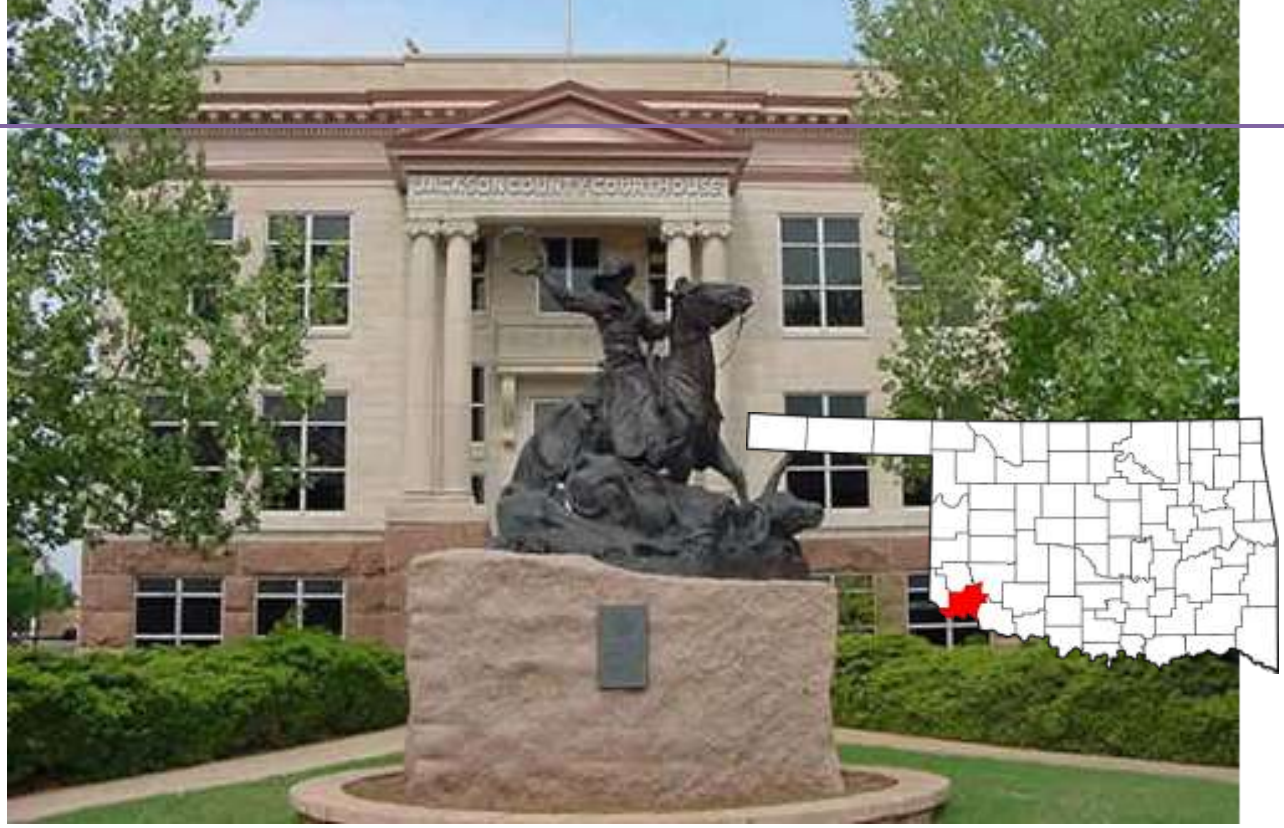

Jackson County

Hazard Mitigation Plan

2024 – 2029

U.S. Department of Homeland Security
FEMA Region 6
800 N. Loop 288
Denton, TX 76209

FEMA

August 29, 2024

Michael D'arcy, Resilience Division Manager
Oklahoma Department of Emergency Management
P.O. Box 53365
Oklahoma City, OK 73152-3365

RE: Additional Approval to the Jackson County, Oklahoma Multi-Jurisdiction Hazard Mitigation Plan
Funding Source: HMGP; FEMA-4299-DR-OK; 0008

Dear Mr. D'arcy:

This office has concluded its review of the referenced plan, in conformance with the Final Rule on Mitigation Planning (44 CFR § 201.6). We are pleased to provide our approval of this new jurisdiction in meeting the criteria set forth by this Agency. By receiving this approval, the additional adopting jurisdictions, as well as the attached list of approved plan participants, retain eligibility for the Hazard Mitigation Assistance grants. This five-year period is concurrent with the original approval of this plan, which was issued on May 16, 2024 and will expire on May 15, 2029.

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 participants 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

Enclosure: Approved Participants

U.S. Department of Homeland Security
FEMA Region 6
800 N. Loop 288
Denton, TX 76209

FEMA

cc: Shona Gibson, R6-MT-HM

Approved Participants

Attached is the list of approved participating governments included in the August 29, 2024 review of the referenced Hazard Mitigation plan.

	Community Name
1)	Altus city
2)	Altus Public Schools
3)	Blair Public Schools
4)	Blair town
5)	Duke Public Schools
6)	East Duke town
7)	**Eldorado town**
8)	Elmer town
9)	Friendship town
10)	Headrick town
11)	Jackson County
12)	Martha town
13)	Navajo Public Schools
14)	Olustee-Eldorado Public Schools
15)	Olustee town
16)	Southwest Technology Center

RESOLUTION # 2024-06

ADOPTING THE JACKSON COUNTY HAZARD MITIGATION PLAN UPDATE 2024-2029

WHEREAS, City of Altus, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, City of Altus 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, City of Altus has reviewed the Plan and affirms that the Plan will be updated no less than every five years, with the Jackson County Hazard Mitigation Plan Update;

NOW, THEREFORE BE IT RESOLVED, by City of Altus City Council that City of Altus adopts the Jackson County Hazard Mitigation Update 2024-2029.

Adopted this 7th day of May, 2024.

Robert Garrison, Mayor

ATTEST:

Debbie Davis, City Clerk

[SEAL]

CITY OF ALTUS SEAL ALTUS, OKLAHOMA

ADOPTION RESOLUTION

Altus Public School

Altus Public School Board of Education

219 N. Lee, Altus, OK 73521

RESOLUTION

WHEREAS, the Altus Public School Board of Education, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Altus Public Schools Board of Education 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, Altus Public School Board of Education 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 Altus Public School Board of Education adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 24th day of April, 2024 at the meeting of the Altus Public School Board of Education.

Vice- Angela Coronado
President, Altus Public School Board of Education

Penny Bud
Board Clerk

TOWN OF BLAIR
BLAIR, OKLAHOMA
RESOLUTION #24-05-02

WHEREAS, the Town of Blair has reviewed the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Emergency Management states that the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 – Local Mitigation Plans; and

WHEREAS, the Jackson County Board of Commissioners states that they will 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 Board of Trustees of the Town of Blair, Oklahoma (Jackson County) that the Town of Blair adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 9th day of May 2024, at the Monthly Town Council Meeting of the Town of Blair Board of Trustees, Blair, Oklahoma.

Blake Roberts, Mayor

ATTEST:

(seal)

Teresa Johnston, Town Clerk/Treasurer

Jackson County Hazard Mitigation Plan Resolution

Blair Public School

Blair Board of Education

610 Zinn Blair, Oklahoma 73526

RESOLUTION

WHEREAS, the Blair Board of Education, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, the Blair Board of Education 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 Blair Board of Education 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 Blair Board of Education that Jackson County adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 18th day of June, 2024 at the meeting of the Blair Board of Education.

President, Blair Board of Education

Clerk, Blair Board of Education

ADOPTION RESOLUTION

Duke Public Schools
Board of Education
300 N Chickasaw, Duke Ok 73532

Jackson County
Board of County Commissioners
101 N. Main Street, Altus, OK 73521

RESOLUTION

WHEREAS, the Jackson County Board of County Commissioners, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Jackson County Board of County Commissioners 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, Jackson County Board of Commissioners has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Board of County Commissioners that Jackson County adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 6th day of May, 2024, at the meeting of the Duke Public School Board of Education Meeting.

President, Duke Public School Board of Education

Clerk, Duke Public School Board of Education

ADOPTED this day of , 2024 at the meeting of the Jackson County Commissioners.

Chairman, Board of County Commissioners

County Clerk

TOWN OF EAST DUKE, OKLAHOMA
RESOLUTION NO. 0509-24

Town of East Duke

Town Council

120 W. 2nd Street, Duke, OK 73532

RESOLUTION

WHEREAS, the Town of East Duke, has reviewed the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, Jackson County Emergency Management states the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

NOW THEREFORE, BE IT RESOLVED by the Town Council that the Town of East Duke adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 9th day of May , 2024 at the meeting of the Town of East Duke.

Mayor

SEAL:

ATTEST:

Cheyenne Hawkins

Town Clerk

RESOLUTION NO. 2024-05-08

A RESOLUTION OF THE BOARD OF TRUSTEES FOR THE TOWN OF ELDORADO THE JACKSON COUNTY HAZARD MITIGATION PLAN UPDATE 2024–2029

Whereas, The Town of Eldorado has been presented information from the Hazard Mitigation Planning Team, related to the Jackson County Hazard Mitigation Plan Update 2024–2029 ("the Plan");

Whereas, the Plan has been prepared in accordance with 44 CFR § 201.6;

Whereas, the Town of Eldorado is a local unit of government that has afforded its citizens the opportunity to comment and provide input in the Plan and the actions in the Plan;

Whereas, The Town of Eldorado has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

Be it Resolved, by the Board of Trustees for the Town of Eldorado adopts the Plan as this jurisdiction's Hazard Mitigation Plan.

Passed and Approved by the Board of Trustees for the Town of Eldorado, this 08th day of May, 2024.

Carl D Boyd

Vice Mayor of the Town of Eldorado

ATTEST:

Heather Hill

Notary Public/City Clerk

NOTARY PUBLIC State of Okla.
HEATHER HILL
Comm. # 09009711
Expires 11/23/2025

ADOPTION RESOLUTION
2024-01

The Town of Elmer
PO Box 213
Elmer, OK 73539
RESOLUTION

WHEREAS, the Town of Elmer, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, the Town of Elmer 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 Elmer 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 Elmer that the Town of Elmer adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 17 day of June, 2024 at the meeting of the Jackson County Commissioners.

Jackie Bond
Mayor, Town of Elmer

Bonnie Hendl
City Clerk

Allan Jackson
Scott T. Hall

ADOPTION RESOLUTION

(Name of Jurisdiction) Town of Friendship, Oklahoma

(Governing board) Town Board of Trustees

(Address) 21005 East CR 160, Altus, Oklahoma

RESOLUTION

WHEREAS, the Town of Friendship Board of Trustees, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029, and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 – Local Mitigation Plans; and

WHEREAS, Friendship Board of Trustees is a local unit of government that has afforded the citizens and opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, Friendship Board of Trustees has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Friendship Board of Trustees adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 29th day of April 1, 2024 at the meeting of the Friendship Town Board Meeting located at the Friendship community center.

Madison H. Clinton

Chairman, Mayor Madison Clinton

Lisa J. Conner

Town Clerk, Lisa Conner

Hazard Mitigation Resolution-2024-1

Jackson County

Board of Trustees for the Town of Headrick

508 Payne St, Headrick, OK 73549 (Mailing address P.O. Box 153)

RESOLUTION

WHEREAS, the Trustees of the Town of Headrick, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, the Trustees of the Town of Headrick 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 Trustees of the Town of Headrick 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 Trustees of the Town of Headrick that Jackson County adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 7 day of May, 2024 at the meeting of the Trustees of the Town of Headrick.

Tim Morris, Mayor

Kristina Hernandez, Trustee

Daron Pilkington, Trustee

Joy Finch, Clerk

JACKSON COUNTY COMMISSIONERS
JACKSON COUNTY COURTHOUSE
101 N MAIN, ROOM 101
ALTUS OK 73521
580-482-4420

Mike Wallace
District 1

Kirk Butler
District 2

Rhet Johnson
District 3

RESOLUTION 2024-41

STATE OF OKLAHOMA)
)SS
COUNTY OF JACKSON)

WHEREAS, the Jackson County Board of County Commissioners, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Jackson County Board of County Commissioners 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, Jackson County Board of Commissioners has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Board of County Commissioners that Jackson County adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED and approved this 29 day of April, 2024, by the unanimous vote of said Board of County Commissioners.

JACKSON COUNTY BOARD OF COUNTY COMMISSIONERS

Chairman, Rhet Johnson

Member, Kirk Butler

Member, Mike Wallace

COUNTY OF JACKSON COUNTY SEAL CLERK STATE OF OKLAHOMA

County Clerk, Jennifer Sunday

P.O. Box 100
105 Church St.
Martha, Oklahoma 73556

Phone: 580-266-3300
Fax: 580-266-3301

TDD: 711 This facility is an equal opportunity provider and employer

RESOLUTION 2024- 4

ADOPTION OF (HMP) HAZARD OF MITIGATION PLAN 2024-2029
JACKSON COUNTY, OKLAHOMA.

1. BE IT RESOLVED by the governing body of the Town of Martha, Oklahoma, that for the purpose agreeing to the Jackson County Hazard Mitigation Plan, to include Martha, Oklahoma, Jackson County.Oklahoma

APPROVED THIS 14TH DAY OF MAY 2024

(SEAL)

ATTEST:

Holly Nelson, Town Administrator

John Karr, Mayor

ADOPTION RESOLUTION

Navajo Public Schools, Jackson County

Navajo Public Schools School Board

15695 South County Road 210
Altus, OK 73521

RESOLUTION

WHEREAS, the Navajo Public Schools School Board, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Jackson County Board of County Commissioners 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, Jackson County Board of Commissioners 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 Navajo Public Schools School Board that Navajo Public Schools adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 15th day of May, 2024 at the meeting of the Navajo Public Schools School Board meeting.

President, Navajo Public Schools School Board

Clerk, Navajo Public Schools School Board

ADOPTION RESOLUTION 5-9-2024

Jackson County

OLUSTEE TOWN BOARD OF TRUSTEES

105 W 4TH STREET
PO BOX 85
OLUSTEE, OK 73560

RESOLUTION

WHEREAS, the Olustee Town board of Trustees, with the assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Olustee Town board of Trustees 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 Olustee
Town Board of Trustees has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Board of the Town of Olustee that Jackson County adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 9th day of May , 2024 at the meeting of the Olustee Town Board of Trustees

Mayor, Town of Olustee

City Clerk

HAZARD MITIGATION
ADOPTION RESOLUTION

Olustee-Eldorado Public School

Olustee-Eldorado School Board

606 E. 6th Street, PO Box 70, Olustee, OK 73560

RESOLUTION

WHEREAS, the Olustee-Eldorado School Board, with assistance from the Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Olustee-Eldorado School Board 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, Olustee-Eldorado School Board has reviewed the Plan and affirms that the Plan will be updated no less than every five years;

NOW THEREFORE, BE IT RESOLVED by Olustee-Eldorado School Board that Jackson County adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 14th day of May, 2024 at the meeting of the Olustee-Eldorado School Board..

President, Olustee-Eldorado School Board

County Clerk



711 West Tamarack Road
Altus, Oklahoma 73521
(580) 477-2250 • (580) 477-0138 Fax

ADOPTION RESOLUTION

Southwest Technology Center
Board of Education
711 W. Tamarack Road, Altus, OK 73521

RESOLUTION

WHEREAS, the Southwest Technology Center Board of Education, with the assistance from the Jackson County Hazard Mitigation Planning Team, has gathered information and prepared the Jackson County Hazard Mitigation Plan Update 2024-2029; and

WHEREAS, the Jackson County Hazard Mitigation Plan Update 2024-2029 has been prepared in accordance with the provisions of 44 CFR § 201.6 - Local Mitigation Plans; and

WHEREAS, Southwest Technology Center Board of Education 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, Southwest Technology Center Board of Education 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 Southwest Technology Board of Education that Southwest Technology Center adopts the Jackson County Hazard Mitigation Plan Update 2024-2029 as this jurisdiction's Hazard Mitigation Plan.

ADOPTED this 13th day of May, 2024 at the meeting of the Southwest Technology Center Board of Education.

Chairman, Board of Education

Clerk

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CHAPTER ONE

Planning Area

The scope of the Jackson County Natural Hazard Mitigation Plan is county-wide. This plan is all-inclusive of natural hazards that may threaten Jackson County residents or visitors. The following jurisdictions are included in the Jackson County Hazard Mitigation Plan, all of which are located within Jackson County. No previously participating jurisdictions withdrew from participating in the plan update. The Town of Elmer and the school district of Blair Public School did not participate in the previous plan; both are participating in this plan update. Eldorado PS and Olustee PS were participants in the previous plan but became a consolidated school district in 2017; it is now the Olustee-Eldorado Public School District.

