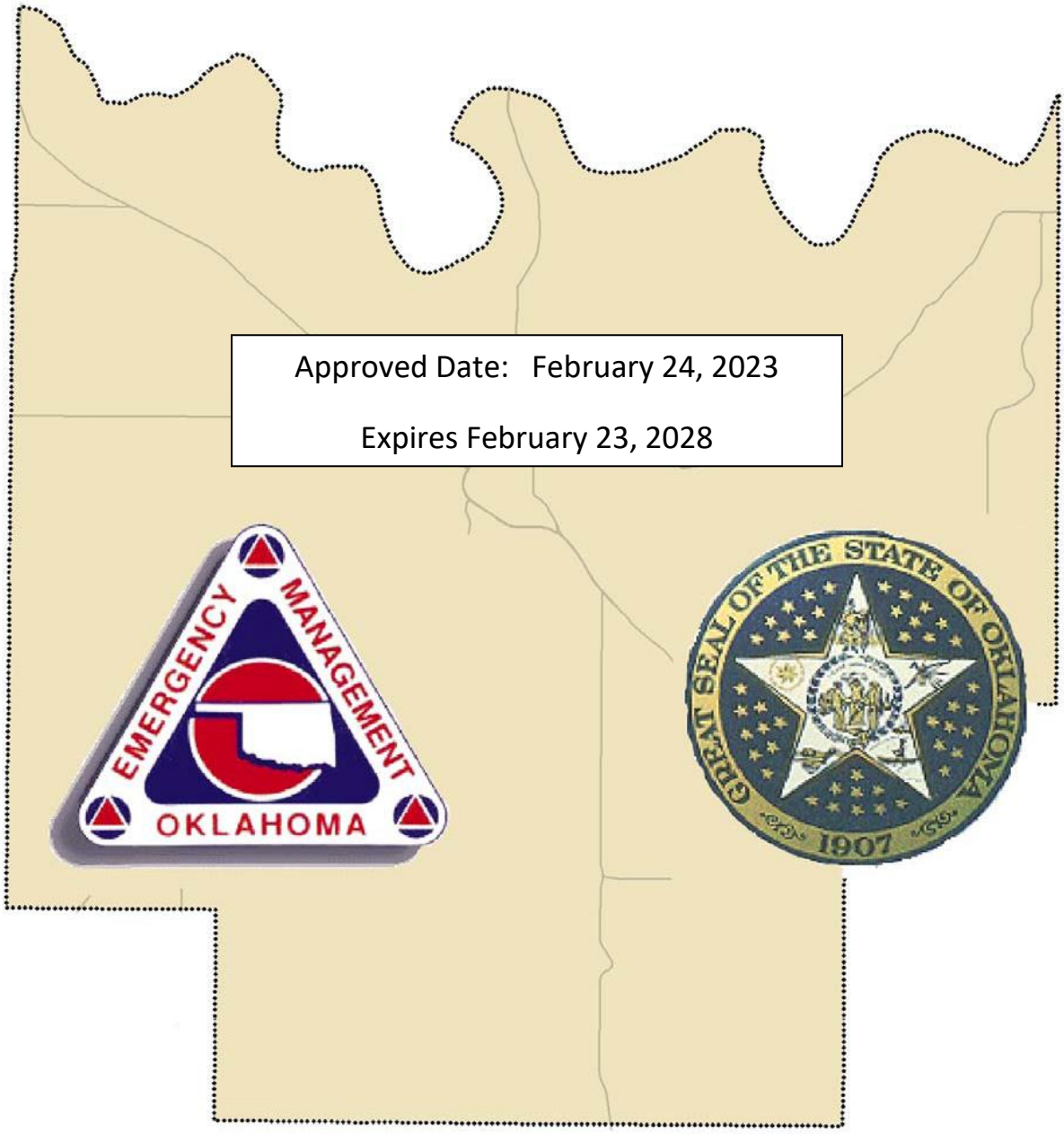
Multi-Jurisdictional Multi-Hazard Mitigation Plan

For

Pontotoc County, the City of Ada, Towns of: Allen, Byng, Fitzhugh, Francis, Roff, and Stonewall, and the School Districts of: Ada, Allen, Byng, Latta, Roff, Stonewall, Vanoss, and the Pontotoc Technology Center



Approved Date: February 24, 2023

Expires February 23, 2028

Pontotoc County Emergency Management
Chad Letellier—Director
P.O. Box 1425, Ada, OK 74821 (580) 421-7777

May 31, 2022

Matt Rollins, State Hazard Mitigation Officer
Oklahoma Department of Civil Emergency Management
P.O. Box 53365
Oklahoma City, OK 73152

RE: Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan Update

We are pleased to submit this *Pontotoc County Multi-Jurisdictional Multi- Hazard Mitigation Plan*, update for your review.

This Multi-Hazard Mitigation Plan, prepared in accordance with State and Federal guidance, addresses floodplain management, dam failures, tornadoes and high winds, hail, lightning, severe winter storms, extreme heat, drought, expansive soils, wild fires, and earthquakes.

We look forward to implementing the updates to this plan in order to enhance protection of the lives and property of our citizens from natural hazards and hazard materials incidents. If we can answer any questions or be of further assistance, please contact me at 580-421-7777 or 580-421-5145.

Sincerely,

Chad Letellier
Pontotoc County, Emergency Management

Included at the end of the plan beginning on page 248 are the FEMA Approval Letter, and the Resolutions of Adoption of the *Pontotoc County Multi-Hazard Mitigation Plan*:

1. ***Pontotoc County***
2. ***City of Ada***
3. ***Town of Allen***
4. ***Town of Byng***
5. ***Town of Fitzhugh***
6. ***Town of Francis***
7. ***Town of Roff***
8. ***Town of Stonewall***
9. ***Ada Public Schools***
10. ***Allen Public Schools***
11. ***Byng Public Schools***
12. ***Latta Public Schools***
13. ***Roff Public Schools***
14. ***Stonewall Public Schools***
15. ***Vanoss Public Schools***
16. ***Pontotoc Technology Center***

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Acknowledgements

The Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan includes the unincorporated areas of the county as well as the incorporated communities of Ada, Allen, Byng, Fitzhugh, Francis, Roff, and Stonewall, and the Public School Systems of Ada, Allen, Byng, Latta, Roff, Stonewall, Vanoss and the Pontotoc Technology Center. The Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan was prepared under the direction of the Pontotoc County Commission, participating community councils, and Public Schools Boards of Education. Numerous agencies, organizations and individuals participated in the study, including:

Pontotoc County

Gary Starns	Commissioner, District 1
Danny Davis	Commissioner, District 2
Justin Roberts	Commissioner, District 3
John Christian	Sheriff
Tami Brown	County Clerk
Chad Letellier	Project Manager, Pontotoc County Emergency Manager

Ada

Randy McFarlin	Mayor
Cody Holcomb	City Manager
Rob Johnson	Fire Chief
Carl Allen	Police Chief
Jason Keck	Emergency Manager, Co-Lead Planner

Allen

Diana Brannon	Mayor
Douglas Stinson	City Manager
Braylee Dickerson	Fire Chief
Brett Edens	Police Chief
Dale Johnson	Town of Allen, Trustee
Rhonda Skelton	Town of Allen, Trustee
April Whitehead	Town of Allen, Trustee

Byng

Jeff Sibble	Mayor
Chris McGill	Fire Chief
Jeff Rollins	EM, Co Lead Planner
John Roan	Vice Mayor
Leana Winton	Town of Byng, Trustee
Raeanne Carson	Town of Byng, Trustee
Barry Whitlock	Town of Byng, Trustee

Fitzhugh

Steven Choat	Mayor
Shane Ellison	Fire Chief
Joey Marrow	Trustee
Timothy Avid	Trustee/Emerg. Manager
Dann Wyche	Trustee
Becky Pittman	Trustee

Francis

Craig Thompson	Mayor
Clayton Canada	Fire Chief
Kim Canada	Town of Francis, Trustee
James A. Fowler	Town of Francis, Trustee
Cheryl Fowler	Town of Francis, Trustee
John Limbarger	Town of Francis, Trustee

Roff

Joe McCullar	Mayor
Mike Bradley	Fire Chief
Amy Bradley	Town of Roff, Trustee
Darren Braun	Town of Roff, Trustee
Matt Guzman	Town of Roff, Trustee
Jonathan Wright	Town of Roff, Trustee

Stonewall

William Nichols	Mayor
Karl Burkhardt	City Administrator
Danny Summers	Fire Chief
Janet Truitt	Town of Stonewall, Trustee
Susan Mills	Town of Stonewall, Trustee
Scott Elmore	Town of Stonewall, Trustee
Kevin Gambrell	Town of Stonewall, Trustee

Ada Public Schools

Mike Anderson	Superintendent
Eddie Jacobs	Emergency Operations

Allen Public Schools

Jeff Hiatt	Superintendent
Amy Mayhue	Elementary Principal
Chris Grimm	J.H. and High School Principal

Byng Public Schools

Stanley Sawyers	School Board President
Kevin Wilson	Superintendent
Judy Brooks	School Board Clerk

Latta Public Schools

Royce Chandler	School Board President
Scott Morgan	Superintendent
Connie Smith	School Board Clerk

Roff Public Schools

Ead Simon	Superintendent
Keith Huneycutt	School Board President

Stonewall Public Schools

Greg Loveless	Superintendent
Thomas Wallace	School Board President
Donald James	School Board Clerk

Vanoss Public Schools

Marjana Tharp	Superintendent
Anthony Prince	School Board President
Linda Embry	School Board Clerk

Pontotoc Technology Center

Travis Graham	Superintendent
Dr. Phillip Fuller	School Board President
Levi Garret	School Board Clerk
Mike Tuley	Safety Coordinator

Executive Summary

Oklahoma's location at the intersection of the hot arid zone to the west, the temperate zone to the northeast, and the hot humid zone to the southeast make it subject to a wide variety of potentially violent weather and natural hazards.

The Pontotoc County Planning Group provided information and insight in the development of the plan

Making people and businesses as safe as possible from a variety of natural hazards is the first step in making the area attractive for new residents and expanding businesses. The Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan is a comprehensive effort to identify potential hazards and develop a sound plan to mitigate their impacts, with the goal of saving the lives and property of the citizens of Pontotoc County, the incorporated and unincorporated communities, and the Public School systems and the Pontotoc Technology Center of Pontotoc County. This plan fulfills the requirements of the Pre-Disaster Mitigation (PDM) Grant Program and Hazard Mitigation Grant Program (HMGP) of the Federal Emergency Management Agency (FEMA) and the Oklahoma Department of Emergency Management (OEM).

In December 2005, the Multi-hazard Mitigation Council of the National Institute of Building Sciences completed a study to assess future savings from mitigation activities. Their findings reflected the fact that mitigation activities in general produced over $4 in savings for every $1 invested in mitigation actions, with the greatest savings in the areas of flood-related events (5:1) and wind-related events (3.9:1). In addition, the report concludes, *"Mitigation is most effective when carried out on a comprehensive, community-wide, and long-term basis. Single activities can help, but carrying out a slate of coordinated mitigation activities over time is the best way to ensure that communities will be physically, socially, and economically resilient to future hazard impacts."*

Approval of this plan will qualify Unincorporated Pontotoc County, the incorporated communities of Ada, Allen, Byng, Fitzhugh, Francis, Roff, and Stonewall, and the Public School Systems of Ada, Allen, Byng, Latta, Roff, Stonewall, Vanoss and the Pontotoc Technology Center to apply for Pre-Disaster Mitigation (PDM) as well as

Hazard Mitigation Grant Program (HMGP) disaster mitigation funds following a federal disaster declaration, as required under Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 2000.

Background

Pontotoc County and the included communities and school and Tech Center districts are vulnerable to natural and man-made hazards. The Pontotoc County Hazard Mitigation Planning Group identified the 12 natural hazards most likely to affect the County as a whole. These hazards included floods, tornadoes, high winds, lightning, hail, severe winter storms, extreme heat, drought, expansive soils, urban fires, wildfires, earthquakes, and dam failures.

Purpose

The purpose of this plan is to:

- Assess the ongoing mitigation activities within each jurisdiction
- Identify and assess the hazards that pose a threat to citizens and property
- Evaluate additional mitigation measures that should be undertaken
- Outline a strategy for implementation of mitigation projects

The objective of this plan is to provide guidance for community activities for the next five years. It will ensure that Pontotoc County will implement activities that are most effective and appropriate for mitigating the 12 identified natural hazards.

Pontotoc County Hazard Mitigation Planning Group

Citizens and professionals active in disasters provided important input in the development of the plan and recommended goals and objectives, mitigation measures, and priorities for actions. The Planning Group is comprised of citizen leaders of the County and the various communities as well as representatives of the included Public School Districts and Pontotoc Technology Center.

The Planning Process

Planning for the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan followed a ten-step process, based on guidance and requirements of FEMA for the PDM grant program, HMGP, the Flood Mitigation Assistance (FMA) program, and the Community Rating System (CRS).

1. Organize to prepare the plan
2. Involve the public
3. Coordinate with other agencies and organizations
4. Assess the hazard
5. Assess the problem
6. Set goals
7. Review possible activities
8. Draft the action plan
9. Adopt the plan
10. Implement, evaluate, and revise

Plan Summary

The Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan provides guidance to help citizens protect life and property from natural and man-made hazards. The plan identifies the hazards that are most likely to strike each jurisdiction, provides a profile and risk assessment of each hazard, identifies mitigation measures for each hazard, and presents an action plan for the implementation of the mitigation measures.

Chapter 1 provides a profile of Pontotoc County and an overview and discussion of existing resources and hazard mitigation programs. This chapter includes a community description including demographics, lifelines, and critical facilities. Communities and School Districts are profiled in Appendix A.

Chapter 2 presents detailed information documenting the planning process including citizen and agency involvement, a table describing how and why each hazard was identified, and methodologies used in the plan for damage estimates and risk assessments.

Chapter 3 provides an assessment of 12 natural hazards. Each assessment includes a hazard profile, catalogs historical events, identifies the vulnerable populations, and presents a conclusion.

Chapter 4 sets disaster-specific goals and objectives and organizes proposed mitigation strategies under six mitigation categories: public information and education, preventive activities, structural projects, property protection, emergency services, and natural resource protection.

Chapter 5 outlines an action plan for the implementation of high priority mitigation projects, including a description of the project, the responsible party, anticipated cost, funding sources, and timelines for implementation.

Chapter 6 provides a discussion of the plan maintenance process and documentation of the adoption. Plan maintenance includes monitoring, evaluating, and updating the plan with involvement of the public.

Appendix A presents an overview of each incorporated community, public school system and tech center, its history, economy, demographics and vulnerability to hazards, and includes maps of site-specific hazards such as flooding, expansive soils, and wildfire.

Mitigation Action Plan

The mitigation action plan includes strategies for implementing the mitigation measures, including information on the responsible agency, time frame, cost estimate, funding sources, and a statement of the measurable results. The Action Plan is included in this document as Chapter 5.

Chapter 1: Introduction, Community Description, and Capability Assessment

1.1 Introduction

This document is the multi-jurisdictional multi-hazard mitigation plan for Unincorporated and Incorporated Pontotoc County, Pontotoc County School Districts and Pontotoc Technology Center. It is a strategic planning guide developed in fulfillment of the Hazard Mitigation Grant Program requirements of the Federal Emergency Management Agency (FEMA), according to the Stafford Disaster Relief and Emergency Assistance Act. This act provides federal assistance to state and local governments to alleviate suffering and damage from disasters. It broadens existing relief programs to encourage disaster preparedness plans and programs, coordination and responsiveness, insurance coverage, and hazard mitigation measures. This plan is developed in accordance with and with guidance from, and fulfills requirements for, the Hazard Mitigation Grant Program (HMGP) and addresses 12 natural hazards.

1.1.1 Purpose

The purpose of this plan is to:

- Provide a description of the planning area and assess the ongoing mitigation activities (Chapter 1) in Unincorporated Pontotoc County, Incorporated Pontotoc County Communities, Pontotoc County School Districts and Pontotoc Technology Center.
- Describe the Multi-Hazard Mitigation Planning Process used to identify and select natural hazards, identify appropriate mitigation measures, and to develop the plan (Chapter 1).
- Identify and assess the hazards that pose a threat to residents, businesses and property (Chapter 2).
- Evaluate mitigation measures that should be undertaken by communities to protect residents, businesses, and property, and by Public Schools Systems and Technology Center to protect Faculty, Staff, and Students (Chapter 3).
- Identify and recommend an Action Plan for implementation of mitigation projects (Chapter 4), and
- Develop a strategy for the adoption, maintenance, upkeep, and revision of the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan (Chapter 5).

The objective of this plan is to provide guidance for countywide mitigation activities for the next five years. It will ensure that Pontotoc County and all partners implement hazard mitigation activities that are most effective and appropriate for the natural and man-made hazards that threaten the County and communities within Pontotoc County. For additional information on Plan review and updating guidelines, refer to Chapter 5.

1.1.2 Scope

The scope of the Pontotoc County Multi-Hazard Mitigation Plan includes the areas in incorporated and unincorporated Pontotoc County. This includes the incorporated communities of Ada, Allen, Byng, Fitzhugh, Francis, Roff, and Stonewall, the Public School Systems of: Ada, Allen, Byng, Latta, Roff, Stonewall, and Vanoss, and the Pontotoc Technology Center. The Pontotoc County Hazard Mitigation Plan addresses all natural hazards deemed a threat to the residents of Pontotoc County, plus urban structure fires. Both short-term and long-term hazard mitigation opportunities are addressed, beyond existing federal, state, and local funding programs.

1.1.3 Points of Contact

Primary Contact:
Chad Letellier
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Ada, OK 74820
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Chairman, Pontotoc County Board of Commissioners
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Commissioner1@pontotoc.okcounties.org

Tertiary Contact:
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Director, Emergency Management
Ada
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(405)-388-4845
jason.keck@adaok.com

Alternate Contact:
Jeff Rollins
Director, Emergency Management
Byng, OK
(580)-320-2362
jeffsrollins@gmail.com

1.2 Community Description

Appendix A covers community description data. Unincorporated towns are included in Unincorporated Pontotoc County.

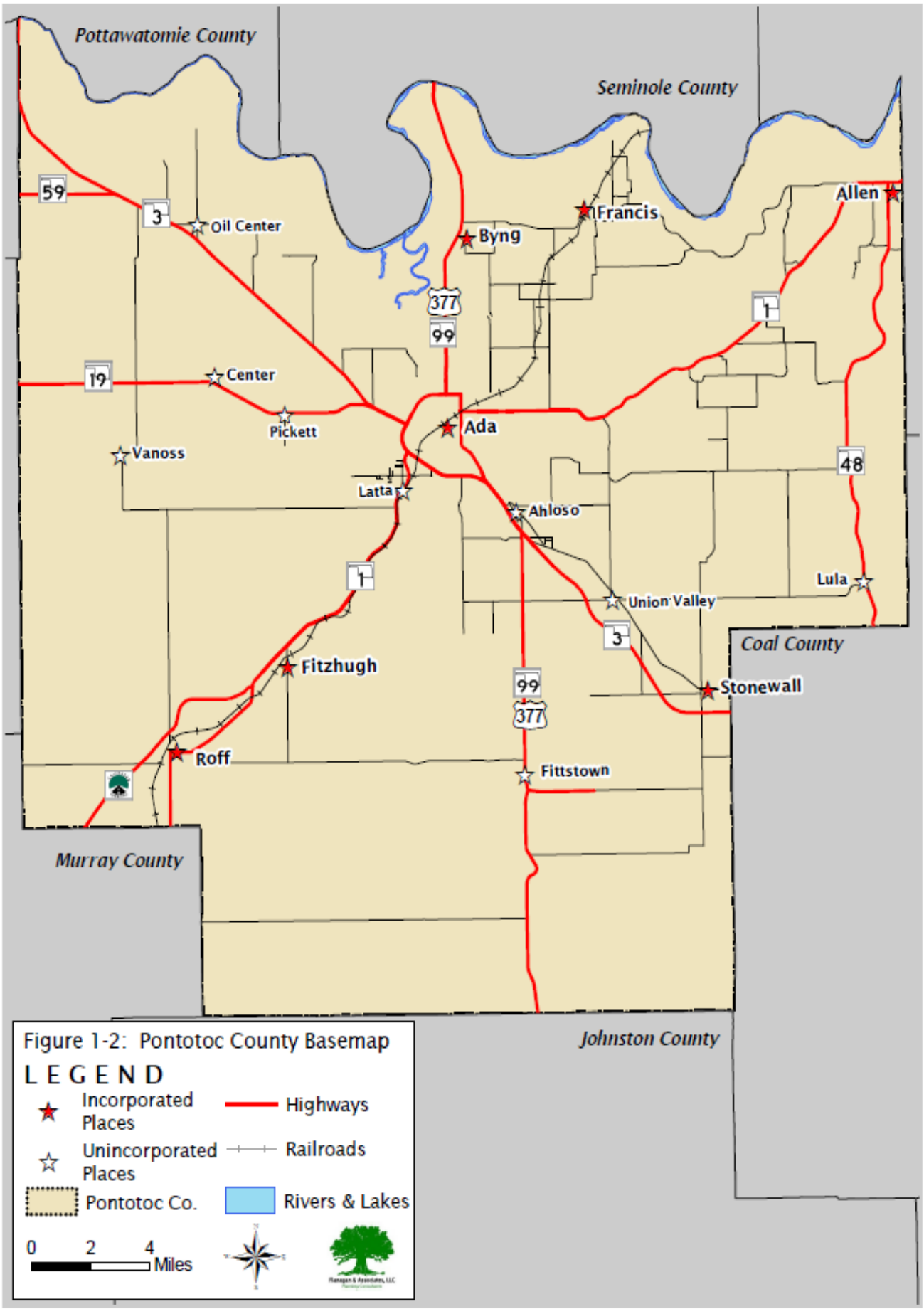
Pontotoc County is faced with a variety of natural hazards. In recent history, severe winter storms, dam releases, lightning, floods, wildfires and tornadoes have made the national headlines but, in fact, any part of the county can also be impacted by high winds, drought, hail, urban fires, and other threats. In some cases, such as flooding and dam failure, the areas most at risk have been mapped and delineated. A base map of Pontotoc County with its major features and highways are shown in Figure 1-1. Pontotoc County School Districts are displayed in Figure 1-2.

Pontotoc County consists of 725 square miles in south-central Oklahoma. Pontotoc County had a Census 2020 population of 38,065, accounting for 1% of Oklahoma's population. The County has experienced a population growth rate of 9.23% since 2000, with an annual average of .46%. The 2022 Census Bureau estimate is 38,385, or an additional increase of .99%.

Table 1-1: Pontotoc County Communities & School District Overview
Source: 2020 Census and Pontotoc County Emergency Operations Plan, Rev. 2021 and U.S. Department of Education, National Center for Education Statistics

Community	***Population***	***Key Personnel***				
		Mayor	**Fire**	**Police**	**EM**	**Other**
Ada, City of	16,481	Randy McFarlin	Rob Johnson	Carl Allen	Jason Keck	Cody Holcomb, City Mgr.
Allen	926	Dianna Brannan	Braylee Dickerson	Brett Edens	Chad Letellier	Doug Stinson City Mgr
Byng, Town of	1,207	Jeff Sibble	Chris McGill	Sheriff	Jeff Rollins	--
Community	***Population***		***Key Personnel***			
		Mayor	**Fire**	**Police**	**EM**	**Other**
Fitzhugh, Town of	234	Steven Choat	Richard Barnes	Sheriff	Tim Avid	--
Francis, Town of	320	Craig Thompson	Clayton Canada	Sheriff	--	--
Roff, Town of	704	Joe McCullar	Mike Bradley	Sheriff	Chad Letellier	--
Stonewall, Town of	521	William Nichols	Danny Summers	Sheriff	Chad Letellier	Karl Burkhartt City Adm
Unincorporated Area	17,735	--	--	Sheriff, John Christian	Chad Letellier	--
Total	**38,065**					

Name	Superintendent Address Phone	Total Schools Grade Span	Total Students Classroom Teachers (FTE)
Ada City Schools	Mike Anderson PO Box 1359 Ada, OK (580) 310-7200	6 Pre-K thru 12	2,564 197.2
Allen Public Schools	Jeff Hyatt PO Box 430 Allen, OK (580) 857-2417	2 Pre-K thru 12	516 34
Byng Public Schools	Kevin Wilson 500 S Bethel Blvd Ada, OK (580) 310-6751	5 Pre-K thru 12	1,780 118.6
Latta Public Schools	Scott Morgan 13925 Cnty Rd 1560 Ada, OK (580) 332-2092	3 Pre-K thru 12	911 53.6
Roff Public Schools	Ead Simon PO Box 157 Roff, OK (580) 456-7663	2 Pre-K thru 12	317 24
Stonewall Public Schools	Greg Loveless 600 S High School Stonewall, OK (580) 265-4241	3 Pre-K thru 12	455 34
Vanoss Public Schools	Marjana Tharp 4665 County Rd 1555 Ada, OK (580) 759-2251	2 Pre-K thru 12	553 39.5
Pontotoc Technology Center	Travis Graham 601W. 33rd St Ada. Ok 74820 (580) 310-2225	Secondary Post-Secondary, Career Technology Education	***Full Time Programs*** Students-299 Teachers-16 ***Business Industry Servies*** Instructors-12 Adjunct Instructors-26 Student Enrollment -26000
There is also one private State-accredited school in Pontotoc County – McCall's Chapel School in Ada			


Pottawatomie County
Seminole County
Murray County
Coal County
Johnston County
59
3
Oil Center
Byng
Francis
Allen
377
99
1
19
Center
Pickett
Ada
Vanoss
Latta
48
Ahloso
Lula
Union Valley
Fitzhugh
Stonewall
Roff
Fittstown
Figure 1-2: Pontotoc County Basemap
LEGEND
Incorporated Places
Unincorporated Places
Pontotoc Co.
Highways
Railroads
Rivers & Lakes
0 2 4 Miles

Ponto

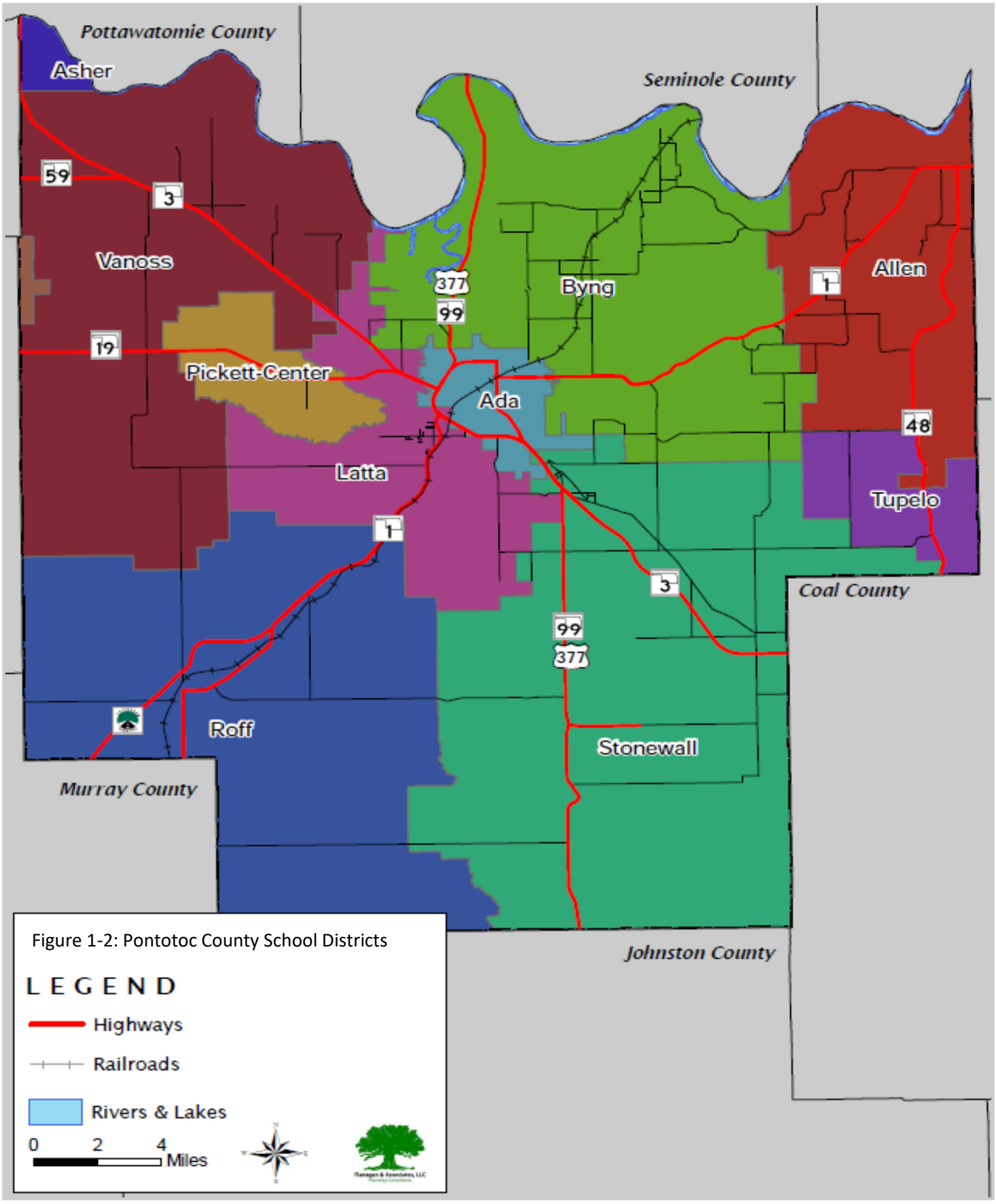


Figure 1-2: Pontotoc County School Districts

1.2.1 Demographics

At 1907 statehood the County's population was 23,057. Numbers continued to increase from 24,331 to 32,469 in 1910 and 1930, peaking at 39,792 in 1940. The population declined for three decades, then rebounded in 1980. By 2020 it had 38,065 inhabitants and 14,234 households. Incorporated towns include Ada, Allen, Byng, Fitzhugh, Francis, Roff, and Stonewall. These recent trends are shown in Table 1-2, below.

Table 1-2: Population Change, 1950-2020

Subject	*1950*	*1960*	*1970*	*1980*	*1990*	*2000*	*2010*	*2020*
Pontotoc County Population	30,875	26,089	27,867	32,598	34,119	35,143	37,492	38,065
Change from Previous Census	-8,917	-4,786	1,778	4,731	1,521	1,024	2,349	573
% Change	-22.4%	-15.5%	6.8%	17%	4.7%	3.0%	6.65%	1.5%

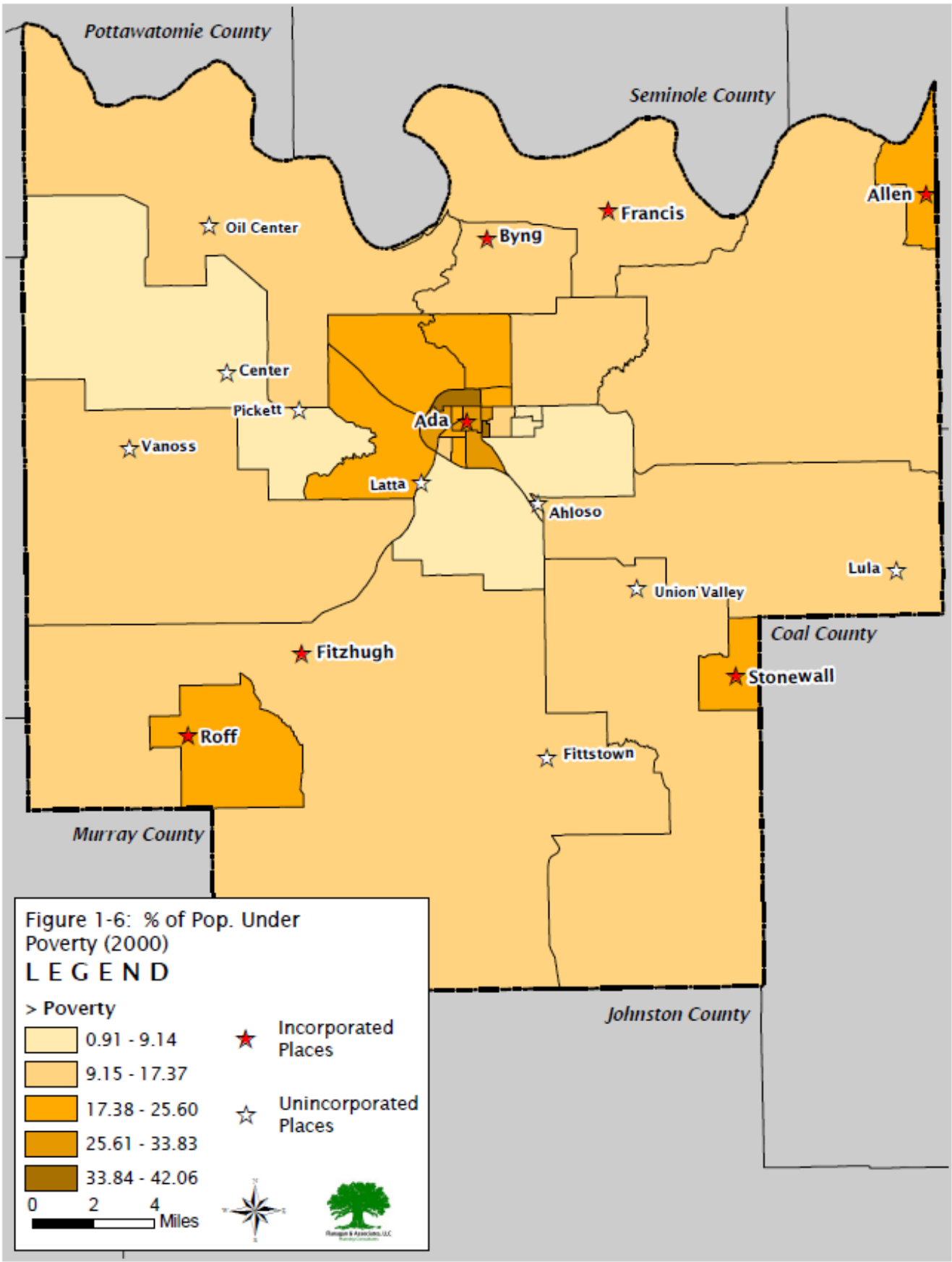
Pontotoc County's population figures defy precise definition, due to the fluctuating student population of East Central State University. As a rule, ECU students are not counted in the Pontotoc County Census. Inevitably, however, some of ECU's 3,000 students (i.e., those living and working off campus at the time of the Census) might well have been counted as Pontotoc County residents. For the purposes of this report, it is assumed that the 2020 Census did not include ECU students. Consequently, Pontotoc County's actual daytime population during most of 2020 was probably around 41,000.

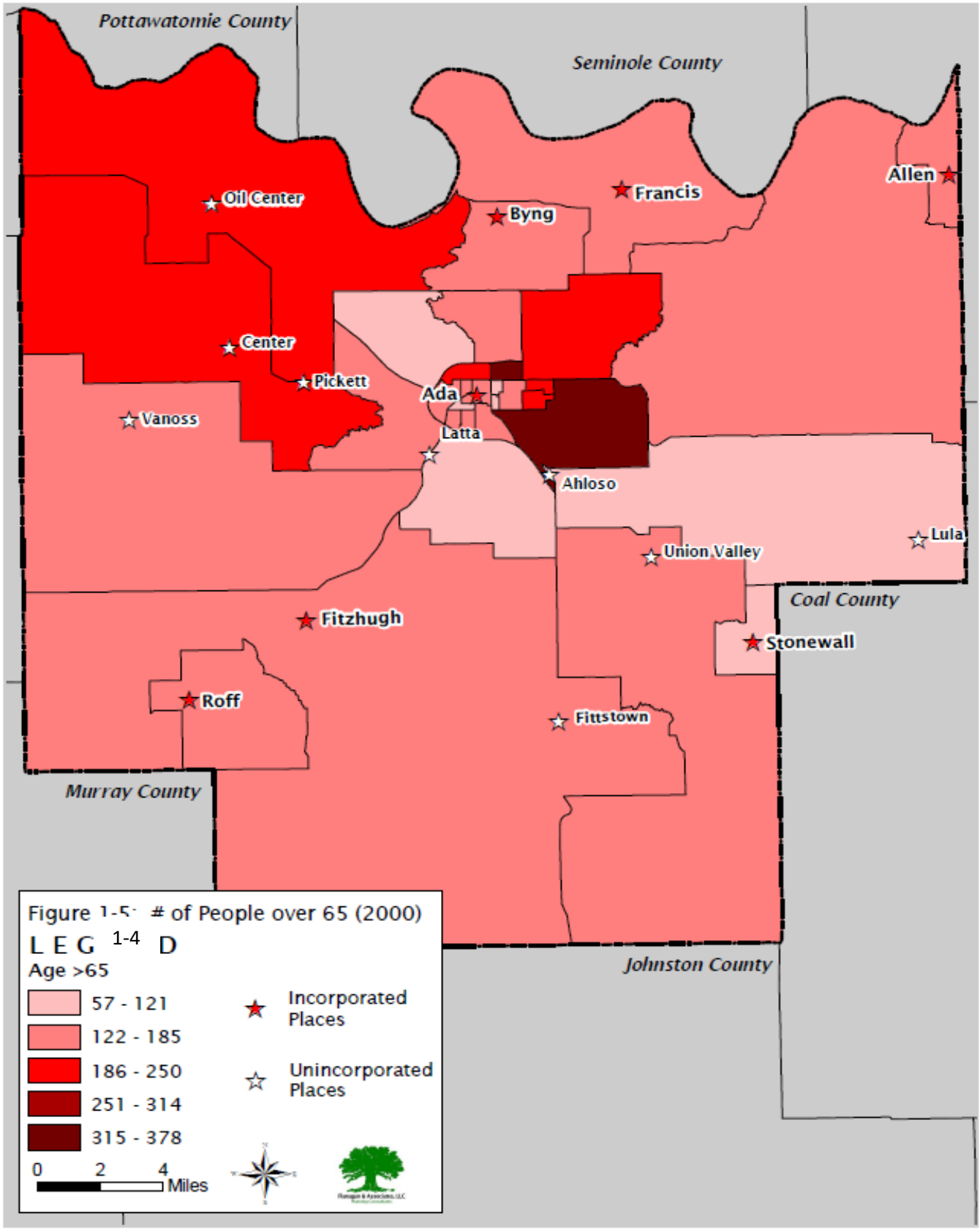
Since elderly and low-income populations may be at potentially greater risk from some hazards, a map depicting the percentage of the population aged 65 and above by Census block is shown in Figure 1-4. In addition, the percentage of the population living in poverty by Census block group is also shown in Figure 1-3. Pontotoc County's demographic data is detailed in Table 1-3.

Table 1-3: Pontotoc County Population Data
Source: 2020 Census

Subject	*Number*	*%*	*State %*
Total Population	38,065	100	.96
Under 5 years old	2,512	6.6	6.5
Between 5-18 years old	9,173	24.1	24.1
65 years and older	6,319	16.6	16.1
ECU Students	2000	--	--
White	26,113	68.6	74
African-American	914	2.4	7.8
Native American	7461	19.6	9.4
Hispanic	2094	5.5	11.1
Poverty Status in 2020 * (Families)	1,566	14.4	14.3
Poverty Status in 2020 * (Individuals)	5,481	14.4	14.3

* The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. For more information on the thresholds and what qualifies as eligible vs. non- eligible income, go to http://www.census.gov/


Pottawatomie County
Seminole County
Coal County
Murray County
Johnston County
Allen
Francis
Byng
Oil Center
Center
Pickett
Ada
Vanoss
Latta
Ahloso
Lula
Union Valley
Fitzhugh
Stonewall
Roff
Fittstown
Figure 1-6: % of Pop. Under Poverty (2000)
LEGEND
> Poverty
0.91 - 9.14
9.15 - 17.37
17.38 - 25.60
25.61 - 33.83
33.84 - 42.06
Incorporated Places
Unincorporated Places
0 2 4 Miles


Pottawatomie County
Seminole County
Oil Center
Byng
Francis
Allen
Center
Pickett
Ada
Vanoss
Latta
Ahloso
Lula
Union Valley
Coal County
Fitzhugh
Stonewall
Roff
Fittstown
Murray County
Johnston County
Figure 1-5: # of People over 65 (2000)
LEGEND
Age >65
57 - 121
122 - 185
186 - 250
251 - 314
315 - 378
Incorporated Places
Unincorporated Places
0 2 4 Miles

1.2.2 Lifelines

Utility Systems

Table 1-4: Utility Suppliers for Pontotoc County
From Oklahoma Commerce Commission

Community	*Population*	*Natural Gas*	*Electric*	*Telephone*
Ada	16481	CenterPoint Energy	Oklahoma Gas & Electric	AT&T Oklahoma
Allen	926	CenterPoint Energy	Public Service of Oklahoma/OG&E	AT&T Oklahoma Allegiance
Byng	1,207	CenterPoint Energy	OG&E, Peoples Electric Coop, Farmers	AT&T Oklahoma
Fitzhugh	230	Propane Only	PEC	AT&T Oklahoma
Francis	320	CenterPoint Energy	OG&E	AT&T Oklahoma
Roff	704	Propane Only	OG&E	AT&T Oklahoma
Stonewall	521	CenterPoint Energy	OG&E	TDS Telecom

Electricity

Pontotoc County's primary electrical service is provided by Oklahoma Gas & Electric (OG&E) in municipalities, based in Oklahoma City, with service in Allen provided by American Electric Power, dba Public Service Company of Oklahoma, with state offices in Tulsa. Unincorporated areas of Pontotoc County are serviced by People's Electric Cooperative, based in Ada.

Table 1-5: Community Water Systems (except Ada Municipal Supply)
From the Ok Department of Environmental Quality (GWP = "Ground Water Purchased")

(See City of Ada Section for City of Ada Water Specifics)

Population Served	Water System Name	Primary Source Water Type
950	Allen PWA	Well
300	Country Hills Mobile Home Park	GWP from Ada
390	Francis	Well
155	Latta Trailer Park	GWP from Ada
541	Pontotoc Co RWD # 1 (Homer)	GWP from Ada
1,495	Pontotoc Co RWD # 3	GWP from Ada
926	Pontotoc Co RWD # 6 (Fittstown)	GWP from Ada
4,968	Pontotoc Co RWD # 7	GWP from Ada
5,335	Pontotoc Co RWD # 8	Well
1,793	Pontotoc Co RWD # 9	GWP (from Ada & RWD #7)
754	Roff	Well
521	Stonewall PWA	Well
350	Chickasaw Housing Auth (Byng)	GWP from Ada

687	Pontotoc Co RWD # 4	GWP from Ada
2437	Pontotoc Co RWD # 8	GWP from Ada

In August 2009, the Oklahoma Water Resources Board completed a 5-year study of the Arbuckle-Simpson aquifer. The study concluded that the recharge rate of the aquifer would allow the withdrawal of groundwater at a rate considerably below that which has been customary for a century: about 0.15 acre-feet per year for each surface acre—an almost 90% reduction in groundwater mining rates, which in the past has been 2 acre-feet per year for each acre of surface land. The new rate should effectively eliminate the possibility of outside parties pumping massive amounts of water from the aquifer for commercial export. The bad news is that Ada's groundwater allotment has also been reduced by 90%. (Byrd's Mill Spring water has not been affected, as it is considered surface water.) To maintain its current water regime, Ada will have to purchase 40,000 acres of aquifer water rights, or look at other options, such as building Scissortail Lake or tapping into a major pipeline to Oklahoma City or Norman. Byrd's Mill is abundant enough to meet Ada's (and the County's) basic needs, but not the summer peaks. The decision of the OWRB is considered controversial and will likely be challenged both in the courts and the legislature. Whatever the outcome of the OWRB decision, Ada and Pontotoc County will be facing major water decisions in the coming decades.

Wastewater Treatment

The City of Ada maintains a wastewater treatment plant. The discharge point for the wastewater plant is into an unnamed tributary of the Little Sandy Creek.

In addition, there is wastewater treatment in the town of Stonewall, at the location of NE/4 of the NW/4 of the NE/4 of Section 13, Township 2 North, Range 7 East, to receiving waters on Buck Creek.

The town of Roff has lagoons located at State highway 1 and North 7th, for emergency overflow the town uses irrigation.

In the unincorporated areas of the County, most wastewater is treated by individual septic tank systems. The towns of Allen, Stonewall, and Francis have wastewater lagoons.

Natural Gas Service

Most natural gas service in Pontotoc County is provided by CenterPoint Energy (CNP), a Houston-based holding company formed in 2002 from Reliant Energy Arkla. CNP operates 9,000 miles of gas pipelines that serve as a hub for customers in Arkansas, Illinois, Kansas, Louisiana, Mississippi, Missouri, Oklahoma and Texas. For additional companies supplying specific communities, see Table 1-4 above.

Telephone, Internet, and Cable Service

With some exceptions (see Table 1-4 above) telephone service for Pontotoc County is provided by AT&T-Oklahoma, which also provides high-speed Internet to the area. Sparklight, in Ada, is the primary provider for cable area television services. Most of the county is a combination of Dish and Direct TV satellite service. Cell phone service is available from AT&T, Verizon, U.S. Cellular, and T-Mobile.

Transportation Systems

Major Highways and Roads

Pontotoc County includes a number of major highways including:

- U.S. Highway 377 (duplexed with OK Hwy 99) – N-S through Ada
- The Chickasaw Turnpike – heads SW from Ada
- State Highway 1 – from NE to Ada where it joins the Chickasaw Turnpike
- State Highway 3 – NW-SE thru entire county
- State Highway 19 – W from Ada
- State Highway 48 – N-S along eastern County border

Railway

Pontotoc County is served by the Burlington Northern Santa Fe (BNSF) and is a BNSF main line national switching yard. Ada is one of 245 stations serviced by BNSF in Oklahoma, which also includes Oklahoma City, Tulsa, Muskogee, Henryetta and Okmulgee, as well as nearby towns of Holdenville and Madill. The BNSF operates on tracks originally built by the St. Louis and San Francisco Railroad (Frisco). The trackage was absorbed into the BNSF's Texas Division when the Frisco was dissolved in 1981. The BNSF is one of the two largest railroads in the US and is particularly strong in the Midwest and West. The railroad operates at least three local trains a day.

Primary cargoes shipped through Ada are agricultural and mining products. Among the agricultural products are soybean meal, corn and corn syrup, nut and vegetable oil, cottonseed meal and oil, wheat and wheat bran, and malt. Mining products include coal, oil, propane, asphalt, gypsum, and limestone. Additionally, these trains carry numerous types of hazardous materials including extremely hazardous substances (EHS).

Bus Lines and Taxi Service

Public transit is provided by Call-a-Ride, which is jointly sponsored by the City of Ada, Pontotoc County, East Central University, United Way and the Chickasaw Nation. Call-a-Ride primarily serves residents of Ada (including ECU), as well as all areas of Pontotoc County. Demand-response routes to Seminole and Pauls Valley are available. Hours of operation are weekdays 8 a.m. to 5 p.m. Discount fares for riders who are disabled or elderly. Call-a-Ride has 5 vehicles with a capacity of 42 passengers. Ada does not have a municipal bus service. Taxi service is available from Ada Cab and Patti Wagon. The Chickasaw Nation Service provides service to the Chickasaw population.

Several organizations have transportation services that may be of use in the event of a disaster. East Central State University has bus service available for disabled or handicapped students. New Horizons Unlimited is a sheltered workshop for mentally handicapped and disabled adults. They have eight vehicles with a 100-passenger capacity. McCall's Chapel School Group Home has six vehicles with 100-passenger capacity. Mental Health of Southeastern Oklahoma has five vehicles with 100-passenger capacity. Additionally, all schools in the county and in the city of Ada have authorized use of their busses in the event of a disaster or other emergency.

Airports

Pontotoc County is served by Ada Regional Airport. The airport code is owned and operated by the City of Ada. See the City of Ada Section for specifics. Air Evac has a base at the Airport.

The nearest commercial airport is Will Rogers World Airport in Oklahoma City (67 miles), which is served by multiple national and international carriers, both passenger and airfreight.

1.2.3 Economy

As of 2020, 28,891 people were over the age of 18 in Pontotoc County and of that, 17,075 (59.1%) were in the labor force. Of this number, 17,479 (or 60.5%) were employed and 1,127 unemployed (3.9%). About 67.2% of the employed were private wage and salary workers, 25% were government workers, and 7.3% were self-employed in unincorporated businesses. The median household income in 2020 was $51,682.

Pontotoc County, outside of Ada, has two industrial areas of note. One is located 5 miles SE of Ada on HWY 3E, and the other is located on the west side of the town of Allen. Within the boundaries of the city of Ada, there are 2 industrial areas that are county. One is located on the east side of Ada, and the other is on the north side of Ada. Both areas encompass major industrial sites.

Major employers in Pontotoc County are listed in Table 1-6 and are briefly described in the following paragraphs.

Table 1-6: Pontotoc County Major Employers

Company	Product/Services	Employed
Chickasaw Nation Headquarters	Other Services	1,198
Chickasaw Division of Commerce	Other Services	880
Mercy Hospital Ada	Health Care	817
East Central University	Education Services	657
Chickasaw Nation Health System	Health Care	631
Legal Shield	Finance & Insurance Services	700
Dart Container Company	Manufacturing	330
Wal-Mart Supercenter	Retail	450
Flex-N-Gate Technologies	Manufacturing	700
Pontotoc County	County Government	130
Ada Public Schools	Education Services	350
City of Ada	Admin, Support, Waste Mgt, Remediation	280
McCall's Communities	Health Care	250
Kerr EPA Water Research Lab	Professional, Scientific, & Technical Services	50
People's Electric Cooperative	Utility Services	130
Holcim Cement	Manufacturing	125
Vision Bank	Finance & Insurance	100
Rolling Hills Psych. Hospital	Health Care	100
General Aviation Modifications Inc.	Manufacturing - Aviation	40
Apex Composites	Manufacturing	36
Globe Lifeline EMS	Manufacturing	66
Pontotoc Technology Center	Education Services	45

The County/City of Ada major employers are:

Chickasaw Nation Headquarters, Chickasaw Division of Commerce, Chickasaw Health Nation System provides a wide range of government, health and social services to members of the Chickasaw Tribe in south central Oklahoma. Services are funded by grants and business enterprises, the most lucrative of which are the nation's gambling casinos.

Mercy Hospital Ada (formerly Valley View) is part of the Mercy Health Care System. Mercy Hospital Ada is a general hospital with over 700 employees, 40 physicians, and 150 beds.

Legal Shield (formerly Prepaid Legal Services, Inc.), provides legal services to over 1.5 million families in the U.S. and Canada by means of "legal insurance policies."

Dart Container Company manufactures plastic cups (Solo Cups) and containers at its 267,000 sq. ft. plant in north Ada.

East Central University is a four-year state university with an enrollment of around 3000.

Wal-Mart Supercenter. Wal-Mart is the nation's largest retailer.

Flex-N-Gate Technologies produces body moldings, bumpers, grilles, hinges, latches and other external automobile parts at its 352,000 square foot facility.

EPA Robert Kerr Environmental Research Center conducts research and technical assistance to protect and restore ground water, surface water, and ecosystems.

Holcim Inc. (formerly Holnam, Inc.) produces cement from its plant and quarry in southeast Ada. The Holcim head office is in Switzerland.

McCall's Communities is a residential care facility that provides comprehensive and individualized health care and rehabilitation services to individuals with intellectual disability to promote functional status and independence.

1.2.4 Development

According to 2021 Pontotoc County Assessor's data, there are 26,642 properties and 19,975 with improvements within Pontotoc County with a total value, adjusted for fair market value, of $1,477,425,507. Numbers of properties with improvements (buildings, garages, pools, storage, and so forth), and improvement values, by type, are shown in Table 1-7 for Pontotoc County. No land values are included.

Table 1-7: Pontotoc County Properties and Values by Improvement Type
Source: Pontotoc County Assessor's Office 2021

Improvement Type	*Count*	*Market Value*
Residential	17,163	$971,766,266
Agricultural	4,431	$165,612,463
Commercial/Industrial	1,467	$287,674,661
Mobile Homes	1,345	$28,277,481
Tax Exempt	2,236	$24,094,438
Total	**26,642**	**$1,477,425,507**

Pontotoc County Assessor's data from 2021 was used to identify properties with mobile homes, as well as their respective values. There are a total of 1,345 properties with mobile homes in Pontotoc County with a combined value, adjusted for fair market value, of $28,277,481.

Pontotoc County has a large percentage of homes built prior to 1969, and some communities where a relatively large percentage were constructed prior to 1939. These figures are shown in the following table.

Table 1-8: Pontotoc County Homes Built Prior to 1979, 1969, 1959 and 1939

Source: US 2020 Census

Jurisdiction	*Percentage built prior to 1979*	*Percentage built prior to 1969*	*Percentage built prior to 1959*	*Percentage built prior to 1939*
Pontotoc County	55.8%	36.6%	23.9%	8.1%
Allen	62.8%	48.3%	33.6%	13.9%
Byng	55.3%	13.2%	9.6%	3.7%
Fitzhugh	78.9%	52.5%	26.5%	4.9%
Francis	79.3%	49.9%	40.5%	27%
Stonewall	81.6%	61.6%	41.5%	12.8%
Roff	76.8%	54.8%	36.8%	17.7%

Future Development

According to the 2020 census, Pontotoc County's population is 38,065. Projections put the population at 39,500 by 2030, approximately a 4% increase, with most of the development occurring outside of Ada's city limits.

Ranching in Pontotoc County brought in nearly $40 million in 2020. Pontotoc County still has a major railroad, the BNSF, with a railyard in Ada. There is also a four-lane highway connecting I-35 to Ada. This highway starts at I-35 on Hwy 7, meets the Chickasaw Turnpike near Sulphur, goes North-East to Hwy 1 near Fitzhugh, then proceeds on to Ada. Hwy 377 in Ada continues as a 4-lane highway, north to the Pontotoc-Seminole County line. Eventually this highway will be four-lane to I-40 near Seminole, which should increase both passenger and truck traffic through the county. East Central University remains an economic anchor, along with Holcim Cement.

Ada and Pontotoc County have worked hard to attract new industry, but have also supported the growth of local enterprises, such as Legal Shield Legal Services and Edge Tech Corp. Perhaps one of the County's biggest economic boosts has come from Ada's selection as the capital of the reconstituted Chickasaw Nation. Casinos and other tribal enterprises and charities have brought new revenue streams into the jurisdiction. The Chickasaw Nation is now the County's largest employer. Another factor shaping the County's future development is the construction of the Council on Law Enforcement Education and Training, or CLEET, in northwest Ada.

Ada is growing in the northwest, north, south and east. The CLEET facility in the northwest, along OK Hwy 3E and 99 should stimulate development in that part of Pontotoc County. Commercial development is happening along Lonnie Abbott Blvd. in the north of Ada, and south along OK Hwy 3E. The Chickasaw Nation is developing land on Lonnie Abbott, at Mississippi Ave., where the City of Ada has recently annexed 47 acres. Office commercial and campus industrial development is taking place south of Ada along Kerr Lab Rd., Kerr Lab Blvd., and Stonecipher

Blvd., where Pre-Paid Legal is located. The Chickasaw Nation is building a new medical facility in this area, on the south side of Stonecipher Blvd.

Future Growth Areas within Pontotoc County are generally within a seven-mile radius of the City of Ada.

1.3 Capabilities

Each jurisdiction in the plan has a unique set of capabilities, including authorities, policies, programs, staff, funding, and other resources available to accomplish mitigation and reduce long-term vulnerability. By reviewing the existing capabilities in each jurisdiction, the planning team identified capabilities that currently reduce disaster losses or could be used to reduce losses in the future. The following information outlines the capability assessment for Pontotoc County and participating planning jurisdictions.

1.3.1 Existing Institutions, Plans, and Ordinances

Jurisdiction	Building Code	Zoning Ordinance	Subdivision Ordinance	Floodplain Management Ordinance	Growth Management Ordinance	Site Plan Review Requirements	Comprehensive Plan	Capital Improvement Plan	Economic Development Plan	Emergency Response Plan	Post-Disaster Recovery Plan
Pontotoc County		X	X	X				X		X	
City of Ada	X	X	X	X		X	X	X	X	X	
Town of Allen	X	X					X	X		X	
Town of Byng	X	X		X			X	X	X	X	
Town of Fitzhugh										X	
Town of Francis		X								X	
Town of Roff	X	X		X			X	X		X	
Town of Stonewall		X		X			X	X		X	

Emergency Operations Plan (EOP)

Pontotoc County's emergency procedures are contained in the Comprehensive Emergency Operations Plan, Revised October 2022. This comprehensive Plan defines who does what, when, where and how in order to prepare for, and respond to natural disasters, technological accidents, nuclear incidents and other major incidents/hazards. Utilizing this plan aids in effective recovery efforts and assists in identifying mitigation actions needed. According to Pontotoc County Emergency Management, Pontotoc County, as a whole, along with several communities in the county, is NIMS compliant and has incorporated NIMS/ICS into its 2022 Emergency Operations Plan and other protocols.

- Preparation develops the response capabilities needed if an emergency does arise.
- Response provides emergency services during a crisis to reduce casualties and damage and speed recovery.
- Recovery is short-term and long-term. Short-term response restores vital services and provides for basic public needs; long-term response restores the community to a normal or improved state of affairs.

The Plan establishes the Emergency Operations Center, lays out emergency tasks and responsibilities, direction and control, continuity of government, and administration and logistics. The Plan is revised annually and tested at least once each year.

Comprehensive Planning and Zoning

Planning in Pontotoc County is guided by several documents. The purpose of these Plans is to coordinate the County's physical development in accordance with present and future goals and objectives. At the present time, planning and zoning activities for subdivisions go through the Planning and Zoning Committee in Ada.

Building Codes

The building codes adopted by Pontotoc County mirror the state codes, and are as follows:

International Building Code 2012 Edition, with modifications

International Fire Prevention Code, 2012 Edition

International Residential Code 2012, with modifications

International Mechanical 2012, with modifications

International Plumbing 2012

National Electrical Code 2014

International Fuel and Gas Code 2012, with modifications

Capital Improvements Plan

The Pontotoc County Capital Improvement Plan that was adopted in July 2019, incorporates the following measures, which could have an impact on mitigation activities:

- Upgrading substandard roads;
- Improving and upgrading substandard bridges;
- Improving and upgrading facilities at the Agri-plex;
- Upgrading and improving culverts and improving drainage;

1.3.2 Administrative and Technical Capability

Jurisdiction	Planner(s) or Engineer(s) with knowledge of land development and management practices	Floodplain Manager	Surveyors	Staff with education or expertise to assess the communities vulnerability to hazards	Personnel skilled in GIS and/or HAZUS	Scientists familiar with the hazards of the community	Emergency Manager	Grant writers
Pontotoc County	X	X		X	X	X	X	
City of Ada	X	X		X	X	X	X	
Town of Allen				X			X	
Town of Byng	X	X		X	X		X	
Town of Fitzhugh							X	
Town of Francis				X				
Town of Roff	X	X		X			X	
Town of Stonewall	X	X		X			X	

Emergency Operations Center (EOC)

During major emergencies, Pontotoc County's government will be moved to the Emergency Operations Center (EOC). The County's primary EOC is located in the Pontotoc County Argi-Plex located at 1710 N Broadway, in Ada. Communities in Pontotoc County may also establish EOCs in their facilities as required. An alternate County EOC is available using the Byng EOC located within the City Hall/Fire Department building. The City of Ada operates its own EOC located at 231 S Townsend St. in Ada. The establishment and operation of the EOC is covered in the Pontotoc County *Emergency Operations Plan, Annex A.*

The Emergency Management Director has overall responsibility for the operation of the EOC. The EOC has three stages of operation:

- Normal Peacetime Readiness
- Increased Readiness, and
- Emergency Period.

The County EOC is equipped with operations and communications room, one office, restrooms, small kitchen facilities, and a conference room. All critical equipment and systems are backed up by power supplies and portable generators are available as needed. During an emergency, the EOC operates on a two-shift, around-the-clock basis. An incident command post (ICP) may be set up to coordinate activities at the scene of the disaster.

During an emergency, the EOC may become the seat of County government. Day-to-day functions that do not contribute directly to response actions may be suspended for the duration of the emergency.

All computers at both locations are equipped with surge protectors and emergency battery power until the generators start.

Individual community EOCs may be activated in addition to or in place of the Pontotoc County EOC if that community is heavily involved or if the location is more appropriate for response to an emergency.

Fire Hazard Mitigation

ISO's Public Protection Classification (PPC) program provides important information about municipal fire-protection services, which is used by insurance companies to establish fire insurance premiums. The program also helps communities plan for, budget, and justify improvements in order to mitigate the effects of the fire hazard.

A uniform set of criteria, which incorporates nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association, is used to evaluate a community's fire protection service and rate it on a scale from 1 to 10, where lower numbers indicate a better rating. The evaluation inventories and analyzes the following segments of fire protection resources:

- Fire Alarm and Communication Systems – including telephone systems and lines, staffing, and dispatching systems;
- The Fire Department – including equipment, staffing, training, and geographic distribution of fire companies;
- The water supply system – including condition and maintenance of hydrants, and a careful evaluation of the amount of available water compared with the amount needed to suppress fires.

There are 16 different Fire Departments operating in Pontotoc County. Each community has its own individual fire insurance rating. The fire insurance ratings range from 2 to 9 within Pontotoc County. The unincorporated areas of the county have an 8 or 9 depending on their local VFD. Within the municipal fire departments, the ratings are much better with Ada having a rating of 2, Allen a 5, Byng a 4, Francis an 8, Fitzhugh a 9, Roff a 5, and Stonewall a rating of 8. Fire insurance ratings range from 1 to 10, where lower numbers indicate a better rating.

1.3.3 Financial Capabilities

Jurisdiction	Capital Improvements Project Funding	Authority to levy taxes for specific purposes	Water, Sewer, Gas, or Electric service Fees	Incur fees for new development	Incur debt through general obligation funds and/or special tax bonds	Community Development Block Grant	Federal funding programs	State funding programs
Pontotoc County	X	X			X	X	X	X
City of Ada	X	X	X	X	X	X	X	X
Town of Allen	X	X	X	X	X	X	X	X
Town of Byng	X	X	X	X	X	X	X	X
Town of Fitzhugh		X			X	X	X	X
Town of Francis		X	X	X	X	X	X	X
Town of Roff	X	X	X	X	X	X	X	X
Town of Stonewall	X	X	X	X	X	X	X	X

1.3.4 Education and Outreach Capabilities

Jurisdiction	Local citizen groups/Non-profit organizations willing to assist with mitigation activities	Ongoing public education or information programs	Natural disaster or safety related programs	StormReady Certification	Firewise Communities Certification	Public-Private partnership initiatives addressing disaster-related issues
Pontotoc County	**X**	**X**	**X**	**X**		
City of Ada	**X**	**X**	**X**	**X**		
Town of Allen	**X**	**X**				
Town of Byng	**X**	**X**	**X**	**X**		
Town of Fitzhugh						
Town of Francis						
Town of Roff	**X**					
Town of Stonewall	**X**	**X**				

Firewise Community

The Firewise Community certification is a project of the National Wildfire Coordinating Group. It recognizes communities that have gone through a process to reduce the dangers of wildfires along what is referred to as the Wildland-Urban Interface (WUI). A specialist from Firewise Communities USA will work with the local community to assess wildfire dangers and create a plan that identifies agreed-upon achievable solutions to be implemented. Additional information on the Firewise Community program can be accessed at www.firewise.org/usa.

StormReady Community

StormReady is a nationwide community preparedness program that uses a grassroots approach to help communities develop plans to handle all types of severe weather—from tornadoes to tsunamis. The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines

on how to improve their hazardous weather operations. To be officially StormReady, a community must:

- establish a 24-hour warning point and emergency operations center;
- have more than one way to receive severe weather warnings and forecasts and to alert the public;
- create a system that monitors weather conditions locally;
- promote the importance of public readiness through community seminars;
- develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.

Additional information can be found at http://www.stormready.noaa.gov/.

Public Information Infrastructure

2-1-1 System

A community 2-1-1 system is to non-emergency assistance what 9-1-1 is for emergency response – a quick and easy way for people to access needed help by phone for information or social services. During times of severe weather, or while people are preparing for emergencies, they may use 2-1-1 to access information. Ensuring that disaster safety information is available to the 2-1-1 operators is an easy and effective way to make sure that information is disseminated to people who need it. For more information on 2-1-1 in Oklahoma, refer to the Oklahoma 2-1-1 Advisory Collaborative, www.211oklahoma.org. Pontotoc County is served by the ***2-1-1 of Southeastern Oklahoma*** system.

Outreach Programs

- Emergency Management conducts programs in the schools, and with civic groups, geared toward storms, planning, Hazardous Materials, and other disasters.
- Local Fire Departments conduct annual programs in the schools.

Pontotoc County Radio/TV Programs/Communications

- Sparklight is a resource during an emergency, but access to Cable TV is mostly limited to the communities, and not rural Pontotoc County.
- Most citizens of the county can also receive KTEN, and KXII considered to be our local news and weather, although based in Sherman, TX.
- Newspaper: Pontotoc County and the City of Ada are served by the *The Ada News*. The paper is published Tuesday, Thursday and Saturday. It is owned by Community Newspaper Holdings. *The Ada News* enjoys a wide circulation and has a detailed website. It provides spaces for public notification as well as community news and events.
- Pontotoc County is also served by The Allen Advocate with is a weekly paper in Allen.

1.3.5 School District and Pontotoc Technology Center Capability Assessment

Jurisdiction	Capital Improvement Plan	Emergency Management Plan and/or procedures in place	Budget to raise funds for mitigation (bond)	Ways to raise funds through public partnerships, corporate donations etc.	Designated emergency manager (even as a secondary position)	PTO/PTA	Training for teachers to practice natural hazard response	Training for teachers/coaches to ensure consistency in evaluating lightning	Post-Disaster Recovery Plan
Ada Public Schools	X	X	X	X		X	X		
Allen Public Schools	X	X		X		X	X		
Byng Public Schools	X	X		X		X	X		
Latta Public Schools	X	X		X		X	X		
Roff Public Schools	X	X		X		X	X		
Stonewall Public Schools	X	X		X		X	X		
Vanoss Public Schools	X	X		X		X	X		
Pontotoc Technology Center	X	X		X			X		

1.3.6 How Jurisdictions Can Build Upon Their Capabilities

The "X" marking indicates how each jurisdiction can expand and improve their capabilities.

Jurisdiction	Develop Building Codes for the Jurisdiction and an inspection Process	Work with RWD's and other Utilities to ensure growth management practices	Work with Other Jurisdictions to Ensure that the Planning Area has a Cohesive Economic Development Plan	Develop or be a part of a Disaster Recovery Plan	Develop a Community Disaster Recovery Team	Consider Rejoining the NFIP	Get Citizens involved with Mitigation Efforts	Become a Storm Ready Community	Create or Update your Capital Improvement Plan	Develop a Public Education Program for Citizens				
Pontotoc County	X	X	X	X	X		X		X					
City of Ada		X	X	X	X		X		X					
Town of Allen	X		X	X	X	X	X	X	X	X				
Town of Byng	X		X	X	X		X		X	X				
Town of Fitzhugh			X	X			X	X	X	X				
Town of Francis	X		X	X			X	X	X	X				
Town of Roff	X		X	X	X		X	X	X	X				
Town of Stonewall	X		X	X	X		X	X	X	X				

Jurisdiction	Develop a Disaster Recovery Plan	Train Teachers and Coaches on Lightning Evaluation	Continue to Work to Budget to raise funds for mitigation (bond)	Designate an Emergency Manager for the District	Enhance Training for teachers on Natural Hazard Response					
Ada Public Schools	X	X	X	X	X					
Allen Public Schools	X	X	X	X	X					
Byng Public Schools	X	X	X	X	X					
Latta Public Schools	X	X	X	X	X					
Roff Public Schools	X	X	X	X	X					
Stonewall Public Schools	X	X	X	X	X					
Vanoss Public Schools	X	X	X	X	X					
Pontotoc Technology Center	X		X	X	X					

1.3.7 NFIP Participation and Repetitive Loss

For decades, the national response to flood disasters was simply to provide disaster relief to flood victims. Funded by citizen tax dollars, this approach failed to reduce losses and didn't provide a way to cover the damage costs of all flood victims. To compound the problem, the public generally couldn't buy flood coverage from insurance companies, because private insurance companies see floods as too costly to insure. In the face of mounting flood losses and escalating costs of disaster relief to U.S. taxpayers, Congress established the National Flood Insurance Program (NFIP). The goals of the program are to reduce future flood damage through floodplain management, and to provide people with flood insurance. Community participation in the NFIP is voluntary.

Pontotoc County participates in the National Flood Insurance Program. In addition, Ada, Byng, Roff, and Stonewall are NFIP participants.

Jurisdiction	Participates in NFIP	Why Community Does Not Participate in NFIP (as applicable)	How NFIP Community will Continue to Remain Compliant
Pontotoc County	Pontotoc County has been a member of the National Flood Insurance Program since 2004.		The jurisdiction will continue to remain NFIP complaint by having a floodplain board, having an appeals process, having a set of regulations for the jurisdiction that meet or exceed minimum NFIP Standards, enforcement of those regulations, a development permitting process, a floodplain manager that is accredited by OWRB.
City of Ada	Ada has participated in the National Flood Insurance Program (NFIP) since August 1979.		The jurisdiction will continue to remain NFIP complaint by having a floodplain board, having an appeals process, having a set of regulations for the jurisdiction that meet or exceed minimum NFIP Standards, enforcement of those regulations, a development permitting process, a floodplain manager that is accredited by OWRB.
Town of Allen		The town of Allen withdrew from the program in 1997.	
Town of Byng	The Town of Byng has been an NFIP member since 2014.		The jurisdiction will continue to remain NFIP complaint by having a floodplain board, having an appeals process, having a set of regulations for the jurisdiction that meet or exceed minimum NFIP Standards, enforcement of those regulations, a development permitting process, a floodplain manager that is accredited by OWRB.

Town of Fitzhugh		Has no mapped floodplain within the town limits	
Town of Francis		Has no mapped floodplain within the town limits	
Town of Roff	The Town of Roff is a Pre-1980 Community.		The jurisdiction will continue to remain NFIP complaint by having an appeals process, having a set of regulations for the jurisdiction that meet or exceed minimum NFIP Standards for a (Pre-1980 Community), enforcement of those regulations, a development permitting process.
Town of Stonewall	The Town of Stonewall has been an NFIP member since 2018.		The jurisdiction will continue to remain NFIP complaint by having a floodplain board, having an appeals process, having a set of regulations for the jurisdiction that meet or exceed minimum NFIP Standards, enforcement of those regulations, a development permitting process, a floodplain manager that is accredited by OWRB.

