flood | City Staff | On-Going | Minimal | Local |
| Structural Projects | | | | | | |
| H | Relocate Sumner Municipal Light Plant | Infrastructure Failure, River Flooding, Flash Flooding | Light Plant Board | Medium-Term | High | Local |
| H | Replace/make improvements (widen or raise) at 3 rd and 5 th Street bridges to increase river flow capacity | Infrastructure Failure, River Flooding, Flash Flooding | City Council, DOT | Long-Term | High | Local, State, Federal |
| H | Relocate Public Works Building | Infrastructure Failure, River Flooding, Flash Flooding | City Council | Medium-Term | Moderate | Local |
| H | Use surge protectors to prevent electrical damage to critical and sensitive equipment | Thunderstorm/Lightning | Staff | On-Going | Minimal | Local, State |
| H | Placement of lighting arrestors on power lines | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| H | Pursue partnership with rural water as the system expands | Fire, Explosion | City Council | On-Going | Minimal | Local |
| H | Continue with improvement to the storm water system | Flash Flood | City Council | On-Going | Low to Moderate | Local, State |
| H | Prevent inflow and infiltration into the sanitary sewer | Flash Flood, River Flood | City Staff | On-Going | Minimal to Low | Local |
| H | Continue to cooperate with pipeline owners and operators to ensure locations are marked | Fire, Explosion | City Council, Public Works | On-Going | Minimal | Local |
| H | Continue regular bridge inspections | Bridge Failure | City Council, Staff | On-Going | Minimal to Low | Local |
| H | Place barricades to close dangerous bridges | Bridge Failure | City Council, Police | On-Going | Minimal | Local |
| H | Maintain embargos/weight limits as necessary | Bridge Failure | City Council, Police | On-Going | Minimal | Local |
| H | Inspect any utility lines that are near a sinkhole | Sinkholes | Public Works | On-Going | Minimal | Local |

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| | | | | | | |
|---|---|---|---------------------------------|----------|-----------------|-----------------------|
| H | Encourage construction of dikes, levees, dams, and retention ponds | River Flood | City Council | On-Going | Minimal | Local |
| H | Maintain pump station | River Flood | City Council, Staff | On-Going | Minimal | Local |
| M | Encourage utility providers and developers to place all utilities underground | Severe Winter Storm, Communications Failure, Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| M | Construct or designate a safe room or storm shelter | Windstorm, Tornado, Hailstorm | City Council, EMA, School Board | On-Going | High | Local, State, Federal |
| M | Identify, purchase and remove structures from flood hazard areas | Flash Flood, River Flood | City Council | On-Going | Low to Moderate | Local, Federal |
| M | Install tiling to help water move away from structures | Expansive Soils | City Council, Zoning Admin. | On-Going | Minimal to Low | Local |
| M | Encourage floodproofing/elevating structures in the floodplain | River Flood | City Council | On-Going | Minimal | Local |
| M | Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | River Flood | City Council, Staff | On-Going | Minimal | Local |
| M | Protect wastewater treatment facility from flooding | Infrastructure Failure, River Flooding, Flash Flood | City Council | On-Going | Minimal to Low | Local |
| L | Place alarms on storage facilities containing hazardous materials | Hazardous Materials (HAZMAT) | City Council, Fire Department | On-Going | Minimal | Local |
| L | Acquire more water pumps | Flash Flood, River Flood, Dam Failure, Levee Failure | City Council, Fire Department | On-Going | Minimal to Low | Local |
| L | Receive education/training from DOT on the subject of embargo/weight limits | Bridge Failure | City Council, Staff | On-Going | Minimal | Local |

APPENDIX G: CITY OF TRIPOLI

COMMUNITY PROFILE

Location

The City of Tripoli is located in the northeast quadrant of the county along Highway 93.

Natural Environment

Tripoli is located in north-north central Bremer County, in the northeastern quadrant of Iowa, at latitude 42.81 N x longitude 92.26 W and elevations ranging from 950 to 1,020. The City is bordered on all sides by farmland and the Wapsipinicon River runs east of the city. The land within the City is gently sloping but is generally flat. Two highways serve the City of Tripoli; State Highway 93, which leads to Sumner and Highway 63, and County Road V43, which leads to Highway 3. The major water system affecting the City of Tripoli is the Wapsipinicon River. The peak elevation in Tripoli is approximately 1,310 feet and is located in the northern part of the city.

History

Tripoli was incorporated as a village in 1895, with a fire department and municipal drinking water system established two years later. Like many other communities in Iowa, the land was settled by families from Ohio, Indiana and Illinois. The land where Tripoli sits today was first discovered by eastern settlers in 1853. Having determined the land was a good place to take root, the settlers brought more of their families to Tripoli from the east. Once a mill was up and running, this attracted more population and commerce to the village.

Today, Tripoli is home to several businesses and an excellent school system. The city serves as a bedroom community for the Waterloo-Cedar Falls metro area, as many of the city’s residents work outside of the city.

| TABLE G1: CITY OF TRIPOLI DEMOGRAPHICS | |
|---|----------------------|
| Government Framework | Mayor – City Council |
| General Population, 2010 Census | |
| Total Population | 1,313 |
| Median Age | 40.5 |
| At-Risk Population, <18 Years | 342 |
| At-Risk Population, >64 Years | 254 |
| Total Males | 517 |
| Total Females | 696 |
| Housing Characteristics, 2010 Census | |
| Total Households | 540 |
| Households with children <18 Yrs. | 180 |
| Households with persons >65 Yrs. | 162 |
| Average Household Size | 2.37 |
| Average Family Size | 2.95 |
| Total Housing Units | 568 |
| Occupied Housing Units | 540 |
| Vacant Housing Units | 28 |
| Owner-Occupied Housing Units | 447 |
| Renter-Occupied Housing Units | 93 |
| Persons Living in Group Quarters | 32 |

Demographics

Population

Tripoli’s demographic data is outlined in Tables G1 and G2. In the recent 2010 U.S. Census, Tripoli’s population grew to 1,313, an increase of 0.23 percent over ten years. The previous U.S. Census, taken in 2000, recorded a population figure of 1,310 for Tripoli.

Community Services

The City of Tripoli has a municipal water supply with an elevated storage capacity of 265,000 gallons with an average consumption of 91,000 gallons per day (gpd). The rated capacity of the overall system is 300,000 gpd. The peak demand is 150,000 gpd.

A primary sewer treatment plant serves Tripoli. Average load is 236,000 (gpd) with a peak load of 1,212,000 (gpd). The rated capacity of the sewer treatment plant is 2,278,000 gpd and is more than sufficient to handle Tripoli’s current level of development as well as future development.

Table G3 shows the primary utility providers for the City of Tripoli.

| TABLE G2: CITY OF TRIPOLI DEMOGRAPHICS | |
|--|----------|
| <i>Economics Characteristics, 2010-2014 ACS</i> | |
| Population 16 years and over | 1,166 |
| Population In Labor Force (16 years and over) | 714 |
| Persons Employed | 674 |
| Persons Unemployed | 40 |
| Persons Employed in Management, Business, Science, and Arts Occupations | 162 |
| Persons Employed in Service Occupations | 142 |
| Persons Employed in Sales and Office Occupations | 147 |
| Persons Employed in Natural Resources, Construction, and Maintenance Occupations | 82 |
| Persons Employed in Production, Transportation, and Material Moving Occupations | 141 |
| Median Household Income | \$47,125 |
| Mean Household Income | \$54,736 |
| Percent of Persons < 18 yrs. Below Poverty Level | 29.7% |
| Percent of Persons 18-64 Yrs. Below Poverty Level | 15.1% |
| Percent of Persons >65 Yrs. Below Poverty Level | 8.0% |
| <i>Social Characteristics, 2010-2014 ACS</i> | |
| School Enrollment (3 yrs. and over) | 487 |
| Nursery School, Preschool | 28 |
| Kindergarten and Elementary School (grades 1-8) | 178 |
| High School (grades 9-12) | 169 |
| College or Graduate School | 122 |
| Education Attainment: Population 25 Years and Over | 932 |
| Less than High School Graduate | 13.0% |
| High School Graduate (includes equivalency) | 42.1% |
| Some College, Associate’s Degree | 20.7% |
| Bachelor’s degree or Higher | 2.1% |

| TABLE G3: TRIPOLI UTILITY PROVIDERS | | | | | | |
|--|--------------------|------------------------------|------------------------------|-----------------|-----------------|----------------------------|
| Electric | Natural Gas | Telephone/Internet | Cable | Water | Sewer | Sanitation |
| Alliant Energy | Black Hills Energy | Butler-Bremer Communications | Butler-Bremer Communications | City of Tripoli | City of Tripoli | Tripoli-Readlyn Sanitation |

HAZARDS & RISK ASSESSMENT

Section 3 identified and profiled the hazards for the entire planning area. However, each community analyzed their own vulnerability to those hazards applicable to their jurisdiction. Using the methodology outlined in Section 3 (Vulnerability Assessment), the City of Tripoli evaluated the risk associated with a specific hazard, defined by probability and frequency of occurrence, magnitude, severity, exposures, and consequences. Tripoli's vulnerability assessment provides in-depth knowledge of the hazards and vulnerabilities that affect the community. This analysis provides an all-hazard approach when evaluating the hazards of that affect the city, and the associated risks and impacts each hazard presents.

As mentioned previously in Section 3, the vulnerability assessment requires a five-year review with periodic updates, as needed. Potential future hazards and impacts may result from changing technology, new critical facilities, infrastructures, and development patterns, as well as demographic and socioeconomic changes that occur within or outside the area.

Disaster frequency and its effects or severity are important as a basis for planning emergency response and mitigation. Natural hazards tend to reoccur on a predictable seasonal basis, whereas manmade or technological events tend to change over time with advancement in technology and methods of operation. Five criteria were used by the Committee to assure a systematic and comprehensive approach to hazard analysis for their individual jurisdictions including: Historical Occurrence, Probability, Magnitude or Severity, Warning Time, and Duration.

The Committee assessed the defined hazards relevant to potential impact on the city. Using the scoring criteria previously defined (Tables 19-22) the city assessed each of the identified hazards based on probability, magnitude/severity, warning time, and duration. The scores for each of the factors were weighted using the formula below to develop the final hazard assessment score.

$$\begin{aligned} & \text{(Probability x .45) + (Magnitude/Severity x .30) + (Warning Time x .15) + (Duration x .10)} \\ & \text{= Final Hazard Assessment Score} \end{aligned}$$

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Table G4 is the analysis scores for the City of Tripoli. As shown, the top five hazards for Tripoli are: Transportation Incident, Human Disease, Grass/Wild Fire, Tornado/Windstorm, and River Flooding.

| TABLE G4: CITY OF TRIPOLI HAZARD RISK ASSESSMENT | | | | | | |
|---|-----------------------------|--------------------|--------------------------------|-------------------------|-----------------|-------------------------|
| Hazard Rank | Hazard | Probability | Magnitude/ Severity | Warning Time | Duration | Hazard Score |
| 1 | Transportation Incident | 3 | 3 | 4 | 3 | 3.15 |
| 2 | Human Disease | 3 | 2 | 3 | 3 | 2.7 |
| 2 | Grass/Wild Fire | 2 | 3 | 4 | 3 | 2.7 |
| 4 | Tornado/Windstorm | 2 | 3 | 3 | 4 | 2.65 |
| 4 | River Flooding | 3 | 2 | 2 | 4 | 2.65 |
| 6 | Severe Winter Storm | 3 | 2 | 1 | 3 | 2.4 |
| 7 | Thunderstorm/Lightning/Hail | 3 | 2 | 2 | 1 | 2.35 |
| 8 | Flash Flood | 2 | 2 | 3 | 2 | 2.15 |
| 9 | Terrorism | 1 | 2 | 4 | 4 | 2.05 |
| 10 | Drought | 2 | 2 | 2 | 2 | 2 |
| 11 | Infrastructure Failure | 1 | 2 | 3 | 3 | 1.8 |
| 12 | Earthquake | 1 | 2 | 4 | 1 | 1.75 |
| 12 | Extreme Heat | 1 | 2 | 2 | 4 | 1.75 |
| 12 | HAZMAT Incident | 1 | 2 | 2 | 4 | 1.75 |
| 15 | Expansive Soils | 1 | 2 | 2 | 3 | 1.65 |
| 16 | Animal/Plant/Crop Disease | 1 | 1 | 1 | 1 | 1 |
| 16 | Landslide | 1 | 1 | 1 | 1 | 1 |
| 16 | Levee/Dam Failure | 1 | 1 | 1 | 1 | 1 |
| 16 | Radiological Incident | 1 | 1 | 1 | 1 | 1 |
| 16 | Sinkholes | 1 | 1 | 1 | 1 | 1 |

Vulnerability – Critical Facilities

This section will describe the vulnerability for existing and future buildings, infrastructure, and critical facilities in those areas that can be impacted by the prioritized hazards. Since the majority of the hazards have an undefined hazard area (i.e., affecting an entire community or larger area) the following vulnerability assessment will only address those hazards that affect a specified area – flooding (river and flash). The following discussion only considers the assets in the community of Tripoli.

Critical Facilities

Identifying the location of critical facilities and designated shelters (see TableG5) in Tripoli is important in order to assess their vulnerability to hazards. These critical facilities are important to the operation of a community and the key installations of the economic sector. For instance, high-density residential or commercial development, schools, police stations, government buildings, hospitals and care facilities, airports, gas stations, hardware stores, grocery stores, and water supply systems. It is important to know the threats each hazard poses to these facilities. *Attachment 6H* illustrates the location of identified critical facilities throughout the community.

Nursing homes or skilled living centers are also highly vulnerable to tornadoes. These facilities are designed for caring for the elderly population, majority of which use wheelchairs or other assistance devices, limiting mobility. Also, the majority of nursing homes are constructed as a single-level building with or without basements. Therefore, additional attention needs to be taken to ensure the safety of the residents and employees before, during, and after a tornado event. Tripoli Nursing Home, located in the east portion of town, is the only group quarters facility in the community. The non-profit has 28 bed licenses setting certified by Medicare and Medicaid.

According to Section 2, Tripoli is projected to see an increase in population over the next thirty years. This population increase most likely result in a greater need for additional critical facilities such as schools, daycare centers, or healthcare centers. However, the need for more critical facilities should be closely monitored these next 5-years and readdressed when this HMP is updated.

Homes in Hazardous Areas

The City of Tripoli is potentially affected by flooding from the Wapsipinicon River. The west/east traveling river bisects the community into a northern and southern portion of the city. The waterway has 100-year floodplains, and according to City records there remain a number of houses located within those floodplains. According to INRCOG and GIS Data, there are currently 5 residential structures and 24 buildings located within the 100-year floodplain.

As Table G6 shows, there are 29 structures within the 100-year floodplain with a total value of \$1,190,030. See

| TABLE G5: CRITICAL FACILITIES IN TRIPOLI | |
|--|---|
| Faith United Church (Shelter) | Tripoli Community High School (Shelter) |
| Grace Lutheran Church (Shelter) | City Hall (Shelter) |
| Tripoli Public Library (Shelter) | Tripoli Elementary School (Shelter) |
| Wastewater Treatment Plant | Tripoli Co-op |
| Power Lines/Utilities | |
| <i>Source: Community</i> | |

| TABLE G6: CITY OF TRIPOLI 100-YEAR FLOODPLAIN PROPERTIES | |
|---|--------------|
| Number of Structures | 29 |
| Building Value | \$ 933,420 |
| Dwelling Value | \$ 256,610 |
| Total Value | \$ 1,190,030 |
| <i>Source: INRCOG & Bremer County Assessor (2011\$)</i> | |

Attachment 1 for a flood Scenario Map of the City.

As stated on the FEMA website²⁸, mobile homes are highly vulnerable to tornadoes. Even mobile homes that are tied down, offer little protection from tornadoes.

According to American Community Survey 5-year average, there 20 mobile homes located in the city. Based on the city’s average household size of 2.37 persons, it can be estimated that approximately 47 persons live in mobile home. General observation would suggest a recent increase in the number of manufactured homes in the area. This increased popularity has the potential to increase the potential risk of damage to people and property in the community. Currently, no FEMA certified tornado safe shelters are known to exist in the community.

The primary reason for the increased popularity of mobile and manufactured homes is affordability. Although HUD regulations and local building codes have increased the safety components of these types of houses significantly in recent history, this affordability has often been accompanied with a reduced level of safety. Based on national data on circumstance of tornado fatalities between 1985 and 1997, it was found that 38% of fatalities were occupants of mobile or manufactured homes, 27% were in permanent homes, 11% in vehicles, 9% outdoors (open), 4% in businesses, 4% in structures with long-span roofs, and 2% in schools. These data highlight the high exposure of occupants of mobile and manufactured homes (*AR State Hazard Mitigation Plan, 1999*).

Finally, persons living in some multi-family housing units may also be at risk, due to the lack of a proper emergency shelter. According to 2014 ACS data, there 10, 2-unit; 31 3-4 unit; and 5, 5-9 unit structures in the city. Based on the average household size of 2.37 persons, it is estimated that approximately. In 2000 there were 48 multi-family housing units housing from 2 to 9 apartments. According to this, approximately 85 persons were living in multi-family housing units with three or more units.

Vulnerability – Social Assets (Populations)

The social vulnerability assessment identified how the hazards affect the population of Tripoli and it is assumed that the identified populations are more likely to require assistance during times of disaster; therefore, are considered, generally speaking, more “at-risk” than the remaining population.

The “at-risk” population must be identified and targeted in successful mitigation efforts. Table G5 presents an overview of the at-risk population in Tripoli according to information retrieved from the 2000 U.S. Census and Iowa Data Center.

According to, 19.3 percent (254 persons) of residents are 65 years or older. As indicated by ACS there are 32 persons living in group quarters, indicating the

| | |
|--|-------|
| Total City Population (2010) | 1,313 |
| Elderly (65 yrs and older) | 254 |
| Youth (under 15 yrs old) | 260 |
| Householder Living Alone | 169 |
| Non-English Speaking Population (speaks English less than ‘very well’) | 1% |
| Population in Mobile Homes | 47 |
| Group Quarters Population | 32 |

Source: 2010 U.S. Census, 2010-2014 ACS 5-year Averages

²⁸ Federal Emergency Management Agency (FEMA), <http://www.fema.gov/areyouready/tornadoes.shtml>

remaining elderly populations live throughout the community.

Children are also at higher risk during some disasters. This is mostly due to the fact that young persons often are not aware of the proper actions to take in the event of a disaster. In addition, very young children would be more susceptible to a disaster such as a disease epidemic simply due to their age. According to ACS, 19.8 percent (260 persons) of the community’s population is under the age of 15.

Portions of Bremer County are highly vulnerable to floods, especially along the Cedar and Wapsipinicon Rivers. The City of Tripoli is no exception, with the Wapsipinicon River causing flooding. Flooding puts the entire population at some level of risk, whether through the flooding of their homes, businesses, or places of employment, or the road, sewer, and water infrastructure that serve them daily. High floodwaters can devastate homeowners with property damage, property loss, and extensive, time-consuming cleanup. Secondary effects caused by flooding can add to the property damage. Power loss can leave citizens without heat or air conditioning for extended periods of time. The transportation infrastructure of the community can be impacted by flooding events, which can endanger citizens attempting to travel or evacuate the area, as well as leave those remaining without goods and services.

Populations living in the 100-year floodplain are also at risk of sustaining personal injury or property damage. As mentioned earlier, there are currently 5 residential structures and 24 buildings located within the 100-year floodplain. Using the average persons per household figure from the 2010 Census of 2.37, there are approximately 12 persons living in the 100-year floodplain.

Vulnerability – Estimating Potential Property Losses

Valuations are an important component of hazard mitigation planning insomuch as it provides measurable data that can be used to form some type of estimate as to the potential losses a community could face in the event of a catastrophic disaster.

The valuations for the City of Tripoli are available from the County Assessors and Auditors offices. City of Tripoli’s property valuations are in Table G8. It should be noted however that these dollar amounts do not include gas and electric utility valuations nor do the evaluations include exempt properties, including government buildings, infrastructure, and religious/nonprofit properties. These results should be considered preliminary, as a full accounting of assets has not been completed.

Future Development

Future development within identified hazard areas can change the threat level of an area by placing critical facilities, businesses, transportation networks, utilities, and populations within vulnerable areas. While it can be difficult to curb development in the planning area, it

| TABLE G8: CITY OF TRIPOLI’S VALUATIONS | | |
|---|------------------------|---|
| | Total Valuation | Average Valuation per Unit or Parcel |
| Residential Valuation | \$ 40,212,720 | \$ 79,003/parcel |
| Commercial Valuation | \$ 5,273,460 | \$99,499 /unit |
| Industrial Valuation | \$ 188,870 | \$ 94,435/unit |
| Agricultural Buildings | \$ 311,460 | \$ 103,820/unit |
| Agricultural Land | \$ 557,860 | \$ 1,272/acre |
| Utilities | \$ 1,508,460 | N/A |
| Railroads | 0 | N/A |
| Exemptions (military) | \$ 174,088 | N/A |
| Gross Valuation | \$ 48,052,830 | N/A |
| Total Net Valuation | \$47,878,742 | N/A |

Source: City of Tripoli & Bremer County Assessor (1/1/2010)

is the jurisdiction’s advantage to be aware of development trends in order to successfully mitigation future hazards as risks increase. However, continued conformity with the State Building Codes and local land use ordinances and regulations (zoning, subdivision, floodplain management, etc.) will help to mitigate the effects hazards have on new and future development.

National Flood Insurance Program/Repetitive Loss Properties

The city participates in the National Flood Insurance Program (NFIP) and has a flood ordinance in place. As Table G9 shows, there are currently two NFIP policies in place within the city.

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. There is one repetitive loss property in Tripoli.

River flooding is the most common cause of repetitive loss in Bremer County. Table G7 illustrates the number of repetitive loss properties for Tripoli. According to FEMA’s data, Tripoli has 5 NFIP policies issued and only one repetitive loss property. According to information, City of Tripoli did not have any repetitive loss properties until after May 22, 2004. However, according to FEMA loss statistics, the City had 4 losses claimed between January 1, 1978 and December 31, 2010. These losses resulted in total payments of \$46,785. Currently (as of 11/30/2014) there is one active repetitive loss building in the city.

Table G9 shows relevant NFIP and Repetitive Loss statistics for the city.

| TABLE G9: NFIP AND REPETITIVE LOSS DATA FOR TRIPOLI | | | | | | | |
|---|--------------------|------------------------------|----------------|-------------|-----------------|-----------------------|-------------------------|
| CID # | # of NFIP Policies | NFIP Insurance in Force (\$) | Total # of RLB | RLB Insured | # of Active RLB | Total RLB Losses (\$) | RLB Losses Insured (\$) |
| 190669 | 2 | \$220,000 | 1 | 0 | 1 | \$40,927 | \$0 |

Source: Federal Emergency Management Agency (FEMA); Note: RLB = Repetitive Loss Building; NFIP data current as of 9/30/2016; Repetitive loss data current as of 11/30/2014

This HMP attempts to reduce loss by identifying potential natural and manmade hazards. As a result of many natural and manmade hazards, repairs and reconstruction area often completed in a way that returns the structure to pre-disaster condition yet does little to prevent a reoccurrence of damage. Replication of the pre-disaster conditions allows for the repetitive cycle of property damage, reconstruction, and re-damage. Hazard mitigation is needed to ensure that such cycles are broken, that post-disaster repairs and reconstruction are analyzed, and sound, less vulnerable conditions are produced. Additionally, other mitigation strategies may be considered, such as voluntary property buy-outs.

MITIGATION STRATEGY

Hazard Mitigation Plan Goals

The hazard mitigation plan goals were reviewed by the Hazard Mitigation Planning Committee at their second committee meeting. The committee set as a priority the development of broad-based goals that would address a multitude of hazards and encompass a variety of mitigation activities. The hazard mitigation plan goals identified are as follows:

1. Reduce the chance of and impact of flooding in the community.
2. Take measures to minimize the occurrence of injuries and loss of life due to hazards.
3. Take measures to minimize or eliminate damages that may occur as a result of hazards.
4. Increase the city’s ability to respond to natural disasters and man-made hazards.
5. Return to the community to similar or improved pre-event conditions as quickly as possible following a disaster event.
6. Incorporate the City Plan into the proposed Multi-Jurisdictional Plan.
7. Continually re-assess and re-evaluate the plan and mitigation activities.

Current Mitigation Actions

Prevention Mitigation Actions

The primary flood research document prepared for the City of Tripoli was the July 1979 Flood Insurance Study. This document was prepared under the auspices of the United States Department of Housing and Urban Development, who, at the time was charged with the oversight of the Federal Insurance Administration. This responsibility has since been transferred to the Federal Emergency Management Agency.

The City has not had any recent flood studies completed, but their FEMA Flood Insurance Rate Map was updated on March 4, 2008.

Tripoli adopted their first Hazard Mitigation Plan on June 4, 2007. Tripoli currently has and enforces a Zoning Ordinance. The Tripoli City Council is unofficially charged with enforcing the Zoning Ordinance.

| TABLE G10: CURRENT PLANNING AND REGULATORY DOCUMENTS FOR TRIPOLI | | | | | | | | |
|--|--------------------|---------------|------------------|-------------------------|---------------------------------|-------------------------|-----------------------|------------------------|
| Previous HMP | Comprehensive Plan | Building Code | Zoning Ordinance | Subdivision Regulations | Floodplain Management Ordinance | Tree-Trimming Ordinance | Storm Water Ordinance | Snow Removal Ordinance |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | No | Yes |

Source: Local Communities

Property Protection Mitigation Actions

The City of Tripoli has implemented a number of tools that are useful in protecting property in the community. In addition, there have also been some protection measures that have occurred as a result of private development. These measures include the adoption of a floodplain ordinance, the implementation of the zoning ordinance, and the elevation of the city's sanitary sewer treatment facility.

Public Education and Awareness Mitigation Actions

Information regarding how to protect oneself in the event of a tornado is largely publicized in the form of flyers, radio, newspaper, and television announcements. The City provides basic safety information for various hazard events (i.e., tornados) and what to do before, during, and after an event.

Emergency Services Mitigation Actions

There are two early warning sirens in the community. One is sits atop City Hall and the other is located on South Park. The siren can be activated locally at the Tripoli Fire Department station, while the Consolidated Dispatch Center or the Bremer County Emergency Management office can activate it remotely. Tripoli works with the Bremer County Emergency Management Coordinator, based out of the City of Waverly, 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 current Emergency Management Coordinator is Kip Ladage and current contact information is as follows: Bremer County Emergency Management Agency, 111 4th St. NE, Bremer-Waverly LEC, Waverly, Iowa 50677, (319) 352-0133, email: kladage@co.bremer.ia.us

Law Enforcement

The Tripoli Police Department, Bremer County Sheriff's Department, and the Iowa State Patrol provide police protection in the City of Tripoli. The Tripoli Police Department currently employs one full time officer.

Fire Protection

The Tripoli fire department includes 25 volunteers from the community and takes pride in having a well-equipped station. The department owns the following vehicles. Equipment used by the Sumner Fire Department includes the following: Pumper Truck; Rescue Van; Tanker (2); Grass Rigger; and an ATV.

Ambulance

There are two ambulances owned and operated by the Tripoli Ambulance Service. Both ambulances are certified as advanced care units and the department is a Certified Provisional Paramedic Service. The service is staffed with 28 volunteers from the community.

Medical Facilities

The town is home to one walk-in medical clinic. The closest hospitals are in Sumner and Waverly. Additionally, residents could access the hospitals in New Hampton or Waterloo, but these are a further distance from Tripoli.

HAZMAT

Tripoli 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 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 with 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 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 the hazardous chemicals.

Streets and Public Works Department

Tripoli views proper snow and ice removal from roadways to be essential in mitigating negative effects of these events. Snow removal and ice prevention techniques are practiced by City, County, and State employees on the corresponding roadways within the city limits. The City currently employs one full time and one part time worker in the Streets Department. Equipment used for snow and ice removal includes 2 Dump Trucks, 2 snow plows, backhoe, lawn mower, pickup truck and a trailer. Finally, the City also has a snow ordinance that is in effect during snow season. This ordinance serves to assist the City in its efforts to clear the city streets after a snow event.

Natural Resource Protection Mitigation Actions

Tripoli has not done any natural resource protection mitigation actions.

Structural Projects Mitigation Actions

None.

Future Mitigation Actions

While the existing mitigation activities discussed above detail the City's efforts to mitigate hazards when possible and to respond to hazards in a timely and efficient manner, the Committee also recognizes that there are many more mitigation activities and projects that would benefit county residents. Thus, the Committee developed a list of future hazard mitigation activities that, if accomplished, would serve to further reduce the risk of hazards to the community. The list may include a combination of projects the Committee feels the community should try to accomplish and mitigation efforts that are ongoing that the Committee view as vital to the continued well-being of the public.

The Committee analyzed the potential mitigation activities. This analysis included a discussion of the potential benefits of implementing the activity, some hurdles that the community may face in implementing the action step, and the drawbacks of implementation. The analysis utilized the STAPLEE feasibility

criteria. The STAPLEE technique is a FEMA suggested method of evaluation. The STAPLEE approach assesses both positive and negative impacts on the following aspects of a county: Social, Technical, Aministrative, Political, Legal, Economic, and Environmental. Based on this analysis, each activity was ranked as High (H), Medium (M) or Low (L). However, not all identified activities are applicable to all jurisdictions and is marked as such in Table G10.

Funding

Although in the long-term hazard mitigation actions will save money by avoiding the loss of lives or property damages, in the short-term each action will have an associated cost. The City will rely heavily on local funding sources to fulfill most of the plan obligations; however, they will also seek funds from State and Federal agencies for both pre- and post-disaster mitigation activities.

The estimated cost(s) for each mitigation action, program, or project is either: Minimal, Low, Moderate, or High depending upon various factors.

- Minimal: Cost estimate is \$10,000 or less based on using current staff, time commitment, continuous of current duties, proposed action/program/project, and funding sources.
- Low: Cost estimate for project range from \$10,001 - \$99,999 based on existing proposed treatment, time commitment, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.).
- Moderate : Cost estimate for project range from \$100,000 - \$299,999 based on existing conditions, time commitment, proposed action/program/project, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.), and funding sources.
- High : Cost estimate for project range is \$300,000 or higher based on existing conditions, time commitment, proposed action/ program/project, any further study that is needed, and level of engineering, project components (permits, acquisition, coordination, etc.), and funding sources.

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Implementation Strategy

Once the Committee identified and ranked the future hazard mitigation activities, the activities were then analyzed. In addition, the Committee identified a time line for each activity, identified the responsible party (ies) for each activity and finally related each activity to at least one of the five Hazard Mitigation Plan Goals listed above. Table G11 below is the City of Tripoli’s Implementation Strategy.

| TABLE G11: CITY OF TRIPOLI’S IMPLEMENTATION STRATEGY | | | | | | |
|---|--|---|--|----------------------------|---------------------------|-----------------------|
| Priority | Mitigation Action/Program/Project | Associated Hazard | Primary Agency Responsible for Implementation | Date for Completion | Estimated Cost (s) | Funding Source |
| Emergency Services | | | | | | |
| H | Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | All | City Council | On-Going | Low to Moderate | Local |
| H | Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | All | City Council | On-Going | Low to Moderate | Local |
| H | Provide emergency shelters for evacuees | All | Bremer County EMA, Council | On-Going | Minimal | Local |
| H | Maintain storm spotter training for local fire departments/deputies and EMS crews | Thunderstorm/Lightning, Windstorm, Tornado, Hailstorm | Bremer County EMA, City Council | On-Going | Minimal | Local |
| H | Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| H | Continue training and promotion of the Incident Command System | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| H | Complete continuity of government plan | Communications Failure | City Council | On-Going | Minimal | Local |
| H | Upgrade radio communications equipment as needed | Communications Failure | City Staff, Fire Dept. | On-Going | Minimal to Low | Local |
| H | Regularly review and amend fire and medical HAZMAT response standard operating procedures | Communications Failure | City Council, Staff | On-Going | Minimal | Local |
| H | Keep supply of backup radios and cellphones | Communications Failure | City Council, Staff | On-Going | Minimal | Local |
| H | Maintain list of county emergency contacts | Communications Failure | All City Departments | On-Going | Minimal | Local |
| H | Develop and maintain staging area for dumping during cleanup | River Flood | City Council, Staff | On-Going | Minimal | Local |
| M | Conduct a fire and ambulance mass disaster training | All | City Council | Short-Term | Low | Local |
| M | Maintain mutual aid agreements | All | City Council | On-Going | Minimal | Local |
| M | Make available a cleanup crew for after a storm | Thunderstorm/Lightning | City Council, EMA | On-Going | Minimal to Low | Local |
| M | Improve water system to enhance firefighting capacity/ability | Fire | City Council | On-Going | Low to Moderate | Local, State |
| M | Stockpile sand and sandbags | Flash Flood, River Flood | Fire Department | On-Going | Minimal to Low | Local |
| M | Purchase additional trash pumps | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| M | Purchase a new tanker and/or pumper | Fire, Explosion | City Council, Fire Dept. | On-Going | Minimal to Low | Local |
| M | Develop sandbagging procedures for the community | River Flood | City Council, Fire Department | On-Going | Minimal | Local |
| L | Acquire necessary response and detection equipment for city/county employees | HAZMAT | City Council | On-Going | Minimal | Local |
| L | Maintain list of potential translators to be called upon | Communications Failure | Bremer County EMA, City Council | On-Going | Minimal | Local |

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| | | | | | | |
|------------------------------------|--|--|---------------------------------|----------|----------------|--------------|
| | in case of an emergency | | | | | |
| L | Maintain or install GPS units in all emergency service and city/county vehicles | Communications Failure | City Staff | On-Going | Low | Local |
| L | Keep the county updated on personnel changes | Communications Failure | City Staff | On-Going | Minimal | Local |
| Natural Resource Protection | | | | | | |
| H | Continue enforcement of city sump pump discharge ordinance | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| H | Maintain and/or develop storm water management program | Groundwater Contamination, Flash Flood | City Council, Public Works | On-Going | Low | Local, State |
| H | Restrict water usage should it be necessary | Drought | Public Works, Council | On-Going | Minimal | Local |
| M | Provide a local hazardous waste dropoff site | HAZMAT | City Council | On-Going | Minimal to Low | Local, State |
| M | Plant trees along water bodies and slopes | Landslides/Mudflows | City Council, Public Works | On-Going | Minimal | Local |
| M | Clear ditches, streams, and waterways on a regular basis | River Flood | City Council, Public Works | On-Going | Low | Local |
| L | Develop rationing procedures | Drought | City Council | On-Going | Minimal | Local |
| L | Purchase additional parkland in order to increase greens space and reducing surface flow | River Flood | City Council | On-Going | Minimal to Low | Local |
| Prevention | | | | | | |
| H | Maintain tree trimming program | Severe Winter Storm, Windstorm, Hailstorm | City Council | On-Going | Low | Local |
| H | Maintain and enforce building codes | All | City Council | Active | Minimal | Local |
| H | Determine locations for potential heating shelters and volunteer organization | Severe Winter Storm | Bremer County EMA, City Council | On-Going | Minimal | Local |
| H | Purchase and maintain backup generators | Severe Winter Storm, Thunderstorm/Lightning, Tornado, Emergency Management | City Council | On-Going | Minimal to Low | Local |
| H | Place alarms on storage facilities containing hazardous materials | Hazardous Materials (HAZMAT) | City Council | On-Going | Minimal | Local |
| H | Maintain law enforcement monitoring of large storage supplies | HAZMAT | City Council, Police | On-Going | Minimal | Local |
| H | Maintain mutual aid agreements with the Northeast Iowa response Group | HAZMAT | City Council | On-Going | Minimal | Local |
| H | Encourage backup power generation for local telephone systems and cellular operations | Communications Failure | City Council | On-Going | Minimal | Local |
| H | Seek to improve communications with other agencies | Communications Failure, Terrorism | City Council | On-Going | Minimal | Local |
| H | Maintain and keep storm drains clear of debris | Flash Flood | City Council, Public Works | On-Going | Minimal | Local |
| H | Follow monitoring requirements set forth by the Iowa DNR | Groundwater Contamination | City Council | On-Going | Low | Local |
| H | Maintain air conditioner(s) in community buildings | Extreme Heat | City Council, Public Works | On-Going | Minimal | Local |
| H | Secure the area (around a sinkhole) | Sinkholes | Public Works, Fire Dept. | On-Going | Minimal | Local |
| H | Establish transportation evacuation routes and protocols | River Flood | City Council, Fire Department | On-Going | Minimal | Local |

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| | | | | | | |
|---|---|--|-----------------------------|----------|-----------------|-----------------------|
| H | Maintain lists of personnel and equipment available to use with response plans | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| M | Install a snow fence around the wastewater treatment facility | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| M | Enforce sidewalk clearance ordinance | Severe Winter Storm | City Council | On-Going | Minimal | Local |
| M | Maintain use of snow fences in the city/county | Severe Winter Storm | City Staff | On-Going | Minimal | Local |
| M | Enforce and update building codes, as needed | Thunderstorm/Lightning, Windstorm, Tornado, Hailstorm, Expansive Soils, Earthquake | City Council, Zoning Admin. | On-Going | Minimal | Local |
| M | Encourage lead based paint and asbestos removal | HAZMAT | City Council | On-Going | Minimal | Local |
| M | Maintain, test, and replace warning sirens | Windstorm, Tornado, Hailstorm, Thunderstorm/Lightning, Communications Failure | City Council | On-Going | Minimal to Low | Local |
| M | Continue cooperation between county roads department and local fire departments during snow emergencies | Severe Winter Storm | City Council, Staff | On-Going | Minimal to Low | Local |
| M | Continue an annual inspection program for commercial and industrial properties | Fire | City Council, Fire Dept. | On-Going | Low to Moderate | Local |
| M | Continue fire prevention program | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| M | Maintain membership in the NFIP | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| M | Maintain, enforce and update floodplain ordinance | Flash Flood, River Flood | City Staff | On-Going | Minimal | Local |
| M | Identify, purchase and remove structures from flood hazard areas | Flash Flood, River Flood | City Council | On-Going | Low to Moderate | Local, Federal |
| M | Keep communication lines open with Nuclear Plant in Palo, IA | Radiological/Nuclear Event | City Council | On-Going | Low | Local |
| M | Maintain and/or develop a wellhead protection program | Groundwater Contamination | City Council | On-Going | Low | Local |
| M | Monitor the drinking water supply | Groundwater Contamination, Disease | City Council, Public Works | On-Going | Low | Local |
| M | Eliminate and cap private and abandoned wells in the city | Groundwater Contamination | City Council | On-Going | Moderate | Local |
| M | Eliminate the use of septic tank systems in the city limits | Groundwater Contamination | City Council | On-Going | Low | Local |
| M | Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Groundwater Contamination | City Council | On-Going | Low | Local, State, Federal |
| M | Maintain and update anti-virus software | Terrorism | City Staff | On-Going | Minimal | Local |
| M | Review and update fire codes as necessary | Fire, Explosion | City Council, Fire Dept. | On-Going | Minimal | Local |
| M | Provide fans and/or cooling shelter | Extreme Heat | City Council, Public Works | On-Going | Minimal | Local |
| M | Encourage community to plant shade trees | Extreme Heat | Public Works | On-Going | Minimal | Local |
| M | Identify and inventory potential sinkhole sites | Sinkholes | City Council, Public Works | On-Going | Minimal | Local |
| M | Educate city personnel to handle a sinkhole situation | Sinkholes | City Council | On-Going | Minimal | Local |
| M | Enforce the local zoning ordinances | Landslides/Mudflows | City Council, Zoning Admin. | On-Going | Minimal | Local |
| M | Update flood maps/flood studies for areas throughout the county | River Flood | City Council | On-Going | Minimal to Low | Local, Federal |

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| | | | | | | |
|-----------------------------------|--|--|-----------------------------------|-------------------|-----------------|----------------|
| M | Continue cooperation with county in developing flood mitigation efforts | Flash Flood, River Flood | City Council, Staff | On-Going | Minimal | Local |
| M | Continue working with the Bremer County Recovery Coalition | Flash Flood, River Flood | City Council | On-Going | Minimal | Local |
| M | Maintain and update emergency response plans | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| M | Maintain NIMS compliance | Emergency Management | City Council | On-Going | Minimal | Local |
| M | Conduct Mosquito Spraying | Human Disease, Animal Disease | City Council | Active – seasonal | Low | Local |
| L | Inspect and ensure vacant structures do not have rodents or infestations | Human Disease, Animal/Plant/Crop Disease | City Council | Active | Minimal | Local |
| L | Backup all digital data | Thunderstorm/Lightning | City Staff | On-Going | Minimal | Local |
| L | Identify areas throughout the county that would substantially benefit from outdoor warning sirens | Windstorm, Tornado | City Council | On-Going | Minimal | Local |
| L | Enforce no parking designations at special events | Transportation | City Council, Sheriff | On-Going | Minimal | Local |
| L | Monitor wells in areas of identified contamination | Groundwater Contamination | City Council | On-Going | Low | Local |
| L | Identify and map areas of past contamination | Groundwater Contamination | City Council, Public Works | On-Going | Low | Local |
| L | Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences | Terrorism | City Council, Sheriff | On-Going | Moderate | Local |
| L | Keep a supply of drinking water to distribute | Extreme Heat | Fire Department | On-Going | Minimal | Local |
| L | Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Disease | City Council | On-Going | Minimal | Local |
| L | Educate city personnel to identify risk areas | Expansive Soils | Public Works | On-Going | Minimal | Local |
| L | Enforce a curfew | Riot/Violent Demonstration | City Council, Sheriff | On-Going | Minimal | Local |
| L | Encourage flood proofing/elevating structures in the floodplain | River Flood | City Council | On-Going | Low to Moderate | Local, Federal |
| Public Awareness/Education | | | | | | |
| H | Educate the public | All | City Council, Staff | On-Going | Minimal | Local |
| H | Purchase NOAA weather radios | Thunderstorm/Lightning, Windstorm, Tornado, Radiological/Nuclear Event | City Council, EMA | On-Going | Minimal | Local |
| H | Keep HAZMAT manuals/information current and easily accessible | HAZMAT | All City personnel | On-Going | Minimal | Local |
| H | Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Communications Failure | City Council, EMA | On-Going | Minimal | Local |
| H | Encourage use of Iowa One call before digging | Communications Failure, Explosion | City Council, Staff | On-Going | Minimal | Local |
| H | Improve standard operating procedures for schools | Communications Failure | City Council, Staff, School Board | On-Going | Minimal | Local |
| H | Educate the public on maintaining their sump pumps | Flash Flood | City Council, Public Works | On-Going | Minimal | Local |
| H | Initiate and enforce burn ban in times of drought or as needed | Grass/Wildfire, Drought | Fire Department, Council | On-Going | Minimal | Local |
| H | Maintain and improve signals/signage along roadways and at railroad crossings | Transportation | City Council | On-Going | Minimal | Local |
| H | Establish alternative transportation routes should a road need to be closed | Transportation | City Council, Fire Dept. | On-Going | Minimal | Local |

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| | | | | | | |
|----------------------------|---|---|--|-------------|----------------|-----------------------|
| H | Encourage the public to receive vaccinations | Disease | City Council | On-Going | Minimal | Local |
| H | Cooperate with any countywide mass vaccination plan | Disease | City Council | On-Going | Minimal | Local |
| H | Initiate and enforce burn ban in times of drought or as needed | Drought | City Council, Fire Dept. | On-Going | Minimal | Local |
| H | Maintain communication with county contacts | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| M | Notify the media on shelter locations | Severe Winter Storm, Extreme Heat, Tornado | City Council | On-Going | Minimal | Local |
| M | Encourage and maintain enrollment in emergency notification system (ALERT IOWA) | Thunderstorm/Lightning, Windstorm, Tornado, Communication Failure | City Council, EMA | On-going | Minimal | Local |
| M | Encourage home owners to keep emergency kits | Windstorm, Tornado | Bremer County EMA, Council | On-Going | Minimal | Local |
| M | Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Fire | City Council, Fire Dept. | On-Going | Minimal | Local |
| M | Purchase emergency signs to be used in case of an incident | Transportation | City Council | On-Going | Minimal | Local |
| M | Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Emergency Management | City Council, EMA | On-Going | Minimal | Local |
| M | Inform the public of reputable and ill reputable contractors following disasters | Emergency Management | City Council, Staff | On-Going | Minimal | Local |
| M | Routinely test/maintain sirens and educate public on what to do when sirens activated | Tornado/Windstorm; Thunderstorm/Lightning/Hail | City Council | Active | Low | Local |
| L | Spread public awareness on importance of immunizations | Human Disease | City Council, Public Health, EMA, School Districts | Active | Minimal | Local |
| L | Identify fallout shelter locations | Radiological/Nuclear Event | City Council, EMA | On-Going | Minimal | Local |
| L | Encourage the use of proper materials and construction techniques | Expansive Soils | City Council, Zoning Admin. | On-Going | Minimal | Local |
| L | Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Emergency Management | City Council | On-Going | Minimal | Local |
| Structural Projects | | | | | | |
| H | Install new or retrofit existing facilities to have a storm shelter/safe room | Thunderstorm/Lightning/Hail, Tornado/Windstorm | City Council | Medium-Term | Moderate | Local, State, Federal |
| H | Encourage utility providers and developers to place all utilities underground | Severe Winter Storm, Communications Failure, Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| H | Maintain public works equipment | Severe Winter Storm | City Council | On-Going | Minimal to Low | Local |
| H | Use surge protectors to prevent electrical damage to critical and sensitive equipment | Thunderstorm/Lightning | City Staff | On-Going | Minimal | Local |
| H | Maintain a list of potential storm sewer projects | Thunderstorm/Lightning | City Council, Staff | On-Going | Minimal | Local |
| H | Construct or designate a safe room or storm shelter | Windstorm, Tornado, Hailstorm | Bremer County EMA, City Council, School Board | On-Going | High | Local, State, Federal |
| H | Acquire more water pumps | Flash Flood, River Flood, Dam | City Council | On-Going | Minimal to Low | Local |

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| | | Failure, Levee Failure | | | | |
|---|---|---|-------------------------------|----------|-----------------|--------------|
| H | Continue with improvement to the storm water system | Flash Flood | City Council | On-Going | Low to Moderate | Local, State |
| H | Prevent inflow and infiltration into the sanitary sewer | Flash Flood, River Flood | City Council, Staff | On-Going | Minimal | Local |
| H | Make upgrades to prevent sanitary sewer/storm sewer cross contamination | Flash Flood, River Flood, Infrastructure Failure | Public Works, Engineer | Active | Low | Local |
| H | Install rip rap around wastewater treatment facility | Flash Flood | City Council | On-Going | Minimal | Local |
| H | Maintain pump station | River Flood | City Council, Public Works | On-Going | Minimal | Local |
| M | Placement of lighting arrestors on power lines | Thunderstorm/Lightning | City Council | On-Going | Minimal | Local |
| M | Pursue partnership with rural water as the system expands | Fire, Explosion | City Council, Fire Department | On-Going | Minimal | Local |
| M | Continue to cooperate with pipeline owners and operators to ensure locations are marked | Fire, Explosion | City Council, Public Works | On-Going | Minimal | Local |
| M | Inspect any utility lines that are near a sinkhole | Sinkholes | Public Works | On-Going | Minimal | Local |
| M | Encourage construction of dikes, levees, dams, and retention ponds | River Flood | City Council, Staff | On-Going | Minimal | Local |
| M | Maintain and enforce policy that manufactured homes must be anchored | Tornado/Windstorm, Severe Winter Storm, Thunderstorm/Lightning/Hail | City Council | Active | Minimal | Local |
| M | Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | River Flood | City Council | On-Going | Minimal | Local |
| L | Install tiling to help water move away from structures | Expansive Soils | City Council | On-Going | Minimal | Local |

APPENDIX H: CITY OF WAVERLY

COMMUNITY PROFILE

Location

The City of Waverly is located in the central portion of Buchanan County and has the largest population among the county’s cities. Waverly is home to the Bremer County Courthouse and county departments, including County Emergency Management and Sheriff’s Office.

Natural Environment

The City of Waverly is located in southwest Bremer County in the northeast quadrant of Iowa at latitude 42.7° N x longitude 92.5° W. Elevations in Waverly peak at 1,050 feet above sea level, with an average elevation of 886 feet. The Cedar River divides the community, which is served by two major highways, U.S. Highway 218 (State Highway 27) and State Highway 3.

The terrain on which Waverly is built is generally the undulating topography that characterizes the agricultural areas of northeast Iowa. There are a few areas of steeper than normal slope with these being dispersed throughout the community adjacent to watercourses. The highest point in the community lies at approximately 1,050 feet above sea level and is located near the water tower on the east side of town.

The city is bisected by the Cedar River, which caused significant flood damage in 2008.

History

The Waverly area was originally given to the Winnebago Indians by a treaty that lasted from 1833 to 1850. In 1859, the Winnebago traded their lands in Iowa for lands further to the northwest.

The earliest non-American Indians to settle in the Waverly area arrived in 1852. Frederick Cretzmeyer, his brother Wendelin, and their families were the first to arrive. Soon

TABLE H1: CITY OF WAVERLY DEMOGRAPHICS

| <i>Government Framework</i> | Mayor – City Council |
|---|-------------------------|
| General Population, 2010 Census | |
| Total Population | 9,874 |
| Total Males | 4,685 |
| Total Females | 5,189 |
| Median Age | 33.1 |
| At-Risk Population, <18 Yrs | 2,013 |
| At-Risk Population, >64 Yrs | 1,656 |
| One Race-White | 9,409 |
| One Race-Black or African American | 165 |
| One Race-Asian | 122 |
| Two or More Races | 138 |
| Hispanic or Latino (of any race) | 132 |
| Total Household Population | 8,297 |
| Total Population in Group Quarters | 1,577 |
| Persons in Group Quarters – Correctional Institutions | N/A |
| Persons in Group Quarters – Nursing Homes | N/A |
| Persons in Group Quarters – Other Noninstitutions | N/A |
| Housing Characteristics, 2010 Census | |
| Total Housing Units | 3,717 |
| Total Owner-Occupied Housing Units | 2,665 |
| Total Renter-Occupied Housing Units | 779 |
| Total Vacant Housing Units | 273 |
| Total 1-Unit Detached and Attached Structures | 2,765 |
| Total 2, 3, and 4-Unit Structures | 377 |
| Total 5 to 19-Unit Structures | 226 |
| Total Mobile Homes | 139 |
| Year Majority of Housing Units were Built | 1969 or earlier (50.3%) |
| Average Household Size | 2.34 |
| Average Family Size | 2.86 |
| Specified Renter-Occupied Units | N/A |
| Median Gross Rent | \$599 |
| Specified Owner-Occupied Units | N/A |
| Median Housing Value, Owner-Occupied | \$142,800 |
| Method of Heating Household | Utility Gas (85.7%) |
| Households with No Telephone Service | 90 |

thereafter, William P. Harmon arrived and promptly purchased ten acres of land from the Cretzmeyers. Mr. Harmon constructed a sawmill with the goal of building a town around it. His dream was soon realized and many of the first homes in the Waverly area were built using wood from the Harmon sawmill and bricks from a manufacturing plant (Waverly’s first industry) started by Wendelin Cretzmeyer.