Jurisdiction	Schools
Jackson County - Unincorporated	Altus Public School District
City of Altus	Duke Public School District
Town of Blair	Blair Public School District
Town of East Duke	Navajo Public School District
Town of Elmer	Olustee-Eldorado Public School District
Town of Eldorado	Southwest Technology Center (SWTC)
Town of Friendship	
Town of Headrick	
Town of Martha	
Town of Olustee	

Jackson County

Located in southwestern Oklahoma, Jackson County is bounded by Greer County on the north, Kiowa and Tillman counties on the east, Harmon County on the west, the Red River and Texas on the south. Altus is the county seat. Named for two notable southerners, President Andrew Jackson and Confederate General Thomas J. "Stonewall" Jackson. The county has 804.15 square miles of land and water. Jackson County is drained by the Red River and its tributaries, the North Fork and the Salt Fork of the Red River, and Turkey and Gypsum creeks.

City of Altus

Located at the intersection of U.S. Highways 62 and 283, Altus is the county seat of Jackson County, which was originally part of Old Greer County. Altus was originally known as Frazer, a small settlement of approximately fifty people located on Bitter Creek. The Frazer post office was established on February 18, 1886. On June 4, 1891, a flash flood almost destroyed Frazer. Residents moved two and one-half miles east to higher ground, and W. R. Baucum suggested renaming the town Altus, a Latin word meaning "high." At 1907 statehood Altus had 1,927 residents. In 1908 a spirited campaign arose between Olustee and Altus for the county seat. Altus won with 2,077 votes, as opposed to 1,365 votes for Olustee. The Jackson County Courthouse (listed in the National Register of Historic Places, NR 84003064) was built in 1910. Since 1942 Altus Air Force Base, training pilots of transport aircraft, has been the city's economic cornerstone. Other major employers include Altus Athletic Manufacturing, Luscombe Aircraft Manufacturing, Republic Gypsum, Jackson County Memorial Hospital, and Bar-S Foods Company. The Lugert-Altus Irrigation District, completed in 1947–48, furnishes water to the local agricultural area where wheat, cotton, and grain sorghum are grown.

Blair

Located ten miles north of Altus at the intersection of U.S. Highway 283 and State Highways 6 and 19, Blair is situated in northern Jackson County, which was originally part of Old Greer County. This region is known for its rich, irrigated cotton land, and its early history is steeped in stories about the Great Western Trail. The town was established on August 26, 1901, and the name was changed to Blair, for John A. Blair, an official of the Kansas City, Mexico and Orient Railway, which built a line through Blair around 1907. Damaging tornadoes struck Blair in 1912, 1928, and 1949. The 1928 storm destroyed the school and left hundreds homeless. The town recovered and built a new school with a safe underground shelter. Blair and Altus community leaders worked together to acquire federal funding for an irrigation project which resulted in the Lugert-Altus Irrigation District completed in 1947–48. Cotton, the primary crop, accounts for the area's agricultural prosperity.

East Duke

Located on U.S. Highway 62 and State Highway 34, East Duke, also known as Duke locally, lies fourteen miles west of Altus in western Jackson County, which was originally part of Old Greer County. In 1890 A. L. Perry founded East Duke, established a general store, and applied for a post office. The charter was granted September 11, 1890, and the post office was named East Duke after Judge F. B. Duke of Mangum. At the turn of the twenty-first century, East Duke was supported by farming and ranching, with cotton raised on irrigated land, wheat on unirrigated land, and cattle on wheat and pastures. This municipality will be called East Duke throughout this HMP.

Elmer

Not a participant in the previous plan the Town of Elmer is participating in the update. Located in southern Jackson County, Elmer is situated on U.S. Highway 283, fourteen miles south of Altus, the county seat. W. T. Thaggard and J. H. Barr founded the town in 1901. In 1902 G. W. Ross established the first hotel, and a post office was opened on February 18. Benjamin F. Flowers served as the first postmaster. Named for Elmer W. Slocum, an official of the Kansas City, Mexico and Orient (KMO) Railway, the town was located in Greer County until Jackson County was carved from the southern part of Greer at 1907 statehood. The KMO (later the Atchison, Topeka and Santa Fe Railway) laid their line through the town in 1908. With the local economy based on agriculture, the town soon supported two banks, two cotton gins, a blacksmith shop, and several lumberyards. Early-day newspapers included the Elmer Record and the Elmer Dispatch.

Eldorado

Located in Jackson County, Eldorado is situated on State Highway 6, seven miles north of the Red River. The name Eldorado, a Spanish word meaning "the gilded one" and popularized to refer to a place of wealth, was suggested by Walter Thompson, a schoolteacher. The post office, established on September 1, 1890, was located approximately one mile southwest of its present location. The town's site shifted several times before it permanently located to take advantage of the St. Louis and San Francisco Railway line being constructed between Quanah, Texas, and Oklahoma City. Eldorado's town-site plat was filed in Mangum, Old Greer County, Oklahoma Territory, on April 21, 1902. The railroad was completed February 7, 1903, and the town was incorporated on April 19, 1904. The surrounding agricultural area is adapted to growing cotton,

wheat, and alfalfa, and to raising cattle. Early on, the farmers formed the Eldorado Farmers' Cooperative Association.

Friendship

Located in Jackson County, Friendship is a rural town situated six miles northeast of Altus on County Roads E1600/N2100. The area was settled in 1898 after the U.S. Supreme Court declared it to be a part of Oklahoma Territory. Originally known as Alfalfa, the town had a post office from 1903 to 1905. In 1908 the Friendship Baptist Church relocated to Alfalfa from nearby Clabber Flat, and shortly thereafter, the town became known as Friendship. During the early twentieth century cotton became the prevalent crop in the agricultural area, and the community grew. Friendship suffered a huge blow in 1962 when the Friendship School burned. The Friendship and Warren districts consolidated into a new school district called Navajo, and a new facility was built three miles north of Friendship. Incorporated in 1999, Friendship had a surge in residential construction in the vicinity at the turn of the twenty-first century. However, only the Friendship Baptist Church and a few residences actually existed within the town limits.

Headrick

Located in Jackson County, Headrick lies eleven miles east of Altus and one-half mile south of U.S. Highway 62. The town was named after T. B. Headrick, a promoter who established the townsite in 1901. Settlement of the area began in the mid-1880s. The first school, Union, was erected in 1888, north of the present Headrick cemetery. From 1901 to 1903 the Oklahoma City and Western Railroad (acquired by St. Louis and San Francisco Railway in 1907) built a line from Oklahoma City through Lawton, Headrick, and Altus to Quanah, Texas. Fertile soil in the area provided homesteaders the opportunity to plant vegetable gardens and fruit trees. Farmers grew cotton, wheat, and maize and raised livestock in the surrounding agricultural area. With a few small businesses, the town serves as a "bedroom" community for residents employed in Altus and at Altus Air Force Base.

Martha

Located six miles northwest of Altus and three miles west of U.S Highway 283 on County Roads E1580/N2010, Martha lies between Bitter Creek and the Salt Fork of the Red River in Jackson County, formerly Old Greer County. Henry C. Doughty filed the plat for Martha after Thomas Medlin became the first postmaster and named the town after the first schoolteacher, his daughter Martha. The post office opened on May 18, 1889. In 1910 the Wichita Falls and Northwestern Railway (later the Missouri, Kansas and Texas Railway) built a line from Frederick to Elk City and passed through Martha. By 1918 the community had a bank, a hotel, and three cotton gins operating. At the turn of the twenty-first century the cotton production in the Martha area, lying within the Lugert-Altus Irrigation District, totaled approximately 11,433 bales. Cattle, alfalfa, peanuts, soybeans, wheat, maize, and pecans were raised commercially. The cotton gin was modernized each year to provide the best handling of the large cotton crops.

Olustee

Located on State Highway 6, Olustee lies fourteen miles southwest of Altus in Jackson County, formerly part of Old Greer County. Seven miles northwest of Olustee William J. Fullerton dammed Turkey Creek in 1893 and had one of the first irrigated farms in the area. Fullerton Dam is listed in the National Register of Historic Places (NR 76001562). Olustee (a Seminole word meaning "pond") was established in 1895 and named after the Battle of Olustee in the Civil War. The post office opened on February 27, 1895. A cotton gin was built in 1902, and in 1905 the St. Louis and San Francisco Railway constructed a line through Olustee, which soon became a center for trade and real estate activity. Before 1907 statehood Olustee had a large department store, three drug stores, six physicians, an opera house, and a music studio. The town had water service by 1912 and electricity by 1923. At the turn of the twenty-first century Olustee had an active community life. It served as a center for marketing farm products, especially wheat.

Altus PS

Altus Public Schools has an Administrative Center and seven school campuses located throughout the City of Altus. The Administrative Center is located at 219 N. Lee. Altus Early Childhood Center for Pre-K and Kindergarten located at 1100 North Forrest. Rivers Elementary

for Pre-K through 4th grade is located at 3000 Veterans Drive. Altus Primary School for 1st and 2nd graders is located at 1200 Glenda. Altus Elementary School for 3rd and 4th graders is located at 1830 Sunset Drive. Altus Intermediate School for 5th and 6th grades is loca ted at 1221 North Howse. Altus Junior High School for 7th and 8th grade is located on South Park Lane at Ridgecrest. Altus High School for 9ththrough 12th grades is located at 411 Park Avenue.

Blair PS

Not a participant in the previous plan the Blair Public School District is participating in the update. Blair Public Schools is located within the Town of Blair. There are two public schools in Blair serving approximately 290 students. The mission of Blair School is to create an academic environment in school, home, and community, which will challenge the learning of basic academic and social skills. This will also include a development of positive attitude, a sense of responsibility toward self, school, community, and nation, which will make education a rewarding experience for students, teachers, and parents.

Duke PS

Duke Public Schools is located in East Duke, 14 miles west of Altus, on Highway 62. They serve 165 students, Prekindergarten – 12th Grade, with a student-teacher ratio of 14:1. Duke Schools has unique construction having been built in the mid 1960's. The school was built underground during the Cold War as a fallout shelter. It also serves the community as a public accessible severe weather shelter. Duke's motto is, "To serve our people with purpose in all we do." Duke Schools strive to produce well-rounded students who are servant leaders and problem solvers with a sense of community.

Navajo PS

Navajo Public Schools is a highly rated, public school district located in Altus, OK. It has 483 students in grades PK, K-12 with a student-teacher ratio of 14 to 1. According to state test scores, 75% of students are at least proficient in math and 80% in reading.

Olustee-Eldorado PS

Olustee PSD and Eldorado PSD merged in 2017 creating the present day Olustee-Eldorado Public School District. There are 2 public schools in the Olustee-Eldorado School District, serving

197 students. Both schools are located in Olustee. Olustee-Eldorado School District has one of the highest concentrations of top ranked public schools in Oklahoma.

Southwest Technology Center (SWTC)

Southwest Technology Center (hereafter, SWTC) has two distinctive full-time programs: Aviation and Aerospace Technology and Biomedical Sciences. Aviation technology is a partnership with Altus Air Force Base whereby successful students may become civil service employees through a Student Education Employment Program. Students in Biomedical Sciences earn college credit while working the Project Lead The Way curriculum.

In addition to customized training for business and industry, unique business services include assistance in bidding on government contracts at Altus Air Force Base (AFB), training programs for employees of municipalities and small business management to assist with upgrading employment skills.

CHAPTER TWO

THE PLANNING PROCESS

Hazard mitigation planning is the process of determining how to reduce or eliminate the loss of life and property damage resulting from natural and human-caused hazards. The primary purpose of hazard mitigation planning is to identify community policies, actions, and tools for implementation over the long term that will result in a reduction of risk and potential for future losses community-wide. This is accomplished by using a systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions, following through with an effective mitigation strategy, and keeping the plan current. The ten step process as outlined in the FEMA 386 publications, "*How to Guides*," was followed in the process of updating the Jackson County Hazard Mitigation Plan. Updated FEMA guidance which was issued in May, 2013, was also incorporated into the planning process.

Phase 1 – Organize resources

Step 1 – Coordinate/involve all agencies and jurisdictions that want to participate
Step 2 – Involve the public
Step 3 – Organize to prepare the plan

Phase 2 – Assess the Risks

Step 4 – Assess what the natural hazards are
Step 5 – Assess the problem

Phase 3 – Develop the Mitigation Plan

Step 6 – Develop list of goals
Step 7 – Develop list of mitigation actions.
Step 8 – Draft an action plan

Phase 4 – Implement and Monitor progress

Step 9 – Adopt the Plan
Step 10- Implement, evaluate and revise the plan

Funding for the Jackson County Hazard Mitigation Plan was provided by a 75 percent HMGP grant from FEMA, through Oklahoma Emergency Management (OEM). The local share of 25 percent was provided by Jackson County. The Board of Commissioners of Jackson County contracted with Hazard Mitigation Specialists, L.L.C., a Hazard Mitigation consulting firm, to help Jackson County, the political jurisdictions and public schools with this plan update.

The Jackson County Hazard Mitigation Planning Team (JCHMPT) was formed to provide guidance and information during the update of this plan. The Team was comprised of representatives from local governments, county government, state government, public schools,

local businesses and private citizens. The JCHMPT was formed during the planning meetings. All persons attending the meetings were invited to participate and be a member of the JCHMPT.

Meetings concentrated on reviewing material presented in the review process and reviewing all major components that had been brought together at previous meetings. The major components reviewed after they were originally developed were: purpose of hazard mitigation plans; goals; identified hazards; hazard assessments; projects, prioritization; jurisdictional growth and additional risk; and implementation responsibilities.

The tables below list the Hazard Mitigation Planning Team members and attendees, their affiliation, position, and contributions.

The planning team and the meeting attendees were notified by phone and email. The meetings were announced at the monthly fire chief meetings across the planning area and the bi-monthly LEPC meetings. One invitation to the public was published in The Altus Times on September 1, 2021. Utilizing the LEPC meetings, the JCHMPT used the meetings to discuss with communities across Jackson County. The Jackson County LEPC is very active and the JCHMPT determined that using this regularly scheduled meeting would accomplish the goal of including as many people in the planning discussion as possible.

There were 7 hazard mitigation planning meetings during the planning process between 2018 and 2021. The general public was notified by posting fliers at the courthouse. The locations rotated between the Jackson County Courthouse, Jackson County Fairgrounds, and SWTC. The July 18, 2018 meeting had 185 attendees and they are listed in one of the tables following. A general overview and introduction of all attendees was conducted. The members of the public were given the opportunity to comment on the process and projects, and no public comments were given. The remaining 6 meetings had between 16-24 planning team members in attendance as noted by the tables following. While open to the public, no members of the public attended these meetings. The JCHMPT discussed the planning process, the importance of the HMP, the funding opportunities that were available upon a completed HMP, past and future projects relevant to the HMP update, and jurisdictional details. No public comments were given.

There were 20 planning meetings conducted via phone conference to obtain additional details in 2023. In these meetings, the planning team members discussed how public outreach occurs within each respective community, as well as vulnerabilities and impacts.

Community stakeholders were invited to the meetings by phone and email. Representatives from Operation Cares, Bar S Foods, the Lions Club, and other stakeholders in the community participated in the LEPC meetings and gave feedback on the needs they see in the community regarding the underserved and vulnerable populations in the community.

Due to personnel changes, the covid delays, and staff availability, the planning process came to a standstill between 2021 and 2023. The only activity appears that the HMP was submitted to the OEM in October 2022 to begin the review process. The City of Altus assumed leadership of completing the HMP in December 2023 and hired L.E. Marshall Consulting, LLC to complete the project. Subsequent phone calls, conference calls, and emails to the planning team members and all participating jurisdictions were conducted to obtain the remaining information necessary to complete the review process. All communities verified the information and provided jurisdictional details for the hazard profiles.

This table lists the planning team members who provided jurisdictional details and participated in the planning meetings. The (*) denotes a primary point of contact for the department.

