Hazard Mitigation Plan
Faulkner County, AR

Including

Faulkner County Unincorporated
City of Conway
City of Damascus
City of Enola
City of Greenbrier
City of Guy
City of Holland
City of Mayflower
City of Mt. Vernon
City of Twin Groves
City of Vilonia
City of Wooster

Conway School District
Guy-Perkins School District
Greenbrier School District
Mayflower School District
Mount Vernon/Enola School District
Vilonia School District
University of Central Arkansas
Central Baptist College
Hendrix University

Primary Point of Contact:

Leigh Pool
Program Manager
Central Arkansas Planning & Development District
P. O. Box 300, 115 Jefferson St.
Lonoke, AR 72086
501-676-2721 (Office)
501-676-5020 (Fax)
leigh.pool@arkansas.gov

Table of Contents

Section 7 Appendices

SECTION 1 – INTRODUCTION

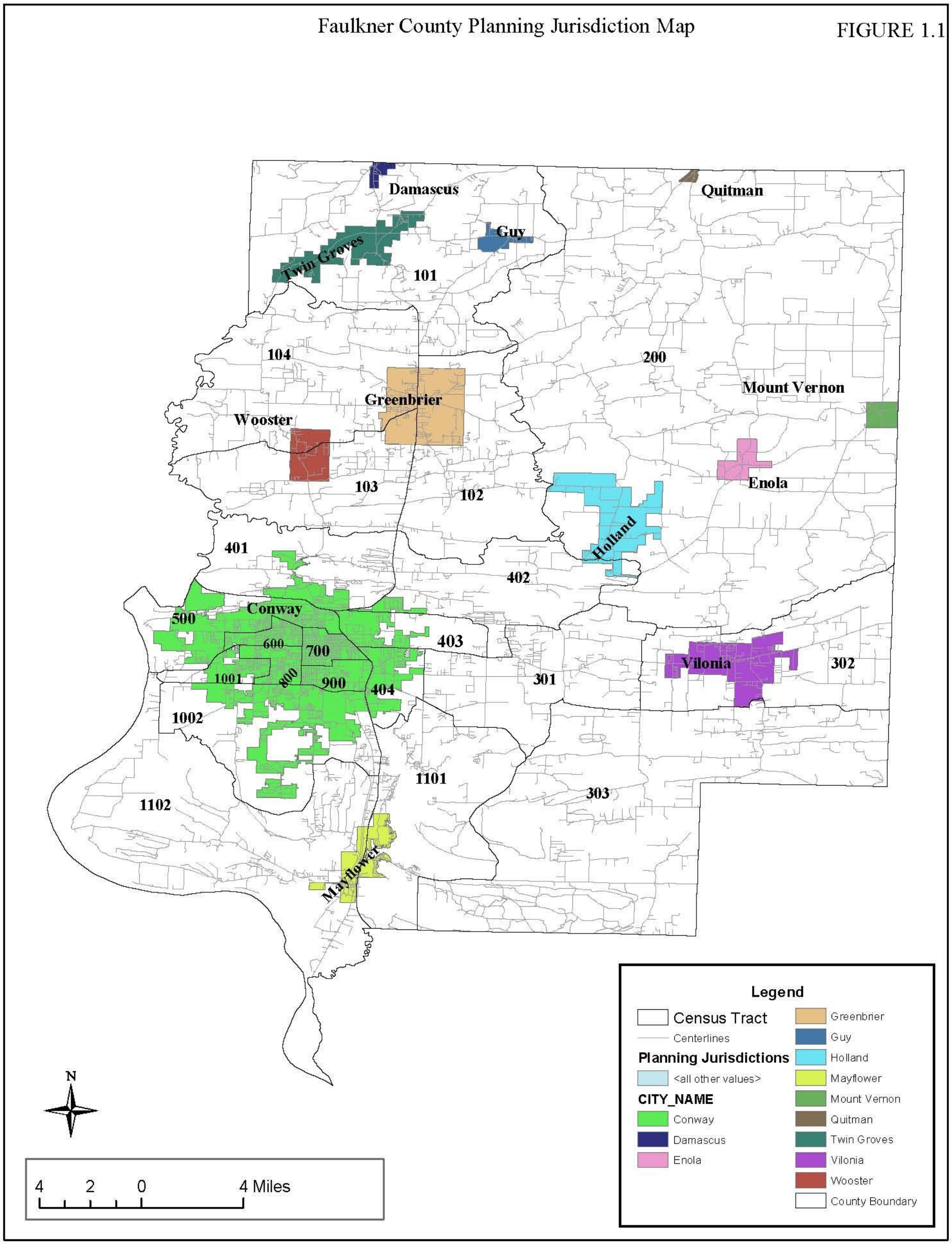
1.1 General Description

Hazard mitigation is the cornerstone of emergency management. It is defined as any sustained action to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation encourages long-term reduction of hazard vulnerability. The goal of mitigation is to save lives and reduce property damage.

In the past, federal legislation has provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 2000 (DMA 2000) is the latest legislation to improve this planning process. DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act by repealing the previous Mitigation Planning section (409) and replacing it with a new Mitigation Planning section (322). This new section emphasizes the need for State, Tribal, and local entities to closely coordinate mitigation planning and implementation efforts. The new legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. As such, this Act establishes a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). It also requires that communities must have an approved hazard mitigation plan in order to receive Stafford Act assistance, excluding assistance provided pursuant to emergency provisions.

The goals of this Faulkner County Hazard Mitigation plan are to 1) Reduce the loss of life and decrease property losses in Faulkner County due to natural disasters, and 2) provide a framework and coordination to encourage all levels of government and public and private organizations to undertake mitigation to minimize potential disasters and to employ mitigation in the recovery following disasters. Specific planning objectives are to: 1) Identify, describe, and characterize the natural hazards to which Faulkner County is susceptible, 2) Assess the risk of each hazard including probability and frequency, exposure, and consequences, 3) Examine feasible mitigation opportunities appropriate for the identified hazards and prioritize those opportunities, 4) Implement mitigation actions to reduce loss of lives and property, and 5) Identify mitigation opportunities for long-range planning consideration.

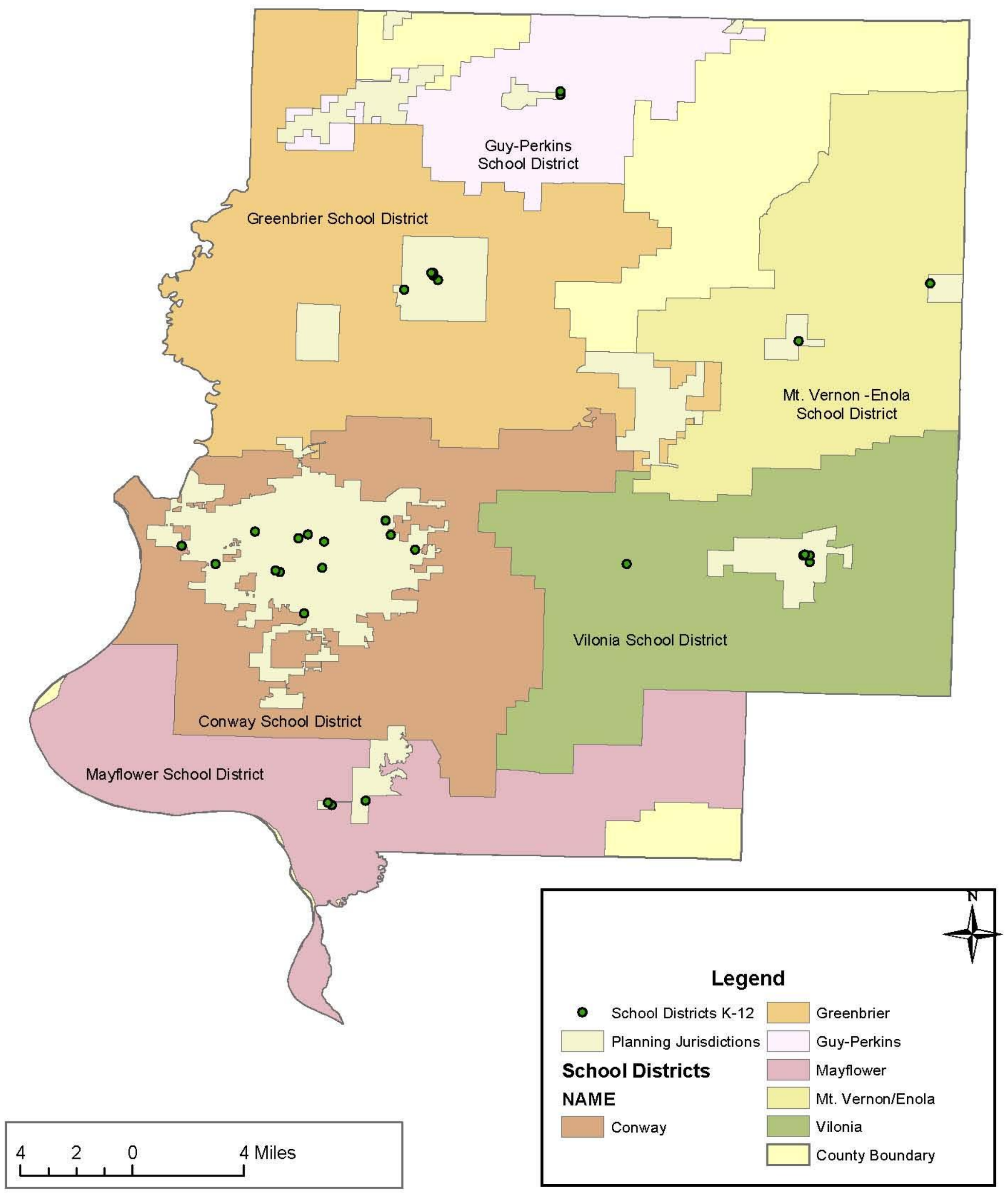
The Faulkner County Hazard Mitigation Plan is being developed to assess the ongoing natural hazard mitigation activities in Faulkner County, to evaluate additional mitigation measures that should be undertaken, and to outline a strategy for implementation of mitigation projects. This plan is multi-jurisdictional with a planning area that includes all of unincorporated Faulkner County and eleven (11) municipalities within the County including the City of Conway, City of Enola, City of Greenbrier, City of Guy, City of Mayflower, City of Mt. Vernon, City of Vilonia, City of Wooster, City of Twin Groves, City of Damascus, and City of Holland. The locations of each of these jurisdictions within Faulkner County are shown on the following map. This plan also includes the five (5) public schools: Conway, Guy-Perkins, Greenbrier, Mayflower and Vilonia and the three (3) universities: University of Central Arkansas, Central Baptist College and Hendrix University.



Faulkner County Planning Jurisdiction Map
FIGURE 1.1
Damascus
Quitman
Guy
Twin Groves
101
104
200
Greenbrier
Mount Vernon
Wooster
Enola
103
102
Holland
401
402
Conway
500
403
600
700
Vilonia
302
1001
800
900
404
301
1002
1101
303
1102
Mayflower
Legend
Census Tract
Centerlines
Planning Jurisdictions
<all other values>
CITY_NAME
Conway
Damascus
Enola
Greenbrier
Guy
Holland
Mayflower
Mount Vernon
Quitman
Twin Groves
Vilonia
Wooster
County Boundary
N
4 2 0 4 Miles

This plan also includes the five (5) School Districts and three (3) Universities located in Faulkner County including the Conway School District, Guy-Perkins School District, Greenbrier School District, Mayflower School District, Vilonia School District, University of Central Arkansas, Central Baptist College, and Hendrix University. The locations of these School Districts and Universities with Faulkner County are shown below.

Faulkner County School District Map FIGURE 1.2



Formal adoption and implementation of a hazard mitigation plan presents many benefits to Faulkner County and its residents. By identifying problems and possible solutions in advance of a disaster, Faulkner County and participating communities will be in a better position to obtain pre- and post-disaster funding. Specifically, the Disaster Mitigation Act of 2000 establishes a Pre-Disaster Hazard Mitigation Program (PDM) and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). It requires that states and communities have a FEMA approved hazard mitigation plan in place prior to receiving post-disaster HMGP funds. Adoption of this hazard mitigation strategy will also increases Faulkner County's eligibility for assistance from FEMA's Flood Mitigation Assistance (FMA) program. Faulkner County and participating communities will also gain additional credit points under FEMA's Community Rating System (CRS) program, which provides discounts on National Flood Insurance Program (NFIP) flood insurance premiums for residents of communities that voluntarily participate in this program. Most importantly, Faulkner County will be able to recover faster and more wisely from a disaster. Through planning and acting on local mitigation strategies, the city will reduce vulnerability to disasters and identify opportunities for mitigation. In addition, the communities may meet comprehensive planning and other planning requirements and achieve community goals.

1.2 Purpose and Authority

The purpose of the Faulkner County Hazard Mitigation Plan is to provide guidance for hazard mitigation activities in Faulkner County. The Faulkner County Office of Emergency Management has the responsibility to coordinate all local activities relating to hazard evaluation and mitigation and to prepare and submit to FEMA a Local Mitigation Plan following the criteria established in 44 CFR 201.4 and Section 322 of the Disaster Mitigation Act of 2000 (Public Law 106-390). The Disaster Mitigation Act of 2000 became law on October 30, 2000, and amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the "Stafford Act") (Public Law 93-288, as amended). Regulations for this activity can be found in Title 44 of the Code of Federal Regulations part 206, Subpart M.

This Plan meets requirements for a local mitigation plan under Interim Final Rule 44 CFR 201.4, published in the Federal Register by the Federal Emergency Management Agency (FEMA) on February 28, 2002. Meeting the requirements of the regulations cited above keeps Faulkner county qualified to obtain all disaster assistance including hazard mitigation grants available through the Robert T. Stafford Disaster Relief and Emergency Assistance Act, P.L. 93-288, as amended.

1.3 Community Information

1.3.1 Topography, Physiography and Geology

Faulkner County is located just north of the exact center of the state and is bordered by seven other counties: Van Buren, Cleburne, White, Lonoke, Pulaski, Perry and Conway. Physiographically, Faulkner County can be characterized as being dominated by approximately southwest northeast oriented parallel ridges and valleys. This ridge and valley topography was formed when a vast area south of the Ozark Uplift was pushed northward resulting in the folding of the underlying strata. The ridges are unfolded layers of rocks called anticlines, while the down folded areas between the ridges are called synclines. The synclines have filled with sediments eroded from the ridges and lighter material deposited by the streams has evolved into the fertile agricultural areas found in the county.

Faulkner County spans two major physiographic divisions of Arkansas: the Fourche Mountain subdivision of the Ouachita Mountains and the Arkansas Valley Division. The Fourche Mountain Subdivision of the Ouachitas encompasses the southern two-thirds of the county and is characterized by an abundance of sandstone of the Atoka and Jackford series with a few interbedded shale layers. The predominant landforms here are the aforementioned sharply-folded anticline ridges (Cadron Anticline and Bayou Meto Anticline) with relatively steep slopes separated by level valleys. Such physiographic characteristics are consistent with those of the foothills of the Ouachita Mountains and thus provide rationale for this part of the county being included in that particular division. Also located in the southern part of the county near the western extremity of Bayou Meto Anticline is Round Mountain. This mountain actually is a synclinal structure that was exposed as a result of the erosion of the surrounding environment by the Arkansas River and its tributaries, leaving the mountain perched above the lowered river and stream valleys. Such a structure is referred to as an "erosional remnant."

The northern part of the county lies within the Arkansas River Valley Division and is considered to be transitional between the Ouachita Mountains to the south and the Ozark Uplift to the north. In this part of the county the anticline ridges are not as sharply folded as those farther south. These gently sloping ridges are characteristic of and consistent with the Physiography of the Arkansas River Valley in spite of the fact that the river does not flow through this part of the county. The Arkansas Valley physiographic division of Faulkner County is comprised mainly of Atoka Sandstone with some interbedded shale. This formation is dominant in the county and is sedimentary structure, which was laid down in a shallow sea over a duration of several million years some 300 million years ago during the Pennsylvanian Period. In addition to this dominant bedrock structure of sandstone and shale, there are some significant alluvial deposits along the many streams that (1) flow in and through the county, (2) flow along a portion of the western boundary (Cadron Creek), and (3) provide an important accumulation of river-deposited soils where the Arkansas River forms the southwestern boundary.

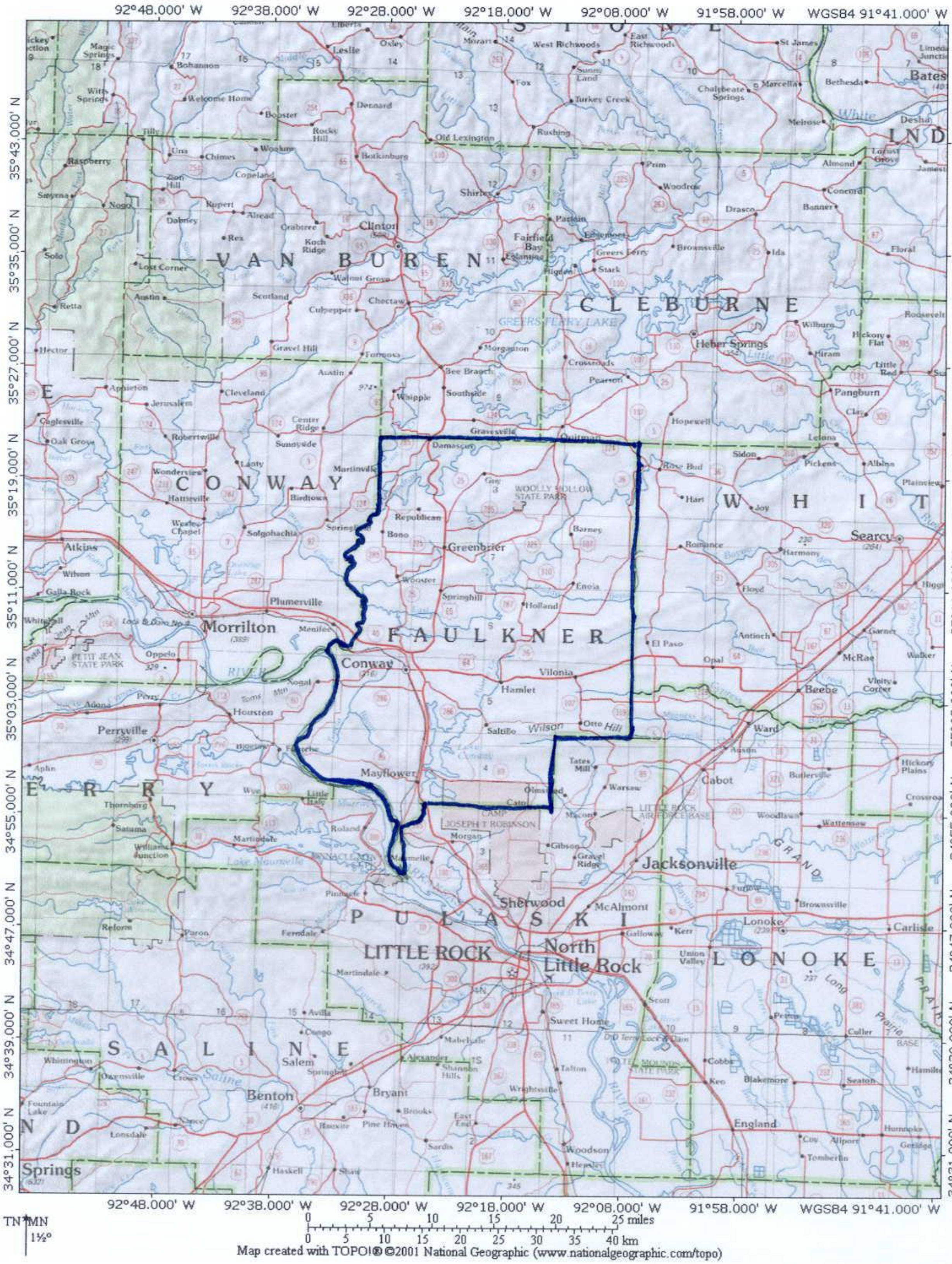
Across the northern part of the county run at least four faults that provide evidence of some earthquake activity during the county's pre-history. In 1933 some earthquake activity was recorded close to the central part of the county near Naylor and Enola. Earthquakes have always been commonplace in Faulkner County but not always to the degree of magnitude, intensity, and amount as manifested in the 1983 swarm. Earthquakes in Faulkner County are a result of the brittle and fractured structure of the underlying crust. The intensive folding and fracturing, which occurred during the formation of the Ouachita Mountains during the Pennsylvanian Period, has caused this area to be somewhat unstable since that episode of mountain building.

Mineral resources have never been a matter of consequence in Faulkner County; however, in recent times there has been some oil and gas exploration with a moderate amount of drilling. There is a good possibility of gas deposits below the surface but at present it is not economically feasible to indulge in widespread drilling and extraction.

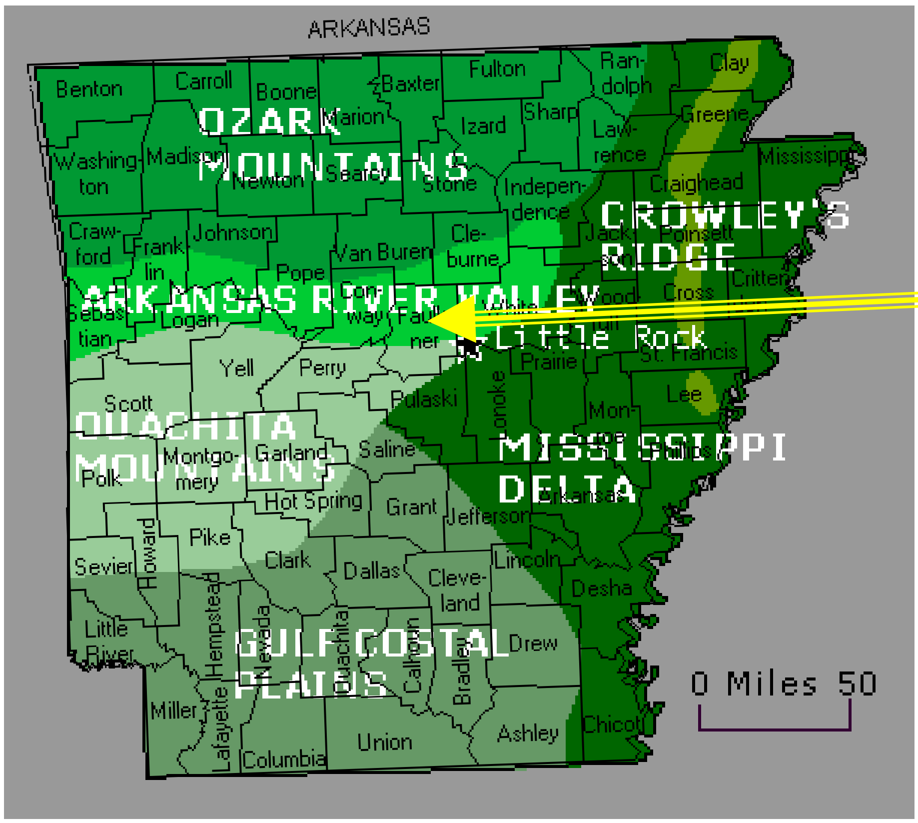
The soils of Faulkner County are considered to be the primary natural resources of the area, providing for crops and livestock. Soil use has become more diversified over the past 100 years, progressing primarily from producing cotton as the principal cash crop to soybeans, rice, wheat, sorghum, and livestock consisting mainly of cattle, milk cows, and pigs. Six major types represent the soil resources of Faulkner County: Linker-Mountainburg, Leadville-Taft, Moreland-Perry, Spradra-Ouachita-Amy, Roxana-Gallion, and Muskogee-Salisaw.

The Arkansas River Valley lies between the Ozark Region and the Ouachita Region. The area is dominated by the Arkansas River, which originates in the mountains of Colorado. The river has been greatly modified to make it navigable commercially. The largest city in Arkansas, Little Rock, is located on its banks as are several larger Arkansas cities including Russellville, Ft. Smith, Conway and Pine Bluff. It is a valley that has been changed by running water. It is another alluvial region of Arkansas. It is an alluvial valley that is crossed by the Petite Jean and Maumelle Rivers with mixed vegetation. The Arkansas Valley has the highest and most impressive peaks of the State. It contains the Arkoma basin and supports agricultural activity. The soils are classified as Bottomland Terrace. They are derived from sandstone and shale rocks. They are sandy and silty in texture and support a mixed deciduous and evergreen forest. Prime farmland is supported in the valley floor. Magazine Mountain, the state's highest peak is included in this area, as is Petit Jean Mountain. Read about Petit Jean, which is a part of the Ouachita Mountains in the region Ouachitas. Magazine Mountain is part of the Arkoma Basin. Arkoma was a plateau millions of years ago and as erosion occurred these mountains were left standing above the erosion plane. Paris, Arkansas, is a natural obelisk. It is 2,850 feet above sea level and is the highest point in Arkansas. Several endemic species exist on this mountain that are not recorded anywhere else in the world. They include the Maple-leafed Oak, two land snails, a beetle, and an amphipod "Stygobromus elatus" (Holsinger).

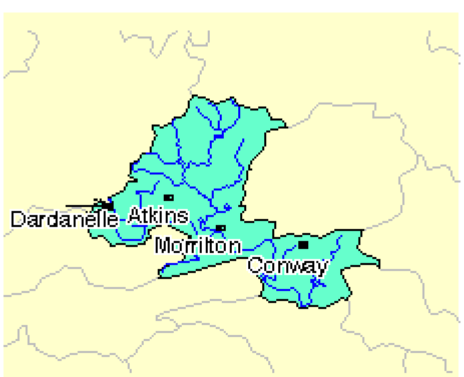
The Topography Map (Figure 1.3) is included below.

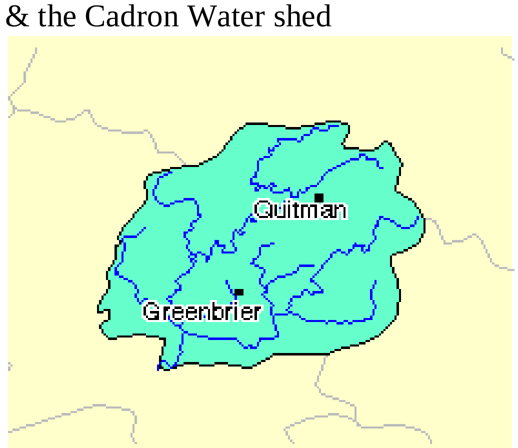

92°48.000' W
92°38.000' W
92°28.000' W
92°18.000' W
92°08.000' W
91°58.000' W
WGS84 91°41.000' W
35°43.000' N
35°35.000' N
35°27.000' N
35°19.000' N
35°11.000' N
35°03.000' N
34°55.000' N
34°47.000' N
34°39.000' N
34°31.000' N
VAN BUREN
CLEBURNE
CONWAY
WHITE
FAULKNER
PERRY
PULASKI
LONOKE
SALINE
Clinton
Heber Springs
Greers Ferry Lake
Morrilton
Conway
Greenbrier
Damascus
Mayflower
Vilonia
Searcy
Beebe
Cabot
Jacksonville
Sherwood
LITTLE ROCK
North Little Rock
Benton
Perryville
Atkins
Woolly Hollow State Park
Camp Joseph T Robinson
TN MN
1½°
0 5 10 15 20 25 miles
0 5 10 15 20 25 30 35 40 km
Map created with TOPO!® ©2001 National Geographic (www.nationalgeographic.com/topo)

Topography of Faulkner County and vicinity showing locations of the physiographic province comprising the Arkansas River Valley and Quachita Mountains.



Watersheds in Faulkner County - Lake Conway & the Cadron Water shed





1.3.2. Climate

The average daily temperature in Faulkner County is 61.5^0 with a low daily average of 49.7^o in January and high daily average temperature of 79.6^o in August. The average maximum temperature for the year is 73.4^o with a monthly high of 93.1^o in August and a low of 27.9^o in January. The average minimum temperature for the year is 49.7^o with a monthly high of 93.1^o in August and low of 27.9^o in January. The average precipitation for the year is 49.4 inches. The highest average monthly rainfall of 5.2 inches occurs in May and the lowest average monthly rainfall of 2.9 inches occurs in August.

1.3.3. Population and Demographics

Faulkner County

Faulkner County is centrally located in the state of Arkansas north of Pulaski County and has a total area of 664.0 square miles; 647.4 square miles land and 16.6 square miles (2.5%) water. As of the 2000 census, there are 86,014 people, 31,882 households, and 22,454 families residing in the county. The population density is 132.9 persons per square mile. There are 34,546 housing units with an average density of 53.4 per square mile. Faulkner County is 88.3% White, 8.5% Black or African American, 0.5% Native American, 0.7% Asian, 0.7% from other races, and 1.2% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.8% of the population.

There are 31,882 households of which 35.7% have children under the age of 18 living with them, 56.7% are married couples living together, 10.2% have a female householder with no husband present, and 29.6% are nonfamily households. Householders living alone makeup 22.5% of all households, and 6.9% have someone living alone who is 65 years of age or older. The average household size is 2.6 and the average family size is 3.0.

The distribution of Faulkner County County's population by age is 25.6% under the age of 18, 15.3% 18 to 24, 30.1% 25 to 44, 19.5% 45 to 64, and 9.5% 65 years of age or older. The median age is 31.0.

The median income for a household in the county is $38,204, and the median income for a family is $45,946. The per capita income for the county is $17,988. The total population living below the poverty level is 12.5%, 12.9% under the age of 18, and 12.0% 65 or older. The percent of families living below the poverty level is 7.9%.

Conway

Conway is located in western Faulkner County (35.0873, -92.4533) and has a total area of 35.3 square miles, 35.0 square miles land and 0.3 square mile (0.8%) water. As of the 2000 census, there are 43,167 people, 16,039 households, and 10,172 families residing in the city. The population density is 1,231.7 persons per square mile. There are 17,289 housing units with an average density of 493.3 per square mile. Conway is 84.0% White, 12.1% Black or African American, 0.4% Native American, 1.3% Asian, 1.0% from other races, and 1.2% from two or more races. Hispanics or Latinos, which may be of any race, represent 2.3% of the population.

There are 16,039 households of which 33.0% have children under the age of 18 living with them, 49.0% are married couples living together, 11.2% have a female householder with no husband present, and 36.6% are nonfamily households. Householders living alone makeup 26.1% of all households, and 7.2% have someone living alone who is 65 years of age or older. The average household size is 2.4 and the average family size is 3.0.

The distribution of Conway’s population by age is 23.3% under the age of 18, 22.4% 18 to 24, 29.2% 25 to 44, 16.1% 45 to 64, and 9.0% 65 years of age or older. The median age is 27.3.

The median income for a household in the city is $37,063, and the median income for a family is $47,912. The per capita income for the city is $18,509. The total population living below the poverty level is 16.3%, 15.0% under the age of 18, and 10.8% 65 or older. The percent of families living below the poverty level is 9.3%.

Damascus

Damascus is located in northern Faulkner County (35.3567, -92.4141) and has a total area of 1.93 square miles (all land). As of the 2000 census, there are 306 people, 137 households, and 90 families residing in the town. The population density is 158.6 persons per square mile. There are 157 housing units with an average density of 81.3 per square mile. Damascus is 97.7% White, 1.0% Black or African American, 0.3% Native American, 0.0% Asian, 0.0% from other races, and 1.0% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.3% of the population.

There are 137 households of which 26.3% have children under the age of 18 living with them, 53.3% are married couples living together, 7.3% have a female householder with no husband present, and 34.3% are nonfamily households. Householders living alone makeup 30.7% of all households, and 19.0% have someone living alone who is 65 years of age or older. The average household size is 2.2 and the average family size is 2.8.

The distribution of Damascus’s population by age is 21.2% under the age of 18, 5.9% 18 to 24, 25.2% 25 to 44, 21.9% 45 to 64, and 25.8% 65 years of age or older. The median age is 43.5.

The median income for a household in the town is $28,977, and the median income for a family is $38,750. The per capita income for the town is $18,342. The total population living below the poverty level is 8.0%, 0.0% under the age of 18, and 22.2% 65 or older. The percent of families living below the poverty level is 1.3%.

Enola

Enola is located in eastern Faulkner County (35.1937, -92.2038) and has a total area of 1.5 square miles (all land). As of the 2000 census, there are 188 people, 72 households, and 59 families residing in the town. The population density is 123.5 persons per square mile. There are 79 housing units with an average density of 51.9 per square mile. Enola is 99.5% White, 0.0% Black or African American, 0.0% Native American, 0.0% Asian, 0.5% from other races, and 0.0% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.1% of the population.

There are 72 households of which 34.7% have children under the age of 18 living with them, 68.1% are married couples living together, 12.5% have a female householder with no husband present, and 18.1% are nonfamily households. Householders living alone makeup 16.7% of all households, and 11.1% have someone living alone who is 65 years of age or older. The average household size is 2.6 and the average family size is 2.8.

The distribution of Enola's population by age is 24.5% under the age of 18, 4.8% 18 to 24, 23.9% 25 to 44, 25.0% 45 to 64, and 21.8% 65 years of age or older. The median age is 41.8.

The median income for a household in the town is $40,139, and the median income for a family is $41,591. The per capita income for the town is $20,685. The total population living below the poverty level is 11.8%, 16.7% under the age of 18, and 17.9% 65 or older. The percent of families living below the poverty level is 10.9%.

Greenbrier

Greenbrier is located in northern Faulkner County (35.2294, -92.3891) and has a total area of 7.7 square miles (all land). As of the 2000 census, there are 3,042 people, 1,137 households, and 892 families residing in the city. The population density is 392.6 persons per square mile. There are 1,247 housing units with an average density of 160.9 per square mile. Greenbrier is 97.4% White, 0.6% Black or African American, 0.5% Native American, 0.1% Asian, 0.4% from other races, and 1.2% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.0% of the population.

There are 1,137 households of which 42.5% have children under the age of 18 living with them, 61.7% are married couples living together, 13.2% have a female householder with no husband present, and 21.5% are nonfamily households. Householders living alone makeup 19.1% of all households, and 7.0% have someone living alone who is 65 years of age or older. The average household size is 2.7 and the average family size is 3.1.

The distribution of Greenbrier's population by age is 30.3% under the age of 18, 9.1% 18 to 24, 31.9% 25 to 44, 18.9% 45 to 64, and 9.8% 65 years of age or older. The median age is 31.7.

The median income for a household in the city is $37,351, and the median income for a family is $43,125. The per capita income for the city is $17,950. The total population living below the poverty level is 9.1%, 11.0% under the age of 18, and 10.5% 65 or older. The percent of families living below the poverty level is 7.2%.

Guy

Guy is located in northern Faulkner County (35.3246, -92.3349) and has a total area of 0.9 square miles (all land). As of the 2000 census, there are 202 people, 84 households, and 65 families residing in the town. The population density is 219.4 persons per square mile. There are 92 housing units with an average density of 99.9 per square mile. Guy is 96.0% White, 0.5% Black or African American, 0.0% Native American, 0.0% Asian, 0.0% from other races, and 3.5% from two or more races. Hispanics or Latinos, which may be of any race, represent 0.0% of the population.

There are 84 households of which 31.0% have children under the age of 18 living with them, 65.5% are married couples living together, 9.5% have a female householder with no husband present, and 22.6% are nonfamily households. Householders living alone makeup 21.4% of all households, and 8.3% have someone living alone who is 65 years of age or older. The average household size is 2.4 and the average family size is 2.7.

The distribution of Guy's population by age is 20.8% under the age of 18, 7.4% 18 to 24, 30.7% 25 to 44, 26.7% 45 to 64, and 14.4% 65 years of age or older. The median age is 40.0.

The median income for a household in the town is $35,625, and the median income for a family is $38,977. The per capita income for the town is $15,732. The total population living below the poverty level is 14.0%, 16.2% under the age of 18, and 7.1% 65 or older. The percent of families living below the poverty level is 10.2%.

Holland

Holland is located in central Faulkner County (35.1576, -92.2806) and has a total area of 6.9 square miles (all land). As of the 2000 census, there are 577 people, 217 households, and 164 families residing in the city. The population density is 83.9 persons per square mile. There are 235 housing units with an average density of 34.2 per square mile. Holland is 96.0% White, 0.0% Black or African American, 1.4% Native American, 0.0% Asian, 0.3% from other races, and 2.3% from two or more races. Hispanics or Latinos, which may be of any race, represent 0.3% of the population.

There are 217 households of which 36.9% have children under the age of 18 living with them, 57.1% are married couples living together, 12.4% have a female householder with no husband present, and 24.4% are nonfamily households. Householders living alone makeup 21.2% of all households, and 10.1% have someone living alone who is 65 years of age or older. The average household size is 2.7 and the average family size is 3.0.

The distribution of Holland's population by age is 28.4% under the age of 18, 8.8% 18 to 24, 30.5% 25 to 44, 19.2% 45 to 64, and 13.0% 65 years of age or older. The median age is 32.3.

The median income for a household in the city is $32,368, and the median income for a family is $34,583. The per capita income for the city is $15,370. The total population living below the poverty level is 15.1%, 21.1% under the age of 18, and 7.8% 65 or older. The percent of families living below the poverty level is 10.6%.

Mayflower

Mayflower is located in southern Faulkner County (34.9681, -92.4196) and has a total area of 3.0 square miles 2.9 square miles land and 0.1 square mile (3.3%) water. As of the 2000 census, there are 1,631 people, 740 households, and 500 families residing in the city. The population density is 556.8 persons per square mile. There are 872 housing units with an average density of 297.7 per square mile. Mayflower is 95.2% White, 3.4% Black or African American, 0.3% Native American, 0.1% Asian, 0.2% from other races, and 0.9% from two or more races. Hispanics or Latinos, which may be of any race, represent 0.7% of the population.

There are 740 households of which 20.7% have children under the age of 18 living with them, 53.8% are married couples living together, 10.0% have a female householder with no husband present, and 32.4% are nonfamily households. Householders living alone makeup 27.8% of all households, and 11.6% have someone living alone who is 65 years of age or older. The average household size is 2.2 and the average family size is 2.7.

The distribution of Mayflower's population by age is 17.5% under the age of 18, 7.2% 18 to 24, 24.3% 25 to 44, 30.9% 45 to 64, and 20.1% 65 years of age or older. The median age is 46.0.

The median income for a household in the city is $35,469, and the median income for a family is $39,013. The per capita income for the city is $19,889. The total population living below the poverty level is 8.6%, 9.1% under the age of 18, and 14.0% 65 or older. The percent of families living below the poverty level is 7.0%.

Mount Vernon

Mount Vernon is located in eastern Faulkner County (35.2249, -92.1248) and has a total area of 1.0 square miles (all land). As of the 2000 census, there are 144 people, 57 households, and 44 families residing in the city. The population density is 143.9 persons per square mile. There are 68 housing units with an average density of 68.0 per square mile. Mount Vernon is 98.6% White, 0.0% Black or African American, 0.0% Native American, 0.0% Asian, 0.7% from other races, and 0.7% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.4% of the population.

There are 57 households of which 33.3% have children under the age of 18 living with them, 63.2% are married couples living together, 14.0% have a female householder with no husband present, and 22.8% are nonfamily households. Householders living alone makeup 22.8% of all households, and 10.5% have someone living alone who is 65 years of age or older. The average household size is 2.5 and the average family size is 3.0.

The distribution of Mount Vernon's population by age is 26.4% under the age of 18, 7.6% 18 to 24, 20.8% 25 to 44, 25.7% 45 to 64, and 19.4% 65 years of age or older. The median age is 42.5.

The median income for a household in the city is $26,406, and the median income for a family is $40,625. The per capita income for the city is $12,593. The total population living below the poverty level is 4.9%, 0.0% under the age of 18, and 12.9% 65 or older. The percent of families living below the poverty level is 0.0%.

Twin Groves

Twin Groves is located in northwestern Faulkner County (35.3167, -92.4241) and has a total area of 4.7 square miles (all land). As of the 2000 census, there are 276 people, 103 households, and 75 families residing in the town. The population density is 58.8 persons per square mile. There are 113 housing units with an average density of 24.1 per square mile. Twin Groves is 26.8% White, 72.1% Black or African American, 0.0% Native American, 0.0% Asian, 0.0% from other races, and 1.1% from two or more races. Hispanics or Latinos, which may be of any race, represent 0.4% of the population.

There are 103 households of which 27.2% have children under the age of 18 living with them, 58.3% are married couples living together, 9.7% have a female householder with no husband present, and 27.2% are nonfamily households. Householders living alone makeup 25.2% of all households, and 7.8% have someone living alone who is 65 years of age or older. The average household size is 2.7 and the average family size is 3.2.

The distribution of Twin Groves's population by age is 22.5% under the age of 18, 8.0% 18 to 24, 24.6% 25 to 44, 27.5% 45 to 64, and 17.4% 65 years of age or older. The median age is 40.8.

The median income for a household in the town is $34,375, and the median income for a family is $37,222. The per capita income for the town is $16,811. The total population living below the poverty level is 3.3%, 0.0% under the age of 18, and 8.5% 65 or older. The percent of families living below the poverty level is 0.0%.

Vilonia

Vilonia is located in southeastern Faulkner County (35.0773, -92.2126) and has a total area of 6.43 square miles, 6.42 square miles land and 0.01 square miles (0.1%) water. As of the 2000 census, there are 2,106 people, 726 households, and 612 families residing in the town. The population density is 327.6 persons per square mile. There are 785 housing units with an average density of 122.1 per square mile. Vilonia is 98.4% White, 0.1% Black or African American, 0.5% Native American, 0.2% Asian, 0.2% from other races, and 0.6% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.3% of the population.

There are 726 households of which 51.9% have children under the age of 18 living with them, 69.7% are married couples living together, 10.9% have a female householder with no husband present, and 15.7% are nonfamily households. Householders living alone makeup 13.5% of all households, and 4.1% have someone living alone who is 65 years of age or older. The average household size is 2.9 and the average family size is 3.2.

The distribution of Vilonia's population by age is 33.0% under the age of 18, 7.2% 18 to 24, 35.4% 25 to 44, 16.6% 45 to 64, and 7.9% 65 years of age or older. The median age is 31.8.

The median income for a household in the town is $45,147, and the median income for a family is $50,184. The per capita income for the town is $17,495. The total population living below the poverty level is 7.6%, 9.0% under the age of 18, and 11.9% 65 or older. The percent of families living below the poverty level is 6.1%.

Wooster

Wooster is located in western Faulkner County (35.2006, -92.4537) and has a total area of 2.6 square miles (all land). As of the 2000 census, there are 516 people, 200 households, and 154 families residing in the town. The population density is 200.7 persons per square mile. There are 214 housing units with an average density of 83.3 per square mile. Wooster is 97.3% White, 0.2% Black or African American, 0.8% Native American, 0.6% Asian, 0.6% from other races, and 0.6% from two or more races. Hispanics or Latinos, which may be of any race, represent 1.0% of the population.

There are 200 households of which 33.5% have children under the age of 18 living with them, 64.0% are married couples living together, 10.0% have a female householder with no husband present, and 23.0% are nonfamily households. Householders living alone makeup 21.5% of all households, and 11.0% have someone living alone who is 65 years of age or older. The average household size is 2.6 and the average family size is 3.0.

The distribution of Wooster's population by age is 23.4% under the age of 18, 7.8% 18 to 24, 28.9% 25 to 44, 26.9% 45 to 64, and 13.0% 65 years of age or older. The median age is 38.9.

The median income for a household in the town is $35,063, and the median income for a family is $39,375. The per capita income for the town is $15,421. The total population living below the poverty level is 9.0%, 15.4% under the age of 18, and 9.7% 65 or older. The percent of families living below the poverty level is 4.5%.

Table 1.3.3-1: Population Changes in Faulkner County and Incorporated Jurisdictions Since 1990

	1990 Census	2000 Census	Percent Change 1990-2000	2005 Population Estimate	Percent Change 2000-2005	2027 Projection	Percent Change 2005-2027
Faulkner County	60,006	86,014	43.3	97,147	12.9	152,643	57.1
Conwa	26,481	43,167	63.0	51,999	20.5		
Damascus	246	306	24.4	314	2.6		
Enola	179	188	5.0	192	2.1		
Greenbrier	2,130	3,042	42.8	3,615	18.8		
Guy	241	202	-16.2	551	172.8		
Holland	0	577	-	595	3.1		
Mayflower	1,415	1,631	15.3	1,900	16.5		
Mount Vernon	192	144	-25.0	147	2.1		
Twin Groves	0	276	-	287	4.0		
Vilonia	1,133	2,106	85.9	2,719	29.1		
Wooster	414	516	24.6	665	28.9		
Unincorporated Faulkner County	26,943	33,145	23.0	33,422	0.8		

FAULKNER COUNTY SCHOOL INFORMATION

Conway Public School District 1 has 9 Elementary Schools 2 Middle and 2 High Schools

Full-Time Teachers: 500
Grade Span: K-12
College Bound Seniors: 22%
Number of Students: 8254
Discretionary Dollars Per-Pupil: $243

Greenbrier Public School has 2 Elementary, 1 Middle School, 1 Jr. High and 1 High School

Full-Time Teachers: 196
Grade Span: K-12
College Bound Seniors: 65%
Number of Students: 2503
Discretionary Dollars Per-Pupil: $320

Guy-Perkins School District has 1 Elementary and 1 High School

Full-Time Teachers: 35
Grade Span: K-12
College Bound Seniors: 75%
Number of Students: 415
Discretionary Dollars Per-Pupil: $482

Mayflower Public School District has 1 Elementary, 1 Middle School and 1 High School

Full-Time Teachers: 86
Grade Span: K-12
College Bound Seniors: 45%
Number of Students: 849
Discretionary Dollars Per-Pupil: $412

Mt. Vernon –Enola Schools District has 1 Elementary School and 1 High School

Full-Time Teachers: 39
Grade Span: K-12
College Bound Seniors: 50%
Number of Students: 470
Discretionary Dollars Per-Pupil: $452

Vilonia Public School District has 1 Elementary, 1 Middle School, 1 Jr. High and 1 High School

Full-Time Teachers: 176
Grade Span: K-12
College Bound Seniors: 50%
Number of Students: 2813
Discretionary Dollars Per-Pupil: $368

Places in Faulkner County

- Conway (County Seat)	city	Incorporated Area
- Damascus	town	Incorporated Area
- Enola	town	Incorporated Area
- Greenbrier	city	Incorporated Area
- Guy	town	Incorporated Area
- Holland	city	Incorporated Area
- Mayflower	city	Incorporated Area
- Mount Vernon	city	Incorporated Area
- Twin Groves	town	Incorporated Area
- Vilonia	town	Incorporated Area
- Wooster	town	Incorporated Area

Note: The above listing includes cities, towns, villages, and boroughs as per the US Census Bureau.

US Census Definitions:

Place: A concentration of population either legally bounded as an incorporated place, or identified as a Census Designated Place (CDP) including comunidades and zonas urbanas in Puerto Rico. Incorporated places have legal descriptions of borough (except in Alaska and New York), city, town (except in New England, New York, and Wisconsin), or village.

Incorporated Place: A type of governmental unit incorporated under state law as a city, town (except the New England states, New York, and Wisconsin), borough (except in Alaska and New York), or village and having legally prescribed limits, powers, and functions.

Other places in Faulkner County not listed by the US Census Bureau

- Barney
- Beryl
- Brumley
- Garland Springs
- Gleason
- Gold Creek
- Gold Lake Estates
- Gravesville
- Hammonsville
- Linder
- Lollie
- Martinville
- McGintytown
- Naylor
- Otto
- Pleasant Valley
- Preston
- Republican
- Saltillo
- Skunkhollow
- Springhill

1.3.4 Capability Assessment

The capability of Faulkner County's county and city governments to address mitigation issues was determined through the collection of "capability assessment" information about each jurisdiction. For each, it was determined if a jurisdiction had adopted ordinances implementing such mitigation-related activities as storm water management, stream management, zoning management, subdivision management and floodplain management. Information was also documented regarding the jurisdiction's participation in the floodplain management program, including its join date, NFIP number and maintenance of elevation certificates.

Determination of capability information about each jurisdiction also included its establishment of a land use plan and building codes and information about the various utility services provided, fire insurance rating (ISO), previous mitigation plans and actions, and flood insurance claims.

The Capability Assessment as Figure 1.4 for each jurisdiction is located below.

CAPABILITY ASSESSMENT FOR FAULKNER COUNTY

FIGURE 1.3

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	N/A		
Floodplain Management Last Delineation Date:	February, 2003		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:			
NFIP Community Number:	050431		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:			
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:			
Type of Building Codes:	See City Assessments on following pages		
Local Electric Utilities:	See City Assessments on following pages		
Local Water Treatment:	See City Assessments on following pages		
Local Water Distribution:	See City Assessments on following pages		
Local Wastewater Collection:	See City Assessments on following pages		
Local Wastewater Treatment:	See City Assessments on following pages		
Local Natural Gas Utilities:	See City Assessments on following pages		
Local Telephone Utilities:	See City Assessments on following pages		
TV, Cable:	See City Assessments on following pages		
Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	Varies, See Attached		
Fire Insurance Rating Date:			
Previous Mitigation Plans, Projects & Actions:			
Flood Insurance Claims:	(number)		

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY

FIGURE 1.3

City Name: Damascus

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	N/A		
Floodplain Management Last Delineation Date:	N/A		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	N/A		
NFIP Community Number:	N/A		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	N/A		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	July, 2006		
Type of Building Codes:	Residential & Commercial		
Local Electric Utilities:	Petit Jean Electric Co-op.		
Local Water Treatment:	Community Water System		
Local Water Distribution:	Damascus Water System		
Local Wastewater Collection:	N/A		
Local Wastewater Treatment:	N/A		
Local Natural Gas Utilities:	Center Point Energy/ARKLA		
Local Telephone Utilities:	Alltel		
TV, Cable:	OZComm Corp. -- Quitman Cable		
Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	9		
Fire Insurance Rating Date:	2000		
Previous Mitigation Plans, Projects & Actions:	N/A		
Flood Insurance Claims:	N/A	(number)	

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY FIGURE 1.3

City Name: Enola

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	9-27-91		
Floodplain Management Last Delineation Date:	2007		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	5-17-04		
NFIP Community Number:	05045C0100		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	N/A		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	None		

Type of Building Codes: N/A

Local Electric Utilities: N/A

Local Water Treatment: N/A

Local Water Distribution: N/A

Local Wastewater Collection: N/A

Local Wastewater Treatment: N/A

Local Natural Gas Utilities: N/A

Local Telephone Utilities: N/A

TV, Cable: N/A

Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	9		
Fire Insurance Rating Date:	1984		

Previous Mitigation Plans, Projects & Actions: ____________

Flood Insurance Claims: ____________ (number)

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY

FIGURE 1.3

City Name: Enola

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	9-27-91		
Floodplain Management Last Delineation Date:	2007		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	5-17-04		
NFIP Community Number:	05045C0100		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	N/A		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	None		

Type of Building Codes: N/A

Local Electric Utilities: N/A

Local Water Treatment: N/A

Local Water Distribution: N/A

Local Wastewater Collection: N/A

Local Wastewater Treatment: N/A

Local Natural Gas Utilities: N/A

Local Telephone Utilities: N/A

TV, Cable: N/A

Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	9		
Fire Insurance Rating Date:	1984		

Previous Mitigation Plans, Projects & Actions: ____________

Flood Insurance Claims: ____________ (number)

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY

FIGURE 1.3

City Name: Greenbrier

Adopted Storm Water Management Ordinances:	Yes	No
Adopted Stream Management Ordinances:	Yes	No
Adopted Zoning Management Ordinances:	Yes	No
Adopted Subdivision Management Ordinances:	Yes	No
Adopted Erosion Management Ordinances:	Yes	No
Adopted Floodplain Management Ordinances:	Yes	No
Floodplain Management Plan Published Date:	2003	
Floodplain Management Last Delineation Date:	March, 2005	
Elevation Certificates Maintained:	Yes	No
National Flood Insurance Program Community:	Yes	No
National Flood Insurance Join Date:	October, 1975	
NFIP Community Number:	050078	
FFIP Community Rating System Number:	N/A	
NFIP CRS Effective Date:	N/A	
Land Use Plan:	Yes	No
Land Use Plan Last Update:	June, 1995	
Community Zoned:	Yes	No
Established Building Codes:	Yes	No
Building Codes Last Updated:	2005	

Type of Building Codes: Ark. Fire Prevention Code, National Electrical Code, Arkansas Plumbing Code

Local Electric Utilities: Entergy

Local Water Treatment: Greenbrier Water

Local Water Distribution: Greenbrier Water

Local Wastewater Collection: Greenbrier Wastewater

Local Wastewater Treatment: Greenbrier Wastewater

Local Natural Gas Utilities: Center Point Energy

Local Telephone Utilities: Windstream

TV, Cable: Alliance Communications Network

Community has a Fire Insurance Rating:	Yes	No
Fire Insurance Rating:	6	
Fire Insurance Rating Date:	June, 2000	

Previous Mitigation Plans, Projects & Actions: None

Flood Insurance Claims: 0 (number)

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY FIGURE 1.3

City Name: Guy

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	N/A		
Floodplain Management Last Delineation Date:	N/A		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	N/A		
NFIP Community Number:	N/A		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	N/A		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	N/A		

Type of Building Codes: N/A

Local Electric Utilities: Petit Jean Electric Co-op.

Local Water Treatment: Community Water System

Local Water Distribution: Guy Waterworks

Local Wastewater Collection: N/A

Local Wastewater Treatment: N/A

Local Natural Gas Utilities: Center Point Energy

Local Telephone Utilities: Windstream Communication

TV, Cable: Clinton Cable Communications

Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	9		
Fire Insurance Rating Date:			

Previous Mitigation Plans, Projects & Actions: N/A

Flood Insurance Claims: N/A (number)

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY

FIGURE 1.3

City Name: Mayflower

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	N/A		
Floodplain Management Last Delineation Date:	N/A		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	N/A		
NFIP Community Number:	05045		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	1993		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	June 27, 2006		
Type of Building Codes:	Most recent International Codes		
Local Electric Utilities:	Entergy		
Local Water Treatment:	Community Water System		
Local Water Distribution:	Community Water System		
Local Wastewater Collection:	City of Mayflower		
Local Wastewater Treatment:	City of Mayflower		
Local Natural Gas Utilities:	Center Point Energy		
Local Telephone Utilities:	SBC & AT&T		
TV, Cable:	Rapid Cable		
Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	7		
Fire Insurance Rating Date:	2005		
Previous Mitigation Plans, Projects & Actions:	None		
Flood Insurance Claims:	0	(number)	

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY FIGURE 1.3

City Name: Vilonia

		Yes	No
Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	N/A		
Floodplain Management Last Delineation Date:	2006		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	1987		
NFIP Community Number:	050417		
FFIP Community Rating System Number:	05045C0155E		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	February,1998		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	1998		

Type of Building Codes: Electrical, Mechanical, Building & Plumbing

Local Electric Utilities: Entergy

Local Water Treatment: Vilonia Waterworks Assoc.

Local Water Distribution: Vilonia Waterworks Assoc.

Local Wastewater Collection: City of Vilonia Sewer Dept.

Local Wastewater Treatment: City of Vilonia Sewer Dept.

Local Natural Gas Utilities: Center Point Energy

Local Telephone Utilities: Windstream Communication

TV, Cable: Charter Communication

		Yes	No
Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	6		
Fire Insurance Rating Date:	1999		

Previous Mitigation Plans, Projects & Actions: Hired Full Time Fire Chief; Plans to build new sub station; and, but new pumper truck

Flood Insurance Claims: 0 (number)

CITY CAPABILITY ASSESSMENT FOR FAULKNER COUNTY

FIGURE 1.3

City Name: Wooster

Adopted Storm Water Management Ordinances:		Yes	No
Adopted Stream Management Ordinances:		Yes	No
Adopted Zoning Management Ordinances:		Yes	No
Adopted Subdivision Management Ordinances:		Yes	No
Adopted Erosion Management Ordinances:		Yes	No
Adopted Floodplain Management Ordinances:		Yes	No
Floodplain Management Plan Published Date:	N/A		
Floodplain Management Last Delineation Date:	N/A		
Elevation Certificates Maintained:		Yes	No
National Flood Insurance Program Community:		Yes	No
National Flood Insurance Join Date:	November, 1975		
NFIP Community Number:	050302		
FFIP Community Rating System Number:	N/A		
NFIP CRS Effective Date:	N/A		
Land Use Plan:		Yes	No
Land Use Plan Last Update:	December, 1996		
Community Zoned:		Yes	No
Established Building Codes:		Yes	No
Building Codes Last Updated:	July, 2006		
Type of Building Codes:	International Building & Fire Codes of 2002		
Local Electric Utilities:	Entergy		
Local Water Treatment:	Community Water System		
Local Water Distribution:	Wooster Water System		
Local Wastewater Collection:	N/A		
Local Wastewater Treatment:	N/A		
Local Natural Gas Utilities:	Center Point Energy		
Local Telephone Utilities:	Windstream		
TV, Cable:	Alliance Communications		
Community has a Fire Insurance Rating:		Yes	No
Fire Insurance Rating:	7		
Fire Insurance Rating Date:	1997		
Previous Mitigation Plans, Projects & Actions:	1995-1996		

Study in populated area of floodplain

Beaver Control Program, began March, 2004, on Little Greenbrier Creek

Flood Insurance Claims: N/A (number)

Formal

SECTION 2. PLAN ADOPTION

2.1. Multi-Jurisdictional Plan Adoption

IFR REQUIREMENT 201.6(c)(5):	[The local hazard mitigation plan shall include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).
Explanation:	Adoption by the local governing body demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in the plan. Adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities. The plan shall include a copy of the resolution adopting the plan.

Formal adoption and implementation of a hazard mitigation plan presents many benefits to Faulkner County and its residents. The County and each jurisdiction will adopt this plan in its entirety upon final approval from FEMA. The Faulkner County Hazard Mitigation Plan was reviewed and approved by the following Promulgation Authorities:

RESOLUTION NO. __________

(upon approval each jurisdiction will adopt and sign the resolution)

A RESOLUTION ADOPTING THE HAZARD MITIGATION PLAN FOR (City/County), ARKANSAS

WHEREAS, certain areas of ________**County/City** Arkansas, are subject to periodic flooding and other natural and man-caused hazards with the potential to cause damages to people's properties within the area; and

WHEREAS, _________**County/City** desires to prepare and mitigate for such circumstances; and

WHEREAS, under the Disaster Mitigation Act of 2000, the United States Federal Emergency Management Agency (FEMA) required that local jurisdictions have in place a FEMA- approved Hazard Mitigation Action Plan as a condition of receipt of certain future Federal mitigation funding after November 1, 2004; and

WHEREAS, to assist cities and counties in meeting this requirement, the **(County)** with the assistance of Central Arkansas Planning and Development District, has initiated development of a county wide, multi-jurisdiction Hazard Mitigation Plan the county and all jurisdictions in the county, specifically the cities and school districts;

NOW, THEREFORE, BE IT RESOLVED BY THE **City Council/Quorum Court**, OF THE ________**County/City,** Arkansas:

That ________**County/City,** Arkansas hereby adopts those portions of the Plan relating to and protecting its jurisdictional area against all hazards, and

Appoints the Emergency Management Director to assure that the Hazard Mitigation Plan be reviewed at least annually and that any needed adjustment to the Hazard Mitigation Plan be developed and presented to the governing board for consideration; and

Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

APPROVED and ADOPTED on this ____ day of ______, 20___.

APPROVED:

__________________________	_______________________	___________________
County Judge	Mayor	School Superintendent

ATTEST:

____

Secretary/Clerk

2.2 Multi-Jurisdictional Plan Adoption

In addition to unincorporated Saline County, the five cities, six (6) public schools, and three (3) universities within Faulkner County are included in this plan. The cities are Conway, Enola, Greenbrier, Guy, Mayflower, Mt. Vernon, Vilonia, Wooster, Twin Groves, Damascus, and Holland. The Public Schools are Conway, Guy-Perkins, Greenbrier, Mayflower, Vilonia, Mount Vernon/Enola. The Universities are: University of Central Arkansas, Central Baptist College, Hendrix University. The signatories for each of these jurisdictions are listed below.

The Faulkner County Hazard Mitigation Plan was reviewed and approved by the following Promulgation Authorities:

APPROVED BY:

Name: The Honorable Preston Scroggins
Title: County Judge
Organization: Faulkner County

Signature: ______________________________ Date: ________

Name: The Honorable Tab Townsell
Title: Mayor
Organization: City of Conway

Signature: ______________________________ Date: ________

Name: The Honorable Rick Goodnight
Title: Mayor
Organization: City of Enola

Signature: ______________________________ Date: ________

Name: The Honorable Melton Cotton
Title: Mayor
Organization: City of Greenbrier

Signature: ______________________________ Date: ________

Name: The Honorable Sam Higdon
Title: Mayor
Organization: City of Guy

Signature: ______________________________ Date: ________

Name: The Honorable Randy Holland
Title: Mayor
Organization: City of Mayflower

Signature: ______________________________   Date: ________

Name: The Honorable Ann Armstrong
Title: Mayor
Organization: City of Mt. Vernon

Signature: ______________________________   Date: ________

Name: The Honorable Ken Belote

Title: Mayor
Organization: City of Vilonia

Signature: ______________________________   Date: ________

Name: The Honorable Terry Robinson

Title: Mayor
Organization: City of Wooster

Signature: ______________________________   Date: ________

Name: The Honorable Theodore Brown, Jr.

Title: Mayor
Organization: City of Twin Groves

Signature: ______________________________   Date: ________

Name: The Honorable Leon Pavatt

Title: Mayor
Organization: City of Damascus

Signature: ______________________________   Date: ________

Name: The Honorable Jason Donham

Title: Mayor
Organization: City of Holland

Signature: ______________________________   Date: ________

Name: Mr. James Simmons

Title: Superintendent
Organization: Conway School District

Signature: ______________________________ Date: ________

Name: Dr. Frank Mitchell

Title: Superintendent
Organization: Vilonia School District

Signature: ______________________________ Date: ________

Name: Mr. John Mertens

Title: Superintendent
Organization: Greenbrier School District

Signature: ______________________________ Date: ________

Name: Mr. Kerry W. Saylors

Title: Superintendent
Organization: Mayflower School District

Signature: ______________________________ Date: ________

Name: Mr. John Gray

Title: Superintendent
Organization: Mayflower School District

Signature: ______________________________ Date: ________

Name: Sgt. Jeremy Crabb

Title: Commanding Officer
Organization: University of Central Arkansas

Signature: ______________________________ Date: ________

Name: Mr. Rick Sublett

Title: Chief of Public Safety
Organization: Hendrix University

Signature: ______________________________ Date: ________

Name: Ms. Sancy Faulk

Title: Vice President for Student Services
Organization: Central Baptist College

Signature: ______________________________   Date: ________

2.3 Contacts for Multi-Jurisdictional Plan

The Point of Contact listed below is the Chairperson and Director of the Planning Committee:

Leigh Ann Pool
Planner
Central Arkansas Planning & Dev.
P.O. Box 300
115 Jefferson St.
Lonoke, AR 72086
501-676-2721 (Office)
501-676-5020 (Fax)
leigh.pool@arkansas.gov

Secondary Point of Contact
Conya Spencer
501-676-2721
Central Arkansas Planning & Dev.

Faulkner County – The Point of Contact for information regarding this Jurisdiction is:

Judge Preston Scroggins
Faulkner County Courthouse
801 Locust Street
Conway, AR 72032
501-450-4900

City of Conway– The Point of Contact for information regarding this Jurisdiction is:
Mayor Tab Townsell
1201 Oak Street
Conway, AR 72032
501-450-6110

City of Enola – The Point of Contact for information regarding this Jurisdiction is:
Mayor Rick Goodnight
P.O. Box 97
Enola, AR 72047
501-849-2391

City of Greenbrier – The Point of Contact for information regarding this Jurisdiction is:
Mayor Melton Cotton
P. O. Box 415
Greenbrier, AR 72047
501-679-2422

City of Guy – The Point of Contact for information regarding this Jurisdiction is:
Mayor Sam Higdon

P.O. Box 12
Guy, AR 72061

City of Mayflower – The Point of Contact for information regarding this Jurisdiction is:
Mayor Randy Holland
P. O. Box 69
Mayflower, AR 72106

City of Mt. Vernon – The Point of Contact for information regarding this Jurisdiction is:
Mayor Ann Armstrong
P. O. Box 126
Mt. Vernon, AR 72111

City of Vilonia – The Point of Contact for information regarding this Jurisdiction is:
Mayor Ken Belote
City Hall, Box 188
Vilonia, AR 72173

City of Wooster – The Point of Contact for information regarding this Jurisdiction is:
Mayor Terry Robinson
P. O. Box 43
Wooster, AR 72181
501-679-2048

City of Twin Groves – The Point of Contact for information regarding this Jurisdiction is:
Mayor Theodore Brown,Jr.
10 Twin Grove Lane
Twin Groves, AR 72039
501-335-7733

City of Damascus – The Point of Contact for information regarding this Jurisdiction is:
Mayor Leon Pavatt
Hwy. 65 South
Box 309
Damascus, AR 72039
501-335-7321

City of Holland – The Point of Contact for information regarding this Jurisdiction is:
Mayor Jason Donham
P. O. Box 1117
Greenbrier, AR 72058
501-450-4935

Conway Public Schools - The Point of Contact for information regarding this Jurisdiction is:
Superintendent, Mr. James Simmons
2220 Prince Street
Conway, AR 72034
501-450-4800

Guy-Perkins Public Schools - The Point of Contact for information regarding this Jurisdiction is:
Superintendent, Mr. Kerry. W. Saylors
492 Highway 25 North
Guy, AR 72061
501-679-3509

Greenbrier Public Schools - The Point of Contact for information regarding this Jurisdiction is:
Superintendent, John M. Mertens
4 School Drive
Greenbrier, AR 72058
501-679-4808

Mayflower Public Schools - The Point of Contact for information regarding this Jurisdiction is:
Superintendent, Mr. John Gray
15 Old Sandy Road
Mayflower, AR 72106
501-470-0506

Mount Vernon/Enola Public Schools - The Point of Contact for information regarding this Jurisdiction is:
Superintendent, Mr. Ronnie Greer
38 Garland Springs Road
Mt. Vernon, AR 72111
501-849-2220

Vilonia Public Schools - The Point of Contact for information regarding this Jurisdiction is:
Superintendent, Dr. Frank Mitchell
11 Eagle Street
P. O. Box 160
Vilonia, AR 72173
501-796-2113

University of Central Arkansas - The Point of Contact for information regarding this Jurisdiction is:

Sergeant Jeremy Crabb, Commanding Officer
201 Donaghey Ave.
UCA P. O. Box 4994
Conway, AR 72035-4994
501-450-3111

Central Baptist College - The Point of Contact for information regarding this Jurisdiction is:

Sancy Faulk, Vice President for Student Services
1501 College Avenue
Conway, AR 72034
501-329-6872, ext. 169

Hendrix University - The Point of Contact for information regarding this Jurisdiction is:

Rick Sublett, Chief of Public Safety

501-450-7711

SECTION 3. PLANNING PROCESS

3.1. Multi-Jurisdictional Planning Participation

IFR REQUIREMENT 201.6(a)(3):	Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process … Statewide plans will not be accepted as multi-jurisdictional plans.
Explanation:	A multi-jurisdictional plan, as prepared by regional planning and development authorities (e.g., watershed/river basin commission), is acceptable as a Local Mitigation Plan under DMA 2000. However, those jurisdictions within the planning area that do not participate in its development will not be eligible for future mitigation project grant assistance from FEMA. Therefore, the plan **must** document how each jurisdiction requesting FEMA recognition of the plan participated in the planning process.

This Hazard Mitigation Plan is multi-jurisdictional with a planning area that includes all of unincorporated Faulkner County and eleven municipalities within the County including the City of Conway, City of Enola, City of Guy, City of Greenbrier, City of Mayflower, City of Mt. Vernon, City of Vilonia, City of Wooster, City of Twin Groves, City of Damascus and City of Holland. The following school districts in Faulkner County are also included in this plan: Conway School District, Vilonia School District, Greenbrier School District, Guy-Perkins School District and Mayflower School District. The participating universities are University of Central Arkansas (UCA), Hendrix University and Central Baptist College.

All nineteen jurisdictions listed above actively participated in the planning process from its inception. Each jurisdiction provided at least one representative to participate on the planning team, with larger jurisdictions providing more members. Planning team members actively participated in meetings, reviewed draft plans, solicited input from members of their communities, and ensured that all jurisdiction information was reflected in the plan. A description of the planning process, including a list of planning team members from each jurisdiction, is provided in Section 3.2. The following chart contains a table summarizing the types of participation for each jurisdiction.

Summarization of How Each Jurisdiction Participated in the Planning Process

Jurisdiction	Nature of Participation/Involvement
Faulkner County	Attended planning meeting; historical data submission, Completed City Assessment Forms, distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
City of Conway	Attended planning meetings; provided historical data,

(unincorporated)	completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Enola	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Guy	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Greenbrier	Attended planning meetings on; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Mayflower	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Mt. Vernon	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Vilonia	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Wooster	Attended planning meeting; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Twin Groves	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Damascus	Attended planning meetings; historical data submission,

	Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
City of Holland	Attended planning meetings; historical data submission, Completed City Assessment Forms, passed out Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from each mitigation planning meeting as well as opportunities to provide comments.
Conway School District	Met with the superintendent; distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
Vilonia School District	Met with the superintendent; distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
Greenbrier School District	Met with the superintendent on April 26, 2004 distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
Guy-Perkins School District	Met with the superintendent; distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
Mayflower School District	Met with the superintendent; distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
Mount Vernon/Enola School District	Met with the superintendent; distributed Household Natural Hazard Preparedness Questionnaires to citizens, participated in conference calls with CAPDD and received minutes from mitigation planning meetings as well as opportunities to provide comments.
University of Central Arkansas	Attended Planning Meetings; provided historical data submission; provided input relevant to the University regarding special needs assessments and actions
Hendrix University	Attended Planning Meetings; provided historical data submission; provided input relevant to the University regarding special needs assessments and actions
Central Arkansas Baptist College	Attended Planning Meetings; provided historical data submission; provided input relevant to the University regarding special needs assessments and actions

3.2. Documentation of the Planning Process

IFR REQUIREMENTS *201.6(b) and 201.6(c)(1):*	An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval; (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information. [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.
Explanation:	The description of the planning process **shall:** ▪ Indicate how the public (residents, businesses, and other interested parties) was given the opportunity to comment on the plan during the drafting stage and prior to plan approval (e.g., public meetings, Web pages, storefronts, toll-free telephone lines, etc.). ▪ Include a discussion of the opportunity provided for neighboring communities, agencies involved in hazard mitigation, and businesses, academia, and other relevant private and non-profit interests to be involved. ▪ Describe the review of any existing plans, studies, reports, and technical information and how these are incorporated into the plan. The plan **shall** document how the plan was prepared (e.g., the time period to complete the plan, the type and outcome of meetings), who was involved in the planning process (e.g., the composition of the planning team), and how the public was involved. The plan *should* also document how the planning team was formed and how each party represented contributed to the process. Ideally, the local mitigation planning team is composed of local, State, and Federal agency representatives, as well as community representatives, local business leaders, and educators.

The Faulkner County Hazard Mitigation Plan was developed in accordance with Section 322 local planning requirements of the Disaster Mitigation Act of 2000 as well as additional guidance provided by FEMA and the Arkansas Department of Emergency Management (ADEM). Plan development closely followed the methodology described in the FEMA Mitigation “How To” Series (FEMA 386 Series) publications. Faulkner County’s mitigation planning process was initiated in April 2003, when the County, through the efforts of the Faulkner County Office of Emergency Management (OEM), was awarded a Pre Disaster Mitigation Grant Program (PDM) grant by FEMA through ADEM. Shortly following the execution of the PDM grant agreement, Faulkner County negotiated a subcontract with Central Arkansas Planning and Development District to facilitate their mitigation planning efforts. Central Arkansas Planning and Development District led the planning effort.

Once participating cities and school districts for which the Faulkner County OEM is responsible formally agreed to participate, an initial planning team comprised of representatives from Faulkner County and each participating jurisdiction was organized. This initial team was instructed to solicit interested persons from their community to participate on the planning team. This solicitation led to the addition of several additional planning team members. The planning team members include representatives from county government, local city governments, public works officials, emergency management officials, fire districts, school districts and Central Arkansas Planning and Development District, Inc. staff. All participating jurisdictions actively participated in the planning process through soliciting input from their communities and participation in meetings. If a city or school district could not attend a meeting, all minutes and materials were mailed out to the jurisdiction. Cities such as Damascus and Twin Groves participated in conference calls before and after mitigation meetings since they were not always available to attend meetings. The Conway School District, Vilonia School District, Greenbrier School District, Guy-Perkins School District and Mayflower School District discussed mitigation actions, projects, and past hazard occurrences with CAPDD during conference calls. The County requested assistance from the community. Each jurisdiction was personally invited to attend. The newspapers were sent a news release for each of the meetings inviting the public to be included in the planning process. Additional input was requested through the Questionnaires. The public’s participation through information regarding past disasters and areas of need for mitigation project was very beneficial to the planning process. There were over 60 participants from the general public.

A list of planning team members is provided below.

Name	Title	Organization	Planning Role/Responsibility
Preston Scroggins	County Judge	Faulkner County	County Government; Mitigation Objectives
Tab Townsell	Mayor of Conway	City of Conway	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant; Planning and Zoning Issues related to Conway
Rick Goodnight	Mayor of Enola	City of Enola	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant; Planning and Zoning Issues related to Enola;
Melton Cotton	Mayor of Greenbrier	City of Greenbrier	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant; Planning and Zoning Issues related to Greenbrier;
Sam Higdon	Mayor of Guy	City of Guy	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant; Planning and Zoning Issues related to Guy
Randy Holland	Mayor of Mayflower	City of Mayflower	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant;

			Planning and Zoning Issues related to Mayflower
Ann Armstrong	Mayor of Mt. Vernon	City of Mt. Vernon	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant; Planning and Zoning Issues related to Mt. Vernon
Ken Belote	Mayor of Vilonia	City of Vilonia	Executive Administrator; Existing Plan Consultant; Planning and Zoning Issues related to Vilonia
Sergeant Jeremy Crabb	Commanding Officer	UCA	Hazards research; Mitigation, Liaison with other Universities/Colleges
Terry Robinson	Mayor of Wooster	City of Wooster	Executive Administrator; Existing Plan Consultant; Planning and Zoning Issues related to Wooster
Theodore Brown, Jr.	Mayor of Twin Groves	City of Twin Groves	Executive Administrator; Floodplain Mitigation; planning and zoning issues related to Twin Groves
Leon Pavatt	Mayor of Damascus	City of Damascus	Executive Administrator; Floodplain Mitigation; planning and zoning issues related to Damascus
Jason Donham	Mayor of Holland	City of Holland	Executive Administrator; Floodplain Mitigation; Existing Plan Consultant; Planning and Zoning Issues related to Holland;
Jason Donham	OEM Director	Faulkner County	Consultant on existing plans, Research assistance and hazards research
Mr. James Simmons	Superintendent	Conway School District	Hazards Research; Mitigation Measures for school; Public Awareness
Dr. Frank Mitchell	Superintendent	Vilonia School District	Hazards Research; Mitigation Measures for school; Public Awareness
Mr. John M. Mertens	Superintendent	Greenbrier School District	Hazards Research; Mitigation Measures for school; Public Awareness
Mr. Kerry W. Saylors	Superintendent	Guy-Perkins School District	Hazards Research; Mitigation Measures for school; Public Awareness
Mr. Mark N. Crowder	Superintendent	Mayflower School District	Hazards Research; Mitigation Measures for school; Public Awareness
Leigh Ann Pool	Program Manager	Central Arkansas Planning & Development District, Inc.	Planning Team Leader and Planning Coordinator; Mitigation Grants Administrator, Writing Plan, Hazards Research, Risk Assessment
Conya Spencer	Program Manager	Central Arkansas Planning & Development District, Inc.	Planning Team Leader and Planning Coordinator; Writing Plan, Hazards Research, Risk Assessment, GIS Specialist
Rachael Parker	Reporter	Log Cabin Democrat	Public Awareness and Past Disaster Research
Marie Wilson	Floodplain Manager	City of Wooster	Existing Documents; Floodplain mitigation
Raymond E. Akin	Street Superintendent	City of Greenbrier	Hazards Research; Mitigation, Preparedness and Response Planning; Code Enforcement, Floodplain Management for Greenbrier
Brian Tatum	Fire Department	City of Damascus	Hazards Research; Mitigation, Preparedness and Response Planning;

			Code Enforcement, Floodplain Management for Greenbrier
Jim Bell	OEM Director (retired)	Faulkner County	Consultant on existing plans, Research assistance and hazards research
Jack Sotallaro	Concerned Citizen		Public Awareness
Randy Nicholson	Public Works Director	Damascus	Hazards Research; Mitigation, Preparedness and Response Planning; Code Enforcement, Floodplain Management for Damascus
Danny Mahan	Fire Chief	Damascus Fire Department	Hazards Research; Mitigation, Preparedness and Response Planning; Code Enforcement for Damascus
Sgt. Jeremy Crabb	Commanding Officer	University of Central Arkansas	Hazards Research; Mitigation Preparedness and Response Planning; Code Enforcement
Mr. Rick Sublett	Chief of Public Safety	Hendrix University	Hazards Research; Mitigation Preparedness and Response Planning; Code Enforcement
Ms. Sancy Faulk	Vice President for Student Services	Central Baptist College	Hazards Research; Mitigation Preparedness and Response Planning

Included in this plan are sign-in sheets from the planning meetings.

- June 26, 2003 meeting was held in Lonoke with Mayors from Lonoke, Monroe, Faulkner, Faulkner, Saline and Pulaski County. These were the first of the meetings familiarizing the Mayors with the need and process of developing the Plans.
- December 4, 2003 meeting was held in Lonoke with the Mayors from Lonoke, Monroe, Faulkner, Faulkner, Saline and Pulaski County. This too was a meeting in the beginning of the process.
- March 25, 2004 meeting with District Board to discuss methods used across the state for devising Plans.
- February 21, 2007 Planning Meeting: City of Enola, Greenbrier, Mayflower, Mt. Vernon, Twin Groves

During the months of April through December 2003, the proposed planning effort was described to eligible local jurisdictions. Jurisdictions began soliciting interest from their communities and selecting planning team members. Planning meetings between Faulkner County Planning Team Leaders and Central Arkansas Planning and Development District, Inc. staff were held January through March 2004 to discuss specific requirements and scope of the plan. Preliminary background research on hazards that might affect Faulkner County was conducted over several months. Public notices were published in the local papers as well as fliers requesting public input and soliciting interested parties to respond.

The Central Arkansas Planning and Development District also utilized technical assistance provided by the Arkansas Department of Emergency Management (ADEM) by receiving training at workshops provided by ADEM. The first workshop was on September 15, 2003 at the University of Arkansas at Little Rock. This workshop lasted until September 19th and meeting instructors included: Dr. Jeff Connelly – UALR, Jay Simms – UALR, Rusti Line – GEOFemme, Mary Sharp – GEOFemme, Dan Cicirello – ADEM, and Fulton Wold – Visual

Risk. The second training that Central Arkansas Planning and Development attended was on August 2, 2004, and the meeting was also at the University of Arkansas at Little Rock. This meeting was for training on the Mitigation Plan. At this workshop, the guidelines for the mitigation plan were discussed as well as training for entering data and how to locate and research the data needed for the mitigation plan. It was stressed to have public involvement and to work together with cities, schools, and county.

Planning meetings were held throughout the planning process. The meetings were open to the public. Household Natural Hazards Preparedness Questionnaires were solicited through advertisement in the local newspaper and were provided to the public through the planning team. Fliers were available to each jurisdiction to be posted soliciting comments from the public during the drafting stage and again notifying the public that the plan was available for public review and comments. These meetings provided the general public, (from Faulkner County and neighboring communities), local and regional agencies, businesses, academia, nonprofits input at the beginning, first draft and final stages of the planning process.

FAULKNER COUNTY
HAZARD MITIGATION PLAN
PLANNING MEETINGS AND ANNOUNCEMENTS

September 15-17, 2003	Planning Meeting: University of Arkansas at Little Rock
June 26, 2003	Planning Meeting: Central Arkansas Planning & Dev. Dist.
December 4, 2003	Planning Meeting: Central Arkansas Planning & Dev. Dist.
February 5, 2004	Planning Meeting: University of Arkansas at Little Rock
March 2, 2004	Planning Meeting: Faulkner Co. Judge's Office
March 26, 2004	Planning Meeting: University of Arkansas at Little Rock
April 12, 2004	Planning Meeting: Twin Groves
April 22, 2004	Planning Meeting: Greenbrier City Hall
April 26, 2004	Planning Meeting: Follow-up Calls
May 6, 2004	Planning Meeting: City of Conway, Fire Dept.
August 2-6, 2004	Planning Meeting: University of Arkansas at Little Rock
August 23, 2004	Planning Meeting: City of Vilonia
August 31, 2004	Planning Meeting: Central Arkansas Planning & Dev. Dist.
November 3, 2004	Planning Meeting: City of Holland
February 8-9, 2005	Planning Meeting: ADEM
February 8, 2007	Planning Meeting: Greenbrier City Hall
February 9, 2007	Planning Meeting: City of Vilonia

February 12, 2007	Planning Meeting: University of Central Arkansas, Hendrix University and Central Baptist College
February 20, 2007	Planning Meeting: Follow-up calls
February 21, 2007	Planning Meeting: City of Enola, Greenbrier, Mayflower, Mt. Vernon, Twin Groves

The following "News Release" was distributed before each meeting.

NEWS RELEASE

The Faulkner County Mitigation Committee will be meeting to discuss the Faulkner County Multi-Jurisdictional Pre-Disaster Mitigation Plan. All members of the public, local and regional agencies, businesses, academia, nonprofits and all other interested parties are encouraged to attend. Your input is valuable for the success of this Plan.

The meeting will be held at ______(location)____
at __(time)__
on __(date)_.

Should you have any questions or need information regarding the meeting, please contact Leigh Ann Pool or Conya Spencer at 501-676-2721.

This is an article published in the local paper.

Local	To subscribe call (501)

County Mitigation Committee seeking new members, input

The Faulkner County Mitigation Committee is seeking new members and input from county communities.

A meeting will be at 7 p.m. Thursday at the Greenbrier Municipal Building at 11 Wilson Farm Road.

Faulkner County has contracted with Leigh Ann Covington and Conya Spencer of Central Arkansas Planning and Development District to organize and develop the pre-disaster hazard mitigation plan for Faulkner County and all the communities within its boundaries. The steering committee is made up of a representative from the county and a representative from each of the cities. The purpose of the mitigation plan is to prepare for the future to reduce the impact of a natural disaster.

The steering committee is looking for members for the mitigation committee who are willing to support the mitigation planning process as well as those with access to financial and/or technical resources. Those who may consider being involved would be neighborhood associations, housing organizations, local environmental groups, historical preservation groups and the local American Red Cross.

To share input for the plan, fill out a questionnaire that is being distributed by city officials or call the Central Arkansas Planning and Development office at 1-877-428-5888 to receive a copy of the questionnaire.

Anyone interested in participating may call Covington or Spencer at 1-877-428-5888.

PUBLIC NOTICE

The Hazard Mitigation Plan developed by Faulkner County will be used to assess the significant natural hazards that may affect the county and its inhabitants, evaluate and include ongoing mitigation activities and related programs in the community, determine additional mitigation measures that should be undertaken, and to outline a strategy for implementation of mitigation projects. In addition, this plan has been developed to identify community policies, actions, and tools for implementation over the long term resulting in reduction in future losses community-wide.

Interested parties are asked to attend a Public Meeting to be held Thursday, February 8th 2007 at 5:00 pm at the Greenbrier City Hall Meeting Room located at 11 Wilson Farm Road in Greenbrier, Arkansas

Also, questions about the Plan may be referred to the Central Planning & Development District by telephone at 501-676-2721 or by fax at 501-676-5020

PUBLIC NOTICE

The Hazard Mitigation Plan is being developed by Faulkner County to assess the significant natural hazards that may affect the county and its inhabitants, evaluate and include ongoing mitigation activities and related programs in the community, determine additional mitigation measures that should be undertaken, and to outline a strategy for implementation of mitigation projects. In addition, this plan is being developed to identify community policies, actions, and tools for implementation over the long term resulting in reduction in future losses community-wide.

Interested parties may provide comments at the local Mayors office or County Courthouse. Questions about the Plan may be referred to the Central Planning & Development District by telephone at 501-676-2721 or by fax at 501-676-5020.

Tally Sheet - Faulkner Co.

Household Natural Hazards Preparedness Questionnaire

Thank you for taking the time to answer this questionnaire and participating in the Faulkner County Pre-Disaster Mitigation Plan. This questionnaire is designed to help Faulkner County gauge household preparedness for disasters and knowledge of tools and techniques that assist in reducing risk and loss from natural hazards. The information you provide about your needs for disaster preparedness will help improve public/private coordination of preparedness and risk reduction activities within the state. We ask that you please take a few minutes to complete this questionnaire.

NATURAL HAZARD INFORMATION

1. In the past five years, have you or someone in your household experienced a natural disaster such as an earthquake, severe windstorm, flood, wildfire, or other type of natural disaster?

   ☐ Yes (24)
   ☐ No (IF NO Skip to Question 2) (32)

   1.1 If ("YES"), which of these natural disasters have you or someone in you household experienced? (Please check all that apply)

   ☐ Drought (1)
   ☐ Dust Storm (1)
   ☐ Earthquake (8)
   ☐ Flood (6)

   ☐ Landslide / Debris Flow (0)

   ☐ Wildfire (3)
   ☐ Household Fire (2)
   ☐ Wind Storm (12)
   ☐ Winter Storm (12)
   ☐ Tornados (1)
   ☐ Other (Specify) ____________________

2. How concerned are you personally about the following disasters effecting Faulkner County? (Circle the corresponding number for each hazard)

Natural Disaster	Extremely Concerned	Very Concerned	Concerned	Somewhat Concerned	Not Concerned
Drought	1 (2)	2 (2)	3 (9)	4 (11)	5 (20)
Dust Storm	1 (1)	2 (0)	3 (4)	4 (10)	5 (13)
Earthquake	1 (4)	2 (8)	3 (7)	4 (20)	5 (16)
Flood	1 (6)	2 (7)	3 (14)	4 (10)	5 (18)
Landslide/Debris Flow	1 (4)	2 (2)	3 (7)	4 (8)	5 (33)
Wildfire	1 (6)	2 (12)	3 (20)	4 (9)	5 (7)
Household Fire	1 (16)	2 (12)	3 (19)	4 (7)	5 (2)
Wind Storm	1 (10)	2 (10)	3 (15)	4 (14)	5 (8)
Winter Storm	1 (7)	2 (7)	3 (22)	4 (11)	5 (5)
Tronade	1 (4)	2 (1)	3 (1)	4 (5)	5 (8)

3. Have you ever received information about how to make your family and home safer from natural disasters?

   ☐ Yes (15)

☐ No (IF NO Skip to Question 4) (40)

3.1 If "YES", how recently?

☐ Within the last 6 months (4)
☐ Between 6 and 12 months (3)
☐ Between 1 and 2 years (6)
☐ Between 2 and 5 years (1)
☐ 5 years or more (1)

3.2 From whom did you **last** receive information about how to make your family and home safer from natural disasters? **(Please check only one)**

☐ New Media (7)
☐ Government Agency (2)
☐ Insurance Agent or Company (3)
☐ Utility Company (2)
☐ ADEM-Arkansas Dept. of Emergency Management (4)
☐ Other _Fire Department______________(2)
☐ American Red Cross (1)
☐ Other non-profit Organization 2
☐ Not Sure (4)
☐ FEMA (1)

4. Who would you most trust to provide you with information about how to make your family and home safer from natural disasters? **(Please check all that apply)**

☐ New Media (8)
☐ Government Agency (9)
☐ Insurance Agent or Company (16)
☐ Utility Company
☐ ADEM-Arkansas Dept. of Emergency Management (28)
☐ Other _____________TV_____(1)
☐ American Red Cross (19)
☐ Other non-profit Organization (4)
☐ Not Sure (7)
☐ FEMA (15)
☐ (Fire Dept) (1)

5. What is the most effective way for you to receive information about how to make your family and home safer from natural disasters? **(Please check all that apply)**

Newspapers:

Other Methods:

- ☐ Newspaper stories (21)
- ☐ Newspaper ads (9)

Television:

- ☐ Television news (37)
- ☐ Television ads (10)

Radio:

- ☐ Radio news (22)
- ☐ Radio ads (9)
- ☐ Schools (10)
- ☐ Outdoor advertisements (5)
- ☐ Books (5)
- ☐ Mail (25)
- ☐ Fire Department/Rescue (29)
- ☐ Internet (9)
- ☐ Fact Sheet/Brochure (16)
- ☐ Chamber of Commerce (3)
- ☐ Public workshop/meetings (13)
- ☐ Magazine (3)
- ☐ Academic Institutions (3)
- ☐ Other (Please explain) (1)

Town Meetings

6. To assist in communicating information about how to better prepare for a natural disaster, which of the following phrases do you think is the easiest to understand? **(Please check only one)**

- ☐ Natural disaster readiness (20)
- ☐ Disaster preparedness (18)
- ☐ Emergency preparedness (18)
- ☐ Natural hazard risk reduction (2)
- ☐ Other, please explain (1) Calamity Mitigation Protocal

There are many things that you can do to prepare for a natural disaster or emergency event. What you have on hand when a disaster strikes, or are trained to do when a disaster strikes can make a big difference for your comfort and safety in the hours and days following the disaster, whether it is a natural disaster or other emergency. Basic services, such as electricity, gas, water and telephones, may be cut off, or you may have to evacuate at a moment's notice. The following questions focus on your household's preparedness for disaster events.