Since Waverly’s early existence, education has been a priority. The first schoolhouse, which was also used for public meetings, was built in 1855. Construction of the area’s first high school began in 1872. Seven years later, German Lutheran College was founded in Waverly. In 1935, what was originally German Lutheran College became what is today Wartburg College. The college has remained an important contributor to the economic, social, and cultural structure of the community. Wartburg College is now a fully accredited, four-year liberal arts college with an estimated enrollment of approximately 1,800 students. The college is named after the Wartburg Castle in Eisenach, Germany.

(Source: Bremer County Independent, Historical Issue)

Demographics

Population

The City of Waverly experienced growth in every decade of the 20th century. The Farm Crisis that affected the majority of communities in the region also slowed the population growth in Waverly. Waverly, unlike some neighboring communities, was able to maintain positive population growth, although somewhat decelerated, throughout the turbulent 1980s. This is a trend that eluded Bremer County as a whole during the same period. According to the 2000 Census information, Waverly maintained positive population growth during the 1990s by posting a five percent increase. From 2000 to 2010, the population increased over ten percent to 9,874 persons. Tables H1 and H2 provide an overview of the city’s population characteristics.

Community Services

The City of Waverly has a municipal water supply with an elevated storage capacity of 1,750,000 gallons. The capacity of the water plant is approximately 6,000,000 gallons. Average daily consumption is roughly 1,000,000 gallons. Peak recorded consumption is 1.8 million gallons.

| TABLE H2: CITY OF WAVERLY DEMOGRAPHICS | |
|--|----------|
| <i>Economics Characteristics, 2010 Census</i> | |
| Population 16 years and over | 8,050 |
| Population In Labor Force (16 yrs+) | 5,402 |
| Persons in Civilian Labor Force | 5,388 |
| Persons Employed | 4,985 |
| Persons Unemployed | 403 |
| Persons in Armed Forces | 14 |
| Mean Travel Time to Work in Minutes (16 yrs & over) | 13.8 |
| Persons Employed in Management, Professional, or Related Occupations | 1,970 |
| Persons Employed in Service Occupations | 1,009 |
| Persons Employed in Sales and Office Occupations | 1,197 |
| Persons Employed in Farming, Fishing, or Forestry Occupations | 11 |
| Persons Employed in Construction, Extraction, or Maintenance Occupations | 303 |
| Persons Employed in Production, Transportation, or Material Moving Occupations | 495 |
| Median Household Income | \$61,308 |
| Median Family Income | \$76,875 |
| Per Capita Personal Income | \$26,007 |
| Families below Poverty Level | 3.7% |
| Individuals below Poverty Level | 10.4% |
| Unemployment Rate, | 5.0% |
| <i>Social Characteristics, 2010 Census</i> | |
| School Enrollment (3 yrs and over) | 3,518 |
| Nursery School, Preschool | 162 |
| Kindergarten and Elementary School (grades 1-8) | 1,001 |
| High School (grades 9-12) | 515 |
| College or Graduate School | 1,840 |
| Education Attainment: Population 25 Years and Over | 5,810 |
| Persons with Less than 9 th Grade | 168 |
| Persons with 9 th to 12 th Grade, No Diploma | 180 |
| Persons with High School Degree or Equivalency | 1,679 |
| Persons with Some College, No Degree | 1,150 |
| Persons with Associate Degree | 564 |
| Persons with Bachelor’s Degree | 1,400 |
| Persons with Graduate or Higher Degree | 674 |
| Persons with a Disability Status (5 yrs+) | 896 |
| Persons that Speak a Language other than English at Home (5yrs+) | 300 |

The current Waste Water Treatment Facility consists of waste management treatment tanks located in the southeast corner of the city near the intersection of 8th Street SE and 17th Avenue SE. The wastewater is transported to the facility with the assistance of nine (9) wastewater lift stations. The city currently has what is commonly referred to as a tertiary sewage treatment system. Over 95 percent of the city is served by the municipal sewer system. The average load in gallons per day is approximately 1,240,000 gallons. The system has a peak load of 2,951,000 gallons per day. The current design capacity is 2,330,000 gallons per day.

Table H3 shows the primary utility providers for the City of Waverly.

| TABLE H3: WAVERLY UTILITY PROVIDERS | | | | | | |
|--|--------------------|---|--------------------------------|-----------------|-----------------|-------------------|
| Electric | Natural Gas | Telephone/Internet | Cable | Water | Sewer | Sanitation |
| Waverly Utilities | MidAmerican Energy | Waverly Utilities; Mediacom; Century Link | Waverly Utilities; Mediacom | City of Waverly | City of Waverly | City of Waverly |

HAZARDS & RISK ASSESSMENT

Section 3 identified and profiled the hazards for the entire planning area. However, each community analyzed their own vulnerability to those hazards applicable to their jurisdiction. Using the methodology outlined in Section 3 (Vulnerability Assessment), the City of Waverly evaluated the risk associated with a specific hazard, defined by probability and frequency of occurrence, magnitude, severity, exposures, and consequences. Waverly’s vulnerability assessment provides in-depth knowledge of the hazards and vulnerabilities that affect the community. This analysis provides an all-hazard approach when evaluating the hazards of that affect the city, and the associated risks and impacts each hazard presents.

As mentioned previously in Section 3, the vulnerability assessment requires a five-year review with periodic updates, as needed. Potential future hazards and impacts may result from changing technology, new critical facilities, infrastructures, and development patterns, as well as demographic and socioeconomic changes that occur within or outside the area.

Disaster frequency and its effects or severity are important as a basis for planning emergency response and mitigation. Natural hazards tend to reoccur on a predictable seasonal basis, whereas manmade or technological events tend to change over time with advancement in technology and methods of operation. Five criteria were used by the Committee to assure a systematic and comprehensive approach to hazard analysis for their individual jurisdictions including: Historical Occurrence, Probability, Magnitude or Severity, Warning Time, and Duration.

The Committee assessed the defined hazards relevant to potential impact on the city. Using the scoring criteria previously defined (Tables 19-22) the city

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assessed each of the identified hazards based on probability, magnitude/severity, warning time, and duration. The scores for each of the factors were weighted using the formula below to develop the final hazard assessment score.

$$(Probability \times .45) + (Magnitude/Severity \times .30) + (Warning Time \times .15) + (Duration \times .10) = \text{Final Hazard Assessment Score}$$

Table G3 is the analysis scores for the City of Waverly. As shown in Table H3, the five hazards for Waverly are: Severe Winter Storm, Thunderstorm/Lightning/Hail, Tornado/Windstorm, River Flooding, and Infrastructure Failure.

| TABLE H3: CITY OF WAVERLY HAZARD RISK ASSESSMENT | | | | | | |
|--|-----------------------------|-------------|------------------------|-----------------|----------|-----------------|
| Hazard Rank | Hazard | Probability | Magnitude/ Severity | Warning Time | Duration | Hazard Score |
| 1 | Severe Winter Storm | 4 | 2 | 1 | 3 | 2.85 |
| 2 | Thunderstorm/Lightning/Hail | 4 | 1 | 3 | 2 | 2.75 |
| 3 | Tornado/Windstorm | 1 | 4 | 4 | 2 | 2.45 |
| 4 | River Flooding | 2 | 2 | 1 | 4 | 2.05 |
| 4 | Infrastructure Failure | 1 | 2 | 4 | 4 | 2.05 |
| 6 | Flash Flood | 2 | 1 | 4 | 1 | 1.90 |
| 7 | Sinkholes | 1 | 1 | 4 | 4 | 1.75 |
| 7 | Radiological Incident | 1 | 1 | 4 | 4 | 1.75 |
| 9 | HAZMAT Incident | 1 | 1 | 4 | 2 | 1.55 |
| 9 | Transportation Incident | 1 | 1 | 4 | 2 | 1.55 |
| 9 | Terrorism | 1 | 1 | 4 | 2 | 1.55 |
| 12 | Earthquake | 1 | 1 | 4 | 1 | 1.45 |
| 12 | Grass/Wild Land Fire | 1 | 1 | 4 | 1 | 1.45 |
| 12 | Landslide | 1 | 1 | 4 | 1 | 1.45 |
| 15 | Animal/Plant/Crop Disease | 1 | 1 | 1 | 4 | 1.30 |
| 15 | Drought | 1 | 1 | 1 | 4 | 1.30 |
| 16 | Extreme Heat | 1 | 1 | 1 | 4 | 1.30 |
| 16 | Human Disease | 1 | 1 | 1 | 4 | 1.30 |
| 16 | Dam / Levee Failure | 1 | 1 | 1 | 1 | 1.00 |
| 16 | Expansive Soils | 1 | 1 | 1 | 1 | 1.00 |

Vulnerability – Identifying Assets (Critical Facilities)

This section will describe the vulnerability for existing and future buildings, infrastructure, and critical facilities in those areas that can be impacted by the prioritized hazards. Since the majority of the hazards have an undefined hazard area (i.e., affecting an entire community or larger area) the following vulnerability assessment will only address those hazards that affect a localized area – specifically flooding and tornados.

Identifying the location of critical facilities and designated shelters (see Table H4) in Waverly is important in order to assess their vulnerability to hazards. These critical facilities are important to the operation of a community and the key installations of the economic sector. For instance, high-density residential or commercial development, schools, police stations, government buildings, hospitals and care facilities, airports, gas stations, hardware stores, grocery stores, and water supply systems. It is important to know the threats each hazard poses to these facilities. *Attachment 6L* illustrates the location of identified critical facilities throughout the community.

As of June 2001 there were 126 nursing home beds, 30 assisted-living units and 38 independent-living units in Waverly.

The county’s only airport, Waverly Municipal Airport (C25), is located two miles northwest of Waverly’s central business district and is accessible from US 218 via 210th St.

According to available data sources, Waverly is projected to see an increase in population over the next thirty years. This population increase most likely will result in a greater need for additional critical facilities such as schools, daycare centers, or healthcare centers. However, the need for more critical facilities should be closely monitored these next 5 years and readdressed when this HMP is updated.

Flooding

The City of Waverly is potentially affected by flooding from the Cedar River, Dry Run Creek, and Unnamed Creek. The waterways have 100-year floodplains and there remain a number of houses located within those floodplains. Throughout previous years the city has participated in buy-out programs in efforts to remove houses from the floodplain. This will continue to be a priority for the city as opportunities for purchasing homes in the floodplain come forward in the future.

According to information obtained from the County Assessor’s office, there are approximately 636 residential structures (including some detached structures) and 61 commercial and industrial structures in the 100-year

| TABLE H4: CRITICAL FACILITIES IN WAVERLY | |
|--|---------------------------------------|
| Wartburg College | Waverly City Hall |
| Bremer County Courthouse | Waverly Municipal Hospital |
| Waverly-Shell Rock High School | Waverly-Shell Rock Middle School |
| Southeast Elementary School | Margaretta Carey Elementary School |
| West Cedar Elementary School | Bremwood Residential Treatment Center |
| Waverly Light & Power | Waverly Municipal Airport |
| Waverly Fire Station | Waverly Police Dept. Headquarters |
| Waverly Public Library | Bartels Assisted Living Apartments |
| <i>Source: Community</i> | |

| TABLE H5: CITY OF WAVERLY 100-YEAR FLOODPLAIN PROPERTIES (2014) | |
|--|--------------|
| Number of Structures | 697 |
| Building Value | \$15,313,730 |
| Dwelling Value | \$59,945,430 |
| Total Value | \$75,259,160 |
| <i>Source: Bremer County Assessor</i> | |

floodplain including the floodway.

After the 2008 floods, the Waverly-Shell Rock School District passed a referendum and received FEMA public assistance funds to construct a new elementary/middle school out of the floodplain. In doing so, the School District has eliminated the threat of river flooding from all but one public school facility. Southeast Elementary School (public) remains vulnerable to river flooding and dam failure upriver, as it is situated within the floodplain. St Paul’s Lutheran School (parochial/private) is also situated within the floodplain and, while not part of the School District, remains a concern to the community.

Tornadoes

As stated on the FEMA website²⁹, mobile homes are highly vulnerable to tornadoes. Even mobile homes that are tied down, offer little protection from tornadoes. According to the 2008-2012 American Community Survey 5-Year Estimates, there were an estimated 139 manufactured housing units in Waverly. Using the average persons per household, there are approximately 370 persons living in manufactured housing units in Waverly. Since the 2000 Census, there has been a significant increase in the number of manufactured housing units in Waverly, from an estimated 84 units to 139 units. This increased popularity has the potential to increase the potential risk of damage to people and property in the community.

The primary reason for the increased popularity of mobile and manufactured homes is affordability. Although HUD regulations and local building codes have increased the safety components of these types of houses significantly in recent history, this affordability has often been accompanied with a reduced level of safety. Based on national data on circumstance of tornado fatalities between 1985 and 1997, it was found that 38 percent of fatalities were occupants of mobile or manufactured homes, 27 percent were in permanent homes, 11 percent in vehicles, 9 percent outdoors (open), 4 percent in businesses, 4 percent in structures with long-span roofs, and 2 percent in schools. These data highlight the high exposure of occupants of mobile and manufactured homes (*AR State Hazard Mitigation Plan, 1999*).

In addition, persons living in some multi-family housing units may also be at risk due to the lack of a proper tornado shelter. In 2010 there were 813 multi-family housing units in apartment buildings housing from 2 to 20 or more apartments. According to this, approximately 2,163 persons were living in multi-family housing units. Nursing homes or skilled living centers are also highly vulnerable to tornadoes. These facilities are designed for caring for the elderly population, majority of which use wheelchairs or other assistance devices, limiting mobility. Also, the majority of nursing homes are constructed as a single-level building with or without basements. Therefore, additional attention needs to be taken to ensure the safety of the residents and employees before, during, and after a tornado event. And as mentioned earlier, Waverly has 126 nursing home beds, 30 assisted-living units and 38 independent-living units.

| TABLE H6: CITY OF WAVERLY “AT-RISK” POPULATION | |
|---|-------------|
| | 2010 |
| Total City Population | 9,874 |
| Elderly (65 yrs and older) | 1,656 |
| Youth (under 18 yrs old) | 2,013 |
| Householder Living Alone | 1,005 |
| Non-English Speaking Population (speaks English less than ‘very well’, 5yrs+) | 79 |
| Population Living in Poverty | 881 |
| Population in Mobile Homes | 370 |
| Group Quarters Population | 1,577 |
| Persons with Disabilities (age 5+) | 896 |
| Persons w/Hearing Difficulty | 289 |
| Persons w/Vision Difficulty | 91 |
| Persons w/Cognitive Difficulty | 196 |
| Persons w/Ambulatory Difficulty | 451 |
| Persons w/Self-Care Difficulty | 153 |
| Persons w/Independent Living Difficulty | 184 |

Source: U.S. Census, 2010 and Iowa Data Center

²⁹ Federal Emergency Management Agency (FEMA), <http://www.fema.gov/areyouready/tornadoes.shtml>

There are two safe rooms completed or near-completion in the Waverly-Shell Rock School District. The first was built in 2011 in the Middle School auditorium and has a capacity of approximately 850 persons. The second is currently in the process of being completed and will have a capacity of approximately 1,000 persons. There still remains a need for safe rooms at the School District's elementary school facilities.

Under the auspices of the County Emergency Management office, Bremer County has compiled a list of shelters within each community. The list includes such information such as location, heating source, water source, overall capacity, sleeping capacity, and feeding capacity. The details of the list can be found in full in the "*Contingency Plan for Bremer County.*" The list of shelters within Waverly included the following:

- St. John Lutheran Church – 311 4th Ave SW
- Trinity United Methodist Church – 1400 W Bremer Ave
- Bartels Home – 1922 5th Ave NW
- Waverly Municipal Hospital – 312 9th St SW
- Bremer County Courthouse – 415 E Bremer Ave
- Waverly-Shell Rock Middle School – 215 3rd St NW
- Waverly-Shell Rock High School – 1415 4th Ave SW
- Wartburg College
 - Becker Science Hall – 111 10th St. NW
 - Field House – 1015 2nd Ave NW
 - Knights Gym – 231 10th St. NW
 - Luther Hall – 200 9th St NW
 - The W – 100 Wartburg Blvd

It should be noted that there are several other structures that could serve as suitable shelters in certain events. The above list consists of those structures that meet the specific requirements of a fallout shelter as defined by the State of Iowa. The Emergency Management Coordinator is responsible for reviewing the fallout shelter compliance of the above named structures during the regular plan reviews.

Vulnerability – Social Assets (Populations)

The social vulnerability assessment identified how the hazards affect the population of Waverly and it is assumed that the identified populations are more likely to require assistance during times of disaster; therefore, are considered, generally speaking, more "at-risk" than the remaining population.

The "at-risk" population must be identified and targeted in successful mitigation efforts. Table H6 presents an overview of the at-risk population in Waverly

according to information retrieved from the 2010 U.S. Census and Iowa Data Center.

Tornadoes

As mentioned previously, persons living in mobile homes, also known as manufactured housing are also at risk from tornadoes. At the time of the 2010 Census, there were 139 mobile homes in Waverly. Again using the average persons per household, there are approximately 370 persons living in these housing units.

According to Table H6, 16.8 percent of residents are 65 years or older. There are 1,577 persons living in group quarters, indicating the remaining elderly populations live throughout the community. According to the Iowa Department of Elder Affairs, the City of Waverly has 126 nursing home beds and 30 assisted living facility units.

Persons under the age of 18 are also at higher risk during some disasters. This is mostly due to the fact that young persons often are not aware of the proper actions to take in the event of a disaster. In addition, very young children would be more susceptible to a disaster such as a disease epidemic simply due to their age. In 2010, there was 20.4 percent of the community's total population under the age of 18. Fortunately, as a result of the Waverly-Shell Rock School District's efforts to construct two safe rooms, many school-age children will have a safe destination in the event of a tornado during school hours.

Finally, persons living in some multi-family housing units may also be at risk, due to the lack of a proper emergency shelter. In 2010, there were 813 multi-family housing units housing from 2 to 20 or more apartments. According to this, approximately 2,163 persons were living in multi-family housing units.

Flooding

Portions of Bremer County are highly vulnerable to floods, especially along the Cedar River. The City of Waverly is no exception. Flooding puts the entire population at some level of risk, whether through the flooding of their homes, businesses, or places of employment, or the road, sewer, and water infrastructure that serve them daily. High floodwaters can devastate homeowners with property damage, property loss, and extensive, time-consuming cleanup. Secondary effects caused by flooding can add to the property damage. Power loss can leave citizens without heat or air conditioning for extended periods of time. The transportation infrastructure of the community can be impacted by flooding events, which can endanger citizens attempting to travel or evacuate the area, as well as leave those remaining without goods and services.

Populations living in the 100-year floodplain are also at risk of sustaining personal injury or property damage. As mentioned earlier, there are currently 636 houses and 61 commercial/industrial/public structures located within the 100-year floodplain. Using the average persons per household figure from the 2010 Census of 2.66, there are approximately 1,692 persons living in the 100-year floodplain. Since the relocation of the Waverly-Shell Rock Elementary/Middle School after the flood of 2008, the only remaining public school facility in the floodplain is the Southeast Elementary School. St Paul's Lutheran School (parochial/private) is also situated within the floodplain, but is not administered by the Waverly-Shell Rock School District.

Vulnerability – Estimating Potential Property Losses

Valuations are an important component of hazard mitigation planning insomuch as it provides measurable data that can be used to form some type of estimate as to the potential losses a community could face in the event of a catastrophic disaster.

The valuations for the City of Waverly are available from the County Assessors and Auditors offices. City of Waverly’s property valuations are in Table H7.

Future Development

Future development within identified hazard areas can change the threat level of an area by placing critical facilities, businesses, transportation networks, utilities, and populations within vulnerable areas. While it can be difficult to curb development in the vulnerable areas, it is the jurisdiction’s advantage to be aware of development trends in order to successfully mitigate future hazards as risks increase. However, continued conformity with the State Building Codes and local land use ordinances and regulations (zoning, subdivision, floodplain management, etc.) will help to mitigate the effects hazards have on new and future development.

National Flood Insurance/Repetitive Loss Properties

The city participates in the National Flood Insurance Program (NFIP) and has a flood ordinance in place. As Table H8 shows, there are over 250 NFIP policies in place within the city.

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. There are 59 repetitive loss properties in the City of Waverly. River flooding is the most common cause of repetitive loss in Bremer County. Table H8 illustrates the number of repetitive loss properties for Waverly.

| TABLE H7: CITY OF WAVERLY’S VALUATIONS | | |
|--|-----------------------|--------------------------------------|
| | Total Valuation | Average Valuation per Unit or Parcel |
| Residential Valuation | \$ 457,372,680 | \$ 155,147/parcel |
| Commercial Valuation | \$ 104,576,140 | \$ 226,355/unit |
| Industrial Valuation | \$ 28,004,960 | \$ 500,089/unit |
| Agricultural Buildings | N/A | N/A |
| Agricultural Land | \$ 2,224,500 | \$ 778/acre |
| Utilities | \$ 6,198,511 | N/A |
| Railroads | N/A | N/A |
| Exemptions (military) | N/A | N/A |
| Gross Valuation | N/A | N/A |
| Total Net Valuation | \$ 598,376,791 | N/A |

Source: Bremer County Assessor and Auditors Office (1/1/2009)

| TABLE H8: NFIP AND REPETITIVE LOSS DATA FOR WAVERLY | | | | | | | |
|---|--------------------|------------------------------|----------------|-------------|---------|-----------------------|-------------------------|
| CID # | # of NFIP Policies | NFIP Insurance in Force (\$) | Total # of RLB | RLB Insured | # of RL | Total RLB Losses (\$) | RLB Losses Insured (\$) |
| 190030 | 265 | \$39,693,900 | 59 | 39 | 120 | \$2,500,017 | \$1,513,150 |

Source: Federal Emergency Management Agency (FEMA); Note: RLB = Repetitive Loss Building; NFIP data current as of 9/30/2016; Repetitive loss data current as of 11/30/2014

This HMP attempts to reduce loss by identifying potential natural and manmade hazards. As a result of many natural and manmade hazards, repairs and reconstruction area often completed in a way that returns the structure to pre-disaster condition, yet does little to prevent a reoccurrence of damage. Replication of the pre-disaster conditions allows for the repetitive cycle of property damage, reconstruction, and re-damage. Hazard mitigation is needed to ensure that such cycles are broken, that post-disaster repairs and reconstruction are analyzed, and sound, less vulnerable conditions are produced. Additionally, other mitigation strategies may be considered, such as voluntary property buy-outs.

MITIGATION STRATEGY

Hazard Mitigation Plan Goals

The hazard mitigation plan goals were reviewed by the Hazard Mitigation Planning Committee. The committee set as a priority the development of broad-based goals that would address a multitude of hazards and encompass a variety of mitigation activities. The hazard mitigation plan goals identified are in no particular order; they are as follows:

1. Reduce the chance of and impact of flooding in the community.
2. Take measures to minimize the occurrence of injuries and loss of life due to hazards.
3. Take measures to minimize or eliminate damages that may occur as a result of hazards.
4. Increase the city's ability to respond to natural disasters and man-made hazards.
5. Return to the community to similar or improved pre-event conditions as quickly as possible following a disaster event.
6. Maintain participation in the Bremer County Multi-Jurisdictional Plan.
7. Continually re-assess and re-evaluate the plan and mitigation activities.

Current Mitigation Actions

Prevention Mitigation Actions

In 1980 the Federal Emergency Management Agency conducted a standard Flood Insurance Study for the City of Waverly. The study looked at flooding from three primary sources: the Cedar River, Unnamed Creek, and Dry Run Creek. The study reflects 100 and 500-year flood levels for rivers and streams located in the unincorporated portions of Waverly. It is this study and the corresponding Flood Insurance Rate Maps that are used to enforce the county's flood plain ordinance. These maps were updated in 1989 as part of a Flood Insurance Study for all of Bremer County.

In January of 1980 the Dry Run Creek Drainage and Flood Control Study was prepared for the City of Waverly by Brice, Petrides & Associates, Inc. of Waterloo, IA. This study looked at the flooding characteristics of Dry Run Creek in Waverly. It then delineated the flood plain and identified flood problem areas. The plan

then presented, in detail, solutions to the identified problems.

On September 2nd, 1980 the City of Waverly became active members in the National Flood Insurance Program (NFIP) by adopting its initial floodplain ordinance. The Federal Insurance Administration manages the insurance component of the NFIP, and works closely with FEMA's Mitigation Directorate, which oversees the floodplain management aspect of the program.

The city updated the Floodplain Ordinance most recently in 1996. In accordance with NFIP guidelines, the ordinance does not allow for new construction within the floodplain. In addition, it requires those structures within the 100-year flood to: (a.) "be adequately anchored to prevent flotation, collapse or lateral movement of the structure"; (b.) "be constructed with materials and utility equipment resistant to flood damage" and; (c) "be constructed by methods and practices that minimize flood damage."

In the wake of the 1999 Cedar River flooding in Waverly, a report was conducted in order to identify projects that would mitigate the effects that future events would have on the city. The report was simply titled Waverly Flood Study. It was prepared for the City of Waverly by Stanley Consultants, Inc. This plan identified several projects and discussed impact and funding of the projects. The solutions derived from this study were incorporated into the alternatives section of the previous plan. Stanley Consultants updated the Waverly Flood Study in the winter of 2008, following record event flooding in the prior summer. Stanley Consultants focused much research on the city's intentions to construct an inflatable dam and address flash flooding concerns in the Dry Run Creek.

Floodplain management efforts have been made with the construction of several detention ponds in Waverly. These detention ponds are thought to have a tremendous impact on the Dry Run Creek flooding situation. Dry Run Creek is a creek that historically has flooded due to heavy localized rains. The result is flash floods, much different than the floods of the Cedar River, which usually are accompanied with substantial warning time. The detention ponds are expected to help control the water in the Dry Run Creek area.

In May 2011, AECOM released the Southeast Waverly Flood Protection Feasibility Study Summary Report prepared for the City of Waverly. The project consisted of completing a feasibility study for protecting the southeast portion of Waverly from flooding associated with the Cedar River. The City of Waverly requested AECOM to study the possibility of a proposed levee system to protect this area of the community from flooding. The study consisted of reviewing the existing FEMA Flood Insurance Study (FIS) Cedar River Flood Profiles and associated floodplain and floodway mapping for the City. In addition, aerial photography and LiDAR contours were used to develop preliminary alignments for the proposed Levee Protection System. Three levee alternatives were developed for the flood study area:

- Option 1 – 100-year flood protection with four feet of freeboard (provides two feet above 500-year protection, construction approximately \$9,542,000)
- Option 2 – 100-year flood protection with two feet of freeboard (provides zero feet above 500-year protection, construction approximately \$7,113,000)
- Option 3 – 100-year flood protection with zero feet of freeboard (construction approximately \$4,818,000)

Option 1 would be designed to FEMA Standards and would protect 173 properties with freeboard in the 100-year and 500-year floodplains. Option 2 would only

protect the 83 properties with freeboard in the 100-year floodplain, but not the remaining 90 properties in the 500-year floodplain. Option 3 does not include freeboard. The Study included two public participation meetings. The first was held on November 16, 2010, and the second was held on February 22, 2011. Comments received were reviewed and filed for the project.

The Waverly-Shell Rock Community School District is active in its efforts to add tornado safe rooms to its facilities. The Waverly-Shell Rock Middle School currently has a 750-seat auditorium which was built and designated as a safe room. The Middle School was built in 2011 in response to flood damage sustained by the Washington Irving Elementary School (grades 5-6) and the Waverly-Shell Rock Jr. High School (grades 7-8) in 2008. The safe room is designated and constructed to the meet the criteria established in the FEMA 361 publication.

In addition, the School District has completed a safe room in the Waverly-Shell Rock High School. The safe room is an addition to the existing school which will also serve the school’s science department. Construction of the addition is completed. As with the Middle School safe room, the High School safe room is designed and constructed to meet the guidance criteria established in the FEMA 361 publication. The safe room is also compliant with the City of Waverly’s Planning and Building requirements as well as the State Fire Marshal’s office.

Table H9 outlines the current planning and regulatory documents for Waverly.

| TABLE H9: CURRENT PLANNING AND REGULATORY DOCUMENTS FOR WAVERLY | | | | | | | | |
|---|--------------------|---------------|------------------|-------------------------|---------------------------------|-------------------------|-----------------------|------------------------|
| Previous HMP | Comprehensive Plan | Building Code | Zoning Ordinance | Subdivision Regulations | Floodplain Management Ordinance | Tree-Trimming Ordinance | Storm Water Ordinance | Snow Removal Ordinance |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Source: City

Property Protection Mitigation Actions

As a result of the 1999 Flood and a Federal Disaster Declaration, the City participated in a Structural Acquisition program funded through FEMA, IDED, and the Iowa Emergency Management Division (IEMD). There were three phases of housing buyouts. The first two required matching funds to the IEMD funds. The City developed a list of structures that would be candidates for buyout. This list was then forwarded to FEMA where a cost/benefit analysis was performed. In all, the funds were used to purchase 10 homes in the city along the Cedar River. A total of \$444,847 was spent in the purchase of the homes. An additional \$11,150 was spent for the relocation of tenants living in two homes that were rental properties. The intent of buying out houses in the flood plain is to remove people from harm’s way.

As a result of the 2008 Flood the City has participated in in a Structural Acquisition program funded through FEMA and Iowa Homeland Security Emergency Management. Some residential property owners opted to participate in the Hazard Mitigation Grant Program (HMGP) and the State of Iowa Community Development Block Grant (CDBG) program. These properties, as a condition of receiving grant monies, are obligated to remain as permanent green space

forever as a condition of the City receiving said funds. As a result of these programs, 69 flood-damaged single-family properties were removed using HMGP, and 20 flood-damaged single-family properties were removed using CDBG, totaling 89 properties altogether. Of these 89 properties, 28 were rental properties.

Additionally, after the 2008 Flood, the Waverly-Shell Rock School District moved the Elementary/Middle school out of the floodplain using FEMA public assistance funds.

Public Education and Awareness Mitigation Actions

Information regarding how to protect oneself in the event of a tornado is largely publicized in the form of flyers, radio, newspaper, and television announcements. The City provides basic safety information for various hazard events (i.e., tornados) and what to do before, during, and after an event. The Waverly-Shell Rock School District maintains its own procedures for conducting safety drills during school hours.

Emergency Services Mitigation Actions

The City of Waverly has relatively new sirens in place that cover the entire populated area of the City as well as the School District within the City limits. Each one of these sirens is equipped with a battery back up to ensure operation in the event of a power failure. In the event of a tornado, the spotter contacts the dispatcher at Law Center who then activates the tornado sirens. The first test of the current system took place in 2001. In addition to this system, some facilities in the City of Waverly still maintain and use the Plectron Warning System.

There are also a wide variety of early warning messages provided through local radio and television stations as well as the cable Weather Channel. Furthermore, the National Oceanic and Atmospheric Administration (NOAA) Weather Radio broadcasts are also available in the community. NOAA Weather Radio is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. NOAA Weather Radio broadcasts National Weather Service warnings, watches, forecasts and other hazard information 24 hours a day. Other locations that warnings and watches can be found are television, Internet, and radio (KWAY and KWAR are local broadcasts). In addition, the City of Waverly currently has in place E911 Emergency Assistance. The E911 System is administered through the City of Waverly-Bremer County Law Office.

The Waverly-Shell Rock School District maintains NOAA radios in each of its safe rooms.

Communication of upstream river depths has been important in being able to predict river levels. With a river gage in Charles City (upstream on the Cedar River from Waverly) and another near the Horton Road bridge forecasting river crests has become a very accurate endeavor. The advancement of real-time data has been very influential in these efforts. During past hazards such as the 1999 and 2008 Floods, emergency services were coordinated from the public works department, which also serves as the emergency response center. This facility is old and not an ideal venue for coordinating disaster services. The committee identified the need for a new or alternative site from which to coordinate these activities.

On June 19th, 2000 an official Flood Communication Protocol was officially adopted by the City Council of the City of Waverly. This document was prepared in order to develop a consistent method for notice to citizens regarding high water and flood conditions on the Cedar River.

Also on the City’s website is a link to the Code Red Service, which is available to all citizens including the Waverly-Shell Rock School District. The Code Red Service acts as a reverse 911 system. In the event of an emergency/hazard, the system would activate, essentially contacting each citizen residing within harm’s way with an automated message, warning them of potential danger. All citizens listed in the City’s phone directory are automatically entered into the system. Citizens also have the ability to enter a cell phone, work phone, and other additional alternative phone numbers into the system. Bremer County Emergency Management is responsible for contacting Code Red with the appropriate warning. County Sheriff’s Department, City Police, and Fire will coordinate with Emergency Management to communicate accurate information in a timely manner.

Bremer County’s Emergency Management Coordinator is based out of the City of Waverly, the county seat. 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 county. Although the Emergency Management Coordinator is accountable to the entire county, the location of the office in the Bremer County Sheriff’s Office is beneficial to the City of Waverly. The current Emergency Management Coordinator is Kip Ladage and the current contact information is as follows:

Bremer County Emergency Management
111 4th St NE
Waverly, Iowa 50677
319-352-0133
Email address: kladage@co.bremer.ia.us

| TABLE H10: FIRE & FLOOD INFORMATION FOR WAVERLY | | |
|---|---|------------|
| Fire Insurance Rating | National Flood Insurance Program (NFIP) (Y or N & Year Joined) | NFIP CID # |
| 5 | Yes, Joined in 3/2/84, Current Map 3/4/08 | 190030 |

Source: Community and FEMA

Law Enforcement

Police protection is provided by the Waverly Police Department, Bremer County Sheriff Department, and the Iowa State Patrol. Currently, there are a total of 15 sworn officers and 1 full-time secretary serving the Police Department. The Police department shares a building with the Bremer County Sheriff’s Department. Richard Pursell is the current Police Chief. Contact information is as follows:

Waverly Police Department
111 4th Street NE
Waverly, IA 50677
(319) 352-5400

Fire Protection

Fire protection is provided for Waverly with an authorized force of 30-40 volunteer firemen. Fire equipment includes three fire-fighting trucks, two tanker trucks, and one rescue unit. The fire station is located in the central part of the city, on the west side of the Cedar River. Waverly’s rating for insurance is Class 5 within city limits. Equipment used by the Waverly Fire Department includes three pumper trucks, two tankers, driving equipment, rescue van, 100’ aerial, 4 x 4 grass rig, boat, and an all-terrain rescue/ small fire vehicle. Mutual Aid agreements have been signed with every fire department in Bremer County and the Waverly Fire Department (Bremer County).Dennis Happel is the current Fire Chief. Contact information for the Waverly fire department is as follows:

Waverly Fire Department
121 1st Street SW
Waverly, IA 50677
(319) 352-5521

Medical Facilities

Waverly is served by one local hospital:

Waverly Health Center
312 9th Street NW
Waverly, IA 50677
(319) 352-4121

There are six other hospitals available in a 25-mile radius of the City of Waverly. Within Waverly, Covenant Medical Center of Waterloo owns and operates a clinic. Furthermore, there are clinics within Waverly Health Center, and Integra Health has an office in Waverly. These facilities are in addition to the many small doctor's offices and small clinics in the community.

Ambulance

Emergency rescue and ambulance service is provided throughout and beyond the city limits by the Waverly Health Center. The hospital also has a landing area for Life Flight helicopters. Helicopters arrive generally from one of three hospitals; Mayo Clinic of Rochester, MN; Covenant Medical Center of Waterloo, IA; and University of Iowa Hospitals and Clinics of Iowa City, IA.

HAZMAT

The City of Waverly 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, it also serves as a hazardous materials quick response unit to Bremer 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 with 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 City is also a partner in the Tri-County Drug Task Force. This group works with the city in the event of the discovery of a methamphetamine lab within city limits. The Task Force exists to assist the city Police Department in containment of the site and disposal of the hazardous chemicals.

Streets and Public Works Department

The City of Waverly relies on forecasting efforts to predict the onset of a winter storm. Current technology usually allows for several days' notice before the arrival of a major winter storm.

The NOAA estimates that approximately 70 percent of all deaths attributed to winter storms occur in an automobile. Therefore, the City of Waverly views proper snow and ice removal from roadways to be essential in mitigating negative effects of these events. Snow removal and ice prevention techniques are practiced by city and state employees on the corresponding local and state roadways within the city limits. The following is equipment currently available to the Waverly Public Works department that can be used for snow and ice removal:

- Two Graders
- Two End Loaders
- Seven Plow Trucks
- Two Small Plows for One Ton Truck
- Rotary Blower that can be mounted on an End Loader

The City also has a snow ordinance that is in effect during snow season. This ordinance serves to assist the City in its efforts to clear the city streets after a snow event. In an ideal winter storm scenario, it is estimated that all of the city roads can be adequately cleared within six hours or less barring continued moisture or high winds. In this scenario, travel would be reasonable after two hours.

Natural Resource Protection Mitigation Actions

Neither the City of Waverly nor the Waverly-Shell Rock School District has done any natural resource protection mitigation actions.

Structural Projects Mitigation Actions

Neither the City of Waverly nor the Waverly-Shell Rock School District has done any structural project mitigation actions.

Future Mitigation Actions

While the activities discussed above detail the City's efforts to mitigate hazards when possible and to respond to hazards in a timely and efficient manner, the Committee also recognizes that there are many more mitigation activities and projects that would benefit county residents. Thus, the Committee developed a list of future hazard mitigation activities that, if accomplished, would serve to further reduce the risk of hazards to the community. The list may include a combination of projects the Committee feels the community should attempt to accomplish as well as ongoing mitigation efforts that the Committee view as vital to the continued well-being of the public.

The Committee analyzed the potential mitigation activities. This analysis included a discussion of the potential benefits of implementing the activity, some hurdles that the community may face in implementing the action step, and the drawbacks of implementation. The analysis started by utilizing the STAPLEE feasibility criteria. The STAPLEE technique is a FEMA-suggested method of evaluation. The STAPLEE approach assesses both positive and negative impacts on the following aspects of a county: Social, Technical, Aministrative, Political, Legal, Economic, and Environmental. Based on this analysis, each activity was ranked as a High (H), Medium (M) or Low (L) need. However, not all identified activities may be applicable and are marked as such in Table H11.

Funding

Although in the long-term hazard mitigation actions will save money by avoiding the loss of lives or property damages, in the short-term each action will have an associated cost. The City will rely heavily on local funding sources to fulfill most of the plan obligations; however, they will also seek funds from State and Federal agencies for both pre- and post-disaster mitigation activities.

The estimated cost(s) for each mitigation action, program, or project is either: Minimal, Low, Moderate, or High depending upon various factors.

- Minimal: Cost estimate is \$10,000 or less based on using current staff, time commitment, continuous of current duties, proposed action/program/project, and funding sources.
- Low: Cost estimate for project range from \$10,001 - \$99,999 based on existing proposed treatment, time commitment, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.).
- Moderate : Cost estimate for project range from \$100,000 - \$299,999 based on existing conditions, time commitment, proposed action/program/project, any further study that is needed, and level of engineering, and project components (permits, acquisition, coordination, etc.), and funding sources.
- High : Cost estimate for project range is \$300,000 or higher based on existing conditions, time commitment, proposed action/ program/project, any further study that is needed, and level of engineering, project components (permits, acquisition, coordination, etc.), and funding sources.

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Implementation Strategy

Once the Committee identified and ranked the future hazard mitigation activities, they were then analyzed. In addition, the Committee established a timeline for each activity, identified the responsible party (ies) for each activity and finally related each activity to at least one of the five Hazard Mitigation Plan Goals listed above. Table H11 below is the City of Waverly and Waverly-Shell Rock School District’s Implementation Strategy.

| TABLE H11: CITY OF WAVERLY’S IMPLEMENTATION STRATEGY | | | | | | |
|---|---|---|--|----------------------------|---------------------------|-----------------------|
| Priority | Mitigation Action/Program/Project | Associated Hazard | Primary Agency Responsible for Implementation | Date for Completion | Estimated Cost (s) | Funding Source |
| Emergency Services | | | | | | |
| H | Train and educate emergency service personnel | Disease, Emergency Management, Explosion, Fire, Grass/Wildfire, HAZMAT, Riot/Violent Demonstration, Terrorism, Transportation | City Council | Ongoing | Moderate | Local, State |
| H | Maintain and acquire materials and equipment for emergency service personnel | Emergency Management, Fire, Grass/Wildfire, Riot/Violent Demonstration | City Council | Ongoing | Minimal | Local, State |
| H | Maintain mutual aid agreements | Emergency Management, Explosion, Fire, Grass/Wildfire, HAZMAT, Transportation | City Council | Ongoing | Minimal | Local |
| H | Continue to recruit volunteer first responders and promote these opportunities | Thunderstorm/Lightning | City Council | Ongoing | Minimal | Local |
| H | Continue working relationship with Tri-County Drug Task Force | Hazardous Materials (HAZMAT) | City Council, Sheriff | Ongoing | Minimal | Local |
| H | Regularly review and amend fire, medical, and HAZMAT response standard operating procedures | Communications Failure, Emergency Management | City Council, Fire Dept., Ambulance, EMA, Police | Ongoing | Minimal | Local |
| H | Review and update Incident Command procedures | Emergency Management, Nuclear Event | City Council, EMA | Ongoing | Low | Local |
| H | Update Emergency Response Plan | Emergency Management | City Council, EMA | Ongoing | Minimal to Low | Local |
| H | Develop a Continuity of Operations Plan | Emergency Management | City Council | Ongoing | Minimal | Local |
| M | Upgrade radio communications equipment as needed | Communications Failure, Explosion, Fire | Public Works, Fire Dept. | Ongoing | Minimal | Local |
| M | Improve water system to enhance firefighting capacity/ability | Fire | City Council | Ongoing | Low to Moderate | Local |
| M | Develop a comprehensive list of alternative routes for different fire scenarios | Fire | City Council | Ongoing | Minimal | Local |
| M | Maintain a flood response protocol for response, sand bagging, and evacuation procedures | Flood | City Council, EMA | Ongoing | Minimal | Local |
| M | Maintain inter-governmental cooperation, e.g. cost sharing | Grass/Wildfire | City Council | Ongoing | Minimal | Local |
| M | Evaluate equipment and personnel capacity | Disease | City Council | Ongoing | Minimal | Local |
| M | Install Automatic Vehicle Locators (AVL) in all emergency vehicles | Emergency Management | Fire Dept., Ambulances, Police, EMA | Ongoing | Minimal to Low | Local |

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| | | | | | | |
|------------------------------------|--|--|--|-----------|-----------------|-----------------------|
| L | Determine possible sheltering locations to be used in the event of a nuclear emergency | Radiological/Nuclear Event | City Council, EMA | Ongoing | Minimal | Local |
| L | Monitor the transportation of radioactive chemicals to the best of the city's ability | Radiological/Nuclear Event | City Council | Ongoing | Minimal | Local |
| Natural Resource Protection | | | | | | |
| H | Continue further development of and update Storm Water Management Program | Flood, Groundwater Contamination | City Council | Ongoing | Low | Local |
| H | Create a regional plan to address flooding concerns including wetland areas and detention ponds | Flood | City Council, Planning & Zoning, Engineering | Ongoing | Low to Moderate | Local |
| H | Monitor and enforce drainage regulations on residential, commercial, and industrial developments | River Flooding; Flash Flooding | City Council, Public Works | Ongoing | Minimal | Local |
| M | Follow monitoring requirements set forth by the Iowa DNR | Human Disease; HAZMAT | City Council | Ongoing | Low to Moderate | Local |
| M | Acquire and maintain equipment for debris removal of drainage areas and post disaster | River Flooding; Flash Flood | City Council | As needed | Low To Moderate | Local |
| M | Reduce groundwater nitrate contamination | Human Disease; River Flooding; Flash Flood | City Council; Watershed Management Authority; Private Landowners | Long-Term | Moderate | Local, State |
| L | Consider dredging the river | River Flooding | City Council | Ongoing | High | Local, State, Federal |
| L | Identify alternative water sources such as dry hydrants and ponds | Grass/Wildfire | Fire Dept | Ongoing | Minimal | Local |
| L | Continue Wastewater Facility Storm Water Program | Groundwater Contamination | City Council, Public Works | Ongoing | Minimal | Local |
| L | Discourage the clearing of trees and shrubbery from cliffs and steep sloping hills. | Landslides/Mudflows | City Council, Zoning Admin. | Ongoing | Minimal | Local |
| Prevention | | | | | | |
| H | Maintain tree trimming program | Severe Winter Storm, Thunderstorm/Lightning, Tornado/Windstorm | City Council | Ongoing | Low | Local |
| H | Systematically review, make necessary updates to, and enforce building code requirements | Earthquake, Fire, Thunderstorm/Lightning, Tornado/Windstorm | City Council, Zoning Admin. | Ongoing | Minimal | Local |
| H | Continue enforcement of snow ordinance | Severe Winter Storm | City Council, Sheriff | Ongoing | Minimal | Local |
| H | Acquire and maintain staff and equipment for snow removal | Severe Winter Storm | Public Works & Leisure Services | Active | Low to Moderate | Local |
| M | Continue an annual inspection program for commercial and industrial properties | Fire | City Council, Fire Dept. | Ongoing | Minimal | Local |
| M | Enforce existing laws | Transportation | City Council, Sheriff | Ongoing | Minimal | Local |
| L | Enforce City guidelines for burning | Fire | City Council, Fire Dept. | Ongoing | Minimal | Local |
| L | Continue annual fire inspection program | Fire | City Council | Ongoing | Minimal | Local |
| L | Research railway concerns | Transportation | City Council | Ongoing | Low | Local |
| L | Evaluate current terrorism mitigation efforts | Terrorism | City Council, School Board* | Ongoing | Minimal | Local |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

| | | | | | | |
|-----------------------------------|--|---|--|-----------|----------------|--------------|
| L | Establish local "cooling sites" for at risk populations such as the elderly and/or the disabled | Extreme Heat | City Council | Ongoing | Minimal | Local |
| L | Adhere to the Quarantine Plan | Disease | City Council | Ongoing | Minimal to Low | Local |
| L | Adhere to the current FAD (foreign animal disease) Plan | Disease | City Council | Ongoing | Minimal | Local |
| L | Continue to enforce City and County guidelines for burning | Drought | Fire Department, Council | Ongoing | Minimal | Local |
| L | Create a zoning ordinance restricting building near the top and bottom of steep sloping cliffs and hills | Landslides/Mudflows | City Council, Zoning Admin. | Ongoing | Minimal | Local |
| Public Awareness/Education | | | | | | |
| H | Educate the public | Disease, Expansive Soils, Grass/Wildfire, HAZMAT, Landslides/Mudflows, Levee Failure, Tornado/Windstorm, Transportation | City Council, Engineering, Public Works, Fire Department | Ongoing | Minimal | Local |
| H | Distribute emergency alerts and information through local media | All | EMA, TV/Radio stations | As needed | Minimal | Local |
| H | Test and maintain outdoor warning system | Tornado/Windstorm; Thunderstorm/Lightning/Hail | Public Works | Active | Minimal | Local |
| M | Develop and distribute annual hazard mitigation newsletter | All | City Council, EMA | Annually | Minimal | Local |
| M | Continue to promote NOAA Weather Radio awareness program | Thunderstorm/Lightning, Tornado/Windstorm | City Council, EMA | Ongoing | Minimal | Local, State |
| M | Continue to utilize ALERT IOWA notification system | Thunderstorm/Lightning | City Council, EMA | Ongoing | Low | Local |
| M | Expand weather spotter training | Tornado/Windstorm | Bremer County EMA, City Council | Ongoing | Minimal | Local |
| M | Maintain Crisis Communication Plan | Communications Failure | City Council | Ongoing | Low | Local |
| M | Enhance coordination of disaster plans in the community | Communications Failure | City Council | Ongoing | Minimal | Local |
| M | Enhance communication amongst the private sector, public sector, media outlets and citizens | Fire | City Council | Ongoing | Minimal | Local |
| M | Ensure proper training and certification of Floodplain Manager(s) | Flood | City Council | Ongoing | Minimal | Local |
| M | Review and improve education plans and file with the Community Emergency Response Team (CERT) | Emergency Management | City Council, Public Works, Engineering | Ongoing | Minimal to Low | Local |
| L | Develop a "Tornado Safe Room" awareness program | Tornado/Windstorm | City Council, School Board* | Ongoing | Minimal | Local |
| L | Provide information on proper ditch and open burning, when permitted, who to contact in case of an emergency, how to recognize the presence of explosive gasses, how to contain and manage an approved open fire and/or ditch burning, and how to react in the event of a fire | Grass/Wildfire | City Council, Fire Dept. | Ongoing | Minimal to Low | Local |
| L | Develop the proper steps to be taken in the event of an earthquake and communicate these procedures to the public | Earthquake | City Council | Ongoing | Minimal | Local |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

| Structural Projects | | | | | | |
|----------------------------|---|--|--|-----------|-----------------|------------------------------|
| H | Continue participation in the NFIP | Flood | City Council | Ongoing | Minimal | Local |
| H | Maintain, enforce and update floodplain ordinances as needed | Flood | City Council, Floodplain Administrator | Ongoing | Minimal | Local |
| H | Develop the Cedar River Parkway/Bridge | Fire, Transportation, Bridge Failure | City Council | Ongoing | High | Local, State, Federal |
| H | Encourage the inclusion of tornado safe rooms in newly constructed public facilities | Tornado/Windstorm | City Council, School Board* | Ongoing | Minimal | Local |
| H | Complete the Dry Run Creek obstruction and flash flooding analysis and consider other mitigation activities such as removal of the 3 rd St Bridge and Cedar River Trail Bridge | Flood | City Council | Ongoing | High | Local, State, Federal |
| H | Encourage local utilities to upgrade equipment used to locate and identify underground utility lines | Explosion | City Council, Public Works | Ongoing | Minimal to High | Local, Waverly Light & Power |
| H | Continue bridge inspection program | Bridge Failure | City Council, Public Works | Ongoing | Minimal to Low | Local |
| H | Explore replacement alternative for bridges | Bridge Failure | City Council, Public Works | Ongoing | High | Local, State, Federal |
| H | Continue to make necessary inspections and repairs to existing dam | Dam Failure | City Council, Public Works | Ongoing | Minimal to Low | Local |
| H | Inspect, and make upgrade as needed, to maintain safe operations of sanitary sewer collection system and treatment facility | Infrastructure Failure; River Flooding; Flash Flooding | Engineer | Active | Moderate | Local |
| M | Inspect/repair/replace water mains | Infrastructure Failure | Public Works | As Needed | Low | Local |
| M | Work with local utility companies to encourage burying of utility lines | Thunderstorm/Lightning, Tornado/Windstorm | City Council, Waverly Light & Power | Ongoing | Moderate | Local |
| M | Continue to install and update surge protectors on major electric lines | Fire, Thunderstorm/Lightning | Waverly Light and Power | Ongoing | Minimal | Local |
| M | Research and secure grant dollars for shelter and safe room construction | Tornado/Windstorm | City Council, School Board* | Ongoing | Minimal | Local |
| M | Construct additional storm shelters and tornado safe rooms | Tornado/Windstorm | City Council, School Board* | Ongoing | High | Local, State, Federal |
| M | Flood proof of structures in the floodplain | Flood | City Council | Ongoing | Minimal to High | Local, Federal |
| M | Replace or increase capacity of 3 rd Street bridge | Flood | City Council, Public Works | Ongoing | High | Local, State, Federal |
| M | Implement projects identified for the Cedar Lane Bike Path | Flood | City Council | Ongoing | High | Local, State, Federal |
| M | Enhance and maintain storm sewer capacity | Flood | City Council, Public Works | Ongoing | High | Local, State, Federal |
| M | Increase measures taken to protect and secure the city's critical infrastructure | Terrorism | City Council, Sheriff | Ongoing | Minimal to High | Local, State, Federal |
| M | Maintain a list of structures and sites to be used as gathering sites in the event of an emergency situation | Emergency Management | City Council | Ongoing | Minimal | Local |
| L | Retrofit current facilities to include tornado safe rooms | Tornado/Windstorm | City Council, School Board* | Ongoing | High | Local, State, Federal |