Planning Team Members			
Name/Title	Title	Jurisdiction	Contribution
Wayne Cain*	EM Director	Altus EM	Provided all jurisdictional details; provided contact information for jurisdictions.
Gary Jones*	City Manager	City of Altus	Provided jurisdictional details
Jeff Recter	EM Director (former)	Altus EM	Provided jurisdictional details
Johnny Barron	City Engineer	Altus	Provided jurisdictional details
Bobby Henry	EM Director (former)	City of Altus	Attended meetings; provided jurisdictional info
Michelle Clament	Secretary	Altus PD	Provided jurisdictional details
Benny Barnes*	Chief	Altus FD	Attended all meetings; provided jurisdictional info
Tyler Mott	Dir. Of Public Information	Altus	Attended Aug 20, 2021 meeting
Joe Buchanan	Chief	Altus FD	Provided jurisdictional details
Tim Murphy	Chief	Altus PD	Attended meetings
Steve Lehew	Volunteer Chaplain	Altus FD	Provided jurisdictional details
Tim Sullivan	Firefighter	Altus FD	Provided jurisdictional details
Jay Richardson	Dir. Of Operations	Altus PS	Provided jurisdictional details
Roe Worbes*	Superintendent	Altus PS	Provided jurisdictional details
Jim Smith*	Superintendent	Blair PS	Provided jurisdictional details
Trent Edwards	Fire Chief	Blair FD	Provided jurisdictional details
Karrie *	Town Clerk	Town of Blair	Provided jurisdictional details
Todd Ware*	Superintendent	Duke PS	Provided jurisdictional details, attended meetings
Cheyanne Houska*	Town Clerk	East Duke	Provided jurisdictional details, attended meetings
Don Hervey	Fire Chief	East Duke	Attended public meeting January 14, 2019
Drew Darby	Fire Chief	East Duke	Attended public meeting January 14, 2019
Janice Miller	Town Clerk	Eldorado	Provided jurisdictional details
Jackie Hammerslee*	Police Chief	Eldorado	Provided jurisdictional details
Kevin Hill	Fire Chief	Eldorado	Provided jurisdictional details
Ken Butler	Fire Chief	Elmer	Provided jurisdictional details; attended meetings
Jackie Drone*	Mayor	Elmer	
Scott Hall	Deputy Sheriff	Elmer	Provided jurisdictional details
Madison Clinton	Mayor	Friendship	Provided jurisdictional details
Marty Clinton*	Fire Chief	Friendship	Provided jurisdictional details
Tim Morris	Asst. Fire Chief	Headrick FD	Provided jurisdictional details
Jason Finch*	Fire Chief	Headrick	Provided jurisdictional details
Joy Finch	Secretary	Headrick	Provided jurisdictional details
Phillip Beauchamp	Secretary	LEPC	Attended all meetings
Bryan Burson	Deputy Director (former)	Jackson Co. EM	Attended all meetings; provided jurisdictional info
Kirk Buttel*	County Commissioners	Jackson Co.	Provided jurisdictional details
Jennifer Sunday	1st Deputy	Jackson Co. County Clerk	Attended, participated in meetings Jan 14, 2019, July 8, 2019
Jeff Smith	Deputy Sheriff	Jackson Co. Sheriff	Provided jurisdictional details
Jerry Abbott*	Director	Jackson Co. Safety/ Emer. Management	Provided jurisdictional details

Planning Team Members			
Name	**Title**	**Jurisdiction**	**Contribution**
Eric Mowbry	EM Director (former)	Jackson Co.	Attended, participated in initial meeting July 18, 2018
Richard McMahon	Warren Fire Chief	Uninc. Jackson Co.	Provided jurisdictional details
Robin Booker	County Clerk	Jackson Co.	Provided jurisdictional details
Maichal McHull	Firefighter	Martha	Provided jurisdictional details
Peggy Kimbrel*	Asst. Fire Chief/City Clerk	Martha	Provided jurisdictional details
Kim Keller*	City Clerk	Olustee	Provided jurisdictional details
Melvin Hazel*	Principal	Olustee-Eldorado PS	Provided jurisdictional details
David Brown	Fire Chief	Olustee	Attended meetings; provided jurisdictional info
Schyler Gans	LEPC Member	Olustee	Provided jurisdictional details
Vicki Nance*	Superintendent	Navajo PS	Provided jurisdictional details
Dale Latham	Technology Director	SWTC	Attended all meetings; provided jurisdictional info
Kerry Evans*	Business Industry Dir.	SWTC	Provided jurisdictional details
Judy Soos	Planner	HMS	Facilitated meetings, contractor
Steve Somerlott	Planner	HMS	Facilitated meetings, contractor

The tables below contain the minutes of the meetings and attendee's at each meeting.

Meeting Minutes 7/18/2018	
NAME OF ORGANIZATION:	Jackson County Hazard Mitigation Planning Team
PURPOSE OF MEETING:	Introduction to the Hazard Mitigation Plan, Process, and Goals
DATE/TIME:	July 18, 2018 – 9am
LOCATION:	Jackson County Fairgrounds
CHAIRPERSON:	Eric Mowbry, Jackson County EM

Topics	Meeting Content	Speaker
Introductions	Introduction of consultants	Eric Mowbry
First public meeting	This was the first public meeting in the process to begin preparing a hazard mitigation plan for Jackson County. Introduced participants to hazard mitigation, Discussed the process involved and plan goals. Encouraged attendees to attend future HM meetings to be announced.	Judy Soos and Steve Somerlott, Hazard Mitigation Specialists, L.L.C.

Meeting Participants / Attendees 7/18/2018		
Name	**Representing**	**Position**
Ashley Nesbitt	Altus	Citizen
Irene Pels	Altus	Citizen
Anthony Flemors	Altus	Citizen
Coby Culn	Navajo	Citizen
Pedro Auln	Altus	Citizen
Frank Romy	Altus	Citizen
Gage Taford	Hobart	Jackson Co EMS
Elloica Carrusaly	Altus	Citizen
Patricia Bolling	Altus	Citizen
Jacob Bolling	Altus	Citizen
Sheree Vann	Tipton	Citizen
Bobbie McKay	Altus	Citizen
Liza Cecac	Altus	Citizen
Sarah Alzawed	Altus	Citizen
James Lacharty	Altus	Citizen
Tyler Heyes	Altus	Citizen
Marie Ortiz	Altus	Citizen
Leslie Norman	Altus	Citizen
Tim Sollie	Altus	Citizen
Teresa Corma	Altus	Citizen
Dasynejica	Altus	Citizen
Misty Mc Intire	Hobart	Citizen
Blanca MTZ	Altus	Citizen
Pat New	Altus	Citizen
Jo Ann Corla	Altus	Citizen
Guy Boling	Altus	Citizen
Joshua Stevens	Blair	Citizen
Lori Walters	Altus	Citizen
Jane ceut	Altus	Citizen
Lisa Scott	Altus	Citizen
Brenda Cox	Altus	Citizen
Deave Ubres	Altus	Citizen
April Castillo	Altus	Citizen
Marla Saler	Altus	Citizen
Mureele Caw	Altus	Citizen
Meshell Pritt	Altus	Citizen
Willie Hayman	Altus	Citizen
Monica Sorham	Altus	Citizen

Meeting Participants / Attendees 7/18/2018		
Name	**Representing**	**Position**
Shanna Castilla	Altus	Citizen
Oasmund Bendley	Altus	Citizen
Dan Neuem	Altus	Citizen
David Fixico	Altus	Citizen
Alex Rodrique	Altus	Citizen
Sa'Karia Colem	Altus	Citizen
Adrica Lopez	Altus	Citizen
Yaney Espnoza	Altus	Citizen
Pedro Espinoza	Altus	Citizen
Carissa Williams	Blair	Citizen
Anne Mendoza	Altus	Citizen
Nakita Robinson	Altus	Citizen
Jessica Carrisala	Altus	Citizen
Valerie Yates	Mangum	Citizen
Chris Yates	Mangum	Citizen
Melody Bradford	Altus	Citizen
Shannon Kellison	Altus	Citizen
Carol Allred	Altus	Citizen
Alexis Perez	Altus	Citizen
Amanda Rod	Altus	Citizen
Felipe Martina	Altus	Citizen
Jeanette Gurn	Altus	Citizen
Andrea Willis	East Duke	Citizen
Lizbeth Nuy	Altus	Citizen
Nese Veelds	Altus	Citizen
Be Hydurroy	Altus	Citizen
Katherin Holmes	Altus	Citizen
Tera Wann	Altus	Citizen
Alicia Fiyreo	Altus	Citizen
Schyler Gans	Olustee	Citizen
Misty Res	Altus	Citizen
Maria Byers	Altus	Citizen
Pamela Res	Altus	Citizen
Famica Crowley	Altus	Citizen
Yolanda Rodriquez	Altus	Citizen
Jennifer Martinez	Altus	Citizen
Maria Villezas	Altus	Citizen
Lourie Avila	Altus	Citizen

Meeting Participants / Attendees 7/18/2018		
Name	**Representing**	**Position**
Daniela Sanchez	Altus	Citizen
Guadalupe Breno	Altus	Citizen
Longina Gomez	Altus	Citizen
Melanie Colen	Altus	Citizen
Silberia Atha	Headrick	Citizen
Jason Lowe	Altus	Citizen
Leethe Roth	Altus	Citizen
Sydney Swanson	Olustee	Citizen
Aorolu Loquez	Altus	Citizen
Alex Castillo	Altus	Citizen
Chris Wallace	Altus	Citizen
Priscilla Briones	Altus	Citizen
Maysi Hartman	Altus	Citizen
Ryan Wilson	Mangum	Citizen
Larry Odren	Altus	Citizen
Phillip Beauchamp	LEPC	Secretary/city
Gil Martinzez	Altus	Citizen
Kim Royste	Mangum	Citizen
Mariah Flores	Altus	Citizen
Ronnie Sadly	Altus	Citizen
Clarence West	Altus	Citizen
Nina Shavers	Altus	Citizen
Rob Sitmore	Altus	Citizen
Jasmin Wright	Altus	Citizen
0Dana Gerard	Altus	Citizen
Lil Scoavson	Altus	Citizen
Debby Najano	Altus	Citizen
Jennifer Lang	Altus	Citizen
Victoria Nelan	Altus	Citizen
Jo Harrill	Altus	Citizen
Stephanie Barrere	Altus	Citizen
Jane McNeese	Altus	Citizen
Kevin Brown	Altus	Citizen
Claudia Vargos	Altus	Citizen
Donna Day	Altus	Citizen
Melissa Aurrido	Altus	Citizen
Cuacalupe Reys	Altus	Citizen
Kerri Woods	Altus	Citizen

Meeting Participants / Attendees 7/18/2018		
Name	**Representing**	**Position**
Jim Vaz	Altus	Citizen
Aliya Gonzales	Altus	Citizen
Karen Thamore	Altus	Citizen
Carol Bang	Tipton	Citizen
Olandra Santana	Altus	Citizen
Tabetha Rivera	Mangum	Citizen
Juliana Oderone	Mangum	Citizen
Jazmin Anderson	Altus	Citizen
Sara Crossan	Altus	Citizen
Victoria Estrada	Altus	Citizen
Melissa Gerardo	Altus	Citizen
Alejandria Flores	Altus	Citizen
Laura Arregi	Altus	Citizen
Vicki Derz	Altus	Citizen
Keith Thomure	Altus	Citizen
Stephan Brown	Tipton	Citizen
Xexyz Harold	Tipton	Citizen
Damour Washington	Tipton	Citizen
A. Crombie	Altus	Citizen
Ken Scheef	Altus	Citizen
Timothy McDowell	Altus	Citizen
Doming Ramirez	Altus	Citizen
Loran Mayes	LEPC	VIU-Chair
T.T. Saxon	Air Evac	Director
Jeff Rector	Altus EM	Director
Angela Ybarra	Operation Care	Director
Sophie Stoecke	LEPC	PIO
Eric Mowbry	Jackson County Emer Mgt	Emergency Manager
Linda Mowbray	LEPC	Volunteer
J.D. Sollis	Lions Club	President
Bryan Burson	JL Em	Deputy EM
Kelly Baker	RSVP	Director
Judy Soos	HMS	Planner
Julie Tinsiler	Altus	Citizen
Anita Jencks	Altus	Citizen
Vicla Brew	Altus	Citizen
Jessica Guerre	Altus	Citizen
Hilda Arellano	Altus	Citizen

Meeting Participants / Attendees 7/18/2018		
Name	**Representing**	**Position**
Allison Pyle	Altus	Citizen
Yani Frist	Altus	Citizen
Sonia Quinten	Altus	Citizen
Crystal Flager	Altus	Citizen
Zack Sheffield	Altus	Citizen
Dan Koridel	Altus	Citizen
Jac Bome	Altus	Citizen
D. Gomez	Altus	Citizen
Brenda Rodriquez	Altus	Citizen
Enrique Les	Altus	Citizen
Kimberly Magjard	Altus	Citizen
Tamilla Sezap	Altus	Citizen
Brandon Taylor	Altus	Altus AFB
Justin Shipma	Altus	Altus AFB
Ryan Rogers	Altus	Citizen
April Blackwell	Altus	Citizen
Zelma Kirley	Olustee/Eldorado	Citizen
Alfredo Vaccapar	Altus	Citizen
Lisa Maupin	Altus	Citizen
Diamantina Cazahel	Altus	Citizen
Shannon Thompson	Altus	Citizen
Myra Patterson	Altus	Citizen
Brenda Alvarado	Hollis	Citizen
Steve Somerlott	HMS	Planner
Clarissa Lopez	Altus	Citizen
Jana Oliver	Altus	Citizen
Judy Rico	Altus	Citizen
Kerrie Wallace	Granite	Citizen
Sophia Reyes	Altus	Citizen
Lakeisha Williams	Altus	Citizen
Peters	Altus	Citizen
Betty McQuiggen	Olustee	Citizen
LaDonna Patterson	Altus	Citizen

Meeting Minutes 1/9/2019	
NAME OF ORGANIZATION:	Jackson County LEPC / Hazard Mitigation Planning Team
PURPOSE OF MEETING:	Introduction to the Hazard Mitigation Plan, Process, and Goals
DATE/TIME:	Jan. 9, 2019 – 11am
LOCATION:	Jackson County Courthouse
CHAIRPERSON:	Loran Mayes, Vice Chairman LEPC

Topics	Meeting Content	Speaker
Introductions	Introduction of participants and consultants	Jerry Abbott
Hazard Mitigation Plan / Planning	Discussed the Hazard Mitigation Plan and the ten step method that will be followed to update the Hazard Mitigation Plan. Discussed goals of previous plan and their relevance.	Judy Soos and Hazard Mitigation Specialists, L.L.C.
Announcements and adjournment		Loran Mayes

Meeting Participants / Attendees 1/9/2019		
Name	**Representing**	**Position**
Joe Tison	OSDH / EPRS	Reg 3 Planner
Sheila Lawson	OSDH / EPRS	Reg 3 Planner
Jeff Brewer	Red Cross	DAT
Robin Brewer	Red Cross	DAT Member
Jerry Abbott	Jackson County Emer Mgt	Emergency Manager
Bobby Henry	City of Altus	Acting Emergency Manager
Scott Rasor	Phillip 66	Tech / Pipeliner
Steve Grissam	JCWA	Director PO
Kerry Evans	SWTC	Business & Industry Dir
Johnny Barron	City of Altus	City Engineer
Marlin Glenn	JCMH	Safety Officer
Rosalyn Hall	OSDH	LERC
Albert Tyner	Blair VFD	Chief
Cara Gluck	JCHD	Regional Director
Darra Olivier	Bar S Foods	Safety / PSM
Loran Mayes	ASYMCA – Exec Dir	Vice Chairman LEPC
Judy Soos	Hazard Mitigation Specialists	Planner
Phillip W. Beauchamp	Jackson County	Secretary–Treasurer LEPC
Glynadee Edwards	Greer County Emer Man	Greer County EM

Meeting Minutes 1/14/2019		
NAME OF ORGANIZATION:	Jackson County Fire Chiefs	
PURPOSE OF MEETING:	Introduction to the Hazard Mitigation Plan, Process, and Goals	
DATE/TIME:	Jan. 14, 2019 – 7pm	
LOCATION:	Friendship Inn Restaurant	
CHAIRPERSON:	Marty Clinton	
Topics	**Meeting Content**	**Speaker**
Introductions	Introduction of County EM Jerry Abbott	Jerry Abbott
Hazard Mitigation Plan / Planning	Discussed the importance of the Hazard Mitigation Plan, funding possibilities and the need for participation from members representing different agencies throughout Jackson County.	Jerry Abbott
Announcements and adjournment		Marty Clinton

Meeting Participants / Attendees 1/14/2019		
Name	**Representing**	**Position**
Phillip W. Beauchamp	Jackson County	Secretary–Treasurer LEPC
Jerry Abbott	Jackson County Emer Mgt	Emergency Manager
Philip Fourroux	Altus AFB	Chief
Albert Tyner	Blair VFD	Chief
Ken Butler	Elmer	Chief
Kirk Buttel	Elmer	Commissioner
Sheri Nickel	Ok St Firefighters Assc	Administrative Director
Kyle Davis	Altus Fire Rescue	Chief
Richard McMahon	Warren	Chief
Russell Mosel	Altus Red Cross	Volunteer
Drew Darby	East Duke	Chief
Rosalyn Hall	OSDH	LERC
Mark Gardner	SWODA – RFD	Coordinator
Don Hervey	Martha FD	Chief
Tim Murphy	Altus PD	Chief
Michelle Clament	Altus PD	Secretary
Jason Finch	Headrick FD	Chief
Joy Finch	Headrick FD	Secretary
David Brown	Olustee FD	Chief
Kevin Hill	Eldorado FD	Chief
Michael Mchull	Martha FD	Firefighter
Marty Clinton	Friendship	Chief
Robin Booker	Jackson County	County Clerk
Jennifer Sunday	Jackson County	1st Deputy