7. In the following list, please check those activities that you have done in your household, plan to do in the near future, have not done, or are unable to do. **(Please check one answer for each preparedness activity)**

In your household, have you or someone in your household:

Preparedness activity	Have Done	Plan To Do	Not Done	Unable To Do
A. Attended meetings or received written information on natural disasters or emergency preparedness?	☐ (20)	☐ (5)	☐ (30)	☐ (0)
B. Talked with members in your household about what to do in case of a natural disaster or emergency?	☐ (31)	☐ (9)	☐ (15)	☐ (1)
C. Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a household emergency?	☐ (26)	☐ (12)	☐ (20)	☐ (0)
D. Prepared a "Disaster Supply Kit" (Stored extra food, water, batteries, or other emergency supplies)?	☐ (11)	☐ (19)	☐ (30)	☐ (0)
E. In the last year, has anyone in your household trained in first aid or Cardio-Pulmonary Resuscitation (CPR)?	☐ (29)	☐ (5)	☐ (28)	☐ (0)

8. Building a disaster supply kit, receiving first aid training and developing a household/family emergency plan are inexpensive activities that require a personal time commitment. How much time (per year) are you willing to spend on preparing your self/household for a natural disaster or emergency event? **(Check only one)**

☐ 0-1 hour (11)

☐ 2-3 hours (16)

☐ 16+ hours (9)

☐ Other (please explain) (6)

☐ 4-7 hours (5)   When I have Time

9. What steps, if any, have you or someone in you household taken to prepare for a natural disaster?

(Check all that apply)

Have stored or stocked up on:

☐ Food (21)
☐ Prepared a Disaster Supply Kit (2)
☐ Water (17)
☐ Received First Aid/CPR Training (26)
☐ Flashlight(s) (25)
☐ Made a fire escape plan (20)
☐ Batteries (22)
☐ Developed a reconnection plan: Where to go and who to call (8)
☐ Battery-powered radio (22)
☐ Medical Supplies (First aid kit) (29)
☐ Discussed utility cutoffs (6)
☐ Fire extinguisher (29)
☐ Other (please explain) (2) ________________________
☐ Smoke detector on each level of the house (34)

10. Does your household have insurance coverage for flood events?

☐ Yes (If you answered YES, skip to Question 11 (11)
☐ No (45)

10.1 If "NO", what is the main reason your household does not have insurance for flood events?

(Please check only one)

☐ Not located in the floodplain 24 (1)

☐ Deductibles too high/not worth it

☐ Too expensive (5)

☐ Not familiar with it (5)

☐ Not necessary (6)

☐ Other (0)____________________

☐ Never considered it (2)

11. Does your household have insurance coverage for earthquake events?

☐ Not available (4)

☐ Deductibles too high/not worth it (1)

☐ Too expensive (9)

☐ Not familiar with it (11)

☐ Not necessary (5)

☐ Other (0)____________________

☐ Never considered it (12)

☐ Every homeowner needs a storm shelter (5)

NATURAL HAZARD RISK REDUCTION

Risk reduction activities are those activities you can take to protect your home from natural hazard events, such as earthquakes, floods or wildfires. You can do nonstructural modifications or retrofits to protect your home's contents against damage, often at minimal cost. You can also conduct structural retrofits to strengthen your home's structure or skeleton, although modifications to a structure tend to be quite involved and generally require the expertise of a registered design professional (engineer, architect or building contractor).

12. Did you consider the possible occurrence of a natural hazard when you bought/moved into your current home?

☐ Yes (16)

☐ No (38)

13. Would you be willing to spend more money on a home that had features that made it more disaster resistant?

☐ Yes (31)

☐ No (25)

14. How much more money are you willing to spend to better protect you family and home from natural disasters? **(Check only one)**

- ☐ $5000 and above (4)
- ☐ $2500 - $4999 (2)
- ☐ $1000 - $2499 (6)
- ☐ $500 - $999 (2)
- ☐ $100 - $499 (7)
- ☐ Less $100 (0)
- ☐ Nothing (3)
- ☐ Don't know (29)
- ☐ Other, please explain (2)

Every home owner needs a storm shelter

Question 15 includes nonstructural and structural modifications that make your home more resistant to earthquakes. There are many measures that can be taken for other natural hazards, such as wildfires and floods.

15. What nonstructural or structural modifications for earthquakes have you made to your home?

Nonstructural:

- ☐ Anchor bookcases, cabinets to wall (4)
- ☐ Secure water heater to wall (7)
- ☐ Install latches on drawers/cabinets (1)
- ☐ Fit gas appliances with flexible connections (8)
- ☐ Others (please explain)

concrete

____

Structural:

- ☐ Secure home to foundation (12)
- ☐ Brace inside of cripple wall with sheathing (0)
- ☐ Brace unreinforced chimney (2)
- ☐ Brace unreinforced masonry & walls and foundations (0)
- ☐ Others (please explain) (6)

____

16. Which of the following incentives, if any, would motivate you to take additional steps to better protect you family and home from a natural disaster? **(Check all that apply)**

- ☐ Insurance discount (41)
- ☐ Low interest rate loan (19)
- ☐ Lower new home construction costs (11)
- ☐ Tax break or incentive (41)
- ☐ None (7)
- ☐ Other (please explain)

☐ Mortgage discount (18) ______________________________

17. Please indicate your age:

☐ 20's (7)
☐ 30's (10)
☐ 40's (17)
☐ 50's (12)
☐ 60's (8)
☐ 70's (1)
☐ 80's (0)

18. Gender

☐ Male (28)
☐ Female (26)

19. Please indicate your level of education:

☐ Grade school/no schooling (0)
☐ Some high school (2)
☐ High school graduate/GED (22)
☐ Some college/Trade school (21)
☐ College degree (9)
☐ Postgraduate degree (1)
☐ Other (0)

20: Zip code:

☐ 72181 (2)
☐ 72058 (16)
☐ 72023 (7)
☐ 72047 (9)
☐ 72106 (8)
☐ 72034 (2)
☐ 72039 (3)
☐ 72173 (5)
☐ 72061 (6)

21. Community/City:

☐ Wooster (3)
☐ Damascus (3)

☐ Greenbriar (7)
☐ Vilonia (5)
☐ Conway (9)
☐ Guy (13)
☐ Enola (9)
☐ Mayflower (9)

2. How long have you lived in Faulkner County?

☐ Less than one year (0)
☐ 1-5 years (5)
☐ 5-9 years (7)
☐ 10-19 years (9)
☐ 20 or more years (34)

23. If you have lived in Faulkner County less than 20 years, in what state/county did you live before you moved to Faulkner County?

☐ Yell County (1)
☐ Garland County (1)
☐ Polk County (1)
☐ Conway County (7)
☐ Texas (1)
☐ Alabama (3)
☐ Lonoke County (1)
☐ Van Buren County (1)
☐ Phillips County (1)
☐ Wisconsin (1)

24. Do you have access to the Internet or World Wide Web?

☐ Yes (46)
☐ No (11)

25. Do you own or rent your home?

☐ Own (52)
☐ Rent (5)

26. Do you rent/own a:

- ☐ Single-family home (44)
- ☐ Duplex (0)
- ☐ Apartment (3-4 units in structure) (0)
- ☐ Apartment (5 or more units in structure) (0)
- ☐ Condominium/Town house (0)
- ☐ Manufactured home (8)
- ☐ Other ______________________

Other Comments:

THANK YOU VERY MUCH FOR PROVIDING THIS INFORMATION

Central Arkansas Planning and Development District prepared this survey for the Faulkner County Pre-Disaster Mitigation Planning Committee.

For more information on the Faulkner County Pre-Disaster Plan or this survey, please contact Leigh Ann Covington or Conya Spencer at CAPDD, Post Office Box 300, Lonoke, Arkansas 72086 or call at 501-374-4669 or 1-877-428-5888. email: leigh.covington@arkansas.gov

www.fema.gov

www.adem.state.ar.us

In addition to the Faulkner County Hazard Mitigation Planning meetings, several planning meetings were held with the entire planning team at various stages of the planning process, and numerous meetings with sub-groups of the planning team were held (not all members were asked to attend all meetings as many meetings focused on issues relevant to only certain jurisdictions or topics). Sign-in sheets, where applicable, are provided below. Some meetings were held one on one and sign-in sheets were not acquired.

CENTRAL ARKANSAS PLANNING DEVELOPMENT DIST., INC.

BOARD OF DIRECTORS

Guest Please Sign On Bottom or Next Page

TRAVEL - INKIND

DATE: 6/26/03

SIGNATURE	BOARD MEMBER	RESIDENCE	TRIP TO LONOKE	31 CENTS PER MILE	COUNTY
Butch Calhoun	BUTCH CALHOUN	DES ARC	76	$26.22	PRAIRIE
proxy	BYRUM KELLY	HAZEN	40	$13.80	PRAIRIE
proxy	JIM GARTH	DES ARC	76	$26.22	PRAIRIE
Jerry Surratt	JERRY SURRATT	DEVALLS BLUFF	52	$17.94	PRAIRIE
	TOM CATLETT	CLARENDON	90	$31.05	MONROE
Leonard Cole	LEONARD COLE	CLARENDON	90	$31.05	MONROE
Billy Clay	BILLY CLAY	BRINKELY	93	$32.09	MONROE
proxy	WALLY SHAW	BRINKLEY	93	$32.09	MONROE
Charlie Troutman	CHARLIE TROUTMAN	CABOT	40	$13.80	LONOKE
proxy Andrea Allen	MICKEY STUMBAUGH	CABOT	40	$13.80	LONOKE
	WILLIAM L. EVANS	LONOKE	1	$0.35	LONOKE
	JOE BRYANT	ALLPORT	52	$17.94	LONOKE
Lloyd Westbrook	LLOYD WESTBROOK	CONWAY	104	$35.88	FAULKNER
John Wayne Carter	JOHN W. CARTER	CONWAY	104	$35.88	FAULKNER
	BOBBY RAY	CONWAY	104	$35.88	FAULKNER
	TAB TOWNSELL	CONWAY	104	$35.88	FAULKNER
	JIM DAILEY	LITTLE ROCK	52	$17.94	PULASKI
Tommy Swaim	TOMMY SWAIM	JACKSONVILLE	40	$13.80	PULASKI
	BOB BUTLER	LITTLE ROCK	52	$17.94	PULASKI
proxy Buddy Villines	BUDDY VILLINES	LITTLE ROCK	52	$17.94	PULASKI
proxy TODD LARSON	PATRICK HAYS	N. LITTLE ROCK	50	$17.25	PULASKI
Johnnie L. Mass	JOHNNIE MASS	N. LITTLE ROCK	50	$17.25	PULASKI
	LANNY E. FITE	BENTON	100	$34.50	SALINE
Rick Holland	RICK HOLLAND	BENTON	100	$34.50	SALINE
Leon Stamps	LEON STAMPS	BENTON	100	$34.50	SALINE
	ROY BISHOP	BRYANT	85	$29.33	SALINE

CENTRAL ARKANSAS PLANNING DEVELOPMENT DIST., INC.

Brandy Andrews	Brandy Andrews - Leader Newspaper				
Gene Higginbotham	Senator Pryor's Office				
Don Noble	Senator Pryor Office				
Jim Pitcock -	Senator Pryor's Office				
Joanne Haltom					
Paul Murray					
Leigh A Cuff	CAPDD				
Donna Christie	CAPDD				
Tina Roush					

CENTRAL ARKANSAS PLANNING DEVELOPMENT DIST., INC

BOARD OF DIRECTORS

TRAVEL - INKIND

Guest Please Sign On Bottom or Next Page

DATE: 12-4-03

	BOARD MEMBER	RESIDENCE	[illegible]	[illegible]	[illegible]
Butch Calhoun	**BUTCH CALHOUN**	**DES ARC**	**76**	**$26.22**	**PRAIRIE**
proxy	BYRUM KELLY	HAZEN	40	$13.80	PRAIRIE
Proxy	JIM GARTH	DES ARC	76	$26.22	PRAIRIE
Jerry Surratt	JERRY SURRATT	DEVALLS BLUFF	52	$17.94	PRAIRIE
Tom Catlett	TOM CATLETT	CLARENDON	90	$31.05	MONROE
Leonard Cole	LEONARD COLE	CLARENDON	90	$31.05	MONROE
proxy	BILLY CLAY	BRINKELY	93	$32.09	MONROE
proxy	WALLY SHAW	BRINKLEY	93	$32.09	MONROE
Charlie Troutman	CHARLIE TROUTMAN	CABOT	40	$13.80	LONOKE
proxy Andrea Allen	MICKEY STUMBAUGH	CABOT	40	$13.80	LONOKE
	JOE BRYANT	ALLPORT	52	$17.94	LONOKE
Lloyd Westbrook	LLOYD WESTBROOK	CONWAY	104	$35.88	FAULKNER
John Wayne Carter	JOHN W. CARTER	CONWAY	104	$35.88	FAULKNER
	BOBBY RAY	CONWAY	104	$35.88	FAULKNER
	TAB TOWNSELL	CONWAY	104	$35.88	FAULKNER
	JIM DAILEY	LITTLE ROCK	52	$17.94	PULASKI
Tommy Swaim	TOMMY SWAIM	JACKSONVILLE	40	$13.80	PULASKI
M. J. Butler	BOB BUTLER	LITTLE ROCK	52	$17.94	PULASKI
proxy	BUDDY VILLINES	LITTLE ROCK	52	$17.94	PULASKI
proxy [illegible]	PATRICK HAYS	N. LITTLE ROCK	50	$17.25	PULASKI
Johnnie L. Mass	JOHNNIE MASS	N. LITTLE ROCK	50	$17.25	PULASKI
	LANNY E. FITE	BENTON	100	$34.50	SALINE
Rick Holland	**RICK HOLLAND**	BENTON	100	$34.50	SALINE
Leon Stamps	**LEON STAMPS**	**BENTON**	**100**	**$34.50**	**SALINE**
Paul B. Halley	**PUAL HALLEY**	**BRYANT**	**85**	**$29.33**	**SALINE**

CENTRAL ARKANSAS PLANNING DEVELOPMENT DIST., INC.

Leigh Ann Coughlin					
[illegible]					
Tanya Searcy	Pulaski & Saline				
Joy Ballard	Saline Co. Judge's Ofc				
Ed Albares	City of Benton				
[illegible]	City OF CABOT				
Jannie Haltom	CAPDD				
Paul Murray	CAPDD				

CENTRAL ARKANSAS PLANNING DEVELOPMENT DIST., INC.

BOARD OF DIRECTORS

TRAVEL - INKIND

Guest Please Sign On Bottom or Next Page

DATE: 3-25-04

SIGNATURE	BOARD MEMBER	RESIDENCE	TRIP TO LONOKE	34.4 Cents PER MILE	COUNTY
Butch Calhoun	BUTCH CALHOUN	DES ARC	76	$26.22	PRAIRIE
proxy	BYRUM KELLY	HAZEN	40	$13.80	PRAIRIE
proxy	JIM GARTH	DES ARC	76	$26.22	PRAIRIE
proxy	JERRY SURRATT	DEVALLS BLUFF	52	$17.94	PRAIRIE
Tom Catlett	TOM CATLETT	CLARENDON	90	$31.05	MONROE
Leonard Cole	LEONARD COLE	CLARENDON	90	$31.05	MONROE
	BILLY CLAY	BRINKELY	93	$32.09	MONROE
	WALLY SHAW	BRINKLEY	93	$32.09	MONROE
	CHARLIE TROUTMAN	CABOT	40	$13.80	LONOKE
Andrea Allen	MICKEY STUMBAUGH	CABOT	40	$13.80	LONOKE
	JOE BRYANT	ALLPORT	52	$17.94	LONOKE
Lloyd Westbrook	LLOYD WESTBROOK	CONWAY	104	$35.88	FAULKNER
	JOHN W. CARTER	CONWAY	104	$35.88	FAULKNER
	BOBBY RAY	CONWAY	104	$35.88	FAULKNER
	TAB TOWNSELL	CONWAY	104	$35.88	FAULKNER
	JIM DAILEY	LITTLE ROCK	52	$17.94	PULASKI
proxy Marie Green	TOMMY SWAIM	JACKSONVILLE	40	$13.80	PULASKI
	BOB BUTLER	LITTLE ROCK	52	$17.94	PULASKI
proxy Sherman Smith	BUDDY VILLINES	LITTLE ROCK	52	$17.94	PULASKI
proxy [illegible]	PATRICK HAYS	N. LITTLE ROCK	50	$17.25	PULASKI
Johnnie L. Mass	JOHNNIE MASS	N. LITTLE ROCK	50	$17.25	PULASKI
	LANNY E. FITE	BENTON	100	$34.50	SALINE
Rick Holland	RICK HOLLAND	BENTON	100	$34.50	SALINE
Leon Stamps	LEON STAMPS	BENTON	100	$34.50	SALINE
Paul M. Halley	PUAL HALLEY	BRYANT	85	$29.33	SALINE

CENTRAL ARKANSAS PLANNING DEVELOPMENT DIST., INC.

Donna [illegible]					
GENE HIGGINBOTHAM	SENATOR MARK PRYOR				
Ed Albares	City of Benton				
RICHARD T. PENN	BRYANT				
[illegible]	CAPDD				

PRE-Disaster Mitigation Plan
ATTENDANCE ROSTER

DATE: March 2, 2004
LOCATION: Faulkner County – Judge's Office

	Business Name	Name	Address	Phone
1.	Damascus Water	Randy Nicholson	P.O. Box 309 Damascus	(501) 335-7321
2.	City of Vilonia	Preston Scroggin	Po Box 188 Vilonia	501-796-2534
3.	City of WOOSTER	GERALD A BOYER	15 BROOKSIDE DR WOOSTER AR 72181	472-5550 679-8643
4.	City of Wooster	MARIE Wilson	P.O Box 43 Wooster 72181	679-7504
5.	City of wooster	E. F. McMillen	22 mcmillen Rd. Greenbrier, AR. 72058	501-679-2275
6.	City of Twin Groves	Cornelius Tyus	1458 Hwy 65 N Twin Grove ark	501-335-7578
7.	City of ENOLA	Rick Goodnight	PO Box #97 ENOLA	501-849-2391
8.	Faulkner County OEM	TORi Hamrick	801 LOCUST CONWAY AR 72034	450-4935
9.	Town of Damascus	Steve Carrell	P.O. BOX 309 DAMASCUS AR 72039	501-335-7321
10.	CITY OF MT. VERNON ~~Angelina Armstrong~~	Angelina Armstrong	P.O. 186 MT. VERNON, AR 72111	501-849-2323
11.	City of Mayflower	FRANK PEARCE	P.O. Box 69 Mayflower, AR 72106	501-470-1337
12.	JASON C. DONHAM CITY of HOLLAND	[illegible]	72 JACKSON RD HOLLAND, AR 72173	501-849-3096
13.	City of Guy	Rebecca Hileman	PO Box 12, Guy, AR 72061	501-679-4585
14.	City of Greenbrier	Melton Cotton	Po Box Greenbrier, AR 72058	501-679-2422

PRE-Disaster Mitigation Plan
ATTENDANCE ROSTER

DATE: April 22, 2004 @ 7:00 pm
LOCATION: Faulkner County – Greenbrier Municipal Building

	Business Name	Name	Address	Phone
1.	Log Cabin Democrat	Rachel Parker	Conway	505-1277
2.	City of Wooster	Marie Wilson	P.O. Box 43 Wooster	679-7504
3.	City of Wooster	E. F. McMillen	22 McMillen Rd	679-2275
4.	City of Greenbrier	Raymond E. Akins	Po Box 415 Greenbrier AR 72058	679-3819
5.	City of Damascus	Brian Tatum		335-7315
6.	City of Vilonia	Preston Scroggin	59 Marshall Rd. S. Vilonia 72173	796-8710
7.	OEM	Jim Bell	801 Locust Conway AR.	450-4935
8.	Contingency Planners Inc.	Jack Sotallaro	2510 Frederick Drive Conway AR	329-0958
9.	City of Guy	Tony Hartwick	PO Box 12 Guy AR 72061	679-4585
10.	Damascus Water	Randy Nicholson	P.O. Box 309 Damascus	335-7321
11.	Town of Damascus	Steve Carrell	P.O. Box 309 Damascus	335-7321
12.	Enola Vol. Fire Dept.	James Chance	P.O. Box 86 Enola	849-2272
13.	Mayor of Enola	Rick Goodnight	193 Hwy 107	849-2720
14.	Damascus F.D.	Danny Mahan	359 Hwy 124	C-514-5880 335-7538

15. MAYOR HOLLAND	Mayor	Holland AR	
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			
31.			
32.			

PRE-Disaster Mitigation Plan
ATTENDANCE ROSTER

DATE: February 8, 2007 5:00 pm
LOCATION: Greenbier City Hall, Faulkner Co

Business Name	Name	Address	Phone	email address
1. CAPDD	Leigh Pool	P.O. BOX 300	501-676-2721	leigh.pool@arkansas.gov
2. Faulkner Co OEM /Holland	Jason C. Donham	801 Locust ST	501 450 - 4935	
3. Faulkner Co. OEM	Larry J. Brewer	801 Locust ST.	501-450-4935	com
4. Faulkner County	Preston Scroggin	801 Locust St.	501-450-4900	s.rossin@faulknercc.org
5. CAPDD	Conya Spencer	PO BOX 300	501-676-2721	Conya.spencer@arkansas.gov
6. City of Conway	Ronnie Hall	100 East Robins		Ronnie.Hall@CityofConway.org
7. UCA Police ~~Jeremy Crabb~~	Jeremy Crabb	PO BOX 4994 Conway	501 450 31	jcrabb@uca.edu
8. City of Wooster	Terry Robinson	6 Robinson Rd	501-733-0723	trobinson@conwaycorp.net
9. Town of Damascus	Pam	Mahan	501 335 7321	clerk@townofdamascus.net
10. Damascus Fire	Danny	Mahan	501-581-6843	firedept@townofdamascus.net
11. Guy Mayor Sam Hildon	Sam	203 Wolf Branch R	501-679-4585	
12.				
13.				
14.				

Although the degree of participation varied, all jurisdictions participated in the planning process through soliciting input from their communities, reviewing plan drafts, and participation in meetings. The smallest jurisdictions included in this plan, Damascus and Twin Groves, were not able to attend the hazard mitigation meetings on a regular basis because of limited human resources. They were, however, kept up to date, provided copies of minutes and consulted on a regular basis by Central Arkansas Planning and Development District, Inc. staff to keep them abreast of the developing plan. These Cities contributed and were involved in the development of this hazard mitigation plan to the extent that their resources allowed. The Faulkner County OEM Director provided vital information regarding the unincorporated areas of the county as well as assisted with acquiring data for the county as a whole including the other jurisdictions.

Existing plans, studies, reports and technical information relevant to mitigation planning were collected and reviewed by planning team members. This information was used to identify existing, planned and potential mitigation initiatives designed to reduce Faulkner County's vulnerability to natural hazards and to identify plans/ ordinance in place for the incorporation of any proposed hazard mitigation requirements as a means to implement the requirements. A list of the documents reviewed is included below.

- State of Arkansas Hazard Mitigation Plan
- Faulkner County Emergency Operations Plan
- Flood Insurance Study, Faulkner County Arkansas
- City of Conway Zoning, Land Use, Floodplain Management Ordinances, Building Codes
- City of Greenbrier Zoning, Land Use, Floodplain Management Ordinances, Building Codes
- City of Vilonia Zoning, Land Use, Floodplain Management Ordinances, Building Codes
- City of Mayflower Land Use, Floodplain Management Ordinances, Building Codes
- City of Enola, Damascus, Guy, Mt. Vernon, Wooster and Holland's Floodplain Management Ordinances

In addition to the Faulkner County Hazard Mitigation Planning meetings, several planning meetings were held with the entire planning team at various stages of the planning process, and numerous meetings with sub-groups of the planning team were held (not all members were asked Of the documents reviewed, those with existing, planned and potential mitigation initiatives include the State of Arkansas Hazard Mitigation Plan and the various zoning, land use/development plans, ordinances and building codes of Conway, Greenbrier, Vilonia and Mayflower. During the planning process, planning team members carefully considered these existing mitigation initiatives to avoid duplication of effort and ensure efficiency in implementation of these measures. These existing initiatives were incorporated into the Faulkner County Hazard Mitigation Plan where appropriate. The planning team was particularly cognizant of the mitigation priorities outlined in the State Mitigation Plan.

In summary, the planning process consisted of the following items:

- County appointed a planning committee consisting of mayors and city personnel, school personnel, fire department members, emergency workers, planning and development district employees, and LEPC members.
- County engaged Central Arkansas Planning and Development District (CAPDD), the regional planning organization, to provide staff support in conducting the planning process and preparing the plan.
- Meetings were held with committee members to understand and agree on planning processes and steps required, including organizing resources, assess hazards, develop a mitigation plan, and implement the plan and mentor progress.
- Central Arkansas Planning and Development District staff attended two workshops presented by ADEM and V-Risk on preparing the mitigation plan.
- Central Arkansas Planning and Development District staff also had numerous subsequent discussions about the planning process with ADEM staff. The CAPDD staff also discussed planning process issues with others in the state that were involved in the preparation of other hazard mitigation plans such as UALR which prepared the State Hazard Mitigation Plan, other Planning and Development Districts, and private consultants such as V-Risk and Geofemme.

SECTION 4 - RISK ASSESSMENT

Risk Assessment as defined by FEMA, is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from hazards by assessing the vulnerability of people, buildings, and infrastructure to natural hazards. It identifies the characteristics and potential consequences of hazards, how much of the community could be affected by a hazard, and the impact on community assets. An Assessment Risk consists of three components: hazard identification, vulnerability analysis and risk analysis. Technically, these are three different items but the terms are sometimes used interchangeably. Assessment of risk for this plan followed the methodology described in FEMA publication 386-2 – "*Understanding Your Risks – Identifying Hazards and Estimating Losses.*" This publication outlines a four-step process that was followed in this planning process: (1) Identifying Hazards, (2) Profile Hazard Events, (3) Inventory Assets, (4) Estimated Losses.

Risk Assessment provides the foundation for the rest of the mitigation planning process. The risk assessment process focuses attention on areas most in need by evaluating which population and facilities are most vulnerable to natural hazards and to what extent injuries and damages may occur. It tells you:

- The hazards to which your state or community is susceptible;
- What these hazards can do to physical, social, and economic assets;
- Which areas are most vulnerable to damage from these hazards; and
- The resulting cost of damages or costs avoided through future mitigation projects.

In addition to benefiting mitigation planning, risk assessment information also allows emergency management personnel to establish early response priorities by identifying potential hazards and vulnerable assets.

The goal of mitigation is to reduce the future impacts of a hazard including property damage, disruption to local and regional economies, and the amount of public and private funds spent to assist with recovery. However, mitigation should be based on the risk assessment.

4.1 Hazard Identification

IFR REQUIREMENT 201.6(c)(2)(i):	[The risk assessment shall include a] description of the type … of all natural hazards that can affect the jurisdiction.
Explanation:	The local risk assessment **shall** identify and describe the hazards likely to affect the area. It is critical that the plan identify all the natural hazards that can affect the jurisdiction, because the hazard identification is the foundation for the plan's risk assessment, which in turn is the factual basis for the mitigation strategy. If the hazard identification omits (without explanation) any hazards commonly recognized as threats to the jurisdiction,

this part of the plan cannot receive a "Satisfactory" score.

While not required by the Rule, the plan *should* describe the sources used to identify hazards, and provide an explanation for eliminating any hazards from consideration. The process for identifying hazards could involve the following:

- Reviewing the State hazard mitigation plan, reports, plans, flood ordinances, and land use regulations, among others;
- Talking to experts from Federal, State, and local agencies and universities;
- Searching the Internet and newspapers; and interviewing long-time residents.

Hazard Identification is the first step that must be taken in the risk assessment process. Every hazard that may threaten a given area must be identified in order to assess the risk posed by such threat.

Faulkner County identified several such natural hazards that represent a significant risk to the health and property of the citizens of Faulkner County. These hazards were identified through an extensive process that utilized input from the Planning Team members, public input, research of newspapers and other historical records, review of existing plans and reports, discussions with hazard experts, internet research, the State mitigation Plan, and information provided by FEMA and ADEM.

The following hazards will not be addressed in this plan:

<u>Expansive Soils</u> – Per Scott Ausbrooks for the Arkansas Geological Survey, to date, there have been no known reports of damage resulting from expansive soils in Faulkner County. According to the USGS map there is less than 50 percent of the area underlain by soils with clays of slight to moderate swelling potential.

<u>Landslide</u> – There is information from the USGS on Landslides in Arkansas. Tony Schrader at USGS was contacted and he said that they have no record of information for Faulkner County. There was information on the Arkansas Geological Survey website for other areas in Arkansas but not for Faulkner County. This was addressed in the planning meeting and Faulkner County is not at high risk area for land slides. The Terrain is extremely flat.

<u>Land Subsidence</u> - Tony Schrader at USGS said that they have no records or information for Faulkner County. Further research shows that data and past occurrences are not available therefore Land Subsidence will be omitted from this Plan.

A complete profile and local risk assessment for each of these identified hazards has been completed, which will serve as the foundation for the plan's risk assessment, and that will ultimately be utilized as the factual basis for the County's mitigation strategy. To develop the proper profile and risk assessment, each identified hazard has been rated utilizing the ***criteria*** and ***methods*** described and outlined in the rating charts below.

Table 4.1.2. Identified Hazards in Faulkner County.

Hazard	*How Identified*	*Why Identified*
Earthquake	• Research by the United State Geological Survey (USGS) • Modified Mercalli Scale and PGA (Peak Ground Acceleration).	• This event is very possible in Faulkner County being the County's location in proximity to the New Madrid Seismic Fault Zone. • With an earthquake of Richter Magnitude 7.0 to 8.9, 100% of Faulkner County's population would feel the effect.
Flood	• Review of past disaster declarations • Review of FIRM's • Input from County floodplain manager • Public Input	• Faulkner County is affected by flooding every year • Floods have caused extensive damage and loss of life and property in the County in the past
Severe Thunderstorm (includes, lightning and hailstorms)	• Review of NCDC Severe Storms Database • National Weather Service input and data • Public input	• Faulkner County is affected by severe storms every year that bring heavy rains, hail, lightning, and high winds. • Severe thunderstorms have caused extensive damage to the county
Tornado	• Review of past disaster declarations • Review of NCDC Severe Storms Database • National Weather Service input and data • Public input	• Faulkner County experiences a tornado event nearly every year • Tornadoes have caused extensive damage and loss of life to County residents
Winter Storm (includes Ice Storms)	• Review of past disaster declarations • Review of NCDC Severe Storms Database • National Weather Service Input and data • Public input	• Faulkner County is affected by severe winter storms every few years • Severe ice storms have caused extensive damage to the county • Hailstorms cause damage to property and crops in the county
Wildfire	• Arkansas Forestry Commission statistics and input • Public input	• Wildfires can cause damage to all jurisdictions, forest lands, crops and structures.
Drought	• Review of past disaster declarations • Review of NCDC Severe Storms Database • National Weather Service Input and data • Public input	• Faulkner County has experienced several drought events. • Drought has a major impact on crops in the agriculture areas of Faulkner County

Dam Failure	• National Inventory of Dams • Arkansas Natural Resource Commission	•
High Wind	• Review of NCDC Severe Storms Database • National Weather Service input and data • Public input	• The County experiences several severe high wind events annually. • Some events have caused damage to structures and less commonly loss of life.
Extreme Heat	• Review of past disaster declarations • Review of NCDC Severe Storms Database • National Weather Service Input and data • Public input	• Faulkner County experiences temperatures in access of 100 degrees annually.

4.2 Profiling Hazards

For each hazard identified for Faulkner County in this plan, (Section 4.1 Hazard Identification) a profile has been developed outlining the location or geographical areas within the County, the magnitude or severity of the potential event and the probability or frequency of the hazard event. This outline was developed utilizing information collected from records of previous occurrences of the identified hazard events and on the probability of future hazard events.

One method used to assess these hazard events and which serves as a predictive indicator was the calculation of the "Critical Priority Risk Index (CPRI) for each type event. Utilization of the CPRI provided a means to compare and rank hazards types, which is outlined in the following chart.

<u>Probability</u>

A "Probability Rating" for each identified hazard event for Faulkner County was developed utilizing the "Characteristics" as defined in the following chart. Using the definitions outlined, the likelihood of future such events has been "Quantified" thereby assigning a "range classification" of 4-Highly Likely, 3-Likely, 2-Possible, 1-Unlikey, for every identified hazard event for Faulkner County based upon previous occurrences.

Probability	**Characteristics**
4 - Highly Likely	Event is probable within the calendar year. Event has up to 1 in 1 year chance of occurring (1/1=100%) History of events is greater than 33% likely per year. Event is "Highly Likely" to occur
3 - Likely	Event is probable within the next three years. Event has up to 1 in 3 years chance of occurring

	(1/3=33%) History of events is greater than 20% but less than or equal to 33% likely per year. Event is "Likely" to occur
2 - Possible	Event is probable within the next five years. Event has up to 1 in 5 years chance of occurring (1/5=20%) History of events is greater than 10% but less than or equal to 20% likely per year Event could "Possibly" occur
1 - Unlikely	Event is possible within the next ten years Event has up to 1 in 10 years chance of occurring (1/10=10%) History of events is less than or equal to 10% likely per year Event is "Unlikely" but is possible of occurring

Magnitude/Severity

The rating of the identified hazard events "Magnitude/Severity" is an attempt to measure the events impact in terms the land area affected and the in terms of potential for loss of life and property relative to that of other identified hazard events. This following chart outlines classifications of Magnitude / Severity defined as 4-Catastrophic, 3-Critical, 2-Limited, 1-Negligible.

Magnitude / Severity	**Characteristics**
4 - Catastrophic	▪ Multiple deaths ▪ Complete shutdown of facilities for 30 or more days ▪ More than 50% of property is severely damaged
3 - Critical	▪ Injuries and/or illnesses result in permanent disability ▪ Complete shutdown of critical facilities for at least two weeks ▪ More than 25% of property is severely damaged
2 - Limited	▪ Injuries and/or illnesses do not result in permanent disability ▪ Complete shutdown of critical facilities for more than one week ▪ More than 10% of property is severely damaged

1 - Negligible	▪ Injuries and/or illnesses are treatable with first aid ▪ Minor quality of life lost ▪ Shutdown of critical facilities and services for 24 hours or less ▪ Less than 10% of property is severely damaged

Warning time **and** ***duration*** are given four ranges each, as shown in the following table. Also indicated is the "Weighting" factor for each of the four parts of the Calculated Priority Risk Index. The Probability factor is "Weighted" at .45, Magnitude / Severity at .30, Warning Time at .15, and Duration at .10. These "Weights" of significance are used to assign relative importance to each of these factors when combined to generate the Calculated Priority Risk Index value.

Calculated Priority Risk Index			
.45 Probability	**.30 Magnitude / Severity**	**.15 Warning Time**	**.10 Duration**
4 - Highly Likely	4 - Catastrophic	4 - Less Than 6 Hours	4 - More Than 1 Week
3 - Likely	3 - Critical	3 - 6-12 Hours	3 - Less Than 1 Week
2 - Possible	2 - Limited	2 - 12-24 Hours	2 - Less Than 1 Day
1 - Unlikely	1 - Negligible	1 - 24+ Hours	1 - Less Than 6 Hours

The CPRI factors the elements of risk: Probability (P), Magnitude/Severity (M), Warning Time (WT) and Duration to create an index, which allows for the prioritization of mitigation activities based on the level of risk. Thus, Probability (.45 x Value) + Magnitude (.15 x Value) + Severity (.25 x Value) + Warning Time (.15 x Value) = CPRI

The following hazards are listed in order of decreasing CPRI score.

Wildfire	Highly Likely	Critical	Less than 6 hours	Less than 1 week	3.6
Flood	Highly Likely	Critical	6-12 Hours	Less than 1 week	3.45
Tornado	Likely	Catastrophic	Less than 6 hours	More than 1 day	3.35
High Wind	Highly Likely	Negligible	Less than 6 hours	Less than 6 hours	2.80
Dam Failure	Possible	Critical	Less than 6 hours	More than 1 week	2.80
Earthquake	Possible	Limited	Less Than 6 Hours	Less than one day	2.3
Severe Thunderstorm	Likely	Limited	24+ Hours	Less than 6 hours	2.2
Winter Storms	Likely	Limited	24+ Hours	Less than 6 hours	2.2
Drought	Possible	Limited	24 + Hours	More than 1 week	2.05
Extreme Heat	Possible	Limited	24 + Hours	Less than a day	1.85 .8

4.2.1 Earthquake Profile Hazard

An earthquake is the shaking or vibration of the earth caused by the sudden release of energy, usually as a result of rupture and movement of rocks along a fault. The rupture and slippage processes generate seismic waves that radiate from the fault surface in all directions. If the energy of the seismic waves is strong enough, people and structures along the earth's surface will be affected. The focus of an earthquake is the point within the earth where the initial rupture of the rock occurs in the earth and where the seismic waves are first released. The epicenter of an earthquake is the point on the ground surface directly above the focus.

Most earthquakes such as those occurring in California, Alaska, and Japan occur along the boundaries between rigid tectonic plates that are in slow but constant motion near the surface of the earth. Much less commonly, earthquake zones develop within the rigid plate itself resulting in "intraplate" seismicity. Such intraplate earthquakes must arise from a more localized system of forces perhaps associated with structural complexitities from earlier geological conditions or from variation in strength of the complexities from earlier geological conditions or from variation in strength of the lithosphere. The New Madrid Seismic Zone (NMSZ), an area of high seismic activity within the central United States including northeastern Arkansas), is the most important example intraplate seismicity in North America.

The size of Earthquakes: Two scales usually express the size of an earthquake. One scale measures the cause, which is known as the magnitude of the earthquake. A second scale measures the effects and is known as the intensity of the earthquake. Magnitude is a measure of the energy released from the source beneath the earth's surface where a fault has suddenly ruptured. The magnitude scale is objective, measured by instruments at various distances and directions from the epicenter of an earthquake. A single magnitude value can be calculated for any given earthquake from seismograph readings at stations near and far from the source, even through the amplitudes of the measured waves usually diminish with distance. Magnitude scales are expressed in Arabic numbers to one decimal place. Because the magnitude classification is based on a logarithmic scale, a magnitude 8 earthquake is not twice as big as a magnitude 4 earthquake, but rather, 10,000 times larger. The amplitude of ground motion for any scale unit (e.g., 5.0) is ten times larger than the unit before it (4.0). In terms of energy, each unit on the magnitude scale represents approximately 32 times more energy released at the source than the next lower unit. Hence, a magnitude 6.5 earthquake is actually 32 times larger than a magnitude 5.5. At present, at least four different magnitude scales are in common use for classifying earthquakes.

Earthquake *Intensity* is a measure of severity of the ground shaking as reflected in the degree of damage to man-made structures, the amount of disturbance to the surface of the ground, and the reactions of animals to the shaking. Intensity is measured in the United State by the Modified Mercalli Scale (Table 4.2.1.1). This scale, composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, is designated by Roman numerals. This particular scale does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects. Although earthquakes have only one magnitude, they have variable intensities that generally decrease with increasing distance away from the source. However, other factors such as local geology, shallow ground water, and building type may affect the intensities for earthquakes at a specific location. For example, greater intensities are associated with poorly consolidated alluvial soils, high ground water levels and poor construction practices such as un-reinforced masonry structures.

Roman numerals inside each band are predicted levels of damage described using the Modified Mercalli Intensity Scale (see below).

MODIFIED MERCALLI SCALE TABLE 4.2.1.1

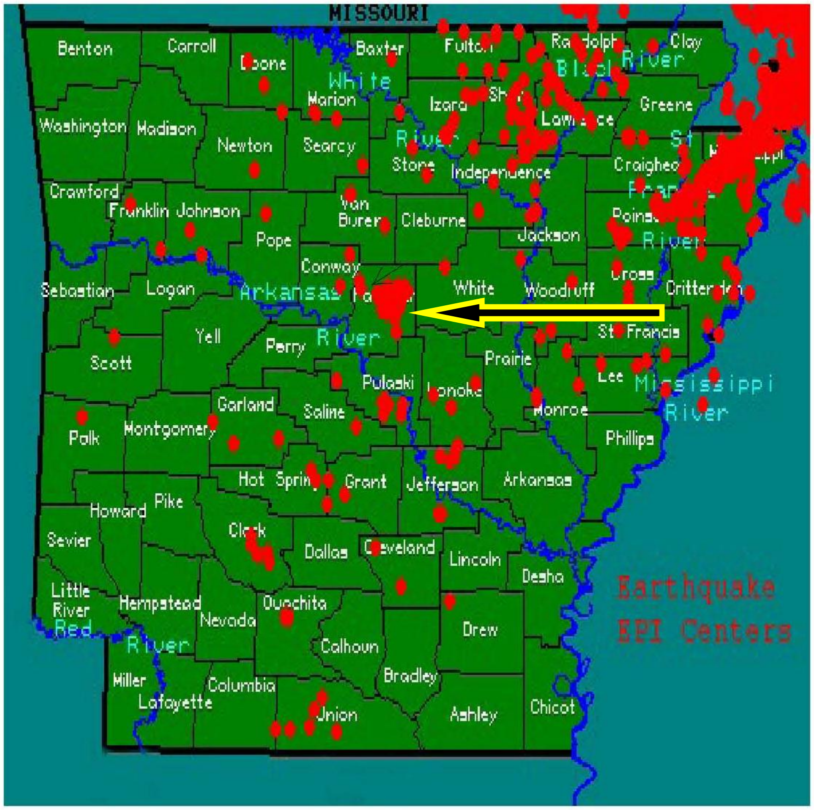
Description of Shaking Severity		**Summary Damage Description Used on 1995 Maps**	**Full Description**
I.			Not felt. Marginal and long period effects of large earthquakes.
II.			Felt by persons at rest, on upper floors, or favorably placed.
III.			Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.
IV.			Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motorcars rock. Windows, dishes, doors rattle. Glasses clink. Crockery clashes. In the upper range of IV, wooden walls and frame creak.
V.	**Light**	**Pictures Move**	Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.
VI.	**Moderate**	**Objects Fall**	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked. Small bells ring (church, school). Trees, bushes shaken (visibly, or heard to rustle).
VII.	**Strong**	**Nonstructural Damage**	Difficult to stand. Noticed by drivers of motorcars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roofline. Fall of plaster, loose bricks, stones, tiles, cornices (also unbraced parapets and architectural ornaments). Some cracks in masonry C. Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.
VIII.	**Very Strong**	**Moderate Damage**	Steering of motorcars affected. Damage to

			masonry C; partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, and elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.
IX.	**Violent**	**Heavy Damage**	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Frame structures, if not bolted, shifted off foundations. Frames racked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas sand and mud ejected, earthquake fountains, sand craters.
X.	**Very Violent**	**Extreme Damage**	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.
XI.			Rails bent greatly. Underground pipelines completely out of service.
XII.			Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.

Geographic Area Affected by Earthquakes

The geographic area affected by Earthquakes in Arkansas, as indicated below, will indicate the uneven distribution of earthquakes and that not all counties have experienced a felt or recorded earthquake during the time period between 1811 and 2003. This earthquake distribution can be misleading because, unlike other hazards, the event does not require to occur in a specific jurisdiction for that jurisdiction to be impacted. For example, a large earthquake in the New Madrid Seismic Zone of northeastern Arkansas can cause damage in Faulkner County; in fact, damage could be expected in Faulkner County. Below you will find the Earthquake Epicenters.

Arkansas Earthquake Epicenters



Earthquakes in Arkansas are infrequent having recurrence intervals on the order of hundreds of years or more. This relatively short earthquake record is therefore incomplete, and even areas that have not experienced a historical earthquake should be considered vulnerable to the effects of earthquakes. It is clear, however, that northeast Arkansas has the most earthquake activity in the State. The cluster of earthquakes recorded in northeast Arkansas in Mississippi, Craighead, and Poinsett Counties is the southern end of the New Madrid Seismic Zone (NMSZ), the most seismically active region in the United States east of the Rocky Mountains. The second most, but much smaller cluster of earthquakes recorded in Arkansas is in Faulkner County.

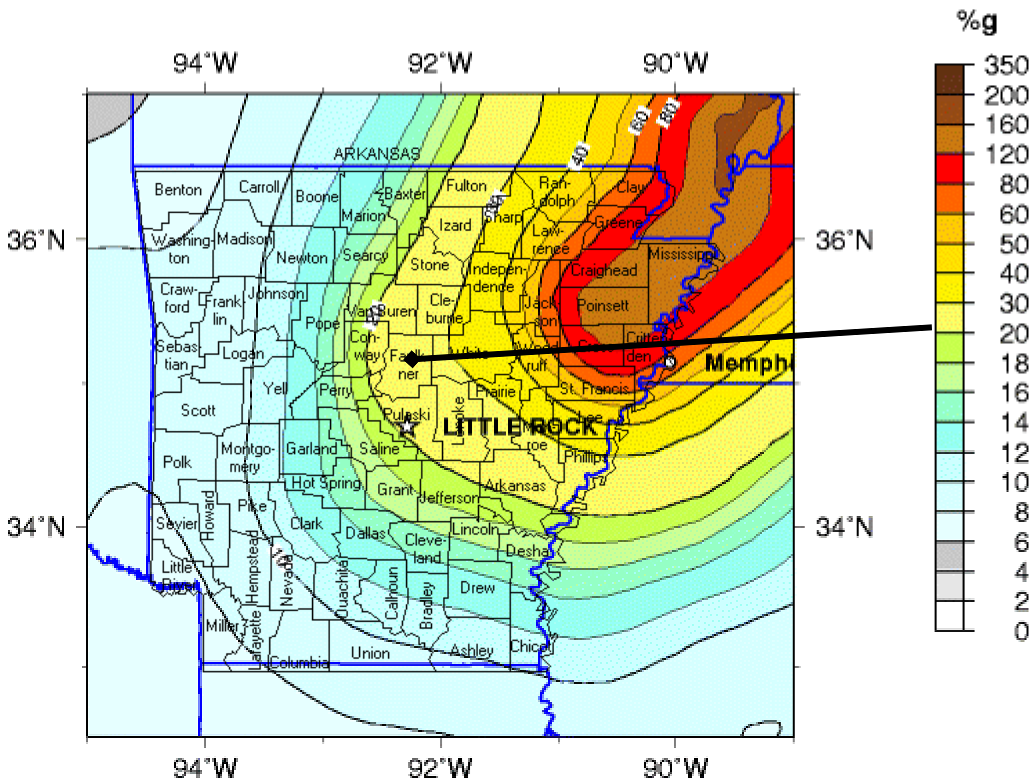
Faulkner County is known for a seismically active area known as the "Enola swarm area." The first seismic event recorded here was a 1.2 magnitude earthquake that occurred on January 12, 1982. Over 40,000 seismic events have occurred in the Enola swarm area since 1982, making it possibly the largest seismic swarm ever recorded in the central United States (Chiu et al., 1984). Most of the seismic events are microquakes, but numerous felt events have been experienced. During the first year of seismic activity, at least 93 earthquakes were felt in the Enola swarm area by at least one person.

A 4.5 magnitude earthquake was recorded on January 21, 1982, making it the largest seismic event in the Enola swarm area. Another notable seismic event was the 4.4 magnitude earthquake recorded on May 4, 2001. This event was followed by aftershocks greater than magnitude 2.0. The most recent seismic event was a 2.8 magnitude earthquake recorded on October 17, 2006.

Earthquakes associated with the Enola swarm have caused no structural damage, although there have been reports of broken china near epicentral areas. Research indicates that earthquakes occurring in the Enola swarm area are not associated with the New Madrid seismic zone of northeast Arkansas (McFarland, 2001).

However, as stated earlier, an earthquake generates damage based upon many factors other than location. For example, the earthquake hazard, in addition to location and recurrence, depends upon how amplitudes of seismic waves die out as they move away from the earthquake source to the affected location. Research by the United States Geological Survey (USGS) has demonstrated that seismic wave energy decreases much more slowly in the Central and Eastern United States than in the West. For the same size earthquake, this leads to greater shaking and higher hazard over larger areas in the Central and Eastern United States. Earthquake shaking also may be significantly amplified or dampened by the soils or rock immediately beneath a site. This is particularly true for thick sediments that underlie most of eastern and southern Arkansas.

Variation in earthquake risk can be shown on USGS Seismic Hazard Maps is shown below. These maps are based on current information about the rate at which earthquakes occur in different areas and on how far strong shaking extends from the earthquake source. The earthquake ground motions that have a given probability of being exceeded in 50 years are shown using contour intervals. The seismic Hazard Map that follows clearly demonstrates this principle.

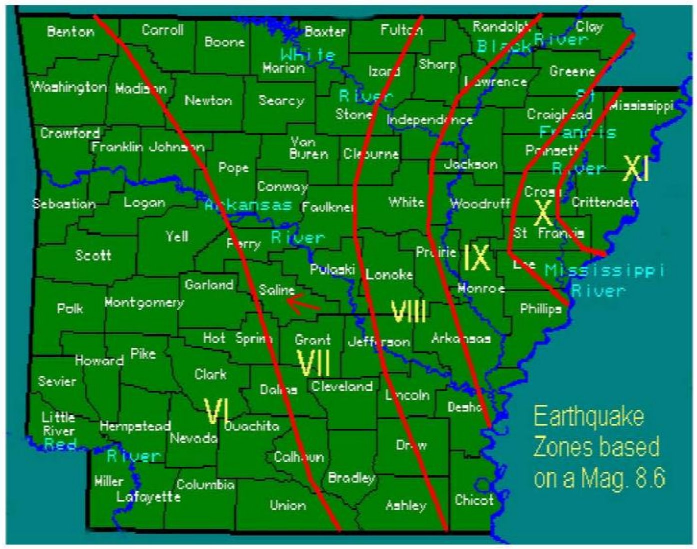


Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years
site: NEHRP B-C boundary
National Seismic Hazard Mapping Project

Below you will find the Earthquake Hazard Zones for an 8.6 Earthquake on the New Madrid Fault System.

Arkansas Earthquake Hazard Zones

for an 8.6 Earthquake on the New Madrid Fault System

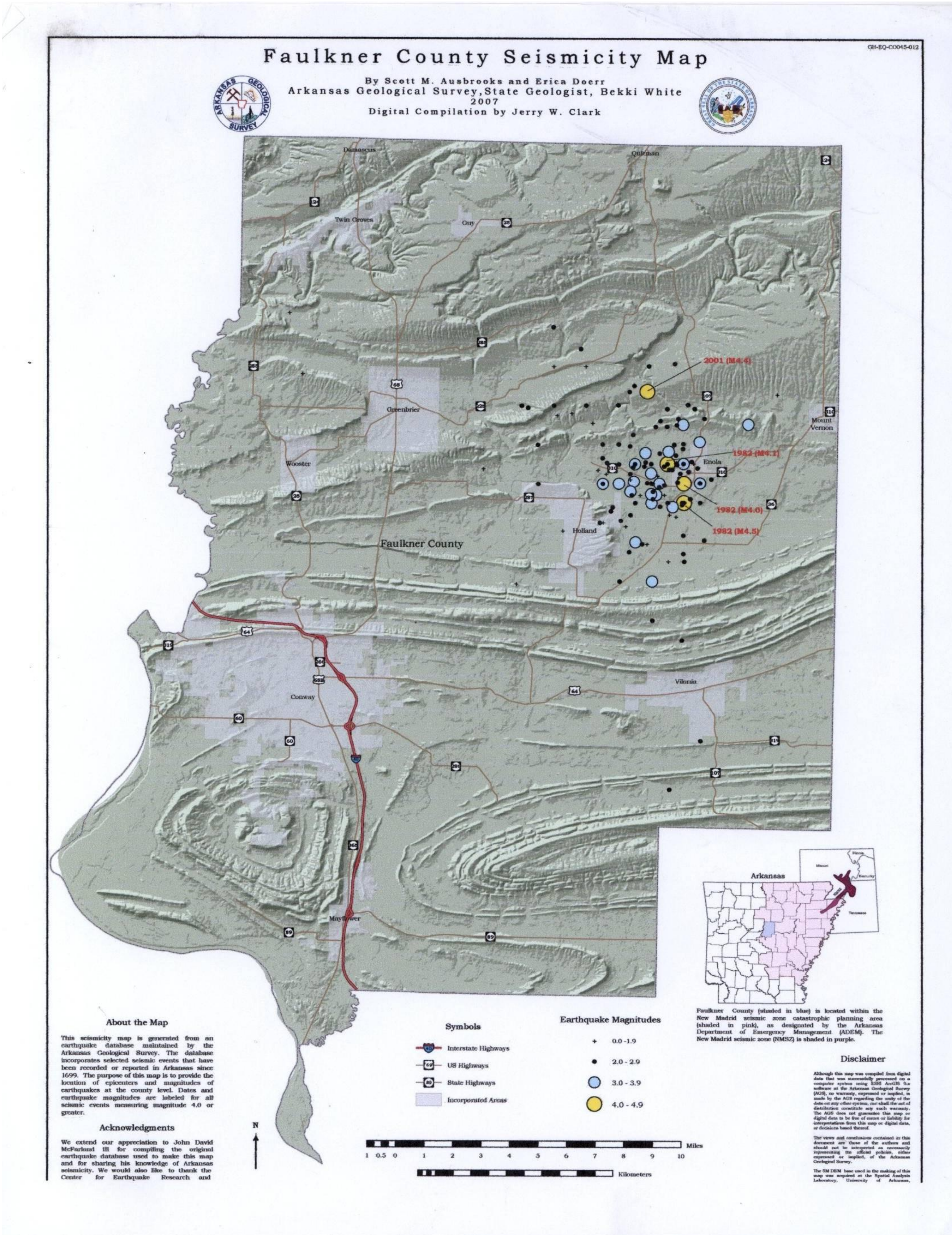


Source: Arkansas Department of Emergency Management

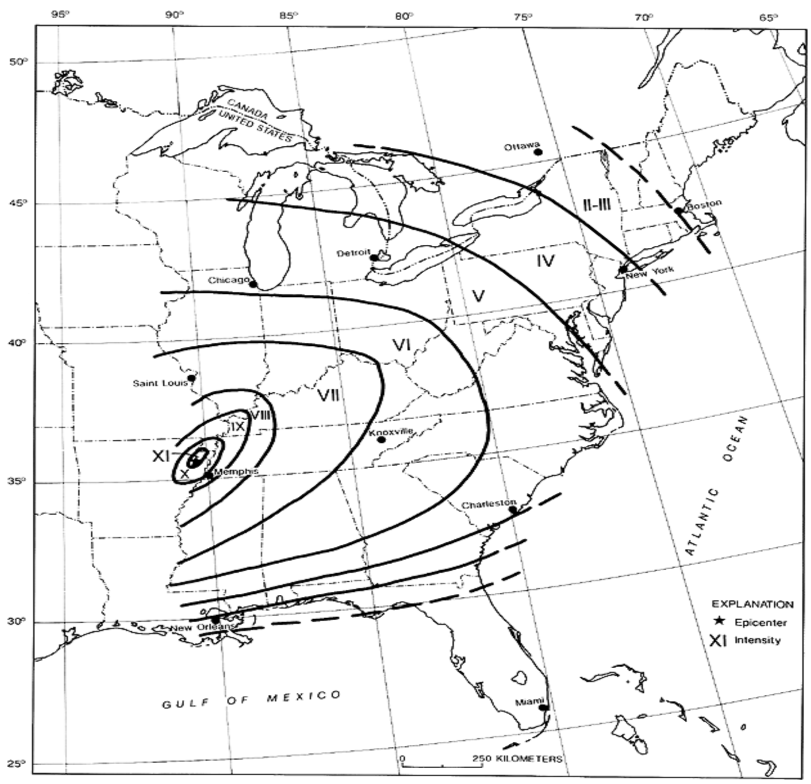
Roman numerals inside each band are predicted levels of damage described using the Modified Mercalli Inten scale.

Previous Earthquake Occurrences

Faulkner County has had over 40,000 earthquakes recorded, and over 100 of these earthquakes were felt. Most of the earthquakes have occurred in a tight cluster around the town of Enola.


GH-EQ-C0045-012
Faulkner County Seismicity Map
By Scott M. Ausbrooks and Erica Doerr
Arkansas Geological Survey, State Geologist, Bekki White
2007
Digital Compilation by Jerry W. Clark
Damascus
Quitman
Twin Groves
Guy
Greenbrier
Wooster
Mount Vernon
Enola
Holland
Faulkner County
Conway
Vilonia
Mayflower
2001 (M4.4)
1982 (M4.1)
1982 (M4.0)
1982 (M4.5)
Arkansas
About the Map
This seismicity map is generated from an earthquake database maintained by the Arkansas Geological Survey. The database incorporates selected seismic events that have been recorded or reported in Arkansas since 1699. The purpose of this map is to provide the location of epicenters and magnitudes of earthquakes at the county level. Dates and earthquake magnitudes are labeled for all seismic events measuring magnitude 4.0 or greater.
Acknowledgments
We extend our appreciation to John David McFarland III for compiling the original earthquake database used to make this map and for sharing his knowledge of Arkansas seismicity. We would also like to thank the Center for Earthquake Research and
Symbols
Interstate Highways
US Highways
State Highways
Incorporated Areas
Earthquake Magnitudes
0.0 - 1.9
2.0 - 2.9
3.0 - 3.9
4.0 - 4.9
N
Miles
1 0.5 0 1 2 3 4 5 6 7 8 9 10
Kilometers
Faulkner County (shaded in blue) is located within the New Madrid seismic zone catastrophic planning area (shaded in pink), as designated by the Arkansas Department of Emergency Management (ADEM). The New Madrid seismic zone (NMSZ) is shaded in purple.
Disclaimer
Although this map was compiled from digital data that was successfully processed on a computer system using ESRI ArcGIS 9.x software at the Arkansas Geological Survey (AGS), no warranty, expressed or implied, is made by the AGS regarding the unity of the data on any other system, nor shall the act of distribution constitute any such warranty. The AGS does not guarantee this map or digital data to be free of errors or liability for interpretations from this map or digital data, or decisions based thereof.
The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the Arkansas Geological Survey.
The 5M DEM base used in the making of this map was acquired at the Spatial Analysis Laboratory, University of Arkansas,

New Madrid Earthquakes: The New Madrid Seismic Zone, located in the northern part of the Mississippi Embayment, is the most seismically active region in eastern North America. The 1811-1812 series of earthquakes, commonly known as the New Madrid earthquakes, produced damaging intensities over areas far greater than any historical earthquake in the conterminous United States. These and other historical earthquakes, as well as recent seismic activity, indicate that the New Madrid seismic zone has high potential for generating damaging earthquakes. Considering the isoseismal map for the 1811-1812 earthquake sequence, a conclusion is easily drawn that with the current distribution population and infrastructure within the region, a repetition of the sequence similar that in 1811-1812 could be expected to cause destruction of property and loss of life in Faulkner County. Isoseismal Map of the 1811 Earthquake is locate below.



1811-1812, This occurrence is often referenced as the 1811-1812 New Madrid Earthquakes. These earthquakes rank as some of the largest in the United States. The three main shocks, which occurred on December 16, 1811, January 23, 1812, and February 7, 1812, had epicentral Modified Mercalli intensities of XI, X-XI, and XI-XII and estimated body-wave magnitudes of 7.2, 7.1, and 7.4 and estimated surface-wave magnitudes of 8.5, 8.4, and 8.8 respectively. The first of these events (December 16, 1811) occurred on the southern branch of the fault system in eastern Arkansas near Marked Tree in Poinsett County, approximately 100 miles northeast of Faulkner County. On the same date, two additional large events occurred on the fault in Arkansas. Historic documents (e.g. newspapers, letters, and diaries) and geological field studies established that there was relative uplift and subsidence of the land by as much as 3m –6m over an area of approximately 2600 sq. kilometers.

The Modified Mercalli in this instance was greater than or equal to V. Raised or sunken lands, fissures, sinks, sand blows, and large landslides covered an area of 78,000 - 129,000 sq. kilometers. This type hazard extended from Cairo, Illinois, to Memphis Tennessee and from Crowley's Ridge in Arkansas to Chickasaw Bluffs, Tennessee. These earthquakes, in Arkansas, formed what is now know as Lake St. Francis, which is 40-miles-long and one-half-mile-wide lake. The third and fourth aftershock occurred in Missouri approximately six hours later. These shocks were heavier and more destructive.

October 1882, Outside the Mississippi Embayment is where the first shock listed for Arkansas occurred. Few reports were received from the region most affected therefore, the epicenter of this shock is now well known. Investigations of the shock have led to believe that it originated near El Reno, Oklahoma instead of western Arkansas. However the shock threw bricks from chimneys, in Texas and strongly shook houses in Fort Smith, Arkansas. The area felt by this shock covers parts or all of Arkansas, Oklahoma, Kansas, Texas and Missouri. This is about a 135,000 square mile area.

December 1883, an earthquake occurred in Melbourne, Arkansas. Melbourne is approximately 95 miles northeast of Little Rock. Rockslides occurred on a railroad cut, and thunderous earth noises were heard. The buildings at Melbourne experienced some shaking.

March 1911 was the date of a shock so severe in Pine Bluff, Arkansas that residents crowded the streets in panic as windows were broken in several sections of the city. A wall at one of the schools was cracked and plaster fell on the students. This shock was felt throughout southeastern Arkansas and in adjacent States.

During the period of 1911 to 1933, two local intensity V earthquakes centered in the Black Rock – Pocahontas area of northeastern Arkansas occurred. Two additional intensity V tremors were noted one near Little Rock and the other near Marked Tree. Both of these were felt over 30,000 sq. mile areas. Neither the quakes nor the tremors caused any major damage.

December 9, 1933 in the early morning, Arkansas experienced another tremor.

1937 and 1938, in the northeastern part of Arkansas and surrounding States very light tremors were felt over 25,000 and 90,000 sq miles. This is an area that is well noted for relatively light intensity shocks being felt over extremely large areas. These tremors caused no damage.

June 1939, one of the few earthquakes to center in southwestern Arkansas. This event was felt in Southern portion of Arkansas, including the city of Arkadelphia.

January 25, 1955, a tremor centered in northeastern Arkansas near the Missouri – Tennessee border, caused some property damage.

January 1, 1969, fourteen (14) years later, a tremor centered about 19 miles northwest of

Little Rock, caused quite a bit of tumult. Plaster was cracked, and furniture moved about in some homes. In addition, trees and utility wires swayed and shook throughout a wide area.

The following table summarizes the previous earthquake occurrences throughout Arkansas and the type of damage noted. Table 4.2.1.3

Location	Date	Mag	Dth	Inj	PrD
Northeast Sections of Arkansas	1811-1812	XI, X-XI, XI-XII	1		Yes
Arkansas	1882				Yes
Melbourne, Arkansas	December 1883				Yes
Pine Bluff, Arkansas	March 1911				Yes
Black Rock, Arkansas	1911, 1933	V			
Arkansas	December 1993				
Northeastern Arkansas	1937, 1938				
Southwestern Arkansas	June 1939				
Northeastern Arkansas	January 1955				Yes
Northwest of Little Rock, Arkansas	January 1969				Yes

Probability of Future Earthquake Events

Earth Scientists attempt to forecast earthquakes in terms of "probability" of an earthquake occurring in a specific time interval. These scientists generally accept the theory that earthquakes will occur in the future as frequently as they have occurred in the recent past.

Geologists determine how often earthquakes reoccur from historical and geological (pre-historical) studies. Sand blow deposits, found throughout northeastern Arkansas and surrounding states, are believed to be the by product of strong ground shaking associated with large earthquakes. Sand blow deposits in the surrounding counties in Arkansas, Missouri and Tennessee have been dated at about A.D. 900 and A.D.1450 and suggest that major earthquakes (magnitude 7 or greater) reoccur in the region approximately every 500 years, with the most recent sequence being in 1811-1812.

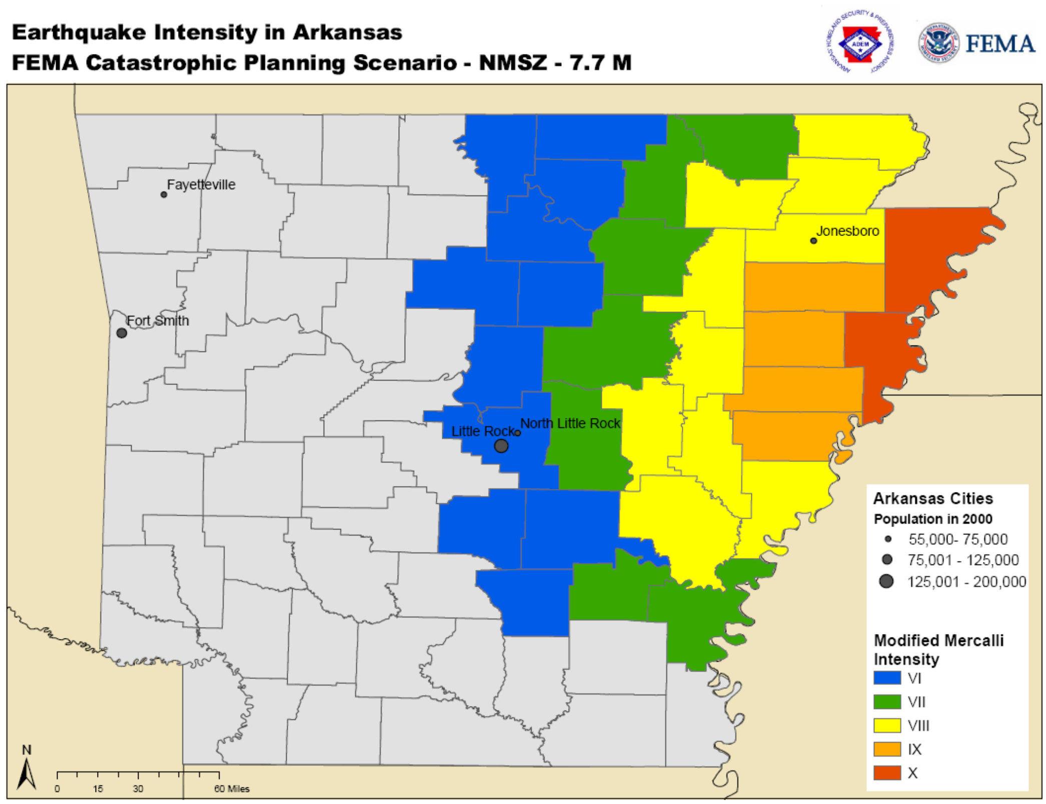
Using these data (which were also used to produce the National Seismic Hazard Maps) the USGS and the Center for Earthquake Research and Information (CERI) of the University of Memphis now estimate that the probability of a repeat of the 1811-1812 earthquakes (magnitude 7.5 to 8.0) in the NMSZ over the next 50 years is 7 to 10%. The probability that a magnitude 6.0 or larger earthquake will occur in the next 50 years is 25 to 40%.

Earthquakes in the approximate range of magnitude 7.5 to 8.0 are capable of causing widespread damage over a large region. For example, an earthquake of this magnitude occurring in the NMSZ of Arkansas would cause damage in Faulkner County. Recent studies list Faulkner County among 34 Arkansas Counties to be within the high impact areas of the NMSZ should an earthquake occur given the time frames outlined above. In the final analysis, while a damaging earthquake is unlikely; such an event is still very possible to occur in or near Faulkner County. .Magnitude 6.0 earthquakes can cause serious damage in areas close to the earthquake's location. A magnitude 6.0 earthquake occurring in the NMSZ of Arkansas would cause very light damage, if any, in Faulkner County.

In the final analysis, while a damaging earthquake is unlikely; such an event is still very possible to occur in or near Faulkner County

Magnitude/Severity of an Earthquake Event

Faulkner County is located in the VII Zone of the New Madrid Seismic Zone (NMSZ). Based upon the Maximum predicted Earthquake Intensities Map, Faulkner County will experience considerable damage during an approximate 7.6R earthquake occurrence within the NMSZ. Great (magnitude 8 or greater) and/or major (magnitude 7.0 to 7.9), while unlikely to occur in Faulkner County, have occurred within the NMSZ, thereby creating the possibility of such a hazard event for Faulkner County. Refer to MODIFIED MERCALLI SCALE TABLE 4.2.1.1 for potential damages and impact.



Calculated Priority Risk Index

The CPRI for the Earthquake hazard for Faulkner County and each local jurisdiction is

Probability: **Possible**
Magnitude/Severity: **Limited**
Warning Time: **Less Than 6 Hours**
Duration: **Less Than One Day**

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

2 x.45 + **2** x .30 + **4** x .15 + **2** x .10 = **2.3**

4.2.2 Flood Hazard Profile

Riverine and Flash Flooding: Flooding is defined as the accumulation of water within a water body and overflow of excess water onto the adjacent floodplain, causing land that is normally dry to be inundated. Flooding is a natural process of overbank flow. Floods may result from many causes. Most floods are caused by heavy rainfall from storms or thunderstorms that generate excessive runoff. A **riverine flood** caused by precipitation, runoff or snowmelt over a relatively large watershed causing flooding over wide areas and cresting in over 8 hours. A **flash flood** is a flood caused by heavy precipitation or snowmelt over a limited watershed (typically less than 50 square miles), crests in eight hours or less, and generally occurs in hilly terrain. Riverine floods have relatively low velocity, cover a large area of land, and take longer to recede, whereas flash floods have a higher velocity and may recede quickly. Flash flood can occur when extreme amounts of precipitation fall on any terrain if the precipitation accumulates more rapidly than the terrain can allow runoff.

Flash floods pose more significant safety risks than other riverine floods because of the rapid onset, the high velocity of water, the potential for channel scour, and the debris load. Debris carried by floods can damage or destroy structures in its path. In addition, more than one flood crest may result from a series of fast moving storms. Sudden destruction of structures and the washout of access routes may result in the loss of life.

Flood damage is proportional to the volume and the velocity of the water. Floods are extremely dangerous because they destroy through inundation and soaking as well as the incredible force of moving water. High volumes of water can move heavy objects and undermine roads and bridges. Floods often occur without local precipitation as a result of precipitation upstream. Although rural flooding is dangerous to fewer people and may be less costly than urban flooding, it can cause great damage to agricultural operations. Flooding can also facilitate other hazards such as landslides, or cause other hazards such as material hazard events.

A **floodplain** is the normally dry, flat area of land adjoining the channel of a stream, watercourse or other water body such as a lake or reservoir that is susceptible to inundation by flood water and stream-borne sediments. Floodplains can be managed to mitigate against damage from floodwaters. The floodplain is for overflow of floodwaters, and zoning regulations commonly prohibit development in this area. The **floodway** is the channel of a watercourse and those portions of the adjoining floodplain providing the passage of the 100-year flood stage waters. The **floodway fringe** is the portion of the floodplain where complete development will cause significant rise (typically one-foot) in 100-year floodplain**. Flood stage** is water elevation at which damage to personal property is significant. Damage from flooding depends on the amount of cultural development. Locally heavy precipitation may produce flooding in areas other than delineated floodplains or along recognized drainage channels. If local conditions cannot accommodate intense precipitation through a combination of infiltration and surface runoff, water may accumulate and cause flooding problems.

Despite the hazards, scenic floodplains commonly are highly populated. Development occurs on floodplains because there are no topographic constraints on construction (no hills), they contain fertile alluvial soil and abundant water supply, and they provide access to transportation, commerce, energy, and wastewater disposal. Floodplains are too large an area to leave undeveloped and coupled with ignorance of flood hazards and of floodplain extent, this typically leads to unsound development on floodplain land.

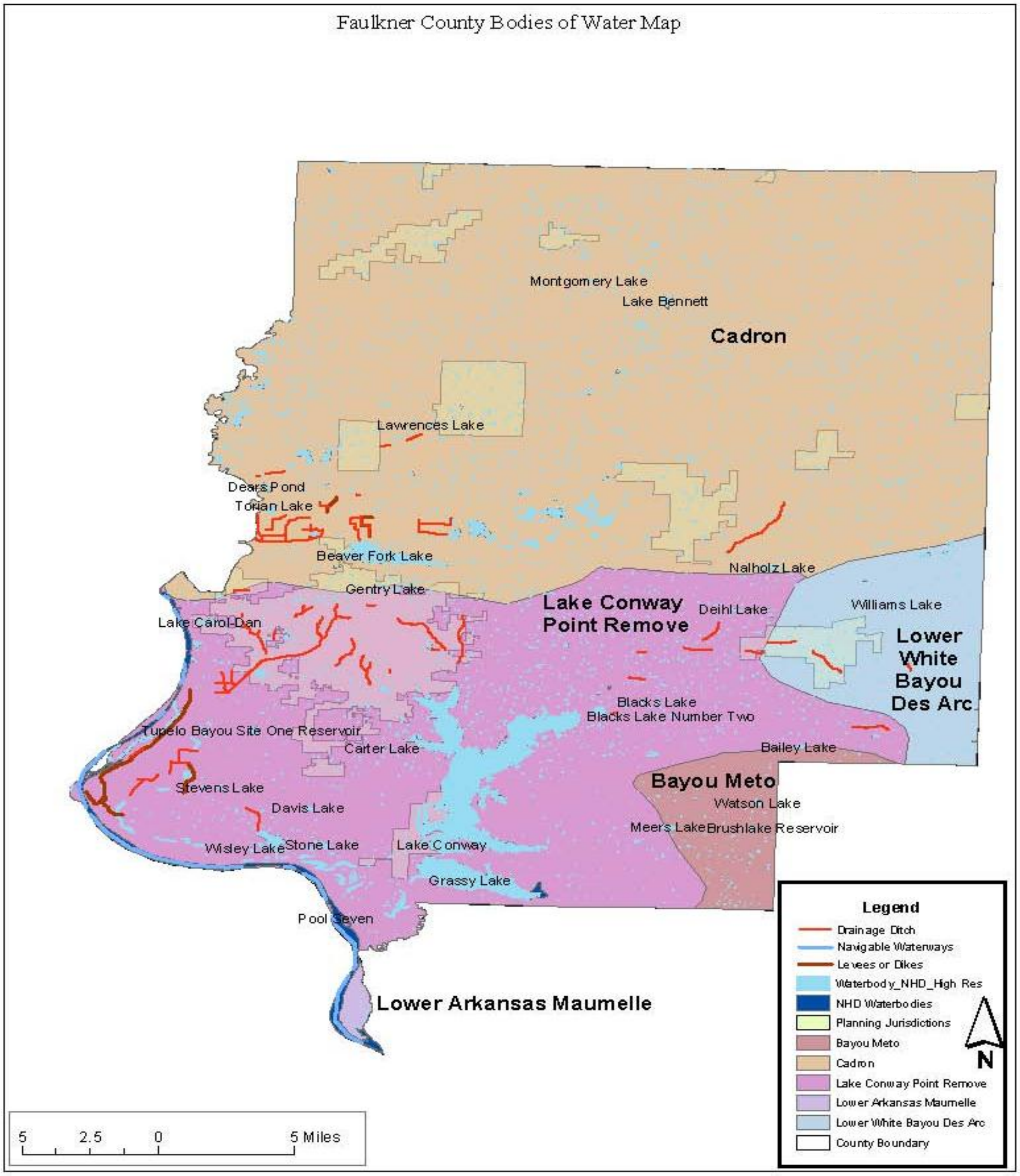
In addition to floodplains, floods occur in low areas where drainage is poor. Impermeable soils and flat terrain are susceptible to flooding when rainfall rates exceed the ability of the soil to carry water away. High groundwater levels may also cause flooding problems even where there is no surface flooding. Basements are susceptible to flooding from high groundwater levels. Seasonally high groundwater is common in many areas of Arkansas, while in other areas groundwater is high only after long periods of above average precipitation.

Floodplains offer many benefits to communities. Floodplains act as natural flood-storage areas, decreasing the destructive force of floodwaters downstream. Biological activity, chemical processes, and filtration of floodwaters on floodplains can reduce flood-generated pollution from agricultural and urban runoff and sewage overflow. Floodplain vegetation reduces soil erosion, reduces velocity of floodwaters, traps floodwater sediment increasing soil fertility, and reduces sediment load downstream. High sediment load reduces biological activity and aesthetic and recreational value. Floodplain vegetation also shades streams reducing water temperature and providing habitat for organisms promoting biodiversity and productivity. Floodplains preserve and recharge groundwater supplies, and provide opportunities for recreation, outdoor education, and scientific study. Urban expansion may encourage development in floodplains that would otherwise be reserved for these benefits.

Flash Flooding: The terrain found throughout the County is very diverse with low relief flat land with flat, broad floodplains interspersed with rivers, oxbow lakes, bayous and wet lands. There are also mountainous regions in Faulkner County. This type terrain, combined with the alluvial soils of the area, tend to slow and hold the runoff of during periods of heavy rain creating areas of standing water with essentially “no place to go”. This scenario is especially prevalent during periods of heavy rains and the ground has become saturated. There is also the challenge of the many lakes, rivers and creeks that flow through Faulkner County. The runoff from the mountainous areas quickly fills the rivers and creeks sometimes overflowing the banks. For example, in the past ten (10) years, the National Climate Data Center has recorded fifteen (15) flash floods in Faulkner County.

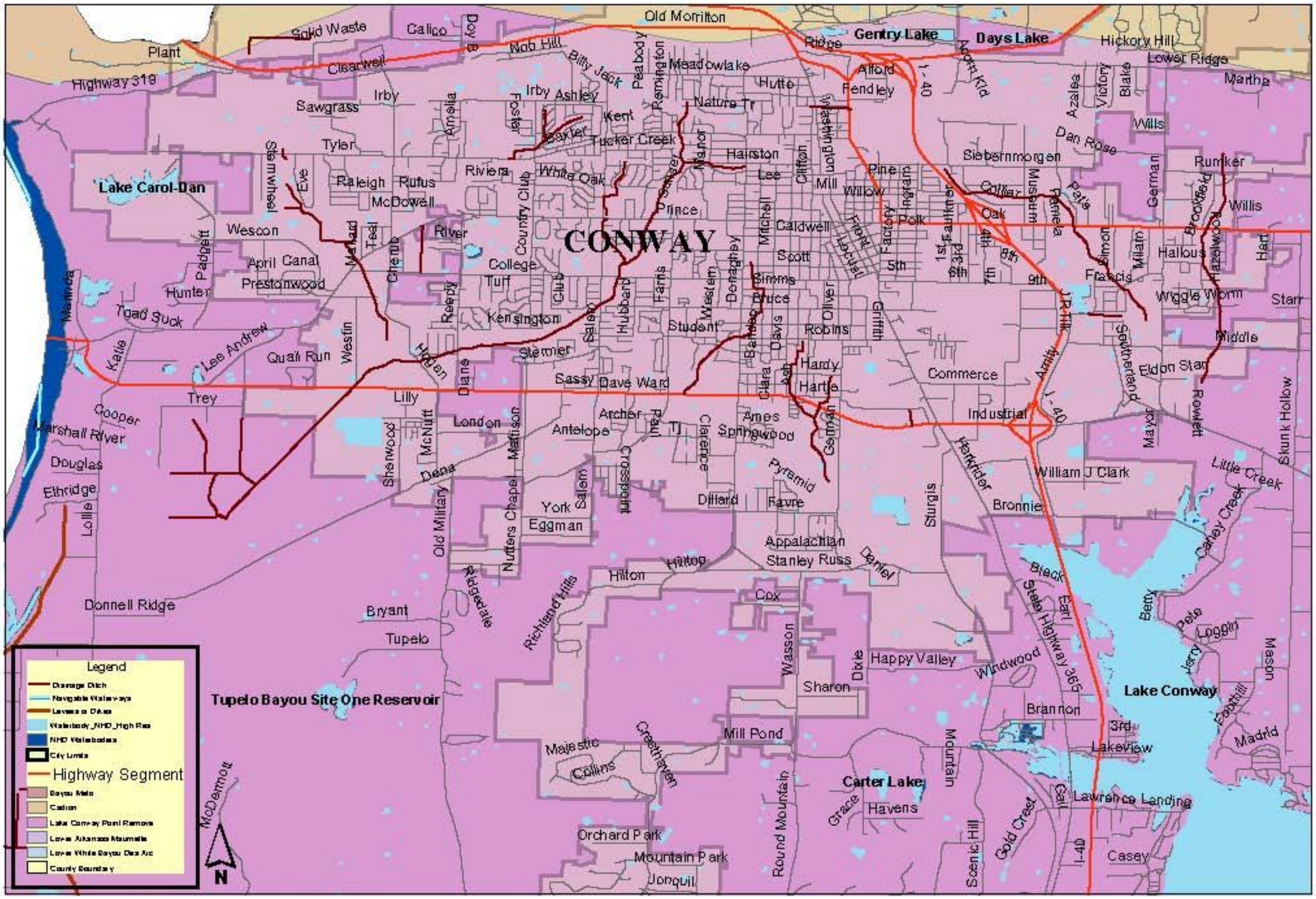
Riverine Flooding: Riverine flooding is usually caused by extensive rainfall over a period of several days or longer within the drainage area surrounding Faulkner County and along the Arkansas River. The Arkansas River at Toad Suck Lock and Dam has been above its flood stage of 275 feet at least 10 times with its highest crest in 1990 of 282.9 feet.

The Bodies of Water located in Faulkner County are shown below.