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| | | | | | | |
|---|---|-------|----------------------------|---------|-----------------|-----------------------|
| L | Continue acquisition and removal of homes from the floodplain | Flood | City Council | Ongoing | Minimal to High | Local, Federal |
| L | Construct a dike and levee system in SE Waverly, near SE 7 th Avenue | Flood | City Council, Public Works | Ongoing | High | Local, State, Federal |

ATTACHMENT I: MAPS

1: Location Maps

1 Bremer County

2: Geography Maps

a Topography

b Sinkholes

3: Flood Plain and Flood Scenario Maps

a/b Bremer County

c/d Denver

e/f Frederika

g/h Janesville

i/j Plainfield

k/l Readlyn

m/n Sumner

o/p Tripoli

q/r Waverly

4: Historic Tornado and Scenario Maps

a Bremer County - Historic

b/c Denver

d/e Frederika

f/g Janesville

h/i Plainfield

j/k Readlyn

l/m Sumner

n/o Tripoli

p/q Waverly

5: Critical Site Maps

a Bremer County

b Denver

c Frederika

d Janesville

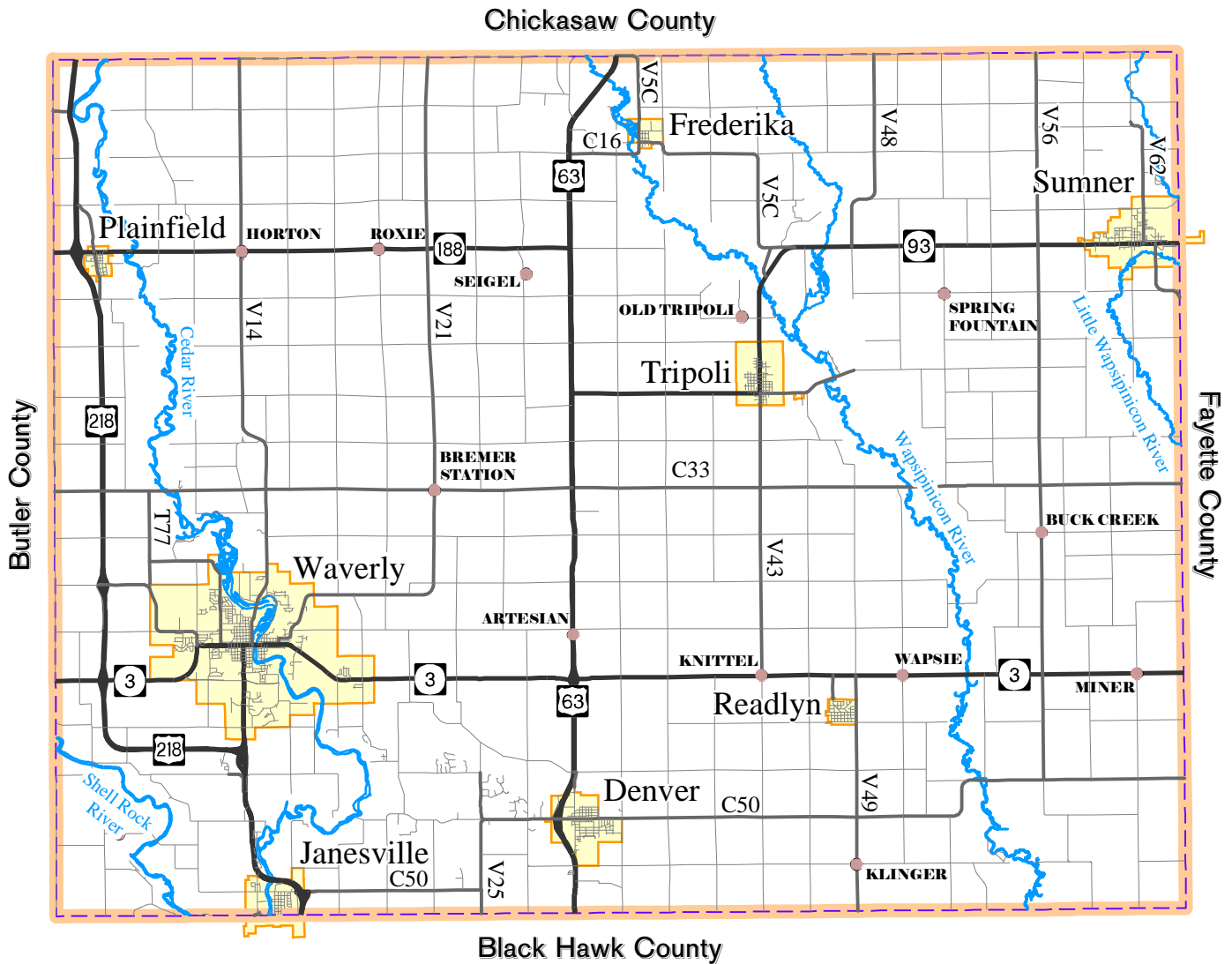
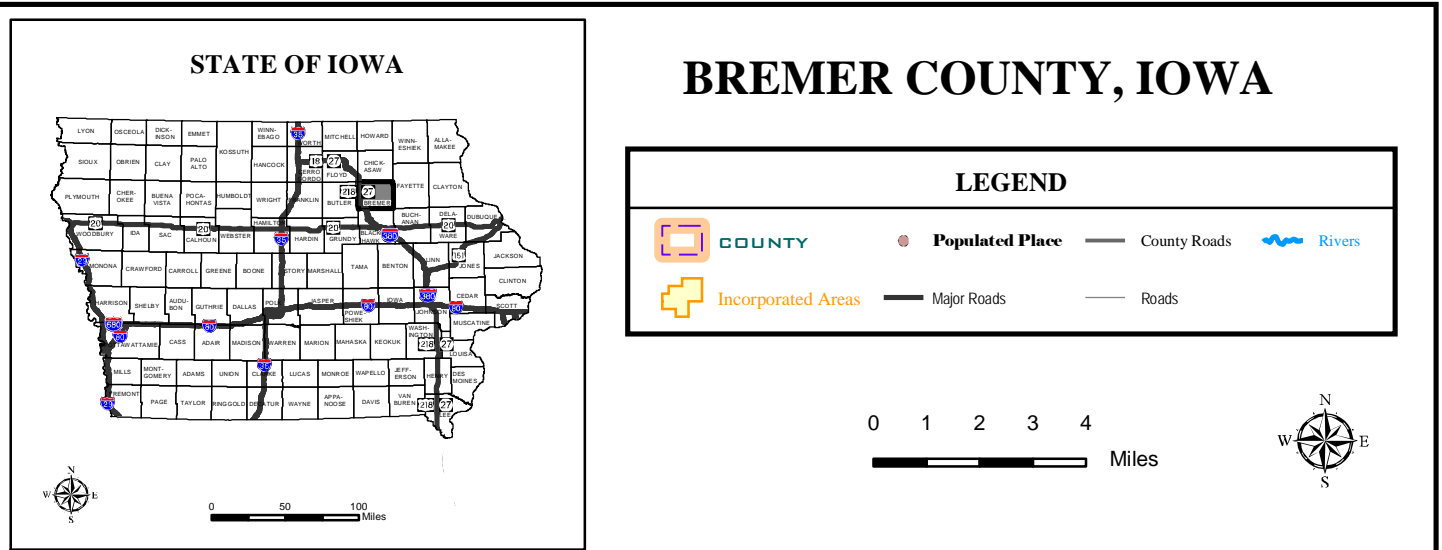
e Plainfield

f Readlyn

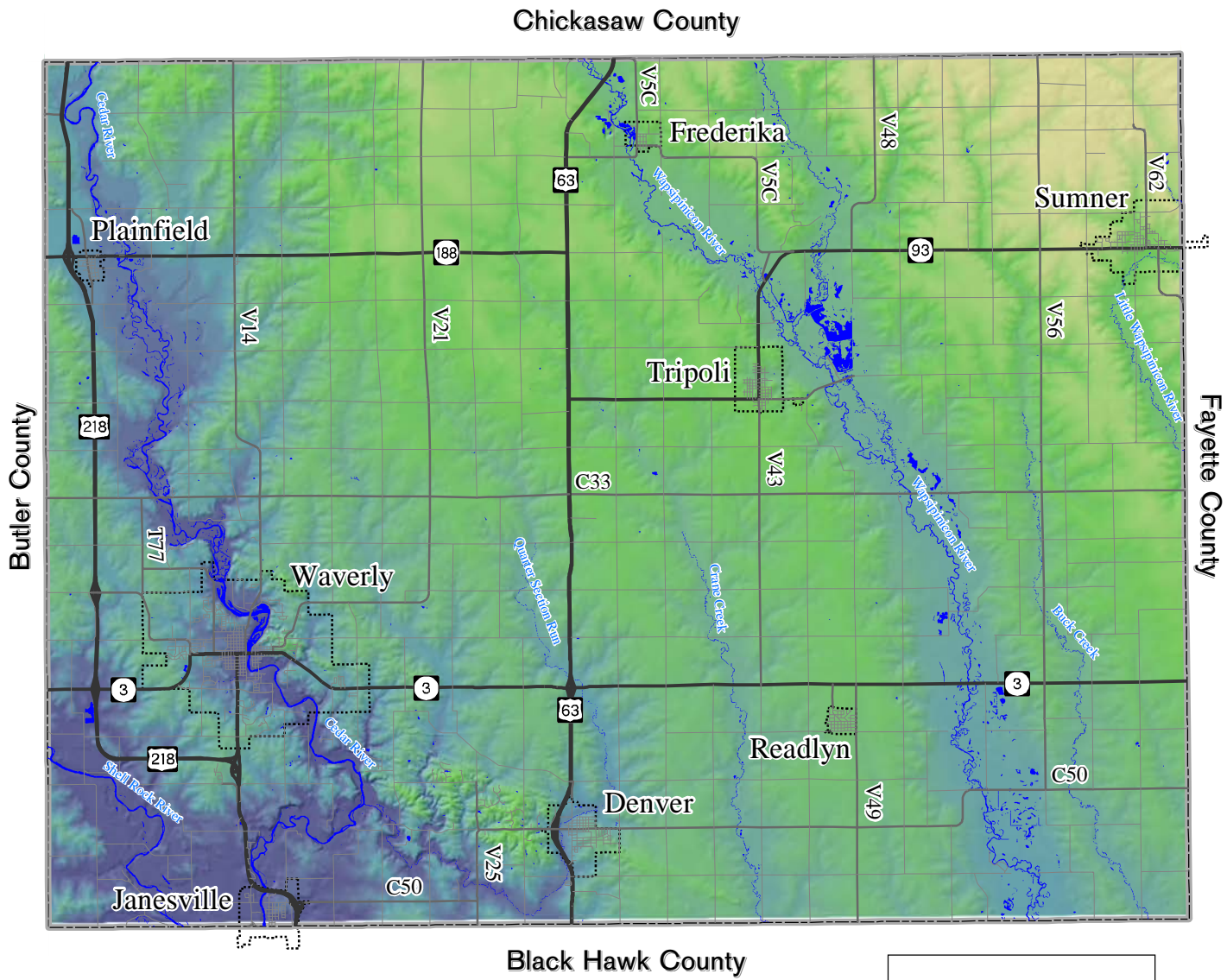
g Sumner

h Tripoli



i Waverly



Bremer County, Iowa Topographic Map

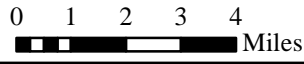



LEGEND

-  Water
-  Incorporated Areas

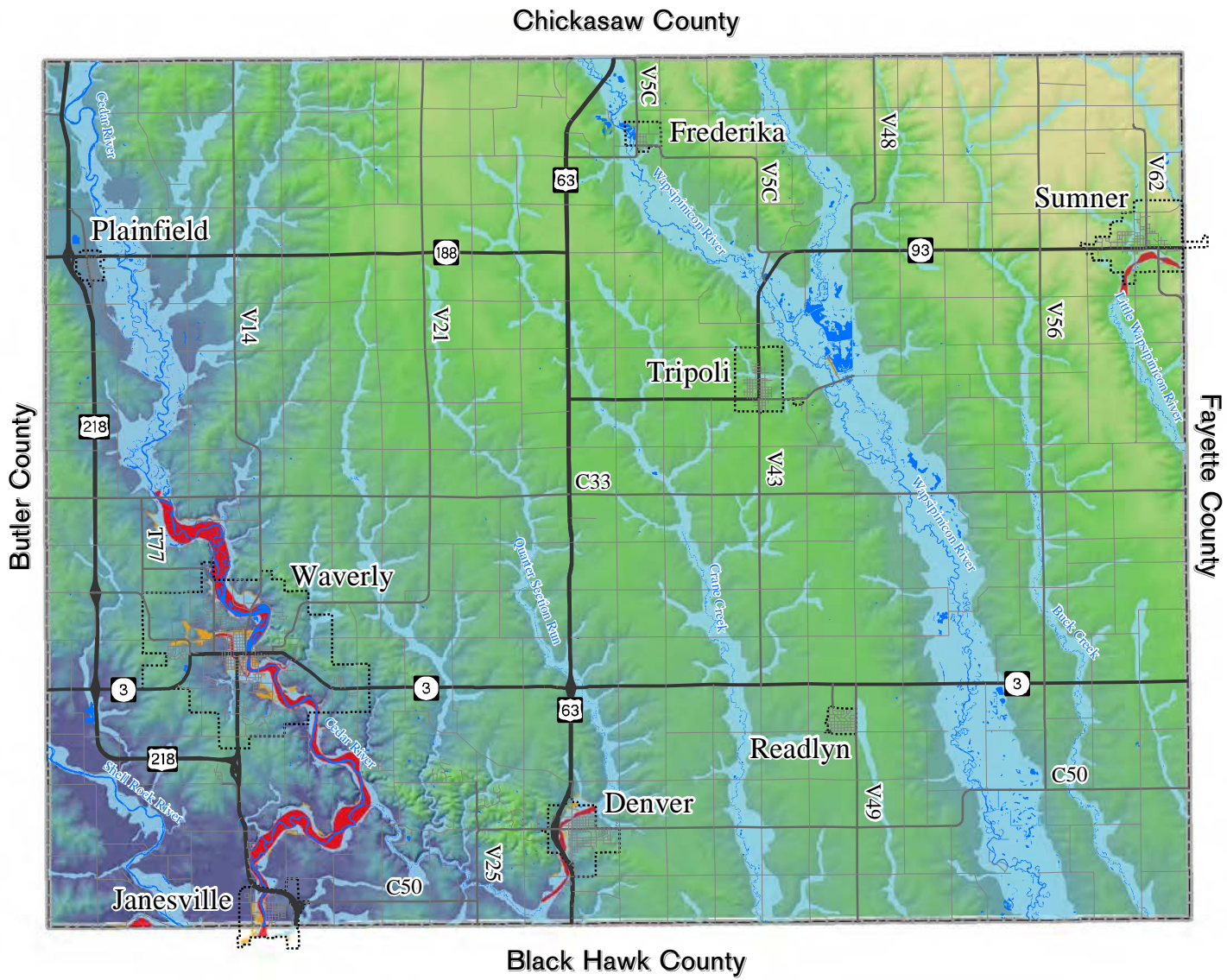
Elevation Feet



| | |
|--|------|
| | 1175 |
| | 1070 |
| | 970 |
| | 860 |






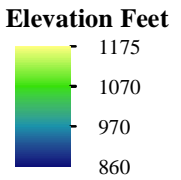
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 Please call 319-235-0311 to obtain permission for use.
 The map does not represent a survey, no liability is assumed for the accuracy
 of the data delineated herein, either expressed or implied by INRCOG.

Bremer County, Iowa Flood Plain Map



-  Water
-  Incorporated Areas


- Flood Zone**
-  Floodway and 1.0% Annual Chance of Flooding
 -  1.0% Annual Chance of Flooding
 -  0.2% Annual Chance of Flooding



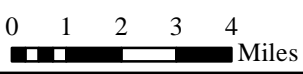
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

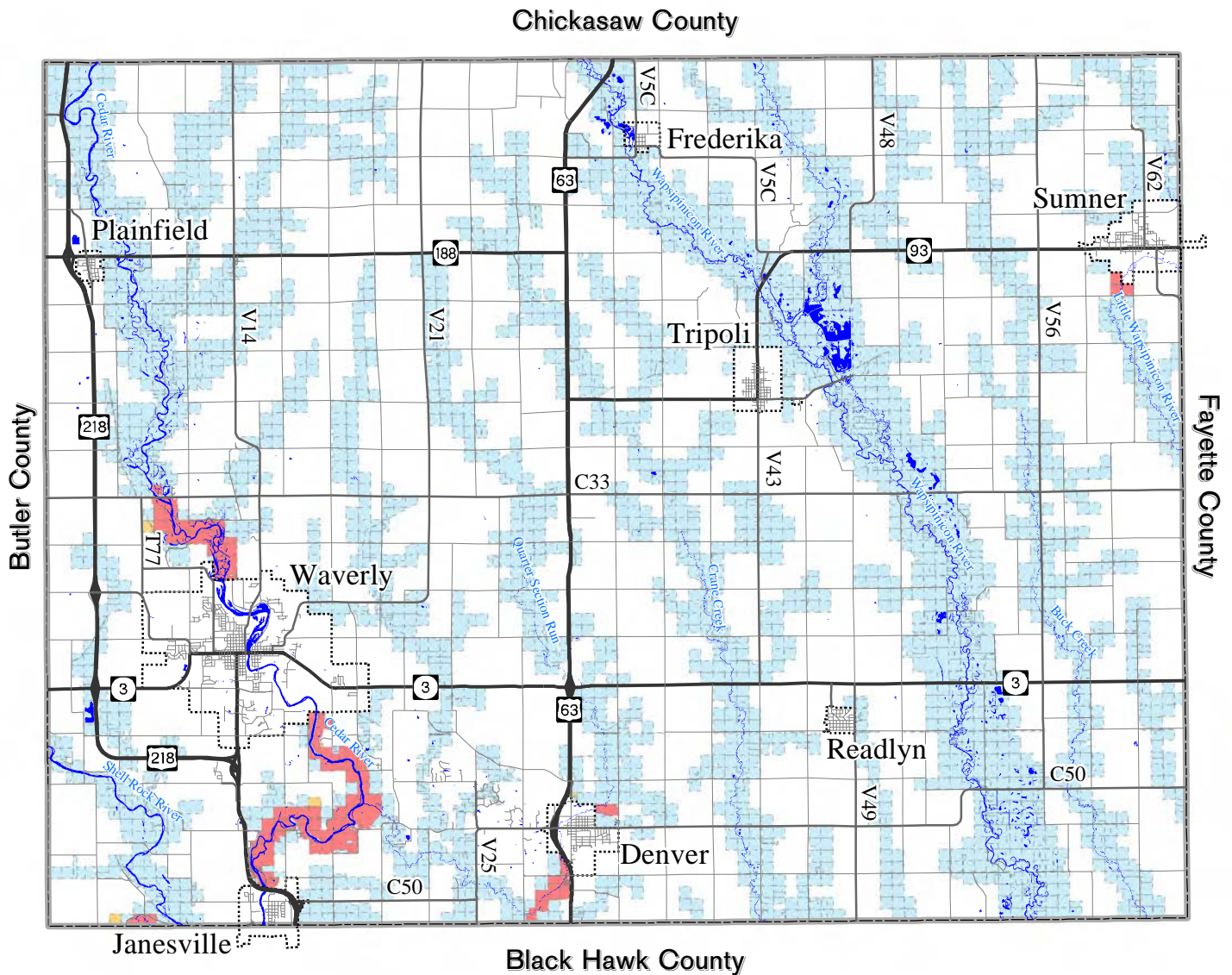
For actual determination if a location is within the floodplain please contact your local floodplain administrator.


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The map does not represent a survey, no liability is assumed for the accuracy of the data delineated herein, either expressed or implied by INRCOG.




Bremer County, Iowa Flood Scenario Map (Unincorporated Areas Only)





 Incorporated Areas

 Water

Flood Scenario

 Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding

 Parcels Affected by 1.0% Annual Chance of Flooding


 Parcels Affected by 0.2% Annual Chance of Flooding

| Damage Estimates | |
|--|-------|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 182 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 3,791 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 11 |
| Number of Parcels Not Affected by Flood Scenario - | 7,054 |

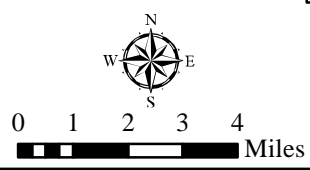
DISCLAIMER

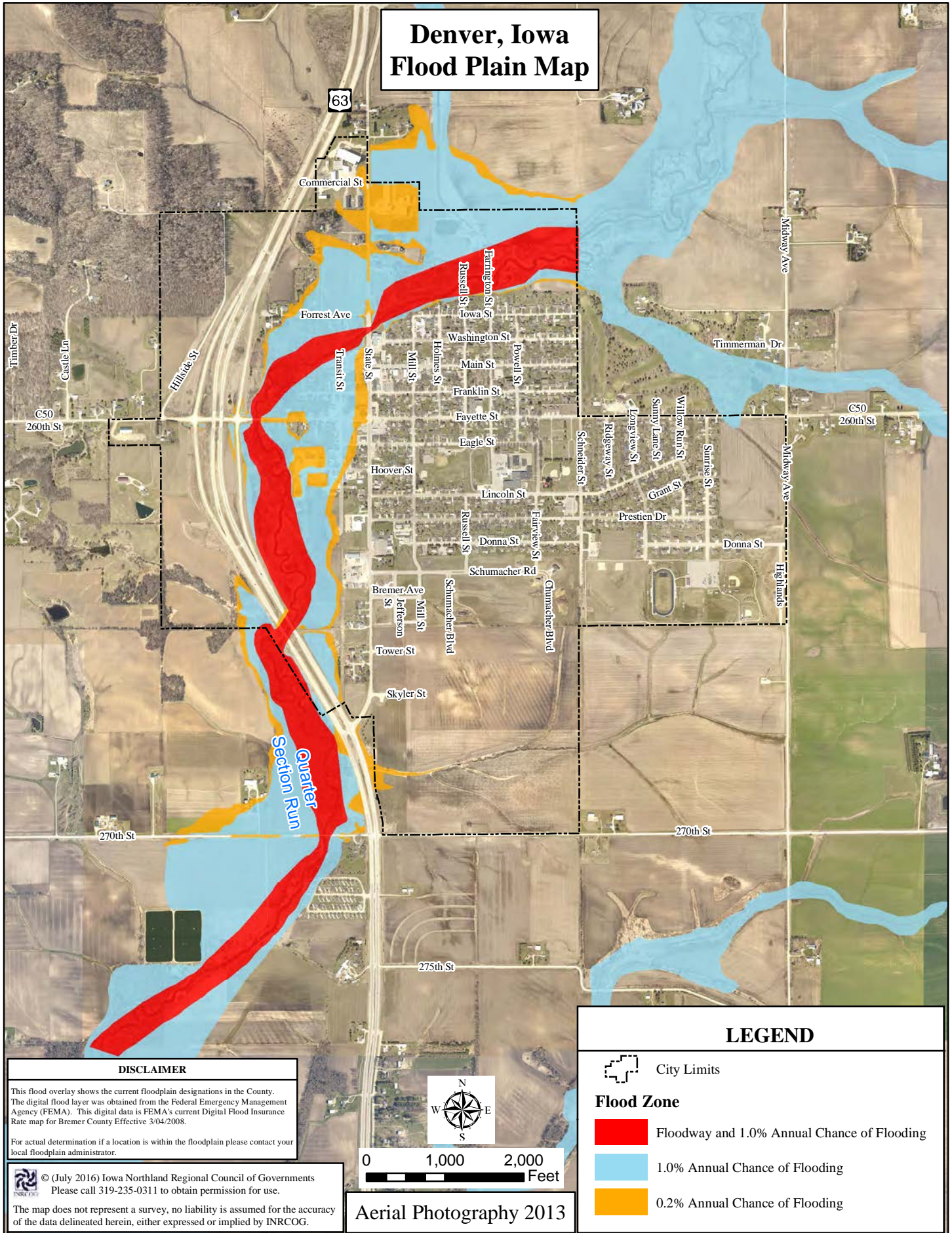
This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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The map does not represent a survey, no liability is assumed for the accuracy of the data delineated herein, either expressed or implied by INRCOG.





Denver, Iowa Flood Plain Map

Quarter
Section Run

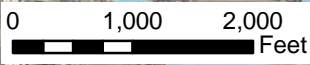
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

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Aerial Photography 2013

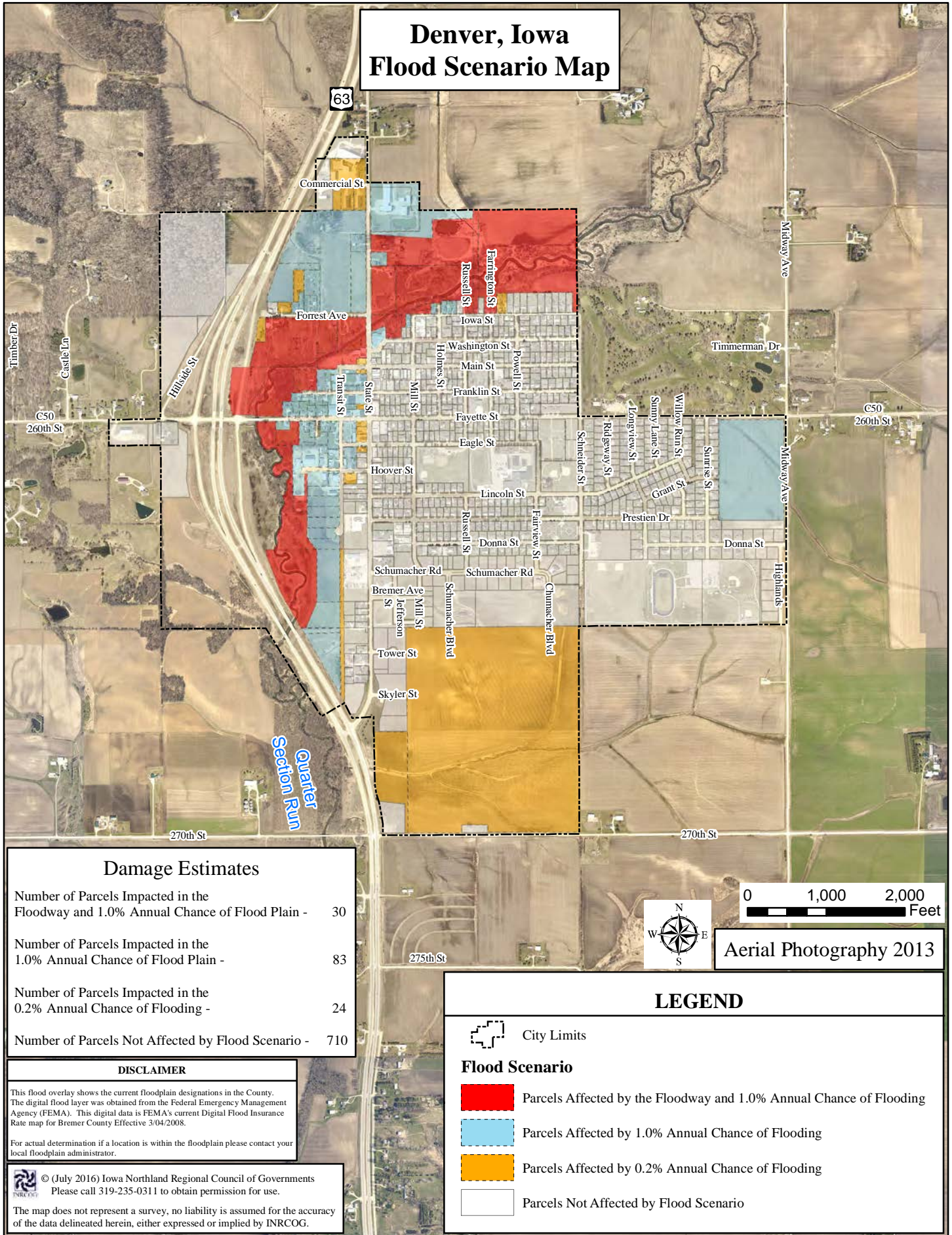
LEGEND

City Limits

Flood Zone

- Floodway and 1.0% Annual Chance of Flooding
- 1.0% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding

Denver, Iowa Flood Scenario Map



Damage Estimates

| | |
|--|-----|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 30 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 83 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 24 |
| Number of Parcels Not Affected by Flood Scenario - | 710 |

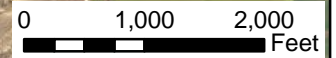
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

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Aerial Photography 2013

LEGEND

City Limits

Flood Scenario

- Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
- Parcels Affected by 1.0% Annual Chance of Flooding
- Parcels Affected by 0.2% Annual Chance of Flooding
- Parcels Not Affected by Flood Scenario



Aerial Photography 2013

DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

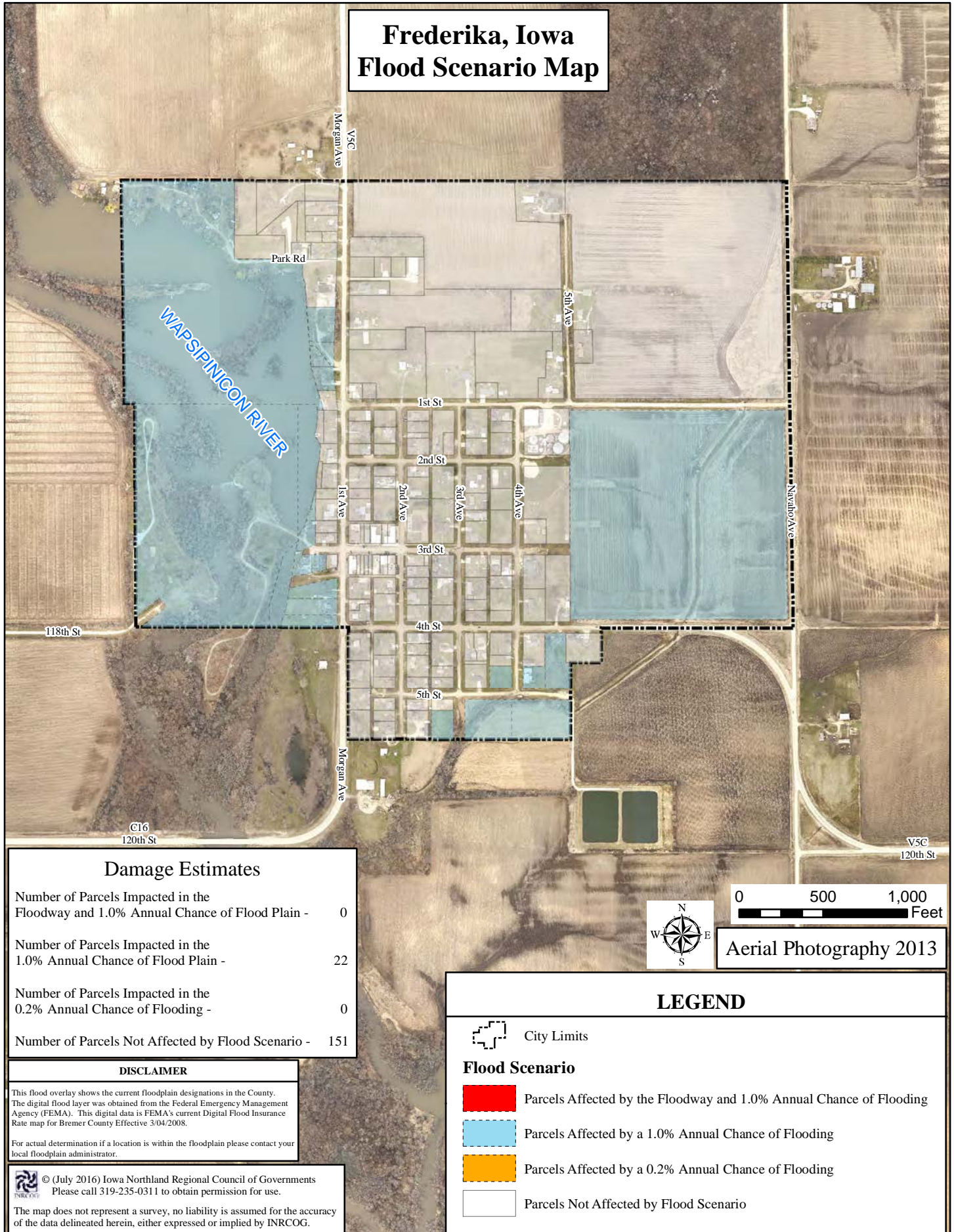
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LEGEND

- City Limits
- Flood Zone**
 - Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
 - 1.0% Annual Chance of Flooding
 - 0.2% Annual Chance of Flooding

Frederika, Iowa Flood Scenario Map



| Damage Estimates | |
|--|-----|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 0 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 22 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 0 |
| Number of Parcels Not Affected by Flood Scenario - | 151 |

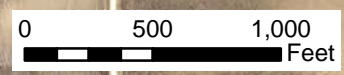
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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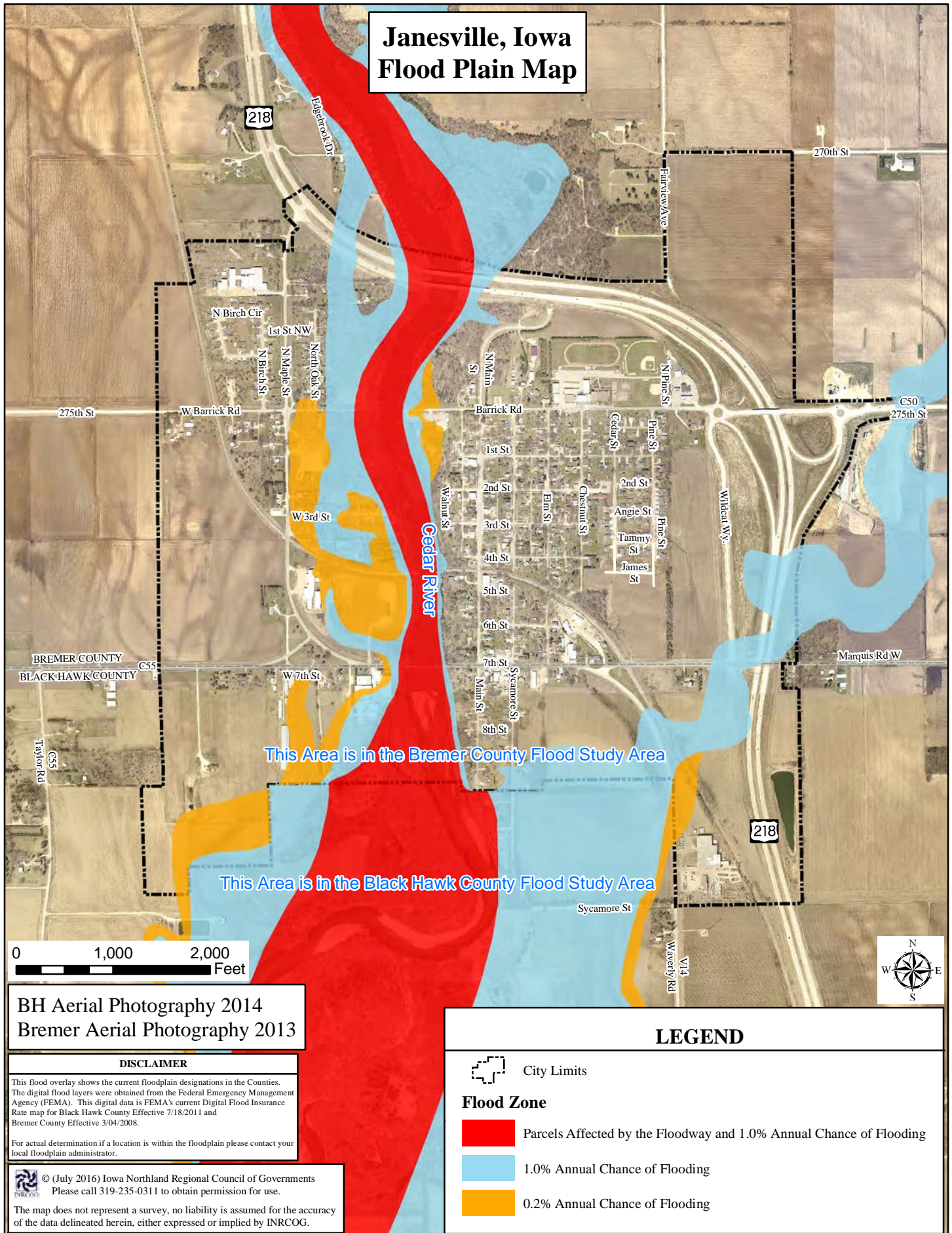
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Aerial Photography 2013

LEGEND

- City Limits
- Flood Scenario**
- Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
- Parcels Affected by a 1.0% Annual Chance of Flooding
- Parcels Affected by a 0.2% Annual Chance of Flooding
- Parcels Not Affected by Flood Scenario



Janesville, Iowa Flood Plain Map

This Area is in the Bremer County Flood Study Area

This Area is in the Black Hawk County Flood Study Area

0 1,000 2,000
Feet

BH Aerial Photography 2014
Bremer Aerial Photography 2013





DISCLAIMER

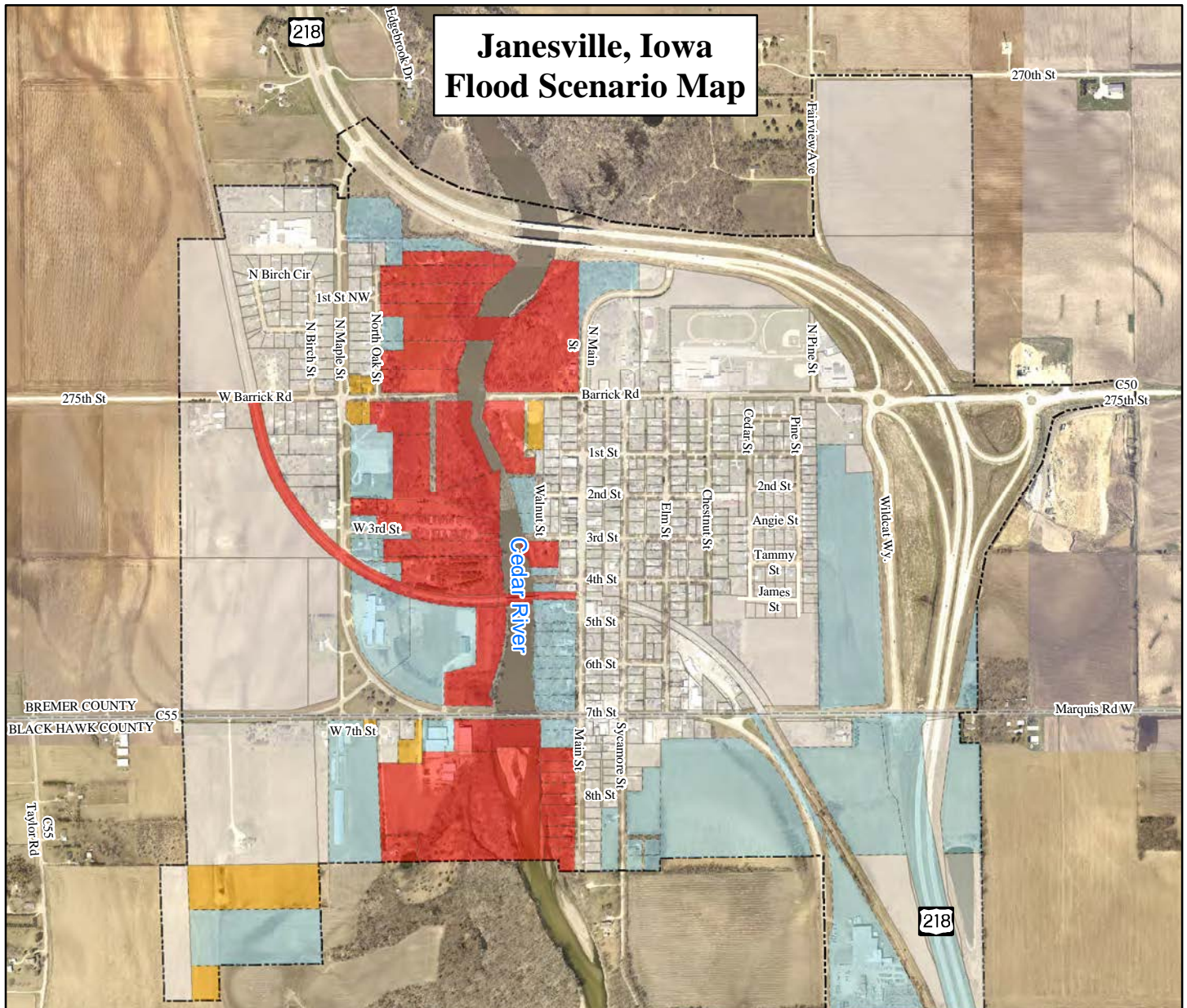
This flood overlay shows the current floodplain designations in the Counties. The digital flood layers were obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Black Hawk County Effective 7/18/2011 and Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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LEGEND

-  City Limits
- Flood Zone**
-  Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
-  1.0% Annual Chance of Flooding
-  0.2% Annual Chance of Flooding



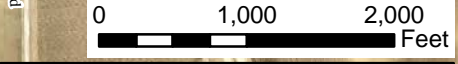
Janesville, Iowa Flood Scenario Map

| Damage Estimates | |
|--|-----|
| ALL OF JANESVILLE | |
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 39 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 49 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 9 |
| Number of Parcels Not Affected by Flood Scenario - | 464 |
| JANESVILLE ONLY IN BREMER COUNTY | |
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 24 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 32 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 5 |
| Number of Parcels Not Affected by Flood Scenario - | 415 |

DISCLAIMER

This flood overlay shows the current floodplain designations in the Counties. The digital flood layers were obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Black Hawk County Effective 7/18/2011 and Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.