Repetitive Loss (RL)

A repetitive loss property is defined by FEMA as "a property for which two or more National Flood Insurance Program losses of at least $1,000 each have been paid within any 10-year period since 1978." Pontotoc County has one repetitive loss property noted.

Jurisdiction	Number of Repetitive Loss Properties	Type of Repetitive Loss Properties (Residential/Structural/Industrial)
Unincorporated Pontotoc Co	1	Residential

Chapter 2: The Planning Process

The planning for the Pontotoc County Multi- Jurisdictional Multi-Hazard Mitigation Plan followed a ten-step process, based on the guidance and requirements of FEMA.

2.1 Step One: Organize to Prepare/Update the Plan

(January 2018 – April 2022) Citizens, community leaders, government staff personnel, and professionals active in disasters provided important input into the development of the plan and recommended goals and objectives, mitigation measures, and priorities for actions.

The planning process was formally created by a resolution of the governing body of Pontotoc County.

The Pontotoc County Planning Group meeting to review the plan.

The following table states the names of the contributors to the Hazard Mitigation Plan and their Agency name. Each person had a valuable role in the update of the Plan.

Table 2-1
The Pontotoc County Hazard Mitigation Planning Team
And
Contribution to Plan by Name and Agency

Name	Agency	Contributions to Plan
Chad Letellier	Pontotoc County Emergency MGMT	Planning group leader, Lead information provider for Pontotoc County, consolidation of plan information provided by other jurisdictions. Coordination of mitigation measures
Braylee Dickerson	Town of Allen Fire Chief	Consolidation of information for plan, plan information gathering for all agencies and jurisdictions.
Jason Keck	City of Ada Emergency MGMT	Planning group leader, Lead information provider for Pontotoc County, consolidation of plan information provided by other jurisdictions. Coordination of mitigation measures
Dianna Brannen	Town of Allen City Mayor	Lead information gathering and lead planner for the town of Allen, selection of mitigation measures for the town, selection of action items for town of Allen
Jeff Rollins	Town of Byng EM Director	Lead information gathering and lead planner for the town of Byng, selection of mitigation measures for the town, selection of action items for town of Byng
Jeff Sibble	Town of Byng Mayor	Assisted in gathering information for the town of Byng, selection of mitigation measures, and action items for the town and the county
Tim Avid	Town of Fitzhugh EM Director	Lead information gathering and lead planner for the town of Fitzhugh, selection of mitigation measures for the town, selection of action items for town of Fitzhugh
Clayton Canada	Town of Francis Fire Chief	Lead information gathering and lead planner for the town of Francis, selection of mitigation measures for the town, selection of action items for town of Francis
Joe McCullar	Town of Roff Mayor	Lead information gathering and lead planner for the town of Roff, selection of mitigation measures for the town, selection of action items for town of Roff
Karl Burkhardt	Town of Stonewall City Admin	Lead information gathering and lead planner for the town of Stonewall, selection of mitigation measures for the town, selection of action items for town of Stonewall
Danny Summers	Town of Stonewall Fire Chief	Assisted in gathering information for the town of Stonewall, selection of mitigation measures, and action items for the town.
Mike Anderson	Ada Public Schools Superintendent	Lead information gathering and lead planner for Ada Schools, selection of mitigation measures for the school, selection of action items for Ada School System
Eddie Jacobs	Ada Public Schools Director of Operations	Lead information gathering/asst planner for Ada Schools, selection of mitigation measures for the school
Jeff Hiatt	Allen Schools Superintendent	Lead information gathering and lead planner for Allen Schools, selection of mitigation measures for the school, selection of action items for Allen School System

Kevin Wilson	Byng Schools Superintendent	Lead information gathering and lead planner for Byng Schools, selection of mitigation measures for the school, selection of action items for Byng School System
Scott Morgan	Latta Schools Superintendent	Lead information gathering and lead planner for Latta Schools, selection of mitigation measures for the school, selection of action items for Latta School System
Ead Simon	Roff Schools Superintendent	Lead information gathering and lead planner for Roff Schools, selection of mitigation measures for the school, selection of action items for Roff School System
Greg Loveless	Stonewall Schools Superintendent	Lead information gathering/lead planner for Stonewall Schools, selection of mitigation measures for the school, selection of action items for Stonewall School System
Marjana Tharp	Vanoss School Superintendent	Lead planner for Vanoss Schools, selection of mitigation measures for the school, selection of action items for Vanoss School System
Charles Hill	Vanoss School Principal	Lead information gathering/asst planner for Vanoss Schools, selection of mitigation measures for the school, selection of action items for Vanoss School System
Gary Starns	Pontotoc County Dist 1 Commissioner	Provided Information for plan
Danny Davis	Pontotoc County Dist 2 Commissioner	Provided Information for plan
Justin Roberts	Pontotoc County Dist 3 Commissioner	Provided Information for plan
John Christian	Pontotoc County Sheriff	Provided Information for plan
Chris Mcgill	Town of Byng Fire Chief	Provided Information for plan
Tammy Brown	Pontotoc County Clerk	Provided Information for plan
Mike Bradley	Town of Roff--Fire Chief	Provided Information for plan
Jenny Lindsey	Pontotoc County Health Dept. ESF 8 Rep.	Provided Information for plan
Mike Tuley	PTC Safety Coordinator	Lead information gathering and lead planner for Pontotoc Technology Center, selection of mitigation measures for the facility, selection of action items for Technology Center.

Hazard Mitigation Planning Meetings

From January 9, 2018 through May 6, 2022, the planning area had meetings quarterly. Most of the meetings had good representation of the planning areas. During the COVID-19 pandemic there were some meetings cancelled or changed to phone conference meetings or Zoom calls, in the best interest of the participants. Over the course of this time frame the action items and mitigation measures for this plan were discussed at length. The

City of Ada, Ada Public Schools and the Pontotoc Technology Center merging their plans with the Pontotoc County plan was proposed, discussed and accepted. Much discussion and effort went into a planning area debris plan as well as Hyper-Reach plan completed.

2.2 Step Two: Involve the Public

(January 2018 – May 2022)
The Pontotoc County Planning Group undertook projects to inform the public of this effort and to solicit their input. All meetings of the planning group were publicly posted as required by ordinances and rules of the jurisdiction and were open to the public. The public had opportunities to review the plan and participate in the planning process throughout the development of the plan. The Public was invited several times to open and posted meetings, and since no one attended, jurisdiction and school representatives were relied on for information and input.

2.3 Step Three: Coordinate with Other Agencies and Organizations

(January 2018 – May 2022)
Many public agencies, private organizations, and businesses contend with natural hazards. Management team members contacted them to collect their data on the hazards and determine how their programs can best support the Pontotoc County Multi-Hazard Mitigation planning program. A list of agencies contacted are included below.

Agency Businesses	**Person Contacted**	**Method of Contact**
BNSF	Joe White-Operations MGR	Email
People's Electric	John Hudson-CEO	Email
OG&E	Mike Douglas-EM	Email
Mercy Hospital/EMS	Scott Tulane-Director	Phone and Email

Agency	Person Contacted	Method of Contact
Federal		
NWS Norman	Rick Smith-WCM	Phone and Email
NRCS	Clay Horton-Dam Supervisor	Phone and Email
Tribal		
Chickasaw Nation	Steve Cash-EM Director	Phone and Email
Chickasaw Nation Hospital	Trey Tashuda-EM Coordinator	Phone and Email
National Non-Profit		
American Red Cross	Renee Beasley-Area Mgr	Phone and Email
Salvation Army	Michelle Rutherford	Phone and Email
State		
Oklahoma Corporation Comm	Randy Williamson-Tech	Phone and Email
OEM	Matt Rollins-St. Haz. Mit. Off.	Phone and Email
ODEQ	Mark Manwell-Representative	Phone and Email
Ok Dept of Health	Bob Stewart-MERC Coordin.	Phone and Email
OWRB	Aaron Milligan	Email
State NFIP Coordinator	Gavin Bradey	Email
State Hazard Mitigation Off.	Matt Rollins	Email
Regional		
SODA	Phil Powell-Fire Coordinator	Phone
Universities		
OSU Extension Service	Erin Hubbard-Ext Agent	Phone and Email
East Central University	Bert Miller-Police Chief	Phone and Email
Pontotoc County		
County Commissioners	Gary Starns-Commissioner	Phone and Email
County Assessor	Jay Owens	Phone and Email
County Health Dept	Jenny Lindsey-ESF 8 Liaison	Phone and Email
County Emergency MGMT	Chad Letellier	Phone and Email
County Clerk	Tammy Brown	Phone and Email
County Sheriff	John Christian	Phone and Email
RWD 7	Buck Cooper	Phone and Email
RWD 8	Joyce Williams	Email
RWD 9	Eric Stone	Phone
LEPC	Chad Letellier-Chairman	Phone and Email
Local Government		
Ada Mayor	Randy McFarlin	Phone and Email
Allen Mayor	Diane Brannon	Phone and Email
Allen Fire Chief	Braylee Dickerson	Phone and Email
Byng Emergency MGMT	Jeff Rollins-Director	Phone and Email
Byng Mayor	Jeff Sibble	Phone and Email
Fitzhugh Mayor	Stephen Choat	Email
Fitzhugh Fire Chief	Richard Barnes	Email
Francis Mayor	Craig Thompson	Email
Francis Fire Chief	Clayton Canada	Phone and Email
Roff Mayor	Joe McCullar	Phone and Email
Roff Fire Chief	Mike Bradley	Phone
Stonewall City Administrator	Karl Burkhardt	Phone and Email
Stonewall Fire Chief	Danny Summers	Phone

Plans, Studies, Reports, Historical Data and Technical Info.	Relevant Information Incorporated into the Plan
OK State Hazard Mitigation Plan	Hazard Description and Extent information used for Hazard profiles
Pontotoc County Emergency Operations Plan	Identify current resources and current capabilities
US Census Bureau Population Data, 2020	Identify vulnerable populations for hazards
Federal Emergency Management Agency (FEMA)	Disaster declaration information, FIRM maps, Loss Avoidance Studies
National Drought Mitigation Center (NDMC)	Drought Data
National Weather Center, Norman Office	Storm Data and related materials
OK First	Severe weather Data
The Storm Prediction Center (SPC)	Storm Data
National Lightning Safety Institute (NLSI)	Lightning Data
National Oceanic and Atmosphere Administration (NOAA)	Climate Data
Oklahoma Water Resource Board (OWRB)	Rain, River, and Drought Data
Ada Public Library	Historical Hazard Data

The Pontotoc County planning team reviewed relevant community studies, plans, reports and technical documents in the inventory, evaluation and plan phases of the Multi-Hazard Mitigation Plan development. Interviews with public officials were used to determine jurisdictional growth patterns and identify areas of future development.

Chapter 3: Natural Hazards

Introduction

Included in this Chapter:

According to the Federal Emergency Management Agency (FEMA), a hazard is defined as an event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, or agricultural loss, among other types of loss or harm. Hazards are generally classed into two categories based on their source: natural hazards and man-made hazards. Each hazard has its own defining characteristics, such as time of year and geographic area of probable occurrence, severity, and risk level.

Natural phenomena, such as floods, tornadoes, severe drought, and wildfires, are natural hazards because they have the potential to destructively impact human settlements and activities. When damage from a natural hazard occurs, the event is generally called a natural disaster.

Man-made hazards are broadly defined as hazards that originate from accidental or intentional human activity. They can affect localized or widespread areas and are frequently unpredictable. This category of hazard includes such events as dam breaks and hazardous material events.

While Oklahoma communities can expect disaster-related losses, hazard assessments can be used to create proactive measures against likely events, and thereby significantly decrease or eliminate their impacts. Therefore, this chapter contains a risk identification and assessment for 12 natural hazards. The hazards addressed are those deemed most likely to impact Pontotoc County, the City of Ada, Pontotoc County Communities, and Pontotoc County school districts. The hazards include:

1. Floods
2. Tornadoes/ High winds
3. Lightning
4. Hail
5. Severe Winter Storms
6. Extreme Heat
7. Drought
8. Expansive Soils
9. Urban Fires
10. Wildfires
11. Earthquakes
12. Dam Failures

Table 3-1: Presidential Disasters for Pontotoc County 2010-2022

Year	Title	Disaster #
2010	Severe Winter Storm	1876, 1883, 3308
2010	Severe Winter Storm	3316
2015	Severe Storms, Tornadoes, Wind	4222
2017	Severe Winter Storms	4299
2017	Flooding/Tornado Stonewall	4324
2020	COVID-19	4530
2021	Severe Winter Storms	4587

Hazards Risk Analysis: Probability and Vulnerability

A Hazard Risk Analysis provides a quantitative process for assessing and evaluating hazards. It promotes a common base for performing the analysis by defining criteria and establishing a rating/scoring system.

Probability Rating	**Explanation**
High	More than 90% probability.
Medium	Between 30%-90% probability.
Low	Between 10%-29% probability.

Probability can be determined by calculating the:
Total number of events = Probability % of event occurring each year
Total number of years

Table 3-2 shows the results of the Risk Analysis for Pontotoc County, which includes a quantification of the history, probability, vulnerability, and maximum threat for each event. Hazard Analysis, of course, for individual communities and school districts may vary, depending on their specific circumstances. Table 3-3 provides a summary of the ranking criteria and the scoring method.

Table 3–2: Pontotoc County Hazard Risk Analysis

Disaster	History (2)*	Vulnerability (5)*	Maximum Threat (10)*	Probability (7)*	Score
Severe Winter Storm	High	Medium	High	Medium	180
Hail	High	High	Medium	High	190
Extreme Heat	High	Medium	Low	Medium	90
High Wind	High	Medium	Medium	High	165
Expansive Soil	High	High	Medium	High	190
Drought	High	Medium	Low	Medium	90
Urban Fire	High	Medium	Low	Medium	90
Lightning	High	Low	Low	High	105
Tornado	High	High	Medium	High	190
Wildfire	High	Medium	Low	High	125
Earthquake	Medium	Low	Medium	Low	72
Flood	High	Low	Low	High	105
Dam Failure	Low	Low	Low	Low	24
*** Criteria weighted by value in column title.**					
Values: **High**	**10**	**Medium**	**5**	**Low**	**1**

Table 3-3: Summary of Hazard Analysis Ranking Criteria

Criteria	*Description*	*Scoring*
History	If a certain kind of disaster occurred in the past, conditions causing the event can occur again.	Number occurrences in the past 100 years: 0-1 Low 2-3 Medium 4+ High
Vulnerability	The number of people and value of property in jeopardy determine vulnerability. Vital facilities, such as hospitals, office buildings, emergency facilities, and population groups of special concern should be included in vulnerability determination.	Population exposed: < 1% Low 1%-10% Medium >10% High Property damaged or destroyed: < 1% Low 1%-10% Medium >10% High
Maximum Threat	Maximum threat is the worst-case scenario of a hazard. Its impact is expressed in terms of human casualties and property loss. Secondary events need to be factored in where necessary.	Area impacted: < 5% Low 5%-25% Medium >25% High
Probability	Probability is the likelihood an event will occur. History and probability are similar; however, two criteria are used to distinguish between newly developing hazards and hazards for which there is a lack of historical information.	Chance per year of disaster: < .1% Low .1%-10% Medium >10% High

3.1 Floods

Flooding is defined as the accumulation of water within a watercourse or body of water and the overflow of excess water onto adjacent floodplain lands. The floodplains are the lands adjoining the channel of a river, stream, ocean, lake, or other watercourse or body of water that is susceptible to flooding.

In Pontotoc County we experience these types of flooding conditions, Riverine Flooding, Urban Flooding, and the more common Flash Flooding.

Riverine Flooding is when streams and rivers exceed the capacity of their natural or constructed channels to accommodate water flow and water overflows the banks, spilling out into adjacent low-lying, dry land.

Urban flooding is the inundation of land or property in a built environment, particularly in more densely populated areas, caused by rainfall overwhelming the capacity of drainage systems, such as storm sewers.

Flash flooding a local flood of short duration generally resulting from heavy rainfall in the immediate vicinity.

3.1.1 Hazard Profile

Location

All planning jurisdictions are affected by flood.

The South Canadian River is Pontotoc County's northern boundary and the river's southern banks and floodplains contribute to the Special Flood Hazard Area (SFHA) of Pontotoc County. The other significant rivers and streams within the county are the Blue River, Canadian Sandy Creek, Muddy Boggy Creek, and Clear Boggy Creek.

Pontotoc County Rivers and Streams

Pontotoc County consists of rolling prairies, forested slopes, and some rough hilly terrain. The entire southern portion of the county consists of a high plain, 1100 to 1300 ft above sea level, which drains to the southeast into tributaries of the Blue River. The rolling plain extending across the northern portion of the county has an elevation of 800 to 1100 feet and drains northward and eastward into tributaries of the Canadian River. The east and southeast portions drain into Muddy Boggy and Clear Boggy creeks. The extreme southwestern part of the county drains into Guy Sandy Creek, the Lake of the Arbuckles and the Washita River. Virtually all of the towns of Pontotoc County were built on high ground and are not subject to riverine flooding, the exception being the town of Roff. The northern edge of town is subject to flooding from the headwaters of the Blue River.

Canadian River. The 760-mile-long Canadian River flows from its headwaters in the Sangre de Cristo Mountains of southern Colorado through east central New Mexico, east

across the Texas Panhandle into Oklahoma, along the northern boundary of Pontotoc County, before joining the Arkansas River near Fort Smith, Arkansas. The Canadian River is dammed east of Eufaula, forming Eufaula Reservoir. Pontotoc County communities in the Canadian River drainage are Byng and Francis. Significant tributaries of the Canadian River in Pontotoc County are Canadian Sandy, Spring Brook, and Little Sandy Creeks.

Blue River. The Blue River head waters begin just to the southwest of the town of Roff and continue to the east, then southeast exiting Pontotoc County midway along the southern border of the county. There are approximately 20 miles of the river in Pontotoc County and the only community in its drainage is the town of Roff. The Blue Rive has a significant drainage area of Pontotoc County and significant areas of floodplain. However, with the

exception of the norther edge of Roff, the river runs exclusively through rural farm and ranch land and poses small risk to citizens and infrastructure.

Canadian Sandy Creek. Flows east and north along the west boundary of Ada into the Canadian River. Ada has studied the feasibility of building a municipal lake on the Canadian Sandy, about 1 mile west of the city. The proposed Scissortail Lake would impound a reservoir at about 937 feet elevation and does not appear to pose a hazard for Ada or Latta, which have no development in this basin lower than about the 950 feet contour. The Town of Vanoss is located on Burris Creek in the
Canadian Sandy drainage.

Spring Brook Creek. This stream flows east from near Stratford in Garvin County to join Canadian Sandy Creek about one mile west of Ada. The communities of Center and Pickett are in the Spring Brook drainage, but are built well above the floodplains of the creek.

Little Sandy Creek. Drains 5.2 square miles in Ada and flows north into Canadian Sandy Creek. Ada's wastewater treatment plant is located on this stream, on N. Mississippi. The stream passes to the south of Byng.

Clear Boggy Creek. All streams on the south side of Ada flow into Clear Boggy Creek. The creek flows southeast into the Muddy Boggy and eventually into the Red River. The community of Ahloso is along Clear Boggy Creek, and the communities of Fittstown, Union Valley, Lula and Stonewall are in the drainage basin.

Buck Creek- This stream flows south past Coil and Stonewall to join Clear Boggy Creek in Coal County, west of Tupelo. A tributary of Buck Creek also passes near Union Valley. Stonewall has structures in the Buck Creek SFHA.

Muddy Boggy Creek. The Muddy Boggy flows east from the eastern fence line of Ada and then south into the Red River near Hugo but does not pass through any Pontotoc County communities.

See Significant Rivers and Streams in Pontotoc County and Pontotoc County Flood Plain Maps below in this hazard profile. See Appendix B for expanded view of the flood plain maps for individual jurisdictions.

Significant Rivers and Streams in Pontotoc County

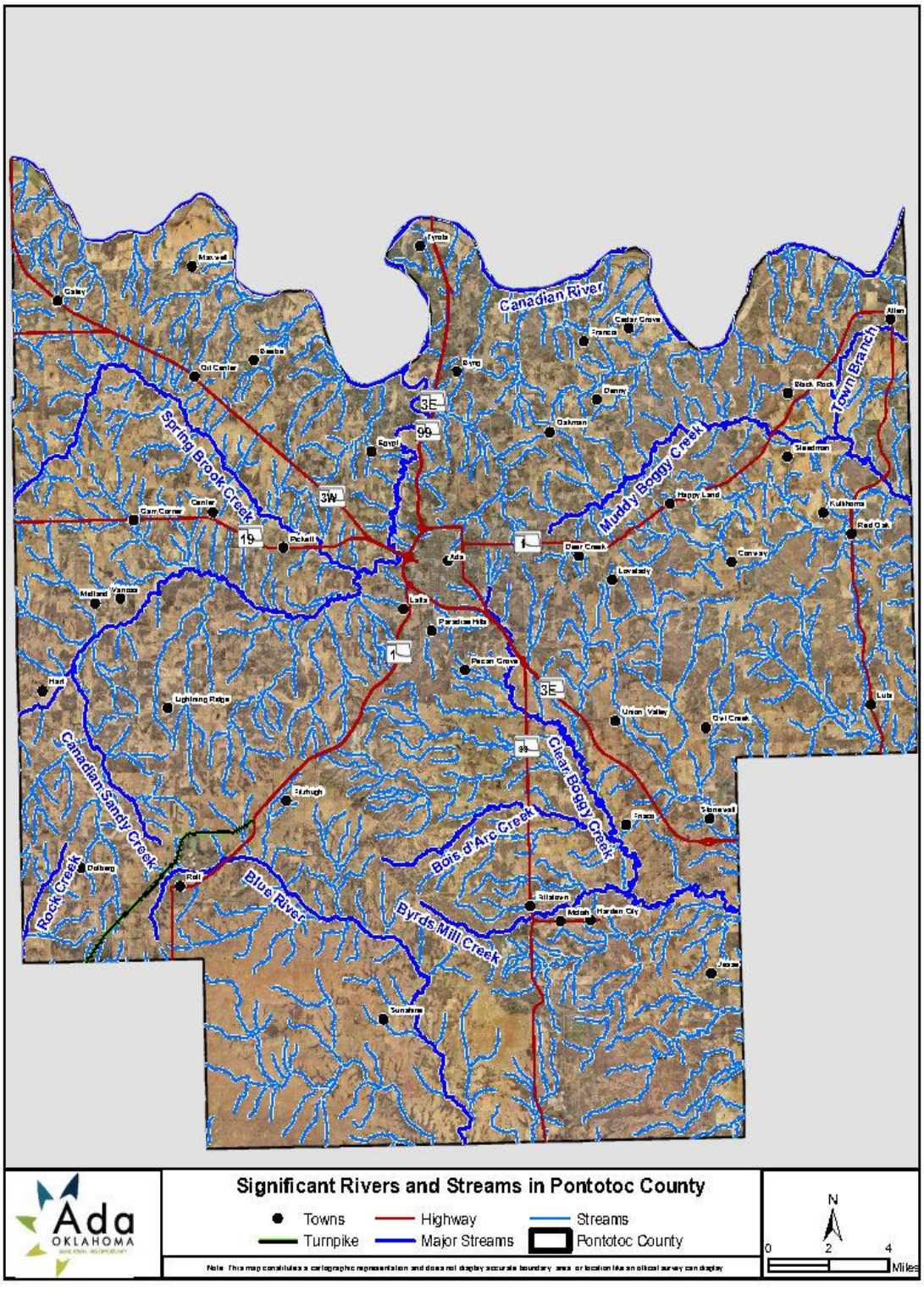
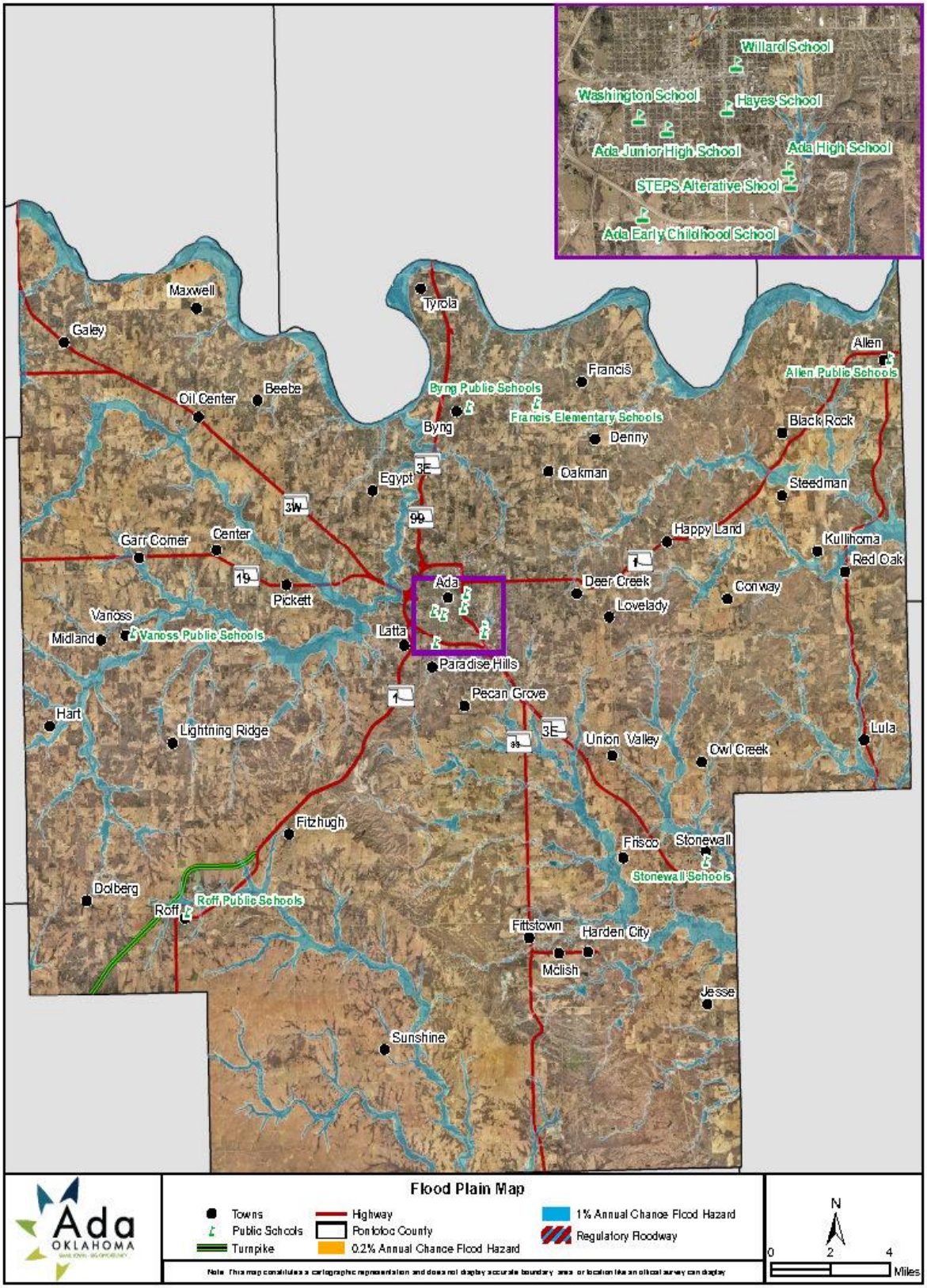


Table 3–5: FEMA Flood Insurance Rate Map Flood Zones

Zone A	The 100-year or Base Floodplain. There are six types of A zones:	
	A	The base floodplain mapped by approximate methods, i.e., BFEs, are not determined. This is often called an unnumbered A zone or an approximate A zone.
	A1-30	These are known as numbered A zones (e.g., A7 or A14). This is the base floodplain where the firm shows a BFE (old format).
	AE	The base floodplain where base flood elevations are provided. AE zones are now used on new format FIRMs instead of A1-30 zones.
	AO	The base floodplain with sheet flow, ponding, or shallow flooding. Base flood depths (feet above ground) are provided.
	AH	Shallow flooding base floodplain. BFE's are provided.
	A99	Area to be protected from base flood by levees or Federal flood protection systems under construction. BFEs are 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.
Zone V and VE	**V**	The coastal area subject to velocity hazard (wave action) where BFEs are not determined on the FIRM.
	VE	The coastal area subject to velocity hazard (wave action) where BFEs are provided on the FIRM.
Zone B and Zone X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and the 500-year floods. B zones are also used to designate base floodplains or 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.	
Zone C and Zone X (unshaded)	Area of minimal flood hazard, usually depiction FIRMs as exceeding the 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.	
Zone D	Area of undetermined but possible flood hazards.	
Source: *Understanding Your Risks, identifying hazards and estimating losses, FEMA 386-2*		

Pontotoc County Flood Plain Map



Extent

Flood planning is based on what are termed "100-year floods" or "500-year floods." That terminology is somewhat misleading. Floods are more commonly being referred to as having a 1% chance of occurring in any given year (100 year event), or .2% chance of occurring in any given year (500 year event). Additionally, in the past 5 years, Base Level Engineering (BLE) data published for areas within Pontotoc County has begun to be used to assist in managing the floodplain development.

Pontotoc County and participating jurisdictions consider a rainfall of one inch in an hour to be a minor severity and a six inch rainfall in two hours to be a major event for all types of flooding.

Type of Flooding	Flood Depth Magnitude
Riverine Flooding	Up to 7.0 Feet
Flash Flooding	Up to 8.0 Feet
Urban Flooding	Up to 2.5 Feet

Of the schools participating in the plan, only Byng and Stonewall Schools have not reported and flooding damages in the past. Although none of the schools are located in the SFHA of the county, all other schools reported some damages from DR-4222.

3.1.2 History/Previous Occurrences

Oklahoma's most frequent and most costly natural hazard is flooding. There are numerous flooding events on record, often with serious impacts: 23 of the 132 events listed in NCDC for Pontotoc County were listed as Floods/Flash Floods.

Table 3–7: Floods in Pontotoc County for 2010 through 2021
From Pontotoc County Emergency Office of Emergency Management

Location	*Events*	*Deaths*	*Injuries*	*Damage Events*	*Property Damage*
Pontotoc County	23	0	0	7	$3.2 M (Est. based on damage assessment conducted on county infrastructure and reports from the FEMA DRC from DR-4222 and DR-4324)

*** Information in NCDC does not allow for damages to a community to be separated from the county report.**

Pontotoc County Flood Events

One event of special note was the severe rainfall event with extensive flooding in the southern

portion of Pontotoc County that occurred on the 21st of September, 2018. On that day, the Fittstown mesonet site recorded 14.20" of rainfall, with an additional 1.58" the following day. The rainfall recorded at the flood control lake # OKD1275 in this area was 16.91" for this period. The NRCS recorded this rainfall as a 4000 year rainfall event. Many of the lake rain gages in the southern end of Pontotoc County recorded between 11" and 16.91" over this 2 day period, most of which fell on the 21st. All of the dams in this area were flowing water over the emergency spill way and there was extensive damage to croplands and some damages to homes and outbuildings in the area. This flood event/rainfall event has become the "flood of record" for parts of Pontotoc County.

The months of May-July of 2015 were an extremely wet period for Pontotoc County. The 79 day period beginning May 5, 2015 and ending on July 22, 2015, was the wettest on record for the county. During this period, the Ada Mesonet site recorded 39.88" of rainfall while the Fittstown Mesonet site recorded 39.11" of rainfall.

During the period, there were numerous heavy rainfall and flooding events which caused extensive damage to infrastructure and to private homes and property. Additionally, NRCS was monitoring closely all of the dams in the county for possible failures, as all of the dams in the county flowed the emergency spillways several times. Four swift water rescues were performed by the county, first responders and a total of 11 people were rescued from the floodwaters. This included a total of 4 injuries.

The rainfall listed here was measured from the Ada Mesonet site located at the Ada Airport, and the Fittstown Mesonet site located on CR 1700 16 miles south of Ada.

May 5-10-2015—Major flooding with measured rainfall during this period from the Ada Mesonet site of 8.68" and the Fittstown site measured 9.36". This heavy rainfall caused many roads to be flooded and all low water crossings in the county to become impassable. Damage assessments showed that many of the roads in the county had sustained heavy damage and many culverts were damaged or destroyed causing road closures for an extended tome. One bridge was also washed out during this event. Private homeowners suffered some residential losses as well as property damages during this event. First responders had to perform two swift water rescues during this time period, and one person was injured.

May 19-29, 2015—Minor to moderate flooding during this period measured rainfall from the Ada Mesonet site was 8.68" and the Fittstown Mesonet site measured 9.57". Additional high water and some flooding occurred during this period causing additional damages to infrastructure and private property. The NRCS dams continued to flow the emergency spillways at times and were being monitored. Rainfall occurred nearly every day with notable days on the 22nd 1.88", 24th 1.75", and the 27th-29th 2.96".

June 13-16, 2015—Moderate rainfall over the three-day period, 3.54" measured at the Ada Mesonet site, and 4.11" measured at the Fittstown Mesonet site, produced additional minor flooding of roads and caused additional damages to roadways throughout the county. This event also served to set the county up for the major flood event which began the next day.

June 17-18, 2015—Major flooding from heavy rainfall, 6.92" at the Ada Mesonet site, and 4.56" measured at the Fittstown Mesonet site, caused major flooding of roadways and private property throughout the county. Once again county infrastructure county wide was damaged or destroyed and many home and business owners sustained severe damages to private property. Damage was also noted to the county Sheriff's office and the office of the district Attorney. Numerous roads throughout the county were closed due to high water and some roads being destroyed. One swift water rescue was conducted during this event with one person injured.

June 29-July 3, 2015—Moderate rainfall during this period kept the county wet and the lakes and creeks near flood stages. 1.24" were measured at Ada and 3.62" at Fittstown. This rainfall caused little damage to the county, but again served as a primer to the event that occurred on the 7th and 8th of July.

July 7-8, 2015—Major flooding occurred with this heavy rainfall event. Measured rainfall of 7.92" at the Ada Mesonet site, and 5.25" at the Fittstown Mesonet site caused major flooding in the county. Infrastructure was again severely damaged or destroyed as was private property. During this rainfall event, several areas of the county extending from Roff, to Ada, to Allen measured over 8.00" of rainfall. 6.00" of this rainfall was measured during a two-hour period. Most of the roadways in the affected areas were close due to high water or having been washed out. Some closures lasted for several days. NRCS was again closely monitoring dams in the county for possible dam failures as all dams in the county were flowing the emergency spillways. One swift water rescue was conducted during the time period with one person injured.

Pontotoc County was also declared under disaster declarations DR 1712/1723 in 2007 for extensive flooding county wide.

Probability/Future Events

Large storms and heavy rains will continue to frequent Pontotoc County, and the jurisdiction's streams will overflow their banks onto the surrounding floodplains. However, since Pontotoc County communities are generally built on high ground along railroad lines, devastating flooding is not likely to increase, so long as structures are kept out of the floodplains.

Pontotoc County and participating jurisdictions have a High probability of a flood event.

3.1.3 Vulnerability/Impact

Pontotoc County and participating jurisdictions were determined to be at Low risk to the Flood hazard. (See Table 3-2 Hazard Risk Analysis, and Table 3-3, Summary of Hazard Risk Analysis Ranking Criteria for an explanation of how the rankings were derived.)

FEMA has identified the areas within Pontotoc County jurisdiction that have a one- percent chance of flooding in any given year. These areas, commonly referred to as the 100-year floodplain, are designated as the Special Flood Hazard Area (SFHA) on FEMA's Flood Insurance Rate Maps (FIRM). The SFHA identifies the National Flood Insurance Program's (NFIP) minimum national standard, and reflects development conditions at the time the study was done. The table below shows the total number of parcels in Pontotoc County which are touched by a designated SFHA

Pontotoc County has approximately 175 structures located within the SFHAs of its various rivers and streams. This number is an approximation using GIS analysis, 2018 aerial photography, and from data from the County Assessor's office. None of these structures are schools, and most are not dwellings. Most of these structures are accessory structures such as barns or sheds and many have agricultural exemptions. The most vulnerable populations to flooding in Pontotoc County are those living or working in structures located in the SFHA, particularly in the Pickett area, in or near the towns of Stonewall and Roff, and in the floodplains of the Canadian Sandy Creek, Clear Boggy Creek, Muddy Boggy Creek, and the Blue River. Additionally, there is a large quantity of oil field infrastructure in the floodplains of the county. The assessed dollar amount of this infrastructure is not known at this time.

There are no county critical facilities situated in the 100-year floodplain. The towns of Roff, Stonewall, and Allen have waste water treatment facilities located in the SFHA, and OG&E has a power substation located in the SFHA at Roff. None of the school districts have facilities in the SFHA. Transportation facilities in Pontotoc County, such as roads and bridges, are vulnerable to flood damage, as are some electrical facilities and parts of the water distribution system.

Jurisdiction	Vulnerability	Impact
Pontotoc County	A majority of unincorporated Pontotoc County is covered with streams and rivers that repeatedly flood with excess rainfall. These areas are primarily ranching and farming. These farmers and ranchers are vulnerable when water overruns their fields damaging and destroying crops and hay. In addition to farm land, there are some homes throughout the county not associated with farm or ranch that are vulnerable to these flood actions.	A loss of farm and ranch revenue negatively affects Pontotoc County's economy. In the farming and ranching economy, it also affects secondary businesses that supply goods and services to agricultural businesses. Additionally, these flood events can and often do submerge roads and cut off some individuals from access to emergency services.
Ada	Sandy Creek runs North/South Through the northern portion of Ada, and Clear Boggy Creek runs through a small portion of the southern city. Ada is built primarily on high ground, however streets and highways flood due to poor drainage.	This type of flooding impedes commuting traffic, causes delays, and creates potentially dangerous areas to cross either by pedestrians or traffic.
Allen	The town of Allen is split by the Town Branch of Little Sandy Creek, with approximately ¼ of the town on the south side of the creek. The flood waters of the creek primarily flood open land that the town has not developed, however the South East portion of the creek in town has the potential to impact a few homes as well as highway 48 that runs N/S through Allen.	This type of flooding may impede commuting traffic, cause delays, and creates potentially dangerous areas to cross either by pedestrians or traffic. In an extreme event at this location, the few homes mentioned in this area could also be affected.
Byng	The Town of Byng does not have Storm Drains. This can cause Flooding to the roads and highways for the town. The majority of the Town of Byng does not have a flood risk due to being located on high ground.	This can cause a disruption of transportation by hindering commutes, school bus routes, and emergency vehicles.
Fitzhugh	The Town of Fitzhugh does not have Storm Water Drains. This can cause flooding to the roads for the town. The Town of Fitzhugh has no	This can cause a disruption of transportation by hindering commutes and school bus access.

	mapped floodplain in its jurisdiction.	
Francis	The Town of Francis does not have Storm Water Drains. This can cause flooding to the roads for the town. The Town of Francis has no mapped floodplain in its jurisdiction.	This can cause a disruption of transportation by hindering commutes and school bus access.
Roff	The floodplain in Roff is mainly along the northern area of town near the Blue River. N 7th St. and Sauls Ave. in Roff can become impassable during flooding and flash-flooding events. This area is close to the Blue River. Additionally, in an extreme event, the waste water treatment area can be in danger.	This can cause a disruption of transportation by hindering school bus routes, and emergency vehicles. If the waste water treatment area in affected then services for the town could be in danger.
Stonewall	2 unnamed tributaries of Buck Creek affect the town of Stonewall. One is at the NW corner of the town and can affect the water plant, 2 homes and a church in an extreme event. CR 3640 coming in from the N, 1st St, and 2nd St. Can also be flooded. The other tributary runs through the SW portion of the town and has the potential to close portions of 8th and 9th streets as well as portions of High School and Harrison Streets. There are a number of structures in this SW portion of Stonewall that can be affected by flood waters. Buck Creek can also pose a threat to the waste water treatment area for Stonewall in an extreme event. Stonewall School, the Stonewall Campus, does have a portion of their property (N Side) located in SFHA, however it is open ground with the nearest structure on an elevated pad 80 feet outside the boundary of the SFHA.	This type of flooding impedes commuting traffic, causes delays for emergency vehicles, and creates potentially dangerous areas to cross either by pedestrians or traffic. It can also cause damages to structures in the areas. In an extreme event the utilities for the town could be disrupted.
Ada P.S.	Ada Public School campuses are in several locations throughout the city of Ada. Due to the various locations, there are several types of flooding that may affect the schools in Ada.	Transportation routes can be directly affected as well as school operations, and result in school closures.

	The main hazard for the Ada City Schools is flash flooding and poor drainage areas within the city that can make some streets impassible for a short time. Additionally, Clear Boggy Creek South of the High School, and Little Sandy Creek in the North part of the city, have the potential to affect bus routes in an extreme event.	
Allen P.S	The Town Branch of Little Sandy Creek has the potential to affect bus routes in the town of Allen, as does a few areas of poor drainage within the town. South of the town of Allen, Muddy Boggy and Sincere Creeks can cause extensive flooding of rural roadways in flood or flashflood events causing issues for bus routes.	Transportation routes can be directly affected as well as school operations, and result in school closures.
Byng P.S	The Byng School system has a very large school district with 3 distinct areas: The Town of Byng, The Town of Francis, and the Homer Campus in Ada. Due to this the drainage basins of Little Sandy Creek, Factory Creek, Cotton Creek, and Muddy Boggy Creek, can all cause problems for bus routes on rural roads due to flooding/flash flooding events.	Transportation routes can be directly affected as well as school operations, and result in school closures.
Latta P.S.	Flooding along Canadian Sandy Creek and Rodtky Creek to the West of Latta School as well as numerous roadways around the schools' district that flood during periods of flash flooding due to poor drainage can cause bus routes to be impassable.	Transportation routes can be directly affected as well as school operations, and result in school closures.
Roff P.S.	Flooding along the Blue River in the N end of Roff could affect the bus routes North of the town as well as routes to the West. Poor drainage in the town could be a minor hindrance for a short time due to flash flooding.	Transportation routes can be directly affected as well as school operations, and result in school closures.
Stonewall P.S.	Sheep Creek to the west of Stonewall Schools (McLish Campus (CR 1660) and South of the Stonewall Campus (CR 3640) is a main route for busses.	Transportation routes can be directly affected as well as school operations, and result in school closures.

	The school has the potential to be affected by flooding due to bus routes being inaccessible. Flooding along Buck Creek around the town of Stonewall can affect bus routes N of Stonewall or within the town. Poor drainage within the town could be a hindrance as well due to flash flooding.	
Vanoss P.S.	Burris Creek is North of Vanoss Schools and Canadian Sandy Creek is to the South. The roads providing a main route for buses traveling to the school have the potential to be closed due to flooding.	Transportation routes can be directly affected as well as school operations, and result in school closures.
Pontotoc Technology Center	The roads providing a main route for students and staff traveling to the Technology Center have the potential to be closed due to flooding.	Transportation routes can be directly affected as well as Technology Center operations, and result in closures.

Table 3–8: Pontotoc County Improved Parcels Touched by SFHA

GIS Floodplain Analysis	***#***	***Market Value***
Parcels With Improvement Values Touched by the Floodplain	795	$37,239,043
Flood Insurance Information		
Policies in Force	43	$4,705,000
Paid Premiums	43	$34,485
Total Number of Losses Paid (2020 Numbers)	8	$67,352.00

Floodplains of Pontotoc County –Pontotoc County has approximately 175 structures located within the SFHAs of its various rivers and streams. This number is an approximation using GIS analysis, 2018 aerial photography, and from data from the County Assessor's office. None of these structures are schools, and most are not dwellings. Most of these structures are accessory structures such as barns or sheds and many have agricultural exemptions. The most vulnerable populations to flooding in Pontotoc County are those living or working in structures located in the SFHA, particularly in the Pickett area, in or near the towns of Stonewall and Roff, and in the floodplains of the Canadian Sandy Creek, Clear Boggy Creek, Muddy Boggy Creek, and the Blue River. Additionally, there is a large quantity of oil field infrastructure in the floodplains of the county. The assessed dollar amount of this infrastructure is not known at this time.

There are no county critical facilities situated in the 100-year floodplain. The towns of Roff, Stonewall, and Allen have wastewater treatment facilities located in the SFHA, and OG&E has a power substation located in the SFHA at Roff. None of the school districts have facilities in the SFHA. Transportation facilities in Pontotoc County, such as roads and bridges, are vulnerable to flood damage, as are some electrical facilities and parts of the water distribution system.

Stonewall School, the Stonewall Campus, does have a portion of their property (N Side) located in SFHA, however it is open ground with the nearest structure on an elevated pad 80 feet outside the boundary of the SFHA.

3.1.4 Sources

Extreme Weather and Climate Events at National Climatic Data Center website: www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms.

FEMA Flood Insurance Statistics at Website: www.fema.gov/cis/OK.pdf.

3.2 High Winds and Tornados

Wind is defined as the motion of air relative to the earth's surface. Extreme windstorm events are associated with cyclones, severe thunderstorms, and accompanying phenomena such as tornadoes and downbursts. Winds vary from zero at ground level to 200 mph in the upper atmospheric jet stream at 6 to 8 miles above the earth's surface. The mean annual wind speed in the mainland United States is reported by FEMA to be 8 to 12 mph, with frequent speeds of 50 mph and occasional wind speeds of greater than 70 mph.

A tornado is a rapidly rotating vortex or funnel of air extending to the ground from a cumulonimbus cloud. When the lower tip of a vortex touches earth, the tornado becomes a force of destruction. The path width of a tornado is generally less than a half-mile, but the path length can vary from a few hundred yards to dozens of miles. A tornado moves at speeds from 30 to 125 mph, but can generate winds exceeding 300 mph.

3.2.1 Hazard Profile

Location

All jurisdictions within Pontotoc County are considered to be vulnerable to the effects of a high wind or tornado event with a High Probability of occurrence.

Extent

The planning area uses the Beaufort Scale for wind strength and the Enhanced Fujita Scale for tornado damage. The entire planning area can expect any level of winds on the Beaufort Scale and any level of damages on the Enhanced Fujita Scale.

Table 3–9: Beaufort Scale of Wind Strength
Source: Huler, Scott (2004). *Defining the Wind: The Beaufort Scale*

Beaufort Scale

Beaufort number	Wind Speed (mph)	Seaman's term		Effects on Land
0	Under 1	Calm		Calm; smoke rises vertically.
1	1-3	Light Air		Smoke drift indicates wind direction; vanes do not move.
2	4-7	Light Breeze		Wind felt on face; leaves rustle; vanes begin to move.
3	8-12	Gentle Breeze		Leaves, small twigs in constant motion; light flags extended.
4	13-18	Moderate Breeze		Dust, leaves and loose paper raised up; small branches move.
5	19-24	Fresh Breeze		Small trees begin to sway.
6	25-31	Strong Breeze		Large branches of trees in motion; whistling heard in wires.
7	32-38	Moderate Gale		Whole trees in motion; resistance felt in walking against the wind.
8	39-46	Fresh Gale		Twigs and small branches broken off trees.
9	47-54	Strong Gale		Slight structural damage occurs; slate blown from roofs.
10	55-63	Whole Gale		Seldom experienced on land; trees broken; structural damage occurs.
11	64-72	Storm		Very rarely experienced on land; usually with widespread damage.
12	73 or higher	Hurricane Force		Violence and destruction.

Table 3–10: Fujita Scale and Enhanced Fujita Scale

EF Scale		
Current Damage Indicators	***Category***	***3 Second Gust (mph)***
Light: Damage to chimneys, tree branches, shallow-root trees, sign boards	EF0	65-85
Moderate: Lower limit is beginning of hurricane wind speed--surfaces peeled off roofs, mobile homes pushed off foundations or overturned, cars pushed off roads	EF1	86-110
Considerable: Roofs torn off frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted, light-object missiles generated	EF2	111-135
Severe: Roofs and some walls torn off well-constructed houses, trains overturned, most trees in forest uprooted, cars lifted off the ground and thrown	EF3	136-165
Devastating: Well-constructed houses leveled, structures with weak foundations blown off some distance, cars thrown and large missiles generated	EF4	166-200
Incredible: Strong frame houses lifted off foundations and carried considerable distance to disintegrate, automobile-sized missiles fly through the air in excess of 100 yards, trees debarked	EF5	Over 200
The Enhanced F-scale is a set of wind estimates (not measurements) based on damage. The Enhanced Scale 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.		

3.2.2 History/Previous Occurrences

Pontotoc County Historic Wind Events From 2011-2021

BEGIN_DATE	EVENT_TYPE	MPH	DEATHS DIRECT	INJURIES DIRECT	DAMAGE PROPER	DAMAGE CROPS
3/13/2019	***High Wind***	***52***	***0***	***0***	***2000***	***0***
3/13/2019	***High Wind***	***52***	***0***	***0***	***2000***	***0***
3/13/2019	***High Wind***	***51***	***0***	***0***	***0***	***0***
7/10/2021	***Thunderstorm Wind***	***50***	***0***	***0***	***0***	***0***
6/12/2021	***Thunderstorm Wind***	***52***	***0***	***0***	***0***	***0***
7/30/2020	***Thunderstorm Wind***	***78***	***0***	***0***	***0***	***0***
7/30/2020	***Thunderstorm Wind***	***56***	***0***	***0***	***0***	***0***
7/30/2020	***Thunderstorm Wind***	***58***	***0***	***0***	***0***	***0***
7/30/2020	***Thunderstorm Wind***	***65***	***0***	***0***	***5000***	***0***
7/30/2020	***Thunderstorm Wind***	***52***	***0***	***0***	***500***	***0***
5/8/2020	***Thunderstorm Wind***	***52***	***0***	***0***	***0***	***0***
5/4/2020	***Thunderstorm Wind***	***54***	***0***	***0***	***0***	***0***
10/20/2019	***Thunderstorm Wind***	***52***	***0***	***0***	***0***	***1000***
10/20/2019	***Thunderstorm Wind***	***56***	***0***	***0***	***2000***	***0***
10/20/2019	***Thunderstorm Wind***	***52***	***0***	***0***	***0***	***0***
10/20/2019	***Thunderstorm Wind***	***52***	***0***	***0***	***1000***	***0***
10/20/2019	***Thunderstorm Wind***	***52***	***0***	***0***	***0***	***0***
6/19/2019	***Thunderstorm Wind***	***50***	***0***	***0***	***0***	***0***
6/19/2019	***Thunderstorm Wind***	***56***	***0***	***0***	***2000***	***0***
6/19/2019	***Thunderstorm Wind***	***61***	***0***	***0***	***5000***	***0***
6/19/2019	***Thunderstorm Wind***	***65***	***0***	***0***	***0***	***0***
6/19/2019	***Thunderstorm Wind***	***56***	***0***	***0***	***500***	***0***
6/19/2019	***Thunderstorm Wind***	***61***	***0***	***0***	***10000***	***0***

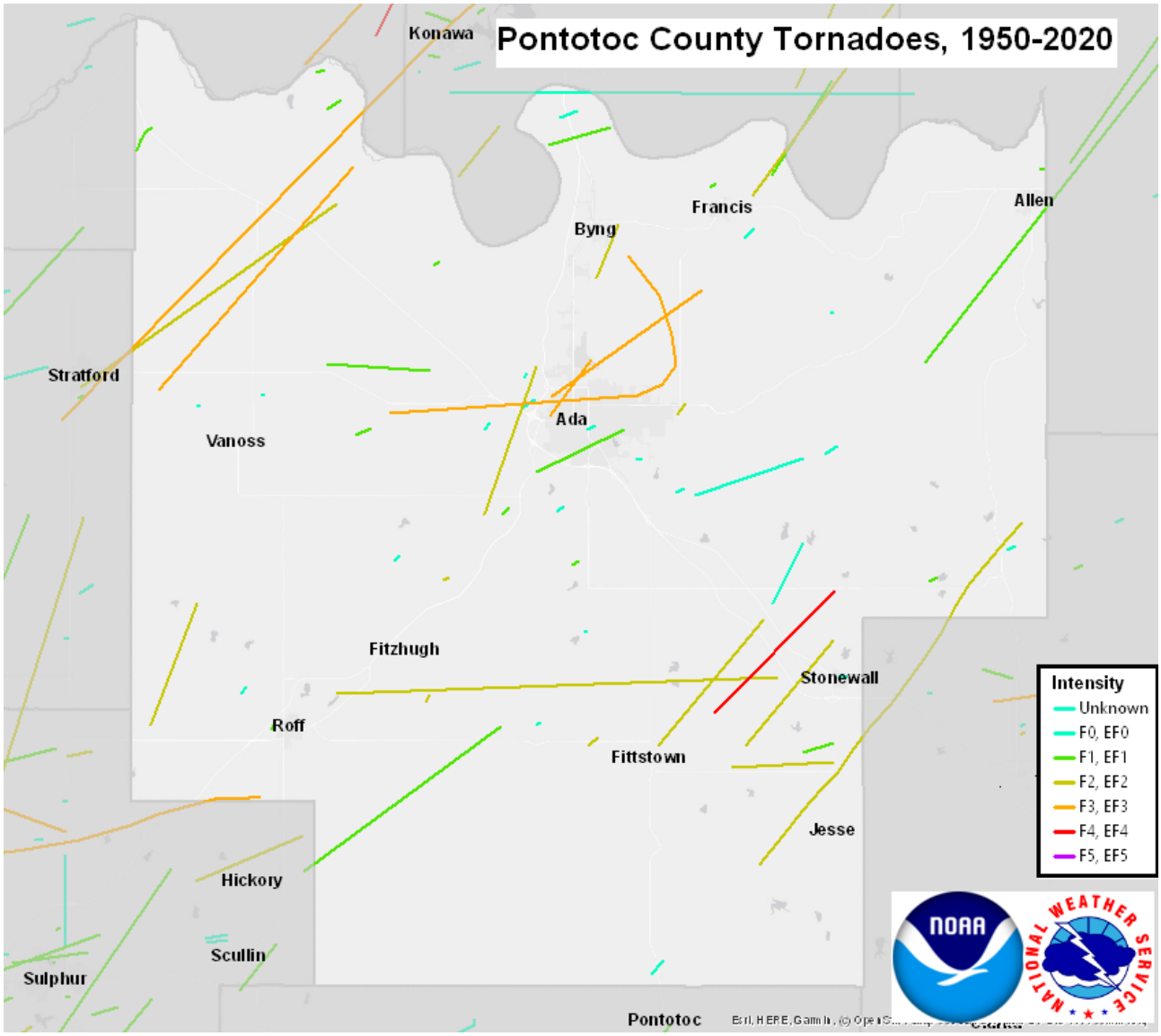
BEGIN_DATE	EVENT_TYPE	MAGNITUDE	DEATHS DIRECT	INJURIES DIRECT	DAMAGE PROPER	DAMAGE CROPS
6/19/2019	*Thunderstorm Wind*	*56*	*0*	*0*	*1000*	*0*
6/19/2019	*Thunderstorm Wind*	*65*	*0*	*0*	*20000*	*0*
6/19/2019	*Thunderstorm Wind*	*65*	*0*	*0*	*10000*	*0*
6/19/2019	*Thunderstorm Wind*	*65*	*0*	*0*	*2000*	*0*
6/19/2019	*Thunderstorm Wind*	*56*	*0*	*0*	*200*	*0*
6/19/2019	*Thunderstorm Wind*	*61*	*0*	*0*	*2000*	*0*
6/19/2019	*Thunderstorm Wind*	*56*	*0*	*0*	*5000*	*0*
5/18/2019	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
5/18/2019	*Thunderstorm Wind*	*56*	*0*	*0*	*0*	*0*
5/18/2019	*Thunderstorm Wind*	*61*	*0*	*0*	*10000*	*0*
6/24/2018	*Thunderstorm Wind*	*65*	*0*	*0*	*5000*	*0*
6/24/2018	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
6/24/2018	*Thunderstorm Wind*	*65*	*0*	*0*	*2000*	*0*
6/24/2018	*Thunderstorm Wind*	*61*	*0*	*0*	*5000*	*0*
6/24/2018	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
6/24/2018	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
6/24/2018	*Thunderstorm Wind*	*52*	*0*	*0*	*1000*	*0*
6/23/2018	*Thunderstorm Wind*	*56*	*0*	*0*	*0*	*0*
6/22/2018	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
7/2/2017	*Thunderstorm Wind*	*56*	*0*	*0*	*0*	*0*
5/27/2017	*Thunderstorm Wind*	*61*	*0*	*0*	*0*	*0*
5/19/2017	*Thunderstorm Wind*	*56*	*0*	*0*	*0*	*0*
5/18/2017	*Thunderstorm Wind*	*65*	*0*	*0*	*10000*	*0*
9/17/2016	*Thunderstorm Wind*	*56*	*0*	*0*	*0*	*0*
6/18/2016	*Thunderstorm Wind*	*61*	*0*	*0*	*0*	*0*
4/26/2016	*Thunderstorm Wind*	*56*	*0*	*0*	*3000*	*0*
4/26/2016	*Thunderstorm Wind*	*61*	*0*	*0*	*10000*	*0*
4/26/2016	*Thunderstorm Wind*	*75*	*0*	*0*	*10000*	*0*
3/8/2016	*Thunderstorm Wind*	*52*	*0*	*0*	*1000*	*0*
5/8/2015	*Thunderstorm Wind*	*61*	*0*	*0*	*0*	*0*
3/25/2015	*Thunderstorm Wind*	*55*	*0*	*0*	*0*	*0*
3/25/2015	*Thunderstorm Wind*	*57*	*0*	*0*	*0*	*0*
6/6/2014	*Thunderstorm Wind*	*70*	*0*	*0*	*0*	*0*
8/12/2013	*Thunderstorm Wind*	*50*	*0*	*0*	*20000*	*0*
7/30/2013	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
5/29/2013	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*
5/15/2013	*Thunderstorm Wind*	*56*	*0*	*0*	*70000*	*0*
5/15/2013	*Thunderstorm Wind*	*56*	*0*	*0*	*60000*	*0*
2/20/2012	*Thunderstorm Wind*	*78*	*1*	*1*	*0*	*0*
8/10/2011	*Thunderstorm Wind*	*56*	*0*	*1*	*4000*	*0*
4/22/2011	*Thunderstorm Wind*	*52*	*0*	*0*	*0*	*0*

Severe Wind Event Totals 1/1/2011 Through 4/30/2022

Deaths= 1, Injuries= 2, Assessed Property Damages= $352,000

Pontotoc County Historic Tornado Events

Pontotoc County averages, since 1950, about 1 tornado per year. However, in the period 2011-2021, Pontotoc County averaged 1.8 tornadoes per year. With a total of 18 tornadoes during the 11-year period, one of which was rated EF-3, the rest have been rated EF-0 or EF-1.



List of Pontotoc County Tornado Events 2011-2021 (Source: National Weather Service)

#	Date	Time (CST)	Path Length (miles)	Path Width (yards)	F-Scale	Killed	Injured	County	Path
47	04/14/2011	1624-1625	1	50	**EF1**	0	0	Pontotoc	2.5 SSW - 2 S Stonewall
48	05/21/2011	1839-1853	7	880	**EF1**	0	0	Murray/ Pontotoc	1.5 E Hickory - 4 SE Fitzhugh
49	05/21/2011	1918-1920	1	50	**EF0**	0	0	Pontotoc	2 NW Vanoss
50	05/21/2011	1929-1933	1	50	**EF0**	0	0	Pontotoc	2 NNE Vanoss
51	05/21/2011	1941-1947	3	150	**EF1**	0	0	Pontotoc	0.5 NW Center - Center - 5 WNW Ada
52	05/15/2013	1734-1735	0.5	50	**EF0**	0	0	Pontotoc	2 WNW - 1.5 NW Ada
53	05/23/2015	1705	0.2	20	**EF0**	0	0	Pontotoc	2.5 ESE Ada
54	05/23/2015	1725-1733	4	100	**EF1**	0	0	Pontotoc/ Seminole	2 NE Francis - 1 S Sasakwa
55	04/26/2016	2050-2052	2	200	**EF1**	0	0	Pontotoc	3 NNW Byng

56	05/09/2016	1534-1617	17	1500	**EF3**	0	0	Murray/ Pontotoc	4 NNW Davis - 2.5 SSW Roff
57	03/26/2017	1814-1825	4	50	**EF0**	0	0	Pontotoc	4.5 ESE - 7 ESE Ada
58	03/26/2017	1827-1828	0.3	30	**EF0**	0	0	Pontotoc	8 E Ada
59	04/25/2017	2113-2114	0.7	50	**EF0**	0	0	Pontotoc	5 N Byng
60	05/18/2017	2013-2014	0.6	75	**EF0**	0	0	Pontotoc	Stonewall
61	05/03/2018	0722-0723	0.3	25	**EF1**	0	0	Pontotoc	5 W Byng
62	06/24/2018	1412	0.2	10	**EF0**	0	0	Pontotoc	4 ESE Ada
63	10/20/2019	2101-2102	0.25	150	**EF1**	0	0	Pontotoc	5 S Asher
64	10/10/2021	2026-2036	7	300	**EF1**	0	0	Pontotoc	2.5 W Ada - 1 ENE Byng

Probability/Future Events

Pontotoc County and its participating jurisdictions have a high probability of future high wind and tornado events.

3.2.3 Vulnerability/Impact

This section summarizes information about Pontotoc County's vulnerability to High Winds and Tornadoes, including the impact on people, structures and buildings, critical facilities, and infrastructure. This information, as well as information provided by the County, Incorporated Communities and Public Schools, was used to determine the Vulnerability Criteria identified in Tables 3-2 and 3-3. Pontotoc County was determined to be at High risk to the High Wind and Tornado hazard. (See Table 3-2 Hazard Risk Analysis, and Table 3-3, Summary of Hazard risk Analysis Ranking Criteria for an explanation of how the rankings were derived.)

Jurisdiction	Vulnerability	Impact
Pontotoc County	None of the critical facilities of Pontotoc County have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds and Tornadoes. A majority of the unincorporated areas of Pontotoc County have above-ground utility lines. Underground utilities exist for newer developments, but many areas across Pontotoc County consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable to high wind damage.	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages. Overhead utility line damages can impact persons and business with loss of power, cause a fire, injury from being in the dark, and temporary loss of business that results in financial loss. It also can

		impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs.
Ada	The City of Ada has a majority of older structures. Older built structures with weakened roofs are vulnerable to wind damage in a high wind event. Additionally with mostly overhead powerlines, the city and its residents are vulnerable to power outages from high wind events.	Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages
Allen	None of the critical facilities in the City of Allen have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds. Additionally with mostly overhead powerlines, the city and its residents are vulnerable to power outages from high wind events.	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages.
Byng	None of the critical facilities in the Town of Byng have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds. Additionally with mostly overhead powerlines, the town and its residents are vulnerable to power outages from high wind events.	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages.
Fitzhugh	None of the critical facilities in the Town of Fitzhugh have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds. Additionally with mostly overhead powerlines, the town and	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure.

	its residents are vulnerable to power outages from high wind events.	This can cause a loss of wages, business, and employees' loss of wages.
Francis	None of the critical facilities in the Town of Francis have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds. Additionally with mostly overhead powerlines, the town and its residents are vulnerable to power outages from high wind events.	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages.
Roff	None of the critical facilities in the Town of Roff have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds. Additionally with mostly overhead powerlines, the town and its residents are vulnerable to power outages from high wind events.	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages.
Stonewall	None of the critical facilities in the Town of Stonewall have reinforced roofing. This increases the vulnerability for these critical facilities and can lead to extensive structural damage in the event of High Winds. Additionally with mostly overhead powerlines, the town and its residents are vulnerable to power outages from high wind events.	These damages can result in personal injury, a disruption of routine operations, and disruption in critical response services. Wind damages to roofs and powerlines can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages.
Ada P.S. and Pontotoc Technology Center	In a High Wind Event, Ada Public Schools and the Technology Center, do not have their windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny pieces. None of the buildings except for the shelter areas have reinforced roofing.	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school and Technology Center operations.

Allen P.S	In a High Wind Event, Allen Public Schools does not have the school windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny pieces. None of the School buildings except for the shelter areas have reinforced roofing.	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school operations.
Byng P.S	In a High Wind Event, Byng Public Schools does not have the school windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny pieces. None of the School buildings except for the shelter areas have reinforced roofing.	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school operations.
Latta P.S.	In a High Wind Event, Latta Public Schools does not have the school windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny pieces. None of the School buildings except for the shelter areas have reinforced roofing.	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school operations.
Roff P.S.	In a High Wind Event, Roff Public Schools does not have the school windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny pieces. None of the School buildings except for the shelter areas have reinforced roofing.	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school operations.
Stonewall P.S.	In a High Wind Event, Stonewall Public Schools does not have the school windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school operations.

	pieces. None of the School buildings except for the shelter areas have reinforced roofing.	
Vanoss P.S.	In a High Wind Event, Vanoss Public Schools does not have the school windows treated with security film. With this film the glass is more difficult to break than a standard window. If it does break it will not shatter into thousands of tiny pieces. None of the School buildings except for the shelter areas have reinforced roofing.	Damage to buildings and equipment can result in injuries or deaths to students and staff as well as economic loss to schools. High wind events can also cause a disruption to daily school operations.

Population

The people most vulnerable to high wind-related deaths, injuries, and property damage are those residing in mobile homes and deteriorating or poorly constructed homes. However, as shown by the record of damaging wind events, such as the 80-95 mph event of April 29, 2009, Pontotoc County is at risk from high winds, downbursts, toppled trees and fallen power lines.

Those living in mobile homes are significantly more vulnerable to the effects of a tornado than any other identifiable population. While the number of mobile homes is a small fraction of total residential dwellings, the number of deaths in mobile homes significantly exceeds the number of deaths associated with inhabitants of permanent homes.

Also at an increased risk for these events are members of the hard-of-hearing/deaf community, people for whom English is not their primary language and those without access to broadcast media messages (television or radio) alerting them of approaching severe weather. While much progress has been made in expanding communication resources for these individuals, there is still a large number of residents facing these challenges unable to receive vital warnings in a timely manner.

Structures/Buildings

With the high percentage of older homes in Pontotoc County as a whole, (47.8% of homes in the county were built prior to 1969), the jurisdiction is particularly vulnerable to wind damage. See Table 1-8 for percentages of homes built prior to 1969, 1959 and 1939. Almost half of the residential structures in Allen, Francis, Fitzhugh and Stonewall were built prior to 1959.

Structures utilizing more modern-looking building materials (reflective glass facades, open breezeways between wings, etc.) should be considered more vulnerable to damage from a tornado. Wind-driven debris (wood, metal, other larger items picked up by larger funnels) can cause catastrophic damage to buildings.

Critical Facilities

All critical facilities within Pontotoc County should be considered vulnerable to the effects of a high wind or tornado event. Structural integrity may be compromised if in the direct path of the storm, in addition to secondary impacts, such as power disruption, water damage from accompanying rain, injury to workers/residents, etc. For a complete list of critical facilities for Pontotoc County, see Table 1-9. All of the public schools within Pontotoc County are equipped with safe rooms.

3.2.4 Sources

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3.3 Lightning

Description

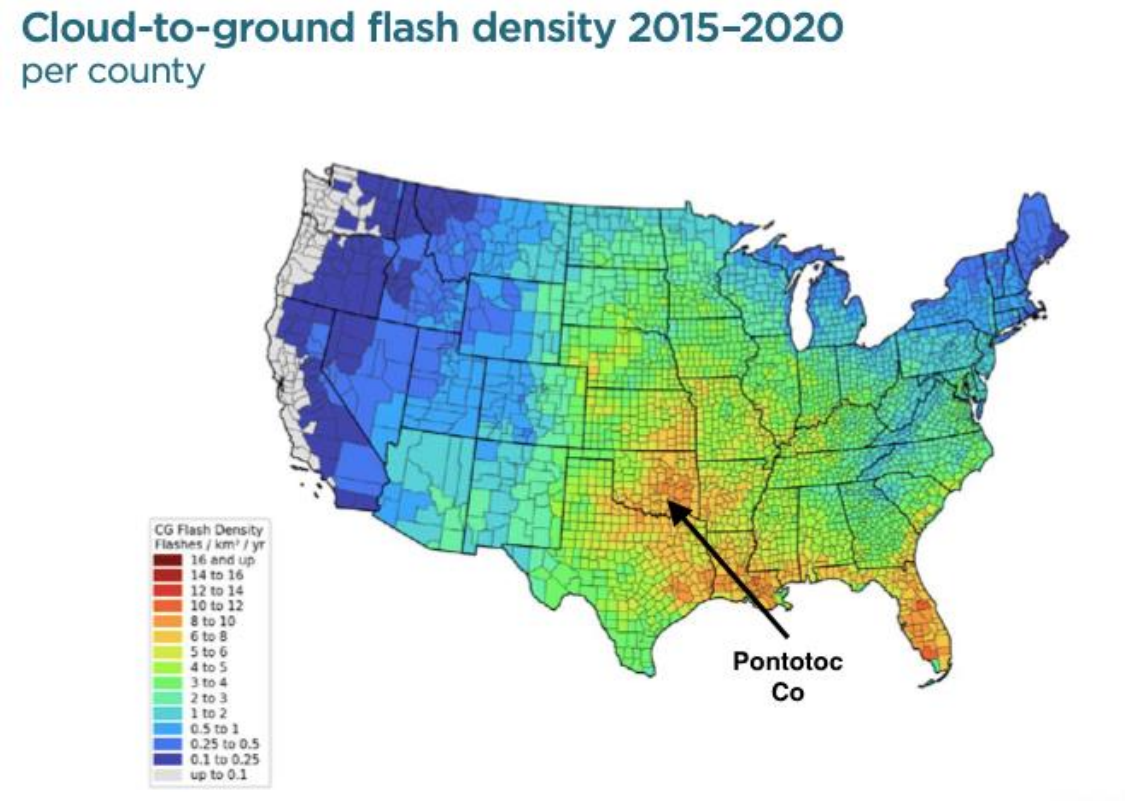
Lightning is a discharge of intense atmospheric electricity, accompanied by a vivid flash of light, from one cloud to another, or from a cloud to the ground. Lightning is formed by the separation of positive and negative charges that occur when ice crystals collide high up in a thunderstorm cloud. As lightning passes through the atmosphere, the air immediately surrounding it is heated, causing the air to expand rapidly. The resulting sound wave produces thunder.