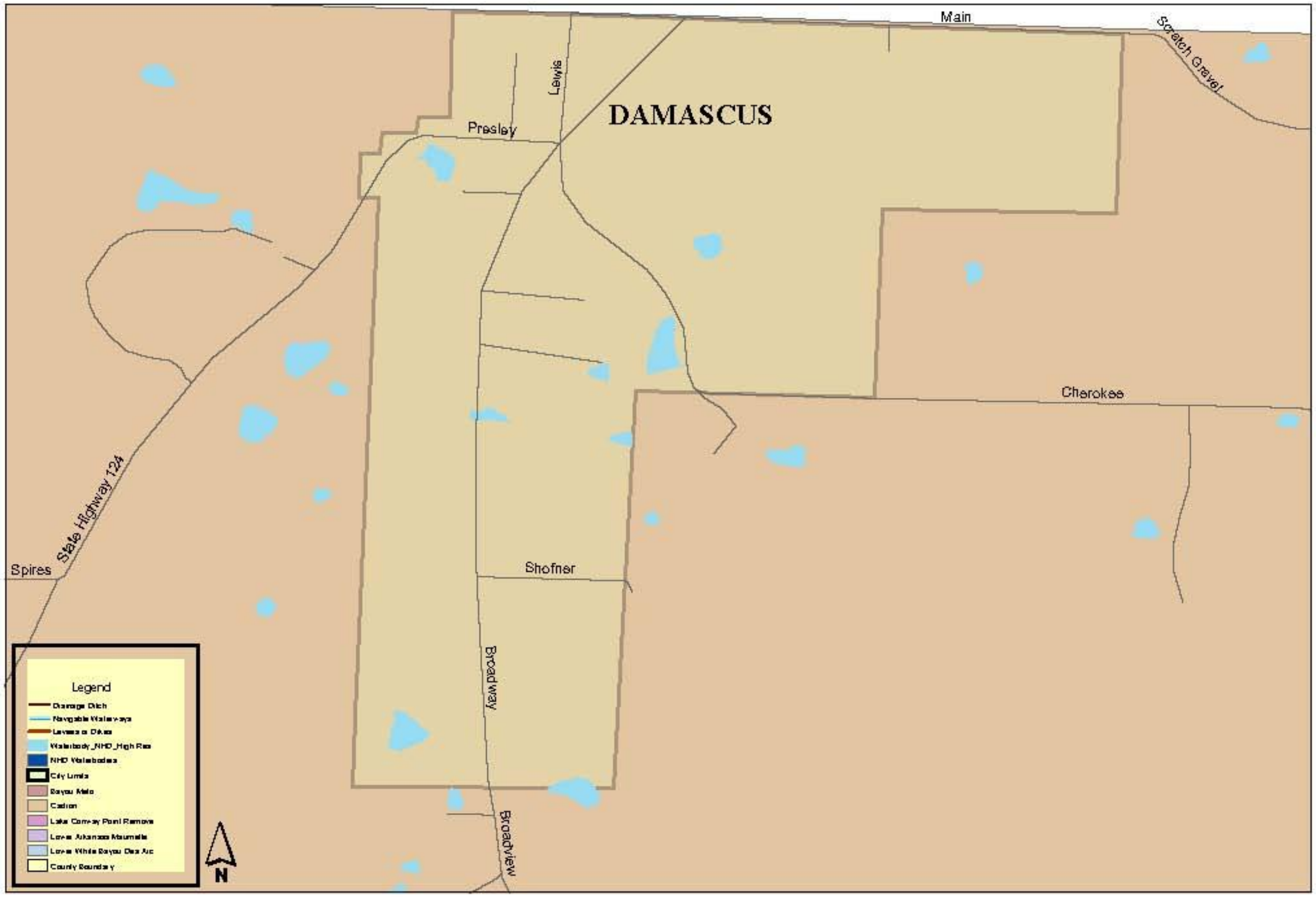
Faulkner County Bodies of Water Map
Montgomery Lake
Lake Bennett
Cadron
Lawrences Lake
Dears Pond
Torian Lake
Beaver Fork Lake
Nalholz Lake
Gentry Lake
Lake Conway
Point Remove
Deihl Lake
Williams Lake
Lower
White
Bayou
Des Arc
Lake Carol-Dan
Blacks Lake
Blacks Lake Number Two
Tupelo Bayou Site One Reservoir
Carter Lake
Bailey Lake
Bayou Meto
Stevens Lake
Watson Lake
Davis Lake
Meers Lake
Brushlake Reservoir
Wisley Lake
Stone Lake
Lake Conway
Grassy Lake
Pool Seven
Lower Arkansas Maumelle
Legend
Drainage Ditch
Navigable Waterways
Levees or Dikes
Waterbody_NHD_High Res
NHD Waterbodies
Planning Jurisdictions
Bayou Meto
Cadron
Lake Conway Point Remove
Lower Arkansas Maumelle
Lower White Bayou Des Arc
County Boundary
N
5 2.5 0 5 Miles

Faulkner County (City of Conway) Bodies of Water Map

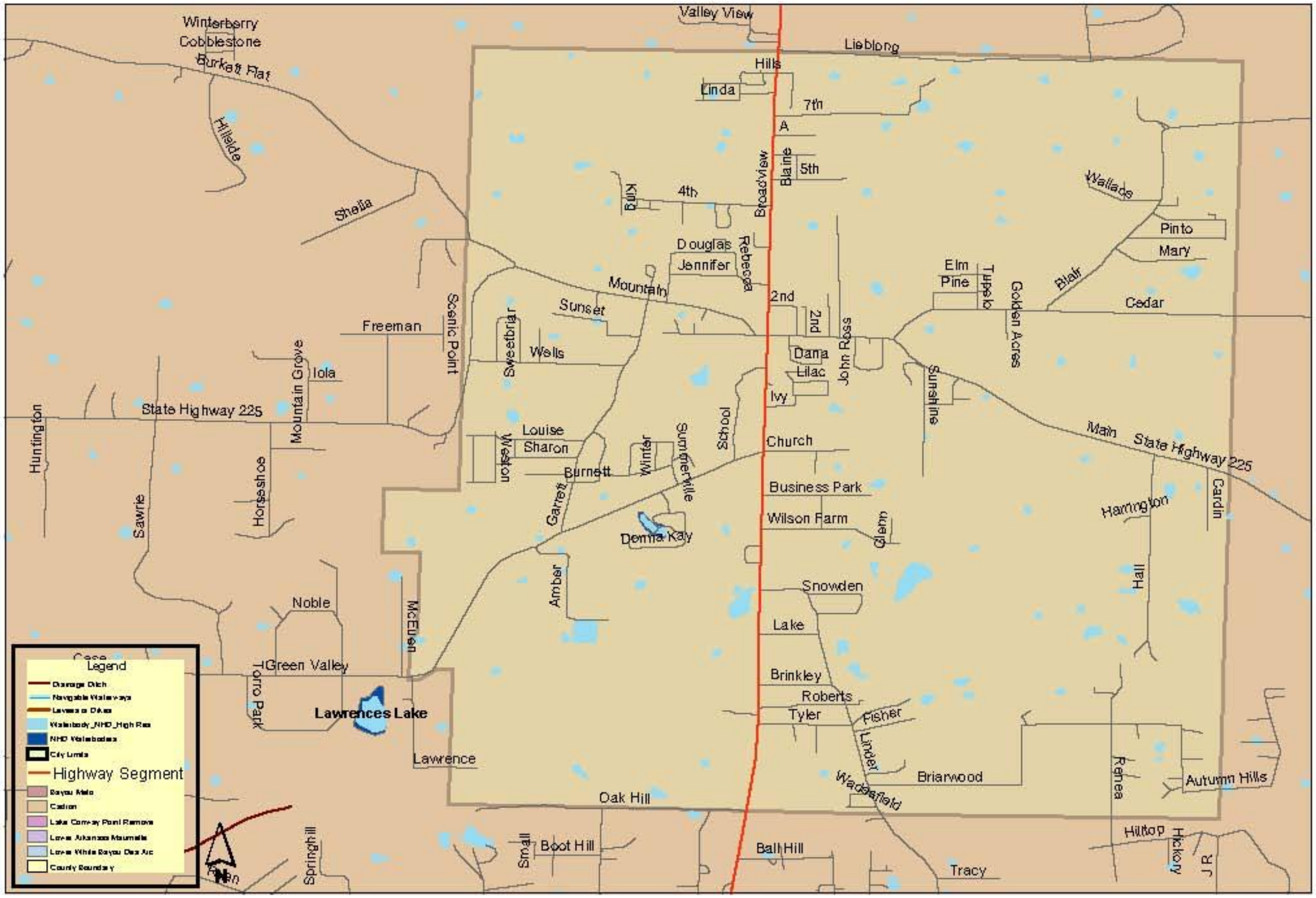


Faulkn

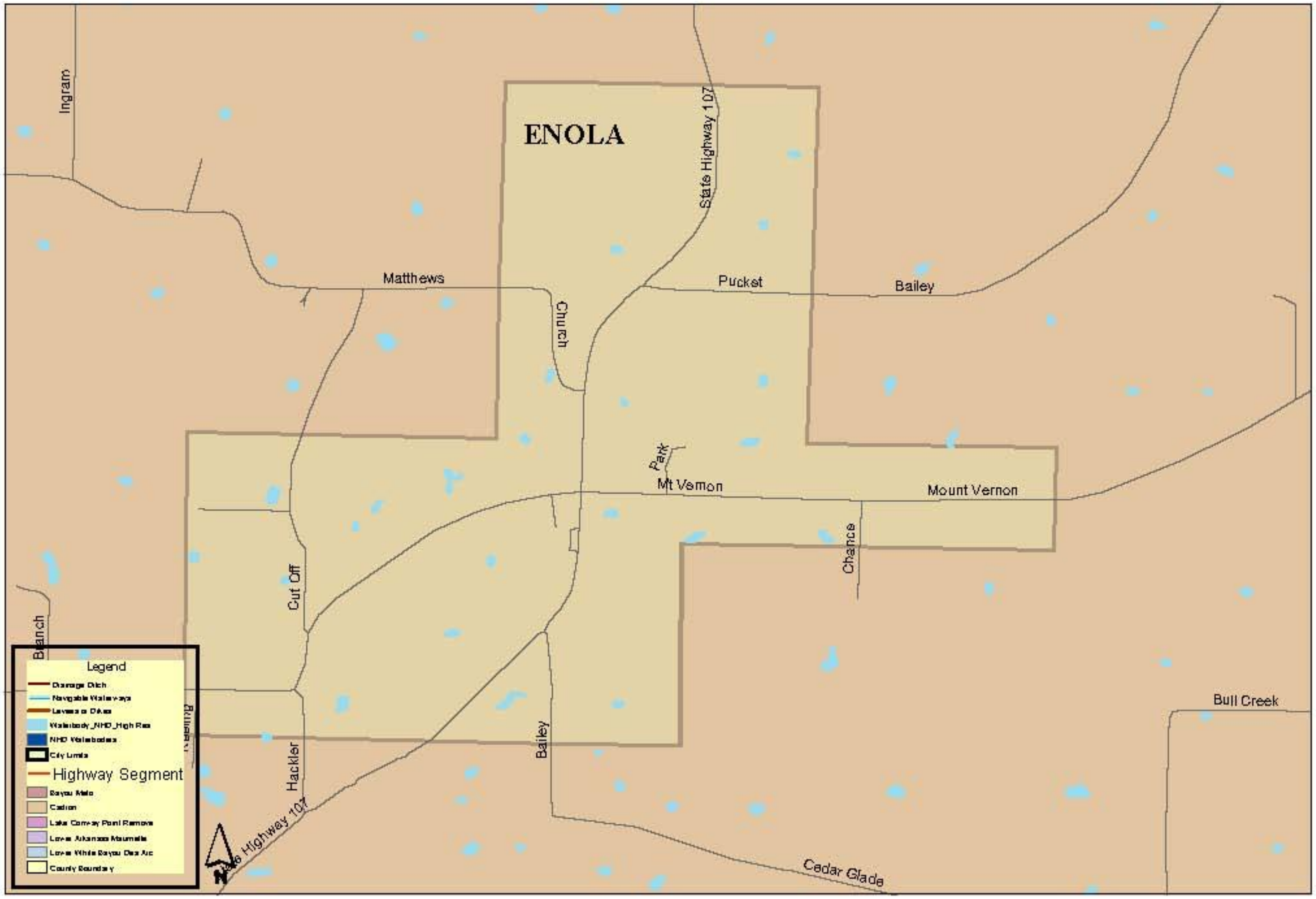
Faulkner County (City of Damascus) Bodies of Water Map



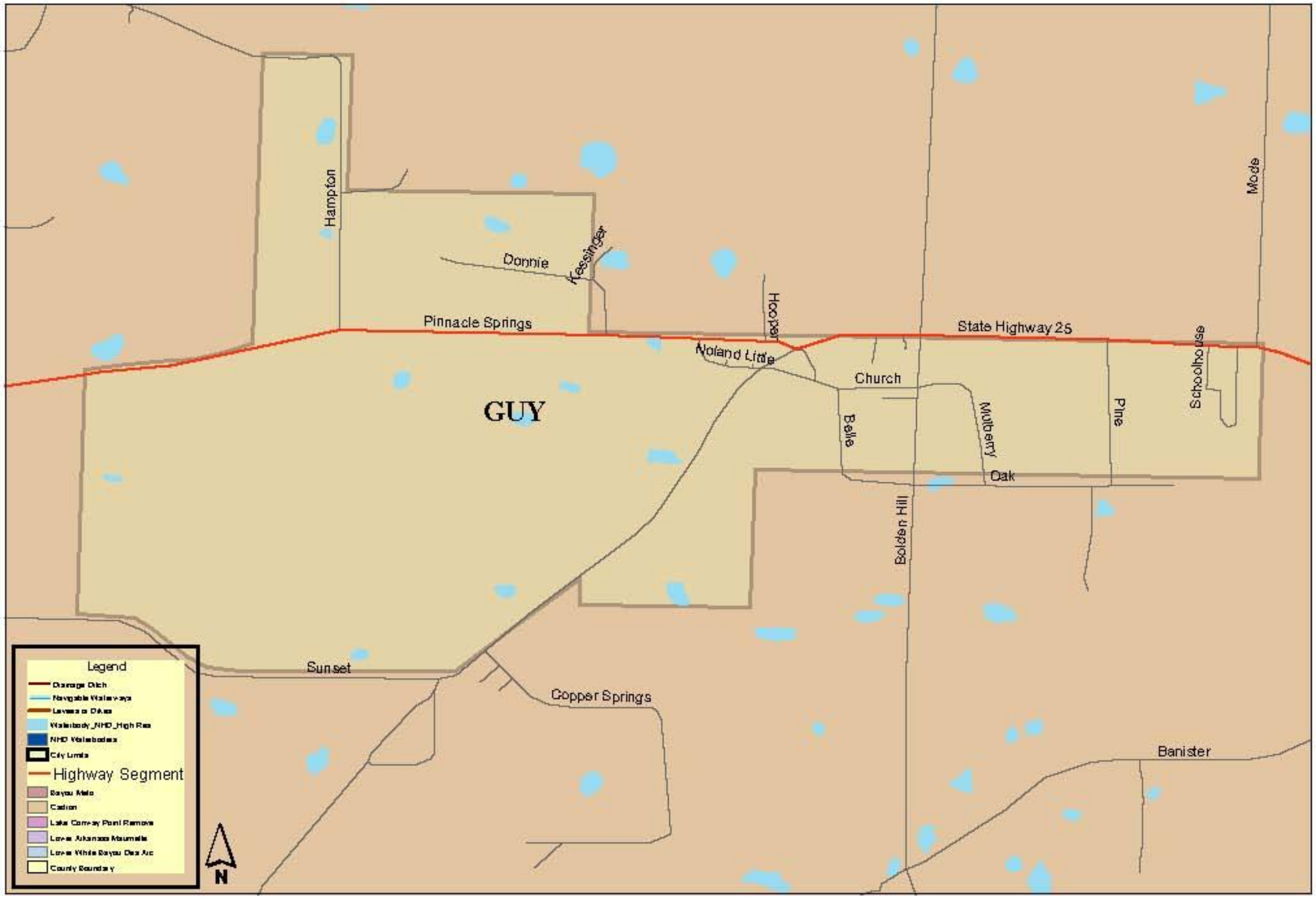
Faulkner County (City of Greenbrier) Bodies of Water Map



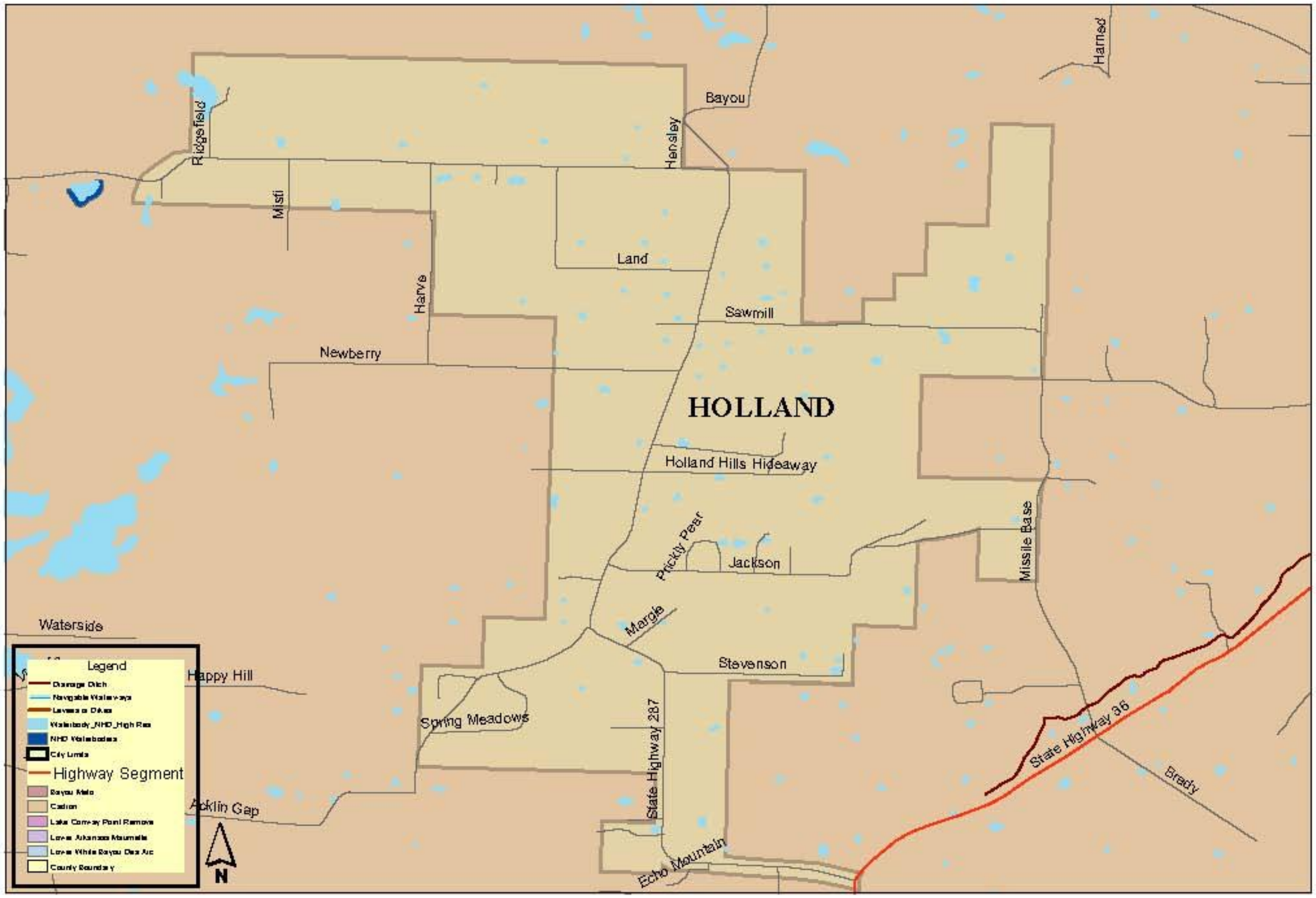
Faulkner County (City of Enola) Bodies of Water Map



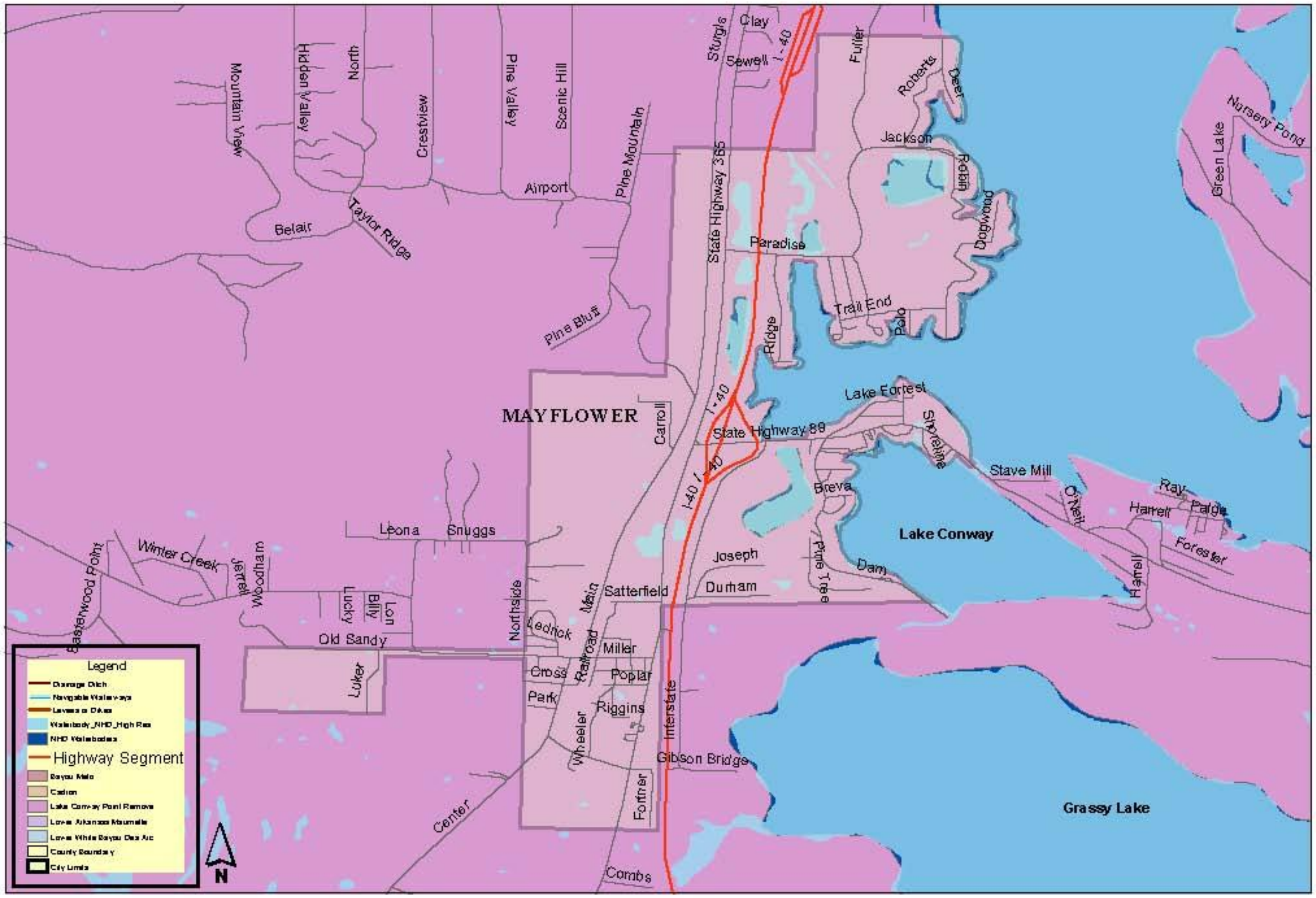
Faulkner County (City of Guy) Bodies of Water Map



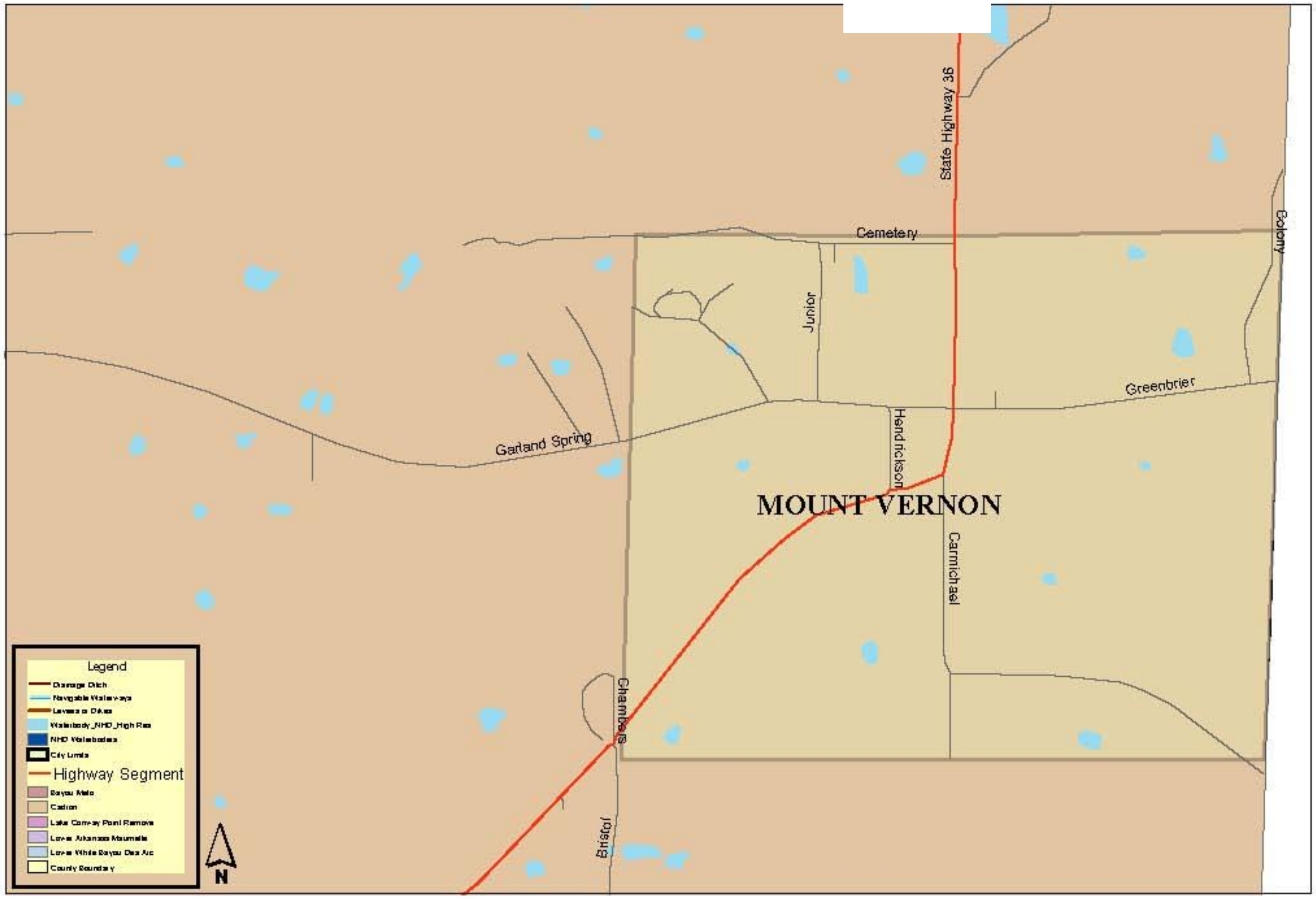
Faulkner County (City of Holland) Bodies of Water Map



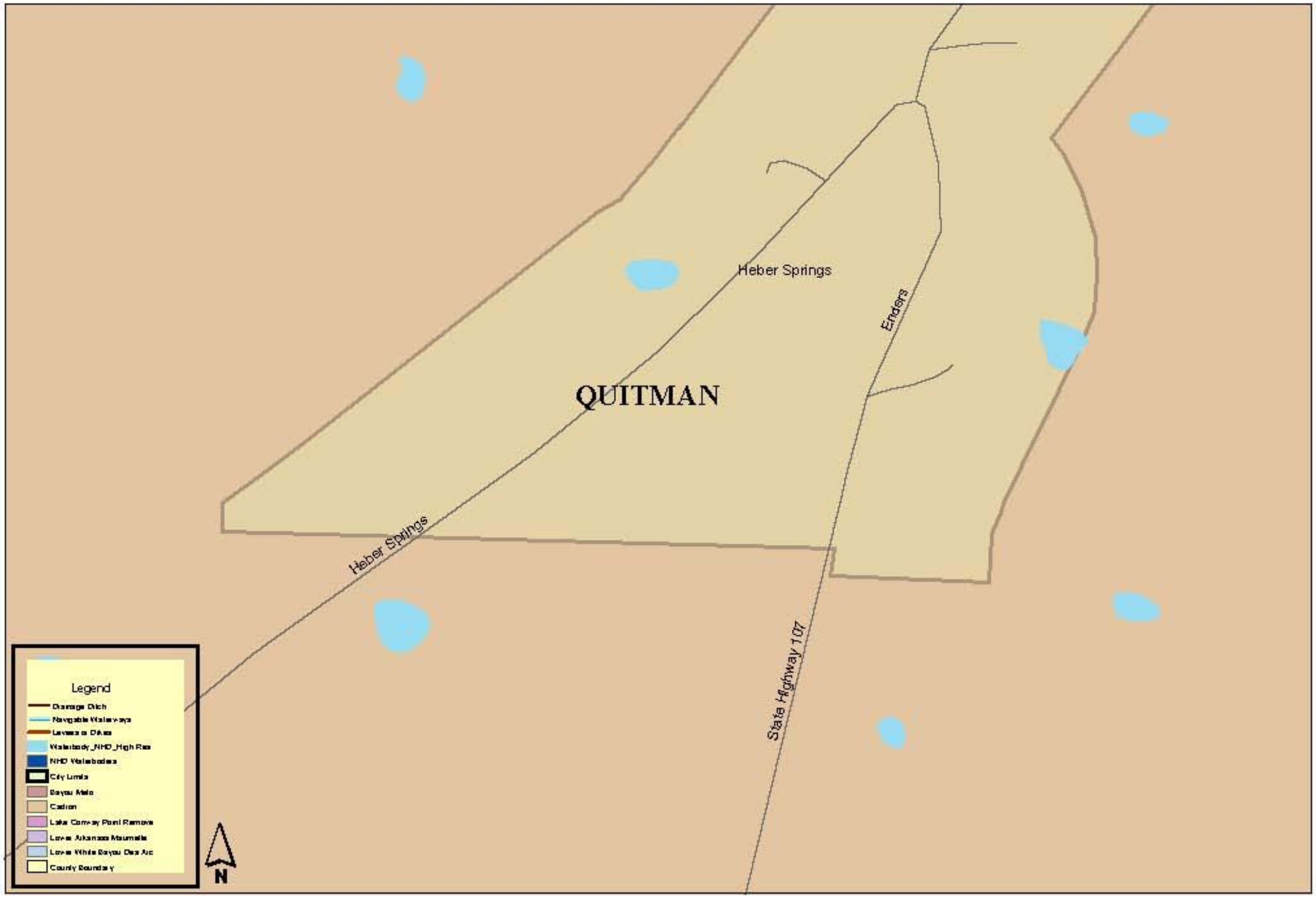
Faulkner County (City of Mayflower) Bodies of Water Map



Faulkner County (City of Mt. Vernon) Bodies of Water Map

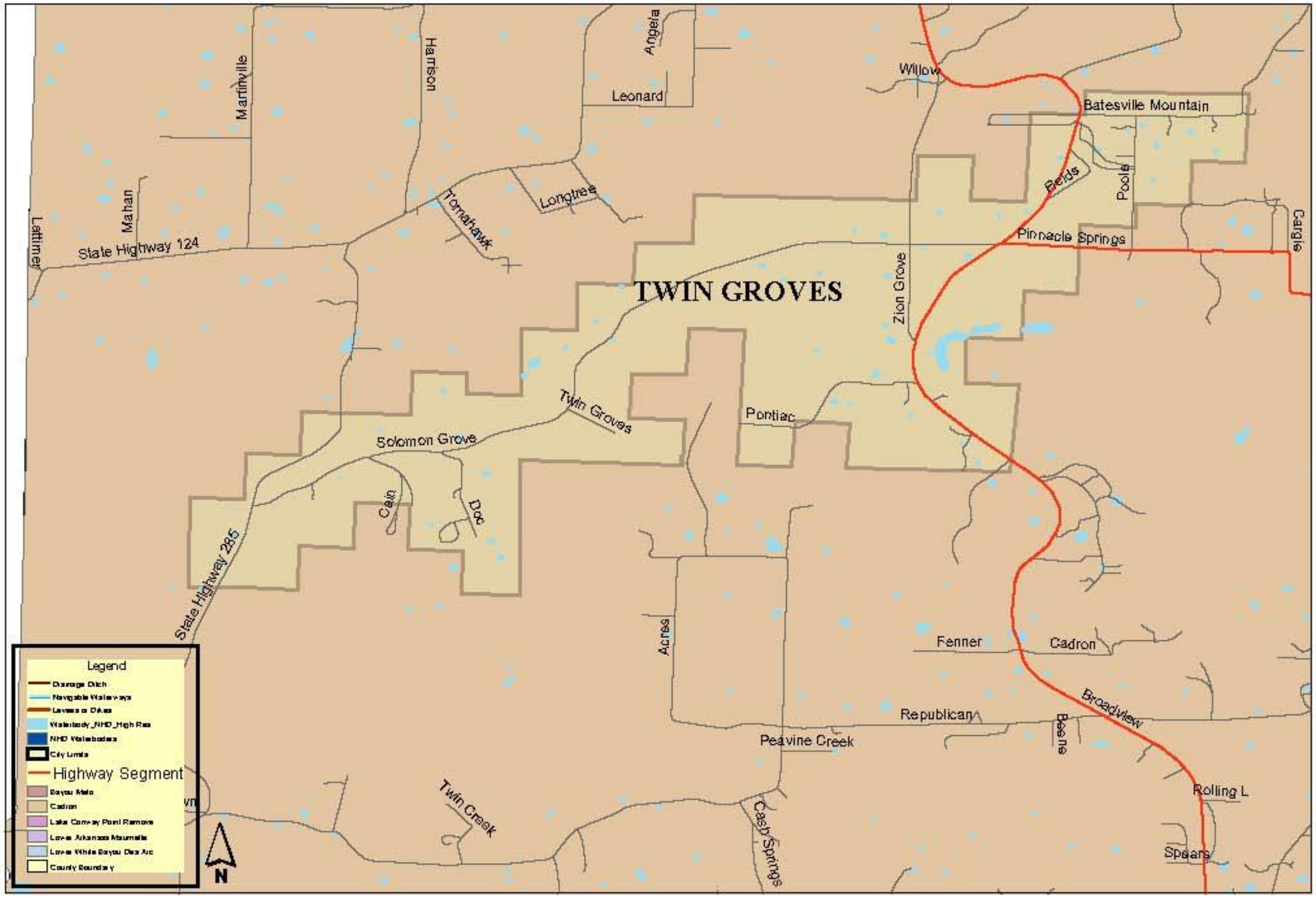


Faulkner County (City of Quitman) Bodies of Water Map



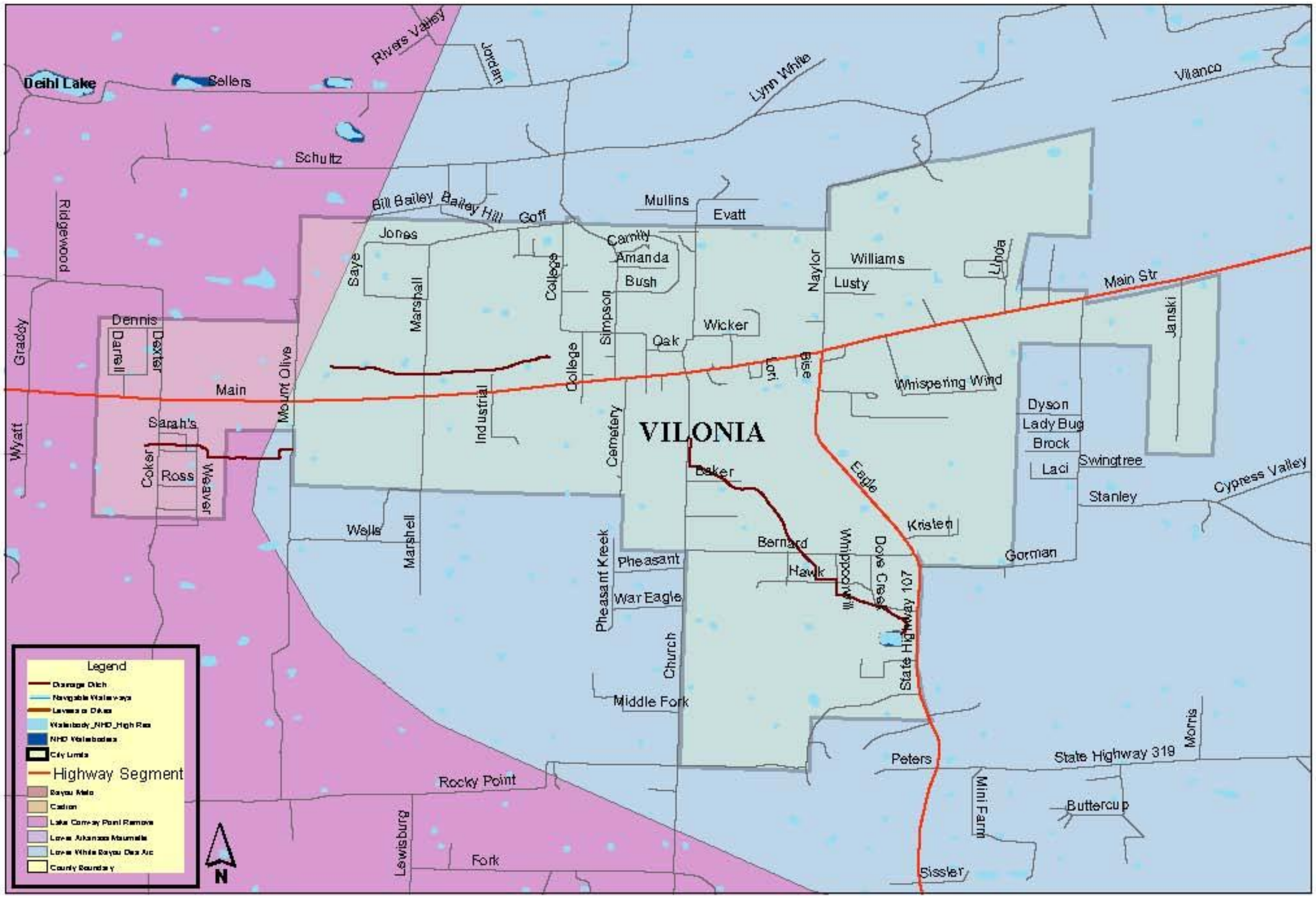
Faulkne

Faulkner County (City of Twin Groves) Bodies of Water Map



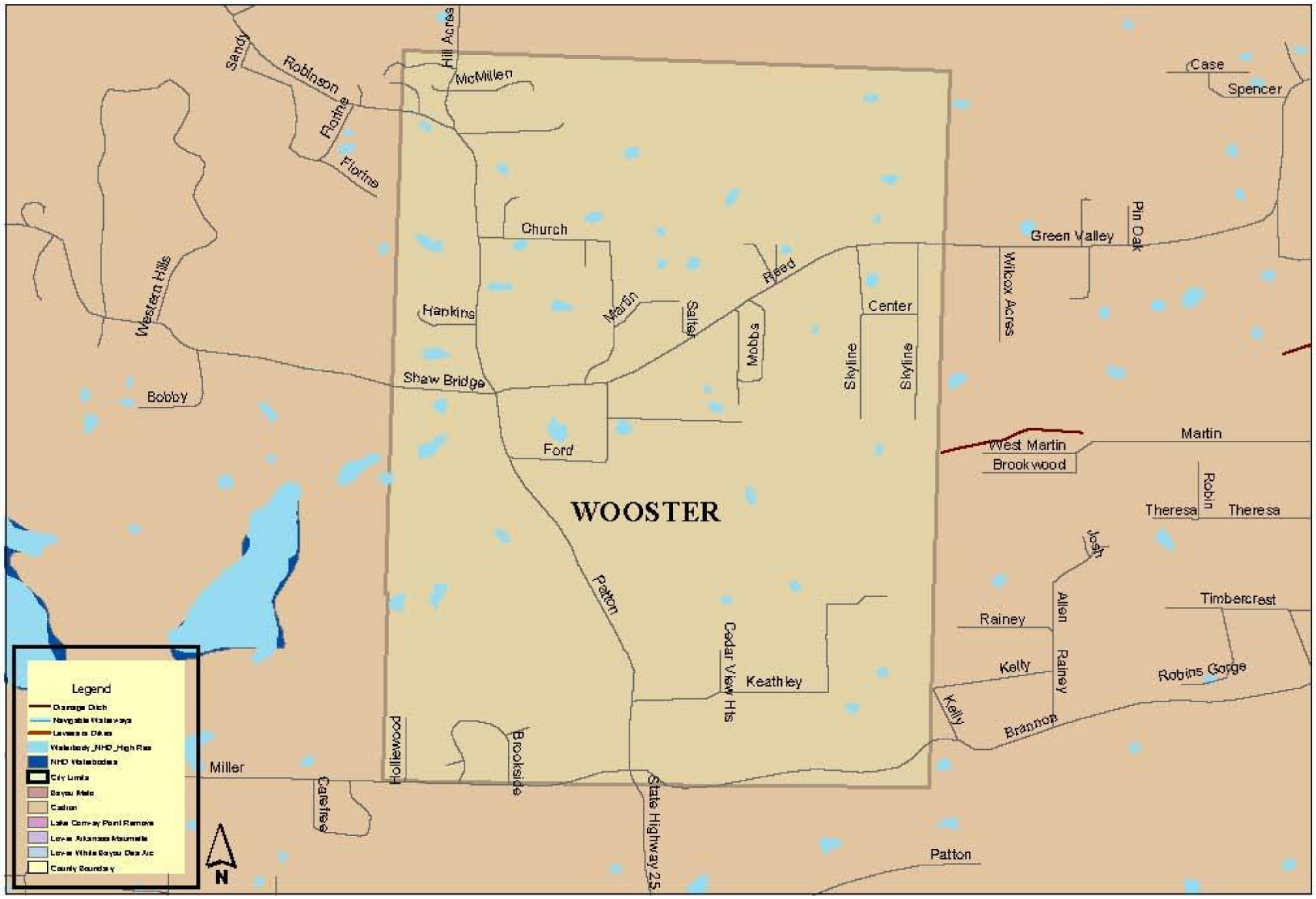
Faulkne

Faulkner County (City of Vilonia) Bodies of Water Map



Faulkn

Faulkner County (City of Wooster) Bodies of Water Map



Geographic Area Affected by Flooding:

Faulkner County, which is considered to be a part of the Gulf Costal and Ouachita Mountain Ecoregion, is subject to riverine, flash, and dam-failure flooding. A variety of factors affect the type and severity of flooding within Faulkner County, including topography, geology, urban development and infrastructure. Serious flooding in the mountainous areas is unusual because streams tend to be faster flowing and flood waters drain quickly. Also, the mountainous areas of the county are generally less populated and flooding that does occur is not as likely to threaten property of lives. Most of the county's flooding and drainage problems are found in communities in the less hilly, Arkansas River Valley. Flash floods are most common in this area due to this area exhibiting high to moderate relief, steep to moderate slopes, and bedrock with low permeability. All factors facilitate rapid runoff and the consequent potential for flash floods. Urban development in this part of the county exacerbates the flash flooding problem. Intense rainfall events, often accompanying the large thunderstorms that occur in Faulkner County several times a year, may result in water flowing rapidly from high elevations into valleys, collecting in, and sometimes overtopping the valley streams. There have also been issues with the maintenance and clearing of drainage channels in this area that have resulted in obstructions restricting the flow of water during a storm. The Hazard Mitigation Planning team has reviewed Faulkner County's Flood insurance Rate Maps (FIRMs) and has worked with the County and City Floodplain Administrators to compile a profile of the flooding hazards in the Jurisdictions. Research on flooding history in the County newspaper accounts of major floods, data collected from the National Climatic Data Center and the interviews with individual County residents.

FEMA Flood Zone Designations

Zone	Description
A	Areas of 100-year Flood; Base flood elevations and flood hazard factors not determined
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundations are shown, but no flood hazard factors are determined.
AE	Base flood elevations determined.
AH	Areas of 100 year shallow flooding where depths are between one (1) and three (3) feet; Base Flood Elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100 year flood; Base Flood Elevations and Flood Hazard Factors determined.

A-99	Areas of 100 year flood to be protected by flood protection system under construction; Base Flood Elevations and Flood Hazard Factors not determined.
AR	The base floodplain that results from the de-certification of a previously accredited flood protection system that is in the process of being restored to provide a 100 year or greater level of flood protection.
V	The coastal area subject to a velocity hazard (wave action) where BFE's are not determined on the FIRM.
VE	The coastal area subject to a velocity hazard (wave action) where BFE's are provided on the FIRM.
B & X Shaded	Areas of moderate flood hazard, usually the area between the limits of the 100 year and 500 year floods. B zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from the 100 year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C &X Unshaded	Areas of minimal flood hazard, usually depicted on FIRMs as exceeding in 500 year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500 year flood.
D	Ares of undetermined but possible flood hazards.

Moderate to Low Risk Areas
In communities that participate in the NFIP, flood insurance is available to all property owners and renters with moderate to low risk.

Zones B, C, and X
Areas outside the 1-percent annual chance floodplain, areas of 1% annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1% annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1% annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

High Risk Areas
In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all A zones.

Zone A
Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.

Zone AE and A1-A30
Areas with a 1% annual chance of flooding and a 26% chance of flooding over the

life of a 30-year mortgage. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Zone AH
Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Zone AO
River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.

Zone AR
Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.

Zone A99
Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

High Risk - Coastal Areas
In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all V zones.

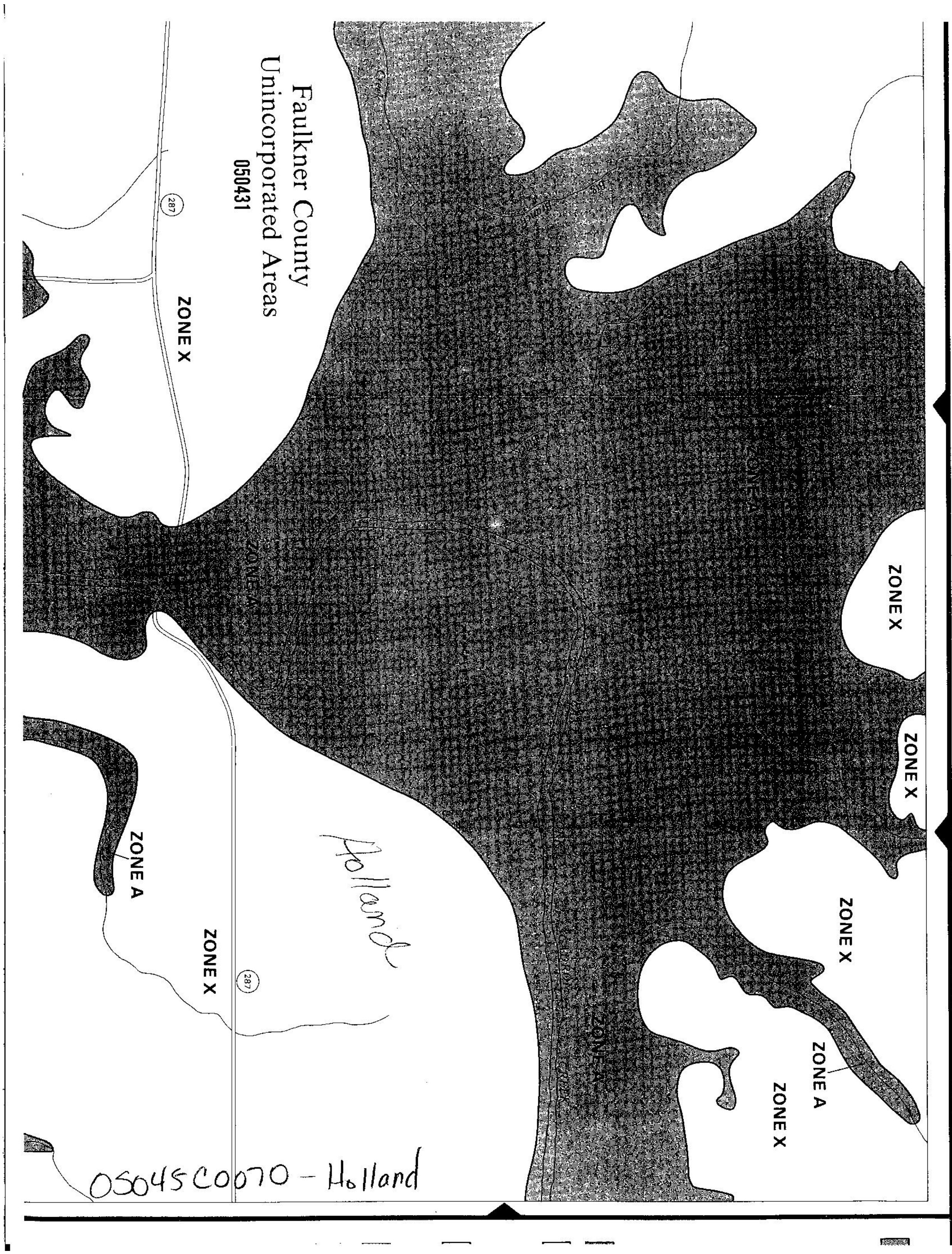
Zone V
Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.

Zone VE and V1 - 30
Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

Undetermined Risk Areas

Zone D
Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.
www.Floodsmart.gov

FIRM Maps are shown below for the smaller jurisdictions:
(Unincorporated Faulkner County and many of the cities were too extensive to scan and attach. Digitized maps are not available) Flood Insurance Rate Maps are located at each municipality and each have a Floodplain Manager who will help with identifying the Floodplains. It would be ideal to have these maps digitized and included in the plan; however it is too expensive and to scan each of the fanfold maps would be impossible. The maps would lose their scaling and would be unusable and unreadable. Faulkner county has many areas that have been re-mapped and have numbered A zones.


Faulkner County
Unincorporated Areas
050431
287
ZONE X
ZONE A
ZONE X
ZONE X
ZONE A
ZONE X
287
ZONE X
ZONE A
ZONE X
Holland
05045C0070 - Holland

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS

PANEL 55 OF 250

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GREENBRIER, CITY OF	050328	0055	E
WOOSTER, TOWN OF	050302	0055	E
UNINCORPORATED AREAS	050431	0055	E

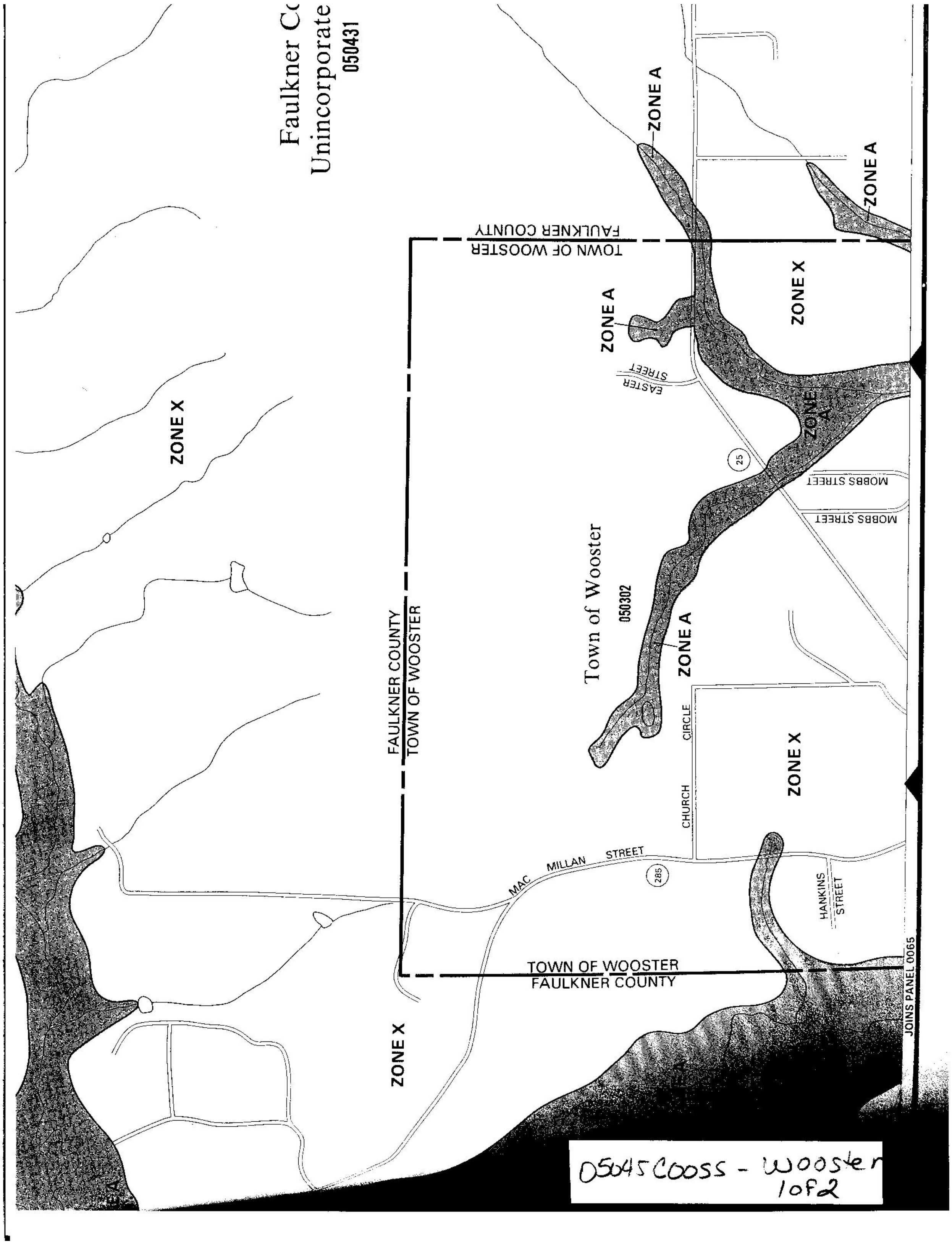
PANEL LOCATION

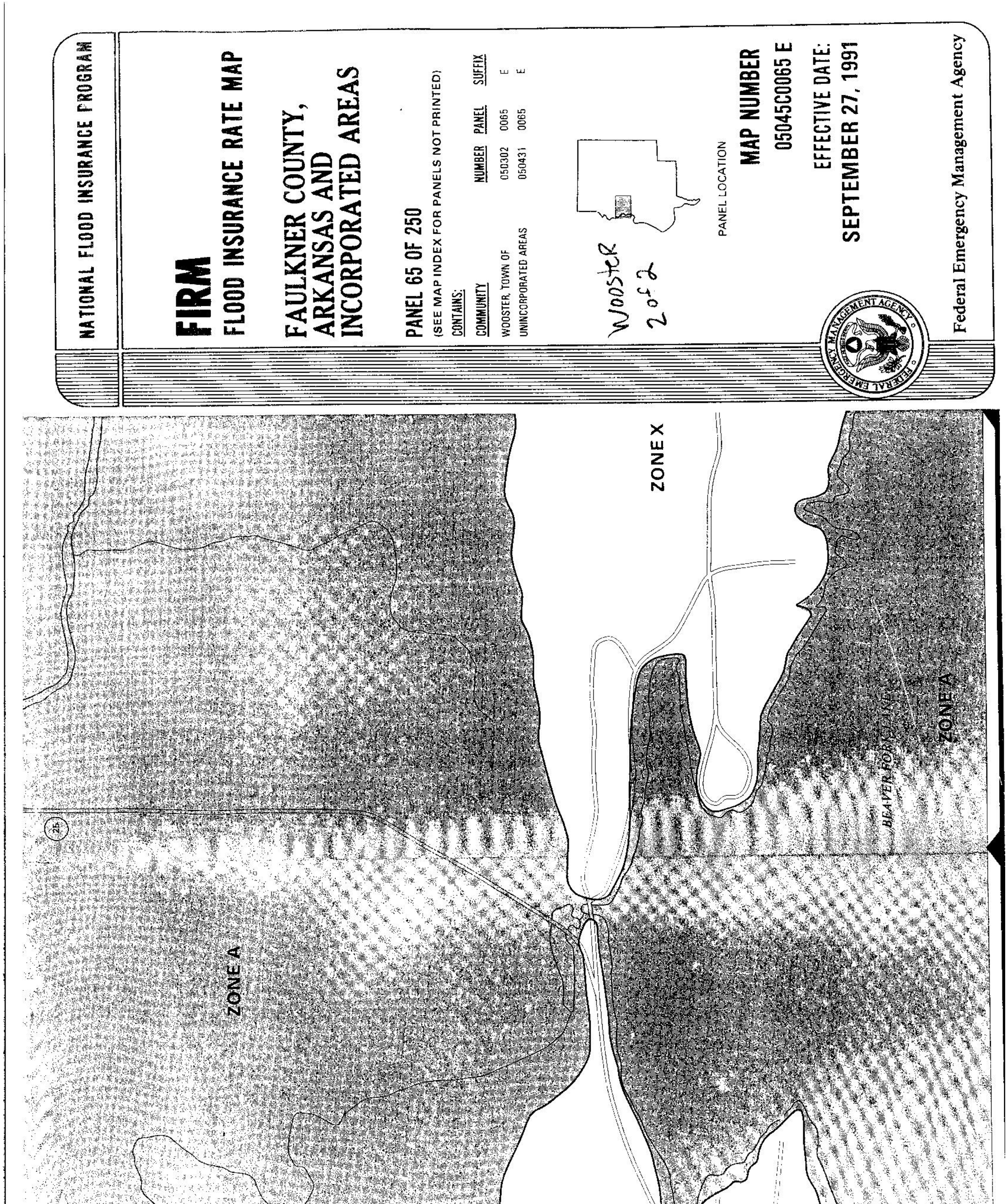
Wooster
1 of 2

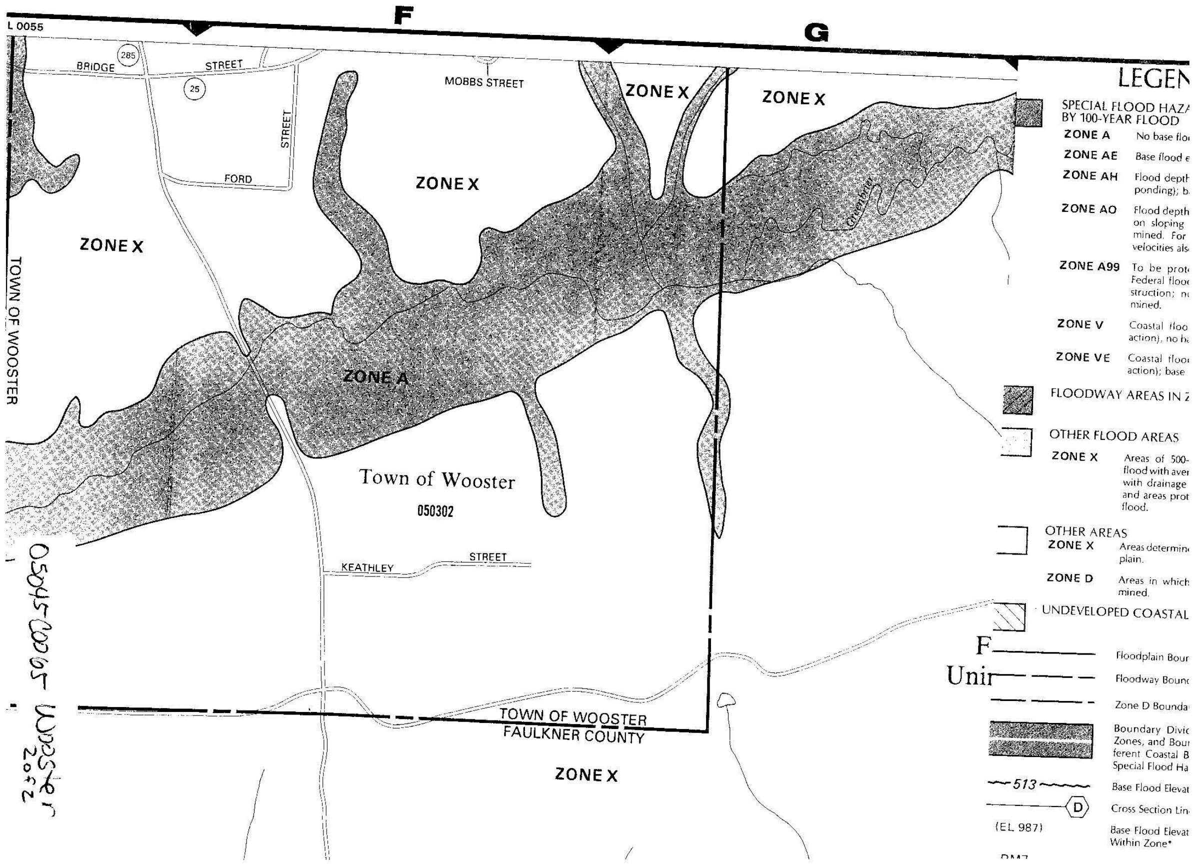
MAP NUMBER
05045C0055 E

EFFECTIVE DATE:
SEPTEMBER 27, 1991

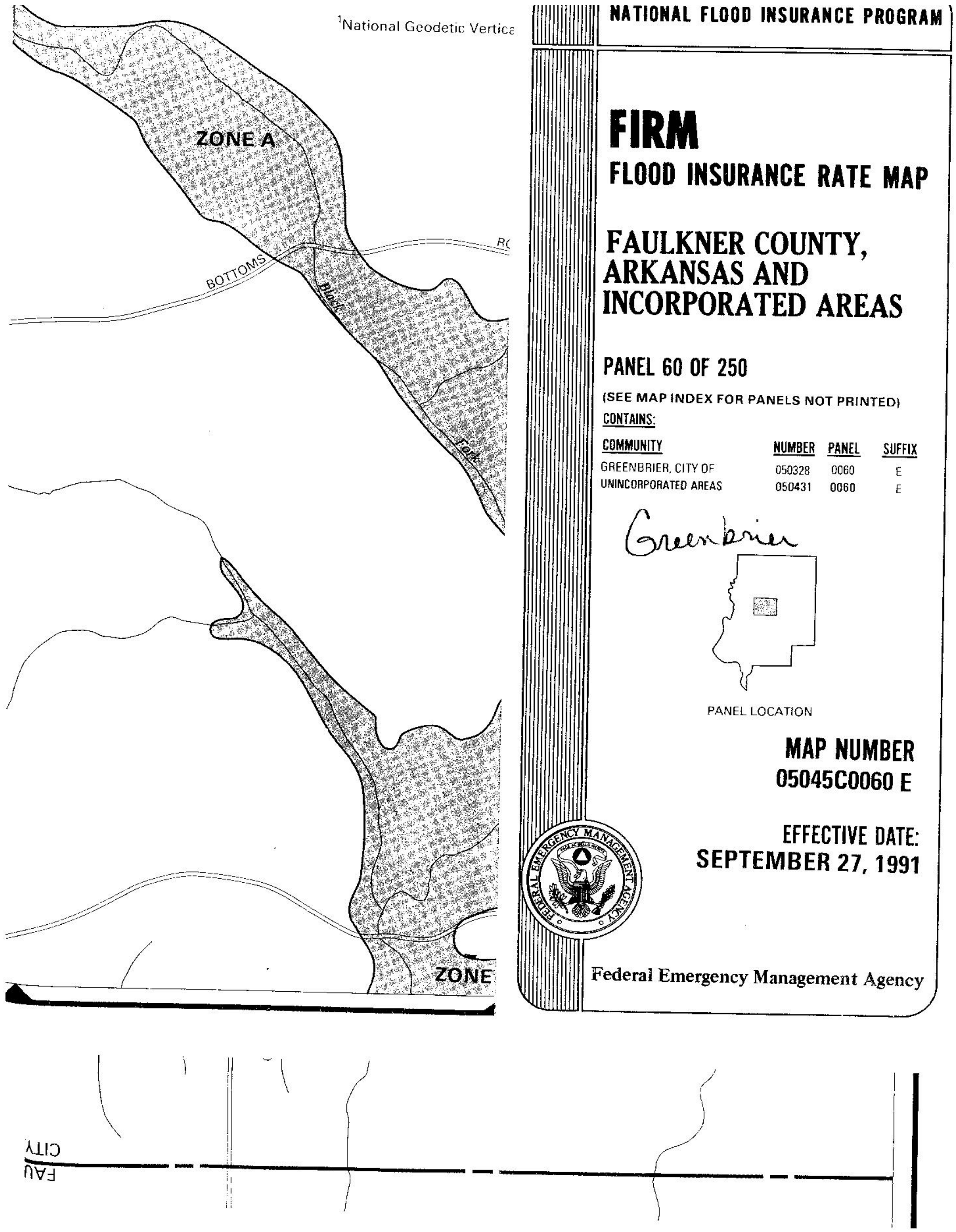
Federal Emergency Management Agency


Faulkner Co
Unincorporate
050431
ZONE A
ZONE A
FAULKNER COUNTY
TOWN OF WOOSTER
ZONE X
ZONE A
EASTER STREET
ZONE A
ZONE X
MOBBS STREET
MOBBS STREET
FAULKNER COUNTY
TOWN OF WOOSTER
Town of Wooster
050302
ZONE A
CHURCH CIRCLE
ZONE X
MAC MILLAN STREET
285
25
HANKINS STREET
TOWN OF WOOSTER
FAULKNER COUNTY
JOINS PANEL 0065
ZONE X
05045C0055 - Wooster
1of2


NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS
PANEL 65 OF 250
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
WOOSTER, TOWN OF 050302 0065 E
UNINCORPORATED AREAS 050431 0065 E
Wooster 2 of 2
PANEL LOCATION
MAP NUMBER
05045C0065 E
EFFECTIVE DATE:
SEPTEMBER 27, 1991
Federal Emergency Management Agency
ZONE X
ZONE A
ZONE A
BEAVER FORK LAKE
25

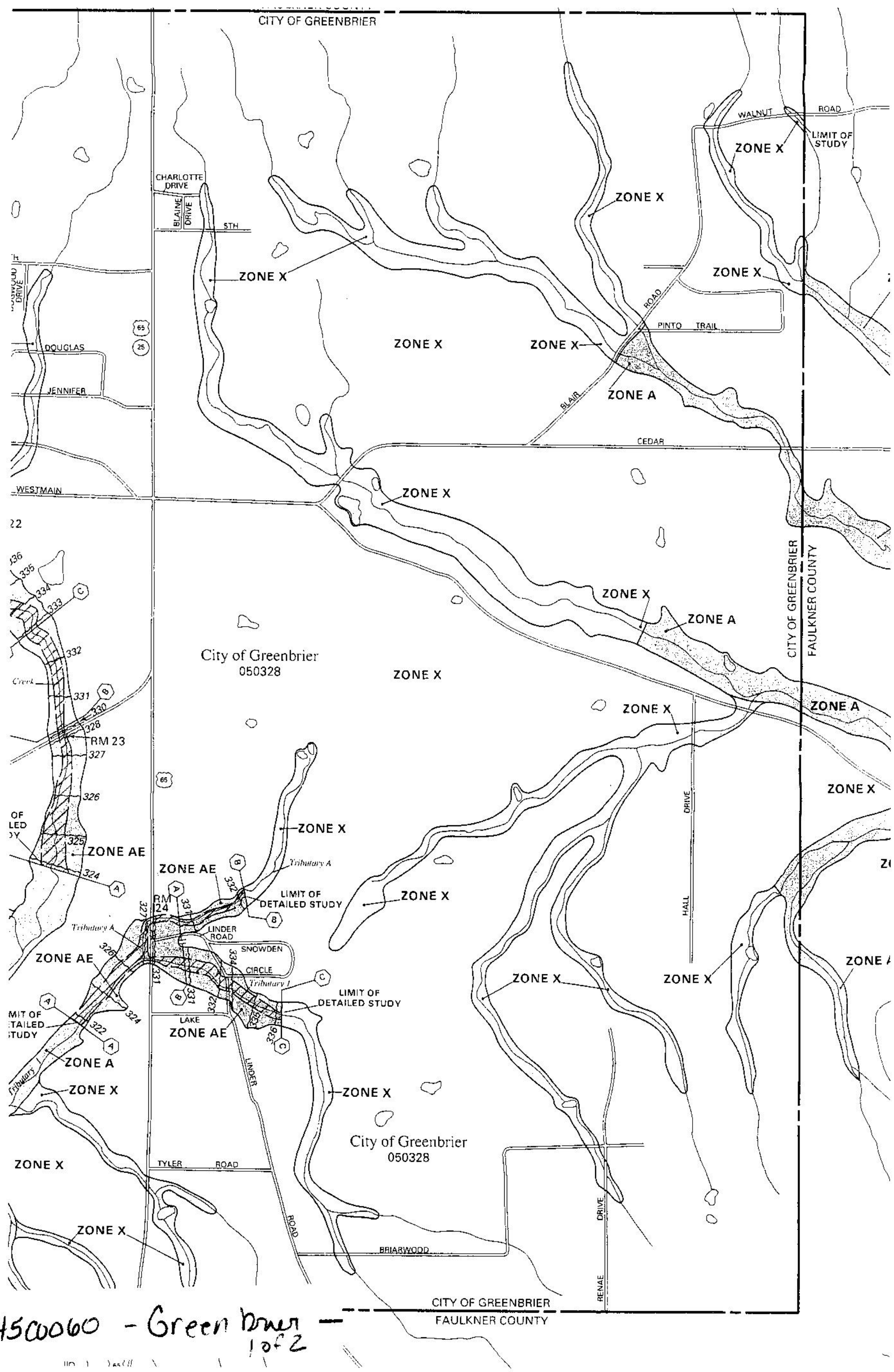


F
G
L 0055
BRIDGE
STREET
285
25
MOBBS STREET
STREET
FORD
ZONE X
ZONE X
ZONE X
ZONE X
TOWN OF WOOSTER
ZONE A
Town of Wooster
050302
KEATHLEY
STREET
TOWN OF WOOSTER
FAULKNER COUNTY
ZONE X
LEGEN
SPECIAL FLOOD HAZ
BY 100-YEAR FLOOD
ZONE A
ZONE AE
ZONE AH
ZONE AO
ZONE A99
ZONE V
ZONE VE
FLOODWAY AREAS IN Z
OTHER FLOOD AREAS
ZONE X
OTHER AREAS
ZONE X
ZONE D
UNDEVELOPED COASTAL
Floodplain Bour
Floodway Bounc
Zone D Bounda
513
Base Flood Elevat
Cross Section Lin
(EL 987)
Base Flood Elevat Within Zone*

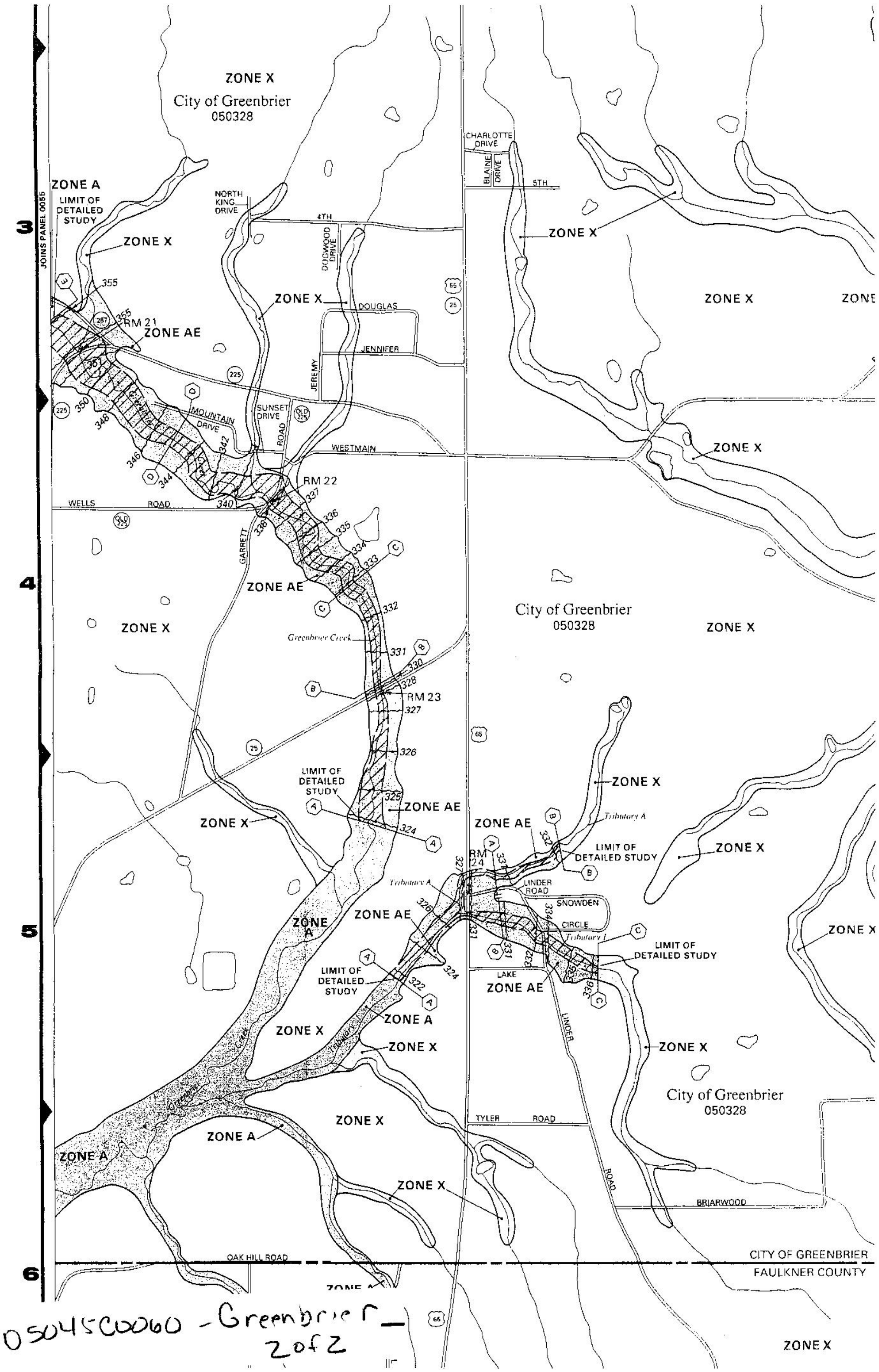


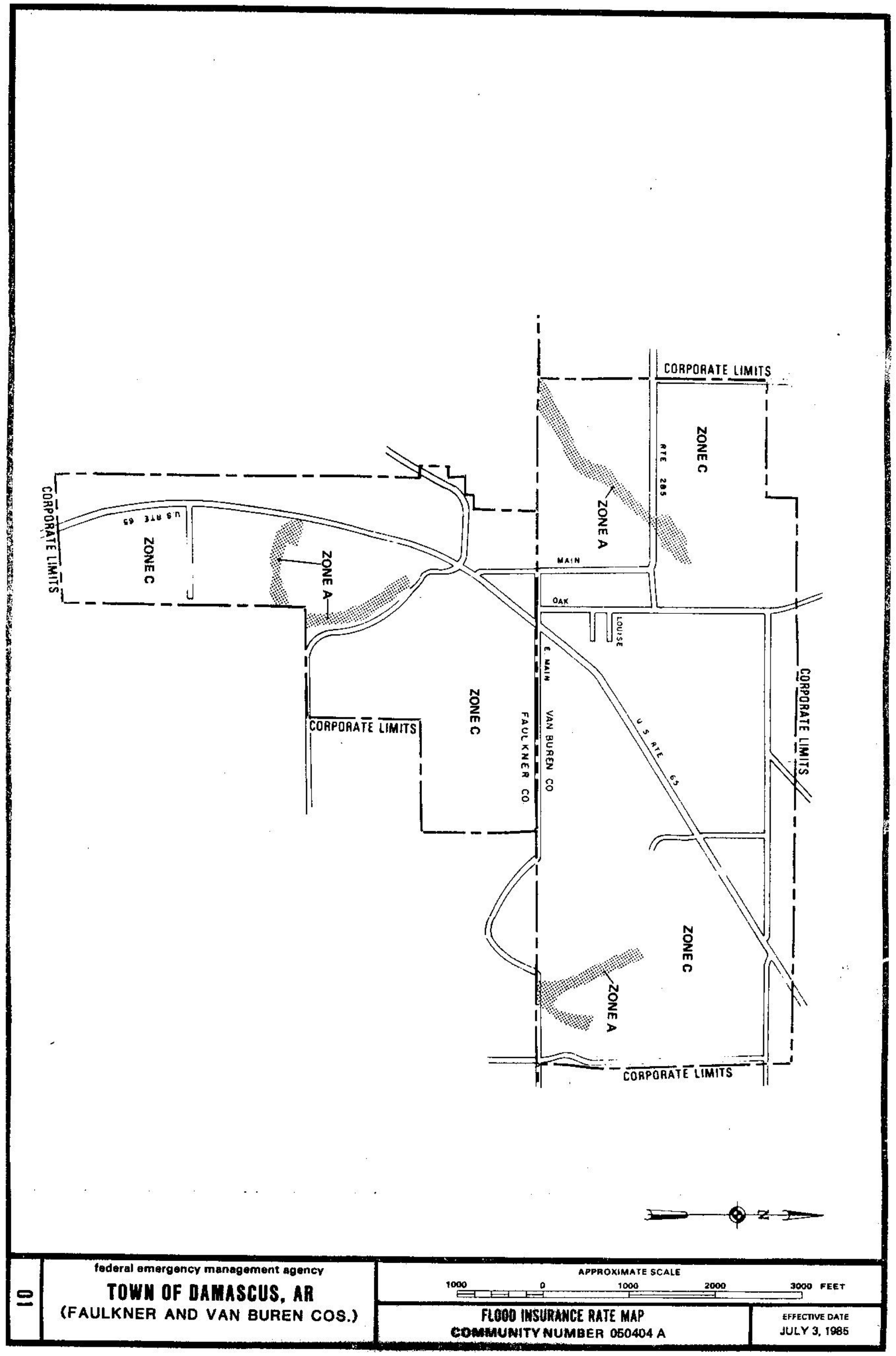
National Geodetic Vertica
ZONE A
BOTTOMS
Black
Fork
ZONE
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS
PANEL 60 OF 250
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
GREENBRIER, CITY OF 050328 0060 E
UNINCORPORATED AREAS 050431 0060 E
Greenbrier
PANEL LOCATION
MAP NUMBER
05045C0060 E
EFFECTIVE DATE:
SEPTEMBER 27, 1991
Federal Emergency Management Agency

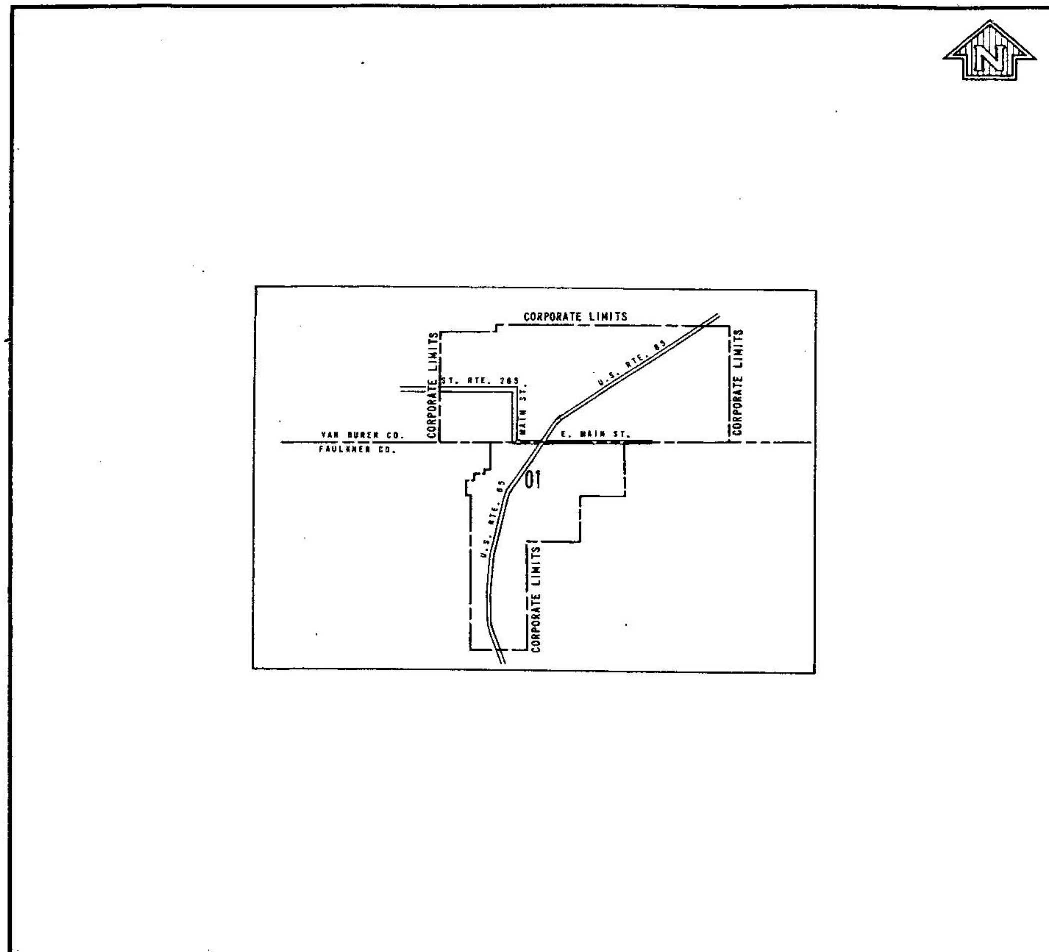
Greenbrier



— 05045C0060 - Greenbrier —
1 of 2


ZONE X
City of Greenbrier
050328
ZONE A
LIMIT OF DETAILED STUDY
JOINS PANEL 0055
ZONE X
ZONE AE
RM 21
RM 22
RM 23
RM 24
WELLS ROAD
GARRETT
MOUNTAIN DRIVE
SUNSET DRIVE
WESTMAIN
4TH
5TH
DOUGLAS
JENNIFER
JEREMY
DOGWOOD DRIVE
NORTH KING DRIVE
CHARLOTTE DRIVE
BLAINE DRIVE
Greenbrier Creek
Tributary A
LINDER ROAD
SNOWDEN CIRCLE
LAKE
TYLER ROAD
BRIARWOOD
OAK HILL ROAD
CITY OF GREENBRIER
FAULKNER COUNTY
05045C0060 - Greenbrier
2 of 2


CORPORATE LIMITS
ZONE C
ZONE A
RTE 285
MAIN
OAK
LOUISE
U S RTE 65
E MAIN
VAN BUREN CO
FAULKNER CO
federal emergency management agency
TOWN OF DAMASCUS, AR
(FAULKNER AND VAN BUREN COS.)
APPROXIMATE SCALE
1000 0 1000 2000 3000 FEET
FLOOD INSURANCE RATE MAP
COMMUNITY NUMBER 050404 A
EFFECTIVE DATE
JULY 3, 1985
01



KEY TO SYMBOLS

ZONE DESIGNATIONS*

ZONE C
ZONE A
ZONE C

Base Flood Elevation Line with elevation in feet	~~513~~
Base Flood Elevation where uniform within zone	(EL 987)
Elevation Reference Mark	RM7$_x$
River Mile	• M1.5

*EXPLANATION OF ZONE DESIGNATIONS

A flood insurance map displays the zone designations for a community according to areas of designated flood hazards. The zone designations used by FEMA are

Zone	Explanation
A	Areas of 100-year flood, base flood elevations and flood hazard factors not determined
AO	Areas of 100-year shallow flooding, flood depth 1 to 3 feet, product of flood depth (feet) and velocity (feet per second) less than 15
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet, base flood elevations are shown, but no flood hazard factors are determined
A1 A30	Areas of 100-year flood, base flood elevations and flood hazard factors determined
A99	Areas of 100-year flood to be protected by a flood protection system under construction, base flood elevations and flood hazard factors not determined
B	Area between limits of 100-year flood and 500 year flood, areas of 100 year shallow flooding where depths less than 1 foot
C	Areas outside 500-year flood
D	Areas of undetermined, but possible, flood hazards
V	Areas of 100-year coastal flood with velocity (wave action), base flood elevations and flood hazard factors not determined
V1 V30	Areas of 100-year coastal flood with velocity (wave action), base flood elevations and flood hazard factor determined

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only, it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638 6620.

INITIAL IDENTIFICATION: APRIL 18, 1978

FLOOD HAZARD BOUNDARY MAP REVISIONS: NONE

FLOOD INSURANCE RATE MAP EFFECTIVE: JULY 3, 1985

FLOOD INSURANCE RATE MAP REVISIONS

federal emergency management agency

FIRM
FLOOD INSURANCE RATE MAP 01
MAP INDEX
TOWN OF DAMASCUS, AR
(FAULKNER AND VAN BUREN COS.)

COMMUNITY NUMBER 050404 A

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS

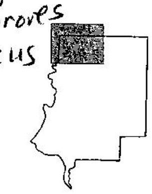
PANEL 25 OF 250

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
UNINCORPORATED AREAS	050431	0025	E

Twin Groves
Damascus
Guy



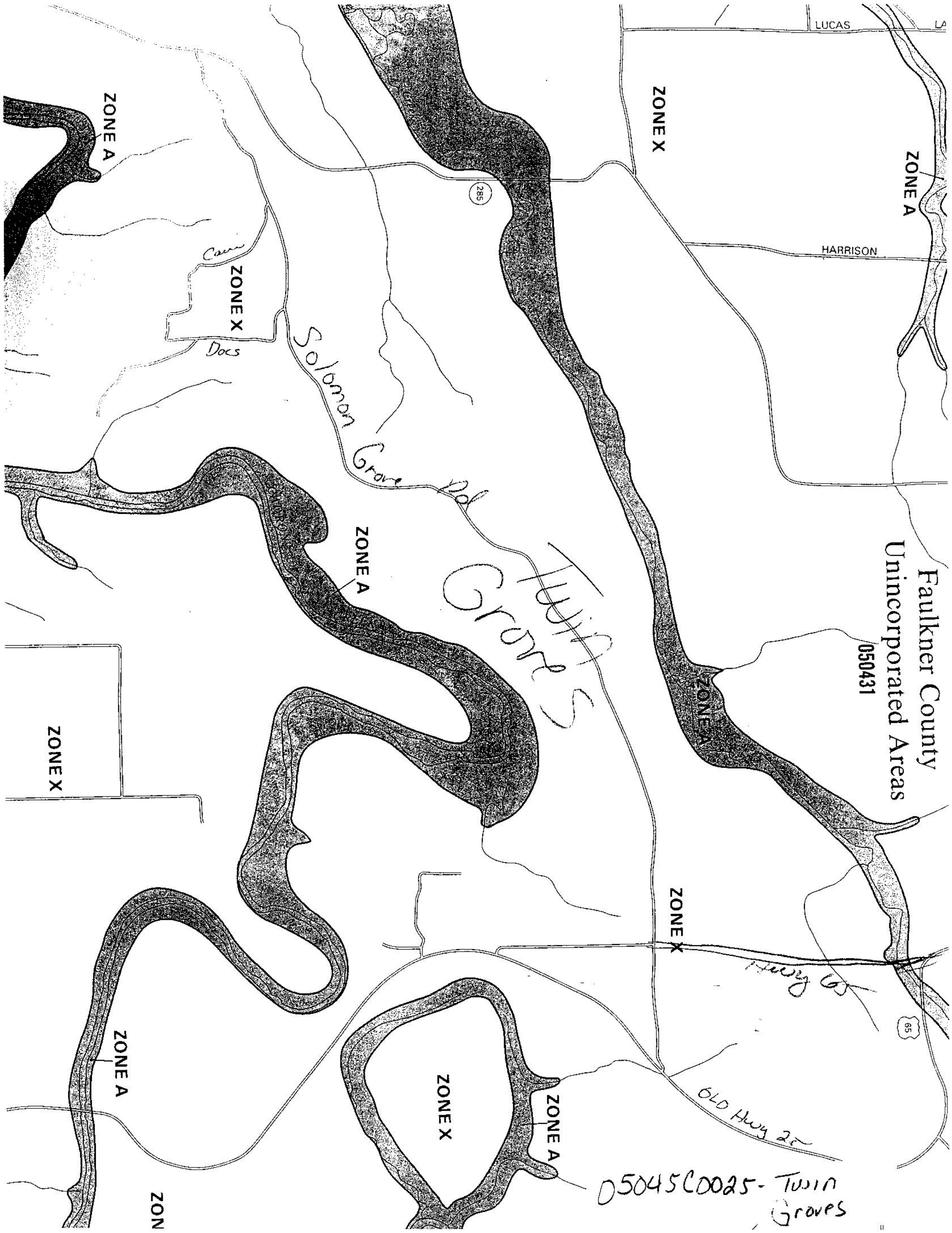
PANEL LOCATION

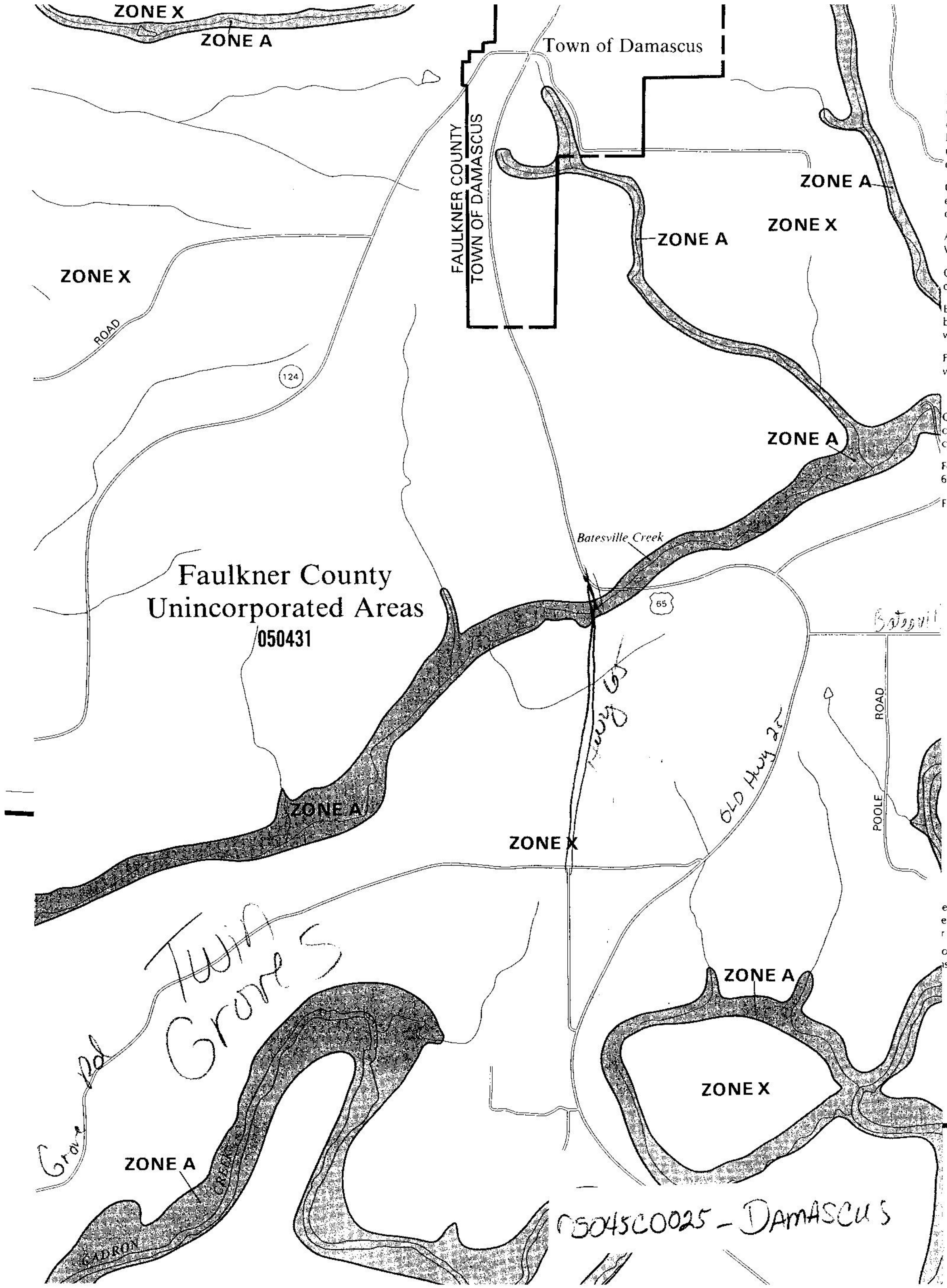
MAP NUMBER
05045C0025 E

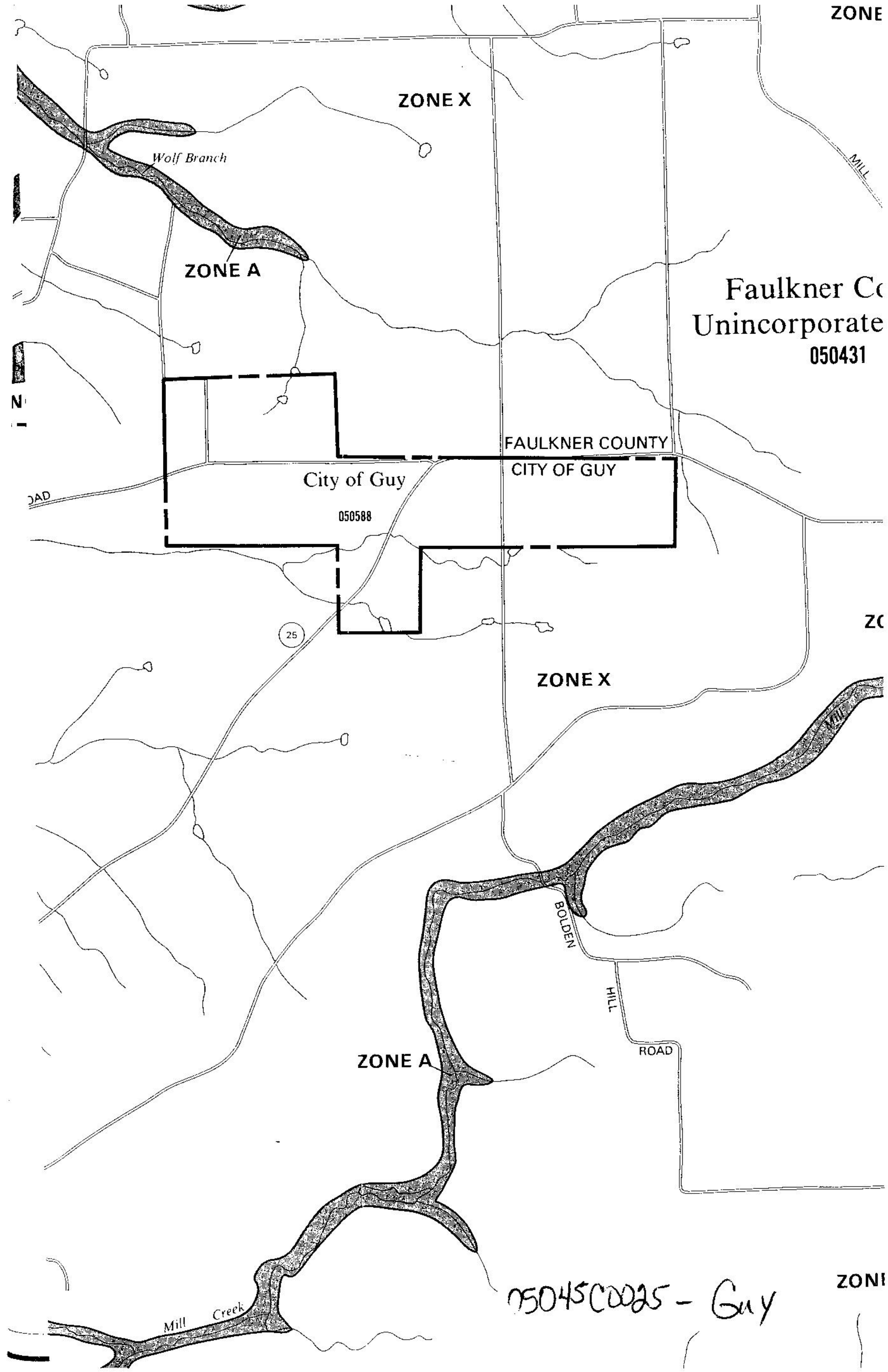
EFFECTIVE DATE:
SEPTEMBER 27, 1991

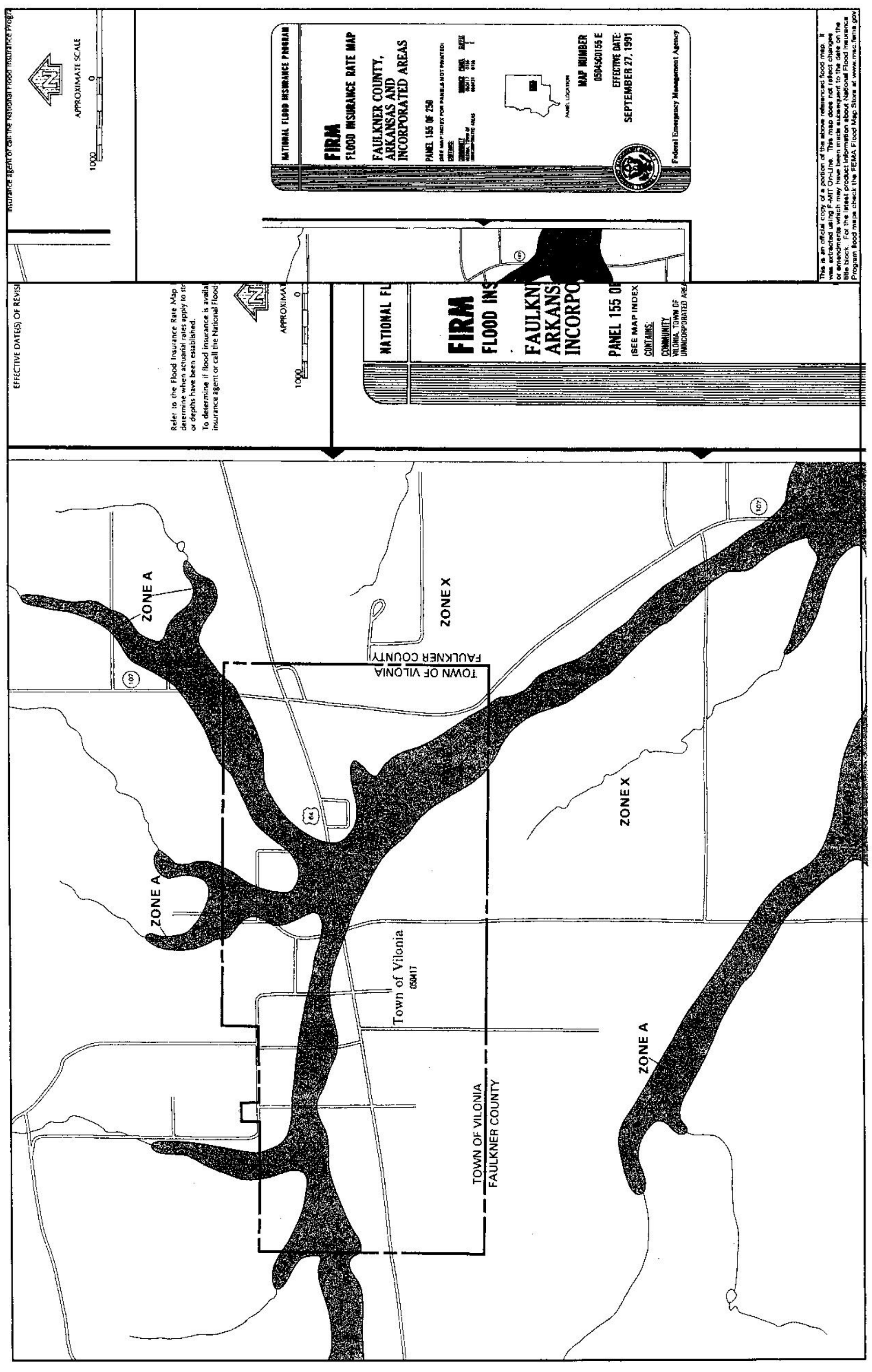
Federal Emergency Management Agency

FOLD

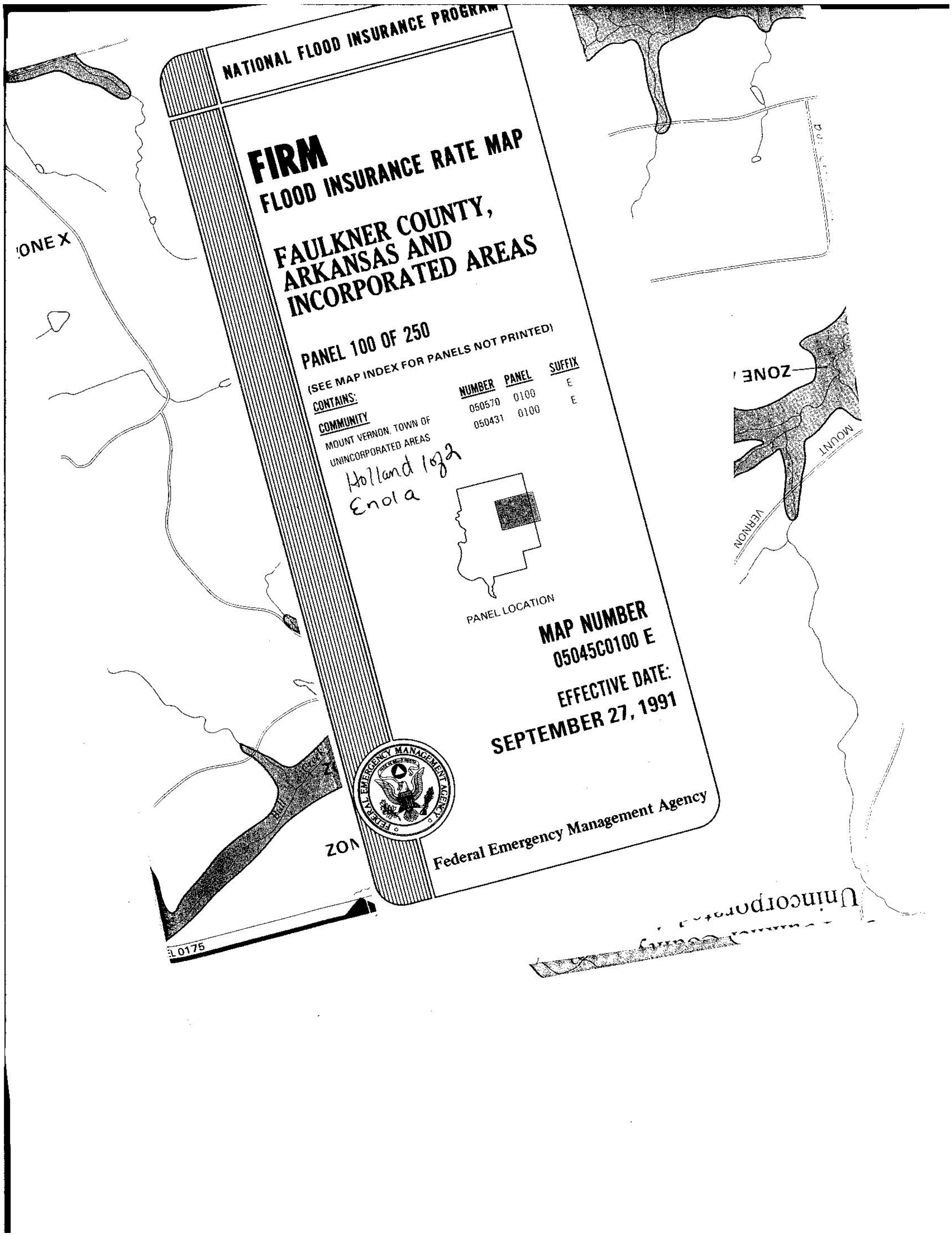

Faulkner County
Unincorporated Areas
050431
ZONE X
ZONE A
LUCAS
HARRISON
285
65
Solomon Grove Rd
Twin Groves
Docs
Hwy 65
OLD Hwy 25
05045C0025- Twin Groves