Meeting Minutes 4/10/2019		
NAME OF ORGANIZATION:	LEPC / Jackson County Hazard Mitigation Planning Team	
PURPOSE OF MEETING:	Introduction to the Hazard Mitigation Plan, Process, and Goals	
DATE/TIME:	April 10,2019 – 12pm	
LOCATION:	Southwest Technology Center	
CHAIRPERSON:	Loran Mayes, Vice Chairman	
Topics	**Meeting Content**	**Speaker**

Introductions	Jerry Abbott, Jackson County EM	Loran Mayes
	Discussed progress on HMP update, Discussed hazards addressed and request information on critical facilities.	Jerry Abbott

Meeting Participants / Attendees 4/10/2019		
Name	**Representing**	**Position**
Jerry Abbott	Jackson County Emer Mgt	Emergency Manager
Bobby Henry	City of Altus	Acting Emergency Manager
Loran Mayes	ASYMCA – Exec Dir	Vice Chairman LEPC
Jerry Abbott	Jackson Co Emer Man	Vice Chair LEPC / EM
Phillip W. Beauchamp	LEPC	Secretary – Treasurer LEPC
Albert Tyner	Town of Blair	Blair Fire Chief
Perry Cook	Altus AFB	Altus AFB Asst Fire Chief
Tonya Brand	American Red Cross	
Fred Petterson	Jackson Home Health Care	
Rosalyn Hall	Jackson Co Health Dept	JCHD – LERC
Bobby Henry	Jackson Co Emer Man	Jackson Co Asst EM
Albert Gridley		
Kyle Davis	Altus Fire Rescue	Chief
Johnny Barron		
George Lankford	Jackson Co EMS	
Steve Grissam	Jackson Co MH	
Valery Bonser	DHS	
Andrew Lima	Altus AFB	

Meeting Minutes 7/8/2019	
NAME OF ORGANIZATION:	Jackson County Fire Chiefs
PURPOSE OF MEETING:	Hazard Mitigation Plan update
DATE/TIME:	July 8, 2019 – 7pm
LOCATION:	Friendship Inn Restaurant
CHAIRPERSON:	Marty Clinton

Topics	Meeting Content	Speaker
Introductions	Introduction of County EM Jerry Abbott	
Hazard Mitigation Plan / Planning	Discussed the importance of the Hazard Mitigation Plan, funding possibilities and possible projects for inclusion into the plan.	Jerry Abbott
Announcements and adjournment		Marty Clinton

Meeting Participants / Attendees 7/8/2019		
Name	**Representing**	**Position**
Phillip W. Beauchamp	Jackson County	Secretary–Treasurer LEPC
William Stevens	JCEMS	Director / Paramedic
Robin Booker	Jackson County	County Clerk
Jennifer Sunday	Jackson County	1st Deputy
Kevin Hill	Eldorado FD	Chief
Jason Finch	Headrick FD	Chief
Tim Morris	Headrick	Asst Fire Chief
Rosalyn Hall	OSDH	LERC
Philip Fourroux	Altus AFB	Chief
Joe Buchanan	Altus FD	Chief
Mark Huff	OSU / FST	Trainer
David Brown	Olustee FD	Chief
Albert Tyner	Blair VFD	Chief
Ken Butler	Elmer	Chief
Richard McMahon	Warren	Chief
Benny Barnes	Altus FD	Captain

Meeting Participants / Attendees 1/8/2020		
Name	**Representing**	**Position**
Joe Tison	OSDH / EPRS	Reg 3 Planner
Sheila Lawson	OSDH / EPRS	Reg 3 Planner
Jeff Brewer	Red Cross	DAT
Robin Brewer	Red Cross	DAT Member
Jerry Abbott	Jackson County Emer Mgt	Emergency Manager
Bobby Henry	City of Altus	Acting Emergency Manager
Loran Mayes	Jackson County	Vice Chairman LEPC
Jerry Abbott	Jackson Co Emer Man	Vice Chair LEPC / EM
Phillip W. Beauchamp	Jackson County	Secretary – Treasurer LEPC
Albert Tyner	Town of Blair	Blair Fire Chief
Perry Cook	Altus AFB	Altus AFB Asst Fire Chief
Tonya Brand	American Red Cross	
Fred Petterson	Jackson Home Health Care	
Rosalyn Hall	Jackson Co Health Dept	JCHD – LERC
Bobby Henry	Jackson Co Emer Man	Jackson Co Asst EM
Albert Gridley		
Kyle Davis	Altus Fire Rescue	Chief
Johnny Barron		
George Lankford	Jackson Co EMS	
Steve Grissam	Jackson Co MH	
Valery Bonser	DHS	
Andrew Lima	Altus AFB	

Meeting Participants / Attendees 8/20/2021		
Name	**Representing**	**Position**
Jerry Abbott	Jackson County Emer Mgt	Emergency Manager
Wayne Cain	City of Altus	Emergency Manager
Bobby Henry	City of Altus	Deputy Emergency Manager
Samuel Talamantez	Ok Emergency Management	Regional Coordinator
Johnny Barron	City of Altus	City Engineer
Tim Sullivan	Altus Fire Dept	
Loran Mayes	ASYMCA – Exec Dir	Vice Chairman LEPC
Phillip W. Beauchamp		Secretary – Treasurer LEPC
Albert Tyner	Town of Blair	Blair Fire Chief
Perry Cook	Altus AFB	Altus AFB Asst Fire Chief

Meeting Participants / Attendees 8/20/2021		
Name	**Representing**	**Position**
Tonya Brand	American Red Cross	
Fred Petterson	Jackson Home Health Care	
Rosalyn Hall	Jackson Co Health Dept	JCHD – LERC
Albert Gridley		
Kyle Davis	Altus Fire Rescue	Chief
Johnny Barron		
George Lankford	Jackson Co EMS	
Steve Grissam	Jackson Co MH	
Valery Bonser	DHS	
Andrew Lima	Altus AFB	

Meeting Minutes 8/20/2021		
NAME OF ORGANIZATION:	LEPC / Jackson County Hazard Mitigation Planning Team	
PURPOSE OF MEETING:	Introduction to the Hazard Mitigation Plan, Process, and Goals Review progress on HMP, Dicuss jurisdictions capabilities	
DATE/TIME:	Jan. 8, 2020 – 9am	
LOCATION:	Southwest Technology Center	
CHAIRPERSON:	Eric Mowbry, Jackson County EM	
Topics	**Meeting Content**	**Speaker**
Introductions	Introduction of consultants	
	Presented capability work sheets and information to be obtained.	Judy Soos and Hazard Mitigation Specialists, L.L.C.

This table provides a list of the stakeholders who attended planning meetings between 2018-2021. They were included as they serve a wide spectrum of residents in Jackson County, including the vulnerable and underserved populations within the respective communities. Community stakeholders were invited to the meetings by phone and email.

Stakeholders who attended the Jackson Co. HMP Meetings 2018-2021							
Name	Title	Jurisdiction	Contribution	Name	Title	Jurisdiction	Contribution
Albert Tyner	Chief	Altus AFB	Attended all meetings; provided stakeholder info	Andrew Lima	Environmental Health Dept.	Altus AFB	Attended all meetings; provided stakeholder info
Angela Ybarra	Director	Operation Cares	Attended initial meeting; provided stakeholder info	Brandon Taylor	Unknown	Altus AFB	Attended initial meeting; provided stakeholder info
Cara Gluck	Regional Director	JCHD	Attended all meetings; provided stakeholder info	Darra Olivier	Safety/PSM	Bar S Foods	Attended initial meeting; provided stakeholder info
Fred Petterson	Director	Jackson Home Health Care	Attended meetings April 10, 2019; Jan 8, 2020	Gage Taford	Hobart	Jackson Co. EMS	Attended, participated in initial meeting July 18, 2018
George Lankford	Paramedic	Jackson Co. EMS	Attended meetings April 10, 2019; Jan 8, 2020	Glynadee Edwards	Emergency Manager	Greer County EM	Attended, participated in January 9, 2019 meeting
J.D. Sollis	President	Lions Club	Attended, participated in initial meeting July 18, 2018	Jeff Brewer	DAT	Red Cross	Attended, participated in meetings Jan. 9, 2019, Jan. 8, 2020
Joe Tison	Reg 3 planner	OSDH/ EPRS	Attended meetings Jan9, 2019, Jan 8, 2020	Justin Shipman	Unknown	Altus AFB	Attended, participated in initial meeting July 18, 2018
Kelly Baker	Director	RSVP	Attended, participated in initial meeting July 18, 2018	Kyle Davis	Fire Chief	Altus AFB	Attended, participated in initial meeting July 18, 2018
Loran Mayes	VUI Chair/ Exec. Dir.	LEPC/ ASYMCA	Attended meetings and provided stakeholder details	Mark Gardner	Coordinator	SWODA / RFD	Attended, participated in initial meeting July 18, 2018

Name	Title	Jurisdiction	Contribution	Name	Title	Jurisdiction	Contribution
Mark Huff	Trainer	OSU FST	Attended, participated in meeting July 8, 2019	Marlin Glenn	Safety officer	JCMH	Attended meetings Jan 9, 2019, Aug 20, 2021
Perry Cook	Asst. Fire Chief	Altus AFB	Attended, participated in meetings April 10, 2019, Jan 8, 2020	Phillip Fourroux	Fire Chief	Altus AFB	Attended, participated in meetings Jan 14, 2019, July 8, 2019
Robin Brewer	DAT Member	Red Cross	Attended Jan 14, 2019, July 8, 2019 meetings	Rosalyn Hall	LERC	OSDH	Attended Jan 9, 2019, Jan 14, 2019, April 10, 2019, July 8 2019, Jan 8, 2020 meetings
Russell Mosel	Volunteer	Red Cross	Attended July 18, 2018 meeting	Sam Talamantez	OEM	Area Coordinator	Attended, participated in Aug 20, 2021 meeting
Scott Rasor	Tech/Pipeliner	Phillips 66	Attended July 18, 2018 meeting	Sheri Nickel	OSFA	Admin Director	Attended Jan 14, 2019 meeting
Sheila Lawson	Reg 3 Planner	OSDH/EPRS	Attended Jan. 9, 2019, Jan 8, 2020 meetings	Sophie Stoeke	LEPC	PIO	Attended July 18, 2018 meeting
Steve Grissam	Director PO	Jackson Co. MH	Attended meetings Jan 9, 2019, Apr 10, 2019, Jan 8, 2020	T.T. Saxon	Air Evac	Director	Attended July 18, 2018 meeting
Tonya Brand	Asst. Dir. Altus Division	American Red Cross	Attended meetings Jan 9, 2019, Apr 10, 2019, Jan 8, 2020	Valery Bonser	DHS	Program Asst.	Attended Apr 10, 2019, Jan 8, 2020 meetings

Public Involvement: According to the meeting minutes included above, a significant number of citizens attended the July 18, 2018 meeting. It was confirmed by members of the JCHMPT that little or no feedback was given by those in attendance. The Jackson County LEPC is very active in Jackson County and is the primary regularly held meeting where all jurisdictions participate and inform each other of hazard mitigation related projects and activities. Altogether, there were 7 meetings that utilized the LEPC as a planning meeting for the HMP between 2018-2021. Only the initial meeting had members of the public in attendance. While the other meetings were also open to the public, no members of the public attended and no public comments were given. There were 20 planning meetings conducted via phone conference to obtain additional details in 2023. In these meetings, the planning team members discussed how public outreach occurs within each respective community. Each community noted that they are small enough that word-of-mouth reports are often used; the senior community centers and volunteer fire departments also serve as a primary means of working with the community. The underserved and vulnerable populations are well-known in the respective communities and when any natural hazard event occurs, the community organically knows who needs assistance or welfare check.

Public Notices: The LEPC/planning meetings were publicized at the courthouse and an article inviting public participation was in the Altus Times on September 1, 2021. Notices were designed and posted in accordance with the Oklahoma Open Meetings Act to encourage interest from the public during the planning process. One of the meetings was publicized in the Altus Times to invite the public. No members came to the meetings, except the first initial meeting. None of the other meetings had any members of the public at the LEPC meetings. A draft copy of the plan was provided to the Jackson County Emergency Manager for public review and comment. The plan was reviewed at the LEPC meeting. No public comments have been received as of this submission. See public notices below.

CITY of ALTUS / JACKSON COUNTY

Local Emergency Planning Committee

DATE	TIME	PLACE
Wednesday, January 09, 2019	12:00 / Noon	Southwest Technical Center 711 W. Tamarack Road, Altus, OK

A G E N D A

01. Call to Order.

02. Roll Call.

03. Introduction and Welcome of any Visitors.

04. Comments from Audience / Visitors.

05. Approval of Minutes from the 14 Nov 18 Meeting.

06. Review / Payment of any Claims.

07. Treasurer's Report.

08. Presentation / Training by:

    A) Mr. Scott Rasor, Phillip's 66 from Wichita Falls, TX. He will discuss pipeline crossings within our area, the materials that they carry and some key information when arriving on a pipeline incident.

    B) Ms. Judy Soos will address the ongoing and development with the Jackson County Hazard Mitigation plan.

09. Old Business.

    A) Update and Information only related to ongoing **Training Opportunities** within our region. Mayes

    B) Update and Information only related to the **City of Altus Emergency Operation plan**. Henry

    C) Update and Information only related to the **Jackson County Hazard Mitigation Plan**. Abbott

10. New Business.

    A) Election of a new **LEPC Officers** for the 2019-20 term. Mayes

    B) Update and Information only related to an up-coming **Weather Event related exercise**. This exercise is scheduled for the 1st week in march and will be for the AAFB. Mayes

    C) Update and Information only related to the **Jackson County web site**. Abbott

    D) Update and Information only related to up-coming **State of Oklahoma exercises**. Hall

11. Introduce, welcome and vote, as required, for new LEPC members, if any.

12. Review, discuss with possible action on other urgent new business, if any, which has arisen since the posting of the agenda and which could not have been reasonably foreseen prior to posting of the agenda.

13. Adjourn.

To be completed by person filing notice:

NAME: Phillip W. Beauchamp
TITLE: LEPC Secretary / Treasurer
ADDRESS: 509 S. Main
Altus, OK 73521-3135

Filed in the office of the City Clerk / Treasurer at 3:20 a.m./p.m.

this 7 day of January, 2019.

Signed _____
City Clerk / Treasurer
Deputy

CITY of ALTUS / JACKSON COUNTY

Local Emergency Planning Committee

DATE	TIME	PLACE
Wednesday, April 10, 2019	12:00 / Noon	Southwest Technical Center 711 W. Tamarack Road, Altus, OK

A G E N D A

01. Call to Order.
02. Roll Call.
03. Introduction and Welcome of any Visitors.
04. Comments from Audience / Visitors.
05. Approval of Minutes from the 09 Jan 19 Meeting.
06. Review / Payment of any Claims.
07. Treasurer's Report.
08. Presentation / Training by: TBD
09. Standing Business.
    - A) Update and Information only related to ongoing **Training Opportunities** within our region. Henry
    - B) Update and Information only related to the **Jackson County Hazard Mitigation Plan**. Abbott
    - C) Update and Information only related to the upcoming **JCHD MIPS Exercise**. Hall
10. New Business.
    - A) Update and Information only related to research of the **ODEQ funding / revenue for the CoA / JC LEPC.** Beauchamp

B) **Update and Information only related to the recent AAFB Weather Exercise.** Mayes

C) **Update and Information only related to moving the LEPC funding account from the City of Altus to Jackson County Treasures Office.** Beauchamp

D) **Update and Information only related to an up-coming Jackson County Health Department exercise.** Hall

11. **Introduce, welcome and vote, as required, for new LEPC members, if any.**

12. **Review, discuss with possible action on other urgent new business, if any, which has arisen since the posting of the agenda and which could not have been reasonably foreseen prior to posting of the agenda.**

13. **Adjourn.**

To be completed by person filing notice:

NAME: Phillip W. Beauchamp
TITLE: LEPC Secretary / Treasurer
ADDRESS: 509 S. Main
Altus, OK 73521-3135

Filed in the office of the City Clerk / Treasurer at 11:30 a.m./p.m.

this 9 day of April, 2019.