Location

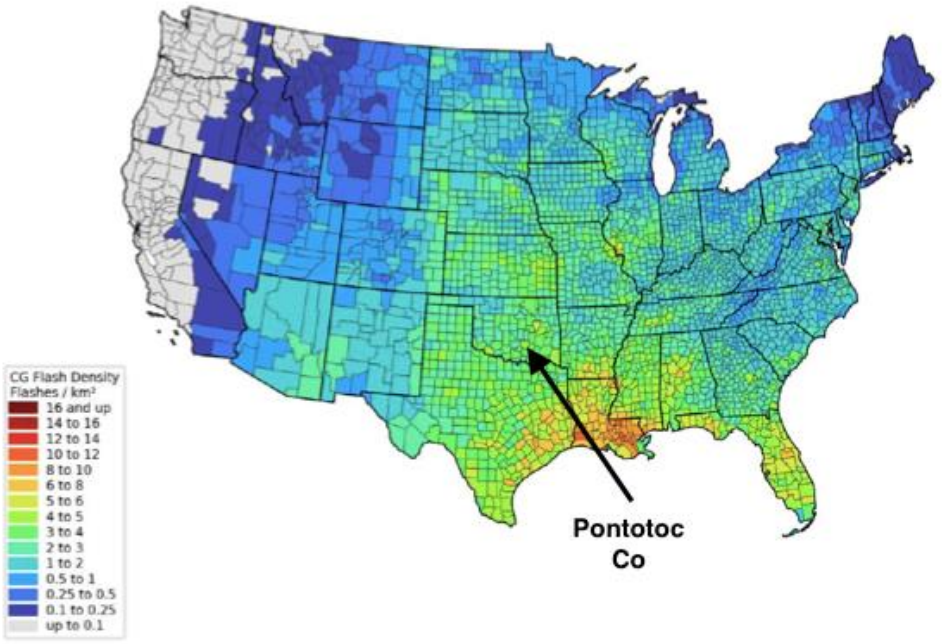
Lightning affects the entire Planning Area.

Previous Occurrences

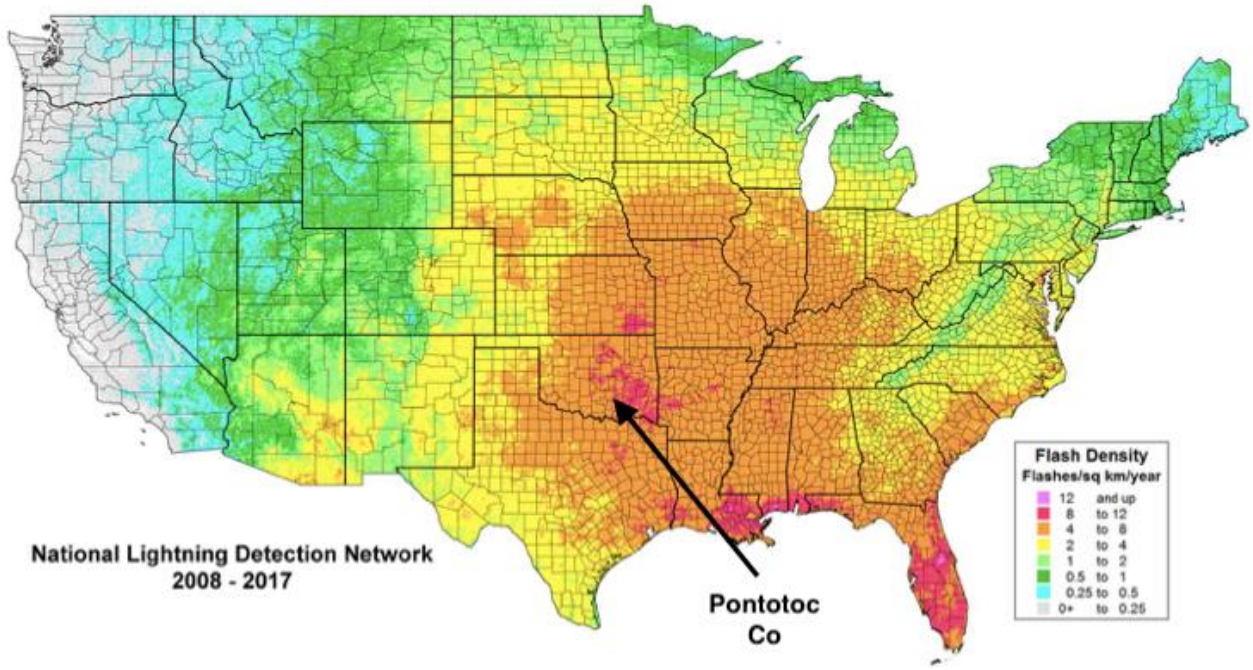
The Planning Area receives Lightning annually, to include the period of 2011-2021. The Vaisala Annual Lightning Report is used to illustrate the frequency of Lightning Occurrence. According to this data, the Planning Area receives 4-12 cloud-to-ground lightning flashes per sq. km/per year.



Cloud-to-ground flash density 2021
per county



U.S. Cloud-to-Ground Lightning Flash Density Map (sq km/year)



Extent

The Planning Area used the Vaisala Annual Lightning Report data and the Lightning Activity Level Scale to categorize Lightning Extent. The Planning Area can expect to experience up to 12 cloud-to-ground lightning flashes per sq. km/per year, or any level on the Lightning Activity Level Scale.

Lightning Activity Level (LAL)	
Is a scale which describes lightning activity. Values are labeled 1-6:	
LAL 1	No thunderstorms
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a five minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period.
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced Lightning is frequent, 11 to 15 cloud to ground strikes in a 5 minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater then 15 cloud to ground strikes in a 5 minute period.
LAL 6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

Probability of Future Events

The probability of damaging lightning events in the Planning Area is High.

3.3.1 Vulnerability/Impact

Jurisdiction	Vulnerability	Impact
Pontotoc County	The Pontotoc County District Barns have fuel storage tanks located at each of the three district barns. A lightning strike to any of these fuel tanks could ignite an explosion. The county Courthouse and other administrative buildings have electronics and IT resources that are susceptible to lightning.	This explosion could result in injury and even possible death to an employee. Infrastructure Damage and a loss of resources could impact Pontotoc County if lightning strikes any of these fuel tanks resulting in an explosion. A strike to one of the admin buildings or Courthouse could cause damages to the computers and other electronic systems.
Ada	The City of Ada has above ground utility lines. Underground utilities exist for newer developments, but many areas of Ada consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the city.	This can impact persons and business with loss of power, cause a fire, injury from being in the dark, and temporary loss of business that results in financial loss. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs.
Allen	The City of Allen has above ground utility lines. Many areas of Allen consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the city. Additionally, a main concern for the city of Allen is the Magellan tank farm on the western edge of town which if struck by lightning could cause a major fire and explosions.	This can impact persons and business with loss of power, cause a fire, injury from being in the dark, and temporary loss of business that results in financial loss. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs. If lightning were to strike the Magellan tank farm it would cause and evacuation of most of the town of Allen.
Byng	The Town of Byng has above	This can impact persons and

	ground utility lines. Underground utilities exist for newer developments, but many areas of Byng consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the town.	business with loss of power, cause a fire, injury from being in the dark, and temporary loss of business that results in financial loss. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs.
Fitzhugh	The Town of Fitzhugh has above ground utility lines. Many areas of Fitzhugh consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the town.	This can impact persons and business with loss of power, cause a fire, injury from being in the dark. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs
Francis	The Town of Francis has above ground utility lines. Many areas of Francis consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the town.	This can impact persons and business with loss of power, cause a fire, injury from being in the dark. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs.
Roff	The Town of Roff has above ground utility lines. Many areas of Roff consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the town.	This can impact persons and business with loss of power, cause a fire, injury from being in the dark. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs.
Stonewall	The Town of Stonewall has above ground utility lines. Many areas of Stonewall consist of older residential structures and neighborhoods. Overhead utility lines are vulnerable in a lightning event. This causes frequent power outages in the town.	This can impact persons and business with loss of power, cause a fire, injury from being in the dark. It also can impact utility providers with financial loss due to overtime, equipment and supplies needed for repairs.
Ada P.S. and Pontotoc Technology Center	Ada P.S. and Pontotoc Technology Center have above ground utility lines vulnerable to frequent power outages which can happen during school hours. Ada Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and replacement. This can cause an injury to a student or faculty member who is outside, uncovered during

		lightning.
Allen P.S	Allen Public Schools use the same utility company as the city and are subject to the same vulnerable results in frequent power outages which can happen during school hours. Allen Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and replacement. This can cause an injury to a student or faculty member who is outside, uncovered during lightning.
Byng P.S	Byng Public Schools use the same utility company as the city and are subject to the same vulnerable results in frequent power outages which can happen during school hours. Byng Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and replacement. This can cause an injury to a student or faculty member who is outside, uncovered during lightning.
Latta P.S.	Latta Public Schools use the same utility company as the city and are subject to the same vulnerable results in frequent power outages which can happen during school hours. Latta Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and replacement. This can cause an injury to a student or faculty member who is outside, uncovered during lightning
Roff P.S.	Roff Public Schools lack a handheld lighting detection system that assists school staff and coaches in monitoring the proximity of storms during outdoor sporting events. Roff Public Schools use the same utility company as the city and are subject to the same vulnerable results in frequent power outages which can happen during school hours.	The impact of not having a method for determining lightning proximity during outdoor events means that staff members and coaches must rely on personal observation and anecdotal analysis. This judgement is often inconsistent and puts students and staff at risk for personal injury or even death. Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and

	Roff Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	replacement. This can cause an injury to a student or faculty member who is outside, uncovered during lightning
Stonewall P.S.	Stonewall Public Schools lack a handheld lighting detection system that assists school staff and coaches in monitoring the proximity of storms during outdoor sporting events. Stonewall Public Schools use the same utility company as the city and are subject to the same vulnerable results in frequent power outages which can happen during school hours. Stonewall Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	The impact of not having a method for determining lightning proximity during outdoor events means that staff members and coaches must rely on personal observation and anecdotal analysis. This judgement is often inconsistent and puts students and staff at risk for personal injury or even death. Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and replacement. This can cause an injury to a student or faculty member who is outside, uncovered during lightning
Vanoss P.S.	Vanoss Public Schools use the same utility company as the county and are subject to the same vulnerable results in frequent power outages which can happen during school hours. Vanoss Public Schools do not have covered sidewalks in all locations for students and faculty go between buildings.	Damage to school equipment can result in an economic loss to schools, potentially causing a disruption to school operations and the expense of costs for repair and replacement. This can cause an injury to a student or faculty member who is outside, uncovered during lightning

3.3.2 Sources

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3.4 Hail

Hail is an outgrowth of a severe thunderstorm in which balls or irregularly shaped lumps of ice fall with rain. Extreme temperature changes from the ground upward into the jet stream produce strong updraft winds that cause hail formation.

The size of hailstones is a direct function of the severity and size of a storm. High velocity updraft winds keep hail in suspension in thunderclouds. The greater the intensity of heating at the Earth's surface, the stronger the updraft will be. Higher temperatures relative to elevation result in increased suspension time allowing hailstones to grow in size.

3.4.1 Hazard Profile

Location

All buildings and agricultural areas in Pontotoc County and participating jurisdictions are at risk from a hail event.

Extent

Pontotoc County and participating jurisdictions use the NOAA/TORRO Hail Intensity Scale to categorize Hail events. We expect to receive hail up to any value on the NOAA/TORRO Hail Intensity Scale.

Source: National Weather Service

Table 3-13: Combined NOAA/TORRO Hail Intensity Scales

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 & crops, damage to glass & Plastic structures, paint & 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	Lime or 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 & up	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

3.4.2 History/Previous Occurrences

Pontotoc County has reported 71 hail events with hail 1.00" or larger, from 2011 through 2021, with $3,000 in damages reported from the events. Table 4-19 lists the number of events, number of death, number of injuries, number of events that reported damages, and the amount of property damaged reported to the NCDC for Pontotoc County, Oklahoma, and the US. Pontotoc County and all jurisdictions are at a high risk from hail events.

Table 3–14: Casualties and Damages Caused by Hail from 2011 to 2021

CO NAME	LOCATION	DATE	EVENT	MAGNITUDE	DEATHS DIRECT	INJURIES DIRECT	DAMAGE PROPERTY	DAMAGE CROPS
PONTOTOC CO.	ROFF	4/14/2011	Hail	1.75	0	0	0	0
PONTOTOC CO.	FITTSTOWN	4/14/2011	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	4/22/2011	Hail	1.25	0	0	0	0
PONTOTOC CO.	STONEWALL	5/12/2011	Hail	1.25	0	0	0	0
PONTOTOC CO.	BYNG	5/21/2011	Hail	2	0	0	0	0
PONTOTOC CO.	ADA	5/22/2011	Hail	2.5	0	0	0	0
PONTOTOC CO.	ADA	5/22/2011	Hail	2.75	0	0	0	0
PONTOTOC CO.	ADA	5/22/2011	Hail	1.75	0	0	0	0
PONTOTOC CO.	VANOSS	5/22/2011	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	5/24/2011	Hail	1.25	0	0	0	0
PONTOTOC CO.	ADA	5/24/2011	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	10/22/2011	Hail	2.75	0	0	0	0
PONTOTOC CO.	ADA	10/22/2011	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	10/22/2011	Hail	3	0	0	0	0
PONTOTOC CO.	ADA	10/22/2011	Hail	2.75	0	0	0	0
PONTOTOC CO.	BYNG	10/22/2011	Hail	2.75	0	0	0	0
PONTOTOC CO.	ALLEN	10/22/2011	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	2/1/2012	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	3/31/2013	Hail	1.75	0	0	0	0
PONTOTOC CO.	ROFF	3/31/2013	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	4/26/2013	Hail	1	0	0	0	0
PONTOTOC CO.	ROFF	4/26/2013	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	5/20/2013	Hail	1.25	0	0	0	0
PONTOTOC CO.	ADA	5/20/2013	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	5/20/2013	Hail	1.25	0	0	0	0
PONTOTOC CO.	FITTSTOWN	5/9/2015	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	3/2/2016	Hail	1.25	0	0	0	0
PONTOTOC CO.	BYNG	3/2/2016	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	3/2/2016	Hail	1.25	0	0	0	0
PONTOTOC CO.	STONEWALL	3/23/2016	Hail	1	0	0	0	0
PONTOTOC CO.	LULA	3/23/2016	Hail	1.25	0	0	3000	0
PONTOTOC CO.	ADA	3/23/2016	Hail	1.75	0	0	0	0
PONTOTOC CO.	BYNG	4/29/2016	Hail	1.25	0	0	0	0

PONTOTOC CO.	VANOSS	7/8/2016	Hail	1	0	0	0	0
PONTOTOC CO.	BYNG	10/26/2016	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	10/26/2016	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	10/26/2016	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	3/26/2017	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	3/26/2017	Hail	1.11	0	0	0	0
PONTOTOC CO.	ADA	3/26/2017	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	3/26/2017	Hail	2.75	0	0	0	0
PONTOTOC CO.	FRANCIS	3/26/2017	Hail	3.25	0	0	0	0
PONTOTOC CO.	ALLEN	3/26/2017	Hail	1.75	0	0	0	0
PONTOTOC CO.	ALLEN	3/26/2017	Hail	1.84	0	0	0	0
PONTOTOC CO.	VANOSS	4/25/2017	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	4/25/2017	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	4/25/2017	Hail	1	0	0	0	0
PONTOTOC CO.	BYNG	4/25/2017	Hail	1.75	0	0	0	0
PONTOTOC CO.	VANOSS	4/25/2017	Hail	1.25	0	0	0	0
PONTOTOC CO.	ROFF	5/19/2017	Hail	1.5	0	0	0	0
PONTOTOC CO.	VANOSS	5/27/2017	Hail	1	0	0	0	0
PONTOTOC CO.	BYNG	5/27/2017	Hail	1.75	0	0	0	0
PONTOTOC CO.	VANOSS	5/27/2017	Hail	1.5	0	0	0	0
PONTOTOC CO.	ROFF	6/5/2018	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	6/9/2019	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	10/20/2019	Hail	1.25	0	0	0	0
PONTOTOC CO.	ADA	4/12/2020	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	4/22/2020	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	4/28/2020	Hail	1	0	0	0	0
PONTOTOC CO.	STONEWALL	4/28/2020	Hail	1	0	0	0	0
PONTOTOC CO.	STONEWALL	4/28/2020	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	5/4/2020	Hail	1	0	0	0	0
PONTOTOC CO.	BYNG	5/4/2020	Hail	1	0	0	0	0
PONTOTOC CO.	ROFF	5/4/2020	Hail	1	0	0	0	0
PONTOTOC CO.	STONEWALL	7/30/2020	Hail	1	0	0	0	0
PONTOTOC CO.	VANOSS	4/9/2021	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	4/9/2021	Hail	1	0	0	0	0
PONTOTOC CO.	FITZHUGH	4/9/2021	Hail	1.75	0	0	0	0
PONTOTOC CO.	ADA	5/3/2021	Hail	1	0	0	0	0
PONTOTOC CO.	ADA	12/17/2021	Hail	1	0	0	0	0
PONTOTOC CO.	ALLEN	12/17/2021	Hail	1	0	0	0	0

Probability/Future Events

The Planning Area has a High probability of hail occurrence.

3.4.3 Vulnerability/Impact

The Planning Area experiences hail due to the strong storm systems that develop and pass through. When hails hits, it can damage cars, break windows, shred roof coverings, and lead to water damaged ceilings, walls, floors, appliances, and personal possessions.
The Planning Area was determined to be at High risk to the Hail hazard based on the Hazard Risk Assessment Chart 3-2.

Jurisdiction	Vulnerability	Impact
Pontotoc Co	A majority of unincorporated Pontotoc County's economy is dependent on ranching and farming. A hail event could damage crops and cause injury to livestock. With poverty levels in the unincorporated areas of Pontotoc County as high as 20%, farmers and ranchers are economically vulnerable to hail events that cause damage to their fields and injury to their livestock. Pontotoc County's buildings and infrastructure, such as the courthouse and county barns, are vulnerable to hail due to roofs and windows that are not hail resistant, as well as exposed HVAC units. The sheriff's office and Call-A-Ride public transport also do not have covered parking for their vehicles.	A loss of farm and ranch revenue negatively affects Pontotoc County's economy. In the farming and ranching economy, agricultural losses are a significant impact for Pontotoc County because of the importance of agriculture in the area. In the event of a destructive hailstorm, roofs of county infrastructure and vehicles could sustain damages. This would cause and economic hit to the county.
City of Ada	The City of Ada lacks public shelters at several of their event locations and ball fields. Ada hosts many events throughout the year at various locations in the city and its parks and fields. Several of these events are uncovered and in the open outdoors. Additionally, city buildings and offices are not retrofitted with hail resistant glass, and several of the buildings do not have hail resistant roofs. The city buildings also have exposed HVAC units. City vehicles at the PW dept and the Parks Dept do not have covered parking.	This can cause damages to the vehicles parked at the event, and personal injury to the people in attendance at the event. In the event of a destructive hailstorm, roofs of city infrastructure and vehicles could sustain damages. This could cause an economic hit to the city.

Towns of Allen, Byng Fitzhugh, Francis, Roff, and Stonewall	The towns of Allen, Byng Fitzhugh, Francis, Roff, and Stonewall have a majority of older structures. A lot of these older structures have weak roofs and non-hail resistant windows. These structures would be vulnerable to damage during a hail event. The infrastructure and vehicles of the towns is also vulnerable to a destructive hail event due to older roofs on buildings and uncovered parking areas for city vehicles. City owned HVAC units would also be damaged by hail.	Hail damages to roofs can cause property owners or business owners to have to find temporary housing or business locations due to the amount of roof damage on their structure. This can cause a loss of wages, business, and employees' loss of wages. In the event of a destructive hailstorm, roofs of city infrastructure and vehicles could sustain damages. This could cause economic hardship to impoverished communities.
Ada, Allen, Byng, Latta, Roff, Stonewall, Vanoss Public Schools, Pontotoc Technology Center	Ada, Allen, Byng, Latta, Roff, Stonewall, Vanoss Public Schools and Pontotoc Technology Center are vulnerable to hail due to the lack of hail resistant film on the facility windows and some roofs that are not hail resistant on each campus. Additionally, the schools have exposed HVAC Units on roofs that would be damaged in a destructive hail event. None of the Schools have covered parking that completely accounts for all of the school buses or transportation vehicles. This exposes the buses to damage due to a hail event. None of the Public Schools have covered sidewalks for students and faculty go between buildings. Some of the schools have begun the process of installing covered sidewalks, but none have completed the process and students are still exposed.	A broken window can injure a faculty member or student during a hail event. This could result in a significant loss to the schools' capabilities, and their ability to operate at normal levels. This can cause an injury to a student or faculty member who is outside, uncovered during a hailstorm.

3.4.4 Sources

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National Weather Service: Office of Climate, Water, and Weather Services, at Web address: www.nws.noaa.gov/om/hazstats.shtml.

3.5 Severe Winter Storms

The Planning area considers a severe winter storm to be one that drops more than 4 inches of snow or more than ½ inch of ice. An ice storm occurs when freezing rain falls from clouds and freezes immediately upon contact.

3.5.1 Hazard Profile

Location

The entire planning area is considered vulnerable to the effects of a severe winter storm event.

Extent

The Planning Area uses the Sperry-Piltz Ice Accumulation Index for ice damage. The Planning Area can experience any ice damage index value on this chart.

The Planning Area also uses the NOAA NWS Wind Chill Chart. Due to the unpredictable nature of Winter Storms, the Planning Area can experience a wide range of value on the chart. However, most Wind Chill temperatures are expected to be -34 or warmer.

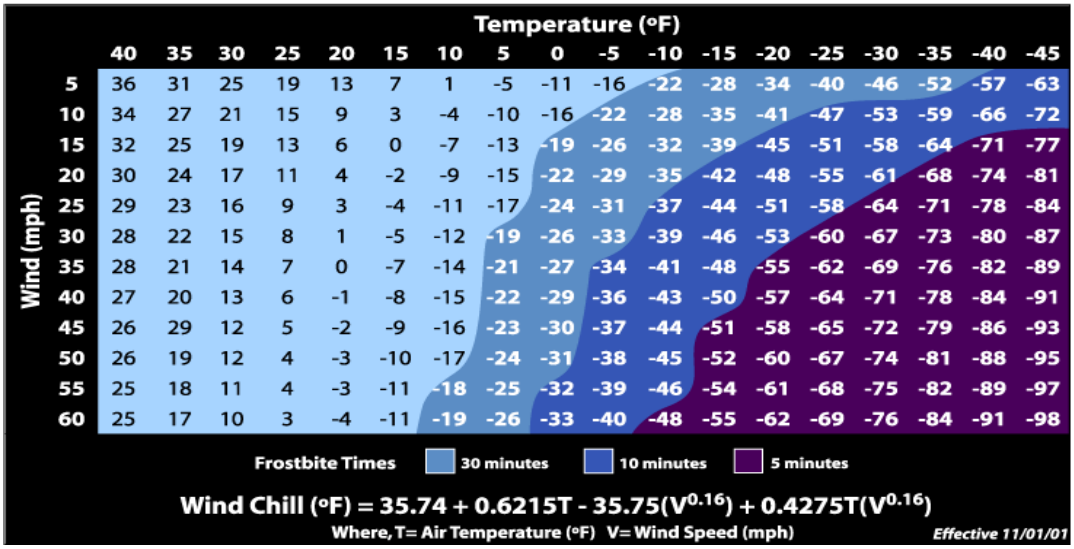
Pontotoc County and participating jurisdictions consider a minor severity winter storm to be snow accumulations less than 4" and ice accumulation up to ¼ inch, and a major severity event to be snow accumulations over 8" and ice accumulation above ½ inch resulting in power outages and hazardous travel conditions.

The Sperry-Piltz Ice Accumulation Index, or "SPIA Index" – Copyright, February, 2009

ICE DAMAGE INDEX	* AVERAGE NWS ICE AMOUNT (in inches) *Revised-October, 2011	WIND (mph)	DAMAGE AND IMPACT DESCRIPTIONS
0	< 0.25	< 15	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	0.10 – 0.25	15 - 25	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
	0.25 – 0.50	> 15	
2	0.10 – 0.25	25 - 35	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
	0.25 – 0.50	15 - 25	
	0.50 – 0.75	< 15	
3	0.10 – 0.25	>= 35	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
	0.25 – 0.50	25 - 35	
	0.50 – 0.75	15 - 25	
	0.75 – 1.00	< 15	
4	0.25 – 0.50	>= 35	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
	0.50 – 0.75	25 - 35	
	0.75 – 1.00	15 - 25	
	1.00 – 1.50	< 15	
5	0.50 – 0.75	>= 35	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.
	0.75 – 1.00	>= 25	
	1.00 – 1.50	>= 15	
	> 1.50	Any	

(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

Figure 3-1: Wind Chill Chart



Wind (mph)	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
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	29	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

3.5.2 History/Previous Occurrences

Table 3–15: Casualties and Damages Caused by Severe Winter Storms, 2011 to 2021
Source: National Climatic Data Center

Location	Events	Deaths	Injuries	Damage Events	Property Damages
Pontotoc County	2	0	0	2	$0

Pontotoc County Past Severe Winter Storm Events of Note:

December 24-25, 2009 – DR 1876 – A severe winter storm produced sleet and freezing rain which produced up to 1" of ice accumulation on roadways, trees, and powerlines. Pontotoc County and participation jurisdictions experienced road closures, roads being impassable due to debris, and power outages. Assessed damages in the county were in excess of $120,000.00 to public facilities.

January 28-30, 2010 – DR 1883 – A severe winter storm produced freezing rain that resulted in large accumulations of ice and record freezing temperatures which caused injuries, fatalities, and considerable damages to public and private properties. Many roads were closed due to ice and debris and power was out across the jurisdiction. Assessed damages to public infrastructure was in excess of $900,000.00.

January 31, 2011 - A severe winter storm began to take shape during the evening hours of the 31st and continued into the 1st of February. Most of the accumulating snow occurred on February 1, but thunder-sleet and snow did affect many locations after dark on the 31st. The wintry precipitation combined with increasing wind speeds began what was to end up as a severe winter storm. Snow and sleet accumulations were minimal early

on, but continued to deteriorate as the night progressed. A more thorough write-up is included in the February 2011 Storm Data entry. Thunder sleet, freezing rain, and snow began during the late evening, with wind gusts increasing to over 30 mph by midnight. The majority of the storm occurred on 2/1. Snowfall was measured at 9" in Ada

February 10, 2021 the City of Ada, Pontotoc County and surrounding areas in Oklahoma received cold temperatures, ice, freezing rain and sleet or a combination of all. This resulted in the streets, roads and highways being very slick and near impassable. Over the next few days emergency services and public works departments had increased calls and call outs resulting in unplanned overtime. The extreme cold temperatures caused freeze ups at the liquid waste plants and difficulties in water plants. Freezing rain accumulated on power lines and trees causing power outages and debris. Warming stations were set up for residents without power. DR-4587 authorized FEMA Public Assistance to municipalities, counties, and tribes in all 77 Oklahoma counties for infrastructure repairs and other costs associated with responding to the severe winter storm.

Probability/Future Events

Probability for the Planning Area is Medium.

Based on 11 winter storm events in the 21-year period from 2000 to 2021, Pontotoc County can expect one winter storm every other year, and a severe ice storm every 5-7 years that significantly disrupts businesses, schools and transportation.

3.5.3 Vulnerability/Impact

- Pontotoc County was determined to be at Medium risk to the hazard.
- A Severe Winter Storm can affect a region for days, weeks, and even months. Houses, roads, electrical poles and lines, water systems, people, and livestock are all vulnerable to severe winter storms. Severe Winter Storms can cause great inconvenience, injuries, and even deaths. Loss of mobility affects the entire community.

Jurisdiction	Vulnerability	Impact
Pontotoc County	A majority of unincorporated Pontotoc County's economy is dependent on ranching. With Severe Winter Storms, farmers that don't have the capabilities to bring their livestock indoors are vulnerable to livestock dying or having serious injury. The Winter Weather also makes it hard for remote ranchers to reach their livestock to feed and even break up water in ponds or stock tank as well as the frigid temperatures. With poverty levels in the unincorporated areas of Pontotoc County as high as 20%, farmers and ranchers are economically vulnerable to severe winter storm events that cause injury/death to their livestock. Some of the critical infrastructure within Pontotoc County, including the RWD's waterlines, consist of older buildings with dated plumbing and poor insulation. During severe winter storm events, these buildings are vulnerable to freezing and rupturing water pipes. In addition, there are many older homes which face the same issues. Pontotoc County is limited on sanding and plowing capabilities for county roads which can contribute to inability of citizens to access needed services, as well as delaying the response of emergency services when needed in the county.	The loss of ranch revenue negatively affects Pontotoc County's economy. In the farming and ranching economy, agricultural losses are a significant impact for Pontotoc County because of the importance of agriculture in the area. Broken water lines can severely damage public and private infrastructure and divert needed funding from other projects to repairs. If the RWD lines break, water outages can last for a significantly longer amount of time due to the extreme cold and difficulty of travel. Injuries, more severe illnesses, and even deaths can occur if the roads are impassible for citizens and emergency vehicles.
City of Ada, Towns of Allen, Byng, Francis, Fitzhugh, Roff, and Stonewall.	Many of the critical facilities within these jurisdictions consist of older buildings with dated plumbing systems and poor insulation. During severe winter storm events, these buildings are vulnerable to freezing and rupturing water pipes. The water and wastewater systems within these jurisdictions also are not fully updated to withstand severe cold and waterline breaks can lead to lengthy water outages. Additionally, there are many older homes which face the same issues.	A ruptured water pipe will leave a critical facility, business, or home without water for an extended period of time. This compounds an already vulnerable situation during a Severe Winter Storm event. Repairing these pipes is costly and having an abundance of these types of repairs might overwhelm the capabilities of local trade companies. Businesses that are without water also will be affected economically.

	The street clearing capability of the jurisdictions are not enough to quickly handle a severe winter storm, which leads to roads that are slick for a lengthy time hindering citizen traffic and emergency services. The homeless population is also at high-risk to the effects of a severe Winter Event when the power is out and there are not enough warming centers available.	Icy or snow covered streets can lead to accidents and injuries and potentially deaths. Citizens that need to get to Dr. Appointments or stores for needed staples and medicines may have to cancel or delay these services. Emergency Services will have delayed response times. With power outages, and icy roads, warming centers or shelters may not be available to those who need them. Power outages can force hospitals and other emergency services to rely on generators for an extended period of time, as well as affect the water plants and waste water treatment facilities. Damages to the utility infrastructure can cause huge losses in the wider economy.
Ada, Allen, Byng, Latta, Roff, Stonewall, and Vanoss Public School Systems, Pontotoc Technology Center	Older Buildings, and buildings with limited insulation or unreinforced roofs are susceptible to extreme cold and ice loading which can cause broken pipes, collapsed roofs and ice damming on eaves that cause roof damage and in some cases water intrusion damages. Bus Routes of these schools include both city streets and county roads, and if these routes cannot be cleared in a timely manner schools cannot operate due to not being able to safely run bus routes.* Non covered buses become ice covered and difficult to start in extreme cold.* The schools do not have generator back up and power outages cause schools to close for extended periods of time due to ice storms. Additionally, some electronic equipment can be damaged by power outages and efforts to restore power after a storm. The schools utilize city or county water supply and water outages caused by broken water mains of the city, towns, and county due to extreme cold cause schools to close. *Bus information does not pertain to the Pontotoc Technology Center.	Broken water lines and damage roofs cause disruptions to school and are costly to repair. Potential flooding damages from broken pipe can cause disruptions that last for an extended time. Transportation routes can directly affect school operations and result in school closures. Damage to equipment can result in an economic and capability loss to schools, potentially causing a disruption to school operations and the burden of unexpected costs for repair and replacement.

3.5.4 Sources

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3.6 Extreme Heat

3.6.1 Hazard Profile

Temperatures that hover 10 degrees or more above the average high temperature for the region are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation. A heat wave occurs when such conditions persist over long periods. A lack of nighttime cooling can exacerbate the conditions when community infrastructure fails to release ambient heat increases gained during the day. According to the National Weather Service, heat is the number one weather-related killer in the United States. Despite the history of adverse effects, there is consensus that most of these deaths are preventable. Extreme heat can cause heat-illnesses to develop among even the healthiest and active individuals. Students and staff participating in outdoor summer school activities are particularly at risk. Heat also affects workforce capabilities. Outdoor maintenance workers should be monitored for heat exhaustion and heat stroke. Extreme summer temperatures can also cause water shortages, increase fire hazards, and prompt excessive demands for energy.

Location

The entire planning area is affected by Extreme Heat.

Extent

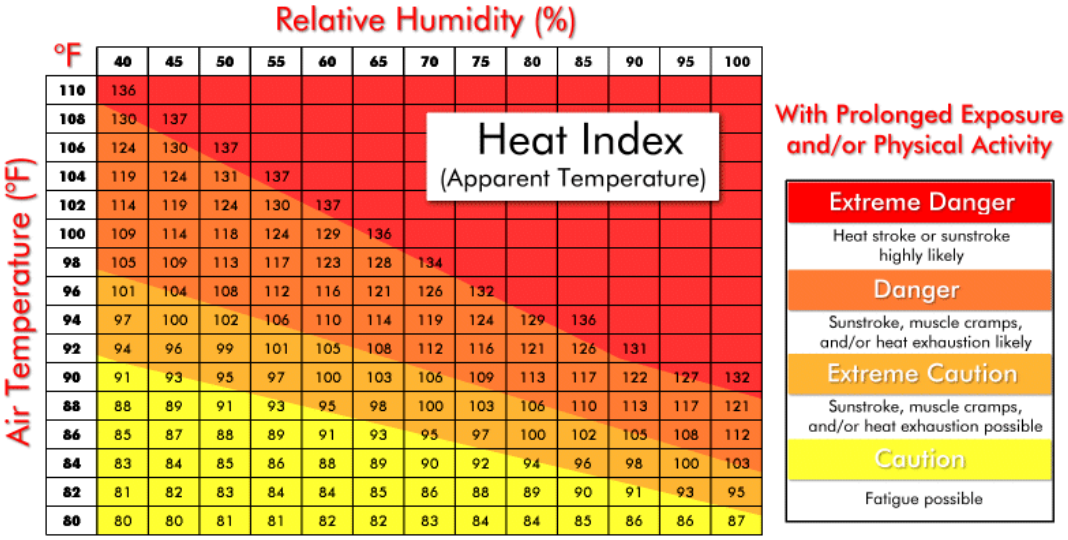
The Planning Area uses the Heat Index and Heat Disorders table which relates index ranges with specific disorders, particularly for people in the higher risk groups. The heat index illustrates how the human body experiences the combined effects of high temperature and humidity. It more accurately reflects what the body experiences than simply measuring the air temperature.

The Heat Index Scale displays varying degrees of caution depending on the relative humidity combined with the temperature. The shaded zones on the chart indicate varying symptoms or disorders that could occur depending on the magnitude or intensity of the event. “Caution” is the first level of intensity where fatigue due to heat exposure is possible. “Extreme Caution” indicates that sunstroke, muscle cramps or heat exhaustion are possible, whereas a “Danger” level means that these symptoms are likely. “Extreme Danger” indicates that heat stroke or sunstroke are highly likely.

The extent of the extreme heat hazard is largely dependent on the weather conditions occurring across the jurisdiction. High heat events typically will not affect property as adversely as vulnerable populations.

The Planning Area can experience any heat index values within the Caution to the Extreme Danger categories.

Figure 3–2: Heat Index Chart



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

Source: National Climatic Data Center

Pontotoc County Extreme Heat Events

Oklahoma and Pontotoc County experienced their hottest summer on record in 2011. Pontotoc County has reported 1 extreme heat event during the planning period of 2011-2021:

June-September, 2011 – The triple digit heat that began at the end of June continued through the first half of September across Oklahoma. Overnight lows remained high with temperatures only falling into the upper 70s to low 80s most nights. During this year there were 63 days of temperatures above 100°F recorded at the Ada Mesonet Station, including an unbroken run of triple digit days from June 30th to July 24, with a 1 day break of 99.73 and another string of 100+ temps from July 26th to August 10th. During this time period there were 16 days of 105+F recorded and 8 days of 108F+. A woman was found dead in her home in Ada. The air conditioner was not on in this home. Emergency services also made numerous calls across the area due to heat related illnesses. The heat caused several streets to buckle across the area, and combined with the drought that was occurring at the time, there were many wild fires in the county.

Number of Days with Temperatures Over 100 deg F, 2011-2021 *Ada Mesonet Data*

Year	Days with Temperatures over 100 deg F
2011	63
2012	30
2013	3
2014	0
2015	6
2016	7

2017	0
2018	3
2019	1
2020	1
2021	0

Probability/Future Events

Extreme heat will continue to be a vulnerability for the residents of Pontotoc County, with temperatures in the mid-90s to 105 through much of July and August. Extreme heat waves, with temperatures in the triple digits for two and three weeks at a time can be expected every 10 years.

The Probability of Extreme Heat occurrences in the Planning area is Medium

3.6.2 Vulnerability/Impact

Pontotoc County was determined to be at medium risk to the Extreme Heat hazard.

Specific vulnerabilities by city/town

Jurisdictions	**Vulnerabilities**	**Impact**
Planning Area Overall	38,385 total population 6,319 population over 65 (vulnerable age) 16.6% (higher the state average of 16.1%) The Planning Area has a significant number of vulnerable population due to age and number of poorer citizens. Homeless population is estimated to be 300 countywide, of which 75-100 are concentrated in the city of Ada itself. None of the schools or community shelters have power backup at this time. However, Ada Argi-plex (major storm shelter) is currently in the process of installation of backup generators. Brownouts /over usage outages, has never occurred in Pontotoc County but needs to be considered as we move forward.	Vulnerable populations are more at risk during Extreme Heat events. Individuals on a fixed income may not be able to afford an uptick in cooling costs, which accompany temperature spikes. This can lead to heat exposure and injury. Homeless populations are at particular risk for injury during Extreme Heat events due to their regular exposure to the elements. Further evaluate the needs of backup and specific locations throughout county Keep up to date on the real potential for this to become an issue in the future

City of Ada	City of Ada has no community cooling stations, and the largest concentration of homeless people in the county.	Lack of a community shelter means the vulnerable populations of Ada do not have places of refuge during Extreme Heat events, which can lead to injury or death.
Town of Allen and Allen PS Town of Byng and Byng PS Town of Fitzhugh Town of Stonewall and Stonewall PS Town of Francis Town of Roff	No community cooling stations No backup generators for school or shelters. Local municipalities need additional education on how to identify and execute a backup power generator plan for critical infrastructure.	Lack of a community shelter means the vulnerable populations of Ada do not have places of refuge during Extreme Heat events, which can lead to injury or death. Lack of backup generators at schools could result in school closures during Extreme Heat events, and an inability to keep food stores refrigerated. A lack of backup power generation at critical infrastructure can imperil vulnerable populations during an Extreme Heat event.
Latta PS Ada PS Roff PS Vanoss PS Pontotoc Technology Center	No backup generators for school. School staff need additional education on how to identify and execute a backup power generator plan for critical infrastructure.	Lack of backup generators at schools could result in school closures during Extreme Heat events, and an inability to keep food stores refrigerated.

3.6.3 Sources

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3.7 Drought

Drought is a normal, recurrent feature of climate, although many erroneously consider it a rare and random event. It occurs in virtually all climate zones, but its characteristics vary significantly from one region to another. Drought is defined as a "climatic dryness severe enough to reduce soil moisture and water below the minimum necessary for sustaining plant, animal and human life systems." Drought is caused by a deficiency of precipitation, which can be aggravated by high temperatures, high winds, and low relative humidity. Duration and severity are usually measured by deviation from norms of annual precipitation and stream flows.

3.7.1 Hazard Profile

Location

The entire Planning Area is at risk from Drought.

Extent

The planning area uses the Palmer Drought Severity Index to measure the extent of drought. The planning area can expect to experience any value on the Palmer Drought Severity Index.

Table 3–17: Palmer Drought Severity Index

	< -4.0	Extreme Drought
	-3.99 to -3.0	Severe Drought
	-2.99 to -2.0	Moderate Drought
	-1.99 to -1.0	Mild Drought
	-0.99 to -0.5	Incipient Drought
	-0.49 to 0.49	Near Normal
	0.5 to 0.99	Incipient Moist Spell
	1.0 to 1.99	Moist Spell
	2.0 to 2.99	Unusual Moist Spell
	3.0 to 3.99	Very Moist Spell
	> 4.0	Extreme Moist Spell

Palmer Drought Severity Index (PDSI)

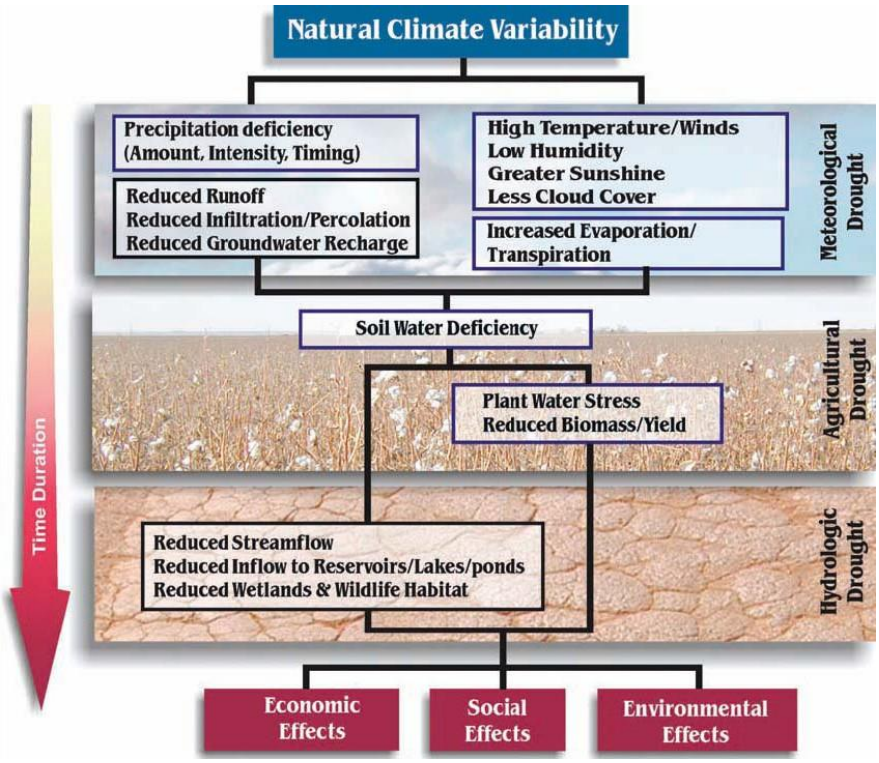
The Palmer Index, the most familiar and widely used, measures the departure from normal precipitation.

The objective of the Palmer Drought Severity Index (PDSI), as this measure is called, is to

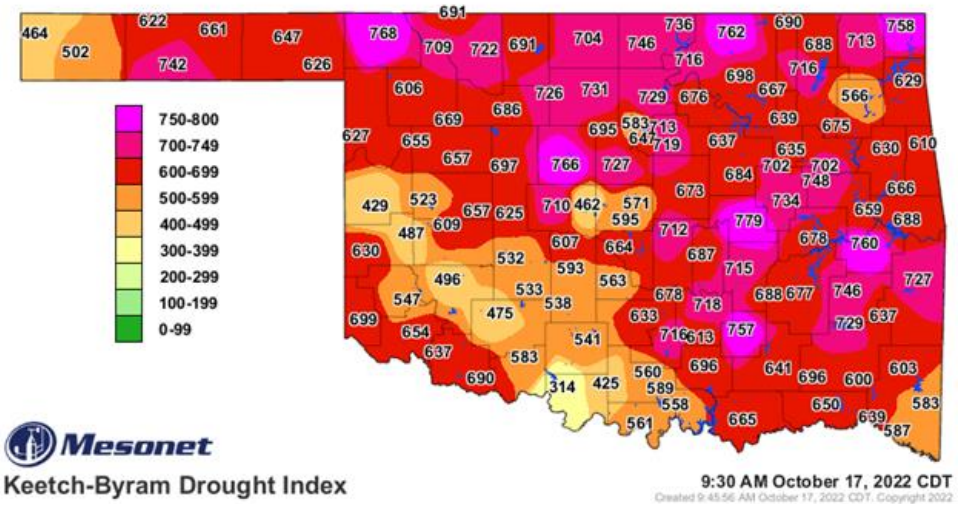
provide a standardized yardstick for determining moisture conditions, so comparisons can be made between different locations over time. It is based on precipitation, temperature and moisture in the soil, and can be applied to any site for which sufficient data is available. The Index does not allow an abnormally wet month in the middle of a long-term drought to have a major impact on the index, or a series of months with near- normal precipitation during a prolonged and serious drought to indicate that the drought is over.

Weekly Palmer Index values are calculated for the Climate Divisions during every growing season and are on the World Wide Web from the Climate Prediction Center. (See http://drought.unl.edu/whatis/indices.htm)

Figure 3–3: Chart showing effects of three types of drought conditions



Keetch-Byram Drought Index



The Keetch-Byram Drought Index (KBDI) is a mathematical system for relating current and recent weather conditions to potential or expected fire behavior. This system was originally developed for the southeastern United States and is based primarily on recent rainfall patterns. The KBDI is the most widely used drought index system by fire managers in the south. This Index is covered in greater detail in Section 4.11 Wildfire.

The Planning Area considers a minor severity drought to be Mild or Moderate on the Palmer Index, and a major severity event to be a Severe or Extreme drought on the Index, which results in crop loss, restrictions on water use, and serious depletion of flows from the Arbuckle-Simpson Aquifer.

The probability of drought is medium in the planning area.

3.7.2 History/Previous Occurrences

Pontotoc County Drought Events 2006-2021

January 2006-January 2007--An extended period of unusually dry weather lasted for 13 months. Many parts of the state did not receive significant rain for the period. All 77 counties were declared federal disaster areas for wildfire. The winter of 2005-2006 was the second driest since records began being kept in 1895. High winds, combined with dry soil conditions, helped spread the worst series of wildfire outbreaks in Oklahoma history. (See *4.11- Wildfire*) By April 2006, the severe drought had become "extreme drought" in some areas. Over 40 cities in Oklahoma, including Ada, had to impose some form of water rationing or restrictions on water use.

March 2011-Nov 2011 – A Period of extreme drought and heat in Pontotoc County and much of the state hampered crop production and lead to an extended period of wildfire in the summer months.

July 2012-April 2013--Lack of rainfall took a toll on Pontotoc County hay and other crops. Water rationing was instituted on a limited basis.

May 2014-November 2014 – A sustained period of dry weather and high temperatures spread drought across much of Oklahoma, especially the east central and southeast portions of the state. During this period the hardest hit crop was the hay production.

September 2016-January 2017 -Lack of any significant rainfall, caused severe drought condition.

November 2017-January 2018- With three months' worth lack of significant rainfall causing extreme drought conditions in the last three months, of the year. Severe drought over two thirds of Oklahoma and extreme drought encroaching into western Oklahoma.

September 2021- Drought rapidly expanded across the area during the last month of September, with moderate drought increasing from 7% coverage at the beginning of the month to 70% by months end.

Based on History/Previous Occurrences. (Pontotoc drought events 2006-2021) the probability for future drought occurrence is overall medium with higher chance of reoccurring drought conditions late in the year.

Table 3–18: Casualties and Damages Caused by Drought from 2006 to 2022

From NOAA National Climatic Data Center http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms

Location	*Events*	*Deaths*	*Injuries*	*Damage Events*	*Property/Crop Damages*
Pontotoc County	16	0	0	0	$0

Probability/Future Events

As drought is a direct by-product of normal climatological activity, it is accepted that Pontotoc County will continue to be hit by droughts of varying severity and as such, Pontotoc County was determined to be at Medium risk to the Drought hazard.

Based on history and previous occurrences, Pontotoc County can expect Extreme to Exceptional drought conditions every 10-15 years. The region has gone through alternating wet and dry cycles since the early 1900s, and the region is just coming out of a 20-year period of wet weather, which lasted from about 1983 to 2003.

Drought, generally, will have a more devastating effect on the County's rural areas and agricultural and ranching communities than on its urban residents. Until the future of the Arbuckle-Simpson aquifer is more clearly defined, and certain water rights issues adjudicated, Pontotoc County will continue to be vulnerable to drought. A recent (August 2009) ruling on the Arbuckle-Simpson aquifer by the OWRB has reduced Ada's future groundwater mining allotment by 90% beginning in 2029 (see 4.8.3). Although Pontotoc County's water supplies are, for the present, adequate to meet all but the most severe drought conditions, the jurisdiction will remain vulnerable to drought over the long term.

The planning area has a medium probability of future drought.

3.7.3 Vulnerability/Impact

In all droughts, agriculture feels the impact, especially in non-irrigated areas such as dry land farms and rangelands. Other heavy water users, such as landscapers, are also negatively impacted. Water related activities of residential users might be restricted. Droughts may exacerbate the impacts of expansive soils (see Section 3.8). Droughts also cause power shortages in Oklahoma, because much of the state's power comes from hydroelectric plants. Heavy power users can be negatively affected by the results of electricity shortages due to drought, such as brownouts, blackouts, and spiking prices.

Population

Generally, in times of severe drought, states rely on the Federal Government to provide relief to drought victims when water shortages reach near-disaster proportions. Forty separate drought relief programs administered by 16 Federal agencies provided nearly
$8 billion in relief because of the series of drought years during the mid-1970s. Federal assistance efforts totaled more than $5 billion in response to the 1987–1989 drought. However, since the mid-1970s, most states have taken a more active role and drought contingency plans are now in place in at least 27 states. In Pontotoc County, farmers and ranchers would be impacted by drought, as well as those communities which receive water from Ada's municipal water system and from uncertain groundwater wells. Given that the bulk of Pontotoc County's water is taken from the Arbuckle-Simpson aquifer, there is considerable anxiety in the area about the adequacy and preservation of this resource over the long term. The water is of superior quality and requires virtually no treatment. Of special concern are demands for aquifer water by mining operations,

which do not require high quality water for their processes, and out of state water merchants, who do. Water has been called "the oil of Southeastern Oklahoma." Groundwater is essential not just to farming and ranching, but also to tourism, recreation, and the County's long-term economic development. Drought is both a major concern and high risk for Pontotoc County and its schools.

In August 2009, the Oklahoma Water Resources Board completed a 5-year study of the Arbuckle-Simpson aquifer. The scientific task force that conducted the study concluded that the recharge rate of the aquifer would allow the withdrawal of groundwater at a rate considerably below that which has been customary for a century: about 0.15 acre-feet per year for each surface acre—an almost 90% reduction in water allotments, which in the past has been 2 acre-feet per year for each acre of surface land. The good news for Pontotoc County is that this new rate should effectively eliminate the possibility of outside parties pumping massive amounts of water from the aquifer for commercial export. The bad news is that Ada's groundwater allotment has also been reduced by 90%. When the new water regime takes effect in 20 years, Ada and the County's rural water systems will no longer be able to meet their water needs of 6 to 12 MGD. Ada will be faced with having to purchase 40,000 acres of aquifer water rights to regain its current allotment, or look at other options, such as building Scissortail Lake or tapping into a new pipeline from Southeastern Oklahoma to Norman. Ada's draw from Byrd's Mill Spring will not be affected, since it is surface water. As stated elsewhere above, Byrd's Mill is abundant enough to meet Ada's basic needs, but not its summer peaks. It is Ada's groundwater wells that provide the extra 3 to 5 MGD to meet the County's peak demand. The decision of the OWRB is considered controversial, however solid its science, and is certain to be challenged both in the courts and the legislature. Whatever the outcome, Ada and Pontotoc County will be facing major water decisions in the coming decades.

Structures/Buildings

The primary threat to structures in Pontotoc County from drought is from the secondary impacts of drought from Expansive Soils and Wildfire. See Sections 3.8 and 3.10 for more information on these hazards.

Critical Facilities

The critical facilities most impacted by drought are those that rely upon water to fulfill their primary functions, or to operate at all, such as fire departments, rural water districts, medical and health care facilities, water and wastewater treatment plants, and schools and daycare centers. So long as water from the Arbuckle-Simpson aquifer remains abundant, drought would carry at most the likelihood of shortages and rationing. If the demand for the region's quality water remains high, this assessment of the threat of drought to the County's critical facilities should be reviewed on an annual basis.

Infrastructure

The effect on infrastructure is, for the most part, similar to the effect on structures, in that the primary danger is drought's effect on expansive soils and wildfire.

In many communities, drought can have impacts on the community's ability for firefighting, with both wildland and structure fires. Although Ada's municipal water supply is relatively plentiful, there have been several occasions in the last decade that the City had to declare water emergencies and impose rationing.

Water Treatment – Drought increases the demand for water and at the same time may impact the availability of raw water. The City of Ada supplies water to the rural water districts, which serve most of the County, while the towns of Allen, Francis, Roff and Stonewall are supplied by their own wells. As stated above, Ada's water is relatively plentiful and requires little treatment. However, a significant amount of water is lost due to aging pipeline infrastructure—by some estimates, as high as 25%. Some of this damage has been the result of soil shrinkage during periods of drought.

Wastewater Treatment – Water shortages during periods of drought can reduce the capacity of wastewater systems in the County. Shrinking soils can cause wastewater pipeline breaks and groundwater contamination.

Utilities- No vulnerabilities but that of the secondary impact of wildfire, the smoke from which can cause flashovers, and burn distribution poles.

Transportation Systems (Highways, Public Transportation, Railway, Airports) – Roadways and railways can be damaged by the secondary effects of drought: expansive soils.

Emergency Services- Fire services could potentially be affected if a severe drought reduces availability of water for fire suppression. Police and medical services would not face any vulnerabilities outside those experienced by other City services/facilities.

Jurisdiction	**Vulnerability**	**Impact**
Pontotoc County, City of Ada, Towns of Byng Fitzhugh, and Roff Ada, Byng, Latta, Roff and Vanoss Public School Systems, Pontotoc Technology Center	Are dependent on the Arbuckle-Simpson Aquafer with no alternative source of water.	During times of drought the aquifer could be reduced causing rationing, shortages or in extreme case depletion.
Towns of Allen and Stonewall, Francis, Allen PSS, Stonewall PSS	Towns of Allen, Allen PSS, Francis, Stonewall and Stonewall PSS have well fields supplied by Alluvial aquafers. Town of Francis also uses the North Canadian River as a water source. These are the only sources of water for these communities, and they do not have an alternate source of water. The only back up is to truck in water, which would be very costly for the jurisdictions.	During times of drought do to all sources being local, the sources are reduced causing rationing, shortages or in extended periods of drought can become depleted.

3.7.4 Sources

Drought Monitor: National Drought Mitigation Center, at Web address: http://drought.unl.edu/dm/index.html.

King County Office of Emergency Management, "Droughts." Office of Emergency Management, King County, Washington.

Multi-Hazard Identification and Risk Assessment, p. 174–181. Federal Emergency Management Agency, 1997.

Nascenzi, Nicole. "Drought, insects threaten state wheat crop," *Tulsa World*. March 14, 2002.

NOAA Event Record Details, Two Drought Events 08/01/00 and 07/04/01, at Web address: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms.

Oklahoma Strategic All-Hazards Mitigation Plan, "Hazard Identification and Vulnerability Assessment," p 7. Oklahoma Department of Emergency Management, September 2001.

Oklahoma Water Resources Bulletin, p. 5, at Web address: http://www.state.ok.us/~owrb/features/drought.html. Oklahoma Water Resources Board, March 27, 2002.

Tortorelli, R.L. *Floods and Droughts: Oklahoma, National Water Summary 1988-89: US Geological Survey, Water Supply Paper 2375.USGS*. Water Resources of Oklahoma.

Wilhite, D.A. (Ed.). *Drought Assessment, Management, and Planning: Theory and Case Studies.* Natural Resource Management and Policy, Norwell, MA: Kluwer Academic Publishers, 1993.

3.8 Expansive Soils

Soils and soft rock that tend to swell or shrink due to changes in moisture content are commonly known as expansive soils. Expansive soils are often referred to as swelling clays because clay materials attract and absorb water. Dry clays will increase in volume as water is absorbed and, conversely, decrease as they dry.

3.8.1 Hazard Profile

Changes in soil volume present a hazard primarily to structures built on top of expansive soils. Most often, these volume changes involve swelling clays beneath areas covered by buildings and slabs or layers of concrete and asphalt.

The total annual cost of expansive soil-related damage and preventive design of moderate to high-risk structures throughout the United States has been conservatively estimated at just under $2.5 billion. Recent estimates put the annual damage as high as $10 billion.

Because the hazard develops gradually and seldom presents a threat to life, expansive soils have received limited attention, despite their costly effects. Many problems are not recognized as being related to expansive soils or may be considered only nuisances and therefore are never repaired.

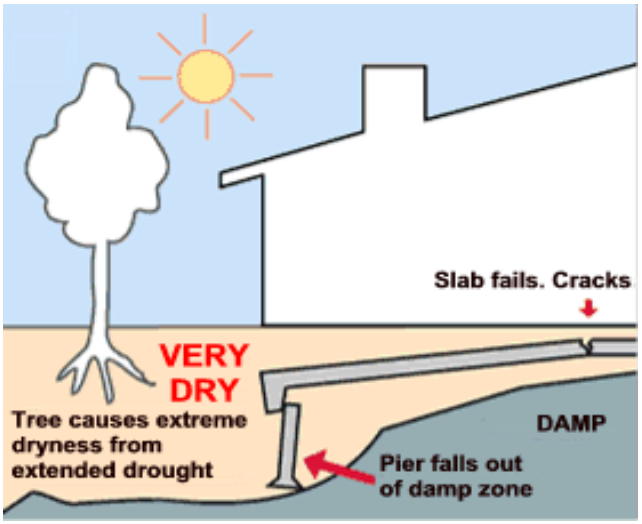
The most extensive damage from expansive soils occurs to highways and streets. Damage to the built environment results from differential vertical movement that occurs as clay moisture content adjusts to the changed environment.

Houses and one-story commercial buildings are more apt to be damaged by the expansion of swelling clays than are multi-story buildings, which usually are heavy enough to counter swelling pressures.

The increase in soil volume also causes damage to foundations. The most obvious manifestations of damage to buildings are sticking doors, uneven floors, and cracked foundations, floors, walls, ceilings, and windows. If damage is severe, the cost of repair may exceed the value of the building.

All of Pontotoc County is venerable to some damage due to soil expansion. Even though there is no documented information the fact that we have two very thriving business that specialize in foundation reconstruction due to soil expansion damage speak to the volume of damage each year to local business and residencies.

Figure 3–4: Expansive Soil Diagram



Pontotoc County is underlain by soils with shrink-swell potentials ranging from low to very high

Location

Based on surveys of underlying soils, Figure 3–5 shows a generalized map of the areas of Pontotoc County where soils have from low to very high expansive qualities. All of the participating jurisdictions in this plan are affected by expansive soils. While some areas are affected less than others, the overall problem of expansive soils is a county wide issue that cause our citizens damages each year in both private homes and businesses as well as to our public infrastructure. All areas of Pontotoc County are subject to some expansive soil effects.

Extent

The risk associated with expansive soil is related to shrink/swell potential in a qualitative manner: very high, high, moderate and low. Probability and frequency analyses have not been prepared because of the nature of this hazard, which is consistent with other geologic hazards that occur rarely or slowly over time.

The National Resource Conservation Service (NRCS), in its Soil Survey Geographic Database (SSURGO), identified expansive soils for Pontotoc County, as shown in Figures 4–27. SSURGO map units were classified from "low" to "very high" based on the weighted average of the Coefficient of Linear Extensibility (COLE) percent for the soils within the identified map units to depths between 0 inches and 60 inches, the depths at which damage to improvements from expansive soils is most likely to occur. In addition, the Oklahoma Department of Transportation has a program to evaluate the expansive tendencies of soils and shale formations in the state. Data on shrink-swell potential for each major soil type is kept for 77 counties.

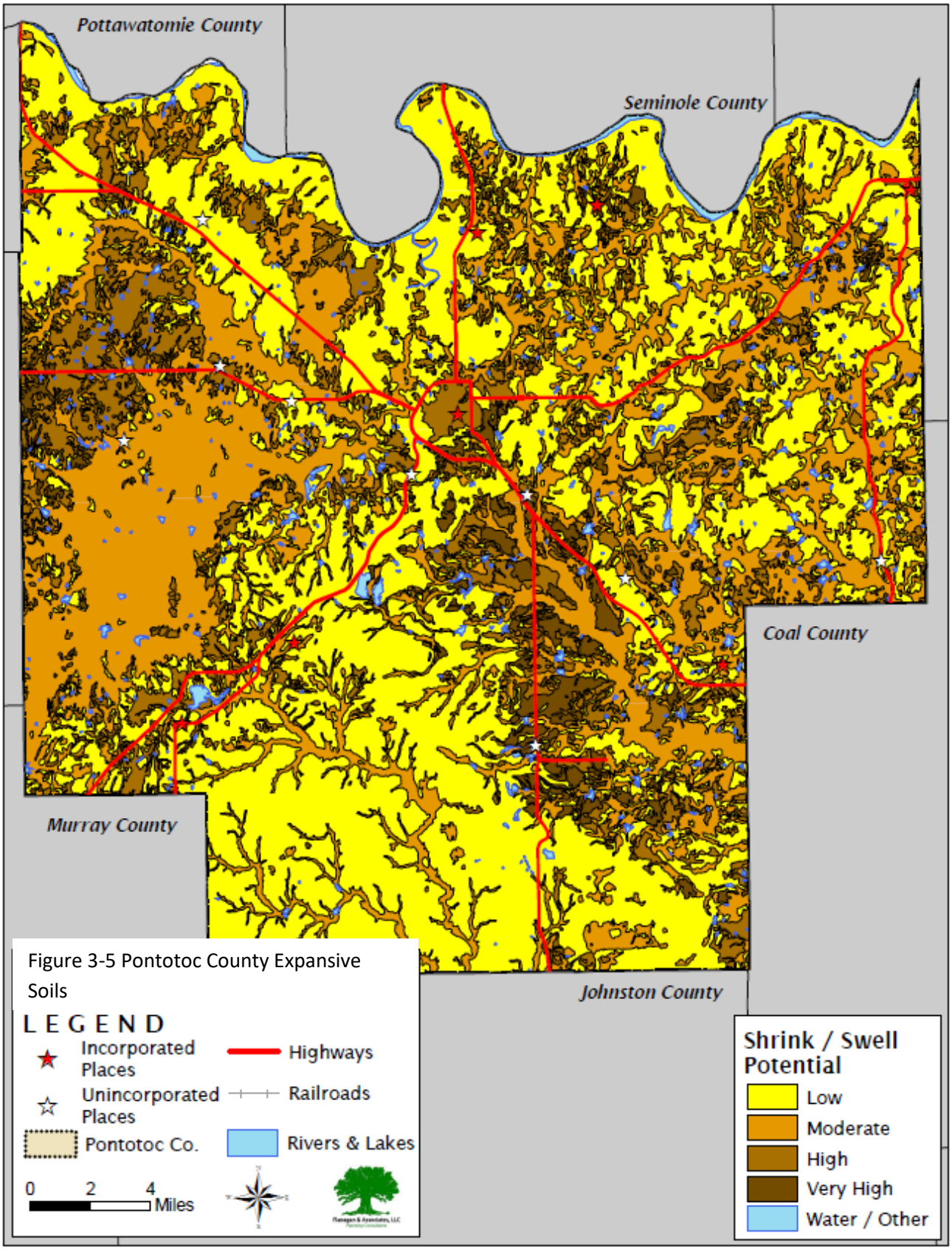


Figure 3-5 Pontotoc County Expansive Soils

3.8.2 History/Previous Occurrences

As expansive soil impacts occur over large periods of time and are impacted by other hazards such as drought, no recorded event history is available; however, each year many structures though out the planning area require foundation reconstruction for stabilization.

Probability/Future Events

Long referred to as the "unknown hazard," expansive soils may be a hazard with more of a future than a past. As Pontotoc County's infrastructures continue to age—particularly water and sewer lines built at the beginning of the last century with materials and techniques that would not meet today's codes—a prolonged period of drought could significantly speed and intensify infrastructure deterioration. The rehabilitation of roads and aging central business districts in the County will likely include the replacement of much of the underground infrastructure, especially if located in expansive soils. The use of the more flexible PVC piping could reduce the impact of expansive soils.

Pontotoc County and participating jurisdictions have a high probability of experiencing the effects of expansive soils.

3.8.3 Vulnerability/Impact

The effects of expansive soils are most prevalent in regions of moderate to high precipitation, especially where prolonged periods of drought are followed by long periods of ground-saturating rainfall.

With about 100 sq. miles of Pontotoc County having "high" to "very high" shrink/swell potential, the jurisdiction could suffer damage from expansive soils. Of the three districts, District 1 has 12.94 sq. mi. (6.45%) of "high" and "very high" soils, District 2 has 42.56 sq. mi. (20.10%) of such soils, and District 3 has 45.87 sq. mi. (14.71%). Of Pontotoc County's towns, those with the highest percentage of expansive soils are Ahloso (43.13% or 0.43 sq. mi.), Francis (36.17%, 0.21 sq. mi.), Roff (28.18%, 0.27 sq. mi.), and Allen (25.97%, 0.20 sq. mi.) The frequency of expansive soils is shown in Figure 3-5. (For information on individual communities, see Appendix A.)

With about 14% of Pontotoc County having "high" to "very high" shrink/swell potential, the jurisdiction could suffer damage from expansive soils. This being said, the extent of expansive soils property damage can vary greatly across a jurisdiction, based on several factors: the long-term weather conditions, the type and quality of construction, materials used in construction, and, most importantly, the soils the structures are built upon. For example, aging gas and water pipelines, especially when originally constructed in wet soil, can rupture during periods of extended drought.

Of particular concern is the aging water infrastructure within the towns and the county which have increasingly vulnerable pipes and infrastructure susceptible to damage from expansive soils.

Pontotoc County considers expansive soils that result in cracks in walls to be a minor hazard, but those that result in water-main breaks and leaks from hazardous materials pipelines to be a serious hazard, as well as those that result in major foundation issues.

The extent of damage from expansive soils can be reduced by mapping the soils in the jurisdiction and by informing property owners and prospective buyers and builders of potential soil hazards and the techniques that can be used to limit their impacts. The area extent of the expansive soils in Pontotoc County is shown on the map in Figure 3-5. (For information on individual communities, see Appendix A.)

Population

Direct threats to life or personal injury have not generally been documented for expansive soils, due to the nature of the hazard.

Structures, Buildings

Houses and small buildings are impacted more by expansive soils than larger buildings. The greatest damage occurs when small buildings are constructed when clays are dry, such as during a drought, and then subsequent soaking rains swell the clay. Other cases of damage involve increases of moisture volume from broken or leaking water and sewer lines, over-watering of lawns and landscape, and surface modifications that produce ponding.

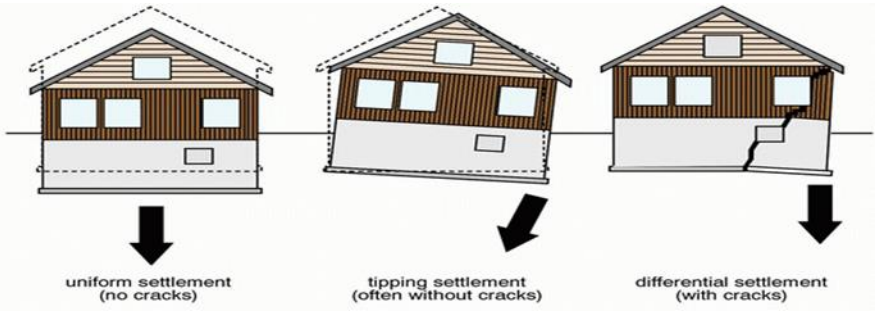
The increase in soil volume as soils expand can cause damage to foundations. The most obvious manifestations of damage to buildings are sticking doors, uneven floors, and cracked foundations, floors, walls, ceilings, and windows. If damage is severe, the cost of repair may exceed the value of the building.

It does not take much movement to damage buildings. As little as a differential movement of 0.25 inches between adjacent columns can cause cracking in load-bearing walls of a 2-foot-wide bay.

Houses and one-story commercial buildings are more apt to be damaged by the expansion of swelling clays than are multi-story buildings, which usually are heavy enough to counter swelling pressures. However, if constructed on wet clay, multi-story buildings may be damaged by shrinkage of the clay if moisture levels are substantially reduced, such as by evapotranspiration or by evaporation from beneath heated buildings.

The greatest damage occurs when small buildings are constructed when clays are dry, such as during a drought, and then subsequent soaking rains swell the clay. Other cases of damage involve increases of moisture volume from broken or leaking water and sewer lines, over-watering of lawns and landscape, and modifications of the surface that produce ponding.

Figure 3–6: Types of Expansive Soil Damage



Critical Facilities

Pontotoc County has one critical facility built on “very high” shrink/swell soil (PSCO repeater tower) and six on “high” soils (Pontotoc County Courthouse, Pontotoc County Jail, Pontotoc County Health Dept., Pontotoc County Technology Center, Pontotoc County Agri-plex, and the Pontotoc County EOC). The normal operation of these facilities is not at risk from the hazard. However, over time, foundations and walls could develop cracks, and water and wastewater pipes could break. Critical facilities in Pontotoc County, excluding Ada, and the underlying soils are identified in Table 3-19.

Table 3–19: Critical Facilities Vulnerability to Expansive Soils

ID	Name	Type	Threat
	Ada Public Schools	Education	High
27	Allen Fire Dept.	Local Government	High
39	Allen Public school	Education	High
31	Byng Fire Dept.	Local Government	Moderate
47/48/49	Byng Public Schools	Education	Moderate
13	Call-A-Ride	Local Government	Low
21	Center Fire Dept.	Local Government	High
01	Pontotoc Co. EOC	County Gov't	High
26	Fittstown Fire Dept.	Local Government.	High
18	Fitzhugh Fire Dept.	Local Government	Low
30	Francis Fire Dept.	Local Government	High
28	Happyland Fire Dept.	Local Government	Moderate
29	Homer Fire Dept.	Local Government	Low
52	Homer Elementary	Education	Low
38	Latta Public Schools	Education	High
24	Lula Fire Dept.	Local Government	Low
44	Latta Kids Zone Daycare	Education/daycare	Low
05	McCall's Chapel School	Education/Health	Low
35	McLish School	Education	Low
32	Oil Center Fire Dept.	Local Government	Low
11	PCSO Repeater Tower	County Gov't	Very High
22	Pickett Fire Dept.	Local Government	Low
06	Pontotoc County District 1 Barn	County Gov't	Low
33	Pontotoc County Communications Repeater	County Gov't	Low
07	Pontotoc County District 2 Barn	County Gov't	Low
08	Pontotoc County District 3 – Roff	County Gov't	Low
09	Pontotoc County District 3 – Stonewall	County Gov't	Low
15	Pontotoc County Health Dept.	County Gov't	High
12	Pontotoc County Fire Repeater	County Gov't	Low
10	Pontotoc County Technology Center	Education	High
04	Pontotoc County Agri-plex	County Government	High
02	Pontotoc County Courthouse	County Gov't	High
03	Pontotoc County Jail	County Gov't	High
	Pontotoc Technology Center	Education	High
19	Roff Fire Dept.	Local Government	Low
40	Roff Public Schools	Education	Low
43	Roff head start	Education	Low
16	Rural Water District 7	County Gov't	Moderate
14	Rural Water District 8	County Gov't	Low
17	Rural Water District 9	County Gov't	Moderate
23	Stonewall Fire Dept.	Local Government	Moderate

36	Stonewall Public Schools	Education	Moderate
25	Union Valley Fire Dept.	Local Government	Moderate
34	Vanoss Fire Dept.	Local Government	Moderate
28	Vanoss Public Schools	Education	Moderate

Infrastructure

Pontotoc County does not operate water or sewer systems, and therefore has no pipelines exposed to damage from expansive soils. However, people living in unincorporated Pontotoc County who are served by water lines from the rural water districts and neighboring jurisdictions, such as Ada, remain at risk to such damage. Ada, and other municipalities aging water infrastructure, which provides Arbuckle-Simpson water to most of Pontotoc County, is vulnerable to expansive soils. Broken water mains serving areas with already marginal service could be impacted by breaks due to a combination of deteriorating infrastructure and expansive soils.