BH Aerial Photography 2014
Bremer Aerial Photography 2013

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LEGEND

| | |
|-----------------------|---|
| | City Limits |
| Flood Scenario | |
| | Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding |
| | Parcels Affected by a 1.0% Annual Chance of Flooding |
| | Parcels Affected by a 0.2% Annual Chance of Flooding |
| | Parcels Not Affected by Flood Scenario |



Plainfield, Iowa Flood Plain Map

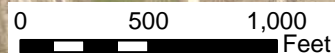
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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Aerial Photography 2013

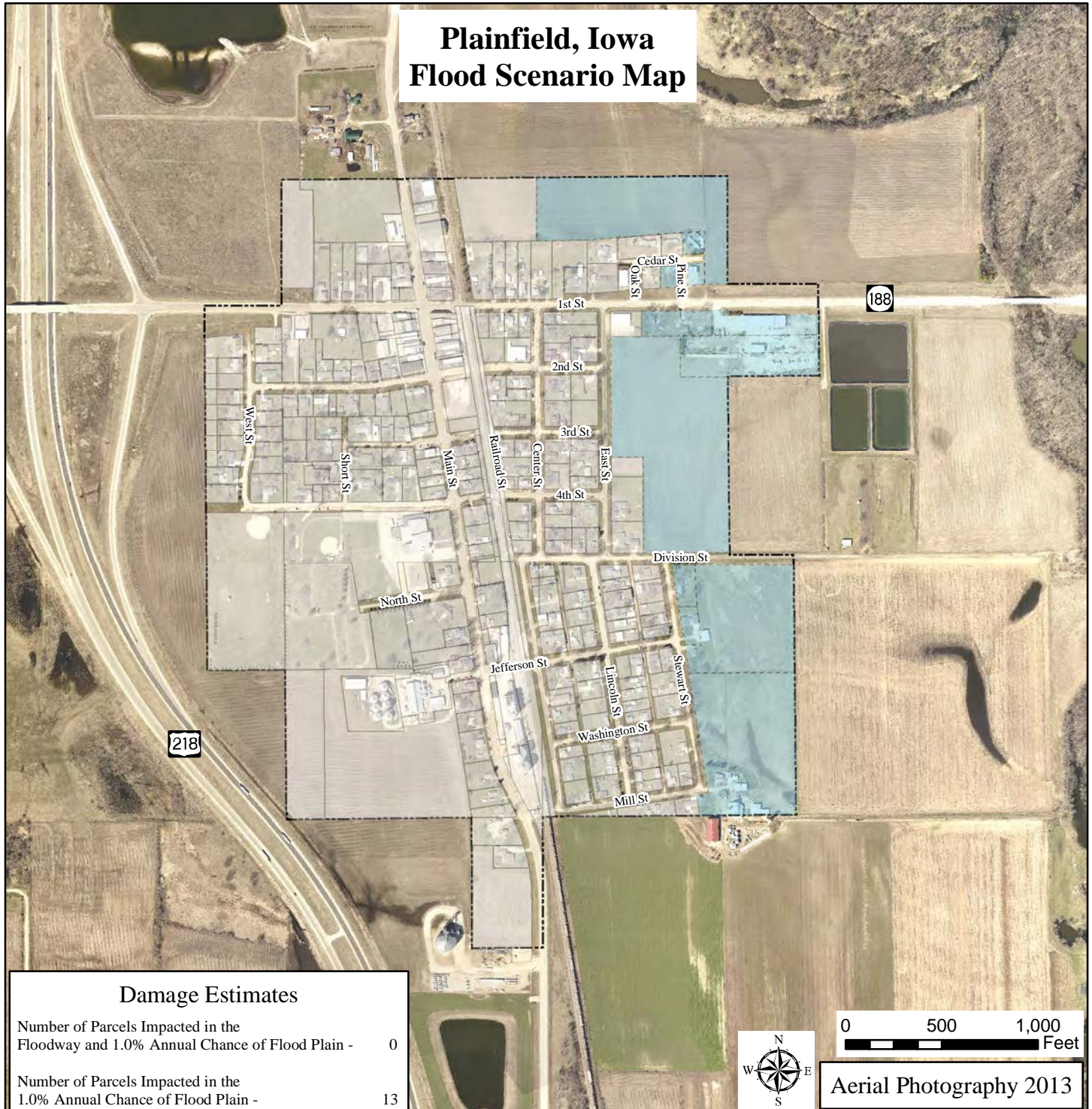
LEGEND

City Limits

Flood Zone

- Floodway and 1.0% Annual Chance of Flooding
- 1.0% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding

Plainfield, Iowa Flood Scenario Map



Damage Estimates

| | |
|--|-----|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 0 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 13 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 0 |
| Number of Parcels Not Affected by Flood Scenario - | 288 |

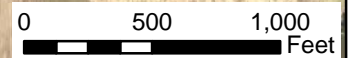
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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Aerial Photography 2013

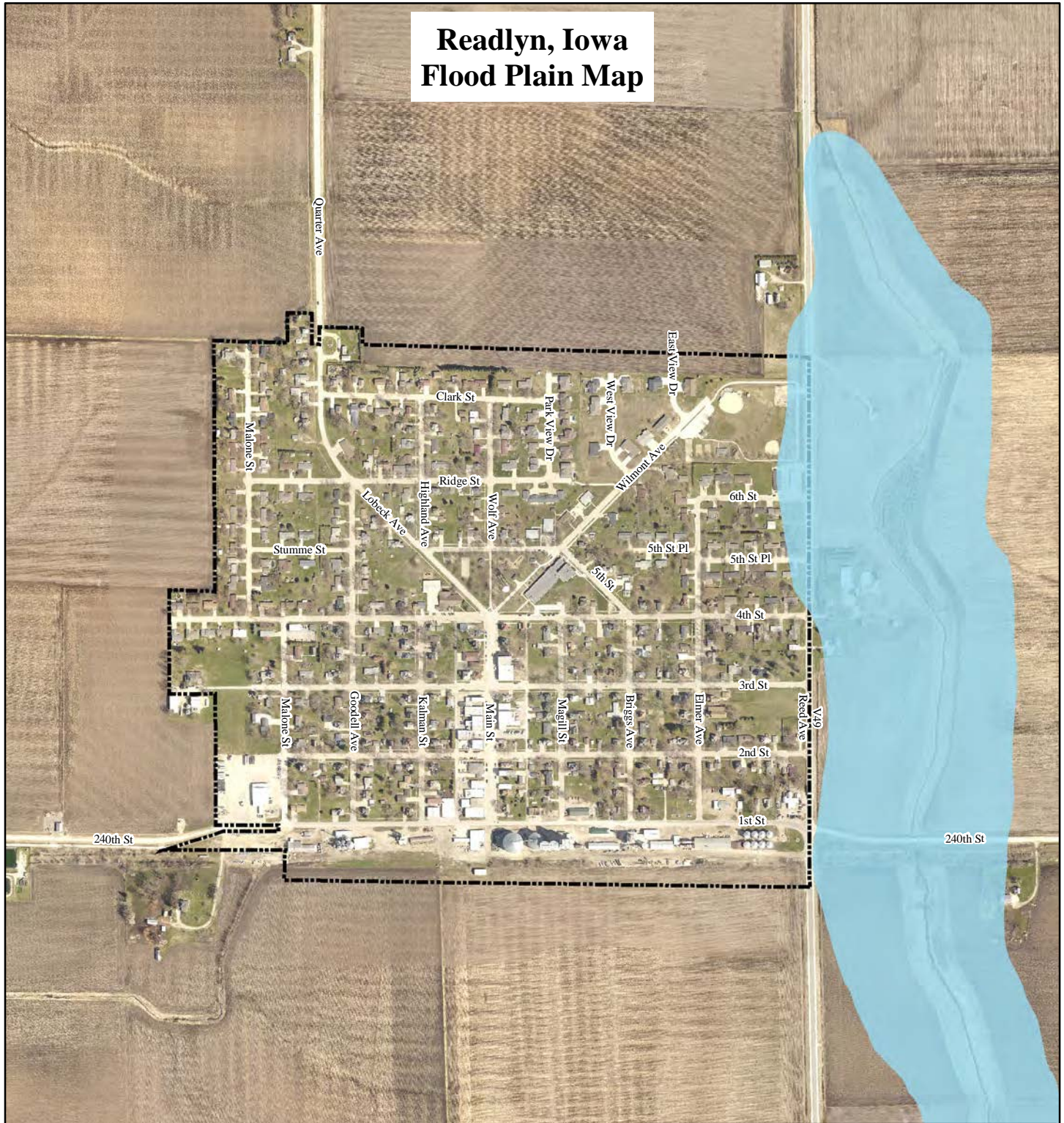
LEGEND

City Limits





Flood Scenario

- Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
- Parcels Affected by a 1.0% Annual Chance of Flooding
- Parcels Affected by a 0.2% Annual Chance of Flooding
- Parcels Not Affected by Flood Scenario

Readlyn, Iowa Flood Plain Map



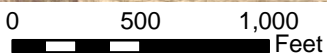
LEGEND

-  City Limits
- Flood Zone**
-  Floodway and 1.0% Annual Chance of Flooding
-  1.0% Annual Chance of Flooding
-  0.2% Annual Chance of Flooding

DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

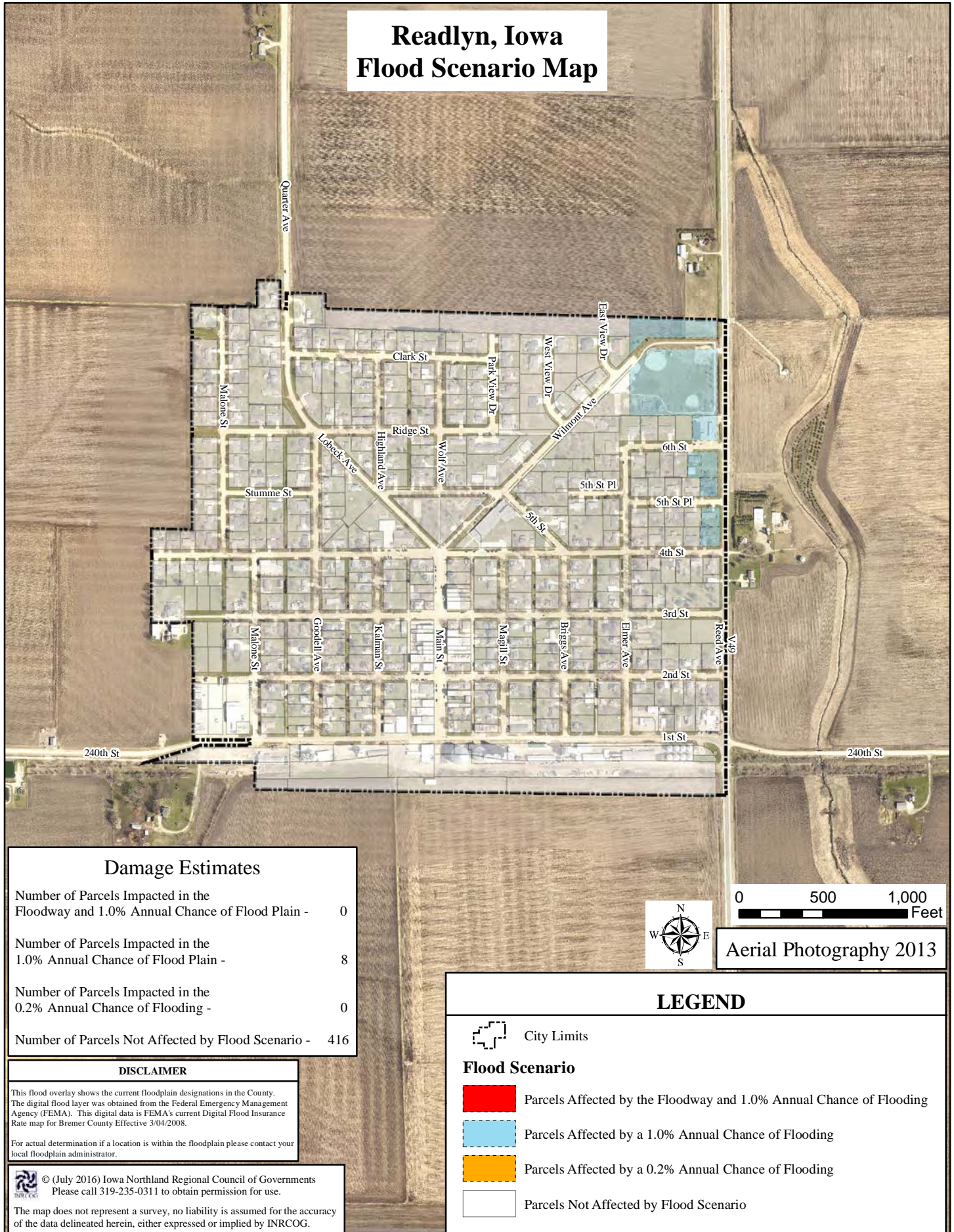


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Aerial Photography 2013

Readlyn, Iowa Flood Scenario Map



Damage Estimates

| | |
|--|-----|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 0 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 8 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 0 |
| Number of Parcels Not Affected by Flood Scenario - | 416 |

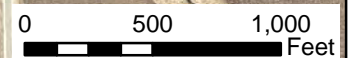
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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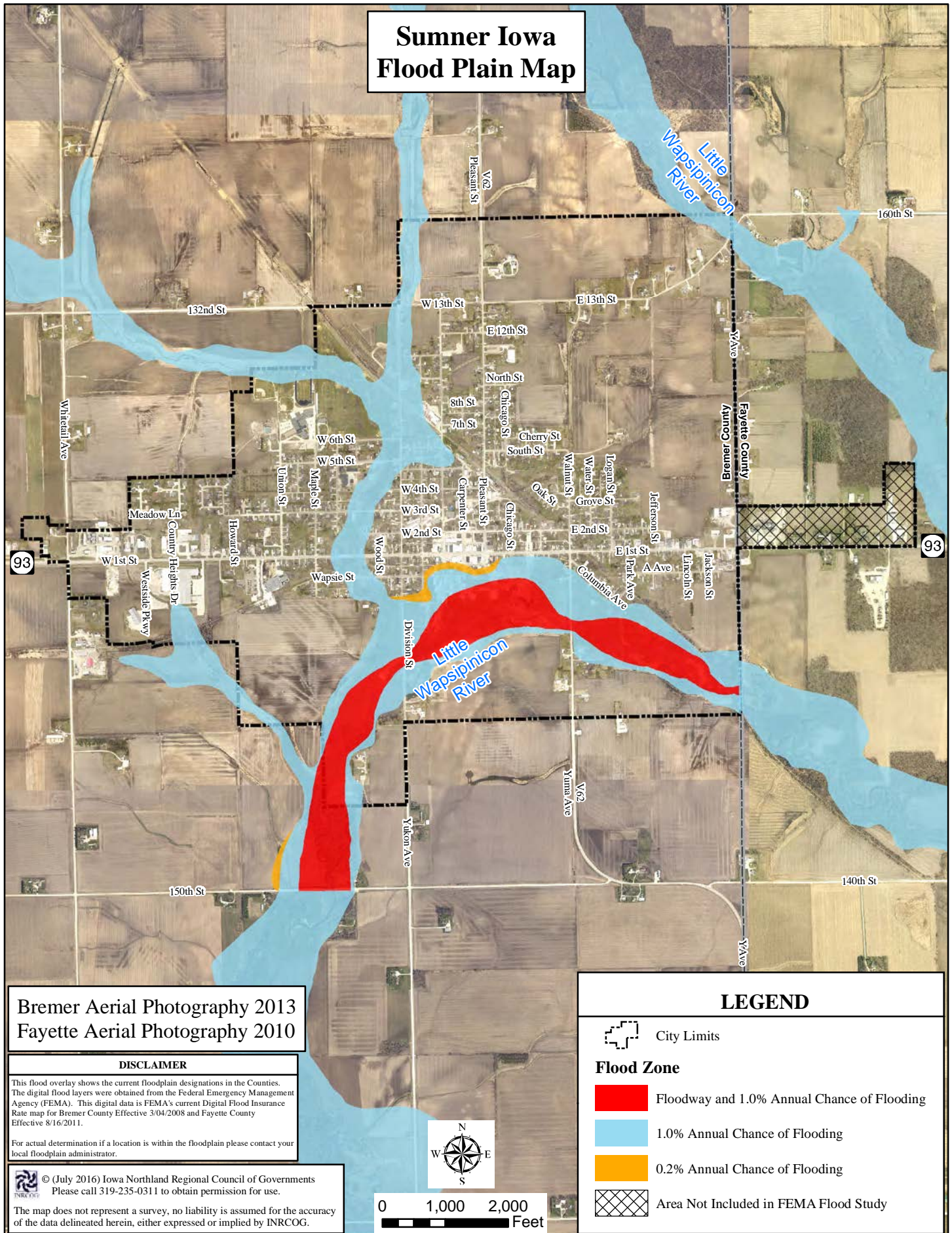
Aerial Photography 2013

LEGEND

City Limits

Flood Scenario

- Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
- Parcels Affected by a 1.0% Annual Chance of Flooding
- Parcels Affected by a 0.2% Annual Chance of Flooding
- Parcels Not Affected by Flood Scenario



Sumner Iowa Flood Plain Map

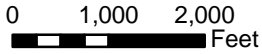
Bremer Aerial Photography 2013
Fayette Aerial Photography 2010

DISCLAIMER

This flood overlay shows the current floodplain designations in the Counties. The digital flood layers were obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008 and Fayette County Effective 8/16/2011.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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LEGEND

City Limits

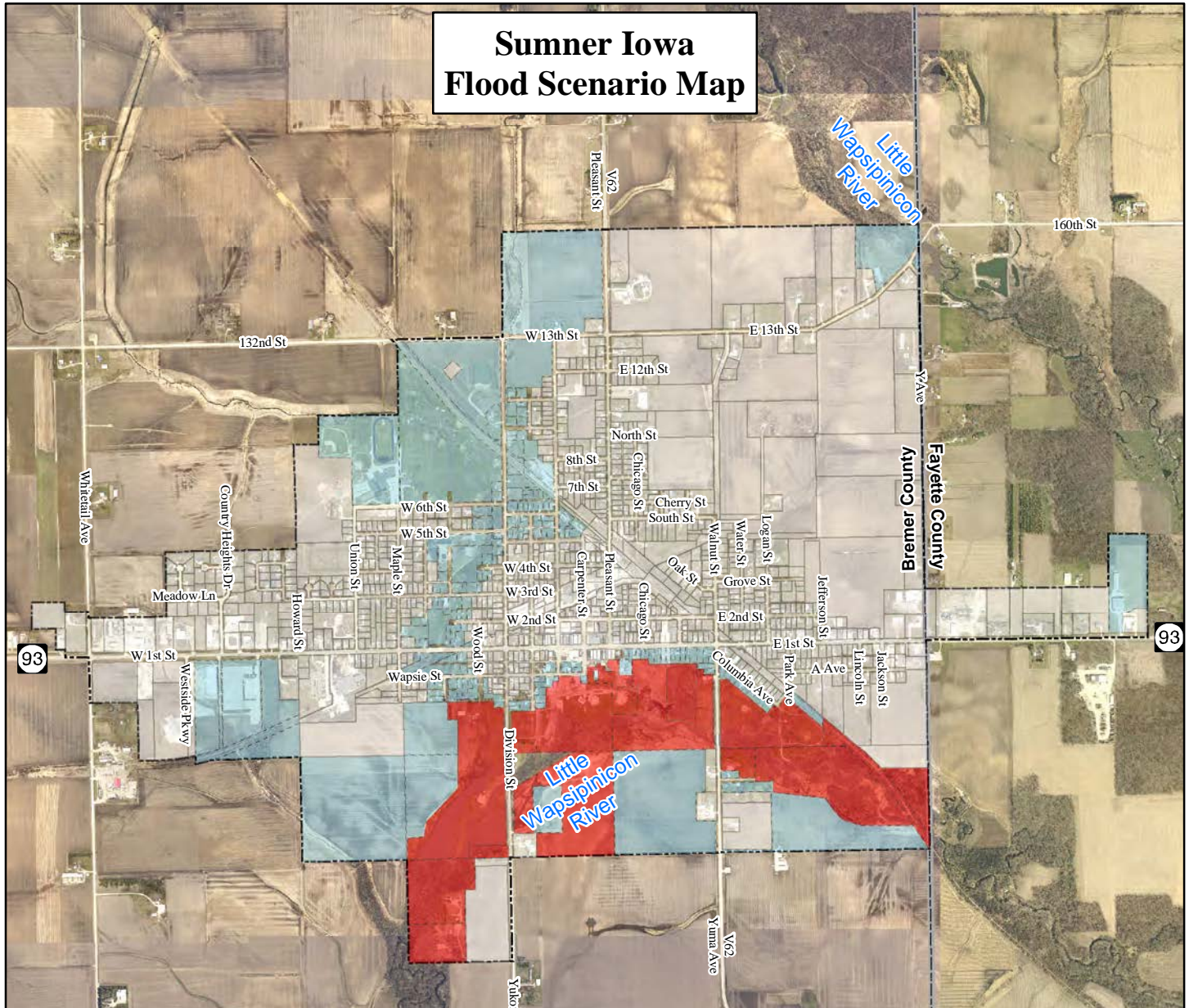
Flood Zone

Floodway and 1.0% Annual Chance of Flooding

1.0% Annual Chance of Flooding

0.2% Annual Chance of Flooding

Area Not Included in FEMA Flood Study



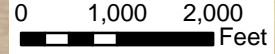
Sumner Iowa Flood Scenario Map

| Damage Estimates | |
|--|------|
| ALL OF SUMNER | |
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 21 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 196 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 23 |
| Number of Parcels Not Affected by Flood Scenario - | 1011 |
| SUMNER ONLY IN BREMER COUNTY | |
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 21 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 195 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 23 |
| Number of Parcels Not Affected by Flood Scenario - | 1000 |

DISCLAIMER

This flood overlay shows the current floodplain designations in the Counties. The digital flood layers were obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008 and Fayette County Effective 8/16/2011.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.



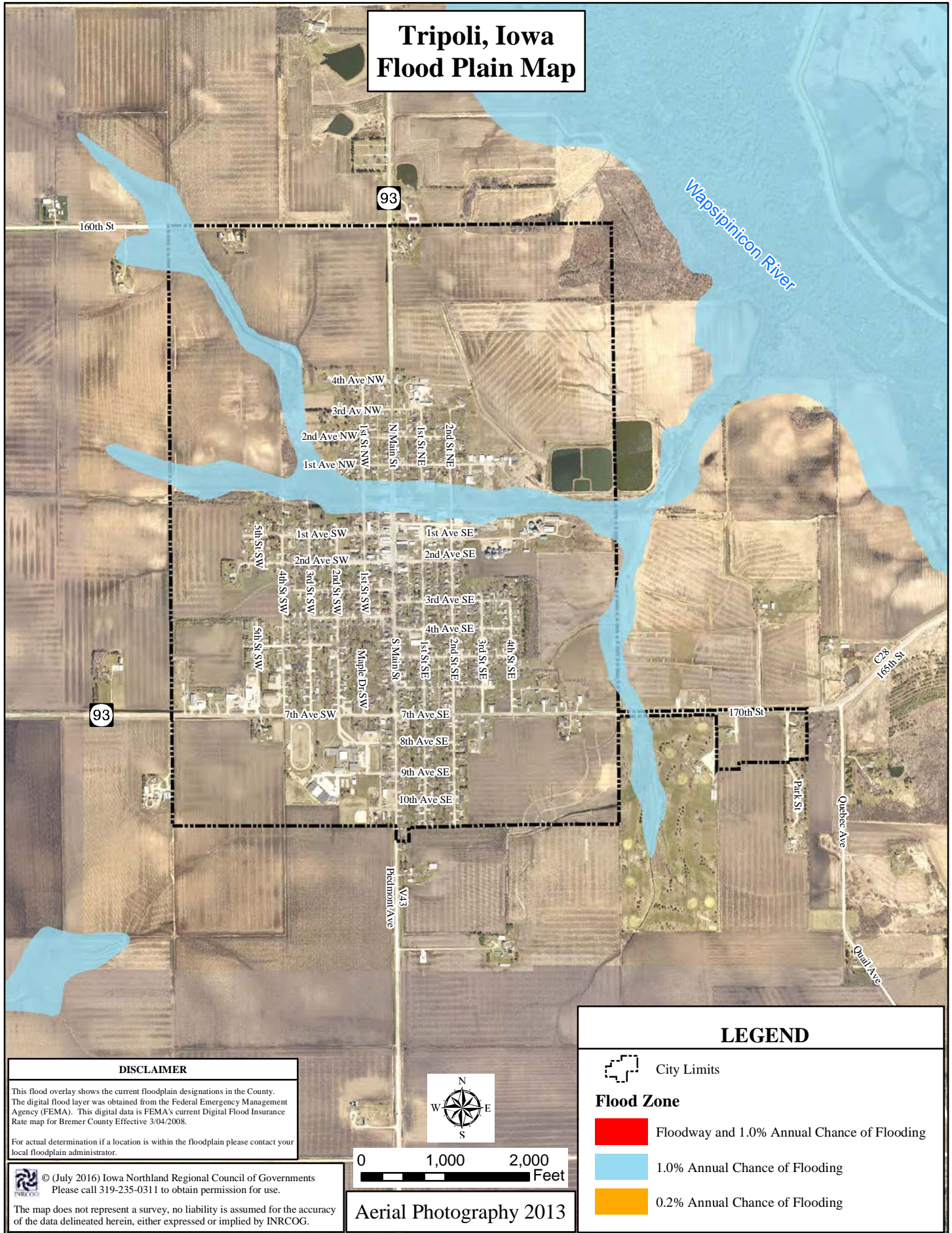
Bremer Aerial Photography 2013
Fayette Aerial Photography 2010

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| LEGEND | |
|-----------------------|---|
| | City Limits |
| Flood Scenario | |
| | Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding |
| | Parcels Affected by a 1.0% Annual Chance of Flooding |
| | Parcels Affected by a 0.2% Annual Chance of Flooding |
| | Parcels Not Affected by Flood Scenario |



Tripoli, Iowa Flood Plain Map

Wapsipicon River

93

160th St

4th Ave NW
3rd Ave NW
2nd Ave NW
1st Ave NW

5th St SW
4th St SW
3rd St SW
2nd St SW
1st St SW

1st Ave SE
2nd Ave SE
3rd Ave SE
4th Ave SE
5th Ave SE

93

7th Ave SW

7th Ave SE

170th St

C28
16th St

Park St

Quebec Ave

Quail Ave

Pedmont Ave

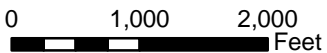
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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Aerial Photography 2013

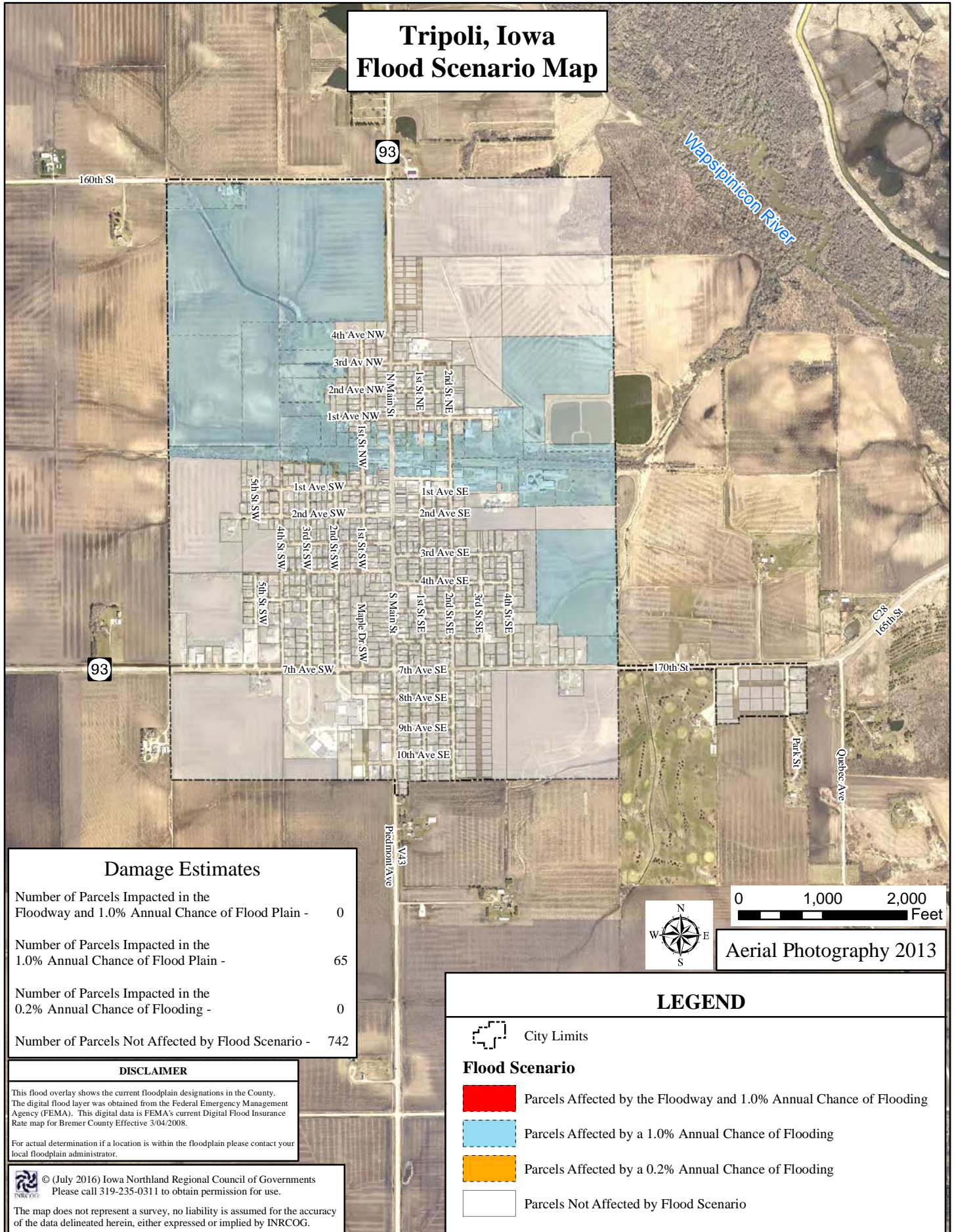
LEGEND

City Limits

Flood Zone

- Floodway and 1.0% Annual Chance of Flooding
- 1.0% Annual Chance of Flooding
- 0.2% Annual Chance of Flooding

Tripoli, Iowa Flood Scenario Map



| Damage Estimates | |
|--|-----|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 0 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 65 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 0 |
| Number of Parcels Not Affected by Flood Scenario - | 742 |

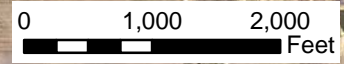
DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

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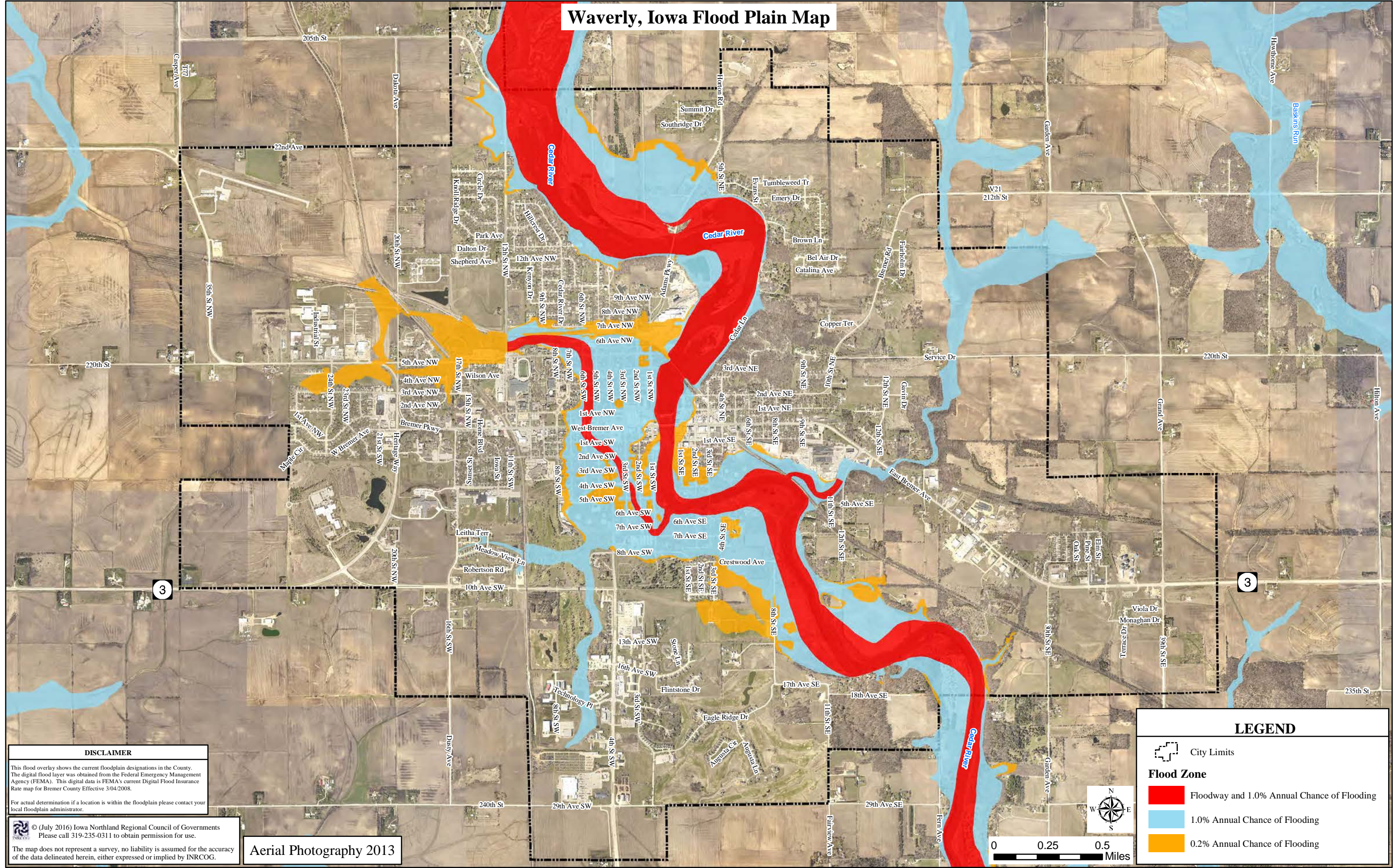


Aerial Photography 2013





LEGEND

- City Limits
- Flood Scenario**
- Parcels Affected by the Floodway and 1.0% Annual Chance of Flooding
- Parcels Affected by a 1.0% Annual Chance of Flooding
- Parcels Affected by a 0.2% Annual Chance of Flooding
- Parcels Not Affected by Flood Scenario

Waverly, Iowa Flood Plain Map



LEGEND

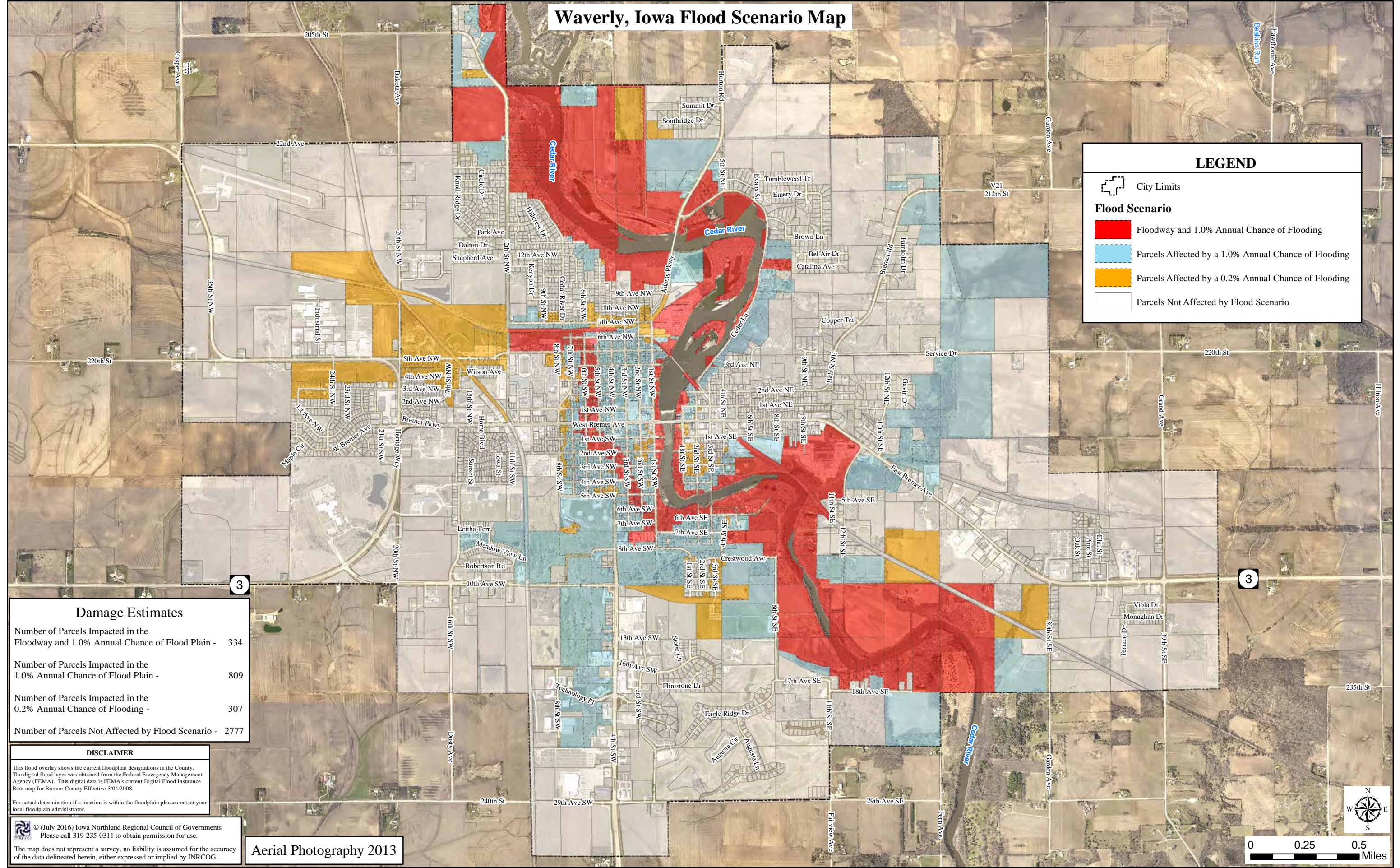
-  City Limits
- Flood Zone**
-  Floodway and 1.0% Annual Chance of Flooding
-  1.0% Annual Chance of Flooding
-  0.2% Annual Chance of Flooding

DISCLAIMER
 This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.
 For actual determination if a location is within the floodplain please contact your local floodplain administrator.

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Aerial Photography 2013

Waverly, Iowa Flood Scenario Map



LEGEND

- City Limits
- Flood Scenario**
- Floodway and 1.0% Annual Chance of Flooding
- Parcels Affected by a 1.0% Annual Chance of Flooding
- Parcels Affected by a 0.2% Annual Chance of Flooding
- Parcels Not Affected by Flood Scenario

Damage Estimates

| | |
|--|------|
| Number of Parcels Impacted in the Floodway and 1.0% Annual Chance of Flood Plain - | 334 |
| Number of Parcels Impacted in the 1.0% Annual Chance of Flood Plain - | 809 |
| Number of Parcels Impacted in the 0.2% Annual Chance of Flooding - | 307 |
| Number of Parcels Not Affected by Flood Scenario - | 2777 |

DISCLAIMER

This flood overlay shows the current floodplain designations in the County. The digital flood layer was obtained from the Federal Emergency Management Agency (FEMA). This digital data is FEMA's current Digital Flood Insurance Rate map for Bremer County Effective 3/04/2008.

For actual determination if a location is within the floodplain please contact your local floodplain administrator.

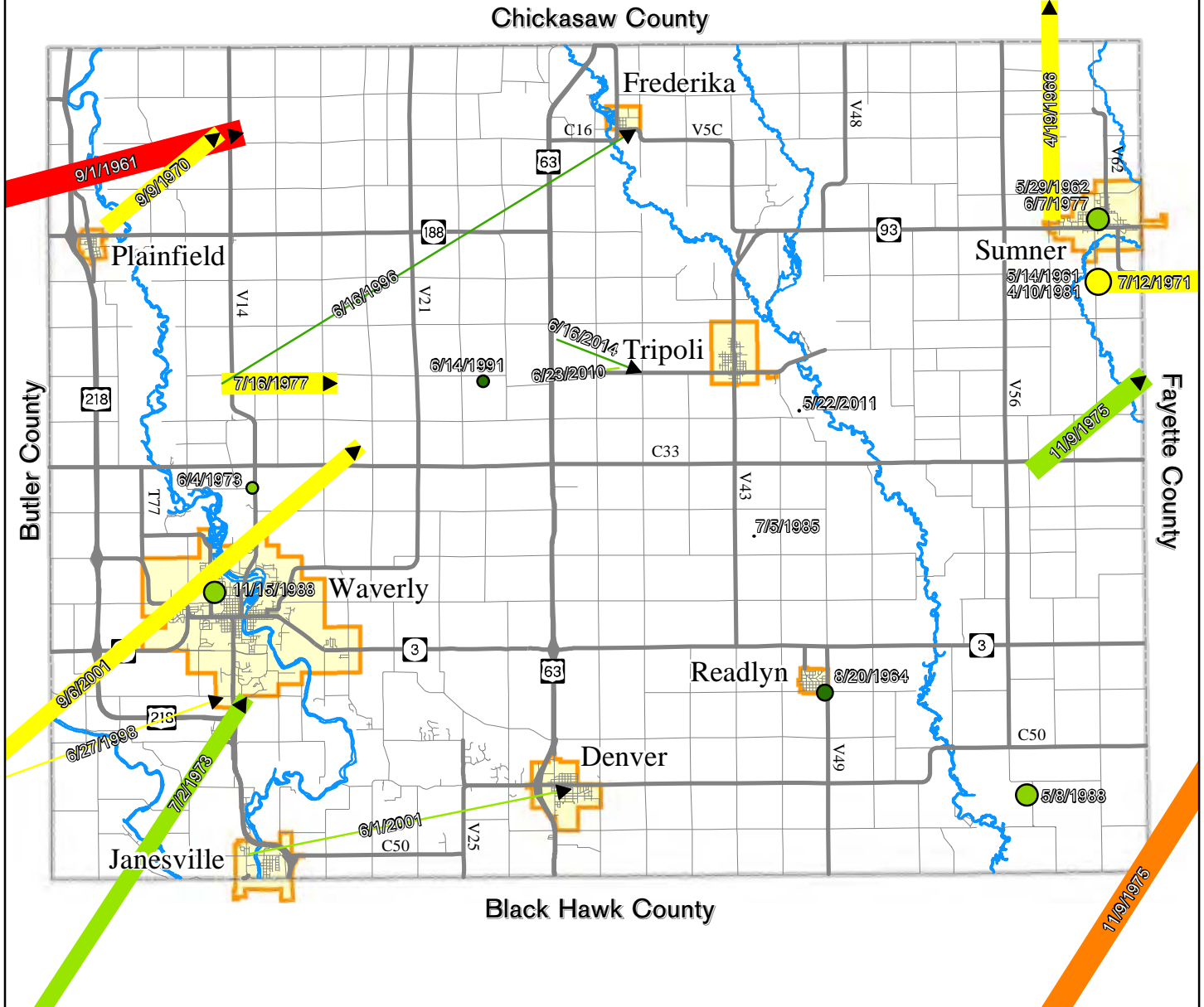
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Aerial Photography 2013

0 0.25 0.5 Miles

Bremer County, Iowa Historic Tornado Map



LEGEND

Enhanced Fujita Scale Magnitude

- EF0
- EF1
- EF2
- EF3
- EF4
- EF5

Property Damage

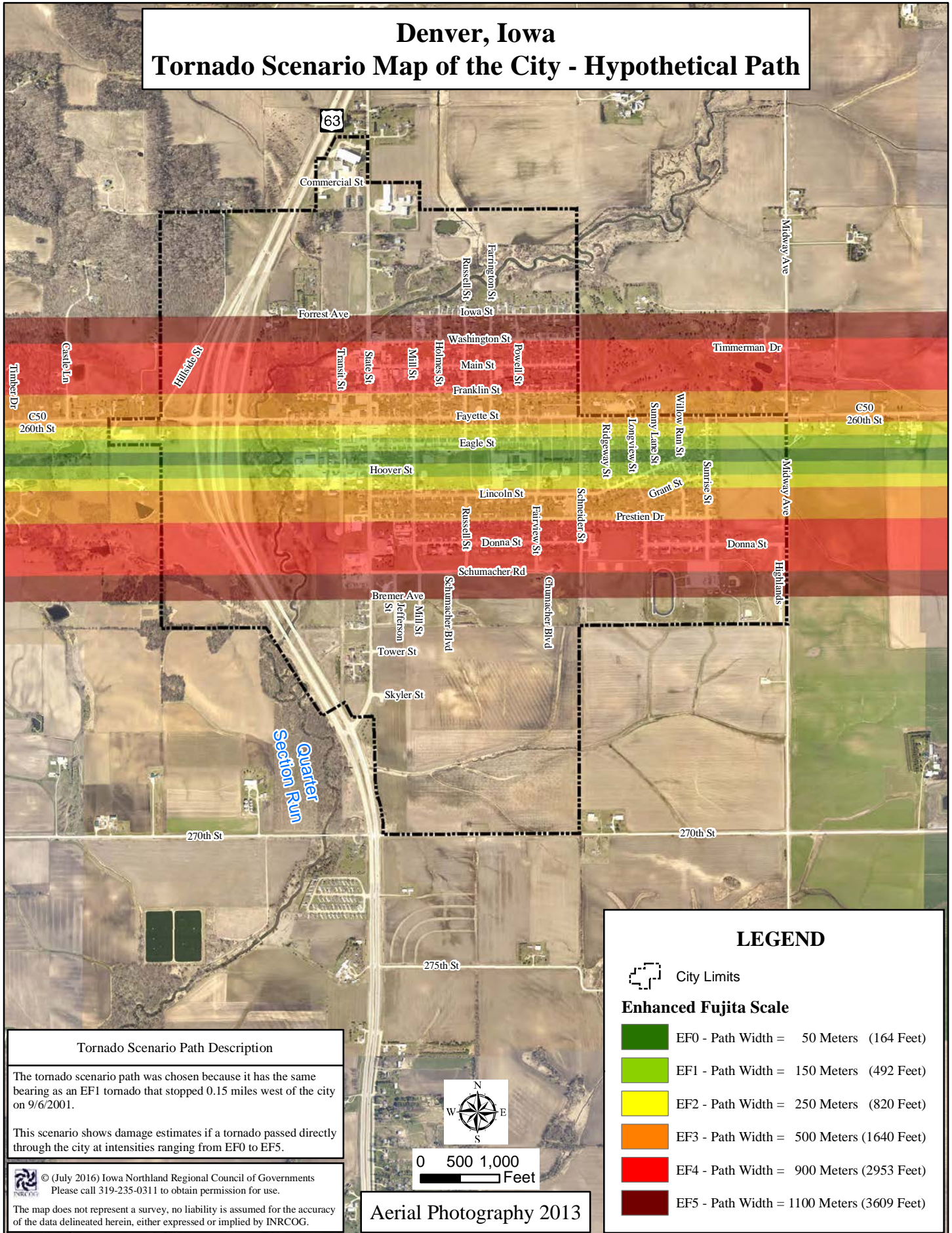
- \$0-\$1,000
- \$1,001-\$3,000
- \$3,001-\$30,000
- \$30,001-\$100,000
- \$100,001-\$2,500,000
- Over \$2,500,000

0 1 2 3 4
Miles



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Denver, Iowa Tornado Scenario Map of the City - Hypothetical Path



LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

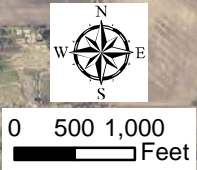
Tornado Scenario Path Description

The tornado scenario path was chosen because it has the same bearing as an EF1 tornado that stopped 0.15 miles west of the city on 9/6/2001.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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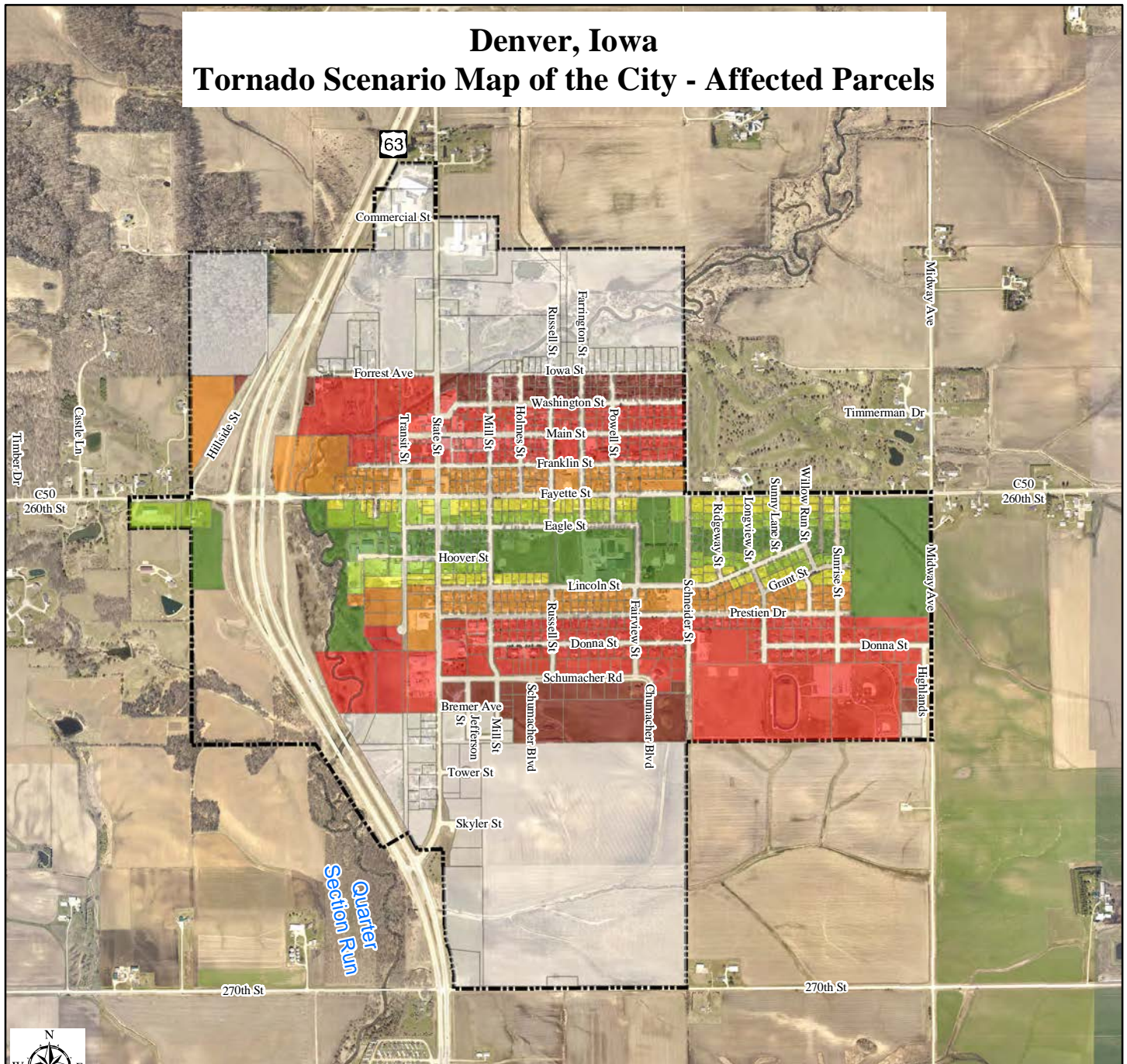
The map does not represent a survey, no liability is assumed for the accuracy of the data delineated herein, either expressed or implied by INRCOG.



Aerial Photography 2013

Denver, Iowa

Tornado Scenario Map of the City - Affected Parcels



0 500 1,000
Feet

Aerial Photography 2013

Tornado Scenario Path Description

The tornado scenario path was chosen because it has the same bearing as an EF1 tornado that stopped 0.15 miles west of the city on 9/6/2001.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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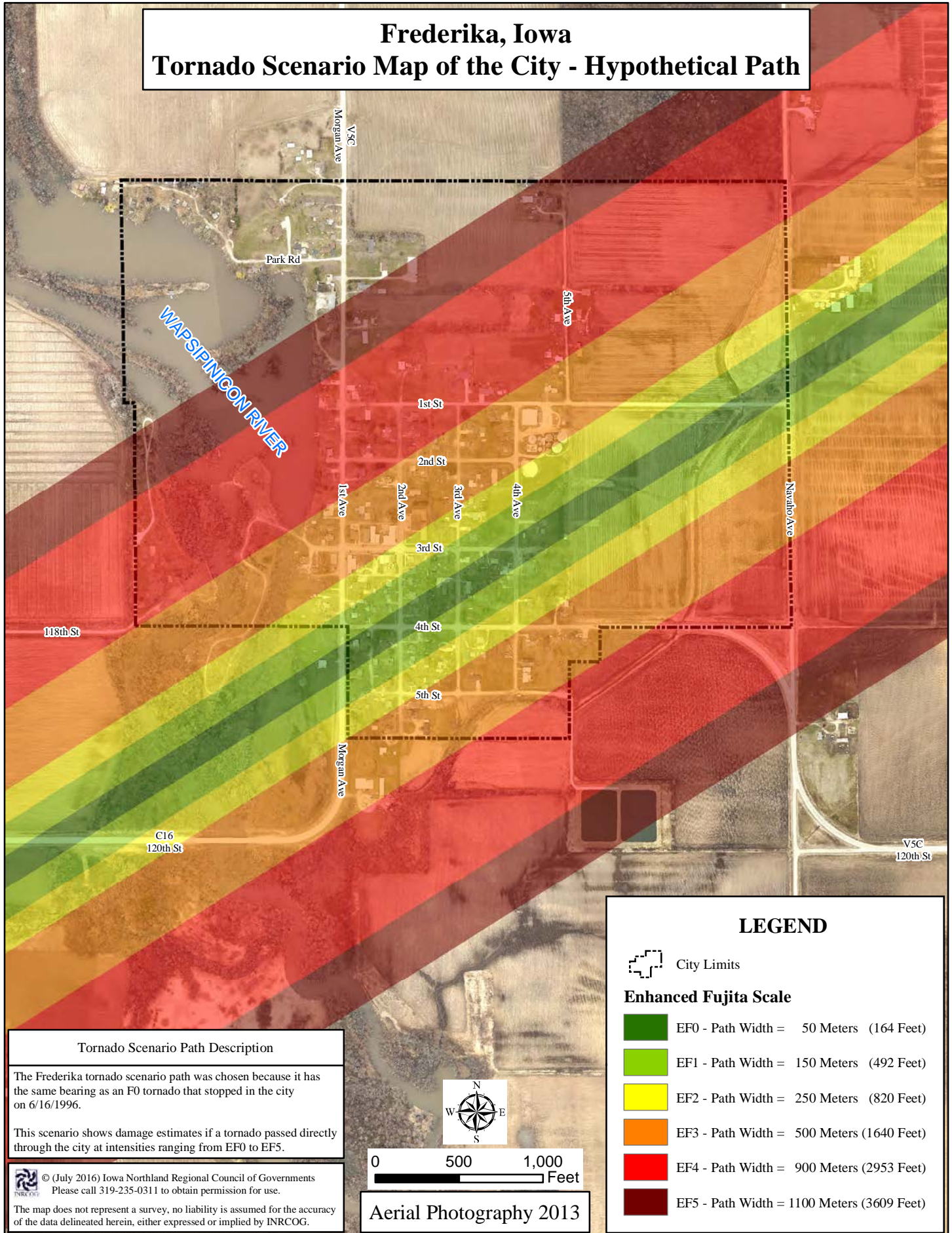
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 66 Parcels Affected - 1.57% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 155 Parcels Affected - 4.07% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 242 Parcels Affected - 13.19% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 401 Parcels Affected - 22.77% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 677 Parcels Affected - 82.16% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 750 Parcels Affected - 88.11% of City

Frederika, Iowa Tornado Scenario Map of the City - Hypothetical Path



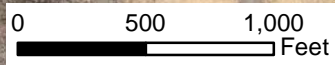
Tornado Scenario Path Description

The Frederika tornado scenario path was chosen because it has the same bearing as an F0 tornado that stopped in the city on 6/16/1996.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

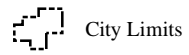
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Aerial Photography 2013

LEGEND



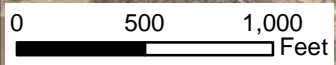
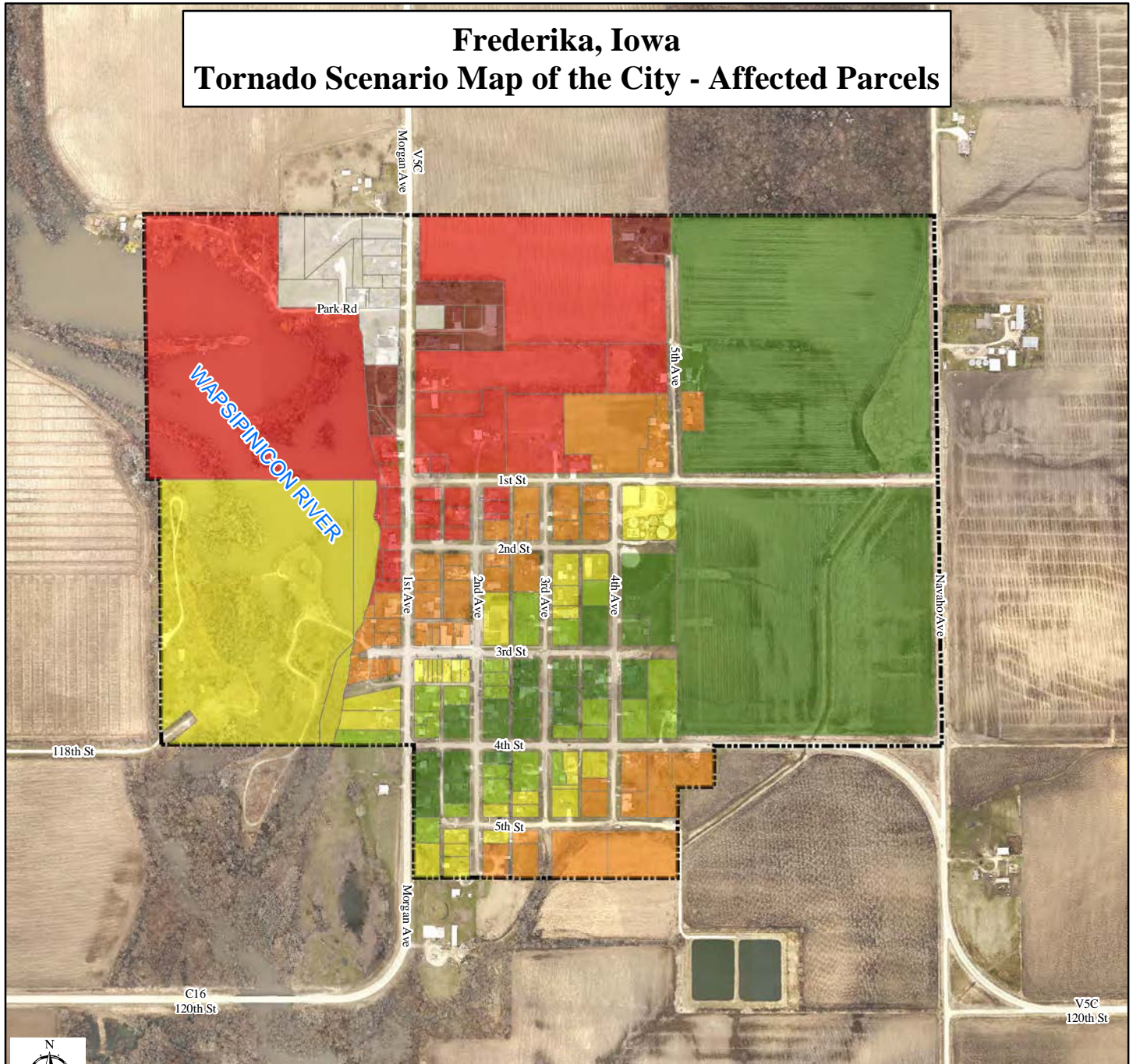
City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Frederika, Iowa

Tornado Scenario Map of the City - Affected Parcels



Aerial Photography 2013

Tornado Scenario Path Description

The Frederika tornado scenario path was chosen because it has the same bearing as an F0 tornado that stopped in the city on 6/16/1996.