Signed _____
City Clerk / Treasurer
Deputy

CITY of ALTUS / JACKSON COUNTY
Local Emergency Planning Committee

DATE	TIME	PLACE
Wednesday, January 08, 2020	12:00 / Noon	Southwest Technical Center 711 W. Tamarack Road, Altus, OK

AGENDA

FILED
JACKSON COUNTY CLERK
2020 JAN -6 AM 8:25
ROBIN DOOKER
BY

01. Call to Order.

02. Roll Call.

03. Introduction and Welcome of Members & Visitors.

04. Comments from Audience / Visitors.

05. Approval of Minutes from the 31 Oct 19 Meeting.

06. Review / Payment of any Claims.

07. Treasurer's Report.

08. Presentation / Training by: Mr. Johnny Barron, PE, City of Altus, Director of Public Works. Mr. Barron will discuss the ongoing efforts by local agencies to oversee Dikes & Dams located within our community.

09. Standing Business.

    A) Update and Information only related to ongoing **Training Opportunities** within our region. Abbott

    B) Update and Information only related to the **Jackson County Hazard Mitigation Plan**. Abbott

10. New Business.

    A) LECP Meals. We will discuss options for future LEPC meals. Beauchamp

11. Introduce, welcome and vote, as required, for new LEPC members, if any.

12. Review, discuss with possible action on other urgent new business, if any, which has arisen since the posting of the agenda and which could not have been reasonably foreseen prior to posting of the agenda.

13. Adjourn.

To be completed by person filing notice:

NAME: Phillip W. Beauchamp
TITLE: LEPC Secretary / Treasurer
ADDRESS: 101 N. Main
Altus, OK 73521

Filed in the office of the County Clerk at _____ a.m./p.m.

This _____ day of _____, 2020.

Signed _____
County Clerk

\200108A

Page 1 of 1

Beauchamp 02 Jan 20

Public Survey: Based on the notes, only 5 volunteers from the meetings completed the public survey by phone call. The results are listed below. The results confirmed that school saferooms and improving drainage channels is a priority to the planning area and these priorities are included in the action items. The results from the following survey were reviewed and considered during the selection of Action Projects to be included in the Jackson County Hazard Mitigation Plan. Some jurisdictional representatives (four) participated in the following survey over the phone.

Survey: Potential Mitigation Projects

Q1

Bury power distribution lines

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	60.00%	3
No	40.00%	2
TOTAL		5

Comments(0)

Q2

Install communications repeaters

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3

Total Respondents: 5

Comments(0)

Q3

Acquire funding (grants) for community safe rooms

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	100.00% 5
No	0.00% 0

Total Respondents: 5

Q4

Perform drainage channel improvements

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	20.00% 1
No	80.00% 4

Total Respondents: 5

Comments(0)

Q5

Drill additional water wells in the county

- Answered: 4
- Skipped: 1

ANSWER CHOICES	RESPONSES
Yes	50.00% 2
No	50.00% 2

Total Respondents: 4

Comments(0)

Q6

Install dry hydrants in rural areas

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	60.00%	3
No	40.00%	2

Total Respondents: 5

Comments(0)

Q7

Elevate flood-prone roadways

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	80.00%	4

Total Respondents: 5

Comments(0)

Q8

Provide surge protection for critical technology

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	80.00%	4
No	20.00%	1

Total Respondents: 5

Comments(0)

Q9

Seek funding for emergency power generators for critical facilities

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	80.00%	4
No	20.00%	1

Total Respondents: 5

Comments(0)

Q10

Provide evacuation plans for critical facilities

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	60.00%	3
No	40.00%	2

Total Respondents: 5

Comments(0)

Q11

Assist with a campaign for Family Emergency Supply kits (Go-kits)

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	60.00%	3
No	40.00%	2

Total Respondents: 5

ANSWER CHOICES	RESPONSES

Comments(0)

Q12

Provide a fan distribution program for high heat events

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	60.00% 3
No	40.00% 2

Total Respondents: 5

Comments(0)

Q13

Install hail resistant roofing for critical facilities

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	60.00% 3
No	40.00% 2

Total Respondents: 5

Comments(0)

Q14

Provide hazard warning signs in hazardous areas

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	60.00% 3
No	40.00% 2

Total Respondents: 5

ANSWER CHOICES-	RESPONSES-

Comments(0)

Q15

Compile and provide a "Hazards Awareness and Education Book" for the public

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	60.00% 3
- No	40.00% 2
- Responses Location(s)	0.00% 0

Total Respondents: 5

Q16

Conduct a "Rebate Program" for Individual Saferooms in homes

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	60.00% 3
- No	40.00% 2

Total Respondents: 5

Comments(0)

Q17

Install lightning detection systems (sensors)

- Answered: 4
- Skipped: 1

ANSWER CHOICES-	RESPONSES-
- Yes	50.00% 2
- No	50.00%

ANSWER CHOICES-	RESPONSES-
	2

Total Respondents: 4

Comments(0)

Q18

Install lightning suppression systems in critical facilities

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	60.00% 3
- No	40.00% 2

Total Respondents: 5

Comments(0)

Q19

Install mass notification systems (aka Reverse 911)

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	80.00% 4
- No	20.00% 1

Total Respondents: 5

Comments(0)

Q20

Use portable motorist information signs

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	40.00% 2
-	60.00%

ANSWER CHOICES-	RESPONSES-
No	3

Total Respondents: 5

Comments(0)

Q21

Provide NOAA weather alert radios

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	60.00% 3
- No	40.00% 2

Total Respondents: 5

Comments(0)

Q22

Install outdoor warning systems (sirens, etc.)

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
- Yes	60.00% 3
- No	40.00% 2

Total Respondents: 5

Comments(0)

Q23

Purchase / relocate / demolish repetitive loss properties

- Answered: 5
- Skipped: 0

ANSWER CHOICES-	RESPONSES-
-	20.00%

ANSWER CHOICES	RESPONSES
Yes	1
No	80.00% 4

Total Respondents: 5

Comments(0)

Q24

Conduct a red cedar eradication program

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	20.00% 1
No	80.00% 4

Total Respondents: 5

Comments(0)

Q25

Construct retention ponds to assist in flood control

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	0.00% 0
No	100.00% 5

Total Respondents: 5

Comments(0)

Q26

Install stream water level monitoring devices

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
-	20.00%

ANSWER CHOICES	RESPONSES	
Yes	1	
No	80.00%	4

Total Respondents: 5

Comments(0)

Q27

Construct additional water towers for drought response

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3

Total Respondents: 5

Comments(0)

Q28

Provide window safety film for critical facilities

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3

Total Respondents: 5

Comments(0)

Q29

Provide window safety film for use in homes and businesses

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	20.00% 1
No	80.00% 4

Total Respondents: 5

Comments(0)

Q30

Conduct training for Community Emergency Response Teams (CERT)

- Answered: 5
- Skipped: 0

ANSWER CHOICES	RESPONSES
Yes	60.00% 3
No	40.00% 2

Total Respondents: 5

Comments(0)

Q31

Other ideas??

PLAN POINT OF CONTACT

These contacts were the main points of contact throughout the planning process.

Primary:
Jerry Abbott
Director, Emergency Management
Jackson County
(580)482-0229
safety@jacksoncountyok.com

Secondary:
M. Wayne Cain
Director, Emergency Management
City of Altus
(580)482-8336
wcain@altusok.com

RESOURCES AMONG AGENCIES

Besides the posting of public notices, the following were notified / invited to participate through personal contact, email and or mailed invitations.

Name/Title	Jurisdiction	How invitation was distributed
Roe Worbes/ Superintendent	Altus PS	Email
Jimmy Smith/ Superintendent	Blair PS	Email
Todd Ware/ Superintendent	East Duke PS	Email
Vicki Nance/ Superintendent	Navaho PS	Email
Melvin Hazel/ Superintendent	Olustee-Eldorado PS	Email
Jack Smiley/ Mayor	City of Altus	Phone Calls
Blake Roberts/ Mayor	City of Blair	Phone Calls
Dennis Hennessey/ Mayor	Town of East Duke	Phone Calls
James Crozier/ Mayor	Town of Eldorado	Phone Calls
Jackie Drone/ Mayor	Town of Elmer	Phone Calls
Madison Clinton/ Mayor	Town of Friendship	Phone Calls
Charles Anderson/ Mayor	Town of Headrick	Phone Calls
Christopher Morris/ Mayor	Town of Martha	Phone Calls
Patty Light/ Mayor	Town of Olustee	Phone Calls
Mike Wallace/County Commissioner	Jackson County District 1	In person
Kirk Butler/ County Commissioner	Jackson County District 2	In person
Rhet Johnson/ County Commissioner	Jackson County District 3	In person
Roger Levick/ Sheriff	Jackson County Sheriff	Phone Calls
Lisa Roberson/ Assessor	Jackson County Assessor	Mail
Renee Howard/ Treasurer	Jackson County Treasurer	Mail
Tina Swailes/ Court Clerk	Jackson County Court Clerk	Mail
LouAnn David/ E911 Director	Jackson County E911	In person
Joe Buchanan/ Fire Chief	Altus FD	In person and email
Trent Edwards/Fire Chief	Blair FD	In person and email
Drew Darby/ Fire Chief	East Duke FD	In person and email
Kevin Hill/ Fire Chief	Eldorado FD	In person and email
Ken Butler/Fire Chief	Elmore FD	In person and email
Marty Clinton/Fire Chief	Friendship FD	In person and email
Jason Finch/Fire Chief	Headrick FD	In person and email
Don Hervey/Fire Chief	Martha FD	In person and email
David Brown/ Fire Chief	Olustee FD	In person and email
Tim Murphy/ Police Chief	Altus PD	Phone calls
Joseph Poulin, Jr./Police Chief	Blair PD	Phone calls
Jackie Hamersley/Police Chief	Eldorado PD	Phone Calls
Joe Everhart/ Police Chief	Olustee PD	Phone Calls
John Tran/Chief of Staff	Jackson Co. Memorial Hospital	Phone Call

Other county departments were invited by mail to the hazard mitigation meetings, including the Jackson County Fair Board, Jackson County Election Board, and the OSU Extension office. No one from these offices attended the meetings. The Jackson County Memorial Hospital was notified by phone call.

AGENCIES: The following agencies were consulted thru personal contact, phone calls, email, or by visiting their web site for information contained or referenced in the Jackson County hazard mitigation plan.

OKLAHOMA EMERGENCY MANAGEMENT, HAZARD MITIGATION DIVISION (OEM) – During the planning and preparation of this plan, close contact was maintained with OEM Mitigation Division personnel, (plan reviewer's) to maintain current FEMA requirements necessary for this plan as well as coordination with the Oklahoma Hazard Mitigation Plan. Plan review and required revisions provided by OEM plan reviewers.

NATIONAL WEATHER SERVICE –Ft Smith website was utilized concerning weather data for Jackson County. The NWS in Dallas, Texarkana and Tulsa also provided accurate information concerning Jackson County. In order to get the best information, The NWS has been a regular partner with Jackson County Emergency Management as well as the other Emergency Managers in Jackson County during severe weather events in order to get better warning information concerning potential hazards to the citizens.

OKLAHOMA CLIMATOLOGICAL SURVEY provided additional information through their website concerning the climate in Jackson County. Their research studies and information was useful in determining key Climatological statistics.

OKLAHOMA GEOLOGICAL SURVEY provided information on earthquakes in Jackson County through statistical data on their website concerning past earthquakes. There have been no earthquakes in Jackson County since 1931.

OKLAHOMA WATER RESOURCES BOARD provided information on high hazard dams. There are no High Hazard dam sites in Jackson County.

NATIONAL CLIMATIC DATA CENTER provided website information concerning past history of storms in Jackson County. Their information complimented or reinforced local and state information.

FEDERAL EMERGENCY MANAGEMENT AGENCY website provided information on Presidential Declarations in Jackson County, FIRM maps, and NFIP community status.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) Jackson County, Altus, Blair, Martha and Olustee are participants in the National Flood Insurance Program (NFIP). Eldorado and Friendship are listed as Not Participating in the NFIP. East Duke, Elmer and Headrick are not listed as participating or not participating in the NFIP Community Status Book. Participation in NFIP by municipalities and counties is voluntary.

PLAN REFERENCES: The following websites were referenced during the update of the plan.

References Used	How Relevant Data Was Used
National Climatic Data Center (NCDC) https://www.ncdc.noaa.gov/stormevents/ https://ncdc.noaa.gov/oa/climate/severeweather/extremes.html	Reference for general climate data and weather events data for each hazard profile
National Weather Service (NWS) www.srh.noaa. Gov/oun/ www.noaa.gov	Reference for weather data for hazard profiles
Oklahoma Climatological Survey (OCS) climate. Mesonet.org	Reference for climatological and weather data for hazard profiles
Oklahoma Water Resources Board (OWRB)	Data for dam safety, flooding, NFIP
National Drought Monitor http://droughtmonitor.unl.edu	Data for drought history
U.S. Drought Monitor https://drought.gov/drought	Historical drought data for the planning area
Homefacts. https://homefacts.com	Social data
U.S. Geological Survey (USGS) www.usgs.gov	Earthquake data
Oklahoma Geological Survey	Earthquake data
Local Emergency Management Records	Local anecdotal information for historical events within the planning area
Oklahoma State Fire Marshal Records	Data pertaining to the planning area regarding wildfires
Jackson Co. Volunteer Fire Dept. records	Local records of wildfires in the planning area
National Lightning Safety Institute (NLSI) www.lightningsafety.com	General data on lightning
Vaisala www.vaisala.com	General data on lightning
FEMA Disaster Declarations www.fema.gov/disasters	Resource for national disasters that included Jackson County
Oklahoma Supreme Court Document Index oscn.net/applications/oscn/index.asp?ftdb=STOKST11&level=1	Resource on Oklahoma statutes pertaining to emergency management
NFIP Community Status Book https://www.fema.gov/national-flood-insurance-program-community-status-book	Resource on NFIP participation
Oklahoma Department of Education www.sde.ok.gov	Resource for the school districts within the planning area
Wikipedia www.wikipedia.org	General information and history on the jurisdictions
Encyclopedia of Oklahoma History and Culture www.okhistory.org	Detailed information on the history of the planning area
U.S.Army Corps of Engineers https://www.usa.gov/federal-agencies/u-s-army-corps-of-engineers	Information on federally owned high hazard dams within the planning area
Oklahoma Conservation Commission https://www.ok.gov/conservation	Information regarding the high-hazard dams in the planning area and other activities that pertain to hazards
The Storm Prediction Center (SPC) www.spc.noaa.gov	Data pertaining to weather events in the planning area

CONTINUED PUBLIC PARTICIPATION AND INVOLVEMENT

The JCHMPT determined that using the LEPC meetings is the best way to continue incorporating hazard mitigation topics and projects into the agenda. Each individual jurisdiction is well-aware of the vulnerable and underserved populations in their respective community. Any outreach occurs organically and as needed, as these are small, rural communities and the residents often volunteer their personal time and resources to assisting neighbors and community members. These communities also rely on the involvement of community members when any repairs or maintenance needs arise. The schools are often one of the primary employers in the community and the respective school boards.

MONITORING, EVALUATING AND UPDATING PLAN

The Jackson County Emergency Manager is the chairman of the HMPT and will be the primary person responsible for overseeing the Hazard Mitigation Plan and coordinating with the other jurisdictions where changes to their other planning mechanisms might enhance or interact with the Hazard Mitigation Plan.

The person responsible for monitoring the implementation and evaluation of the necessity for updating the plan is the Jackson County Emergency Management Director. The Emergency Management Director reports directly to the Jackson County commissioners.

The plan will be monitored, evaluated and updated as needed during the five-year cycle with the assistance of Jackson County's contractor if requested. This will also occur any time there is a disaster in order to determine the effectiveness in or changes to programs that might affect mitigation priorities. At the beginning of the fourth year, the Jackson County Emergency Management Director will make all plan revisions final and submit the updated Hazard Mitigation Plan to the State of Oklahoma Hazard Mitigation Division and FEMA for review and approval six months before the end of the fifth year so that the jurisdictions will maintain eligibility.

The following individuals will be responsible for monitoring and evaluating the plan, mitigation activities, and coordinating with Jackson County Emergency Management.

- City of Altus Mayor
- Town of Blair Mayor
- Town of East Duke Mayor
- Town of Eldorado Mayor

- Town of Elmer Mayor
- Town of Friendship Mayor
- Town of Headrick Mayor
- Town of Martha Mayor
- Town of Olustee Mayor
- School Administrators/Superintendents

The Jackson County EM and the individuals listed above, or their designee, will perform any necessary monitoring site visits as needed and will also be the lead contact for phone calls, scheduling of meetings, and will:

Monitor the hazard analysis for changes and additions;
Monitor objectives and determine if they meet current and expected hazardous conditions;
Determine if there are any implementation problems such as social, technical, administrative, political, legal, economic, and environmental or coordination issues with other agencies.