3.8.4 Sources

Landslides and Expansive Soils in Oklahoma, at Web address: www.ou.edu/special/ogs-pttc/earthsci/landsl.htm. Oklahoma Geological Survey, Earth Sciences, October, 1998. (Source no longer available)

Multi-Hazard Identification and Risk Assessment, p. 122–125. Federal Emergency Management Agency, 1997

3.9 Urban Fires/Structure Fires

Structure fire is the sixth leading unintentional cause of injury and death in the United States, behind motor vehicle crashes, falls, poisoning by solids or liquids, and drowning. Fire kills more Americans than all natural disasters combined. It also ranks as the first cause of death for children under the age of 15 at home. Approximately 80% of all fire deaths occur where people sleep, such as in homes, dormitories, barracks, or hotels. The majority of fatal fires occur when people are less likely to be alert, such as nighttime sleeping hours. Nearly all home and other building fires are preventable, even arsons.

Fire fighters responding to a house fire, one of thousands that occur every year across the state.

3.9.1 Hazard Profile

Location

While the entire planning area is at risk from structure fires, there are some factors that can increase or decrease the risk of a fire occurring in a given location. Average age of structures, type of construction, and location relative to fire stations can all influence the likelihood or extent of damage of structure fires.

Urban structures have an increased risk of causing damage due to fire spreading from one structure to another.

Historic properties in particular, due to a lack of applicable modern fire codes at the time of construction, and the reliance on older building materials, are at an increased risk of the initiation of fire, and an increased damage level. Alternative heating methods often used in older homes can also increase the potential for fire.

The City of Ada Data is covered in the City of Ada Annex to this Plan.

The Town of Allen is susceptible to urban fires due to the closeness of houses and building in the town. Lots in town are also moderately to heavily covered in brush and trees making an urban fire easily spread.

The Town of Byng is susceptible to urban fires due to the dense wooded and open land area the town is made up of making a fire easy to spread.

The Town of Fitzhugh is susceptible to urban fire due to the town being mostly open lots of grass and trees.

The Town of Francis is susceptible to urban fires with many homes and businesses being close together and the lots being heavily covered in trees and grass as well as having many older structures within the town.

The Town of Roff is susceptible to urban fires with building and homes being close together and many lots being mostly covered with bushes and trees. Additionally, as with most small towns in Pontotoc County, many buildings are old and are more susceptible to fire.

The Town of Stonewall is susceptible to urban fire with the town having many closely built old building and homes in town. Many lots in town are covered with trees and bushes making a fire easy to spread.

Byng Public School is surrounded by homes on two sides making it susceptible to an urban fire that could easily spread onto campus building.

Latta Public Schools has homes and housing additions to the North and South of the school which would make an urban fire easy to spread to campus buildings.

Roff Public School sets near the middle of town with homes and businesses surrounding the school.

Allen Public School is susceptible to urban fire with many homes and trees around the school.

Extent

Various factors can determine the extent of an urban fire. The contents and age of a structure influence the extent of an urban fire, as do the local weather conditions. Damages from urban fire can range from minor to substantial with damages far exceeding the value of the structure. In recent years, the impact of urban fire has been greatly reduced due to the improvements in firefighting technology and training of local fire management officials. Improvements in building codes and technology have also
enhanced a jurisdiction's ability to contain and mitigate the damage caused by urban fire. The extent of an urban fire can be affected by notification techniques and procedures, fire department response speed, structure type and age, density of development, presence of flammable substances, water pressure and availability, and the use of smoke alarms.

Pontotoc County considers a minor urban fire to be a structure or building fire that is contained and has no wider economic impact; a major severity urban fire is one that completely destroys a residence, business, or multiple structures and/or results in wider economic impacts, such as lost jobs, incomes and tax revenues.

3.9.2 History/Previous Occurrences

Pontotoc County, during the period from 2017 to 2021, including the City of Ada, experienced a total of 140 structural fires, 4 deaths, 7 injuries, and almost $3.2 Million in fire damage, not including critical facilities. Table 4-32 details the type and number of fires, along with damages and casualties related to these fires during this 5-year period.

Pontotoc County's 140 structural fires with over $3.1 million in fire damage equates to $22,585 per fire, while its 1 fire in critical facilities did **$500** in damage (or $500 per fire). Given this frequency, Pontotoc County can expect $632,400 in structural fire losses each year, and using the latest 5 year records, minimal damage to critical facilities. However, the previous 5-year period shows critical facility losses per year of over $400,000. With this in mind, Pontotoc County and

planning jurisdictions need to ensure that fire mitigation in critical facilities remain a priority. Of the Schools participating in the plan, Byng School is the only one to have suffered extensive damages from a structural fire in the recent past (2009) and (2021).

Table 3–20: County (except Ada) Urban/Structural Fire Damages, Injuries & Deaths 2017-2021

Source: Oklahoma State Fire Marshal

Type of Structure	*2017*		*2018*		*2019*		*2020*		*2021*		*Total*	
	#	Damage	#	Damage	#	Damage	#	Damage	#	Damage	#	Damage
Single Family	29	$643,000	26	$825,000	19	$422,000	15	$327,000	10	$500,000	99	$2,717,000
Apartments	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Mobile Homes	3	$92,000	4	$82,000	3	$42,500	5	$79,500	3	$45,000	18	$341,000
Other Residential	0	$0	1	$0	0	$0	9	$0	0	$0	10	$0
Commercial	0	$0	0	$0	1	$20,000	1	$40,000	0	$0	2	$60,000
Warehouse	0	$0	0	$0	1	$5,000	0	$0	0	$0	1	$5,000
Industrial	0	$0	0	$0	0	$0	2	$4,000	0	$0	2	$4,000
Office	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Other	1	$12,000	3	$15,000	2	$5,000	1	$1,000	1	$2,000	8	$35,000
Total	33	$747,000	34	$922,000	26	$494,500	33	$451,500	14	$547,000	140	$3,162,000

Fire-Related Casualties

Casualty	*2017*	*2018*	*2019*	*2020*	*2021*	*Total*
Civilian Injuries	1	3	0	3	2	**9**
Civilian Deaths	0	3	0	1	3	**7**
Firefighter Injuries	0	0	1	1	0	**2**
Firefighter Deaths	0	0	0	0	0	**0**
Total Injuries	**1**	**3**	**1**	**4**	**5**	**14**
Total Deaths	**0**	**3**	**0**	**1**	**0**	**4**

Table 3–21: Pontotoc County (except Ada) Critical Facility Fires, 2017-2021

Source: Oklahoma State Fire Marshal

Type of Structure	*2017*		*2018*		*2019*		*2020*		*2021*		*Total*	
	#	Damage	#	Damage	#	Damage	#	Damage	#	Damage	#	Damage
School, University	0	$0	0	$0	0	$0	0	$0	1	$500,000	**1**	**$500,000**
Public Assembly	0	$0	0	$0	0	$0	0	$0	0	$0	**0**	**$0**
Hospital	0	$0	0	$0	0	$0	0	$0	0	$0	**0**	**$0**
Correctional Facilities	0	$0	1	$1,500	0	$0	1	$1,500	0	$0	**2**	**$3,000**
Child Care	0	$0	0	$0	0	$0	0	$0	0	$0	**0**	**$0**
Nursing/ Retirement	0	$0	0	$0	0	$0	0	$0	0	$0	**0**	**$0**
Total	**0**	**$0**	**0**	**$0**	**0**	**$0**	**0**	**$500**	**0**	**$0**	**3**	**$503,000**

Frequency

Pontotoc County and jurisdictions have a high probability of an urban/structural fire event.

Probability/Future Events

Pontotoc County, like Oklahoma, is vulnerable to urban/structural fires, and therefore its vulnerability is a constant and widespread threat. Urban fires can occur at any time, so it is important that even during "light activity" periods, education and preparations continue to move forward.

3.9.3 Vulnerability/Impact

Pontotoc County was determined to be at Medium risk to the Urban/Structural Fire hazard. (See Table 3-2 Hazard Risk Analysis, and Table 3-3, Summary of Hazard risk Analysis Ranking Criteria for an explanation of how the rankings were derived.) Appendix A identifies where the Incorporated Communities and Public School Systems differ from Pontotoc County

Older frame houses are particularly vulnerable to urban fires

Population

The populations most at risk to structural fire are those living in aging and dilapidated structures with substandard heating and wiring, located in sections of the County where water lines are small and pressure low during hours of peak use.

Structures/Buildings

Table 3–22: Pontotoc County Homes Built Prior to 1939 and Substandard Heating

Source: US 2010 Census

Jurisdiction	*% built prior to 1939*	*% with Wood Heat*
Pontotoc County	9.1	1.4
Allen	15.1	0.8
Byng	4.9	3.2
Fitzhugh	9.1	1.4
Francis	27.6	8.2
Stonewall	31.8	2.5
Roff	21.3	3.7

Critical Facilities

As with other structures/buildings within Pontotoc County, the most severe threat to Critical Facilities is from water availability and distance from fire protection facilities. All critical facilities should plan for the possibility of water shortages, particularly during drought events, as these could have a severe impact on fire protection.

Critical Facilities are also vulnerable to fire and are of special importance because the impact of a fire in these facilities may be especially detrimental to the community's ability to continue normal operation or have a major impact on the city's vulnerable populations. Critical facilities deserving special attention include nursing and retirement homes, hospitals and clinics, child care centers, correctional institutions, schools and colleges.

Infrastructure

The vulnerability of infrastructure is related to the age and condition of the various water delivery systems as well as the age and condition of the infrastructure itself. The County should encourage communities to upgrade lines where delivery systems are inadequate and upgrade facilities to incorporate newer fire codes.

3.9.4 Sources

Eisenberg, Elliot, November 2002. House fire Deaths. *Housing Economics,* p. 11-13. National Association of Home Builders.

Multi-Hazard Identification and Risk Assessment, p. 264, 266–267. Federal Emergency Management Agency, 1997.

National Fire Protection Association, "Fire Statistics," at web address: www.nfpa.org/categoryList.asp?categoryID=951&URL=Research%20&%20Reports/Fire%20statistics.

Oklahoma State Fire Marshal, "Fire Statistics 1997-2000," at web address: http://www.state.ok.us/~firemar/index.htm. Office of the Oklahoma State Fire Marshal

Talking About Disaster: Guide for Standard Messages, "Fire," p. 51. National Disaster Coalition, Washington, D.C., 1999.

3.10 Wildfires

Wildfire is an uncontrolled fire in a rural or wilderness area.

As more people make their homes in wild land settings in close proximity to large tracts of grasslands or forests, the number of citizens and structural improvements at risk to the impacts of wildfire increases. Wildfires often begin unnoticed and spread quickly, igniting grass, brush, trees, and homes.

Wildfires can move on three different levels. A *surface fire* is the most common type and burns along the surface of grasslands or forests, usually moving quickly through an area. A *ground fire* is usually started by lightning and burns on or below the forest floor in the humus layer down to the mineral soil, mostly by smoldering combustion. A *crown fire* has ascended from the ground into the forest canopy, spreads rapidly by wind and moves by jumping along the tops of trees.

3.10.1 Hazard Profile

Location

Within the Pontotoc County jurisdiction development in more remote and wooded areas, also referred to as the Wildland Urban Interface (WUI) continues to take place. Residential and business structures developed in close proximity to grassy and woody fuels will be natural risks for this event. In addition, wildland/grassland fires are a strong threat to agricultural areas such as farms and/or ranches, especially during the high-risk fire season.

Unincorporated Pontotoc County is susceptible to wildfires due to the area being mostly rural and is made up of mostly farmland and overgrown fields of trees, shrubbery and large open areas of land.
The City of Ada and the towns of Allen, Byng, Fitzhugh, Francis, Roff, and Stonewall, Roff PS and Allen PS are susceptible to wildfires due to the towns being surrounded by open fields and pasture lands of trees and shrubbery that run right into the city limits of most towns. There are few barriers between the towns and the fields to stop a wildfire from entering the town and causing structure fires. Also, in the city as well as the towns are overgrown lots, parks and other undeveloped open areas that make them susceptible to wildfires.
The public schools of Byng, Latta, Stonewall (McLish campus), and Vanoss have some building that are susceptible to wildfires due to being located in rural Pontotoc County which is made up of mostly farmland and overgrown fields of trees, shrubbery and large open areas of land.
Byng public school has building on the North, North-East, and South-East that are more susceptible to wildfires than other parts of the school due to these areas have trees and shrubbery that come right up next to the school building.
Latta public school is susceptible to wildfire on the South-West side of campus with a large open field that comes up next to the school building. The East side of the campus has a large open field next to it with a county road as a separator between the buildings and the field.
Stonewall public school is susceptible to wildfires from the West, South, and East with large open grassy fields. The West side of the school has a county road as a divider between the field and the school.

Vanoss public school has open fields and fields of trees and shrubbery surrounding the school making it susceptible to wildfires. Many building on the school ground border up next to the fields.

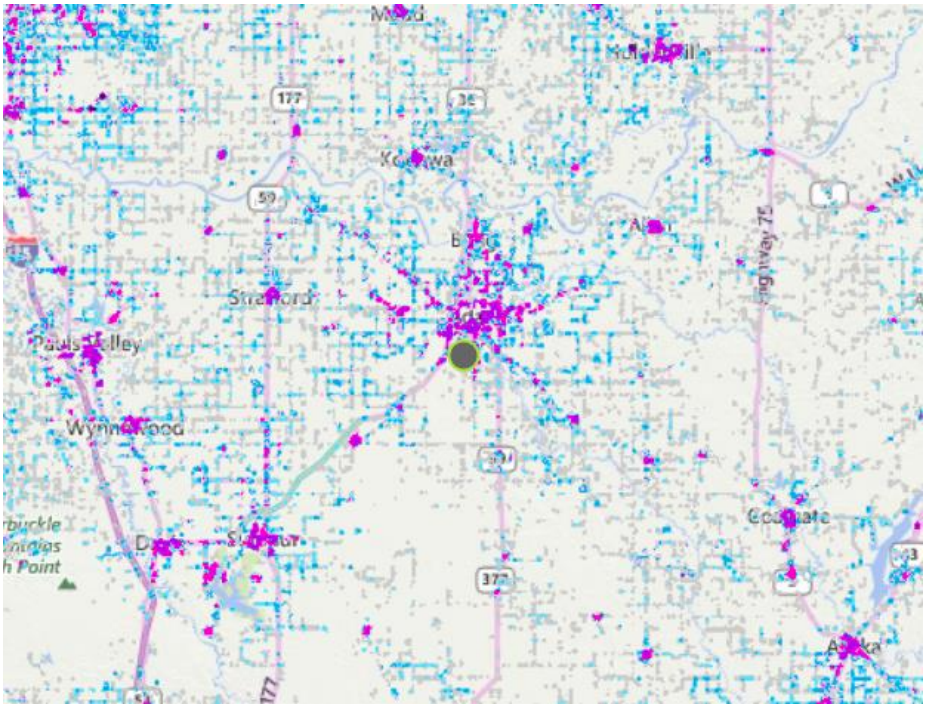
WUI Map Legend

Wildland Urban Interface

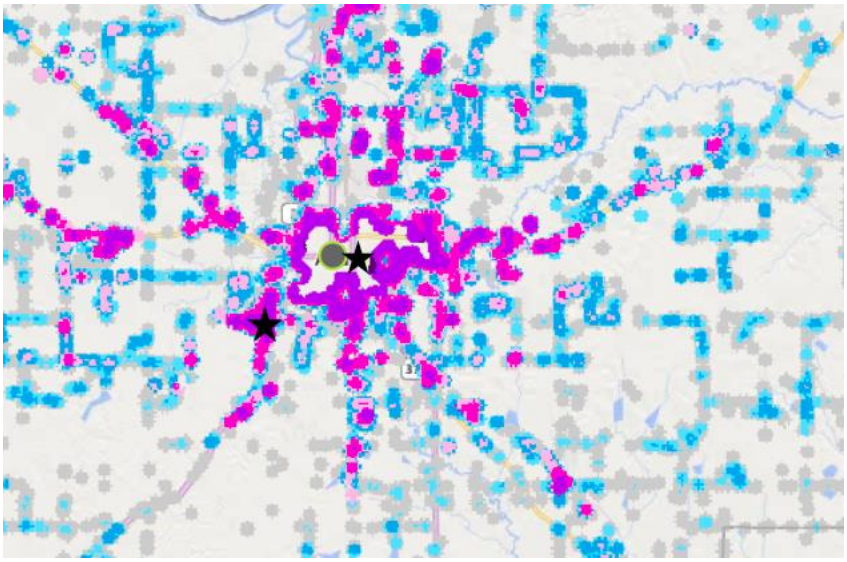
- 1 - LT 1 hs/40 ac
- 2 - 1 hs/40 to 1 hs/20 ac
- 3 - 1 hs/20 to 1 hs/10 ac
- 4 - 1 hs/10 to 1 hs/5 ac
- 5 - 1 hs/5 to 1 hs/2 ac
- 6 - 1 hs/2 to 3 hs/ac
- 7 - GT 3 hs/ac

Public School = ★

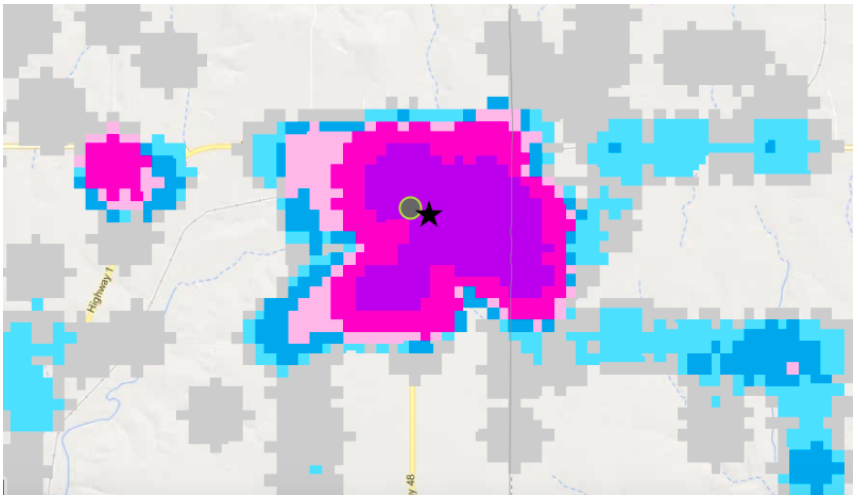
Pontotoc Co



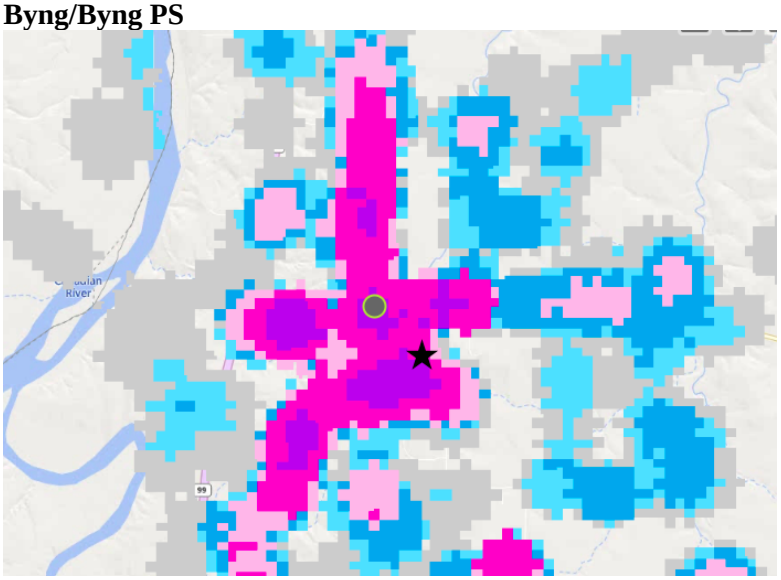
Ada/Ada PS/Latta PS



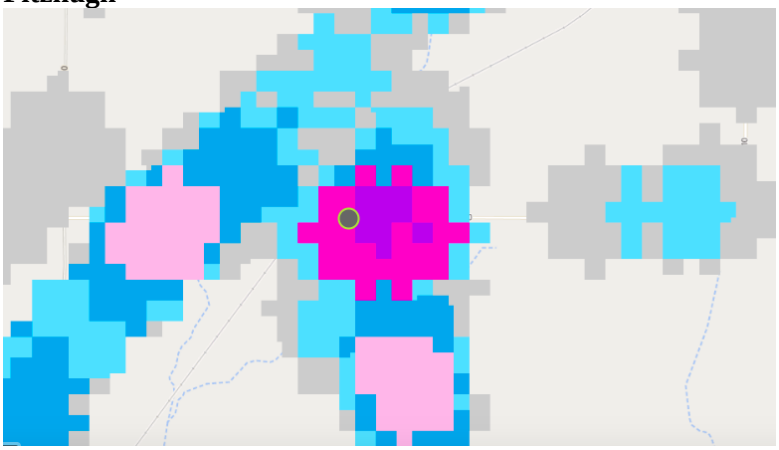
Allen/Allen PS



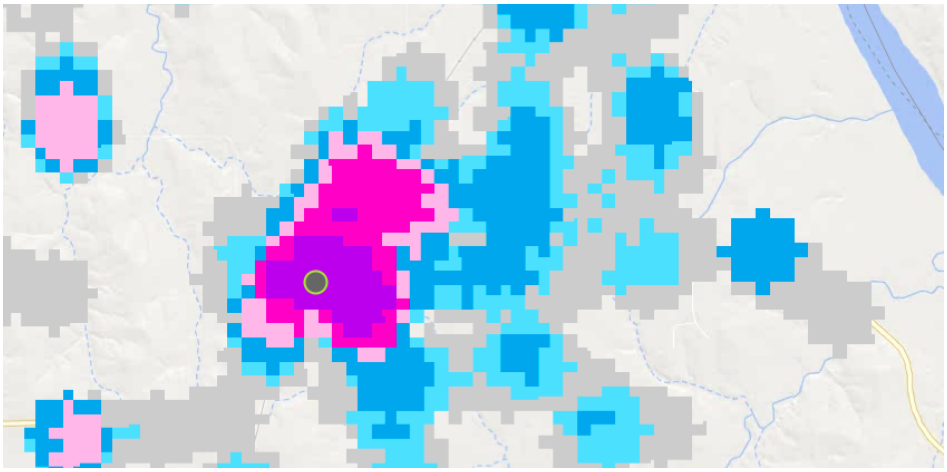
Byng/Byng PS



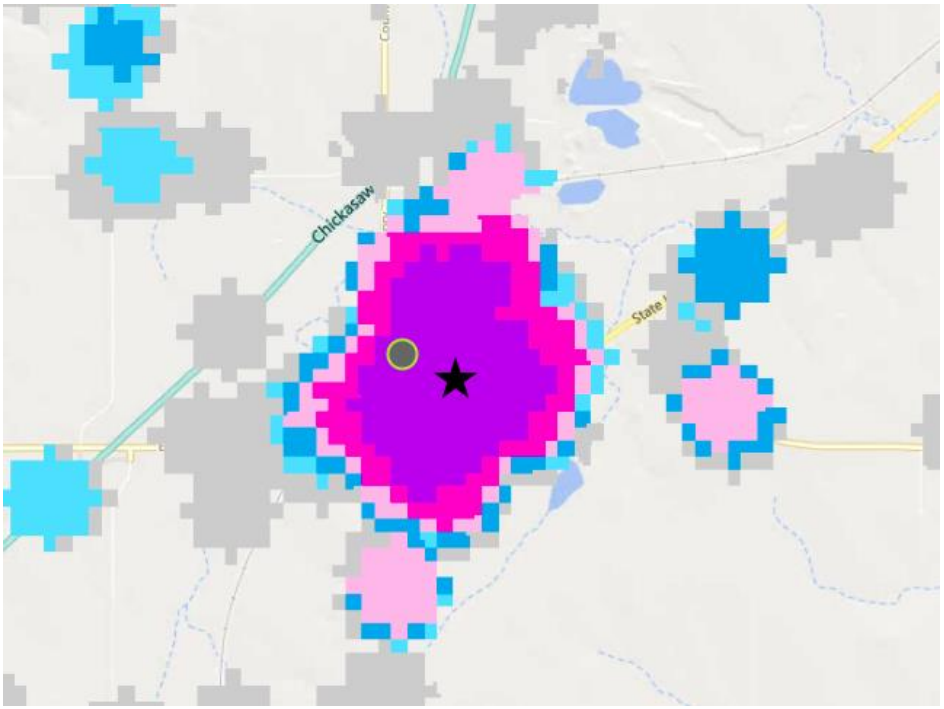
Fitzhugh



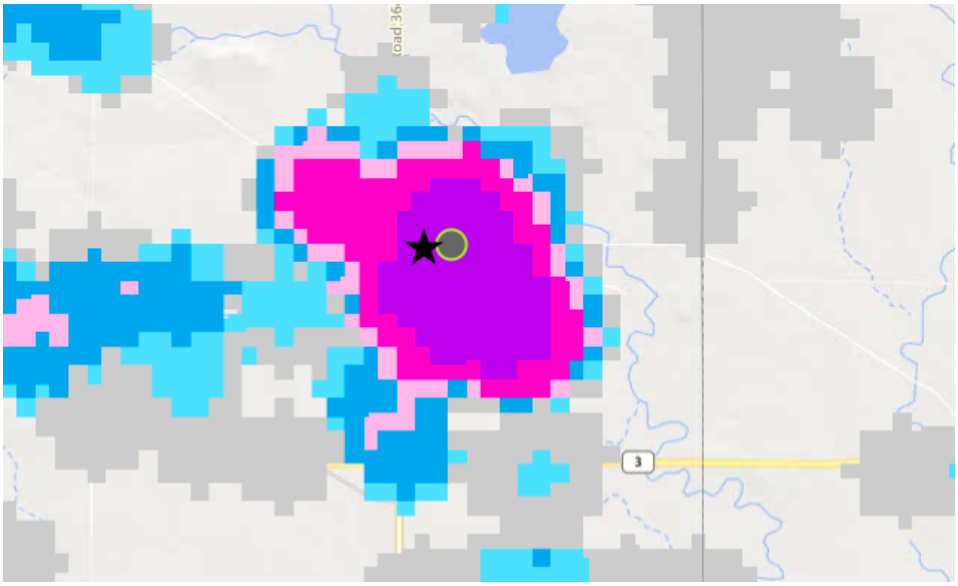
Francis



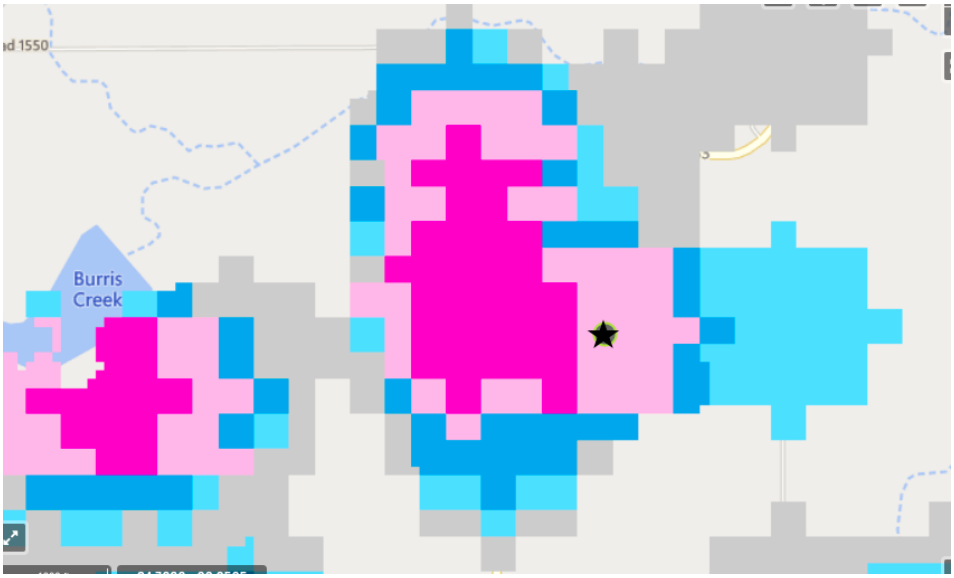
Roff/Roff PS



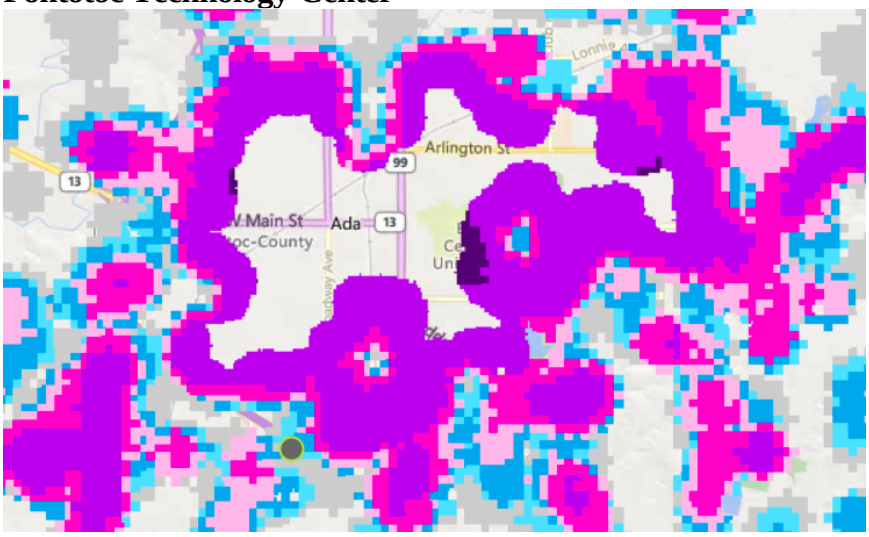
Stonewall/Stonewall PS



Vanoss PS



Pontotoc Technology Center



Extent

Wildfire danger is measured using indexes that relate longer-term soil and vegetation conditions to shorter-term weather patterns. The most explosive conditions occur when dry, gusty winds blow across dry vegetation. These factors are contained in the Keetch-Byram Drought Index (KDBI), the Haines Index, the Fire Danger Rating System, and the Burning Index (BI). The Keetch-Byram Index, Table 3-23, relates weather conditions to potential or expected fire behavior, using numbers from 0 to 800 to represent the amount of moisture that is present in soil and vegetation. A Zero rating would indicate no moisture deficiency, while 800 would indicate maximum drought conditions. The Fire Danger Rating System, Table 3-24, combines the combustibility of vegetation and weather conditions to derive the easily understood Green-Blue-Yellow-Orange-Red fire danger alerts. The Burning Index, Table 3-25, relates temperature, relative humidity, wind speed and solar radiation to the "relative greenness" of vegetation (taken from satellite measurements) and fuel models for native vegetation (assigned on a 1-kilometer grid across the State). The Haines Index (also known as Lower Atmosphere Severity Index) is a weather index that measures the potential for dry, unstable air to contribute to the development of large or erratic wildland fires. The index is derived from the stability (temperature difference between different levels of the atmosphere) and moisture content (dew point depression) of the lower atmosphere. A Haines Index of 6 means a high potential for an existing fire to become large or exhibit erratic fire behavior, 5 means medium potential, 4 means low potential, and anything less than 4 means very low potential.

The planning area uses the Keetch-Byram Drought Index, Fire Danger Rating System, and the Burning Index to categorize wildfire extent. The planning area can expect to experience any value on these charts.

Table 3–23: The Keetch-Byram Drought Index (KBDI)

Source: Oklahoma Hazard Mitigation Plan

Rating	Description
0 - 200	Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.
200 – 400	Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.
400 – 600	Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems.
600 – 800	Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn through the night and heavier fuels will actively burn and contribute to fire intensity.

Table 3–24: Fire Danger Rating System

Source: Oklahoma Hazard Mitigation Plan

Color	Brief Description	Detailed Description
Low (L) (Green)	Fires not easily started	Fuels do not ignite readily from small firebrands although a more intense heat source, such as lightning, may start fires in duff or punky wood. Fires in open cured grasslands may bum freely a few hours after rain, but woods fires spread slowly by creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.
Moderate (M) (Blue)	Fires start easily and spread at moderate rate	Fires can start from most accidental causes, but with the exception of lightning fires in some areas, the number of starts is generally low. Fires in open cured grasslands will burn briskly and spread rapidly on windy days. Timber fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious and control is relatively easy.
High (H) (Yellow)	Fires start easily and spread at a rapid rate	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High-intensity burning may develop on slopes or in concentrations of fine fuels. Fires may become serious and their control difficult unless they are attacked successfully while small.
Very High (VH) (Orange)	Fire start very easily and spread at a very fast rate	Fires start easily from all causes and, immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high intensity characteristics such as long-distance spotting and fire whirlwinds when they burn into heavier fuels.
Extreme (E) (Red)	Fire situation is explosive and can result in extensive property damage	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high intensity burning will usually be faster and occur from smaller fires than in the very high fire danger class. Direct attack is rarely possible and may be dangerous except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessens.

Table 3–25: Burning Index

Flame Length (ft)	Fire Line Intensity (Btu/(ft-s)	Interpretations
<4 (BI <40)	<100	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
4 – 8 (BI 40 – 80)	100 – 500	Fires are too intense for direct attack on the head by persons using hand tools. Hand line cannot be relied on to hold the fire. Equipment such as dozers, pumpers and retardant aircraft can be effective.
8 – 11 (BI 80 – 110)	500 – 1,000	Fires may present serious control problems, such as torching out, crowning and spotting. Control efforts at the fire head will probably be ineffective.
>11 (BI >110)	>1,000	Crowning, spotting and major fire runs are probable. Control efforts at head of fire are ineffective.

Pontotoc County considers a minor severity wildfire to be one that burns fewer than 50 acres, destroys no structures, crops or livestock, and results in neither death nor injury. A major wildfire event would be one that burns over 500 acres, destroys residences, farm crops and structures, and/or results in death of injury. Additionally, a fire smaller than 500 acres that involves the WUI may be considered a major event if large numbers of structures were threatened or lost.

3.10.2 History/Previous Occurrences

Pontotoc County Wildfires

Pontotoc County, and the planning area, is predominantly rural, with about 55% of the agricultural land being in pasture and 30% cropland. Consequently, it is vulnerable to wildland fire. This is particularly true during times of drought, as occurred during the fall and winter of 2005-2006. During that time period, the state of Oklahoma, including Pontotoc County, received its first and only state-wide disaster declaration for wildfire. Because of its terrain and varied vegetation types, Pontotoc County did not suffer the catastrophic wind-blown wildfires that swept across the western and northern Oklahoma. Nevertheless, Pontotoc County did have a large number of wildfires, and suffered several periods of wild fire "outbreaks". From the last week of November 2005 to third week of March 2006, fire departments in Pontotoc County responded to 350 wildfires. Many days had multiple significant fires. Some of the largest fires were 1000-2000 acres, while many were small 5-50 acre fires.

All departments of the county were highly active during that period of time and all departments were providing mutual aid to each other as well as responding out of county in support of other fires.

None of the school districts participating in this plan have reported damages from a wildfire event.

The planning area experiences wildfires annually.

Probability/Future Events

The continuing alarming spread of Eastern Red cedar in open grassland and the abundant fuel load in place from heavy rains and other naturally occurring events, combined with the historical data available demonstrates that the threat of wildland/grass fires will continue to be a regularly occurring event in Pontotoc County. In addition, suburban growth in the wildland interface on the periphery of Ada will be a significant factor in the potential increase in number of wildfire events. Due to this Pontotoc County has a high probability of annual, seasonal wild fires.

3.10.3 Vulnerability/Impact

Pontotoc County was determined to be at medium risk to the Wildfire hazard. (See Table 3-2 Hazard Risk Analysis, and Table 3-3, Summary of Hazard risk Analysis Ranking Criteria for an explanation of how the rankings were derived.) Appendix A identifies where the Incorporated Communities and Public-School Systems differ from Pontotoc County.
Though wildfires can potentially impact anywhere in the planning area, the combination of pastureland, brush, and trees around the schools of Byng, Stonewall (McLish), and Vanoss call for concern. These schools have all had several close calls in the past 10 years. The schools should continue to maintain defensible space around the facilities.

Population

As evidenced by the 2005-2006 wildfire outbreaks, and again in the 2011 summer and fall outbreak, all rural and urban/wildland interface areas of Pontotoc County are vulnerable to the wildfire hazard.

Structures/Buildings

Any structures/buildings constructed within the wildland/urban interface area or on ranches/farms situated in grassy/wooded areas should be considered at risk to the effects of a wildfire event.

Critical Facilities

Critical facilities such as medical care facilities, resident care homes, daycare facilities, and utility out-stations located in these high-risk areas should be considered vulnerable to the effects of wildfires. Critical facilities at risk are listed in the following table.

N=None

L=Low

M=Moderate

H=High

Table 3–26: Critical Facilities Vulnerability to Wildfire Events

ID	Name	LOC Threat Level	Located in
27	Allen Fire Dept.	N	Town of Allen
39	Allen School	N	Town of Allen
47	Byng Elementary School	N	Town of Byng
31	Byng Fire Dept.	M	Town of Byng
49	Byng High School	M	Town of Byng

48	Byng Junior High School	M	Town of Byng
13	Call A Ride	M	City of Ada
21	Center Fire Dept.	H	Unincorporated Pontotoc County
46	Chickasaw Nation Hospital	L	City of Ada
55	Farmer's State Bank of Allen	N	Town of Allen
57	First American Bank, Roff	N	Town of Roff
56	First American Bank, Stonewall	N	Town of Stonewall
26	Fittstown Fire Dept.	N	Unincorporated Pontotoc County
18	Fitzhugh Fire Dept.	M	Town of Fitzhugh
30	Francis Fire Dept.	N	Town of Francis
51	Francis Town Hall	N	Town of Francis
28	Happyland Fire Dept.	H	Unincorporated Pontotoc County
52	Homer Elementary	N	City of Ada
29	Homer Fire Dept.	N	Unincorporated Pontotoc County
44	Latta Kids Zone Daycare	N	City of Ada
38	Latta School	N	Unincorporated Pontotoc County
24	Lula Fire Dept.	N	Unincorporated Pontotoc County
05	McCall's Chapel School	M	City of Ada
35	McLish School	N	Unincorporated Pontotoc County
32	Oil Center Fire Dept.	H	Unincorporated Pontotoc County
22	Pickett Fire Dept.	N	Unincorporated Pontotoc County
11	PCSO Repeater Tower	M	City of Ada
04	Pontotoc Co. Agri-Plex	N	City of Ada
33	Pontotoc Co. Communications Repeater	M	City of Ada
02	Pontotoc Co. Courthouse	N	City of Ada
06	Pontotoc Co. District 1 Barn	M	City of Ada

07	Pontotoc Co. District 2 Barn	L	City of Ada
08	Pontotoc Co. District 3 Barn, Roff	N	Town of Roff
09	Pontotoc Co. District 3, Stonewall	N	Town of Stonewall
01	Pontotoc Co. EOC	N	City of Ada
12	Pontotoc Co. Fire Repeater	N	City of Ada
15	Pontotoc Co. Health Dept.	N	City of Ada
03	Pontotoc Co. Jail	N	City of Ada
41	Pontotoc Co. Sheriff	N	City of Ada
10	Pontotoc Co. Technology Center	L	City of Ada
19	Roff Fire Dept.	N	Town of Roff
43	Roff Head start	M	Town of Fitzhugh
40	Roff School	N	Town of Roff
16	Rural Water District #7	M	City of Ada
14	Rural Water District #8	N	Unincorporated Pontotoc County
17	Rural Water District #9	N	Unincorporated Pontotoc County
63	Stonewall City Hall	N	City of Stonewall
23	Stonewall Fire Dept.	N	City of Stonewall
67	Stonewall Police Dept	N	City of Stonewall
62	Stonewall Post Office	N	City of Stonewall
65	Stonewall Public Works Dept.	N	City of Stonewall
36	Stonewall School	N	City of Stonewall
66	Stonewall Water Supply	N	City of Stonewall
25	Union Valley Fire Dept.	H	Unincorporated Pontotoc County
34	Vanoss Fire Dept.	N	Unincorporated Pontotoc County
20	Vanoss School	N	Unincorporated Pontotoc County

Infrastructure

Utilities- The primary utility providers for Pontotoc County are PEC, Oklahoma Gas & Electric and American Electric Power (dba Public Service Co.) (electricity) and CenterPoint Energy (natural gas). **Electricity**: The largest threat to the delivery of electrical service would be the destruction/damage of power poles/lines, and flashovers from line to ground via smoke.

Transportation Systems (Highways, Public Transportation, Railway, Airports) – Roadway inaccessibility would be the largest vulnerability posed to the transportation system during a Wildfire event. During a wildfire located near a major highway, it may become necessary to close a section of highway or divert traffic along that route, as occurred on Interstate 35 during the wildfires of April 8-10, 2009. Roads and bridges in Pontotoc County would be at risk during a widespread event as they are located in closer proximity to fields/grasslands that could become involved in a wildfire.

Emergency Services- Fire, Police and Medical Services would all be similarly at risk to effects of a Wildfire event. During a severe outbreak of wildfire, roads may become impassable, potentially isolating portions of the community to vital services and/or supplies. Residential developments in the wildland/urban interface areas of Pontotoc County, along with any businesses/utilities supporting them in the immediate area, are especially at risk in the event of a large wildfire event.

3.11 Earthquakes

An earthquake is a sudden, rapid shaking of the ground caused by the fracture and movement of rock beneath the Earth's surface. Most severe earthquakes take place where the huge tectonic plates that form the Earth's surface collide and slide slowly over, under, and past each other. They can also occur along any of the multitude of fault and fracture lines within the plates themselves.

3.11.1 Hazard Profile

Location

The planning area is affected by earthquakes.

Extent

Modern seismological technology has greatly enhanced the capability of scientists to sense earthquakes. Before the development of today's delicate sensors, only "felt" earthquakes were captured in the historical record.
Two standard measures are used to classify an earthquake's extent: *magnitude* and *intensity*. These measures are sometimes referred to as the Richter Scale (magnitude) and the Modified Mercalli (intensity).

Magnitude is an Arabic number representing the total amount of energy released by the earthquake source. It is based on the amplitude of the earthquake waves recorded on seismographs that have a common calibration. The magnitude of an earthquake is thus represented by a single, instrumentally determined value.

Intensity, expressed as a Roman numeral, is based on the earthquake's observed effects on people, buildings and natural features. It varies depending on the location of the observer with respect to the earthquake's epicenter. In general, the intensity decreases with distance from the fault, but other factors such as rupture direction and soil type also influence the amount of shaking and damage. The Modified Mercalli and Richter Scales are compared in Table 3-27.

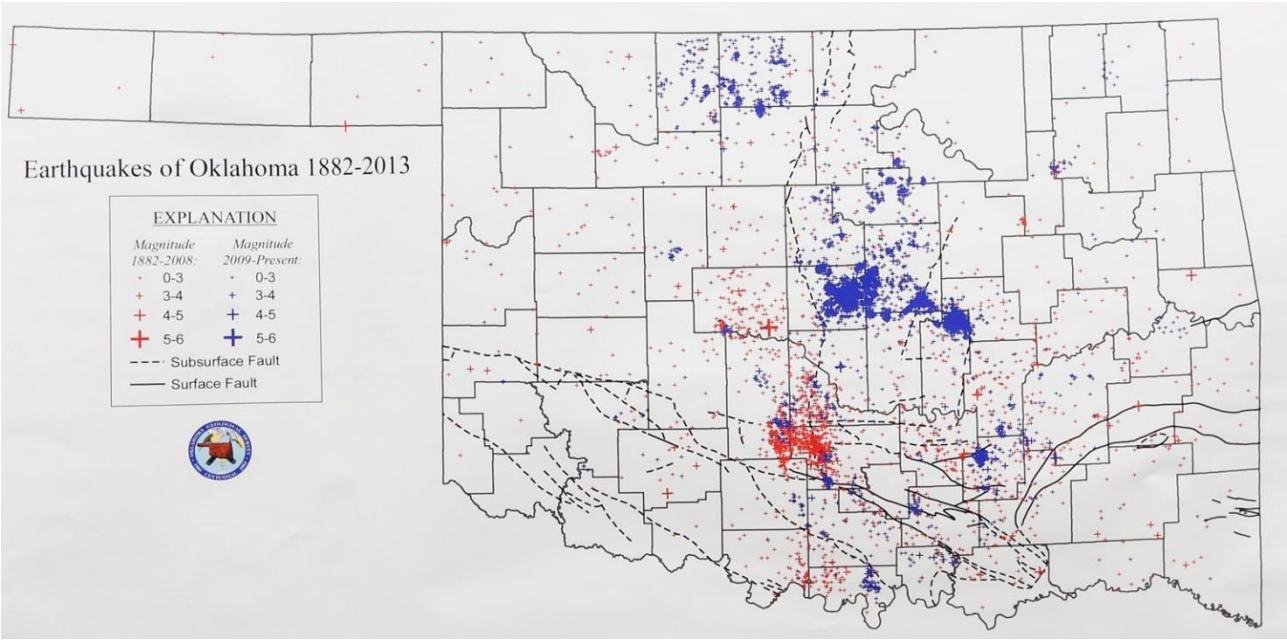


Figure 3-8: Earthquakes of Oklahoma from 1882-2013

Table 3–27: Comparison of Mercalli and Richter Scales

Mercalli	*Richter*	*Description*
I	0-4.3	Vibrations are recorded by instruments. People do not feel any Earth movement.
II		A few people might notice movement if they are at rest and/or on upper floors of tall buildings.
III		Shaking felt indoors; hanging objects swing. People outdoors might not realize that an earthquake is occurring.
IV	4.3-4.8	Dishes rattle; standing cars rock; trees might shake. Most people indoors feel movement. Hanging objects swing. Dishes, windows, and doors rattle. A few people outdoors may feel movement.
V		Doors swing; liquid spills from glasses; sleepers awake. Almost everyone feels movement. Dishes are broken. Pictures on the wall move. Small objects move or are turned over. Trees shake.
VI	4.8-6.2	People walk unsteadily; windows break; pictures fall off walls. Everyone feels movement. Objects fall off shelves. Furniture moves. Plaster in walls may crack. Trees and bushes shake. Damage is slight in poorly built buildings. No structural damage.
VII		Difficult to stand; plaster, bricks, and tiles fall; large bells ring. Drivers feel their cars shaking. Some furniture breaks. Loose bricks fall from buildings. Damage is slight to moderate in well-built buildings; considerable in poorly built buildings.
VIII	6.2-7.3	Chimneys fall; branches break; cracks in wet ground. Drivers have trouble steering. Houses that are not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Well-built buildings suffer slight damage. Poorly built structures suffer severe damage. Water levels in wells might change.
IX		General panic; damage to foundations; sand and mud bubble from ground. Well-built buildings suffer considerable damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks. Reservoirs suffer serious damage.
X		Most buildings destroyed; large landslides; water thrown out of rivers and lakes. Some bridges are destroyed. Dams are seriously damaged. The ground cracks in large areas. Railroad tracks are bent slightly.
XI	7.3-8.9	Roads break up; large cracks appear in ground; rocks fall. Most buildings collapse. Some bridges destroyed. Underground pipelines destroyed. Railroad tracks badly bent.
XII		Total destruction; "waves" seen on ground surface; river courses altered; vision distorted. Almost everything is destroyed. Objects are thrown into the air. Large amounts of rock may move.

Pontotoc County considers a minor severity earthquake event to be a VI or lower intensity (Mercalli) and 5.2 or lower magnitude (Richter). A major severity event would be an VII or higher intensity and 6 or higher magnitude. This being said, any magnitude quake that resulted in a loss of a significant amount of water storage in the Arbuckle- Simpson Aquifer (a distant possibility), or causes a significant hazardous materials incident would be considered a major event.

Due to the unpredictable nature of earthquakes, the planning area can expect to experience any value on the Mercalli and Richter Scales.

3.11.2 History/Previous Occurrences

Year	# of Earthquake Events	Range of Magnitude
2011	5	0-2.4
2012	5	1.2-2-
2013	4	1.3-2.5
2014	0	-
2015	0	-
2016	0	-
2017	2	2.2-2.8
2018	0	-
2019	0	-
2020	7	0.7-2.2
2021	8	1.1-1.9

https://www.ou.edu/ogs/research/earthquakes/catalogs

Probability/Future Events

The planning area has determined that an earthquake with a magnitude of less than 2.5 does not pose a significant threat to the planning area. Therefore, those of less than 2.5 have not been included in the probability calculations for the Planning Area. We have determined that the Planning Area has a Low probability of earthquake events, which matches our annual HVA.

3.11.3 Vulnerability/Impact

A major earthquake centered in or near the Planning area could have a wide-reaching impact. People, structures, property, transportation, utilities, and the economy are all vulnerable to the effects of earthquakes.

On vulnerability that each jurisdiction in the Planning Area is affected by is a lack of information on how to mitigate and plan for an earthquake event. Municipalities and school districts do not actively participate in Earthquake drills. Municipalities do not have established response procedures should transportation routes become damaged and inaccessible. Residents have not been educated on the importance of preparing a 72 hour to a week food and water supply. This lack of preparedness poses a risk to the wellbeing of all individuals in the Planning Area, and it negatively impacts emergency personnel's ability to assist a large volume of individuals in the aftermath of an Earthquake event.

Another vulnerability of each jurisdiction is that none of their structures are constructed with enhanced building codes. The municipalities do not have enhanced Earthquake codes, nor is there any school district policy which requires new construction to include enhanced codes. The planning area has many older structures and altered structures that are vulnerable to damage or destruction due to this lack of enhanced code.

Lastly, across the Planning Area are storage and warehouse facilities that are not equipped with strapping devises to secure shelving or independent cabinets to stabilize during earthquake events.

3.12 Dam Failures

The Federal Emergency Management Agency (FEMA) defines a dam as "a barrier constructed across a watercourse for the purpose of storage, control, or diversion of water." Dams typically are constructed of earth, rock, concrete, or tailings (chaff) from mining operations. A dam failure is the collapse, breach, or other failure resulting in downstream flooding.

The amount of water impounded in the reservoir behind a dam is measured in acre-feet. An acre-foot is the volume of water that covers an acre of land to a depth of one foot, or approximately 325,000 gallons. As a function of upstream topography, even a very small dam may impound or detain many acre-feet or millions of gallons of water.

The OWRB coordinates the Oklahoma Dam Safety Program to ensure the safety of more than **4,700** dams in the state. The Program requires inspections for all **jurisdictional size** dams based on the presence of **downstream development**.

What is Downstream Development?

- For SIGNIFICANT Hazard:
  - Roadways, bridges, culverts, and rail lines
  - Major electric transmission lines and substations
  - Municipal and rural water and wastewater treatment facilities
  - Other dams downstream
- For HIGH Hazard:
  - Dwellings, healthcare facilities, production facilities, worksites ect.
  - Any roadway that could be overtopped at any depth that has an annual average daily traffic count of 1,500 vehicles or more
  - Down Stream Dams

Table 3-28: Classification of Dams

Hazard-Potential Classification	Risk Involved with Dam Failure	Inspection Frequency
High	probable loss of human life	annually, by a registered professional engineer
Significant	no probable loss of human life but can cause economic loss or disruption of lifeline facilities	every three years by a registered professional engineer
Low	no probable loss of human life and low economic loss	every five years

Dam Emergency Levels and Description:

Emergency Level 1—Non-emergency, unusual event, slowly developing:

This situation is not normal but has not yet threatened the operation or structural integrity of the dam, but possibly could if it continues to develop. NRCS technical representatives or state dam safety officials should be contacted to investigate the situation and recommend actions to take. The condition of the dam should be closely monitored, especially during storm events, to detect any development of a potential or imminent dam

failure situation. The emergency management director should be informed if it is determined that the conditions may possibly develop into a worse condition that may require emergency actions.

Emergency Level 2—Potential dam failure situation, rapidly developing:

This situation may eventually lead to dam failure and flash flooding downstream, but there is not an immediate threat of dam failure. The emergency management director should be notified of this emergency situation and placed on alert. The dam operator should closely monitor the condition of the dam and periodically report the status of the situation to the emergency management director. If the dam condition worsens and failure becomes imminent, the emergency management director must be notified immediately of the change in the emergency level to evacuate the people at risk downstream.

If time permits, NRCS and state dam safety officials should be contacted to evaluate the situation and recommend remedial actions to prevent failure of the dam. The dam operator should initiate remedial repairs (note local resources that may be available). Time available to employ remedial actions may be hours or days.

This emergency level is also applicable when flow through the earth spillway has or is expected to result in flooding of downstream areas and people near the channel could be endangered. Emergency services should be on alert to initiate evacuations or road closures if the flooding increases.

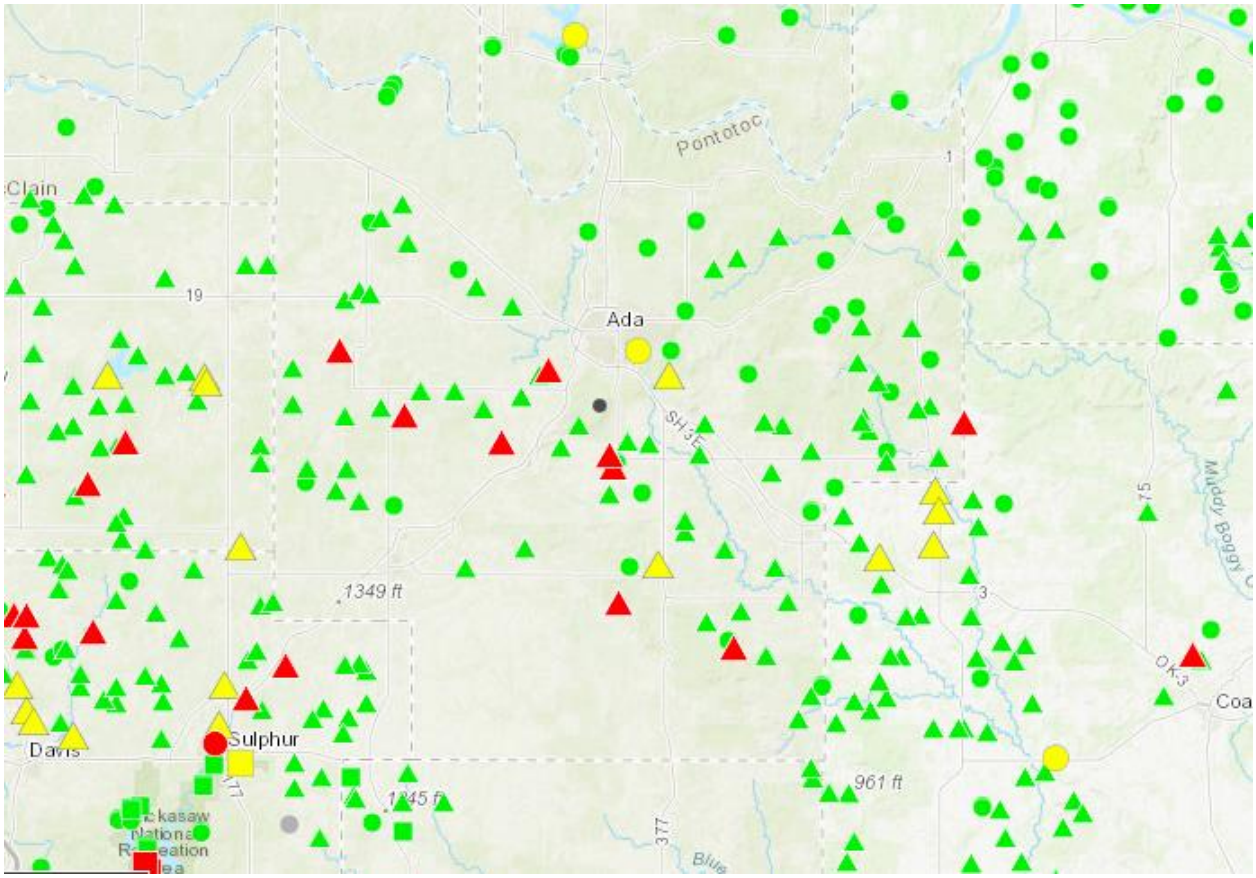
Emergency Level 3—Urgent; dam failure appears imminent or is in progress:

This is an extremely urgent situation when a dam failure is occurring or obviously is about to occur and cannot be prevented. Flash flooding will occur downstream of the dam. This situation is also applicable when flow through the earth spillway is causing downstream flooding of people and roads. The Emergency management director should be contacted immediately so emergency services can begin evacuations of all at-risk people and close roads as needed (see *Breach Inundation Map*s).

Areas likely to be impacted by a dam break are delineated using dam breach analyses that consider both "sunny day" failures and failures under flood conditions.

3.12.1 Hazard Profile

Location



See figures, 3-10, 3-12, 3-14, 3-16, 3-20, and 3-22 for dam inundation depth data.

LIST OF HIGH HAZARD DAMS AFFECTING THE PLANNING AREA

Dam Name	Jurisdiction(s) Affected	Map/Figure Reference #
Upper Clear Boggy Creek #24	Unincorporated Pontotoc Co, Stonewall PS	3-9, 3-10
Upper Clear Boggy Creek #26	Unincorporated Pontotoc Co, Stonewall PS	3-11, 3-12
Upper Clear Boggy Creek #33	Unincorporated Pontotoc Co, Stonewall PS	3-13, 3-14
Upper Clear Boggy Creek #34	Unincorporated Pontotoc Co, Stonewall PS	3-15, 3-16
Sandy Creek Watershed Dam #1	Unincorporated Pontotoc Co, Latta PS	3-17, 3-18
Sandy Creek Watershed Dam #7	Unincorporated Pontotoc Co, Vanoss PS	3-19, 3-20
Sandy Creek Watershed Dam #18	Unincorporated Pontotoc Co, Vanoss PS	3-21, 3-22

Figure 3-9

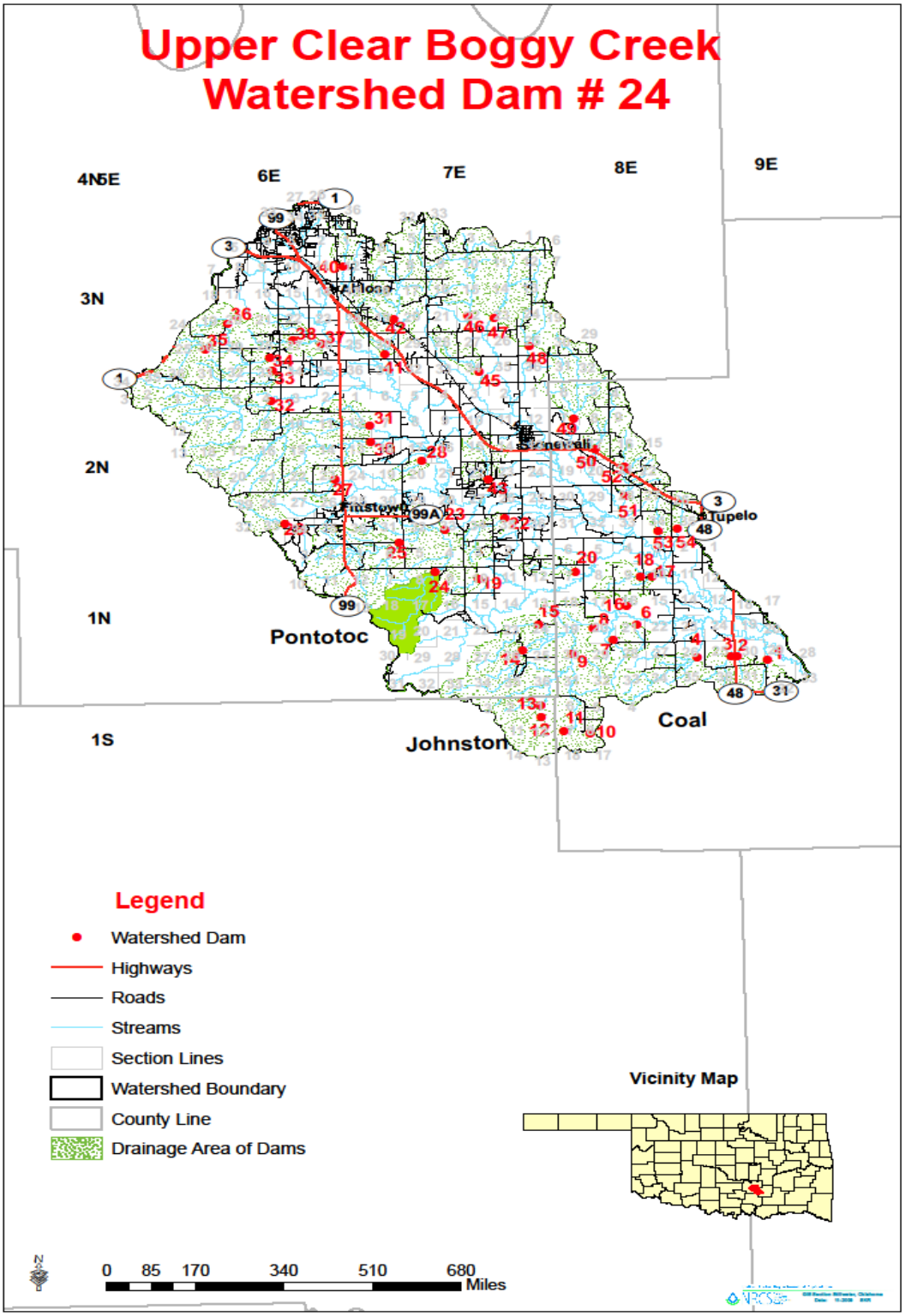

Upper Clear Boggy Creek
Watershed Dam # 24
4N5E
6E
7E
8E
9E
3N
2N
1N
1S
Pontotoc
Johnston
Coal
Tupelo
Legend
Watershed Dam
Highways
Roads
Streams
Section Lines
Watershed Boundary
County Line
Drainage Area of Dams
Vicinity Map
0 85 170 340 510 680
Miles

Figure 3-10

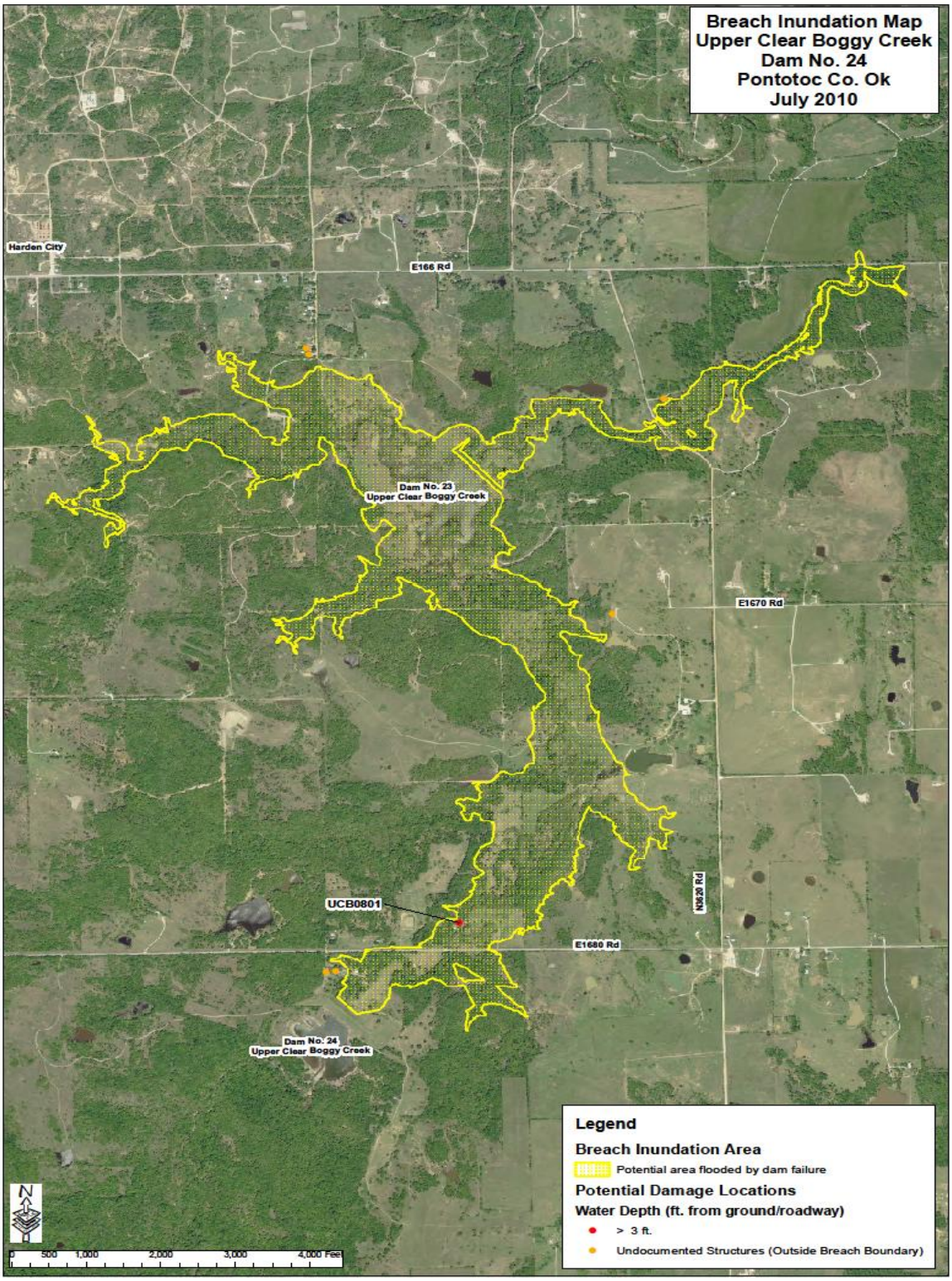

Breach Inundation Map
Upper Clear Boggy Creek
Dam No. 24
Pontotoc Co. Ok
July 2010
Harden City
E166 Rd
Dam No. 23
Upper Clear Boggy Creek
E1670 Rd
N3620 Rd
UCB0801
E1680 Rd
Dam No. 24
Upper Clear Boggy Creek
Legend
Breach Inundation Area
Potential area flooded by dam failure
Potential Damage Locations
Water Depth (ft. from ground/roadway)
> 3 ft.
Undocumented Structures (Outside Breach Boundary)
N
0 500 1,000 2,000 3,000 4,000 Feet

Figure 3-11

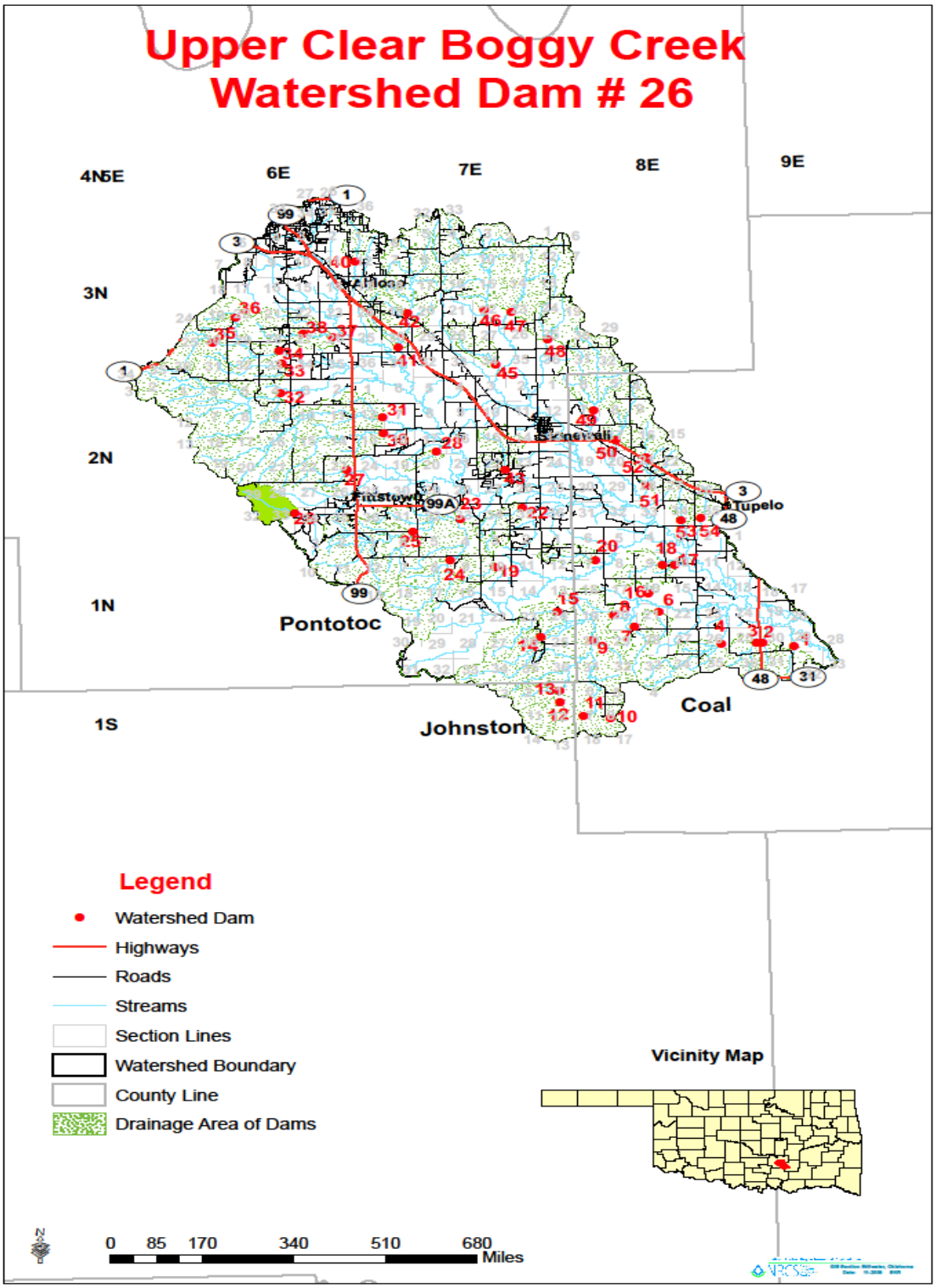

Upper Clear Boggy Creek
Watershed Dam # 26
4N5E
6E
7E
8E
9E
3N
2N
1N
1S
Pontotoc
Johnston
Coal
Tupelo
Legend
Watershed Dam
Highways
Roads
Streams
Section Lines
Watershed Boundary
County Line
Drainage Area of Dams
Vicinity Map
0 85 170 340 510 680
Miles