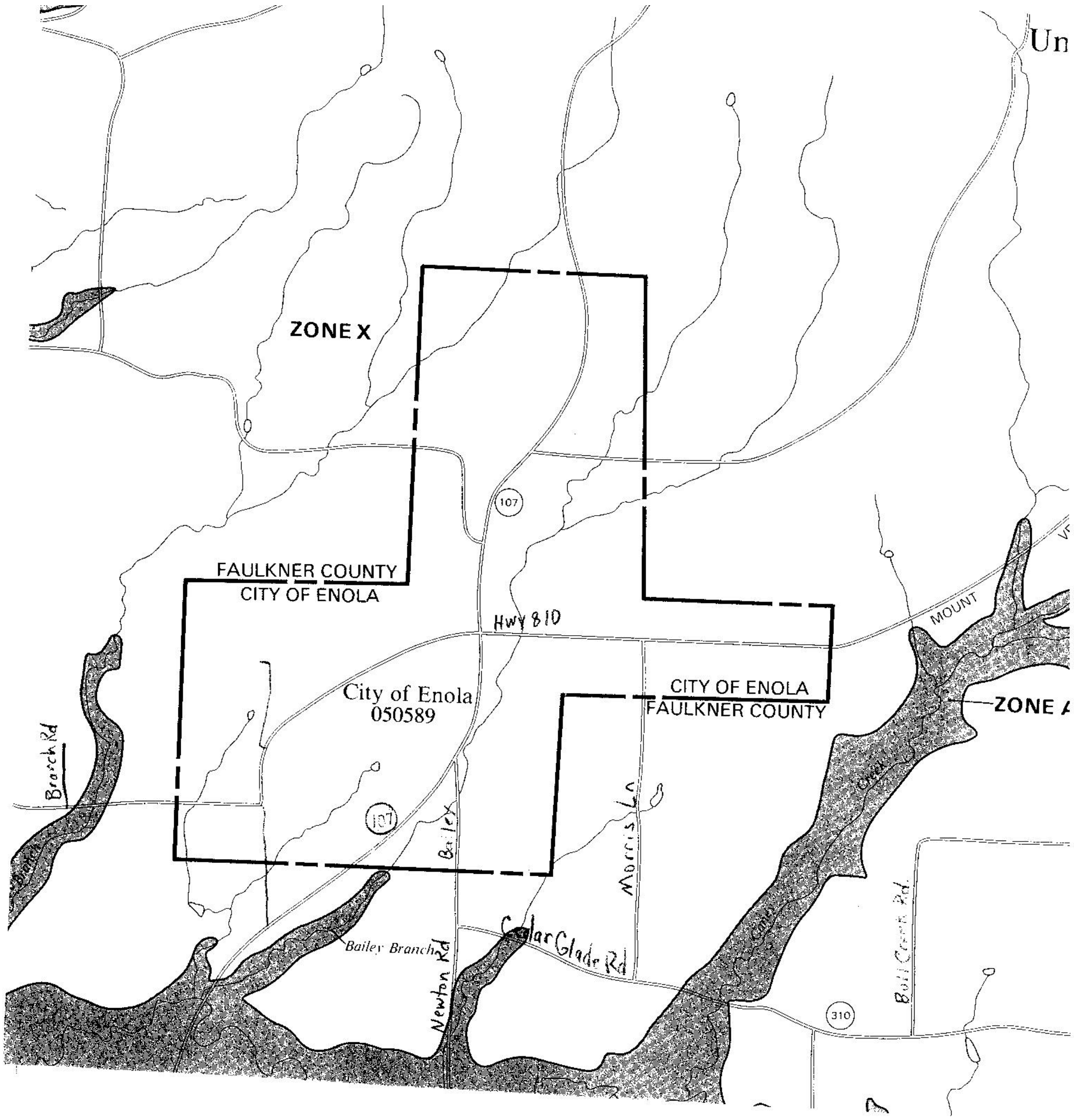

ZONE X
ZONE A
Town of Damascus
FAULKNER COUNTY
TOWN OF DAMASCUS
ZONE A
ZONE A
ZONE X
ZONE X
ROAD
124
ZONE A
Batesville Creek
Faulkner County
Unincorporated Areas
050431
65
Batesvil
Hwy 65
Old Hwy 25
ROAD
POOLE
ZONE A
ZONE X
Twin Groves
Grove Rd
ZONE A
ZONE X
ZONE A
CADRON
C50450025 - DAMASCUS


ZONE
ZONE X
Wolf Branch
ZONE A
Faulkner Co
Unincorporate
050431
FAULKNER COUNTY
CITY OF GUY
City of Guy
050588
25
ZONE X
BOLDEN
HILL
ROAD
ZONE A
Mill Creek
05045C0025 - Guy
ZONE


NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS
PANEL 155 OF 250
MAP NUMBER 05045C0155 E
EFFECTIVE DATE: SEPTEMBER 27, 1991
Federal Emergency Management Agency
APPROXIMATE SCALE
1000
0
ZONE A
ZONE X
Town of Vilonia
TOWN OF VILONIA
FAULKNER COUNTY

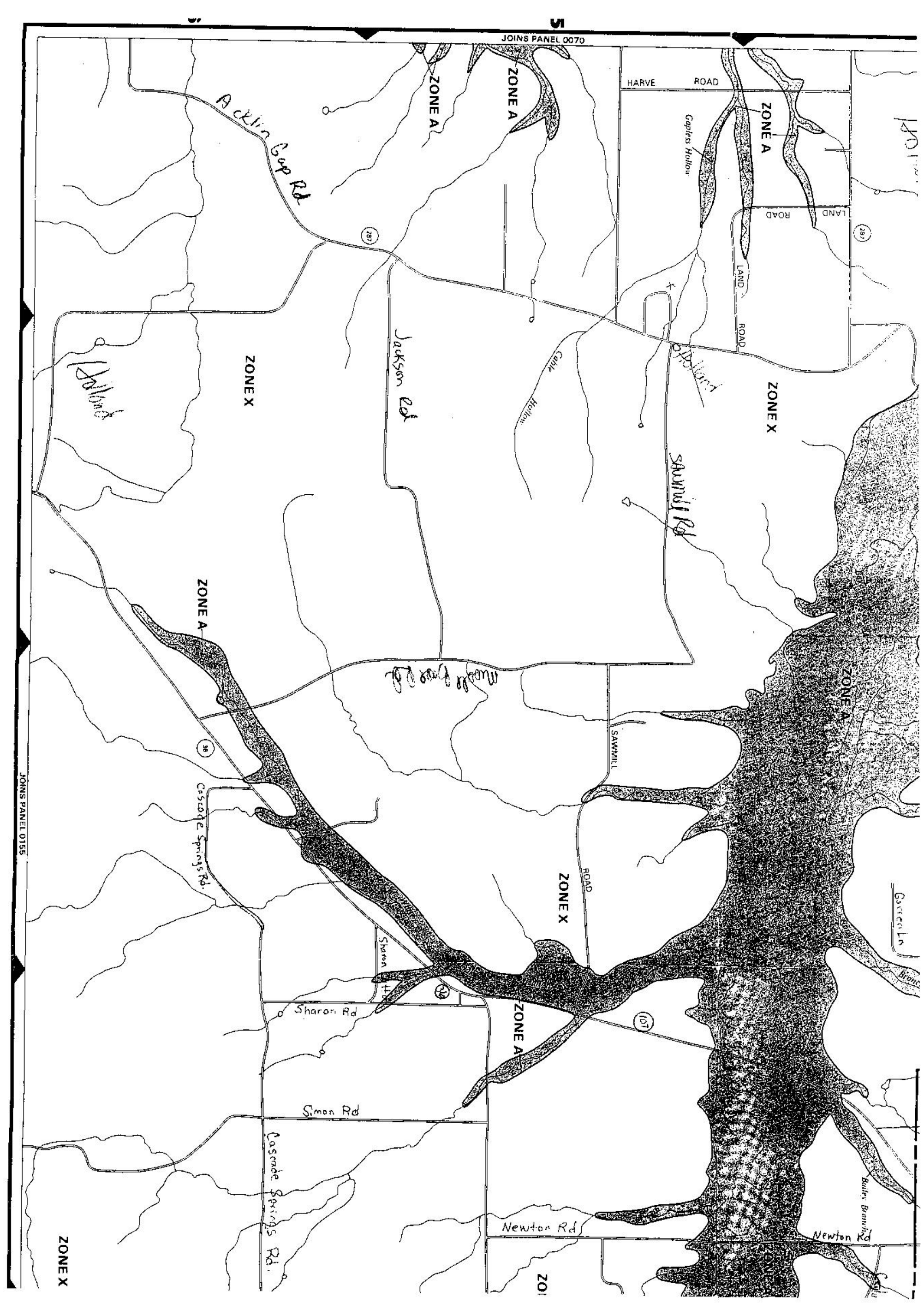
Vilonia

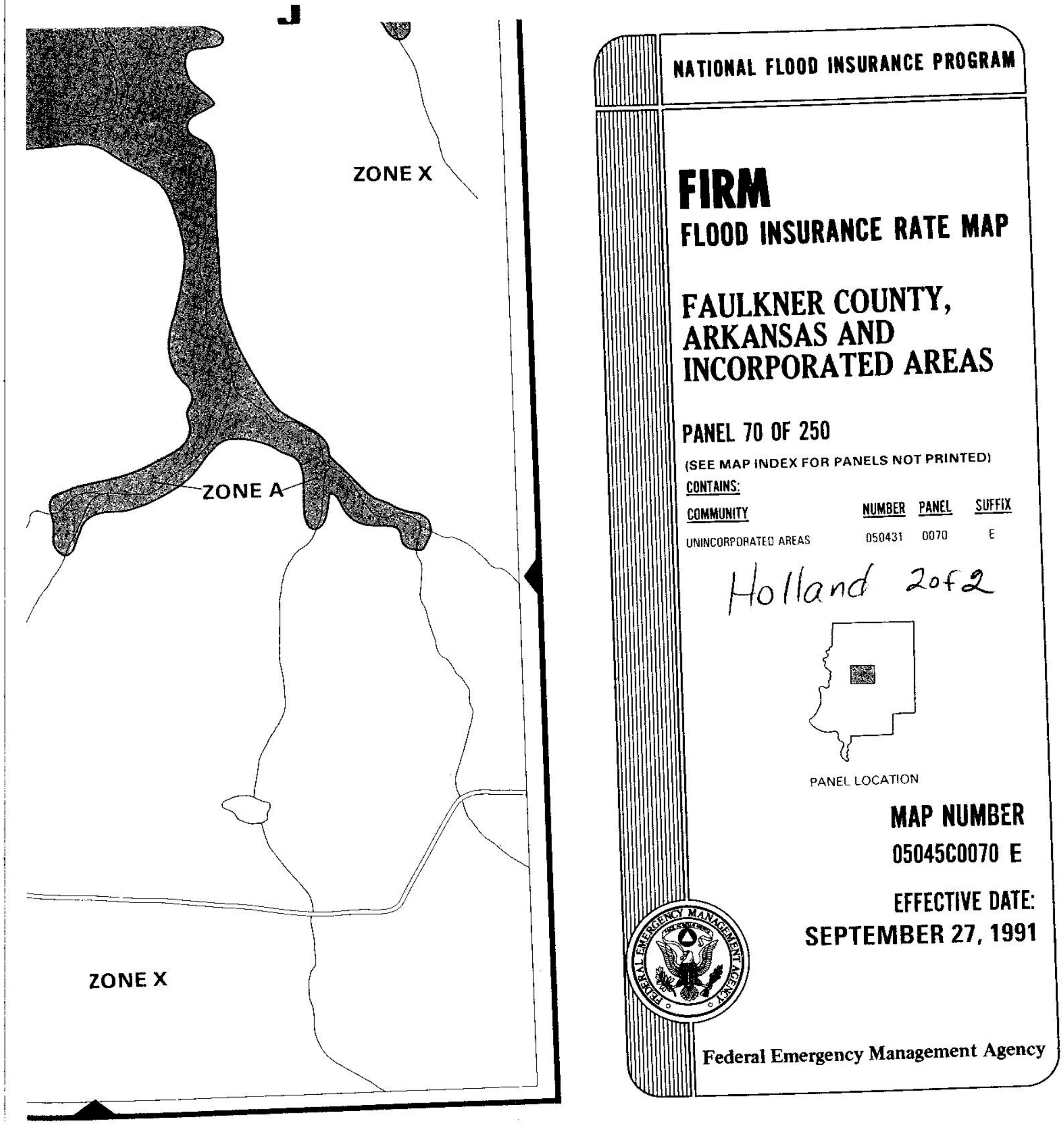

NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS
PANEL 100 OF 250
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY | NUMBER | PANEL | SUFFIX
MOUNT VERNON, TOWN OF | 050570 | 0100 | E
UNINCORPORATED AREAS | 050431 | 0100 | E
Holland 1072
Enola
PANEL LOCATION
MAP NUMBER
05045C0100 E
EFFECTIVE DATE:
SEPTEMBER 27, 1991
FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Emergency Management Agency
ZONE X
ZONE
MOUNT
VERNON
Unincorporated



05045C0100 - Enola

05045C0100
Holland 1982




ZONE X
ZONE A
ZONE X
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS
PANEL 70 OF 250
(SEE MAP INDEX FOR PANELS NOT PRINTED)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
UNINCORPORATED AREAS 050431 0070 E
Holland 2 of 2
PANEL LOCATION
MAP NUMBER
05045C0070 E
EFFECTIVE DATE:
SEPTEMBER 27, 1991
FEDERAL EMERGENCY MANAGEMENT AGENCY
Federal Emergency Management Agency

Previous Flood Occurrences:

Riverine Flooding: The flood events on the Arkansas River in Faulkner County are well documented by the National Weather Service Advanced Hydrologic Prediction Service. With the flood stage set at 275 feet, the highest historical "Crest" of the Arkansas River on May 1990 the levees in Toad Suck community overtopped. Toad Suck one-stop store was affected. This was the worst of 10 recoded crest dates ranging from 1974 until 2002.

The impact of flood stage river levels on the Arkansas River clearly impact all other rivers, streams, bayous and oxbow lakes in Faulkner County as each one's flow toward and into the Faulkner River. For example, when the Faulkner River is at flood stage (275 feet), water begins backing up along the many creeks throughout the county putting many structures in danger.

Flash Flooding: The National Climatic Data Center (NCDC) has recorded fifteen (15) flash flooding events in Faulkner County since 1997. Three (3) of these events were declared countywide. The other six (6) events were declared for Conway, Vilonia, Greenbrier, Wooster and southern portions of the county. There were no deaths or injuries associated with these flood events. The details of these events are as follows:

> **DECLARED DISASTER 3,28,1990 $350,000.00 – Disastrous and destructive flooding occurring March 7-8, 1990 caused great damage to public facilities and other losses. By Act 511 of 1973, as amended, do hereby declare that a state of emergency exists and hereby establish the sum of $350,000 in Disaster Fund to provide assistance to the affected counties**
>
> **DECLARED DISASTER DR 97-09, DR 97-10: $800,000 – Disastrous and destructive storms and flooding which began April 4, 1997 and continuing caused great damage to public facilities.**
>
> **Countywide: April 05, 1997, 5:00 pm, Flash Flood.** Heavy rainfall resulted in flash flooding. Several county roads and bridges were under water.
>
> **Conway: August 5, 1998, 8:30 pm, Flash Flood:** One to two inches of rain in less than an hour covered some city streets high water, especially Highway 65B.
>
> **Vilonia: October 6, 1998, 4:00 am, Flash Flood:** A slow moving line of thunderstorms moved from western Arkansas into central sections of the state. Excessive rain was produced in Faulkner County, with 1.5 inches to 3 inches of rain common. Several roads were under water at Vilonia.
>
> **Countywide: January 21, 1999, 8:00 pm, Flash Flood:** Strong to severe thunderstorms continually developed from southwest into central and northeast Arkansas during the afternoon and evening of January 21st. The storms moved

northeast over the same areas, with flash flooding occurring. There were scattered reports of roads covered by water, with a few roads closed until the water receded. Where flooding occurred, 2 to as much as 4 inches of rain were received.

Conway: July 26, 2999, 4:00 pm, Flash Flood: Three to four inches of rain in less than an hour flooded several streets in and around Conway.

South Portion: February 16, 2001, 8:40 am, Flash Flood: Five to seven inches of rain was common over much of central and southern Arkansas from 2/13/2001 to 2/17/2001. During the morning hours of 2/16/2001, excessive rain caused flooding of some roadways in southern Faulkner, Hot Springs and Pulaski County. In some cases, roads had to be barricaded to prevent traffic from diving through high water.

Countywide: December 16, 2001, 7:13 pm, Flash Flood: Heavy rains occurred over much of Arkansas from the 16th through the early morning hours of the 17th. Between 2 and 4 inches of rain fell across the region, with some areas seeing over 5 inches of rainfall. This resulted in widespread flash flooding with many roads covered by high water. Numerous homes and businesses were also damaged by high flood waters.

DECLARED DISATER: DR03-14, DR 03-23, DR 03-24, DR 03-29: $656,250.00 – Severe storms, tornadoes and flooding that began May 2, 2003 and continued through June 10, 2003 have caused great damage to private property and public facilities.

DECLARED DISASTER: DR 03-22, DR 03-32: $730,000 – Severe Storms, tornadoes and flooding that began May 16, 2003 have caused great damage to private property and public facilities.

Conway: May 16, 2003, 3:28 pm, Flash Flood: Heavy rains caused flash flooding to occur in Conway. Numerous streets were covered by high water. Several homes sustained damage from the flood waters.

Greenbrier: May 16, 2003, 7:25 pm, Flash Flood: Heavy rains caused flash flooding to occur in the Greenbrier and Wooster areas. Several roads were damaged due to flood waters. Also, some homes also sustained some minor damage from the high water.

Wooster: May 16, 2003, 7:25 pm, Flash Flood: Heavy rains caused flash flooding to occur in the Greenbrier and Wooster areas. Several roads were damaged due to flood waters. Also, some homes also sustained some minor damage from the high water.

Conway: June 30, 2003, 1:45 pm, Flash Flood: Heavy rains caused flash flooding to occur in the northwest part of Conway. Several homes were flooded in the area.

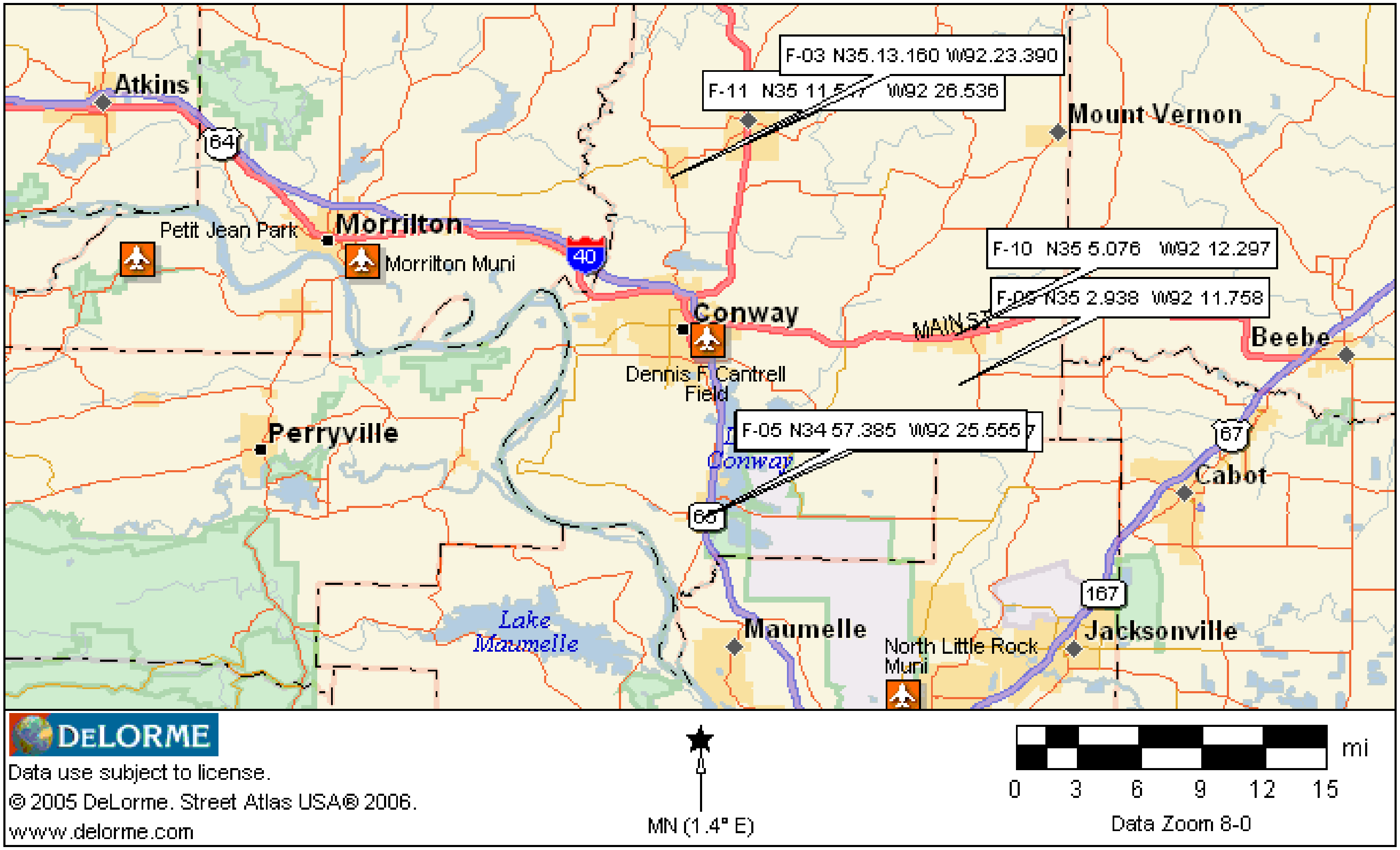
Conway: April 21, 2004, 6:30 pm, Flash Flood: Excessive rainfall caused some street flooding in Conway, with water flowing into several homes.

Northeast of Conway: April 21, 2004, 11:15 pm, Flash Flood: Water was flowing over a road about 7 miles northeast of Conway.

South Portion: April 22, 2004, 5:30 am, Flash Flood: A solid area of showers and thunderstorms produced heavy to excessive rain across Perry, southern Yell, southern Faulkner, southern White and Scott Counties. Flooding occurred mainly on county roads and low water crossings in these areas.

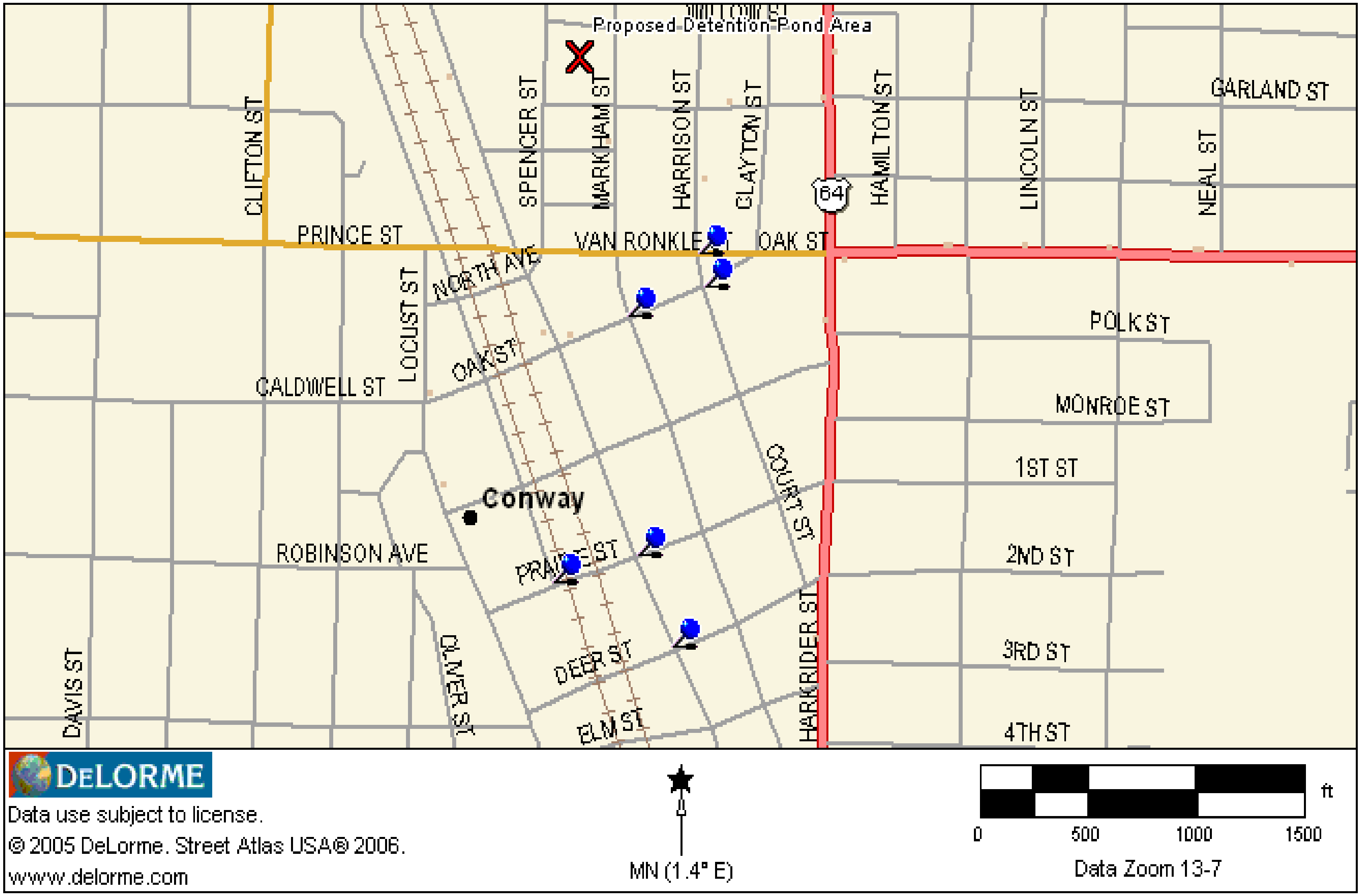
Conway: May 4, 2006, 9:30 am, Flash Flood: Heavy rains produced flash flooding in parts of downtown Conway. Several businesses had standing water inside for a few hours after the rainfall subsided. Some vehicles were washed off roadways, but no injuries were reported.

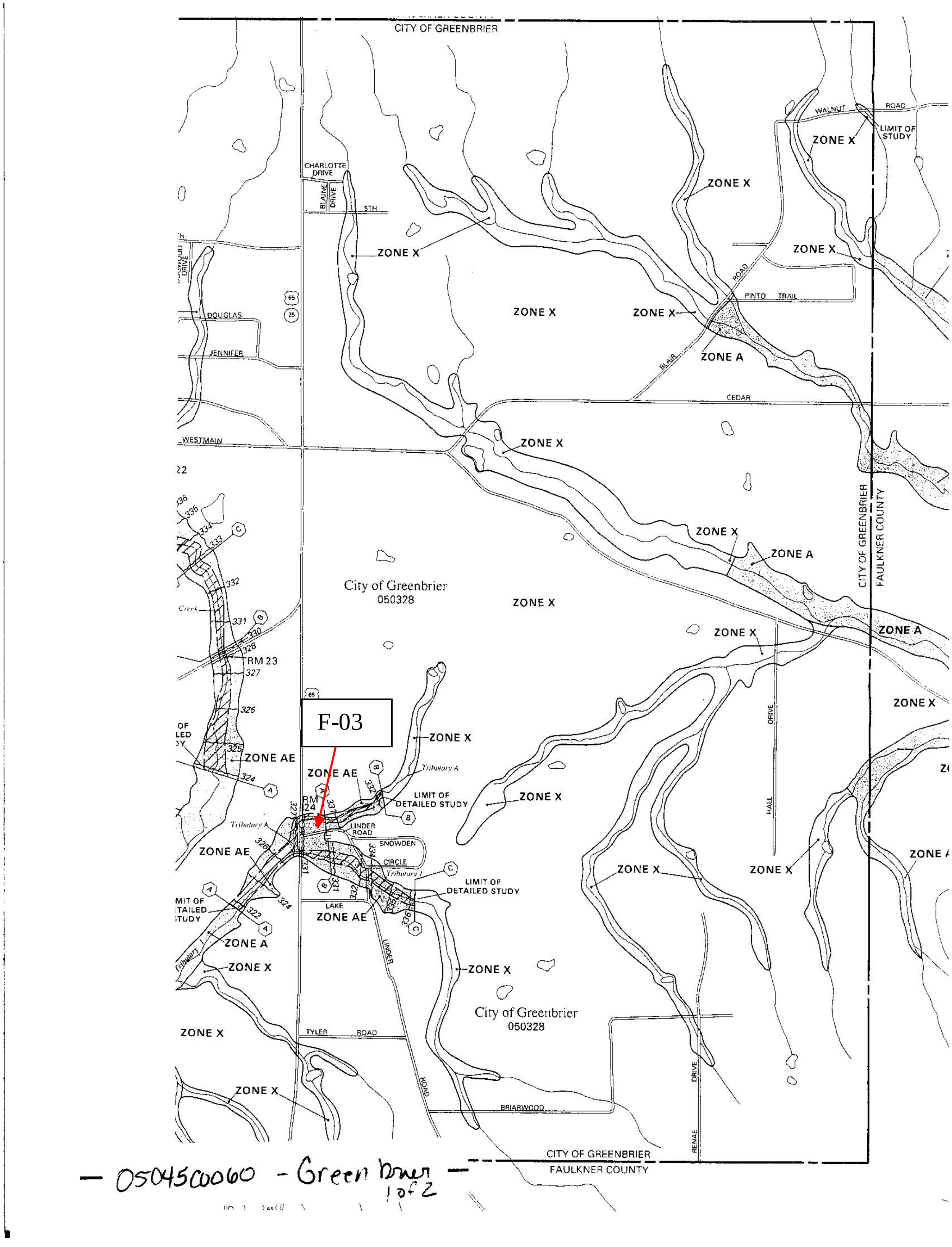
Previous Flood Occurrences are indicated on the map below. Frequent flooding areas are noted and numbered to tie into the Mitigation Actions listed in Section 5.

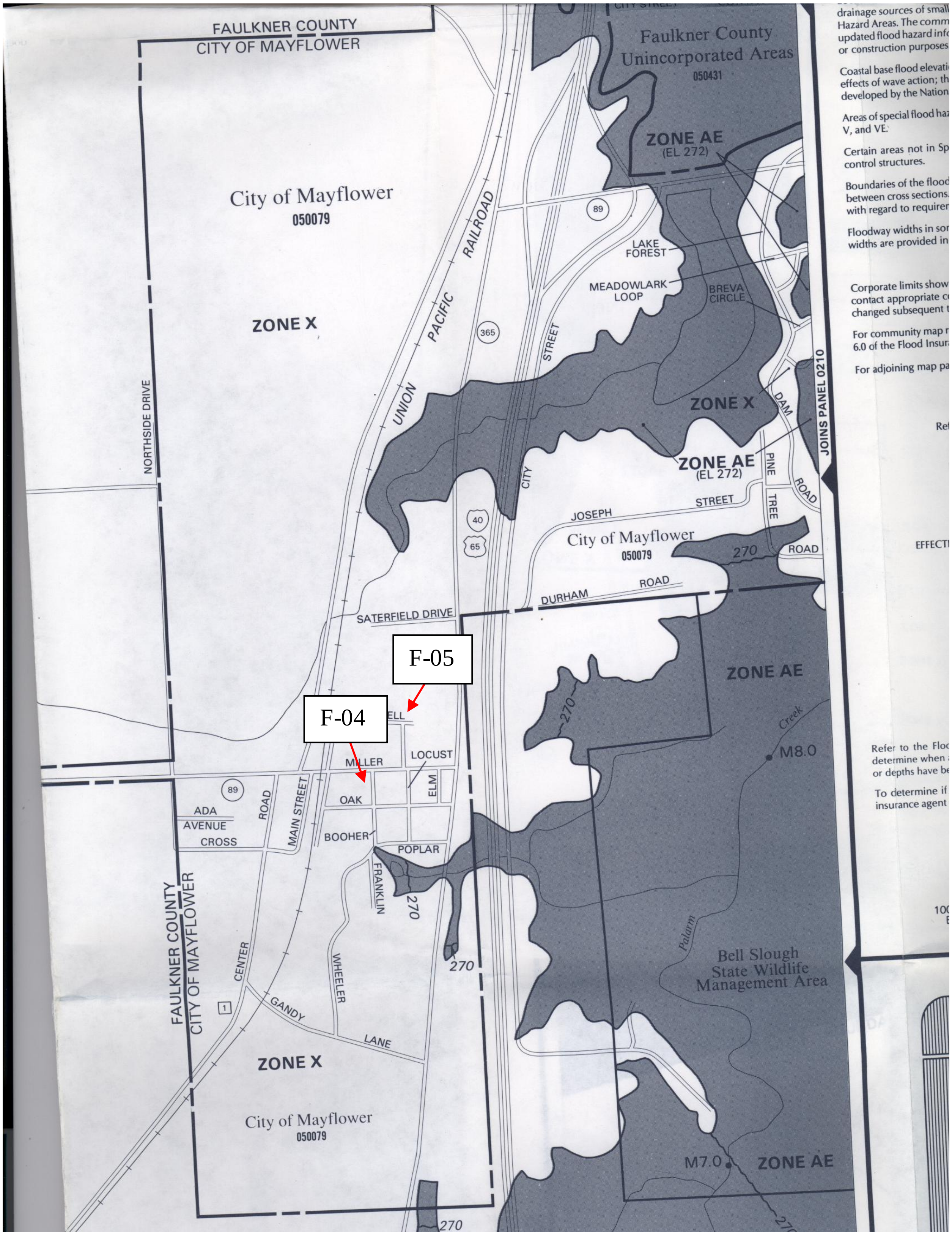


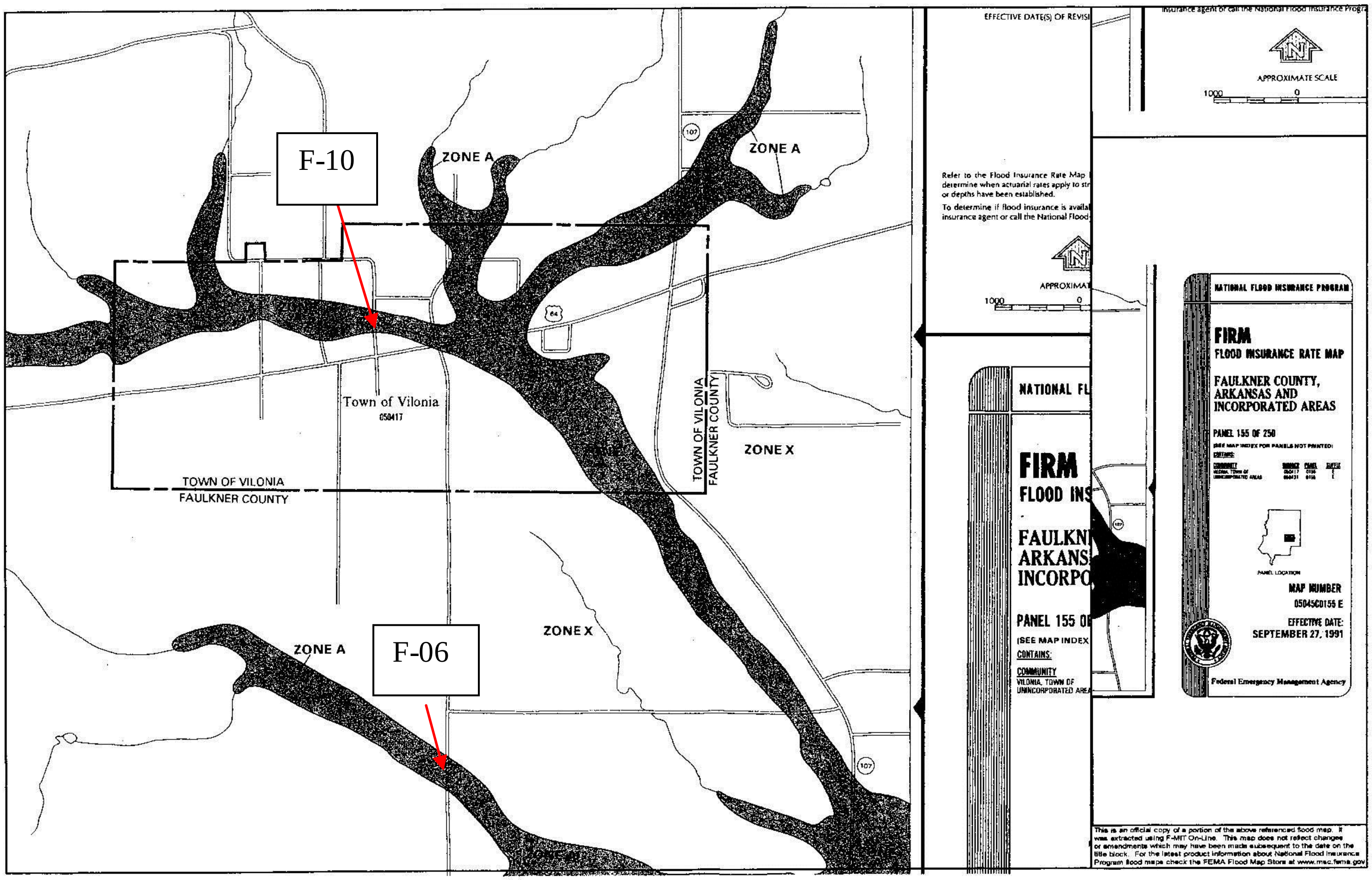
F-03 N35.13.160 W92.23.390
W92 26.536
Atkins
64
Mount Vernon
Morrilton
Petit Jean Park
Morrilton Muni
40
F-10 N35 5.076 W92 12.297
N35 2.938 W92 11.758
Conway
MAIN ST
Beebe
Dennis F Cantrell
Field
Perryville
F-05 N34 57.385 W92 25.555
67
Cabot
65
167
Lake
Maumelle
Maumelle
North Little Rock
Muni
Jacksonville
DELORME
Data use subject to license.
© 2005 DeLorme. Street Atlas USA® 2006.
www.delorme.com
MN (1.4° E)
mi
0 3 6 9 12 15
Data Zoom 8-0

F-01 Frequent Fooding areas in the City of Conway that would be affected by the proposed Detention pond upstream.

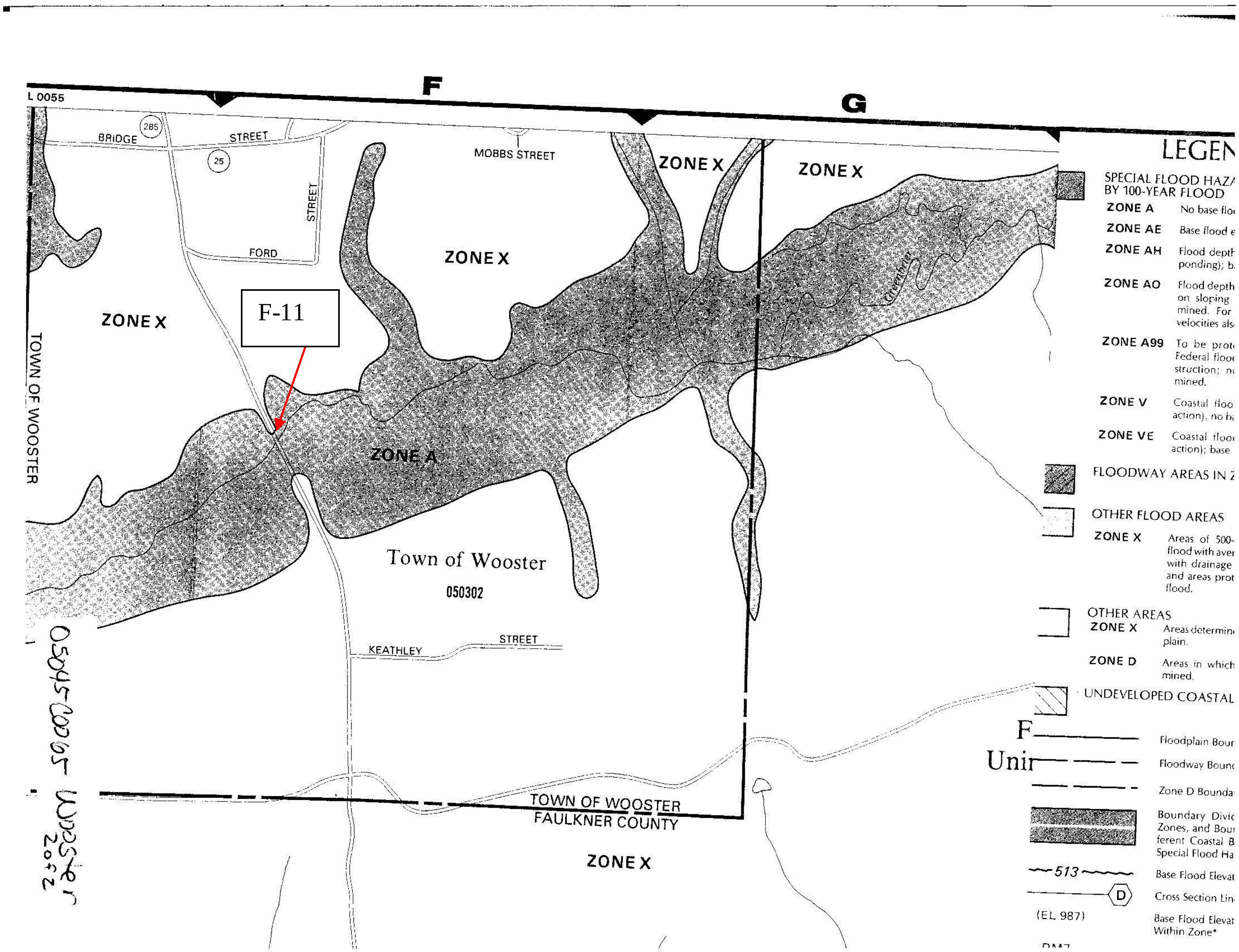


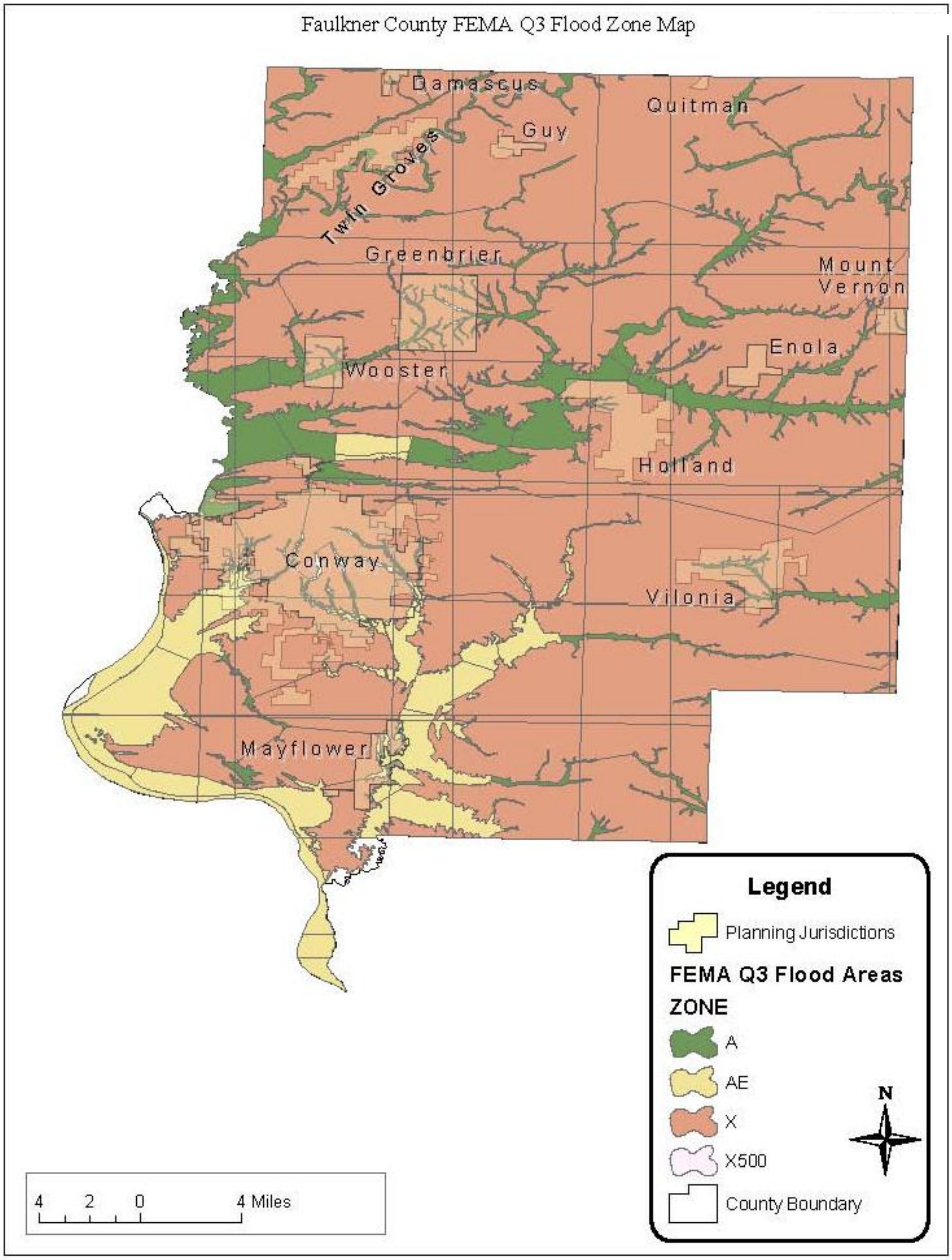

CITY OF GREENBRIER
City of Greenbrier
050328
ZONE X
ZONE A
ZONE AE
F-03
LIMIT OF DETAILED STUDY
CHARLOTTE DRIVE
BLAINE DRIVE
5TH
DOUGLAS
JENNIFER
WESTMAIN
WALNUT
ROAD
PINTO TRAIL
BLAIR
CEDAR
LINDER ROAD
SNOWDEN
CIRCLE
LAKE
TYLER ROAD
BRIARWOOD
HALL
DRIVE
RENAE
Tributary A
RM 23
RM 24
CITY OF GREENBRIER
FAULKNER COUNTY
– 0504500060 – Greenbrier –
1 of 2


FAULKNER COUNTY
CITY OF MAYFLOWER
Faulkner County
Unincorporated Areas
050431
City of Mayflower
050079
ZONE X
ZONE AE
(EL 272)
UNION PACIFIC RAILROAD
NORTHSIDE DRIVE
LAKE FOREST
MEADOWLARK LOOP
BREVA CIRCLE
CITY STREET
DAM ROAD
PINE TREE ROAD
JOINS PANEL 0210
JOSEPH STREET
270 ROAD
DURHAM ROAD
SATERFIELD DRIVE
F-05
F-04
MILLER
LOCUST
OAK
ELM
BOOHER
POPLAR
ADA
AVENUE
CROSS
ROAD
MAIN STREET
FRANKLIN
CENTER
WHEELER
GANDY LANE
Creek
M8.0
Palarm
Bell Slough
State Wildlife
Management Area
M7.0
270


F-10
ZONE A
ZONE A
Town of Vilonia
050417
TOWN OF VILONIA
FAULKNER COUNTY
TOWN OF VILONIA
FAULKNER COUNTY
ZONE X
F-06
ZONE A
ZONE X
APPROXIMATE SCALE
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
FAULKNER COUNTY, ARKANSAS AND INCORPORATED AREAS
PANEL 155 OF 250
MAP NUMBER
05045C0155 E
EFFECTIVE DATE:
SEPTEMBER 27, 1991
Federal Emergency Management Agency

Vilonia


F
G
L 0055
285
BRIDGE
STREET
25
STREET
FORD
MOBBS STREET
ZONE X
ZONE X
ZONE X
ZONE X
F-11
TOWN OF WOOSTER
ZONE A
Town of Wooster
050302
KEATHLEY
STREET
TOWN OF WOOSTER
FAULKNER COUNTY
ZONE X
05045-C0065 Wooster
2 of 2
LEGEN
SPECIAL FLOOD HAZA
BY 100-YEAR FLOOD
ZONE A
No base flo
ZONE AE
Base flood e
ZONE AH
Flood depth ponding); b.
ZONE AO
Flood depth on sloping mined. For velocities als
ZONE A99
To be prot Federal floo struction; n mined.
ZONE V
Coastal floo action), no h
ZONE VE
Coastal floo action); base
FLOODWAY AREAS IN Z
OTHER FLOOD AREAS
ZONE X
Areas of 500- flood with aver with drainage and areas prot flood.
OTHER AREAS
ZONE X
Areas determin plain.
ZONE D
Areas in which mined.
UNDEVELOPED COASTAL
Floodplain Boun
Floodway Boun
Zone D Bounda
Boundary Divic Zones, and Bou ferent Coastal B Special Flood Ha
513
Base Flood Elevat
D
Cross Section Lin
(EL 987)
Base Flood Elevat Within Zone*


Faulkner County FEMA Q3 Flood Zone Map
Damascus
Guy
Quitman
Twin Groves
Greenbrier
Mount Vernon
Enola
Wooster
Holland
Conway
Vilonia
Mayflower
Legend
Planning Jurisdictions
FEMA Q3 Flood Areas
ZONE
A
AE
X
X500
County Boundary
N
4 2 0 4 Miles

Probability of Future Flood Events

Riverine Flooding and Flash Flooding: The probability of a flood event occurring in a region or area is expressed as the percent chance that a flood of a specific magnitude will occur in any given year. These percentages are calculated as follows:

Flood Probability of Occurrence

Flood Return Intervals	Chance of Occurrence in a given year
10-year	10%
50-year	2%
100-year	1%
500-year	0.2%

The Arkansas River has been at flood stage 10 times since 1974. Faulkner County has recorded the top ten highest "crest(s)" of the Arkansas River. From these figures one could assume that the Arkansas River reaches flood stage at the Toad Suck Lock and Dam once every 3 ½ years. Since 1996, Faulkner County has recorded a total of fifteen flash floods or an average of two flash floods a year. There has not been any record of a dam failure flood in Faulkner County and on should not be expected.

However, the history of riverine and flash floods in Faulkner County suggests that these events will likely continue to occur as the record of experience and the given chance of occurrence in any given year.

Magnitude/Severity of the Flood Hazard

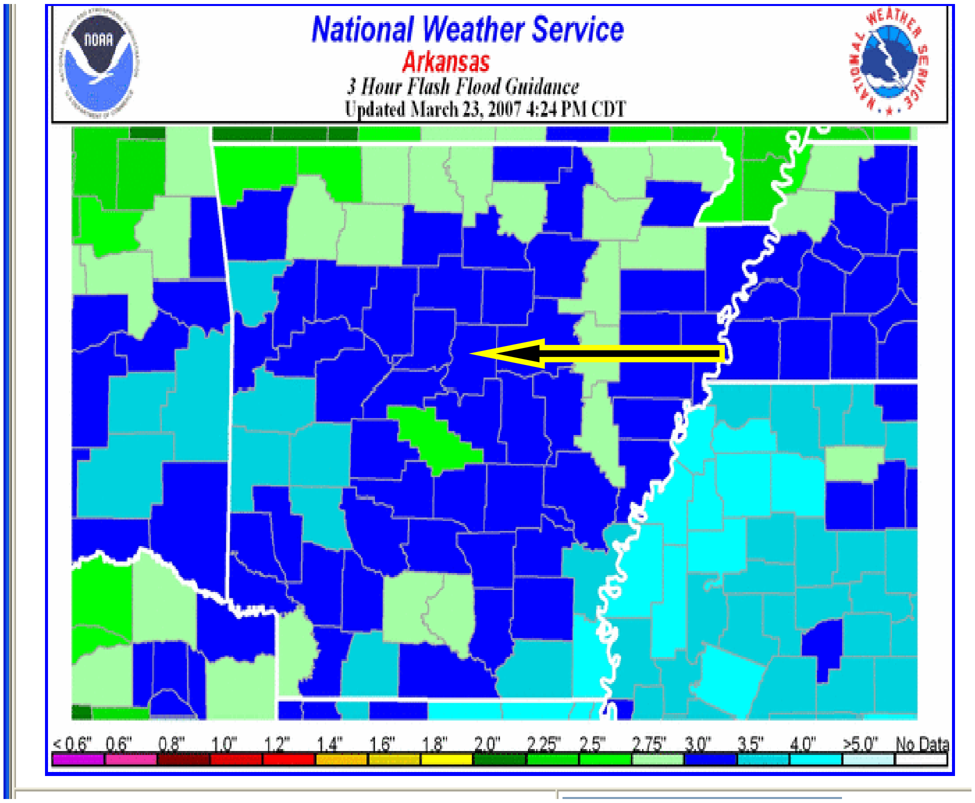
In Faulkner County, riverine floods can be slow or fast rising but generally develop over a period of days as is evidenced by the Arkansas River exceeding flood stage an average of once every three years. The "crest" does not signal the flood is over, but may take just as long a period of time for the river to recede to normal flow. In Faulkner County, flash floods usually occur in low areas where drainage is poor, when rainfall tabulations exceed the ability of the soil to carry water away. Flash floods can quickly inundate large areas with standing water, leaving residents or motorists stranded and endangering life and property as is evidenced by fifteen (15) flash floods in Faulkner County in eight years.

In Faulkner County, the southwest portion of the County is in the direct vicinity of the Dams classified as a “High Hazard” due to the risk to life and property if failure of the dam were to occur. Flash Flood Occurrence Map is shown below.

Severity Flood Categories

Terms defined for each forecast point which describe or categorize the severity of flood impacts in the corresponding river/stream reach. Each flood category is bounded by an upper and lower stage. The severity of flooding at a given stage is not necessarily the same at all locations along a river reach due to varying channel/bank characteristics or presence of levees on portions of the reach. Therefore, the upper and lower stages for a given flood category are usually associated with water levels corresponding to the most significant flood impacts somewhere in the reach. The flood categories used in the NWS are: *Minor Flooding* - minimal or no property damage, but possibly some public threat. *Moderate Flooding* - some inundation of structures and roads near stream. Some evacuations of people and/or transfer of property to higher elevations. *Major Flooding* - extensive inundation of structures and roads. Significant evacuations of people and/or transfer of property to higher elevations. *Record Flooding* - flooding which equals or exceeds the highest stage or discharge at a given site during the period of record keeping. Note: all three of the lower flood categories (minor, moderate, major) do not necessarily exist for a given forecast point. For example, at the level where a river reaches flood stage, it may be considered moderate flooding. However, at least one of these three flood categories must start at flood stage.

http://www.nws.noaa.gov/floodsafety/floodsafe.shtml



Flash Flood Guidance for Arkansas

INCHES OF RAINFALL FOR SPECIFIED DURATIONS REQUIRED TO PRODUCE FLASH FLOODING IN FORECAST ZONES. LOWER AMOUNTS MAY CAUSE FLASH FLOODING IN URBAN OR MOUNTAINOUS AREAS.

ID	NAME	1-HR	3-HR	6-HR
ARZ032	FAULKNER	2.5	2.8	3.4

Calculated Priority Risk Index

The CPRI for the Floods hazard is

Probability: **Highly Likely**
Magnitude/Severity: **Critical**
Warning Time: **6-12 Hours**
Duration: **Less Than One Week**

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

4 x.45 + **3** x .30 + **3** x .15 + **3** x .10 = **3.45**

4.2.3 Severe Thunder Storm Hazard Profile

Severe thunderstorm events are generated by atmospheric imbalance and turbulence due to the combination of conditions of unstable warm air rising rapidly into the atmosphere, sufficient moisture to form clouds and rain, and upward lifts of air currents caused by colliding weather fronts (cold and warm), sea breezes, or mountains. A severe thunderstorm is an electrical storm accompanied with heavy rain and in some cases hail. The NWS classifies a thunderstorm as severe if its winds reach or exceed 58 Mph, produces a tornado, or drops surface hail at least 0.75 inches in diameter.

The National Weather Service (NWS) estimates that over 100,000 thunderstorms occur each year in the United States. Out of this 100,000, 10% are severe thunderstorms. Thunderstorms can produce tornados, hail, high winds, lightning, and flash floods. Thunderstorms spawn as many as 1,000 tornados each year. Thunderstorm events in Faulkner County since 1956 have caused over 176 thousand dollars in property damage and at least eleven (11) noted human injuries, according to the NOAA Satellite and Information Service.

Hailstorm Hazard: A hailstorm is an outgrowth of a severe thunderstorm in which irregularly shaped lumps of ice greater than 0.75 inches in diameter fall with rain. Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to warm air rising rapidly into the upper atmosphere and the subsequent cooling of the air mass. Frozen droplets gradually accumulate upon these ice crystals until, having developed sufficient weigh that the prevailing updraft can no longer support such weight and the ice crystals fall as precipitation

The sizes of a hailstone are a direct function of the severity and size the thunderstorm from which the hailstone is generated. High velocity updraft winds are required to keep hail in suspension in thunderclouds. The strength of the updraft is a function of the intensity of heating at the Earth's surface. Higher temperature gradients relative to elevation above the surface result in increased suspension time and hailstone size.

Hailstorms cause nearly $1 billion in property and crop damage annually, as peak activity coincides with the peak agricultural season throughout the United States. Long-stemmed vegetation is particularly vulnerable to damage by hail impact and accompanying winds. Severe hailstorms also cause considerable damage to buildings and automobiles, but rarely result in loss of life.

Lightning: As the ice particles within a cloud (called hydrometeors) grow and interact, they collide, fracture and break apart. It is thought that the smaller particles tend to acquire positive charge, while the larger particles acquire more negative charge. These particles tend to separate under the influences of updrafts and gravity until the upper portion of the cloud acquires a net positive charge and the lower portion of the cloud becomes negatively charged. This separation of charge produces enormous electrical potential both within the cloud and between the cloud and ground. This can amount to millions of volts, and eventually the electrical resistance in the air breaks down and a flash begins. Lightning, then, is an electrical discharge between positive and negative regions of a thunderstorm.

A lightning flash is composed of a series of strokes with an average of about four. The length and duration of each lightning stroke vary, but typically average about 30 microseconds. (The average peak power per stroke is about 1012 watts.)

Geographic Area Affected by Severe Thunder Storm Hazard

All areas with Faulkner County are equally likely to experience a severe Thunder Storm event. Documentation reviewed from the NOAA Satellite and information Service clearly document that all areas within Faulkner County have and will continue to experience Severe Thunder Storms on a recurring basis. Thunder Storm occurrences were too numerous and wide-spread to include a map.

Previous Severe Thunder Storm Hazard Occurrences

Thunderstorm Hazard:

201 THUNDERSTORM & HIGH WINDS event(s) were reported in **Faulkner County, Arkansas** between **01/01/1950** and **10/31/2007**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

Arkansas								
Location or County	**Date**	**Time**	**Type**	**Mag**	**Dth**	**Inj**	**PrD**	**CrD**
1 FAULKNER	03/27/1956	2125	Tstm Wind	0 kts.	0	0	0	0
2 FAULKNER	07/01/1957	1300	Tstm Wind	0 kts.	0	0	0	0
3 FAULKNER	04/27/1959	2225	Tstm Wind	53 kts.	0	0	0	0
4 FAULKNER	05/28/1965	0315	Tstm Wind	0 kts.	0	0	0	0
5 FAULKNER	08/10/1966	1805	Tstm Wind	50 kts.	0	0	0	0
6 FAULKNER	06/18/1967	1515	Tstm Wind	0 kts.	0	0	0	0
7 FAULKNER	05/25/1968	1210	Tstm Wind	65	0	0	0	0

				kts.				
8 FAULKNER	05/25/1968	1215	Tstm Wind	0 kts.	0	0	0	0
9 FAULKNER	09/16/1968	1920	Tstm Wind	0 kts.	0	0	0	0
10 FAULKNER	06/21/1969	1502	Tstm Wind	52 kts.	0	0	0	0
11 FAULKNER	03/03/1970	0445	Tstm Wind	0 kts.	0	0	0	0
12 FAULKNER	05/29/1970	1800	Tstm Wind	0 kts.	0	0	0	0
13 FAULKNER	09/04/1970	0130	Tstm Wind	0 kts.	0	0	0	0
14 FAULKNER	10/26/1970	2225	Tstm Wind	0 kts.	0	0	0	0
15 FAULKNER	11/19/1970	1625	Tstm Wind	0 kts.	0	0	0	0
16 FAULKNER	02/04/1971	1310	Tstm Wind	0 kts.	0	0	0	0
17 FAULKNER	08/14/1972	1500	Tstm Wind	0 kts.	0	0	0	0
18 FAULKNER	11/23/1973	1800	Tstm Wind	0 kts.	0	0	0	0
19 FAULKNER	11/24/1973	1935	Tstm Wind	0 kts.	0	0	0	0
20 FAULKNER	02/21/1974	1645	Tstm Wind	0 kts.	0	0	0	0
21 FAULKNER	04/11/1979	1420	Tstm Wind	0 kts.	0	0	0	0
22 FAULKNER	06/28/1979	1940	Tstm Wind	0 kts.	0	0	0	0
23 FAULKNER	04/07/1980	1900	Tstm Wind	0 kts.	0	0	0	0
24 FAULKNER	04/11/1980	1550	Tstm Wind	0 kts.	0	0	0	0
25 FAULKNER	07/29/1980	1800	Tstm Wind	0 kts.	0	0	0	0
26 FAULKNER	04/25/1982	2100	Tstm Wind	0 kts.	0	0	0	0
27 FAULKNER	04/25/1982	2100	Tstm Wind	0 kts.	0	0	0	0
28 FAULKNER	05/28/1982	0450	Tstm Wind	0 kts.	0	0	0	0
29 FAULKNER	06/10/1982	2115	Tstm Wind	0 kts.	0	0	0	0
30 FAULKNER	06/15/1982	1920	Tstm Wind	52 kts.	0	0	0	0
31 FAULKNER	07/22/1982	1300	Tstm Wind	0 kts.	0	0	0	0
32 FAULKNER	08/14/1982	1830	Tstm Wind	0 kts.	0	0	0	0
33 FAULKNER	09/15/1982	1530	Tstm Wind	0 kts.	0	0	0	0
34 FAULKNER	11/12/1982	0200	Tstm Wind	0 kts.	0	0	0	0
35 FAULKNER	06/22/1983	1300	Tstm Wind	0 kts.	0	0	0	0

36 FAULKNER	08/01/1983	1345	Tstm Wind	0 kts.	0	0	0	0
37 FAULKNER	08/25/1983	1330	Tstm Wind	0 kts.	0	0	0	0
38 FAULKNER	11/23/1983	0236	Tstm Wind	0 kts.	0	0	0	0
39 FAULKNER	05/13/1985	1530	Tstm Wind	0 kts.	0	0	0	0
40 FAULKNER	05/13/1985	1530	Tstm Wind	0 kts.	0	1	0	0
41 FAULKNER	05/29/1985	1730	Tstm Wind	0 kts.	0	0	0	0
42 FAULKNER	07/10/1985	1400	Tstm Wind	0 kts.	0	0	0	0
43 FAULKNER	07/10/1985	1400	Tstm Wind	0 kts.	0	1	0	0
44 FAULKNER	08/17/1985	1725	Tstm Wind	0 kts.	0	0	0	0
45 FAULKNER	09/08/1985	1622	Tstm Wind	0 kts.	0	0	0	0
46 FAULKNER	09/09/1985	1345	Tstm Wind	0 kts.	0	0	0	0
47 FAULKNER	03/11/1986	2330	Tstm Wind	0 kts.	0	0	0	0
48 FAULKNER	05/17/1986	0445	Tstm Wind	0 kts.	0	0	0	0
49 FAULKNER	08/02/1986	0315	Tstm Wind	0 kts.	0	0	0	0
50 FAULKNER	05/23/1987	2000	Tstm Wind	0 kts.	0	0	0	0
51 FAULKNER	08/18/1987	1330	Tstm Wind	0 kts.	0	0	0	0
52 FAULKNER	03/24/1988	2300	Tstm Wind	0 kts.	0	0	0	0
53 FAULKNER	07/01/1988	1835	Tstm Wind	0 kts.	0	0	0	0
54 FAULKNER	07/05/1988	1600	Tstm Wind	0 kts.	0	0	0	0
55 FAULKNER	07/29/1988	1615	Tstm Wind	0 kts.	0	0	0	0
56 FAULKNER	08/03/1988	1500	Tstm Wind	0 kts.	0	0	0	0
57 FAULKNER	11/25/1988	2330	Tstm Wind	0 kts.	0	0	0	0
58 FAULKNER	03/30/1989	1555	Tstm Wind	52 kts.	0	0	0	0
59 FAULKNER	05/22/1989	0530	Tstm Wind	0 kts.	0	0	0	0
60 FAULKNER	05/22/1989	0530	Tstm Wind	0 kts.	0	0	0	0
61 FAULKNER	06/01/1989	1600	Tstm Wind	52 kts.	0	1	0	0
62 FAULKNER	06/01/1989	1640	Tstm Wind	0 kts.	0	0	0	0
63 FAULKNER	06/25/1989	1730	Tstm Wind	0 kts.	0	0	0	0
64 FAULKNER	07/07/1989	1145	Tstm Wind	0 kts.	0	0	0	0

65 FAULKNER	09/01/1989	1850	Tstm Wind	0 kts.	0	0	0	0
66 FAULKNER	02/09/1990	1200	Tstm Wind	0 kts.	0	0	0	0
67 FAULKNER	02/09/1990	1215	Tstm Wind	0 kts.	0	0	0	0
68 FAULKNER	05/21/1990	0410	Tstm Wind	0 kts.	0	0	0	0
69 FAULKNER	09/20/1990	1330	Tstm Wind	50 kts.	0	0	0	0
70 FAULKNER	04/26/1991	1626	Tstm Wind	52 kts.	0	0	0	0
71 FAULKNER	04/27/1991	0010	Tstm Wind	0 kts.	0	0	0	0
72 FAULKNER	10/04/1991	1945	Tstm Wind	0 kts.	0	0	0	0
73 FAULKNER	10/29/1991	0200	Tstm Wind	0 kts.	0	0	0	0
74 FAULKNER	11/29/1991	2300	Tstm Wind	0 kts.	0	0	0	0
75 FAULKNER	08/10/1992	1900	Tstm Wind	52 kts.	0	0	0	0
76 FAULKNER	08/10/1992	1910	Tstm Wind	52 kts.	0	0	0	0
77 FAULKNER	08/10/1992	1910	Tstm Wind	52 kts.	0	0	0	0
78 FAULKNER	08/21/1993	1630	Thunderstorm Winds	N/A	0	0	5K	0
79 Vilonia	09/23/1993	1315	Thunderstorm Winds	N/A	0	0	5K	0
80 Greenbrier	06/07/1994	1935	Thunderstorm Winds	N/A	0	0	5K	0
81 Conway	06/07/1994	2001	Thunderstorm Winds	N/A	0	0	50K	0
82 Guy	06/07/1994	2015	Thunderstorm Winds	N/A	0	0	50K	0
83 Greenbrier	06/08/1994	0945	Thunderstorm Winds	N/A	0	0	50K	0
84 Mayflower	06/09/1994	0915	Thunderstorm Winds	N/A	0	0	5K	0
85 Saltillo	06/09/1994	0915	Thunderstorm Winds	N/A	0	0	5K	0

86 Vilonia	07/17/1994	2005	Thunderstorm Winds	N/A	0	0	1K	0
87 Conway	07/24/1994	2035	Thunderstorm Winds	N/A	0	0	0	0
88 Conway	03/26/1995	1855	Thunderstorm Winds	N/A	0	0	0	0
89 Vilonia	06/05/1995	1821	Thunderstorm Winds	N/A	0	0	0	0
90 Conway	06/10/1995	1630	Thunderstorm Winds	N/A	0	0	0	0
91 Greenbrier	07/04/1995	2235	Thunderstorm Winds	N/A	0	0	0	0
92 Greenbrier	07/04/1995	2245	Thunderstorm Winds	N/A	0	0	0	0
93 Greenbrier	07/23/1995	1315	Thunderstorm Winds	N/A	0	0	0	0
94 Conway	07/24/1995	0605	Thunderstorm Winds	N/A	0	0	0	0
95 Greenbrier	08/19/1995	1715	Thunderstorm Winds	N/A	0	0	0	0
96 Conway	08/19/1995	1735	Thunderstorm Winds	N/A	0	0	0	0
97 Vilonia	10/02/1995	1730	Thunderstorm Winds	N/A	0	0	0	0
98 Mount Vernon	10/02/1995	1735	Thunderstorm Winds	N/A	0	0	0	0
99 Greenbrier	10/27/1995	0130	Thunderstorm Winds	N/A	0	0	0	0
100 Conway	11/10/1995	2200	Thunderstorm Winds	N/A	0	0	0	0
101 Mayflower	11/10/1995	2210	Thunderstorm Winds	N/A	0	0	0	0
102 Conway	01/18/1996	04:30 AM	Tstm Wind	50 kts.	0	3	0	0
103 Greenbrier	03/24/1996	07:16 PM	Tstm Wind	56 kts.	0	0	0	0

104 Enola	04/14/1996	06:50 PM	Tstm Wind	50 kts.	0	0	0	0
105 Conway	04/20/1996	01:10 AM	Tstm Wind	50 kts.	0	0	0	0
106 Mayflower	06/13/1996	09:45 AM	Tstm Wind	39 kts.	0	0	0	0
107 Naylor	07/29/1996	05:40 PM	Tstm Wind	52 kts.	0	0	0	0
108 Greenbrier	11/07/1996	02:40 AM	Tstm Wind	50 kts.	0	0	0	0
109 Conway	11/07/1996	02:50 AM	Tstm Wind	50 kts.	0	0	0	0
110 Conway	11/07/1996	02:50 AM	Tstm Wind	50 kts.	0	0	0	0
111 Guy	12/23/1996	02:00 PM	Tstm Wind	50 kts.	0	0	0	0
112 Greenbrier	12/23/1996	02:20 PM	Tstm Wind	50 kts.	0	0	0	0
113 Enola	12/23/1996	03:25 PM	Tstm Wind	50 kts.	0	0	0	0
114 Greenbrier	02/20/1997	10:10 PM	Tstm Wind	50 kts.	0	0	0	0
115 Conway	05/27/1997	01:40 AM	Tstm Wind	50 kts.	0	0	0	0
116 Greenbrier	05/27/1997	01:40 AM	Tstm Wind	50 kts.	0	0	0	0
117 Vilonia	05/27/1997	01:50 AM	Tstm Wind	50 kts.	0	0	0	0
118 Enola	07/10/1997	02:45 PM	Tstm Wind	50 kts.	0	0	0	0
119 Guy	08/14/1997	06:55 PM	Tstm Wind	50 kts.	0	0	0	0
120 Conway	06/04/1998	11:05 PM	Tstm Wind	50 kts.	0	0	0	0
121 Conway	06/04/1998	11:20 PM	Tstm Wind	55 kts.	0	0	0	0

122 Palarm	07/11/1998	05:00 PM	Tstm Wind	50 kts.	0	0	0	0
123 Mt Vernon	07/23/1998	03:00 PM	Tstm Wind	50 kts.	0	0	0	0
124 Greenbrier	10/05/1998	10:45 PM	Tstm Wind	50 kts.	0	0	0	0
125 Greenbrier	10/05/1998	10:50 PM	Tstm Wind	50 kts.	0	0	0	0
126 Greenbrier	10/05/1998	10:55 PM	Tstm Wind	50 kts.	0	0	0	0
127 Conway	10/05/1998	11:45 PM	Tstm Wind	50 kts.	0	0	0	0
128 Vilonia	02/06/1999	10:40 PM	Tstm Wind	50 kts.	0	0	0	0
129 Conway	04/08/1999	09:50 PM	Tstm Wind	51 kts.	0	0	0	0
130 ARZ032	04/15/1999	08:00 AM	High Wind	35 kts.	0	3	0	0
131 Wooster	05/17/1999	04:12 PM	Tstm Wind	50 kts.	0	0	0	0
132 Greenbrier	05/17/1999	04:15 PM	Tstm Wind	50 kts.	0	0	0	0
133 Conway	05/17/1999	04:17 PM	Tstm Wind	50 kts.	0	0	0	0
134 Greenbrier	05/22/1999	08:10 PM	Tstm Wind	50 kts.	0	0	0	0
135 Conway	06/08/1999	02:25 PM	Tstm Wind	50 kts.	0	0	0	0
136 Conway	06/24/1999	03:55 PM	Tstm Wind	50 kts.	0	0	0	0
137 Vilonia	06/28/1999	11:55 PM	Tstm Wind	50 kts.	0	0	0	0
138 Conway	07/06/1999	04:35 PM	Tstm Wind	50 kts.	0	0	0	0
139 Conway	07/26/1999	03:27 PM	Tstm Wind	70 kts.	0	0	0	0

140 Conway	07/26/1999	03:30 PM	Tstm Wind	70 kts.	0	2	0	0
141 Barney	08/13/1999	03:15 PM	Tstm Wind	50 kts.	0	0	0	0
142 Enola	08/13/1999	03:15 PM	Tstm Wind	50 kts.	0	0	0	0
143 Mt Vernon	08/13/1999	03:15 PM	Tstm Wind	50 kts.	0	0	0	0
144 Centerville	08/13/1999	03:20 PM	Tstm Wind	50 kts.	0	0	0	0
145 Springhill	06/14/2000	02:45 PM	Tstm Wind	50 kts.	0	0	0	0
146 Conway	07/20/2000	10:20 AM	Tstm Wind	50 kts.	0	0	0	0
147 Otto	08/04/2000	04:25 PM	Tstm Wind	50 kts.	0	0	0	0
148 Springhill	09/03/2000	04:35 PM	Tstm Wind	50 kts.	0	0	0	0
149 Conway	02/24/2001	05:00 PM	Tstm Wind	50 kts.	0	0	0	0
150 Mt Vernon	05/02/2001	11:05 AM	Tstm Wind	52 kts.	0	0	0	0
151 Enola	05/20/2001	05:55 PM	Tstm Wind	50 kts.	0	0	0	0
152 Greenbrier	05/20/2001	06:05 PM	Tstm Wind	50 kts.	0	0	0	0
153 Enola	05/20/2001	11:03 AM	Tstm Wind	50 kts.	0	0	0	0
154 Mt Vernon	05/20/2001	11:05 AM	Tstm Wind	50 kts.	0	0	0	0
155 Conway	06/14/2001	10:50 PM	Tstm Wind	52 kts.	0	0	0	0
156 Vilonia	06/14/2001	11:10 PM	Tstm Wind	50 kts.	0	0	0	0
157 Mayflower	07/12/2001	10:05 PM	Tstm Wind	50 kts.	0	0	0	0

158 Enola	07/29/2001	03:33 PM	Tstm Wind	50 kts.	0	0	0	0
159 Greenbrier	07/29/2001	03:50 PM	Tstm Wind	50 kts.	0	0	0	0
160 Conway	10/10/2001	05:40 PM	Tstm Wind	50 kts.	0	0	0	0
161 Conway	03/09/2002	05:15 AM	Tstm Wind	50 kts.	0	0	0	0
162 Naylor	07/23/2002	05:00 PM	Tstm Wind	50 kts.	0	0	0	0
163 Vilonia	07/23/2002	05:00 PM	Tstm Wind	50 kts.	0	0	0	0
164 Vilonia	08/13/2002	02:30 PM	Tstm Wind	50 kts.	0	0	0	0
165 Vilonia	05/10/2003	08:58 PM	Tstm Wind	50 kts.	0	0	0	0
166 Hamlet	05/10/2003	09:30 PM	Tstm Wind	50 kts.	0	0	0	0
167 Greenbrier	05/13/2003	04:00 PM	Tstm Wind	61 kts.	0	0	0	0
168 Conway	05/13/2003	04:08 PM	Tstm Wind	50 kts.	0	0	0	0
169 Greenbrier	05/16/2003	02:55 PM	Tstm Wind	50 kts.	0	0	0	0
170 Greenbrier	05/16/2003	03:06 PM	Tstm Wind	50 kts.	0	0	0	0
171 Greenbrier	05/16/2003	03:25 PM	Tstm Wind	56 kts.	0	0	0	0
172 Conway	07/22/2003	03:55 AM	Tstm Wind	50 kts.	0	0	0	0
173 Guy	08/23/2003	02:10 AM	Tstm Wind	50 kts.	0	0	0	0
174 Guy	08/23/2003	02:10 AM	Tstm Wind	52 kts.	0	0	0	0
175 Conway	08/23/2003	02:15 AM	Tstm Wind	50 kts.	0	0	0	0

176 Wooster	11/18/2003	04:30 PM	Tstm Wind	50 kts.	0	0	0	0
177 Damascus	03/04/2004	07:35 PM	Tstm Wind	50 kts.	0	0	0	0
178 Greenbrier	03/04/2004	07:35 PM	Tstm Wind	50 kts.	0	0	0	0
179 Conway	03/04/2004	08:10 PM	Tstm Wind	50 kts.	0	0	0	0
180 Twin Groves	07/04/2004	09:40 AM	Tstm Wind	50 kts.	0	0	0	0
181 Guy	07/21/2005	01:00 PM	Tstm Wind	50 kts.	0	0	0	0
182 Conway	07/21/2005	02:00 PM	Tstm Wind	50 kts.	0	0	0	0
183 Saltillo	09/24/2005	05:35 PM	Tstm Wind	50 kts.	0	0	0	0
184 Centerville	09/24/2005	06:36 PM	Tstm Wind	50 kts.	0	0	0	0
185 Greenbrier	09/24/2005	06:36 PM	Tstm Wind	50 kts.	0	0	0	0
186 Conway	03/09/2006	09:50 AM	Tstm Wind	50 kts.	0	0	0	0
187 Pickles Gap	03/09/2006	09:55 AM	Tstm Wind	60 kts.	0	0	0	0
188 Vilonia	05/09/2006	11:20 PM	Tstm Wind	50 kts.	0	0	0	0
189 Guy	06/22/2006	03:55 PM	Tstm Wind	68 kts.	0	0	0	0
190 Damascus	07/21/2006	04:45 PM	Tstm Wind	50 kts.	0	0	0	0
191 Martinville	07/21/2006	06:55 PM	Tstm Wind	50 kts.	0	0	0	0
192 Greenbrier	07/21/2006	07:15 PM	Tstm Wind	50 kts.	0	0	0	0
193 Mayflower	08/04/2006	02:58 PM	Tstm Wind	50 kts.	0	0	0	0

194 Conway	08/04/2006	04:10 PM	Tstm Wind	52 kts.	0	0	0	0
195 Vilonia	08/14/2006	06:35 PM	Tstm Wind	50 kts.	0	0	0	0
196 Greenbrier	08/20/2006	02:15 PM	Tstm Wind	50 kts.	0	0	0	0
197 Conway	08/21/2006	03:57 PM	Tstm Wind	50 kts.	0	0	0	0
198 Conway	09/27/2006	04:15 PM	Tstm Wind	50 kts.	0	0	0	0
199 Guy	09/27/2006	05:00 PM	Tstm Wind	50 kts.	0	0	0	0
200 Holland	06/05/2007	17:20 PM	Thunderstorm Wind	N/A	0	0	0K	0K
201 Conway	07/09/2007	09:40 AM	Thunderstorm Wind	N/A	0	0	2K	0K
				TOTALS:	0	11	178K	0

9 LIGHTNING event(s) were reported in **Faulkner County, Arkansas** between **01/01/1950** and **10/31/2007**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

Arkansas

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 Conway	05/07/1994	0950	Lightning	N/A	0	0	50K	0
2 Greenbrier	07/14/1994	1100	Lightning	N/A	0	0	50K	0
3 Conway	03/26/1995	1840	Lightning	N/A	0	0	0	0
4 Conway	04/14/1996	03:24 AM	Lightning	N/A	0	0	2K	0
5 Conway	07/06/1996	03:22 AM	Lightning	N/A	0	0	0	0

6 Greenbrier	11/07/1996	05:08 AM	Lightning	N/A	0	0	30K	0
7 Conway	05/04/1999	06:00 PM	Lightning	N/A	0	0	0	0
8 Conway	04/21/2004	06:00 AM	Lightning	N/A	1	0	0	0
9 Twin Groves	09/27/2006	04:45 PM	Lightning	N/A	0	1	0	0
				TOTALS:	1	1	132K	0

Hailstorm Hazard: Faulkner County has experienced one hundred sixty-two (162) hailstorm events since 1955, in which, the hailstones measured at least 0.75 inches in diameter with the storm on June 21, 1990 producing 4 ½ inch hail stones. The average size of the hailstones in these 162 storms measures 1.75 inches.

Over the past ten years, every municipal jurisdiction as well as the many smaller communities in Faulkner County has experienced a combined total of seventy-seven (77) hailstorms or, on average, approximately three hailstorms events in Faulkner County every year.

Probability of Future Severe Thunderstorm Events

The probability that such an event will occur in Faulkner County is highly likely. Because of the terrain of the county and the historic documentation obtained from the NOAA Satellite and information Service on thunderstorm events, the county and each jurisdiction within the county will always be vulnerable to Severe Thunderstorms.

Magnitude/Severity of the Severe Thunderstorm Hazard

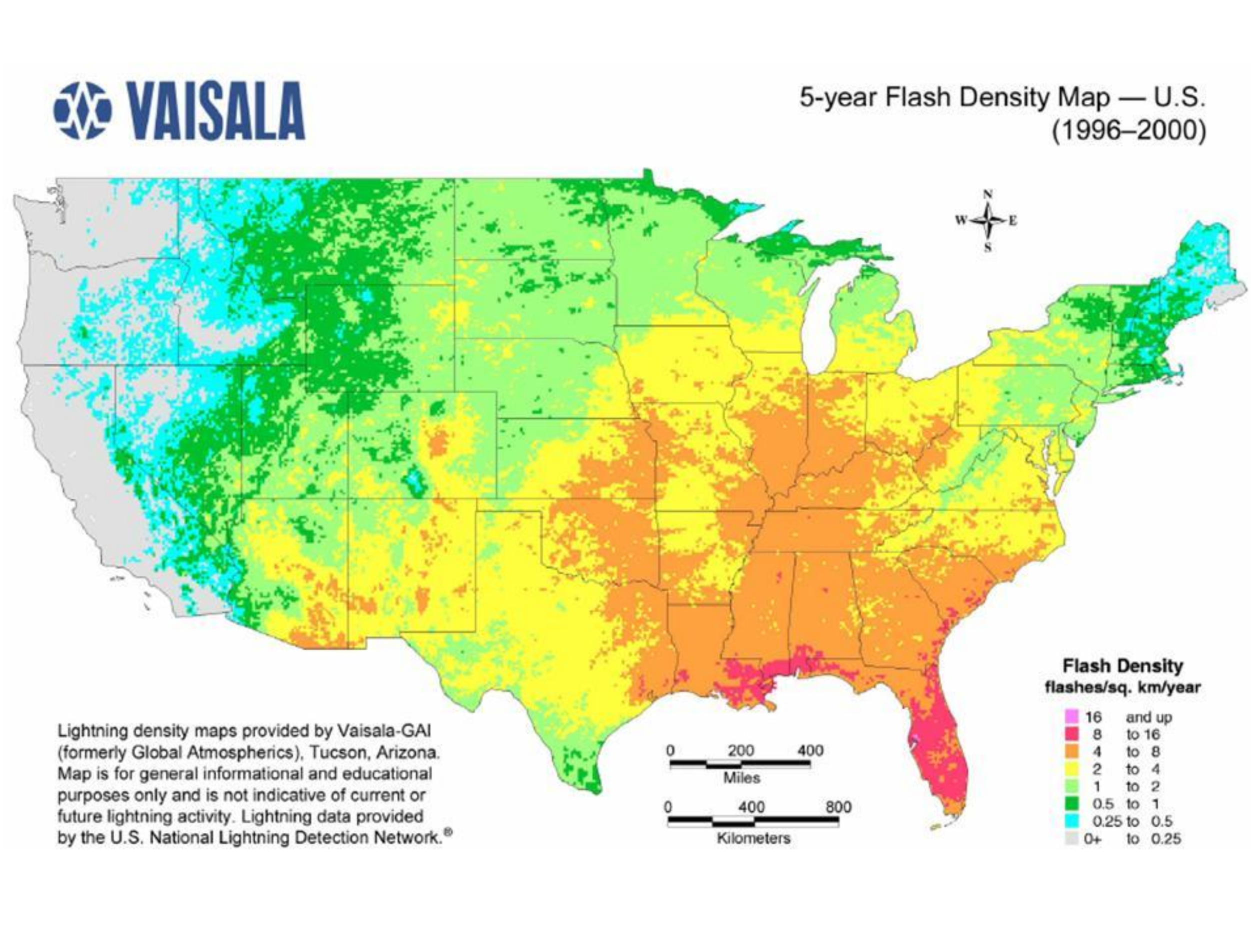
According to FEMA about 10 percent of thunderstorms are classified as severe – one that produces hail at least three-quarters of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado. For wind speeds and damage refer to Section 4.2.10 Windstorm/Highwinds Beaufort Wind Scale.