The Jackson County EM and individuals listed above or their designee will evaluate the Natural Hazard Mitigation Plan every year to determine the effectiveness and/or progress of mitigation actions and the implementation of other actions.

Items covered during the evaluation process should include:

- Evaluate magnitude of risk and determine if it has changed;
- Evaluate current resources and determine if they are appropriate for implementing mitigation actions;
- Determine if there were any implementation problems, such as technical, political, legal, or coordination issues with other agencies;
- Evaluate goals, objectives, and current or expected conditions;
- Evaluate how other agencies and partners have participated;
- Evaluate mitigation actions and determine if outcome occurred as expected:
- Was the intended purpose of the original mitigation action met?
- Was the mitigation action met in the proposed timeline?
- Did the listed agencies participate in the mitigation action?
- Did the mitigation action stay within the proposed budget?

The above listed individuals will perform site visits as needed on projects involving their jurisdictions and will work closely with the Jackson County Emergency Manager to monitor and evaluate the Hazard Mitigation Plan.

Additionally, the County Emergency Management Director will give the Jackson County Commissioners an update report annually. The report will highlight the results of the previously

mentioned activities. The plan will remain an active and relevant document with continued public participation.

CHAPTER THREE

Risk Assessment

REVIEW OF NATURAL HAZARDS

The Jackson County Hazard Mitigation Planning Team reviewed possible hazards. Through historical records, personal experience, and knowledge of Jackson County, planning team members discussed possible hazards Jackson County might encounter. The following hazards are profiled in the Jackson County Hazard Mitigation Plan. Upon discussion with the JCHMPT, it was determined to not include Earthquakes in this HMP. Earthquakes was included in the previous HMP; at that time, there had been no earthquakes of any magnitude in the planning area between 2008-2013. There have been no earthquakes of any magnitude in the planning area between 2013-2023. There are no fault lines and no injection wells within the planning area; therefore, the planning team determined that the hazard will be re-evaluated annually to maintain awareness if any change to this hazard occurs.

NATURAL HAZARDS FOR JACKSON COUNTY		
Hazard	**How reviewed**	**Why identified**
Dam failure*	• Oklahoma Water Resources Board • JCHMPT input	There are no High Hazard Dams in Jackson County. The Altus-Lugert Dam located in Greer County could affect residents of unincorporated Jackson County. Only unincorporated Jackson County would be affected by a dam failure; no other jurisdictions would be affected.
Drought	• Information from Oklahoma Climatological Survey • Oklahoma Water Resources Bulletin	History of drought and recent episodes of dry, rain free periods indicate current drought.
Extreme heat	• National Weather Service • Oklahoma Climatological • Survey	Jackson County has prolonged periods of high temperatures and is prone to wide swings of temperature.
Flood	• Local Emergency Management Records • FEMA Declarations • NCDC	There is flooding sometimes in Jackson County due to heavy rains.
Hailstorm	• NCDC • JCHMPT discussion	Jackson County experiences hailstorms during severe thunderstorms sometimes causing severe damage.
High winds	• NCDC data • Oklahoma Climatological Survey • NWS • Storm Prediction Center	Jackson County is susceptible to high winds every year.
Lightning	• NCDC data • Oklahoma Climatological Survey • NWS • Storm Prediction Center	Jackson County experiences many thunderstorm events annually, all containing lightning.
Tornado	• Local Emergency Management Records • FEMA Declarations • NCDC	Oklahoma has a distinction as the epicenter of Tornado Alley. Jackson County experienced 4 tornados in the past 10 years.
Wildfire	• State Fire Marshal Records • LCHMPT discussion	Local fire department records reflect wildfires annually in Jackson County.
Winter storm	• National Weather Service • FEMA Declarations	Severe ice storms occur regularly in Oklahoma and Jackson County.

Probability of Hazards

The Probability of Occurrence discussed in each hazard profile is based on the following chart.

Probability of Occurrence Scale	
4 – High	Event is probable within the calendar year. Event has a 1 in 1-year chance of occurring. (80-100%)
3 – Likely	Event is probable within the next three years. Event has an up to 1 in 3-year chance of occurring. (60-79%)
2 – Medium	Event is probable within the next 5 years. Event has an up to 1 in 5-year chance of occurring. (11-59%)
1 – Low	Event is possible within the next 10 years. Event has an up to 1- to 10-year chance of occurring.(0-10%)
0 – No Possibility	There is no possibility of this event occurring.

Recent Disaster History

The following table provides a summary of the federally declared disaster history of Jackson County.

Jackson County Federal Emergency and Disaster Declarations History		
DR #	Declaration Date	Description of Event
DR4222	May 26, 2015	Severe Storms, Tornados, Straight Line Winds, and Flooding
DR4256	February 10, 2016	Severe Winter Storms and Flooding
DR4274	July 15, 2016	Severe Storms and Flooding
DR4438	June 1, 2019	Severe Storms, Straight line winds, Tornadoes and Flooding
DR4530	April 5, 2020	Covid 19 pandemic
DR4575	December 21, 2020	Oklahoma Severe Winter Storm
EM3555	February 17, 2021	Oklahoma Severe Winter Storm
DR4587	February 24, 2021	Oklahoma Severe Winter Storms

PROFILED HAZARDS

These profiles include the location, extent, Previous Occurrences, Probability, and Vulnerability, and Impact.

DAM FAILURE

A dam is defined 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 mine tailings. A dam failure is the collapse, breach, or other failure of a dam structure resulting in potential downstream flooding.

Location

There are no High Hazard Dams in Jackson County. Altus – Lugert Lake has a high hazard dam but the lake and dam are located in Greer County. A dam failure at Altus –Lugert Lake could affect unincorporated Jackson County. Altus-Lugert Lake is located on the North Fork Red River in Greer County approximately 8-1/4 river miles from the Jackson County line and approximately 18 miles north of Altus, Oklahoma. Flood waters from a dam failure would follow along the North Fork Red River until merging with the Red River. See the following maps in the Vulnerability and Impact for the estimated flood inundation areas.

Altus Lake and another retention pond on the west side of Altus are currently under review for possible inundation of infrastructure and loss of life potential. There is an action item listed to confirm the hazard potential of these two bodies of water; however, based on its location and the surrounding area, there is no critical infrastructure or roads that would be affected. Projects included in the plan for completing the inundation studies.

Lake Altus - Lugert High Hazard Dam (Greer County)				
Name of Dam	**Year Completed**	**Dam Height**	**Dam Length**	**Dam Capacity**
Altus-Lugert Lake	1945	110 ft	1,112 ft	134,549 acre ft

Extent

The Unincorporated areas of Jackson County that would be affected lie around the watershed areas of the North Fork of the Red River. Expected flood depth ranges from a few inches to over 6 feet. Expected flood depth in some of the smaller tributaries ranges from a few inches to over 5 feet.

Previous Occurrences

There have been no recorded events of dam failure within Jackson County or with Altus-Lugert Lake in Greer County between 2013 and 2023.

Probability of Future Events

Jackson County officials consider the probability of a future dam failure to be "**Unlikely**." The probability is expected to remain unlikely. The possibility of dam failure completely depends on the structural integrity of the dams and also on the amount of rain upstream and in the planning area.

Vulnerability and Impacts

No cities, towns, or public school facilities in Jackson County would be affected by a failure of Lake Altus-Lugert Dam. The Altus-Luger Lake is a significant source of water supply for the City of Altus, Altus PS, and the Jackson County Water District. The loss of potable water for Jackson County would result in a significant economic loss for citizens, businesses and schools.

Depending on the time of year, any crops or herds in the inundation area could be vulnerable to flooding due to dam failure, and would result in the economic loss to the farmers and ranchers in the affected area.

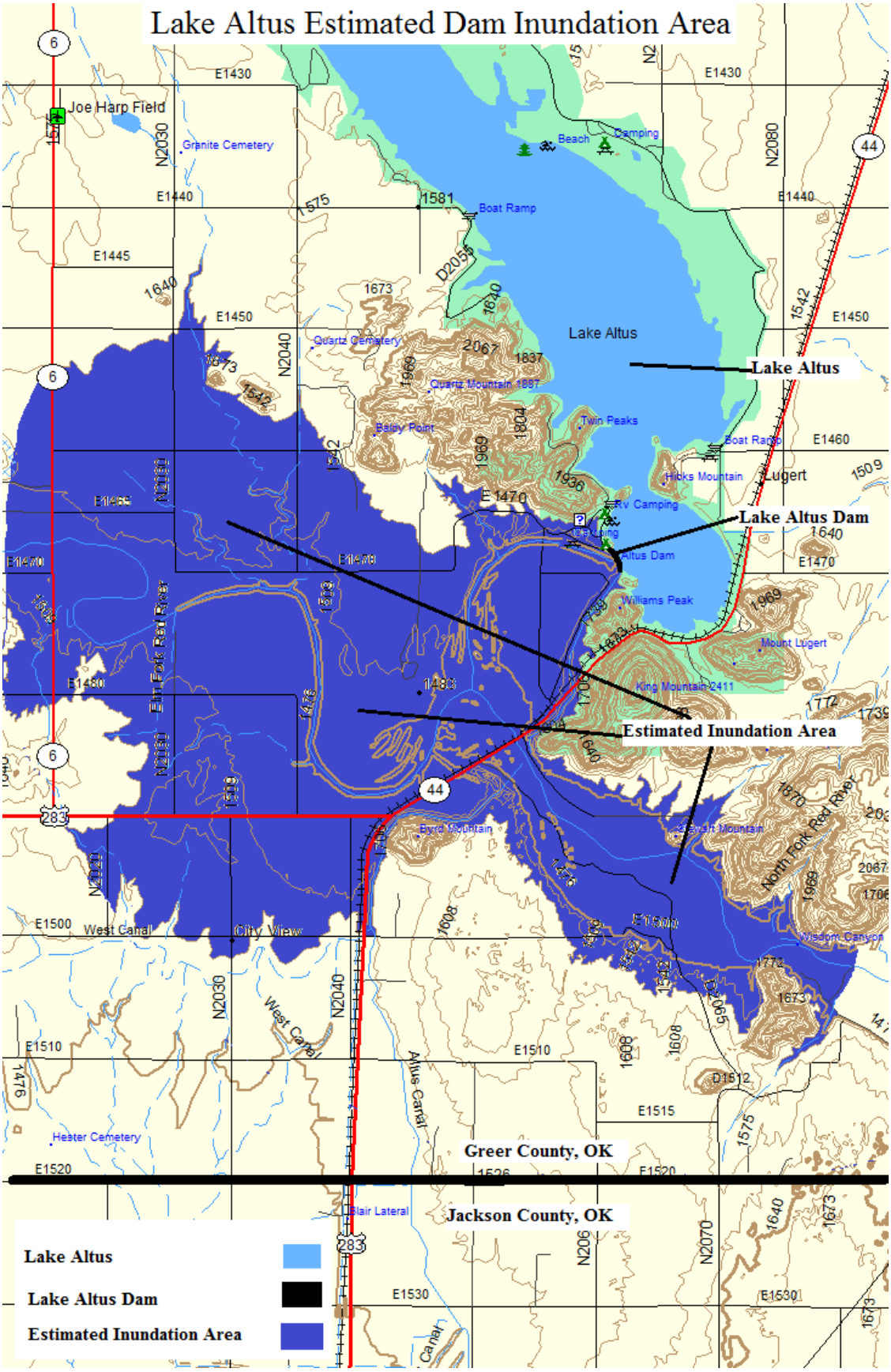
State Highways 19 and 5 along with U.S. Highway 62 could be inundated and become impassable forcing commuters and any emergency services to find alternate routes to their destination. The resulting detours would not only result in an additional expense from fuel, but result in additional response times that could be a critical consideration depending on the emergency.

One railroad could possibly be inundated east of Headrick and south of Highway 62, causing delays of train transportation. Any significant delays or repairs to the tracks would result in an economic loss to the railroad.

Climatological Impact: Climatological changes have influenced the hazard impacts. If an unusually significant amount of rain were to occur over several days, it is reasonable to consider if the dam would exceed capacity and affect the area downstream. At the time of writing this HMP, the planning area is experiencing drought conditions, and the level of the dam lake is lower than average. Therefore, climatological changes of rainfall and drought influence the hazard impact.

Land Use Impact: Land use impacts have not influenced dam failure impacts.

Population Pattern Impact: Population patterns have not influenced dam failure impacts.