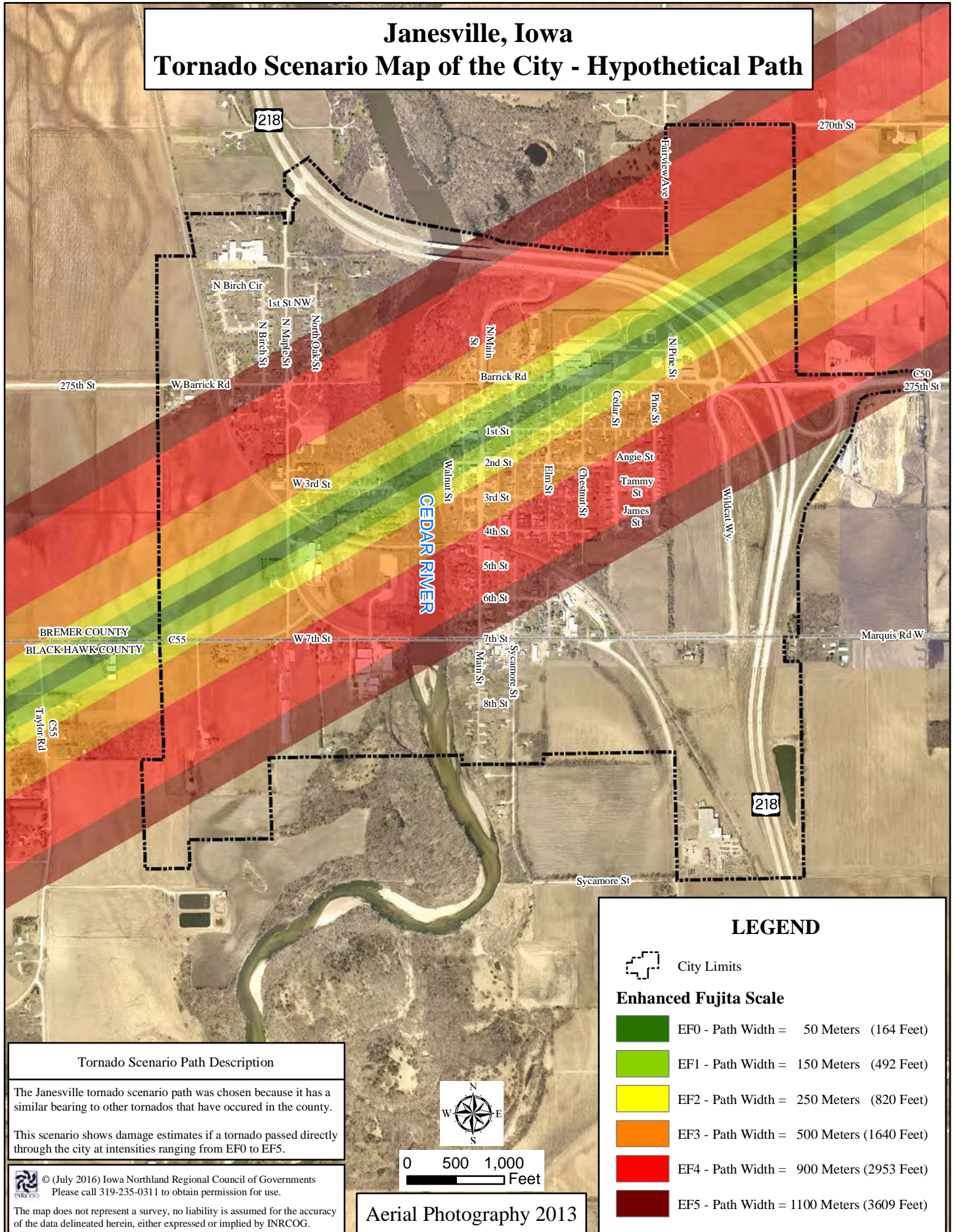
This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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LEGEND

| | |
|------------------------------|--|
| | City Limits |
| Enhanced Fujita Scale | |
| | EF0 - Path Width = 50 Meters (164 Feet) - 23 Parcels Affected - 3.08% of City |
| | EF1 - Path Width = 150 Meters (492 Feet) - 46 Parcels Affected - 5.91% of City |
| | EF2 - Path Width = 250 Meters (820 Feet) - 76 Parcels Affected - 18.91% of City |
| | EF3 - Path Width = 500 Meters (1640 Feet) - 121 Parcels Affected - 31.36% of City |
| | EF4 - Path Width = 900 Meters (2953 Feet) - 149 Parcels Affected - 82.80% of City |
| | EF5 - Path Width = 1100 Meters (3609 Feet) - 158 Parcels Affected - 89.76% of City |

Janesville, Iowa Tornado Scenario Map of the City - Hypothetical Path



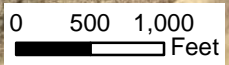
Tornado Scenario Path Description

The Janesville tornado scenario path was chosen because it has a similar bearing to other tornados that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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Aerial Photography 2013

LEGEND

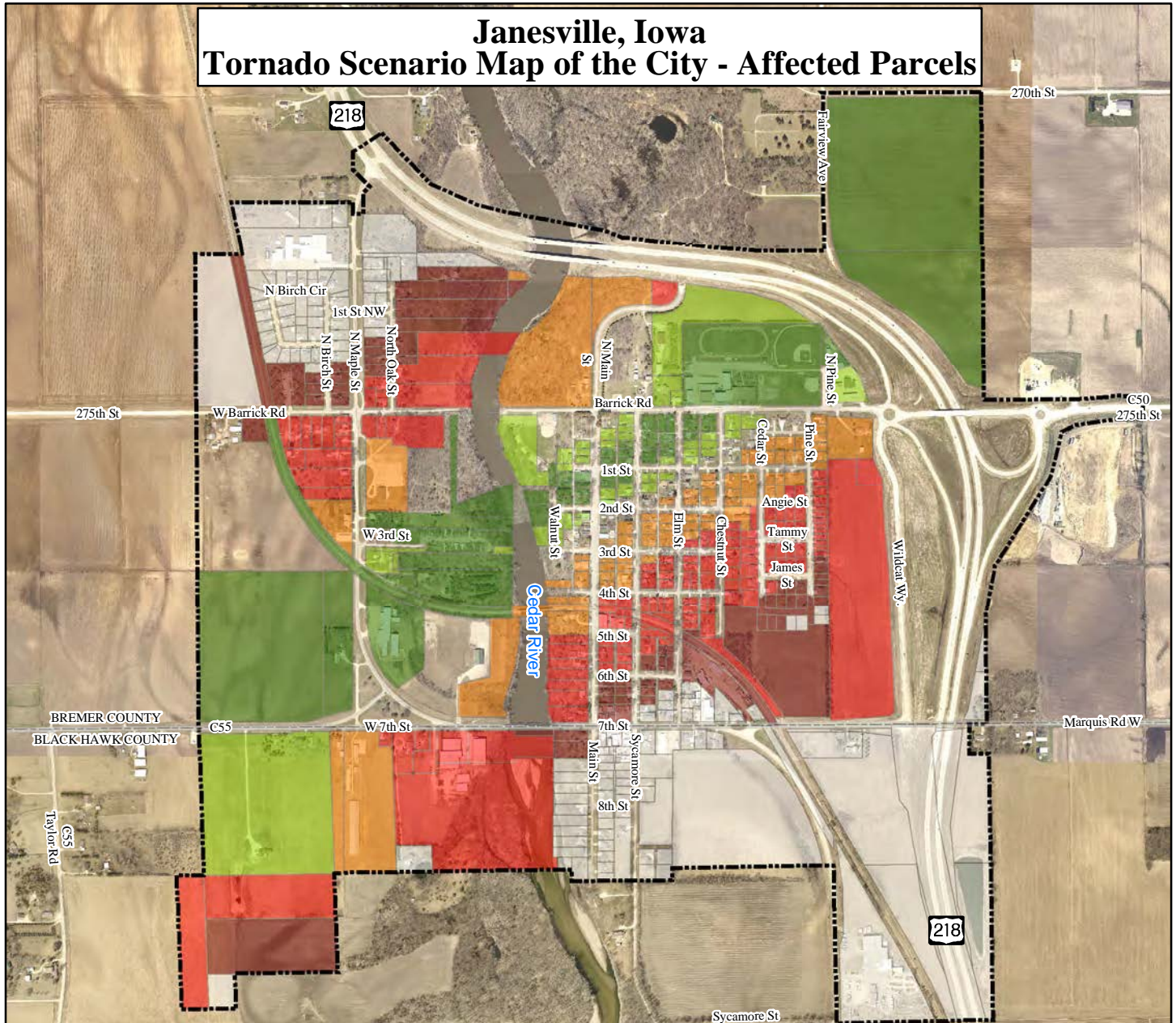


City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Janesville, Iowa Tornado Scenario Map of the City - Affected Parcels



0 500 1,000
Feet

Aerial Photography 2013

Tornado Scenario Path Description

The Janesville tornado scenario path was chosen because it has a similar bearing to other tornadoes that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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LEGEND

- City Limits
- County Boundary

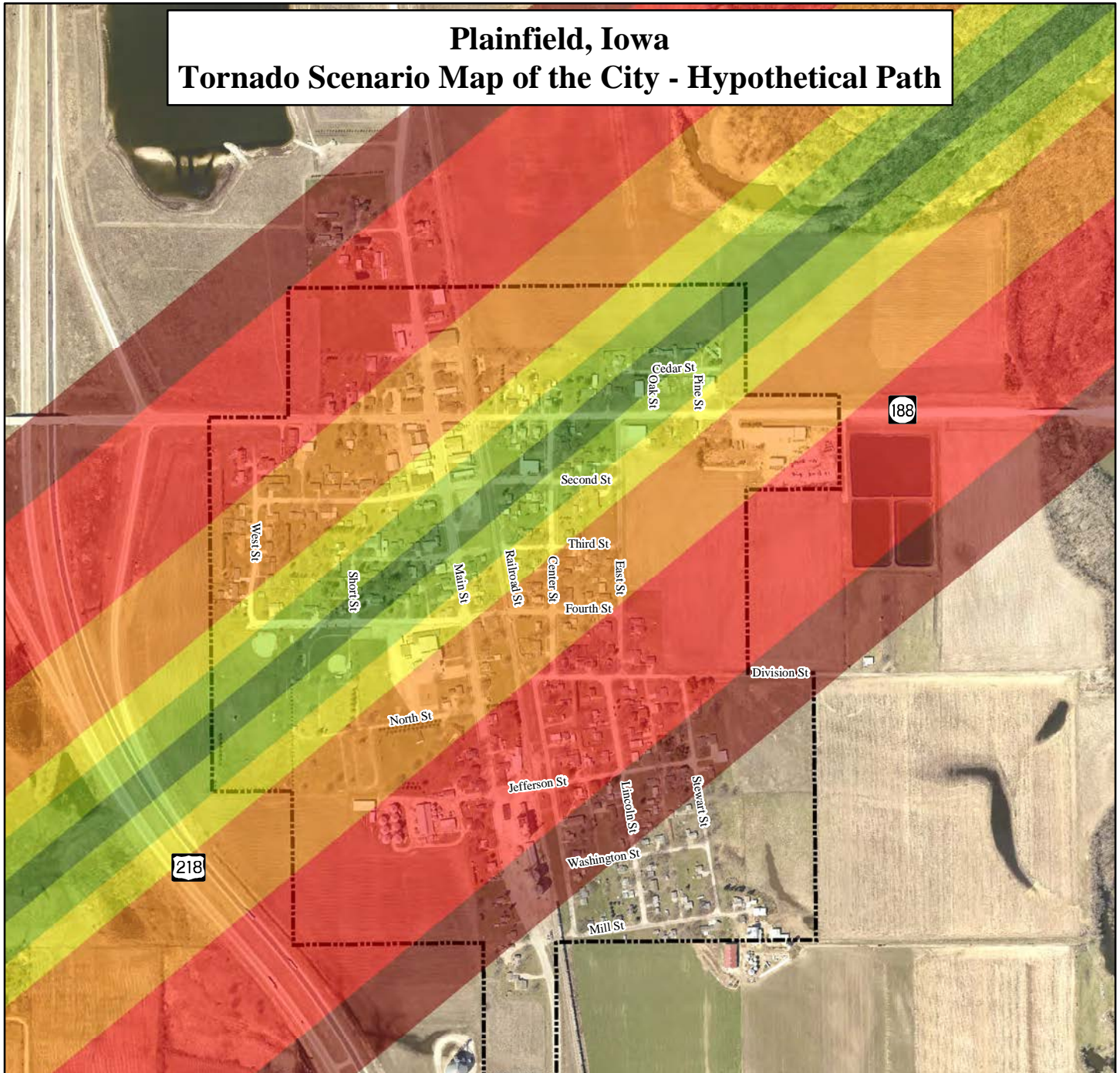
Entire City Scenario - Enhanced Fujita Scale

| | |
|--|--|
| | EF0 - Path Width = 50 Meters (164 Feet) - 47 Parcels Affected - 1.64% of City |
| | EF1 - Path Width = 150 Meters (492 Feet) - 95 Parcels Affected - 3.46% of City |
| | EF2 - Path Width = 250 Meters (820 Feet) - 140 Parcels Affected - 9.37% of City |
| | EF3 - Path Width = 500 Meters (1640 Feet) - 218 Parcels Affected - 15.07% of City |
| | EF4 - Path Width = 900 Meters (2953 Feet) - 350 Parcels Affected - 58.56% of City |
| | EF5 - Path Width = 1100 Meters (3609 Feet) - 414 Parcels Affected - 70.91% of City |

Bremer County Only Scenario - Enhanced Fujita Scale

| | |
|--|--|
| | EF0 - Path Width = 50 Meters (164 Feet) - 47 Parcels Affected - 1.64% of City |
| | EF1 - Path Width = 150 Meters (492 Feet) - 94 Parcels Affected - 3.33% of City |
| | EF2 - Path Width = 250 Meters (820 Feet) - 139 Parcels Affected - 9.24% of City |
| | EF3 - Path Width = 500 Meters (1640 Feet) - 215 Parcels Affected - 14.64% of City |
| | EF4 - Path Width = 900 Meters (2953 Feet) - 338 Parcels Affected - 54.41% of City |
| | EF5 - Path Width = 1100 Meters (3609 Feet) - 398 Parcels Affected - 66.34% of City |

Plainfield, Iowa Tornado Scenario Map of the City - Hypothetical Path



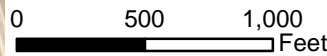
Tornado Scenario Path Description

The tornado scenario path was chosen because it has the same bearing as an EF1 tornado that stopped 0.15 miles west of the city on 9/6/2001.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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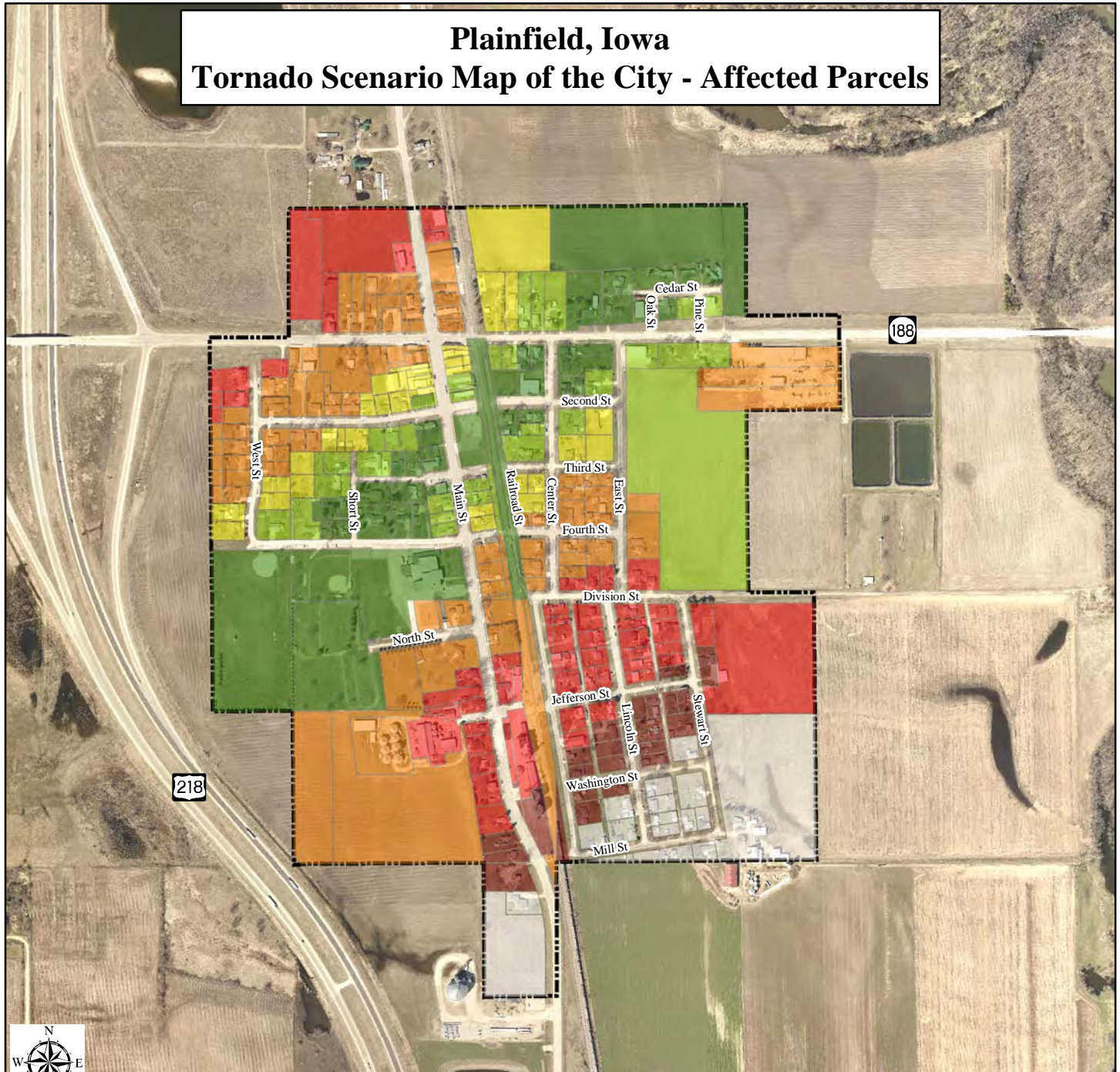
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Plainfield, Iowa Tornado Scenario Map of the City - Affected Parcels



0 500 1,000 Feet

Aerial Photography 2013

Tornado Scenario Path Description

The tornado scenario path was chosen because it has the same bearing as an EF1 tornado that stopped 0.15 miles west of the city on 9/6/2001.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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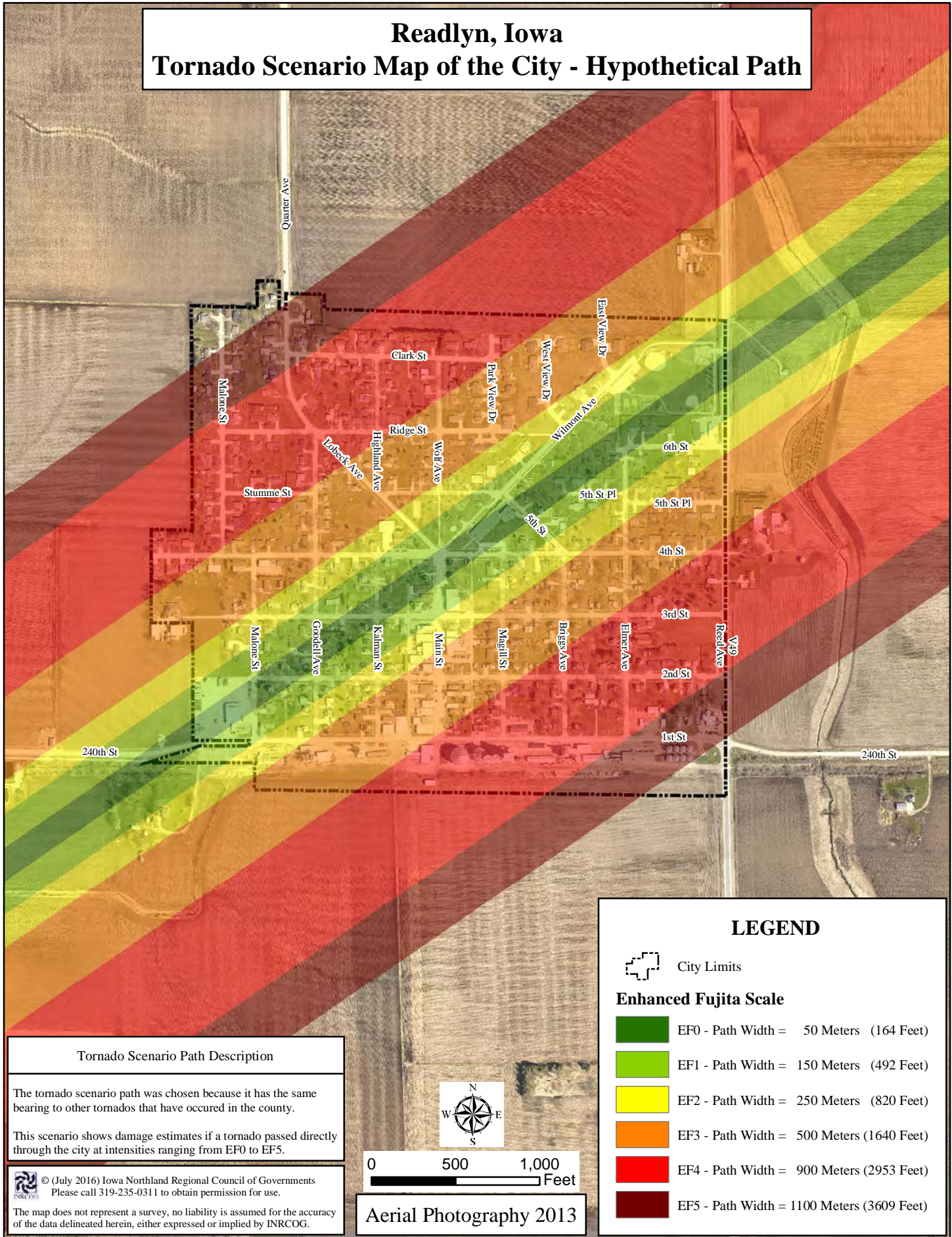
LEGEND

City Limits

Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 42 Parcels Affected - 13.25% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 76 Parcels Affected - 24.53% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 108 Parcels Affected - 34.90% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 194 Parcels Affected - 66.23% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 258 Parcels Affected - 87.70% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 284 Parcels Affected - 94.85% of City

Readlyn, Iowa Tornado Scenario Map of the City - Hypothetical Path



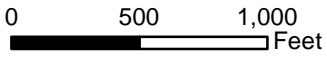
Tornado Scenario Path Description

The tornado scenario path was chosen because it has the same bearing to other tornados that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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Aerial Photography 2013

LEGEND

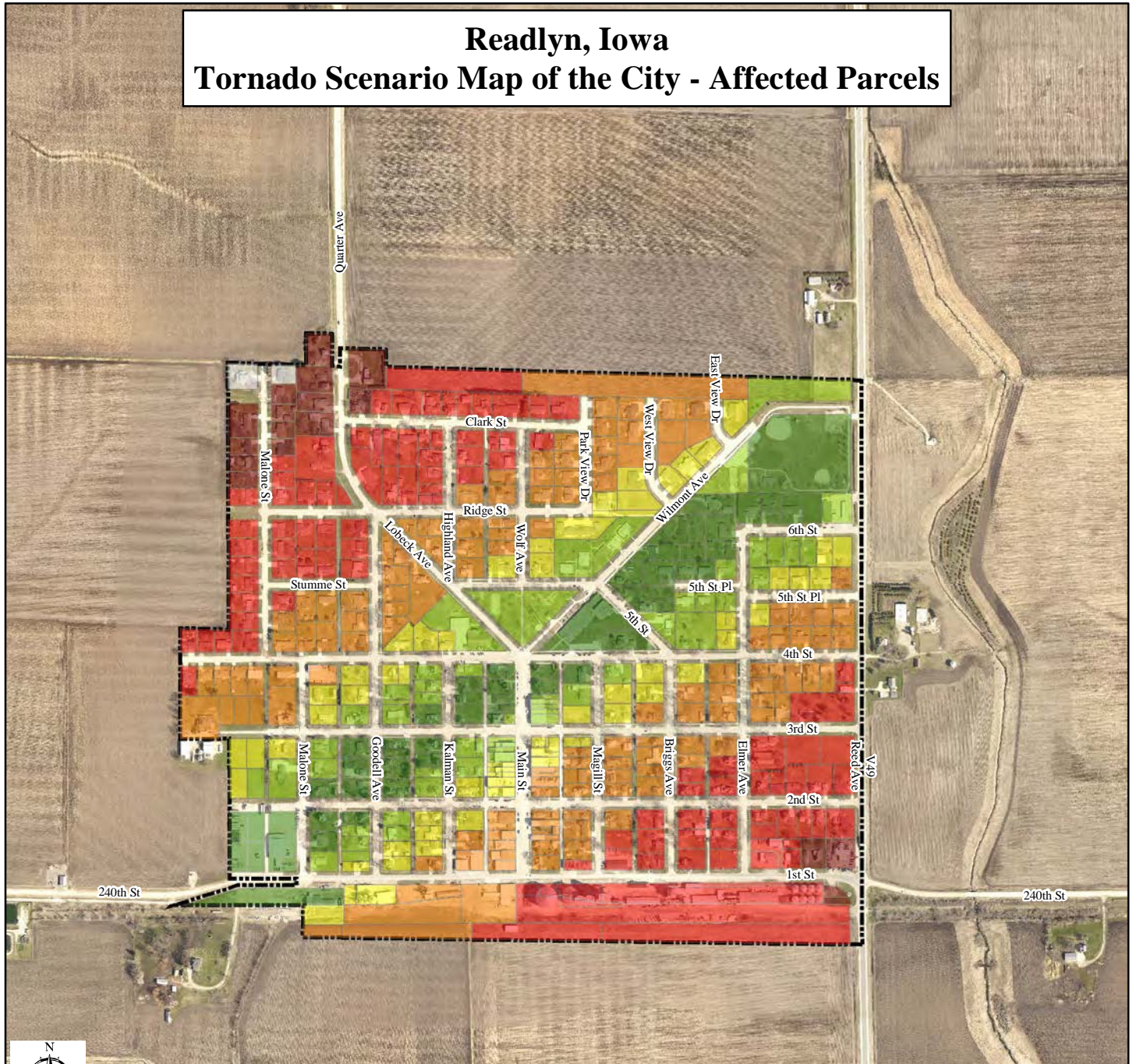
City Limits

Enhanced Fujita Scale

| | |
|--|--|
| | EF0 - Path Width = 50 Meters (164 Feet) |
| | EF1 - Path Width = 150 Meters (492 Feet) |
| | EF2 - Path Width = 250 Meters (820 Feet) |
| | EF3 - Path Width = 500 Meters (1640 Feet) |
| | EF4 - Path Width = 900 Meters (2953 Feet) |
| | EF5 - Path Width = 1100 Meters (3609 Feet) |

Readlyn, Iowa

Tornado Scenario Map of the City - Affected Parcels



0 500 1,000 Feet

Aerial Photography 2013

Tornado Scenario Path Description

The tornado scenario path was chosen because it has the same bearing to other tornados that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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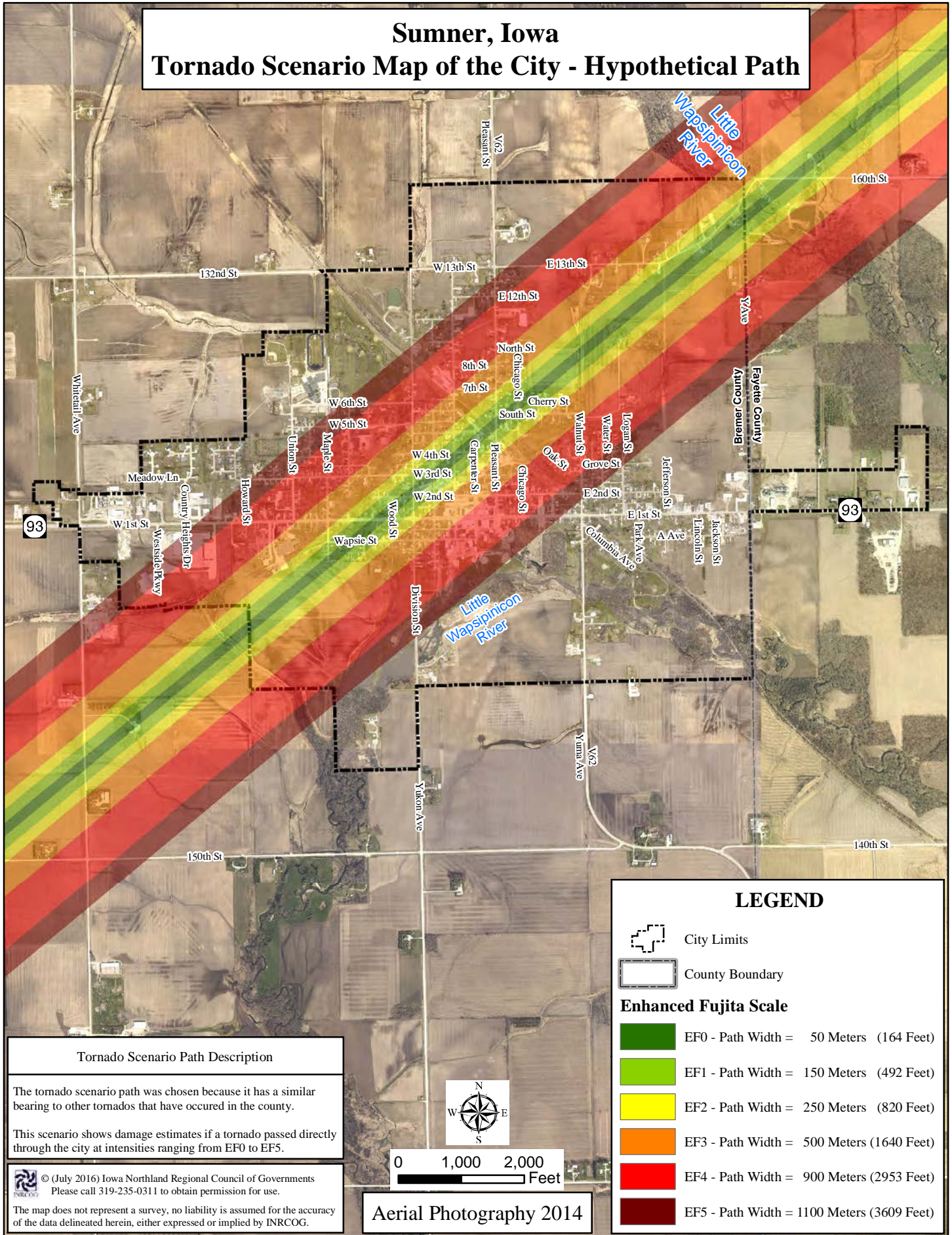
LEGEND

City Limits



Enhanced Fujita Scale

- EF0 - Path Width = 50 Meters (164 Feet) - 54 Parcels Affected - 2.66% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 108 Parcels Affected - 4.96% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 169 Parcels Affected - 15.82% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 298 Parcels Affected - 32.43% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 404 Parcels Affected - 94.70% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 422 Parcels Affected - 98.97% of City







Sumner, Iowa Tornado Scenario Map of the City - Hypothetical Path



LEGEND

-  City Limits
-  County Boundary

Enhanced Fujita Scale

-  EF0 - Path Width = 50 Meters (164 Feet)
-  EF1 - Path Width = 150 Meters (492 Feet)
-  EF2 - Path Width = 250 Meters (820 Feet)
-  EF3 - Path Width = 500 Meters (1640 Feet)
-  EF4 - Path Width = 900 Meters (2953 Feet)
-  EF5 - Path Width = 1100 Meters (3609 Feet)

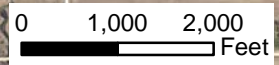
Tornado Scenario Path Description

The tornado scenario path was chosen because it has a similar bearing to other tornados that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

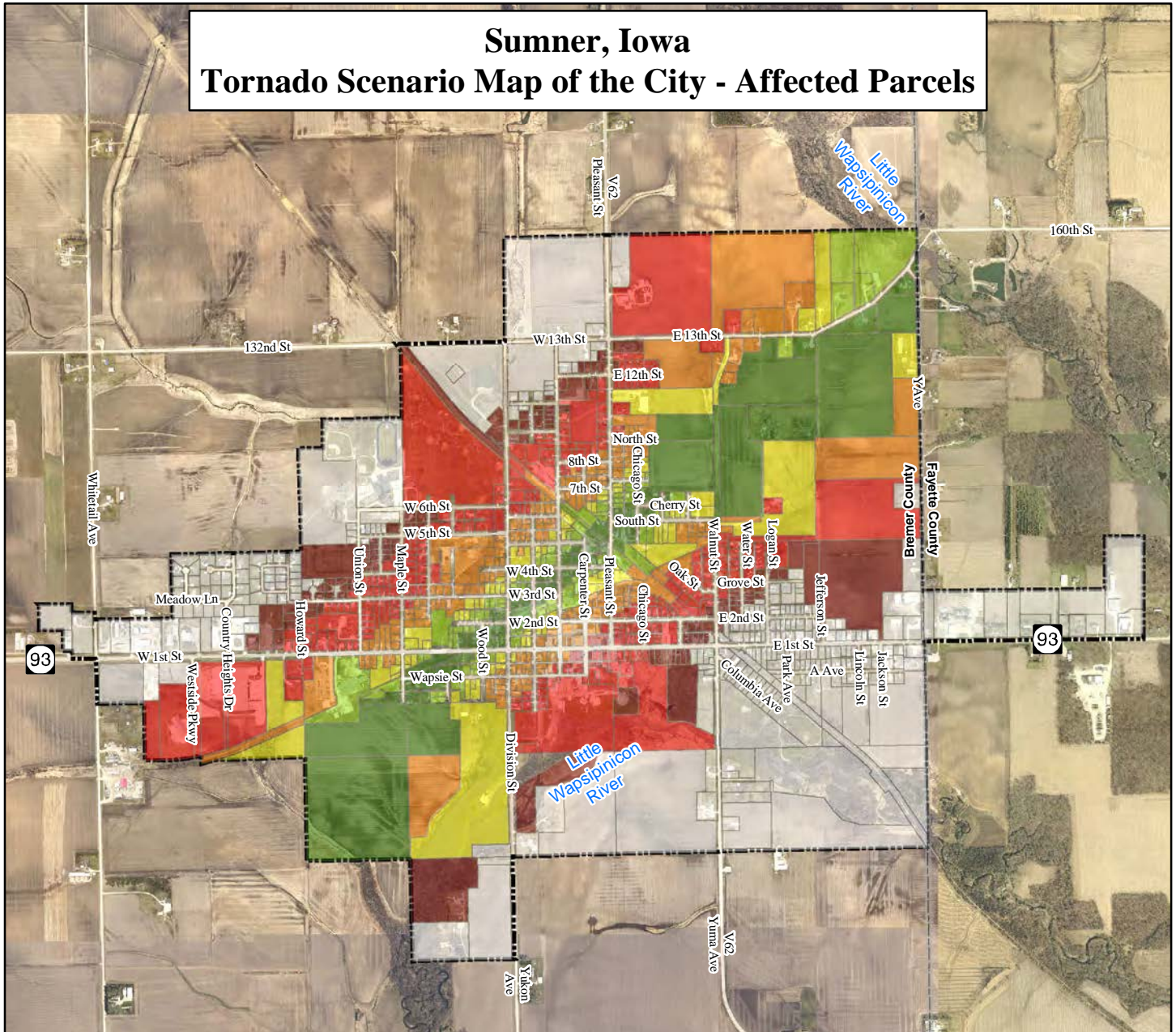
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Aerial Photography 2014

Sumner, Iowa Tornado Scenario Map of the City - Affected Parcels



0 1,000 2,000
Feet

Aerial Photography 2013

Tornado Scenario Path Description

The tornado scenario path was chosen because it has a similar bearing to other tornados that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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LEGEND

- City Limits
- County Boundary

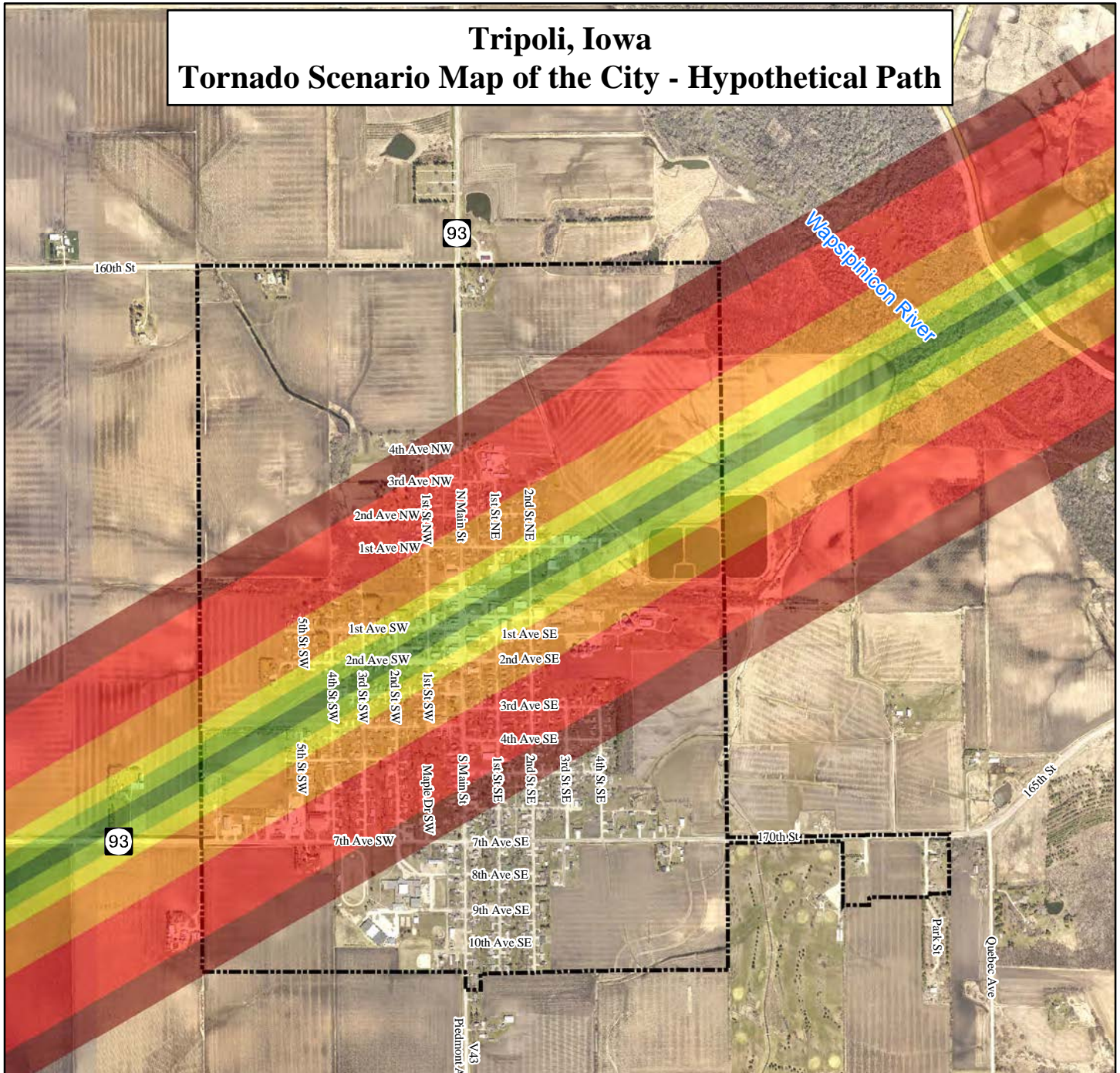
Entire City Scenario - Enhanced Fujita Scale

| | |
|--|--|
| | EF0 - Path Width = 50 Meters (164 Feet) - 106 Parcels Affected - 1.54% of City |
| | EF1 - Path Width = 150 Meters (492 Feet) - 193 Parcels Affected - 3.04% of City |
| | EF2 - Path Width = 250 Meters (820 Feet) - 280 Parcels Affected - 9.01% of City |
| | EF3 - Path Width = 500 Meters (1640 Feet) - 513 Parcels Affected - 16.89% of City |
| | EF4 - Path Width = 900 Meters (2953 Feet) - 828 Parcels Affected - 60.20% of City |
| | EF5 - Path Width = 1100 Meters (3609 Feet) - 952 Parcels Affected - 69.02% of City |


Bremer County Only Scenario - Enhanced Fujita Scale

| | |
|--|--|
| | EF0 - Path Width = 50 Meters (164 Feet) - 106 Parcels Affected - 1.54% of City |
| | EF1 - Path Width = 150 Meters (492 Feet) - 193 Parcels Affected - 3.04% of City |
| | EF2 - Path Width = 250 Meters (820 Feet) - 280 Parcels Affected - 9.01% of City |
| | EF3 - Path Width = 500 Meters (1640 Feet) - 513 Parcels Affected - 16.89% of City |
| | EF4 - Path Width = 900 Meters (2953 Feet) - 828 Parcels Affected - 60.20% of City |
| | EF5 - Path Width = 1100 Meters (3609 Feet) - 952 Parcels Affected - 69.02% of City |







Tripoli, Iowa Tornado Scenario Map of the City - Hypothetical Path



LEGEND

 City Limits

Enhanced Fujita Scale

| | |
|---|--|
|  | EF0 - Path Width = 50 Meters (164 Feet) |
|  | EF1 - Path Width = 150 Meters (492 Feet) |
|  | EF2 - Path Width = 250 Meters (820 Feet) |
|  | EF3 - Path Width = 500 Meters (1640 Feet) |
|  | EF4 - Path Width = 900 Meters (2953 Feet) |
|  | EF5 - Path Width = 1100 Meters (3609 Feet) |

Tornado Scenario Path Description

The tornado scenario path was chosen because it has a similar bearing to other tornados that have occurred in the county.

This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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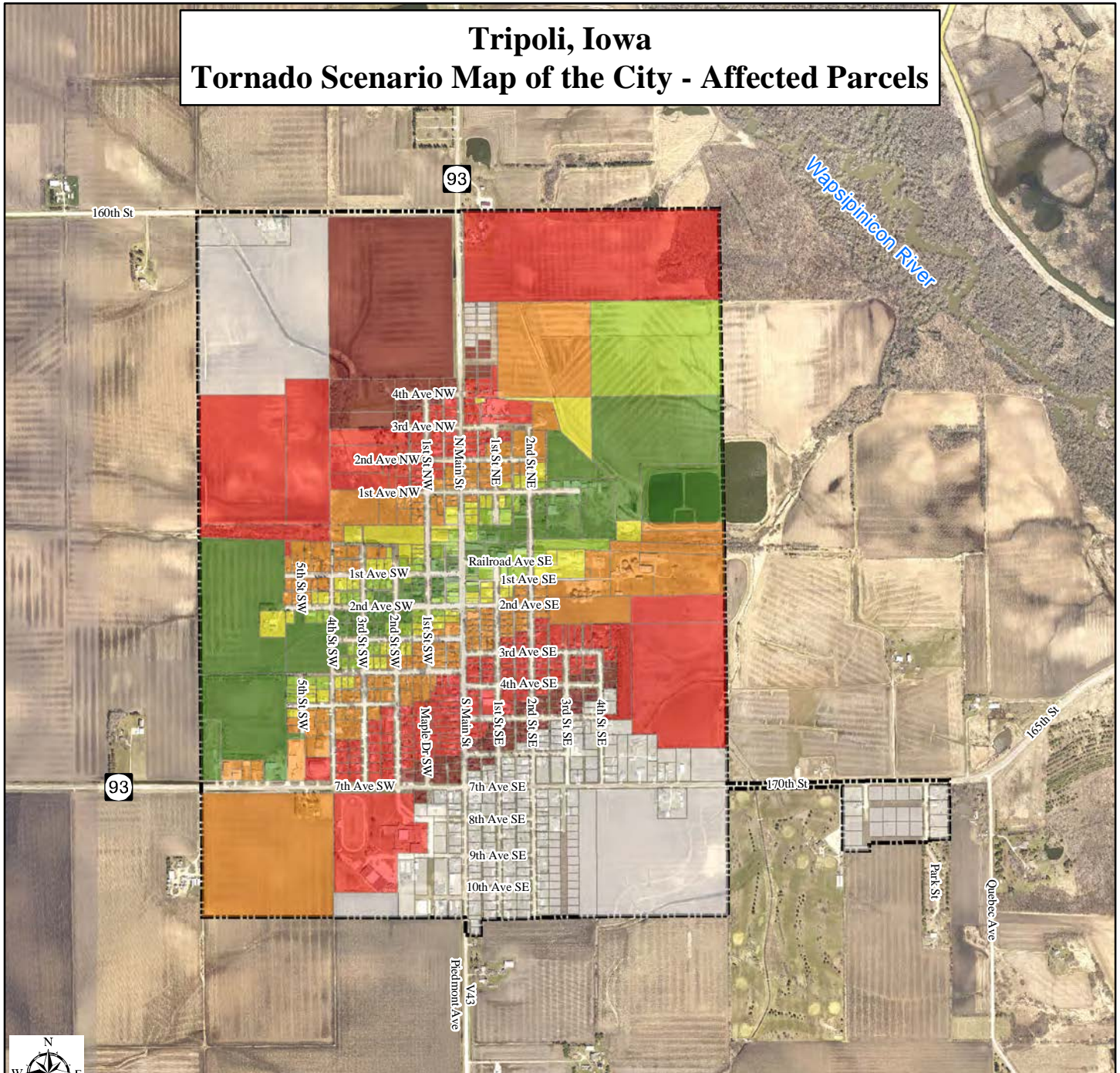


0 500 1,000
Feet

Aerial Photography 2013

Tripoli, Iowa

Tornado Scenario Map of the City - Affected Parcels



0 500 1,000
Feet

Aerial Photography 2013

Tornado Scenario Path Description

The tornado scenario path was chosen because it has a similar bearing to other tornados that have occurred in the county.