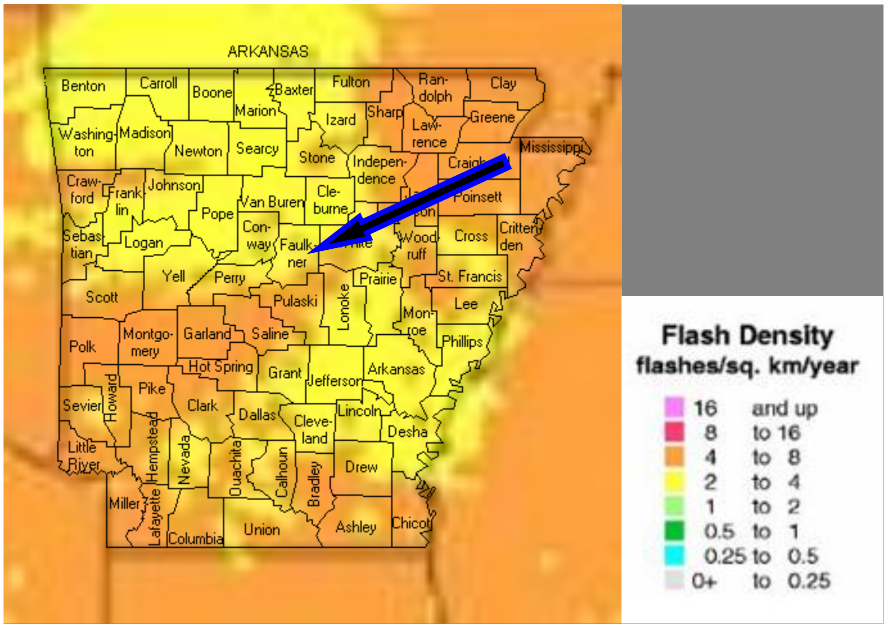
Types of Thunderstorms

- **Single Cell** (pulse storms). Typically last 20-30 minutes. Pulse storms can produce severe weather elements such as downbursts, hail, some heavy rainfall and occasionally weak tornados. This storm is light to moderately dangerous to the public and moderately to highly dangerous to aviation.
- **Multicell Cluster**. These storms consist of a cluster of storms in varying stages of development. Multicell storms can produce moderate size hail, flash floods and weak tornados. This storm is moderately dangerous to the public and moderately to highly dangerous to aviation.
- **Multicell Line**. Multicell line storms consist of a line of storms with a continuous, well-developed gust front at the leading edge of the line. Also known as squall lines, these storms can produce small to moderate size hail, occasional flash floods

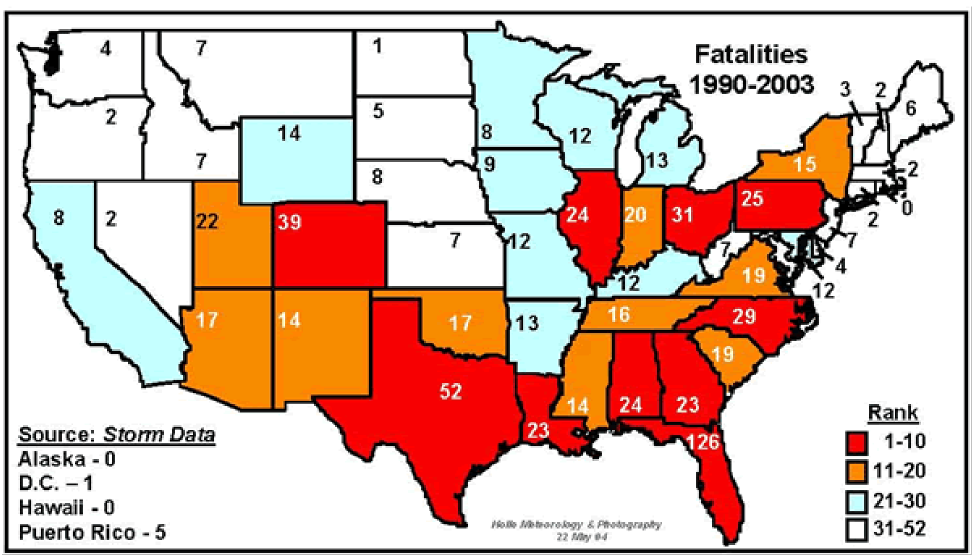
The average lightning bolt is 6-8 miles long and can easily travel 25 to 40 miles horizontally prior to turning downward toward the ground. In October 2001, the visual lightning detection system measured a single bolt that traveled from Waco to Fort Worth and then Dallas, Texas – a total distance of more than 110 miles. Lightning can travel over the surface of the ground and through the ground. The ground surface can be lethal for up to 60 feet radius or more from the point of contact. This also includes a ground rod as the point of contact. In water, the lethal radius is about 600 feet from point of contact. A lightning flash is composed of a series of strokes with an average of about four. The length and duration of each lightning stroke vary, but typically average about 30 microseconds. (The average peak power per stroke is about 1012 watts.) The temperature of lightning's return stroke is (5) five times hotter than the surface of the sun. It can reach about 55,000 degrees Fahrenheit in contrast to about 10,000 degrees Fahrenheit for the surface of the sun. This high temperature will immediately turn water or water vapor into high pressure superheated steam. This high pressure steam can explode the clothes off your body, explode the bark from a tree, explode concrete, drywall, wood or any material containing even small amounts of moisture.

The Lightning Density Scale is included below.


VAISALA
5-year Flash Density Map — U.S.
(1996–2000)
Flash Density
flashes/sq. km/year
16 and up
8 to 16
4 to 8
2 to 4
1 to 2
0.5 to 1
0.25 to 0.5
0+ to 0.25
0 200 400
Miles
0 400 800
Kilometers
Lightning density maps provided by Vaisala-GAI (formerly Global Atmospherics), Tucson, Arizona. Map is for general informational and educational purposes only and is not indicative of current or future lightning activity. Lightning data provided by the U.S. National Lightning Detection Network.®



Number of Lightning Deaths in the United States, 1990-2003



Number of Lightning Deaths in the United States, 1990 to 2003

State	Number of Deaths	Rank
Arkansas	13	22
United States Total	756	

Hailstorm Intensity Scale:

Modified NOAA/TORRO Hailstorm Intensity Scale

Size Code	Intensity Category	Typical Hail Diameter (inches)	Approximate Size	Typical Damage Impacts
H0	Hard Hail	up to 0.33	Pea	No damage
H1	Potentially Damaging	0.33-0.60	Marble or Mothball	Slight damage to plants, crops
H2	Potentially Damaging	0.60-0.80	Dime or grape	Significant damage to fruit, crops, vegetation
H3	Severe	0.80-1.20	Nickel to Quarter	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	1.2-1.6	Half Dollar to Ping Pong Ball	Widespread glass damage, vehicle bodywork damage
H5	Destructive	1.6-2.0	Silver dollar to Golf Ball	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	2.0-2.4	Egg	Aircraft bodywork dented, brick walls pitted
H7	Very destructive	2.4-3.0	Tennis ball	Severe roof damage, risk of serious injuries
H8	Very destructive	3.0-3.5	Baseball to Orange	Severe damage to aircraft bodywork
H9	Super Hailstorms	3.5-4.0	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	4+	Softball and up	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Calculated Priority Risk Index

The CPRI for the Severe Thunder Storm hazard for Faulkner County is

Probability: **Highly Likely**
Magnitude/Severity: **Critical**
Warning Time: **Less Than 6 Hours**
Duration: **Less Than One Day**

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

4 x.45 + **3** x .30 + **4** x .15 + **1** x .10 = **3.40**

4.2.4 Tornado Hazard Profile

A Tornado is a violently rotating column of air extending to the ground, usually accompanied by a funnel shaped downward extension of a cumulonimbus cloud and having a vortex several hundred yards in diameter, whirling destructively at speeds up to 300 miles per hour. A tornado is a rapidly rotating vortex or funnel of air extending from a cumulonimbus cloud to the ground. It is usually spawned by a thunderstorm and produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Often, vortices remain suspended in the atmosphere as funnel clouds. When the lower tip of a vortex touches the ground, it becomes a tornado and a force of destruction.

Tornadoes can cause several kinds of damage to buildings. Tornadoes have been known to lift and move objects weighing more than 300 tons a distance of 30 ft, toss homes more than 300 ft from their foundations, and siphon millions of tons of water from water bodies. However, the less spectacular damage is much more common. Houses and other obstructions in the path of the wind cause the wind to change direction. This change in wind direction increases pressure on parts of the building. The combination of increased pressures and fluctuating wind speeds creates stress on the building that frequently causes connections between building components (e.g., roof, siding, windows, etc.) to fail.

Tornadoes also generate a tremendous amount of flying debris or “missiles”, which often becomes airborne shrapnel that causes additional damage. If wind speeds are high enough, missiles can be thrown at a building with enough force to penetrate windows, roofs, and walls.

Geographic Area Affected by Tornadoes

Tornadoes in Arkansas are most common along an elongated zone extending from Clark County northeastward to Mississippi County. There appears to be an area from Hope to Jonesboro (approximately along I-30 and U.S. 67) that is slightly more at risk to tornadoes than other parts of Arkansas, especially in a major outbreak.

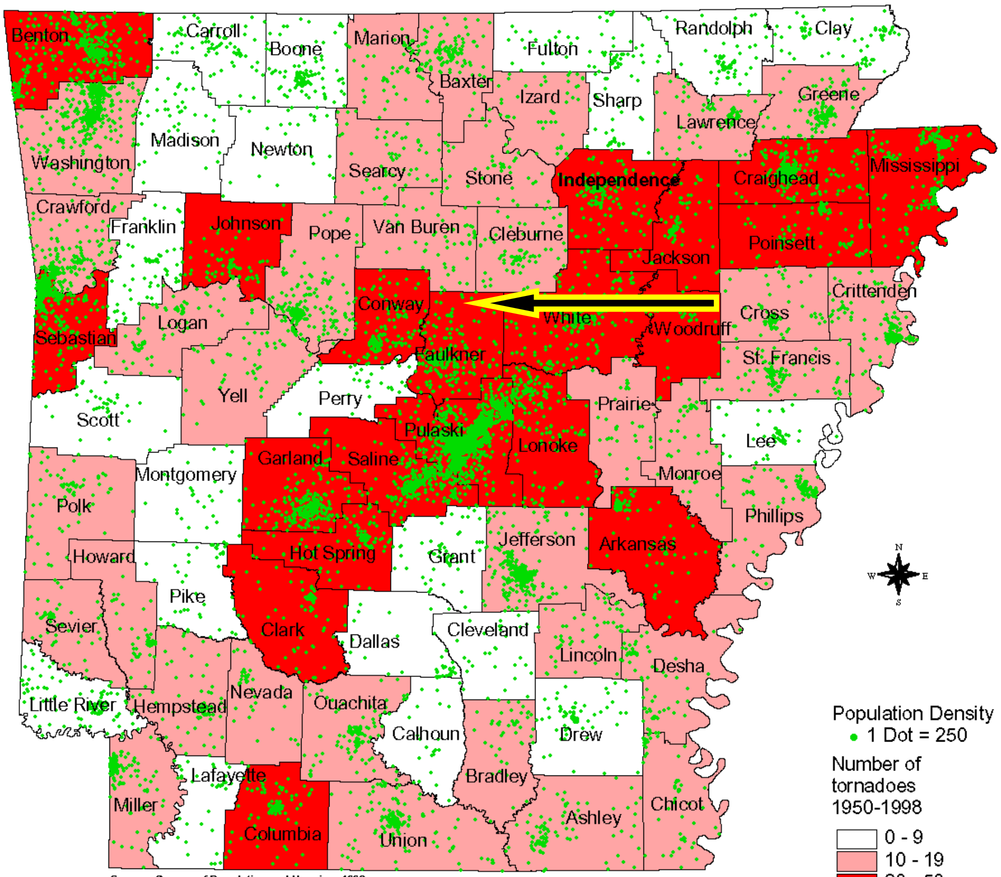
This I-30/US 67 corridor lies along the northeast-trending mountain front of the Ouachita Mountains, Arkansas Valley, and Ozark Highlands (the interior Highlands). This higher elevation region may force warm moist air from the low-lying Gulf Coastal Plain and Mississippi Alluvial Plain to the southeast upwards assisting in tornado initiation, and then guide the storms along the base of the northeast-trending highlands front.

I-40 flows though Faulkner County north to south. It is typical for tornadoes to travel along I 40 through the state, thereby placing the entire County at a slightly higher risk for tornadoes that most parts of Arkansas, especially in a major storm event. For example, since 1996, tornadoes have hit throughout Faulkner County impacting the communities of Naylor, Otto, Mayflower, Damascus, Vilonia, Enola, Hamlet, Mt. Vernon, Guy, Wooster, Saltillo, Greenbrier and Barney.

However, based upon the short 50-year dataset, no clear areas of high tornado activity occur at any particular county scale. Although tornado risk appears to vary on a statewide scale, variable tornado risk at the county scale cannot be demonstrated. Thus, mapping variations in tornado risk at a local or county scale is not currently possible. For the purposes of this plan, the entire area and all local jurisdictions are considered equally likely to experience a tornado event. This is proven to be the case in tornadoes that have occurred in a wide variety of areas throughout Faulkner County.

Tornado Map showing Population Density and Occurrence in Arkansas is located below.

Population Density and Tornado Occurrence in Arkansas



Source: Census of Population and Housing, 1990: Summary Tape File 3A, Arkansas, prepared by the Bureau of the Census, U.S. Department of Commerce, Washington, D.C., 1991, and National Weather Service / NOAA Data

Projection: Universal transverse Mercator, Zone 15
North American Datum of 1983

Previous Tornado Occurrences

Faulkner County has experienced at least forty-seven tornadoes events that have been recorded by the NCDC since 1950. There were 1 F-4 tornado; 12 F-3; 17 F-2; 15 F-1 and 2 F-0 tornadoes. The F-2 and greater events beginning in 1999 are listed below with a description of the area impacted, property damage and unfortunately the number of fatalities recorded.

DECLARED DISASTER: DR 99-07, DR999-14, DR 99-12, DR 99-01, DR 00-17: $3,575,200.00 – Tornadoes and Severe storms that occurred on January 21, 1999 caused great damage to private property and public facilities.

Naylor F2: January 21, 1999, 3:57 pm: A strong tornado was spawned in eastern Faulkner County. The tornado destroyed a couple of manufactured homes southeast of Naylor on or near Bull Mountain Road. Five people were injured in one of the homes. A hay barn was also destroyed before the tornado exited into western White County.

Hamlet F3: December 18, 2002, 3:35 pm: A strong tornado was spawned over Faulkner county about 1 mile north of Hamlet. The tornado moved to the northeast for approximately 9.8 miles before lifting 0.8 mile east-southeast of Enola. A number of homes, both permanent and mobile, were either damaged or destroyed along the path of the tornado. An 84 year-old woman was killed when her mobile home was destroyed, thirteen others sustained injuries. Numerous trees and power lines were blown down. A power substation was also damaged.

Guy F2: May 4, 2003, 6:34 pm: A strong tornado touched down in northern Faulkner County. Numerous trees were blown down along the path of the tornado. The tornado moved northeast into Cleburne County.

Saltillo F3: May 4, 2003, 7:09 pm: A strong tornado touched down in the southern part of Faulkner county, about 3 miles southwest of Saltillo. The tornado caused quite a bit of tree and power pole damage. Several homes and other buildings sustained some damage. The tornado tracked to the northeast into Lonoke County.

DECLARED DISASTER: DR 03-22, DR 03-32: $730,000 – Severe Storms, tornadoes and flooding that began May 16, 2003 have caused great damage to private property and public facilities.

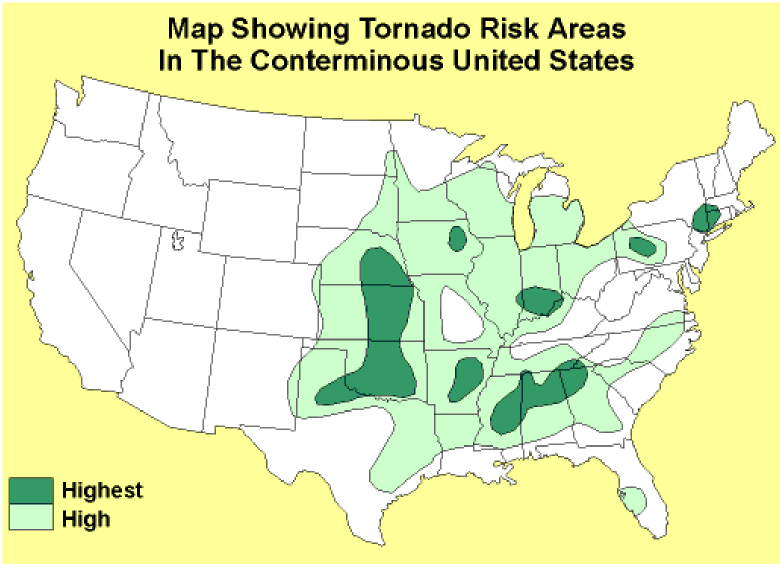
Damascus F2: November 27, 2005: A strong tornado moved out of Conway County and into the northwest corner of Faulkner County about miles west-southwest of Damascus. Damage along the path of the tornado consisted of numerous downed trees and power lines. Several homes sustained minor roof damage. The tornado continued moving northeastward into Van Buren County.

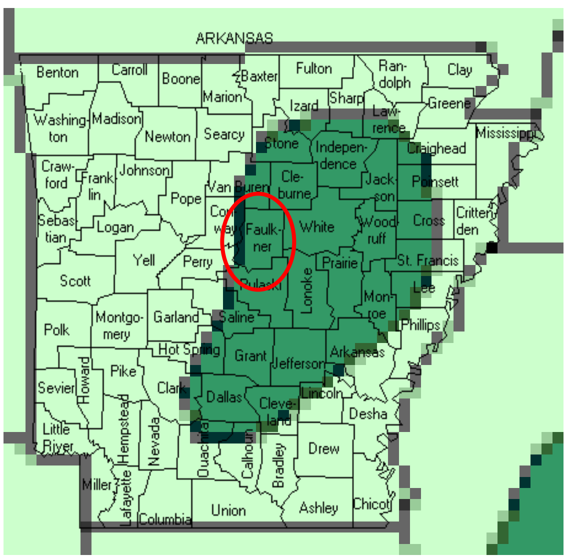
Probability of Future Tornado Events

Tornadoes are likely whenever and wherever the conditions are right. For example, Faulkner County has experienced nine (9) tornadoes in the months of February, March and April, and a total of sixteen (16) during the months of October, November, December and January.

An average of 6 to 62 tornadoes affected individual counties in Arkansas between the years 1950 and 2006. The average Arkansas County experienced approximately 27 tornadoes during this period. Faulkner County has recorded 47 tornadoes since 1950 of which one (1) was a F4, twelve (12) were F3, seventeen (17) F2, fifteen (15) F1 and two (2) F0.

These numbers indicate that Faulkner County will experience a tornado about 1.19 tornadoes per year. However, the state wide average for a county experiencing an F-2 tornado every 7.5 years, while Faulkner County experience is an F2 every 2 years. In other words, Faulkner County may experience slightly more tornadoes per year than the average Arkansas County, and are more likely to experience a more powerful tornado.





Faulkner County falls within the area of highest risk.

Magnitude/Severity of the Tornado Hazard

The magnitude and severity is different for all tornado events. (See Enhanced Fujita Scale) The time a tornado is on the ground can range from an instant to several hours. Movement can range from virtually stationary to more than 60 miles per hour. The typical "median" tornado's damage path is about one or two miles, with a width of about 50 yards. The largest tornado path widths can exceed one mile and the smallest widths can be less than 10 yards. Widths can vary considerably during a single tornado, because the size of the tornado can change considerably during its lifetime. Path lengths can vary from what is basically a single point to more than 100 miles.

The characteristics of tornadoes described above clearly indicate that tornado events typically do not directly strike large proportions of a particular area's population, but can and often do damage critical facilities affecting greater areas of a community. For example, a tornado striking small cities and communities in rural counties like Faulkner County could damage critical facilities affecting every person living is the community, and, in fact, could totally destroy small rural communities.

The Enhanced Fujita Tornado Scale measures tornado-damage severity. The Enhanced Fujita Scale assigns a numerical value based on wind speeds and categorizes tornadoes from F0 to F5. Scale values above F5 are not used because wind speeds above 318 mph are unlikely. Table 4.2.4.1 depicts the Enhanced Fujita Scale values, wind speeds, and damage descriptions.

Most tornadoes are in the F0-F2 class. Building to modern wind standards provides significant protection from these hazard events; however, a community in the direct path of a violent tornado may experience extensive damages. Designing buildings to extreme wind speeds, such as those associated with an F3 or greater tornado is beyond the scope of current building codes. The path width of a single tornado is generally less than 0.6 mile, although some damage path widths are in excess of one mile. The path length of a single tornado can range from a few hundred yards to over 200 miles. The average tornado in Arkansas moves from southwest to northeast, but tornadoes have been known to move in any direction. The average forward speed of a tornado is 30 mph, but may vary from nearly stationary to greater than 70 mph. The lifespan of a tornado is rarely longer than 30 minutes. The Table below shows the Fujita Scale and information associated with wind speed range and damage descriptions.

Enhanced F Scale for Tornado Damage

An update to the original F-scale by a team of meteorologists and wind engineers, to be implemented in the U.S. on 1 February 2007.

FUJITA SCALE			DERIVED EF SCALE		**OPERATIONAL EF SCALE**	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	**EF Number**	**3 Second Gust (mph)**
0	40-72	45-78	0	65-85	**0**	**65-85**

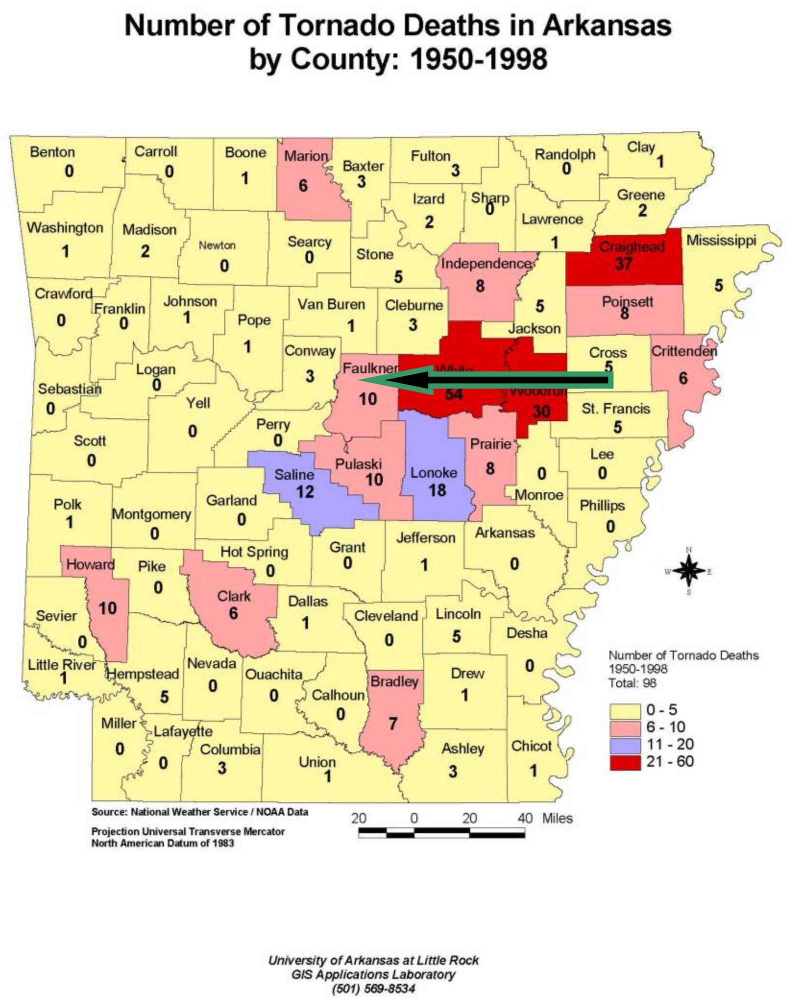
1	73-112	79-117	1	86-109	**1**	**86-110**
2	113-157	118-161	2	110-137	**2**	**111-135**
3	158-207	162-209	3	138-167	**3**	**136-165**
4	208-260	210-261	4	168-199	**4**	**166-200**
5	261-318	262-317	5	200-234	**5**	**Over 200**

***** IMPORTANT NOTE ABOUT ENHANCED F-SCALE WINDS:** *The Enhanced F-scale still is a set of wind estimates (not measurements) based on damage.* Its uses three-second gusts estimated at the point of damage based on a judgment of 8 levels of damage to the 28 indicators listed below. These estimates vary with height and exposure. **Important**: The 3 second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures, using a directly measured, "one minute mile" speed.

Enhanced F Scale Damage Indicators		
NUMBER (Details Linked)	**DAMAGE INDICATOR**	**ABBREVIATION**
1	Small barns, farm outbuildings	SBO
2	One- or two-family residences	FR12
3	Single-wide mobile home (MHSW)	MHSW
4	Double-wide mobile home	MHDW
5	Apt, condo, townhouse (3 stories or less)	ACT
6	Motel	M
7	Masonry apt. or motel	MAM
8	Small retail bldg. (fast food)	SRB
9	Small professional (doctor office, branch bank)	SPB
10	Strip mall	SM
11	Large shopping mall	LSM
12	Large, isolated ("big box") retail bldg.	LIRB
13	Automobile showroom	ASR
14	Automotive service building	ASB
15	School - 1-story elementary (interior or exterior halls)	ES

16	School - jr. or sr. high school	JHSH
17	Low-rise (1-4 story) bldg.	LRB
18	Mid-rise (5-20 story) bldg.	MRB
19	High-rise (over 20 stories)	HRB
20	Institutional bldg. (hospital, govt. or university)	IB
21	Metal building system	MBS
22	Service station canopy	SSC
23	Warehouse (tilt-up walls or heavy timber)	WHB
24	Transmission line tower	TLT
25	Free-standing tower	FST
26	Free standing pole (light, flag, luminary)	FSP
27	Tree - hardwood	TH
28	Tree - softwood	TS

A map showing the state of Arkansas is located below.



Calculated Priority Risk Index

The CPRI for the tornado hazard for Faulkner County and each local jurisdiction is determined by the following formula:

Probability: **Likely**
Magnitude/Severity: **Catastrophic**
Warning Time: **Less Than 6 Hours**
Duration: **Less Than One Day**

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

3 x.45 + **4** x .30 + **4** x .15 + **2** x .10 = **3.35**

4.2.5 Severe Winter Storm Profile

Winter storms occur when a heavy deposit of snow covers a large area. This may or may not be accompanied with extremely cold winds; blowing snow; freezing rain or sleet, cold temperatures, and possibly low visibility and drifting snow.

The storms often make roads impassable. Residents, travelers and livestock may become isolated or stranded without adequate food, water and fuel supplies short. The conditions may overwhelm the capabilities of local jurisdictions in a rural County with isolated small municipalities, i.e., Faulkner County.

Winter storms are considered deceptive killers as they indirectly cause transportation accidents, and injury and death resulting from exhaustion/overexertion, hypothermia and frostbite from wind chill, and asphyxiation; house fires occur more frequently in the winter due to lack of proper safety precautions.

As a hazardous winter weather phenomena, the National Weather Service (NWS) defines snow as a steady fall of snow for several hours or more. Heavy snow is defined as either a snowfall accumulating to 4 inches in depth in 12 hours or less, or snowfall accumulation to 6 inches or more in depth in 24 hours or less. In states such as Arkansas, where lesser accumulations can cause significant impacts, lower thresholds may be used. A blizzard means that the following conditions prevail for a period of three hours or longer: 1) sustained wind or frequent gusts to 35 miles an hour or greater; and 2) considerable falling and/or blowing snow (i.e., reducing visibility to less than 1/4 mile). Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Heavy sleet is a relatively rare event defined as the accumulation of ice pellets covering the ground to a depth of 0.5 inch or more.

Freezing rain or freezing drizzle occurs when rain or drizzle freezes on surfaces such as the ground, trees, power lines, vehicles, streets, highways, etc. Small accumulations of ice can cause driving and walking difficulties while heavy accumulations produce extremely dangerous and damaging conditions. The term “ice storm” describes occasions when damaging accumulations of ice are expected during freezing rain situations. Significant accumulations of ice pull down trees and utility lines resulting in loss of power and communication. These accumulations of ice make walking and driving extremely dangerous. Significant ice accumulations are usually accumulations of 0.25 inches or greater.

A combination of severe winter weather types occurring over a wide area is usually called a winter storm. Winter-storm formation requires below freezing temperatures, moisture, and lift to raise the moist air to form the clouds and cause precipitation. Lift is commonly provided by warm air colliding with cold air along a weather front. Various causes exist for winter storms in the United States. Winter storms in Midwestern and plains states typically develop over southeast Colorado on the east side of the Rockies. These storms move east or northeast and use both the southward plunge of cold air from

Canada and the northward flow of moisture from the Gulf of Mexico to produce ice, snow, and sometimes blizzard conditions. These fronts may push deep into the interior regions, sometimes as far south as Florida.

The occurrence of severe winter weather has a substantial impact on communities, utilities, transportation systems, and agriculture, and often results in loss of life due to accidents or hypothermia. Severe winter weather hazards include snowstorms, ice storms, storms with strong winds, and extreme cold. Heavy snow from a snowstorm can immobilize a region and paralyze a city, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, repairing damages, and loss of business can have large economic impacts on cities and towns.

Heavy accumulations of ice or snow commonly result in collapse of structural damage to buildings. The damage may be caused directly by the excessive weight of the ice/snow accumulation, or by ice-laden trees or branches falling on structures. Homes, business, as well as weaker nonresidential structures commonly sustain structural damage. Poultry houses in Arkansas are particularly at risk. Additional agricultural revenues are lost because of the time it takes to rebuild the poultry houses.

Heavy accumulations of ice from ice storms or heavy snow can also bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the damage. Power and communications disruptions are common consequences of ice storms and heavy snow in Faulkner County. The monetary cost of power and communications losses to businesses is significant but difficult to estimate.

Accumulations of ice and snow may also cause extreme hazards to motorists. Motorists in Faulkner County are generally unaccustomed to driving on slick roads resulting in an increase in traffic accidents, some of which may result in fatalities. Travel is hampered by ice or heavy snow because the state lacks sufficient snow removal equipment and road treatments (sand, salt) because of the infrequent occurrence of severe winter weather events. The cost of the numerous traffic accidents, as well as the cost of business and school closings that occur due to hazardous travel conditions, are difficult to estimate.

Winter storms are sometimes accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines. These conditions are rare in Faulkner County.

Geographic Area Affected by Severe Winter Storm

All parts of Faulkner County are equally susceptible to severe winter storms. For example, since 1994, Faulkner County has experienced 15 severe winter storms defined by the NOAA Satellite and Information Service as heavy snow events, ice storms and winter storms. The identified severe winter storms throughout Faulkner County also recorded 2 deaths and approximately 10 million dollars in property damage.

Faulkner County's location within the State of Arkansas could be described as the southwest corner of central Arkansas. This location places Faulkner County on the dividing line between which counties comprise the parts of Arkansas described in Severe Winter Storms reports as north and central Arkansas. Compared to the rest of the State of Arkansas, Faulkner County does not experience severe winter storms as often as the Northwest section of the State, but does experience such events about twice the rate of southern Arkansas.

Previous Severe Winter Storm Occurrences

Faulkner County has experienced a total of fourteen (14) severe winter storms since 1994. That is an average of 1.2 severe winter storms per year. Of these storms, defined by the NOAA Satellite and Information Service, eight (8) were classified as "Winter Storms", five (5) were classified as "Ice Storms" and one (1) such storm was classified as a "Heavy Snow" event. These events are not isolated to Faulkner County; as such storms by their very nature generally impact many counties and the State as a whole. The descriptions of these individual storms are outlined below.

DECLARED DISASTER: 02/19/91 – As a result of destructive winter storms and flooding during December 12-31, 1990 a disaster emergency was proclaimed on January 4, 1991.

Winter Storm 16 Jan 1994: Faulkner County was impacted by a severe winter storm on January 16, 1994, without any reported fatalities or injuries, but recorded property damage at $5.0M across the impacted area. A combination of snow, sleet and freezing rain fell over parts of northern and central Arkansas on the 16th and early on the 17th. The areas hardest hit by the storm were across areas of north central and northeast Arkansas in and around Faulkner County.

Snow and ice accumulations over the northern sections ranged from one to five inches. However, parts of northeast Arkansas received up to eight inches. A large number of trees and power lines were knocked down by the weight of the ice and snow. Fallen trees damaged many homes and businesses. Approximately 15,000 electric customers were without power at the height of the storm. Numerous traffic accidents occurred as a result of icy roads. Snow and ice remained on some roads for several days over northern Arkansas, as temperatures stayed below freezing.

Winter Storm 08 Mar 1994: Faulkner County was impacted by this severe winter storm on March 8, 1994, without causing any reported fatalities or injuries, but property damage was estimated at $5.0M across the impacted area. A mixture of snow, sleet, and freezing rain fell over parts of northern and central Arkansas beginning early on the 8th and continuing into the afternoon hours on the 9th. Northern parts of Arkansas were hardest hit where snow accumulated up to 18 inches at some locations.

Throughout central Arkansas, snow, sleet, and freezing rain made roads very hazardous. Numerous power outages occurred in the northern areas of the state as a result of the heavy snow. A number of buildings either collapsed or sustained damage due to the weight of the snow. A large number of poultry houses were destroyed, killing thousands of young chickens. The snow only stayed on the ground a few days as warmer weather quickly moved back into the area.

Winter Storm 08 Jan 1997: Faulkner County was impacted by this severe winter storm on January 8, 1997, without causing any reported fatalities, injuries, or property damage. A combination of snow, sleet and freezing rain fell across parts of North-Central and Central Arkansas beginning on the morning of the 8th and continuing into the morning hours on the 9th. Snow accumulated to between 3 and 6 inches over portions of Northern Arkansas, with some isolated amounts up to 8 inches in the higher elevations. Sleet and freezing rain fell across West-Central and Central Arkansas where the precipitation accumulated on mainly trees and grassy areas. There was some ice accumulation on a number of secondary roadways and overpasses for a period of time. Numerous traffic accidents occurred as a result of the wintry weather.

Heavy Snow 13 Feb 1997: Faulkner County was impacted by this heavy snow event without any fatalities, injuries, or property damage. Heavy wet snow fell across parts of Central and Northern Arkansas during the early morning hours of the 13th. Many areas saw accumulations generally between 3 and 6 inches. However, some of the higher elevations received 8 to 10 inches. A number of trees and power lines were knocked down by the weight of the snow. Numerous traffic accidents resulted from the heavy snow as well.

Ice Storm 22 Dec 1998: Faulkner County was impacted by this ice storm on December 22, 1998, with one (1) fatality due to a car crash on Hwy 38, no other injuries or property damage were reported. The impact of the storm in Faulkner mirrors the description as follows for the State of Arkansas. A major ice storm affected about the southern three-quarters of Arkansas as Christmas Day approached. Freezing rain and sleet developed across southern Arkansas during the evening of the 22nd and spread north. Precipitation finally ended in southeast sections of the state during the early evening hours of the 24th. A tenth of an inch of ice or more was common south of Mena, Conway and Osceola, with up to eight tenths of an inch in parts of southeast Arkansas.

Many businesses closed due to the ice, with most federal offices not open on the 23rd or 24th. The state's largest mall shut its doors for the night at 6pm on the

23rd. Driving became hazardous, and traffic slowed significantly. At one time, a drive along Interstate 30 from Malvern to Benton a distance of only 19 miles took an estimated 6 to 10 hours. This was mainly due to icing and numerous accidents. In one day, State Police investigated more than 400 accidents. The ice caused some power outages, with at least 2200 customers without power on the night of the 23rd.

Ice Storm 01 Jan 1999: Faulkner County was impacted by the ice storm without any report of fatality, injuries or property damage. A major ice storm developed over northern and central Arkansas during the morning of January 1st and lasted through the evening hours. The icing was found mainly north of Clarksville, Perryville, Little Rock and Hazen in Faulkner County.

Precipitation began developing over southern and western Arkansas and gradually spread eastward. The precipitation was mostly in the form of rain, which froze on contact with roadways and exposed surfaces in northern and central sections of the state. In portions of northern Arkansas, more than an inch of ice was reported...with extensive tree and power line damage. It was estimated that up to 100,000 customers were without power during the event. Numerous traffic accidents occurred, but only minor injuries were reported.

Ice Storm 08 Jan 1999: Faulkner County was impacted by an ice storm on January 8, 1999 without the report of any fatalities, injuries, or property damage. An ice storm developed over central and northeast Arkansas during the morning of January 8th. Showers and thundershowers began forming in southwest sections of the state shortly after 12am on the 8th...and were moving northeast into areas where subfreezing air existed at the surface. Icy conditions developed from Benton, Little Rock and Cabot northeastward into areas mainly along Highway 67/167 into Faulkner County. At least a tenth of an inch of ice was common, with some areas receiving up to half an inch where thundershowers occurred. Most of the ice was on trees and power lines, with bridges and overpasses also affected.

DECLARED DISASTER – DR00-21, DR 01-01, DR01-02, DR01-05, DR01-07, DR01-11, DR03-33: $1,338,000 – Severe winter weather that began December 12, 2000 has continued to cause great damage to private property and public facilities.

Winter Storm 27 Jan 2000: Faulkner County was impacted by a winter storm without the report of any fatalities, injuries or property damage. A major Winter Storm brought mostly heavy snow to Arkansas on January 27th and early on the 28th. Heavy snow began in southern and western sections of the state during the morning of the 27th, and gradually spread north and east. By the time the storm was over, 4 to 8 inches of snow had accumulated in about the northern half of the state and along the southern border. In much of the southern half of the state, 8 to 14 inches of snow was common with isolated reports of 20 inches. It was the most widespread, heavy snow to affect Arkansas since 1988.

The National Guard was called out to rescue stranded motorists, with a number of shelters opened for motorists and for the homeless across the impacted area. On the 29th, a State of Emergency was declared, with only necessary travel advised.

Proclamations # DR00-18, DR00-19, DR01-01, DR01-05, DR01-07, DR01-11 and DR03-33: Federally Declared Disaster began December 12,200 caused great damage to private property and public facilities. Total amount of federal assistance was $2,625,000.00

Winter Storm 13 Dec 2000: Faulkner County was impacted by a winter storm without the report of any fatalities, injuries or property damage. A major Winter Storm developed in Arkansas late on December 12, 2000, and lasted through the evening of December 13, 2000. Heavy snow and sleet fell across northern and western sections of the state and freezing rain and sleet in central and southern sections. More specifically, 3 to 6 inches of snow fell across the extreme north before mixing with sleet with 2 to 4 inches of snow and sleet across much of the north and west.

In central and southern sections, one half to 1 inch of freezing rain accumulated...with some sleet mixed in at times. Where icing occurred, there were massive power outages with entire trees falling in some areas due to the weight of the ice. Where trees and tree limbs fell, there was some property damage reported mainly to roofs and vehicles.

Power companies in Arkansas reported that about 250,000 customers lost power during the event...which is believed to be the largest outage in Arkansas history. Many people were without power for several days. Extra utility crews and tree trimmers from surrounding states were contacted to help restore power and to remove tree debris from lines. Winter Storm Warnings were posted almost a day in advance, with highway crews able to treat roads before the event began. Many schools announced they would be closed on the 13th, and the Arkansas Department of Emergency Management opened their Emergency Operations Center before precipitation began.

Ice Storm 25 Dec 2000: Faulkner County was impacted by an ice storm on December 25, 2000 without the report of any fatalities, injuries or property damage. After a major Winter Storm on December 12 and 13, 2000, a long term Ice Storm developed during the morning of December 25, 2000, and continued through the early morning hours of December 27, 2000.

Mostly freezing rain and sleet were noted, with one and a half to 3 inches of ice in western sections of the state and one half to 2 inches of ice elsewhere. The icing was devastating, with about 300,000 customers losing power. Many people were without power for several days.

Roads became nearly impassible due to the ice and trees that had fallen due to the weight of the ice. The National Guard was contacted to help stranded motorists and to deliver emergency generators. Soldiers driving Humvees had to assist the Little Rock ambulance service, which could not reach patients who lived on steep hills in the western part of the city.

Little Rock National Airport was closed from the evening of the 25th until midday on the 27th due to ice on the runways. This was the first time since 1975 that the airport had been closed for more than 24 hours. Ice Storm Warnings were posted well in advance, with one Power Company already having 3,000 people on standby in other states before the event began. This event combined with the event on the 12th and 13th was defined as one of the worst natural disasters in Arkansas history.

As a result of these two severe winter storm events, a Presidential Disaster Declaration was made on December 29, 2000, due to the severe winter weather that began December 12, 2000, and which continued to cause great damage to private property and public facilities. Faulkner County was eligible for was included as an eligible government under this declaration.

Winter Storm 05 Feb 2002: Faulkner County was impacted by a severe winter storm on February 5, 2002 without any report of fatalities, injuries or property damage. A mixture of snow and sleet started falling on the morning of the 5th over parts of western and southwest Arkansas. The precipitation gradually overspread the Faulkner County area later in the day and continued well into the day on the 6th. The precipitation changed over to snow during the overnight hours on the 5th before ending on the 6th. Snow accumulations between 2 and 5 inches were common across the area. Some localized amounts up to 6 and 7 inches were reported across the higher elevations of west central and north-central Arkansas. Roads were snow covered and hazardous during the event with numerous traffic accidents reported. Power outages were also reported in some areas due to the weight of the snow on tree limbs and power lines.

Winter Storm 24 Feb 2003: Faulkner County was impacted by a severe winter storm on February 24, 2003 without any reported fatalities, injuries or property damage. A major winter storm affected much of central and southern Arkansas from the 24th through the 25th. Precipitation began moving into western Arkansas late in the afternoon on the 24th, overspread Faulkner County and ended early in the morning on the 25th. A mixture of freezing rain, sleet and snow fell over the southern third of the state. Snowfall amounts in this area were on the order of an inch or two. A wide swath of snow and sleet occurred across the central third of the state. Very hazardous driving conditions resulted from the wintry precipitation, with numerous traffic accidents reported during the height of the storm.

Ice Storm 26 Feb 2003: Faulkner County was impacted by an ice storm on

February 26, 2003 without any reported fatalities, injuries or property damage. An ice storm affected mainly the southeast half of Arkansas from the night of the 25th into the morning of the 26th. Freezing rain overspread Faulkner County from the southwest during the evening of the 25th and continued into the morning hours of the 26th. Freezing rain amounts of 1/4 to 1/3 inch were common, but isolated totals reached 1/2 to 2/3 of an inch.

Icing occurred on already snow-covered roads in some cases, with widespread hazardous driving conditions resulting. In general, ice buildup on power lines was minimal...and power outages were limited. It was estimated that between 5000 and 6000 customers across the area of impact were without power for a period of time.

Winter Storm 22 Dec 2004: Faulkner County was impacted by a winter storm on December 22, 2004, without any reported fatalities, injuries or property damage. A winter storm produced a mixture of sleet and snow across much of northern, western and central Arkansas during the day and early evening hours of the 22nd. Snowfall totals across the affected area generally ranged from 2 to 4 inches. However, scattered amounts between 4 and 6 inches were reported in the higher elevations of west central and north central Arkansas. The accumulation of snow on area roadways made travel conditions very hazardous, resulting in numerous traffic accidents. Portions of Interstate 40, which dissects Faulkner County in central Arkansas, were shut down for almost 2 days after the storm ended due to significant ice accumulation on the roadway and a number of vehicles still stranded along the highway. Since temperatures remained below freezing over much of Arkansas through Christmas, many secondary roads remained ice covered and treacherous for travel.

Probability of Future Winter Storm Events

Faulkner County has experience 14 recorded severe winter storm events since 1994, thereby averaging such an event just a little over one (1) such event per year. From this most recent past, it can be projected that Faulkner County will continue to experience severe winter storm events along with the rest of the State of Arkansas at a rate of approximately one per year.

For example, the sister counties located in the northeast central part of the State of Arkansas have experienced 33 or more severe winter storms events over the past 26 years. The overall impact and vulnerability on each jurisdiction must be calculated as equal throughout each of these counties, especially for Faulkner County and its municipalities, because of the geographic region and the common terrain throughout of Faulkner County.

Magnitude/Severity of the Winter Storm Hazard

Faulkner County experiences a severe winter storm event, on average, once a year. Snow accumulations in Faulkner County during heavy snow events typically range from one (1) inch up to eight (8) inches per event. Accumulations during a typical ice storm in Faulkner County usually range from 1/10 of one inch to ½ of an inch. Only one severe winter storm event, the December 2000 Severe Winter Storm (FEMA 1354-DR), has resulted in a Presidential Disaster Declaration in Faulkner County.

Severe winter storm events usually do not occur in an isolated area. Generally, if Faulkner County is impacted, then several surrounding Counties are impacted as well. When such hazard events do occur (the worst usually associated with an ice storm), regular movement of traffic is limited, causing accidents and limiting responsiveness of emergency services. In addition these type storm hazards can knock out electrical power and communication lines and seriously damage some structures, thus creating potentially critical conditions for the entire area.

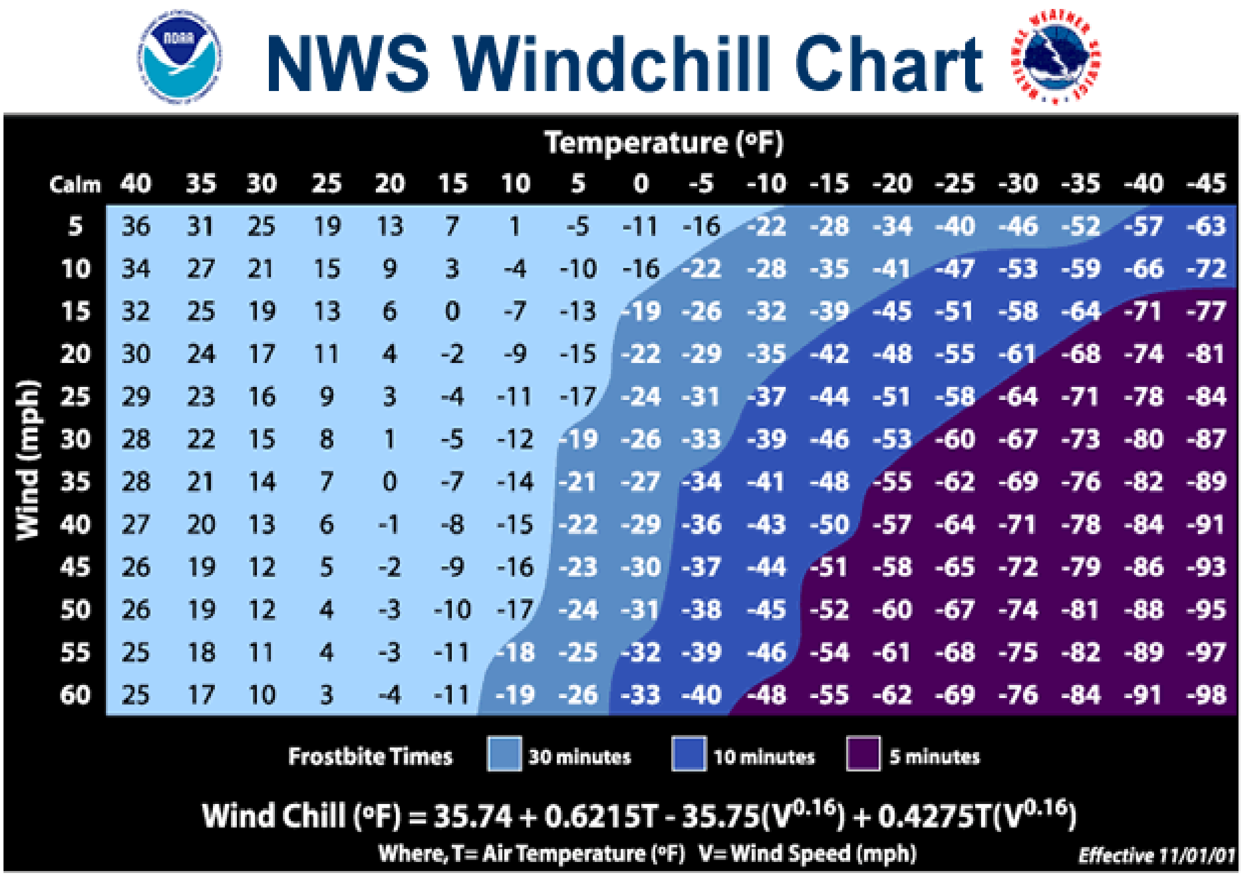
The occurrence of severe winter weather has a substantial impact on communities, utilities, transportation systems, and agriculture, and often results in loss of life due to accidents or hypothermia. Severe winter weather hazards include snowstorms, ice storms, storms with strong winds, and extreme cold. Heavy snow from a snowstorm can immobilize a region and paralyze a city, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, repairing damages, and loss of business can have large economic impacts on cities and towns.

Heavy accumulations of ice or snow commonly result in collapse of structural damage to buildings. The damage may be caused directly by the excessive weight of the ice/snow accumulation, or by ice-laden trees or branches falling on structures. Homes, business, as well as weaker nonresidential structures commonly sustain structural damage. Poultry houses in Arkansas are particularly at risk. Additional agricultural revenues are lost because of the time it takes to rebuild the poultry houses.

Heavy accumulations of ice from ice storms or heavy snow can also bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days while utility companies work to repair the damage. Power and communications disruptions are common consequences of ice storms and heavy snow in Faulkner County. The monetary cost of power and communications losses to businesses is significant but difficult to estimate.

Accumulations of ice and snow may also cause extreme hazards to motorists. Motorists in Faulkner County are generally unaccustomed to driving on slick roads resulting in an increase in traffic accidents, some of which may result in fatalities. Travel is hampered by ice or heavy snow because the state lacks sufficient snow removal equipment and road treatments (sand, salt) because of the infrequent occurrence of severe winter weather events. The cost of the numerous traffic accidents, as well as the cost of business and school closings that occur due to hazardous travel conditions, are difficult to estimate.

Winter storms are sometimes accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines. These conditions are rare in Faulkner County.


NWS Windchill Chart

Temperature (ºF)

Wind (mph)	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Calm																		
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes, 10 minutes, 5 minutes

$$\text{Wind Chill (ºF)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T = Air Temperature (ºF) V = Wind Speed (mph)

Effective 11/01/01

WINTER STORM WATCH:
Severe winter conditions, such as heavy snow and/or ice, are possible within the next day or two.

WINTER STORM WARNING:
Severe winter conditions have begun or are about to begin in your area. Stay indoors!

BLIZZARD WARNING:
Snow and strong winds will combine to produce a blinding snow (near zero visibility), deep drifts, and life-threatening wind chill. Seek refuge immediately!

WINTER WEATHER ADVISORY:
Winter weather conditions are expected to cause significant inconveniences and may be hazardous. If caution is exercised, these situations should not become life-threatening. The greatest hazard is often to motorists.

FROST/FREEZE WARNING:
Below freezing temperatures are expected and may cause significant damage to plants, crops, or fruit trees. In areas unaccustomed to freezing temperatures, people who have homes without heat need to take added precautions.

Calculated Priority Risk Index

The CPRI for the Winter Storms hazard is

Probability: **Likely**
Magnitude/Severity: **Limited**
Warning Time: **24+ Hours**
Duration: **Less Than 6 Hours**

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

3 x.45 + **2** x .30 + **1** x .15 + **1** x .10 = **2.2**

4.2.6 Wildfire Hazard Profile

A "wildfire" is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. They often begin unnoticed and spread quickly and are usually signaled by dense smoke that fills the area for miles around. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. A Wildland-Urban Interface (WUI) fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wild land or vegetative fuels. Areas with a large amount of wooded, brush and grassy areas are at highest risk of wildfires. Additionally, areas anywhere that have experienced prolonged droughts or are excessively dry are also at risk of wildfires.

Short-term loss caused by a wildland fire can include the destruction of timber, wildlife habitat, scenic vistas, and watersheds. Vulnerability to flooding increases due to the destruction of watersheds. The removal of vegetation may also increase vulnerability of landslides. Long-term effects include smaller timber harvests, reduced access to affected recreational areas, and destruction of cultural and economic resources and community infrastructure.

Wildfire behavior is based on three primary factors: fuel, topography, and weather. The type, and amount of fuel, as well as its burning qualities and level of moisture affect wildfire potential and behavior. The continuity of fuels, expressed in both horizontal and vertical components is also a factor, in that it expresses the pattern of vegetative growth and open areas. Topography is important because it affects the movement of air (and thus the fire) over the ground surface. The slope and shape of terrain can change the rate of speed at which the fire travels. Weather affects the probability of wildfire and has a significant effect on its behavior. Temperature, humidity and wind (both short and long term) affect the severity and duration of wildfires.

The Arkansas Forestry Commission completes a fire report on each fire its Rangers and Foresters suppress. Information on a fire report includes the location of the fire, what caused the fire, whose land it was on, and how large it was. The Forestry Commission classifies fire origins into one of nine causes (see Table 4.2.7.1). Based on statewide data from 1992 through 2003, it was found that the majority of fires in Arkansas are defined as “incendiary”. Almost 44% of fires and nearly 58% of acres burned over this twelve-year period were maliciously set. The next most common cause of fires was debris burning which caused 28% of the fires and almost 23% of acres burned. Lighting was the cause of only 3.6% of the fires in Arkansas.

Table 4.2.6.1 Causes of fires in Arkansas based on data collected from 1992-2003.

Fire Cause	**# of Fires**	**%**	**Acres Burned**	**%**
Incendiary	10,150	43.8%	169,857	55.7%
Debris Burning	6,509	28.1%	69,310	22.7%
Smokers	548	2.4%	4,529	1.5%
Railroad	433	1.9%	3,960	1.3%
Campfires	248	1.1%	2,852	0.9%
Equipment Use	1,403	6.0%	10,731	3.52%
Children	393	1.7%	2,459	0.8%
Lightning	837	3.6%	9,763	3.2%
Miscellaneous	2,644	11.4%	31,528	10.3%

Geographic Area Affected by Wildfire

The Arkansas Forestry Commission data for Faulkner County from 1994 through 2005, indicates there have been a total of 833 Wildfires, which burned a total of 5,782 acres. In addition, the same database indicates that wildfires have occurred in every county in Arkansas. However, wildfires are most common in the south central to southwest part of the state, which is a heavily forested area located in the Gulf Coastal Plain and southern Ouachita Mountains such as the case of Faulkner County. Fires are least common in the heavily agricultural Mississippi Alluvial Plan area of eastern Arkansas.

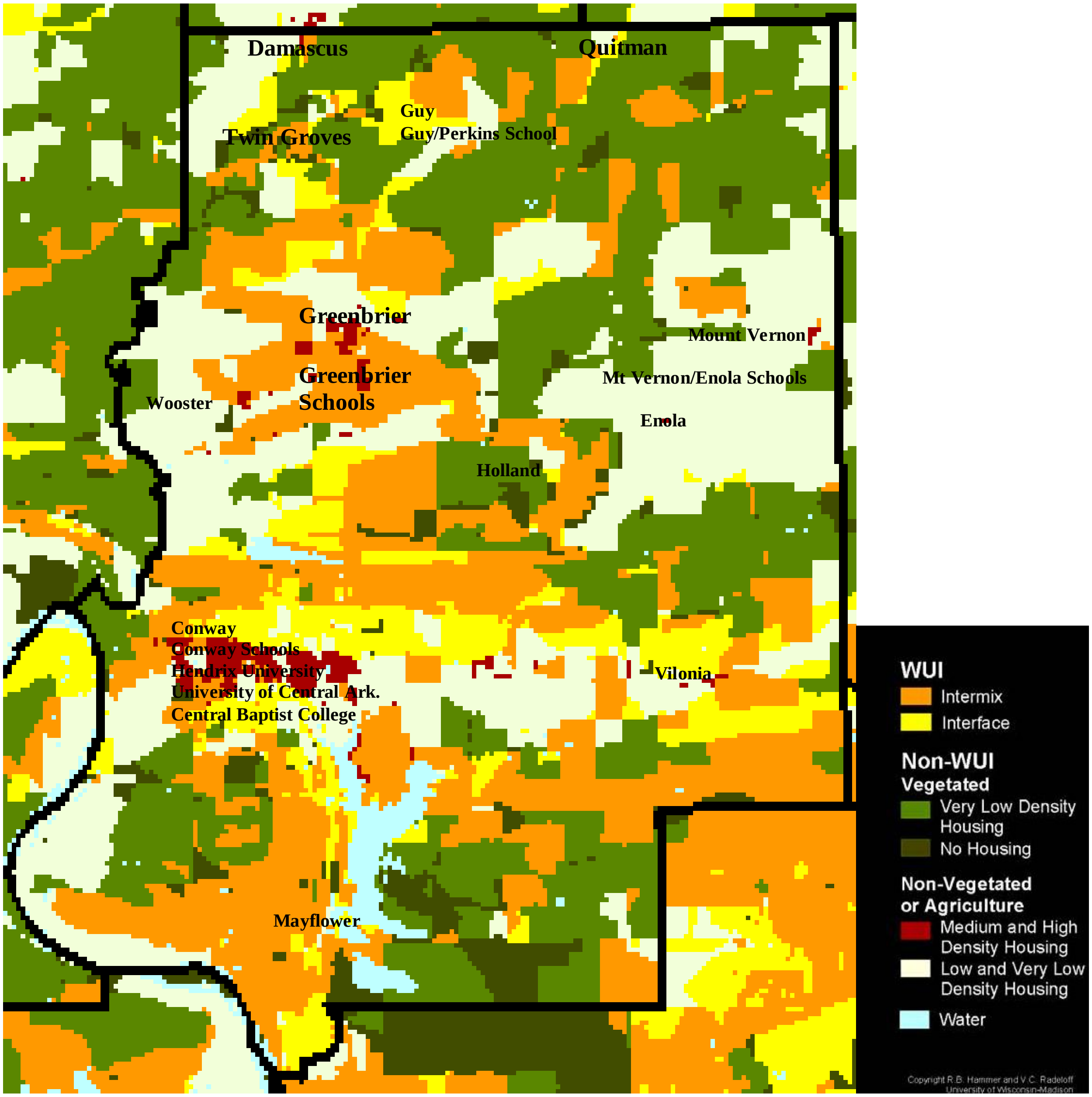
To assess the area/jurisdiction(s) of Faulkner County most at risk to wildland fires, consideration must be given to the “wildland-urban interface within the County. For example, population de-concentration in the U.S. has resulted in rapid development in the outlying fringe of metropolitan areas and in rural areas with recreational and aesthetic amenities, especially forests. This demographic change is increasing the size of the wildland-urban interface (WUI), defined as the area where structures and other human development meet or intermingle with undeveloped wildland. The expansion of the WUI in recent decades has significant implications for wildfire management and impact. The WUI creates an environment I which fire can move readily between structural and vegetation fuels. The expansion of the WUI has increased the likelihood that wildfires will threaten structures and people.

Faulkner is unique in that it is part of the 8 million acre Ouachita mountain physiographic region located in west central Arkansas and southeastern Oklahoma. The mountains are east to west trending and range in elevation from 400 to 2,700 feet. Travelers in this region prior to European settlement described the landscape as dominated by pine, pine-hardwood and mixed-oak forest communities with fire-dependent and floristically rich grass and forb understories. This region of Faulkner County is highly susceptible to wildfires.

The U.S. Department of Agriculture Forest Service and the University of Wisconsin (Madison) recently released new scientific maps depicting the communities and lands within the wildland-urban interface. This is the first consistent nationwide representation of the WUI as defined in the Federal Register (Volume 66:751, 2001) and makes possible mapping and analysis at national, state and local levels. WUI maps are intended to illustrate where the WUI was located in 2000. Two types of WUI were mapped: intermix and interface. Intermix WUI are areas where housing and vegetation intermingle; interface WUI are areas with housing in the vicinity of contiguous wildland vegetation. A map depicting the interface and intermix WUI in Faulkner County is presented below .

The U. S. Forest Service-University of Wisconsin WUI study also made available county-level WUI statistical data. Based on the statistical data, the number of square miles in each county in Arkansas determined to be WUI was calculated. This analysis found that Faulkner County had a total of 1,676.7 square miles

High Density Interface	2.8
High Density Intermix	0.4
Low Density Interface	121.7
Low Density Intermix	434.8
Medium Density Interface	30.9
Medium Density Intermix	30.8
Non-WUI	1055.3
TOTAL	1873.5


Damascus
Quitman
Guy
Guy/Perkins School
Twin Groves
Greenbrier
Mount Vernon
Greenbrier
Schools
Mt Vernon/Enola Schools
Wooster
Enola
Holland
Conway
Conway Schools
Hendrix University
University of Central Ark.
Central Baptist College
Vilonia
Mayflower
WUI
Intermix
Interface
Non-WUI
Vegetated
Very Low Density Housing
No Housing
Non-Vegetated or Agriculture
Medium and High Density Housing
Low and Very Low Density Housing
Water
Copyright R.B. Hammer and V.C. Radeloff
University of Wisconsin-Madison

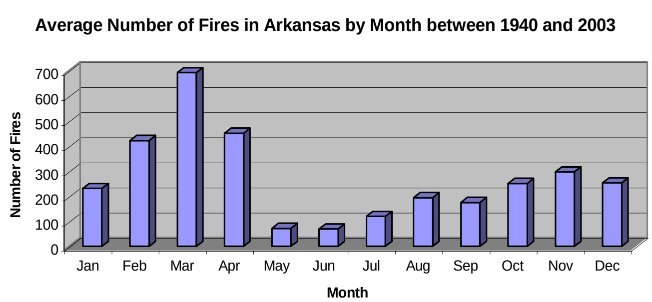
Previous Wildfire Occurrences

Faulkner County has had a fairly high incidence of wildfires, which require suppression and have been reported through the Arkansas Forestry Commission. According to published reports by the Arkansas Forestry Commission, Faulkner County experienced 833 such wildfires for the years 1994 through 2005. When compared to the other seventy-five counties in Arkansas, Faulkner County ranked 31st in the recorded number of such wildfires.

Probability of Future Wildfire Events

The Arkansas Forestry Commission data for the period of 1994 through 2005 indicates a total of 308 wildfires required suppression in Faulkner County during that twelve-year period for an average of twenty-six per year. The average number of acres burned by wildfire in Faulkner County each year is approximately four hundred and thirteen. Therefore, Faulkner County residents can expect about twenty-six wildfires per year which require suppression efforts and that burn approximately four hundred and thirteen acres.

Although wildfires may occur at any time of the year throughout Arkansas, February through April has been documented as being the "peak season" with March having the largest average number of fires (692). The chart below depicts the number of fires by month.



Magnitude/Severity of the Wildfire Hazard

Faulkner County has had a total of 4,959 acres burned by wildfire according to the Arkansas Forestry Commission data for the years 1994 through 2005. With an average of four hundred and thirteen acres burned per year, Faulkner County ranks 31st among the 75 Arkansas counties for acres burned by wildfires per year. The highest number of acres burned in one year was 1,057 in 1994.

Burn Severity

From a landscape perspective, burn severity is defined as the degree of environmental change cuased by fire. Heterogeneity in burn severity is a result of the spatial variation of factors such as fire intensity, topography and vegetation type. Burn severity can be broken down into several categories, useful in gauging post burn ecological responses:

- Unburned
- Low Severity Burn
- Medium Low Severity Burn
- Medium High Severity Burn
- High Severity Burn

Rank	Burn Severity	Description	Characteristics
0	Unburned	Fire extinguished before reaching microsite	• Leaf litter from previous years intact and uncharred • No evidence of char around base of trees and shrubs • Pre-burn seedlings and herbaceous vegetation present.
1	Low Severity Burn	Surface fire which consumes litter yet has little effect on trees and understory vegetation.	• Burned with partially consumed litter present • Evidence of low flame heights around base of trees and shrubs (<0.5 m) • No significant decreases in overstory & understory basal area, diversity or species richness from pre-burn assessments • Usually burning below 80 ° C
2	Medium-Low Severity Burn	No significant differences in overstory density and basal area, & no significant differences in species richness. However, understory density, basal area, and species richness declined.	• No litter present and 100% of the area covered by duff • Flame lengths < 2 m • Understory mortality present, little or no overstory mortality
3	Medium-High Severity Burn	Flames that were slightly taller than those of Medium-low intensity fires, but these fires had occasional hot spots that killed large trees, With significant reduction in the understory	• Soil exposure on 1-50% of the area • Flame lengths <6m • High understory mortality with some overstory trees affected
4	High Severity Burn	Crown fires, usually a stand replacing burn with relatively high overstory mortality	• Soil exposure >50% • Flame lengths >6m • Higher overstory mortality >20% • Usually burning above 800 ° C

Southern Appalachian Forest Coalition http://www.safc.org/index.php

Calculated Priority Risk Index

The CPRI for the Wildfire Hazard for Faulkner County and each local jurisdiction is

Probability: **Highly Likely**
Magnitude/Severity: **Critical**
Warning Time: **Less than 6 hours**
Duration: **Less than a week**

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

4 x.45 + **3** x .30 + **4** x .15 + **3** x .10 = **3.6**

4.2.7 Drought Hazard Profile

Drought is a normal, recurrent feature of climate. In the most general sense, drought originates from a deficiency of precipitation over an extended period of time, resulting in a water shortage for some activity, group or environmental sector. Drought is a temporary aberration: it differs from aridity, which is restricted to low rainfall regions and is a permanent feature of climate.

Drought should be considered relative to some long-term average condition of balance between precipitation and evaotranspiration (i.e., evaporation + transpiration) in a particular area, a condition often perceived as “normal”. Conditions of drought is also related to the timing (i.e., principal season of occurrence, delays in the start of the rainy season, occurrence of rains in relation to principal crop growth stages) and the effectiveness (i.e., rainfall intensity, number of rainfall events) of the rains. Other climatic factors such as high temperature, high wind, and low relative humidity are often associated with it in many regions of the world and can significantly aggravate the severity of a drought.

When drought begins, the agricultural sector is usually the first to be affected because of its heavy dependence on stored soil water. Soil water can be rapidly depleted during extended dry periods. If precipitation deficiencies continue, then people dependent on other sources of water will begin to feel the effects of the shortage. Those who rely on surface water (i.e., reservoirs and lakes) and subsurface water (i.e., ground water), for example, are usually the last to be affected. A short-term drought that persist for 3 to 6 months may have little impact on these sectors, depending on the characteristics of the hydrologic system and water use requirements.

In 1965, W.C. Palmer developed an index to measure the departure of the moisture supply (Palmer, 1965). Palmer based his index on the supply-and-demand concept of the water balance equation, taking into account more than just the precipitation deficit at specific locations. The objective of the Palmer Drought Severity Index (PDSI), as this index is now called, was to provide measurements of moisture conditions that were standardized so that comparisons using the index could be made between locations and between months (Palmer 1965).

The Palmer Index is most effective for determining long-term drought, which occurs over several months, and is less effective for short-term forecasts, which occur over a matter of weeks. The index is based on a scale, which indicates "normal conditions" as "0" and drought conditions as "minus" numbers. For example, minus 2 (-2) would represent a moderate drought, a minus 3 (-3) would represent a severe drought, and minus 4 (-4) would represent an extreme drought as depicted on the Palmer Drought Severity Index (PDSI)

Scientists are unable to predict drought a month or more in advance for most locations. Predicting drought depends on the ability to forecast two fundamental meteorological surface parameters, precipitation and temperature. A review of the historical climate data clearly indicates that climate is inherently variable. Conclusion can also be drawn from such data, that anomalies of precipitation and temperature may last from several months to several decades. The duration of such anomalies depends on air-sea interactions, soil moisture and land surface processes, topography, internal dynamics, and the accumulated influence of dynamically unstable synoptic weather systems at the global scale.

Geographic Area Affected by Drought

Faulkner County has been affected by drought numerous times over the past three hundred years (1700-1995) according to historical Palmer Drought Severity Indices reconstructed through the study of tree rings between for the years between 1700 and 1895, when instrumental records begin to be kept. These composite PDSI reconstructions and recordings, clearly depict that the central and eastern portions of the State of Arkansas is less likely to experience severe and extreme drought less often than western Arkansas. However, all portions of Faulkner County are equally likely to experience drought as indicated by the historical map of the following Palmer Drought Severity Index shown on the following page.

Previous Drought Occurrences

The Dust Bowl Drought: Faulkner County, along with the rest of the State of Arkansas experienced the "Dust Bowl Drought", a prolonged drought during the 1930's that resulted in dust storms and much economic misery to go along with the depression. Many summers from 1930 through 1939 were hot and dry. The worst dust storms in Arkansas came during 1934. The first dust storm was on April 11 and several others followed through the spring and summer. An Instrumental PDI map of the United States showing the severity of drought in Arkansas in 1934 is depicted below. This map indicates that Faulkner County is located in the area of the State of Arkansas experienced a PDSI of minus 2.5 to a minus 3.5 (moderate to severe drought) that year.

The Droughts of 1953 and 1954: Faulkner County, along with the rest of the State of Arkansas experienced droughts in 1953 and 1954. In 1953, a statewide drought during the summer and fall of 1953 with 100-degree weather experienced through the month of September and even into early October in some areas. In 1954, the drought conditions were combined with a heat wave, which began June 7th and extended through September 10th. This heat wave was recorded as the "hottest summer" on record in Little Rock, which is less than 100 miles west of Faulkner County, with 46 days of 100-degree weather and a total of 115 days of 90-degree weather.

As indicated in the Instrumental PDSI map of the United States showing the severity of drought in 1954 is depicted below. This map indicates the area of Sxs aline County experienced a PDSI of minus 2.5 to minus 3.5 (moderate to severe drought) for that year.

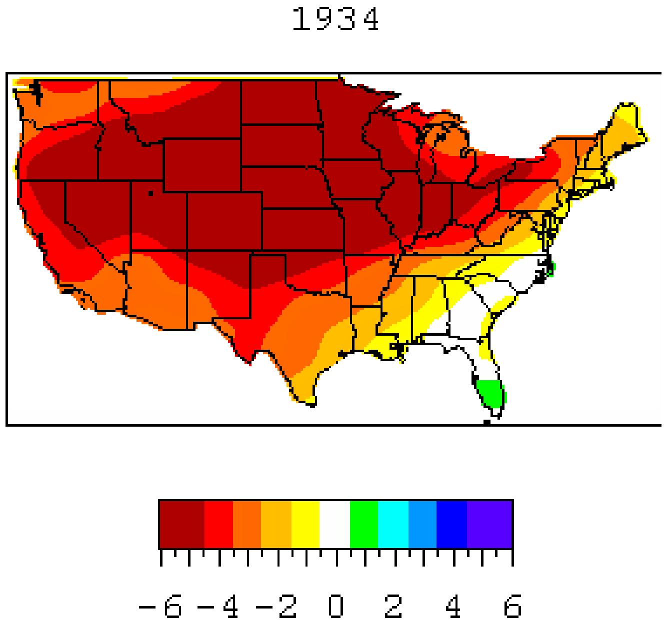
The Summer of 1980: Faulkner County, along with the remainder of the State of Arkansas experienced drought conditions during a heat wave which lasted between June 22nd and September 17, 1980. This drought event resulted in the "hottest month" ever recorded in Little Rock with 20 consecutive days of 100-degree weather that included 10 consecutive days of 105 degrees. In addition to these consecutive record setting days, a total of 103 days of 90-degree weather was endured.

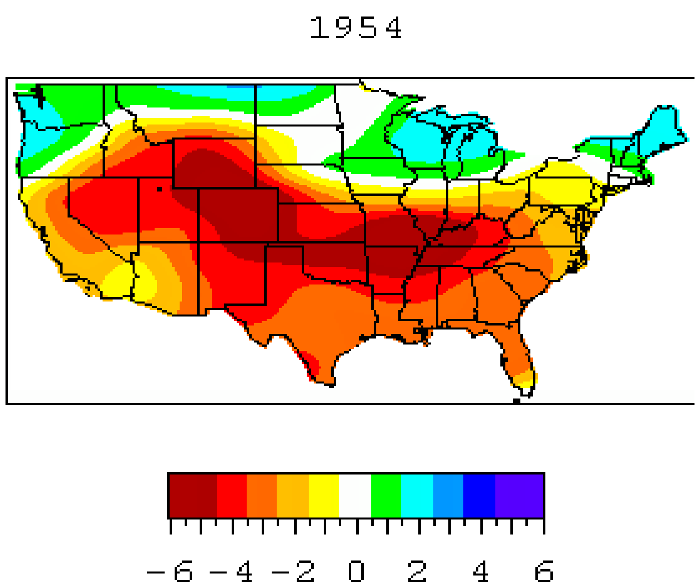
Late Summer Heat Wave and Drought of 2000: Faulkner County, along with the remainder of the State of Arkansas began experiencing a long-term drought period in the spring of 1998. In 2000, a extended dry period and heat wave intensified with record setting in August with widespread 100-degree temperatures across the state through early September. Only .67 inches of rain was measured in July and August combined, resulting in a record of 27 straight days without precipitation for the City of Little Rock. As a result of this period of drought across the State of Arkansas, the Governor declared all 75 counties in Arkansas "agricultural disaster areas".

M2 PRESSWIRE-19 October 1999-USDA: Glickman designates Arkansas agriculture disaster area (C)1994-99 M2 COMMUNICATIONS LTD
RDATE:181099

WASHINGTON -- Agriculture Secretary Dan Glickman has declared all 75 Arkansas counties as agricultural disaster areas due to a losses caused by the 1999 drought. The designation makes low-interest USDA loans available to farmers in these counties as well as contiguous counties in adjacent states, to cover losses from **excessive heat** and **drought.**

The Associated Press AP Online 08-06-1999
Death Toll From Heat Wave
The state-by-state breakdown of 282 deaths blamed on heat since July 19:
Arkansas, 4





Probability of Future Drought Events

The Palmer Drought Severity Index data for the period of 1895-1995, indicates that Faulkner County has experienced severe to extreme drought conditions less than 5 years within that 100-year period. The PDSI maps from 1730-1995, developed by the NOAA Paleoclimatology program, indicate that Faulkner County experienced moderate to extreme drought conditions (PDSI>-2.5) a total of seventeen (17) times over this 265-year period or approximately one drought every approximately 16 years.

Magnitude/Severity of the Drought Hazard

The area of Faulkner County, Arkansas, since 1730, has experienced extreme drought conditions (PDSI values of –5 to –6) only in 1954. Severe Drought conditions (PDSI values of –3.5 to –4.5) were only experienced in Faulkner County in 1936. However, Faulkner County has experienced periods of moderate to severe drought conditions (PSDI –2.5 to –3.5) a total of 15 times since 1730.

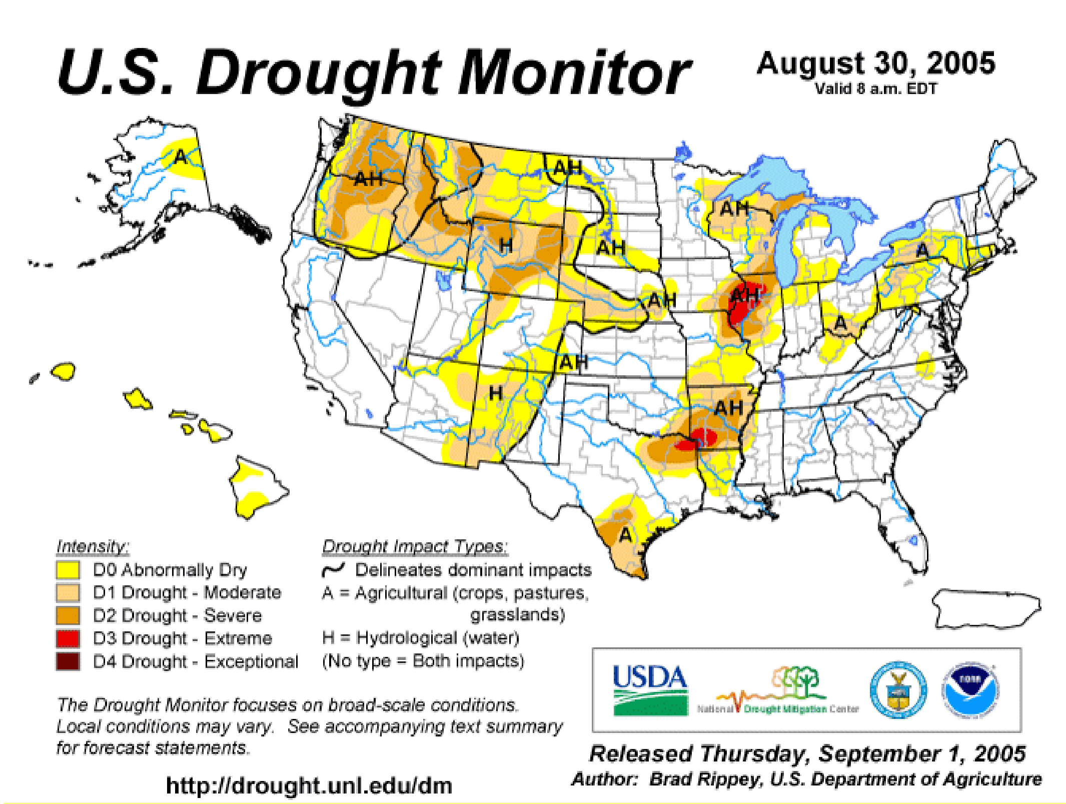
Drought Severity Classification

Source: U.S. National Drought Mitigation Center.

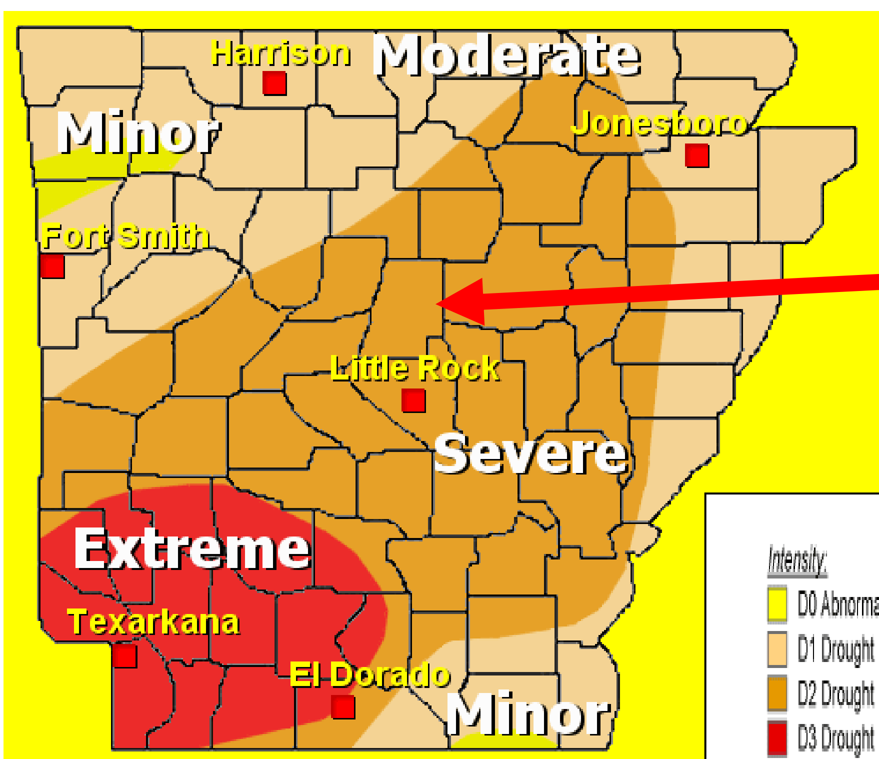
D0-D4: The Drought Monitor summary map identifies general drought areas, labeling droughts by intensity, with D1 being the least intense and D4 being the most intense. D0, drought watch areas, are either drying out and possibly heading for drought, or are recovering from drought but not yet back to normal, suffering long-term impacts such as low reservoir levels.

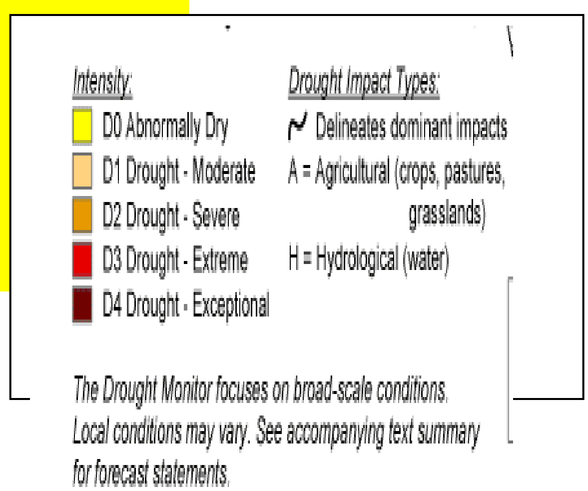
Drought Severity Classification								
		RANGES						
Category	Description	Possible Impacts	Palmer Drought Index	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Percent of Normal Precip	Standardized Precipitation Index (SPI)	Satellite Vegetation Health Index
D0	Abnormally Dry	Going into drought: short-term dryness slowing planting, growth of crops or pastures; fire risk above average. Coming out of drought: some lingering water deficits; pastures or crops not fully recovered.	-1.0 to -1.9	21-30	21-30	<75% for 3 months	-0.5 to -0.7	36-45
D1	Moderate Drought	Some damage to crops, pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested	-2.0 to -2.9	11-20	11-20	<70% for 3 months	-0.8 to -1.2	26-35
D2	Severe Drought	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed	-3.0 to -3.9	6-10	6-10	<65% for 6 months	-1.3 to -1.5	16-25
D3	Extreme Drought	Major crop/pasture losses; extreme fire danger; widespread water shortages or restrictions	-4.0 to -4.9	3-5	3-5	<60% for 6 months	-1.6 to -1.9	6-15
D4	Exceptional Drought	Exceptional and widespread crop/pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells, creating water emergencies	-5.0 or less	0-2	0-2	<65% for 12 months	-2.0 or less	1-5

Additional indices used, mainly during the growing season, include the USDA/NASS Topsoil Moisture, Crop Moisture Index (CMI), and Keetch Byram Drought Index (KBDI). Indices used primarily during the snow season and in the West include the River Basin Snow Water Content, River Basin Average Precipitation, and the Surface Water Supply Index (SWSI).



Faulkner County is in the D2 Drought-Severe area





Calculated Priority Risk Index for a Drought Hazard

The CPRI for the Drought Hazard for Faulkner County and each local jurisdiction is determined by the following formula

Probability + Magnitude/Severity + Warning Time + Duration = CPRI

Probability:	**Possible**
Magnitude/Severity:	**Limited**
Warning Time:	**24 + Hours**
Duration:	**More than a week**

The CPRI for the Drought hazard for Faulkner County is

2.45 + **2** x .30 + **1** x .15 + **4** x .10 = **2.05**

4.2.8 Dam Failure Hazard Profile

A dam impounds water in the upstream area creating a "reservoir". The amount of water impounded is measured in acre-feet. An acre-foot of water is the volume that even a very small dam may impound or detain many acre-feet of water. As defined by NOAA, a Dam Failure is a catastrophic event characterized by the sudden, rapid, and uncontrolled release of impounded water. Dam failures are not routine, but the results can be devastating. Two factors influence the potential severity of full or partial dam failure: the amount of water impounded, and density, type and value of development downstream. In hydrologic terms, a dam is any artificial barrier which impounds or diverts water. The dam is generally hydrologically significant if it is:
1.) 25 feet or more in height from the natural bed of the stream and has a storage of at least 15 acre-feet.
2.) Or has an impounding capacity of 50 acre-feet or more and is at least six feet above the natural bed of the stream.

The National Inventory of Dams categorizes the dams according to the following primary functions:

- Recreation (31.3 percent)
- Fire and farm ponds (17.0 percent)
- Flood control (14.6 percent)
- Irrigation (13.7 percent)
- Water supply (9.8 percent)
- Tailings and other (8.1 percent)
- Hydroelectric (2.9 percent), Undetermined (2.3 percent)
- Navigation (0.3 percent)

Each dam listed in the National Inventory of Dams is assigned a high, significant, or low hazard classification based on potential of loss of life and property should the dam fail. Hazard classification is updated continually based on development and changing demographics both upstream and downstream of the dam site. The hazard classification is not an indicator of the adequacy of a dam or its physical integrity.

Dam failures can result from any one or a combination of causes. Prolonged periods of rainfall and flooding cause most failures. Other possible mechanisms of failure include: Inadequate spillway capacity resulting in excess overtopping flows; Internal erosion caused by embankment or foundation leakage or piping; Improper maintenance, including failure to remove trees, repair internal seepage problems, failure to replace lost material from the cross Section of the dam and abutments; Improper design, including the use of improper construction materials and construction practices; negligent operation , including failure to remove or open gates or valves during high flow periods; Failure of upstream dams on the same waterway; Landslides into reservoirs, which cause surges that result in overtopping; High winds, which can cause significant wave action and result in substantial erosion; and Earthquakes, which typically cause longitudinal cracks at the tops of embankments that weaken entire structures.

Jurisdiction/Powers of Department - The Arkansas Soil and Water Conservation Commission has the power to:

• Promulgate rules, regulations, and orders as needed to perform its duties (A.C.A. S.15-22-205);

• Require a permit for construction and operation of all dams which exceed 25 feet in height and impound at least 50 acre-feet of water except those owned by the US government (A.C.A. S.15-22-210 and S.15-22-214);

• Require, upon appeal by a downstream riparian, a permit for dams of any size whose failure would endanger lives or property (A.C.A. S.15-22-214);

• Enter property at any time to inspect the dam or site before, during or after construction (A.C.A. S. 15-22-2);

• Direct dam owners to make repairs necessary to protect the safety of the dam (A.C.A. S.22-210[2]);

• Remove dams or perform necessary repairs to protect safety of dams if the owner fails to perform the same in a timely manner. Costs of such work shall be a lien against the property (A.C.A. S.15-22-210[2]);

1 Compiled by the Association of State Dam Safety Officials, July 2000 Arkansas

• Issue subpoenas for any witness to require his attendance and testimony before the commission, and to require the production of any records determined to be material to the question before the commission (A.C.A. S.15-22-208).