Lake Altus Estimated Dam Inundation Area
Lake Altus
Lake Altus Dam
Estimated Inundation Area
Greer County, OK
Jackson County, OK
Lake Altus
Lake Altus Dam
Estimated Inundation Area
Joe Harp Field
Granite Cemetery
Boat Ramp
Beach
Camping
Quartz Cemetery
Quartz Mountain 1887
Twin Peaks
Baldy Point
Hicks Mountain
Lugert
Rv Camping
Altus Dam
Williams Peak
Mount Lugert
King Mountain 2411
Byrd Mountain
Elm Fork Red River
North Fork Red River
West Canal
City View
Wisdom Canyon
Hester Cemetery
Blair Lateral
Altus Canal
E1430
E1440
E1445
E1450
E1460
E1470
E1480
E1500
E1510
E1515
E1520
E1530
N2030
N2040
N2080
N2070
N206
D2055
D1512
1581
1575
1673
1640
1837
2067
1969
1804
1936
1542
1509
1480
1772
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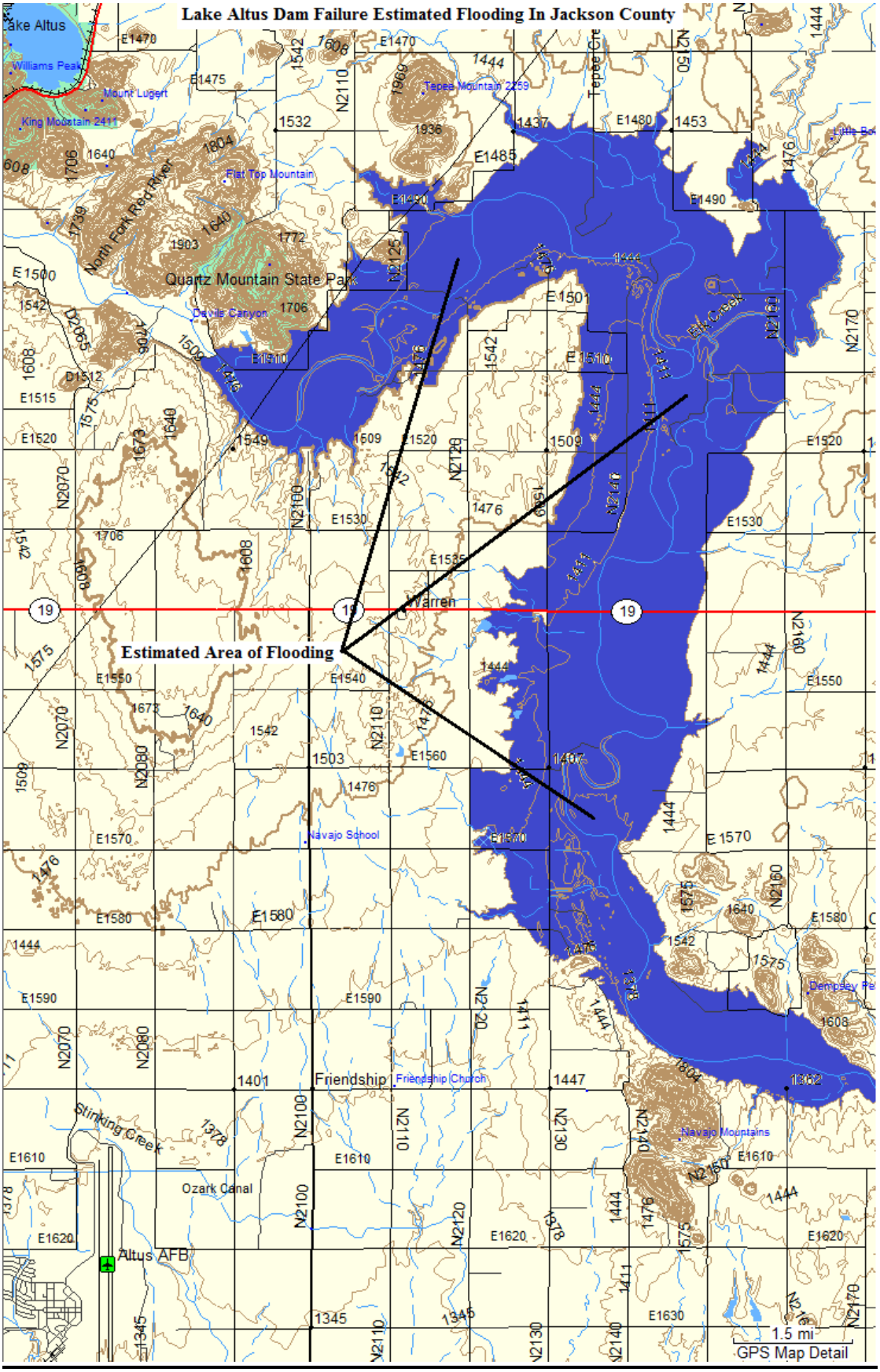
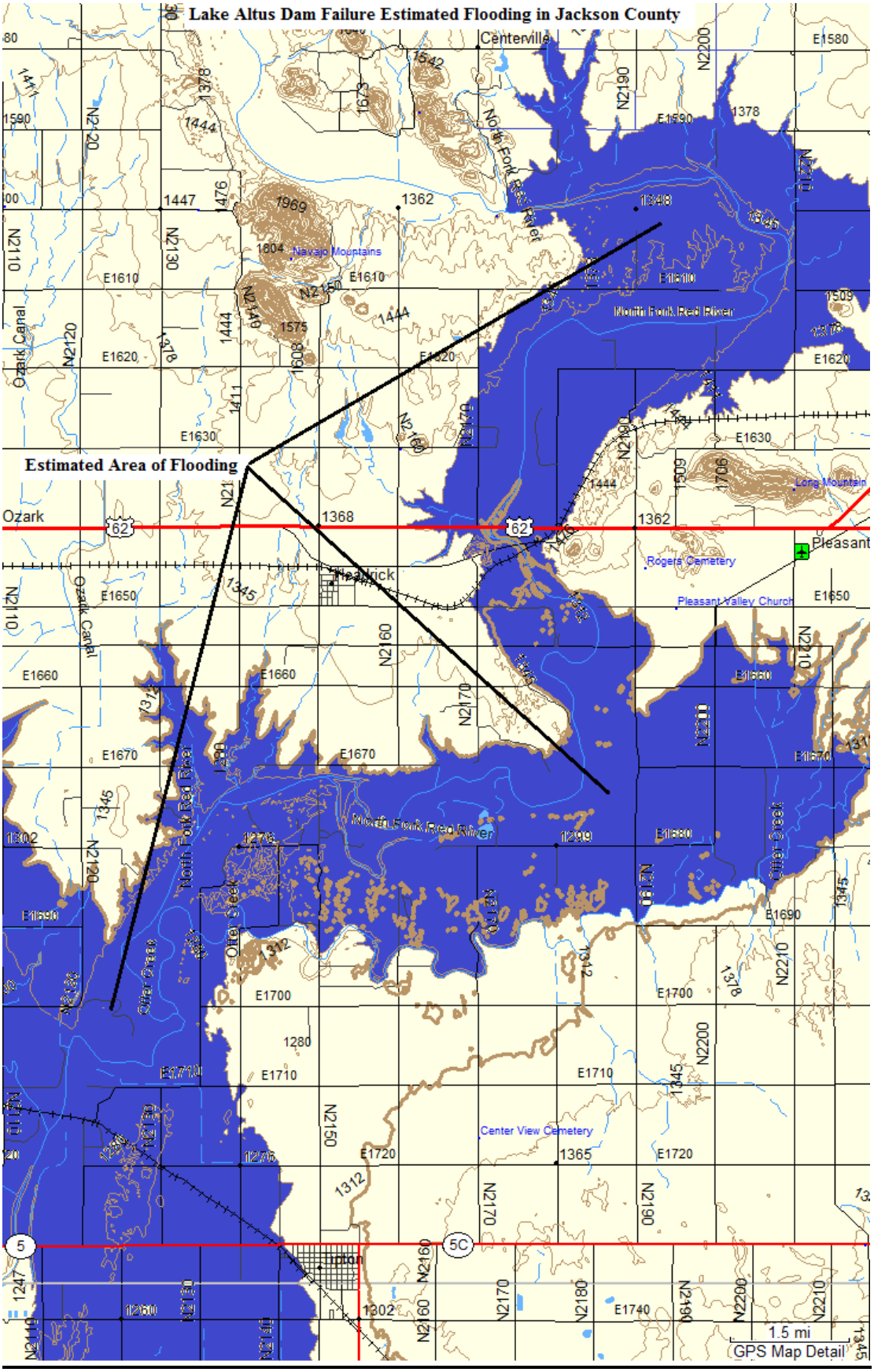
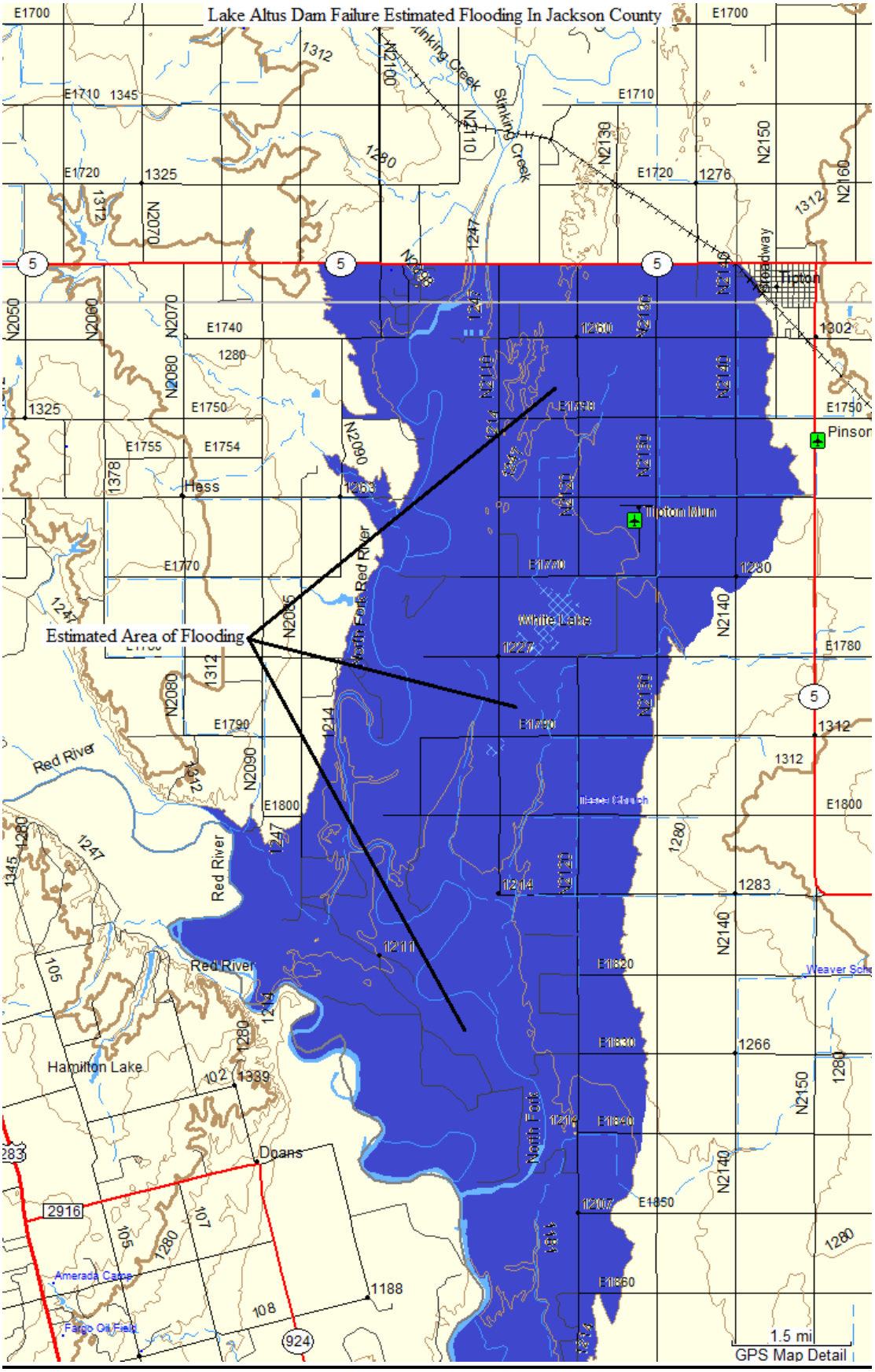
1870
1706
1608
1476
1526
1575


Lake Altus Dam Failure Estimated Flooding In Jackson County
Lake Altus
Williams Peak
Mount Lugert
King Mountain 2411
Tepee Mountain 2259
Flat Top Mountain
North Fork Red River
Quartz Mountain State Park
Devils Canyon
Elk Creek
Warren
Estimated Area of Flooding
Navajo School
Friendship
Friendship Church
Stinking Creek
Ozark Canal
Altus AFB
Navajo Mountains
Dempsey Pe
Little Bo
1.5 mi
GPS Map Detail


Lake Altus Dam Failure Estimated Flooding in Jackson County
Estimated Area of Flooding
Centerville
Ozark
Navajo Mountains
North Fork Red River
Ozark Canal
Long Mountain
Rogers Cemetery
Pleasant Valley Church
Center View Cemetery
Otter Creek
1.5 mi
GPS Map Detail


Lake Altus Dam Failure Estimated Flooding In Jackson County
Estimated Area of Flooding
Red River
North Fork Red River
Stinking Creek
Hess
Tipton Mun
Pinson
White Lake
Hamilton Lake
Doans
Amerada Camp
Fargo Oil Field
Weaver Sch
1.5 mi
GPS Map Detail

DROUGHT

Drought is a persistent and abnormal moisture deficiency having adverse impacts on vegetation, animals, or people. These are the types of droughts that can affect the planning area.

DROUGHT TYPES	
Category	**Characteristics**
METEOROLOGICAL DROUGHT	is usually based on long-term precipitation departures from normal, although high temperatures often play a role
HYDROLOGICAL DROUGHT	Refers to deficiencies in surface and subsurface water supplies. It is measured as stream flow and as lake, reservoir and ground water level
AGRICULTURAL DROUGHT	Occurs when soil moisture does not meet the needs of a particular crop at a particular time. Agricultural drought is typically evident after meteorological drought, but before a hydrological drought.

When little or no rain falls, soils dry out and plants die. The flow of streams and rivers declines when rainfall is less than normal for several weeks, months, or years; and water levels fall in lakes, reservoirs and aquifers causing the depth of water in wells to decrease. If dry weather persists and water supply problems develop, the dry period can become a drought. The first evidence of drought is usually seen in records of decreased rainfall.

Location

The entire population of Jackson County, including participating jurisdictions and the public school districts, are subject to drought conditions.

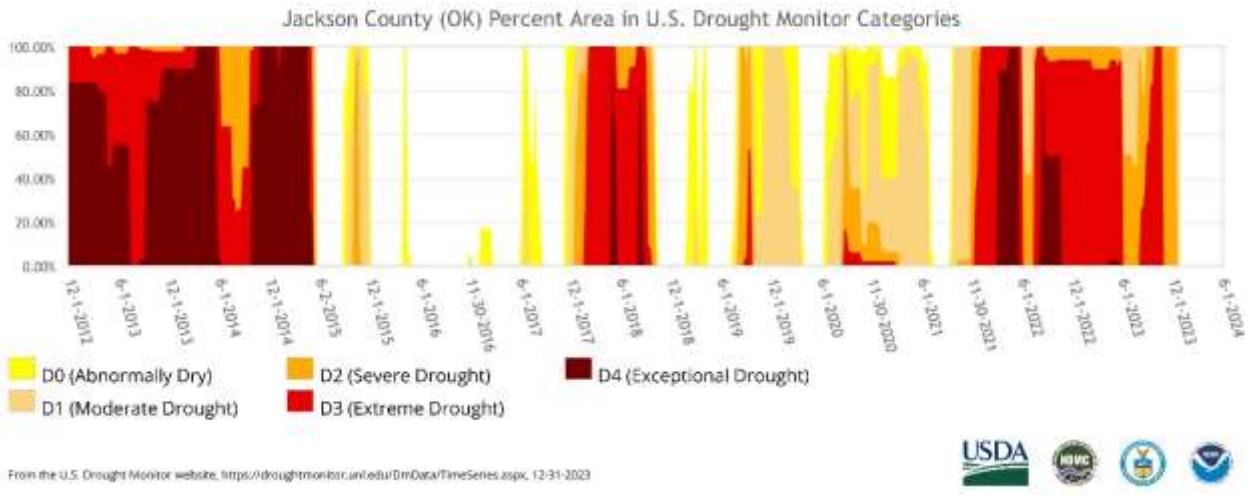
Extent

The Palmer Drought Severity Index (PDSI) was developed in 1965 as an index to "measure the departure of the moisture supply." Palmer based his index on the supply and demand concept of the water balance equation, taking into account more than only the precipitation deficit at specific locations. The objective of the Palmer Drought Severity Index was to provide a standard measurement of moisture conditions so comparisons using the Index could be made between locations and months. The Palmer Index is based on precipitation and temperature; therefore, it can be applied to any site for which sufficient precipitation and temperature data is available. The Index varies roughly between -4.0 and +4.0. Weekly PDSI values are calculated for climate divisions during every growing season and are on the internet from the Climate Prediction Center. Jackson County and participants experience all levels of the PDSI.

PALMER DROUGHT SEVERITY INDEX				
PDSI CLASSIFICATIONS FOR DRY/WET PERIODS				
4.00 or more	Extremely Wet		**-0.50 to -0.99**	Incipient Dry Spell
3.00 to 3.99	Very Wet		**-1.00 to -1.99**	Mild Drought
2.00 to 2.99	Moderately Wet		**-2.00 to -2.99**	Moderate Drought
1.00 to 1.99	Slightly Wet		**-3.00 to -3.99**	Severe Drought
.050 to 0.99	Incipient Wet Spell		**-4.00 to -4.99**	Extreme Drought
0.49 to – 0.49	Near Normal		Source: http://drought.unl.edu/whatis/induces.html	

Jackson County, its participating jurisdictions, and public school districts consider a magnitude above -2.00 or higher a minor drought event. A magnitude below -2.00 on the Palmer Drought Severity Index is considered a major drought situation. By the time the situation drops below the -3.00 level, officials consider it an extreme drought event.

This graph gives a visual representation to the previous occurrences' narrative following. As shown, the planning area can experience every level of drought from D0 (abnormally dry) to D4 (exceptional drought.) This drought graph is from January 2013-December 2023.



Previous Occurrence:

According to the *National Climatic Data Center (*NCDC) records, 88 drought events have occurred in Jackson County from January 2013 through December 2023. The table below shows those events. Consecutive months will be listed as a single drought event. The NCDC uses the same classification of Drought as the U.S. Drought Monitor and those same classifications will be used in this narrative. As shown by the graph and the table, the planning area has experienced more drought than greenness between 2013-2023.

Drought Events in Jackson County	
Date	Description
January 2013 to May 2015	The planning area continued to experience D3 (extreme drought) D4 (exceptional drought) during this timeframe. Only when sufficient rain fell in late May 2015 did drought levels fully diminish.
September 2015-October 2015	Flash drought between D0 (abnormally dry) to D2 (severe drought) began overtaking the planning area again.
December 2016	A brief period of D0 drought conditions occurred in December until sufficient moisture fell to suspend drought.
December 2017 to October 2018	Drought conditions quickly accelerated from D0 to D3 between December and March. By April, D4 conditions were found in the planning area. D3 drought persisted until sufficient rainfall broke the drought in October.
August 2019 to September 2019	D2 and D3 drought occurred in the planning area.
August 2020 to June 2021	D0 to D4 persisted in the planning area until March 2021. Sufficient rain occurred that lessened the severity of drought to mostly D0 and D1 drought that persisted from March to June.
September 2021-December 2023	D1 drought began creeping into the planning area and accelerated to D3 in November. Drought conditions persisted and varied between D2 and D4 until late May 2023, when drought conditions lessened to D2. D2 and D3 conditions persisted into the end of 2023.

Probability of Future Events:

Considering the history of drought in the past ten years, members of the JCHMPT considered the probability of future events and concluded the entire area of Jackson County, its participating jurisdictions, and public school districts are equally at risk for drought, and the probability of future drought events is **"HIGH."** The probability is expected to remain high. The climate in the planning area is familiar with drought and the planning area expects that the planning area will continue to experience periods of all drought severities.

Vulnerability and Impacts:

The planning area is susceptible to the effects of drought. The following table details the vulnerabilities and impacts of drought.