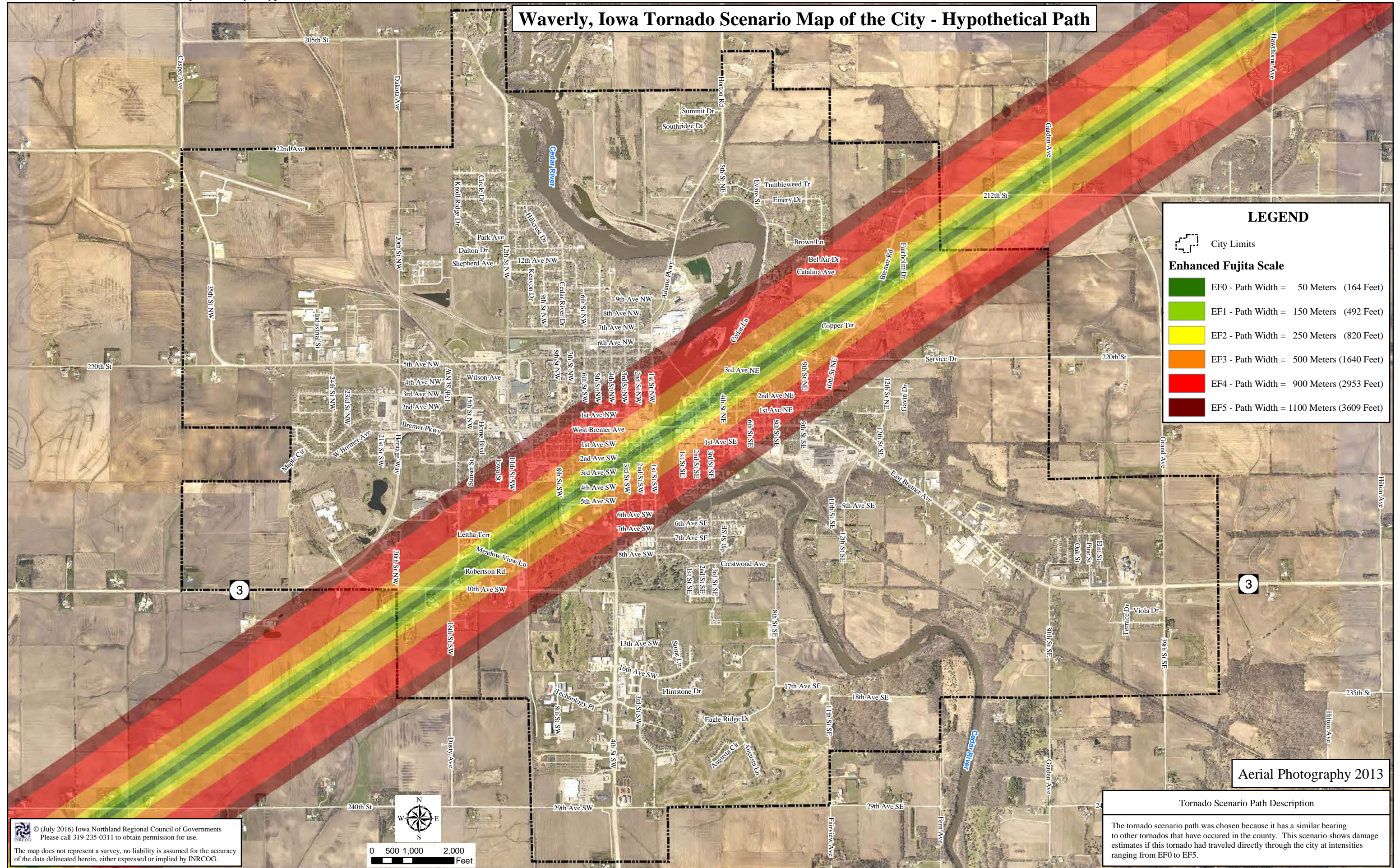
This scenario shows damage estimates if a tornado passed directly through the city at intensities ranging from EF0 to EF5.

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LEGEND

| | |
|------------------------------|--|
| | City Limits |
| Enhanced Fujita Scale | |
| | EF0 - Path Width = 50 Meters (164 Feet) - 62 Parcels Affected - 1.48% of City |
| | EF1 - Path Width = 150 Meters (492 Feet) - 125 Parcels Affected - 3.27% of City |
| | EF2 - Path Width = 250 Meters (820 Feet) - 196 Parcels Affected - 10.68% of City |
| | EF3 - Path Width = 500 Meters (1640 Feet) - 354 Parcels Affected - 21.04% of City |
| | EF4 - Path Width = 900 Meters (2953 Feet) - 536 Parcels Affected - 65.01% of City |
| | EF5 - Path Width = 1100 Meters (3609 Feet) - 604 Parcels Affected - 73.99% of City |

Waverly, Iowa Tornado Scenario Map of the City - Hypothetical Path



LEGEND

City Limits

Enhanced Fujita Scale

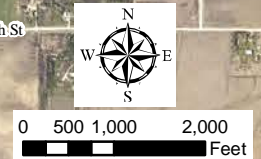
- EF0 - Path Width = 50 Meters (164 Feet)
- EF1 - Path Width = 150 Meters (492 Feet)
- EF2 - Path Width = 250 Meters (820 Feet)
- EF3 - Path Width = 500 Meters (1640 Feet)
- EF4 - Path Width = 900 Meters (2953 Feet)
- EF5 - Path Width = 1100 Meters (3609 Feet)

Aerial Photography 2013

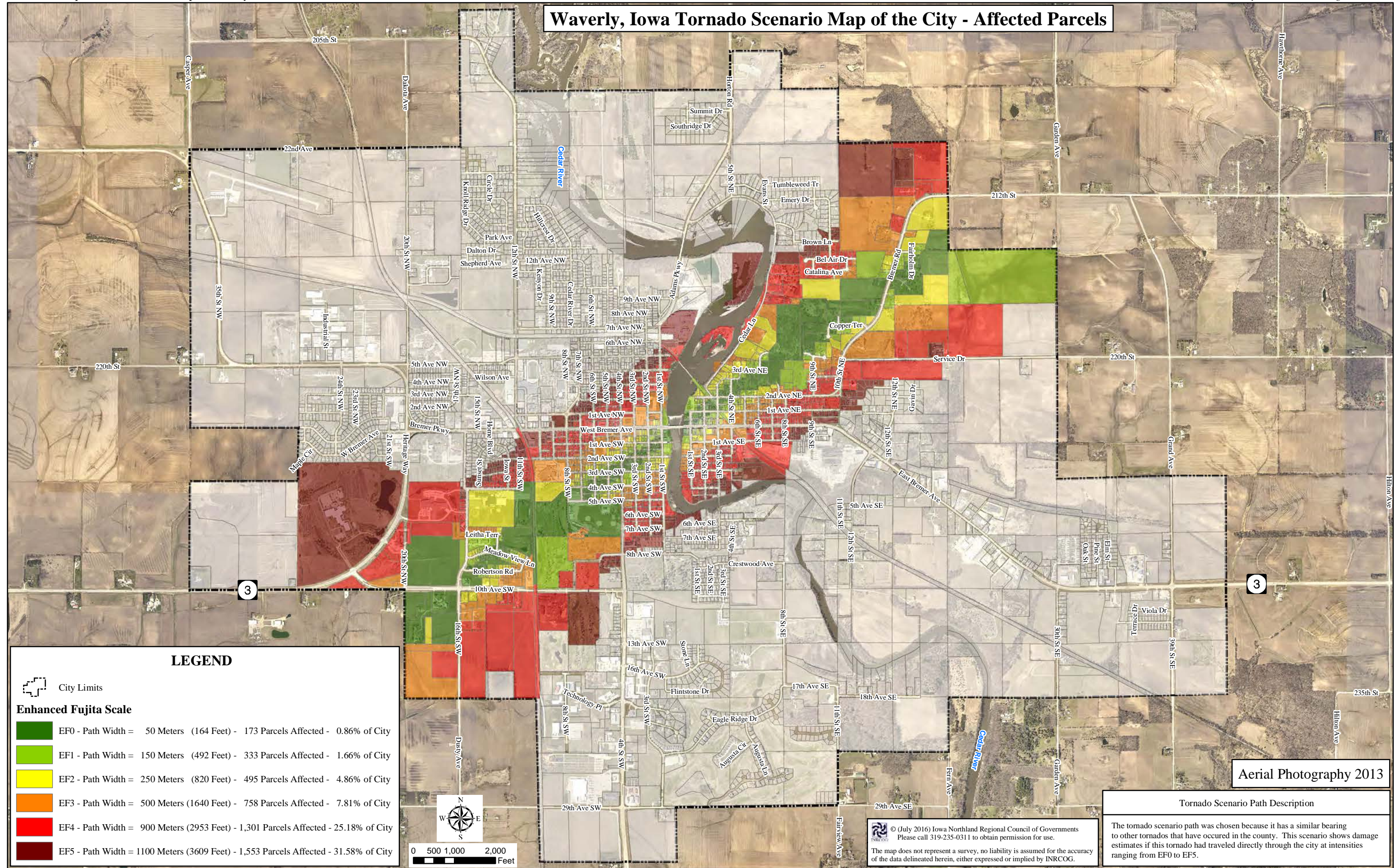
Tornado Scenario Path Description

The tornado scenario path was chosen because it has a similar bearing to other tornadoes that have occurred in the county. This scenario shows damage estimates if this tornado had traveled directly through the city at intensities ranging from EF0 to EF5.

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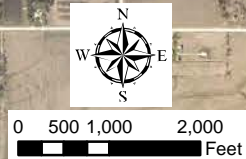


Waverly, Iowa Tornado Scenario Map of the City - Affected Parcels



LEGEND

- City Limits
- Enhanced Fujita Scale**
- EF0 - Path Width = 50 Meters (164 Feet) - 173 Parcels Affected - 0.86% of City
- EF1 - Path Width = 150 Meters (492 Feet) - 333 Parcels Affected - 1.66% of City
- EF2 - Path Width = 250 Meters (820 Feet) - 495 Parcels Affected - 4.86% of City
- EF3 - Path Width = 500 Meters (1640 Feet) - 758 Parcels Affected - 7.81% of City
- EF4 - Path Width = 900 Meters (2953 Feet) - 1,301 Parcels Affected - 25.18% of City
- EF5 - Path Width = 1100 Meters (3609 Feet) - 1,553 Parcels Affected - 31.58% of City



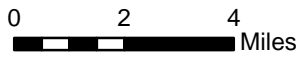
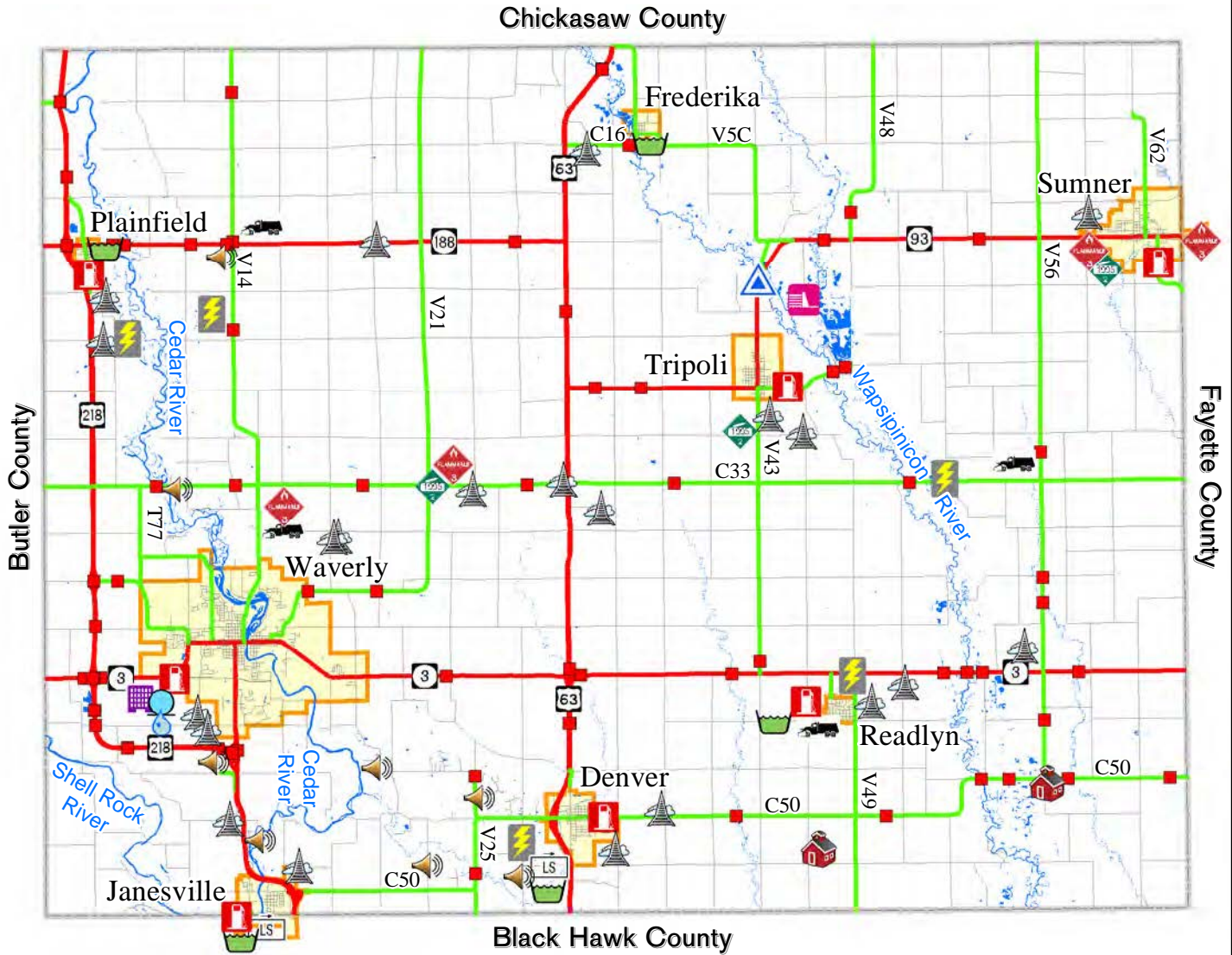
Aerial Photography 2013

Tornado Scenario Path Description

The tornado scenario path was chosen because it has a similar bearing to other tornadoes that have occurred in the county. This scenario shows damage estimates if this tornado had traveled directly through the city at intensities ranging from EF0 to EF5.

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Bremer County, Iowa Critical Sites Map of Unincorporated Areas



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LEGEND

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|----------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Clinic/Hospital | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Comm. Tower | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sheriff | Lift Station | Road Maintenance | Well |
| Bridges-Hard Surface | Courthouse | Nat. Gas Regulator Station | School | |
| Child Care | Dam | Nursing Home | Sewage Treatment | |
| City Hall | Elec. Substation | Police | Siren | |
| Civic Center | Fire Station | Post Office | Sports Complex | |



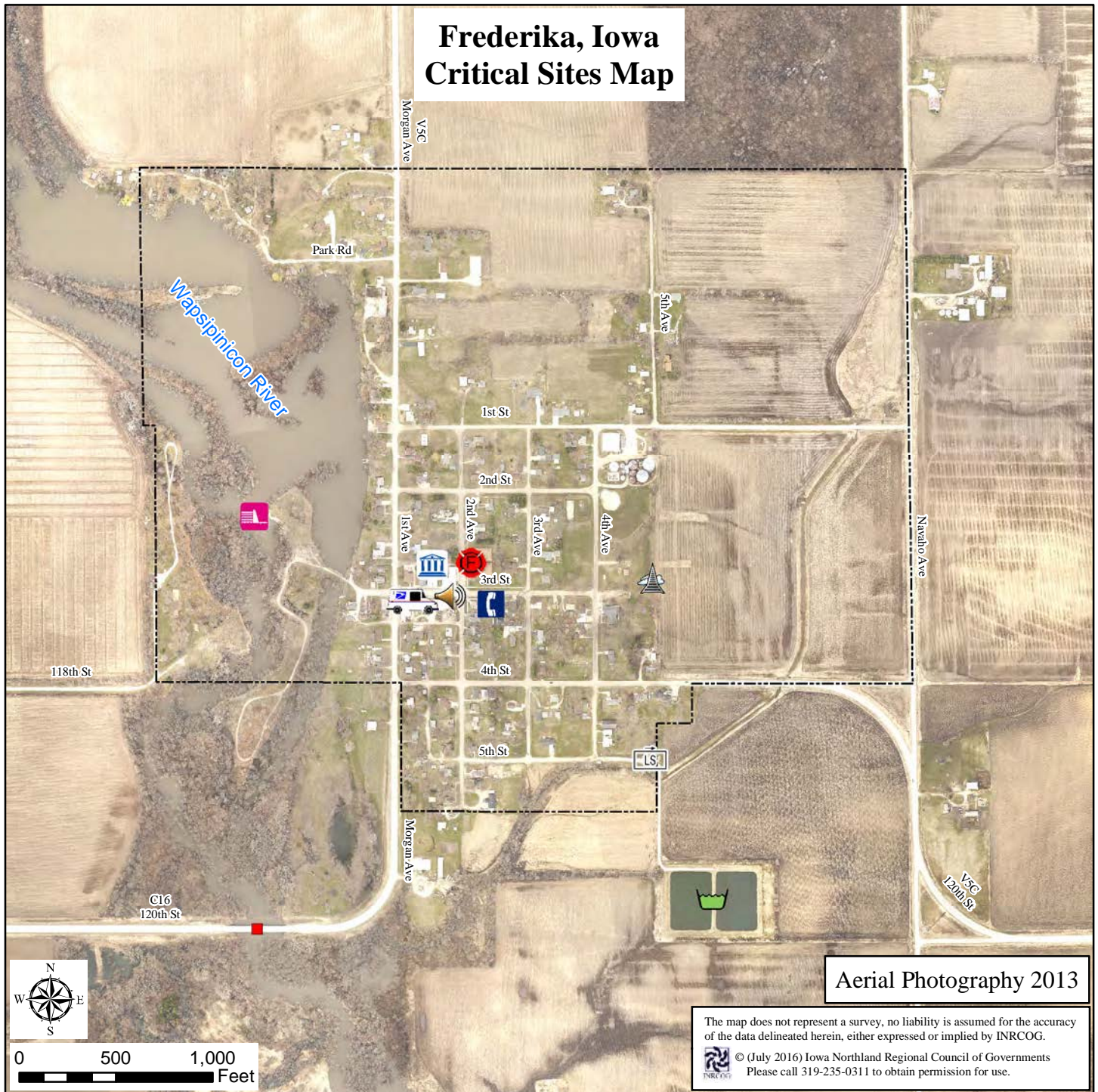
Denver, Iowa Critical Sites Map

Aerial Photography 2013

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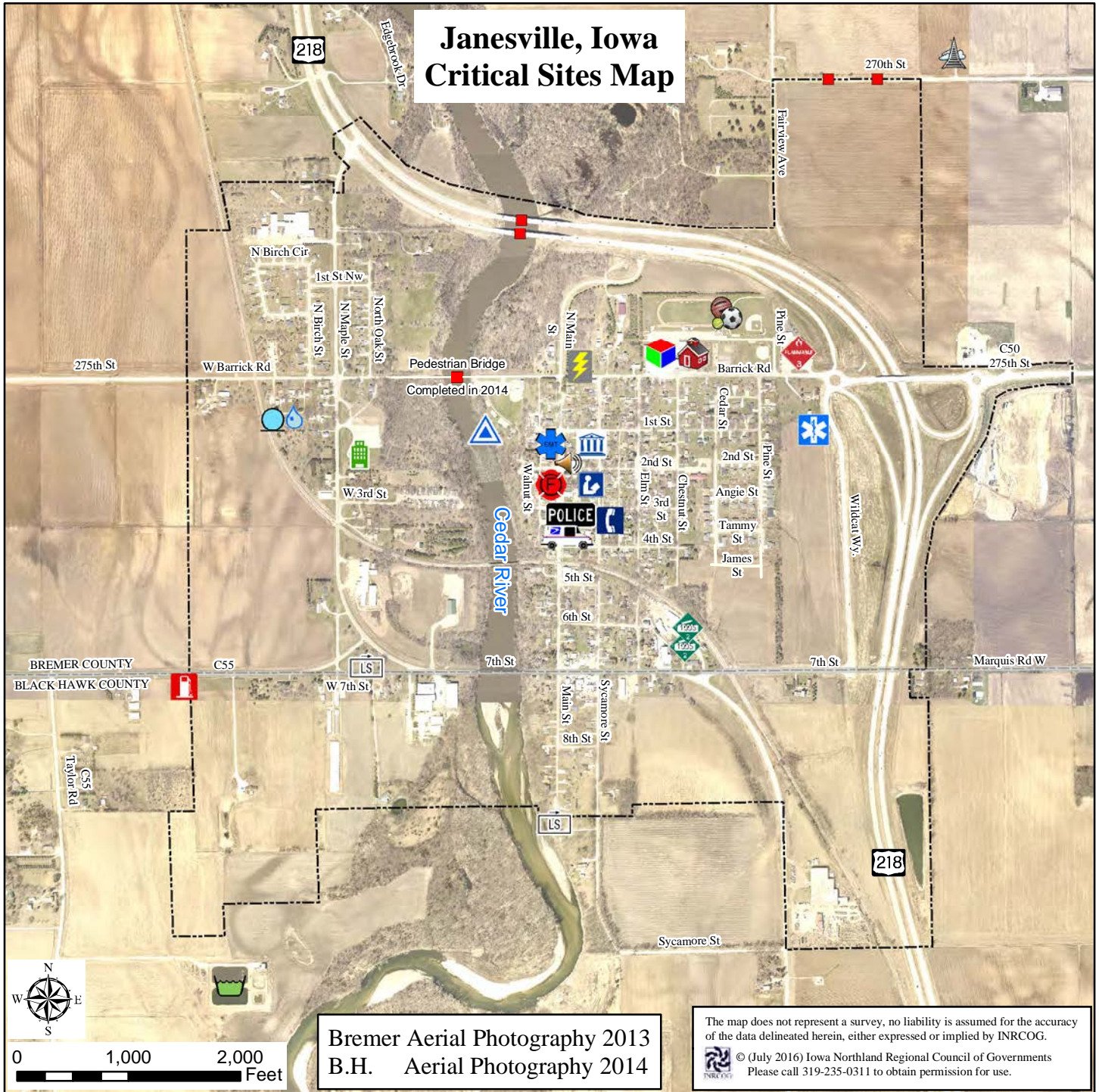
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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Clinic/Hospital | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Comm. Tower | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | Road Maintenance | Well |
| Bridge | Courthouse | Nat. Gas Regulator Station | School | Sewage Treatment |
| Child Care | Dam | Nursing Home | Siren | Sports Complex |
| City Hall | Elec. Substation | Police | | |
| Civic Center | Fire Station | Post Office | | |



LEGEND

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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Clinic/Hospital | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Comm. Tower | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | Road Maintenance | Well |
| Bridge | Courthouse | Nat. Gas Regulator Station | School | |
| Child Care | Dam | Nursing Home | Sewage Treatment | |
| City Hall | Elec. Substation | Police | Siren | |
| Civic Center | Fire Station | Post Office | Sports Complex | |



Bremer Aerial Photography 2013
 B.H. Aerial Photography 2014

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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Clinic/Hospital | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Comm. Tower | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | Road Maintenance | Well |
| Bridge | Courthouse | Nat. Gas Regulator Station | School | |
| Child Care | Dam | Nursing Home | Sewage Treatment | |
| City Hall | Elec. Substation | Police | Siren | |
| Civic Center | Fire Station | Post Office | Sports Complex | |



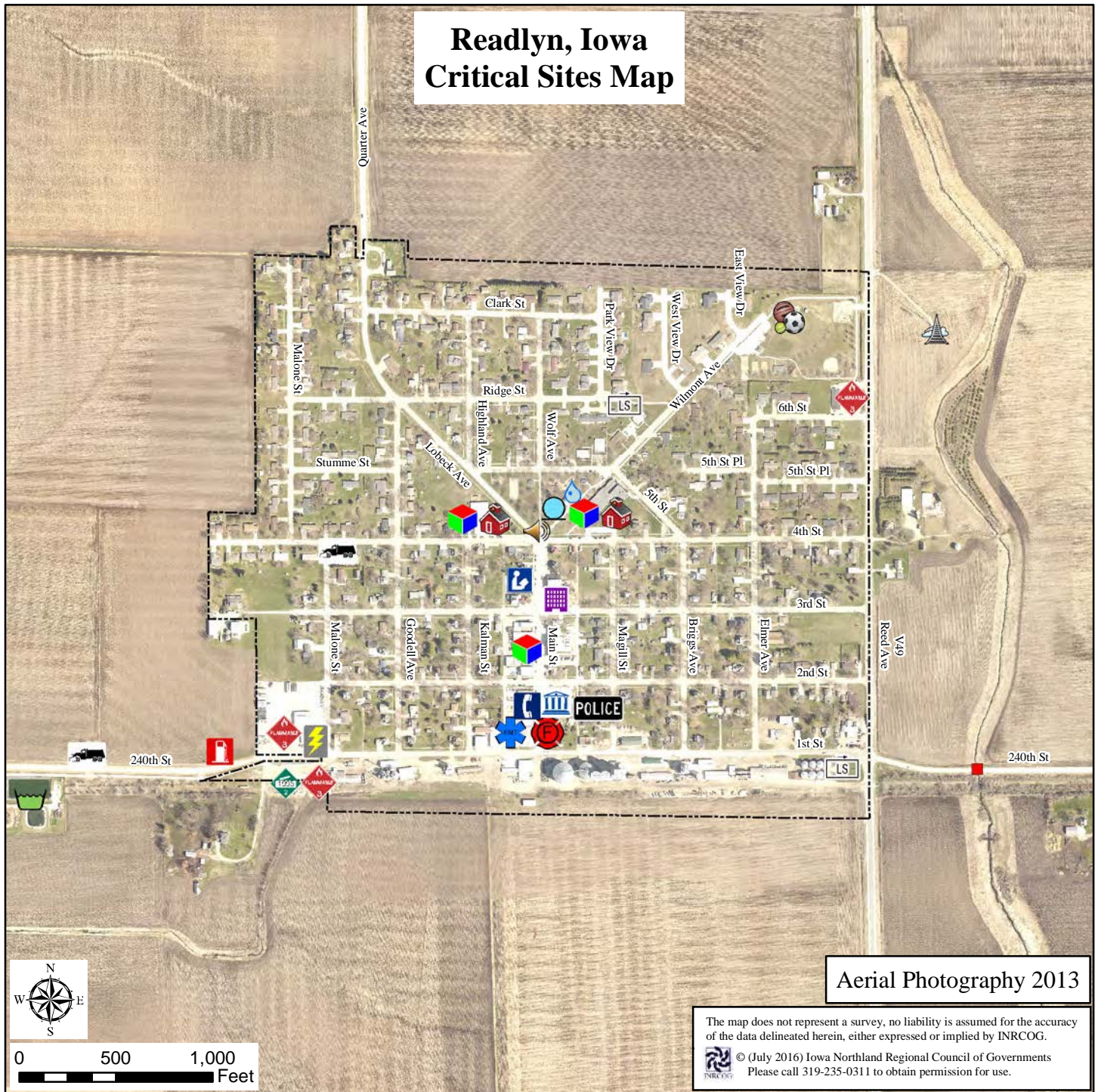
Plainfield, Iowa Critical Sites Map

Aerial Photography 2013

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LEGEND

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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Clinic/Hospital | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Comm. Tower | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | Road Maintenance | Well |
| Bridge | Courthouse | Nat. Gas Regulator Station | School | |
| Child Care | Dam | Nursing Home | Sewage Treatment | |
| City Hall | Elec. Substation | Police | Siren | |
| Civic Center | Fire Station | Post Office | Sports Complex | |



Readlyn, Iowa Critical Sites Map

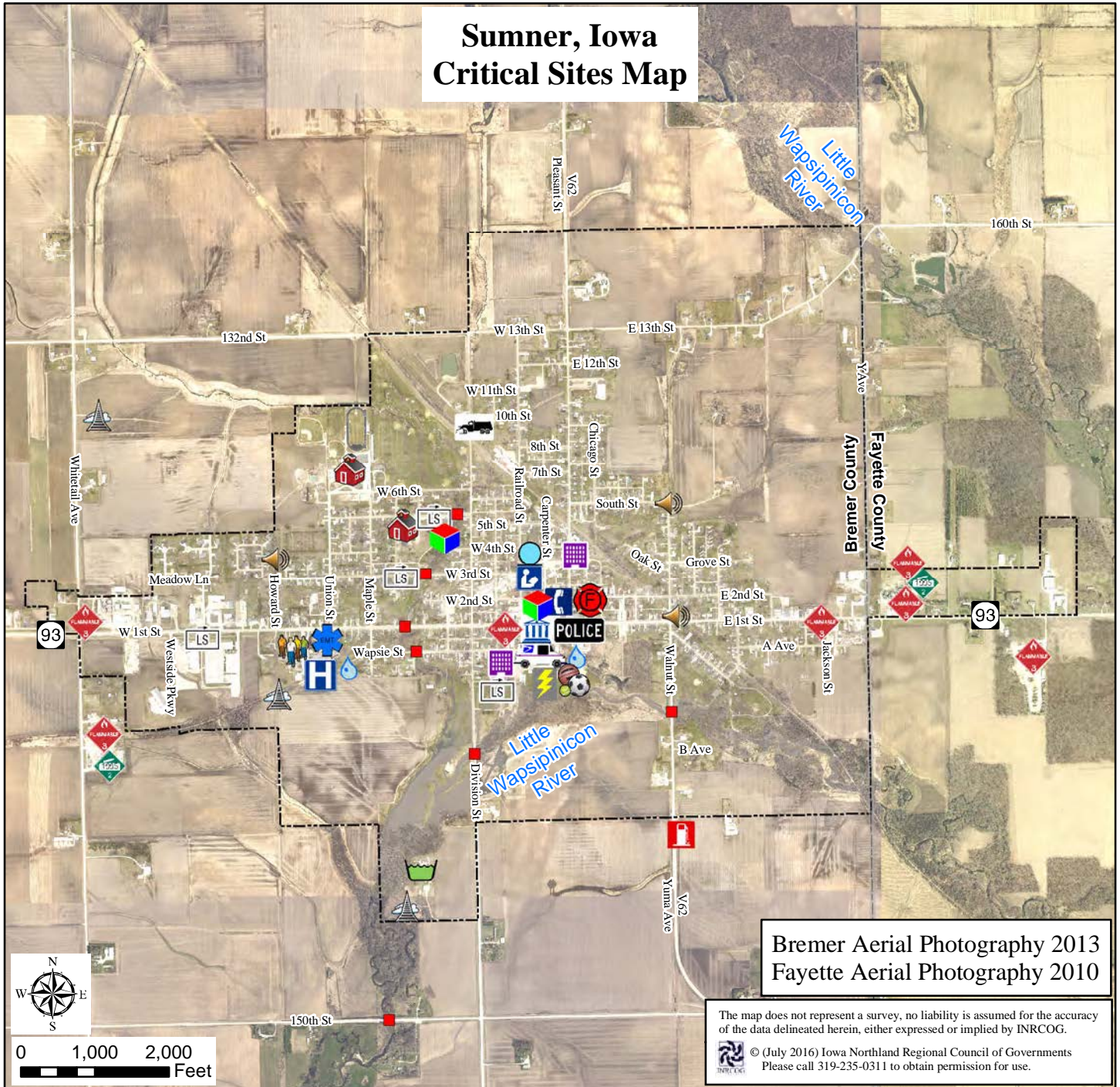
Aerial Photography 2013

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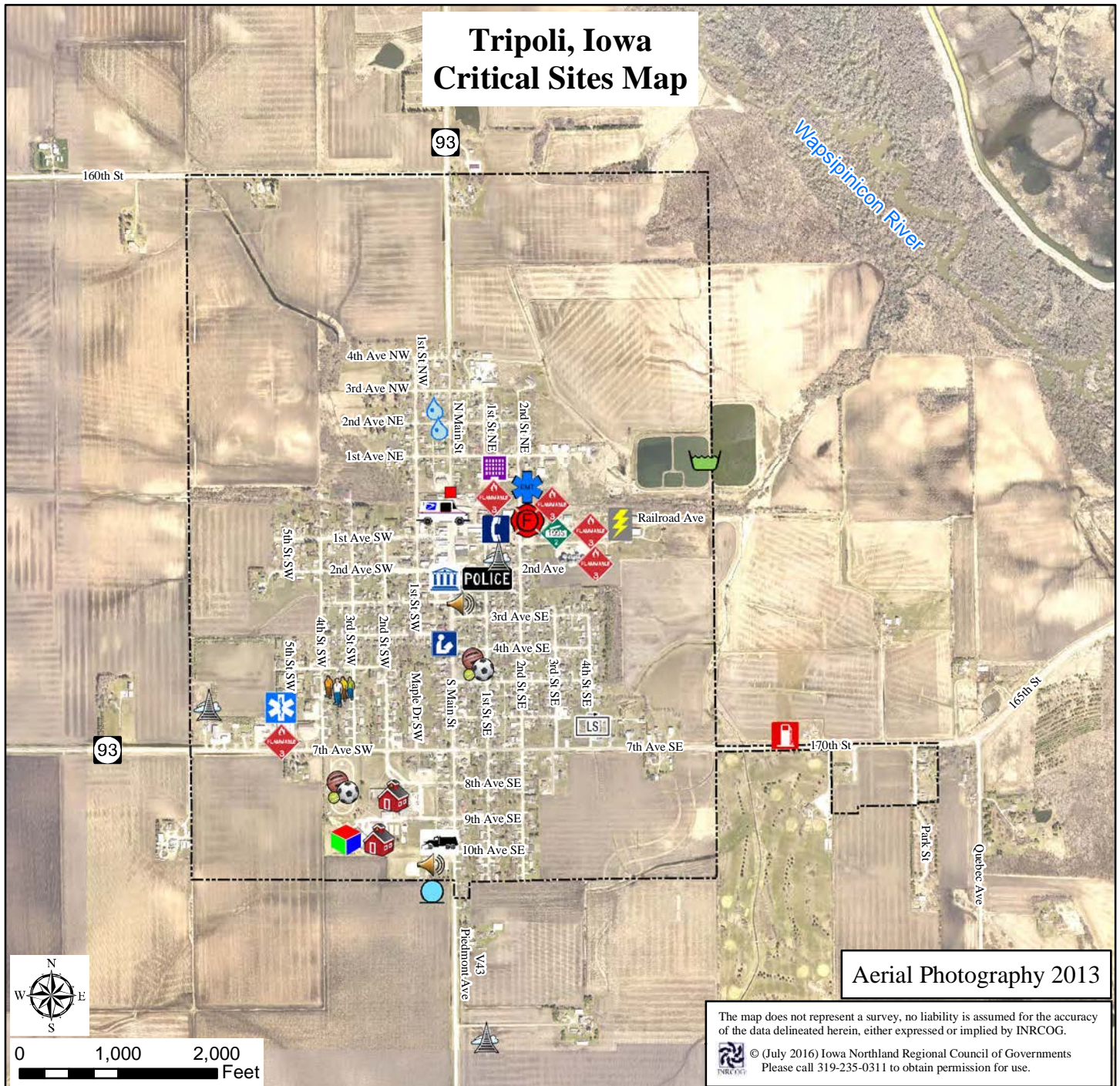
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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Clinic/Hospital | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Comm. Tower | Library | Road Maintenance | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | School | Well |
| Bridge | Courthouse | Nat. Gas Regulator Station | Sewage Treatment | |
| Child Care | Dam | Nursing Home | Siren | |
| City Hall | Elec. Substation | Police | Sports Complex | |
| Civic Center | Fire Station | Post Office | | |

Sumner, Iowa Critical Sites Map



LEGEND

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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Comm. Tower | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Courthouse | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | Road Maintenance | Well |
| Bridge | Clinic/Hospital | Nat. Gas Regulator Station | School | Sewage Treatment |
| Child Care | Dam | Nursing Home | Siren | Sports Complex |
| City Hall | Elec. Substation | Police | | |
| Civic Center | Fire Station | Post Office | | |

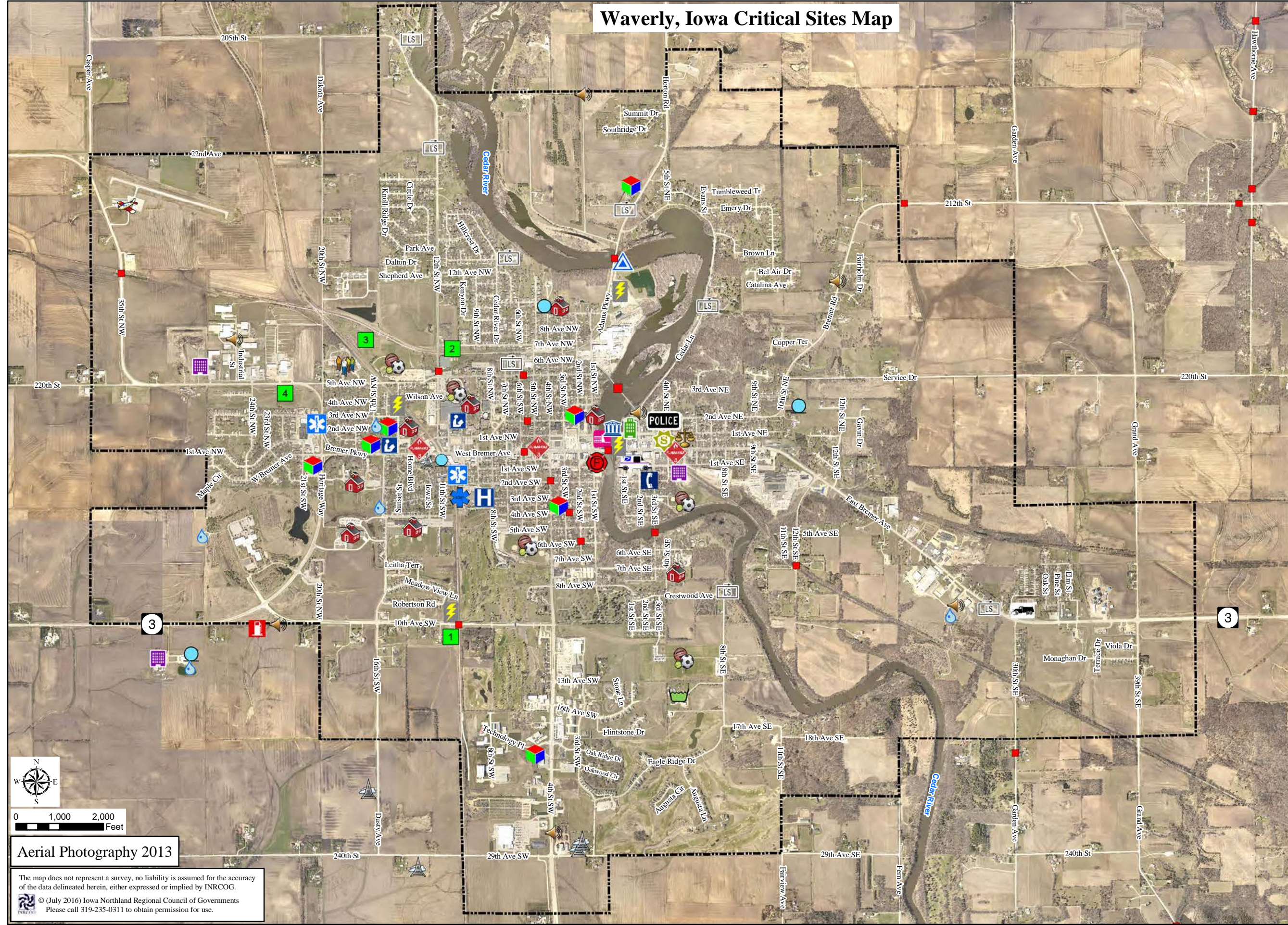


LEGEND

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|-------------------|------------------|----------------------------|------------------|-------------------|
| Airport | Comm. Tower | Fuel Storage | Public Works | Telephone Company |
| Ambulance | Courthouse | Library | River Gauge | Water Tower |
| Anhydrous Storage | County Sherriff | Lift Station | Road Maintenance | Well |
| Bridge | Clinic/Hospital | Nat. Gas Regulator Station | School | Sewage Treatment |
| Child Care | Dam | Nursing Home | Siren | Sports Complex |
| City Hall | Elec. Substation | Police | | |
| Civic Center | Fire Station | Post Office | | |

Waverly, Iowa Critical Sites Map

- ## LEGEND
- Airport
 - Ambulance
 - Anhydrous Storage
 - Bridge
 - Child Care
 - City Hall
 - Civic Center
 - Communication Tower
 - Courthouse
 - County Sherriff
 - Clinic
 - Dam
 - Fire Station
 - Fuel Storage
 - Hospital
 - Library
 - Lift Station
 - Nat. Gas Regulator Station
 - Nursing Home
 - Police
 - Post Office
 - Public Works
 - River Gauge
 - Road Maintenance
 - School
 - Sewage Treatment
 - Siren
 - Sports Complex
 - Substation or Pwr Plant
 - Telephone Company
 - Water Detention Basin
 - Water Tower
 - Well



0 1,000 2,000 Feet

Aerial Photography 2013

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ATTACHMENT 2: PLAN ADOPTION RESOLUTIONS

| <u>JURISDICTION</u> | <u>DATE OF PLAN ADOPTION</u> |
|---------------------|------------------------------|
| Bremer County | January 30, 2017 |
| City of Denver | |
| City of Frederika | |
| City of Janesville | |
| City of Plainfield | |
| City of Readlyn | |
| City of Sumner | |
| City of Tripoli | |
| City of Waverly | |

Bremer County

RESOLUTION 17-17.

A RESOLUTION OF THE BOARD OF SUPERVISORS, OF BREMER COUNTY, IOWA, ADOPTING A MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY.

WHEREAS, the Board of Supervisors of Bremer County, Iowa has authorized the development of a Multi-Jurisdictional Hazard Mitigation Plan for Bremer County; and

WHEREAS, Bremer County, Iowa has received funding through the Hazard Mitigation Grant Program; and

WHEREAS, the Multi-Jurisdictional Hazard Mitigation Planning Committee of the Bremer County has participated in the formulation of said Plan; and has recommended the adoption of said Multi-Jurisdictional Hazard Mitigation Plan; and

WHEREAS, a Public Hearing has been held in the County Courthouse for the purpose of obtaining citizen input on the Multi-Jurisdictional Hazard Mitigation Plan; and

NOW THEREFORE BE IT RESOLVED THAT the Board of Supervisors of Bremer County, Iowa herewith adopts the Bremer County Multi-Jurisdictional Hazard Mitigation Plan, incorporating into the Plan citizen comment and future FEMA and IHSEMD recommendations.

Passed and adopted this 30th day of January 2017.

Ken Ramsey
Chair

ATTEST:

Shelley Wolf
County Auditor
By: Lois Damski, Clerk

Public Notice
NOTICE OF PUBLIC HEARING
Notice is hereby given that on the 30th day of January 2017 at 9:30 a.m. at the Bremer County Courthouse, 415 E. Bremer Ave., Weaverly, IA 50677 a public hearing will be held to accept input regarding the Multi-Jurisdictional Hazard Mitigation Plan recently undertaken by the County.
Anyone interested may appear at the above stated time and place for the public hearing and be heard or may file written comments in person or mail to the County Auditor, Bremer County Courthouse, 415 E. Bremer Ave., Weaverly, IA 50677. Written comments must be received in the County Auditor's office before the public hearing. Copies of the plan can be made available for review at Buchanan County Auditor's Office. Published in the Weaverly Democrat on January 26, 2017.