Source: FEMA 333; Federal Guidelines for Dam Safety, Hazard Potential Classifications for Dams, October 1998

Signs of Potential Dam Failure	
Seepage	The appearance of seepage on the downstream slope, abutments, or downstream area is cause for concern. If the water is muddy and is coming from a well defined hole, material is probably being eroded from inside the embankment and a potentially dangerous situation can develop
Erosion	Erosion on the dam and spillway is one of the most evident signs of danger. The size of erosion channels and gullies can increase greatly with slight amounts of rainfall.
Cracks	Cracks are of two types: traverse and longitudinal. Traverse cracks appear perpendicular to the axis of the dam and indicate settlement of the dam. Longitudinal cracks run parallel to the axis of the dam and may be the signal for a slide, or slump. on either face of the dam.
Slides and Slumps	A massive slide can mean catastrophic failure of the dam. Slides occur for many reasons and their occurrence can mean a major reconstruction effort.
Subsidence	Subsidence is the vertical movement of the foundation materials due to failure of consolidation. Rate of subsidence may be so slow that it can go unnoticed without proper inspection. Foundation settlement is the result of placing the dam and reservoir on an area not having suitable strength or over collapsed caves or mines.
Structural	Conduit separations or ruptures can result in water leaking into the embankment and the subsequent weakening of the dam. Pipe collapse can result in hydraulic failures due to diminished capacity.
Vegetation	A prominent danger signal is the appearance of "wet environment" types of vegetation such as cattails, reeds, mosses and other wet area vegetation. These types of vegetation can be a sign of seepage.
Boils	Boils indicate seepage water exiting under some pressure and typically occur in areas downstream of the dam.
Animal Burrows	Animal burrows are a potential danger since such activity can undermine the structural integrity of the dam.
Debris	Debris on dams and spillways can reduce the function of spillways, damage structures and valves and destroy vegetative cover

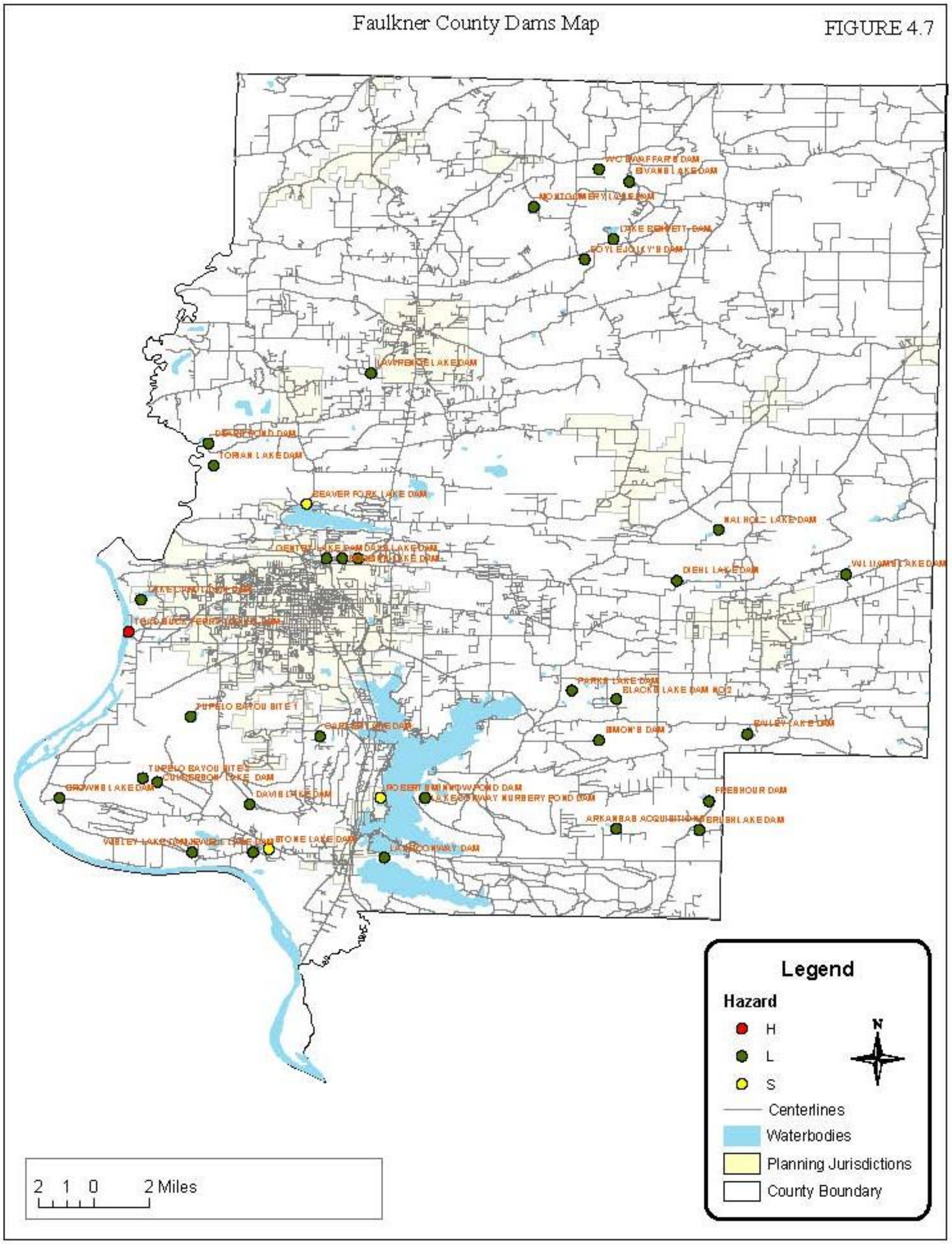
Geographic Area

The National Inventory of Dams

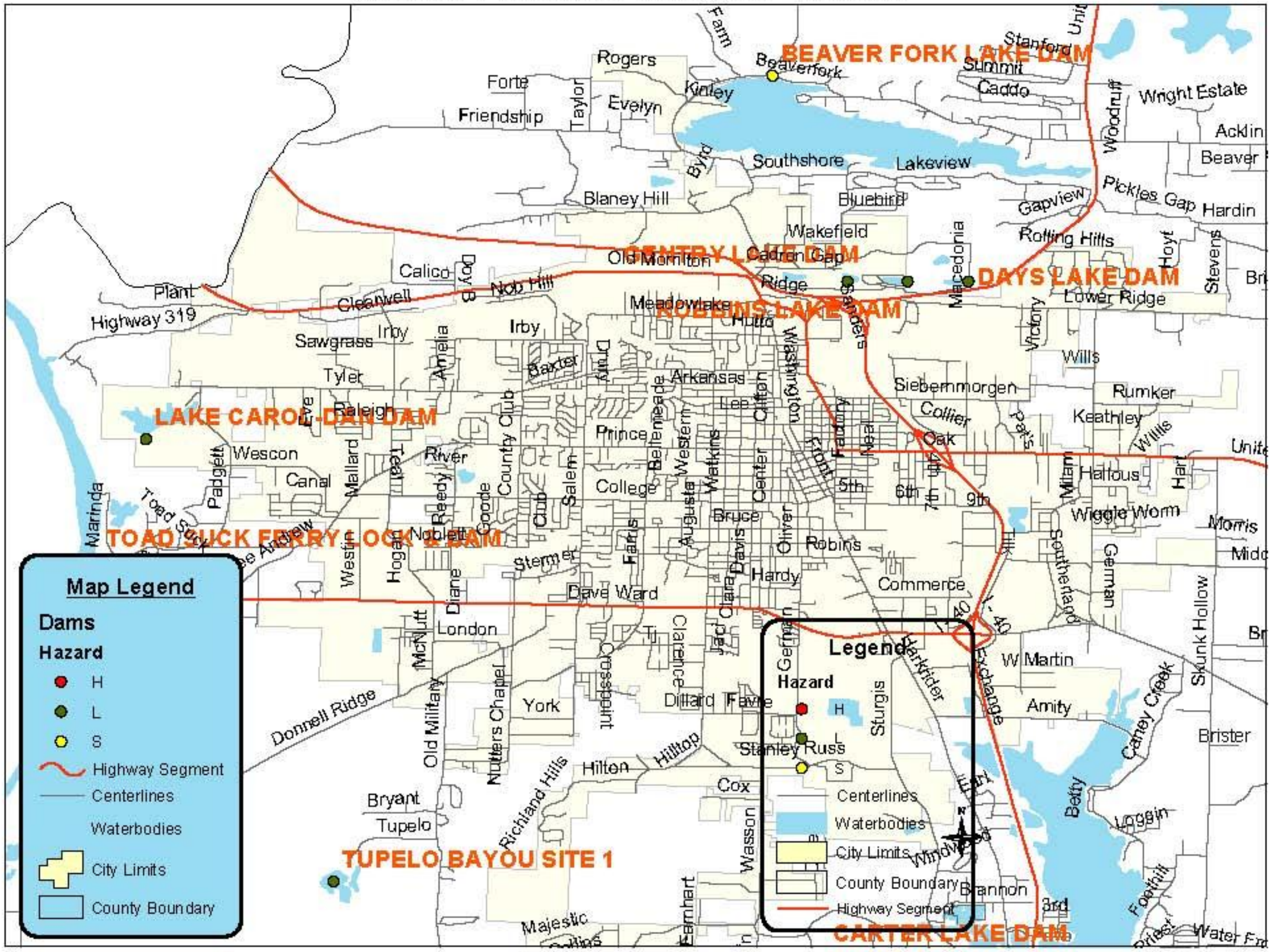
Record	Dam Name	NID ID	River	NID Height	NID Storage	Year Completed	Drainage Area	Hazard	County
1548	GENTRY LAKE DAM	AR00045	CYPRESS CREEK	15.00	107.00	1949	0.00	L	FAULKNER
1549	DIEHL LAKE DAM	AR00047	PALARM CREEK	18.00	128.00	1952	0.00	L	FAULKNER
1550	WILLIAMS LAKE DAM	AR00048	LITTLE CYPRESS CREEK TRIBUTARY	29.00	233.00	1957	0.44	L	FAULKNER
1551	LAKE CAROL-DAN DAM	AR00049	ARKANSAS RIVER-TR	22.00	690.00	1963	0.00	L	FAULKNER
1552	PARKS LAKE DAM	AR00051	LITTLE CYPRESS CREEK-OS	15.00	83.00	1959	0.00	L	FAULKNER
1554	BLACKS LAKE KAM	AR00053	LITTLE CYPRESS CREEK OFFSTREAM	12.00	90.00	1952	0.14	L	FAULKNER
1555	BLACKS LAKE DAM NO 2	AR00054	LITTLE CYPRESS CREEK	22.00	86.00	1952	0.00	L	FAULKNER
1556	LAKE ELIZABETH DAM	AR00055	LITTLE CYPRESS CREEK-TR	30.00	222.00	1948	0.13	L	FAULKNER
1539	BIVANS LAKE DAM	AR00036	FAIRVIEW CREEK	15.00	114.00	1945	0.00	L	FAULKNER
1540	MONTGOMERY LAKE DAM	AR00037	MILL CREEK-TR	22.00	87.00	1936	0.00	L	FAULKNER
1541	LAKE BENNETT DAM	AR00038	BLACK FORK CREEK	41.00	486.00	1940	3.30	L	FAULKNER
1542	LAWRENCE LAKE DAM	AR00039	GREENBRIER CREEK	11.00	117.00	1950	0.00	L	FAULKNER
1543	DEARS POND DAM	AR00040	EAST CADRON CREEK	11.00	53.00	1954	0.00	L	FAULKNER
1544	TORIAN LAKE DAM	AR00041	EAST CADRON CREEK-TR	18.00	303.00	1962	0.00	L	FAULKNER
1545	BEAVER FORK LAKE DAM	AR00042	BEAVER FORK	34.00	19514.00	1956	11.00	S	FAULKNER
1546	DAYS LAKE DAM	AR00043	CYPRESS CREEK	20.00	190.00	1958	0.00	L	FAULKNER
1547	ROBBINS LAKE DAM	AR00044	CYPRESS CREEK	18.00	198.00	1958	0.00	L	FAULKNER
1559	LAKE CONWAY NURSERY POND DAM	AR00058	CHADWICK CREEK	22.00	298.00	1968	0.00	L	FAULKNER
1560	DAVIS LAKE DAM	AR00059	TUPELLO BAYOU	36.00	269.00	1960	0.69	L	FAULKNER
1561	BROWNS LAKE DAM	AR00060	TUPELLO BAYOU OS	10.00	108.00	1966	0.00	L	FAULKNER
1562	WISLEY LAKE DAM	AR00061	ARKANSAS RIVER-TR	17.00	104.00	1954	0.00	L	FAULKNER
1563	JEWELL LAKE DAM	AR00062	BEAVER CREEK-OS	16.00	90.00	1966	0.00	L	FAULKNER
1564	STONE LAKE DAM	AR00063	BEAVER CREEK-OS	16.00	659.00	1961	0.00	S	FAULKNER
1565	LAKE CONWAY DAM	AR00064	PALARM CREEK	16.00	40200.00	1950	0.00	L	FAULKNER
1662	TOAD SUCK FERRY LOCK & DAM	AR00170	ARKANSAS	58.00	37300.00	1969	156386.00	H	FAULKNER
2510	ARKANSAS ACQUISITIONS	AR01238	BRIDGE CREEK-TR	25.00	230.00	1976	0.30	L	FAULKNER
2511	CULBERSON LAKE DAM	AR01239	TUPELO BAYOU-TR	27.00	130.00	1976	0.34	L	FAULKNER
2512	ROBERTS MINNOW POND	AR01240	PALARM CREEK-TR	17.00	340.00	1968	0.00	S	FAULKNER

	DAM								
2513	BRUSHLAKE DAM	AR01241	BRIDGE CREEK-OS	20.00	80.00	1965	0.00	L	FAULKNER
2514	FRESHOUR DAM	AR01242	LITTLE RIVER	46.00	400.00	1967	0.70	L	FAULKNER
2515	CARTER LAKE DAM	AR01243	GOLD CREEK-TRIB	26.00	125.00	1968	0.23	L	FAULKNER
2533	TUPELO BAYOU SITE 1	AR01261	TUPELO BAYOU	48.00	4242.00	1974	10.20	L	FAULKNER
2534	TUPELO BAYOU SITE 2	AR01262	TUPELO BAYOU-TR	34.50	1191.00	1974	2.40	L	FAULKNER
2535	NALHOLZ LAKE DAM	AR01263	WHITE OAK BRANCH-TE	23.00	74.00	1976	0.00	L	FAULKNER
2659	DOYLE JOLLY S DAM	AR01483	BLACK FORK CREEK-TR	20.00	170.00	1987	0.60	L	FAULKNER
2660	SIMON S DAM	AR01484	LITTLE CYPRESS CK-TR	25.00	142.00	1987	0.30	L	FAULKNER
2661	W C SWAFFAR S DAM	AR01485	MILL CREEK	18.00	100.00	1987	0.30	L	FAULKNER
2711	WIEDOWER DAM	AR01538	CADRON CREEK TRIB.	40.00	448.00	2000	0.67	S	FAULKNER

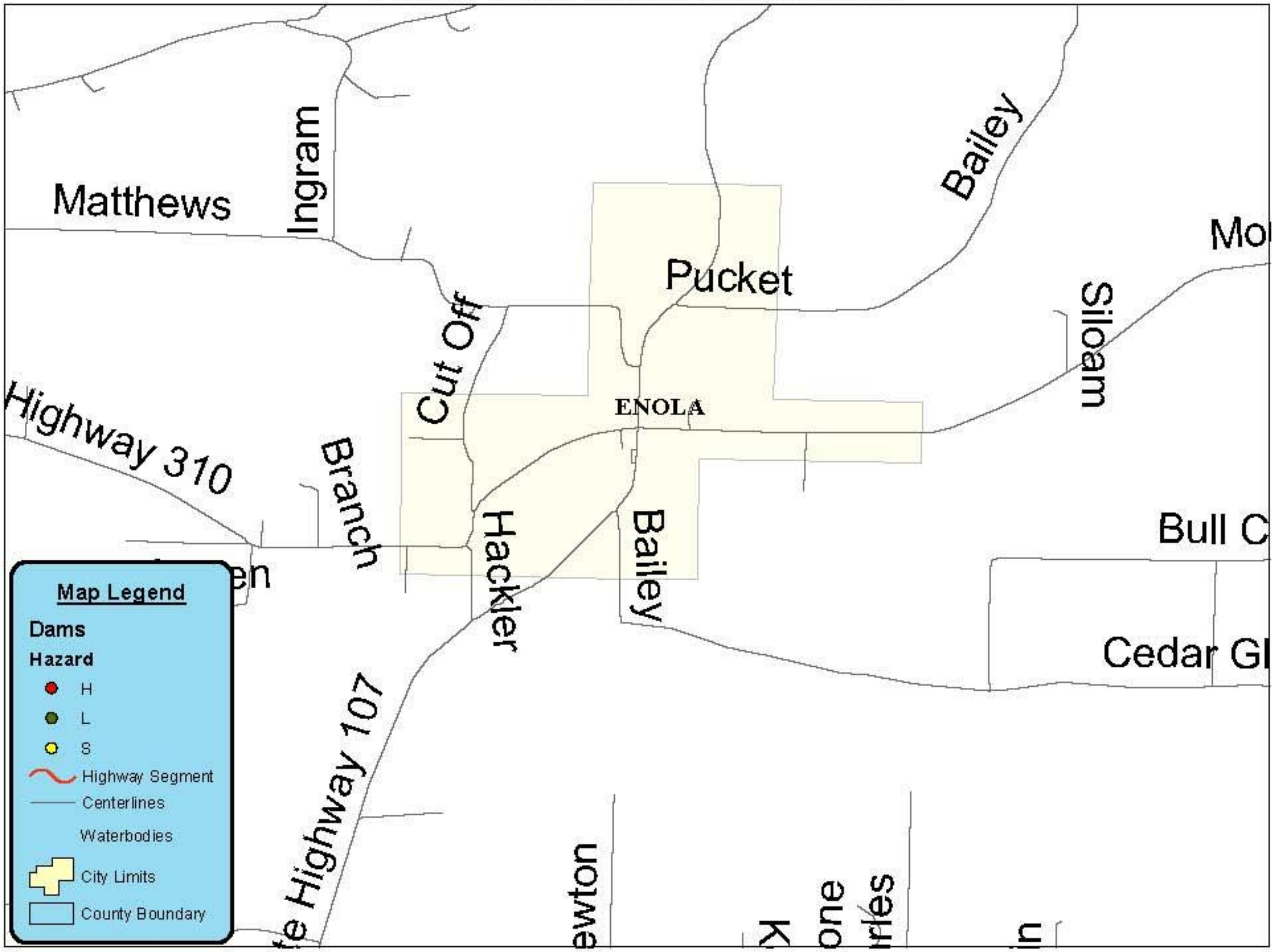
Location maps for the dams are shown below


Faulkner County Dams Map
FIGURE 4.7
Legend
Hazard
H
L
S
Centerlines
Waterbodies
Planning Jurisdictions
County Boundary
N
2 1 0 2 Miles

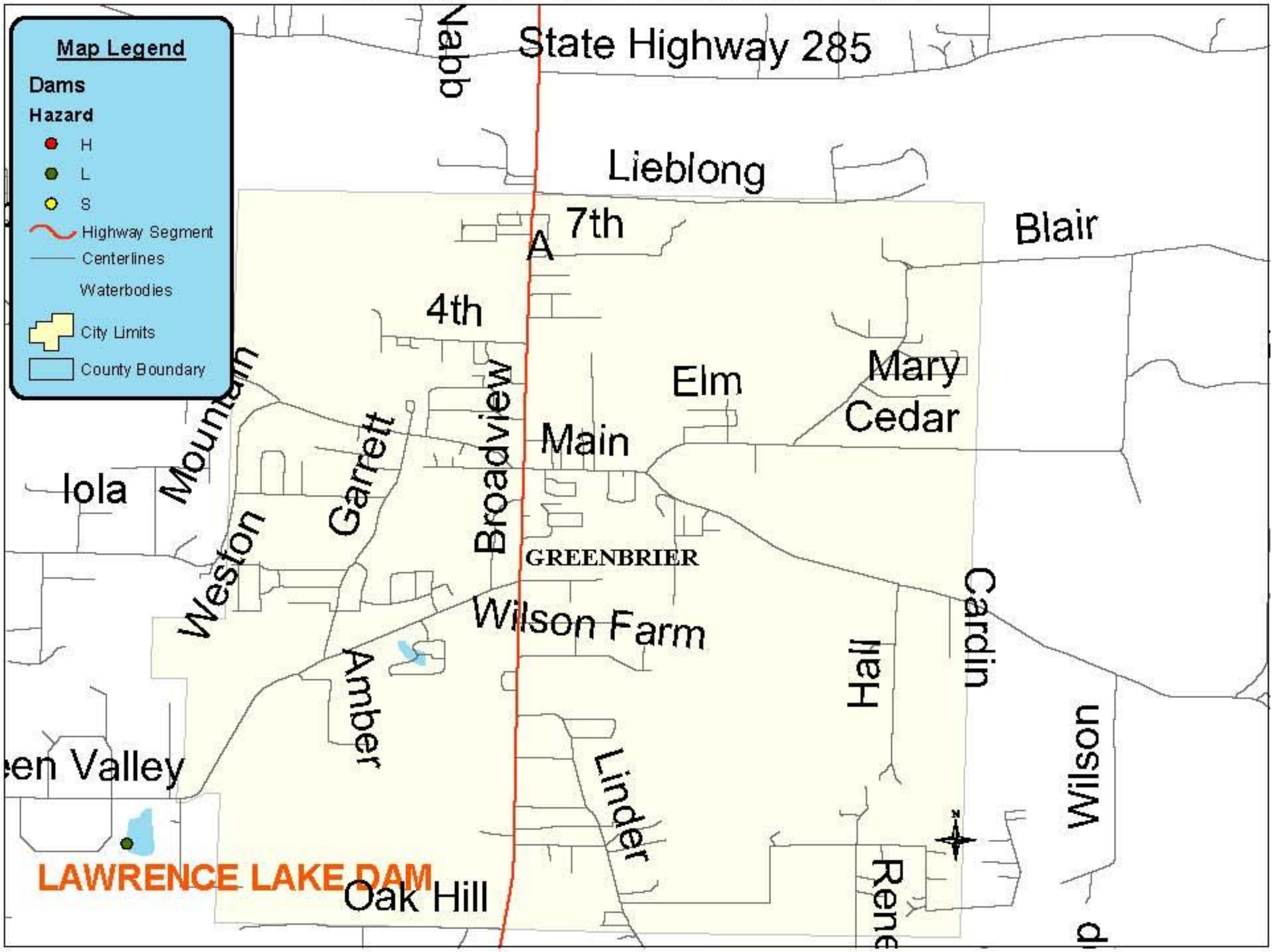
Faulkner County (City of Conway) Dams Map



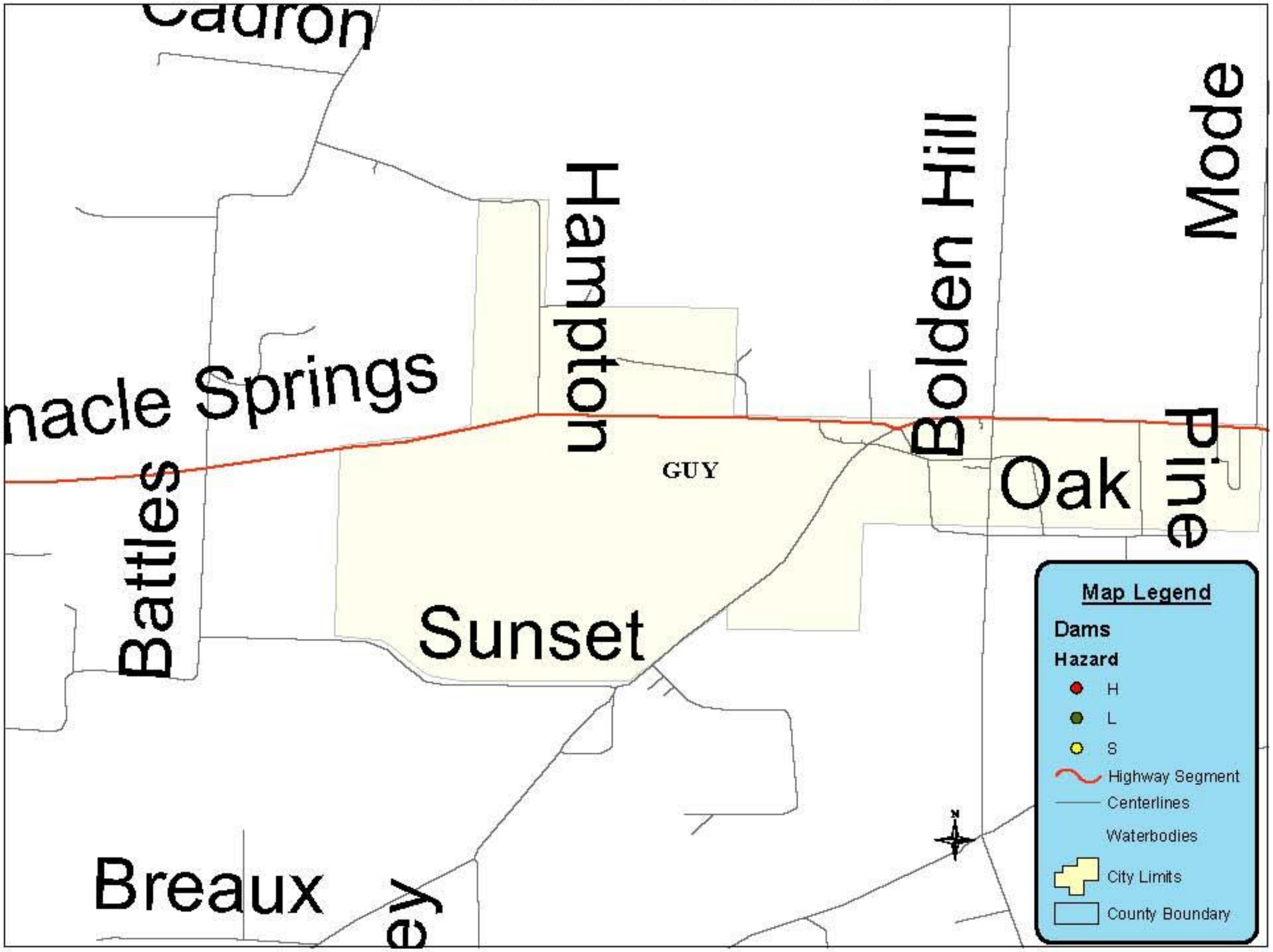
Faulkner County (City of Enola) Dams Map



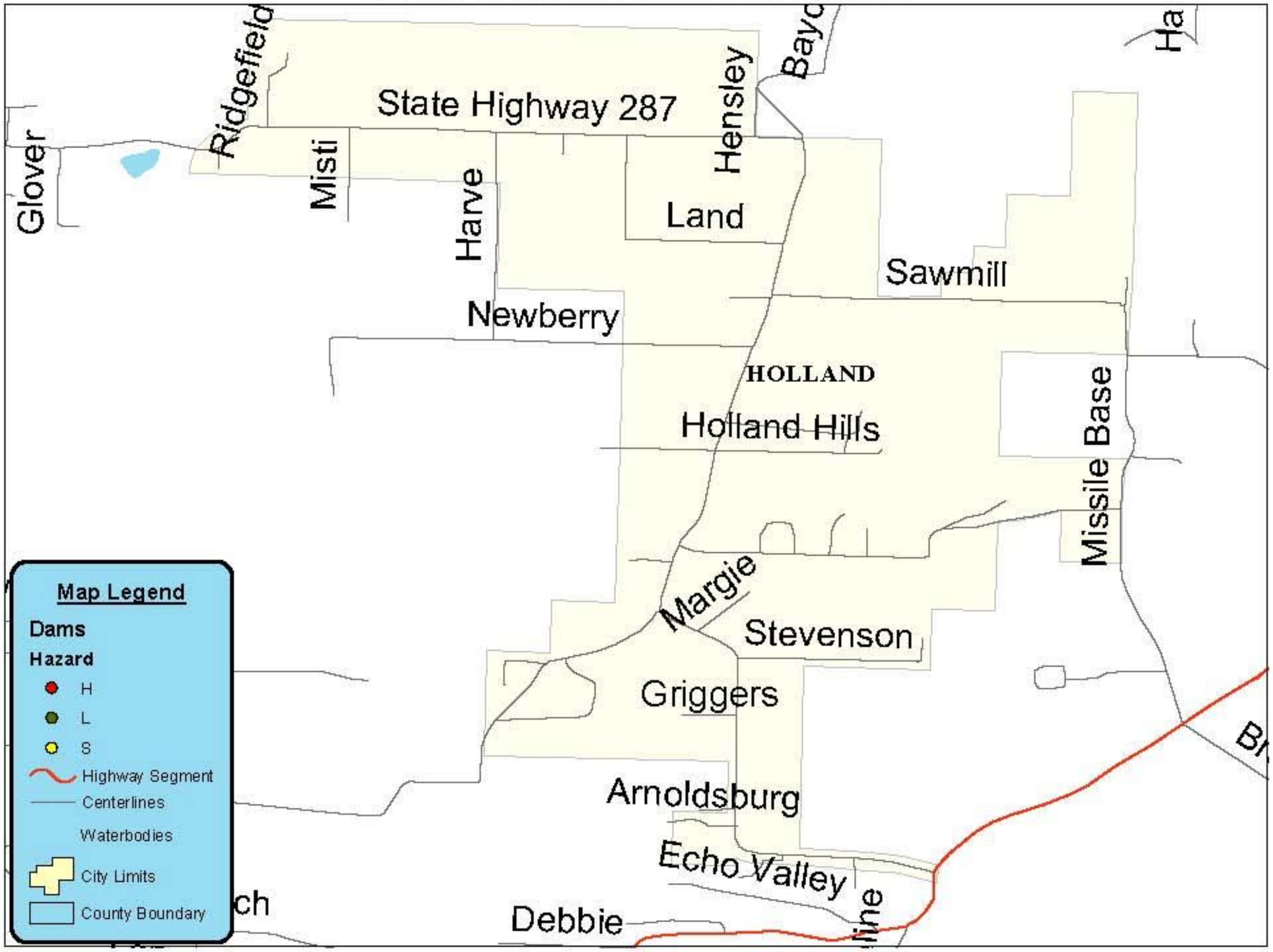
Faulkner County (City of Greenbrier) Dams Map



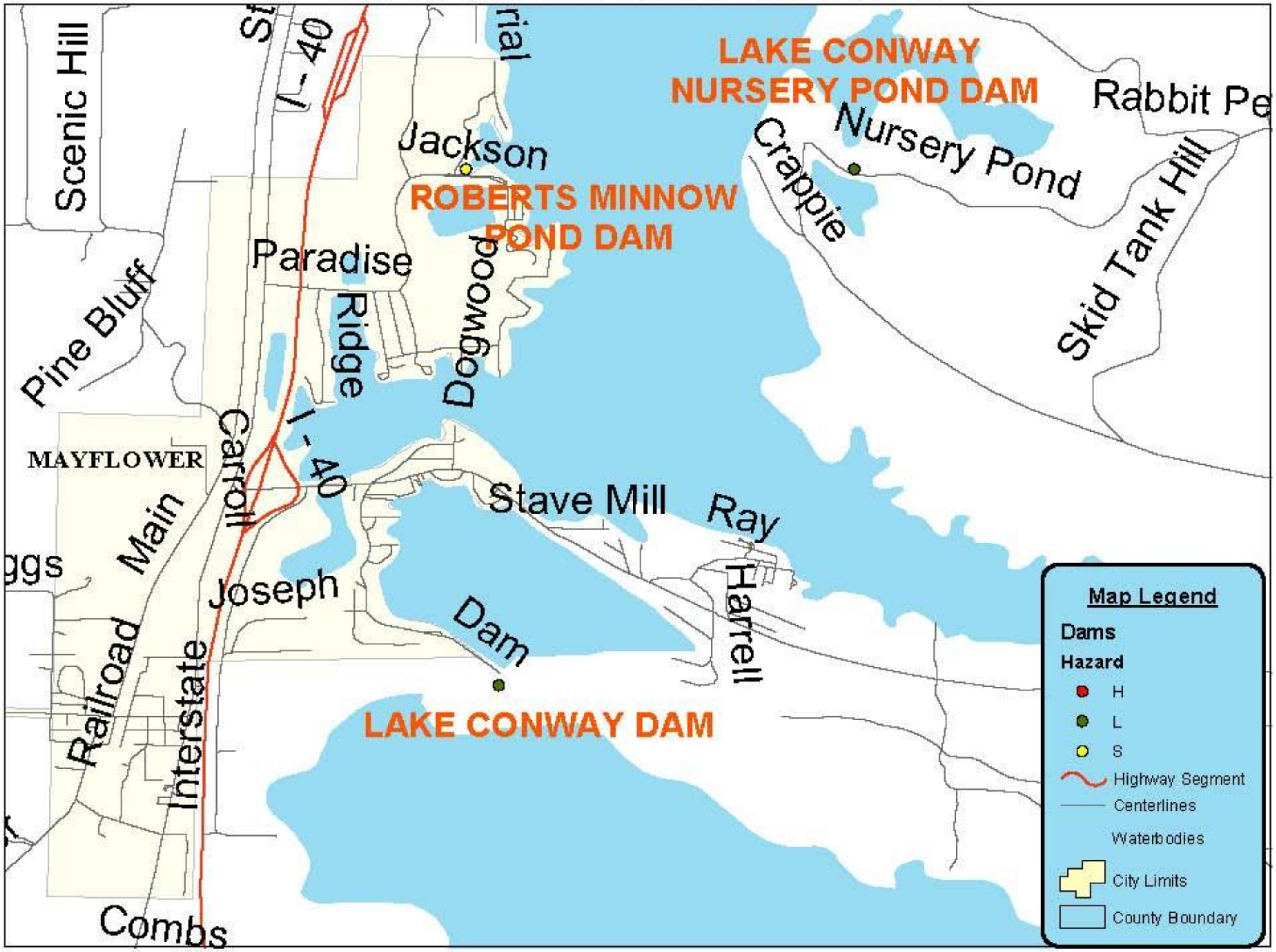
Faulkner County (City of Guy) Dams Map



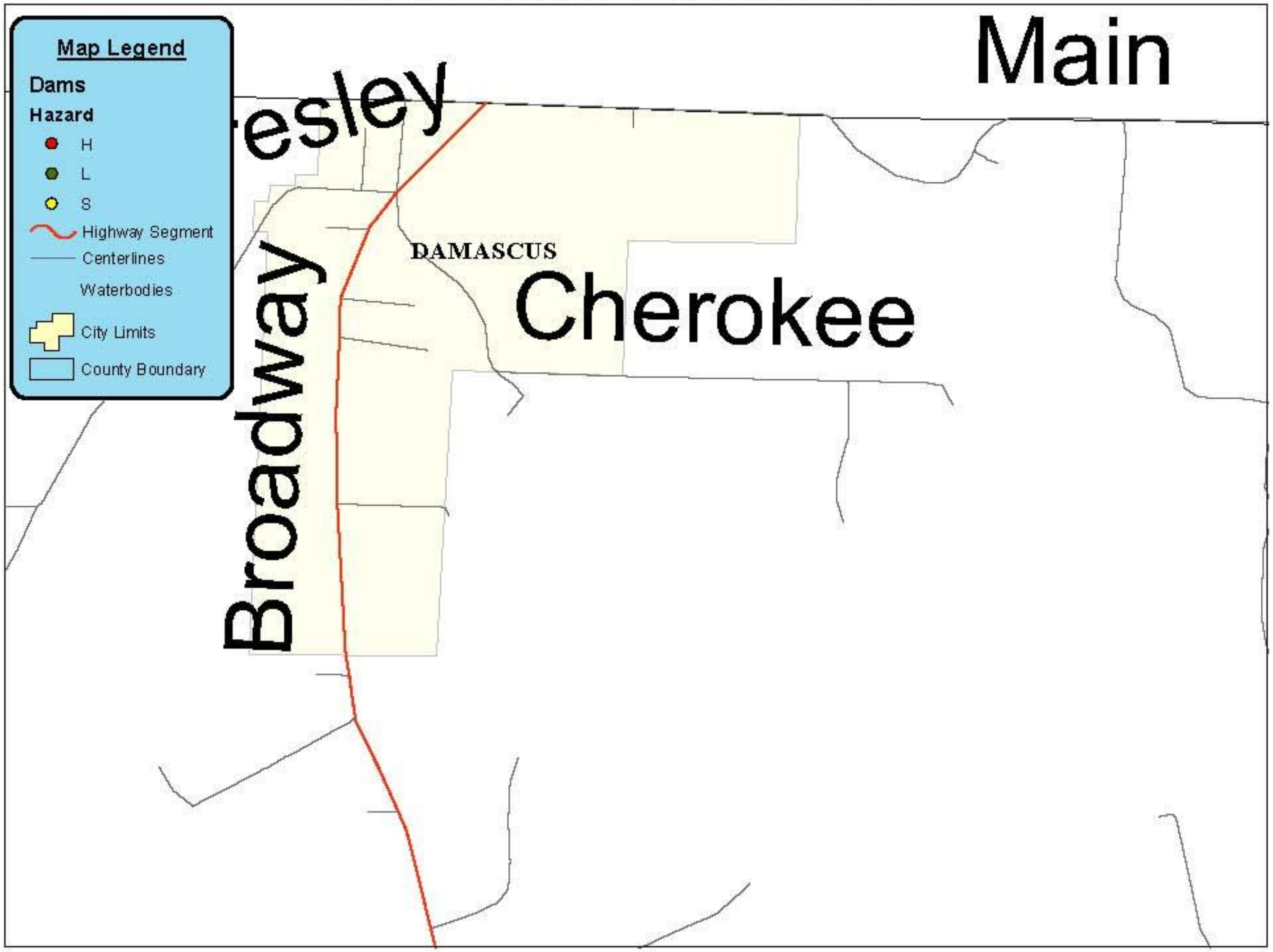
Faulkner County (City of Holland) Dams Map



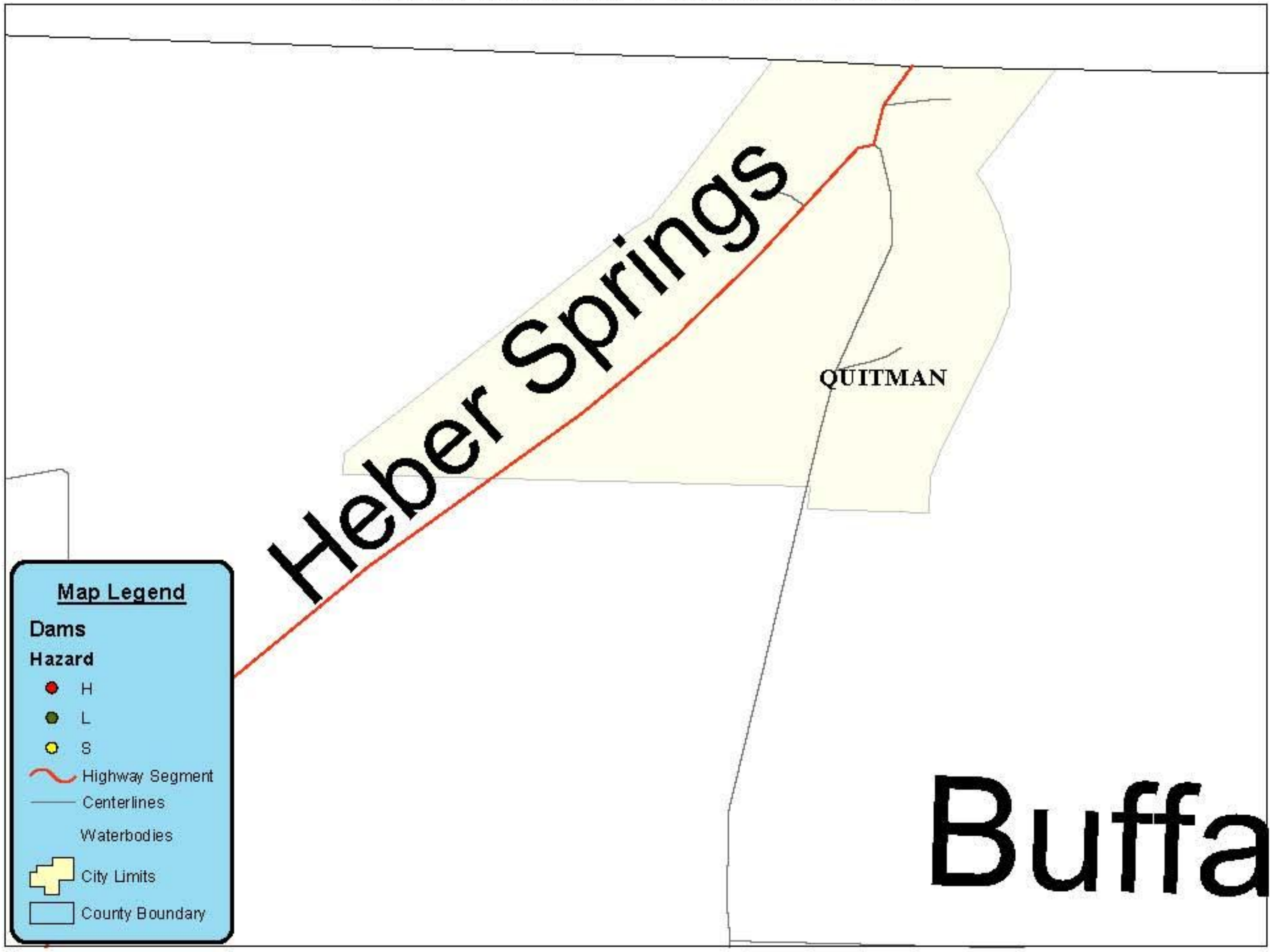
Faulkner County (City of Mayflowern) Dams Map



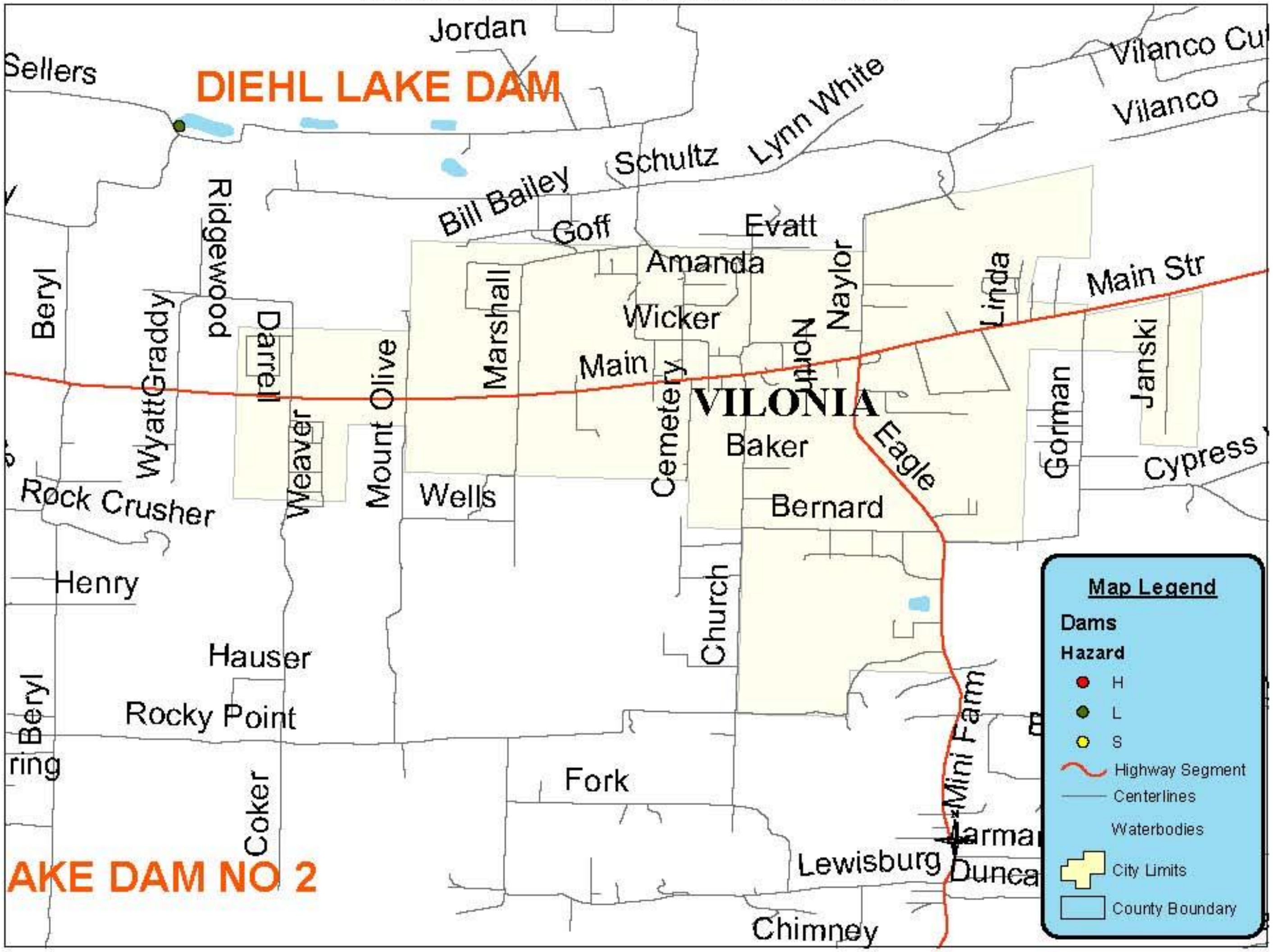
Faulkner County (City of Damascus) Dams Map



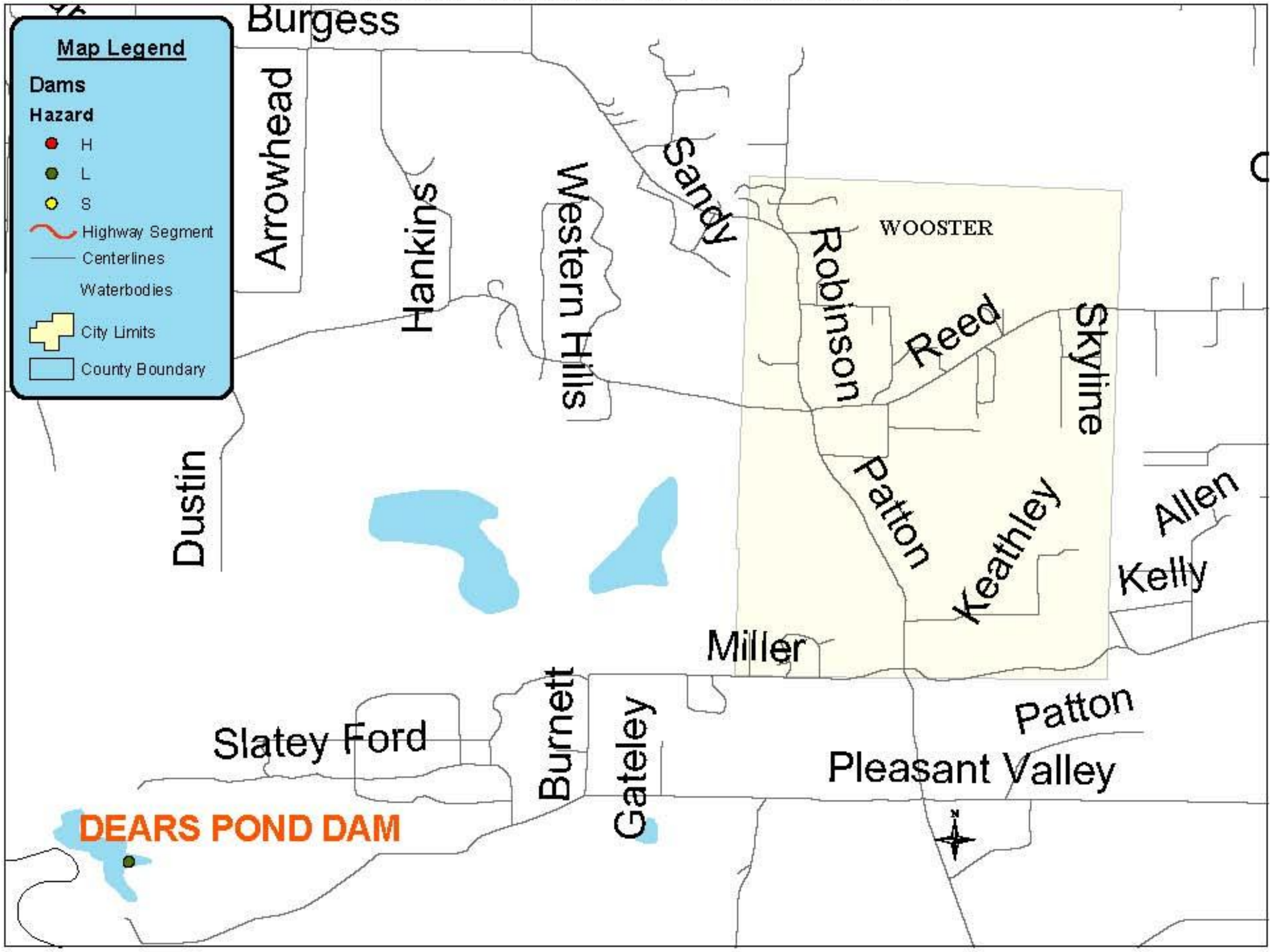
Faulkner County (City of Quitman) Dams Map



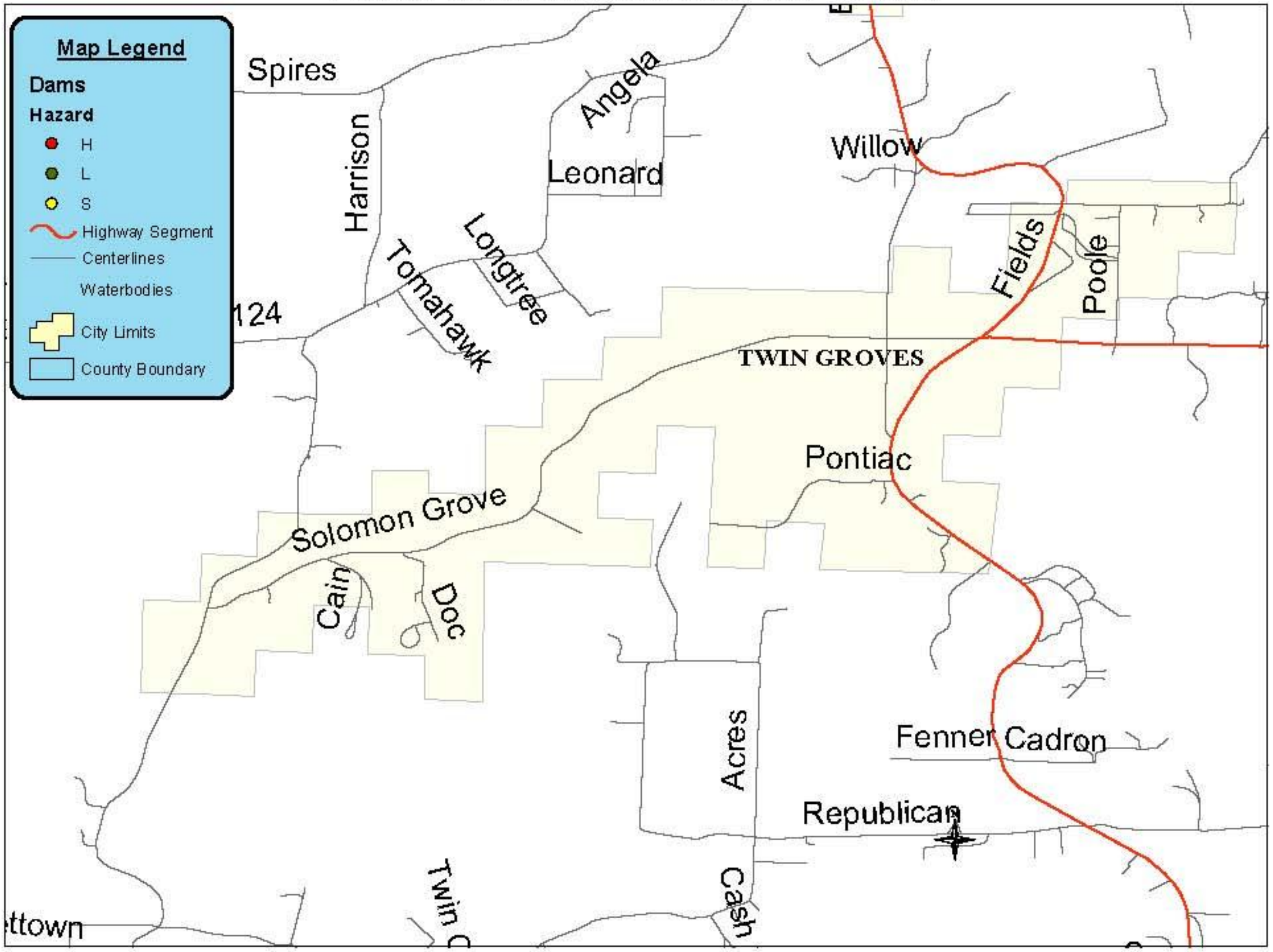
Faulkner County (City of Vilonia) Dams Map



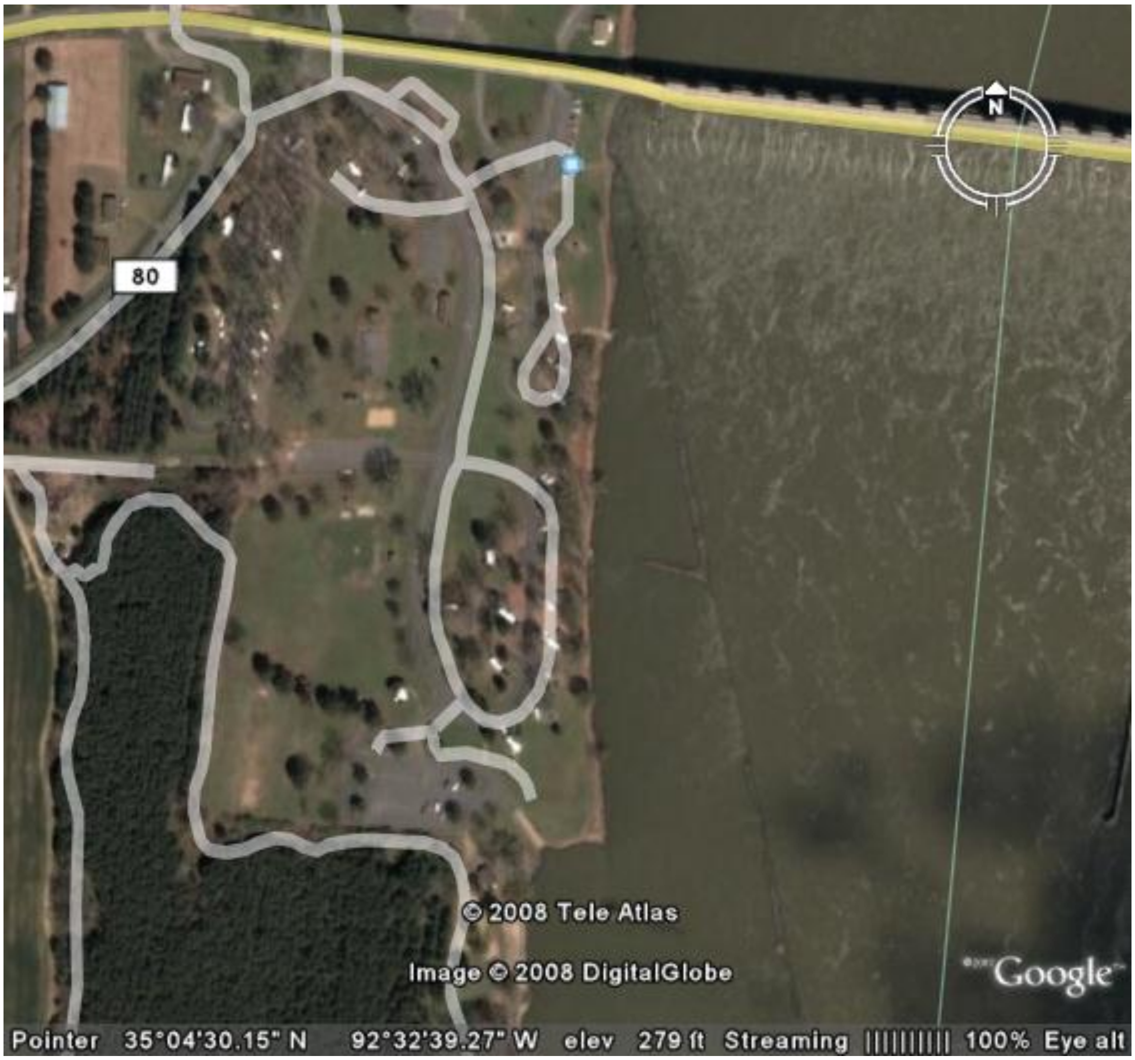
Faulkner County (City of Wooster) Dams Map



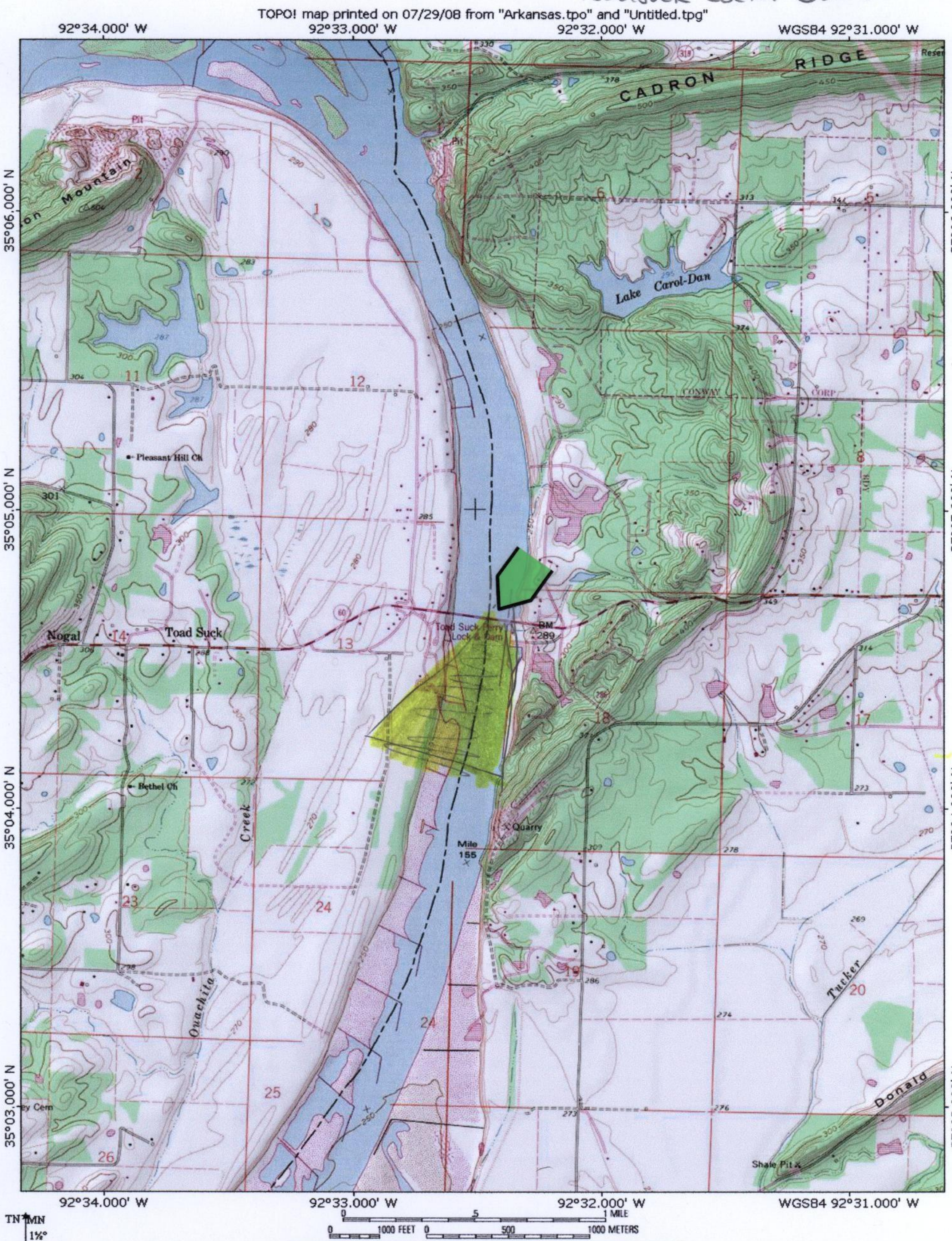
Faulkner County (City of Twin Groves) Dams Map

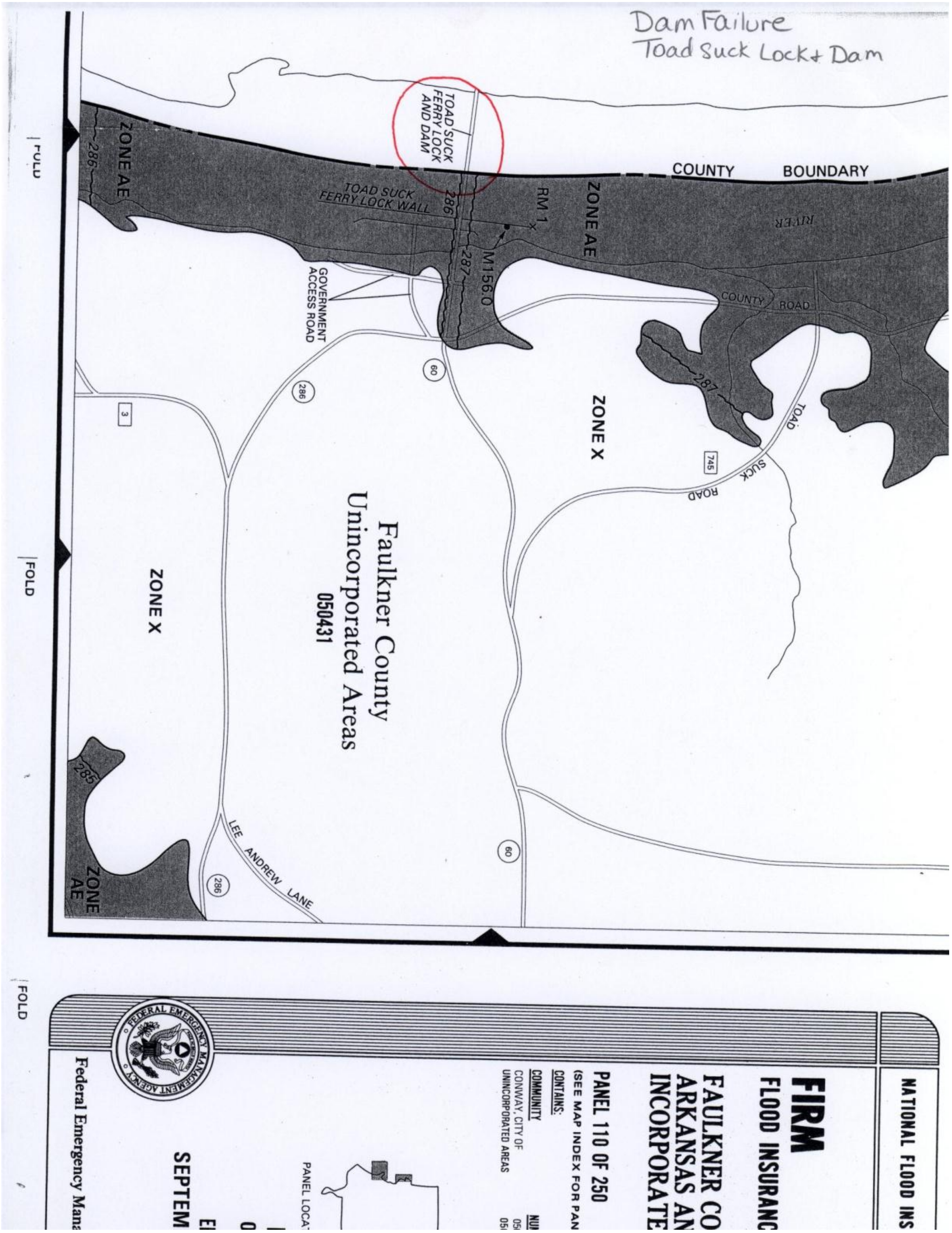


The following maps show and up-close view of the High Risk Dam: Toad Suck Ferry Lock and Dam. The map shows projected inundation area. Most of the flooding would occur in Conway County. The topo map shows a ridge along the Faulkner County border of the Arkansas River. Apparent flooding would affect recreation areas along the south west side of the dam. The FIRM map is not very helpful due to the limitation of Faulkner County area being show only. Seamless maps are needed.



Dam Failure
Toadsuck Lock + Dam




Dam Failure
Toad Suck Lock+ Dam
TOAD SUCK FERRY LOCK AND DAM
COUNTY BOUNDARY
ZONE AE
TOAD SUCK FERRY LOCK WALL
RM 1
M156.0
GOVERNMENT ACCESS ROAD
COUNTY ROAD
TOAD SUCK ROAD
ZONE X
Faulkner County
Unincorporated Areas
050431
LEE ANDREW LANE
FOLD
NATIONAL FLOOD INS
FIRM
FLOOD INSURANC
FAULKNER CO
ARKANSAS AN
INCORPORATE
PANEL 110 OF 250
(SEE MAP INDEX FOR PAN
CONTAINS:
COMMUNITY
CONWAY, CITY OF
UNINCORPORATED AREAS
Federal Emergency Mana

Previous Occurrences

There is no historical record of dam failure in Faulkner County however, throughout Faulkner County there are a total of thirty-eight (38) dams.

Probability of Future Events

In Faulkner County, the Toad Suck Dam located Lat -92.5383 Long 35.0767 located outside the west side of Conway along the Arkansas River on the Perry and Faulkner County line. This is the Dam that has been rated as a “High Hazard Classification”. Failure of the Toad Suck Dam and resultant flooding would directly threaten and/or business associated structures, plus one communications tower. Failure of the Toad Suck Dam would create a very high risk to human life and excessive economic loss in excess of $500,000. Specific data for these damages is not available. Failure of small, non-permitted dams, levees and/or dikes may occur, but the impact would not threaten life or property in a significant manner.

Magnitude/Severity of the Hazard

STATE = AR **COUNTY = Faulkner**	
Hazard Categories	**Number of Dams**
High	1
Significant	4
Low	33
Undetermined	0
Total	**38**

U. S Army Corp of Engineers Report ER 1110-2-1155
12 Sep 97

TABLE E-1: HAZARD POTENTIAL CLASSIFICATION FOR CIVIL WORKS PROJECTS

CATEGORY [1]	**LOW**	**SIGNIFICANT**	**HIGH**
Direct Loss of Life [2]	None expected (due to rural location with no permanent structures for human habitation)	Uncertain (rural location with few residences and only transient or industrial	Certain (one or more extensive residential, commercial or industrial develop-

		development)	ment)
Lifeline Losses [3]	No disruption of services – repairs are cosmetic or rapidly repairable damage	Disruption of essential facilities and access	Disruption of critical facilities and access
Property Losses [4]	Private agricultural lands, equipment and isolated buildings	Major public and private facilities	Extensive public and private facilities
Environmental Losses [5]	Minimal incremental damage	Major mitigation required	Extensive mitigation cost or impossible to mitigate

Notes:

1. Categories are based upon project performance and do not apply to individual structures within a project.
2. Loss of life potential based upon inundation mapping of area downstream of the project. Analyses of loss of life potential should take into account the extent of development and associated population at risk, time of flood wave travel and warning time.
3. Indirect threats to life caused by the interruption of lifeline services due to project failure, or operation, i.e., direct loss of (or access to) critical medical facilities or loss of water or power supply, communications, power supply, etc.
4. Direct economic impact of value of property damages to project facilities and down steam property and indirect economic impact due to loss of project services, i.e., impact on navigation industry of the loss of a dam and navigation pool, or impact upon a community of the loss of water or power supply.
5. Environmental impact downstream caused by the incremental flood wave produced by the project failure, beyond which would normally be expected for the magnitude flood event under a without project conditions.

Calculated Priority Risk Index for Dam failure Hazard

The CPRI for the Dam Failure hazard for Faulkner County and each jurisdiction is
Probability: **Possible**
Magnitude/Severity: **Critical**
Warning Time: **Less than 6 hours**
Duration: **More than a week**
Probability + Magnitude/Severity + Warning Time + Duration = CPRI

2 **x.45 +** 3 **x .30 +** 4 **x .15 +** 4 **x .10 = 2.80**

4.2.9 WindStorm/High winds

Straight-Line Wind Hazard: A straight-line wind hazard, also referred to as high wind, is not associated with rotation and its velocity is measured at or above fifty knots (50 kt). This term is used mainly to differentiate thunderstorm winds from tornado winds. These high-speed winds originate as a downdraft of rain-cooled air, which reaches the ground and spreads out rapidly, producing a potentially damaging gust of wind up to and sometimes over 100 mph. One type of straight-line wind, the downburst, can cause damage equivalent to a strong tornado and can be extremely dangerous to aviation. A "dry microburst" is a downburst that occurs with little or no rain. In recent years, there have been several occasions in Arkansas on which winds greater than 100 mph have been measured.

Geographic Area Affected by Hazard

All areas with Faulkner County are equally likely to experience straight-line wind events. Documentation reviewed from the NOAA Satellite and information Service clearly document that all areas within Faulkner County have and will continue to experience straight-line winds on a recurring basis.

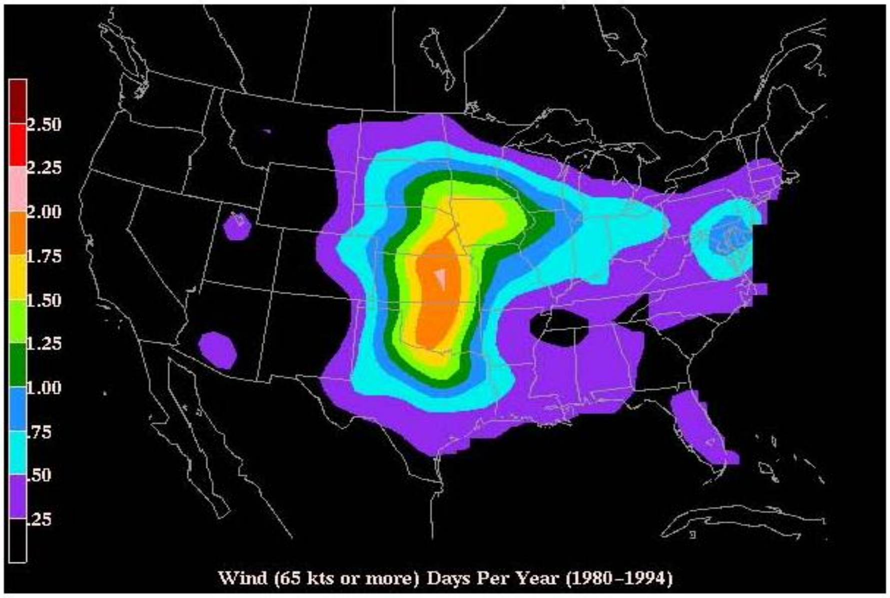
Previous Severe Hazard Occurrences

Faulkner County has experienced one hundred (198) thunderstorm/high wind events since 1950 as recorded by the NOAA Satellite and Information Service. In each of these recorded events, the straight-line winds met or exceeded the 50-knot velocity threshold with the highest wind speed recorded at Conway in Faulkner County on July 26, 1999, with a top speed of 70 knots.

The National Oceanographic and Atmospheric Association's (NOAA) National Severe Storms Laboratory (NSSL) addressed the total annual threat of high winds in the United States. The mean number of days per year with one or more >50 knot (>58 mph) events within 25 miles of a point is shown below. Note that the Faulkner County borders the six (6) – seven (7) wind days per year interval. The county can expect between 0.25 wind days per year when the mean number of days per year with one or more >65 knots.

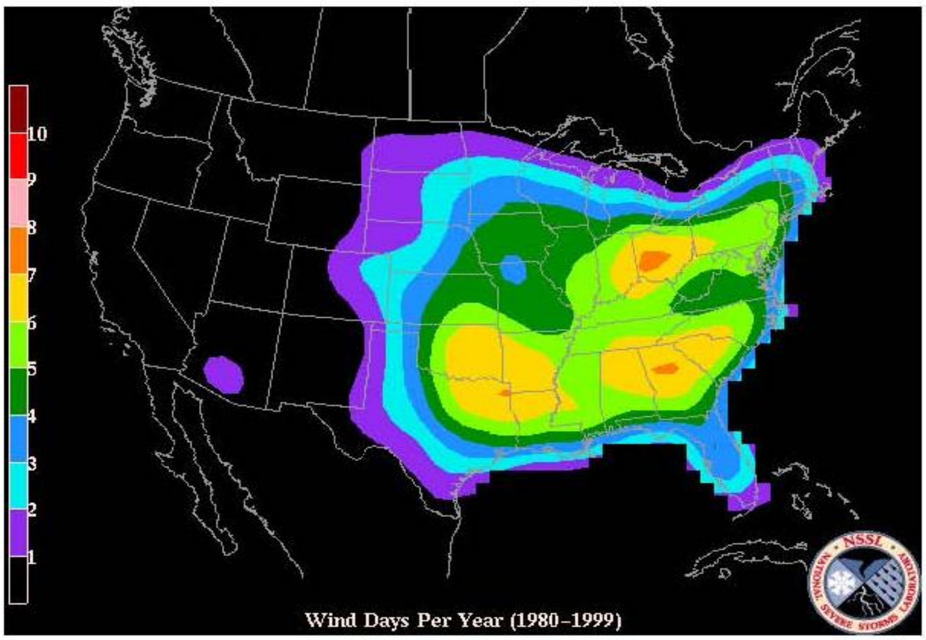
Though the state and the county have occasional high wind events – more often than not associated with thunderstorms – this data indicate the likelihood of it being severe is low compared to other areas of the country. Thus, seriously damaging, high wind events are considered possible, but not likely.

The following map shows the total annual threat of high or thunderstorm winds in the U.S. based on NOAA NSSL data between 1980 and 1999. The mean number of days per year with one or more >50-knot (>58 mph) wind events within 25 miles of a point are shown.



The following map shows the total annual threat of high or thunderstorm winds in the U.S. based on more >65 know (>79mph) events within 25 miles of a point are shown.

Annual Threat of High or Thunderstorm Winds



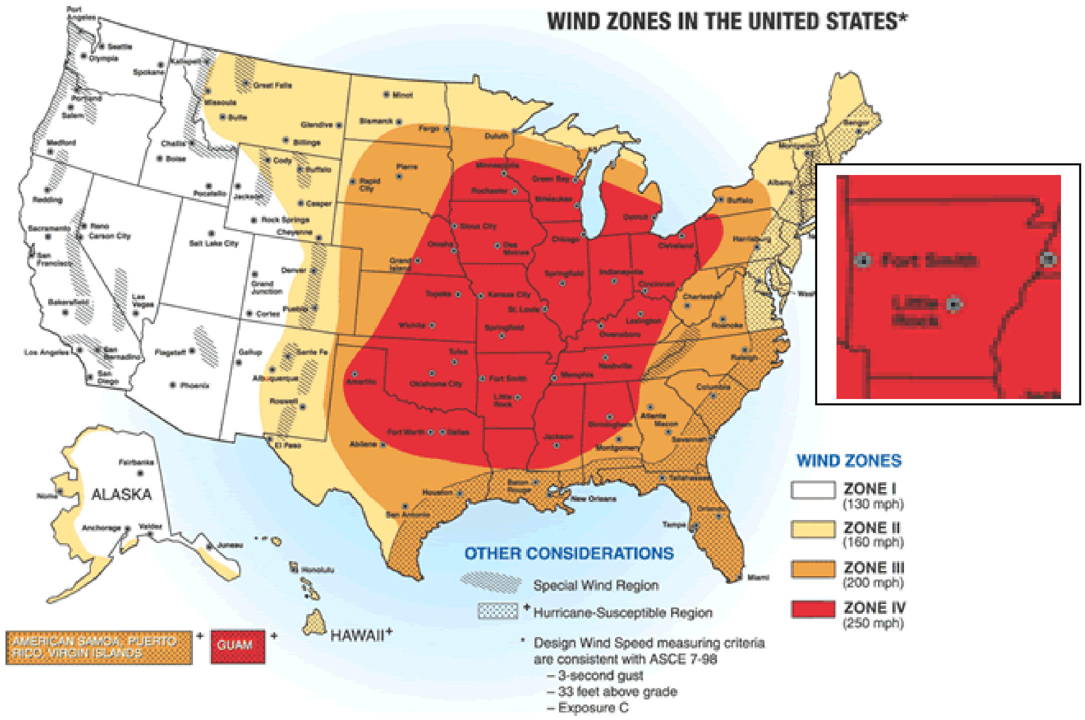
Probability of Future Events

The county's history of thunderstorm/high wind events also indicates that the probability is high for the county to have several events yearly. The NOAA NCDC has recorded over 102 thunderstorm/wind events over a fifty year period; on average the county has experienced two events per year. Thus, the probability of high wind events in the county is considered possible.

WIND SPEED	STRAIGHT-LINE WIND GUST ESTIMATES
30-44 MPH	**Trees in motion. Light-weight loose objects (e.g., lawn furniture) tossed or toppled.**
45-57 MPH ***Non severe***	**Large trees bend; twigs, small limbs break, and a few larger dead or weak branches may break. Old/weak structures (e.g., sheds, barns) may sustain minor damage (roof, doors). A few loose shingles removed from houses.**
58-74 MPH ***Severe***	**Large limbs break; shallow rooted trees pushed over. Semi-trucks overturned. More significant damage to old / weak structures. Shingles, awnings removed from houses; damage to chimneys and antennas; mobile homes, carports incur minor structural damage; large billboard signs may be toppled.**
75-89 MPH ***Hurricane Force***	**Widespread tree damage (trees either broken or uprooted). Mobile homes may incur more significant structural damage; be pushed off foundations or overturned. Roofs may be partially peeled off industrial/commercial/warehouse buildings. Some minor roof damage to homes. Weak or open structures (e.g. farm buildings, airplane hangars) may be severely damaged.**
90+ MPH ***Significant Severe***	**Groves of trees flattened. Mobile homes severely damaged; moderate roof damage to homes. Roofs partially peeled off homes and buildings. Barns and sheds completely demolished.**
All references to trees are for trees with foliage. Significantly higher winds may be required to cause similar damage to trees without foliage. Also, very wet soil conditions may allow weaker winds of 30-57 MPH to uproot trees. http://www.mke-skywarn.org/hail_wind.htm **Milwaukee Area Skywarn Association**	

Magnitude/Severity of the Hazard

Since 1950, 102 thunderstorm/wind events have had enough impact on Faulkner County to have been logged into the NCDC database. The Beaufort Wind Scale, shown below measures winds other than those associated with hurricane and tornado. All of Arkansas falls within Zone 4 as established by the American Society of Civil Engineers (ASCE 7-95) and as such facilities must be built to meet certain design wind speed codes.



Zone IV (250 mph)	Mid US including all of Iowa, Missouri, Arkansas, Illinois, Indiana, and Ohio and parts of adjoining states of Minnesota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Louisiana, Mississippi, Alabama, Georgia, Tennessee, Kentucky, Pennsylvania, Michigan, and Wisconsin. Guam.

The Beaufort Scale for use on land					
Beaufort Force	**Description**	**Effects on land**	**Speed**		
			knots	**km/h**	**mph**
0	Calm	Smoke rises vertically.	Less than 1	Less than 1	Less than 1
1	Light Air	Direction of wind shown by smoke drift, but not by wind vanes.	1 - 3	1 - 5	1 - 3
2	Light breeze	Wind felt on face; leaves rustle; ordinary vanes moved by wind.	4 -6	6 - 11	4 -7
3	Gentle breeze	Leaves and small twigs in constant motion; wind extends light flag.	7 - 10	12 - 19	8 - 12
4	Moderate breeze	Raises dust and loose paper; small branches are moved.	11 - 16	20 - 29	13 - 18
5	Fresh breeze	Small trees in leaf begin to sway; crested wavelets form on inland waters.	17 - 21	30 - 39	19 - 24
6	Strong breeze	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty.	22 - 27	40 - 50	25 - 31
7	Near gale	Whole trees in motion; inconvenience felt when walking against the wind.	28 - 33	51 - 61	32 - 38
8	Gale	Breaks twigs off trees; generally impedes progress.	34 - 40	62 - 74	39 - 46
9	Strong gale	Slight structural damage occurs (chimney-pots and slates removed).	41 - 47	75 - 87	47 - 54
10	Storm	Seldom experienced inland; trees uprooted; considerable structural damage occurs.	48 - 55	88 - 101	55 - 63
11	Violent storm	Very rarely experienced; accompanied by wide-spread damage.	56 - 63	102 - 117	64 - 73
12	Hurricane	Whole hangars disappear.	>64	>119	>74

Calculated Priority Risk Index for Windstorms/High Wind Hazard

The CPRI for the High Wind hazard for Faulkner County is and each jurisdiction is

Probability: **Highly Likely**
Magnitude/Severity: **Negligible**
Warning Time: **Less than 6 hours**
Duration: **Less than 6 hours**
Probability + Magnitude/Severity + Warning Time + Duration = CPRI

4 **x .45 +** 1 **x .30 +** 4 **x .15 +** 1 **x .10 = 2.80**

4.2.10 Profile for Extreme Heat Hazard

Extreme heat is characterized by a combination of very high temperatures and exceptionally humid conditions. When persisting over a period of time, it is called a heat wave. Many areas of the United States are susceptible to heat waves and Arkansas is certainly one of these.

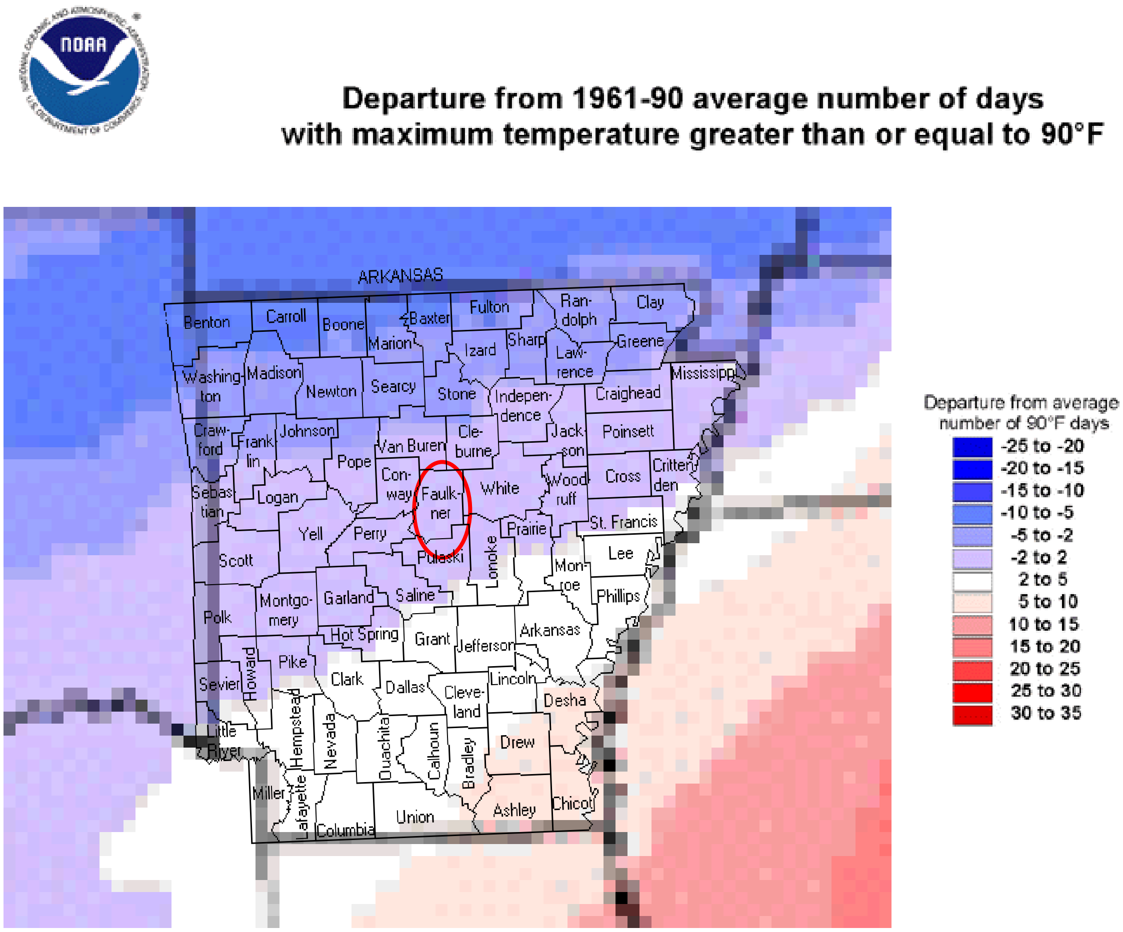
The major threat of **extreme heat or heat waves** is heatstroke, a medical emergency that can be fatal. Most at risk are outdoor laborers, the elderly, children, and people in poor physical health. The combined effects of high temperature and high humidity are more intense in urban centers than in rural areas. Arkansas is one of the states with a higher degree of exposure to this hazard. According to the NWS, Arkansas is one of the few states located within the second-highest heat index tier, as shown by the following thematic map. This shows that for the state there is a 5 percent chance of experiencing a heat index range of 115 to 120 degrees in any given year.

An estimation of the heat index is a relationship between dry bulb temperatures at different humidity's and the skin's resistance to heat and moisture transfer. Because skin resistance is directly related to skin temperature, a relation between ambient temperature and relative humidity versus skin or apparent temperature can be determined. If the relative humidity is higher or lower then the base value, then the apparent temperature is higher or lower than the ambient temperature.

Approximately 200 deaths a year are attributable to extreme heat in the U.S. There were no records available to the Planning Team documenting any deaths in the county which were attributable to extreme heat, although it is doubtful there have not been some over the years, though perhaps not recorded as such or attributed directly to the weather.

Geographic Area Affected by Extreme Heat

There is no defined geographic hazard boundary for extreme heat. Extreme heat generally affects people rather than property. All areas within _Faulkner County are equally likely to experience an extreme heat event.



Previous Extreme Heat Occurrences

There are no reported events in the NCDC database records; however, the NOAA weather data shows there have been two events, both in 1999. According to the National Weather Service, the entire State of Arkansas has experienced higher than normal temperatures 98% of the time since January 1, 2005.

M2 PRESSWIRE-19 October 1999-USDA: Glickman designates Arkansas agriculture disaster area (C)1994-99 M2 COMMUNICATIONS LTD RDATE:181099

WASHINGTON -- Agriculture Secretary Dan Glickman has declared all 75 Arkansas counties as agricultural disaster areas due to a losses caused by the 1999 drought. The designation makes low-interest USDA loans available to farmers in these counties as well as contiguous counties in adjacent states, to cover losses from **excessive heat** and drought.

The Associated Press AP Online 08-06-1999
Death Toll From Heat Wave
The state-by-state breakdown of 282 deaths blamed on heat since July 19:
Arkansas, 4

Probability of Future Extreme Heat Events

Based on historical records for the county and the region's location within one of the country's highest exposures to an extreme heat index, it is very likely Faulkner County will sometime in the near future, face extreme heat conditions.

Magnitude / Severity of Extreme Heat Hazard

Residents, medical practitioners and human service agencies in the area are well aware of the risk of heatstroke and sunstroke. Because of this awareness, people generally anticipate and avoid the problem, no doubt contributing to the lack of known fatalities. Nonetheless, heat waves, which commonly occur during the summer months, pose a serious threat to people's lives, and most susceptible seem to be the elderly who live alone and don't have air conditioning. But despite the occasionally threatening conditions, though uncomfortable, extreme heat's severity (i.e., potential for loss of life and property damage) is limited and its magnitude (i.e., capacity to affect large proportions of the population and property in extremely negative ways) is negligible.

In a normal year, approximately 175 Americans die from extreme heat. As a method of informing the public to the dangers of extreme heat, the National Weather Service (NWS) devised the "Heat Index (HI)" and initiates alert procedures when the HI is expected to exceed 105-110 degrees.

NOAA's National Weather

Heat Index/Heat Disorders

Heat Index	Possible heat disorders for people in higher risk groups
130° OR HIGHER	HEATSTROKE/SUNSTROKE HIGHLY LIKELY WITH CONTINUED EXPOSURE.
105°- 130°	SUNSTROKE, HEAT CRAMPS OR HEAT EXHAUSTION LIKELY, AND HEATSTROKE POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY.
90° – 105°	SUNSTROKE, HEAT CRAMPS AND HEAT EXHAUSTION POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY.
80° - 90°	FATIGUE POSSIBLE WITH PROLONGED EXPOSURE AND/OR PHYSICAL ACTIVITY

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity
Caution Extreme Caution Danger Extreme Danger

Calculated Priority Risk Index (CPRI)

The CPRI for the Extreme Heat hazard for Faulkner County and each jurisdiction is
Probability: **Possible**
Magnitude/Severity: **Limited**
Warning Time: **24 + Hours**
Duration: **Less than a day**
Probability + Magnitude/Severity + Warning Time + Duration = CPRI

2 **x.45 + 2 x .30 + 1 x .15 + 2 x .10 = 1.85**

4.3 Vulnerability Assessment

4.3.1 Assessing Vulnerability: Overview

IFR REQUIREMENT 201.6(c)(2)(ii):	[The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.
Explanation:	An overview of the community's vulnerability assessment is a summary of the hazard's impact to the community's vulnerable structures. This summary **shall** include, by type of hazard, a general description of the types of structures (e.g., buildings, infrastructure, and critical facilities) affected by the hazard. The overview **shall** also include a general description of the extent of the hazard's impact to the vulnerable structures. This information can be presented in terms of dollar value or percentages of damage. The Plan *should* note any data limitations and identify and include in the mitigation strategy actions for obtaining the data necessary to complete and improve future vulnerability assessments.

This section of the plan attempts to present a determination of the County's vulnerability to the hazards described in the earlier sections of the plan. Specifically, it is a summary of the hazards' impacts to the area's vulnerable structures. Where information is available, this section will include by hazard type a general description of the types of structures (buildings, infrastructure, and critical facilities) affected by the hazard and the extent of each hazard's impact to the vulnerable structures.

These hazards were identified through an extensive process that utilized input from planning team members, public input, research of newspapers and other historical records, review of existing plans and reports, discussions with hazard experts, internet research, the State Mitigation Plan, the County Hazard Mitigation Plan, and information provided by FEMA and ADEM..

Table 4.3.1.1 Overview

Hazard	Probability	Magnitude/ Severity	Warning Time	Duration	Priority Risk Index
Earthquake	2 Possible	2 Limited	4 less than 6 Hours	2 Less than One Day	2.3
Floods including Dam Failure	4 Highly Likely	3 Critical	3 6-12 Hours	3 Less than One Week	3.45
Thunderstorm (Hail, High Wind, Lightning)	4 Highly Likely	3 Critical	3 6-12 Hours	1 Less than 6 Hours	3.25
Tornados	3 Likely	4 Catastrophic	4 Less than 6 Hours	2 Less than One Day	3.35
Winter Storms	3 Likely	2 Limited	1 24+ Hours	1 Less than 6 Hours	2.2
Wildfires	4 Highly Likely	3 Critical	4 Less than 6 Hours	3 Less than one week	3.6
Drought	2 Possible	2 Limited	1 24+ Hours	4 More than Wk	2.05
Dam Failure	2 Possible	3 Critical	4 Less than 6 Hours	4 More than Wk	2.80
Windstorm	4 Highly Likely	1 Negligible	4 Less than 6 hours	1 Less than 6 hours	2.80
Extreme Heat	2 Possible	2 Limited	1 24+ Hours	2 Less than a day	1.85

Magnitude / Severity	Characteristics
4 - Catastrophic	▪ Multiple deaths ▪ Complete shutdown of facilities for 30 or more days ▪ More than 50% of property is severely damaged
3 - Critical	▪ Injuries and/or illnesses result in permanent disability ▪ Complete shutdown of critical facilities for at least two weeks ▪ More than 25% of property is severely damaged
2 - Limited	▪ Injuries and/or illnesses do not result in permanent disability ▪ Complete shutdown of critical facilities for more than one week ▪ More than 10% of property is severely damaged
1 - Negligible	▪ Injuries and/or illnesses are treatable with first aid

	▪ Minor quality of life lost ▪ Shutdown of critical facilities and services for 24 hours or less ▪ Less than 10% of property is severely damaged

Data Limitations:

HAZUS-MH though a wealth of information proved to be out dated and inaccurate in several aspects, such as listing facilities which no longer exist or not having facilities that do exist within the County. Faulkner County does not have in digital format its FEMA flood map data, which proved to leave a lot of room for speculation as the flood hazard was being assessed. A topo map was generated to give some semblance of what areas are most vulnerable to flooding in the County. Although the County's 911 database contains addresses and point feature location of structures within the area, it does not contain an address for un-addressable structures such as bridges, water tanks, pump stations, etc.