Figure 3-12

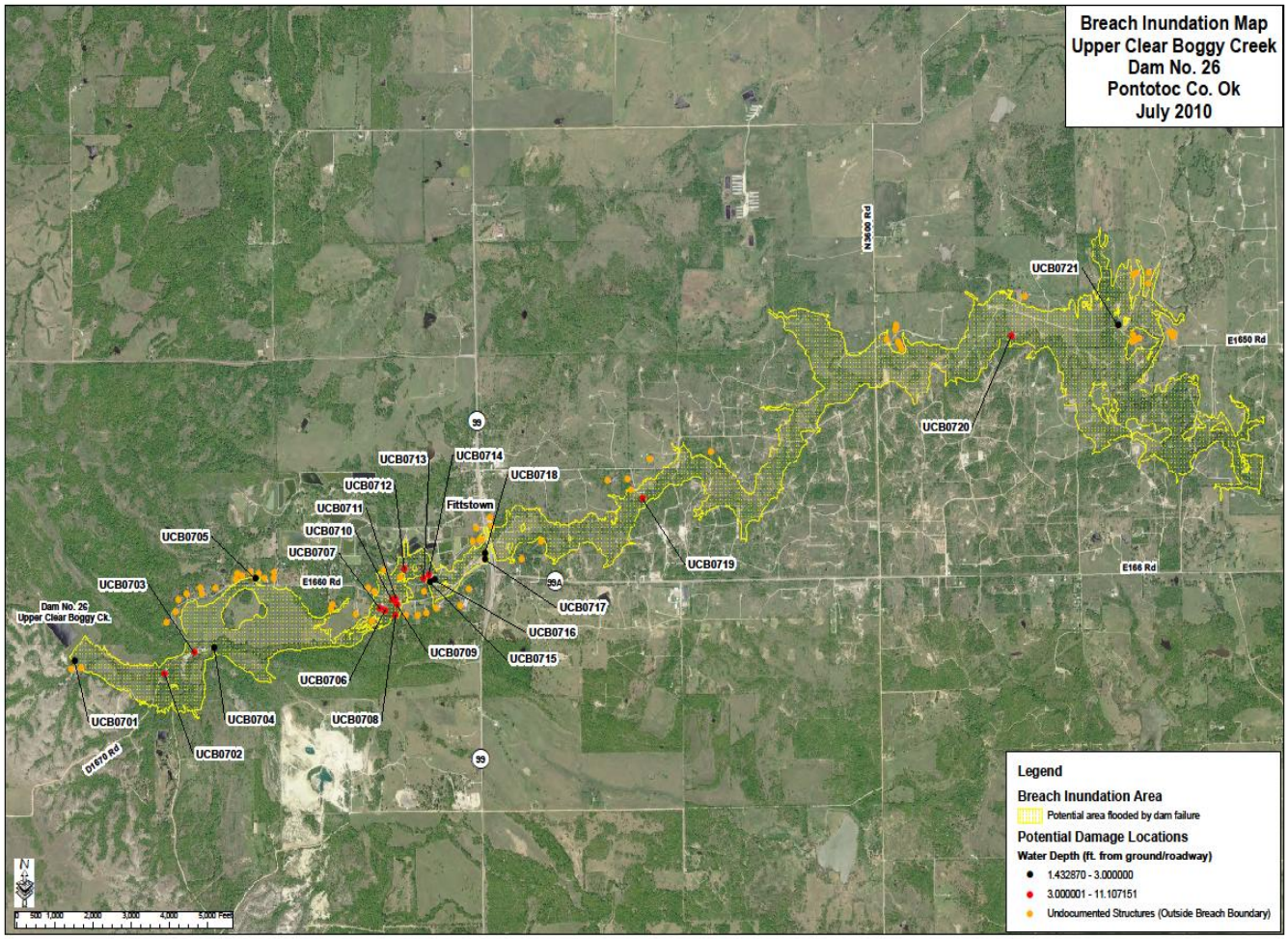

Breach Inundation Map
Upper Clear Boggy Creek
Dam No. 26
Pontotoc Co. Ok
July 2010
UCB0721
E1650 Rd
UCB0720
UCB0719
E166 Rd
UCB0718
UCB0717
UCB0716
UCB0715
UCB0714
UCB0713
UCB0712
UCB0711
UCB0710
UCB0709
UCB0708
UCB0707
UCB0706
UCB0705
UCB0704
UCB0703
UCB0702
UCB0701
Fittstown
E1660 Rd
Dam No. 26
Upper Clear Boggy Ck.
Legend
Breach Inundation Area
Potential area flooded by dam failure
Potential Damage Locations
Water Depth (ft. from ground/roadway)
1.432870 - 3.000000
3.000001 - 11.107151
Undocumented Structures (Outside Breach Boundary)

Figure 3-13 **Upper Clear Boggy Watershed Dam No. 33**

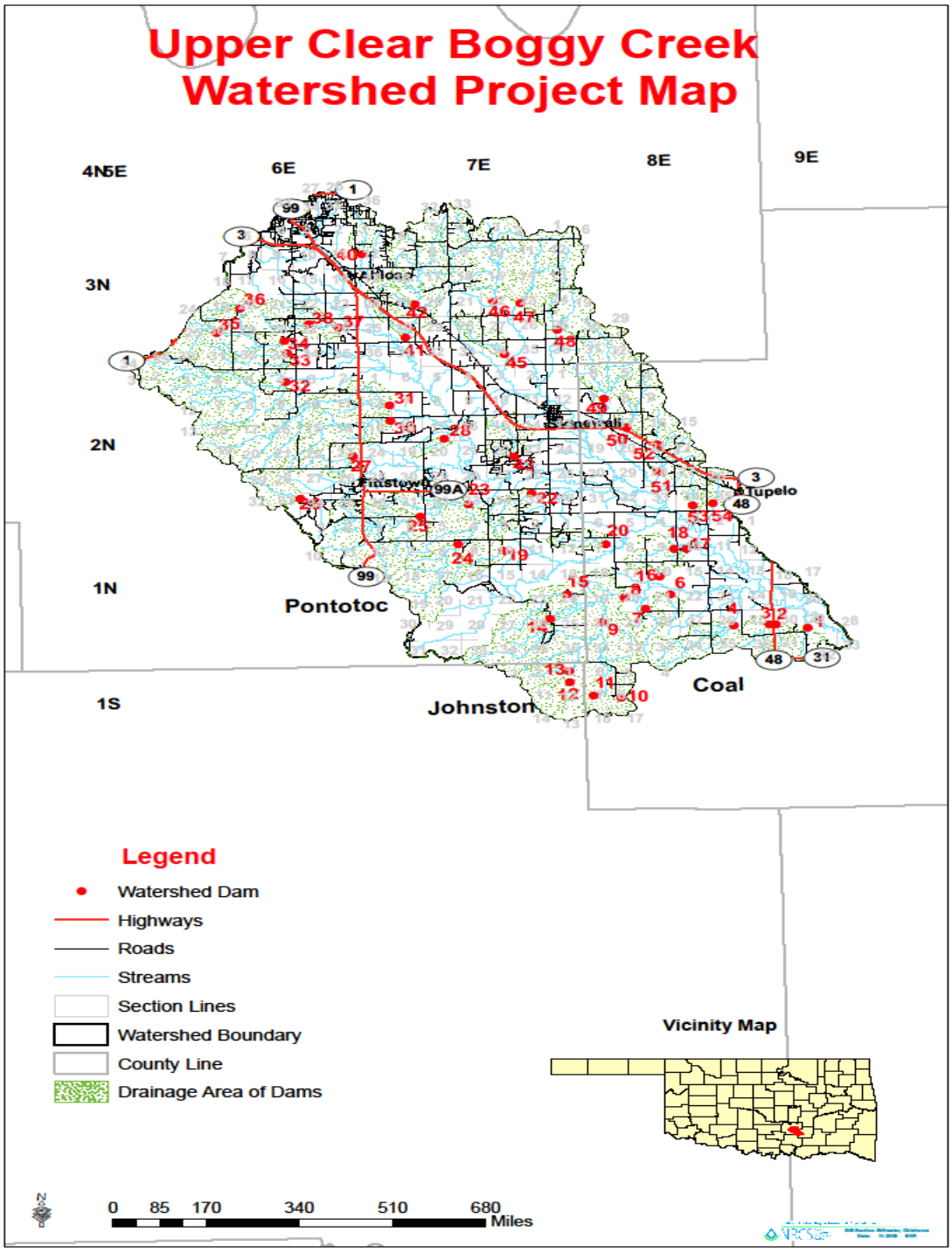


Figure 3-14

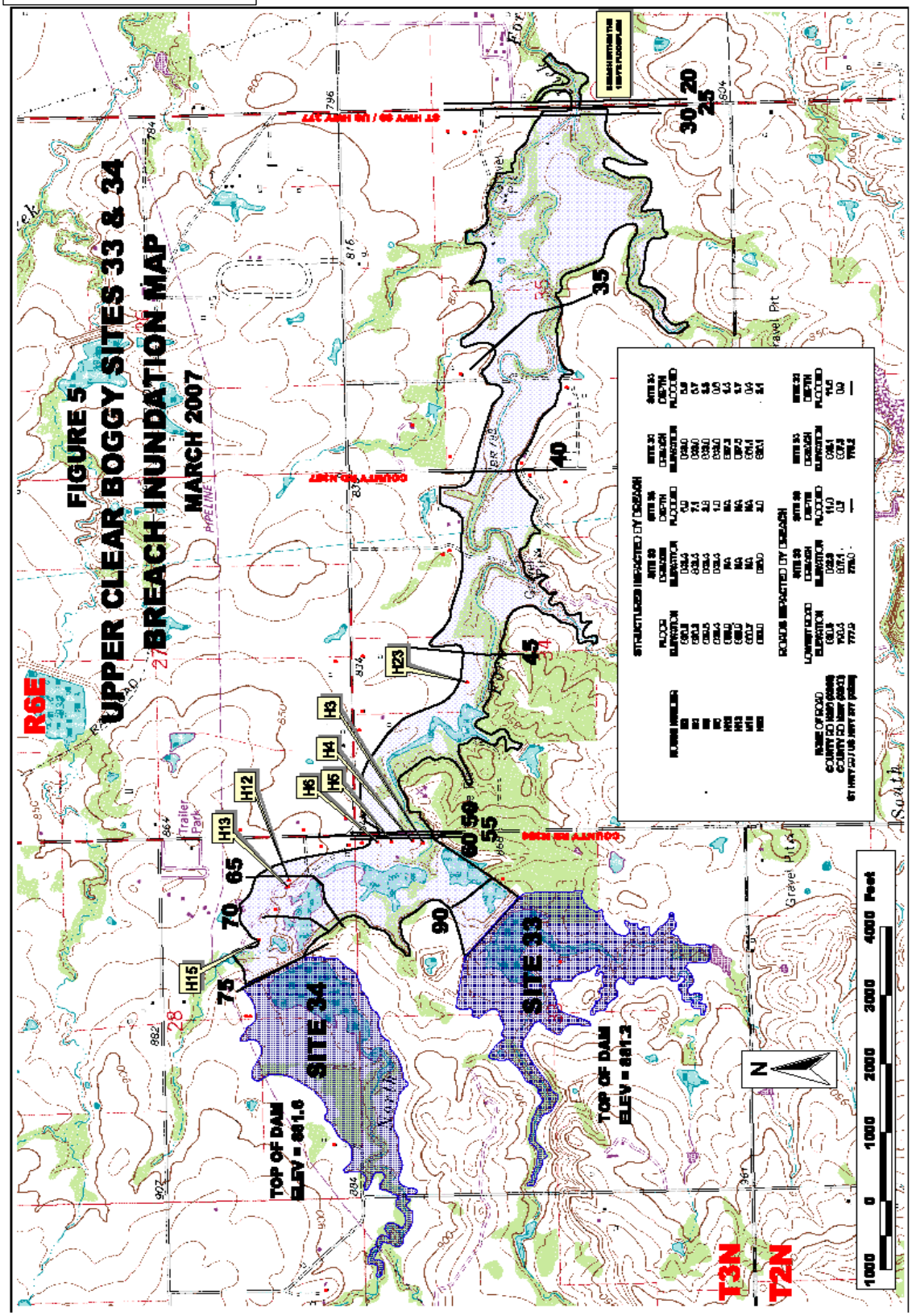


FIGURE 5
UPPER CLEAR BOGGY SITES 33 & 34
BREACH INUNDATION MAP
MARCH 2007
R6E
T3N
T2N
SITE 34
TOP OF DAM
ELEV = 881.6
SITE 33
TOP OF DAM
ELEV = 881.2
H3
H4
H5
H6
H12
H13
H15
H23
N
1000 0 1000 2000 3000 4000 Feet

Figure 3-15 **Upper Clear Boggy Watershed Dam No. 34**

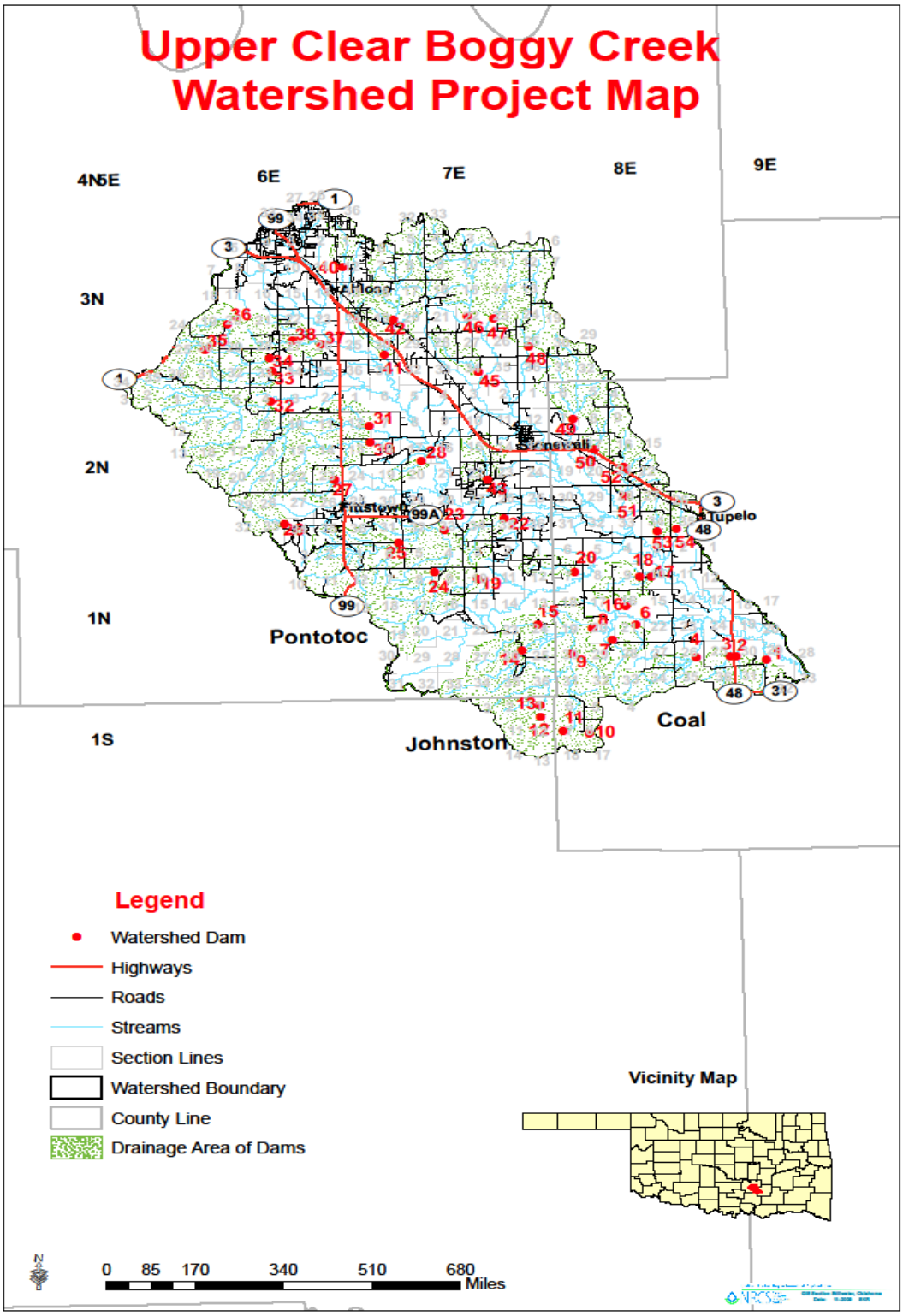


Figure 3-16 **Upper Clear Boggy Watershed Dam No. 34**

(See enlarged copy of this breach map in back of this binder)

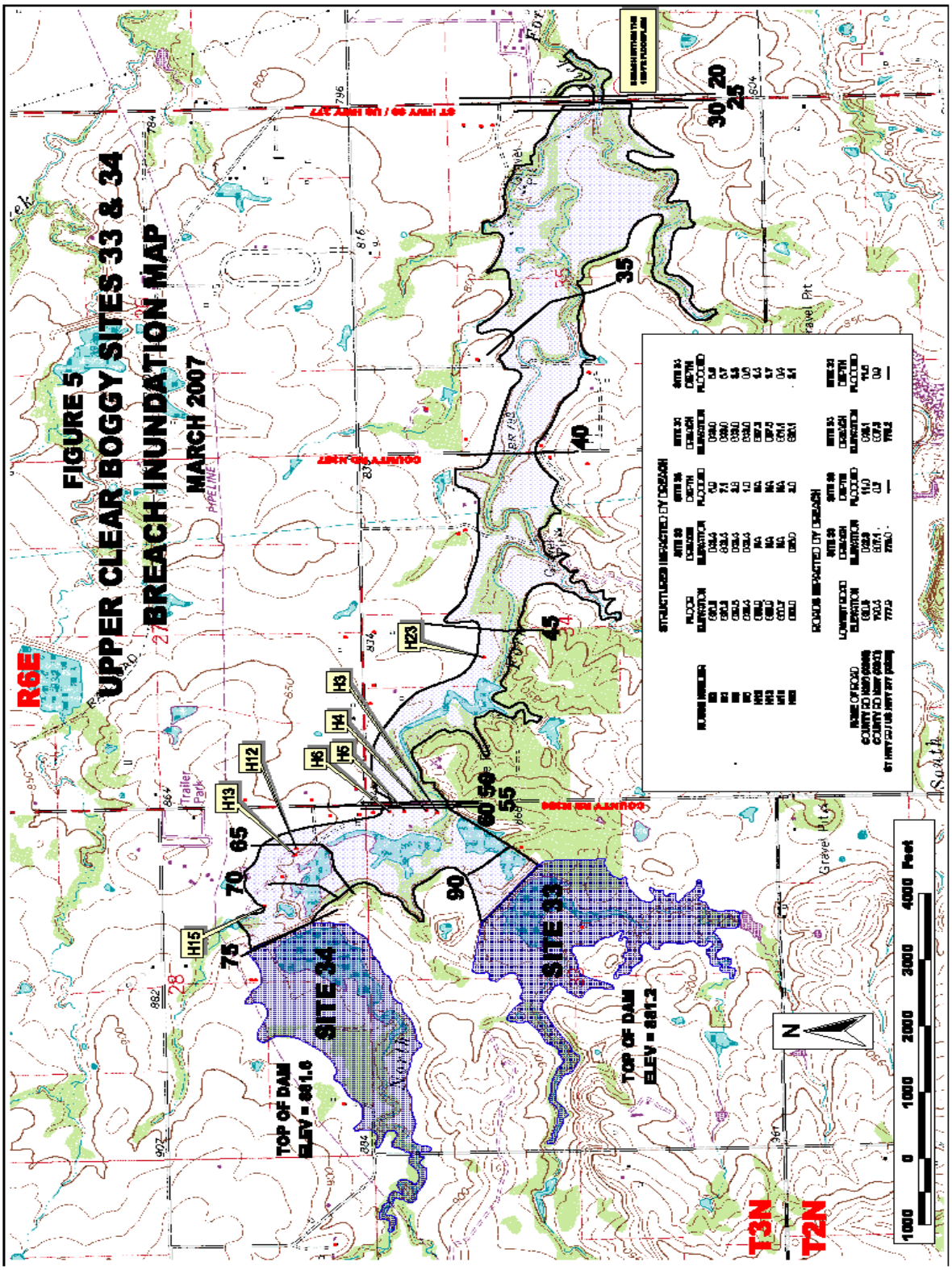


Figure 3-17 Sandy Creek Watershed Project Map

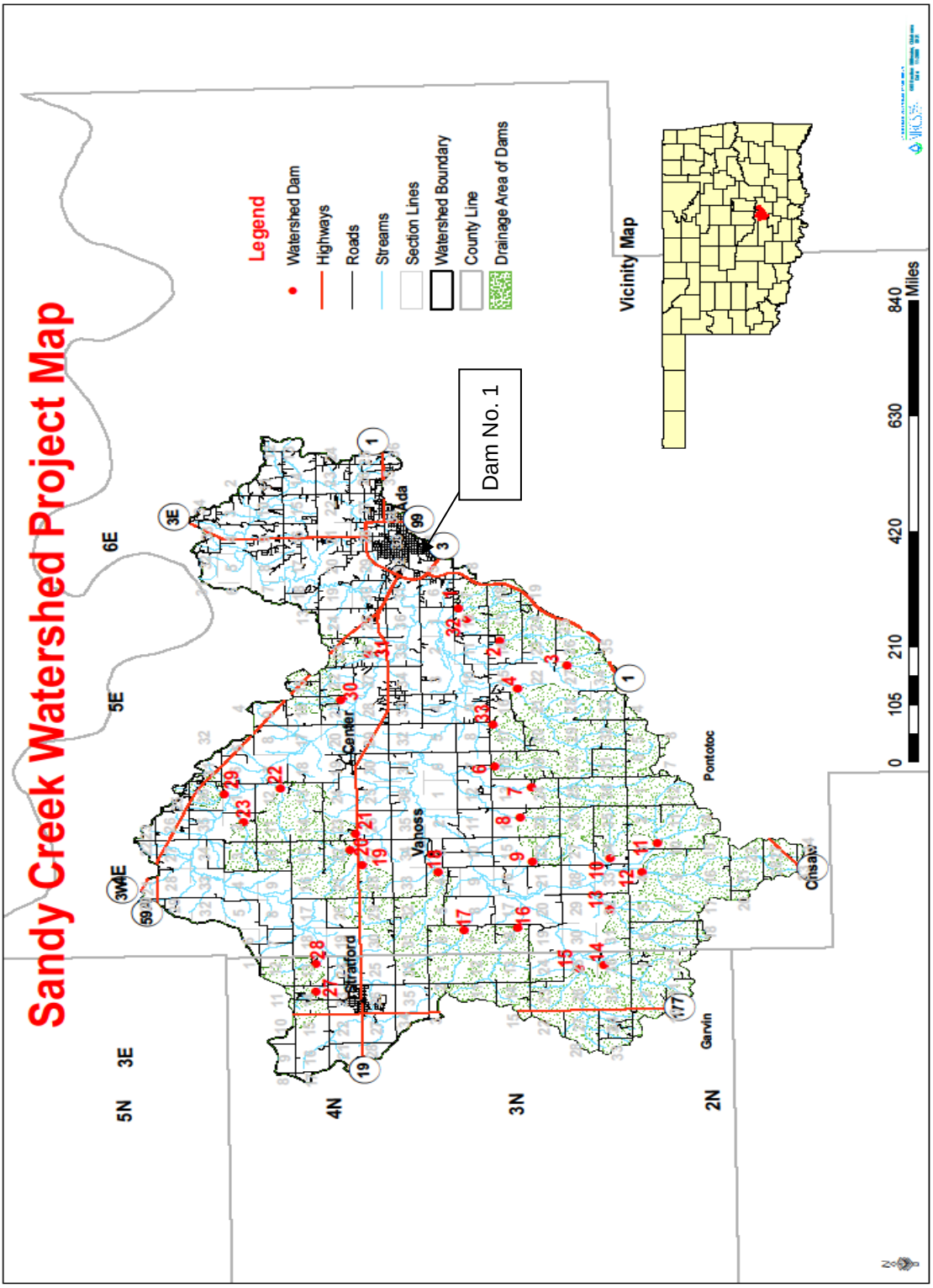


Figure 3-18 Breach Inundation Map

Sandy Creek Watershed Dam No. 1

Figure 3-19 **Sandy Creek Watershed Dam No. 7**

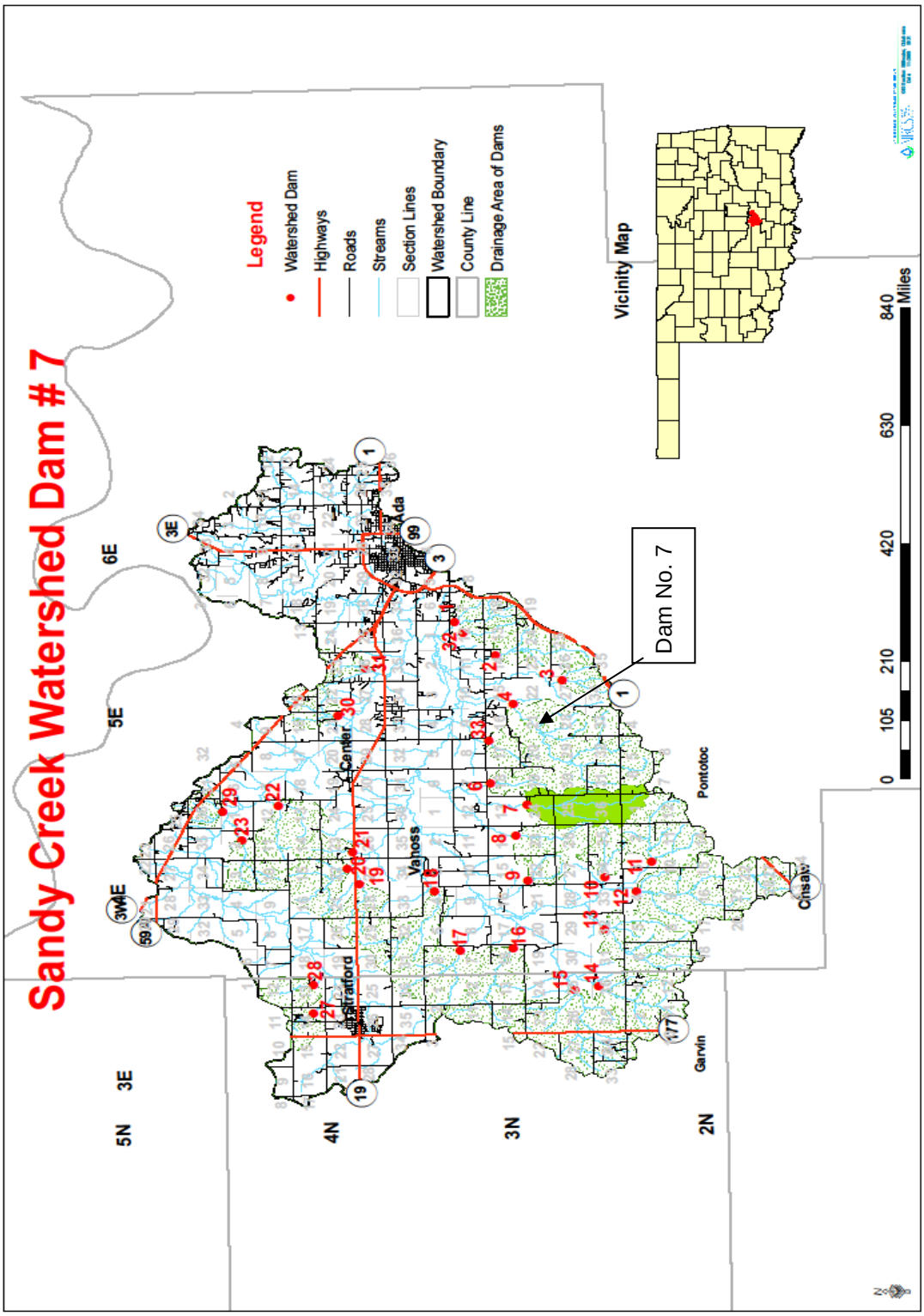


Figure 3-20 Breach Inundation Map

Sandy Creek Watershed Dam No. 7

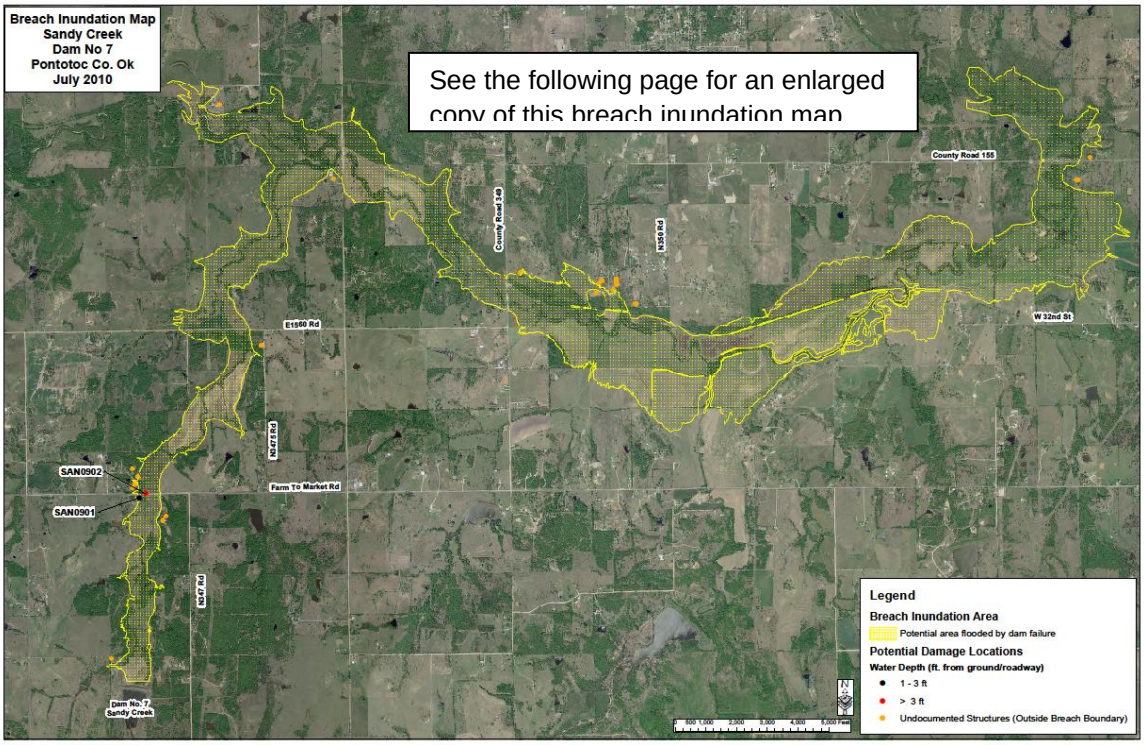


Figure 3-21 **Sandy Creek Watershed Dam No.18**

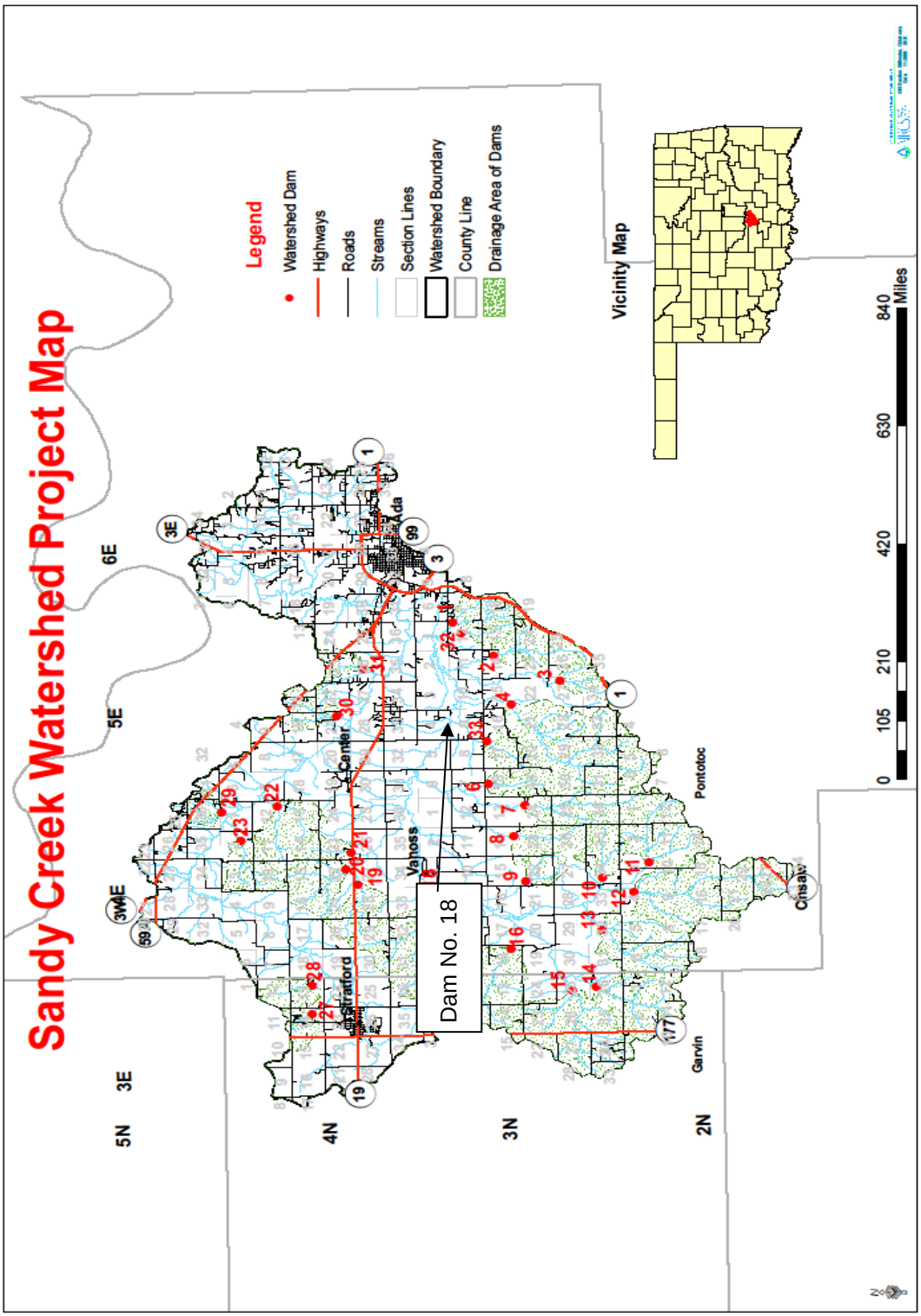
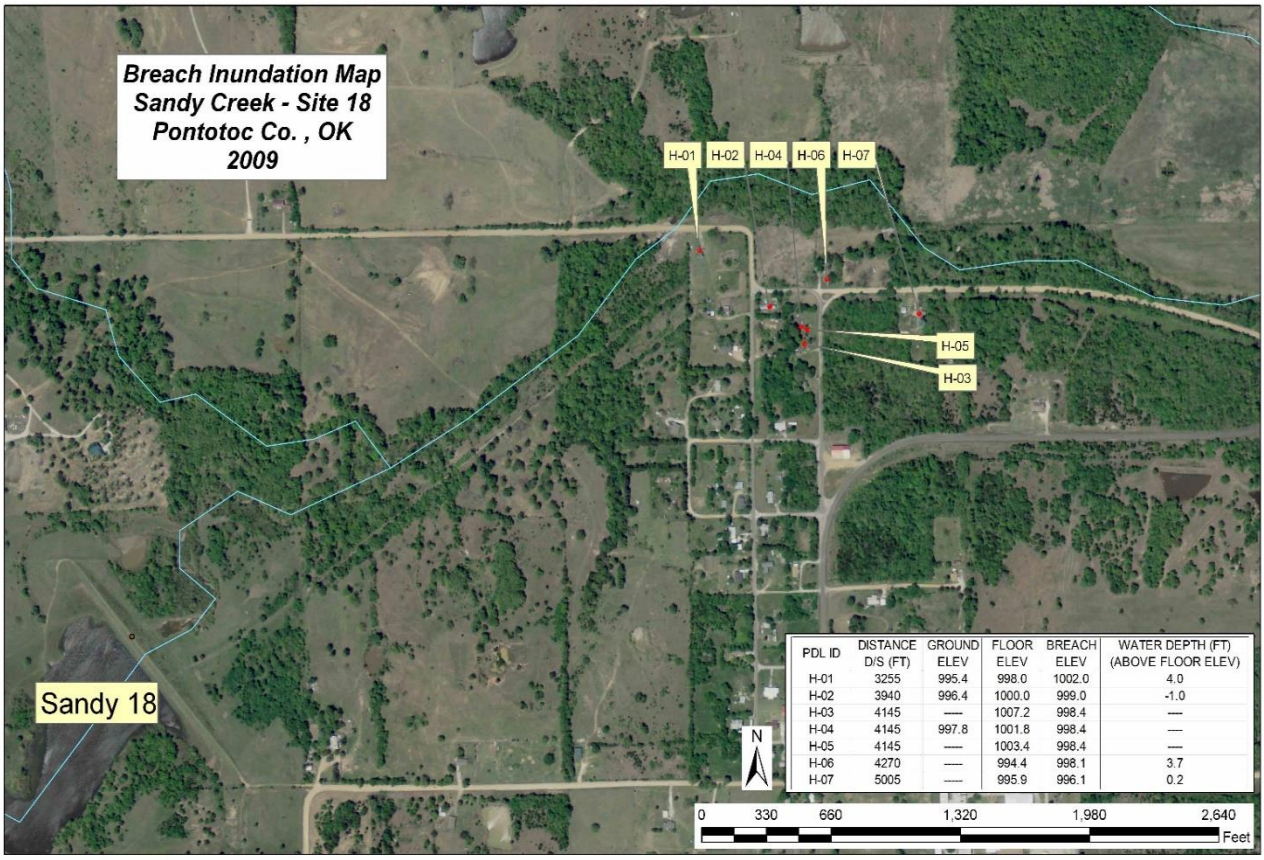


Figure 3-22 Breach Inundation Map

Sandy Creek Watershed Dam No.18



PDL ID	DISTANCE D/S (FT)	GROUND ELEV	FLOOR ELEV	BREACH ELEV	WATER DEPTH (FT) (ABOVE FLOOR ELEV)
H-01	3255	995.4	998.0	1002.0	4.0
H-02	3940	996.4	1000.0	999.0	-1.0
H-03	4145	----	1007.2	998.4	----
H-04	4145	997.8	1001.8	998.4	----
H-05	4145	----	1003.4	998.4	----
H-06	4270	----	994.4	998.1	3.7
H-07	5005	----	995.9	996.1	0.2

3.12.2 History/Previous Occurrences

There have been no recorded events of dam failure within the Planning Area. However, there have been several instances of farm ponds failing in the past 10 years resulting in little to no damages.

Extent

The Planning Area uses NRCS inundation maps to categorize the extent of Dam Failure.

Upper Clear Boggy Creek Watershed Dam #24

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**0-3 Feet**
Stonewall PS	**0-3 Feet**

Upper Clear Boggy Creek Watershed Dam #26

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**1.4-11.1 Feet**
Stonewall PS	**1.4-11.1 Feet**

Upper Clear Boggy Creek Watershed Dam #33

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**0-11.8 Feet**
Stonewall PS	**1.0-11.8 Feet**

Upper Clear Boggy Creek Watershed Dam #34

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**0.4-6.7 Feet**
Stonewall PS	**0.6-6.7 Feet**

Sandy Creek Watershed Dam #1

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**0-6 Feet**
Latta PS	**0-6**

Sandy Creek Watershed Dam #7

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**0-8 Feet**
Vanoss PS	**0-8 Feet**

Sandy Creek Watershed Dam #18

Jurisdictions Affected	Expected Flood Depth if Dam Failure Occurs
Unincorporated Pontotoc Co	**0-8 Feet**
Vanoss PS	**0-8 Feet**

The Planning Area considers a minor Dam Breach event to be a release that results in neither injury nor death and does less than $50,000 damage. A major event is one that requires evacuation, damages downstream structures, and results in injury or loss of life.

Probability of Future Events

The Planning Area is vulnerable to dam failures, and therefore its vulnerability is a constant and widespread threat. Dam failures, while rarely occurring, can, and do occur in nearly all months of

the year at all hours of the day, so it is important that education and preparations continue to move forward. The Planning Area has a low probability of a dam failure event.

3.12.3 Vulnerability/Impact

The Planning Area was determined to be at Low risk to the Dam Failure hazard.

Upper Clear Boggy Creek Watershed Dam #24

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Upper Clear Boggy Creek Watershed Dam #24 would affect 1 home and 1 county road downstream valued at $200,000.	A home in this rural area could be destroyed with life altering changes to those affected. A Dam failure could cause economic hardship for District 3 and cause delays in emergency services response to this area.
Stonewall PS	The Stonewall School District could experience a disruption of bus routes due to road damage caused by a failure of the Upper Clear Boggy Creek Watershed Dam #24.	The School would not be able to perform its duties effectively due to the roads affected as a result of a Dam failure.

Upper Clear Boggy Creek Watershed Dam #26

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Upper Clear Boggy Creek Watershed Dam #26 could result in substantial damages. There are 18 structures and a seasonal trailer/RV park valued at $1,800,000.00 downstream that would possibly be impacted. There is 1 business that could be affected as well as the following roadways: CR 1660, 1660LP, 3565, 3600, and US Hwy 377.	Homes in rural areas could be destroyed with life altering changes to those affected. If the RV Park was occupied, the possibility of loss of life or injuries would be enhanced. Livestock and crops destroyed would cause a serious decline in income for citizens as it is a major part of their yearly wage supplement. Damage to CR 1660, 1660LP, 3565, 3600, and US Hwy 377 would result in economic hardship for District 3 and would delay emergency services response to the area.
Stonewall PS	The Stonewall School District could experience a disruption of bus routes due to road damage caused by a failure of the Upper Clear Boggy Creek Watershed Dam #26.	The School would not be able t perform its duties effectively due to the roads affected as a result of a Dam failure.

Upper Clear Boggy Creek Watershed Dam #33

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Upper Clear Boggy Creek Watershed Dam #33 could affect 39 parcels and 13 structures valued at $950,000 downstream. Additionally, CR 3560 could be significantly affected.	Homes in rural areas could be destroyed with life altering changes to those affected. Livestock and crops destroyed would cause a serious decline in income for citizens as it is a major part of their yearly wage supplement. Damage to CR 3560 would result in economic hardship for District 3 and would delay emergency services response to the area.
Stonewall PS	The Stonewall School District could experience a disruption of bus routes due to road damage caused by a failure of the Upper Clear Boggy Creek Watershed Dam #33.	The School would not be able to perform its duties effectively due to the roads affected as a result of a Dam failure.

Upper Clear Boggy Creek Watershed Dam #34

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Upper Clear Boggy Creek Watershed Dam #34 could affect 39 parcels and 13 structures valued at $950,000 downstream. Additionally, CR 3560 could be significantly affected.	Homes in rural areas could be destroyed with life altering changes to those affected. Livestock and crops destroyed would cause a serious decline in income for citizens as it is a major part of their yearly wage supplement. Damage to CR 3560 would result in economic hardship for District 3 and would delay emergency services response to the area.
Stonewall PS	The Stonewall School District could experience a disruption of bus routes due to road damage caused by a failure of the Upper Clear Boggy Creek Watershed Dam #34.	The School would not be able to perform its duties effectively due to the roads affected as a result of a Dam failure.

Sandy Creek Watershed Dam #1

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Sandy Creek Watershed Dam #1 would result in damage to CR 1560. There are 22 parcels and 13 structures valued at $950,000 that would possibly be impacted by a breach of the dam during flood conditions.	Homes in rural areas could be destroyed with life altering changes to those affected. Livestock and crops destroyed would cause a serious decline in income for citizens as it is a major part of their yearly wage supplement. Damage to CR 1560 would result in economic hardship for District 2 and would delay emergency services response to the area.
Latta PS	The Latta School District could experience a disruption of bus routes on CR 1560 due to road damage caused by a failure of the Sandy Creek Watershed Dam #1.	The School would not be able to perform its duties as effectively due to CR 1560 being affected as a result of a Dam failure.

Sandy Creek Watershed Dam #7

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Sandy Creek Watershed Dam #7 could result in damage to CR 1570. There is 1 home, 1 county road, and 1 bridge valued at $600,000 that would possibly be impacted.	A home in this rural area could be destroyed with life altering changes to those affected. Livestock and crops destroyed could cause a serious decline in income for citizens as it is a major part of their yearly wage supplement. A Dam failure could cause economic hardship for District 2 and cause delays in emergency services response to this area.
Vanoss PS	The Vanoss School District could experience a disruption of bus routes due to road damage caused by a failure of the Sandy Creek Watershed Dam #7.	The School would not be able to perform its duties as effectively due to the CR 1570 being affected as a result of a Dam failure.

Sandy Creek Watershed Dam #18

Jurisdictions Affected	Vulnerability	Impact
Unincorporated Pontotoc Co	A failure of the Sandy Creek Watershed Dam #18 could result in damage to CR 1550, 1551, 3444 and 3445. There are 66 parcels and 12 structures valued at $650,000 that would possibly be impacted, as well as 1 large culvert on CR 1550.	Homes in rural poor areas could be destroyed with life altering changes to those affected. Livestock and crops destroyed could cause a serious decline in income for citizens as it is a major part of their yearly wage supplement. A Dam failure would severely alter daily life for many citizens due to the damage, and could cause economic hardship for District 2. Delays in emergency services response to this area would be expected
Vanoss PS	The Vanoss School District could experience a disruption of bus routes due to road damage caused by a failure of the Sandy Creek Watershed Dam #18.	The School would not be able to perform its duties as effectively due to the roads affected as a result of a Dam failure.

3.12.4 Sources

Kuhnert, Nathan (Hydrologist Oklahoma Water Resources Board). Telephone interview by Michael Flanagan, January 10, 22, 2002, March 18, 19, 2002.

Multi-Hazard Identification and Risk Assessment, p. 254–261. Federal Emergency Management Agency, 1997.

Oklahoma Strategic All-Hazards Mitigation Plan, "Hazard Identification and Vulnerability Assessment," p 4. Oklahoma Department of Emergency Management, September 2001.

Partners in Dam Safety, at Web address: http://www.fema.gov/fima/damsafe/. FEMA, National Dam Safety Program, Dam Safety Progress Through Partnerships.

Rooftop of River: Tulsa's Approach to Floodplain and Stormwater Management, "Setting and History: Learning the Hard Way," p. 1–7 and at Web address: http://www.sustainable.doe.gov/articles/rooftop/index.shtml. City of Tulsa, 1994.

National Inventory of Dams, at Web address: http://crunch.tec.army.mil/nid/webpages/nid.cfm.

Chapter 4: Mitigation Goals and Objectives

This chapter identifies the hazard mitigation goals set by Pontotoc County and the Pontotoc County School Districts, and discusses the mitigation projects, or measures, to be taken to achieve those goals.

4.1 Pontotoc County Hazard Mitigation Goals

4.1.1 Mission Statement

To create a disaster-resistant community and improve Pontotoc County's safety and well-being by reducing deaths, injuries, property damage, environmental and other losses from natural hazards in a manner that advances community goals, quality of life, and results in a more livable, viable, and sustainable community.

4.1.2 Mitigation Goals

Pontotoc County's, incorporated communities, and Pontotoc Technology Center's Goal:

To improve the safety and well-being of the residents living and working in Pontotoc County by reducing the potential of deaths, injuries, property damage, environmental and other losses from natural hazards in a manner that creates disaster- resistant communities, enhances economic development opportunities, and advances the county's goals and quality of life, resulting in more livable, viable, and sustainable communities. To identify County/City policies, actions and tools for long-term implementation in order to reduce risk and future losses stemming from natural hazards that are likely to impact the Pontotoc County.

Pontotoc County Public School Districts' Goals

The primary goal of the Public School Districts of Pontotoc County is to collaborate with the County and their respective communities in identifying potential natural hazards and developing mitigation action plans that would prevent or soften the impact of the identified hazards on school sites that comprise the eight School Districts. Particularly, the Public Schools would like to develop safe rooms/buildings to protect school communities from weather related hazards. These safe structures during non- emergency times could be used to enhance instruction, and provide much needed space for fine arts programs, student activities, spectator events, and community meetings.

4.1.3 Goals for All Natural Hazards

- Minimize loss of life and property from natural hazard events.
- Protect public health and safety.
- Increase public awareness of risk from natural hazards.
- Reduce risk and effects of natural hazards.
- Identify hazards and assess risk for Pontotoc County and municipalities.
- Ascertain historical incidence and frequency of occurrence.
- Determine increased risk from specific hazards due to location and other factors.
- Improve disaster prevention.
- Improve forecasting of natural hazard events.
- Limit building in high-risk areas.
- Improve building construction to reduce the dangers of natural hazards.
- Improve government and public response to natural hazard disasters

4.2 Hazard-Specific Goals and Objectives

Flood	
GOAL: ***To reduce injuries and loss of life; trauma; damage to property, equipment and infrastructure; community disruption; and economic, environmental, and other losses caused by floods and flash floods.***	
Objective 1.	**Public Information & Education.** Improve public awareness of flood and flash flood hazards in general and at specific high-risk locations; and give people knowledge about measures they can use to protect themselves, their property and their community.
Objective 2.	**Preventive Measures.** Expand mapping accuracy, Use BLE Data, regulations, and loss-prevention programs in areas with high risks and catastrophic potential, such as local portions of multi- jurisdictional floodways and floodplains where additional safety considerations are warranted because a community does not have jurisdiction to regulate upstream and downstream runoff, blockages, or other actions that can affect safety.
Objective 3.	**Structural Projects.** Obtain funding for and implement projects that can reduce flood and drainage hazards, with consideration for comprehensive solutions in accord with watershed-wide management plans.
Objective 4.	**Property Protection.** Identify and protect people, structures, critical facilities, and critical infrastructure that are vulnerable to flood and flash flood hazards.
Objective 5.	**Emergency Services.** Identify the needs, and implement additional emergency operations plans and services for areas at high risk of flooding, including additional prediction and forecasting capability, emergency alerts, and evacuation plans.
Objective 6.	**Natural Resource Protection.** Protect and enhance natural floodplain and storm water resources by adopting and implementing sustainable flood-management policies that have few or no negative impacts and have positive environmental effects whenever possible.

Tornado	
GOAL: ***To reduce injuries and loss of life; trauma; damage to property, equipment and infrastructure; community disruption; and economic, environmental and other losses caused by tornadoes.***	
Objective 1.	**Public Information & Education.** Improve public awareness of tornado hazards, in general and in specific high-risk situations; and give people knowledge about measures they can use to protect themselves, their property, and their community.
Objective 2.	**Preventive Measures.** Prevent or reduce tornado losses by strengthening buildings and by publicizing, training, and creating market options for fortified new construction, retrofits, code changes and code-plus innovations.
Objective 3.	**Structural Projects.** Provide safe tornado shelters, Safe Rooms, and fortified buildings for vulnerable populations, including children; offer training and incentives to encourage people of means to include shelters and Safe Rooms in new and retrofit building projects.
Objective 4.	**Property Protection.** Identify and protect people, structures, and critical infrastructure that are vulnerable to tornado hazards, with emphasis on critical facilities.
Objective 5.	**Emergency Services.** Identify the needs for and implement additional emergency operations plans and services to expand tornado safety.

Tornado	
Objective 6.	**Natural Resource Protection.** Take advantage of opportunities for tornado programs and policies that reduce negative environmental impacts. Examples include sustainable programs for debris management and recycling, and fortified construction with environmentally friendly materials.

High Wind	
GOAL: ***To reduce injuries and loss of life; trauma; damage to property, equipment and infrastructure; community disruption; and economic, environmental and other losses caused by high winds.***	
Objective 1.	**Public Information & Education.** Improve public awareness of high-wind hazards, in general and in specific high-risk situations; and give people knowledge about measures they can use to protect themselves, their property, and their community.
Objective 2.	**Preventive Measures**. Prevent or reduce high-wind losses by strengthening buildings and by publicizing, training, and creating market options for fortified new construction, retrofits, code changes and code-plus innovations.
Objective 3.	**Structural Projects.** Provide fortified buildings for critical public facilities and vulnerable populations, including children; offer training and incentives to encourage people of means to build stronger structures in new and retrofit building projects.
Objective 4.	**Property Protection.** Identify and protect people, structures, and critical infrastructure that are vulnerable to high winds, with emphasis on critical facilities.
Objective 5.	**Emergency Services.** Identify needs for and implement additional emergency operations plans and services to expand safety in dangerous windstorms, including Community Emergency Response Team training.
Objective 6.	**Natural Resource Protection.** Take advantage of opportunities for high-wind programs and policies that reduce negative environmental impacts. Examples include sustainable programs for debris management and recycling, and fortified construction with environmentally friendly materials.

Lightning	
GOAL: ***To reduce injuries, loss of life, and damage to property, equipment and infrastructure caused by Lightning strikes.***	
Objective 1.	**Public Information & Education.** Improve public awareness of lightning hazards and measures by which people can protect themselves, their property and their community.
Objective 2.	**Preventive Measures.** Identify the costs and the benefits of loss-prevention programs, such as whole building surge protection, with consideration for uncalculated benefits such as data or work productivity loss.
Objective 3.	**Structural Projects**. Provide for necessary construction, renovation, retrofitting or refurbishment of city infrastructure to protect vulnerable populations from the effects of lightning strikes.
Objective 4.	**Property Protection**. Identify ways to protect structures, infrastructure, and critical facilities and their occupants from damage caused by lightning strikes.
Objective 5.	**Emergency Services**. Establish or expand emergency services protocols that adequately address response scenarios in the event of scenarios with the possibility of severe lightning.

Lightning	
Objective 6.	**Natural Resource Protection**. Ensure that lightning damage mitigation policies have no negative impacts and, whenever possible, provide positive enhancements to the environment.

Hail	
GOAL: ***To reduce the high costs of property and infrastructure damage caused by Hailstorms.***	
Objective 1.	**Public Information and Education.** Improve public awareness of hail hazards and measures by which people can protect themselves, their property and their community.
Objective 2.	**Preventive Measures**. Identify the costs and the benefits of loss-prevention ordinances, such as building codes, with consideration for uncalculated benefits such as employee downtime or loss of city services.
Objective 3.	**Structural Projects**. Identify costs and benefits of loss-prevention programs, such as covered vehicle parking, with consideration for uncalculated benefits such as averting response delays and business losses.
Objective 4.	**Property Protection.** Identify, fund, and implement projects to protect people and public and private property from losses in hail events, including critical infrastructure such as utilities or public vehicles.
Objective 5.	**Emergency Services**. Establish or expand emergency services protocols that adequately address response scenarios in the event of severe hail events.
Objective 6.	**Natural Resource Protection**. Ensure that Hail mitigation policies have no negative impacts and, whenever possible, provide positive enhancements to the environment. Encourage homeowners, for example, to use Class 4 roofing made of recycled materials.

Severe Winter Storms	
GOAL: ***To reduce injuries and loss of life; trauma; loss of critical utilities; damage to property, equipment and infrastructure; community disruption; and economic, environmental and other losses caused by winter storms. Severe Winter hazards can include extreme temperatures, ice and snow, high winds, and cascading hazards such as loss of utilities.***	
Objective 1.	**Public Information & Education.** Improve public awareness of severe winter storm hazards and give people knowledge about measures they can use to protect themselves, their property and their community.
Objective 2.	**Preventive Measures.** Identify costs and the benefits of loss-prevention programs such as burying power lines to reduce utility outages or building snow-load roofs, with consideration for uncalculated benefits such as averting environmental and business losses.
Objective 3.	**Structural Projects.** Identify, fund, and implement measures, such as winterization retrofits to homes, critical facilities, transportation systems and infrastructure, to avert or reduce losses from winter storms. Provide additional protection, such as generators and emergency shelters, for agencies and facilities that serve vulnerable populations.
Objective 4.	**Property Protection.** Identify, fund, and implement projects to protect people and public and private property from losses in winter storms.

Severe Winter Storms	
Objective 5.	**Emergency Services.** Identify and expand emergency services for people who are at high risk in severe winter storms, such as the homeless, elderly, disabled, and oxygen-dependent people.
Objective 6.	**Natural Resource Protection.** Evaluate options and take advantage of opportunities for sustainable severe winter-storm policies and programs to reduce negative environmental impacts; examples include programs for debris management, streets snow removal, tree trimming and replacement, energy conservation, and winterization.

Heat	
GOAL: ***To reduce heat-related illnesses, loss of life, and exacerbation of other hazards such as drought and expansive soils caused by extreme Heat conditions.***	
Objective 1.	**Public Information and Education.** Improve public awareness of extreme heat hazards and measures by which people can protect themselves, their property and their community.
Objective 2.	**Preventive Measures.** Identify and protect people and critical infrastructure that are vulnerable to extreme heat conditions.
Objective 3.	**Structural Projects.** Provide for necessary construction, renovation, retrofitting or refurbishment of city properties to protect vulnerable populations from the effects of extreme heat.
Objective 4.	**Property Protection.** Implement construction and retrofitting measures to minimize the risk to public properties and their occupants caused by extreme heat.
Objective 5.	**Emergency Services.** Ensure that a Heat Emergency Action Plan is followed and that heat alerts are issued in a timely manner. Establish or expand emergency services protocols that adequately address response scenarios in the event of extreme heat.
Objective 6.	**Natural Resources Protection.** Ensure that extreme heat mitigation policies have no negative impacts and, whenever possible, provide positive enhancements to the environment, such as the creation and development of urban green spaces.

Drought	
GOAL: ***To reduce the impact of Drought on property, infrastructure, natural resources and local government response functions.***	
Objective 1.	**Public Information and Education.** Improve public awareness of drought and measures by which people can protect themselves, their property, and their community.
Objective 2.	**Preventive Measures.** Identify and protect resources and critical infrastructure that are vulnerable to drought.
Objective 3.	**Structural Projects.** Provide for necessary construction, renovation, retrofitting or refurbishment to protect vulnerable structures from the effects of drought.
Objective 4.	**Property Protection.** Implement measures to minimize the risk to public property caused by drought events.
Objective 5.	**Emergency Services.** Establish or expand emergency services protocols that adequately address response scenarios in the event of drought.

Drought	
Objective 6.	**Natural Resource Protection.** Ensure that Drought mitigation policies have no negative impacts and, whenever possible, provide positive enhancements to the environment.

Expansive Soil	
GOAL: ***To reduce the damage and economic losses caused by expansive soils on property and local infrastructure.***	
Objective 1.	**Public Information & Education.** Improve public awareness of expansive-soil hazards, with both general and site-specific information, and provide knowledge about available measures by which people can protect their property and their community.
Objective 2.	**Preventive Measures.** Avoid expansive-soils locations, whenever possible. Explore options for loss-mitigation from expansive soils, including building codes and code-plus options. Examine expansive soils before building critical facilities and infrastructure.
Objective 3.	**Structural Projects.** Identify and implement measures to reduce or avert expansive-soils damages and losses to structures and infrastructure, with emphasis on critical facilities and utilities.
Objective 4.	**Property Protection.** Identify and protect resources and critical infrastructure that are vulnerable to expansive soils.
Objective 5.	**Emergency Services.** Survey emergency and critical facilities for potential expansive-soil problems; repair and retrofit as needed; and consider soils when building emergency facilities.
Objective 6.	**Natural Resource Protection.** Protect and enhance natural resources by adopting and implementing sustainable expansive-soils policies that have few or no negative impacts and have positive environmental effects whenever possible.

Urban Fire	
GOAL: ***To reduce the incidence of injuries, loss of life, and damage to property, equipment and infrastructure due to Urban Structure Fires.***	
Objective 1.	**Public Information & Education.** Improve public awareness of urban Fire hazards and measures by which people can protect themselves, their property and their community.
Objective 2.	**Preventive Measures.** Identify and protect populations, structures, and critical infrastructure that are vulnerable to Urban Fires.
Objective 3.	**Structural Projects**. Include structural fire considerations in the development of public buildings, schools, and community centers. Include infrastructure improvements that support effective firefighting.
Objective 4.	**Property Protection**. Implement building materials and techniques in retrofitting or in new construction to minimize the risk to public property caused by urban structure fires.
Objective 5.	**Emergency Services**. Establish or expand emergency services protocols that adequately address response scenarios in structure fire events, to include equipment, training, and exercise scenarios for high-impact events.
Objective 6.	**Natural Resource Protection.** Ensure that urban fire mitigation policies have no negative impacts and, whenever possible, provide positive enhancements to the environment.

Wildfire

GOAL: ***To reduce injuries, loss of life, and damage to property, equipment and infrastructure caused by Wildfires.***

Objective 1. **Public Information & Education.** Improve public awareness of wildfire hazards and measures by which people can protect themselves, their property and their community.

Objective 2. **Preventive Measures.** Identify and protect populations, structures, and critical infrastructure that are vulnerable to wildfires.

Objective 3. **Structural Projects**. Include wildfire considerations in landscaping, public parks, and other properties that would fall into wildland-urban interface or other areas of wildfire risk. Include infrastructure improvements that support effective firefighting.

Objective 4. **Property Protection**. Implement building materials and techniques in retrofitting or in new construction to minimize the risk to public property caused by wildfires.

Objective 5. **Emergency Services**. Establish or expand emergency services protocols that adequately address response scenarios in wildfire events.

Objective 6. **Natural Resource Protection.** Ensure that Wildfire mitigation policies have no negative impacts and, whenever possible, provide positive enhancements to the environment.

Earthquake	
GOAL: ***To reduce injury, loss of life, and damage to property, equipment and infrastructure caused by Earthquakes.***	
Objective 1.	**Public Information and Education.** Improve public awareness of earthquake hazards and measures by which people can protect themselves, their property and their community.
Objective 2.	**Preventive Measures.** Identify and protect populations, structures, and critical infrastructure that are vulnerable to Earthquakes.
Objective 3.	**Structural Projects.** Provide for necessary construction, renovation, retrofitting or refurbishment to protect vulnerable structures from the effects of earthquakes.
Objective 4.	**Property Protection.** Implement building materials and techniques in retrofitting or in new construction to minimize the risk to public properties and their occupants caused by earthquakes.
Objective 5.	**Emergency Services.** Establish emergency services protocols that adequately address response scenarios in the event of earthquake.
Objective 6.	**Natural Resource Protection.** Take advantage of opportunities for tornado programs and policies that reduce negative environmental impacts. Examples include sustainable programs for debris management and recycling, and fortified construction with environmentally friendly materials.

Dam Break	
GOAL: ***To reduce injuries and loss of life; trauma; damage to property, equipment, critical facilities, and infrastructure; community disruption; and economic, environmental, and other losses caused by partial or total dam and levee failures.***	
Objective 1.	**Public information & education**. Improve public awareness of dam and levee break hazards, in general and at specific high-risk locations; and give people knowledge about measures they can use to protect themselves, their property, and their community.
Objective 2.	**Preventive measures.** Expand mapping, regulations, and loss-prevention programs in areas with high risks, including extension of flood insurance regulations behind high-risk levees; updated risk mapping downstream of high-risk dams; and pre-disaster evacuation and hazard-mitigation programs.
Objective 3.	**Structural projects.** Analyze safety of existing high-risk dams and levees, including maintenance programs and funding; and implement highest-priority measures to strengthen the structures and reduce risks.
Objective 4.	**Property protection measures.** Identify and protect people, structures, critical facilities, and critical infrastructure that are vulnerable to dam and levee break hazards.
Objective 5.	**Emergency services.** Identify needs for and implement additional emergency operations plans and services in areas at high risk to dam and levee breaks, including additional prediction and forecasting capability, emergency alerts, and evacuation plans.
Objective 6.	**Natural resource protection.** Protect and enhance natural resources by adopting and implementing sustainable dam and levee break policies that have few or no negative impacts and have positive environmental effects whenever possible. Include analysis of downstream impacts on environment and wildlife in dam and levee planning.

Chapter 5:
Action Plan and Prioritization

Pontotoc County and participating jurisdictions, have reviewed and analyzed the risk assessment studies for the natural hazards and hazardous material events that may impact the community. Pontotoc County and participating jurisdictions did not experience significant growth or development since the previous plan. Development, including schools district growth, was discussed in the planning process. It was determined any growth was minimal and had no impact on the exposure of the planning area to hazards addressed in this plan. Future buildings, infrastructure, and critical facilities are not expected to have any different vulnerability than existing structures. Continued enforcement of building codes, the Flood Damage Prevention Ordinance, and encouragement to build safe rooms in both public and private future structures will have a positive impact in reducing vulnerability. The committee is unable to approximate associated costs, numbers, and types for future structures.

Pontotoc County Hazard Mitigation Planning Team prioritized the mitigation measures and determined and developed an Action Plan for the highest priority measures. This chapter identifies specific high priority actions to achieve the plan participant's mitigation goals, the lead agency responsible for implementation of each action item, an anticipated time schedule, estimated cost opinion, and identification of possible funding sources. It also lists the Prioritized Mitigation Measures for each hazard in the Public Information and Education, Preventive Measures, Structural Projects, Property Protection, Emergency Services, and Natural Resource Protection categories.

5.1 Action Plan

Action Item 1	**Create an action plan to develop and inventory the Special Needs Populations requiring special assistance during disasters.**
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Urban Fires, Wildfires, Earthquakes, Dam Failures* *Not all jurisdictions are affected by dam failures.
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	Pontotoc Co and Municipal Jurisdictions
Action	Create an action plan that identifies who will be responsible for developing a special needs database, and the timeline for database completion. This special needs database will identify the primary locations and needs of special needs populations, and provides the ability to address future development impacts and appropriate mitigation measures.

Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management
Potential Implementation Timeline	12-18 Months
Cost	Expected to be negligible cost.
Potential Funding Sources	Local/General Budget, LEPC

Action Item 2	**Develop the debris management plan**
Hazard(s) Addressed	Floods, Tornadoes, High Wind, Hail, Severe Winter Storms, Earthquakes
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	All Jurisdictions
Action	1) Identify locations clean up crews can deposit debris before a final disposal. Public safety and efficiency in relocating debris piles should be considered; 2) Identify debris clearance companies and get contracts in place; 3) Identify and train a county wide debris management team to coordinate and conduct debris management activities. 4) Identify which critical facilities will have priority for debris clearing, as appropriate.
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management, Community Public Works Departments
Potential Implementation Timeline	9-12 Months
Cost	Expected to be negligible cost.
Potential Funding Sources	PDM, HMPG, LEPC, Local Budgets

Action Item 3	**Continue to Develop, Promote, and Enhance our All-Hazard public information, education, and awareness program**
Hazard(s) Addressed	Floods, Tornadoes, High Winds Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Urban Fires, Wildfires, Expansive Soils, Earthquakes, Dam Failures* *Not all jurisdictions are affected by dam failures.
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	All Jurisdictions
Action	Purchase and distribute preparedness guides on various natural and man- made hazards, and how citizens and school administrative staff can prepare for, mitigate, respond to, and recover from disasters. Information will be distributed to residents through schools and other venues within jurisdictions of the towns and county.
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management
Potential Implementation Timeline	12-18 Months
Cost	$6,000.00
Potential Funding Sources	Local LEPC, FEMA HMGP and PDM

Action Item 4	**Educate the public on the importance of a family Disaster Plan and Supply Kit. Promote the New Slogan "The first 72 is on You".**
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Urban Fires, Wildfires, Earthquakes, Dam Failures* *Not all jurisdictions are affected by dam failures.
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	Pontotoc Co, Ada, Allen, Byng, Fitzhugh, Francis, Roff, Stonewall

Action	Use the preparedness guides on various natural and man- made hazards, and how citizens can prepare for, mitigate, respond to, and recover from disasters as a base for the Preparedness Plan and supply kit needs. Information will be distributed in the schools as well as other venues within jurisdictions of the towns and county.
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management
Potential Implementation Timeline	16-20 Months
Cost	Expected to be negligible cost.
Potential Funding Sources	Local LEPC, FEMA HMGP and PDM, Pontotoc County Fire Association

Action Item 5	**Develop an Emergency Back-up Generator Needs Assessment and Plan for the community**				
Hazard(s) Addressed	Tornadoes, High Winds, Lightning, Severe Winter Storms				
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs	5% Projects
Jurisdiction(s)	All Jurisdictions				
Action	Develop an Emergency Back-up Generator Needs Assessment and Plan for the community, assessing and prioritizing generator needs for critical facilities, both public and private. Assessment should include generator needs, costs of installation for pads/transfer panels only, or for complete generator assembly installation. An Emergency Back-up Generator Plan inventories Critical Facilities; sets priorities, evaluates current electrical usage, emergency electrical load/needs, fuel sources (natural gas/diesel/propane), pad location, wiring, transfer switches, contract or on-site, and generator types and sizes.				
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management				
Potential Implementation Timeline	24-36 Months				
Cost	TBD due to site evaluations and estimates.				
Potential	Local Budget, LEPC, FEMA HMGP and PDM,				

Funding Sources	

Action Item 6	**Enhance services for the HyperReach Mass notification system purchased by the county through updating and increasing the size of the Database to increase warning capability.**
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Severe Winter Storms, Extreme Heat, Drought, Urban Fires, Wildfires, Earthquakes, Dam Failures* *Not all jurisdictions are affected by dam failures.
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	All Jurisdictions
Action	Create an action plan to enhance the Emergency Mass Communications System (Reverse 911). System enhancement will occur through public awareness campaigns and sign up assistance groups designed to expand the database of citizens using the system. The System is capable of simultaneously calling targeted areas and delivering specific emergency/hazard messages to the occupants/citizens of the planning area. This action will also provide a more comprehensive warning capability to all residents and critical facilities by providing pertinent emergency information to specific areas, thus reaching affected areas instead of generalized areas.
Responsible Party	Pontotoc County Emergency Management
Potential Implementation Timeline	12-18 Months
Cost	$10,000.00 Annual Expense
Potential Funding Sources	Local Budget, EMPG

Action Item 7	**Train/Educate builders, developers, architects, and engineers in techniques of disaster-resistant building**
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Drought, Expansive Soils, Wildfires, Earthquakes
Mitigation Action Type (Highlight	Local Plans and | Structure and Infrastructure | Natural Systems | Education and Awareness | 5% Projects

box that applies.)	Regulations	Projects	Protection	Programs	

Jurisdiction(s)	All Jurisdictions
Action	Train/Educate builders, developers, architects, and engineers who provide construction/retrofit technical services to residential and critical facility in techniques of disaster-resistant building, such as the Fortified Home standards developed by the Institute for Business & Home Safety (IBHS), the Blueprint for Safety guidelines developed by the Federal Alliance for Safe Homes (FLASH). A better-informed building industry about the cost-effectiveness of enhanced building standards to mitigate damage due to hazards.
Responsible Party	Code Enforcement Officials, Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management
Potential Implementation Timeline	18-30 Months
Cost	Expected to be negligible cost.
Potential Funding Sources	Local Funds and FEMA HMGP/PDM

Action Item 8	**Train/Educate Citizens, Realtors in techniques of disaster-resistant building**
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Drought, Expansive Soils, Wildfires, Earthquakes

Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs	5% Projects

Jurisdiction(s)	All Jurisdictions
Action	Train/Educate Citizens and Realtors in techniques of disaster-resistant building, such as the Fortified Home standards developed by the Institute for Business & Home Safety (IBHS), the Blueprint for Safety guidelines developed by the Federal Alliance for Safe Homes (FLASH). A better informed citizenry and realtor group about the cost-effectiveness of enhanced building standards to protect against High Winds, Tornadoes, and Earthquakes, and other hazards.
Responsible Party	Code Enforcement Officials, Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management
Potential Implementation	18-30 Months

Timeline	
Cost	Expected to be negligible cost.
Potential Funding Sources	Local Funds and FEMA HMGP/PDM

Action Item 9	**Backup Generator Wiring and Transfer Switches**				
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Lightning, Severe Winter Storms, Urban Fires, Wildfires, Earthquakes, Extreme Heat, Dam Failures*, Drought				
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs	5% Projects
Jurisdiction(s)	All Jurisdictions				
Action	Based on the results of the Emergency Back-up Generator Assessment and Plan, provide generator and wiring/transfer switches to accommodate emergency electrical needs during disaster power outages for critical facilities.				
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management				
Potential Implementation Timeline	18-30 Months				
Cost	TBD due to site evaluations and estimates.				
Potential Funding Sources	Local Funds, FEMA HMGP/PDM				

Action Item 10	**Evaluate, Enhance, and Maintain community-wide outdoor omni-directional voice/siren warning systems**
Hazard(s) Addressed	Tornadoes, High Winds, Lightning, Hail

Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs	5% Projects
Jurisdiction(s)	All Jurisdictions				
Action	1) Identify locations were warning siren coverage is less than adequate; 2) Obtain funding for warning system enhancement, 3) Routinely test sirens for operational adequacy and maintenance/system required updates.				
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management				
Potential Implementation Timeline	18-30 Months				
Cost	TBD due to site evaluations and estimates.				
Potential Funding Sources	Local/General budget, Federal Emergency Management Agency (FEMA) PDM and/or HMGP				

Action Item 11	**Improve/Enhance Compliance with, and Participation in the National Flood Insurance Program (NFIP)**				
Hazard(s) Addressed	Floods, Dam Failures* *Not all jurisdictions are affected by dam failures.				
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs	5% Projects
Jurisdiction(s)	Unincorporated Pontotoc County, City of Ada, Town of Allen, Town of Byng, Town of Roff, Town of Stonewall				
Action	Add Floodplain Check off box on all building permits. Review and update local Floodplain ordinances to ensure current compliance. Review and permit all Public Works Dept activity in the Floodplains.				
Responsible Party	Jurisdiction Floodplain Managers, Mayors, Commissioners, City Managers				
Potential Implementation Timeline	9-18 Months				
Cost	Expected to be negligible cost.				