STATE OF IOWA
Bremer County,
ss:
I, Kim Franzen being duly sworn
depose and say that I am Office Assistant of
CERTIFICATION OF PUBLICATION
THE WAVERLY NEWSPAPERS, a weekly newspaper published at
Weaverly, Bremer County, Iowa, and I further state that the annexed and
subjoined notice was duly published in said paper, as often as once in
each week for 1 week(s), commencing on the 26th
day of January, 2017, and ending on the _____ day of
_____, 2017.
Kim K Franzen
Subscribed and sworn to before me this 26th
day of January, 2017.
Carrie Fowler
Notary Public in and for Bremer County, Iowa
Printer's Fee, \$ 9.00 *



*Charge for additional certificates

ATTACHMENT 3: STATUS OF 2012 HAZARD MITIGATION PLAN

OVERALL HMP UPDATE CHANGES

All of the jurisdiction's that participated in the 2017 plan update were also part of the county's first multi-jurisdictional hazard mitigation plan developed in 2012. The first step in the planning process was for each participating jurisdiction reviewed the County's 2012 MJ-HMP. Needed updates were identified by each jurisdiction, including: development, status of mitigation actions, and assessment of hazards. Relevant county and city data was also researched and updated regarding population and infrastructure totals and vulnerabilities. The table below displays a summary of updates by section.

| Overall MJ-HMP Updates | | |
|---|--------|---|
| Section | MJ-HMP | Comments |
| Section 1 - Introduction | Yes | <ul style="list-style-type: none"> Updated planning process, participants and schedule Updated identified hazards and assessment to reflect hazards and assessment criteria of State of Iowa's 2013 HMP |
| Section 2 – Composite Community Profile | Yes | <ul style="list-style-type: none"> Updated Infrastructure information, including transportation and utilities Updated Census and American Community Survey data Updated housing, income, and economy data Updated local jurisdictional information Updated all tables and local information |
| Section 3 – Risk Assessment (includes Vulnerability Assessment) | Yes | <ul style="list-style-type: none"> Identified new list of hazards (2013 State HMP hazards) Identified new list of hazards Scored new hazard list with new scoring criteria for each jurisdiction Updated composite assessment scores for Bremer County and all jurisdictions Updated disaster historical occurrences Updated average assessment scores for Bremer County and all jurisdictions Redefined subcategories describing individual hazards Updated and completed vulnerability assessments (identifying critical facilities and social assets) affected by flooding (river and flash) and tornados. Updated the estimating potential property losses and repetitive loss properties with available data Updated NFIP status Updated vulnerability assessment, including shelters, values in floodplains, and "at-risk" population data |

| | | |
|--|------------|---|
| <p>Section 4 – Mitigation Strategy</p> | <p>Yes</p> | <ul style="list-style-type: none"> • Reviewed and confirmed existing mitigation goals for the planning area • Removed completed or no longer applicable projects/actions/activities, if any • Changed format from listing mitigation activities repeatedly under each hazard to once under the FEMA’s six categories for mitigation activities – prevention, property protection, natural resource protection, emergency management, structural, and public education and awareness • Updated planning and regulatory documents • Updated public education and awareness mitigation actions • Updated emergency services mitigation actions • Updated to include new warning system in place • Reviewed, added and deleted mitigation activities analysis from the previous menu of potential strategies. • Identified agencies responsible for implementation of mitigation activities • Reorganized Mitigation Action Steps into subgroups |
| <p>Section 5 – Plan Maintenance</p> | <p>Yes</p> | <ul style="list-style-type: none"> • Updated how the MJ-HMP should be updated, evaluated and reviewed, incorporated into other planning mechanisms, and continued public participation should be met |
| <p>Appendices / Attachments</p> | <p>Yes</p> | <ul style="list-style-type: none"> • Reorganized maps/city profiles into appendixes and attachments • Updated all city appendixes from 2012 plan <ul style="list-style-type: none"> ○ Community Profiles, transportation, developments, and utility providers ○ Demographic data ○ New list of hazards and analysis criteria ○ Vulnerability analysis of critical facilities, populations, and estimated property loss ○ NFIP status and repetitive loss status, where applicable ○ Current mitigation activities ○ Reviewed, added and deleted mitigation activities analysis from the previous menu of potential strategies • Added tornado scenario maps • Updated historic tornado map • Updated city flood scenario and county floodplain maps • Added city floodplain maps • Updated city critical site maps • Updated county-wide critical site maps and divided into individual maps for each critical site • Added status update of previous hazard mitigation activities |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

In addition to the general plan updates described above, each jurisdiction documented the status of their community's action steps identified in the 2012 plan. The following tables state the status of the actions in the 2012 plan.

| BREMER COUNTY – STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
|--|--|
| Mitigation Action | Committee Determination/Comments |
| Educate the public | Active; personnel appearances at events, social media, and press |
| Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | Active; through individual agencies and associates |
| Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | Active; as needed |
| Provide emergency shelters for evacuees | As needed; implemented in past |
| Maintain mutual aid agreements | Active; fire and EMS service agreed to via 28E |
| Maintain county roads department | Active; as needed |
| Maintain tree trimming program | Active; added roadside management position |
| Determine locations for potential heating shelters and volunteer organization | Active; through Bremer County CERT |
| Encourage utility providers and developers to place all utilities underground | Active; as practical during permitting process |
| Purchase and maintain backup generators | Active |
| Maintain public works equipment | Active |
| Notify the media on shelter locations | As needed; via PIO functions |
| Maintain use of snow fences in the city/county | Active; done as practical via secondary Roads |
| Use surge protectors to prevent electrical damage to critical and sensitive equipment | Active; through MIS |
| Backup all digital data | Active; through MIS |
| Purchase NOAA weather radios | As available; previously purchased when grant funds available |
| Enforce and update building codes, as needed | Active; updated as needed |
| Maintain storm spotter training for local fire departments/deputies and EMS crews | Completed, active; done in partnership with Butler County |
| Make available a cleanup crew for after a storm | Requested as needed |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

| | |
|--|--|
| Place alarms on storage facilities containing hazardous materials | Not completed; privately owned (Drop in 2017 plan) |
| Maintain law enforcement monitoring of large storage supplies | Active; routine patrols |
| Acquire necessary response and detection equipment for city/county employees | Active, necessary equipment in place; update as needed |
| Encourage lead based paint and asbestos removal | Active; available at landfill |
| Provide a local hazardous waste dropoff site | Active; through EMA |
| Maintain mutual aid agreements with the Northeast Iowa response Group | Active; through EMA |
| Keep HAZMAT manuals/information current and easily accessible | Active; updated as needed |
| Maintain, test, and replace warning sirens | Completed, active; tested monthly |
| Identify areas throughout the county that would substantially benefit from outdoor warning sirens | Active; as identified and funding available |
| Encourage and maintain enrollment in emergency notification system | Active; county participates in and promotes Alert Iowa program |
| Construct or designate a safe room or storm shelter | Active; assist as requested |
| Encourage home owners to keep emergency kits | Active; via various media sources |
| Encourage backup power generation for local telephone systems and cellular operations | <i>Not completed; privately owned (Drop in 2017 plan)</i> |
| Maintain list of potential translators to be called upon in case of an emergency | Active; done through Wartburg College in Waverly |
| Maintain or install GPS units in all emergency service and city/county vehicles | Partially completed; in emergency vehicles only as of now |
| Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Active; done at dispatch |
| Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Active; through Bremer County PIO network |
| Continue training and promotion of the Incident Command System | Active; through EMA facilitation |
| Complete continuity of government plan | Not yet completed |
| Encourage use of Iowa One call before digging | Active |
| Upgrade radio communications equipment as needed | As needed/funds available |
| Regularly review and amend fire and medical HAZMAT response standard operating procedures | Active; as needed |
| Improve standard operating procedures for schools | Active; partnerships maintained with active county schools |
| Seek to improve communications with other agencies | <i>Drop in 2017 plan</i> |
| Keep supply of backup radios and cellphones | Active; EMA maintains inventory of backup radios |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain list of county emergency contacts | Completed, active; done through county and EMA |
| Keep the county updated on personnel changes | As needed; done through EMA |
| Continue cooperation between county roads department and local fire departments during snow emergencies | Completed as needed |
| Pursue partnership with rural water as the system expands | Completed, active; Rural water |
| Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Active; completed via local fire departments, EMA, and CERT |
| Continue fire prevention program | Active; completed through fire departments and EMA |
| Maintain membership in the NFIP | Active completed; membership maintained |
| Maintain, enforce and update floodplain ordinance | Active, implemented by Building and Zoning |
| Acquire more water pumps | Not completed |
| Educate the public on maintaining their sump pumps | <i>Drop in 2017 plan</i> |
| Maintain and keep storm drains clear of debris | Active; as needed via EMA (<i>drop in 2017 plan</i>) |
| Stockpile sand and sandbags | As needed; responsibility of local jurisdiction, not county |
| Identify, purchase and remove structures from flood hazard areas | As needed; when state and federal funding available |
| Purchase additional trash pumps | Completed as needed |
| Initiate and enforce burn ban in times of drought or as needed | Implemented as needed |
| Maintain and improve signals/signage along roadways and at railroad crossings | Active; improvements made as necessary |
| Establish alternative transportation routes should a road need to be closed | As needed |
| Ensure that all county road maintenance personnel are trained in the proper procedures for road preparation and repair | Active |
| Purchase emergency signs to be used in case of an incident | Drop in 2017 plan |
| Enforce no parking designations at special events | Active, as needed |
| Identify fallout shelter locations | In place |
| Keep communication lines open with Nuclear Plant in Palo, IA | Active; maintained |
| Maintain and/or develop a wellhead protection program | Active; through Environmental Health |
| Monitor wells in areas of identified contamination | Active |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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|---|--|
| Monitor the drinking water supply | Responsibility of local jurisdictions; assist in communicating any needed alerts |
| Identify and map areas of past contamination | Active; database maintained by DNR |
| Follow monitoring requirements set forth by the Iowa DNR | Active; responsibility of Environmental Health |
| Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Active, as funding available |
| Maintain and update anti-virus software | Active; MIS |
| Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences | Not completed; facilities either privately owned or owned by cities |
| Review and update fire codes as necessary | Active, as needed |
| Continue to cooperate with pipeline owners and operators to ensure locations are marked | Active; regular meetings |
| Provide fans and/or cooling shelter | Active; have identified |
| Maintain air conditioner(s) in community buildings | Responsibility of local jurisdictions (drop in 2017 plan) |
| Keep a supply of drinking water to distribute | Not completed, (drop in 2017 plan) |
| Continue contract with county public health nursing agency | Active; partnership with Public Health department |
| Encourage the public to receive vaccinations | As needed |
| Cooperate with any countywide mass vaccination plan | As needed |
| Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Active, as needed |
| Develop rationing procedures | Not completed (drop in 2017 plan) |
| Initiate and enforce burn ban in times of drought or as needed | Implemented as needed |
| Restrict water usage should it be necessary | As needed; not implemented |
| Encourage the use of proper materials and construction techniques | Active, via building code requirements |
| Install tiling to help water move away from structures | Not completed; encouraged via Code |
| Enforce a curfew | Per state law – drop for 2017 plan |
| Continue regular bridge inspections | Active, routine |
| Place barricades to close dangerous bridges | Active, as needed |
| Maintain embargos/weight limits as necessary | Active, as needed |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Receive education/training from DOT on the subject | (drop in 2017 plan) |
| Establish detour routes | Active; Secondary Roads |
| Identify and inventory potential sinkhole sites | Active; EMA |
| Secure the area (around a sinkhole) | As needed; work with landowners |
| Inspect any utility lines that are near a sinkhole | Utility responsibility (drop in 2017 plan) |
| Enforce the local zoning ordinances | Active; zoning ordinances in place and enforced |
| Plant trees along water bodies and slopes | Yes, implemented as needed |
| Clear ditches, streams, and waterways on a regular basis | Active, as needed; via local governments and county vegetation management |
| Encourage floodproofing/elevating structures in the floodplain | Active; via Building and Zoning permits |
| Encourage construction of dikes, levees, dams, and retention ponds | Active, WMA |
| Update flood maps/flood studies for areas throughout the county | As needed; responsibility of FEMA and NFIP. County maps updated in 2008 |
| Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | Active; as identified |
| Establish transportation evacuation routes and protocols | As needed, EMA/ESFIO |
| Develop sandbagging procedures for the community | As needed; assist cities |
| Develop and maintain staging area for dumping during cleanup | As needed, work with WMA |
| Continue cooperation with county in developing flood mitigation efforts | Active, continued to work with elected officials of cities and Board of Supervisors |
| Continue working with the Bremer County Recovery Coalition | Active, as needed |
| Purchase additional parkland in order to increase greens space and reducing surface flow | Active; implemented by Buchanan County Conservation Board |
| Regularly inspect dams | Active; implemented by Buchanan County Conservation Board |
| Regularly inspect levees | No levees in county (drop in 2017 plan) |
| Establish backup plan in case levees fail | No levees in county (drop in 2017 plan) |
| Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Active |
| Inform the public of reputable and ill reputable contractors following disasters | Active, as needed |
| Maintain the county website as a source of public information | Active, implemented as needed |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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|--|---|
| Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Communities can participate in regional |
| Maintain and update emergency response plans | Active, maintained |
| Maintain lists of personnel and equipment available to use with response plans | Active, maintained |
| Maintain communication with county contacts | Active, maintained |
| Maintain NIMS compliance | Active, compliance maintained |

| CITY OF FREDERIKA – STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
|--|--|
| Mitigation Action | Committee Determination/Comments |
| Educate the public | Active; FEMA training for key city personnel ; fire safety/hazard mitigation training for residents; Red Cross First Aid/CPR/AED training available for key personnel/emergency personnel and other interested residents |
| Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | Active; no ambulance; first responders/EMT volunteers for emergency medical responses |
| Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | No ambulance; first responders/EMT; primary agency is city council and fire chief |
| Provide emergency shelters for evacuees | Active |
| Maintain mutual aid agreements | Active – ongoing |
| Maintain tree trimming program | Active; Alliant Energy |
| Determine locations for potential heating shelters and volunteer organization | Active |
| Encourage utility providers and developers to place all utilities underground | Active; communication lines currently being buried with fiber optic cable; county water system for city to be buried |
| Purchase and maintain backup generators | Active; generator in place for sewage system |
| Maintain public works equipment | Active |
| Notify the media on shelter locations | Active; coordination through American Red Cross and Bremer County EMA Director |
| Install a snow fence around the wastewater treatment facility | Active; protection via tree lines |
| Enforce sidewalk clearance ordinance | Active |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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|---|--|
| Maintain use of snow fences in the city/county | Active |
| Use surge protectors to prevent electrical damage to critical and sensitive equipment | Active; surge protectors active at sewage plant |
| Backup all digital data | Active |
| Purchase NOAA weather radios | Active; none purchased at this time |
| Maintain storm spotter training for local fire departments/deputies and EMS crews | Active |
| Continue enforcement of city sump pump discharge ordinance | Active |
| Maintain a list of potential storm sewer projects | Active; replacing storm drainage culverts |
| Make available a cleanup crew for after a storm | Active |
| Placement of lighting arrestors on power lines | Active; Alliant Energy |
| Place alarms on storage facilities containing hazardous materials | Active |
| Maintain law enforcement monitoring of large storage supplies | Active; contract with Bremer County Sheriff |
| Acquire necessary response and detection equipment for city/county employees | Active |
| Encourage lead based paint and asbestos removal | Active |
| Provide a local hazardous waste dropoff site | Active |
| Maintain mutual aid agreements with the Northeast Iowa response Group | Active |
| Keep HAZMAT manuals/information current and easily accessible | Active |
| Maintain, test, and replace warning sirens | Active; tested monthly |
| Identify areas throughout the county that would substantially benefit from outdoor warning sirens | Active; EMA Director |
| Encourage and maintain enrollment in emergency notification system | Active |
| Construct or designate a safe room or storm shelter | Active; most private residents have basement; community center is designated emergency shelter; no multi person below ground safe room available |
| Encourage home owners to keep emergency kits | Active |
| Encourage backup power generation for local telephone systems and cellular operations | Active; Butler-Bremer Communications |
| Maintain list of potential translators to be called upon in case of an emergency | Active |
| Maintain or install GPS units in all emergency service and city/county vehicles | Active; fire department/first responders currently utilizing cell |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

| | |
|--|---|
| | phone GPS systems |
| Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Active; currently in discussion |
| Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Active; currently would use Bremer E-911, TV stations and radio stations; all EMS personnel connected to E-911 via cell phone and radio pager |
| Continue training and promotion of the Incident Command System | Active; FEMA training ongoing; being coordinated/given by EMA Director |
| Complete continuity of government plan | Active; in progress |
| Encourage use of Iowa One call before digging | Active; all residents/employees are actively and continuously encouraged to use One Call prior to any digging |
| Upgrade radio communications equipment as needed | Active |
| Regularly review and amend fire and medical HAZMAT response standard operating procedures | Active |
| Improve standard operating procedures for schools | Active |
| Seek to improve communications with other agencies | Active |
| Keep supply of backup radios and cellphones | Active |
| Maintain list of county emergency contacts | Active |
| Keep the county updated on personnel changes | Active |
| Continue cooperation between county roads department and local fire departments during snow emergencies | Active |
| Pursue partnership with rural water as the system expands | Active; rural water has been approved by voters; installation scheduled for summer to fall 2016; pipe installed as far as west side of town |
| Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Active |
| Continue an annual inspection program for commercial and industrial properties | Active |
| Continue fire prevention program | Active |
| Improve water system to enhance firefighting capacity/ability | Active; have looked into viability of fire hydrants with rural water |
| Maintain membership in the NFIP | Active |
| Maintain, enforce and update floodplain ordinance | Active |
| Acquire more water pumps | Active |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Continue with improvement to the storm water system | Active; reviewing drainage system procedures |
| Prevent inflow and infiltration into the sanitary sewer | Active |
| Educate the public on maintaining their sump pumps | Active |
| Maintain and keep storm drains clear of debris | Active |
| Stockpile sand and sandbags | Active |
| Identify, purchase and remove structures from flood hazard areas | Active |
| Purchase additional trash pumps | Active |
| Initiate and enforce burn ban in times of drought or as needed | Active; follow county bans |
| Maintain and improve signals/signage along roadways and at railroad crossings | Active; no railroad crossings in city |
| Establish alternative transportation routes should a road need to be closed | Active; alternate routes identified |
| Purchase emergency signs to be used in case of an incident | Active |
| Enforce no parking designations at special events | Active |
| Identify fallout shelter locations | Active |
| Keep communication lines open with Nuclear Plant in Palo, IA | Active |
| Maintain and/or develop a wellhead protection program | Active |
| Monitor wells in areas of identified contamination | Active |
| Monitor the drinking water supply | Active; rural water has been approved by voters |
| Identify and map areas of past contamination | Active |
| Maintain and/or develop storm water management program | Active; working with county/state entities |
| Eliminate and cap private and abandoned wells in the city | Active |
| Eliminate the use of septic tank systems in the city limits | Active; most residents are now on city sewer |
| Follow monitoring requirements set forth by the Iowa DNR | Active; requirements followed by city sewage system |
| Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Active |
| Maintain and update anti-virus software | Active |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences | Active |
| Review and update fire codes as necessary | Active; maintained by fire chief |
| Continue to cooperate with pipeline owners and operators to ensure locations are marked | Active |
| Purchase a new tanker and/or pumper | Active |
| Provide fans and/or cooling shelter | Active |
| Encourage community to plant shade trees | Active |
| Maintain air conditioner(s) in community buildings | Active; central air system in community building |
| Keep a supply of drinking water to distribute | Active |
| Encourage the public to receive vaccinations | Active |
| Cooperate with any countywide mass vaccination plan | Active |
| Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Active |
| Develop rationing procedures | Active |
| Initiate and enforce burn ban in times of drought or as needed | Active; follow county ban restrictions |
| Restrict water usage should it be necessary | Active |
| Encourage the use of proper materials and construction techniques | Active; new building code procedures enacted by city council |
| Educate city personnel to identify risk areas | Active |
| Install tiling to help water move away from structures | Active |
| Enforce a curfew | Active |
| Continue regular bridge inspections | Active; no bridges within city limits |
| Place barricades to close dangerous bridges | Active; no bridges within city limits |
| Maintain embargos/weight limits as necessary | Active |
| Receive education/training from DOT on the subject | Active |
| Establish detour routes | Active |
| Identify and inventory potential sinkhole sites | Active |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Educate city personnel to handle a sinkhole situation | Active |
| Secure the area (around a sinkhole) | Active |
| Inspect any utility lines that are near a sinkhole | Active |
| Enforce the local zoning ordinances | Active |
| Plant trees along water bodies and slopes | Active |
| Clear ditches, streams, and waterways on a regular basis | Active |
| Encourage floodproofing/elevating structures in the floodplain | Active |
| Encourage construction of dikes, levees, dams, and retention ponds | Active |
| Update flood maps/flood studies for areas throughout the county | Active |
| Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | Active |
| Establish transportation evacuation routes and protocols | Active |
| Develop sandbagging procedures for the community | Active |
| Develop and maintain staging area for dumping during cleanup | Active |
| Maintain pump station | Active; city sewer system maintained |
| Continue cooperation with county in developing flood mitigation efforts | Active |
| Continue working with the Bremer County Recovery Coalition | Active |
| Purchase additional parkland in order to increase greens space and reducing surface flow | Active |
| Regularly inspect dams | Active |
| Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Active |
| Inform the public of reputable and ill reputable contractors following disasters | Active |
| Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Active |
| Maintain and update emergency response plans | Active |
| Maintain lists of personnel and equipment available to use with response plans | Active |
| Maintain communication with county contacts | Active; coordinated by county |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain NIMS compliance | Completed, active; |
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| CITY OF PLAINFIELD – STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
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| Mitigation Action | Committee Determination/Comments |
| Educate the public | Active – incorporated Facebook page, website, use of mailings and media, etc. |
| Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | Active and as needed – Keeping up with required emergency training |
| Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance personnel | Active and as needed – Car crash stabilizer system and grain bin system purchased, Future CAFS, New fire retardant system. |
| Provide emergency shelters for evacuees. | Active – Currently the City Hall, Fire Department, and Library, as well as two churches. |
| Maintain mutual aid agreements | Active, Repetitive, Renewed annually or as needed. |
| Maintain tree trimming program | Active – City ordinance in place and enforced. |
| Determine locations for potential heating shelters and volunteer organization | Active – Currently the City Hall, Fire Department, and Library, as well as two churches. |
| Encourage utility providers and developers to place all utilities underground | Active – Example, new fiber optics installed in 2015 |
| Purchase and maintain backup generators | Completed – Generators have been placed at all key facilities, Fire Station, City Hall, Lift Station, Waste Water Treatment plant, Water tower “pump station”, All generators test run weekly, and are recorded. |
| Maintain public works equipment | Active and ongoing – Purchased new trash pumps, portable generators, and replaced city pickup. |
| Notify the media on shelter locations | As needed – depending on the emergency the shelters may vary. |
| Install a snow fence around the wastewater treatment facility | Done – there is a chain link fence surrounding the facility that is gated and maintained. |
| Enforce sidewalk clearance ordinance | Active and ongoing – Ordinance in place and enforced. |
| Maintain use of snow fences in the city / county | Not completed; not needed |
| Use surge protectors to prevent electrical damage to critical and sensitive equipment | Active and ongoing – need to evaluate the need, the computers are protected. |
| Backup all digital data. | Active and ongoing – backup system in use. |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Purchase NOAA weather radios. | Not completed – Lack of funding. |
| Enforce and update building codes as needed. | Active and ongoing – Continually review and update codes. |
| Maintain storm spotter training for local fire departments / deputies and EMS crews. | Active- select firemen are certified spotters. |
| Continue enforcement of city sump pump discharge ordinance. | Active and ongoing – Corrected when identified. |
| Maintain a list of potential storm sewer projects. | Active and ongoing - Lack of funding prevents new projects. |
| Make available a cleanup crew for after a storm. | Active and ongoing - mostly driven by volunteers. |
| Placement of lighting arrestors on power lines | Active and ongoing - and will investigate with MidAmerican Energy. |
| Place alarms on storage facilities containing hazardous materials. | Not completed – due to lack of funding. |
| Maintain law enforcement monitoring of large storage supplies. | Active and ongoing – Bremer county sheriff contract in place. |
| Acquire necessary response and detection equipment for city / county employees. | Active and ongoing – Fire department and First responders are continually identifying new opportunities. |
| Encourage lead based paint and asbestos removal. | Not completed – need being assessed. |
| Provide a local hazardous waste drop off site. | Not completed- we rely on county drop off sites. |
| Maintain mutual aid agreements with the Northeast Iowa response Group. | Active and ongoing – Will continue to keep relationships and agreements current. |
| Keep HAZMAT manuals / information current and easily accessible. | Active and ongoing – Fire station and city hall keeps them current. |
| Maintain test, and replace warning sirens. | Active and ongoing – In collaboration with Bremer County. Service agreement with White Electric. |
| Identify areas throughout the county that would substantially benefit from outdoor warning sirens. | Active – rely on the county for input. |
| Encourage and maintain enrollment in emergency notification system. | Active – now promoting new ALERT IOWA program (replaced Code Red) |
| Construct or designate a safe room or storm shelter. | Not completed – Lack of funding. |
| Encourage home owners to keep emergency kits. | Active, county holds local campaign annually |
| Encourage backup power generation for local telephone systems and cellular operations. | Active and ongoing – Possibly complete as Butler-Bremer Communication’s main hub is located in Plainfield. |
| Maintain list of potential translators to be called upon in case of an emergency. | Not completed – will use County list if needed. |
| Maintain or install GPS units in all emergency service and city / county vehicles. | Not completed – Lack of funding. |
| Maintain automatic TTY TDD machines for emergency personnel and city / county employees. | Dispatch only. |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Enhance Standard Operating Procedures for dissemination of information / press releases in the event of a disaster. | Active and ongoing – Implementing of Facebook for the City. City Clerk is the admin, Maintenance Supervisor has access to post. |
| Continue training and promotion of the Incident Command System. | Active and ongoing – Fire Dept. has training. |
| Complete continuity of government plan. | Active- in Code of Ordinances. |
| Encourage use of Iowa One Call before digging. | Active and ongoing – Part of city ordinance and building permit application. |
| Upgrade radio communications equipment as needed. | Active and ongoing- Completed as required as per Bremer County. |
| Regularly review and amend fire and medical HAZMAT response standard operating procedures. | Active and ongoing – Annually reviewed and updated as needed. |
| Improve standard operating procedures for schools. | Active and ongoing – School coordinates these activities. |
| Seek to improve communications with other agencies. | Active and ongoing |
| Keep supply of backup radios and cellphones. | Active- extra radios available at Fire Station, extra cell phone at City Hall. |
| Maintain list of county emergency contacts. | Active and ongoing. |
| Keep the county updated on personnel changes. | Active and ongoing – Contact information remains consistent with employee position. |
| Continue cooperation between county roads department and local fire departments during snow emergencies. | Active and ongoing – The Fire department directs as needed. |
| Pursue partnership with rural water as the system expands. | Not Completed – Rural water does not supply our area. |
| Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes. | Active and ongoing – headed by the fire department. |
| Encourage use of Iowa One Call before digging. | Active and ongoing – Part of city ordinance and building permit application. |
| Continue an annual inspection program for commercial and industrial properties. | Active and ongoing – Performed by the fire department. |
| Continue fire prevention program. | Active and ongoing – Performed by the fire department. |
| Improve water system to enhance firefighting capacity / ability. | Active and ongoing – The city has contracted with MSA engineering to identify problems and to develop improvements to the water system. |
| Maintain membership in the NFIP | Active; membership maintained |
| Maintain, enforce and update floodplain ordinance. | Active; ordinance in place |
| Acquire more water pumps | Completed.; trash and water pumps acquired last 3-5 years |
| Continue with improvement to storm water system. | Active – exploring increasing capacity of east/west running stormwater from Highway to river and drainage away from |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| | downtown area |
| Prevent inflow and infiltration into the sanitary sewer. | Active and ongoing – The city has contracted with MSA Professional Services to identify problems and to develop improvements/plan for the waste water system. |
| Educate the public on maintaining their sump pumps. | To be implemented as needed. |
| Maintain and keep storm drains clear of debris. | Active and ongoing – The city regularly cleans gutters and catch basins with the use of its end loader, street sweeper, and labor. |
| Stockpile sand and sandbags. | Active and ongoing – The city maintains a supply of sand bags and sand. |
| Identify, purchase and remove structures from flood hazard areas. | Not completed- lack of funding. |
| Purchase additional trash pumps. | Completed; trash pumps purchased in last 3-5 years |
| Install rip rap around wastewater treatment facility. | Completed – Wastewater treatment facility is lined with a plastic liner. |
| Initiate and enforce burn ban in times of drought or as needed. | Completed – The City of Plainfield falls under Bremer County burn bans, and ordinance addresses seasonal burning. |
| Maintain and improve signals / signage along roadways and at railway crossings. | Active and ongoing – traffic signs are up to standards and maintained and inspected. Railroad crossings are all cross arm protected. |
| Establish alternative transportation routes should a road be closed. | To be implemented as needed. |
| Purchase emergency signs to be used in case of an incident. | Completed – The city has signs for this purpose, and has funds budgeted for the purchase of more. |
| Enforce no parking designations at special events. | Active – The city has portable signs for this purpose. |
| Identify fallout shelter locations. | There are no fallout shelters in the City. |
| Maintain and / or develop wellhead protection program. | Active and ongoing- Wellhead Protection plan is in place. |
| Monitor wells in areas of identified contamination. | NA – there are no known identified contamination sites. |
| Monitor the drinking water supply. | Active and ongoing – The drinking water is monitored to comply with DNR standards. |
| Identify and map areas of past contamination. | Completed; responsibility of DNR |
| Maintain and / or develop storm water management program. | Not completed – lack of funding. |
| Eliminate and cap private and abandoned wells in the city. | Done. |
| Eliminate the use of septic tank systems in the city limits. | Done. |
| Follow monitoring requirements set forth by the Iowa DNR. | Active; regular reporting on city’s water and wastewater systems |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Cary out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and Water Conservation District. | Active and ongoing – Source Water Protection team has identified well capture area and is working with these agencies. |
| Maintain and update anti-virus software. | Active and ongoing – This is maintained by TJ Digital. |
| Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences. | Not completed – lack of funds. |
| Review and update fire codes as necessary. | Not Completed – this falls under Bremer County/State of Iowa. |
| Continue to cooperate with pipeline owners and operators to ensure locations are marked. | Active and ongoing. |
| Provide fans and / or cooling shelter. | Active and ongoing – Both the Library and City Hall can be used as cooling stations. |
| Encourage community to plant shade trees. | Active and ongoing – with MidAmerican Energy, and Trees Forever. |
| Maintain air conditioner(s) in community buildings, | Active and ongoing. |
| Keep supply of drinking water to distribute. | To be purchased as needed. |
| Encourage the public to receive vaccinations. | Active and ongoing- through Bremer County Health Department. |
| Cooperate with any countywide mass vaccination plan. | Active and ongoing. |
| Monitor disease outbreak news from the CDC and Iowa Department of Public Health. | Active and ongoing- through Bremer County Health Department. |
| Develop rationing procedures. | To be implemented as needed. |
| Initiate and enforce burn ban in times of drought or as needed. | Completed – The City of Plainfield falls under Bremer County burn bans, and ordinances address seasonal burning. |
| Restrict water usage should it be necessary. | To be implemented as needed. |
| Encourage the use of proper materials and construction techniques. | Active and ongoing – as directed by code. |
| Educate city personnel to identify risk areas. | Active and ongoing. |
| Install tiling to help water move away from structures. | To be implemented as needed. |
| Enforce a curfew. | Active – A curfew ordinance is in place. |
| Identify and inventory potential sinkhole sites. | There are no sink holes in Plainfield. |
| Educate city personnel to handle a sinkhole situation. | There are no sink holes in Plainfield. |
| Secure the area (around a sinkhole) | There are no sink holes in Plainfield. |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Inspect and utility lines that are near a sinkhole. | There are no sink holes in Plainfield. |
| Enforce the local zoning ordinances. | Active and ongoing. |
| Plant trees along water bodies and slopes. | NA – there are no water bodies or slopes in town. |
| Clear ditches, streams, and waterways on a regular basis. | Active and ongoing- part of regular maintenance. |
| Encourage flood proofing / elevating structures in the floodplain. | Active and ongoing- encourage Citizens to apply for funding as needed. |
| Encourage construction of dikes, levees, dams, and retention ponds. | NA |
| Update flood maps / flood studies for areas throughout the county. | Active |
| Identify bridges and culverts that can cost effectively be reengineered to reduce future flooding. | Done |
| Establish transportation evacuation routes and protocols. | To be implemented as needed. |
| Develop sandbagging procedures for the community. | Done – The city provides bags and sand and coordinates volunteers. |
| Develop and maintain staging area for dumping during cleanup. | Active and ongoing – A yard waste facility is provided by the city. |
| Maintain pump station. | NA |
| Dig drainage ditch to west side of town, to river. | Not Completed – Lack of funding. This problem has been aided by a culvert to carry water from the west side of town to the east, reshaping drainage by highway, and the addition of a pond north of town. |
| Continue cooperation with county in developing flood mitigation efforts. | Active and ongoing – the City Of Plainfield is an active member of the Upper Cedar Valley water shed authority. |
| Continue working with the Bremer County Recovery Coalition. | Active and ongoing. |
| Purchase additional Parkland in order to increase greens space and reducing surface flow. | Not completed – lack of funding. |
| Regularly inspect dams. | NA – No dams (drop from 2017 plan) |
| Regularly inspect levees. | NA – No levees(drop from 2017 plan) |
| Establish backup plan in case levees fail. | NA 0 No levees (drop from 2017 plan) |
| Set a designated number of people to be trained in post-disaster record keeping / damage assessments. | Active and ongoing – Under the guidance of Bremer County CRCT team. |
| Inform the public of reputable and ill reputable contractors following disasters. | To be implemented as needed. |
| Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain and update emergency response plans. | Active and ongoing – updated as needed. |
| Maintain lists of personnel and equipment available to use with response plans. | Active and ongoing – updated as needed. |
| Maintain communication with county contacts. | Active and ongoing. |
| Maintain NIMS compliance. | Active and ongoing. |

| CITY OF READLYN – STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
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| Mitigation Action | Committee Determination/Comments |
| Educate the public | Active, to be continued; alert residents with severe weather updates on public access channel as well as notices on city’s electronic sign and social media; residents can also utilize the Alert Iowa program through the county |
| Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | Active; each city department is responsible for staying current on required training. |
| Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | As needed; recently updated EMS pagers and radios |
| Provide emergency shelters for evacuees | Not completed, lack of funding |
| Maintain mutual aid agreements | Active; agreements continued to be updated for EMS and Fire services |
| Maintain tree trimming program | Active; ordinance in place |
| Determine locations for potential heating shelters and volunteer organization | Completed, will be continued; locations identified include: fire station, elementary school, and churches in town |
| Encourage utility providers and developers to place all utilities underground | Ongoing; private utility companies are responsible for |
| Purchase and maintain backup generators | ongoing |
| Maintain public works equipment | Ongoing |
| Notify the media on shelter locations | Implemented as needed |
| Install a snow fence around the wastewater treatment facility | As needed |
| Enforce sidewalk clearance ordinance | Active; in place and enforced during winter months |
| Maintain use of snow fences in the city/county | Ongoing |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Use surge protectors to prevent electrical damage to critical and sensitive equipment | Ongoing |
| Backup all digital data | Ongoing |
| Purchase NOAA weather radios | Ongoing |
| Enforce and update building codes, as needed | Ongoing |
| Maintain storm spotter training for local fire departments/deputies and EMS crews | Ongoing |
| Continue enforcement of city sump pump discharge ordinance | Ongoing |
| Maintain a list of potential storm sewer projects | Ongoing |
| Make available a cleanup crew for after a storm | As needed; city staff available |
| Placement of lightning arrestors on power lines | Ongoing; in place |
| Place alarms on storage facilities containing hazardous materials | Not completed |
| Maintain law enforcement monitoring of large storage supplies | Ongoing; Police/Sheriff |
| Acquire necessary response and detection equipment for city/county employees | Ongoing |
| Encourage lead based paint and asbestos removal | Ongoing |
| Provide a local hazardous waste dropoff site | In place; city residents are able to utilize the county landfill |
| Maintain mutual aid agreements with the Northeast Iowa response Group | Active; agreement is up to date |
| Keep HAZMAT manuals/information current and easily accessible | Active; information included with all EMS trucks and rigs |
| Maintain, test, and replace warning sirens | Active; monthly tests |
| Identify areas throughout the county that would substantially benefit from outdoor warning sirens | Ongoing; will monitor |
| Encourage and maintain enrollment in emergency notification system | Active; Alert Iowa program through the county |
| Construct or designate a safe room or storm shelter | Completed; new Wapsie Valley elementary school constructed with safe room |
| Encourage home owners to keep emergency kits | Active; Public service announcements encourage |
| Encourage backup power generation for local telephone systems and cellular operations | In place, will be continued |
| Maintain list of potential translators to be called upon in case of an emergency | Not completed; low priority due to lack of cultural diversity in the community at this time |
| Maintain or install GPS units in all emergency service and city/county vehicles | GPS in Ambulance; otherwise depend on cell phone GPS which has worked well for the city |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Not completed; ongoing effort |
| Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Active; repetitive via County EMA |
| Continue training and promotion of the Incident Command System | Active. repetitive |
| Complete continuity of government plan | Ongoing |
| Encourage use of Iowa One call before digging | Ongoing – City staff |
| Upgrade radio communications equipment as needed | Active, as needed; EMS upgraded radios in 2015 with Narrowbanding |
| Regularly review and amend fire and medical HAZMAT response standard operating procedures | Ongoing; annually HAZMAT training for EMS and Fire |
| Improve standard operating procedures for schools | Active, annually; joint training held with schools and EMS/Fire |
| Seek to improve communications with other agencies | Active; as needed; continue to implement narrowbanding for communications and replace equipment as needed |
| Keep supply of backup radios and cellphones | Active; as allowed by funding |
| Maintain list of county emergency contacts | Completed; actively maintained |
| Keep the county updated on personnel changes | Active; as needed |
| Continue cooperation between county roads department and local fire departments during snow emergencies | Ongoing with city staff and emergency responders |
| Pursue partnership with rural water as the system expands | City Council/ City Staff |
| Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Active, ongoing; presentations at fundraisers |
| Continue fire prevention program | Active, repetitive |
| Improve water system to enhance firefighting capacity/ability | Ongoing |
| Maintain membership in the NFIP | Ongoing |
| Maintain, enforce and update floodplain ordinance | Completed, active; ordinance in place and enforced |
| Acquire more water pumps | Ongoing |
| Continue with improvement to the storm water system | Ongoing; as funding permits |
| Prevent inflow and infiltration into the sanitary sewer | Ongoing; city program requiring property owners not to discharge sump pumps into sanitary sewer |
| Educate the public on maintaining their sump pumps | City council, staff - ongoing |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain and keep storm drains clear of debris | Ongoing, routine; implemented by public works |
| Stockpile sand and sandbags | Implemented as needed |
| Identify, purchase and remove structures from flood hazard areas | As needed; currently no structures in the flood hazard area |
| Purchase additional trash pumps | Ongoing |
| Initiate and enforce burn ban in times of drought or as needed | Ongoing; city council/county |
| Maintain and improve signals/signage along roadways and at railroad crossings | Ongoing by city staff |
| Establish alternative transportation routes should a road need to be closed | Active; as needed |
| Purchase emergency signs to be used in case of an incident | Active, implemented as needed |
| Enforce no parking designations at special events | As needed; Law Enforcement |
| Identify fallout shelter locations | As needed |
| Keep communication lines open with Nuclear Plant in Palo, IA | Ongoing |
| Maintain and/or develop a wellhead protection program | Ongoing/ City council |
| Monitor wells in areas of identified contamination | Ongoing/ City council and staff |
| Monitor the drinking water supply | Ongoing / City Council and Public Works |
| Identify and map areas of past contamination | Ongoing |
| Maintain and/or develop storm water management program | Ongoing |
| Eliminate and cap private and abandoned wells in the city | Completed, continued as needed; all known private and abandoned wells in the city have been capped |
| Eliminate the use of septic tank systems in the city limits | Completed, continued as needed; no private septic systems in use within city limits |
| Follow monitoring requirements set forth by the Iowa DNR | Active; public works |
| Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Ongoing/ city council |
| Maintain and update anti-virus software | Active; routine maintenance |
| Review and update fire codes as necessary | As needed |
| Continue to cooperate with pipeline owners and operators to ensure locations are marked | Active; local trainings and annual information update event held annually |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Purchase a new tanker and/or pumper | Completed, active; In 2012 purchased a 2001 Spartan 500 gallon Rescue/Pumper; In 2013, purchased 1986 GMC Tanker, 1,500 gallon |
| Provide fans and/or cooling shelter | Completed, implemented as needed; equipment provided by the Fire Department |
| Encourage community to plant shade trees | Ongoing City Council/ Staff |
| Maintain air conditioner(s) in community buildings | Completed, active |
| Keep a supply of drinking water to distribute | Active |
| Encourage the public to receive vaccinations | Active; routine public announcements |
| Cooperate with any countywide mass vaccination plan | As needed |
| Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Monitored all year long and information distributed via public service announcements |
| Develop rationing procedures | Not completed |
| Initiate and enforce burn ban in times of drought or as needed | Active; burn ban implemented as needed |
| Restrict water usage should it be necessary | Active; not need to be implemented yet |
| Encourage the use of proper materials and construction techniques | Completed, active; per adopted building codes |
| Educate city personnel to identify risk areas | Active; public works staff |
| Enforce a curfew | Active; enforced by Sheriff and Police |
| Identify and inventory potential sinkhole sites | As needed |
| Educate city personnel to handle a sinkhole situation | As needed |
| Secure the area (around a sinkhole) | As needed |
| Inspect any utility lines that are near a sinkhole | Not completed – no need for in past five years |
| Enforce the local zoning ordinances | Active; Zoning enforced, work with Bremer Co Zoning Dept. |
| Clear ditches, streams, and waterways on a regular basis | Active, as needed; implemented by Public Works |
| Encourage floodproofing/elevating structures in the floodplain | Flood ordinance in place; currently no structures in flood plain |
| Encourage construction of dikes, levees, dams, and retention ponds | As needed; city council and staff |
| Update flood maps/flood studies for areas throughout the county | Responsibility of state and federal governments |
| Identify bridges and culverts than can cost effectively be reengineered to reduce future | As needed; city council and staff |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| flooding | |
| Establish transportation evacuation routes and protocols | As needed |
| Develop sandbagging procedures for the community | Active |
| Develop and maintain staging area for dumping during cleanup | As needed |
| Maintain pump station | Completed, active; pump stations maintained |
| Continue cooperation with county in developing flood mitigation efforts | Active; partnership continued |
| Continue working with the Bremer County Recovery Coalition | Active; partnership continued |
| Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Not completed, need to do yet |
| Inform the public of reputable and ill reputable contractors following disasters | As needed |
| Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Continued |
| Maintain and update emergency response plans | Active, maintained |
| Maintain lists of personnel and equipment available to use with response plans | Active; inventory maintained |
| Maintain communication with county contacts | Active; quarterly basis |
| Maintain NIMS compliance | Completed, active; NIMS maintained |

| CITY OF SUMNER— STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
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| Mitigation Action | Committee Determination/Comments |
| Educate the public | Distribute educational material in city utility bills |
| Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | Completed, ongoing classes and training reviewing procedures |
| Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | Completed, though city is still looking for a new police car and fire truck |
| Provide emergency shelters for evacuees | Utilize schools, churches, city hall, fire station, and hospital as shelters when needed |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain mutual aid agreements | Completed, maintained; mutual aid with Sumner Fire/Rural Fire, city police and county sheriff |
| Maintain tree trimming program | Trees are trimmed annually by Sumner Municipal Light Plant |
| Determine locations for potential heating shelters and volunteer organization | Utilize churches, legion hall and fire station |
| Encourage utility providers and developers to place all utilities underground | Continuous implementation, Sumner Municipal Light Plan has plan in place for placing utilities underground |
| Purchase and maintain backup generators | Sumner Municipal Light Plant maintains backup generators |
| Maintain public works equipment | Public Works Department has maintenance program and place and upgrade/purchase equipment as needed |
| Notify the media on shelter locations | Sumner Cable Channel, LED community sign, local newspaper, and local news channel |
| Enforce sidewalk clearance ordinance | In place; ocal police department and public works department |
| Maintain use of snow fences in the city/county | Maintained, snow fences are utilized in the county as needed |
| Use surge protectors to prevent electrical damage to critical and sensitive equipment | Systems have surge protectors and backup generators attached to them |
| Backup all digital data | Digital data is backed up daily |
| Purchase NOAA weather radios | We have normal weather scanners |
| Enforce and update building codes, as needed | Completed, ongoing; have City Code book that is updated and referred to for enforcing codes |
| Maintain storm spotter training for local fire departments/deputies and EMS crews | Spotter training classes are available for all emergency personnel |
| Continue enforcement of city sump pump discharge ordinance | Ordinance in place, no sump pump discharge allowed in city sewer system |
| Maintain a list of potential storm sewer projects | Completed, ongoing; addressing storm sewer project as needs are identified |
| Make available a cleanup crew for after a storm | Public works department personnel and fire department are available to help when needed |
| Placement of lighting arrestors on power lines | Sumner Municipal Light Plan is responsible for this project |
| Place alarms on storage facilities containing hazardous materials | Completed, alarm system in place |
| Maintain law enforcement monitoring of large storage supplies | Sumner Police Department is responsible for patrolling areas of the city |
| Acquire necessary response and detection equipment for city/county employees | Use county dispatch and cell phone to notify city/county |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| | employees of areas needing assistance |
| Encourage lead based paint and asbestos removal | Continually working on removal of asbestos etc |
| Maintain mutual aid agreements with the Northeast Iowa response Group | Work closely with Northeast Iowa Group to develop plans for response |
| Keep HAZMAT manuals/information current and easily accessible | HAZMAT materials are available in Public Works Department offices and fire station |
| Maintain, test, and replace warning sirens | Warning sirens are tested twice weekly |
| Identify areas throughout the city that would substantially benefit from outdoor warning sirens | City has two outdoor warning sirens covering both ends of Sumner |
| Encourage and maintain enrollment in emergency notification system | Membership with county, state and national emergency response systems |
| Construct or designate a safe room or storm shelter | Storm shelters available in city hall and hospital |
| Encourage home owners to keep emergency kits | Educate homeowners of the need to keep emergency kits available |
| Encourage backup power generation for local telephone systems and cellular operations | Work with local cell phone and telephone companies to have backup power available |
| Maintain list of potential translators to be called upon in case of an emergency | Very little need for this in Sumner but have several people available to help if needed |
| Maintain or install GPS units in all emergency service and city/county vehicles | Emergency vehicles are working on GPS systems |
| Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Machines are checked annually to make sure operational |
| Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Notify newspaper and radio of details of disaster |
| Continue training and promotion of the Incident Command System | Yearly training meetings with County Emergency Management |
| Complete continuity of government plan | Work with city, county and state officials on clean up plan |
| Encourage use of Iowa One call before digging | Yes we encourage all to call before they dig |
| Upgrade radio communications equipment as needed | We have upgraded our radios |
| Regularly review and amend fire and medical HAZMAT response standard operating procedures | Emergency departments have yearly training on HAZMAT |
| Improve standard operating procedures for schools | Work closely with schools to have procedures in place for emergencies |
| Seek to improve communications with other agencies | Try to work closely with all agencies for procedures to respond to |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| | emergencies |
| Keep supply of backup radios and cellphones | Fire station and police station have backup radios available |
| Maintain list of county emergency contacts | List of emergency contacts in city hall and fire station |
| Keep the county updated on personnel changes | Contact the county when have personnel changes |
| Continue cooperation between county roads department and local fire departments during snow emergencies | Keep the lines of communication open with all departments city and county |
| Pursue partnership with rural water as the system expands | City water department works closely with rural water departments |
| Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Yearly operation EDITH to encourage all homes to be fire ready |
| Continue an annual inspection program for commercial and industrial properties | Use of city codes for inspection of commercial and industrial properties |
| Continue fire prevention program | Fire department works closely with city to enforce fire prevention |
| Improve water system to enhance firefighting capacity/ability | Semi-annual check of all water hydrants to assure they are in working condition |
| Maintain membership in the NFIP | Yes |
| Maintain, enforce and update floodplain ordinance | Enforce all city codes to prevent flooding issues |
| Acquire more water pumps | Have an adequate amount of water pumps |
| Continue with improvement to the storm water system | Working on improving storm water system |
| Prevent inflow and infiltration into the sanitary sewer | System in place to check the inflow into the sanitary sewer system |
| Educate the public on maintaining their sump pumps | Sewer Department Head publicizes the need to maintain sump pumps |
| Maintain and keep storm drains clear of debris | Sweep the streets to remove debris from the storm drains |
| Stockpile sand and sandbags | Sand is available at city garage and fire department is available to help fill the sandbags |
| Identify, purchase and remove structures from flood hazard areas | All flood areas are identified |
| Purchase additional trash pumps | Have all necessary pumps available |
| Improve water system to enhance firefighting capacity/ability | Semi-annual check of all water hydrants to assure they are in working condition |
| Install rip rap around wastewater treatment facility | Waste water treatment plant is not in flood zone; current grading |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| | and plantings protect the plant; |
| Initiate and enforce burn ban in times of drought or as needed | Burn ban is initiated by county |
| Establish alternative transportation routes should a road need to be closed | Detours are set up for closed roads |
| Purchase emergency signs to be used in case of an incident | In the past couple years the city has purchased new signs |
| Enforce no parking designations at special events | Have a police force taking care of these events with the help of the public works department |
| Identify fallout shelter locations | City hall |
| Keep communication lines open with Nuclear Plant in Palo, IA | Communicate with Palo if necessary |
| Maintain and/or develop a wellhead protection program | Maintain all buildings |
| Monitor wells in areas of identified contamination | Wells are monitored every day |
| Monitor the drinking water supply | We daily test drinking water |
| Identify and map areas of past contamination | Record all testing information |
| Maintain and/or develop storm water management program | Working on necessary storm water management program |
| Eliminate and cap private and abandoned wells in the city | All private wells are addressed as necessary |
| Eliminate the use of septic tank systems in the city limits | Septic tank issues have been addressed |
| Follow monitoring requirements set forth by the Iowa DNR | In communication with the DNR to assure we are in compliance |
| Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Conservation measures are followed to eliminate erosion problems |
| Maintain and update anti-virus software | Maintenance program in place to upgrade our software |
| Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences | Cameras and security systems are in place |
| Review and update fire codes as necessary | Work closely with local fire department to assure all buildings are up to code |
| Continue to cooperate with pipeline owners and operators to ensure locations are marked | Work with pipelines as necessary |
| Purchase a new tanker and/or pumper | Fire department has a rotation plan for replacement of equipment as necessary |
| Provide fans and/or cooling shelter | Fans and shelter are available through city and fire department |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Encourage community to plant shade trees | County grants available for purchase of trees |
| Maintain air conditioner(s) in community buildings | Local plumbing and heating business is available for all repairs needed |
| Keep a supply of drinking water to distribute | Drinking water available through local grocery stores and convenience stores |
| Encourage the public to receive vaccinations | Vaccines available through hospital and local drug store |
| Cooperate with any countywide mass vaccination plan | County nurse available for any county wide vaccines needed |
| Monitor disease outbreak news from the CDC and Iowa Department of Public Health | County nurse notifies us of all disease outbreak information |
| Develop rationing procedures | Procedures in place |
| Initiate and enforce burn ban in times of drought or as needed | County initiates burn ban |
| Restrict water usage should it be necessary | Work with water departments to set up restrictions if needed |
| Encourage the use of proper materials and construction techniques | Inspections of building projects |
| Educate city personnel to identify risk areas | Risk assessment meetings to identify areas in need |
| Install tiling to help water move away from structures | Removal of water from city buildings is in place |
| Enforce a curfew | Local police department |
| Continue regular bridge inspections | County does bridge inspections |
| Place barricades to close dangerous bridges | Public works department |
| Maintain embargos/weight limits as necessary | County enforces embargos/weight limits |
| Receive education/training from DOT on the subject | Public works department |
| Establish detour routes | Police department and public works department |
| Identify and inventory potential sinkhole sites | Public works director surveys the streets to identify any problems |
| Educate city personnel to handle a sinkhole situation | Public works department |
| Secure the area (around a sinkhole) | Barricades set up around the area |
| Inspect any utility lines that are near a sinkhole | Sumner Municipal Utilities |
| Enforce the local zoning ordinances | Planning and Zoning committee |
| Plant trees along water bodies and slopes | Parks department |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Clear ditches, streams, and waterways on a regular basis | Public works department and park department work together on this |
| Encourage floodproofing/elevating structures in the floodplain | Park and public works department |
| Encourage construction of dikes, levees, dams, and retention ponds | Public works department and park department work together on this |
| Update flood maps/flood studies for areas throughout the county | Flood maps available through FEMA |
| Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | County and City work together on this project |
| Establish transportation evacuation routes and protocols | Set up with school for buses and work with fire department for help when needed |
| Develop sandbagging procedures for the community | Sandbags are available through city and fire department. Fire department available to help deliver and set up |
| Develop and maintain staging area for dumping during cleanup | City recycling building |
| Maintain pump station | Waste Water Department head available for this |
| Continue cooperation with county in developing flood mitigation efforts | Work with County Engineer |
| Continue working with the Bremer County Recovery Coalition | Keep lines of communication open to work with county |
| Purchase additional parkland in order to increase greens space and reducing surface flow | No need for this |
| Set a designated number of people to be trained in post-disaster record keeping/damage assessments | We have a disaster assessment group in place |
| Inform the public of reputable and ill reputable contractors following disasters | Encourage citizens to make sure all contractors are reputable |
| Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Work with other communities on their planning |
| Maintain and update emergency response plans | Emergency plans are in place in the office for city employees to refer to |
| Maintain lists of personnel and equipment available to use with response plans | List are available in the city hall |
| Maintain communication with county contacts | Working relationships between county and city employees |
| Maintain NIMS compliance | NIMS Compliant |