The only other limitations on the data received are if the assets have been affected by natural or man-made disasters.

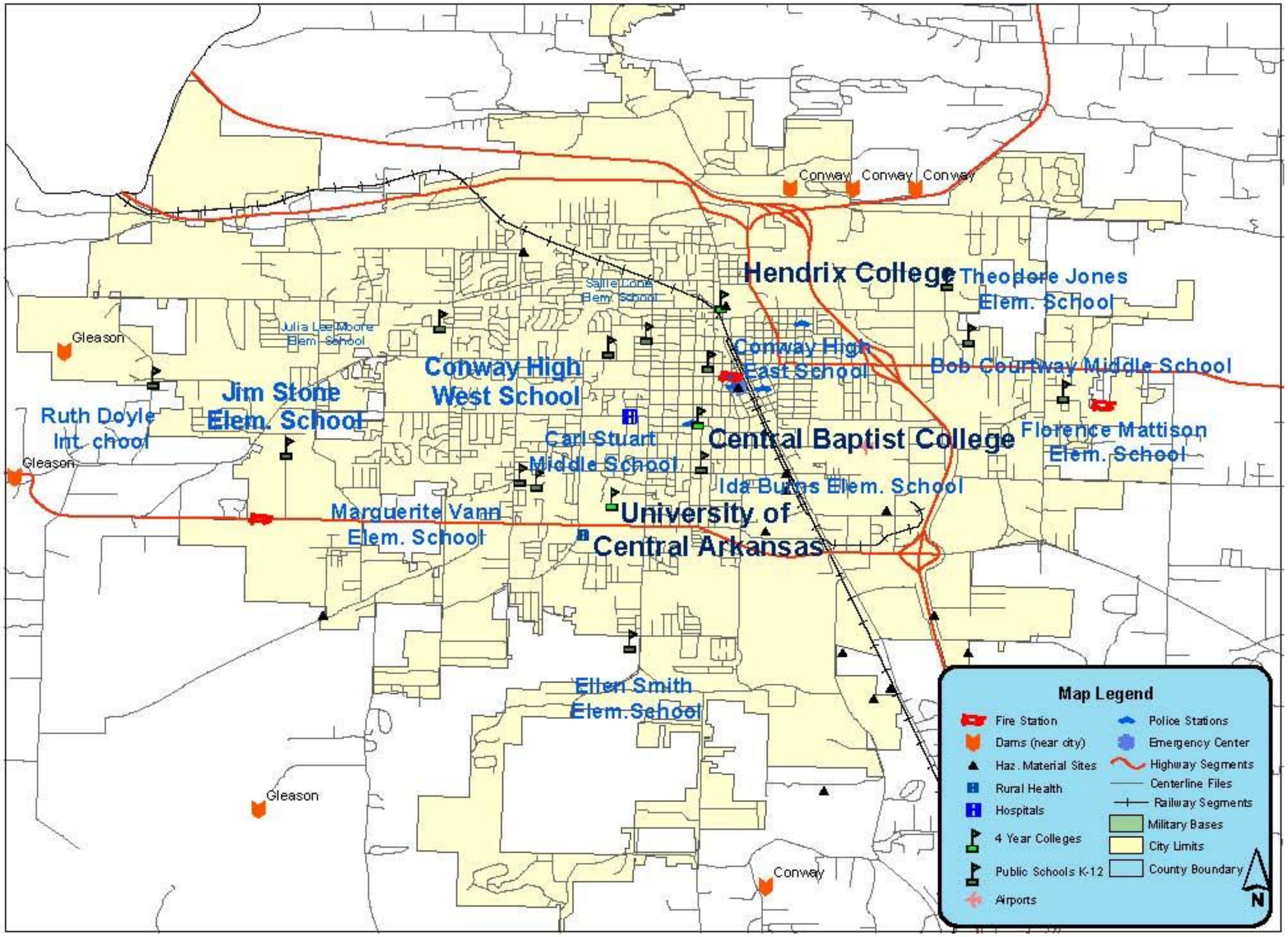
As these data limitations are addressed and remedied, this aspect of the County's plan will improve significantly as information is inserted. For the present report, however, the planning team has utilized the best available data taking into consideration its potential for inaccuracy. This data however stated is not presented in a manner to be misleading or a misrepresentation of what is actually the case in the County.

4.3.2 Assessing Vulnerability: Identifying Structures

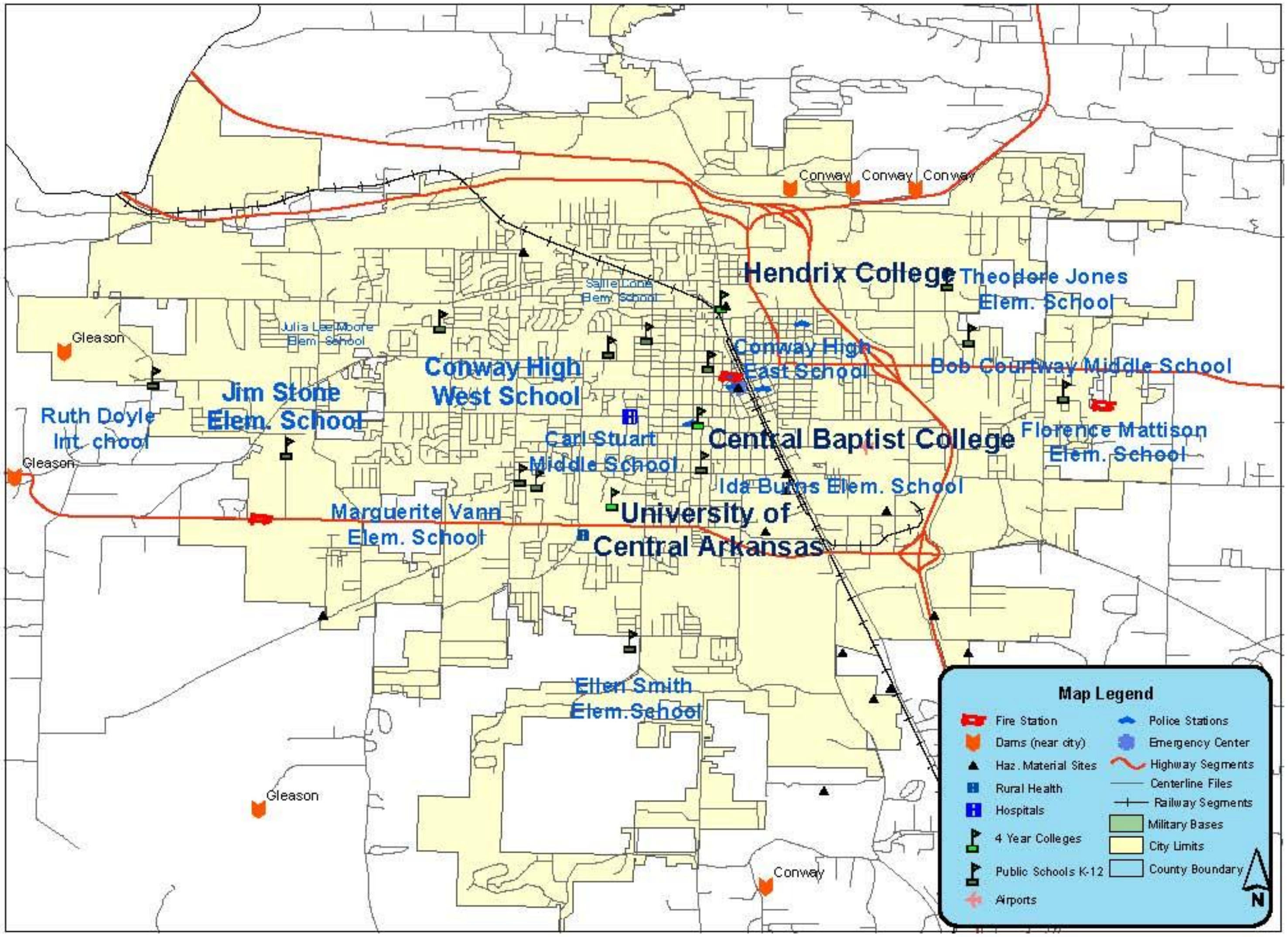
Exposure Summary for Faulkner County was extracted from the HAZUS-MH (Data DVD #3, Version 1.0, January 2004) at the census tract level, allowing exposure data for structures by sub areas of the county to be evaluated individually. Based on the HAZUS Census Data, approximately 99.00 % of the buildings (and 89.00% of the building value) are associated with residential housing.

<u>Critical Facilities/High Potential Loss Facilities</u>
Based on data obtained from Hazus, the 911 Database and other sources, within this region there are five (5) School Districts consisting of thirty-three (33) School buildings, twenty-one (21) fire stations, seven(7) City owned police stations, one (1) Sheriff's Office which houses the 911 Dispatch Center and the Office of Emergency Management Services, two (2) ambulance services, eleven (11) City Hall offices and two (2) Courthouse buildings. With respect to high potential loss facilities, there are 38 dams identified within the region. One of these dams is classified as "high hazard". Maps of the critical facilities are shown on the following pages

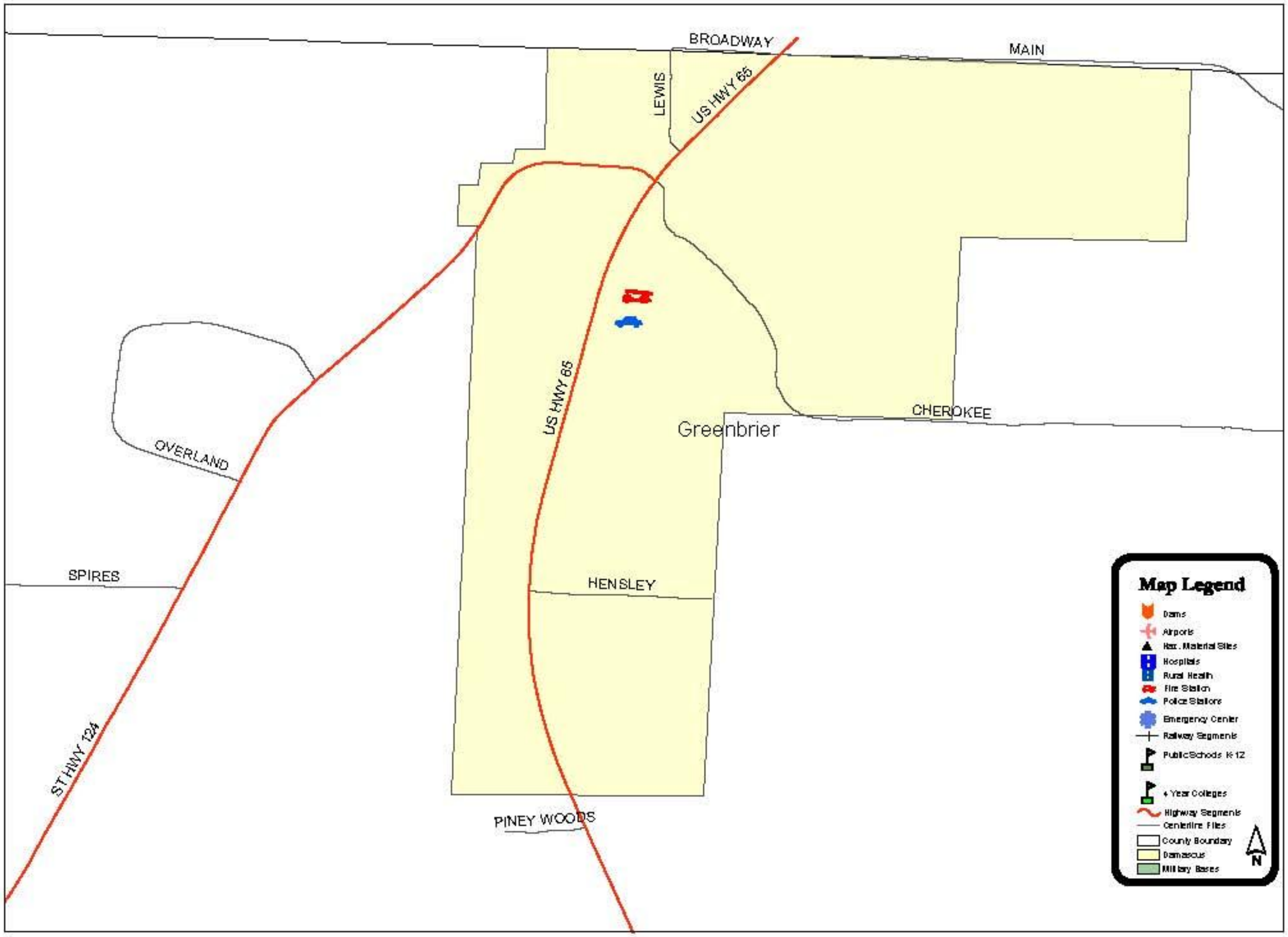
Faulkner County (City of Conway) Critical Facilities Map



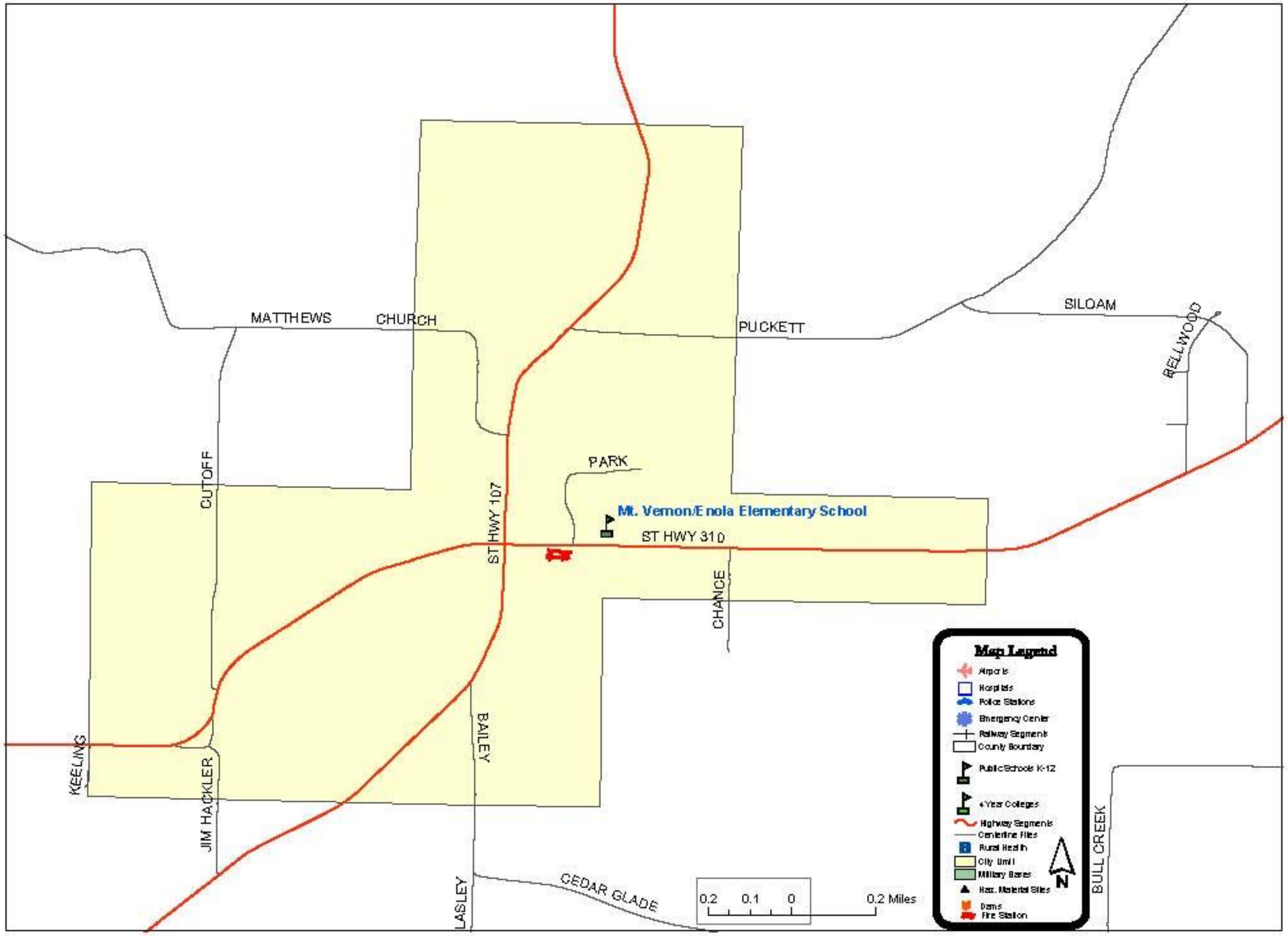
Faulkner County (City of Conway) Critical Facilities Map



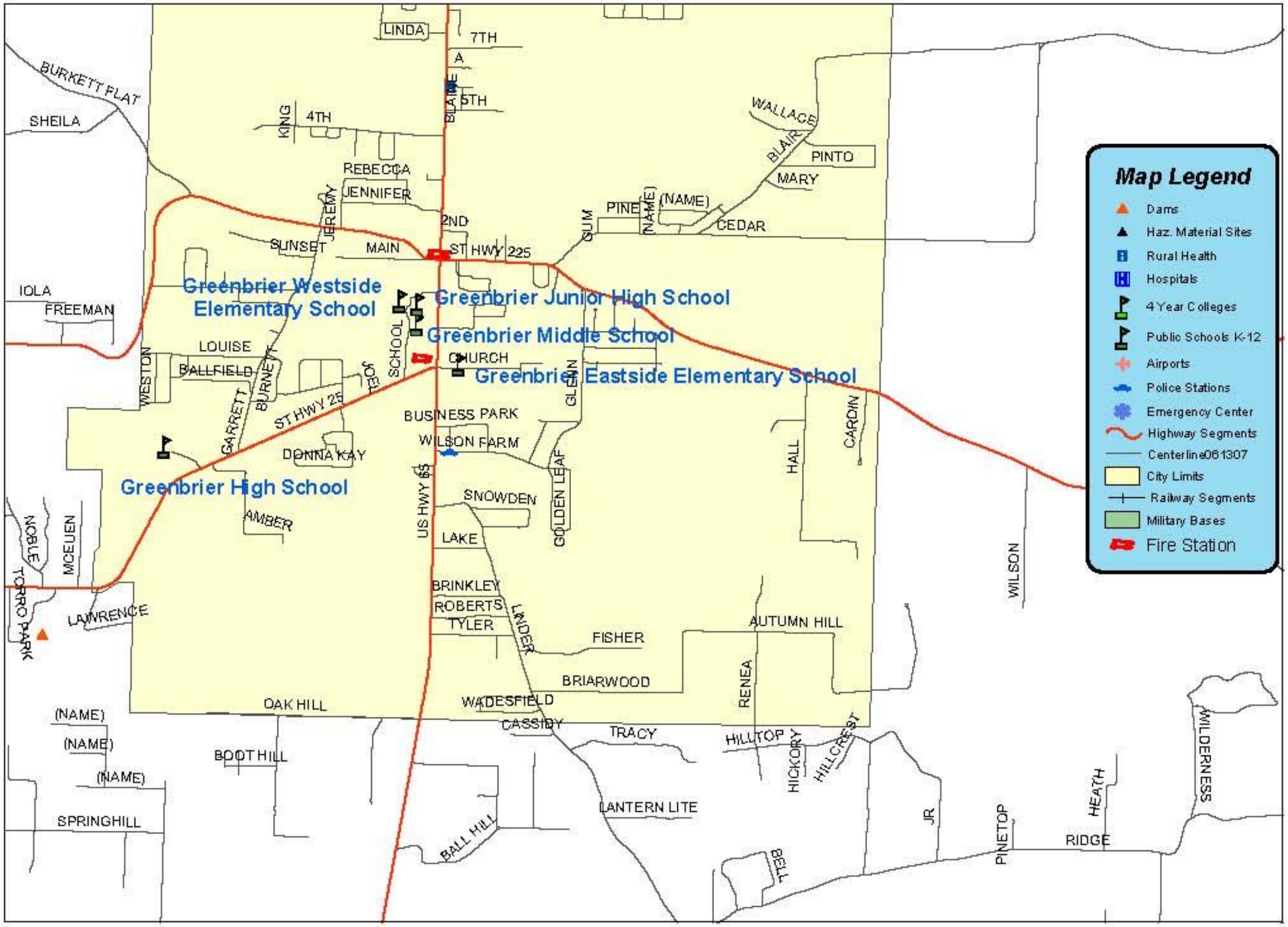
Faulkner County (City of Damascus) Critical Facilities Map



Faulkner County (City of Enola) Critical Facilities Map

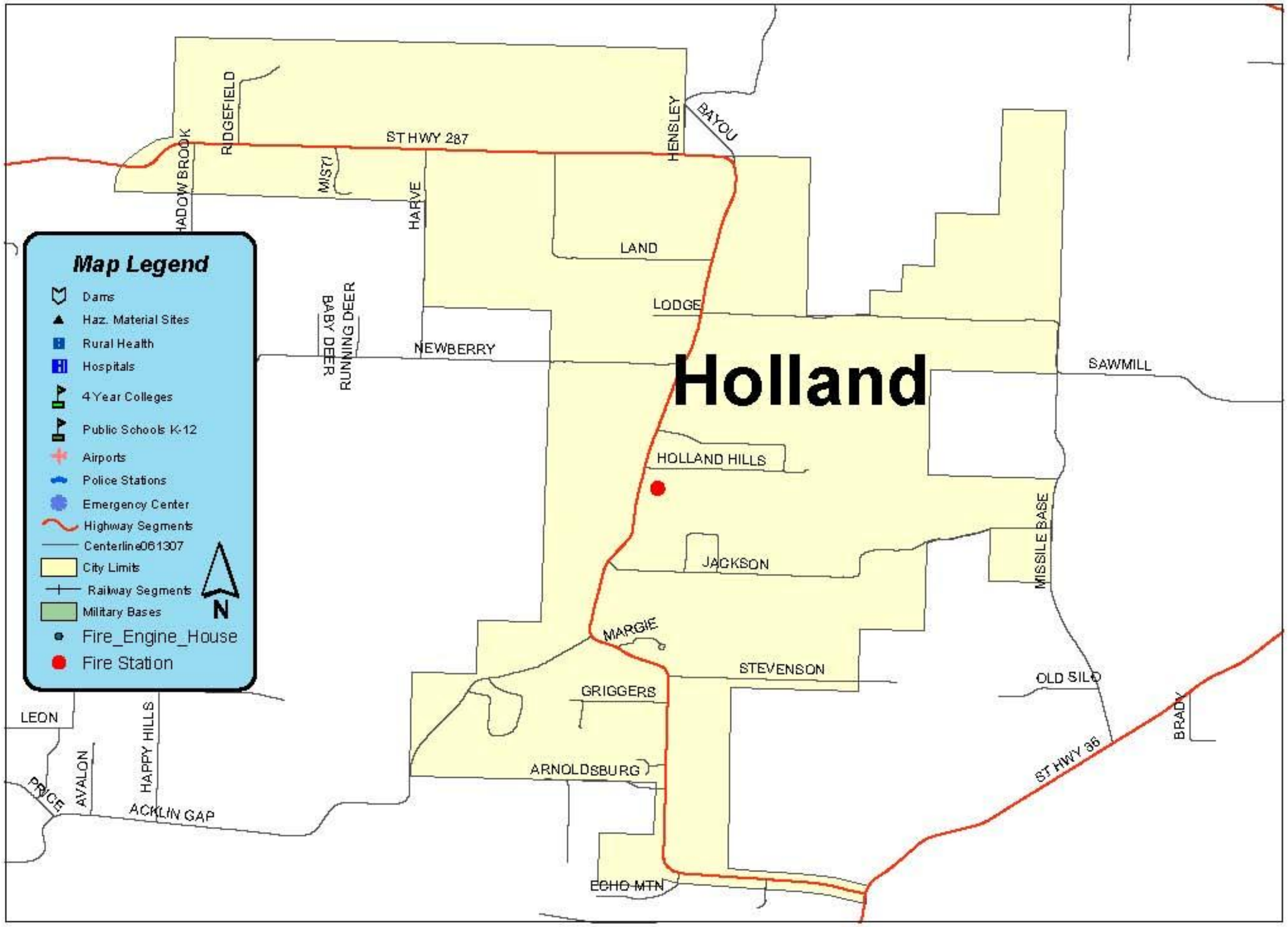


Faulkner County (City of Greenbrier) Critical Facilities Map

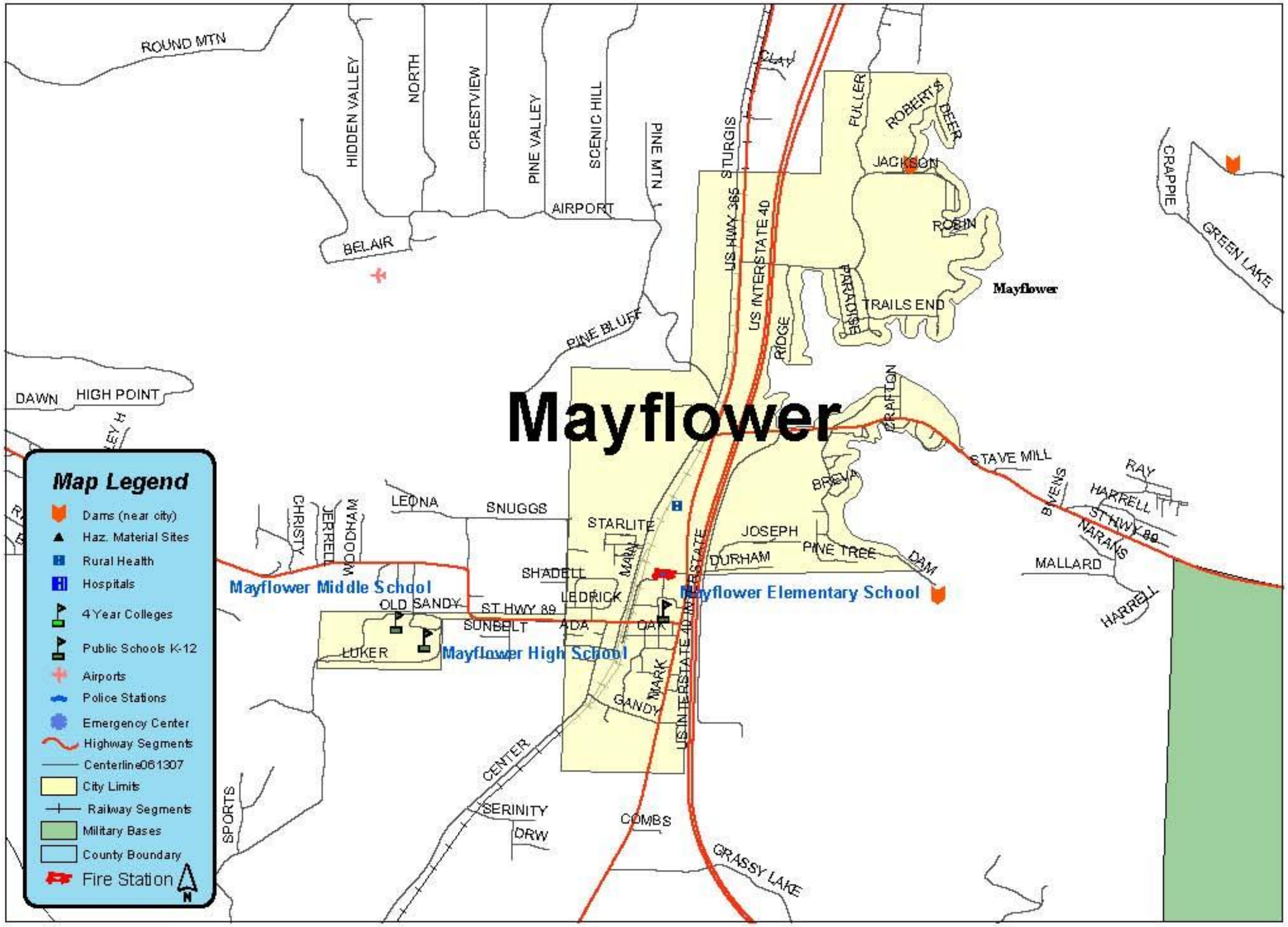


Faulkner County (City of Guy) Critical Facilities Map

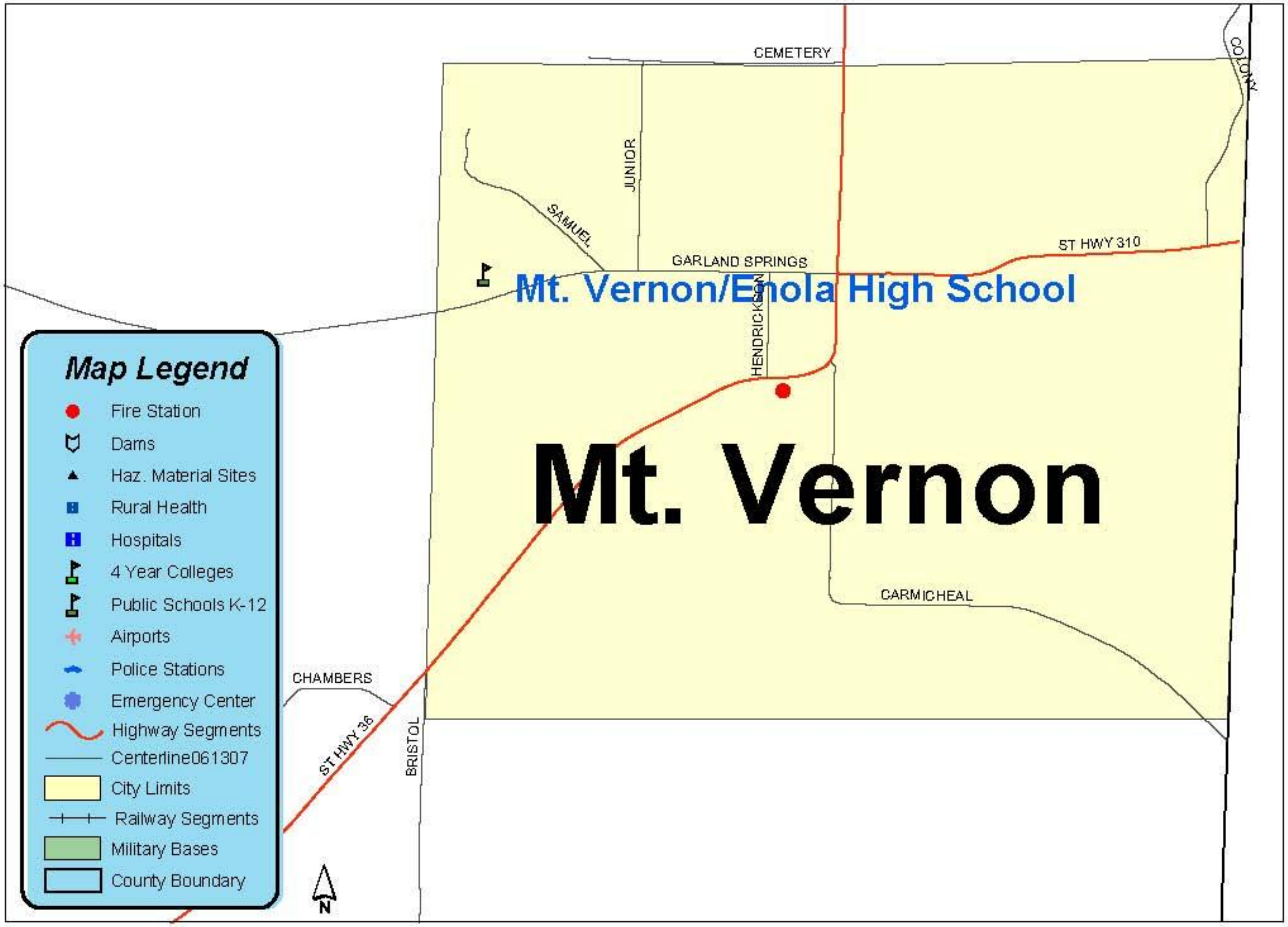
Faulkner County (City of Holland) Critical Facilities Map



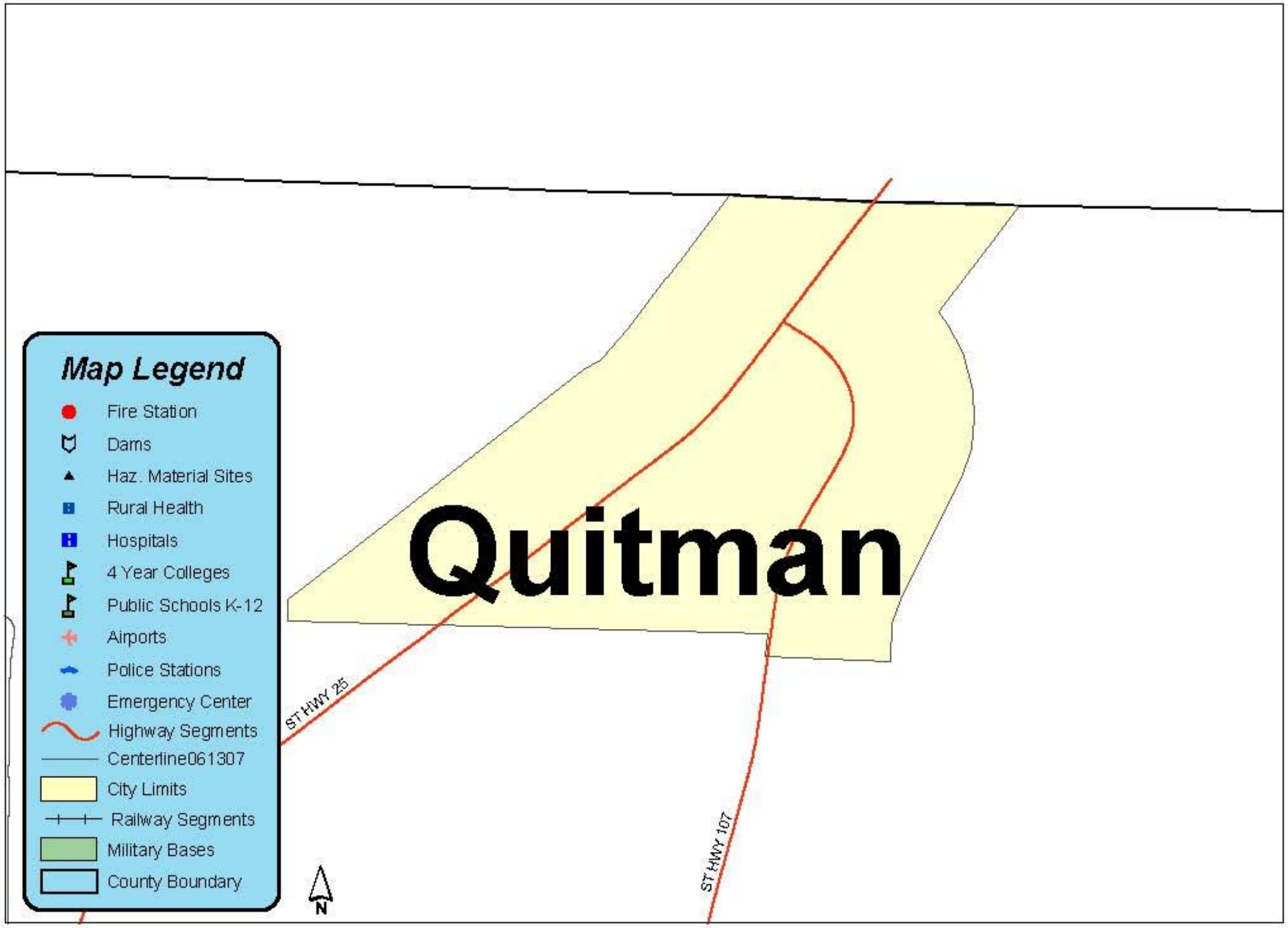
Faulkner County (City of Mayflower) Critical Facilities Map



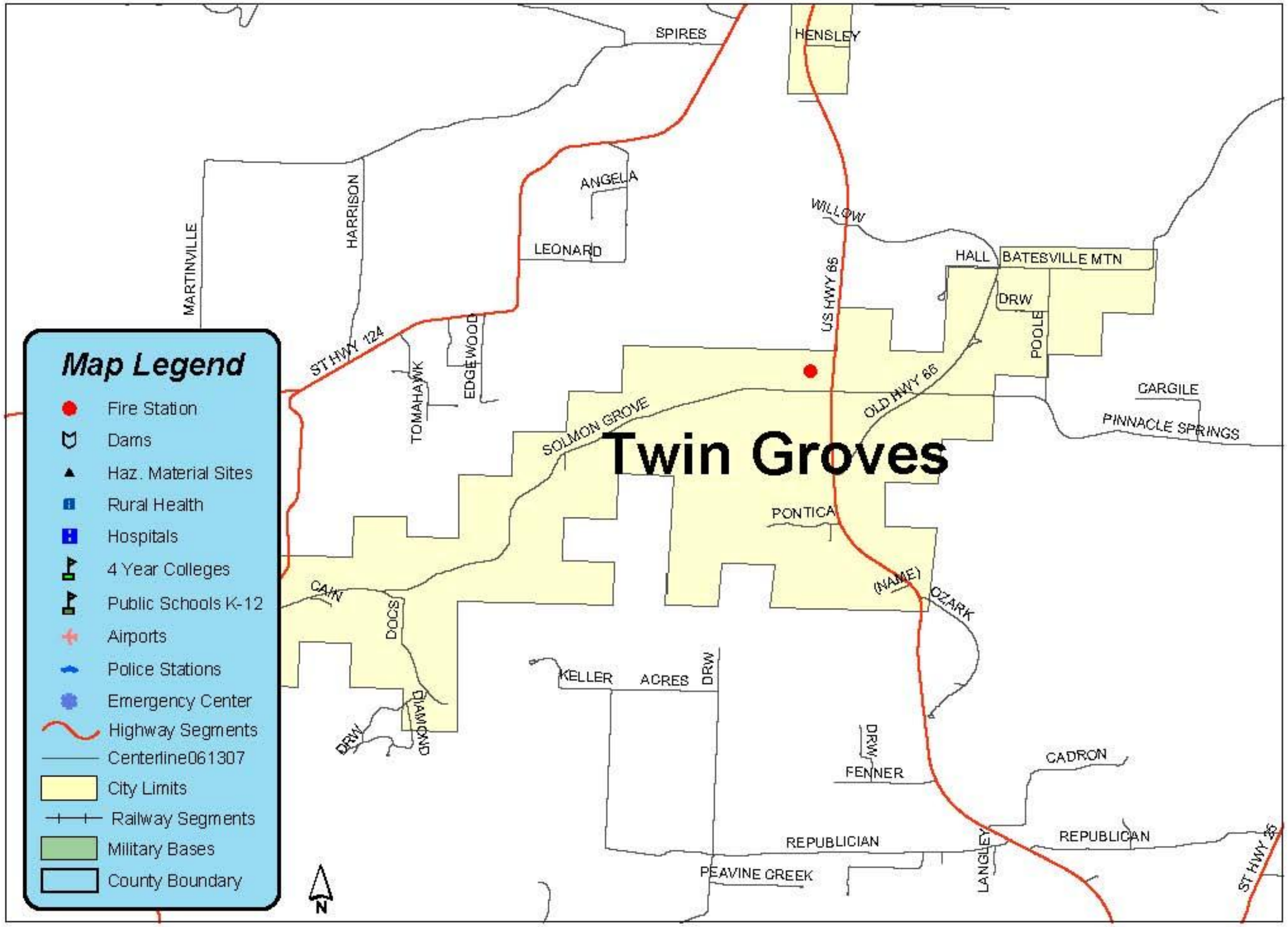
Faulkner County (City of Mt. Vernon) Critical Facilities Map



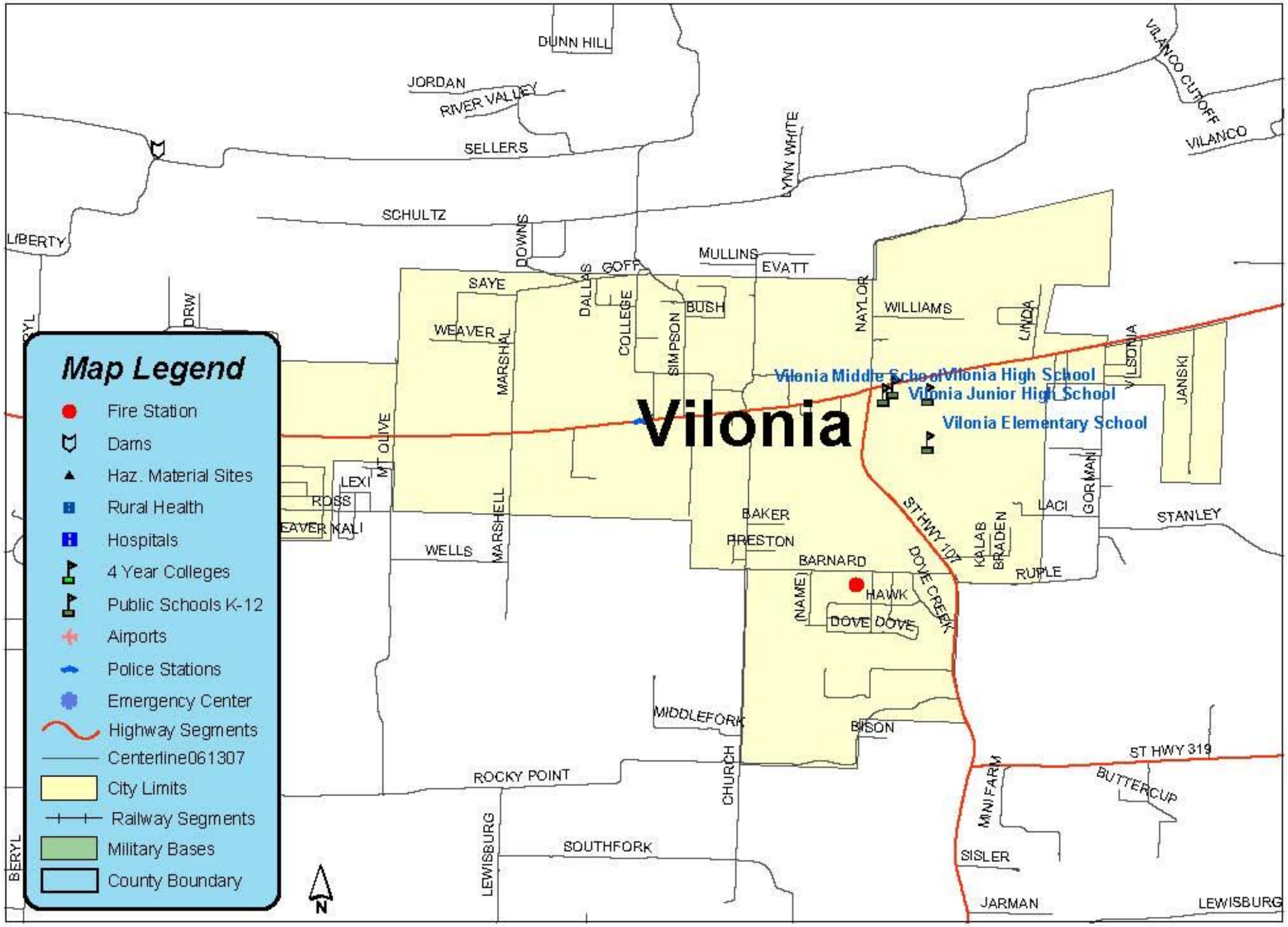
Faulkner County (City of Quitman) Critical Facilities Map



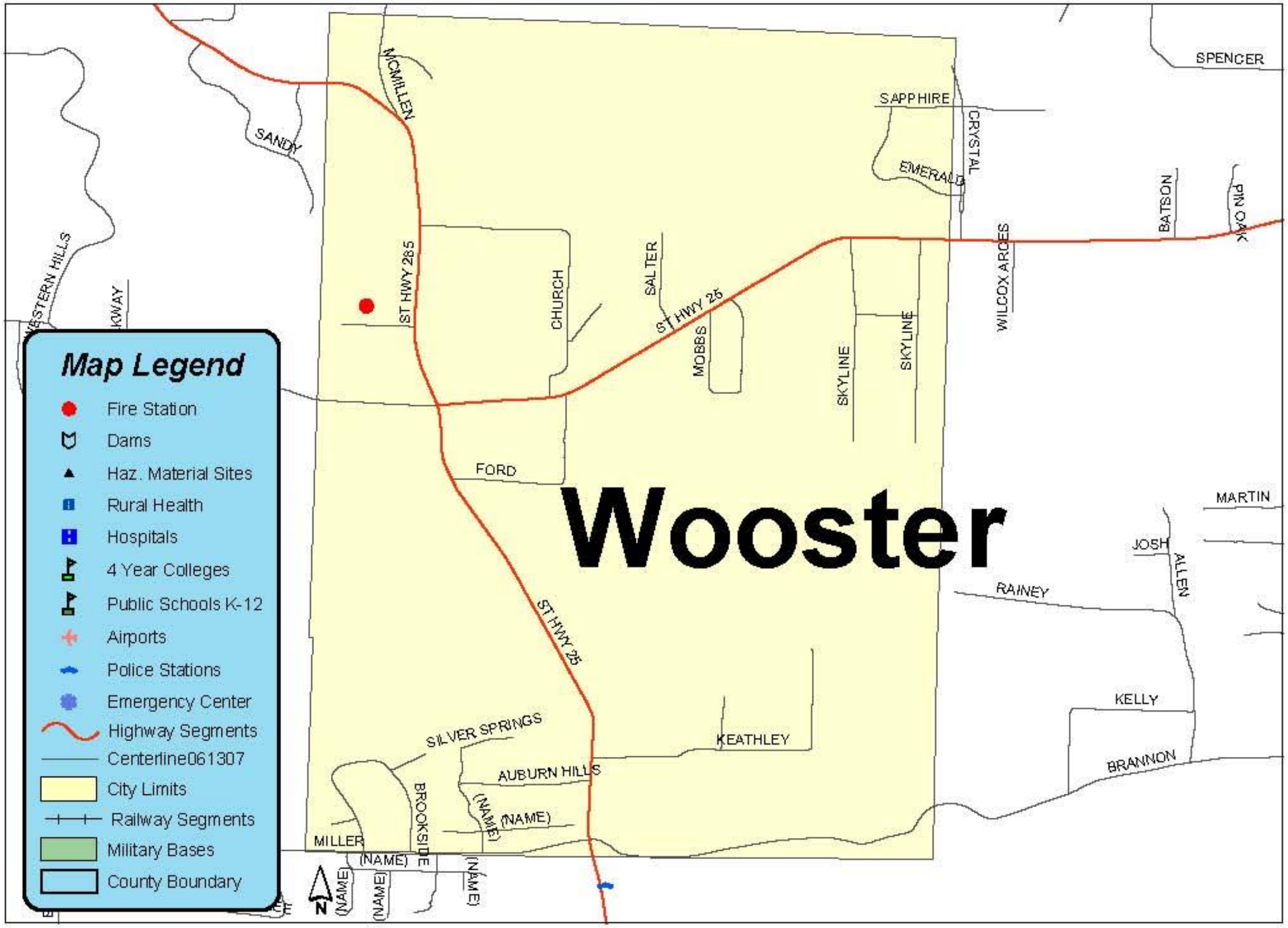
Faulkner County (City of Twin Groves) Critical Facilities Map



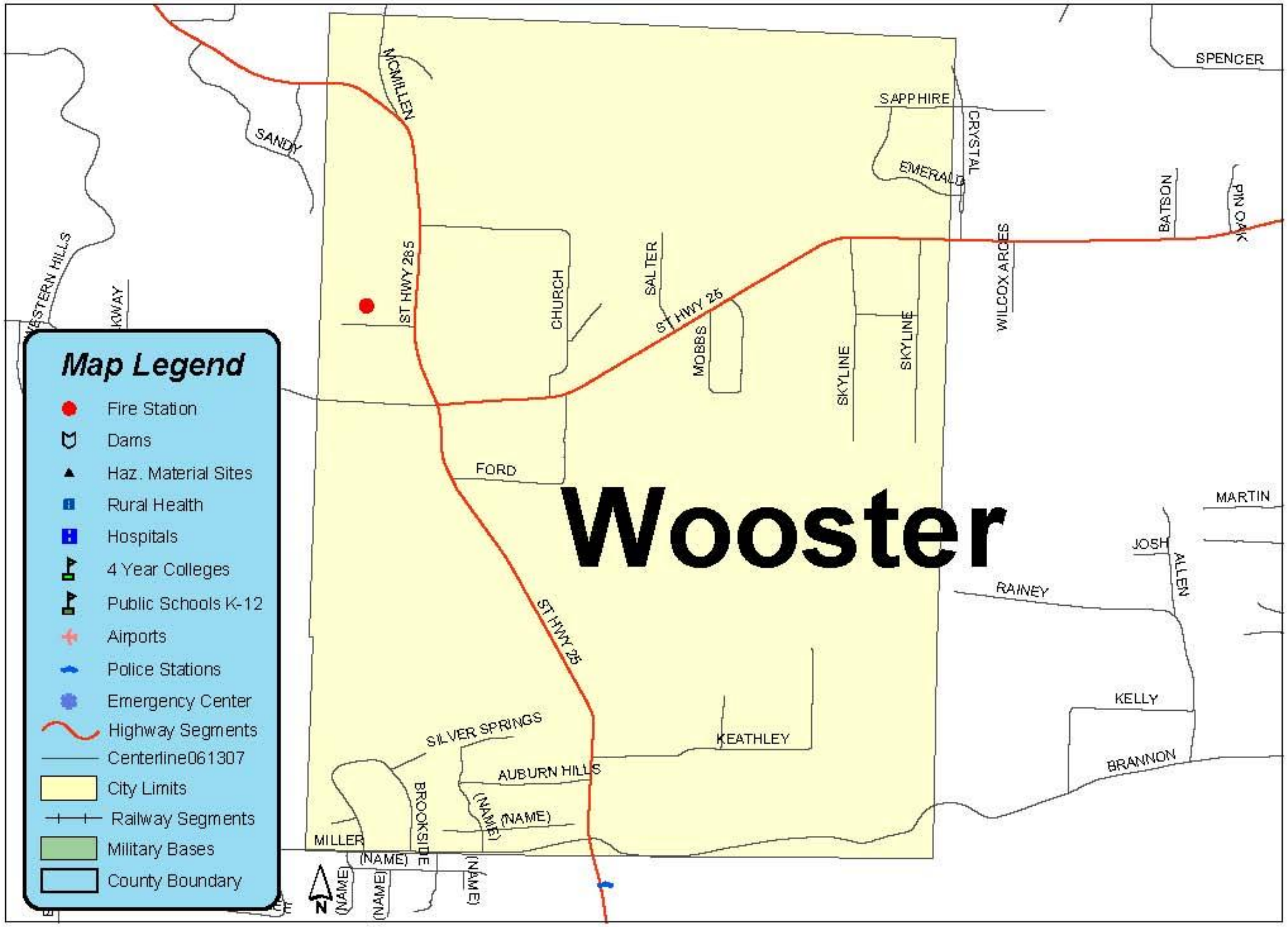
Faulkner County (City of Vilonia) Critical Facilities Map



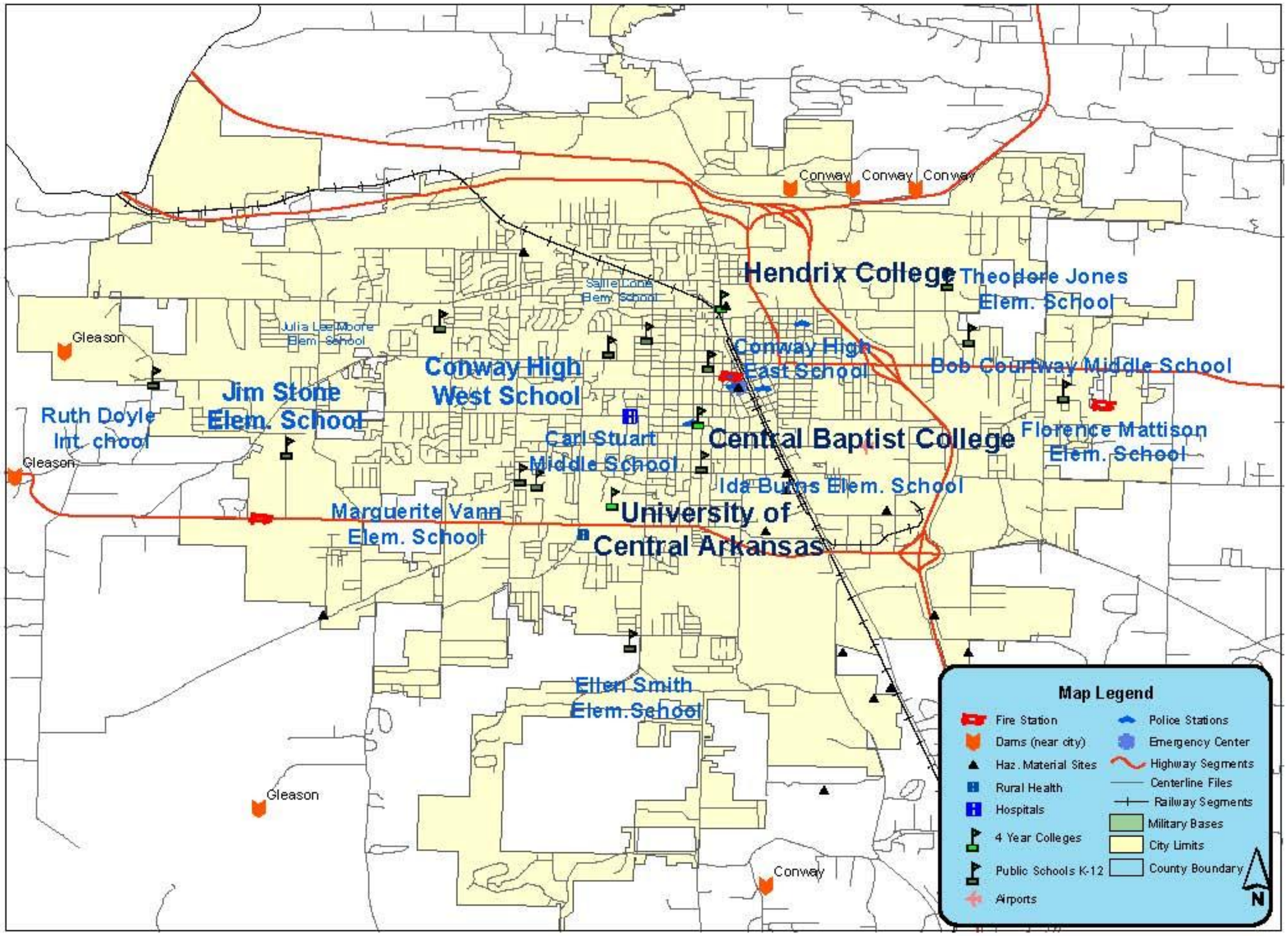
Faulkner County (City of Wooster) Critical Facilities Map



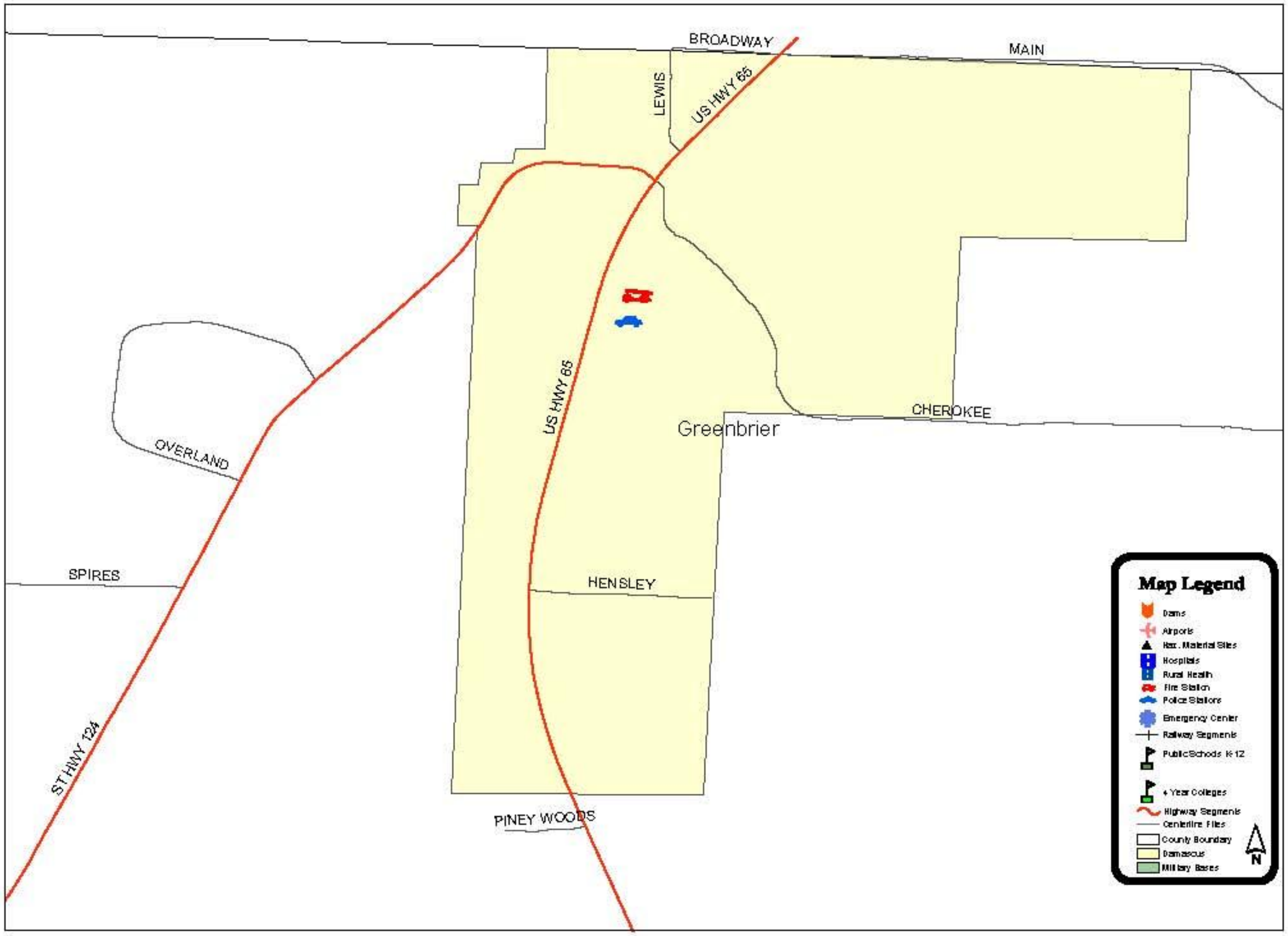
Faulkner County (City of Wooster) Critical Facilities Map



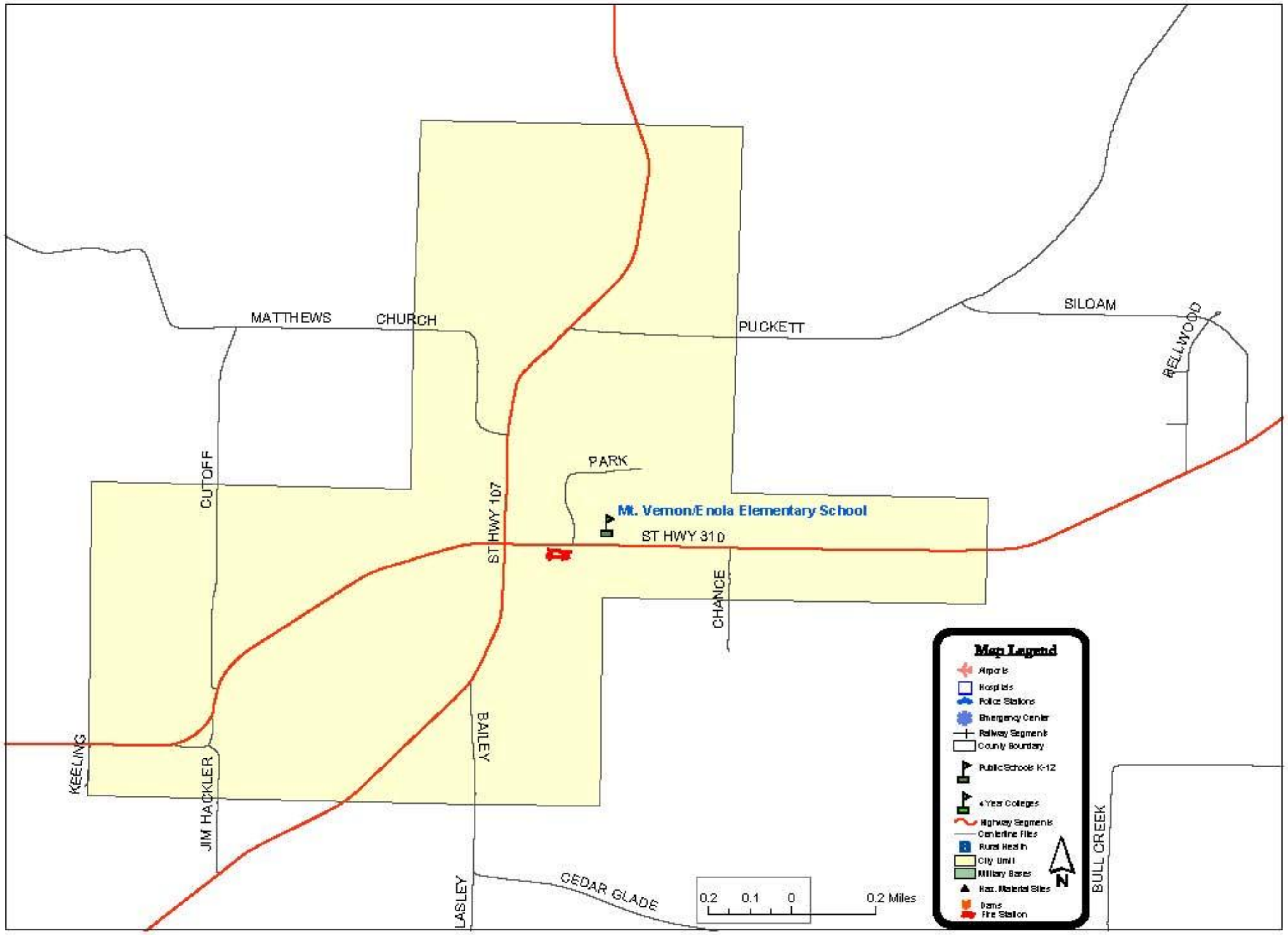
Faulkner County (City of Conway) Critical Facilities Map



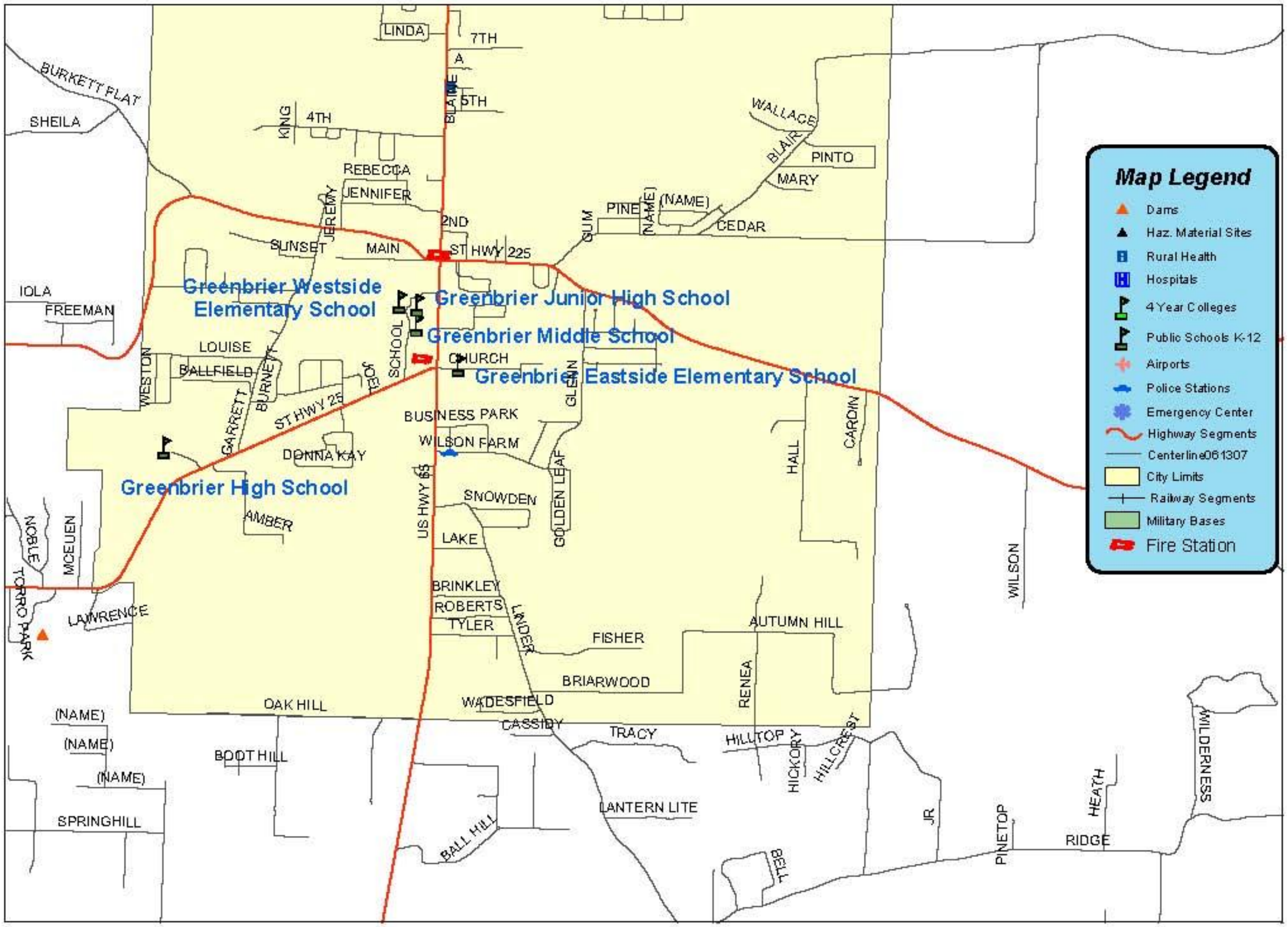
Faulkner County (City of Damascus) Critical Facilities Map



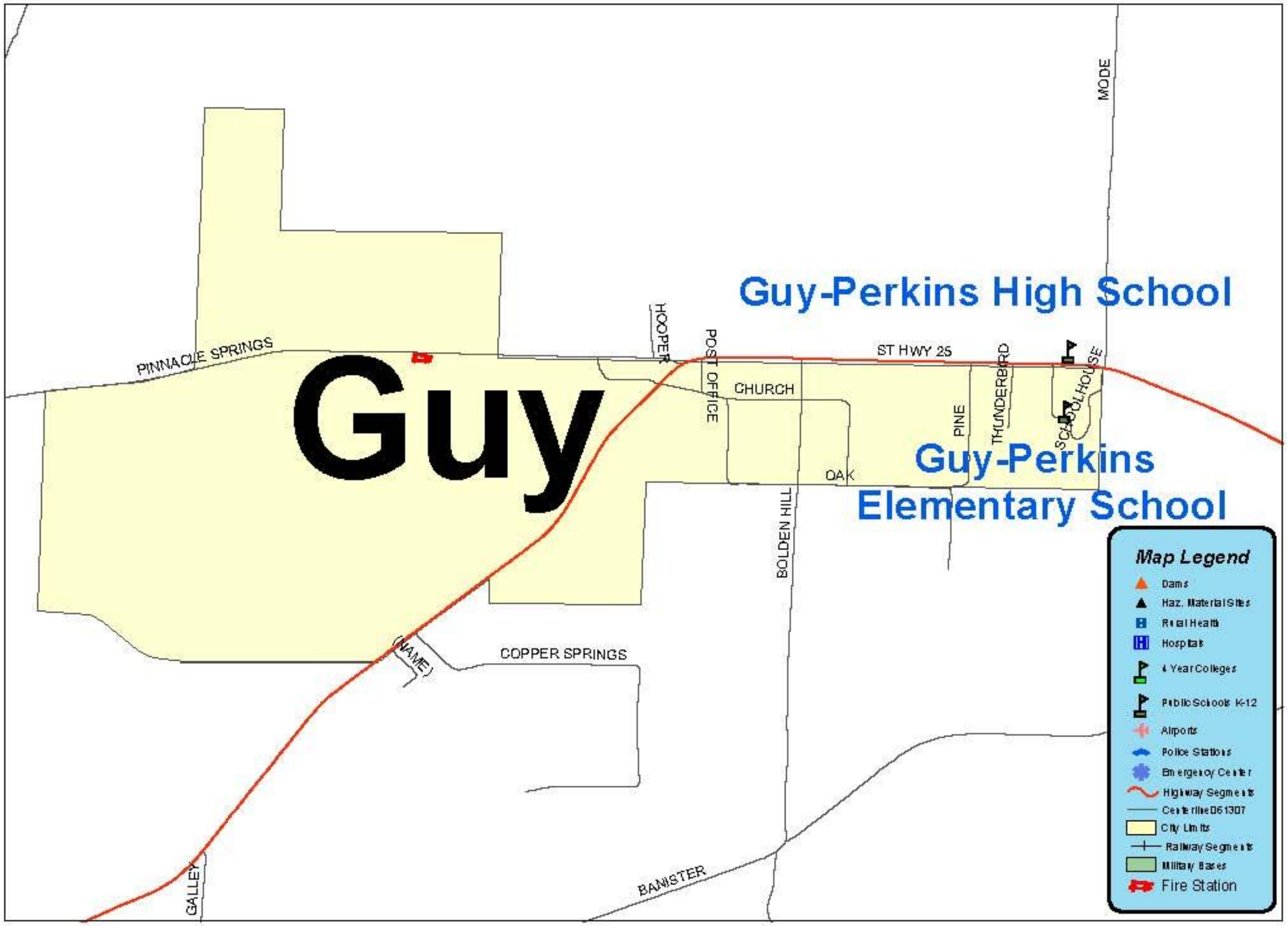
Faulkner County (City of Enola) Critical Facilities Map



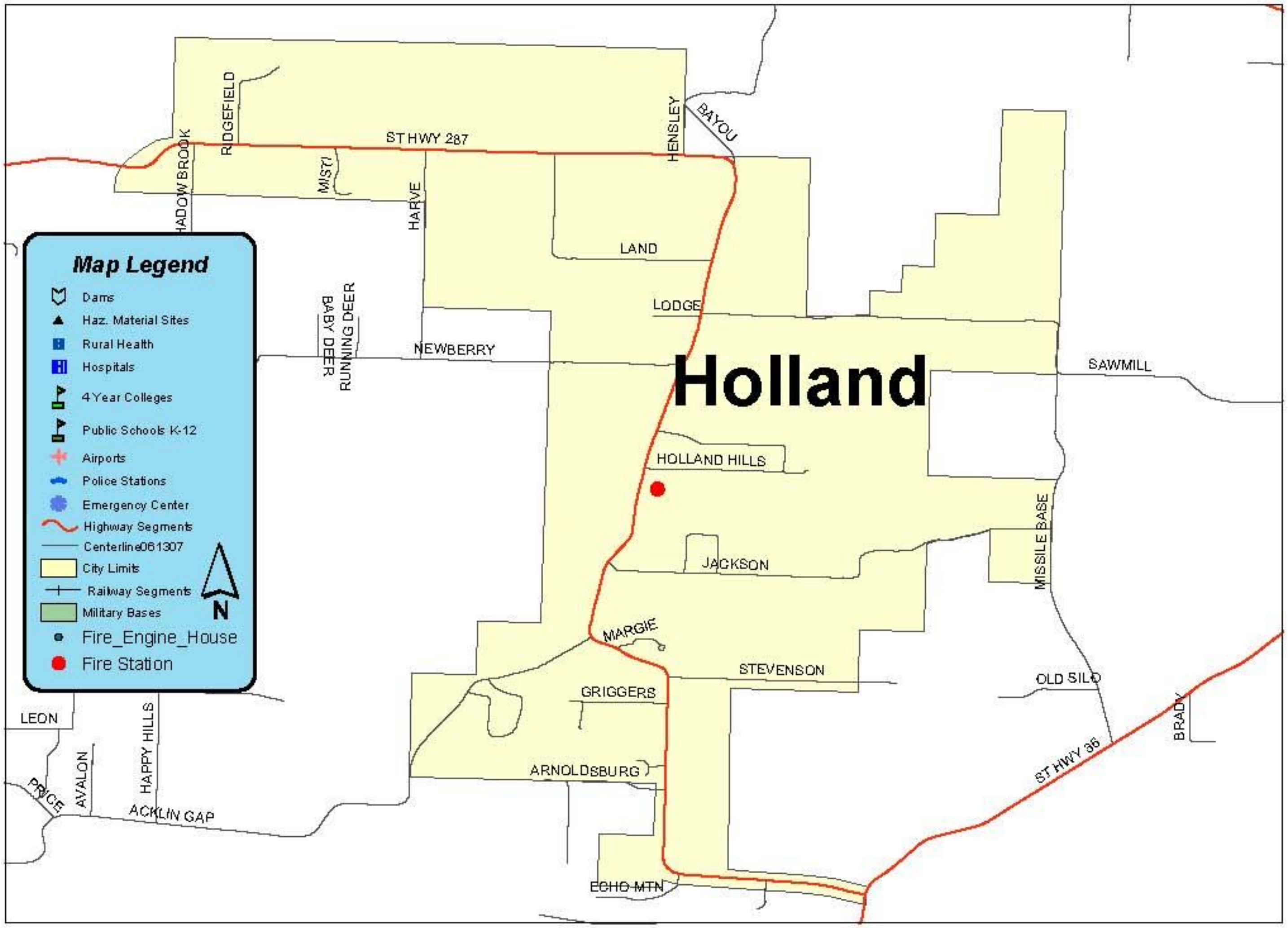
Faulkner County (City of Greenbrier) Critical Facilities Map



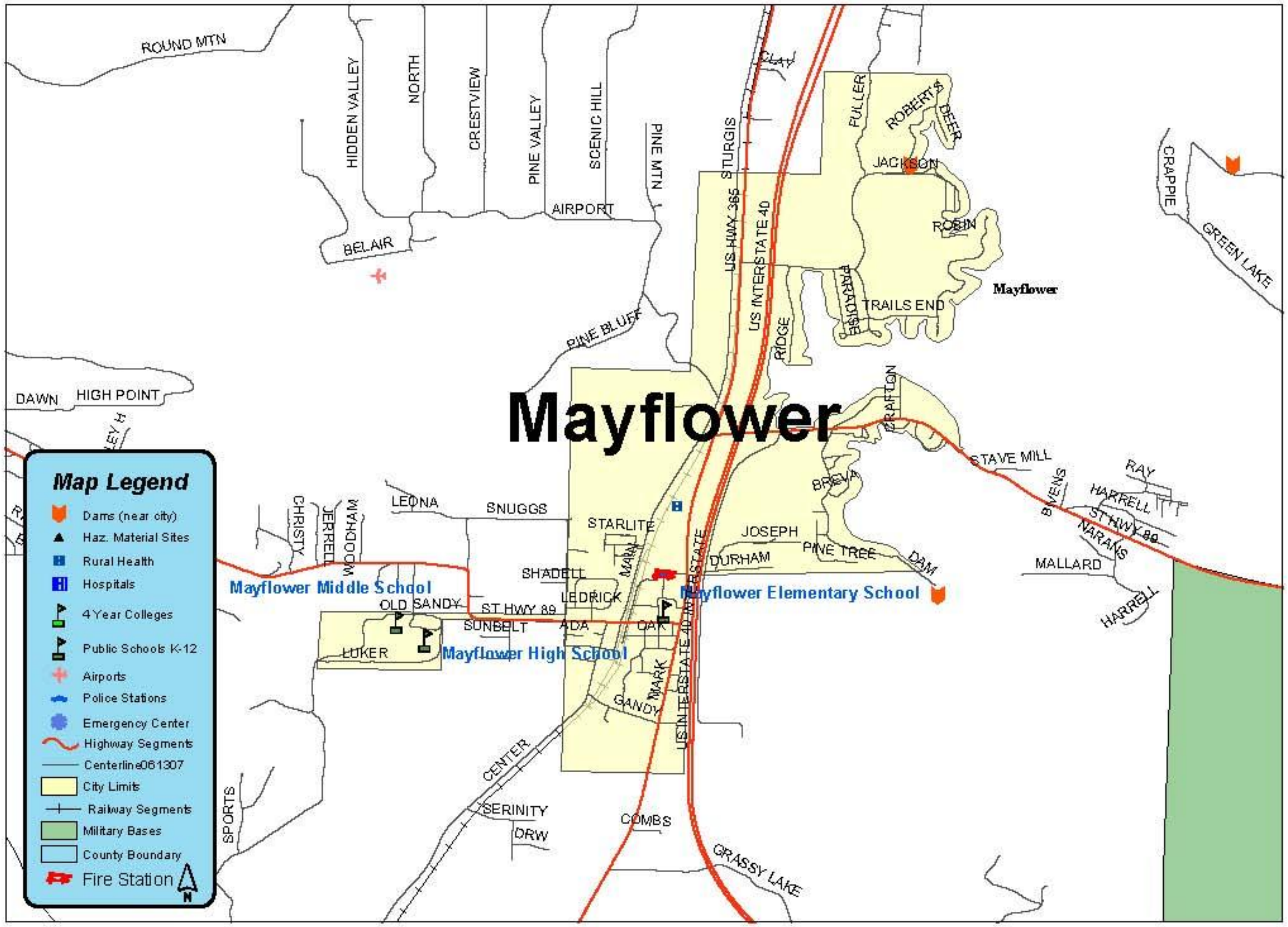
Faulkner County (City of Guy) Critical Facilities Map



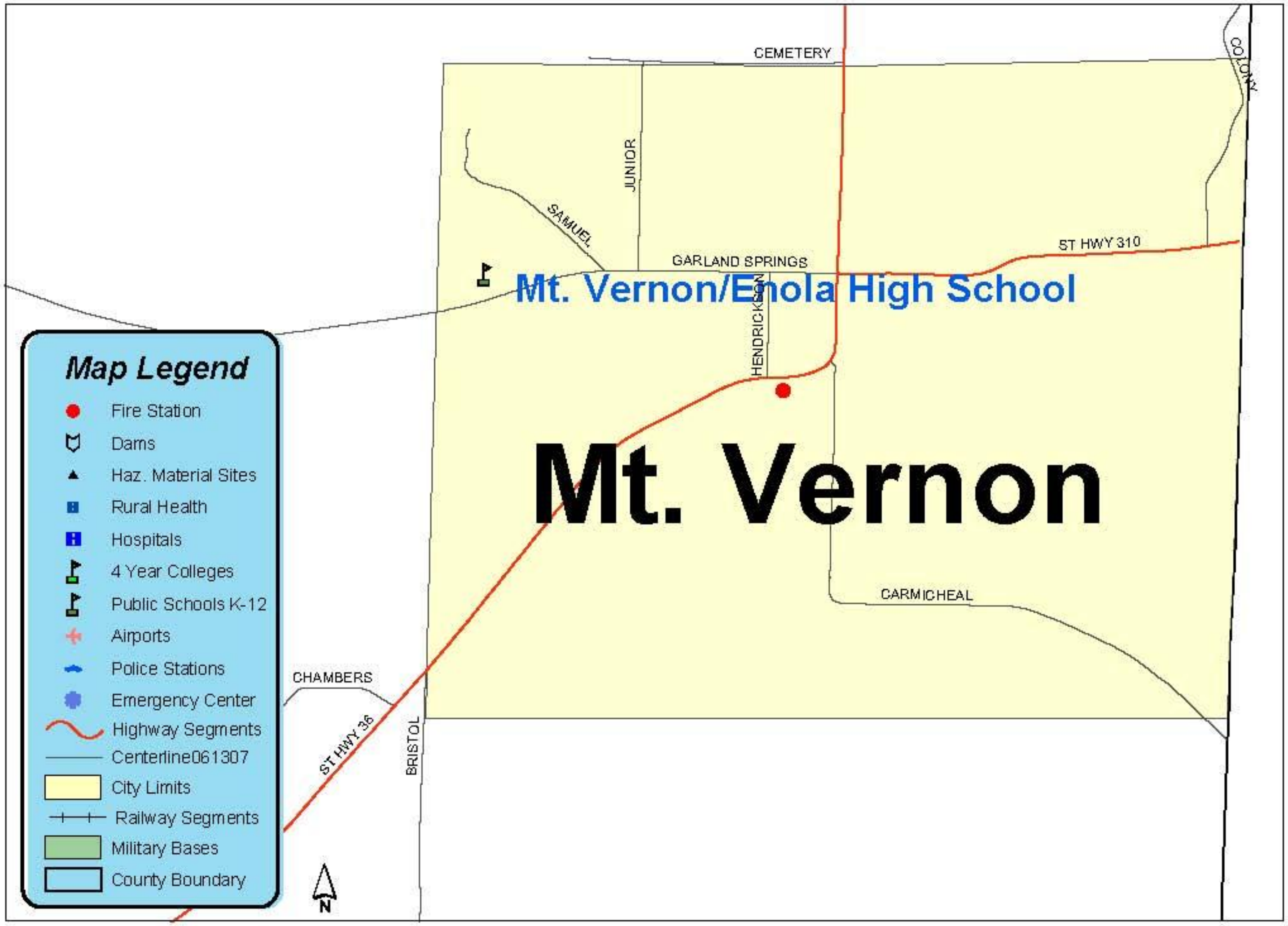
Faulkner County (City of Holland) Critical Facilities Map



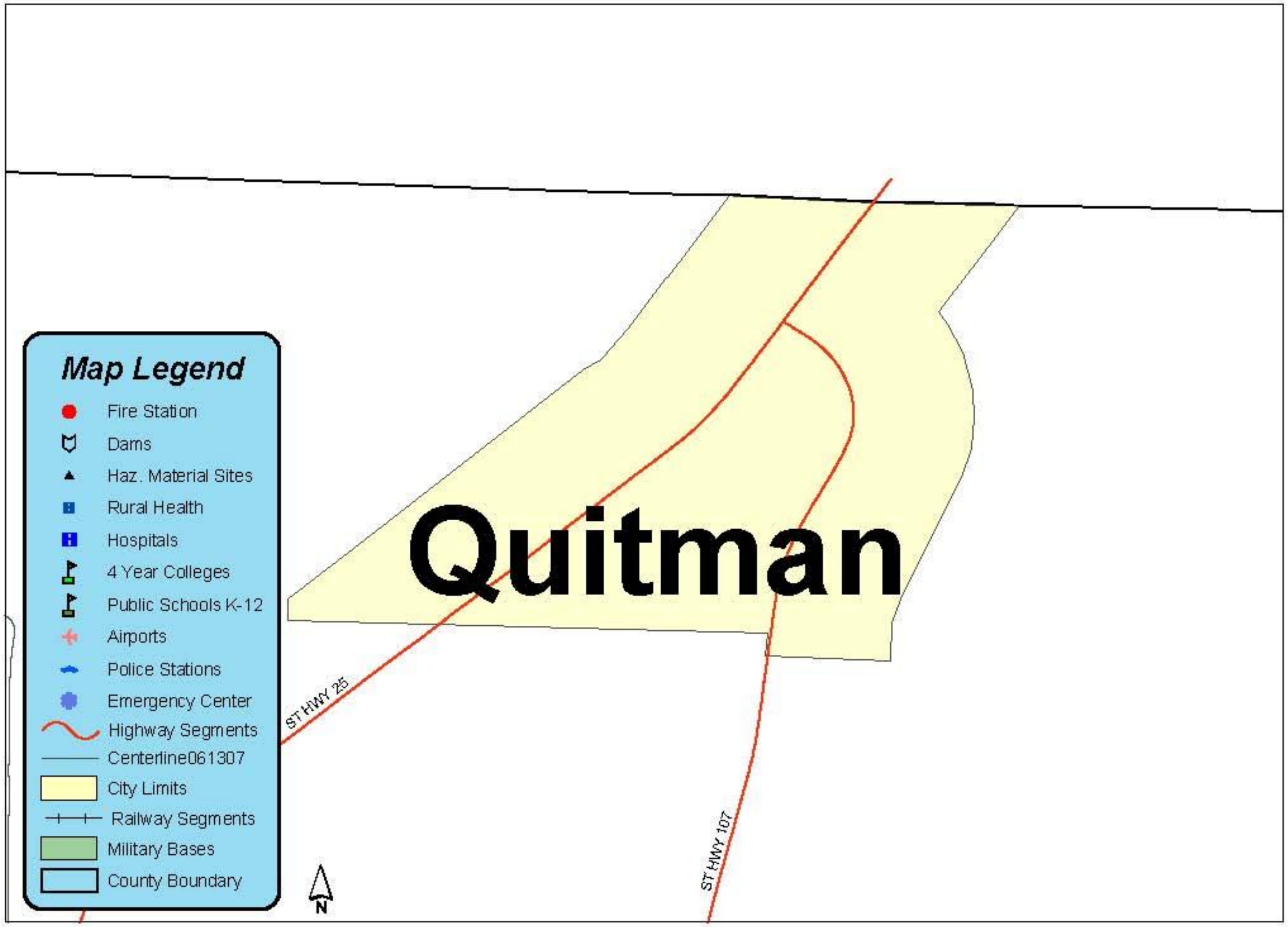
Faulkner County (City of Mayflower) Critical Facilities Map



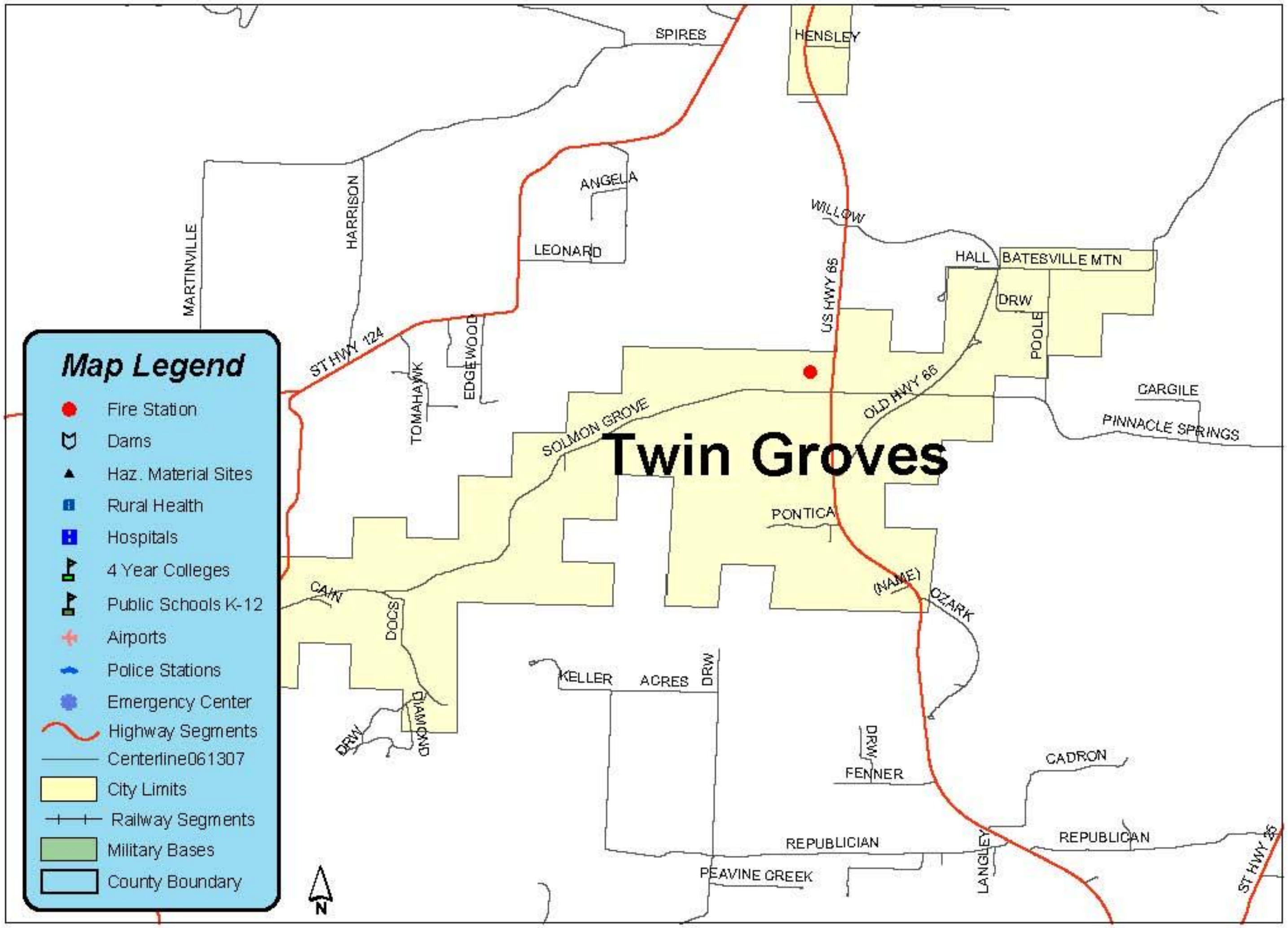
Faulkner County (City of Mt. Vernon) Critical Facilities Map



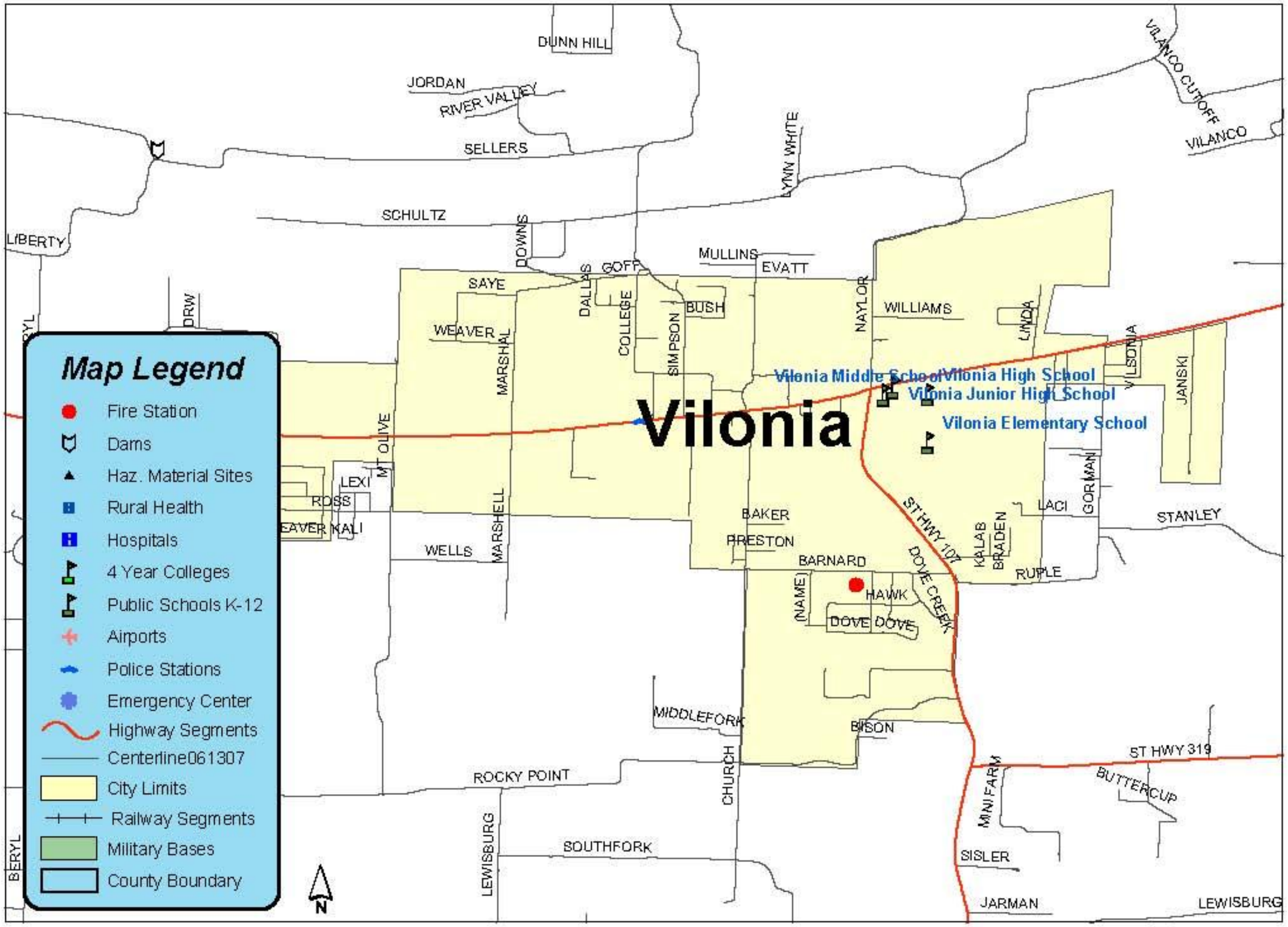
Faulkner County (City of Quitman) Critical Facilities Map



Faulkner County (City of Twin Groves) Critical Facilities Map



Faulkner County (City of Vilonia) Critical Facilities Map



*The loss estimates provided were produced using HAZUS-MH, a modeling software program produced by FEMA, based on current scientific and engineering standards. All loss estimations have inherent uncertainties, and the actual impacts could be significantly different.