Potential Funding Sources	Local Budget, PDM

Action Item 12	**Provide lightning warning systems for outdoor sports areas, pools, golf courses, ball fields, and parks.**
Hazard(s) Addressed	Lightning
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	All Jurisdictions
Action	Provide lightning warning systems for outdoor sports areas, pools, golf courses, ball fields, and parks. Lightning sensing and warning systems for outdoor sports areas, pools, golf courses, ball fields, and parks.
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management, School Administrators
Potential Implementation Timeline	12-30 Months
Cost	Approximately $8,000 per school/park outdoor facility
Potential Funding Sources	Local/General budget, Federal Emergency Management Agency (FEMA) PDM and/or HMGP.

Action Item 13	**Educate homeowners and school facility managers on appropriate foundation types for soils with different degrees of shrink-swell potential.**
Hazard(s) Addressed	Expansive Soils
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	All Jurisdictions
Action	Educate homeowners and school facility managers on appropriate foundation types for soils with different degrees of shrink-swell potential. For example,

	using "post-tensioned slab-on-grade" or "drilled pier" vs. standard "slab-on-grade" or "wall-on-grade" foundations. By working with the NRCS, Realtors, and citizens, provide information to realtors, builders, and residents discussing the construction of structures and foundations appropriate for, and able to withstand the hazards of expansive soils. Host public forums to discuss Expansive Soils with citizens.
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management, Allen, Francis, Roff, and Stonewall Community Code Enforcement Officials
Potential Implementation Timeline	12-24 Months
Cost	Expected to be negligible cost.
Potential Funding Sources	LEPC, Local Budget, HMGP

Action Item 14	**Establish administrative procedures and policies to provide maps of Expansive Soil Risk Areas and information on how to mitigate hazard damage during retrofit/construction of facilities. This policy will ensure this information is provided to property owners, builders of homes, businesses and schools, and school facility managers.**				
Hazard(s) Addressed	Expansive Soils				
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs	5% Projects
Jurisdiction(s)	All jurisdictions				
Action	Establish administrative procedures and provide maps and information to inform property owners and builders about Expansive Soils when they apply for development, improvement and building permits for homes, businesses and schools. In conjunction with the NRCS and County Extension Office, prepare and distribute Expansive Soils maps and information on appropriate foundation design to developers and builders.				
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management, Allen, Francis, Roff, and Stonewall Community Planning and Code Enforcement Officials				

Potential Implementation Timeline	12-24 Months
Cost	Minimal. Information is readily available from NRCS.
Potential Funding Sources	Local Budget, LEPC

Action Item 15	**Create ordinances mandating installation of 911 addresses on all buildings, curbs, and rural home sites.**
Hazard(s) Addressed	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Urban Fires, Wildfires, Earthquakes, Dam Failures* *Not all jurisdictions are affected by dam failures.
Mitigation Action Type (Highlight box that applies.)	Local Plans and Regulations | Structure and Infrastructure Projects | Natural Systems Protection | Education and Awareness Programs | 5% Projects
Jurisdiction(s)	Pontotoc County, Ada, Allen, Byng, Francis, Fitzhugh, Roff, Stonewall
Action	Addresses within the county will have storm resistant addresses, or at the very least addresses at their location.
Responsible Party	Pontotoc County, City of Ada, Town of Byng, Town of Fitzhugh Emergency Management, Emergency Services/Dispatch
Potential Implementation Timeline	18-36 Months
Cost	Expected to be negligible cost.
Potential Funding Sources	Local Budgets

5.2 Action Item Prioritization

Mitigation Planning Committee (HMPC) and supporting staff identified and prioritized the measures that will help protect the lives and property of the residents of Pontotoc County.

National literature and sources were researched to identify best practice mitigation measures for

each hazard. These measures were documented, and staff screened several hundred recommended mitigation actions and selected those that were most appropriate for the County.

The HMPC reviewed the measures recommended by staff and revised, added, deleted, and approved measures for each hazard. The HMPC and staff prioritized the measures through a prioritization exercise using STAPLEE criteria recommended by FEMA.
The table below lists these criteria. The results were tabulated and the individual measures were ranked by priority. The measures were then grouped into categories.

STAPLEE Prioritization and Review Criteria

Evaluation Category	Sources of Information
Social	Members of Local, County and State Government were members of the Hazard Mitigation Planning Committee and had input throughout the planning process. The plan was coordinated with existing community and county mitigation and response plans. Members of the Media were contacted and invited to attend all HMPC meetings.
Technical	The following Persons/Agencies were consulted as to the technical feasibility of the various projects: Oklahoma Emergency Management, Soil Conservation Service, County and State Health Departments. 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. Technical assistance is available from contractors and various State Agencies. Some local jurisdictions have incorporated Hazard Mitigation efforts into their Capital Improvement Plans. The HMPC, led by the Pontotoc County Emergency Management Director, has agreed to an annual review and assessment of the Plan and its progress. Operations Costs are under discussion by the relevant department heads.
Political	County Commissioners, City and Town Leadership, Representatives of Public School Systems, and a Representative of the U.S. Congressman's office participated in the planning process. In addition, representatives of regional, state, Tribal and federal offices were invited to attend the HMPC meetings and were consulted on all aspects of the Plan.
Legal	Members of the HMPC discussed legal issues with City and County officials, and it was their opinion that no significant legal issues were involved in the projects that were selected by the HMPC.
Economic	Economic issues were the predominant issues discussed by all concerned, with an emphasis on benefit/cost review. Each entity felt that the projects selected would have a positive effect in that the projects would attract business and recreation to the area as well as help the community be better prepared for a disaster. Funding for the various projects was the major concern as local budgets were not capable of fulfilling the needs due to the economic downturn. Reliance on outside grants will be relied on heavily for completion of projects.

Environmental	Oklahoma Department of Environmental Quality and the Oklahoma Water Resources Board 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.

The table below lists the top selection of mitigation measures chosen by the survey of the jurisdictions involved in the plan. It should be noted that not ALL of the 15 mitigation measures are for hazards affecting every jurisdiction covered in the plan. These mitigation measures were chosen because they had the most widespread impact for the majority of the jurisdictions and will be the most efficient use of funds.

Top 15 Mitigation Measures

Rank	Hazard	Category	Mitigation Measure
1	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Expansive Soils, Urban Fires, Wildfires, Earthquakes, Dam Failures,	Emergency Services	Develop an inventory of Special Needs populations requiring special assistance during disasters.
2	Floods, Tornadoes, High Winds, Hail, Severe Winter Storms, Earthquakes	Preventive Measures	Develop the debris management plan
3	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Expansive Soils, Urban Fires, Wildfires, Earthquakes, Dam Failures,	Public Information and Education	Continue to Develop, Enhance, and Promote our public information, education, and awareness strategy and program.
4	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Urban Fires, Wildfires, Earthquakes,	Public Information and Education	Educate the public on the importance of a family disaster plan and supply kit.

5	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Expansive Soils, Urban Fires, Wildfires, Earthquakes, Dam Failures,	Emergency Services	Install Street addresses on all Buildings, Curbs, and rural home sites.

Rank	Hazard	Category	Mitigation Measure
6	Urban Fires/Wildfires	Structural Projects	Replace inadequately sized hydrants and water mains/lines to provide proper fire protection.
7	Floods, Dam Failures	Property Protection	Enhance Compliance with, and Participation in the National Flood Insurance Program (NFIP)
8	Tornadoes, High Wind, Lightning, Severe Winter Storms	Emergency Services	Develop an Emergency Back-up Generator Hazard Mitigation Plan Annex for the community, assessing and prioritizing generator needs for critical facilities, both public and private. Assessment should include generator needs, costs of installation for pads/transfer panels only, or for complete generator assembly installation.
9	Floods, Tornadoes, High Winds, Lightning, Severe Winter Storms, Urban Fires, Wildfires, Earthquakes	Preventive Measures	Based on the results of the Emergency Back-up Generator Hazard Mitigation Plan Annex, provide wiring and transfer switches to accommodate emergency generators during disaster power outages for critical facilities including Emergency Operations Centers, City Hall, Dispatch, Police, Fire, Community Centers used for emergency housing during disasters, critical facilities, lift stations, water treatment plants, and community medical facilities
10	Tornadoes, High Winds, Lightning, Hail	Emergency Services	Evaluate, upgrade and maintain community-wide outdoor omni-directional voice/siren warning systems
11	Lightning	Preventive Measures	Provide lightning warning systems for outdoor sports areas, pools, golf courses, ball fields, and parks.
12	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Expansive Soils, Wildfires, Earthquakes	Public Information and Education	Train/Educate Citizens and Realtors on techniques of disaster resistant homebuilding, such as the Fortified Home standards developed by the Institute for Business & Home Safety (IBHS), the Blueprint for Safety guidelines developed by the Federal Alliance for Safe Homes (FLASH)
13	Floods	Structural Projects	Maintain culverts to adequately allow for storm water drainage.
14	Drought, Expansive Soils, Earthquakes	Preventative Measures	Train/Educate Citizens, Builders, and Realtors, on home foundation tor soils with different degrees of shrink/swell potential. Using post tension slab on grade, drilled pier, verses slab on grade or wall on grade foundations.

15	Floods, Tornadoes, High Winds, Lightning, Hail, Severe Winter Storms, Extreme Heat, Drought, Expansive Soils, Wildfires, Earthquakes	Public Information and Education	Train/Educate Builders, developers, architects and engineers on techniques of disaster resistant homebuilding, such as the Fortified Home standards developed by the Institute for Business & Home Safety (IBHS), the Blueprint for Safety guidelines developed by the Federal Alliance for Safe Homes (FLASH), and expansive soils mitigation.

5.3 Status of Previous Action Items

Action Item	Was Action Item Completed? Y/N	Is Uncompleted Action Item Still Relevant and Included in Plan Update? Y/N
Prepare a comprehensive basin-wide Master Flood & Drainage Plan for the jurisdiction. The plan should identify all flooding problems within the jurisdiction and recommend the most cost-effective and politically acceptable solutions.	**N**	**N**
Develop an Emergency Back-up Generator Needs Assessment and Plan for the community, assessing and prioritizing generator needs for critical facilities, both public and private. Assessment should include generator needs, costs of installation for pads/transfer panels only, or for complete generator assembly installation.	**N**	**Y**
Obtain funding for development and distribution of public information and education plans for responding to all-hazards to at-risk and vulnerable populations and contact agencies that distribute information to at-risk populations	**N**	**Y**
Develop and distribute a Family Emergency Preparedness Guide to all families.	**Y**	**Y**
Continue services for the Hyper-Reach Mass notification system purchased by the county.	**Y**	**Y**
Train/Educate builders, developers, architects and engineers in techniques of disaster-resistant building, such as the Fortified Home standards developed by the Institute for Business & Home Safety (IBHS), the Blueprint for Safety	**N**	**Y**

guidelines developed by the Federal Alliance for Safe Homes (FLASH).		
Based on the results of the Emergency Back-up Generator Assessment and Plan, provide wiring and transfer switches to accommodate emergency generators during disaster power outages for critical facilities.	**N**	**Y**
Develop / Review / Update the debris management plan.	**N**	**Y**
Provide surge protection for computer-reliant critical facilities (e.g. 911 Center, EOC, police stations, fire stations, Schools, etc.)	**Y**	**N**
Evaluate, Enhance, and Maintain community-wide outdoor omni-directional voice/siren warning systems	**Y**	**Y**
Identify source of generators that are required as identified in the Emergency Back-up Generator Plan. Add the information to the Pontotoc County Resource Database.	**N**	**N**
Action Item	**Was Action Item Completed?** **Y/N**	**Is Uncompleted Action Item Still Relevant and Included in Plan Update?** **Y/N**
Educate residents, building professionals and safe room vendors on the International Codes Council/National Storm Shelter Association's "Standard for the Design and Construction of Storm Shelters".	**N**	**Y**
Provide employee/student shelters/safe-rooms at critical facilities, such as Public Works facilities, schools, city halls, and administrative offices.	**Y**	**N**
Continue Compliance with, and Participation in the National Flood Insurance Program (NFIP).	**Y**	**Y**
Provide lightning warning systems for outdoor sports areas, pools, golf courses, ball fields, and parks.	**N**	**Y**
Educate builders on appropriate foundation types for soils with different degrees of shrink-swell potential. For example, using "post-tensioned slab-on-grade" or "drilled pier" vs. standard "slab-on-grade" or "wall-on-grade" foundations.	**N**	**Y**
Establish administrative procedures, and provide maps and information to inform builders about Expansive Soils when they apply for development and building permits.	**N**	**Y**

Chapter 6: Plan Maintenance and Adoption

6.1 Monitoring, Evaluating, and Updating the Plan

The plan participants listed above will ensure that a regular review and update of the *Multi-Jurisdictional Multi-Hazard Mitigation Plan* occurs. The Pontotoc County Hazard Mitigation Planning Team (PCHMPT) will continue to meet on a quarterly basis beginning the year after plan approval and adoption, or as conditions warrant, to oversee and review updates and revisions to the Plan. The Pontotoc County Emergency Manager will continue to head the Pontotoc County Hazard Mitigation Planning Team with the City of Ada Emergency Manager as the Co-Lead Planner which will monitor and oversee the day-to-day implementation of the Plan. Each jurisdiction is expected to maintain a representative on the Planning Committee who shall fulfill the monitoring, evaluation, and updating responsibilities identified in this section. The Plan will be updated and resubmitted through the State Hazard Mitigation Officer for review and approval, and to FEMA no later than six (6) months prior to the end of the original performance period.

Monitoring the Plan- Monitoring of the Plan, the Action Plan, and Mitigation Measures is the responsibility of the Emergency Manager, City Manager(s), School Superintendents, and Floodplain Administrator(s). Departments responsible for implementation of the Action Plan and the Mitigation Measures will update their Progress Reports on a quarterly basis, and report to the HMPC on progress and/or impediments to progress of the mitigation measures.

The local HMPT representatives may use the progress reporting forms, Worksheets 1 and 3, in the FEMA 386-4 guidance document, to facilitate collection of progress data and information on specific mitigation actions. This information shall be provided to the Pontotoc County EM Director acting as the PCHMPT Coordinator prior to the Quarterly meeting.

The information that the HMPT representatives shall be expected to document, as needed and appropriate include:

1. Any grant applications filed on behalf the any participating jurisdiction.
2. Hazard events and losses occurring in their jurisdiction.
3. Progress on the implementation of mitigation actions, including efforts to obtain outside funding.
4. Obstacles or impediments to implementation of actions
5. Additional mitigation actions believed to be appropriate and feasible.
6. Public and stakeholder input.

Evaluating the Plan-The *Pontotoc County Multi-Hazard Mitigation Plan* will be evaluated by the Emergency Management Departments within the County, Pontotoc County, Ada, Byng, and Fitzhugh. A report will be made to the Planning Team each year, in October. The evaluation will assess:

Adequacy of adopted Goals and Objectives in addressing current and future expected conditions;
Whether the nature and magnitude of the risks have changed;
Appropriateness of current resources allocated for implementation of the Plan;
To what extent the outcomes of the Mitigation Measures occurred as expected;
Whether agencies, departments and other partners participated as originally anticipated;
Actions were cost effective;
Schedules and budgets were feasible;
Whether implementation or coordination problems exist;
Any new departments or agencies that should be included;
Documentation for hazards that occurred during the year.

Additionally, the Planning Team will evaluate how other programs and policies have conflicted or augmented the planned or implemented mitigation measures and identify those policies and programs for changes as required. Other programs and polices include those that address:

- Floodplain Management
- Economic Development
- Environmental preservation and permitting
- Historic preservation
- Redevelopment
- Health and safety
- Recreation
- Land use and zoning
- Public education and outreach
- Transportation

The plan will also be evaluated and revised following any major disaster, to determine if

the recommended actions remain relevant and appropriate. The risk assessment will also be revisited bi-annually to see if any changes are necessary based on the pattern of disaster damages, or if data listed in the section on Hazard Profiles of this plan has been collected to facilitate the risk assessment.

Updating the Plan-The *Pontotoc County Multi-Hazard Mitigation Plan* will be updated by the Emergency Management Departments within the County according to the following schedule:

1. Revise and Update- the Emergency Managers will incorporate revisions to the Plan document as identified by the planning team during the monitoring and evaluation month of October. Any revisions or updates will become part of the master update at each 5-year period.
2. Submit for Review- the revised Plan will be submitted by Pontotoc County Emergency MGMT to ODEM and FEMA for review and approval.
3. Final Revision and Adoption: if necessary, the Plan will be revised per ODEM and FEMA remarks, adopted by Pontotoc County and jurisdictions, and the updated Plan sent to FEMA prior to the expiration of the 5-year approval period.

6.2 Future Public Involvement

Pontotoc County is committed to involving the public directly in updating and maintaining the Multi-Hazard Mitigation Plan.

Copies of the Plan will be maintained at the public libraries, and the Plan will be placed on the Pontotoc County Website.

A public meeting will be held prior to submission of the update of the *Pontotoc County Multi-Hazard Mitigation Plan*. This meeting will be advertised to the general public and will update residents on the progress that has been made in implementing the Plan and related capital projects. The meeting will also be used to distribute literature and inform and educate residents as to actions they can take to mitigate natural hazards, save lives, and prevent property damage. Input from the public will be solicited as to how the mitigation process can be more effective by posting a list of action items accomplished each year and posting copies of quarterly monitoring reports while providing a mechanism for comment. These postings will be made on the City of Ada website, and the Pontotoc County website.

6.3 Implementation and Incorporation of the Multi-Hazard Mitigation Plan through Existing Programs

Integration into Planning Mechanisms

The Pontotoc County Multi-Hazard, Multi-Jurisdictional Hazard Mitigation Plan will be incorporated into all participating jurisdictions planning on multiple levels.

Pontotoc Co, Ada, Allen, Byng, Roff, and Stonewall all have Capital Improvement Plans. These plans are reviewed annually by jurisdiction governing officials. During future reviews, the governing officials will review the list of action items in the HM plan to determine which actions would be prioritized for inclusion into the Capital Improvement Plans. They will also look to the goals of the HM plan to assist in prioritization of action items. Additionally, the Emergency

Operations Plan (EOP) for the county is reviewed and updated annually by the Emergency Managers of the various jurisdictions. The relevant portions of the Hazard Mitigation plan will be integrated into the EOP as appropriate and forwarded to the department heads for approval, and finally to the County Commissioners and the city/town governing boards for approval and adoption.

Pontotoc County, the City of Ada, and the Towns of Byng, Roff, and Stonewall annually will ensure that their flood ordinances reflect the current NFIP standards, and that hazard mitigation plan action items and priorities are included in the planning process for zoning and flood mitigation. The floodplain administrators for the jurisdictions have the responsibility for ensuring this process occurs, and the governing boards of the jurisdictions have the requirement for adoption of edits and enforcement actions.

Francis, and Fitzhugh lack many of the formalized plans seen in other municipalities. However, the governing boards of each town are responsible for municipal functionality, citizen welfare, and critical facility improvement as needed. Each governing board will review the HM plan at least annually to assist them in developing emergency response procedures and policies which will reduce risk to natural hazards. In addition, they will review the HM plan capabilities to seek opportunities for municipal improvement.

Upon formal adoption of the Pontotoc County Multi-Jurisdictional Multi- Hazard Mitigation Plan, mitigation goals will be incorporated into future versions of Ada, Allen, Byng, Latta, Roff, Stonewall, and Vanoss Public Schools emergency action plans and procedures as well as into future development plans for the Districts. These EAP's are updated annually at the direction of the school superintendents, and are reviewed by Local Law Enforcement and Emergency MGMT. The School Superintendents are responsible for reviewing the hazard mitigation plan and integrating necessary information into the Public Schools Emergency Action Plans and into future development plans. The Pontotoc Technology Center's plan is the responsibility of the Superintendent to update on an annual basis. Their plan is reviewed by Local Law Enforcement and County Emergency MGMT.

The Superintendents should use this hazard mitigation plan as a reference tool when recommending long range development plans to determine the site of new facilities and avoid development in more hazard prone areas. Structural recommendations from the Hazard Mitigation Plan should also be used to direct the design of future facilities in order to increase resiliency to natural and manmade hazards.

6.4 How Jurisdictions have already Incorporated the strategy, goals, data, and mitigation actions into Previous Plan

The Pontotoc County Multi-Hazard, Multi-Jurisdictional Hazard Mitigation Plan has been used during the updates to the Emergency Operations Plan and the development of a Debris Plan. The action items within the plan are incorporated as possible into the jurisdictional Capital Improvement Plans and projects that have been completed or are in progress were past action items. The plan has also been used by the LEPC and Emergency Management Offices when conducting natural hazard public awareness campaigns including the distribution of printed materials to the citizens of the county.

6.5 Changes in Development that have Increased/Decreased Jurisdictions' Vulnerability to Hazards Since Previous Plan Approval

Pontotoc County- continues to grow at a very slow rate. According to the 2000 census there were 35,143 people in the county, and as of the 2020 census there was an increase of only 2922 persons over the 20-year period. There have been no changes in development since the previous planning period. The county's vulnerability to hazards has not increased.

Ada-Also continues to grow at very slow pace having only grown by 1,048 persons over the past 20-year period. As the city continues to improve critical infrastructure, there has been no overall changes in development since the previous plan. Since the last plan approval, the city of Ada has installed a new waterline and tower from its water source to the treatment plant and installed a standby generator on the 18th St tower which housed 5 communications repeaters. This has decreased the city and county vulnerability to hazards.

Allen- There have been no changes in development since the previous planning period, and the town's vulnerability to hazards has not increased.

Byng- There have been no changes in development since the previous planning period, and the town's vulnerability to hazards has not increased.

Fitzhugh- There have been no changes in development since the previous planning period, and the town's vulnerability to hazards has not increased.

Francis- As the town continues to improve critical infrastructure, there has been no overall changes in development since the previous plan. The town has built a new community storm shelter and installed a new warning siren. This has decreased the town's vulnerability to hazards.

Roff- There have been no changes in development since the previous planning period, and the town's vulnerability to hazards has not increased.

Stonewall-Stonewall has developed a new water system with new tower and waterlines since the last plan approval and has enhanced the drainage throughout the town. This has decreased the town's vulnerability to hazards.

Ada Public Schools-Since the previous planning period Ada Public Schools have constructed and completed safe rooms at every location thereby decreasing the vulnerability to hazards.

Allen Public Schools-Since the previous plan was approved, Allen schools completed a new safe room and a new gymnasium with safe area. This has decreased the school's vulnerability to hazards.

Byng Public Schools-Since the previous planning period, the Byng Schools System has undertaken a cedar eradication program around their Byng campus and have greatly reduced their vulnerability to wildfire. Due to undertaking these actions, the school's vulnerability to hazards has decreased.

Latta Public Schools-Since the previous plan was approved, Latta schools has built a new Elementary School with a new cafeteria and a safe-room for students and staff. This has decreased the school's vulnerability to hazards.

Roff Public Schools- There have been no changes in development since the previous planning period, and the school's vulnerability to hazards has not increased.

Stonewall Public Schools-Since the previous plan was approved, the school has completed an Annex Building which houses a new cafeteria and a safe-room. Additionally, as the town of

Stonewall has replaced its water system, the school has been a benefactor of these upgrades. These changes have decreased the school's vulnerability to hazards.

Vanoss Public Schools- There have been no changes in development since the previous planning period, and the school's vulnerability to hazards has not increased.

Pontotoc Technology Center- There have been no changes in development since the previous planning period, and the Technology Center's vulnerability to hazards has not increased.

6.6 How Jurisdictional Priorities Have Changed since Previous Plan Approval

Since the last plan update in November of 2017, the Planning Area has experienced 4 Tornado Events and a Severe Winter Storm. With these events came concerns that our special needs populations within the county were not adequately accounted for and their needs known. The Planning Area believes that in order to adequately plan for, and respond to, an emergency or disaster that we must undertake efforts to inventory our special needs populations that will require special assistance during those times. The Planning Area intends to work with the Health Department and advocacy groups in the county to develop the inventory and understand the needs they have.

6.7 Plan Adoption

(Space reserved for future plan adoption documentation)

Appendix A:
Communities & School Districts

The following pages contain information on the incorporated communities, and the public school systems. The unincorporated towns and populated places are included in unincorporated Pontotoc County.

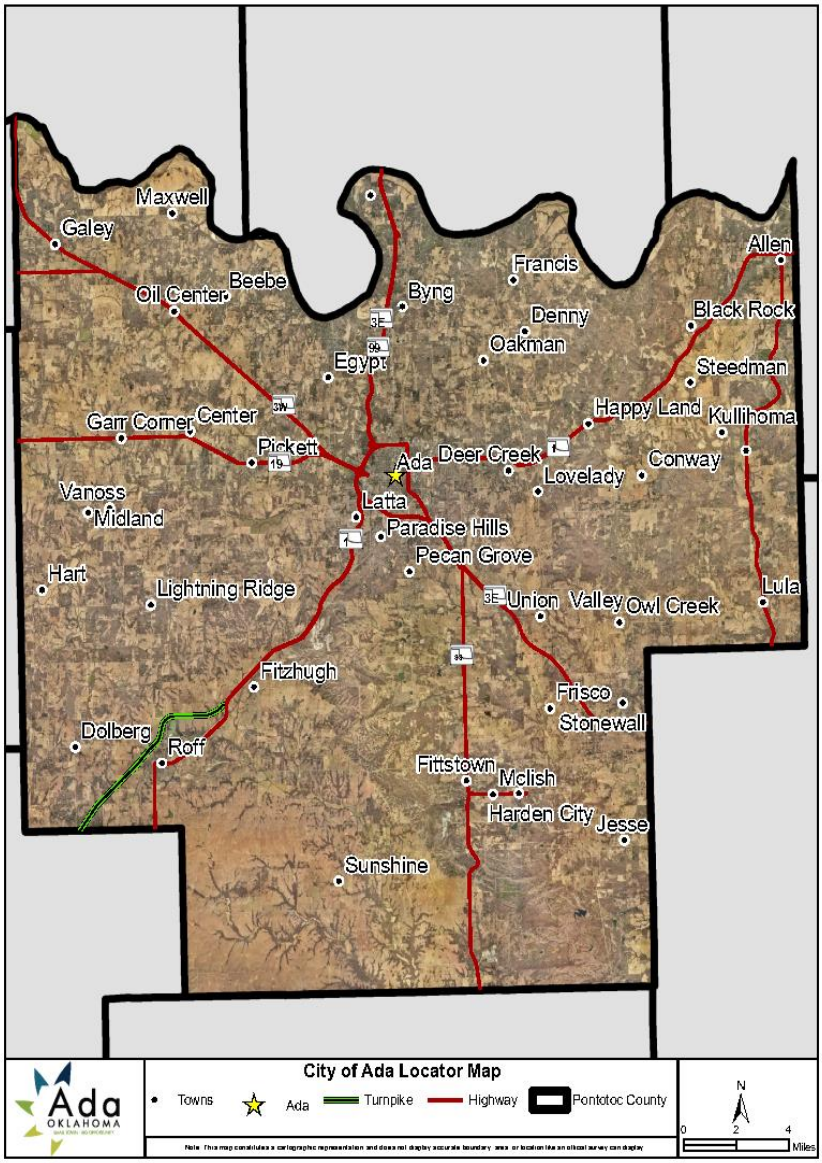
Table A–1: Pontotoc County Public Schools

Name	School System	Type	Grades	Address
Ada Elementary School	Ada P. School	Elementary	PK-4	500 S Mississippi, Ada
Ada Middle School	Ada P. School	Middle	5-6	612 W 17th, Ada
Ada Jr. High	Ada P. School	Jr. High	7-8	223 W 18th, Ada
Ada High School	Ada P. School	High School	9-12	1400 Stadium Dr, Ada
Allen Elementary School	Allen Public Schools	Elementary	PK-8	Lexington & Richmond Allen, OK 74825
Allen High School	Allen Public Schools	High School	9-12	Lexington & Gilmore Allen, OK 74825
Byng Elementary School	Byng Public Schools	Elementary	4-6	500 S. New Bethel Blvd. Ada, OK 74820
Francis Elementary School	Byng Public Schools	Elementary	PK-3	18461 CR 1480 Ada, OK 74820
Homer Elementary School	Byng Public Schools	Elementary	PK-5	1400 N. Monte Vista Ada, OK 74820
Byng Junior High School	Byng Public Schools	Middle	7-9	500 S. New Bethel Blvd. Ada, OK 74820
Byng High School	Byng Public Schools	High School	10-12	500 S. New Bethel Blvd. Ada, OK 74820
Latta Elementary School	Latta Public Schools	Elementary	PK-6	13925 County Road 1560 Ada, OK 74820
Latta Junior High School	Latta Public Schools	Middle	7-9	13925 County Road 1560 Ada, OK 74820
Latta High School	Latta Public Schools	High School	10-12	13925 County Road 1560 Ada, OK 74820
Roff Elementary School	Roff Public Schools	Elementary	PK-8	100 N. Broadway Roff, OK 74865
Roff High School	Roff Public Schools	High School	9-12	100 N. Broadway Roff, OK 74865
Stonewall Elementary School	Stonewall Public Schools	Elementary	PK-4	600 High School Stonewall, OK 74871
McLish Middle School	Stonewall Public Schools	Middle	5-8	26050 CR 3590 Stonewall, OK 74871
Stonewall High School	Stonewall Public Schools	High School	9-12	600 High School Stonewall, OK 74871
Vanoss Elementary School	Vanoss Public Schools	Elementary	PK-8	4665 CR 1555 Ada, OK 74820
Vanoss High School	Vanoss Public Schools	High School	9-12	4665 CR 1555 Ada, OK 74820

City of Ada
Community Information

A.1 Ada

The City of Ada is an incorporated community located in northcentral Pontotoc County and is shown on the map below.



A.1.1 Geography

Latitude:34.76° N

Longitude:96.67° W

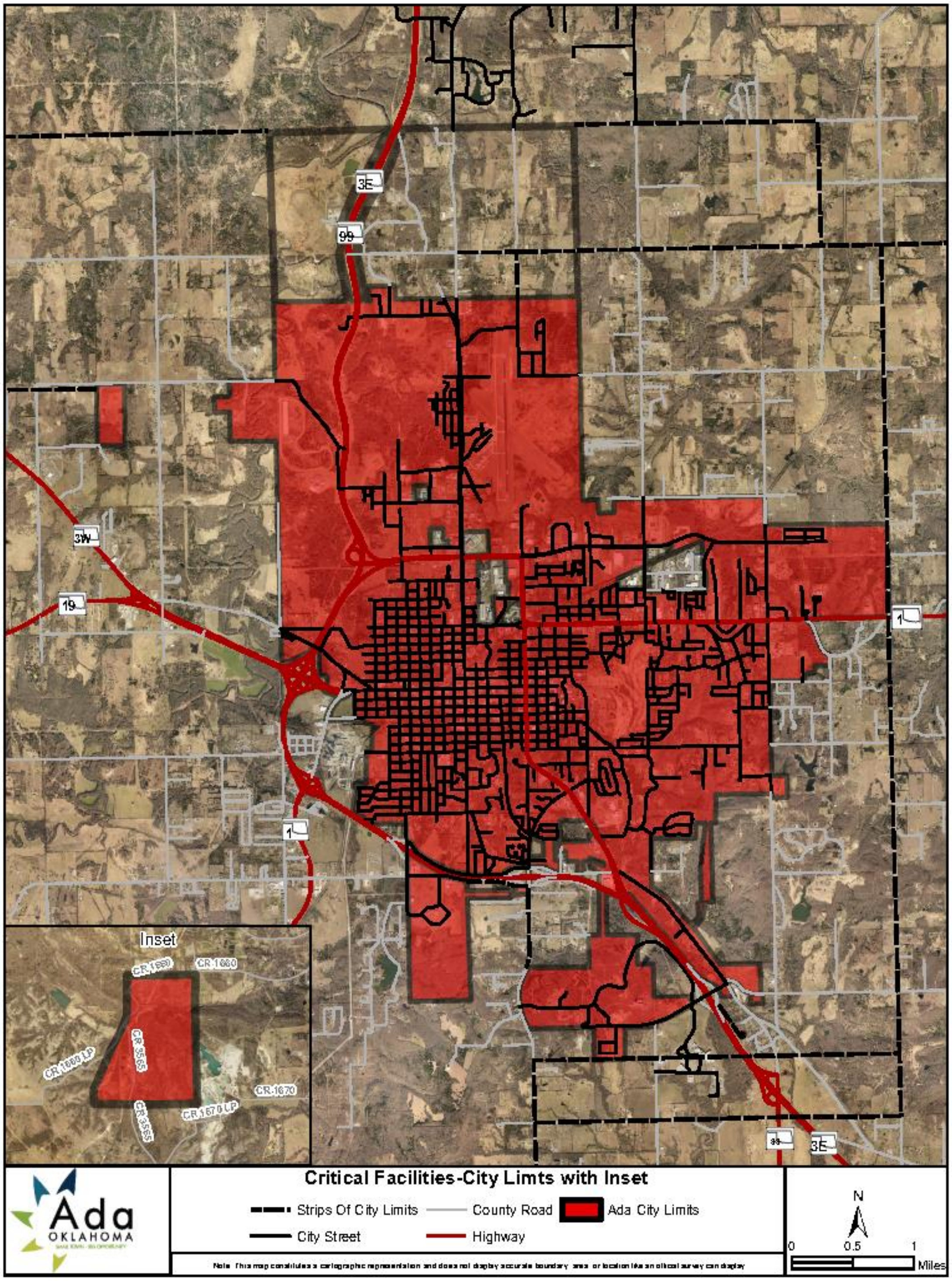
FIPS Code: 40-123-200

The City of Ada is located in Pontotoc County in the south-central part of Oklahoma, approximately 77 miles southeast of Oklahoma City and 120 miles southwest of Tulsa. Total land area within Ada's city limits is 18.22 sq. mi.

Canadian Sandy Creek flows north along the west boundary of Ada into the Canadian River. Flowing into the Canadian Sandy from Ada are Little Sandy Creek and the west- flowing Tributaries 1, 2 and 3. Little Sandy Creek flows north, northwest from the center of Ada, curves through unincorporated Pontotoc County before it joins with the Canadian Sandy North of Ada.

Clear Boggy Creek. All of the streams on the south side of Ada flow into Clear Boggy Creek, which drains an area of 10 square miles. The creek flows southeast into the Muddy Boggy, near Jasper, and eventually into the Red River. Tributaries of Clear Boggy Creek are Lake Creek, Clear Creek, and Tributaries 1 and 2.

Muddy Boggy Creek flows east from the eastern fence line of Ada and then south into the Red River near Hugo.



Inset
CR 1680
CR 1680
CR 3565
CR 1680 LP
CR 1670
CR 1670 LP
CR 3565
Critical Facilities-City Limts with Inset
Strips Of City Limits
County Road
Ada City Limits
City Street
Highway
N
0
0.5
1
Miles
Ada
OKLAHOMA

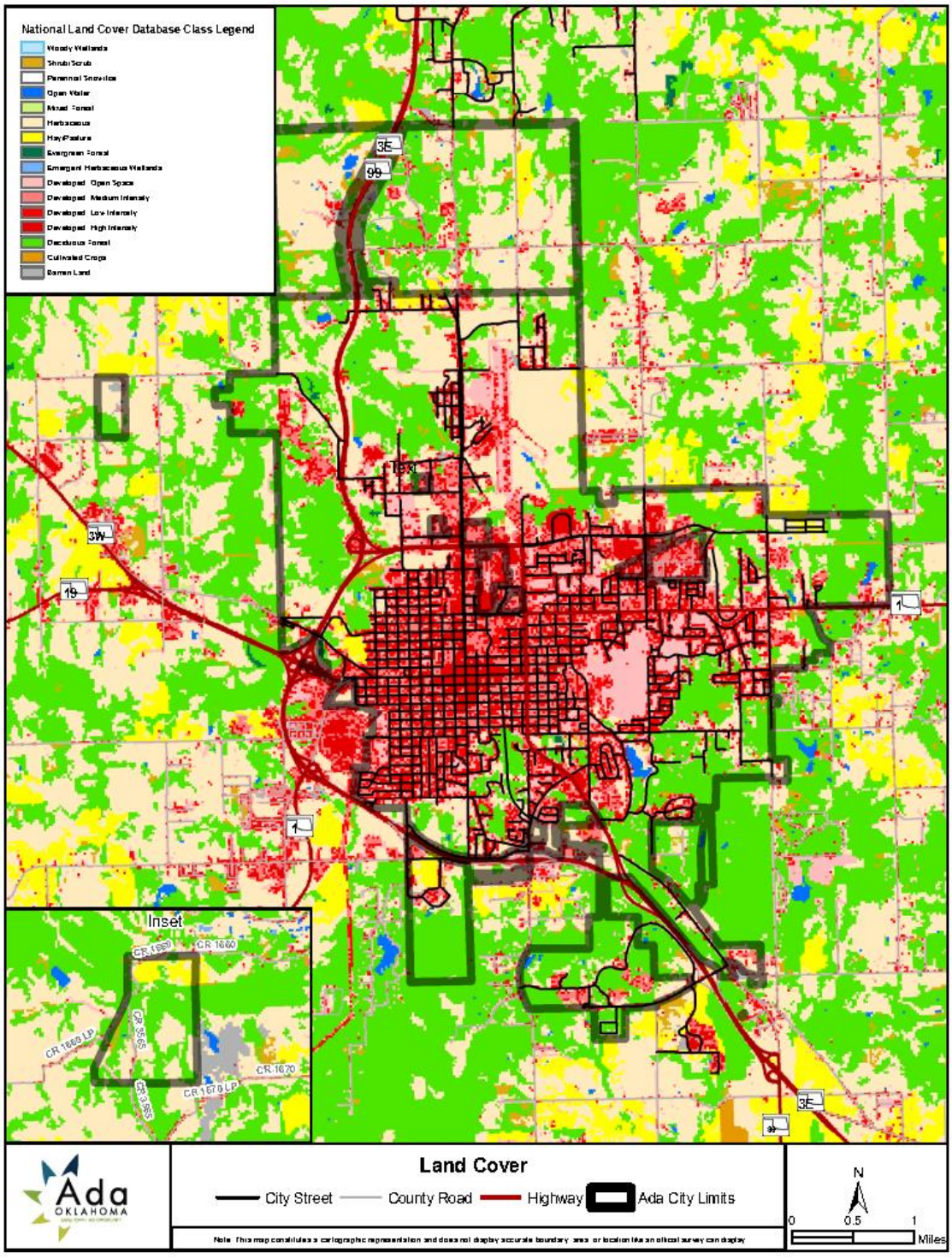

National Land Cover Database Class Legend
Woody Wetlands
Shrub/Scrub
Perennial Snow/Ice
Open Water
Mixed Forest
Herbaceous
Hay/Pasture
Evergreen Forest
Emergent Herbaceous Wetlands
Developed, Open Space
Developed, Medium Intensity
Developed, Low Intensity
Developed, High Intensity
Deciduous Forest
Cultivated Crops
Barren Land
Inset
CR 1660
CR 1660
CR 1660 LP
CR 3565
CR 1670
CR 1670 LP
CR 3565
Land Cover
City Street
County Road
Highway
Ada City Limits
Ada
OKLAHOMA
N
0
0.5
1
Miles

FIGURE 2-4

1.1.2 History

Ada is located in the historical boundaries of the Chickasaw Nation. The area around Ada was generally unsettled prairie and woodland when surveyed in the early 1870s. Ada is not shown on an 1884 map of Indian Territory, but has appeared by 1895. In 1900 there were 150,000 whites living within the Nation and only 6,000 Chickasaws. The Nation was formally dissolved by treaty in 1906 and not reconstituted until 1963. Ada is today the seat of the Chickasaw Nation tribal government.

City of Ada's Main Street - 1940

White settlement in the area began with Jeff Reed, a native Texan, who settled near what was to become Ada in April 1889 and opened a general store. A post office was established in 1891, and named after Reed's eldest daughter, Ada.

Ada was initially an agricultural community. A primary early crop was cotton, but soil depletion eventually forced a shift to other crops and to ranching.

By 1903 Ada had several general stores, a blacksmith and cotton gin, a drug store and opera house.

For over 50 years, Ada was served by three railways. The St. Louis and San Francisco Railroad (Frisco) built through to Ada in 1900. This line, which extended from Vinita to Tulsa, Okmulgee, Holdenville and Madill, is now part of the Burlington Northern Santa Fe (BNSF) system and the only railroad still serving Ada. The Oklahoma City Ada and Atoka Railroad was built into Ada in 1903. This line, which linked Oklahoma City to the Missouri Kansas and Texas Railroad at Atoka, later became part of the Muskogee Lines, which operated the track until 1964. The Atchison Topeka and Santa Fe Railroad operated a branch line from Purcell to Ada and Tupelo.

Ada's water source, Byrd's Mill Spring, which flows from the eastern portion of the Arbuckle-Simpson Aquifer, was developed in the early 1900s.

East Central Normal School was founded in 1909, to provide preparatory education, including two years of college leading to teacher certification. In 1919, East Central became a teacher's college and began conferring bachelor degrees. In 1939, it became a state college, and in 1954 graduate courses were added to the curriculum. In 1974, the school was renamed East Central Oklahoma State University, and in 1985 simply East Central University, or ECU. Current enrollment is about 3,020 students.

Oil was discovered near Ada in 1921, turning the city from an agricultural and railroad trade center into a bustling boom town. Robert S. Kerr, son of prominent Ada citizen William Samuel Kerr, founded Anderson-Kerr Drilling Co. in 1929, which became Kerr-McGee in 1946. Robert S. Kerr went on to become a highly successful governor of Oklahoma and an influential U.S. senator.

The cement industry, which has several limestone mines in Ada and the surrounding area, began in the

early 1900s and continues to be a significant contributor to the local economy.

Ada has eight structures on the National Register of Historic Places, mapped in Figure 2-5:

- Ada Arts and Heritage Center (Ada Public Library), 400 S. Rennie.
- Bebee Field Round House
- East Central State Normal School, East Central University Campus
- Mijo Camp Industrial District, North side of Pontotoc County
- Pontotoc County Courthouse, 12th & Broadway
- Sugg Clinic, 100 E. 13th St.
- Wintersmith Park Historic District, E. 18th & Scenic Dr.
- F.W. Meaders House 521 S. Broadway

Sugg Clinic, an excellent example of Art Deco architecture

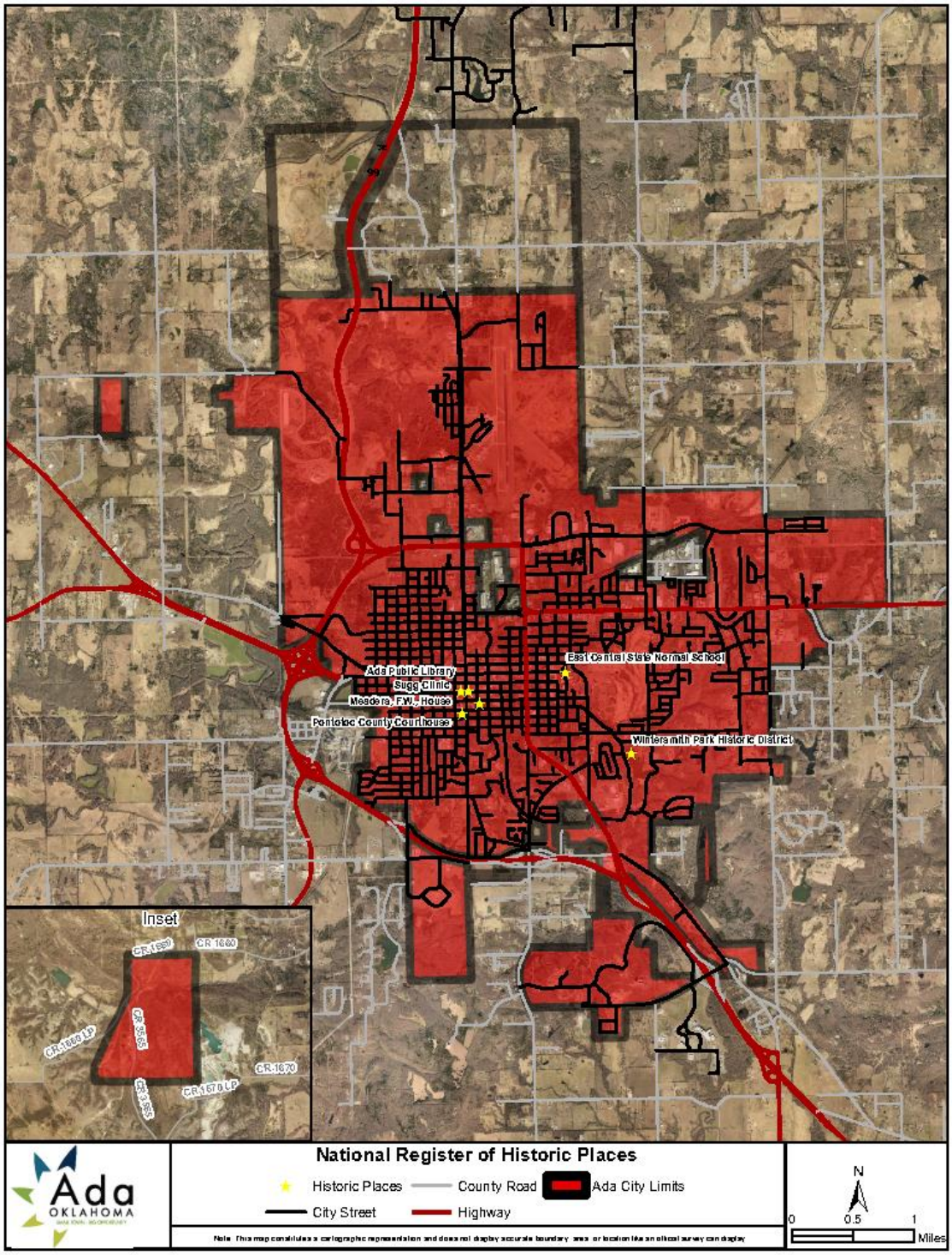

Ada Public Library
Sugg Clinic
Meadera, FW, House
Pontotoc County Courthouse
East Central State Normal School
Wintersmith Park Historic District
Inset
CR 1680
CR 1670
CR 1670 LP
National Register of Historic Places
Historic Places
County Road
Ada City Limits
City Street
Highway
N
0
0.5
1
Miles

Figure 2-5

A.1.2 Demographics

The 2020 U.S. Census reported a population of 16,481 living in Ada, a decrease of 329 individuals (a 2% decrease) from the 2010 Census. The population of Ada, between 2015-2019, was divided into 6,611 households with the average family size in Ada was 2.4 persons. Table 2-1 summarizes data from the U.S. Census for the City of Ada.

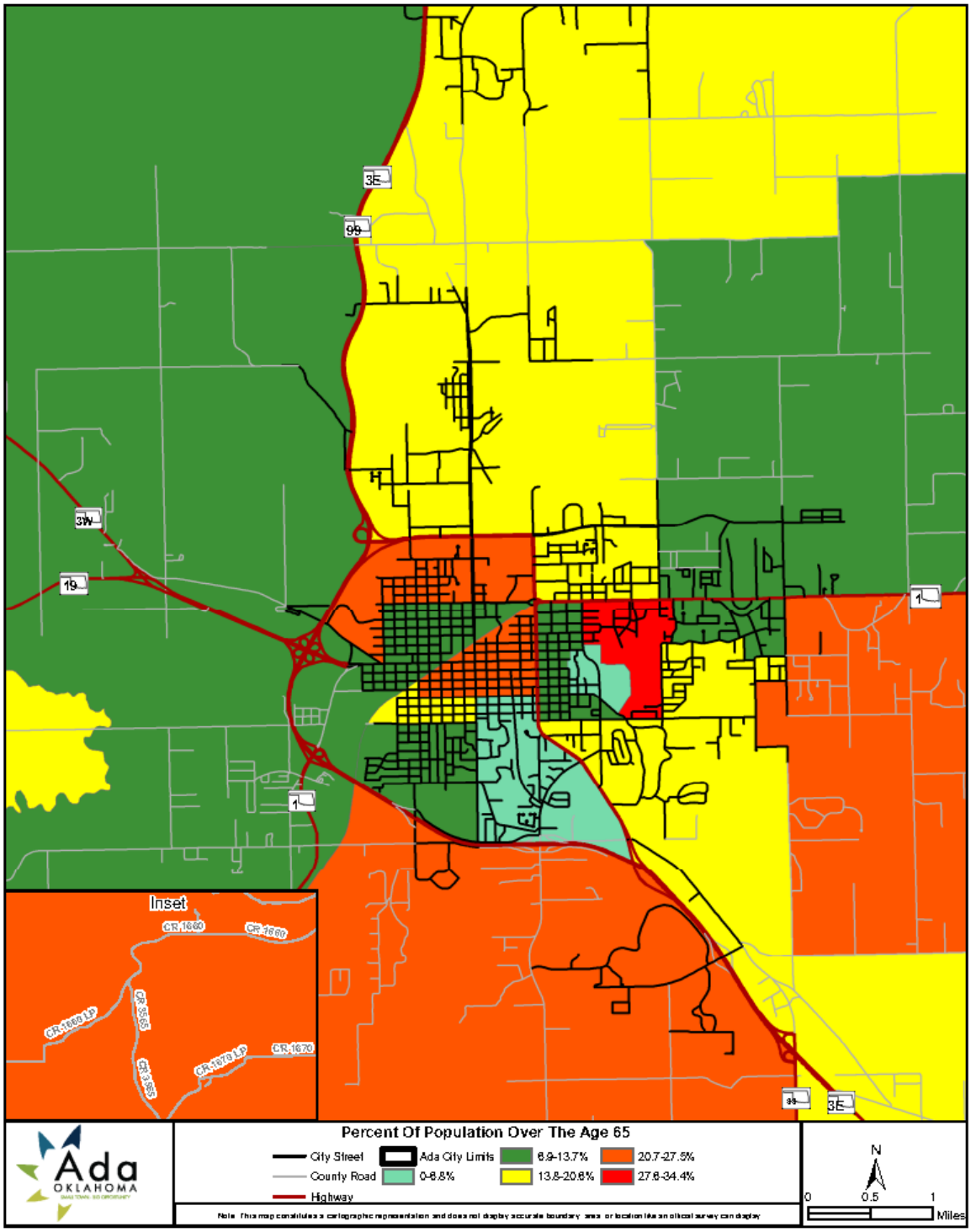
Of Ada's population, 28% of the population was under 18 years of age and 14% were over the age of 65. Figure 2-6 shows a map of the population over 65 years of age. The 2020 US Census reported 3,296 or 20% of the population of Ada are determined to live in poverty. While the state of Oklahoma reports 14.1% of the population being at the poverty level. Figure 2-7 maps the percent population living beneath the poverty line.

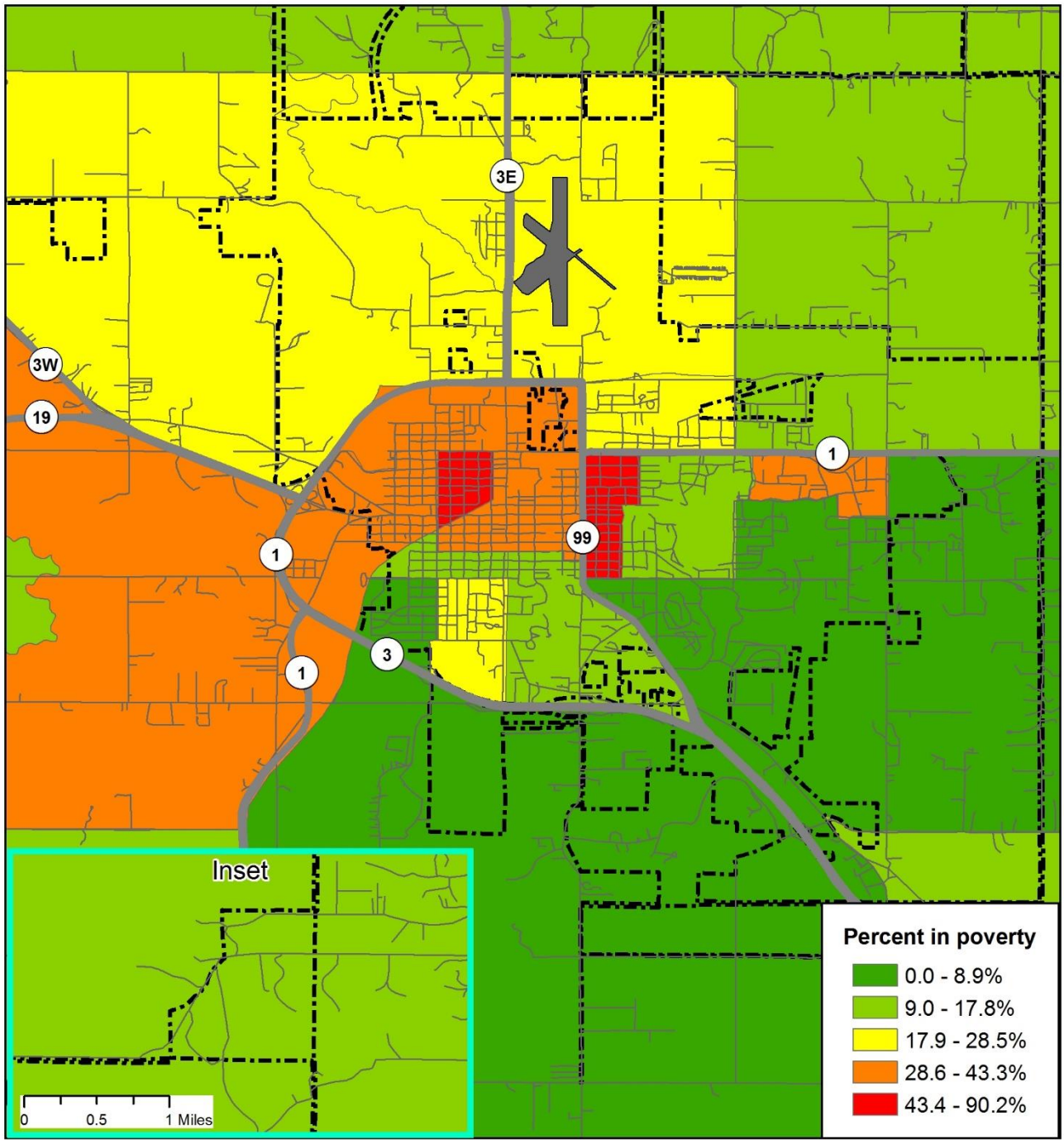
Ada's population figures defy precise definition, due to the fluctuating student population of East Central State University and the methods of the Census counts. As a rule, ECU students are not counted in the Ada Census. Some of ECU's 3,020 students (i.e., those living and working off campus at the time of the Census) might well have been counted as Ada residents. However, a significant portion of this population may be counted in other jurisdictions.

Table 2–1: City of Ada Population Data

Subject	Ada Numbers	%	State Numbers	%
Total Population	16,481	100	331,449,281	100
Under 5 years old	956	5.8		
Between 5-18 years old	3,593	21.8	116,007,249	35 (under 18)
Between 18-64 years old	9,575	58.1	170,696,379	51.5
65 years and older	2,357	14.3	44,745,654	13.5
White	10,729	65.1	210,470,293	63.5
African American	676	4.1	24,195,798	7.3
Native American	2,093	12.7	27,841,740	8.4
Asian	280	1.7	7,623,333	2.3
Hispanic	1,038	6.3	39,442,464	11.9
Identifies as more than once race	1665	10.1	21,875,653	6.6
Poverty Status	3,296	20	47,397,241	14.3

Since the 1940 Census, the population of Ada has experienced periods of growth and decline as detailed in Table 2-2 below. The 2020 US Census Ada's population at 16,481. This is a decrease of 497 individuals since the 2010 census.


Inset
CR 1660
CR 1669
CR 1669 LP
CR 3565
CR 3565
CR 1678 LP
CR 1670
Percent Of Population Over The Age 65
City Street
Ada City Limits
6.9-13.7%
20.7-27.5%
County Road
0-6.8%
13.8-20.6%
27.6-34.4%
Highway
Note: This map constitutes a cartographic representation and does not display accurate boundary, area, or location like an official survey can display.
N
0
0.5
1
Miles



LEGEND

- Interstate
- US Highway
- State Highway
- Turnpike
- Roads
- airport
- City Limits
- Pontotoc County
- Other Counties

0 0.5 1 Miles

Flanagan & Associates, LLC Planning Consultants

N W E S

Figure 2-7

City of Ada

Percent of Population
2009 - 2013
5 Year Poverty Estimates

Table 2–2: Population Change, 1940-2020

Subject	1940	1950	1960	1970	1980	1990	2000	2010	2020
Population	15,143	15,995	14,347	14,859	15,902	15,820	15,691	16,810	16481
Change from Previous Census	-	852	-1,648	512	1,043	-82	-129	1,119	-329
% Change	-	5.63%	-10.30%	3.57%	7.02%	-0.52%	-0.82%	7.1%	-2.0%

Lifelines

Lifelines are defined as systems that are necessary for human life and urban function, especially during emergencies. Transportation and utility systems, as well as emergency service facilities are considered the lifelines of a community. Transportation systems include interstate, US, and state highways, roadways, railways, waterways, ports, harbors, and airports. Utility systems consist of electric power, gas and liquid fuels, telecommunications, water, and wastewater. Emergency service facilities include Emergency Alert System (EAS) communication facilities, hospitals, and the police and fire departments. Emergency service facilities are dealt with in detail in Section 2.6.

Utility Systems

Electrical Service

Ada's electrical service is provided by Oklahoma Gas & Electric (OG&E) and by People's Electric Cooperative (PEC). PEC is a rural electric distribution cooperative providing electric service to approximately 16,000 members in 11 south central Oklahoma counties. It has been in existence since 1938 and is headquartered in Ada. OG&E produces power primarily with natural gas and coal plants, but also utilizes wind generation.

Ada's power interconnection and service is reliable enough that it has not been subject to voltage sags, rolling blackouts or brownouts.

Byrd's Mill Spring

Water Service

The City of Ada's water is supplied by the Arbuckle-Simpson Aquifer and Byrd's Mill Spring, and is supplemented with local well water. Byrd's Mill Spring, located about 12 miles south of Ada has recorded flows in excess of 20 million gallons per day (MGD). Normal flows, however, are more in the range of 9-11 MGD. Of this amount, a minimum of 3 MGD is left in the Byrd's Mill Creek for environmental purposes. Ada's five wells into the aquifer produce an additional 9 MGD.

Ada has a water processing plant with a capacity of 14.5 MGD. The plant is in fair to good condition, and is currently in the process of being upgraded. Water use averages about 3.5-4.0 MGD, which includes city consumption and distribution to seven Pontotoc rural water districts. Peak usage is about 9 MGD.

Water from Byrd's Mill Spring flows to the Ada storage reservoirs via gravity. From there, it is chlorinated and pumped to the water towers using five electric pumps. A back-up generator at the

water plant assures continued availability of water in the event of a power failure. Pressure from the pumps and gravity flow from the water towers distributes the water through the City's distribution system.

Ada has 7.5 million gallons of in-ground storage at the municipal water plant. There are 3 million gallons of above ground storage in four water towers, the newest of which was completed in 2016 using funds provided through a partnership with the Chickasaw Nation. As of the writing of this plan, another water tower is under construction, which will bring the total above ground storage to 3 million gallons. All four of the city's towers have communication equipment installed on them, providing additional revenue for the City. The City of Ada Water Treatment Plant also provides water for seven other water systems. There is a reservoir with 5 million gallons storage capacity, and an additional new reservoir with 2.5 million gallon capacity. A summary of Ada's water system is available in Table 2-3.

Table 2–3: Ada Water System

Subject	Figure
Normal Usage	4.0 MGD
Peak Usage	9 MGD
Above Ground Storage Capacity	3 MG
Under Ground Storage Capacity	7.5 MG
System Capacity	14.5 MGD

In many respects, Ada is in an enviable position for a major city in terms of its water. Located on the northern edge of the Arbuckle-Simpson Aquifer, it has long enjoyed an abundant source of high-quality water from the aquifer and Byrd's Mill Spring. However, during prolonged drought and extreme summer temperatures, Ada's water use spikes to over 9 MGD, stressing the City's supply and distribution systems. Ada has a Water Restriction Plan it implements to reduce water use during these times.

The Arbuckle-Simpson Aquifer is the primary water source for Ada, Sulphur, Tishomingo and Durant. Municipal water use accounted for over 60% of the aquifer's 1.6 billion gallons of production in 2000, with irrigation accounting for 25%. The City of Ada has mapped water leaks between the water source and its treatment plant.

Due to the abundance and high quality of the aquifer, water merchants and other Oklahoma cities have been working to gain access to the resource, in alliance with some local landowners. One such initiative is seeking authority to pump 80,000 acre-feet a year (about 71 MGD) from the aquifer for transport to cities in central Oklahoma. Recent studies, conducted under the direction of the Oklahoma state legislation and OWRB, have restricted withdrawal rights from the aquifer to one tenth of its previous level. The City of Ada has continued to work to secure its rights to use the local water sources. This study looked at the recharge rates, withdrawal rates, and natural flow rates of the water system. Other groups, including the National Park Service, are active in the issues revolving around the Arbuckle-Simpson Aquifer.

Wastewater Treatment

The wastewater treatment plant has a 3.2 MGPD capacity with dry weather flow running between 1.75-

2.25 MGPD. The city has approximately 278 miles of water main lines, 146 miles of sanitary sewer main lines, and 14 lift stations. The discharge point for the wastewater plant is into an unnamed tributary of the Little Sandy Creek. The City has an ongoing line replacement program.

Natural Gas Service

Natural gas service in Ada is provided by CenterPoint Energy (CNP), a Houston-based holding company formed in 2002 from Reliant Energy Arkla. CNP operates 8,200 miles of gas pipelines that serve as a hub for customers in Arkansas, Illinois, Kansas, Louisiana, Mississippi, Missouri, Oklahoma and Texas.

Telephone, Internet, and Cable Service

Ada's telephone service is provided by AT&T, which also provides high-speed Internet to the community. Sparklight provides cable television services. Cell phone service is available from Cingular, Sprint, U.S. Cellular and T-Mobile. Verizon has sharing arrangements with Sprint.

Transportation Systems

Highways and Major Roads

Ada has good accessibility to state and national highway systems.

US Hwy 377 (duplexed with OK Hwy 99) runs from Del Rio, TX, through Willis, OK, Madill, Tishomingo, Ada, Seminole and Prague, before ending in Stroud at Interstate 44.

OK Hwy 1 runs through southeastern Oklahoma from just north of Madill through Ada, McAlester, Talihina, and into Arkansas along the Rich Mountain ridge south of Heavener. OK Hwy 1 also links Ada to Interstate 35 west of Sulphur. Interstate 35 is the main north-south artery through Oklahoma, linking the Dallas-Ft. Worth area to Oklahoma City and Wichita, KS.

At over 600 miles in length, **OK Hwy 3** is the longest state highway in Oklahoma. Beginning at the Colorado state line north of Boise City, the highway passes through Boise City, Guymon, Hardesty, Watonga, Kingfisher, Oklahoma City, Shawnee, Ada, Antlers, Broken Bow and Idabel before entering Arkansas in the southeast corner of McCurtain County.

OK Hwy 99 (duplexed with US Hwy 377) is the longest north-south state highway in Oklahoma. Along with US Hwy 377, it runs from Willis, OK, through Tishomingo and Ada to Stroud, then branches off of US 377 to Drumright, Cleveland, Hominy and Pawhuska, before entering Kansas just west of Hulah Lake.

OK Hwy 19 runs from Blair, 10 miles north of Altus, to Ada, a distance of 170 miles. From west to east, the highway passes through Boone, Apache, Cyril, Chickasha, Lindsay and Pauls Valley before reaching Ada, where it terminates.

Daily traffic counts on Ada's major highways and roads are summarized in Table 2-4.

Table 2–4: Highway Traffic Counts

Highway	*Daily Traffic Counts*
US Hwy 377 in north Ada	6,500
US Hwy 377 in south Ada	3,200
OK Hwy 1 southwest Ada	8,000
OK Hwy 1 east Ada	8,100
OK Hwy 3W NW of Ada	9,500

Highway	Daily Traffic Counts
OK Hwy 3 SE of Ada	8,500
OK Hwy 19 W of Ada	6,400

Ada Regional Airport

Ada Regional Airport

The City of Ada is served by Ada Regional Airport. The airport code is ADH and is owned and operated by the City of Ada. The airport is an uncontrolled field with two runways and is open to the public. The ground elevation of the runways is 1,016 ft. The asphalt for the major runway has a weight bearing capacity of 50,000 lbs for single wheel, 140,000 lbs for double wheel, and 224,000 lbs for dual double wheel aircraft. Jet A and 100LL fuel is available, as are hangers and tiedowns, and major aircraft ground support. Aircraft located at the field are 36 general aviation singles, five general aviation multi, and four jet aircraft. It is the only airport registered for jet traffic in the county. Aircraft operations average 33 planes per day, 33% of which is local general aviation, 66% transient general aviation, and less than 1% military traffic. Instrument approach (with GPS and Localizer) is available for all runways. The airport has an automatic weather observation system. A new approach lighting system was added to the main runway in 2004, along with a visual guidance lighting system.

The nearest commercial airport is Will Rogers World Airport in Oklahoma City (67 miles), which is served by multiple national and international carriers, both passenger and airfreight.

Economy

Ada was formed as a railroad hub for cotton and other agriculture in the early 20th century. After a short-lived oil boom, Ada's leadership worked to transform the economy from agriculture to manufacturing and worked to attract expansion plants, including Solo Cup's first plant in the Southern United States. Ada's economic base today is primarily concentrated in manufacturing, professional services, healthcare, and research and development. Ada has a long history of agriculture, ranching, and horse farms, although these industries employ a small number of people compared to the early 20th century. Ada's early manufacturers used the region's abundant limestone, shale, silica, sand and clay in the production of glass, cement and brick and these limestone formations are studied by researchers at the EPA's Robert S. Kerr Environmental Research Center.

According to the 2017 Census of Agriculture, there are 1,438 farms in Pontotoc County that average 223 acres for a total coverage of 320,211 acres. A total of 69,016 acres were reported as cropland, of which 44,919 were harvested cropland. Livestock and livestock products account for the vast majority of sales when compared to crops, $29,667,000 in livestock related sales verses $6,358,000. While overall sales increased in value, both the number and the average size of farms had fallen since the 2002 Census of Agriculture.

As of January of 2022, the unemployment rate in Pontotoc County was 2.7%. In that month, there were 18,666 people employed in the county out of a labor force of 19,184. According to the American Community Survey's 5-year estimates from 2019, the labor force participation rate is 63.4% of those 16

years and over and a participation rate of 86.7% for workers between the ages of 25 to 64 with a bachelor's degree or higher. According to the quarterly census of employment and wages, the average annual wage in Pontotoc County for 2020 was $47,135. According to the 2019 ACS, 14.7% of the population was below poverty level in Pontotoc County, a decrease from the 19.2% in 2014.

Holcim Inc. Cement Plant

Development

According to the Pontotoc County Assessor's Office, as of 2014, there are a total of 8,478 improved properties within the urban areas of the City of Ada. Improvements range from houses and office buildings to garages and swimming pools. The total improvement value of these properties, adjusted for fair market value, is $504,091,846. Table 2-5 summarizes parcel types and values within the City of Ada.