| CITY OF TRIPOLI – STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
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| Mitigation Action | Committee Determination/Comments |
| Educate the public | Active; email notifications, quarterly newsletters |
| Continue training and education for fire departments, law enforcement agencies and ambulance crew personnel | Active – ongoing all the time as required by law |
| Maintain and acquire materials and equipment for fire departments, law enforcement agencies and ambulance crew personnel | Active – ongoing |
| Provide emergency shelters for evacuees | Active – ongoing; emergency response plan in place |
| Maintain mutual aid agreements | Active – ongoing |
| Maintain tree trimming program | Active; done yearly |
| Determine locations for potential heating shelters and volunteer organization | Active; emergency response plan in place |
| Encourage utility providers and developers to place all utilities underground | Not done much on this |
| Purchase and maintain backup generators | Active – ongoing maintenance |
| Maintain public works equipment | Active – ongoing |
| Notify the media on shelter locations | Not done |
| Install a snow fence around the wastewater treatment facility | Not done |
| Enforce sidewalk clearance ordinance | Active – ongoing |
| Maintain use of snow fences in the city/county | Active – ongoing |
| Use surge protectors to prevent electrical damage to critical and sensitive equipment | ? |
| Backup all digital data | Done |
| Purchase NOAA weather radios | Not done |
| Enforce and update building codes, as needed | Active – ongoing |
| Maintain storm spotter training for local fire departments/deputies and EMS crews | Active – ongoing |
| Continue enforcement of city sump pump discharge ordinance | Active – ongoing; more difficult to implement |
| Maintain a list of potential storm sewer projects | Active – ongoing |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Make available a cleanup crew for after a storm | ? |
| Placement of lighting arrestors on power lines | Not done |
| Place alarms on storage facilities containing hazardous materials | Not done |
| Maintain law enforcement monitoring of large storage supplies | ? |
| Acquire necessary response and detection equipment for city/county employees | Active – ongoing; purchases done when funds are available |
| Encourage lead based paint and asbestos removal | Active – ongoing |
| Maintain mutual aid agreements with the Northeast Iowa response Group | ? |
| Keep HAZMAT manuals/information current and easily accessible | Active; there are kept at fire station |
| Maintain, test, and replace warning sirens | Active – ongoing; tested monthly |
| Identify areas throughout the city that would substantially benefit from outdoor warning sirens | This is more a county issue |
| Encourage and maintain enrollment in emergency notification system | Active – ongoing; email notification system has been implemented |
| Construct or designate a safe room or storm shelter | Not done; not enough money; need a grant |
| Encourage home owners to keep emergency kits | Done on the county emergency management website and facebook |
| Encourage backup power generation for local telephone systems and cellular operations | County level has discussed this issue; not sure where their plan |
| Maintain list of potential translators to be called upon in case of an emergency | Not done; not sure how to proceed |
| Maintain or install GPS units in all emergency service and city/county vehicles | As new vehicles are purchased this has become standard |
| Maintain automatic TTY TDD machines for emergency personnel and city/county employees | Not done |
| Enhance Standard Operating Procedures for dissemination of information/press releases in the event of a disaster | Active – ongoing; county emergency management coordinator does an excellent job |
| Continue training and promotion of the Incident Command System | Active – ongoing; as new officials are elected and people hired they do training |
| Complete continuity of government plan | Active – ongoing; not yet completed |
| Encourage use of Iowa One call before digging | Active – ongoing; continue to provide citizens flyers provided |
| Upgrade radio communications equipment as needed | Active - ongoing; currently working with county; 28E agreement signed |
| Regularly review and amend fire and medical HAZMAT response standard operating procedures | Active – ongoing; departments keep current |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Improve standard operating procedures for schools | Not our control |
| Seek to improve communications with other agencies | Active – ongoing |
| Keep supply of backup radios and cellphones | Not done |
| Maintain list of county emergency contacts | Active – ongoing |
| Keep the county updated on personnel changes | Active – ongoing |
| Continue cooperation between county roads department and local fire departments during snow emergencies | Active – ongoing |
| Pursue partnership with rural water as the system expands | No longer an option; we discussed with them and chose to upgrade our system |
| Encourage residents to keep smoke detectors, sprinkler systems and fire extinguishers maintained in their homes | Active – ongoing |
| Continue an annual inspection program for commercial and industrial properties | Active – ongoing; Bremer County Building & Zoning does this for us |
| Continue fire prevention program | Active – ongoing; fire department does a program yearly at school |
| Improve water system to enhance firefighting capacity/ability | Active – ongoing; just installed larger water main sin six areas of town; replaced hydrants and valves |
| Maintain membership in the NFIP | Yes; fire department continues to be a member |
| Maintain, enforce and update floodplain ordinance | Active – ongoing; Bremer County Building & Zoning does this for us |
| Acquire more water pumps | Two new pumps were purchased this past summer |
| Continue with improvement to the storm water system | Every street project and curb and gutter project includes storm sewer |
| Prevent inflow and infiltration into the sanitary sewer | Active – ongoing; when houses sell a sump pump inspection is done; if connected to sewer it must be corrected |
| Educate the public on maintaining their sump pumps | Active – ongoing |
| Maintain and keep storm drains clear of debris | Active – ongoing; street department has made this a top priority |
| Stockpile sand and sandbags | Not done in city; county has these |
| Identify, purchase and remove structures from flood hazard areas | Ongoing; a home was purchased a few years ago and made into a park |
| Purchase additional trash pumps | Ongoing; two new pumps were purchased in the past year |
| Install rip rap around wastewater treatment facility | Active; every few years this is reviewed and more added as needed |
| Initiate and enforce burn ban in times of drought or as needed | County issues burn bans; we enforce |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Maintain and improve signals/signage along roadways and at railroad crossings | Active – ongoing; new street signs were bought last month; new yield/stop signs will be installed |
| Establish alternative transportation routes should a road need to be closed | Active – ongoing; done as needed; work with IDOT |
| Purchase emergency signs to be used in case of an incident | New sign was purchased and installed downtown in front of welcome center |
| Enforce no parking designations at special events | Active – ongoing; portable signs put up as needed |
| Identify fallout shelter locations | Not done |
| Keep communication lines open with Nuclear Plant in Palo, IA | Not done on city level; maybe county |
| Maintain and/or develop a wellhead protection program | Done; on file |
| Monitor wells in areas of identified contamination | No well identified; only one home well was in city limits and now is hooked to city water |
| Monitor the drinking water supply | Active – ongoing; daily |
| Identify and map areas of past contamination | Done |
| Maintain and/or develop storm water management program | Active; still working on this |
| Eliminate and cap private and abandoned wells in the city | Done; see above |
| Eliminate the use of septic tank systems in the city limits | Done; only area one mile east of town is not on city sewer; not feasible |
| Follow monitoring requirements set forth by the Iowa DNR | Active – ongoing |
| Carry out conservation measures such as erosion control and work with the following organizations: Extension, NRCS, Farm Bureau, EPA, DNR, and Soil and water Conservation District | Active – ongoing; all new developments are monitored |
| Maintain and update anti-virus software | All computers have updated and have the anti-virus software |
| Secure vulnerable targets, as identified by the LEPC and County EMA with alarms, security cameras and fences | Done at water plant; not enough funds for sewer lagoon |
| Review and update fire codes as necessary | Done; fire department handles |
| Continue to cooperate with pipeline owners and operators to ensure locations are marked | Active - ongoing |
| Purchase a new tanker and/or pumper | Rural fire purchased a new pumper a few years ago |
| Provide fans and/or cooling shelter | Active – ongoing |
| Encourage community to plant shade trees | Active – ongoing; city paid membership to trees forever |
| Maintain air conditioner(s) in community buildings | Active; this is done |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Keep a supply of drinking water to distribute | Not done; we buy as needed |
| Encourage the public to receive vaccinations | Active – ongoing; shot clinics are done yearly |
| Cooperate with any countywide mass vaccination plan | Active – ongoing |
| Monitor disease outbreak news from the CDC and Iowa Department of Public Health | Active – ongoing |
| Develop rationing procedures | Not done |
| Initiate and enforce burn ban in times of drought or as needed | Active – ongoing; county issues burn ban; we enforce |
| Restrict water usage should it be necessary | Ongoing; when needed |
| Encourage the use of proper materials and construction techniques | Active – ongoing |
| Educate city personnel to identify risk areas | Active – ongoing |
| Install tiling to help water move away from structures | Active – ongoing; storm sewers are built when street projects are done |
| Enforce a curfew | Police do this daily |
| Continue regular bridge inspections | Active; per DOT requirements |
| Place barricades to close dangerous bridges | Active; as needed; ; primarily during flood events or damage |
| Maintain embargos/weight limits as necessary | Active |
| Receive education/training from DOT on the subject | Active |
| Establish detour routes | As needed; road construction, etc. |
| Identify and inventory potential sinkhole sites | Not done |
| Educate city personnel to handle a sinkhole situation | Not done |
| Secure the area (around a sinkhole) | Not done |
| Inspect any utility lines that are near a sinkhole | Not done |
| Enforce the local zoning ordinances | City contracts with Bremer County Building & Zoning; enforced at all times |
| Plant trees along water bodies and slopes | Active – ongoing |
| Clear ditches, streams, and waterways on a regular basis | Active – ongoing; as needed |
| Encourage floodproofing/elevating structures in the floodplain | Active – ongoing |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Encourage construction of dikes, levees, dams, and retention ponds | Active – ongoing |
| Update flood maps/flood studies for areas throughout the county | Completed; County is point on |
| Identify bridges and culverts than can cost effectively be reengineered to reduce future flooding | Done by the county or IDOT |
| Establish transportation evacuation routes and protocols | Active; emergency response plan in place |
| Develop sandbagging procedures for the community | Done with the county |
| Develop and maintain staging area for dumping during cleanup | Active; city purchased land three years ago and uses it weekly |
| Maintain pump station | Active – ongoing |
| Continue cooperation with county in developing flood mitigation efforts | Active – ongoing |
| Continue working with the Bremer County Recovery Coalition | As needed – when meetings are called or a need declared |
| Purchase additional parkland in order to increase greens space and reducing surface flow | Done; a new park was put in the floodplain |
| Set a designated number of people to be trained in post-disaster record keeping/damage assessments | Done; city clerk |
| Inform the public of reputable and ill reputable contractors following disasters | Have not had a disaster to do anything |
| Encourage all communities to participate in their Local Emergency Planning Commission (LEPC) | Active – ongoing |
| Maintain and update emergency response plans | Active – ongoing; reviewed yearly |
| Maintain lists of personnel and equipment available to use with response plans | Active – ongoing; part of the emergency response plan |
| Maintain communication with county contacts | Active – ongoing; daily |
| Maintain NIMS compliance | Active – ongoing; newly elected people and employees are required to pass |

| CITY OF WAVERLY – STATUS OF 2012 HAZARD MITIGATION ACTIVITIES | |
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| Mitigation Action | Committee Determination/Comments |
| Educate the public | Public Services newsletter; social media information; website information |
| Train and educate emergency service personnel | Regular training for fire, police and EMS; Emergency management training for city staff |
| Maintain and acquire materials and equipment for emergency service personnel | City maintains adequate inventory of materials and equipment and uses a schedule for replacing equipment |
| Maintain mutual aid agreements | Mutual aid agreements for fire protection, police cooperation and operate ambulance service county-wide |
| Maintain tree trimming program | City Leisure Services and Street Department have an extensive and regular tree trimming operation, including Ash Tree program |
| Work with local utility companies to develop a program for the burying of existing lines | Coordinate with Waverly Utilities to bury newly installed lines and existing lines when possible |
| Purchase new generators to provide emergency power in times of need | City maintains portable generators for emergency operation; Waverly Utilities has power generation capacity |
| Continue to install and update surge protectors on major electric lines | Waverly Utilities has a program to install, maintain and update surge protectors |
| Develop a NOAA Weather Radio awareness program | City Public Services includes information about weather radios through the newsletter to utility customers |
| Systematically review, make necessary updates to, and enforce building code requirements | City and County maintain updated building codes |
| Develop the Cedar River Parkway/Bridge | City has moved forward with the engineering design of the East extension of the Parkway, including a new bridge |
| Continue enforcement of snow ordinance | City police and staff enforce snow shoveling ordinance |
| Continue to recruit volunteer first responders and promote these opportunities | City provides ongoing training opportunities for emergency medical responders |
| Continue to utilize and develop the Code Red System | City has implemented a warning system that is comparable to Code Red |
| Continue working relationship with Tri-County Drug Task Force | City police continue to participate in the Tri-County Drug Task Force |
| Expand weather spotter training | City Fire personnel and other volunteers are provided with periodic weather spotter training |
| Develop a “Tornado Safe Room” awareness program | A specific program has not been implemented but parents and students are made aware of new facilities at the schools |
| Research and secure grant dollars for shelter and safe room construction | WSR Schools have installed safe rooms in new school construction and school additions |
| Construct additional storm shelters and tornado safe rooms | WSR Schools have installed safe rooms in new school construction and school additions |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Retrofit current facilities to include tornado safe rooms | The High School new addition included a new safe room. |
| Encourage the inclusion of tornado safe rooms in newly constructed public facilities | The new High School addition includes a safe room |
| Maintain Crisis Communication Plan | Ongoing planning with Bremer County Emergency management and other agencies |
| Enhance coordination of disaster plans in the community | Ongoing planning with Bremer County Emergency management and other agencies |
| Upgrade radio communications equipment as needed | Emergency services providers maintain operational communication equipment |
| Regularly review and amend fire, medical, and HAZMAT response standard operating procedures | City Fire Department maintains and reviews emergency SOP's |
| Continue an annual inspection program for commercial and industrial properties | Fire Department does periodic inspection of commercial and industrial properties |
| Improve water system to enhance firefighting capacity/ability | City has installed new looped water mains; Will install new water mains along Bremer Avenue in 2017-2018 |
| Continue annual fire inspection program | The City will continue fire inspection programs. |
| Develop a comprehensive list of alternative routes for different fire scenarios | Fire Department trains regularly on fire response throughout the city |
| Enhance communication amongst the private sector, public sector, media outlets and citizens | The city uses a variety of communication methods, including radio, TV, newsletter and social media |
| Continue further development of and update of the Storm Water Management Program | City enforces storm water management practices during development projects |
| Continue participation in the NFIP | Completed, active; membership maintained |
| Maintain, enforce and update floodplain ordinances as needed | Completed, active; ordinance in place |
| Continue acquisition and removal of homes from the floodplain | Most at risk properties have been acquired and removed; will continue this for any further properties at risk |
| Ensure proper training and certification of Floodplain Manager(s) | The floodplain manager receives proper training and supervision using latest mapping resources |
| Flood proof of structures in the floodplain | City staff enforces rule against development in the special hazard zone |
| Replace or increase capacity of 3 rd Street bridge | City continues to discuss and debate proper repair or replacement of the 3 rd Street Bridge. |
| Implement projects identified for the Cedar Lane Bike Path | Engineering for rebuild of Cedar Lane is complete and awaiting construction |
| Construct a dike and levee system in SE Waverly, near SE 7 th Avenue | City staff has budgeted for planning of flood control measures in SE Waverly |
| Enhance and maintain storm sewer capacity | Completed 2 nd Street NW storm sewer upgrade project; ongoing as development occurs |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Create a regional plan to address flooding concerns including wetland areas and detention ponds | City participates in the Upper Cedar River Watershed Protection Coalition |
| Monitor and enforce drainage regulations on residential, commercial, and industrial developments | Ongoing as the City develops stricter oversight of development; |
| Consider dredging the river | Not implemented; determined to be impractical |
| Complete the Dry Run Creek obstruction and flash flooding analysis and consider other mitigation activities such as removal of the 3 rd St Bridge and Cedar River Trail Bridge | Dry Run Creek project is complete; 3 rd Street Bridge remains the subject of planning; Dam improvements protect Trail Bridge |
| Maintain a flood response protocol for response, sand bagging, and evacuation procedures | Emergency service providers regularly coordinate emergency response procedures |
| Provide information on proper ditch and open burning, when permitted, who to contact in case of an emergency, how to recognize the presence of explosive gasses, how to contain and manage an approved open fire and/or ditch burning, and how to react in the event of a fire | Fire Safety programs for public are ongoing by the Fire Dept.; Community Development issues and monitors burning permits |
| Identify alternative water sources such as dry hydrants and ponds | Fire Department routinely identifies alternative water sources in those areas without hydrants |
| Maintain inter-governmental cooperation, e.g. cost sharing | Fire, EMS, Police and City Staff maintain cooperation and cost sharing with other agencies |
| Enforce existing laws | The Police and City Staff regularly enforce existing state laws and local ordinances |
| Research railway concerns | City has secured federal grant for enhanced crossing gates on 20 th Street NW; ongoing reviews |
| Determine possible sheltering locations to be used in the event of a nuclear emergency | Not implemented by City Staff; rely upon Bremer County Emergency Management staff for assistance |
| Monitor the transportation of radioactive chemicals to the best of the city's ability | Police monitor such vehicles as they are notified by IDOT |
| Continue Wastewater Facility Storm Water Program | City program to identify and mitigate inflow and infiltration of storm water into sanitary sewer system |
| Follow monitoring requirements set forth by the Iowa DNR | City follows DNR monitoring requirements as a priority |
| Evaluate current terrorism mitigation efforts | City supports State and National efforts |
| Increase measures taken to protect and secure the city's critical infrastructure | Increased use of video monitoring; regular inspection of infrastructure |
| Encourage local utilities to upgrade equipment used to locate and identify underground utility lines | City utility uses best equipment available for such locating |
| Establish local "cooling sites" for at risk populations such as the elderly and/or the disabled | City has programs and facilities for support of elderly and disabled |
| Adhere to the Quarantine Plan | City will adhere to any local, State and Federal plans and notifications |
| Adhere to the current FAD (foreign animal disease) Plan | City will adhere to any local, State and Federal plans and notifications |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

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| Evaluate equipment and personnel capacity | City at least annually and often more frequently evaluates equipment and personnel capacity |
| Continue to enforce City and County guidelines for burning | City police and Community Development enforce ordinances regarding open burning |
| Continue bridge inspection program | City has Engineering Company under contract for periodic inspection |
| Explore replacement alternative for bridges | City has development plans for new and replacement bridges for Cedar River Parkway and 3 rd Street SW |
| Create a zoning ordinance restricting building near the top and bottom of steep sloping cliffs and hills | Not implemented; staff provides awareness to developers of at risk property |
| Discourage the clearing of trees and shrubbery from cliffs and steep sloping hills. | Staff provides awareness to developers of at risk property |
| Develop the proper steps to be taken in the event of an earthquake and communicate these procedures to the public | Not implemented; will rely upon Bremer Emergency Management for direction |
| Continue to make necessary inspections and repairs to existing dam | City has regular program for periodic inspection and maintenance |
| Review and update Incident Command procedures | Police, Fire and other City Staff are afforded training opportunities for Incident command procedures |
| Update Emergency Response Plan | Emergency Response Plans are reviewed and updated periodically during training opportunities |
| Develop a Continuity of Operations Plan | Continuity plans are discussed during staff meetings and training at city and schools |
| Maintain a list of structures and sites to be used as gathering sites in the event of an emergency situation | City staff has identified structures and sites throughout the community to be used in emergency events |
| Review and improve education plans and file with the Community Emergency Response Team (CERT) | Working on implementation of this |
| Install Automatic Vehicle Locators (AVL) in all emergency vehicles | Not implemented |

ATTACHMENT 4: PLANNING COMMITTEE & PUBLIC INVOLVEMENT MATERIALS

MEETING #1: NOVEMBER 4, 2015

TO: Waverly Newspapers

FROM: Jacob Tjaden, INRCOG
229 East Park Avenue
Waterloo, Iowa 50703
(319) 235-0311

(Note: Please publish this press release in the next edition of your newspaper. Invoice INRCOG at the above address. Also please provide one publisher's affidavit to INRCOG along with the invoice. Thank you.)

BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION KICK-OFF PLANNING SESSION MEETING

The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions.

This first meeting will review the purpose and benefits of a multi-jurisdictional hazard mitigation plan, project budget, planning process/scope of work, and updating the status of projects as well as the community profiles of participating jurisdictions from the previous plan. This public meeting will be held on Wednesday, November 4th, 2015 at 7:00 pm at the Tripoli City Hall, 303 S Main St., Tripoli, IA 50676.

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@inrcog.org

- PUBLIC MEETING AGENDA-

Bremer County Multi-Jurisdictional
Hazard Mitigation Plan Meeting #1

Date: Wednesday, November 4th, 2015

Time: 7:00 PM

Place: Tripoli City Hall
303 S Main St.
Tripoli, IA 50676

1. Welcome and Introductions
2. Review Meeting Information and Timeline
3. Provide Updates for Existing Mitigation Action Steps
4. Review and Update Community Profiles
5. Set Future Meeting Dates
6. Adjourn

THIS IS A PUBLIC MEETING

MEMBERS OF THE COMMUNITY ARE INVITED TO ATTEND AND PARTICIPATE IN THIS MEETING

For Questions or Comments, contact:
Jacob Tjaden / INRCOG / (319) 235-0311 / jtjaden@inrcog.org

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

Bremer County MJ-HMP Planning Meeting Minutes
 Planning Meeting #1 / November 4, 2015 / 7:00 PM
 Tripoli City Hall / Tripoli, Iowa

The Bremer County Multi-Jurisdictional Hazard Mitigation Plan kick-off Meeting was called to order by Jacob Tjaden of the Iowa Northland Regional Council of Governments (INRCOG) at 7:00 pm.

The following persons were in attendance: Randy McKenzie, Bremer County Building Department; Dewey Hildebrandt, Bremer County Board of Supervisors; Kip Ladage, Bremer County EMA; Sue Stapleton, Janesville City Council; Chris Robinson, Janesville City Council; Bryan Destival, Janesville Fire Chief; Sandi Carroll, Janesville Mayor; Traci Berry, Janesville First Responder Director; Doug Bettis, Janesville City Council; Randy Samec, Janesville Police Chief; Blake Franzen, Plainfield City Council; Tom Geise, Plainfield Mayor; Jordan Ladage, Tripoli City Council; DeAnn Lahmann, Tripoli City Clerk; Billy Lehmkuhl, Sumner City Council, David Lease, Sumner Public Works Director; Lois Buhr, Readlyn City Clerk; Dan Flaylock, Readlyn First Assistant Fire Chief; S. Sommerfelds, Readlyn EMS Director; and Jacob Tjaden, INRCOG.

The following jurisdictions were represented at the meeting: Bremer County; cities of Readlyn, Sumner, Tripoli, Plainfield, and Janesville. Jurisdictions invited, but not in attendance, included the cities of Waverly, Denver, and Frederika.

After calling the meeting to order Jacob Tjaden provided an overview of the agenda for the evening, how the planning process will work as well as the scope of the plan.

Tjaden also explained the definition of mitigation and how it relates to hazards in each city and the county. He commented the HMP's purpose is two-fold, which is to become and remain eligible for FEMA mitigation grant funding and more importantly to create and prioritize strategies and actions to reduce negative impacts of hazards at community and regional levels.

The committee divided into groups based on jurisdiction. Communities then reviewed and provided updates to their appendixes from the 2012 plan as well as the critical sites inventory maps.

Next, Tjaden provided an overview and process for updating the action steps communities had identified in the previous plan. Communities then proceeded to update the status of their action steps.

All of the jurisdictions had questions regarding the status of their action steps they wished to discuss with elected officials and/or city staff. It was determined each jurisdiction would take the action step worksheet with them to gather additional input. A due date of November 20, 2015 was set for jurisdictions to return the worksheets to Mr. Tjaden.

Before dismissing the committee, a general discussion of the time, location, and day of the week of future meetings was held. It was determined that Wednesday evenings at 7:00 pm worked well with committee members. Tjaden stated the next meeting would likely be held in mid-February, 2016 and would send out a meeting invitation with the time, date, and location, at a later date. The meeting adjourned at 8:45 pm.

Respectfully Submitted,
 Jacob Tjaden
 Community Planner

Bremer County Multi-Jurisdictional Hazard Mitigation Plan Update
 Wednesday, November 4th, 2015 – Tripoli City Hall
 Meeting 1 - Attendance Sign-In Sheet

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|----------------------------|---|----------------------------|---|----------------------------|
| 1 | Randy McKenzie | Bremer Co. Bldg Dept | Bremer Co. | rmckenzie@co.bremer.iowa.us | volunteer |
| 2 | Dewey Hildebrandt | Bremer Co. B.O.S. | Bremer Co. | dhildebrandt@co.bremer.iowa.us | Volunteer |
| 3 | Kip Ladage | Bremer Co. EMA | Bremer Co. | kladage@co.bremer.iowa.us | Volunteer |
| 4 | Sue Stapleton | Genial Commissionary Janesville City Council | Janesville | s.l.stapleton@hotmail.com | Volunteer |
| 5 | Chris Robinson | Janesville City Council | Janesville | christianerobinson@janesvilleiowa.com | Volunteer |
| 6 | Bryan Destival | Janesville Fire Chief | Janesville | bd@firebug.com | Volunteer |
| 7 | Sandi Carroll | Janesville Mayor | Janesville | carroll_sandi@yahoo.com | Volunteer |
| 8 | Traci Berry | JANESVILLE 1st Responder Director | Janesville | firstresponders@janesvilleiowa.com traci@kaypark.com | volunteer |
| 9 | Doug Bettis | Janesville City Council | Janesville | Bettis.doug@janesvilleiowa.com | Volunteer |
| 10 | Randy Samec | Janesville Police Chief | Janesville | JanesvillePolice@janesvilleiowa.com | Volunteer |
| 11 | Blake Franzen | Plainfield City Council | Plainfield | franzenblake@janesvilleiowa.com | Volunteer |

2017 MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN FOR BREMER COUNTY, IOWA

Bremer County Multi-Jurisdictional Hazard Mitigation Plan Update
Attendance Sign-In Sheet, Meeting 1

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|---|-------------------------------------|-------------------------------|-----------------------------|----------------------------------|
| 12 | Tom Geise <i>[Signature]</i> | Mayor | Plainfield | edgeuse@gsma.com | Volunteer |
| 13 | John Kestage <i>[Signature]</i> | City Council | Tripoli | judman_2011@yahoo.com | Volunteer |
| 14 | DeAnn Lahmann <i>[Signature]</i> | Clerk | Tripoli | tripdi@butler-bremer.com | Volunteer |
| 15 | DeAnn Lahmann Billy J. Johnson Billy J. Johnson Dad Lane <i>[Signature]</i> | City Council | Sumner | BillyT@Yahoo.com | Volunteer |
| 16 | Dad Lane <i>[Signature]</i> | PWD | Sumner | edgeuse@gsma.com | |
| 17 | Ko's Buhr | City Clerk | Readyln | cityhallreadyln@netins.net | Volunteer |
| 18 | Ran Blylock | 1st Asst. Fire Chief | Acadlynn | Acadlynn9999@google.com | Vol. |
| 19 | Shirley Muerfeldt <i>[Signature]</i> | EMS Director | Readyln | Sherry Sommerfeldt@gsma.com | Vol |
| 20 | Jacob Tjeden <i>[Signature]</i> | Planner | ARCOC | | Not Volunteer |
| 21 | | | | | |
| 22 | | | | | |

STATE OF IOWA
Bremer County,

ss:

CERTIFICATION OF PUBLICATION

I, Carrie Fowler being duly sworn
depose and say that I am Office Manager of

THE WAVERLY NEWSPAPERS, a weekly newspaper published at

Waverly, Bremer County, Iowa, and I further state that the annexed and

subjoined notice was duly published in said paper, as often as once in

each week for 1 week(s), commencing on the 21th

day of October, 2015, and ending on the ___ day of

___, 2015.

[Signature]

Subscribed and sworn to before me this 27th

day of October, 2015.

[Signature]

Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 18.01



Public Notice
BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION KICK-OFF PLANNING SESSION MEETING
The Federal Emergency Management Agency (FEMA) has awarded Bremer County a Hazard Mitigation Grant. Funds will be used to update the County's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is to remain eligible for other FEMA programs offered by FEMA. FEMA mandates that the plan be updated every five (5) years. The plan is designed to create hazard mitigation measures which can reduce negative impacts on buildings, technological and human-caused hazards within the county and the incorporated areas.
This first meeting will review the progress and benefits of a multi-jurisdictional hazard mitigation plan, project budget, plan-implementation schedule, and update the table of scope of work, and updating the table of scope of work, and updating the table of scope of work, and updating the table of scope of work. The public meeting will be held on Wednesday, November 11, 2015, at 7:00 pm at the Tripoli Community Center, 303 S Main St., Tripoli, IA 50076.
For questions or comments, contact Jason Jaden at INRCOG, (319) 285-0311 or jjaden@inrcog.org

*Charge for additional certificates

MEETING #2: DECEMBER 15, 2015

TO: Waverly Newspapers

FROM: Jacob Tjaden, INRCOG
229 East Park Avenue
Waterloo, Iowa 50703
(319) 235-0311

(Note: Please publish this press release once in the next editions of the Waverly Democrat and Bremer County Independent. Invoice INRCOG at the above address. Also please provide one publisher's affidavit to INRCOG along with the invoice. Thank you.)

**BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION
PLANNING MEETING**

The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions.

This meeting will review the purpose and benefits of a multi-jurisdictional hazard mitigation plan, project budget, planning process/scope of work, and updating the status of projects as well as the community profiles of participating jurisdictions from the previous plan. This public meeting will be held on Tuesday, December 15, 2015 at 7:00 pm at Waverly City Hall, 200 1st Ave. NE Waverly, IA 50677.

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@inrcog.org

- PUBLIC MEETING AGENDA-

**Bremer County Multi-Jurisdictional
Hazard Mitigation Plan Meeting**

Date: December 15, 2015

Time: 7:00 PM

Place: Waverly City Hall
200 1st Ave. NE
Waverly, IA 50677

1. Welcome and Introductions
2. Review Meeting Information and Timeline
3. Provide Updates for Existing Mitigation Action Steps
4. Review and Update Community Profiles
5. Set Future Meeting Dates
6. Adjourn

THIS IS A PUBLIC MEETING

MEMBERS OF THE COMMUNITY ARE INVITED TO ATTEND AND PARTICIPATE IN THIS MEETING

For Questions or Comments, contact:
Jacob Tjaden / INRCOG / (319) 235-0311 / jtjaden@inrcog.org

Bremer County MJ-HMP Planning Meeting Minutes
 Planning Meeting #2 / December 15, 2015 / 7:00 PM
 Waverly City Hall / Waverly, Iowa

The second Bremer County Multi-Jurisdictional Hazard Mitigation Plan kick-off meeting was called to order by Jacob Tjaden of the Iowa Northland Regional Council of Governments (INRCOG) at 7:00 pm.

There were three jurisdictions with representation at the meeting, these were the cities of: Denver, Frederika, and Waverly. This residual kick-off meeting was held as representatives from these three cities were unable to attend the first meeting on November 4, 2015.

The following persons were in attendance: Tab Ray, Waverly Leisure Services Director; Neil Whitney, Frederika Mayor; Sylvan Mutschler, Frederika resident; Joel Wikner, Denver City Council; Larry Farley, Denver City Administrator; Brock Farley, Denver resident; and Jacob Tjaden, INRCOG Planner.

After calling the meeting to order Jacob Tjaden provided an overview of the agenda for the evening, how the planning process will work as well as the scope of the plan.

Tjaden also explained the definition of mitigation and how it relates to hazards in each city and the county. He commented the HMP's purpose is two-fold, which is to become and remain eligible for FEMA mitigation grant funding and more importantly to create and prioritize strategies and actions to reduce negative impacts of hazards at community and regional levels.

The committee divided into groups based on jurisdiction. Communities then reviewed and provided updates to their appendices from the 2012 plan as well as the critical sites inventory maps.

Next, Tjaden provided an overview and process for updating the action steps communities had identified in the previous plan. Communities then proceeded to update the status of their action steps.

All of the jurisdictions had questions regarding the status of their action steps they wished to discuss with elected officials and/or city staff. It was determined each jurisdiction would take the action step worksheet with them to gather additional input. A due date of December 31, 2015 was set for jurisdictions to return the worksheets to Mr. Tjaden.

Tjaden stated the next meeting would likely be held in mid-late February, 2016 and would send out a meeting invitation with the time, date, and location, at a later date. The meeting adjourned at 8:05 pm.

Respectfully Submitted,
 Jacob Tjaden
 Community Planner

Bremer County Multi-Jurisdictional Hazard Mitigation Plan Update
 Tuesday, December 15, 2015 – Waverly City Hall
 Sign-In Sheet

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|----------------------------|-------------------------------------|-------------------------------|---------------------------------|----------------------------------|
| 1 | Tab Ray | Leisure Services Director | City of Waverly | tabr@waverly.iowa.gov | Non |
| 2 | Neil Whitney | Mayor | City of Frederika | Whitney@Butler-Bremer.com | Non |
| 3 | Sylvan Mutschler | city representative | City of Frederika | mutschler@aol.com | NY |
| 4 | Joel Wikner | Council Member | City of Denver | | Non |
| 5 | Larry Farley | City Administrator | City of Denver | larry.farley@cityofdenveria.org | Non-Volunteer |
| 6 | Jacob Tjaden | Planner | INRCOG | | NY |
| 7 | Brock Farley | | City of Denver | | V |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |

**Public Notice
BREMER COUNTY MULTI-
JURISDICTIONAL HAZARD
MITIGATION PLANNING MEETING**
The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions.

This meeting will review the purpose and benefits of a multi-jurisdictional hazard mitigation plan, project budget, planning process/scope of work, and updating the status of projects as well as the community profiles of participating jurisdictions from the previous plan. This public meeting will be held on Tuesday, December 15, 2015 at 7:00 pm at Waverly City Hall, 200 1st Ave. NE Waverly, IA 50677.

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@nrcoog.org

Published in the Bremer County Independent on December 1st, 2015 and the Waverly Democrat on December 3rd, 2015.

**Public Notice
BREMER COUNTY MULTI-
JURISDICTIONAL HAZARD
MITIGATION PLANNING MEETING**
The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions.

This meeting will review the purpose and benefits of a multi-jurisdictional hazard mitigation plan, project budget, planning process/scope of work, and updating the status of projects as well as the community profiles of participating jurisdictions from the previous plan. This public meeting will be held on Tuesday, December 15, 2015 at 7:00 pm at Waverly City Hall, 200 1st Ave. NE Waverly, IA 50677.

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@nrcoog.org

Published in the Bremer County Independent on December 1st, 2015 and the Waverly Democrat on December 3rd, 2015.

STATE OF IOWA

ss:

Bremer County,

CERTIFICATION OF PUBLICATION

I, Carrie Fowler being duly sworn
depose and say that I am Office Manager of
THE WAVERLY NEWSPAPERS, a weekly newspaper published at
Waverly, Bremer County, Iowa, and I further state that the annexed and
subjoined notice was duly published in said paper, as often as once in
each week for 2 week(s), commencing on the 1st
day of December, 2015, and ending on the 3rd day of
December, 2015.

Carrie Fowler

Subscribed and sworn to before me this 3rd
day of December, 2015.

Susan M Hosto
Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 20.00



*Charge for additional certificates

MEETING #3: APRIL 20, 2016

TO: Waverly Newspapers

FROM: Jacob Tjaden, INRCOG
229 East Park Avenue
Waterloo, Iowa 50703
(319) 235-0311

(Note: Please publish this press release once in the next editions of the Waverly Democrat and Bremer County Independent. Invoice INRCOG at the above address. Also please provide one publisher's affidavit to INRCOG along with the invoice. Thank you.)

**BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION
PLANNING MEETING**

The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions.

This meeting will review the purpose, process, and benefits of a multi-jurisdictional hazard mitigation plan; updates to community profiles; and discuss potential impacts of hazards. This public meeting will be held on Wednesday, April 20 at 7:00 PM at the Tripoli City Hall, 303 S Main St. Tripoli, IA 50676

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@inrcog.org

- PUBLIC MEETING AGENDA-

**Bremer County Multi-Jurisdictional
Hazard Mitigation Plan Meeting #2**

Date: Wednesday, April 20, 2016

Time: 7:00 PM

Place: Tripoli City Hall
303 S Main St.
Tripoli, IA 50676

1. Welcome and Introductions
2. Review Meeting Information and Timeline
3. Review and Update Community Profiles
4. Evaluate Hazards
5. Set Future Meeting Dates
6. Adjourn

THIS IS A PUBLIC MEETING

MEMBERS OF THE COMMUNITY ARE INVITED TO ATTEND AND PARTICIPATE IN THIS MEETING

For Questions or Comments, contact:
Jacob Tjaden / INRCOG / (319) 235-0311 / jtjaden@inrcog.org



Bremer County Multi-Jurisdictional Hazard Mitigation Plan Update
 Wednesday, April 20, 2016 – Tripoli City Hall
 Meeting 2 - Attendance Sign-In Sheet

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|--|-------------------------------------|-------------------------------|----------------------------|----------------------------------|
| 1 | Bill Wergger <i>Bill Wergger</i> | City Attorney | Waverly | wdwergger@ci.waverly.ia.us | NV |
| 2 | Blake Franzen <i>Blake Franzen</i> | City Council | Plainfield | | V |
| 3 | David Lehman <i>David Lehman</i> | City Council | Plainfield | | V |
| 4 | Ken Kammerer <i>Ken Kammerer</i> | Board of Supervisors | Bremer County | | V |
| 5 | Tim Neil <i>Tim Neil</i> | Board of Supervisors | Bremer Co | | V |
| 6 | Randall McKenzie <i>RAND</i> | Building Official | Bremer Co. | | Volunteer |
| 7 | Dewey Hildebrandt <i>Dewey L. Hildebrandt</i> | Board of Supervisors | Bremer Co. | | V |
| 8 | Susan Burton <i>Susan Burton</i> | Intern - Bremer County EMA | Bremer Co. | burto.sab@uni.edu | V |
| 9 | GP Lutz <i>GP Lutz</i> | Bremer EMA | Bremer | | NV |
| 10 | Matt Friedrich <i>Matt Friedrich</i> | SPD | Bremer Co. | | NV |
| 11 | Cody Freeze <i>Cody Freeze</i> | Sumner PD | Sumner | | NV |

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|---|---|-------------------------------|-------------------------|----------------------------------|
| 12 | <i>Ray Pease</i> | Sumner PWD | Sumner City | | No |
| 13 | <i>Billy Schubert</i> <i>Billy Therkildsen</i> | Sumner City Council | Sumner Ia | | ✓ |
| 14 | <i>Alan Junkers</i> <i>Alan Junk</i> | Sumner High Act | Sumner IA | | |
| 15 | <i>Daniel Blaylock</i> <i>Govt</i> | 1st. Lt. Fire Chief Sumner Vol. Fire Dept. | Sumner IA | | Vol. |
| 16 | James Busbee | City Supt. | City of Readdy | | Vol. |
| 17 | Barry Fortsch | City Council | Readdy | | Vol. |
| 18 | Sylvan Mutschler | Fire Dept City Rep. for mitigation | Fredericks | | Vol. |
| 19 | Larry Farley | City Administrator | Denver | | Vol. |
| 20 | Brook Farley | Citizen | Denver | | Vol. |
| 21 | Brendt Bernard | Tripoli Mayor | Tripoli | brendtbernard@gmail.com | |
| 22 | Jacob Tjaden | INRCOG | Planner | | NV |

Public Notice
BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLANNING MEETING

The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions. This meeting will review the purpose, process, and benefits of a multi-jurisdictional hazard mitigation plan; updates to community profiles; and discuss potential impacts of hazards. This public meeting will be held on Wednesday, April 20 at 7:00 PM at the Tripoli City Hall, 303 S Main St. Tripoli, IA 50676. For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@inrcog.org. Published in the Bremer County Independent on April 12, 2016 and the Waverly Democrat on April 14, 2016.

Public Notice
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STATE OF IOWA

ss:

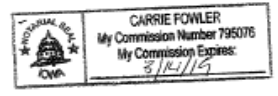
Bremer County,

CERTIFICATION OF PUBLICATION

I, Kim Franzen being duly sworn
depose and say that I am Office Manager of
THE WAVERLY NEWSPAPERS, a weekly newspaper published at
Waverly, Bremer County, Iowa, and I further state that the annexed and
subjoined notice was duly published in said paper, as often as once in
each week for 1 week(s), commencing on the 12th
day of April, 2016, and ending on the 14th day of
April, 2016.

Kim K Franzen
Subscribed and sworn to before me this 10th
day of May, 2016.
Carrie Fowler
Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 40.26 *



*Charge for additional certificates

MEETING #4: MAY 9, 2016

C

TO: Waverly Newspapers

FROM: Jacob Tjaden, INRCOG
229 East Park Avenue
Waterloo, Iowa 50703
(319) 235-0311

(Note: Please publish this press release once in the next editions of the Waverly Democrat and Bremer County Independent. Invoice INRCOG at the above address. Also please provide one publisher's affidavit to INRCOG along with the invoice. Thank you.)

**BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION
PLANNING MEETING**

The Federal Emergency Management Agency (FEMA) recently awarded Bremer County a Hazard Mitigation Planning Grant. Funds will be used to update the county's multi-jurisdictional Hazard Mitigation Plan. The purpose of the plan is two-fold. The plan is a federal requisite to remain eligible for other mitigation grant programs offered by FEMA. FEMA mandates the plan be updated every five (5) years. Second, the plan is designed to create hazard mitigation strategies which can reduce negative impacts caused by natural, technological and human-caused hazards within the county and the incorporated jurisdictions.

This meeting will review the purpose, process, and benefits of a multi-jurisdictional hazard mitigation plan; updates to community profiles; and discuss and evaluate potential impacts of hazards. This public meeting will be held on Thursday, May 19 at 7:00 PM at the Tripoli City Hall, 303 S Main St. Tripoli, IA 50676

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@inrcog.org

- PUBLIC MEETING AGENDA-

**Bremer County Multi-Jurisdictional
Hazard Mitigation Plan Meeting #3**

Date: Thursday, May 19, 2016

Time: 7:00 PM

Place: Tripoli City Hall
303 S Main St.
Tripoli, IA 50676

1. Welcome and Introductions
2. Review Meeting Information and Timeline
3. Review and update Hazard Assessment Scores
4. Identify potential mitigation actions and areas of concern for top hazards
5. Review and update Community Profiles
6. Adjourn

THIS IS A PUBLIC MEETING

MEMBERS OF THE COMMUNITY ARE INVITED TO ATTEND AND PARTICIPATE IN THIS MEETING

For Questions or Comments Contact:
Jacob Tjaden / INRCOG / (319) 235-0311 / jtjaden@inrcog.org

Bremer County MJ-HMP Planning Meeting Minutes
 Planning Meeting #3 / May 19, 2016 / 7:00 PM
 Tripoli City Hall / Tripoli, Iowa

The Bremer County Multi-Jurisdictional Hazard Mitigation Plan kick-off Meeting was called to order by Jacob Tjaden of the Iowa Northland Regional Council of Governments (INRCOG) at 7:00 pm.

The following persons were in attendance: Randy McKenzie, Bremer County Building Official; Dewey Hildebrandt, Bremer County Supervisor; Kip Ladage, Bremer County EMA; Tim Neil, Bremer County Supervisor; Joel Wilkner, Denver City Council; Larry Farley, Denver City Administrator; Sue Stapleton, Janesville City Council; Bryan Destval, Janesville Fire Chief; Sandi Carroll, Janesville Mayor; Dustin Mooty, Janesville Police; Andy Lunk, Plainfield; Tom Geise, Plainfield Mayor; David Lehman, Plainfield City Council; Loui Burh, Readlyn City Clerk; Dan Blaylock, Readlyn; Barry Fortsch, Readlyn City Council; Dave Waskow, Sumner Mayor; Tim Durkhopf, Sumner Fire Chief; Cindy Armus, Frederika City Clerk; Jordan Ladage, Tripoli City Council; DeAnn Lahmann, Tripoli City Clerk; Mike Cherry, Waverly Public Works Director; Jacob Tjaden, Community Planner INRCOG.

The following jurisdictions were represented at the meeting: Bremer County; cities of Denver, Frederika, Janesville, Plainfield, Readlyn, Tripoli, Sumner, and Waverly.

After calling the meeting to order Jacob Tjaden provided an overview of the agenda for the evening, how the planning process will work as well as the scope of the plan.

After the introduction, the committee members divided into their respective jurisdictions and began planning discussions. The hazard scores, completed at the previous meeting, were reviewed and amended as needed.

The next item focused on was identifying new or existing mitigation action steps communities are or are interested in pursuing. Each committee focused on their top five hazards, as identified from the hazard scoring formula.

Before dismissing the committee, Tjaden commented that the next group meeting would likely be towards the end of summer at the same time and location, but the date has yet been set. The meeting adjourned at 8:40 pm.

Respectfully Submitted,
 Jacob Tjaden
 Community Planner

Bremer County Multi-Jurisdictional Hazard Mitigation Plan Update
 Thursday, May 19, 2016 – Tripoli City Hall
 Meeting 3 - Attendance Sign-In Sheet

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|----------------------------------|---|-------------------------------|---------------|----------------------------------|
| 1 | Dewey Hildebrandt | Bremer Co. Supervisors | | | Vol |
| 2 | Tim Neil | Bremer Co Supervisor | | | Vol |
| 3 | Randy McKenzie | Bremer Co. Bldg Dept | | | Vol. |
| 4 | Kip Ladage | Bremer EMA | | | |
| 5 | Andy Lunk | City of Plainfield | | | Non |
| 6 | Tom Geise | Mayor of Plainfield | | | Vol |
| 7 | David Lehman | Council Member Plainfield City Council → | | | Vol |
| 8 | Dave Waskow | Mayor of Sumner | | | Non |
| 9 | Tim Durkhopf | FIRE CHIEF | SUMNER | | Vol. |
| 10 | Barry Fortsch | City Council | Readlyn | | |
| 11 | Daniel Blaylock Sandi Carroll | Dist. Fire Chief | Readlyn | | Vol. |

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|----------------------------|-------------------------------------|-------------------------------|--|----------------------------------|
| 12 | Lois Buhr | City Clerk | City of Readlyn | cityhallreadlyn@netins.net | |
| 13 | Jordan Ladage | City Council | City of Tripoli | jordman_2011@yahoo.com | ✓ |
| 14 | DeAnn Lahmann | City Clerk | City of Tripoli | tripoli@butler-bremer.com | N-V |
| 15 | Cindy Asmus | City Clerk | City of Fredericks | cindy@butler-bremer.com | NV |
| 16 | Larry Farley | City Administrator | City of Denver | larry.farley@cityofdenver.ia.us | NV |
| 17 | Joel WIKNER | City Council | City of Denver | | ✓ |
| 18 | Mike Cherry | Public Works Dir. | City of Waverly | mikeeci.waverly.ia.us | NV |
| 19 | Dustin Muoty | Police Officer | City of Janesville | Janesville police @yahoo Justin_muoty@ | NV |
| 20 | Randy Some | Police | City of Janesville | | |
| 21 | Bryan Destival | J'ville Fire Chief | J'ville Fire | bryandestival@gmail.com | ✓ |
| 22 | Sue Stapleton | City Council Janesville | Janesville | S.I.stapleton@hotmail.com | |

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|----------------------------|-------------------------------------|-------------------------------|-------------------------|----------------------------------|
| 23 | Sandi Carroll | Mayor | Janesville | carroll.sandi@yahoo.com | |
| 24 | Jacob Tjaden | Planner | INRCOG | — | NV |
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**Public Notice
BREMER COUNTY MULTI-
JURISDICTIONAL HAZARD
MITIGATION
PLANNING MEETING**

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For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or tjaden@inrcog.org

Published in the Bremer County Independent on May 10, 2016.

**Public Notice
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Published in the Bremer County Independent on May 10, 2016.

STATE OF IOWA

ss:

Bremer County,

CERTIFICATION OF PUBLICATION

I, Kim Franzen being duly sworn

depose and say that I am Office Manager of

THE WAVERLY NEWSPAPERS, a weekly newspaper published at

Waverly, Bremer County, Iowa, and I further state that the annexed and

subjoined notice was duly published in said paper, as often as once in

each week for 1 week(s), commencing on the 10th

day of May, 2016, and ending on the 12th day of

May, 2016.

Kim K Franzen

Subscribed and sworn to before me this 12th

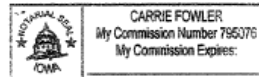
day of May, 2016.

Carrie Fowler

Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 38.78 *

*Charge for additional certificates



MEETING #5: NOVEMBER 22, 2016

TO: Waverly Newspapers

FROM: Jacob Tjaden, INRCOG
229 East Park Avenue
Waterloo, Iowa 50703
(319) 235-0311

(Note: Please publish this press release once in the next editions of the Waverly Democrat and Bremer County Independent. Invoice INRCOG at the above address. Also please provide one publisher's affidavit to INRCOG along with the invoice. Thank you.)

**BREMER COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION
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This meeting will review and make updates the current draft plan, including hazard scores, current mitigation strategies, and future mitigation actions. This public meeting will be held on Tuesday, November 22nd at 7:00 PM at the Tripoli City Hall, 303 S Main St. Tripoli, IA 50676

For questions or comments, contact Jacob Tjaden at INRCOG, (319) 235-0311 or jtjaden@inrcog.org

- PUBLIC MEETING AGENDA-

Bremer County Multi-Jurisdictional
Hazard Mitigation Plan Meeting #4

Date: Tuesday, November 22, 2016

Time: 7:00 PM

Place: Tripoli City Hall
303 S Main St.
Tripoli, IA 50676

1. Welcome and Introductions
2. Review Meeting Information and Timeline
3. Review Community Profiles
4. Finalize Hazard Assessment Scores
5. Finalize Mitigation Actions
6. Adjourn

THIS IS A PUBLIC MEETING

MEMBERS OF THE COMMUNITY ARE INVITED TO ATTEND AND PARTICIPATE IN THIS MEETING

For question, contact:
Jacob Tjaden / INRCOG / (319) 235-0311 / jtjaden@inrcog.org

Bremer County MJ-HMP Planning Meeting Minutes

Planning Meeting #4 / November 22, 2016 / 7:00 PM
 Tripoli City Hall / Tripoli, Iowa

The Bremer County Multi-Jurisdictional Hazard Mitigation Plan kick-off Meeting was called to order by Jacob Tjaden of the Iowa Northland Regional Council of Governments (INRCOG) at 7:00 pm.

The following persons were in attendance: Randy McKenzie, Bremer County Building Official; Ken Kammeyer, Bremer County Supervisor;; Tim Neil, Bremer County Supervisor; Andy Lunk, Plainfield; Tom Geise, Plainfield Mayor; David Lehman, Plainfield City Council;; DeAnn Lahmann, Tripoli City Clerk; Mike Cherry, Waverly Public Works Director; Sylvan M Ryan McKinley, Community Planner, INRCOG; Jacob Tjaden, Community Planner, INRCOG.

The following jurisdictions were represented at the meeting: Bremer County; cities of Plainfield, Waverly, Frederika, and Tripoli.

After calling the meeting to order, Tjaden provided an overview of the remaining HMP timeline, including when plan edits are due, intended date of county approval, and tentative submission date.

Then jurisdictions reviewed, made updates, and comments on city maps. Next, committee members reviewed and made updates to their draft appendices.

Following this, committee members reviewed/modified the status of their 2012 HMP action steps. Finally, each jurisdiction completed an "Capabilities Inventory" worksheet.

The meeting adjourned at 8:40 pm.

Respectfully Submitted,
 Jacob Tjaden
 Community Planner

Bremer County Multi-Jurisdictional Hazard Mitigation Plan Update
 Tuesday, November 22, 2016 - Tripoli City Hall
 Meeting 4 - Attendance Sign-In Sheet

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address (to receive relevant HMP plan updates) | Volunteer or Non-Volunteer |
|----|----------------------------|---|----------------------------|--|----------------------------|
| 1 | Tim Neil | Board of Supervisors | | | Non-Volunteer |
| 2 | Ken Kammeyer | Board of Supervisors | | | Non-Volunteer |
| 3 | Randy McKenzie | Building Official | | | Non |
| 4 | Andy Lunk | Maintenance Supervisor City of Plainfield | | | Non |
| 5 | David Lehman | City Council City of Plainfield | | | Volunteer |
| 6 | Thomas Geise | Mayor City of Plainfield | | | Volunteer |
| 7 | Mike Cherry | Director of Public Work & City Engineer | City of Waverly | | Non |
| 8 | Sylvan McKinley | City Representative | Frederika | | Volunteer |
| 9 | DeAnn Lahmann | City Clerk | City of Tripoli | tripoli@butler-bremer.com | Non-Volunteer |
| 10 | Jacob Tjaden | Planner | INRCOG | | NV |

| | Name (please print & sign) | Position/Title Agency/Department | Jurisdiction/ Organization | Email Address | Volunteer or Non-Volunteer |
|----|----------------------------|-------------------------------------|-------------------------------|---------------|----------------------------------|
| 11 | Ryan McKinley | Community Planner | INRCOG | — | NV |
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Bremer County,

CERTIFICATION OF PUBLICATION

I, Kim Franzen being duly sworn

depose and say that I am Office Assistant of

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Waverly, Bremer County, Iowa, and I further state that the annexed and

subjoined notice was duly published in said paper, as often as once in

each week for 2 week(s), commencing on the 15th day of November, 2016, and ending on the 17th day of November, 2016.

Kim K Franzen
Subscribed and sworn to before me this 17th

day of November, 2016.

Carrie Fowler
Notary Public in and for Bremer County, Iowa

Printer's Fee, \$ 39.76 *

*Charge for additional certificates



ATTACHMENT 5: HAZARD MITIGATION PLAN REVIEW TOOL

(RESERVED FOR FEMA EVALUATION FORMS)