4.3.2.1 Summary of Critical Facilities by jurisdiction in the Faulkner County mitigation planning area.

		Conway	Damascus	Enola	Greenbrier	Guy	Holland	Mayflower	Mt. Vernon	Quitman	Twin Groves	Vilonia	Wooster	Faulkner County (Unincorp.)	Planning Area Total
Vulnerable Populations	**Schools**	13	0	1	5	2	0	3	1	2	6	0	0	0	**33**
	Child Care	17	1	0	5	0	0	0	0	1	0	1	0	0	**25**
	Retirement, Nursing, Convalescent Homes	5	0	0	1	0	0	0	0	0	0	0	0	0	**6**
Emergency Response / Medical	**Police Stations / Sheriff Offices**	2	1	0	1	1	0	1	0	0	0	1	0	1	**8**
	Fire Stations (Volunteer)	1	1	1	1	1	1	1	1	0	1	1	1	10	**21**
	Emergency Operations Centers	1	0	0	0	0	0	0	0	0	0	0	0	1	**2**
	Hospitals / Emergency Medical Clinics	7	0	0	2	0	0	1	0	0	0	1	0	0	**11**
Other at Risk Properties	**Tier II (HAZMAT) Locations**	75	0	0	1	0	0	0	0	0	0	1	1	0	**78**
	Water Treatment Plants	1	1	0	1	1	0	1	0	1	1	1	1	0	**9**
	Waste Water Treatment Plants	1	1	0	1	0	0	1	0	1	0	1	0	2	**8**
	Historic Properties	26	2	0	5	3	0	0	0	0	4	0	1	10	**51**
	Total Critical Facilities	**149**	**7**	**2**	**23**	**8**	**1**	**8**	**2**	**5**	**12**	**7**	**4**	**24**	**252**

Table. 4.3.2.1 Building Stock: Number of Buildings by General Occupancy

Building stock exposure by general occupancy in the Faulkner County planning area. The number of structures in each jurisdiction is shown. Data from HAZUS-MH Data DVD 3 Version 1.0 January 2004 and updated per the County's 911 database. Most of the structures are residential. A summary of the building stock exposure by general occupancy per Census Tract is provided in Table 4.3.2.1 Also, an estimated 67.30% of the county's structures are wood frame. 22.04% are manufactured housing, which is the next most common construction method. Un-reinforced masonry comprises of 10.26% of the county's building types. The remaining consists of concrete (.01%), precast (.06%), reinforced masonry (.02%), steel (.31%).

Planning Jurisdiction	Total Number of Structures	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education
Conway	14,987	14,698	174	69	0	8	5	33
Damascus	59	59	0	0	0	0	0	0
Enola	84	84	0	0	0	0	0	0
Greenbrier	1,317	1,298	16	1	0	2	0	0
Guy	102	101	0	1	0	0	0	0
Holland	251	251	0	0	0	0	0	0
Mayflower	891	888	2	1	0	0	0	0
Mt. Vernon	84	84	0	0	0	0	0	0
Quitman	123	120	2	0	0	1	0	0
Twin Groves	12	12	0	0	0	0	0	0
Vilonia	906	902	4	0	0	0	0	0
Wooster	230	230	0	0	0	0	0	0
Unincorporated Faulkner County	13,949	13,891	39	14	0	4	3	0
Totals	**32,995**	**32,616**	**237**	**86**	**0**	**15**	**8**	**33**

Table 4.3.2.2 Building Stock: Exposure by General Occupancy

The value of structures based upon type (x $1000) each Census Tract is shown. Building stock exposure by general occupancy in the Faulkner County planning area. The value of structures (x $1000) in each jurisdiction is shown. Data from HAZUS-MH Data DVD 3 Version 1.0 January 2004.

Planning Jurisdiction	Total Value of Structures	Residential	Commercial	Industrial	Agriculture	Religion	Government	Education
Conway	$5,260,361	$4,507,564	$339,013	$182,698	$2,577	$26,150	$4,927	$197,432
Damascus	$6,576	$6,120	$456	$0	$0	$0	$0	$0
Enola	$8,787	$8,577	$210	$0	$0	$0	$0	$0
Greenbrier	$190,856	$162,128	$21,538	$3,797	$279	$3,114	$0	$0
Guy	$17,849	$10,686	$744	$2,175	$266	$0	$0	$3,796
Holland	$26,711	$26,611	$100	$0	$0	$0	$0	$0
Mayflower	$96,835	$86,640	$6,925	$3,140	$130	$0	$0	$0
Mt. Vernon	$7,821	$7,821	$0	$0	$0	$0	$0	$0
Quitman	$27,657	$12,375	$12,527	$317	$780	$1,380	$0	$278
Twin Groves	$1,209	$1,209	$0	$0	$0	$0	$0	$0
Vilonia	$133,625	$118,100	$7,956	$2,303	$693	$1,187	$0	$3,396
Wooster	$27,069	$26,280	$789	$0	$0	$0	$0	$0
Unincorporated Faulkner County	$0	$0	$0	$0	$0	$0	$0	$0
Totals	$7,594,754	$6,612,249	$485,134	$234,306	$8,302	$41,186	$7,817	$206,220

Table 4. 3.2.3**:** Building stock exposure by construction type

The number of structures in each jurisdiction is shown. Data from HAZUS-MH Data DVD 3 Version 1.0 January 2004.

Planning Jurisdiction	**Total Number of Structures**	**Wood Structures**	**Steel Structures**	**Concrete Structures**	**Masonry Structures**	**Manufactured Housing**
Conway	14,984	11,445	76	99	1,936	1,428
Damascus	59	35	0	0	6	18
Enola	84	49	0	0	0	29
Greenbrier	1,333	876	4	4	136	313
Guy	102	67	0	1	9	25
Holland	251	150	0	0	26	75
Mayflower	891	474	1	1	72	343
Mt. Vernon	84	43	0	0	5	36
Quitman	122	75	0	0	11	36
Twin Groves	12	7	0	0	0	5
Vilonia	906	628	0	1	94	183
Wooster	230	133	0	0	18	79
Unincorporated Faulkner County	13,878	8,773	9	14	1,313	3,823
Totals	**32,936**	**22,755**	**90**	**120**	**3,626**	**6,393**

Table 4.3.2.4: Building stock exposure by construction type in the Faulkner County planning area. Value of structures (x $1000) in each jurisdiction is shown.

Data from HAZUS-MH Data DVD 3 Version 1.0 January 2004.

Planning Jurisdiction	**Total Value of Structures**	**Wood Structures**	**Steel Structures**	**Concrete Structures**	**Masonry Structures**	**Manufactured Housing**
Conway	$3,260,402	$2,073,574	$232,108	$257,270	$649,803	$47,648
Damascus	$6,576	$4,952	$46	$137	$856	$585
Enola	$354	$273	$0	$0	$41	$40
Greenbrier	$190,856	$138,462	$4,477	$8,627	$29,067	$10,223
Guy	$17,489	$9,591	$1,060	$2,221	$4,193	$784
Holland	$26,711	$21,032	$10	$30	$3,190	$2,449
Mayflower	$96,838	$67,549	$1,599	$3,802	$12,600	$11,288
Mt. Vernon	$7,821	$5,794	$0	$0	$865	$1,162
Quitman	$27,764	$13,873	$1,931	$4,468	$6,261	$1,231
Twin Groves	$1,209	$0	$0	$0	$137	$162
Vilonia	$1,337,634	$100,302	$2,510	$4,378	$20,371	$6,073
Wooster	$27,068	$20,794	$79	$236	$3,384	$2,575
Unincorporated Faulkner County	$1,777,742	$1,331,790	$24,560	$44,433	$248,473	$126,486
Totals	$6,778,464	$3,788,896	$268,380	$325,602	$979,241	$210,706

Within HAZUS, the lifeline inventory is divided between utility lifeline and transportation systems. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. The lifeline inventory data are provided in Tables 4.3.2.5 and 4.3.2.6

Table 4.3.2.5 Utility Systems

System	Component	Number of Locations / Segments	Replacement Value (Millions of Dollars)
Potable Water	Distribution Lines	NA	$58.90
	Facilities		$86.90
		Subtotal	**$145.80**
Waste Water	Distribution Lines	NA	$35.30
	Facilities	5	$463.50
		Subtotal	**$498.90**
Natural Gas	Distribution Lines	NA	$23.60
	Facilities		$0.90
		Subtotal	**$124.50**
Oil Systems	Facilities	0	$0.00
		Subtotal	**$0.00**
Electrical Power	Facilities	0	$0.00
		Subtotal	**$0.00**
Communication	Facilities		$0.40
		Subtotal	**$0.40**
Total			**$669.60**

Table 4.3.2.6 Transportation Systems

System	Component	Number of Locations / Segments	Replacement Value (Millions of Dollars)
Highway	Segments	38	$78.00
	Bridges	90	$614.80
		Subtotal	**$692.90**
Railway	Segments	13	$23.90
	Bridges	0	$0.00
	Facilities	1	$1.90
		Subtotal	**$25.80**
Bus	Facilities	0	$0.00
		Subtotal	**$0.00**
Ferry	Facilities	0	$0.00
		Subtotal	$0.00
Port	Facilities	1	$1.90
		Subtotal	**$1.90**
Airport	Facilities	7	$33.20
	Runways	8	$216.30
		Subtotal	**$249.50**
Total			**$970.00**

4.3.3 Hazard Summary – Vulnerability/Impact

According to information obtained from the Hazus Software, Faulkner County consists of 4,000. An estimated 67.30% of the county's structures are wood frame. 22.04% are manufactured housing, which is the next most common construction method. Un-reinforced masonry comprises of 10.26% of the county's building types. The remaining consists of concrete (.01%), precast (.06%), reinforced masonry (.02%), steel (.31%).

*The loss estimates provided were produced using HAZUS-MH, a modeling software program produced by FEMA, based on current scientific and engineering standards. All loss estimations have inherent uncertainties, and the actual impacts could be significantly different.

4.3.3.1 Earthquake

A profile of the Earthquake hazard in Faulkner County is provided in Section 4.2.1. The most vulnerable building types are un-reinforced masonry (UFA), tilt up concrete, and pre- 1972 non-ductile concrete frame buildings.

According to Hazus, all of the critical facilities, utility lifelines and transportation systems within the County would be operational on day one. Refer to MODIFIED MERCALLI SCALE.

The impact of future structures would be the same. The trend of building wood homes will continue and Commercial and Shops and barns will typically be constructed of steel.

Earthquakes associated with the Enola swarm have caused no structural damage, although there have been reports of broken china near epicentral areas. Over 40,000 seismic events have occurred in the Enola swarm area since 1982, making it possibly the largest seismic swarm ever recorded in the central United States (Chiu et al., 1984).

4.3.3.2 Flood

A profile of the flood hazard in Faulkner County is provided in Section 4.2.2. Throughout the county there are several hundred structures located within designated floodplains, most having been constructed many years ago, prior to establishment of FEMA's flood-plain program. Though flooding to these structures is rare, through the local flood-plain management programs, the county and the cities are discouraging the construction of improvements and new structures in flood-prone areas.

All types of structures can be vulnerable and become unstable when flooded. Hazus depicts Faulkner County's homes are made up of 22% manufactured housing which are more easily washed off of their foundations in flood events. Future installation of manufactured homes should always include hurricane straps.

Future construction must meet new and improved building codes and floodplain permitting requirements.

Six inches of fast-moving water can knock you off your feet. Water 24 inches deep can carry away most automobiles. Nearly half of all flash flood deaths occur in automobiles as they are swept downstream. Most of these deaths take place when people drive into flooded highway dips of low drainage areas. Flash floods can roll boulders, tear out trees, destroy buildings, and obliterate bridges. Walls of water can reach heights of 10 to 20 feet and generally are accompanied by a deadly cargo of debris.

Direct costs are closely connected to a flood event and the resulting physical damage. In addition to immediate losses and repair costs they include short-term costs stemming directly from the flood event, such as flood fighting, temporary housing, and administrative assistance. By contrast, indirect costs are incurred in an extended time period following a flood. They include loss of business and personal income (including permanent loss of employment), reduction in property values, increased insurance costs, loss of tax revenue, psychological trauma, and disturbance to ecosystems. They tend to be more difficult to account for than direct costs.

4.3.3.3 Severe Thunderstorm

A profile of the Severe Thunderstorm hazards in Faulkner County is provided in Section 4.2.3. All structures within Faulkner County are vulnerable to Severe Thunderstorm making the residents within the county just as vulnerable. The most vulnerable to thunderstorms are wood structures and manufactured homes. An estimated 67% of structures within the County's mitigation planning area are wood frame. The remaining 33% is a combination of structure types to include manufactured homes. Utilities most vulnerable to thunderstorms and Lightning strikes include those identified in table 4.3.2.6 Most transportation systems are not highly vulnerable to tornadoes. All of the critical facilities are vulnerable as well. Due to the fact that these facilities are the ones responsible for first response in emergency situations, they should be a priority for disaster mitigation planning and mitigation measures. All structures in the county and their contents are vulnerable to damage by thunderstorms. Of most concern and the most likely to occur due to thunderstorms, are damages to electrical devices and electrical outages affecting the operations of critical facilities (hospitals, emergency service operations, emergency communications systems, etc). Particularly prone to lightning strikes are communications towers and antenna, which, though most always well grounded, can be damaged by the high voltage. Over the last fifty years, over one million in lightning damage has been known to occur, but this figure is thought to considerably understate the actual amount. Based on available records, thunderstorms are a prevalent activity in Faulkner County. The NOAA NCDC has recorded over 198 thunderstorm/wind events over a fifty year period; on average the county has experienced two events per year. These events resulted in property damage estimated at $176,000. On June 7th and 8th in 1994 Greenbrier, Guy and

Conway each received $50,000 in damages. The winds were estimated to be up to 100 mph, buildings were damages and many trees were blown down.

Future installation of manufactured homes should always include hurricane straps. Future construction must meet new and improved building codes.

4.3.3.4 Tornado

A profile of the tornado hazard in Faulkner County is provided in Section 4.2.4. All structures within Faulkner County are vulnerable to tornadoes making the residents within the county just as vulnerable. The most vulnerable to tornadoes are wood structures and manufactured homes. An estimated 67% of structures within the County's mitigation. planning area are wood frame. The remaining 33% is a combination of structure types to include manufactured homes. Utilities most vulnerable to tornado winds include those identified in table 4.3.2.6 Most transportation systems are not highly vulnerable to tornadoes. All of the critical facilities are vulnerable as well. Due to the fact that these facilities are the ones responsible for first response in emergency situations, they should be a priority for disaster mitigation planning and mitigation measures. The impact of the tornado hazard can be estimated using data acquired from the National Climatic Data Center Severe Storm Database for the years of 1950 to 2005. Based upon this data, the total damage in dollars over this 53-year period was 39.7 million from the result of 47 tornadoes, which equates to more than one tornado per year and approximately $845,000 of damage per year.

On April 10, 1965 a F4 tornado traveled through Faulkner County for 5 miles at a width of 200 yards. There were 6 fatalities and 200 injuries. There were $25 million dollars in property damages.

4.3.3.5 Winter Storm

A profile of the severe winter storm hazard in Faulkner County is provided in Section 4.2.5. The occurrence of severe winter storms can have a substantial impact on Faulkner County. Homes, businesses, as well as weaker nonresidential structures are most vulnerable to this type of structural damage. The abundant wood structures and manufactured houses in the planning area are much more vulnerable than steel, concrete, or masonry structures. Experiences from past storms indicate that poultry houses are particularly vulnerable. An estimated twenty to thirty structures might be impacted in any given year by severe winter storm events, resulting typically in only minor damage to the structures, mainly due to limbs breaking and falling on roofs. Heavy accumulations of ice or heavy snow can also bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days or weeks while utility companies work to repair the damage. Power and communications disruptions are common consequences of ice storms and heavy snow in Faulkner County.

Faulkner County's transportation systems are also vulnerable to severe winter storms. Although the storms rarely result in hazardous structural damage, accumulations of ice and snow may cause extreme hazards to motorists. Travel is hampered by ice or heavy snow because the County lacks sufficient snow removal equipment and road treatments (sand, salt) because of the infrequent occurrence of severe winter storm events.

Severe winter storm events typically affect the entire the county. Even when portions may not be hit as bad as others, when major road networks are affected, it can affect travel flow and the availability of essential services throughout the county.

4.3.3.6 Wildfire

A profile of the wildfire hazard in Faulkner County is provided in Section 4.2.6. Structure location is the primary control on vulnerability to wildfire. All structures within Faulkner County are vulnerable to Wildfires making the residents within the county just as vulnerable. The most vulnerable to wildfires are wood structures and manufactured homes. An estimated 67% of structures within the County's mitigation planning area are wood frame. The remaining 33% is a combination of structure types to include manufactured homes. Structures most vulnerable to wildfire are those located within the wild land-urban interface and wild land-urban intermix such is the case is most of Faulkner County. These are areas where structures and other human development meet or intermix with undeveloped wild land. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. Its expansion in recent years has increased the likelihood that wildfires will threaten structures and people.

Based on Statewide data from the period of 1992 to 2003, the Arkansas Forestry Commission found that the majority of fires in Arkansas were the result of incendiary means. Almost 44% of fires and nearly 58% of acres burned over this twelve-year period were maliciously set. 28% of the fires were from debris burning causing almost 23% of acres burned. Refer to Burn Severity Table.

Increased risk of landslides and erosion are secondary hazards associated with wildfires that occur on steep slopes. Wildfires tend to denude the vegetative cover and burn the soil layer creating a less permeable surface prone to sheetwash erosion. This - in turn – increases sediment load and the likelihood of downslope failure and impact. Wildfires can also impact water quality (e.g., drinking water intakes). During fire suppression activities some areas may need coordinated efforts to protect water resource values from negative impact. Wildfire smoke may also have adverse effects on air quality health standards and visibility, as well as creating nuisance situations. Strategies to limit smoke from active wildfires are limited, but interagency programs exist to alert the public of potential smoke impact areas where hazardous driving or health conditions may occur.

Based on the statistical data, the number of square miles in each county in Arkansas determined to be WUI was calculated. This analysis found that Faulkner County had a total of 1,676.7 square miles

High Density Interface	2.8
High Density Intermix	0.4
Low Density Interface	121.7
Low Density Intermix	434.8
Medium Density Interface	30.9
Medium Density Intermix	30.8
Non-WUI	1055.3
TOTAL	1873.5

4.3.3.7 Drought

A profile of the Drought Hazards in Faulkner County is provided in Section 4.2.8. Although Faulkner County has experienced numerous droughts over the past years, typically drought events have no significant impact on structures. However, reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and damage to wildlife and fish habitat are a few examples of direct impacts. The consequences of these impacts illustrate indirect impacts. For example, a reduction in crop, rangeland, and forest productivity may result in reduced income for farmers and agribusiness, increased prices for food and timber, unemployment, reduced tax revenues because of reduced expenditures, increased crime, foreclosures on bank loans to farmers and businesses, migration, and disaster relief programs

4.3.3.8 Dam Failure

A profile of Dam Failure in Faulkner County is provided in Section **4.2.9.** In Faulkner County, the Toad Suck Dam, located outside the City of Conway is the only permitted Dam that has been rated as a “High Hazard Classification”. Failure of the Toadsuck Ferry Lock & Dam and resultant flooding would directly threaten a state recreation area on the south east bank. Failure of small, non-permitted dams, levees and/or dikes may occur, but the impact would not threaten life or property in a significant manner. Typically these are levees to ponds or small creeks that would flood farm land.

4.3.3.9 Windstorm/High Winds

A profile of the Windstorm/High Winds Hazards in Faulkner County is provided in Section 4.2.10. All of Arkansas falls within Zone 4 as established by the American Society of Civil Engineers (ASCE 7-95) and as such facilities must be built to meet certain design wind speed codes. The most vulnerable to windstorm/high winds are wood structures and manufactured homes. An estimated 67% of structures within the County’s mitigation planning area are wood frame. The remaining 33% is a combination of structure types to include manufactured homes. Tree branches falling on cars or houses produce a significant amount of damage in high wind events. They may down trees and power lines, overturn mobile homes, and cause damage to well-built structures. Refer to the Beaufort Wind scale for damages.

4.3.3.10 Extreme Heat

A profile of the Extreme Heat Hazards in Faulkner County is provided in Section **4.2.11.** There is virtually no impact to structures due to extreme heat. Extreme heat generally affects people rather than property. Heat waves often lead to electricity spikes due to increased air conditioning use, which can create power outages, exacerbating the problem. During the 2006 North American heat wave, thousands of homes and businesses went without power, electrical transformers failed, leaving thousands without power for as long as five days. Severe heat waves can lead to deaths from hyperthermia, also known as heat stroke. Older adults, very young children, and those who are sick or overweight are at a higher risk for heat-related illness. Heat waves are the most lethal type of weather phenomenon, overall. Between 1992 and 2001, deaths from excessive heat in the United States numbered 2,190, compared with 880 deaths from floods and 150 from hurricanes. One public health measure taken during heat waves is the setting-up of air-conditioned public cooling centers.

4.3.4 Assessing Vulnerability – Estimating Potential Losses

4.3.4.1 Earthquake

Faulkner County, Arkansas
Population: 16,798
Buildings: 6,719

	Richter Magnitude	
	7.0 - 7.9	**8.0 - 8.9**
Effects on People		
Percentage Feeling Quake	100%	100%
Serious Injury (night/day)	0 / 12	0 / 60
Fatalities (night/day)	0 / 0	0 / 12
Displaced	600	6,001
Effects on Buildings		
Damage to Contents	50%	80%
Architectural Damage	25%	70%
Slight Structural Damage	5%	45%

Moderate Structural Damage	0.1%	5%
Severe Structural Damage	0%	0.1%
Collapsed Buildings	0%	0%
Effects on Lifelines		
Electric Outage	Possible	Probable
Telephone Outage	Possible	Probable

Source: "Damage Estimates From An Earthquake in the New Madrid Seismic Zone" , Arkansas Office of Emergency Services, 1992

Methodology for loss estimation - This loss estimation is from research and analysis completed by ADEM.

4.3.4.2 Flood

Flooding losses as recorded by the NCDC records estimate damages at 737K property damages and 150K crop damages.

Methodology for loss estimation – All estimates above are based on NCDC database historical records.

4.3.4.3 Severe Thunderstorm

Faulkner County can expect $1,000 damage from Thunderstorms annual. Crop damages and property damages from Hailstorms and Lightening are not included in the NCDC database for Faulkner County.
1 injury roughly every 10 years can be expected to occur, and one death every 46 years.

Methodology for loss estimation- All estimates above are based on NCDC database historical records.

4.3.4.4 Tornado

Faulkner County averages $766,000 in property damage annually. There will average 6 injuries annually and one death every 5 years.

Methodology for loss estimation - According to the NCDC database, there have been 39.838 Million dollars worth of property damage in the last 52 years. There was no crop damage reported.

4.3.4.5 Winter Storm

Winter storms in Faulkner County can cause considerable damage. Ice can create many different forms off problems from electricity loss to actual physical damage. Potential loss estimations in dollars are not available at this time for Faulkner County.

4.3.4.6 Wildfire

Data is not available at this time to estimate potential losses to vulnerable structures in Faulkner County.

4.3.4.7 Drought

Data is not available at this time to estimate potential dollar losses to vulnerable structures in Faulkner County due to drought conditions. Crops are the most vulnerable.

4.3.4.8 Dam Failure

It is impossible to predict Estimated Potential Losses for a dam failure in Faulkner County for several reasons.

1. No Q3 digital data for the county
2. Rural and recreation areas below dam
3. A Swash Zone analysis has not been conducted for Faulkner County and the Toad Suck Ferry Lock and Dam.

4.3.4.9 Windstorm/High Winds

Faulkner County averages $766,000 in property damage annually. There will average 6 injuries annually and one death every 5 years.

Methodology for loss estimation - According to the NCDC database, there have been 39.838 Million dollars worth of property damage in the last 52 years. There was no crop damage reported.

4.3.4.10 Extreme Heat

No displaces, deaths, crop or building damage has been recorded in Faulkner County from Extreme Heat since 1950. Therefore, there is no basis to predict potential loses from tan extreme heat event.

Methodology fro loss estimation – Loss estimation fro extreme heat is impossible to determine with out a viable historical record for the region. Secondary hazard f from Extreme Heat such as wildfire and drought can give a more recordable record. J Both Wildfires and Drought are covered the Faulkner County Plan.

4.3.5 Assessing Vulnerability: Analyzing Development Trends

4.3.5.1 Earthquake

Faulkner County is very diverse in its make up. The City of Conway is a rapidly growing city with a great deal of industry, colleges and the majority of the county's population is in Conway. The rest of Faulkner County is rural with farm fields, livestock and small towns. Most residents enjoy the area having the advantages of having a larger city and living in rural areas.

Most incorporated areas have adopted building codes which take into consideration seismic zoning.

4.3.5.2 Flood

As the cities in Faulkner County continue to grow, drainage has become a problem. Typically older subdivisions are impacted by new construction causing flooding to areas never before seen flooding. Better planning and proper floodplain management will deter this problem.

4.3.5.3 Severe Thunderstorms

The development trends in Faulkner County will not be affected by Severe Thunderstorms.

4.3.5.4 Tornadoes

Faulkner County will continue to grow. Schools are encouraged to install safe rooms in new and existing facilities. There has been and increase in homeowners installing safe rooms and storm shelters over the past ten years.

4.3.5.5 Winter Storm

Infrastructure is a challenge in the ever growing communities of Faulkner County. Land Use and development trends need to recognize the damage incurred in Faulkner County from the 2000 ice storm and incorporate zoning restrictions on new construction to mitigate against future ice storm damage.

4.3.5.6 Wildfire

Most Faulkner County new development is created on the outside perimeter of established urban zones. These new developments are surrounded by farm fields or wooded areas. These developments are at risk for Wildfire damage.

4.3.5.7 Drought

Faulkner County is growing. Expansion of Urban areas in the county would actually reduce the Drought Exposure in Faulkner County.

4.3.5.8 Dam Failure

The area around the Toad Suck Ferry Lock and Dam is a state recreational park owned by the Corp. of Engineers limiting development of residential or commercial.

4.3.5.9 Windstorm/High Winds

Faulkner County continues to be affected by frequent wind storms. Safe rooms and storm shelters will help to protect people. There has been an increase in the installation of these shelters in the last ten years.

4.3.5.10 Extreme Heat

Development trends in Faulkner County that involve new construction will create working and living environments that are extreme heat resistant. Updated HV/AC systems as well as modern water control structures will ease the potential effects of extreme heat.

4.3.6 Multi-Jurisdictional Risk Assessment

IFR REQUIREMENT 201.6©(2)(iii):	For multi-jurisdictional plans, the risk assessment must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.
Explanation:	The multi-jurisdictional plan **must** present information for the general planning area as a whole as described in the previous paragraphs. However, where hazards and associated losses occur in only part of the planning area, this information **must** be attributed to the particular jurisdiction in which they occur. Further, where unique construction characteristics occur, they *should* be indicated on the plan so that appropriate mitigation actions are considered.

Not all parts of Faulkner County are equally at risk to each hazard. Table 4.3.2.1 below shows which hazard each jurisdiction is susceptible to. A summary of how each hazard affects each jurisdiction follows.

	Unincorp. Faulkner County	Conway	Damascus	Enola	Greenbrier	Guy	Holland	Mayflower	Mt. Vernon	Twin Groves	Vilonia	Wooster	Conway School	Guy-Perkins School	Greenbrier Schools	Mayflower School	Mt. Vernon/Enola Schools	Vilonia Schools	University of Central Ark	Central Baptist College	Hendrix University
Earthquake	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Flood	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severe Thunder Storm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tornado	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Winter Storm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wildfire	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Drought	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dam Failure	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Windstorm	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Extreme Heat	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

4.3.6.1 Multi-Jurisdictional Assessment for Earthquake

The threat of an earthquake in Faulkner County and the jurisdictional areas is minimal. In order for there to be significant damage, it would have to be a large scale earthquake event; with the exception of Enola. Earthquakes associated with the Enola swarm have caused no structural damage, although there have been reports of broken china near epicentral areas. Over 40,000 seismic events have occurred in the Enola swarm area since 1982, making it possibly the largest seismic swarm ever recorded in the central United States (Chiu et al., 1984).

4.3.6.2 Multi-Jurisdictional Assessment for Flood

Flooding in Faulkner County is a hazard that has been documented as being County wide in some instances. The only jurisdictional areas that have been noted as having a flooding occurrence have been in Conway, Greenbrier, Vilonia, Wooster. There has in the past been flooding events causing damage to roads and bridges in the county, principally along county-maintained roads.

4.3.6.3 Multi-Jurisdictional Assessment for Severe Thunderstorm

The threat of severe thunderstorm occurrences does not seem to be unique to any particular area of the county. The threat is countywide and with no significant variation at the county or jurisdictional levels. Within the other jurisdictional areas, the cities of Conway, Greenbrier and Vilonia have experienced more thunderstorms than the other jurisdictions this may be simply due to the size of the land that encompasses those jurisdictions. .

4.3.6.4 Multi-Jurisdictional Assessment for Tornado

The risks of tornados extend throughout the County. There is not an area that can be declared "immune" from the impact of this hazard. Nor can there be an area that is more or less vulnerable. However, in regard to construction type, a vulnerability analysis can be determined. Manufactured homes have proven to be the most vulnerable construction type. When in concentrated areas of the county, which is usually in the unincorporated areas, they tend to experience more damage. Unfortunately, with the absence of building codes and a building permit process, it is difficult to influence the anchoring of the manufactured homes.

4.3.6.5 Multi-Jurisdictional Assessment for Winter Storm

Severe Winter Storms do not seem to be unique to any particular area in Faulkner County. The threat is considered to be countywide with no significant variation at the county or jurisdictional level.

4.3.6.6 Multi-Jurisdictional Assessment for Wildfire

The threat of wildfire in Faulkner County and the jurisdictional areas give reason for concern. The Ouachita National Forest is in part of the county and increases the probability for a large scale wild fire. Faulkner County had a total of 308 fires over a 12 year period and ranked 31st in the state for the most fires reported.

4.3.6.7 Multi-Jurisdictional Assessment for Drought

Droughts are not unique to any particular area in Faulkner County. The threat is considered to be countywide with no significant variation at the county or jurisdictional level.

4.3.6.8 Multi-Jurisdictional Assessment for Dam Failure

Failure of the Toadsuck Dam located outside the City of Conway and resultant flooding would directly threaten many structures. Data is not available to say what type or how many structures. Failure of the Toad Suck Dam would create a very high risk to human life and excessive economic loss. Failure of small, non-permitted dams, levees and/or dikes may occur, but the impact would not threaten life or property in a significant manner.

4.3.6.9 Multi-Jurisdictional Assessment for Windstorm/High Winds

The threat of High Wind occurrences does not seem to be unique to any particular area of the county. The threat is countywide and with no significant variation at the county or jurisdictional levels. Within the other jurisdictional areas, the cities of Conway and Greenbrier have experienced more than one High Wind occurrence per a given year.

4.3.6.10 Multi-Jurisdictional Assessment for Extreme Heat

The threat of Extreme Heat occurrences does not seem to be unique to any particular area of the county. The threat is countywide and with no significant variation at the county or jurisdictional levels. Typically Extreme Heat affects the elderly and outside laborers and animals that can experience heat stroke.

SECTION 5. MITIGATION STRATEGY

5.1. Local Hazard Mitigation Goals

IFR REQUIREMENT 201.6(c)(3)(i):	[The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
Explanation:	The community's hazard reduction goals, as described in the plan, along with any corresponding objectives, guide the development and implementation of mitigation actions. This section **shall** list the goals intended to reduce or avoid the effects of the identified hazards addressed in the risk assessment. The description *should* include how goals were developed. The goals could be developed early in the planning process and refined based on the risk assessment findings, or developed entirely after the risk assessment is completed. They *should* also be compatible with the goals of the community as expressed in other community plan documents. Although the Rule does not require a description of objectives, communities are highly encouraged to include objectives developed to achieve the goals so that reviewers understand the connection between goals, objectives, and activities. The goals and objectives *should*: ▪ Be based on the findings of the local and State risk assessments; and Represent a long-term vision for hazard reduction or enhancement of mitigation capabilities.

Based upon the results of the risk assessment, the Faulkner County Hazard Mitigation Planning Team, with input from local jurisdictions, developed goals and objectives and selected those that were determined to be of greatest benefit in hazard reduction to the County. The goals and objectives are as follows:

Goal 1. **Reduce the potential for loss of life, injury and economic damage created by exposure to natural hazards for residents of Faulkner County.**

Objective 1 Enhance and maintain county capability to implement a comprehensive countywide hazard loss reduction strategy

> **Objective 1.1** Integrate overall mitigation strategies into the community's current and future capital improvements program and planning efforts to ensure that new projects have a minimal associated risk.

Objective 1.2 Formulate strategies using state of the art knowledge to reduce vulnerability to natural hazards

Objective 1.3 Identify Mitigation grant opportunities for Faulkner County and city governments, non-profit agencies, and the general public, and provide effective technical support in pursuit of grants for hazard mitigation measures.

Objective 2 Implement public education initiatives to improve understanding of natural hazards and hazard mitigation.

Objective 2.1 Design mitigation website for Faulkner County with link to public view of the Faulkner County Mitigation Plan and mitigation strategies.

Objective 2.2 Faulkner County and all jurisdictions included in the mitigation plan should participate in the National Flood Insurance Program (NFIP), the Community Rating System (CRS), the Firewise Communities/USA program, the National Weather Service StormReady Program, Disaster Resistant Community Council and FEMA's Cooperating Technical Partners (CTP) program (participation in the above programs is part of the State ranking criteria for funding mitigation proposals).

Objective 2.3 Educate the public about the risks associated with natural hazards and the steps they can take to be prepared.

Objective 2.4 Initiate programs to promote on-going partnerships within the community to address mitigation and emergency management.

Objective 3 Implement public works projects that improve the protection of important developed areas in the community.

Objective 3.1 All Jurisdictions in Faulkner County will be requested to join PAgis, the community GIS database for Central Arkansas as a tool for mitigation planning.

Objective 3.2 Implement voluntary and regulated programs to ensure the continued improvement to building structures, locations and on-going emergency planning initiatives that improve the protection of critical infrastructure and county emergency management facilities.

Objective 3.3 Create a Community Assets Database of all County properties and all properties owned or managed by communities in the multi-jurisdictional mitigation plan.

Objective 3.4 Continually assess and evaluate the requirements for new structural projects that aid in the reduction of risk to the community.

5.2. Identification and Analysis of Mitigation Actions

IFR REQUIREMENT 201.6(c)(3)(ii):	[The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.
Explanation:	The local jurisdiction **shall** list potential loss reduction actions it has identified in its planning process and evaluate various actions that achieve the community's goals and objectives to reduce or avoid the effects of the identified hazards. Mitigation actions **shall** address **existing** and **new** buildings and infrastructure. Not all of the mitigation actions identified may ultimately be included in the community's plan due to limited capabilities, prohibitive costs, low benefit/cost ratio, or other concerns. The process by which the community decides on particular mitigation actions *should* be described. This description can include who participated in the evaluation and selection of actions. The information will also be valuable as part of the alternative analysis for the National Environmental Policy Act (NEPA) review required if projects are Federally funded.

Mitigation Actions

The Faulkner County Hazard Mitigation Planning Team has identified **65** mitigation actions to reduce long term due to exposure natural hazards. Of these **32** have been identified as multi-hazard actions. The remaining **33** actions are aimed at reducing loss of life and property due to a specific hazard and are identified and explained again in the table as they refer to each hazard assessed.

The mitigation actions are prioritized based upon their effect on the overall risk to life and property, ease of implementation, community and agency support, and ease of obtaining funding. The County has used the STAPLEE method to prioritize mitigation action. Considerations are summarized in the following table.

Prioritization and Review Criteria

Evaluation Category	Sources of Information
Social	Members of Local governments and the County Government were members of the Hazard Mitigation Planning Team and had input throughout the planning process. It must be noted that many small town political leaders are also business or professional persons. They are also members of the FCLEPC Existing community plans will be used wherever possible. Members of the Media were contacted and invited to all attend all FCHMPT meetings.
Technical	The following Persons/Agencies were consulted as to the technical feasibility of the various projects: Arkansas Geological Commission, University of Arkansas Extension Service, Arkansas Soil and Water Conservation Commission, Arkansas Health Departments, Arkansas Highway and Transportation Department, Arkansas Department of Environmental Quality, Arkansas Governor's Pre-Disaster Advisory Council, Arkansas Governor's Earthquake Advisory Council, and Arkansas Forestry Service. All of these had their comments and suggestions incorporated.
Administrative	Staffing for proper implementation of the plan currently will rely on existing members of the various agencies involved. It is the opinion of the FCHMPT that insufficient staff is available due to budget constraints, as the staff has been cut to a minimum and many agencies have staff members that are overloaded. Technical assistance is available from various state agencies. Some local jurisdictions have incorporated Hazard Mitigation efforts into their Capital Improvement Plans. Operations Costs are under discussion by the relevant department heads.
Political	The Faulkner County Quorum Court has passed resolutions in support of mitigation activities involving floodplain ordinances, mitigation planning, fire districts, among others. The Governor of Arkansas issued an Executive Order in August of 2004 (EO 04-02) instructing all state agencies to assist ADEM in mitigation planning and implementation of mitigation goals.
Legal	Members of the FCHMPT discussed legal issues with the County Commissioners, and it was their opinion that no significant legal issues were involved in the projects that were selected by the FCHMPT.
Economic	Economic issues were the predominant issues discussed by all concerned. Each entity felt that the projects selected would have a positive effect, in that the projects would attract business and recreation to the areas and help the community be better prepared for a disaster. Funding for the various projects was a major concern as local budgets were not capable of fulfilling the needs due to the economic down turn. Outside grants will be relied on heavily for completion of projects.
Environmental	The Arkansas Geological Commission, Arkansas Department of Environmental Quality, Arkansas Forestry Commission, and Arkansas Soil and Water Conservation Commission were all consulted as to the environmental impact of the various projects and it was felt that there would be no negative impact. Local governments are currently considering zoning of environmentally sensitive areas.

In the table of mitigation actions that follows, the explanation of how the criterion outlined above was used by the FCHMPT to prioritize each action is presented in a column with each action. Very High priority actions were those deemed both very necessary to meeting the goals agreed upon and listed at the head of each subsection of mitigation actions, as well as those that fit well with the criteria listed in the STAPLEE table above. High Priority actions were those deemed very necessary to meeting the listed goals, but not meeting all of the STAPLEE, particularly technical feasibility or cost effectiveness. Medium Priority actions are those that are deemed important to meeting the mitigation goals, and may be of questionable economic feasibility or technically difficult to implement. All of the actions have been deemed environmentally sound. Actions are not sequential; each high priority action is an ongoing effort by PCOEM to meet each of the broad Mitigation Goals.

The identified mitigation actions and initiatives in this section are not in a 1-2-3 priority order. Availability of funding, weather conditions, county matching, outside agency assistance, and changing economic and development trends may cause some actions to begin before others. But it is considered important that all very high priority actions should begin as soon as possible. The following table summarizes the actions by priority.

VERY HIGH PRIORITY

Hazard	Number	Action	STAPLEE
Flood	**F-01**	City of Conway – a Storm water detention area upstream of downtown Conway area is needed to reduce the frequent flooding which occurs downtown. The flooding also hampers the emergency service traffic route.	Meets all criteria
Flood	**F-02**	City of Conway – Additional storm drainage capacity is needed to accommodate storm water from downtown.	Meets all criteria
Flood	**F-03**	City of Greenbrier – Repetitive flooding of houses on Linder Road. Good candidate for HMGP Acquisition project	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-01**	Upgrade emergency communication equipment such as Mobile Data Transmitter for patrol cars.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-02**	Develop brochures, a website, educational programs, and public services announcements to increase public awareness of hazards to which Faulkner County residents are exposed and potential mitigation measures that may be undertaken.	Meets all criteria/ cost effectiveness under consideration
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	**MH-03**	Acquire generators for all Faulkner County shelters, city halls, emergency operations centers, and other critical facilities that do not presently have them to maintain power and water during disasters (protect against further damage)	Meets all criteria
Multi-Hazard (Earthquake, Tornadoes, Winter Storms,	**MH-04**	Faulkner County and Damascus – Need special Excavation and Trenching Rescue Equipment	Meets all criteria

Wildfires)		and training. This is unique to this area due to the recent growth of Natural Gas drilling.	
Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	**MH-05**	City of Conway needs a mobile command center for use during Tornadoes, Severe Winter Storms, Earthquakes and other natural disasters.	Meets all criteria/ economic viability under consideration
Multi-Hazard (Thunderstorm, High Winds, Earthquake)	**MH-06**	Obtain funding for safe-room construction in Cities and County facilities and schools.	Meets all criteria
Multi-Hazard (Thunderstorm, High Winds, Earthquake)	**MH-07**	Request manufacturers to use of clips and anchors in new construction and retrofitting existing structures.	Meets all criteria
Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	**MH-08**	Universities – Ensure all building administrators have severe weather action plans	Meets all criteria / Technical feasibility under consideration
Wildland Fires	**WF-01**	There is a need to upgrade existing fire fighting equipment including such things as chainsaws.	Meets all criteria
Wildland fires	**WF-02**	Work with Arkansas Forestry Commission to improve risk assessment by determining losses due to wildland fires in the County	Meets all criteria
Wildland Fires	**WF-03**	Enact codes to require homeowners to clear dead vegetation which can fuel wildfires.	Meets all criteria
Wildland Fires	**WF-04**	Damascus – Fire Fighting Equipment for "Flammable Gases and Liquids". With the Natural Gas Drilling operations, there are many gallons of fuels stored and transported in the area. Firefighters need Fire Fighting Apparatus with Foam Capabilities.	Meets all criteria/ economic feasibility under consideration

HIGH PRIORITY ACTIONS

Hazard	Number	Action	STAPLEE
Flood	**F-04**	Mayflower – Flooding occurs on Popular Street south of Hwy. 89 in the Franklin T. Booher Community. Canals need rerouted and overall drainage improved.	Meets all criteria
Flood	**F-05**	Mayflower – Flooding occurs on Cross Street. Drainage improvements needed.	Meets all criteria
Flood	**F-06**	Vilonia – The North Fork cypress Creek overflows its banks and causing flooding South Church Street. Drainage improvements are needed as well as upgrading the storm drains.	Meets all criteria
Flood	**F-07**	Encourage Property owners to engage in Beaver control projects.	Meets all criteria
Flood	**F-08**	Provide support for structural and non-structural mitigation measures for properties in the 1%-annual-chance floodplain.	Meets all criteria
Flood	**F-09**	Universities – Conduct a Flood Study of University Campuses to determine areas prone to flooding and what corrective measures are necessary.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-09**	The FCLEPC will promote the acquisition of all-hazard radios for all schools, city halls, large businesses, churches, and other locations where large numbers of people congregate. Provide information to public on importance of having and how to acquire.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-10**	Ensure proposed mitigation projects are in conformance with the State of Arkansas Hazard Mitigation Plan and State mitigation priorities.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter	**MH-11**	Advertise and encourage participation in State of Arkansas safe room program.	Meets all criteria

Storms, Wildfires, Drought, Dam Failure, Extreme Heat)			
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-12**	Ensure that the current version of the Faulkner County Hazard Mitigation Plan is easily accessible to the general public (e.g., online, in local libraries) for public input on Plan updates.	Meets all criteria/ economic feasibility under consideration
Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-13**	Faulkner County – MSDS sheet to let emergency personnel know what is being stored in the area. Large concern of the amount of chemicals being stored in the area.	Meets all criteria/ economic feasibility under consideration
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-14**	Use GIS mapping to identify past hazard locations and identify lifelines that are to be protected.	Meets all criteria
Multi-Hazard (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-15**	Universities – Establish locations suitable for use as long-term shelters and plan for providing emergency power, climate control and ventilation, cots, food and potable water, linens and emergency medical supplies.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure)	**MH-16**	Identify and maintain outside water sources in neighborhoods. (small ponds, cisterns, wells, pools, hydrants, etc) for approved use during disaster.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-17**	The FCLEPC will encourage adoption of building codes to ensure safe construction.	Meets all criteria
Multi-Hazard (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	**MH-18**	Faulkner County – Additional search and rescue equipment is needed such as skid for the helicopter, Fleer system and search light; also 4 wheel drive all terrain vehicles..	Meets all criteria
Multi hazard (Earthquake, Floods,	**MH-19**	Upgrade Sirens. May areas have an	Meets all criteria

Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)		inadequate number of sirens but most need new updated versions.	
Multi hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-20**	Include mitigation awareness efforts in all FCLEPC meetings.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-21**	Increase road-clearing capabilities	Meets all criteria
Severe winter weather	**SW-01**	Ensure public facilities have severe weather action plans.	Meets all criteria
Severe winter weather	**SW-02**	Universities - Acquire adequate studded snow tires/chains for emergency and service vehicles and other equipment needed on campus for road clearing	Meets all criteria
Severe winter weather	**SW-03**	Faulkner County – Studded tires for vehicles during ice storms.	Meets all criteria
Multi hazard (High Winds, Thunderstorm, Earthquake)	**MH-22**	Enact manufactured home regulations to ensure use of tie-downs and anchoring in new buildings and existing mobile structures.	Meets all criteria
Wildland Fires	**WF-05**	Damascus - Pumper and Pumper/Tanker vehicles are needed to improve fire protection.	Meets all criteria/ economic feasibility under consideration
Wildland Fires	**WF-06**	Universities – Train volunteers in fire fighting techniques and acquire basic fire fighting equipment.	Meets all criteria/ economic feasibility under consideration
Wildland Fires	**WF-07**	Encourage formation of neighborhood wildfire safety coalitions.	Meets all criteria
Wildland Fires	**WF-08**	Encourage installation of smoke detectors, fire alarms and fire extinguishers.	Meets all criteria/ economic feasibility under consideration

MEDIUM PRIORITY ACTIONS

Hazard	Number	Action	STAPLEE
Drought	**D-01**	Work with Arkansas Soil and Water Conservation Commission to determine losses in Faulkner County due to drought	Meets all criteria
Flood	**F-10**	City of Vilonia – North Fork Cypress Creek overflows its banks and floods several streets including: Elizabeth, Church, Simpson, and Marshall. The bridge needs to be raised as well as the road.	Meets all criteria
Flood	**F-11**	City of Wooster – Arkansas State Highway 25 to the south of Wooster floods often. The highway department would need to review and make improvements.	Meets all criteria
Flood	**F-12**	City of Wooster – 2 small tributaries of Greenbrier Creek, coming off of Horseshoe Mountain, on the North side of town will flood over Arkansas State Highway 25. The highway department would need to review and make improvements.	Meets all criteria
Flood	**F-13**	County and local governments will evaluate current zoning laws and floodplain development regulations and will adopt new laws and regulations as deemed necessary.	Meets all criteria
Flood	**F-14**	Design and implement in-stream erosion reduction program.	Meets all criteria
Flood	**F-15**	Inventory repetitive loss structures for removal or retrofitting.	Meets all criteria
Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	**MH-23**	Universities - Establish an emergency notification system capable of delivering immediately to the campus community any emergency messages or safety information.	Meets all criteria/ cost effectiveness under consideration
Multi hazard (Earthquake, Floods,	**MH-24**	City of Conway - Additional rescue	Meets all criteria

Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)		equipment is needed: heavy rescue, water rescue and saws and hand tools.	
Multi hazard (Earthquake, Floods, Thunderstorm, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	**MH-25**	City of Conway - Shelter equipment and supplies are needed for facilities designated as shelters.	Meets all criteria
Multi hazard (Earthquake, Floods, Thunderstorm, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-26**	City of Conway - Haz-mat equipment is needed for spills and ruptures from chemical facilities and/or natural gas wells, as well as for monitoring these sorts of emergencies. This would benefit all areas in Faulkner County	Meets all criteria
Multi-Hazard (Earthquake, Floods, Thunderstorm, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-27**	Damascus – The City needs area to house Emergency Vehicles.	Meets all criteria
Multi-Hazard (Earthquake, Floods, Thunderstorm, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires)	**MH-28**	Faulkner County – Second Chance Body Armor	Meets all criteria
Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	**MH-29**	Universities – Identify routes and transportation methods for campus evacuation and relocation.	Meets all criteria
Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	**MH-30**	Faulkner County – Two ACIC computers are needed for the command post. Update 911communication terminals.	Meets all criteria/ Cost effectiveness under consideration
Multi-Hazard (Multi-Hazard (Earthquake, Floods, Thunderstorm, Hail, High Winds,	**MH-31**	The FCLEPC will study efficacy of tornado warning sirens and continually monitor siren status.	Meets all criteria/ Technical feasibility under consideration

Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat			
Multi-Hazard (Thunderstorms, High Winds, Tornadoes, Winder Storms)	**MH-32**	Bury or otherwise protect electric and other utility lines.	Meets all criteria / Economic viability under consideration
Wildland Fires	**WF-09**	City of Conway - Tanker fire apparatus is needed for firefighting and water supply during disasters in the absence of municipal water supply.	Meets all criteria /economic viability under consideration
Wildland Fires	**WF-10**	Mayflower – Needs to upgrade tanker truck	Meets all criteria/ economic viability under consideration
Wildland Fires	**WF-11**	Mayflower – Needs an additional fire substation on Hwy. 89 North.	Meets all criteria/ economic viability under consideration
Wildland Fires	**WF-12**	All communities should join Fire Wise program at firewise.org.	Meets all criteria

5.3. Implementation of Mitigation Actions

IFR REQUIREMENT 201.6(c)(3)(iii):	[The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
Explanation:	After outlining the mitigation actions to be included in the mitigation strategy, the local jurisdiction **shall** describe the method for prioritizing the order in which actions will be implemented. Considerations that may be used to prioritize actions include: social impact, technical feasibility, administrative capabilities, and political and legal effects, as well as environmental issues. When prioritizing mitigation actions, local jurisdictions **shall** consider the benefits that would result from the mitigation actions (including projects) versus the cost of those actions. Note that the Rule **does not require** a cost-benefit analysis for actions. However, an economic evaluation is essential for selecting one or more actions from among many competing ones. This (and other

	considerations) *should* be debated and discussed as part of the planning team's and/or larger community's decision-making process. A possible result of these local discussions *could* be the decision to complete a formal cost-benefit evaluation of the various mitigation approaches that are technically appropriate for the situation. However, this is not required to be included in the plan. The requirement of 44 CFR 201.6 (c)(3)(iii) is met as long as the economic considerations are summarized in the plan as part of the community's analysis of "the comprehensive range of specific mitigation actions and projects being considered … ." Among ways to address this requirement are: ▪ Assessing the economic impact of one action compared to another. ▪ Showing how one type of action costs more than another to achieve the same benefit. ▪ Showing that funding is available for one type of action but not another. ▪ Demonstrating that the economic goals of your community are better served by one action instead of another. This section **shall** also include how actions will be implemented and administered. The plan **shall** include the agency or personnel responsible for carrying out the actions, the funding sources, and the implementation timeline. This section can also include a cost estimate or budget for each action, when available.

The table below provides a comprehensive list of mitigation actions considered by the County and local jurisdictions by the PCMPT. The table includes information on STAPLEE criteria listed in the table in the previous section, as well as the responsible agencies, timelines for implementation, rationale for action, and contribution to mitigation objectives. The PCOEM shall be responsible for evaluating actions among competing actions listed in the table below. No cost estimates or cost-benefit analyses are available at present. The PCOEM shall evaluate actions using cost-benefit review, comparative value to mitigation objectives, and consideration of economic benefits and environmental concerns of the communities

Very High priority actions; those deemed both very necessary to meeting the goals agreed upon and listed at the head of each subsection of mitigation actions, as well as those that fit well with the criteria listed in the STAPLEE table above.

Action #	Actions	Responsible Agency	Projected Timeline	Projected Resources	Rationale for Action	Contribution to Mitigation Objective	Responsible Jurisdiction
F-01	City of Conway – a Storm water detention area upstream	FCOEM, FCLEPC	2 years	Existing County and local	Prevent repetitive flood damage to new	Seeks to protect citizens and	Faulkner County and City of

	of downtown Conway area is needed to reduce the frequent flooding which occurs downtown. The flooding also hampers the emergency service traffic route.			resources, PDM, City of Conway	and existing buildings	property	Conway
F-02	City of Conway – Additional storm drainage capacity is needed to accommodate storm water from downtown.	FCOEM, FCLEPC	2 years	Existing County, City of Conway and local resources, PDM	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Conway
F-03	City of Wooster – Repetitive Flooding on West end of Linder lane. Greenbrier Creek overflows the banks. Candidate for HMGP acquisition project.	FCOEM, FCLEPC	2 years	Existing County, City of Greenbruer and local resources, PDM	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Greenbrier
MH-01 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	Upgrade emergency communication equipment such as Mobile Data Transmitter for patrol cars.	FCOEM, FCLEPC	Ongoing	Existing County, Cities and local resources, FMA	First responders protect property and life	Provides access for response and mitigation activities	Faulkner County and participating cities
MH-02 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	Develop brochures, a website, educational programs, and public services announcements to increase public awareness of hazards to which Faulkner County residents are exposed and potential mitigation measures that may be undertaken.	FCOEM, FCLEPC, ADEM	Ongoing	Existing County, Cities, Schools and local resources	LEPCs are all involved in local mitigation planning; awareness of opportunities important first step of mitigation	Links Mitigation with preparedness	All participating jurisdictions
MH-03 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	Acquire generators for all Faulkner County shelters, city halls, emergency operations centers, and other critical facilities that do not presently have them. To maintain power and water during disaster (protect against further damages)	FCOEM, FCLEPC	1 Year	Existing County, cities and local resources, PDM	First responders protect property and life	Provides access for response and for mitigation activities	Faulkner County and participating cities
MH-04 (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Faulkner County and Damascus – Need special Excavation and Trenching Rescue Equipment and	FCOEM, FCLEPC	2 year	Faulkner County, City of Damascus, local resources; PDM, DHS	First responders protect property and life	Seeks to protect citizens and property and improve risk	Faulkner County and City of Damascus

	training. This is unique to this area due to the recent growth of Natural Gas drilling.					assessment	
MH-05 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	City of Conway needs a mobile command center for use during Tornadoes, Severe Winter Storms, Earthquakes and other natural disasters.	FCOEM, FCLEPC	1 year	Faulkner County, cities, schools and local resources; PDM, DHS, Forestry Commission	First responders protect property and life	Seeks to protect citizens and property and improve risk assessment	All participating jurisdictions
MH-06 (Tornado, High Winds, Earthquakes)	Obtain funding for safe-room construction in Schools, Cities and County facilities.	FCOEM, FCLEPC, ADEM, Governor's Office	1 year	HMGP, Faulkner County, Cities, and Schools	Tornado damage and loss of life important hazard	Safe rooms save lives	All participating jurisdictions
MH-07 (Tornado, High Winds, Earthquakes)	Encourage the use of clips and anchors in new construction and retrofitting existing structures.	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities, school and local resources	Lessen or eliminate damage from earthquakes and tornadoes	Seeks to protect citizens and property	All participating jurisdictions
MH-08 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	Universities – Ensure all building administrators have severe weather action plans	FCOEM, FCLEPC	1 years	Faulkner County, Cities, schools and local resources	GIS best technology for risk identification and assessment	Current use by County of GIS information should be standardized	All participating jurisdictions
WF-01	There is a need to upgrade existing fire fighting equipment including such things as chainsaws.	FCOEM, FCLEPC	2 year	Faulkner County, Cities; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	Faulkner County and participating Cities
WF-02	Work with Arkansas Forestry Commission to improve risk assessment by determining losses due to wildland fires in the County	FCOEM, AFC	2 years	Faulkner County, Cities and local resources PDM	Improves understanding of risk from wildland fires	Seeks to protect citizens and property and improve risk assessment	Faulkner County and participating Cities
WF-03	Enact codes to require homeowners to clear dead vegetation which can fuel wildfires.	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources, PDM	Lessen or eliminate damage from wildland fires	Seeks to protect citizens and property	Faulkner County and participating Cities
WF-04	Damascus – Fire Fighting Equipment for "Flammable Gases and Liquids". With the Natural Gas Drilling	FCOEM, FCLEPC	1 year	Faulkner County, City of Damascus, Existing local resources; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property	Faulkner County and participating Cities

	operations, there are many gallons of fuels stored and transported in the area. Firefighters need Fire Fighting Apparatus with Foam Capabilities.						

High Priority actions: those deemed very necessary to meeting the listed goals, but may not meet all of the STAPLEE criteria, particularly technical feasibility or cost effectiveness.

Action #	Actions	Responsible Agency	Projected Timeline	Projected Resources	Rationale for Action	Contribution to Mitigation Objective	Responsible Jurisdiction
F-04	Mayflower – Flooding occurs on Popular Street south of Hwy. 89 in the Franklin T. Booher Community. Canals need rerouted and overall drainage improved.	FCOEM, FCLEPC	3 years	Faulkner County, City of Mayflower and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Mayflower
F-05	Mayflower – Flooding occurs on Cross Street. Drainage improvements needed.	FCOEM, FCLEPC	3 years	Faulkner County, City of Mayflower and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Mayflower
F-06	Vilonia – The North Fork Cypress Creek overflows its banks causing flooding on South Chruch Street. Drainage improvements are needed as well as upgrading the storm drains	FCOEM FCLEPC ADEM	2 years	Faulkner County, City of Vilonia and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Vilonia
F-07	Encourage Property owners to engage in Beaver control projects.	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources, FMA	Prevent repetitive flood damage	Seeks to protect citizens and property	Faulkner County and participating Cities
F-08	Provide support for structural and non-structural mitigation measures for properties in the 1%-annual-	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources, FMA	Prevent repetitive flood damage	Seeks to protect citizens and property	Faulkner County and participating Cities

	chance floodplain.						
F-09	Universities – Conduct a Flood Study of University Campuses to determine areas prone to flooding and what corrective measures are necessary.	FCOEM, FCLEPC	3 years	Faulkner County, Schools and local resources, FMA	Prevent repetitive flood damage	Seeks to protect citizens and property and improve risk assessment	Faulkner County and Schools
MH-09 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	The FCLEPC will promote the acquisition of all-hazard radios for all schools, city halls, large businesses, churches, and other locations where large numbers of people congregate. Provide information to public on importance of having and how to acquire.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Cities, Schools and local resources, PDM	Involves encouragement of participation at all public and private levels	All hazard radios essential warning tool	All participating jurisdictions
MH-10 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	Ensure proposed mitigation projects are in conformance with the State of Arkansas Hazard Mitigation Plan and State mitigation priorities.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Cities, Schools and local resources	ADEM grantor of all mitigation grant programs	Provides legal underpinning for mitigation activities	All Participating Jurisdictions
MH-11 (Earthquake, Thunderstorm, High Wind, Tornadoes,)	Advertise and encourage participation in State of Arkansas saferoom program.	FCOEM, FCLEPC, ADEM	1 year	Faulkner County, Cities, Schools and local resources	Tornado damage and loss of life important hazard	Safe rooms save lives	All participating jurisdictions
MH-12 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	Ensure that the current version of the Faulkner County Hazard Mitigation Plan is easily accessible to the general public (e.g., online, in local libraries) for public input on Plan updates.	FCOEM, FCLEPC	1 year	Faulkner County, Cities, Schools and local resources	Involves encouragement of participation at all public and private levels	Involves ongoing efforts on mitigation	All participating jurisdictions
MH-13 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, , Dam Failure)	Faulkner County – MSDS sheet to let emergency personnel know what is being stored in the area. Large concern of the amount of chemicals being stored in the area.	FCOEM, FCLEPC	1 year	Faulkner County, Cities and local resources	Involves encouragement of participation at all public and private levels	Seeks to protect citizens and property	Faulkner County and participating cities
MH-14 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires,	Use GIS mapping to identify past hazard locations and identify emergency response lifelines that are to be	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources, FMA, PDM	Lifelines essential to maintain adequate response	Encourage assistance from all stakeholders	Faulkner County and participating cities

Drought, Dam Failure, Extreme Heat)	protected.						
MH-15 (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Universities – Establish locations suitable for use as long-term shelters and plan for providing emergency power, climate control and ventilation, cots, food and potable water, linens and emergency medical supplies.	FCOEM	ongoing	Faulkner County, schools and local resources PDM	Disaster Preparedness	Seeks to protect citizens and property	Faulkner County and schools
MH-16 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure)	Identify and maintain outside water sources in neighborhoods (small ponds, cisterns, wells, pools, hydrants, etc) for approved use during disasters.	FCOEM, FCLEPC, ADEM	1 year	PDM, Faulkner County and Cities	Continuation of water service essential for response and mitigation	Encourage assistance from non-profits	Faulkner County and participating cities
MH-17 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	The FCLEPC will encourage adoption of building codes to ensure safe construction.	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources	Tornado and earthquake damage and loss of life important hazard	Safe rooms save lives	Faulkner County and participating cities
MH-18 (Earthquake, Floods, Thunderstorm, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Faulkner County – Additional search and rescue equipment is needed such as skid for the helicopter, Fleer system and search light; also 4 wheel drive all terrain vehicles.	FCOEM	1 year	Faulkner County and local resources PDM	First responders protect property and save lives	Seeks to protect citizens and property	Faulkner County
MH-19 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	Upgrade Sirens. May areas have an inadequate number of sirens but most need new updated versions.	FCOEM, FCLEPC	1 year	Faulkner County, cities and local resources, ADEM, DHS	Save lives with quick response the disasters	Sirens are essential warning tools	Faulkner County and participating cities
MH-20 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure, Extreme Heat)	Include mitigation awareness efforts in all FCLEPC meetings.	FCOEM, FCLEPC, ADEM	1 year	Faulkner County, cities, school, PDM	Disaster Preparedness	Encourage assistance from non-profits	All participating jurisdictions
MH-21 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Increase road-clearing capabilities	FCOEM	1 year	Faulkner County, Cities and local resources PDM	Lessen or eliminate problems with emergency response and business interruptions	Seeks to protect citizens and property	Faulkner County and participating cities

SW-01	Ensure public facilities have severe weather action plans.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Cities and local resources PDM	Lessen or eliminate problems with emergency response and business interruptions	Plans before disaster lessen response time and protect life and property	Faulkner County and participating cities
SW-02	Universities - Acquire adequate studded snow tires/chains for emergency and service vehicles and other equipment needed on campus for road clearing	FCOEM	2 years	Faulkner County, Cities and local resources PDM, DHS	Lessen or eliminate problems with emergency response	Seeks to protect citizens and property	Faulkner County and participating cities
SW-03	Faulkner County – Studded tires for vehicles during ice storms.	FCOEM	2 years	Faulkner County, Cities and local resources PDM, DHS	Lessen or eliminate problems with emergency response	Seeks to protect citizens and property	Faulkner County and participating Cities
MH-22 (Tornado, High Winds, Earthquake)	Seek to enact manufactured home regulations to ensure use of tie-downs and anchoring in new buildings and existing mobile structures.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Cities, schools and local resources	Lessen or eliminate damage from earthquakes and tornadoes	Seeks to protect citizens and property	All participating jurisdictions
WF-05	Damascus- Pumper and Pumper/Tanker vehicles are needed to improve fire protections.	FCOEM, FCLEPC Forestry Comm	1 year	Faulkner County, City of Damascus, local resources; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	Faulkner County, City of Damascus
WF-06	Universities – Train volunteers in fire fighting techniques and acquire basic fire fighting equipment.	FCOEM, FCLEPC	1 year	Faulkner County, schools, PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	Faulkner County and schools
WF-07	Encourage formation of neighborhood wildfire safety coalitions.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Cities and local resources, FMA, PDM	Involves encouragement of participation at all public and private levels	Seeks to protect citizens and property	Faulkner County and participating Cities
WF-08	Encourage installation of smoke detectors fire extinguishers, and fire alarms.	FCOEM, FCLEPC	1 year	Faulkner County, Cities, Schools; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	All participating jurisdictions

Medium Priority actions: those deemed necessary to meeting the listed goals, but may not meet all of the STAPLEE criteria, particularly technical feasibility or cost effectiveness.

Action #	Actions	Responsible Agency	Projected Timeline	Projected Resources	Rationale for Action	Contribution to Mitigation Objective	Responsible Jurisdictions
D-01	Work with Arkansas Soil and Water Conservation Commission to determine losses in Faulkner County due to drought	FCOEM, ANRC	2 years	Faulkner County and local resources PDM	Improves understanding of risk from drought	Seeks to protect citizens and property and improve risk assessment	Faulkner County
F-10	City of Vilonia – North Fork Cypress Creek overflows its banks and floods several streets including: Elizabeth, Church, Simpson, and Marshall. The bridge needs to be raised as well as the road	FCOEM FCLEPC PDM	3 years	Faulkner County, City of Vilonia and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Vilonia
F-11	City of Wooster – Arkansas State Highway 25 to the south of Wooster floods often. The highway department would need to review and make improvements.	FCOEM, FCLEPC AHTD	3 years	Faulkner County, City of Wooster and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Wooster
F-12	City of Wooster – 2 small tributaries of Greenbrier Creek, coming off of Horseshoe Mountain, on the North side of town will flood over Arkansas State Highway 25. The highway department would need to review and make improvements.	FCOEM, FCLEPC AHTD	3 years	Faulkner County, City of Wooster and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and City of Wooster
F-13	County and local governments will evaluate current zoning laws and floodplain development	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources, FMA	Prevent repetitive flood damage to new and existing buildings	Seeks to protect citizens and property	Faulkner County and participating cities

	regulations and will adopt new laws and regulations as deemed necessary.						
F-14	Design and implement in-stream erosion reduction program.	FCOEM, FCLEPC, ADEM	3 years	Faulkner County, Cities HMGP, FMA	Communication and standardization important	Encourage assistance from all stakeholders	Faulkner County and participating cities
F-15	Inventory repetitive loss structures for removal or retrofitting	FCOEM, FCLEPC	Ongoing	Faulkner County, Cities and local resources, FMA	Prevent repetitive flood damage to new or existing buildings	Seeks to protect citizens and property	Faulkner County and participating cities
MH-23 (Earthquake, Floods, Thunderstorm, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Universities - Establish an emergency notification system capable of delivering immediately to the campus community any emergency messages or safety information.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Schools and local resources	LEPCs are all involved in local mitigation planning; awareness of opportunities important first step of mitigation	Links Mitigation with preparedness	Faulkner County and schools
MH-24 (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, , Dam Failure)	City of Conway -Additional rescue equipment is needed: heavy rescue, water rescue and saws and hand tools.	FCOEM, FCLEPC	1 Year	Faulkner County, Conway and local resources, PDM	First responders protect property and life	Seeks to protect citizens and property	Faulkner County and City of Conway
MH-25 (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, Dam Failure, Extreme Heat)	City of Conway - Shelter equipment and supplies are needed for facilities designated as shelters.	FCOEM	1 year	Faulkner County, City of Conway and local resources PDM	Disaster Preparedness	Seeks to protect citizens and property	Faulkner County and City of Conway
MH-26 (Earthquake, Floods, Thunderstorm, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	City of Conway- Haz-mat equipment is needed for spills and ruptures from chemical facilities and/or natural gas wells, as well as for monitoring these sorts of emergencies. This would benefit all areas in Faulkner County	FCOEM, FCLEPC	1 Year	Faulkner County, City of Conway and local resources, PDM	First responders protect property and life	Provides access for response and for mitigation activities	Faulkner County and City of Conway
MH-27 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Damascus – The City needs area to house Emergency Vehicles.	FCOEM, FCLEPC	1 Year	Faulkner County, City of Damascus and local resources, PDM	First responders protect property and life	Provides access for response and for mitigation activities	Faulkner County and City of Damascus

MH-28 (Earthquake, Floods, , Tornadoes, Winter Storms, Wildfires, Dam Failure)	Faulkner County – Second Chance Body Armor	FCOEM, FCLEPC	1 Year	Faulkner County and local resources, PDM	First responders protect property and life	Provides access for response and for mitigation activities	Faulkner County
MH-29 (Earthquake, Floods, Tornadoes, Winter Storms, Wildfires, Dam Failure)	Universities – Identify routes and transportation methods for campus evacuation and relocation.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, schools and local resources	Disaster Preparedness	Seeks to protect citizens and save lives	Faulkner County and schools
MH-30 (Earthquake, Floods, Thunderstorm, Hail, High Wind, Lightning, Tornadoes, Winter Storms, Wildfires, Drought, Dam Failure)	Faulkner County – Two ACIC computers are needed for the command post. Update 911communication terminals.	FCOEM, FCLEPC	1 Year	Faulkner County and local resources, PDM	First responders protect property and life	Provides access for response and for mitigation activities	Faulkner County
MH-31 (Tornado, High Winds, Earthquake)	The FCLEPC will study efficacy of tornado warning sirens and continually monitor siren status.	FCOEM, FCLEPC	1 years	Faulkner County, Cities and local resources	GIS best technology for risk identification and assessment	Current use by County of GIS information should be standardized	Faulkner County and participating cities
MH-32 (Tornado, High Winds, Earthquake, Winter Storms)	Bury or otherwise protect electric and other utility lines.	FCLEPC	Ongoing	Faulkner County, Cites, Electric Cooperatives HMGP, PDM	Eliminate need to replace lines after tornado or severe winter weather	Seeks to protect citizens and property	Faulkner County and participating cities
WF-09	City of Conway needs a tanker fire apparatus for firefighting and water supply during disasters in the absence of municipal water supply.	FCOEM, FCLEPC	1 year	Faulkner County, City of Conway, Existing local resources; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	Faulkner County and City of Conway
WF-10	Mayflower – Needs to upgrade tanker truck	FCOEM, FCLEPC	1 year	Faulkner County, City of Mayflower, Existing local resources; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	Faulkner County and City of Mayflower
WF-11	Mayflower – Needs an additional fire substation on Hwy. 89 North.	FCOEM, FCLEPC	1 year	Faulkner County, City of Mayflower, Existing local resources; PDM, DHS, Forestry Commission	Lessen or eliminate damage from Wildfires	Seeks to protect citizens and property and improve risk assessment	Faulkner County and City of Mayflower
WF-12	All communities should join Fire Wise program at firewise,org.	FCOEM, FCLEPC, ADEM	Ongoing	Faulkner County, Cities, Schools, Existing County and local resources	Lessen or eliminate damage from wildland fires	Seeks to protect citizens and property	All participating jurisdictions

SECTION 6. PLAN MAINTENANCE PROCESS

6.1. Monitoring, Evaluating, and Updating the Plan

IFR REQUIREMENT 201.6(c)(4)(i):	[The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
Explanation:	The local jurisdiction **shall** describe the how, when, and by whom the plan will be **monitored.** Monitoring may include periodic reports by agencies involved in implementing projects or activities; site visits, phone calls, and meetings conducted by the person responsible for overseeing the plan; and the preparation of an annual report that captures the highlights of the previously mentioned activities. The plan **shall** also include a description of how, when, and by whom the plan will be **evaluated**, and *should* include the criteria used to evaluate the plan. The evaluation *should* assess, among other things, whether: ▪ The goals and objectives address current and expected conditions. ▪ The nature, magnitude, and/or type of risks has changed. ▪ The current resources are appropriate for implementing the plan. ▪ There are implementation problems, such as technical, political, legal, or coordination issues with other agencies. ▪ The outcomes have occurred as expected. ▪ The agencies and other partners participated as originally proposed. The plan **shall** describe how, when, and by whom the plan will be **updated**. The Rule requires that the plan be updated within five years from the date of FEMA approval. FEMA recommends that the plan be reviewed and updated on an annual basis to determine the effectiveness of programs, and to reflect changes in land development or programs that may affect mitigation priorities.

FEMA regulations require a plan update within five years, Faulkner County has developed a method to ensure that monitoring, evaluation, and updating of the Faulkner County Hazard Mitigation Plan occurs annually. The County will form a Hazard Mitigation Plan Evaluation Sub-Committee of the existing Faulkner County Local Emergency Planning Committee (LEPC). The LEPC consists of approximately 50 members from fire service, health officials, emergency management, law enforcement, community groups, transportation, emergency medical personnel, elected officials, and owners and operators of covered facilities. The Director of the Faulkner County Office of Emergency Management will be the initial Chair of the sub-committee. Hazard Mitigation Plan Evaluation Sub-Committee members will be responsible for monitoring and evaluating the progress of the mitigation strategies in the plan. The Sub-committee will monitor the plan by providing a mitigation planning update at the annual meeting. Each participating jurisdiction will bring updates for their area with them and present them to the committee. During the August LEPC meeting of each year, the sub-committee will meet to review and evaluate each goal and objective to determine their relevance to changing situations in Faulkner County, as well as changes in State or Federal policy, and to ensure that they are addressing current and expected conditions. The Sub-committee will also review and evaluate the risk assessment portion of the plan to determine if this information should be updated or modified. The parties or agencies responsible for the various implementation actions (identified in Section 5) will report on the status of their projects and will evaluate which implementation processes worked well, any difficulties encountered, how coordination efforts were proceeding, and which strategies should be revised.

The public will be given opportunities to comment and participate in committee meetings at each step of evaluation and will be kept informed via newspaper announcements and posting of notices at the courthouses and city halls. Every effort will be made to maintain public participation during the monitoring and evaluation processes.

The Faulkner County Office of Emergency Management will then have three months to update and make changes to the plan before submitting it to the Sub-Committee members and the State Hazard Mitigation Officer. If no changes are necessary, the State Hazard Mitigation Officer will be given a justification for this determination. Comments and recommendations offered by Sub-Committee members and the State Hazard Mitigation Officer will be incorporated into the plan update.

In addition, Faulkner County other plans that will be considered and integrated into the Faulkner County Hazard Mitigation Plan as they undergo their regular updates:

- Faulkner County Emergency Operations Plan
- Faulkner County LEPC All Hazards Plan

The Hazard Mitigation Plan will take into account any changes in these plans and incorporate the information accordingly in its next update.

The Hazard Mitigation Plan Evaluation Sub-Committee of the Faulkner County LEPC, which meets quarterly, will provide a mechanism for ensuring that the actions identified in the plans are incorporated into ongoing County planning activities.

6.2. Incorporation into Existing Planning Mechanisms

IFR REQUIREMENT 201.6(c)(4)(ii):	[The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.
Explanation:	Jurisdictions **shall** indicate how mitigation recommendations will be incorporated into comprehensive plans, capital improvement plans, zoning and building codes, site reviews, permitting, job descriptions, staff training, and other planning tools, where such tools are the appropriate vehicles for implementation. Communities that do not have a comprehensive plan, or other similar planning mechanisms, *should* explain how the mitigation recommendations would be implemented. Further, for certain mitigation actions that may use other means of implementation, these other tools *should* be described.

After the County officially adopts the Hazard Mitigation Plan, the Planning Board will be responsible for ensuring that mitigation goals, objectives, and strategies are incorporated in all future County planning activities.

After adoption of the Mitigation Plan, the County will require that participating jurisdictions address hazards in their comprehensive plans and land use regulations. The Faulkner County Planning Department will conduct periodic reviews of the jurisdiction's comprehensive plans and land use policies, analyze any plan amendments, and provide technical assistance to other local municipalities in implementing these requirements.

All participants will follow local laws and guidelines when incorporating the Hazard Mitigation Plan in their existing plans. Any participant without previous plans will be encouraged to develop zoning plans and other land ordinances. Participants incorporating the Faulkner County Hazard Mitigation Plan into their existing plans will set up meetings to discuss which areas pertain to them. After these discussions, each incorporating mechanism will follow their local laws or guidelines necessary for implementation through open forum public meetings. After each update of the Faulkner County Hazard Mitigation Plan, participating jurisdictions will be informed of the changes so they can reflect these changes in their plans also. More specifically, the Faulkner County Hazard Mitigation Plan will be incorporated into the State of Arkansas Hazard Mitigation Plan. The risk assessment and mitigation strategies will be incorporated into the State Hazard Mitigation Plan during their updating process every three years. Faulkner County will be incorporating the Hazard Mitigation Plan into the County Emergency Operations Plan and county land use ordinances and/or plans by following the laws set forth by the county government.

Within one year of the formal adoption of the Faulkner County Hazard Mitigation Plan, the policies listed above will be incorporated into the process of existing planning mechanisms.

6.3. Continued Public Involvement

IFR REQUIREMENT 201.6(c)(4)(iii):	[The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.
Explanation:	The plan **shall** describe what opportunities the broader public (i.e., stakeholders who are not part of the planning team) would have during the plan's periodic review to comment on the progress made to date and the proposed plan revisions. Plans *should* describe the mechanisms for keeping the public involved (e.g., holding strategic meetings, posting the proposed changes to the plan on the Web, etc.).

Faulkner County is dedicated to involving the public directly in the continual reshaping and updating of the Faulkner County Hazard Mitigation Plan. The Hazard Mitigation Plan Evaluation Sub-Committee members are responsible for the annual monitoring, evaluation, and update of the plan. Although they represent the public to some extent, the public will be able to directly comment on and provide feedback about the plan.

Copies of the plan will be catalogued and kept on hand at all of the public libraries in Faulkner County. Contained in the plan are the address, phone number, and e-mail of the Director of the Faulkner County Office of Emergency Management, the primary point of contact for the plan. In addition, copies of the plan and any proposed changes will be posted on the Faulkner County Government Website. This site will also contain an e-mail address and phone number to which people can direct their comments or concerns.

A public announcement inviting all interested parties will be made prior to each quarterly LEPC meeting, including the August LEPC meeting during which the Hazard Mitigation Planning Sub-Committee reviews and evaluates the plan in its entirety. This meeting will provide the public a forum for which the general public can express concerns, opinions, or ideas about the plan. The Faulkner County Office of Emergency Management and the Faulkner County LEPC will publicize and host this meeting. Following the meeting, the evaluation committee will review the comments and make changes to the plan, as appropriate.

SECTION 7. APPENDICES

APPENDIX 1

Glossary

CONSEQUENCES - the damages (full or partial), injuries, and losses of life, property, environment, and business, that can be quantified by some unit of measure, often in economic or financial terms.

DEMOGRAPHICS – the characteristics of human populations and population segments.

DROUGHT - a normal, reoccurring feature of climate that originates from a lack of precipitation over an extended period of time, usually a season or more. Droughts can occur in virtually all climates. The precise definition depends on the region, but the definition is often determined by comparing recent precipitation to a 30-year average. In some areas, precipitation that is only 75% of a 30-year average is considered a drought.

EARTHQUAKE - a natural event that involves the moving or shaking of the earth's crust and is believed to be caused by the release of stresses accumulated as a result of rock ruptures along opposing fault planes in the earth's outer crust.

EXPANSIVE SOIL - soils or soft bedrock that increase in volume as they get wet and shrink as they dry out. They are also commonly known as bentonite, swelling, or montmorillinitic soils.

EXPOSURE - the number, types, qualities, and monetary values of property or infrastructure and life that may be subject to an undesirable or injurious hazard event).

FLOOD – the overflow of excess water from a body of water (i.e., river, stream, lake, reservoir, etc.) onto land that is normally dry.

FLASH FLOOD - a flood caused by heavy precipitation or snowmelt over a limited watershed (typically less than 50 square miles), crests in eight hours or less, and generally occurs in hilly terrain.

FLOOD CONTROL - keeping flood waters away from specific developments or populated areas by the construction of various structural mitigation measures (i.e., levees, floodwalls).

FLOODPLAIN - any normally dry land area that is susceptible to begin inundated by water from any natural source.

FLOODPLAIN MANAGEMENT - a comprehensive approach to reduction of the effects of floods, preservation and enhancement of natural values, and provision from optimal use of land and water resources within the floodplain. The goal is to strike a balance between the values obtainable from the use of floodplains and the potential losses to individuals and society arising from such use.

FLOODPROOFING - modifying a building to reduce or eliminate damages from flood waters. Dry floodproofing involves use of sealants, barriers, and elevation, as techniques of keeping water out of a building. Wet floodproofing is to modify a building with the use of water-resistant materials and allowing the water to flow through the building. Wet floodproofing is not appropriate for residential structures.

FLOODWAY - the channel of a watercourse and those portions of the adjoining floodplain required to provide the passage of the 1% chance flood.

HAZARD - event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss.

HAZARD IDENTIFICATION - the process of defining and describing a hazard, including it's physical characteristics, magnitude and severity, probability and frequency, causative factors, and locations/areas affected.

HAZARD MITIGATION - a plan to alleviate by softening and making less severe the effect of a disaster event or emergency and of future disasters in the affected areas, including reduction or avoidance.

HAZARD MITIGATION PLAN – the plan resulting from a systematic evaluation of the nature and extent of vulnerability to the effects of natural and man-made hazards present, and includes the actions needed to minimize future vulnerability to those hazards.

HAZARDOUS MATERIAL – any solid, liquid, or gas that, because of its quantity, concentration, physical, chemical, toxicological, or persistence properties, may cause acute to chronic impacts on human health or the environment.

HEAVY SNOW - either a snowfall accumulating to 4 inches in depth in 12 hours or less, or snowfall accumulation to 6 inches or more in depth in 24 hours or less. In states such as Arkansas, where lesser accumulations can cause significant impacts, lower thresholds may be used.

ICE STORM - occasions when damaging accumulations of ice are expected during freezing rain situations.

LANDSLIDE – an event that encompasses many phenomena involving lateral and downslope movement of earth materials such as rock, soil, and/or artificial fill.

MITIGATION - sustained action taken to reduce or eliminate long-term risk to people and property from hazards and their effects. Mitigation distinguishes actions that have a long-term impact from those that are more closely associated with preparedness for, immediate response to, and short-term recovery from a specific event.

NON-STRUCTURAL MITIGATION MEASURES - those measures employed to modify the exposure of people and property to hazards, i.e., floodproofing, land use planning, zoning ordinances, NFIP program, and Public Information.

1% CHANCE FLOOD - A flood having a 1% chance of being equaled or exceeded in any given year; often called the 100-year flood.

PROBABILITY AND FREQUENCY - measure of how often an event is likely to occur. Frequency can be expressed as the average time between occurrences or exceedances (non-exceedances) of an event or the percent chance or probability of the event occurring or being exceeded (not exceeded) in a given year or a longer time period.

PROJECT - a mitigation measure or action proposed to reduce the risk of future damage, hardship, loss or suffering from disasters.

RISK - potential losses associated with a hazard, defined in terms of expected probability, and frequency, exposure, and consequences.

RISK ASSESSMENT - a process or method for evaluation risk associated with a specific hazard and defined in terms of probability and frequency of occurrence, magnitude and severity, exposure, and consequences**.**

RIVERINE - relating to, formed by, or resembling a river (including tributaries), streams, brooks, etc.

RIVERINE FLOOD - a flood caused by precipitation, runoff or snowmelt over a relatively large watershed causing flooding over wide areas and cresting in over 8 hours.

SEVERE WINTER WEATHER – severe weather that may include extreme cold, heavy snowfall, ice storms, winter storms, and/or strong winds.

STRAIGHT-LINE WINDS - Straight-line wind is any wind that is not associated with rotation. This term is used mainly to differentiate thunderstorm winds from tornadic winds. Winds of 58 mph (50 knots) or more are considered severe.

STRUCTURAL MITIGATION MEASURES - those physical or engineering measures employed to modify the way a hazard will impact people, e.g., dams, dikes, levees, channel enlargements, etc.

TORNADO - a violently rotating column of air that descends from a thunderstorm cloud system and is in contact with the ground.

WINTER STORM - a combination of severe winter weather types occurring over a wide area.

WILDFIRE - an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

WILDLAND FIRE - a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities.

WILDLAND-URBAN INTERFACE FIRE - a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

Acronyms

ADEM -	Arkansas Department of Emergency Management
ADEQ -	Arkansas Department of Environmental Quality
ADH -	Arkansas Department of Health
AFC -	Arkansas Forestry Commission
AGC -	Arkansas Geological Commission
AGF&C -	Arkansas Game and Fish Commission
AHTD -	Arkansas Highway and Transportation Department
AIDC -	Arkansas Industrial Development Commission
AMHC -	Arkansas Manufactured Home Commission
ANRC -	Arkansas Natural Resources Commission
ARC -	American Red Cross
ASWCC -	Arkansas Soil and Water Conservation Commission
BFE -	Base Flood Elevation
CAW -	Central Arkansas Water
CERI -	Center for Earthquake Resources and Information
CDL -	Community Disaster Loan
CDBG -	Community Development Block Grant
CERT -	Community Emergency Response Team
CFS -	Cubic Feet Per Second
CRS -	Community Rating System
CTP -	Cooperating Technical Partners
CUSEC -	Central United States Earthquake Consortium
EOP-	Emergency Operations Plan
EPA -	Environmental Protection Agency
FCLEPC -	Faulkner County Local Emergency Planning Committee
FCMPT -	Faulkner County Mitigation Planning Team
FCOEM -	Faulkner County Office of Emergency Management
FEMA -	Federal Emergency Management Agency
FHBM -	Flood Hazard Boundary Maps
FIRM -	Flood Insurance Rate Map
FIS -	Flood Insurance Study
FMA -	Flood Mitigation Assistance

GIS -	Geographic Information System
HAZMAT -	Hazardous Materials
HAZUS-MH-	Hazards United States – Multi-Hazard
HMGP -	Hazard Mitigation Grant Program
LEPC -	Local Emergency Planning Committee
NCDC -	National Climatic Data Center
NFIP -	National Flood Insurance Program
NIMS -	National Incident Management System
NMSZ -	New Madrid Seismic Zone
NOAA -	National Oceanographic and Atmospheric Administration
NRCS -	Natural Resource Conservation Service
NSSL -	National Severe Storms Laboratory
NWS -	National Weather Service
OEM -	Office of Emergency Management
OSHA -	Occupational Safety and Health Administration
PDM -	Pre-Disaster Mitigation
PGA -	Peak Ground Acceleration
POC -	Point of Contact
SBDC -	Small Business Development Center
SHELDUS -	Spatial Hazard Events and Losses Database for the United States
SFHA -	Special Flood Hazard Area
STAPLEE -	Social, Technical, Administrative, Political, Legal, Economic, Environmental
STATSGO -	State Soil Geographic
UALR -	University of Arkansas at Little Rock
USACOE -	U.S. Army Corps of Engineers
USDA-	United States Department of Agriculture
USEPA -	United States Environmental Protection Agency
USGS -	United States Geological Survey
VOAD -	Volunteers Active in Disasters
WUI -	Wildland-Urban Interface