Table 2–5: City of Ada Parcels, Improvement Values, and Type

Improvement Type	Number	Value
Agricultural	67	$2,194,577
Residential	6,731	$337,457,642
Commercial	973	$164,439,627
Tax Exempt	707	N/A
Total	8,478	$504,091,846

Source: 2014 Pontotoc County Assessor's Office

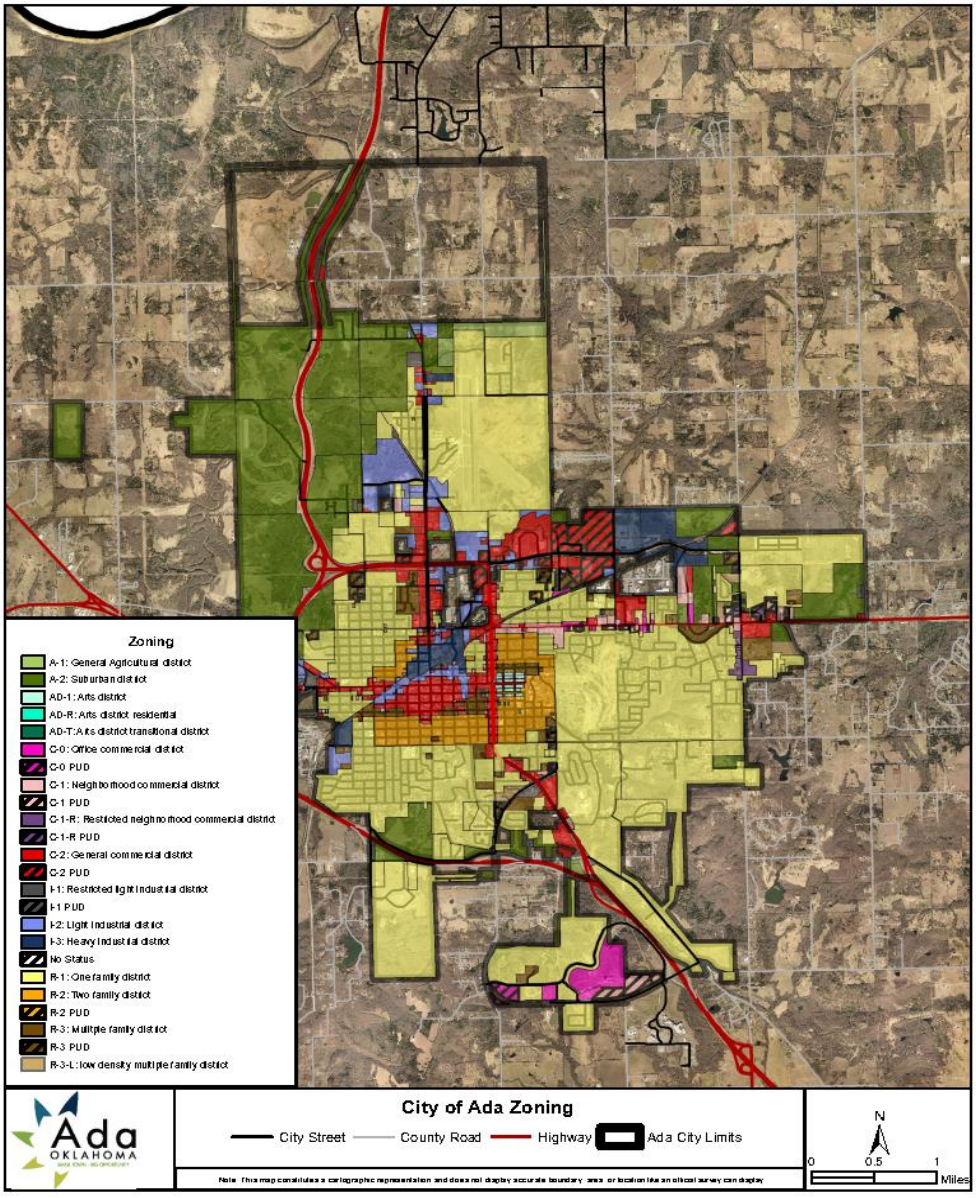
According to the 2020 Census, there were 8022 housing units within Ada. Of those, 1,363 (17%) were unoccupied. Of the 6659 occupied housing units, (45%) were owner occupied and (55%) were renter occupied. Based on the 2020 Census Reporter, 73% of all housing is single family detached, 1.9% is single family attached (town houses), and 22% are apartment style housing. Mobile homes (and other) account for the final 2.6%. Housing accounts for nearly 80% of the City's improved parcels and 67% of the taxable improvements values. Hazards that threaten residential land uses not only put citizens at risk of bodily harm, but could cause catastrophic economic damage to the City's and School District's tax base.

According to the ACS, 66% of the homes in Ada rely on utility gas for heating, and 31.5% utilize electrical heating systems.

Past Development Patterns

Initially an agricultural community, Ada's development has been anchored by its railroads, East Central University (ECU), its state and US highways, the oil industry, and by being the Pontotoc County seat. Over the years, railroad traffic has declined, interstate superhighways have siphoned away much of the regional automobile traffic, and the oil industry has gradually declined through several slumps and rebounds.

Historically, Ada utilized a North /South grid of streets that connected different land uses. This grid was cut by the BNSF railroad that runs northeast and southwest through the heart of the city. Industrial and warehouse uses exist in the core of the city along this railway. The rest of the heart of Ada is a commercial district with large buildings and lots. This is surrounded by largely detached residential homes that utilize a rectilinear grid of streets. ECU creates an eastern edge of this traditional city, while highways ring the city to the North, South, and West. Formerly agricultural or other open lands have more recently been developed with non-gridded streets. Newer commercial developments along highways include strip malls and "big box" developments. New residential developments outside of the historically developed city consist largely of larger agriculture-residential land uses with larger lots and home sizes than previously seen within the city. This can be seen with the current zoning designations, shown below:



Development Plans

Ada is nevertheless far from moribund. It has an excellent local government, an aggressive City Council and mayor, a close working relationship between the community and its media, and an active Main Street program. Ada still has a major railroad, the BNSF, and now a four-lane highway that runs from I-35 near Sulphur north to the Pontotoc County line. Eventually this highway will be four-lane to I-40 near Seminole, which should increase both passenger and truck traffic through the community. East Central University remains an economic anchor. The cement industry is still active, with Holnam Cement having been recently purchased by Holcim Ltd., of Switzerland. Ada has worked hard to attract new industry, but has also fostered and supported the growth of local enterprises, such as Legal Shield and Edge Tech Corp. Perhaps one of Ada's biggest economic boosts has come from its selection as the capital of the reconstituted Chickasaw Nation. Casinos and other tribal enterprises and charities have brought new revenue streams into the community. The Chickasaw Nation is now Ada's largest employer.

Future Development

Development Goals. Ada's development plan is to continue to grow by making the city a forward-looking business, cultural and tourist center, and a place where companies want to locate and people want to work and live. Towards this end, the City contracts with the Ada Jobs Foundation to provide the following economic development services:

Assist local export industries to expand and create quality jobs;
Attract new investment in targeted industries;
Create thriving local startup and technology "ecosystems;"
Diversify the economy through a growing digital economy;
Coordinate workforce development efforts and talent pipelines between private sector and education service providers;
Work with City of Ada staff to address critically needed community infrastructure and amenities for talent, including housing, strong neighborhoods, and transportation infrastructure.

Ada's future development areas match those of the previous plan and are shown along with the zoning areas in Figure 2-8.

Mobile Home Parks

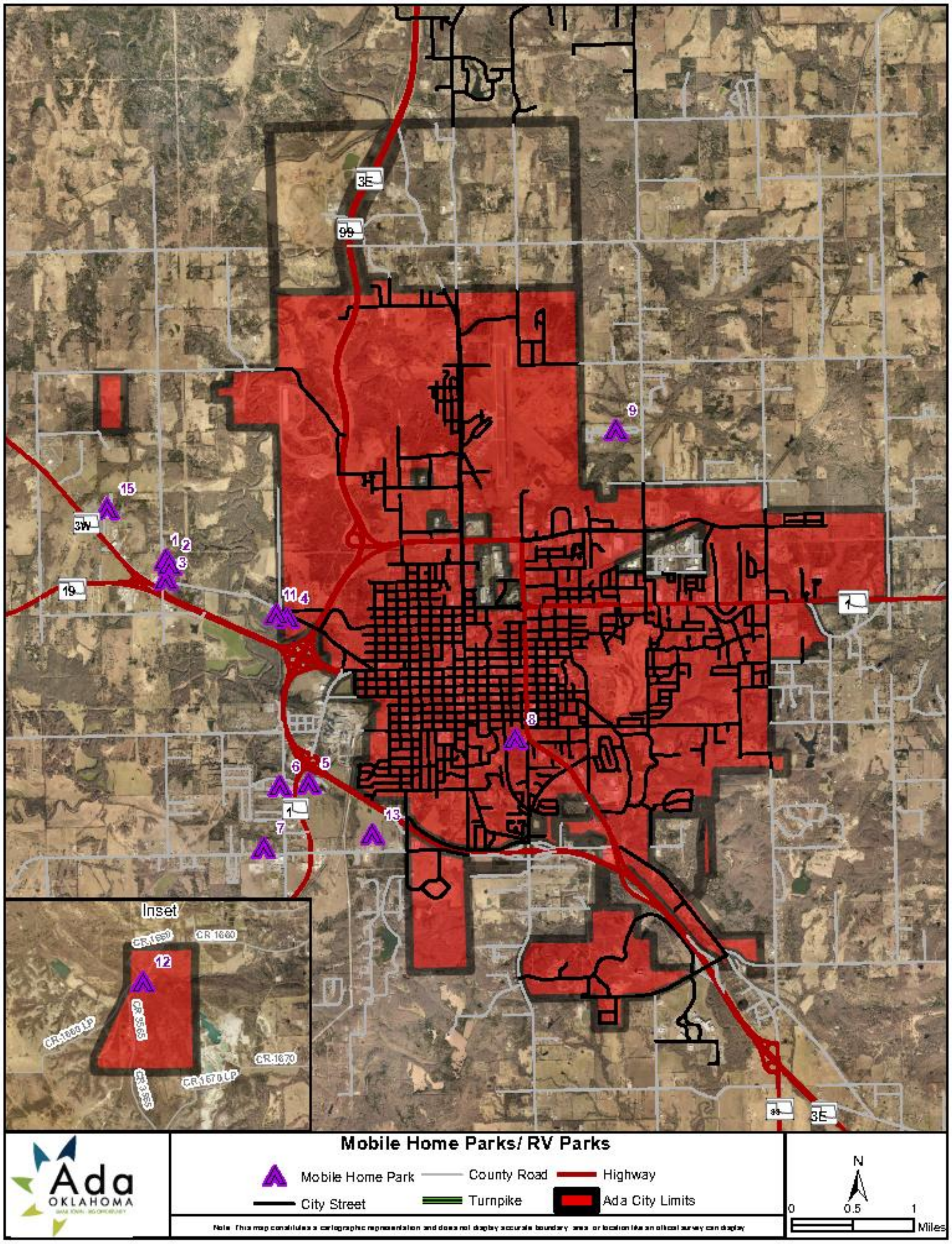
Mobile home (and RV) parks can provide permanent or temporary housing for residents. Often, mobile homes are situated in parks that provide for an array of services to multiple residences. These parks are higher density than many other residential land uses. Mobile homes are more vulnerable to numerous natural hazards, and special considerations should be considered to ensure mitigation techniques (such as tie downs and community shelters). A list of mobile home and RV parks is available in Table 2-6 and their locations mapped in Figure 2-9. Few areas within the city are zoned to allow mobile home parks,

and as can be seen in the map most are outside of the incorporated city limits.

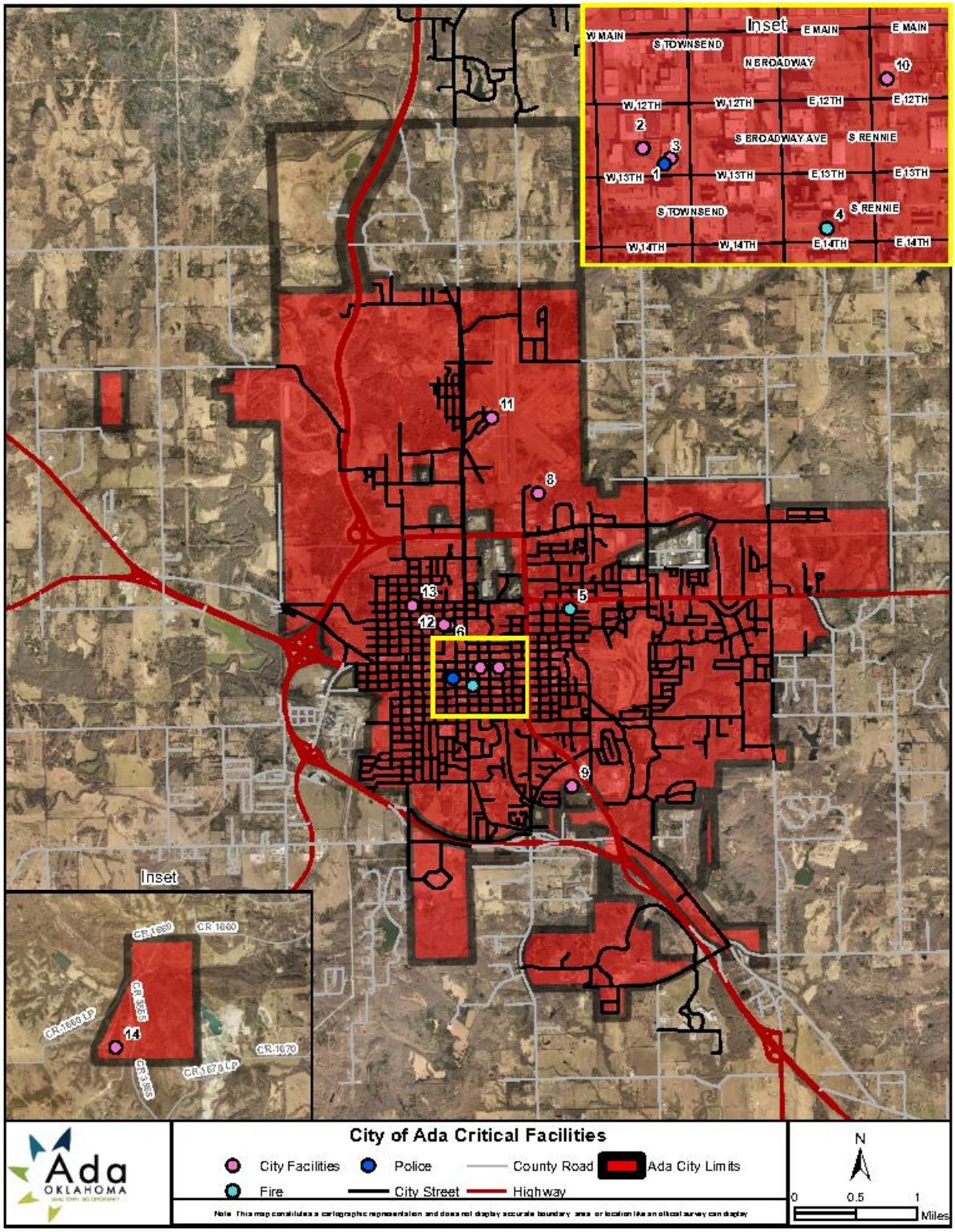
Table 2–6: Ada Mobile Home Parks

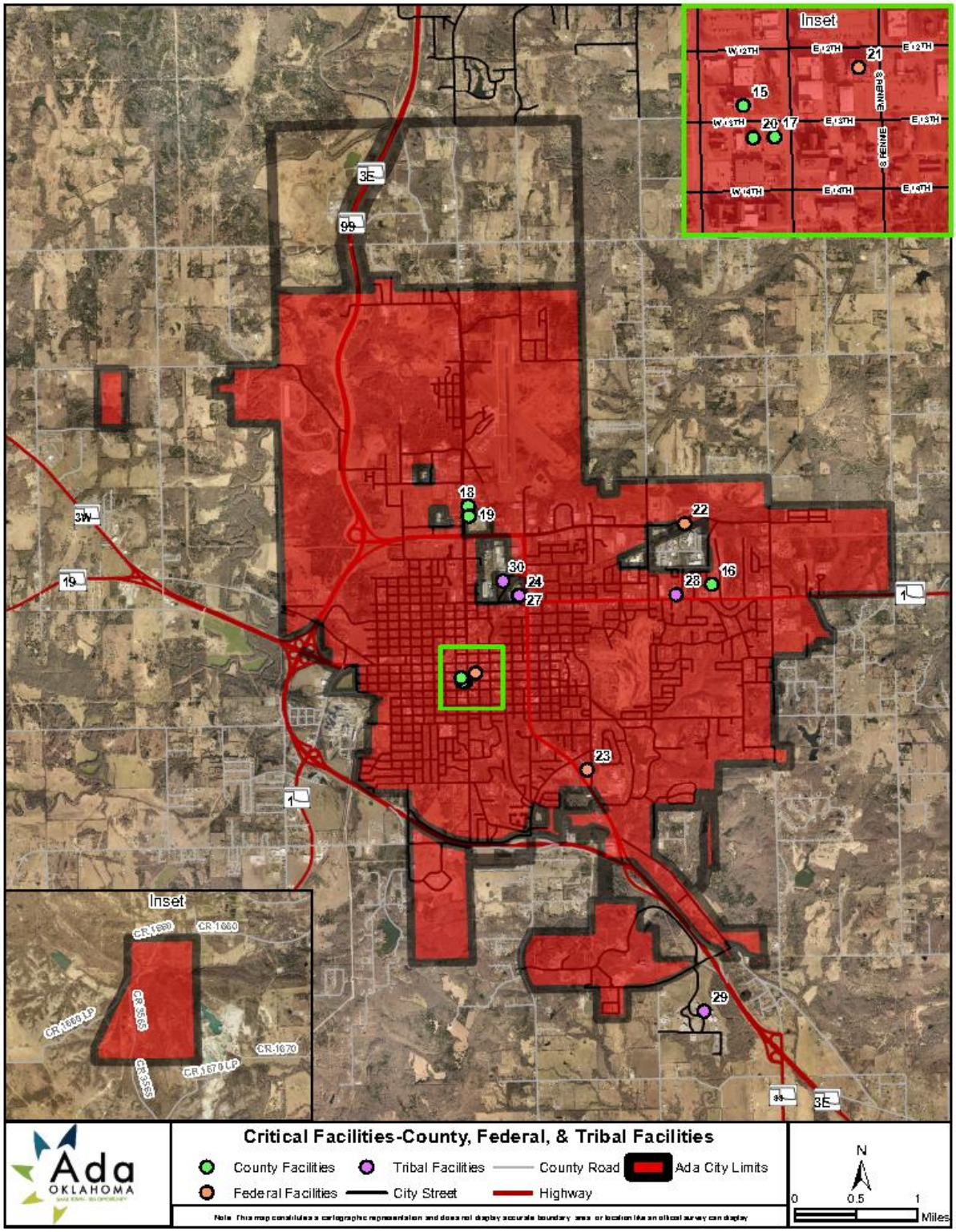
ID	Name	Address	Type of Facility
1	Country Lane Mobile Home Park	13016-13060 CR 1536	MOBILE HOME PK
2	Shady Oaks Mobile Home Park	13600 CR 3530 LOT #	MOBILE HOME PK
3	Shady Oaks RV Park	13700 CR 3530 LOT#	RV PARK
4	Sandy Creek Mobil Home Park (Inside City Limits)	1731 SANDY CREEK DR. LOT# OR	MOBILE HOME PK
5	Twin Lakes Mobile Home and RV Park	14148 CR 1534 (OFFICE)	RV PARK
6	North Latta Mobile Home Park	13900-13970 CR 1554 OR 1554 DR	MOBILE HOME PK
7	Latta Mobile Home Park	15650-15980 CR 3538 OR 3538 LP	MOBILE HOME PK
8	Sleepy Hollow Mobile Home Park	500 E 20th	MOBILE HOME PK
9	Garden Oak Estate	16100 CR 1525-16999 CR1526	MOBILE HOME PK
10	Langley's Mobile Home Park	20825-20890 CR 1596	MOBILE HOME PK
11	Sandy Creek Mobile Home Park (Outside City Limits)	13930-13999 CR 1540, 1540 LP OR 1541	MOBILE HOME PK
12	Ada Hobo Campgrounds	16145 CR 1660 LP	RV PARK
13	Hidden Valley RV Park	14624 CR 1560	MOBILE HOME PK
14	Hey Daddy RV Park	19426 CR 1590	RV PARK
15	Hoppe Mobile Home Park	CR 3525	MOBILE HOME PK

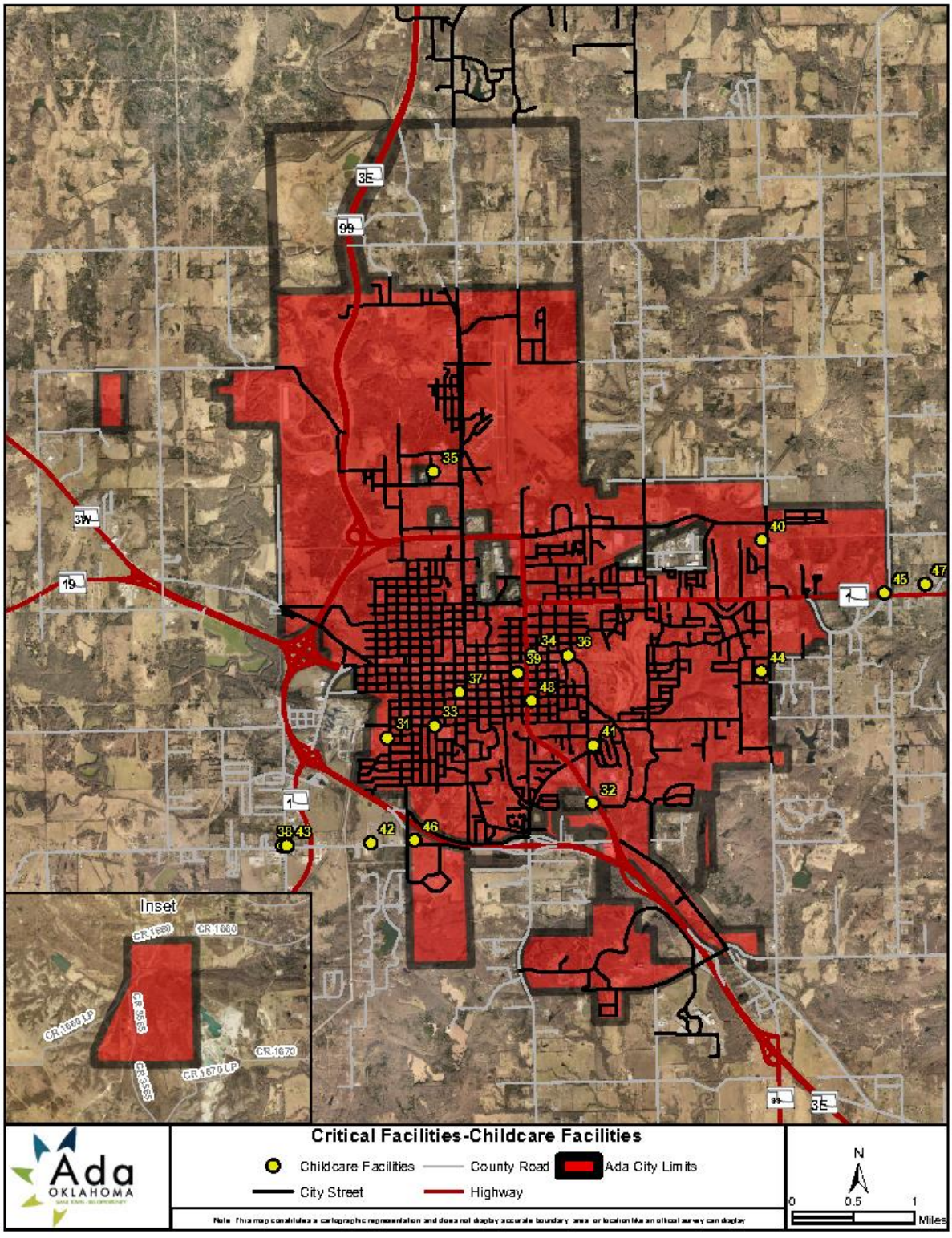
Source: City of Ada, 2022

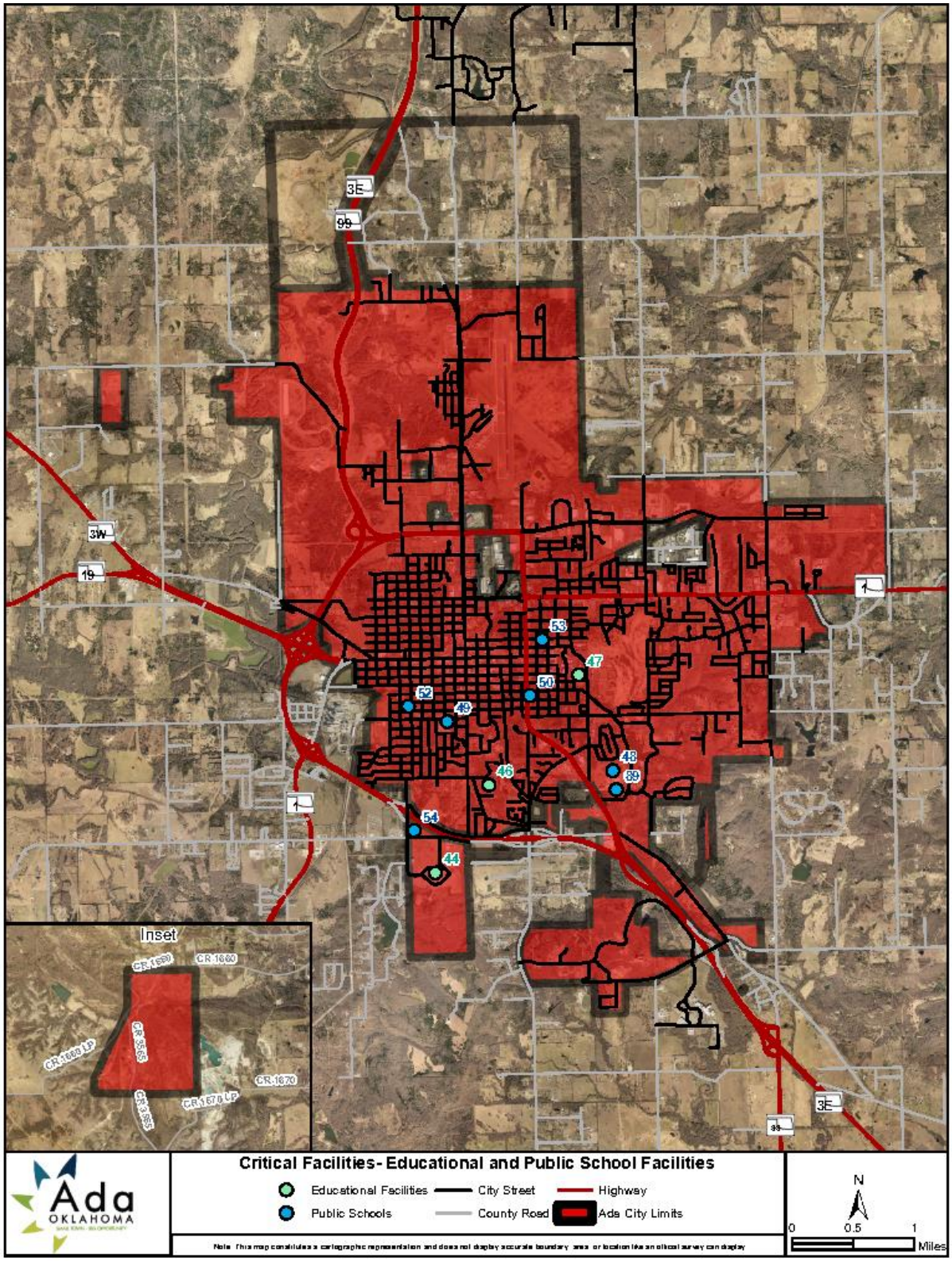


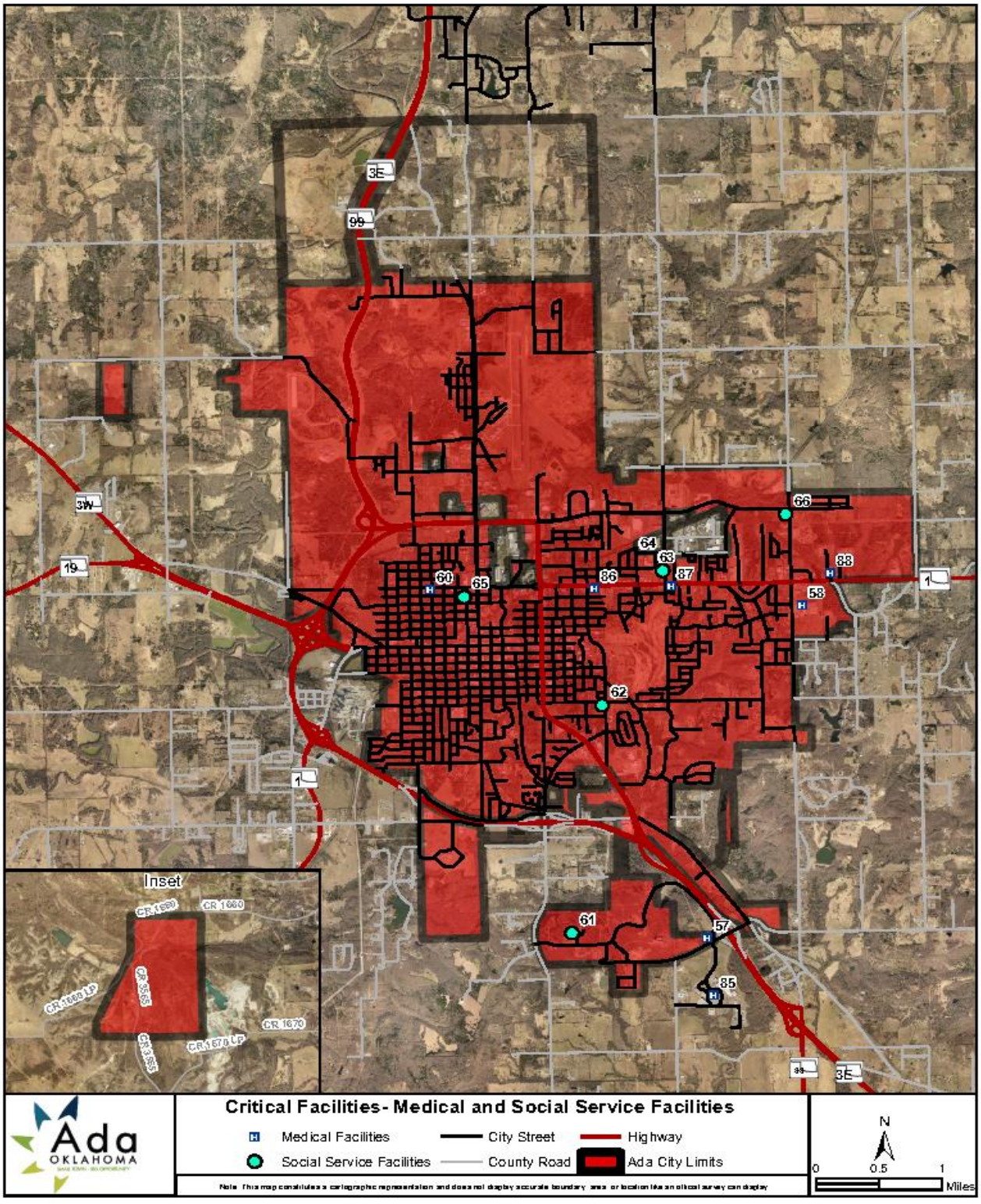
Inset
CR 1660
CR 3565
CR 1660 LP
CR 1670
CR 1670 LP
Mobile Home Parks/ RV Parks
Mobile Home Park
County Road
Highway
City Street
Turnpike
Ada City Limits
Ada
OKLAHOMA
N
0
0.5
1
Miles

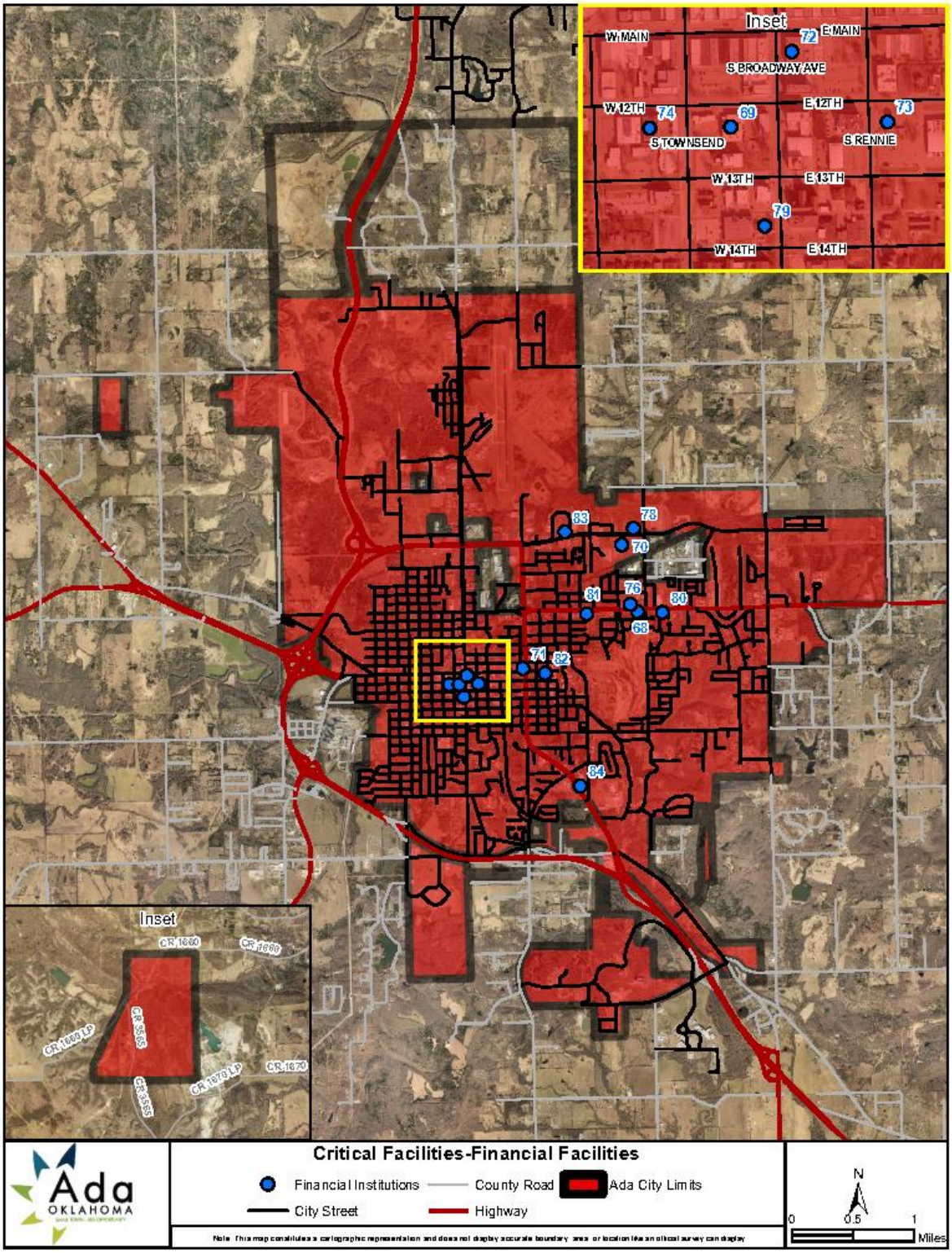

Inset
W MAIN
E MAIN
S TOWNSEND
N BROADWAY
W 12TH
E 12TH
S BROADWAY AVE
S RENNIE
W 13TH
E 13TH
W 14TH
E 14TH
1
2
3
4
10
11
8
13
12
6
5
9
14
Inset
CR 1550
CR 1560
CR 1565
CR 1570
CR 1570 LP
City of Ada Critical Facilities
City Facilities
Police
County Road
Ada City Limits
Fire
City Street
Highway
Ada
OKLAHOMA
N
0
0.5
1
Miles

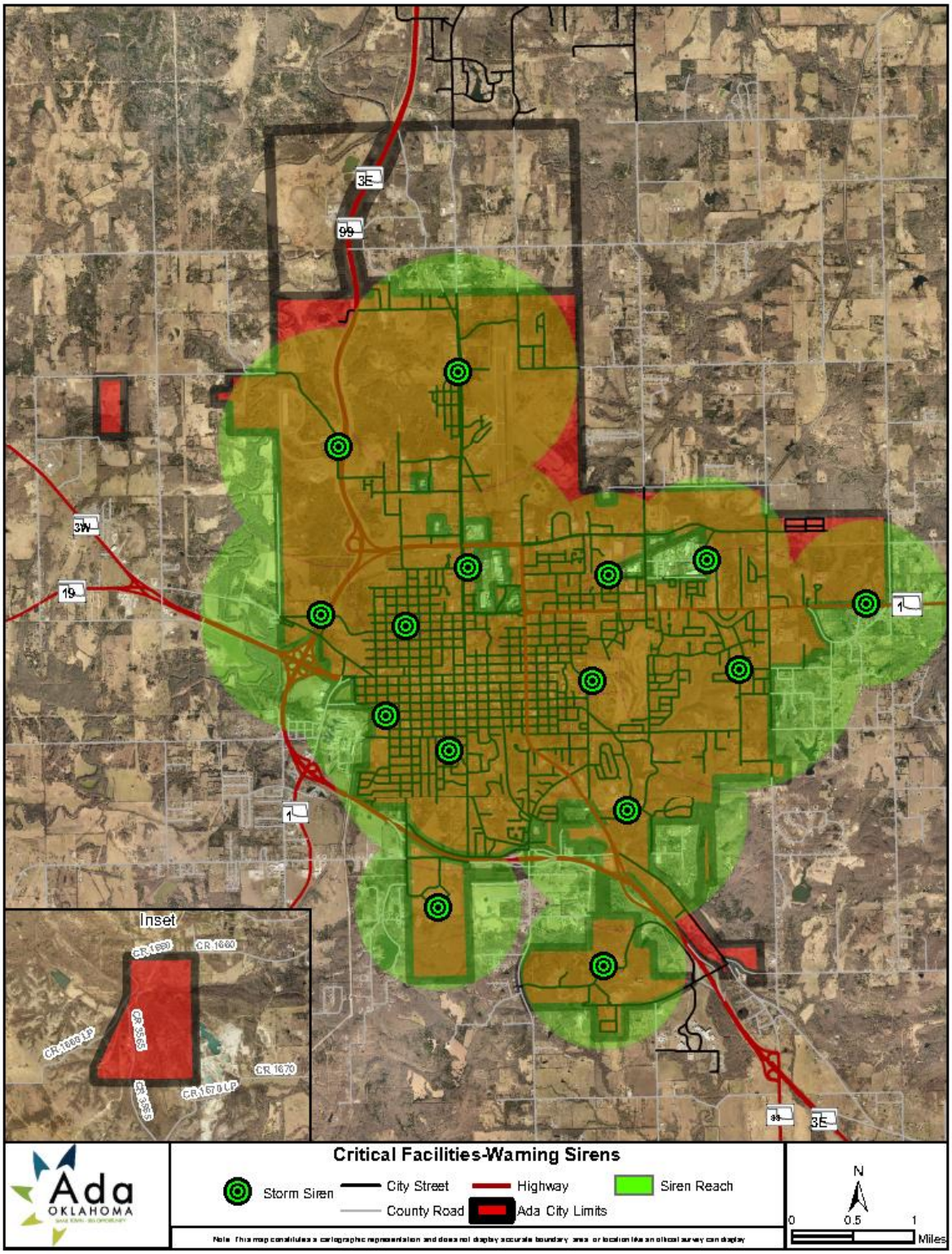

Inset
Inset
Critical Facilities-County, Federal, & Tribal Facilities
County Facilities
Tribal Facilities
County Road
Ada City Limits
Federal Facilities
City Street
Highway
Ada
OKLAHOMA
N
0
0.5
1
Miles


Inset
CR-1660
CR-1650
CR-3555
CR-1660 LP
CR-1670
CR-1670 LP
CR-3555
Critical Facilities-Childcare Facilities
Childcare Facilities
County Road
Ada City Limits
City Street
Highway
Ada
OKLAHOMA
N
0
0.5
1
Miles


Inset
CR 1660
CR 1660 LP
CR 1670
CR 1670 LP
Critical Facilities- Educational and Public School Facilities
Educational Facilities
Public Schools
City Street
County Road
Highway
Ada City Limits
Ada
OKLAHOMA
N
0
0.5
1
Miles

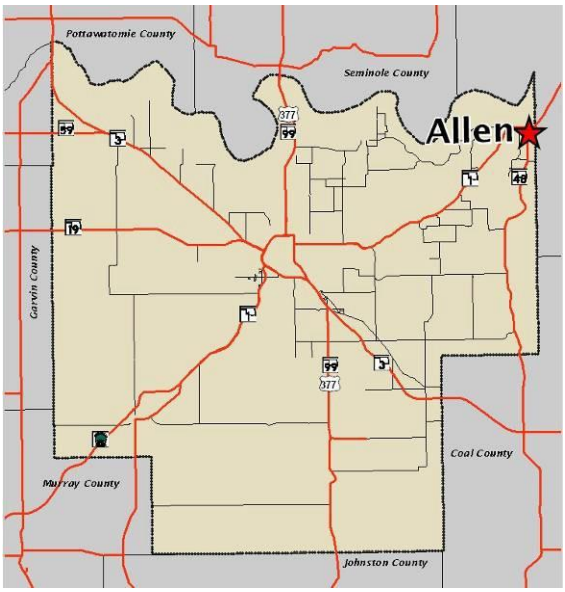

Inset
CR 1660
CR 1670
CR 1670 LP
Critical Facilities- Medical and Social Service Facilities
Medical Facilities
Social Service Facilities
City Street
County Road
Highway
Ada City Limits
Ada
OKLAHOMA
N
0
0.5
1
Miles


Inset
W MAIN
E MAIN
S BROADWAY AVE
W 12TH
E 12TH
S TOWNSEND
S RENNIE
W 13TH
E 13TH
W 14TH
E 14TH
72
74
69
73
79
83
78
70
81
76
80
68
71
82
84
Inset
CR 1660
CR 1666
CR 1668 LP
CR 1665
CR 1670
CR 1670 LP
CR 1665
Critical Facilities-Financial Facilities
Financial Institutions
County Road
Ada City Limits
City Street
Highway
Ada
OKLAHOMA
N
0
0.5
1
Miles


Inset
CR 1660
CR 1669
CR 1670
CR 1670 LP
Critical Facilities-Warning Sirens
Storm Siren
City Street
Highway
Siren Reach
County Road
Ada City Limits
N
0
0.5
1
Miles

A.2 Allen

The Town of Allen is an incorporated community located in northeast Pontotoc County, and is shown on the map below.



A.2.1 Geography

Latitude: 34.88 N
Longitude: 96.41 W
FIPS Code: 4012301400

The Town of Allen is located in northeast Pontotoc County in south-central Oklahoma, approximately 87.8 miles southeast of Oklahoma City. Total land area within Allen is 0.91 sq. mi.

A.2.2 Demographics

The Town of Allen has a 2020 Census population of 926, with 355 households with an average household size of 2.53 persons. The median resident age was 44.3 years. In 2020, the estimated median home value was $84,138.

Races in Allen: 2019
White Non-Hispanic (63.9%)
American Indian (15,7%)
Two or more races (14.9%)
Hispanic (5,5%)
Other race (0.1%)

A.2.3 Economy

As of 2010, 744 people were over the age of 16 in Allen. Of this number, 379 (or 93%) were employed and 27 unemployed (7%). The median household income in 2019 was $40,068.

Main Street, Allen Ok

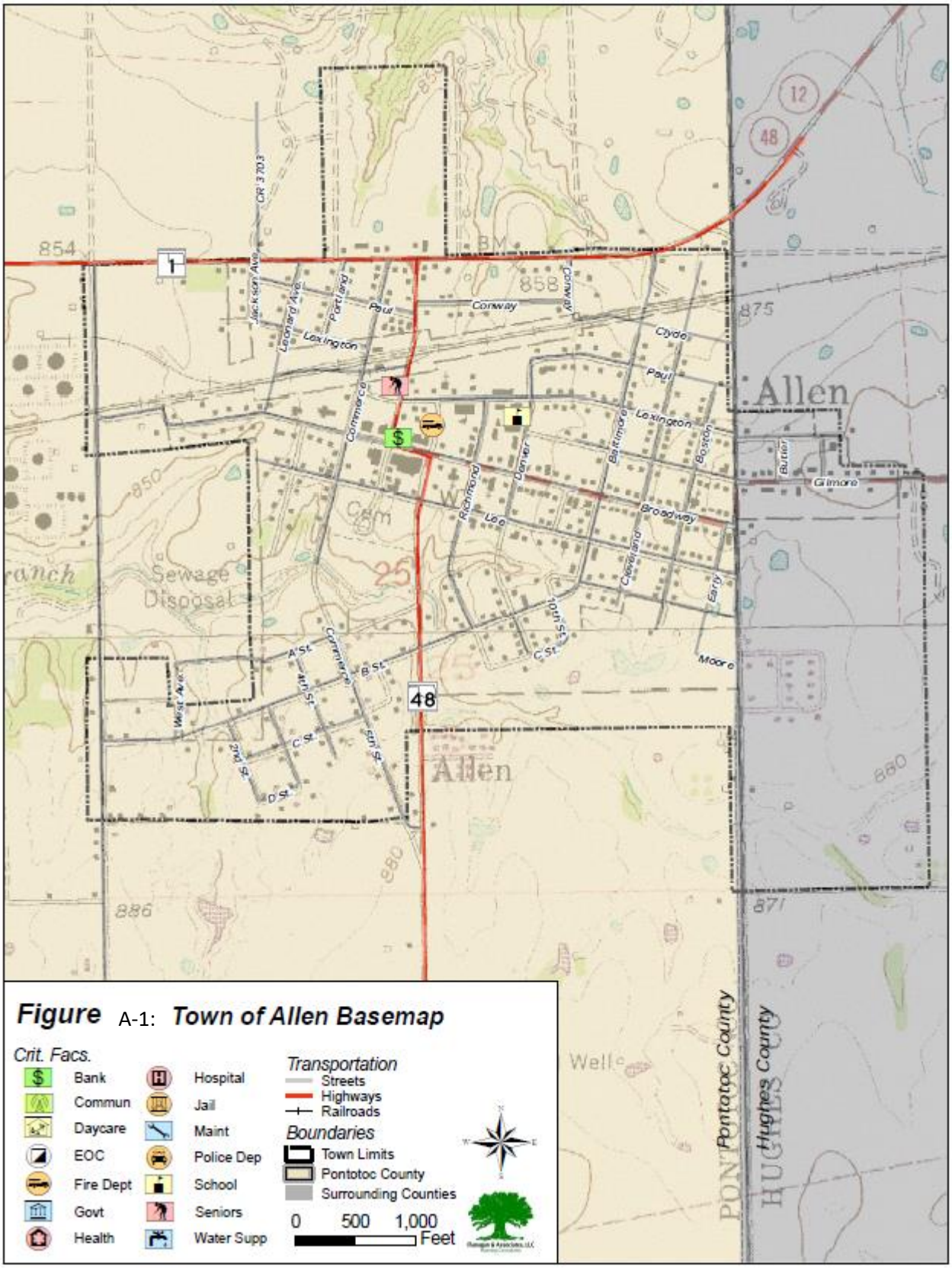


Figure A-1: ***Town of Allen Basemap***

A.3 Byng

The Town of Byng is an incorporated community located in north-central Pontotoc County, shown on the map below.

A.3.1 Geography

Latitude: 34.86 N
Longitude: 96.67 W
FIPS Code: 4012310600

The Town of Byng is located in north Pontotoc County in south-central Oklahoma, approximately 73.3 southeast of Oklahoma City, and about 6.9 miles north of Ada. Total land area within Byng is 6.5 sq mi.

A.3.2 Demographics

The Town of Byng has a 2020 Census population of 1,393, and includes 401 households with an average household size of 23 persons. The median resident age was 35.8 years. In 2020, the median home value was $135,600.

Races in Byng:

White Non-Hispanic (64%)
American Indian (13%)
Two or more races (16%)
Hispanic (4%)
Black (3%)
Other race (1.6%)

A.3.3 Economy

As of 2020, 55% of people are between 18-64 in Byng. The median household income in 2020 was $65,156.

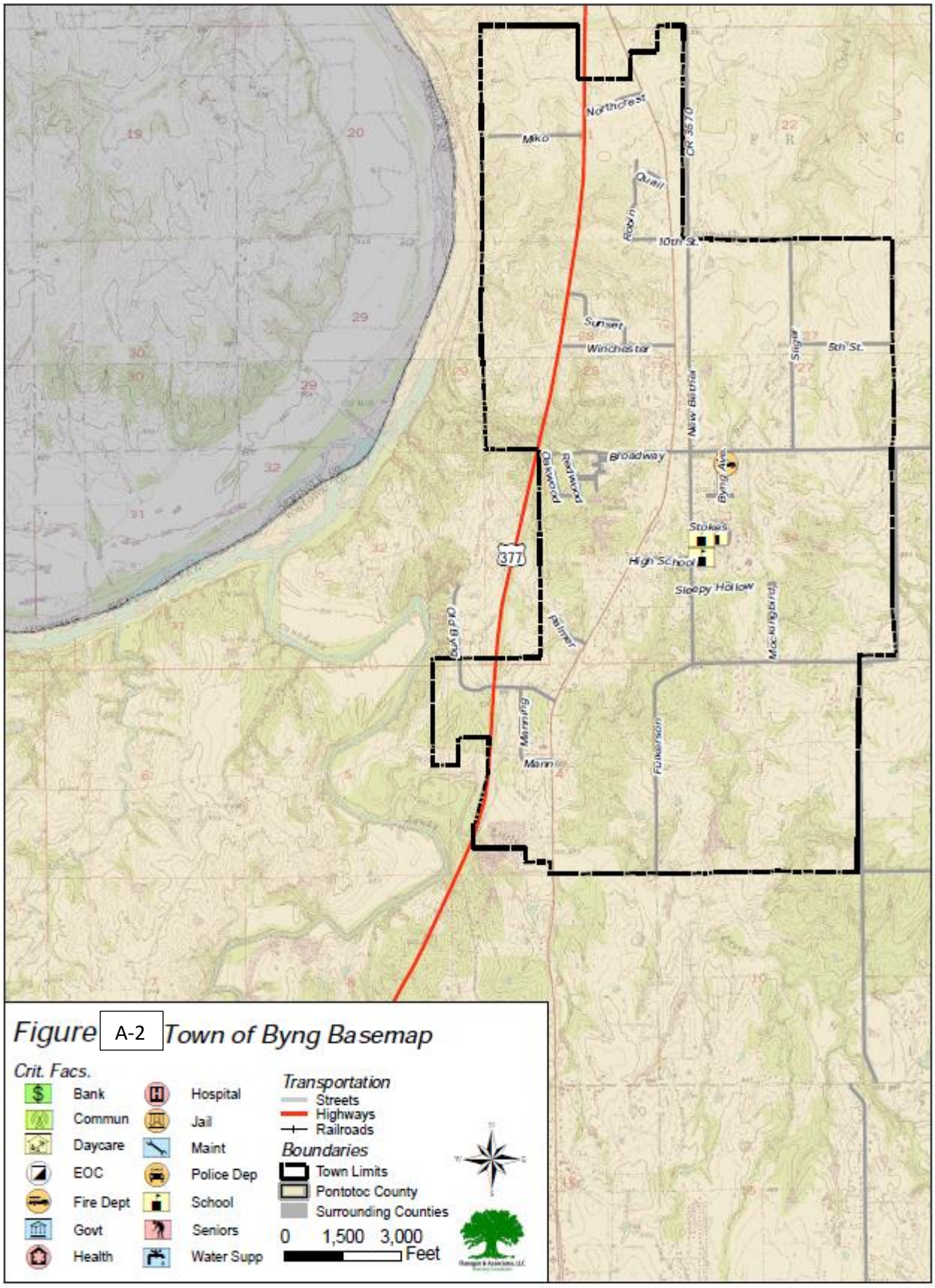
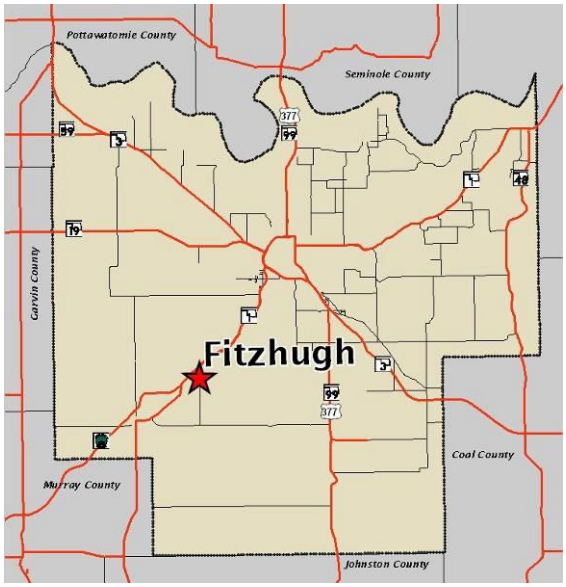


Figure A-2 Town of Byng Basemap
Crit. Facs.
Bank
Commun
Daycare
EOC
Fire Dept
Govt
Health
Hospital
Jail
Maint
Police Dep
School
Seniors
Water Supp
Transportation
Streets
Highways
Railroads
Boundaries
Town Limits
Pontotoc County
Surrounding Counties
0 1,500 3,000
Feet
Northcrest
Mike
Quail
Robin
10th St.
CR 3570
Sunset
Winchester
5th St.
Sligar
New Bethel
Broadway
Byng Ave.
Oakwood
Rosewood
Stokes
High School
Sleepy Hollow
377
Old Byng
Palmer
McKnight Rd
Manning
Main
Fulkerson

A.4 Fitzhugh

The Town of Fitzhugh is an incorporated community located in southwest Pontotoc County, shown on the map below.



A.4.1 Geography

Latitude: 34.66 N
Longitude: 96.78 W
FIPS Code: 4012326250

The Town of Fitzhugh is located in southwest Pontotoc County in south-central Oklahoma, approximately 69 miles southeast of Oklahoma City, and about 112 miles south of Tulsa. Total land area within Fitzhugh is 7.3 sq mi.

A.4.2 Demographics

The Town of Fitzhugh had a reported Census 2019 population of 230. This includes 89 households with an average household size of 2.58 persons. The median resident age was 44.5 years. In 2019, the estimated median home value was $153.555.

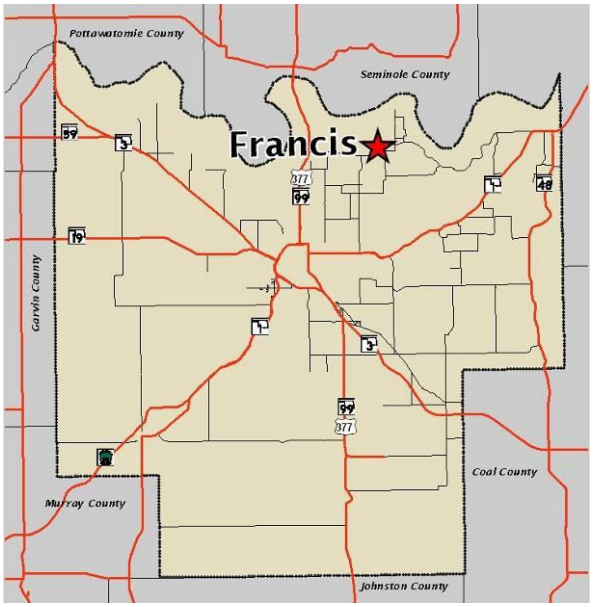
Races in Fitzhugh:

White Non-Hispanic
(82.9%) American Indian
(2.8%) Two or more races
(11.6%) Hispanic (1.1%)
Other race (0%)

A.4.3 Economy

As of 2010, 181 people were over the age of 16 in Fitzhugh. Of this number, 165 (or 92%) were employed and 16 unemployed (8%). The median household income in 2019 was $45,337.

A.5 Francis



The Town of Francis is an incorporated community located in north-central Pontotoc County, shown on the map below.

A.5.1 Geography

Latitude: 34.87 N
Longitude: 96.59 W
FIPS Code: 4012327650

The Town of Francis is located in north-central Pontotoc County in the south-central Oklahoma, approximately 65 miles southeast of Oklahoma City, and about 95 miles south of Tulsa. Total land area within Francis is .59 sq mi.

A.5.2 Demographics

The Town of Francis had a reported 2019 population of 320. This includes 121 households with an average household size of 2.6 persons. The median resident age was 29.3 years. In 2019, the median home value was $92,090.

Races in Francis:

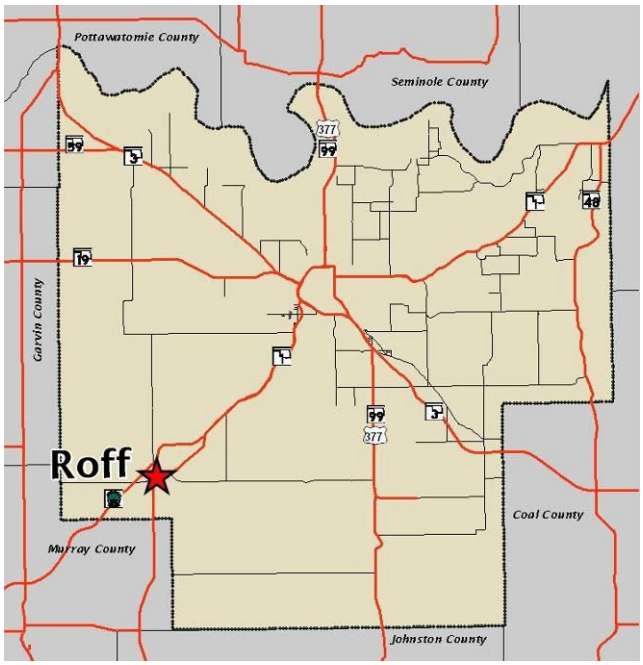
White Non-Hispanic (59.3%)
American Indian (26.8%)
Two or more races (12.0%)
Hispanic (.9%)

A.5.3 Economy

As of 2020, the unemployment rate of Francis was 4.9%. The estimated median household income in 2019 was $48,659.

A.6 Roff

The Town of Roff is an incorporated community located in southwest Pontotoc County, as shown on the map.



A.6.1 Geography

Latitude: 34.87 N
Longitude: 96.59 W
FIPS Code: 4012363750

The Town of Roff is located in southwest Pontotoc County in south-central Oklahoma, approximately 69 miles southeast of Oklahoma City, and about 116 miles south of Tulsa. Total land area within Roff is 0.94 sq mi.

A.6.2 Demographics

The Town of Roff had a reported Census 2020 population of 723. This includes 285 households with an average household size of 2.67 persons. The median resident age was 32.0 years. In 2019, the median home value was $78,765.

Races in Roff:

White Non-Hispanic (65.8%) American Indian (10.5%) Two or more races (17.1%) Hispanic (6.3%)

A.6.3 Economy

As of 2020, the unemployment rate in Roff was 4.9%. The median household income in 2019 was $51,188.

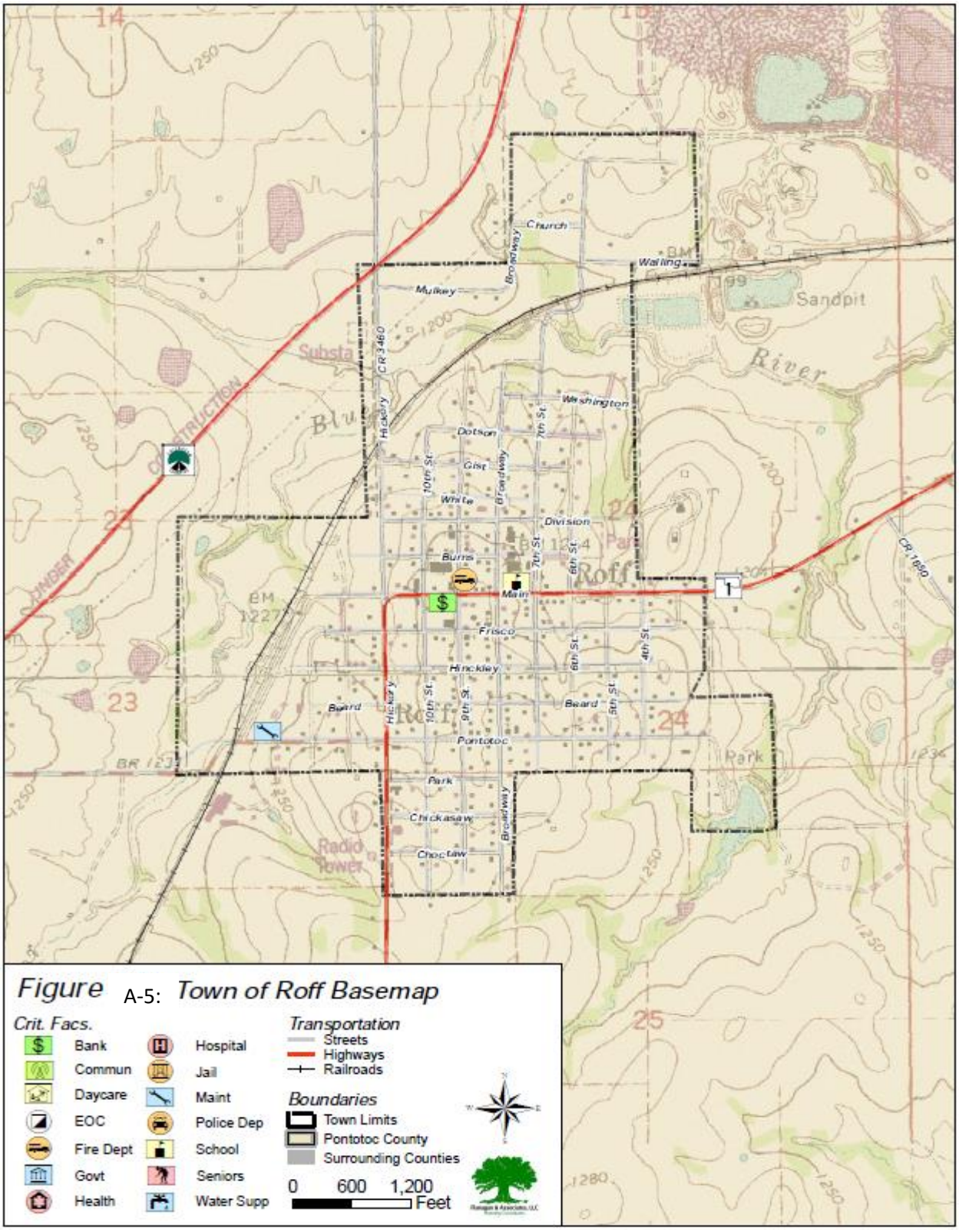


Figure A-5: Town of Roff Basemap
Crit. Facs.
Bank
Commun
Daycare
EOC
Fire Dept
Govt
Health
Hospital
Jail
Maint
Police Dep
School
Seniors
Water Supp
Transportation
Streets
Highways
Railroads
Boundaries
Town Limits
Pontotoc County
Surrounding Counties
0 600 1,200
Feet
Roff
Church
Mulkey
Sandpit
River
Washington
Dotson
Gist
White
Division
Burns
Main
Frisco
Hinckley
Beard
Pontotoc
Park
Chickasaw
Choctaw
Broadway
Hickory
CR 3460
CR 1660

A.7 Stonewall

The Town of Stonewall is an incorporated community located in southeast Pontotoc County, shown on the map below.

A.7.1 Geography

Latitude: 34.65 N
Longitude: 95.53 W
FIPS Code: 4012370500

The Town of Stonewall is located in southeast Pontotoc County in south-central Oklahoma, approximately 79 miles southeast of Oklahoma City, and about 108 miles south of Tulsa. Total land area within Stonewall is 0.32 sq mi.

A.7.2 Demographics

The Town of Stonewall had a reported Census 2020 population of 521 and this includes 236 households with an average household size of 2.4 persons. In 2019, the median resident age was 40.7 years, and the median home value was $58,671.

Races in Stonewall:

White Non-Hispanic (61.9%) American Indian (A-5a: Black (4.1%) Two or more races (12.2%) Hispanic (4.5%)

A.7.3 Economy

As of 2020, the unemployment rate is listed as 4.9% the same as the county. The estimated median household income in 2019 was $35,460.

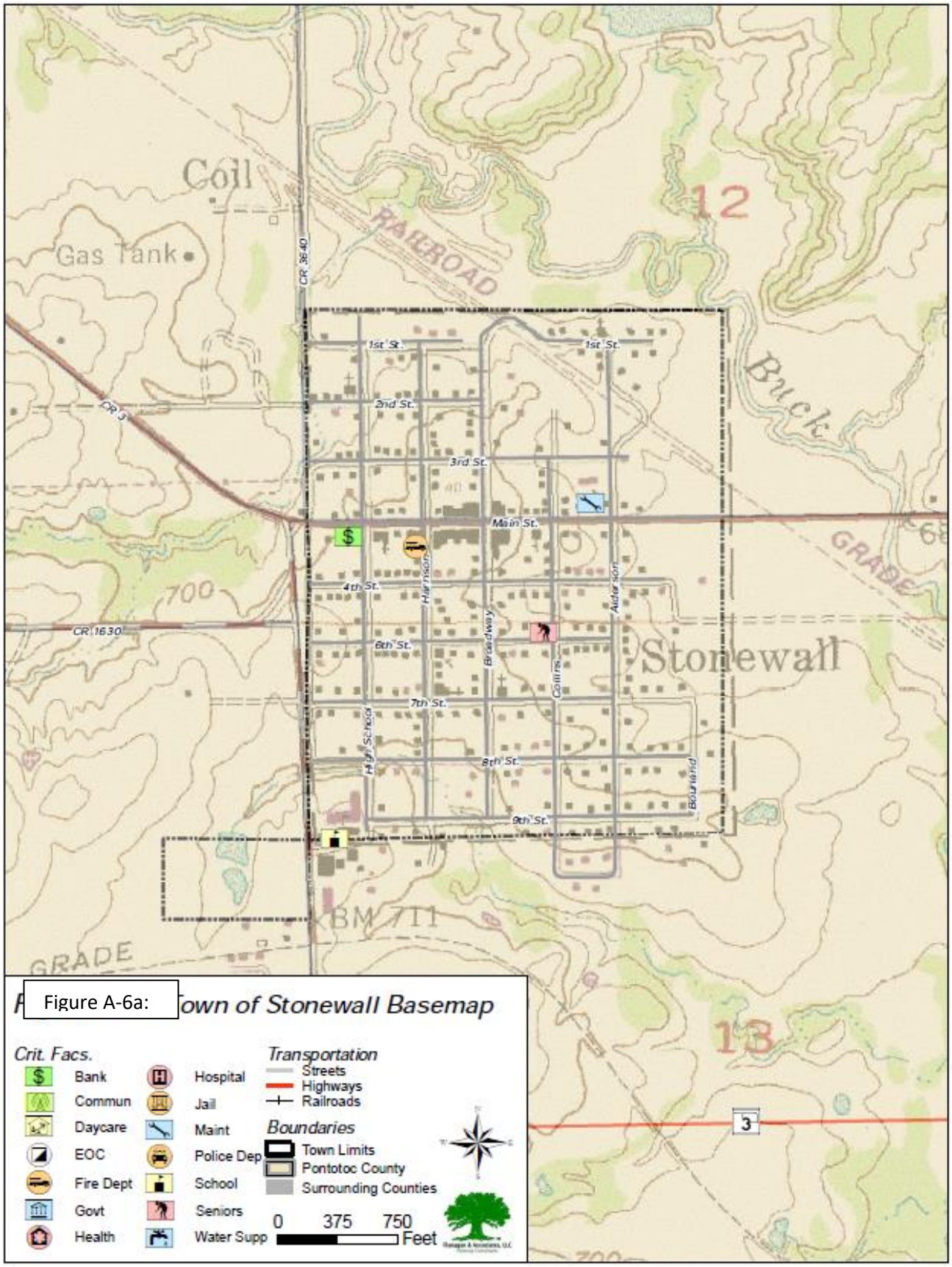


Figure A-6a: [illegible]own of Stonewall Basemap

A.8 Allen Public Schools

Allen Public Schools are located at: 105 N. Denver St., Allen, OK 74825

A.8.1 Services Summary

The Allen School District provides a public education for children in our district from pre-K through 12th grade. Our school sites serve as a social institution in our rural community. We help provide multi-hazard public information and education in our community.

A.8.2 Geo-Political Summary

Jurisdiction: The Allen Public School District values quality, integrity, compassion teamwork and life-long learning. Our mission is to prepare each student for the demands of tomorrow by providing him/her with the best, most appropriate education of today. Jeff Hiatt is the Superintendent.

Area (sq. mi): There are 130 total square miles in the district with two sites within our county. Allen School District owns about 127 acres within this area. There are 50+ buildings. The Allen School District has an approximate valuation of $30 million.

A.8.3 Population Summary

Students ***Allen Elementary School – 358***
Grades PK-8
Allen High School – 158
Grades 9 - 12

Certified Staff ***Allen School – 34***

Support Staff ***Allen School – 20***

A.8.4 Infrastructure

Facilities: Allen Public School:

Allen School Softball Field:

A.8.5 Hazards

Please see chapter 3 for hazards that affect the Allen Public School System.

***Allen Schools and the town of Allen are unique in Pontotoc County in that this is the only area within the county that houses a major hazardous materials tank farm. This facility is owned by Magellan Industries. This facility houses 10 – 1,000,000-barrel tanks, as well as 8 smaller tanks, 2—96,000 gal Butane tanks, 1—60,000 gal Butane tank, and 3—104,000 Gal Butane tanks. Numerous pipelines also feed this facility carrying petroleum products ranging from jet fuel to crude oil.

The school is located approximately .6 miles from the closest storage tank and approximately .7 miles from the large propane storage tanks.

Due to the special hazards related to this facility and its proximity to the Allen School, special considerations have been taken in the mitigation planning for this location.

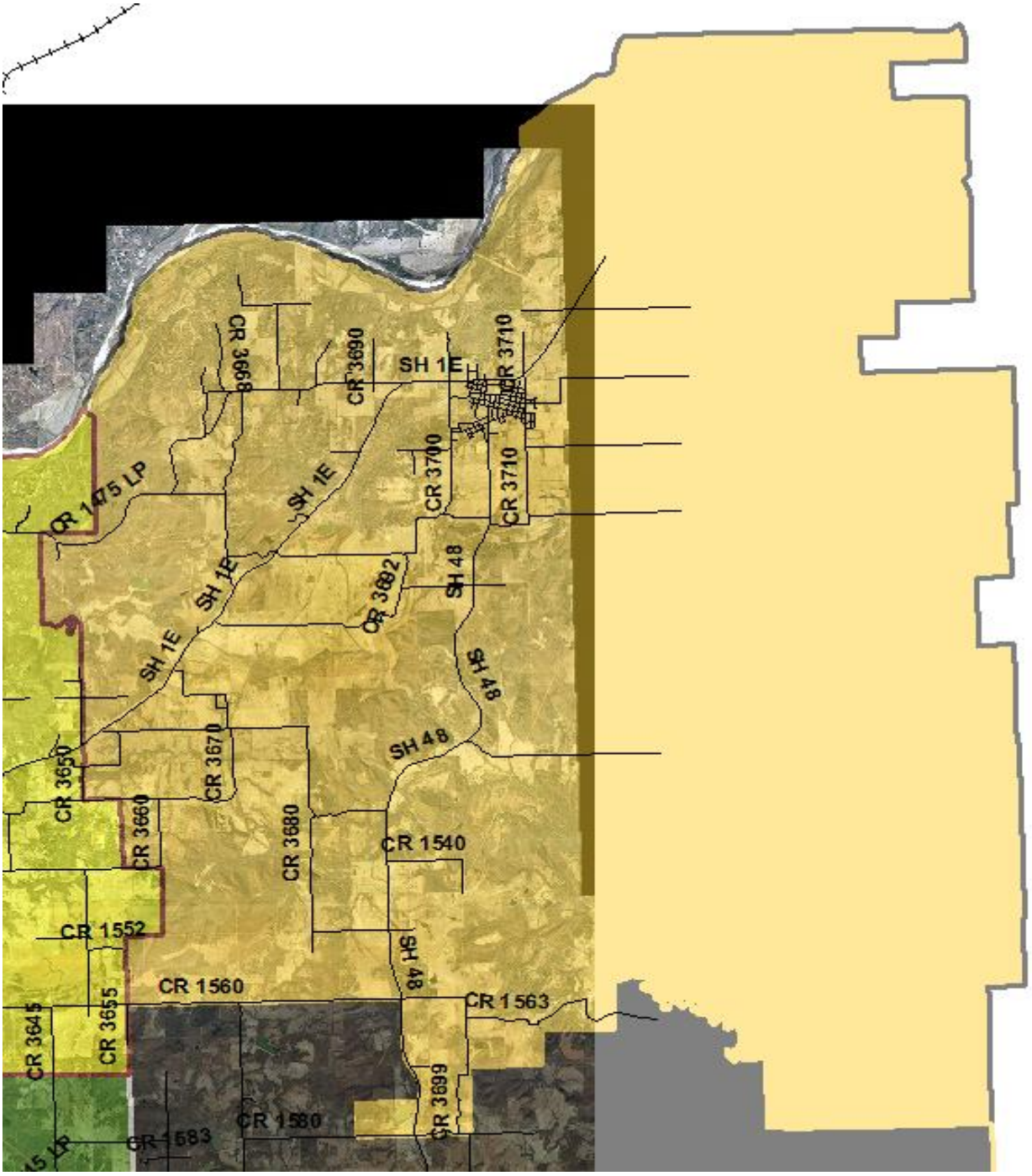


Figure A 7: Allen School District Map

A.9 Ada Public Schools

Ada Public Schools Board of Education

Office 1 ..... Russ Gurley
Office 2 ..... Kiah Anderson
Office 3 ..... Kyle Stuart
Office 4 ..... Todd Boone
Office 5 ..... Anne Nicole Flinn

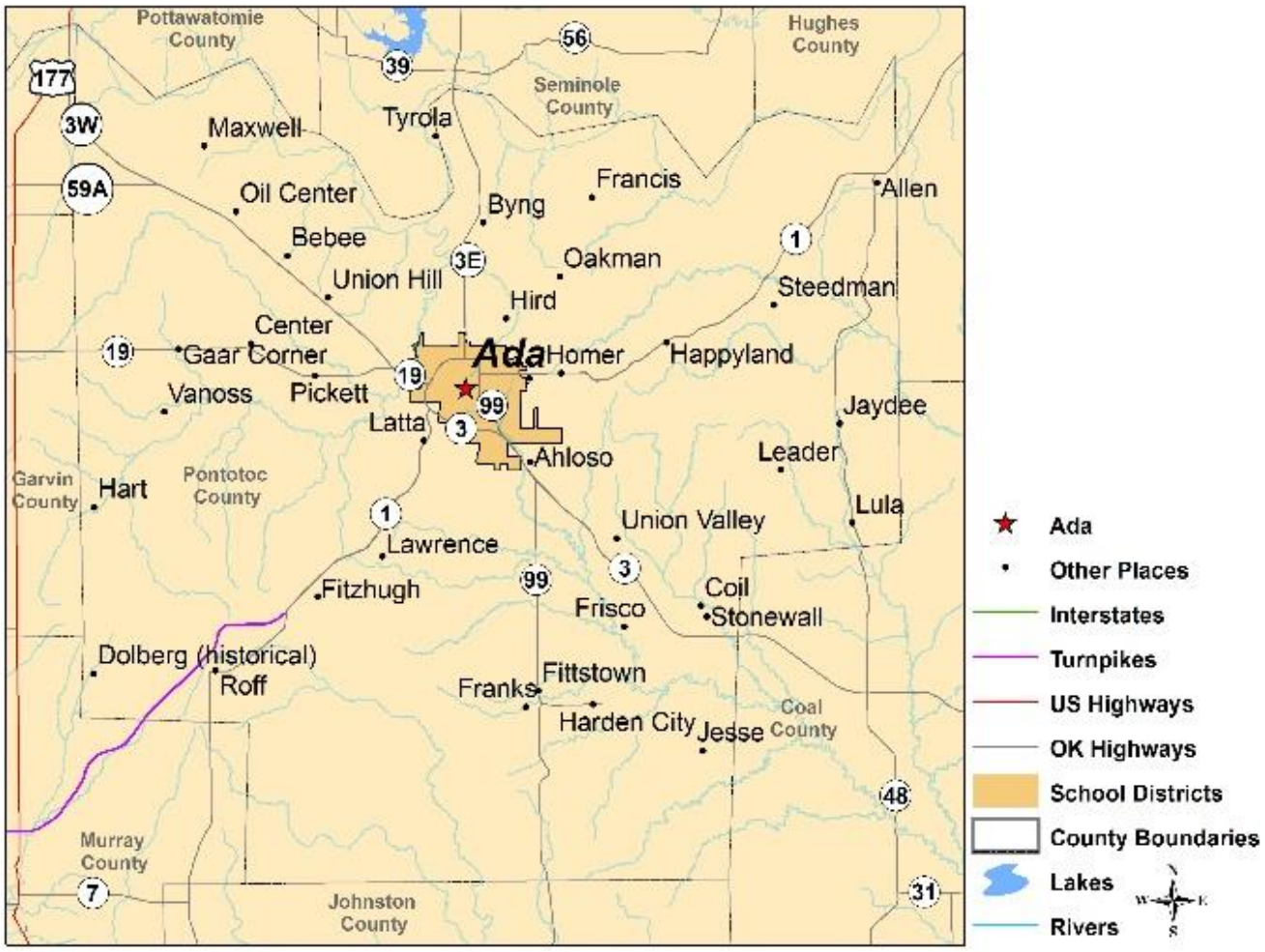
Ada Public Schools Administration

School Superintendent ..... Mike Anderson
Executive Director of Personnel ..... Bryan Harwell
Director of Federal Programs…….. Lisa Fulton
Director of Operations ..... Eddie Jacobs
Homeless Liaison..... Shonna Self
Ada High School Principal ..... Jeff Maloy
Ada Jr. High School Principal ..... Scott Lowrance
Willard Elementary School..... Tara Burns
Washington Elementary School..... Tatum Sallee
Hayes Elementary School..... Diana Clampitt
Ada Early Childhood Center..... Cindy Brady
Technology Director..... Celena Galbreaith

Location

Ada Public School District, shown in Locator Map Figure 4.2-1, primarily serves students in the City of Ada. The District provides services to some areas outside of the City's jurisdictional limits.

Ada Public Schools Locator Map



Description

Ada Public Schools offers services ranging from Early Childhood through 12th grade. Ada Public Schools also offers adult learning programs out of the Glenwood Resource Center. The District is comprised of one early childhood center, 3 elementary schools, one junior high school, and one high school. The District also has the Glenwood Resource Center, which provides a variety of additional services and the Ada Alternative Academy. The Alternative Academy shares a campus with Ada High School. Figure 4.2-2 shows each school's location within Ada, and Table 4.2-1 provides population information for each school.

Table A-2 Ada Public Schools Enrollment, 2021-2022

Name	District	Grades	Staff	Students
Ada High School	Ada	10-12	70	510
Ada Junior High School	Ada	8-9	58	582
Willard Grade Center	Ada	5-6	43	354
Washington Grade Center	Ada	3-4	37	330
Hayes Grade Center	Ada	1-2	48	388
Ada Early Childhood Center	Ada	EC	56	359
Alternative Education Academy	Ada	9-12	5	54
TOTAL			317	2,577

Source: District Operations Director March 2022

Boundaries

According to the District Report from the Office of Educational Quality and Accountability, Ada Public Schools District covered 14 square miles. The District is centered on the City of Ada and the vast majority of the District lies within Ada's city limits. The District's boundaries can be seen in Figure 4.2-2.

Population Summary

According to the District Report, 15,143 individuals resided within the district. Table 4.2-2 provides demographic information available from that report, which was based on the American Community Survey 2008-2012, 5-year estimate.

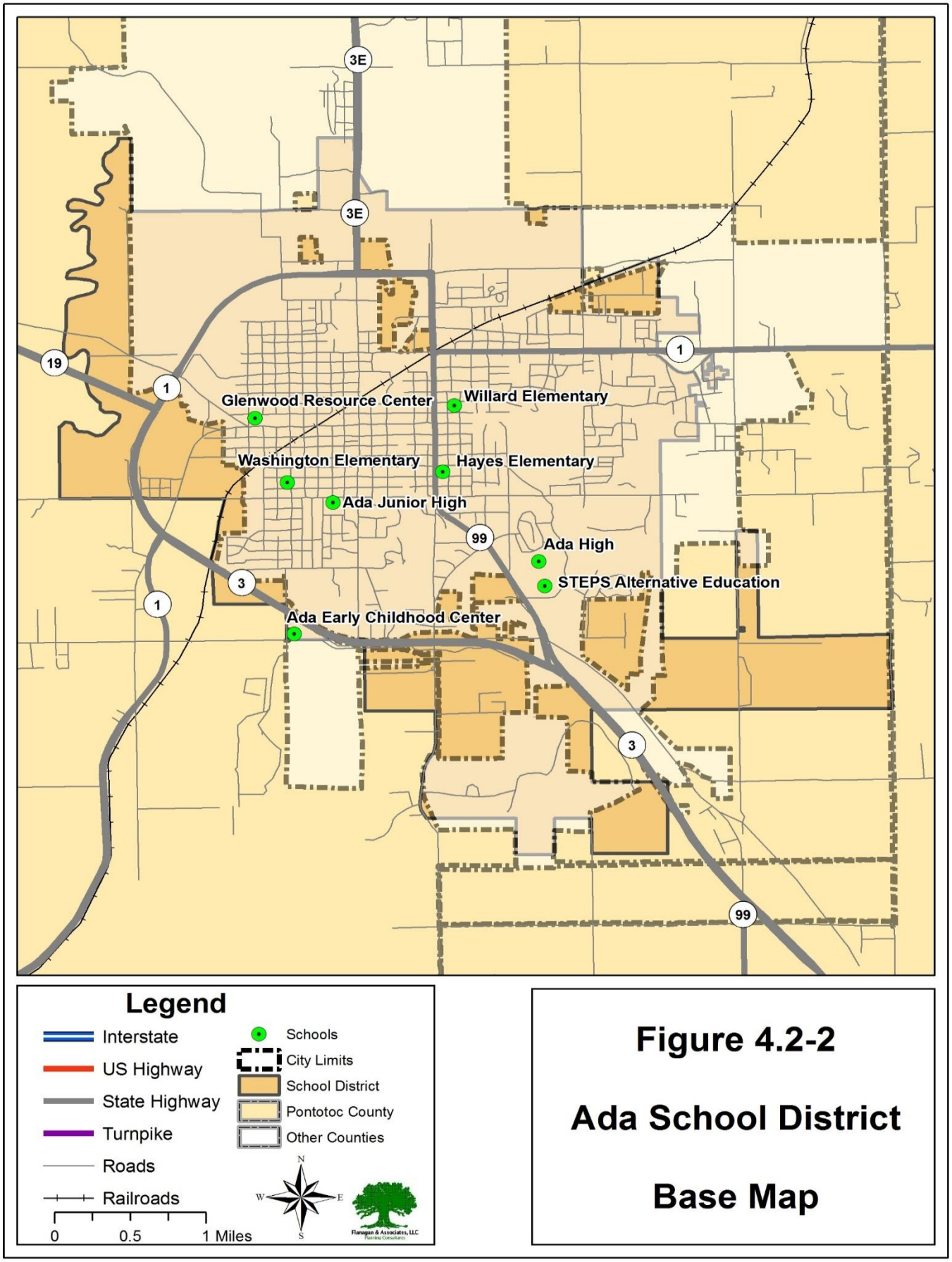


Figure 4.2-2

Ada School District

Base Map

Table A-3 Ada Public Schools Demographic Information

Category	Percentage	District School Enrollment	Population	Percentage
Single Parent Families	47.8%	Grades 7 through 12	1,146	44.5%
Unemployment Rate	9%	Grades Pre-K through 6	1,431	55.5%
Poverty Rate	19.9%	**Totals**	**2,577**	**100%**
Caucasian	53%	**Administration and Teaching Staff (FTE)**	**Population**	**Percentage**
Native American	26.8%			
African American	2.3%	Certified Classroom Teachers (FTE)	165.4	73.9%
Hispanic	12.5%	Professional Support (FTE)	38.8	17.4%
Asian	.9%	School and District Administrators (FTE)	19.4	8.7%
		Totals	**223.6**	**100%**

Source: Ada School District 2020 Report, Office of Educational Quality and Accountability

Governance and Economic Summary

The Ada School Board of Education acts as a policy making body. It is composed of five members, each elected from a separate ward. Meetings are scheduled once a month and are held at Ada Board of Education Building. The Board of Education appoints the superintendent, who in turn oversees the day-to-day operations of the district. During the 2021 school year, the district received 72.6% of its funding from the state, .5% from local sources, 24% from federal programs, and 2.9% from intermediate (county) sources.

In September of 2021, voters within the Ada Public Schools District approved a $71 million bond that will provide for two elementary schools, provide updates to existing sites, transportation and other capital improvements. This bond represents an increase of 12% in annual local property taxes. This bond issue is indicative of the strong support Ada residents have shown for their school district.

In 1988, the Ada City Schools Foundation (ASCF) was formed in order to encourage continued academic success within the Ada Public Schools District. ASCF is an independent organization that works with the District in order to pursue funding for and completion of "innovative education programs." These programs are divided into two categories: "Grants for Teachers" provides awards to individual teachers for specific projects, and "Experts in Residence" brings experts from a wide variety of disciplines to the school district to speak with students. ACSF is governed by a volunteer board of trustees.

Ada High School and Ada Alternative Education

Ada High School and Ada Alternative Academy share a campus located at 1400 Stadium Dr. in the south east portion of Ada, near Ada Lake. This campus is surrounded by residential uses along its northern and eastern borders, while the campus borders Hwy 99 to the west and undeveloped properties to the south. The primary building is a brick masonry building that was constructed in 1968. The gymnasium was constructed in 2003. The campus has a football field, large parking lot, and several auxillary buildings The 2014 bond issue provided funding for new classrooms doubling as a FEMA 361 Safe Room for the entire campus.

Ada Junior High School

Ada Junior High School (AJHS) is located at 223 W. 18th in the south, central portion of Ada. The campus is surrounded by single family residential land uses. AJHS provides kitchen services for the majority of the other schools in the district. The kitchen is equipped with sprinkler system to suppress fires. AJHS was built in 1939 and is a brick masonry building. The campus also houses the District's Board of Education administrative offices. This brick building is located on the south eastern corner of the campus and was constructed in 1960. The 2014 Ada School Bond included money for a new Band and Music Room that doubled as a FEMA 361 Safe Room. Some of the schools servers are housed in the District Administration Offices.

Hayes Elementary School

Hayes Elementary School, located at 500 S. Mississippi, provides 1st and 2nd grade classes for the school District. The school is located just east of Hwy 99, and the campus is surrounded on the other three sides by single family residential land use. The Hayes Elementary School was constructed in 1972 and is composed of brick. The 2014 Ada City Schools Bond provided funds for a cafeteria facility that was constructed to FEMA 361 standards.

Washington Elementary School

Washington Elementary School is a third to fourth grade elementary school, located at 600 S. Oak. The school campus is completely surrounded by single family residential land uses. The main building is located on the eastern edge of the campus, with open space and auxiliary buildings taking up the rest of campus. Washington Elementary School was built in 1960 and is a brick building with some stone façade. The 2014 bond included funds for a multi-purpose Safe Room that included space for science, math, and technology classrooms.

Willard Elementary School

Willard Elementary School offers services for the fifth and sixth grades. Willard Elementary School's campus is located at 817 E. 9th in the central portion of the City. The campus is located just west of East Central University and the Chickasaw Business and Conference Center is located south of the school campus. Single family residential properties surround the school to the North and West. The block immediately to the school's east is a dedicated surface parking lot. On street parking is available around the school. The School building is situated on the north portion of its campus, and the southern portion of the campus is open space for recreation. The school building is composed of brick and was constructed in 1950A Band and Vocal Music Room was constructed that doubles as a FEMA 361 Safe room funded by the 2014 bond issue.

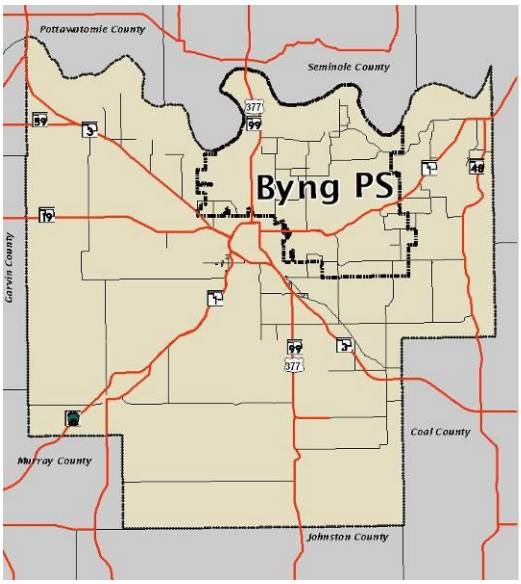
Ada Early Childhood Center

The Ada Early Childhood Center (AECC) provides pre-Kindergarten and Kindergarten educational programs, including programs for developmentally delayed children. The campus is located at 630 W. 33rd St. in Ada, and it is the newest facility within the District. AECC is located south of the historically developed areas of the city. The campus is located in a fairly undeveloped area south of Hwy 3. AECC's physical education room is built to FEMA 361 standards and has enough square footage to provide refuge to the entire student and staff population. The building is primarily made of brick and was constructed in 2011.

Glenwood Resource Center

Glenwood Resource Center is located at 825 W. 10th adjacent to Glenwood Park. The Resource Center was originally an elementary school that now provides adult education, testing, and spaces for other services. A large portion of Glenwood is utilized by the Chickasaw Nation. The District's primary servers are located here, though additional servers are housed at other district facilities. The Center is located in an area dominated by single family residential uses. Some light commercial uses are present south of campus, and development intensifies to the west near Hwy 99. There, developments range from large commercial, warehouse, and light industrial uses. GRC is a brick constructed building dating back to 1952.

A.10 Byng Public Schools



A.10.1 Services Summary

The Byng School District provides a public education for children in our district from pre-K through 12th grade. Our school sites serve as a social institution in our rural community. We help provide multi-hazard public information and education in our community.

A.10.2 Geo-Political Summary

Jurisdiction: The Byng Public School District values quality, integrity, compassion, teamwork and life-long learning. Our mission is to prepare each student for the demands of tomorrow by providing him/her with the best, most appropriate education of today.
Kevin Wilson is the Superintendent.

Area (sq mi): There are 130 total square miles in the district with three sites within our county. Byng School District owns about 127 acres within this area. There are 50+ buildings. The Byng School District has about a $30 million dollar valuation.

A.10.3 Population Summary

Students

Byng Elementary School – 272
Grades 4-6

Francis Elementary School – 227
Grades PK-3

Homer Elementary School – 618
Grades PK-5

Byng Junior High School – 376
Grades 7-9

Byng High School – 287
Grades 10-12

Certified Staff

Byng Elementary School - 20

Francis Elementary School - 15

Homer Elementary School - 36

Byng Junior High School - 21

Byng High School - 26

A.10.4 Infrastructure

Facilities: ***Byng Elementary School***

500 South New Bethel Blvd.
Ada, OK 74820-1177

Byng Francis Elementary School

18461 CR 1480
Ada, OK 74820-0391

Byng Homer Elementary School

1400 N. Monte Vista
Ada, OK 74820

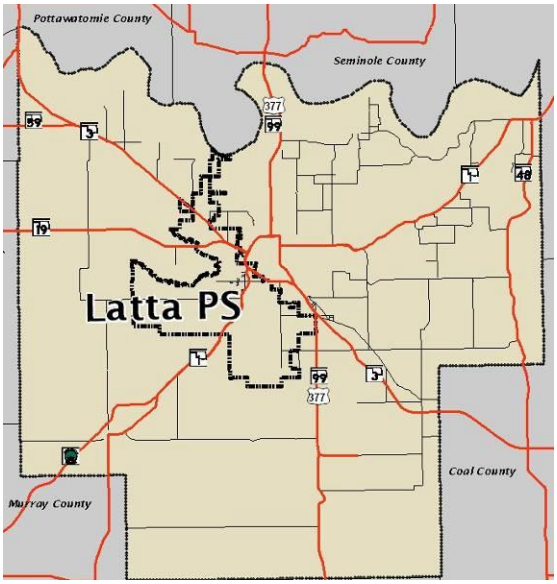
Byng Junior High School

500 South New Bethel Blvd.
Ada, OK 74820-1177

Byng High School

500 South New Bethel Blvd.
Ada, OK 74820-1177

A.11 Latta Public Schools



Latta Public School is a rural school located outside the city limits of Ada at:

A.11.1 Services Summary

The District provides the following services:

PK – 12th Grade education to students in the district.

Area (sq mi): The district includes approximately 50 square miles.

A.11.2 Geo-Political Summary

Jurisdiction: The Latta Public School District values quality, integrity, compassion teamwork and life-long learning. Our mission is to prepare each student for the demands of tomorrow by providing him/her with the best, most appropriate education of today. Scott Morgan is the Superintendent.

Area (sq mi): There are 49.5 total square miles in the district within our county. Latta School District owns about 60 acres within this area. There are 25 buildings. The Latta School District has about a $25 million dollar valuation.

A.11.3 Population Summary

Students

***Latta Elementary School* – 514**
Grades PK-5

Latta Middle School – 173
Grades 6-8

Latta High School – 218
Grades 9-12

Certified Staff

Latta Elementary School - 25

Latta Junior High School - 14

Latta High School - 14

A.11.4 Infrastructure

Facilities:

Latta Elementary School

Latta Elementary School has a safe room with a 426-person capacity.

Latta Junior High School

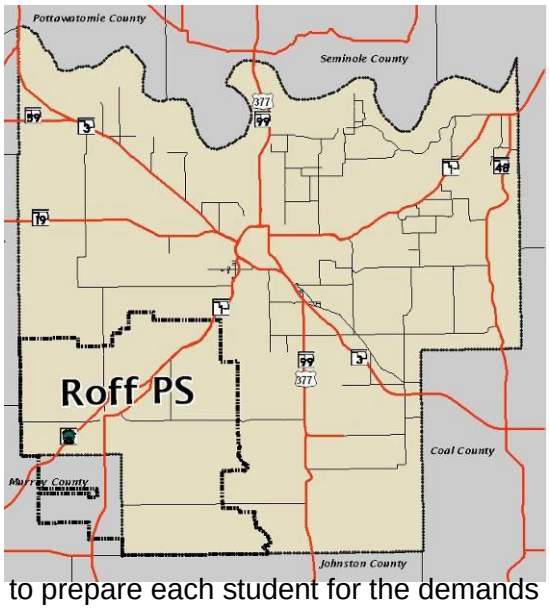
Latta High School

Latta Junior High and High Schools share a safe room with a 390-person capacity.

Other Assets:

5 - 71-passenger school buses
5 – 65-passenger school buses
3 – Pick-up trucks
3 – Suburbans
1 – Mini-van
6 – Weather radios

A.12 Roff Public Schools



A.12.1 Services Summary

The District provides the following services:

PK – 12th Grade education to students in the district.

A.12.2 Geo-Political Summary

Area (sq mi): 159 sq. miles
Jurisdiction: The Roff Public School District values quality, integrity, compassion teamwork and life-long learning. Our mission is to prepare each student for the demands of tomorrow by providing him/her with the best, most appropriate education of today. Ead Simon is the Superintendent.

Area (sq mi): There are 159 total square miles in the district with two sites within our county. Roff School District owns about 30 acres within this area. There are 20 buildings. The Roff School District has about a $20 million dollar valuation.

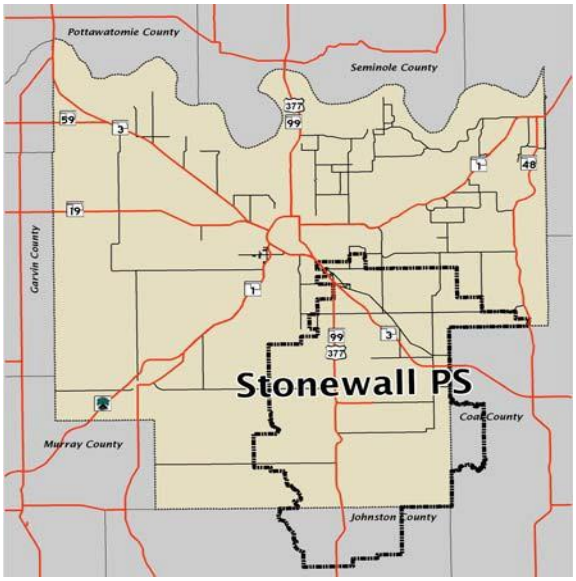
A.12.3 Population Summary

Students	***Roff Elementary School – 227*** Grades PK-8
	Roff High School – 90 Grades 9-12
Certified Staff	***Roff Elementary School - 14***
	Roff High School - 10

A.12.4 Infrastructure

Facilities:	***Roff Elementary School***
	Roff High School

A.13 Stonewall Public Schools



Stonewall Public Schools including the McLish Campus:

A.13.1 Services Summary

The District provides the following services:

Public School Education.

A.13.2 Geo-Political Summary

Jurisdiction: SE Pontotoc County Area

(sq mi): Approx. 209 sq. miles.

The Stonewall Public School District values quality, integrity, compassion teamwork and life-long learning. Our mission is to prepare each student for the demands of tomorrow by providing him/her with the best, most appropriate education of today. Greg Loveless is the Superintendent.

Stonewall School District owns about 30 acres within this area. There are 20 buildings. The Stonewall School District has about a $15 million dollar valuation.

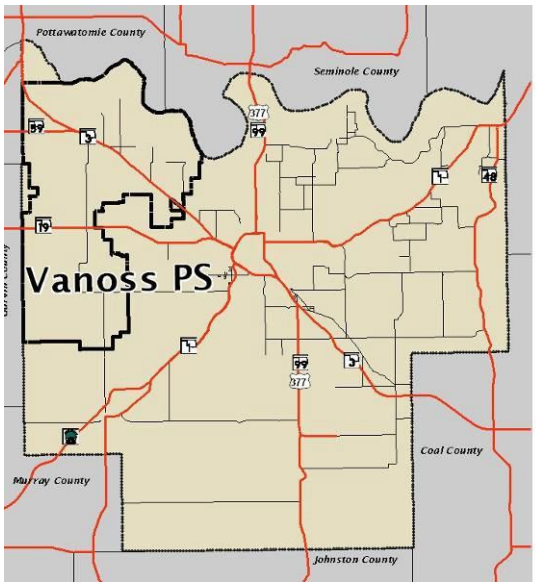
A.13.3 Population Summary

Students	***Stonewall Elementary School* – 189** Grades PK-4
	McLish Middle School – 134 Grades 5-8
	Stonewall High School – 132 Grades 9-12
Certified Staff	***Stonewall Elementary School - 12***
	McLish Middle School - 11
	Stonewall High School – 11

A.13.4 Infrastructure

Facilities:	***Stonewall Elementary School***
	McLish Middle School
	Stonewall High School

A.14 Vanoss Public Schools



Vanoss Public Schools is a rural school district 10 miles west of Ada.

A.14.1 Services Summary

The District provides the following services:

Education services for prekindergarten through 12th grade; community cellar for tornadoes.

Area (sq mi): The district includes approximately 145 square miles.

A.14.2 Geo-Political Summary

Jurisdiction: The Vanoss School district extends from the northwest corner of Pontotoc County. It covers approximately 145 square miles in the county. It contains no incorporated towns. Vanoss School is known as the school without a town. Marjana Tharp is the Superintendent.

Vanoss School District owns about 50 acres within this area. There are 23 buildings. The Vanoss School District has about a $20 million dollar valuation.

Vanoss School District can be found in Range 3 North 4 East; Range 3 North 5 East; Range 4 North 4 East; Range 4 North 5 East; Range 5 North 4 East; and Range 5 North 5 East.

A.14.3 Population Summary

Students	***Vanoss Elementary School* – 430** Grades PK-8
	Vanoss High School – 154 Grades 9-12
Certified Staff	***Vanoss Elementary School - 26***
	Vanoss High School - 13

A.14.4 Infrastructure

Facilities:	***Vanoss Elementary School***
	Vanoss High School

A.15 Pontotoc Technology Center

Pontotoc Technology Center (PTC) is a public career and technology education center located at 601 W. 33rd St, Ada, OK 74820. PTC is committed to anticipating needs and educating customers to provide a trained workforce in Oklahoma.

A.15.1 Services Summary

Pontotoc Technology Center has a diverse economy with a large health community including Mercy Hospital Ada, Chickasaw Nation Health System and Rolling Hills Psychiatric Hospital.

Pontotoc also has a large mining sector with Holcim, US Silica, and Fairmount Minerals, a large manufacturing sector with Flex-N-Gate, Ram Jack, Leachco, GAMI and Dart Containers and a large service industry with Chickasaw Nation, Legal Shield and IQOR. These diverse sectors are served in a rural setting.

PTC partners with the community to offer a variety of services to area employers. As a result of Ada's efforts to create a law enforcement/public service industry, PTC has extended the school's public service offerings to include fire service training using the state-of-the-art Fire Training Center.

PTC's Business Incubator has been very successful in starting new businesses such as Cammond Industry, Jobri Inc., and McGov.Com. Jobri Inc. was the International Incubator Client of the Year. Currently housed in our incubator are Lovera's Cheeses.

PTC is also involved with the WorkKeys/Work Readiness Certificate program. This unique assessment will help students be prepared for available jobs and will help area employers select the best workforce available. PTC is the key to economic development and workforce development in the Pontotoc County area.

Secondary students living in the technology center district who attend a public, private, parochial, charter, or home school are eligible to attend tuition free.

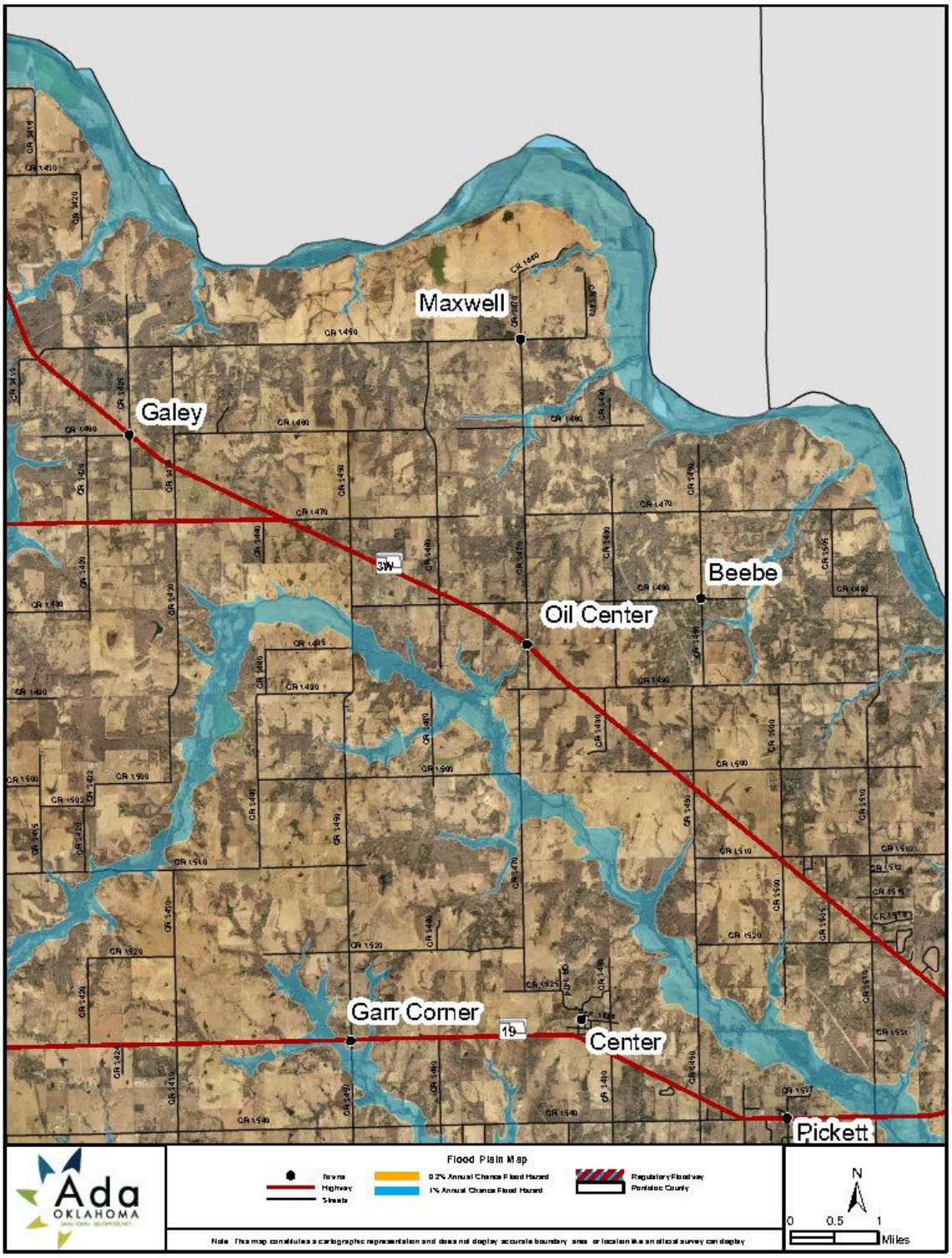
A.15.2 Population Summary

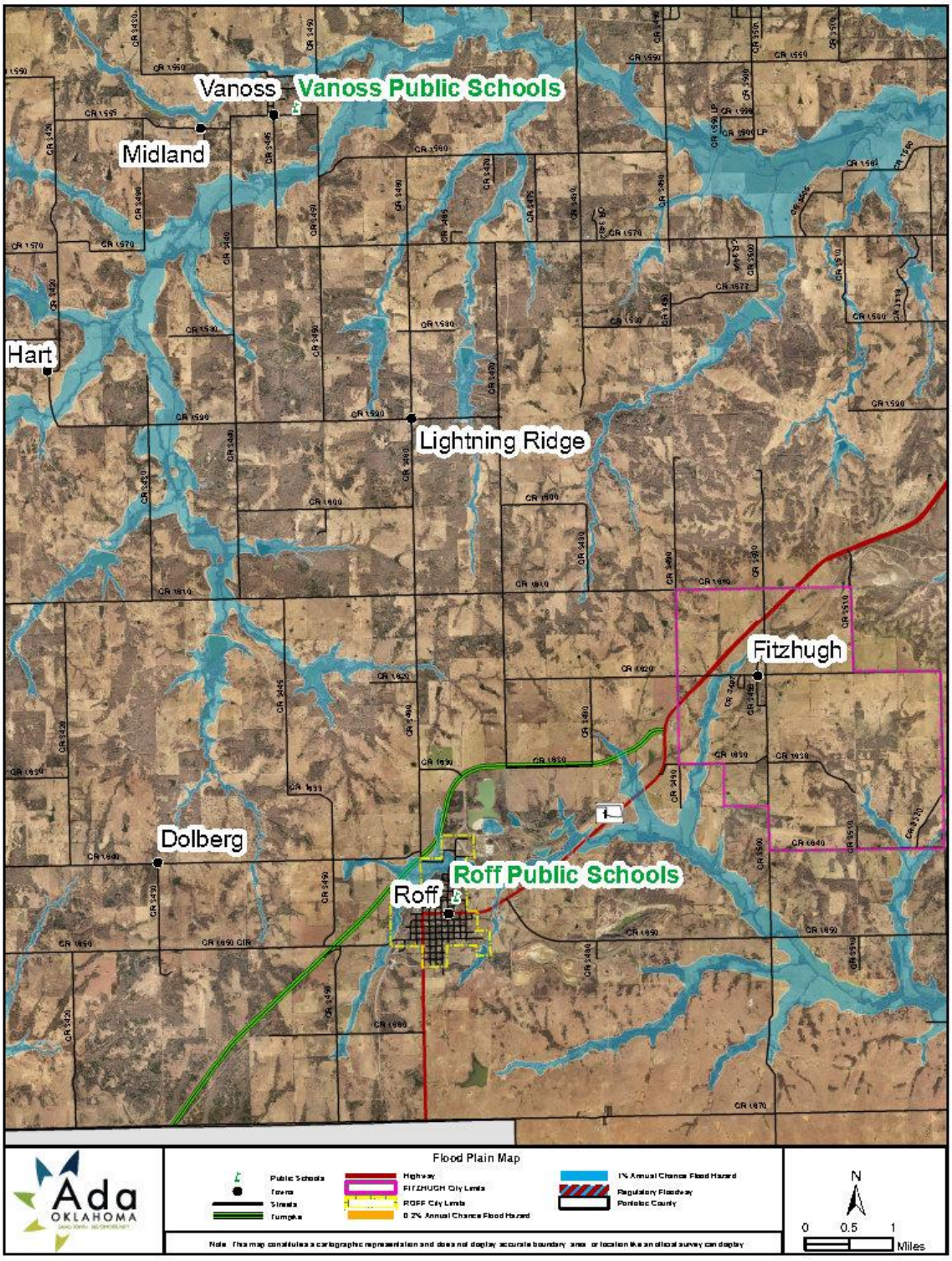
District population is 40,638 based on 2010 census data. School districts served include Ada, *Allen, Byng, Latta, Roff, Sasakwa, *Stonewall, Tupelo and Vanoss.

*Only portions of these school districts are members of the technology center district.

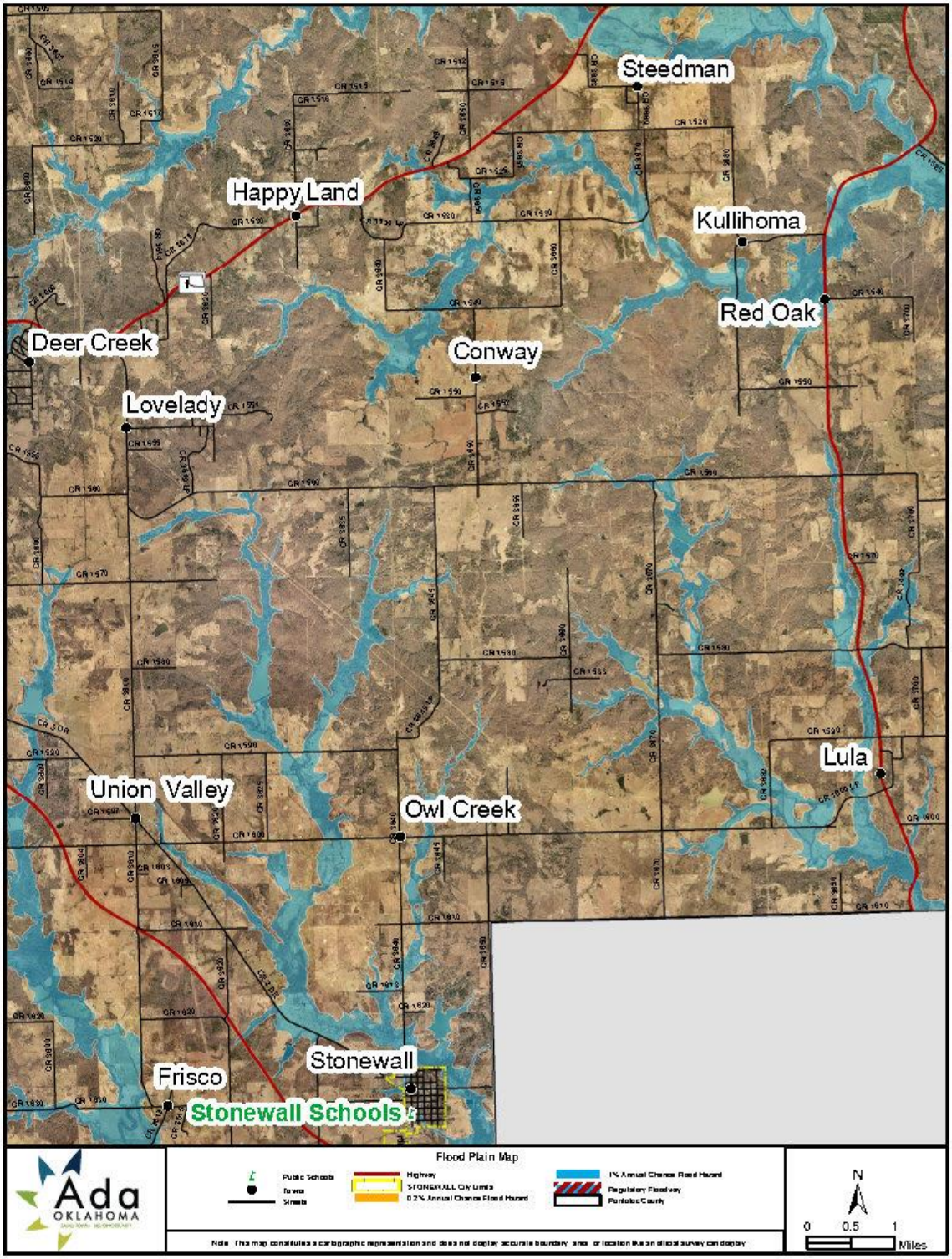
Appendix B:

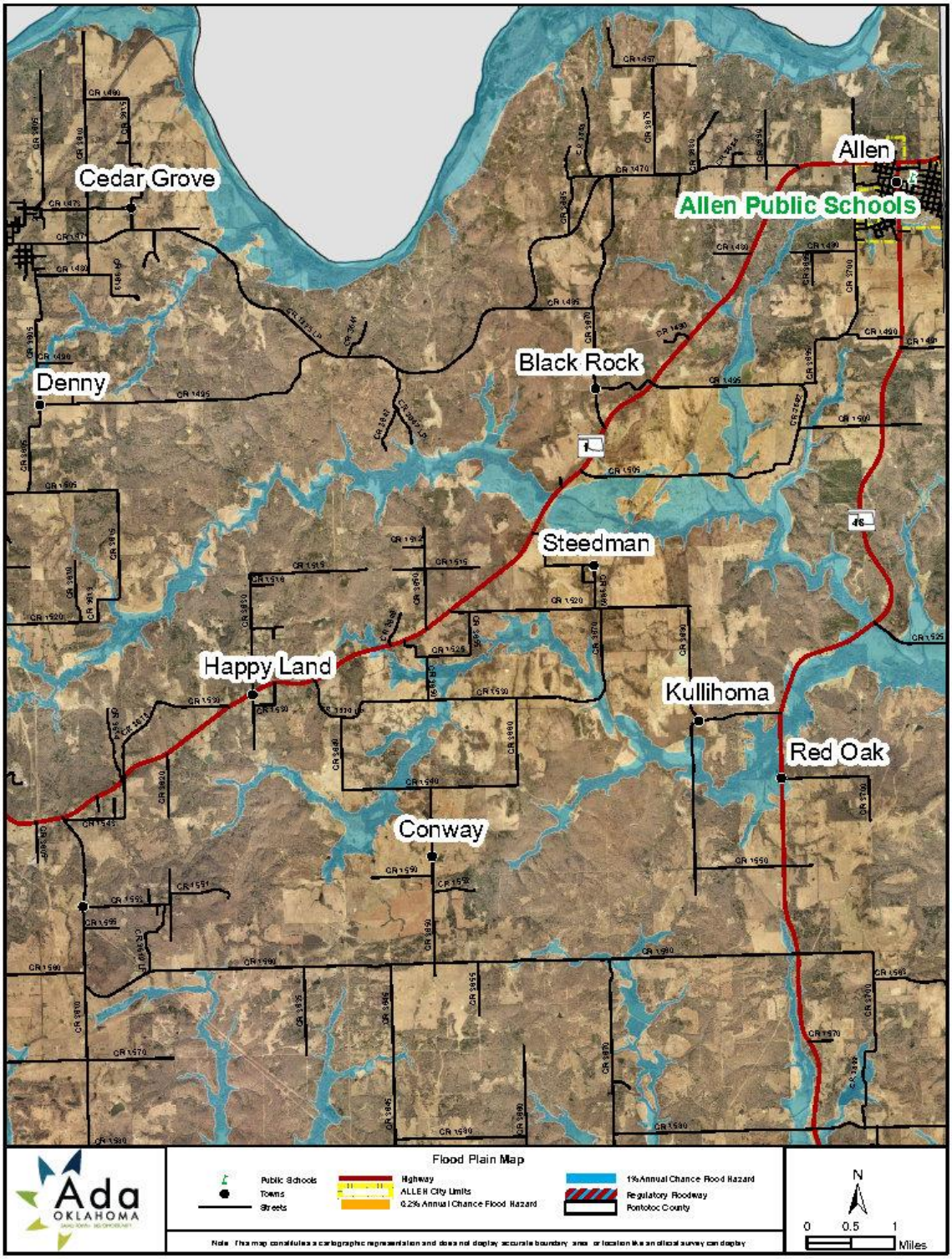
Expanded View Flood Plain Maps for Individual jurisdictions

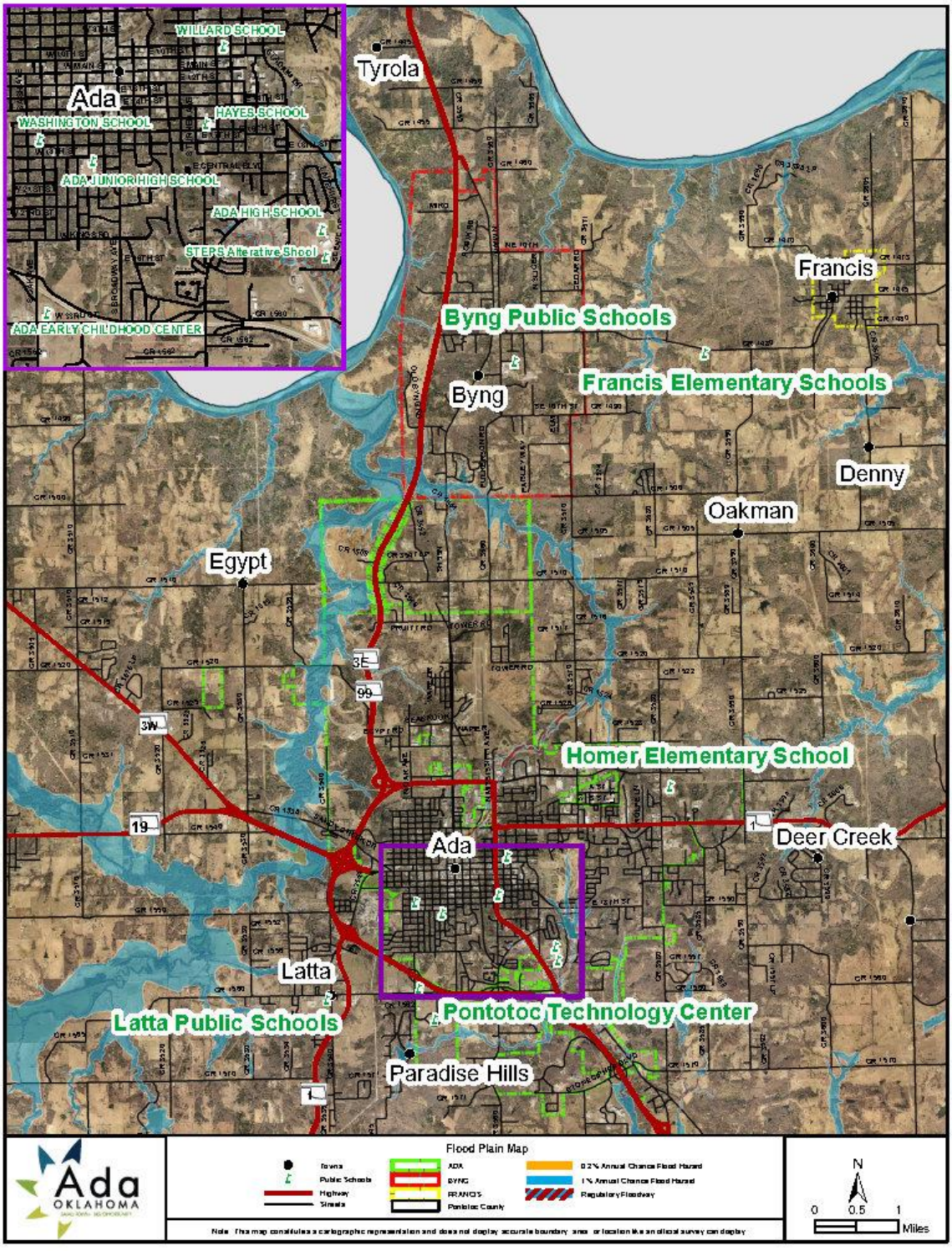



Vanoss
Vanoss Public Schools
Midland
Hart
Lightning Ridge
Fitzhugh
Dolberg
Roff Public Schools
Roff
Flood Plain Map
Ada
OKLAHOMA
Public Schools
Towns
Streets
Turnpike
Highway
FITZHUGH City Limits
ROFF City Limits
0.2% Annual Chance Flood Hazard
1% Annual Chance Flood Hazard
Regulatory Floodway
Pontotoc County
N
0
0.5
1
Miles

Mclish Middle Schools is a part of the Stonewall PS District.


Steedman
Happy Land
Kullihoma
Red Oak
Deer Creek
Conway
Lovelady
Lula
Union Valley
Owl Creek
Stonewall
Frisco
Stonewall Schools
Flood Plain Map
Public Schools
Roads
Highway
STONEWALL City Limits
0.2% Annual Chance Flood Hazard
1% Annual Chance Flood Hazard
Regulatory Floodway
Pontotoc County
Ada
OKLAHOMA
N
0 0.5 1
Miles


Allen
Allen Public Schools
Cedar Grove
Black Rock
Denny
Steedman
Happy Land
Kullihoma
Red Oak
Conway
Flood Plain Map
Public Schools
Towns
Streets
Highway
ALLEN City Limits
0.2% Annual Chance Flood Hazard
1% Annual Chance Flood Hazard
Regulatory Floodway
Pontotoc County
Ada
OKLAHOMA
N
0 0.5 1
Miles



Homer Elementary School is a part of Byng PS District.

U.S. Department of Homeland Security
FEMA Region 6
800 N. Loop 288
Denton, TX 76209

FEMA

February 24, 2023

Kim Jenson, Mitigation Planning Team Lead
Oklahoma Department of Emergency Management and Homeland Security
P.O. Box 53365
Oklahoma City, OK 73152-3365

RE: Approval of the Pontotoc County, Oklahoma Multi-Jurisdiction Hazard Mitigation Plan

Dear Mrs. Jenson:

This office has concluded its review of the referenced plan and we are pleased to provide our approval of this plan in meeting the criteria set forth by 44 CFR § 201.6. By receiving this approval, eligibility for the Hazard Mitigation Assistance Grants will be ensured for five years from the date of this letter, expiring on February 23, 2028.

This approval does not demonstrate approval of projects contained in the plan. This office has provided the enclosed Local Hazard Mitigation Planning Tool with reviewer's comments, to further assist the community in refining the plan going forward. Please advise the referenced community of this approval.

If you have any questions, please contact Shanene Thomas, HM Community Planner, at (940) 898-5492.

Sincerely,

Ronald C. Wanhanen
Chief, Risk Analysis Branch

Enclosures: Approved Participants

ADOPTION RESOLUTION
#23-39

(Name of Jurisdiction) Pontotoc County

(Governing Body) Board of Commissioners

(Address) 113 W 13th St, Ada, OK 74820

RESOLUTION

WHEREAS, Pontotoc County, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Pontotoc County is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Pontotoc County has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Pontotoc County Board of Commissioners that Pontotoc County adopts the Pontotoc County Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 13th day of February, 2023 at the meeting of the Pontotoc County Board of Commissioners.

(Commissioner)

(Commissioner)

(Commissioner)

(Clerk)

COUNTY CLERK
PONTOTOC COUNTY OKLAHOMA

RESOLUTION NO. 23-03A

BY Council Member Yoli Vazquez

A RESOLUTION TO ADOPT THE *PONTOTOC COUNTY MULTI-JURISDICTIONAL, MULTI-HAZARD, MITIGATION PLAN* FOR THE CITY OF ADA, OKLAHOMA, TO BE KNOWN AS THE NATURAL HAZARD MITIGATION PLAN

WHEREAS, the City of Ada, with assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the City of Ada is a local unit of government that has afforded it's citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, the City of Ada Council has have reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the City of Ada Council that the City of Ada adopts the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan.

PASSED AND APPROVED by the City Council of the City of Ada this 21st day of February 2023.

Attest:

Sally Pool
City Clerk (seal)

THE CITY OF ADA CORPORATE SEAL STATE OF OKLAHOMA

City of Ada

By Randy McFarlin
Mayor

ADOPTION RESOLUTION

(Name of Jurisdiction) Town of Allen

(Governing Body) Allen City Council

(Address) P.B. 402 Allen, OK 74825

RESOLUTION

WHEREAS, ***Town of Allen***, with the assistance from the ***Hazard Mitigation Planning Team***, has gathered information and prepared the ***Pontotoc County Multijurisdictional Hazard Mitigation Plan***; and

WHEREAS, the ***Pontotoc County Multijurisdictional Hazard Mitigation Plan*** has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, ***Town of Allen*** is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, ***Town of Allen*** have reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the ***Allen City Council*** that ***Town of Allen*** adopts the ***Pontotoc County Multijurisdictional Hazard Mitigation Plan*** as this jurisdiction's Natural Mitigation Plan, and resolves the execute the actions in the Plan.

ADOPTED this ***15th day of February, 2023*** at the meeting of the ***Allen City Council***.

(Mayor)

(Clerk)

RESOLUTION NO. 2023-03

A RESOLUTION ADOPTING THE *PONTOTOC COUNTY MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN*

WHEREAS, the Town of Byng and its environs are subject to danger and damage from flooding, tornadoes, high winds, lightning, wildfire and other natural hazards;

WHEREAS, several different agencies, organizations and business have programs that can address these hazards or their impact, but there is an overriding need for a comprehensive, coordinated plan to assess the problems faced by the Town and measures that are and can be brought to bear on them;

WHEREAS, the Town of Byng would benefit from the development and adoption of a multi-hazard mitigation plan;

WHEREAS, the 2000 Stafford Act mandates that communities must have an adopted, approved hazard mitigation plan before they can apply for funds from the Pre-Disaster or Post-Disaster Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Severe Repetitive Loss Program, and Repetitive Flood Claims Program; and

WHEREAS, Pontotoc County was awarded a Hazard Mitigation Grant Program planning grant in the amount of $50,000 and Pontotoc County provided local funds and in-kind services to prepare a hazard mitigation plan for Pontotoc County, the incorporated and unincorporated towns, and the Public School Systems;

WHEREAS, the Town of Byng, after due and proper notice and hearing, has considered said multi-jurisdictional multi-hazard mitigation plan and has determined that it is in the best interest of the citizens of the Town of Byng to approve such a plan.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR OF THE TOWN OF BYNG, OKLAHOMA:

Section 1. That the *Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan*, made a part of this resolution, together with any and all graphic representations referenced in this *Multi-Hazard Mitigation Plan*, are hereby approved;

Section 2: That upon its adoption, this plan should be considered as an amendment to the *Town of Byng Comprehensive Plan* and Town Ordinances;

Section 3: That copies of the *Multi-Hazard Mitigation Plan* will be maintained in the Courthouse and Public Library.

PASSED BY THE MAYOR OF THE TOWN OF BYNG, OKLAHOMA, THIS 23 **DAY OF** February**, 2023.**

Jeff Sibble, Mayor

Attest:

Pam Walker, Town Clerk

RESOLUTION NO. 350

A RESOLUTION ADOPTING THE *PONTOTOC COUNTY MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN*

WHEREAS, the Town of Fitzhugh and its environs are subject to danger and damage from flooding, tornadoes, high winds, lightning, wildfire and other natural hazards;

WHEREAS, several different agencies, organizations and business have programs that can address these hazards or their impact, but there is an overriding need for a comprehensive, coordinated plan to assess the problems faced by the Town and measures that are and can be brought to bear on them;

WHEREAS, the Town of Fitzhugh would benefit from the development and adoption of a multi-hazard mitigation plan;

WHEREAS, the 2000 Stafford Act mandates that communities must have an adopted, approved hazard mitigation plan before they can apply for funds from the Pre-Disaster or Post-Disaster Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Severe Repetitive Loss Program, and Repetitive Flood Claims Program; and

WHEREAS, Pontotoc County was awarded a Hazard Mitigation Grant Program planning grant in the amount of $50,000 and Pontotoc County provided local funds and in-kind services to prepare a hazard mitigation plan for Pontotoc County, the incorporated and unincorporated towns, and the Public School Systems;

WHEREAS, the Town of Fitzhugh, after due and proper notice and hearing, has considered said multi-jurisdictional multi-hazard mitigation plan and has determined that it is in the best interest of the citizens of the Town of Fitzhugh to approve such a plan.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR OF THE TOWN OF FITZHUGH, OKLAHOMA:

Section 1. That the *Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan*, made a part of this resolution, together with any and all graphic representations referenced in this *Multi-Hazard Mitigation Plan*, are hereby approved;

Section 2: That upon its adoption, this plan should be considered as an amendment to the *Town of Fitzhugh Comprehensive Plan* and Town Ordinances;

Section 3: That copies of the *Multi-Hazard Mitigation Plan* will be maintained in the Courthouse and Public Library.

PASSED BY THE MAYOR OF THE TOWN OF FITZHUGH, OKLAHOMA, THIS 6 **DAY OF** March, **2023.**

PONTOTOC COUNTY
MAR 2 _ 2023
TAMMY BROWN, County Clerk
By _____ Deputy

Attest:

Linda Webb, Clerk - Treas
Linda Webb, Town Clerk

David L. Morrow
Joey Morrow, Mayor

Timothy Avid, Vice Mayor

ADOPTION RESOLUTION

(Name of Jurisdiction) Town of Francis

(Governing Body) Town Council

(Address) PO Box 10, Francis, OK 74844

RESOLUTION

WHEREAS, the Town of Francis, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multi-Jurisdictional Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multi-Jurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the Town of Francis is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, the Town of Francis has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the Town of Francis Board of Trustees that Francis adopts the Pontotoc County Multi-Jurisdictional Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 14 day of February, 2023 at the meeting of the Francis Board of Trustees.

Craig Thompson

Craig Thompson (Mayor)

Gayle A. Couch

(Clerk)

RESOLUTION NO. 0213 2023

A RESOLUTION ADOPTING THE *PONTOTOC COUNTY MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN*

WHEREAS, the Town of Roff and its environs are subject to danger and damage from flooding, tornadoes, high winds, lightning, wildfire and other natural hazards;

WHEREAS, several different agencies, organizations and business have programs that can address these hazards or their impact, but there is an overriding need for a comprehensive, coordinated plan to assess the problems faced by the Town and measures that are and can be brought to bear on them;

WHEREAS, the Town of Roff would benefit from the development and adoption of a multi-hazard mitigation plan;

WHEREAS, the 2000 Stafford Act mandates that communities must have an adopted, approved hazard mitigation plan before they can apply for funds from the Pre-Disaster or Post-Disaster Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Severe Repetitive Loss Program, and Repetitive Flood Claims Program; and

WHEREAS, Pontotoc County was awarded a Hazard Mitigation Grant Program planning grant in the amount of $50,000 and Pontotoc County provided local funds and in-kind services to prepare a hazard mitigation plan for Pontotoc County, the incorporated and unincorporated towns, and the Public School Systems;

WHEREAS, the Town of Roff, after due and proper notice and hearing, has considered said multi-jurisdictional multi-hazard mitigation plan and has determined that it is in the best interest of the citizens of the Town of Roff to approve such a plan.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR OF THE TOWN OF ROFF, OKLAHOMA:

Section 1. That the *Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan*, made a part of this resolution, together with any and all graphic representations referenced in this *Multi-Hazard Mitigation Plan*, are hereby approved;

Section 2: That upon its adoption, this plan should be considered as an amendment to the *Town of Roff Comprehensive Plan* and Town Ordinances;

Section 3: That copies of the *Multi-Hazard Mitigation Plan* will be maintained in the Courthouse and Public Library.

PASSED BY THE MAYOR OF THE TOWN OF ROFF, OKLAHOMA, THIS 13th DAY OF February, 2023.

Joe McCullar, Mayor

Attest:

TOWN RESOLUTION # 22-19

RESOLUTION

WHEREAS, The Town of Stonewall, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multijurisdictional Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multijurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS Town of Stonewall is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Town of Stonewall have reviewed the Plan and affirms that the Plan will be updated no less than every five years.

NOW THEREFORE, BE IT RESOLVED by Stonewall City Council that the Town of Stonewall adopts the Pontotoc County Multijurisdictional Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan and resolves to execute the actions in the Plan.

ADOPTED this 9th[h] day of February 2023, at the regularly scheduled meeting of the governing body, in compliance with the Open Meeting Act, 25 O.S Sec. 301-314 (2001).

William Nichols
Mayor

Subscribed and sworn before me January 9, 2023

Cristine Wortman
Cristine Wortman, Notary Public

My commission expires 12/4/26

(seal)

CRISTINE WORTMAN
Notary Public - State of Oklahoma
Commission Number 18012070
My Commission Expires Dec 4, 2026

TOWN OF STONEWALL OFFICIAL SEAL CLERK'S OFFICE PONTOTOC CO., OK.

ADOPTION RESOLUTION

Ada Public Schools
Ada Board of Education
324 West 20th
Ada, OK 74820

RESOLUTION

WHEREAS, Ada Public Schools with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multijurisdictional Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multijurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Ada Public Schools is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Ada Public Schools has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Ada Board of Education that Ada Public Schools adopts the Pontotoc County Multijurisdictional Hazard Mitigation Plan as this jurisdiction's National Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 13th day of February, 2023, at the meeting of the Ada Board of Education.

(Superintendent)

(Clerk)

ADOPTION RESOLUTION

Name of Jurisdiction: Allen Public School

Governing Body: Allen Board of Education

Address: 105 N. Denver St. Allen, OK 74825

RESOLUTION

WHEREAS, Allen Public School, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multijurisdictional Hazard Plan; and

WHEREAS, the Pontotoc County Multijurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Allen Public School is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Allen Public School has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Allen Board of Education that Allen Public School adopts the Pontotoc County Multijurisdictional Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 13th day of February, 2023, at the meeting of the Allen Board of Education.

(Superintendent)

(Clerk, Allen Board of Education)

ADOPTION RESOLUTION

(Name of Jurisdiction) Byng Public Schools

(Governing Body) Byng School Board

(Address) 214 Stokes Drive Ada, OK 74820

RESOLUTION

WHEREAS, Byng Public Schools, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multijurisdictional Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multijurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Byng Public Schools is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Byng Public Schools have reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Byng School Board that Byng Public Schools adopts the Pontotoc County Multijurisdictional Hazard Mitigation Plan as this jurisdiction's National Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 13 day of February, 2023, at the meeting of the Byng School Board.

(Superintendent)

(~~Clerk~~) President

ADOPTION RESOLUTION

(Name of Jurisdiction) Latta Public Schools

(Governing Body) Latta School Board

(Address) 13925 CR 1560 Ada, OK 74820

RESOLUTION

WHEREAS, Latta Public Schools, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multijurisdictional Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multijurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Latta Public Schools is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Latta Public Schools have reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Latta School Board that Latta Public Schools adopts the Pontotoc County Multijurisdictional Hazard Mitigation Plan as this jurisdiction's National Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 24 day of February, 2023, at the meeting of the Latta School Board.

(Superintendent)

(Clerk)

A RESOLUTION ADOPTING THE *PONTOTOC COUNTY MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN*

WHEREAS, the Roff Public Schools and its environs are subject to danger and damage from flooding, tornadoes, high winds, lightning, wildfire and other natural hazards;

WHEREAS, several different agencies, organizations and business have programs that can address these hazards or their impact, but there is an overriding need for a comprehensive, coordinated plan to assess the problems faced by the Schools and measures that are and can be brought to bear on them;

WHEREAS, the Roff Public Schools would benefit from the development and adoption of a multi-hazard mitigation plan;

WHEREAS, the 2000 Stafford Act mandates that communities must have an adopted, approved hazard mitigation plan before they can apply for funds from the Pre-Disaster or Post-Disaster Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Severe Repetitive Loss Program, and Repetitive Flood Claims Program;

WHEREAS, the Roff Public Schools Board of Education, after due and proper notice and hearing, has considered said Multi-Jurisdictional, Multi-Hazard Mitigation Plan and has determined that it is in the best interest of the faculty and students of the Roff Public Schools to approve such a plan.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF EDUCATION OF THE ROFF PUBLIC SCHOOLS, OKLAHOMA:

Section 1. That the *Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan*, made a part of this resolution, together with any and all graphic representations referenced in this *Multi-Jurisdictional Multi-Hazard Mitigation Plan*, are hereby approved;

Section 2: That upon its adoption of the Multi-Jurisdictional Multi-Hazard Mitigation Plan, future planning shall include this plan; and

Section 3: That copies of the *Multi-Jurisdictional Multi-Hazard Mitigation Plan* will be maintained.

PASSED AND APPROVED BY THE BOARD OF EDUCATION OF THE ROFF PUBLIC SCHOOLS, OKLAHOMA, THIS 10 DAY OF ~~March~~ April, 2023.

Ryan Tidwell,
Roff School District Board
Vice-President

Attest:

Ead Simon, Superintendent
Roff Public Schools

RESOLUTION NO. _____

A RESOLUTION ADOPTING THE *PONTOTOC COUNTY MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION PLAN*

WHEREAS, the Stonewall Public Schools and its environs are subject to danger and damage from flooding, tornadoes, high winds, lightning, wildfire and other natural hazards;

WHEREAS, several different agencies, organizations and business have programs that can address these hazards or their impact, but there is an overriding need for a comprehensive, coordinated plan to assess the problems faced by the Schools and measures that are and can be brought to bear on them;

WHEREAS, the Stonewall Public Schools would benefit from the development and adoption of a multi-hazard mitigation plan;

WHEREAS, the 2000 Stafford Act mandates that communities must have an adopted, approved hazard mitigation plan before they can apply for funds from the Pre-Disaster or Post-Disaster Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, Severe Repetitive Loss Program, and Repetitive Flood Claims Program; and

WHEREAS, Pontotoc County was awarded a Hazard Mitigation Grant Program planning grant in the amount of $50,000 and Pontotoc County provided local funds and in-kind services to prepare a hazard mitigation plan for Pontotoc County, the incorporated and unincorporated towns, and the Public School Systems;

WHEREAS, the Stonewall Public Schools Board of Education, after due and proper notice and hearing, has considered said Multi-Jurisdictional, Multi-Hazard Mitigation Plan and has determined that it is in the best interest of the faculty and students of the Stonewall Public Schools to approve such a plan.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF EDUCATION OF THE STONEWALL PUBLIC SCHOOLS, OKLAHOMA:

Section 1. That the *Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan*, made a part of this resolution, together with any and all graphic representations referenced in this *Multi-Jurisdictional Multi-Hazard Mitigation Plan*, are hereby approved;

Section 2: That upon its adoption of the Multi-Jurisdictional Multi-Hazard Mitigation Plan, future planning shall include this plan; and

Section 3: That copies of the *Multi-Jurisdictional Multi-Hazard Mitigation Plan* will be maintained.

PASSED AND APPROVED BY THE BOARD OF EDUCATION OF THE STONEWALL PUBLIC SCHOOLS, OKLAHOMA THIS 15TH DAY OF FEBRUARY, 2023

Toby Wallace
School Board President

Attest:

Donnie James
School Board Clerk

ADOPTION RESOLUTION

(Name of Jurisdiction) Vanoss Public Schools

(Governing Body) Board of Education

(Address) 4665 CR 1555 Ada OK 74820

RESOLUTION

WHEREAS, the Vanoss Public Schools, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multi-Jurisdictional Hazard Mitigation Plan; and

WHEREAS, the Pontotoc County Multi-Jurisdictional Hazard Mitigation Plan has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Vanoss Public Schools is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Vanoss Public Schools has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the Vanoss Public Schools Board of Education that Vanoss Public Schools adopts the Pontotoc County Multi-Jurisdictional Hazard Mitigation Plan as this jurisdiction's Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this 13 day of February, 2023 at the meeting of the Vanoss Public Schools Board of Education

Bo Ellis (Board President)

Linda Embry (Clerk)

Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan
ADOPTION RESOLUTION

Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan

Pontotoc Technology Center School Board

601 W 33rd, ADA, OK 74820

RESOLUTION

WHEREAS, Pontotoc Technology Center , with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan Update

WHEREAS, the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan Update has been prepared in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, Pontotoc Technology Center is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Pontotoc Technology Center has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Pontotoc Technology Center School Board that Pontotoc Technology Center adopts the Pontotoc County Multi-Jurisdictional Multi-Hazard Mitigation Plan Update as this jurisdiction's Natural Hazard Mitigation Plan.

ADOPTED this 9th Day of March, 2023 at the meeting of the Pontotoc Technology Center School Board.

(Commissioner) or (Mayor) or (Superintendent)

Barry D. Whitworth
(Clerk)

9/25/2017