Jurisdiction	Vulnerability	Impact
City of Altus	Waterlines are vulnerable to breaking in drought conditions due to the soil contracting with the lack of moisture. The Altus water supply from the Altus-Luger Lake is vulnerable to prolonged, severe drought.	Waterlines can break in drought conditions as the ground contracts and shifts. These breakages cause short-term disruptions to water service that can impact the residents along that line. Since the Altus-Luger Lake levels decrease in exceptional, prolonged drought, the city might be forced to implement water rationing to maintain a consistent water utility for the customers.
Town of Blair	The water lines are vulnerable to breaking as the ground shifts as drought conditions worsen. The water lines break as often as weekly in drought conditions.	Water line breakages result in an economic loss to the town, as well as a disruption of services.
Town of East Duke Town of Elmer Town of Eldorado Town of Friendship Town of Headrick Town of Martha Town of Olustee	The water lines are vulnerable to breaking as the ground shifts as drought conditions worsen.	Water line breakages result in an economic loss to the town, as well as a disruption of services.
Jackson County	Many of the residents of unincorporated Jackson County rely on the water districts for their water supply. The water districts rely on water supply from the Altus-Luger Lake Dam. This water supply is vulnerable to prolonged drought depleting availability of water and a majority of residents do not have an alternative water supply.	As the water levels drop during prolonged drought, water rationing might be implemented. If the water lines break as the ground shifts in drought conditions, it results in disruptions in the water service.
SWTC	The school's parking lots shift in times of prolonged drought and is vulnerable to cracking.	The cracks present a potential safety hazard as people can trip, depending on the crack. In order to prevent the parking lot from further shifting, the school has had the cracks filled, which is an economic loss to the school.

Altus PS	Altus PS relies on the City of Altus for its water supply. If the city experiences a lack of water due to drought, the school does not have a backup water supply.	If the school did not have water due to drought, it would result in the school needing to purchase water from another source or install water wells. Either option could result in a diversion of economic resources to ensure a consistent water supply.
Blair PS Duke PS Olustee-Eldorado PS	The school relies on the town for its water supply, and the water lines could break due to the ground shifting in drought conditions.	If the school did not have water due to drought, it would result in the school needing to purchase water from another source or install water wells. Either option could result in a diversion of economic resources to ensure a consistent water supply.
Navajo PS	Navajo PS relies on the Jackson Co. Water District for its water supply. I If the water district experiences a lack of water due to drought, the school does not have a backup water supply.	

Impact of Climatological Changes: Climatological changes have influenced the drought hazard impacts. Drought impacts directly correlate to the amount of precipitation that falls in any season. Based on the information available, the planning area has seen an increase in the severity and length of days with drought in the past 10 years.

Impact of Land Use: Land use developments have not influenced drought impacts. The planning area has not had any significant changes to land use or developments in the past 10 years; therefore the drought impacts have not increased or decreased due to land use.

Impact of Population Patterns: Population patterns have not influenced drought impacts. Related to the above comment regarding land use, the planning area has not had significant changes to its population. Therefore, drought impacts have not increased or decreased due to population changes.

EXTREME HEAT

Jackson County, as part of the Southern Great Plains, is prone to wide swings of temperature. Summertime temperatures routinely climb above the 100-degree mark. Extreme heat is defined as temperatures that hover 10 degrees or more above the average high for the area, and last for several weeks. Jackson County's average maximum temperature, according to the Oklahoma Climatological Survey, is 75 degrees.

Location:

The entire planning area is affected by Extreme Heat.

Extent:

The heat index is the temperature a person feels when heat and humidity in the air are combined. High humidity with high temperatures makes the body sense a superficial temperature higher than the actual air temperature. Higher than normal temperatures can result in the heat becoming a hazard to life and property.

National Weather Service Heat Index Chart

Temperature (°F)

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

Likelihood of Heat Disorders with Prolonged Exposure and/or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

Jackson County, its participating jurisdictions and schools consider temperatures below 90 degrees a minor event, any period with temperatures at or above 100 degrees or 90 degrees with

60% or higher humidity is considered a major heat event. The expected range of heat index temperatures are between 90 degrees to 118 degrees, though if conditions were conducive, heat indices could reach higher temperatures. The table in Previous Occurrences also includes a range of Heat Indices per year.

Previous Occurrences:

Jackson County, participating jurisdictions, and schools have experienced extreme heat events over the last ten years with excessively high temperatures. See the table below for the number of days annually of excessive heat recorded between 2013-2023. The highest heat index in the planning area reached 116.78 degrees on July 13, 2023. The second highest heat index reached 116.15 degrees on July 12, 2023. The third highest heat index reached 116.05 occurred on August 26, 2019. (All temperatures are in Fahrenheit.)

Number of Days Annually of Excessive Heat (Heat Index over 90) in Jackson County					
Year	**Number of Days**	**Range of Heat Indices**	**Year**	**Number of Days**	**Range of Heat Indices**
2013	110	90.04-109.21	2019	109	90.26-116.5
2014	98	90.1-106.27	2020	106	90.34-113.1
2015	105	90.11-109.32	2021	98	90.35-112.49
2016	107	90.07-111.3	2022	126	90.33-112.94
2017	92	90.36-111.98	2023	111	90-116.78
2018	116	91.2-110.77			

SWTC reported that extreme heat caused the chiller to fail and required $10,000-$20,000 in repairs.

Probability of Future Events:

Based on history and input from the JCHMPT, the probability of future extreme heat events in Jackson County including all participating jurisdictions and schools is "**High.**" It is expected that the probability of the planning area experiencing Extreme Heat will remain high.

Vulnerability and Impacts:

The table below lists the vulnerabilities and impacts of Extreme Heat in the planning area.

Vulnerabilities and Impacts of Extreme Heat in Jackson County		
Jurisdiction	**Vulnerability**	**Impact**
City of Altus Town of Blair Town of East Duke Town of Eldorado Town of Elmer Town of Friendship Town of Headrick Town of Martha Town of Olustee	The municipalities are vulnerable to power outages caused by the overload to the power grid in periods of extreme heat. Vulnerable populations, such as the elderly, young, or those who rely on oxygen, are at greater risk during prolonged power outages.	Prolonged power outages due to extreme heat result in potential medicine loss and food loss if the refrigerated items are compromised. Municipal services might not be able to continue for brief periods in a prolonged power outage.
Jackson County	County roads and bridges are vulnerable to extreme heat as they buckle and shift as extreme heat exacerbates the contracting of soils.	Road repairs due to the buckling of county roads causes detours and delays throughout the county. The damages are an economic loss.
SWTC	The school's chiller is vulnerable to failing during long periods of extreme heat due to the components simply wearing out.	Repairs to the chiller result in an economic loss to the school.
Altus PS	The school parking lots are vulnerable to cracking, breaking, and shifting in extreme heat as the ground contracts and shifts. Flat, tar roofing is vulnerable to blistering and cracking in extreme heat.	Broken parking lots can cause tripping hazards if the breakage/shift is more than a half inch. Extreme heat causes the roofing to crack and break, resulting in water leaks when it does rain. Roofing repairs result in an economic loss to the school and potential additional water damage if the leak is significant.
Blair PS Duke PS Navajo PS Olustee-Eldorado PS	Flat, tar roofing is vulnerable to blistering and cracking in extreme heat.	Extreme heat causes the roofing to crack and break, resulting in water leaks when it does rain. Roofing repairs result in an economic loss to the school and potential additional water damage if the leak is significant.

Climatological Impact: Climatological changes have not influenced extreme heat impacts. Based on the data available, the number of days with extreme heat has remained consistent between

2013-2023. Therefore, climatological changes have not increased or decreased the extreme heat impacts.

Land Use/Development Impact: Land use has not influenced extreme heat impacts. There has been no significant change to land use in the planning area and there has been no increase or decrease of extreme heat impacts in the planning area.

Population Pattern Impact: Population patterns have not influenced by extreme heat impacts. The population is used to the impacts of extreme heat in the planning area; therefore, the impacts have not changed.

FLOOD

Flood is defined as an overflow or inundation coming from a river or other body of water that causes or threatens damage. Floods are usually a result of heavy, slowly moving thunderstorms or rains extending over a long period. Floods can also occur through dam failure or over-topping. Flash flooding is a short-term water inundation usually resulting from storm water drainage or low water crossings on roadways. Riverine flooding occurs when excessive rainfall from areas upstream of the problem area exerts pressure on the rivers or drainage channels.

Jackson County is susceptible to flooding, both riverine and flash-flooding. The Red River is the southern border of Jackson County and is also a source of possible riverine flooding.

Flash-flooding is a threat in Jackson County because the general terrain is flat which causes quick runoff during and following heavy rains such as those caused by tropical storms from the Gulf of Mexico following hurricanes. Heavy spring thunderstorm rains are also a causing factor especially in those communities with poor drainage.

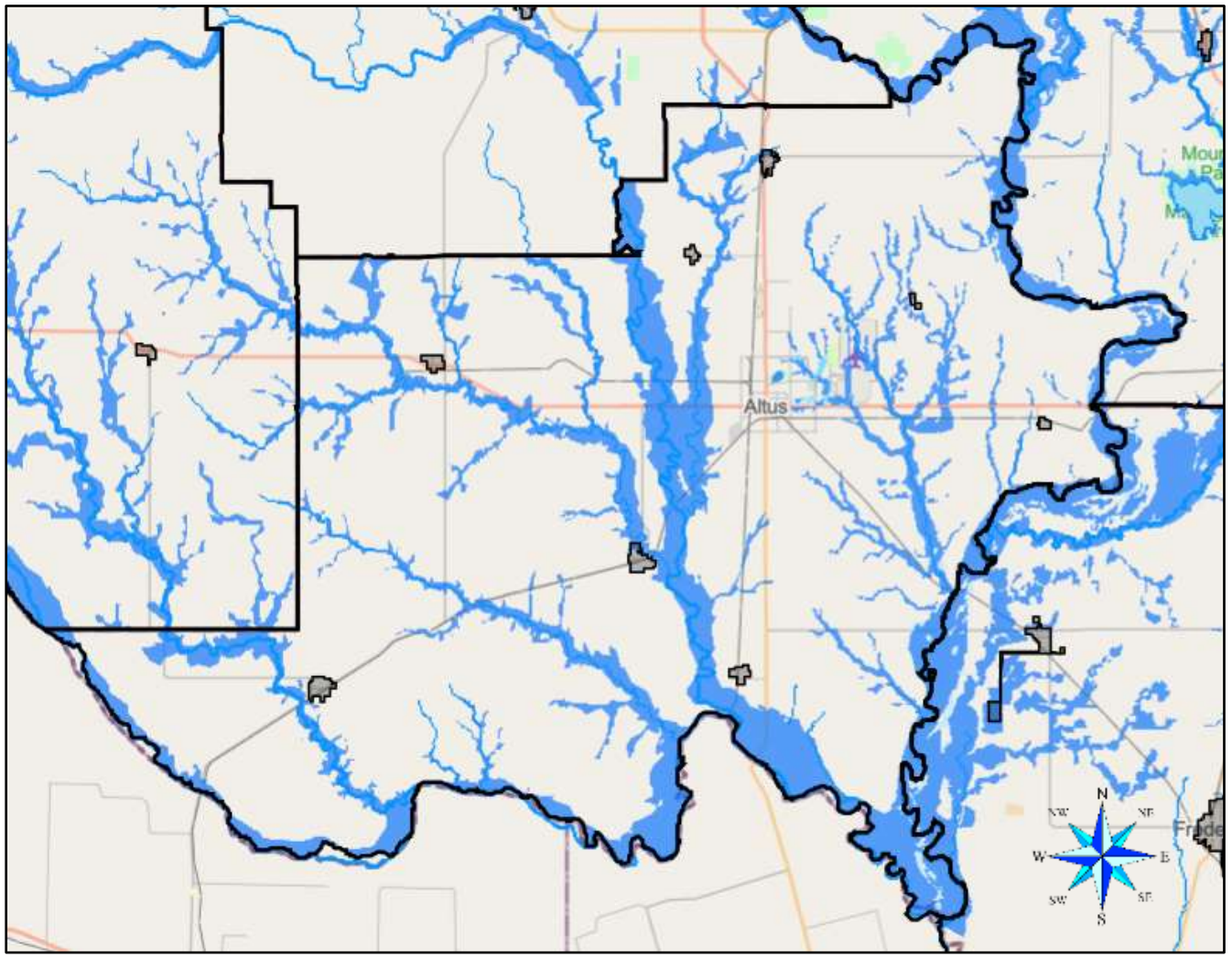
Location:

All jurisdictions within the planning area are affected by flooding due to flash flooding and/or excessive rain. Floodprone areas within each respective municipality have been identified. A map of each jurisdiction follows with the floodplain area identified. The maps are labeled accordingly and provided by the City of Altus.

The municipalities that have areas within a floodplain are Altus, Blair, Friendship, and Olustee, and water shed areas throughout the unincorporated areas of Jackson County.

The municipalities of East Duke, Eldorado, Elmore, Headrick, and Martha do not have areas within the floodplain within their respective city limits.

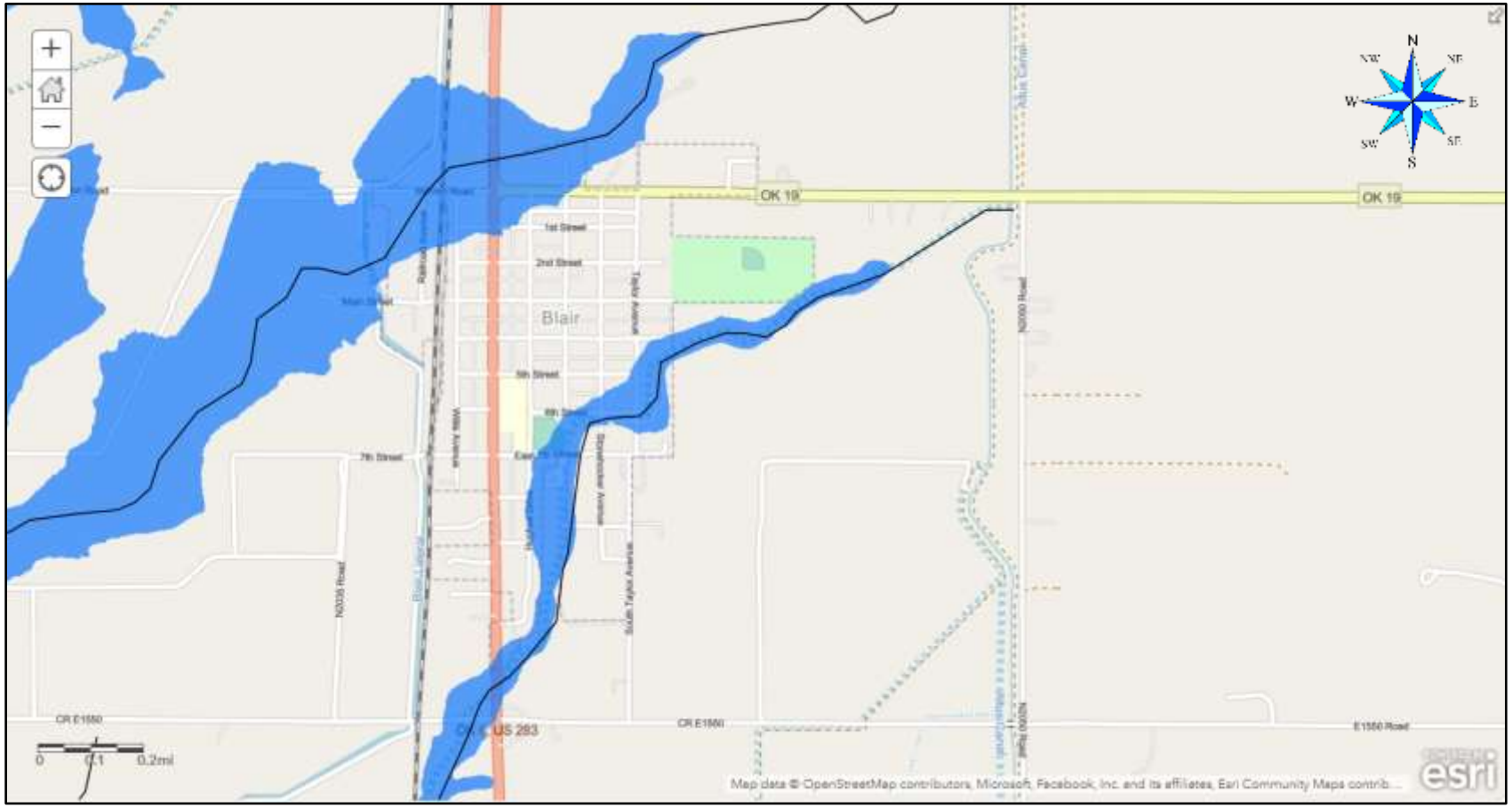
These maps were provided by the City of Altus.



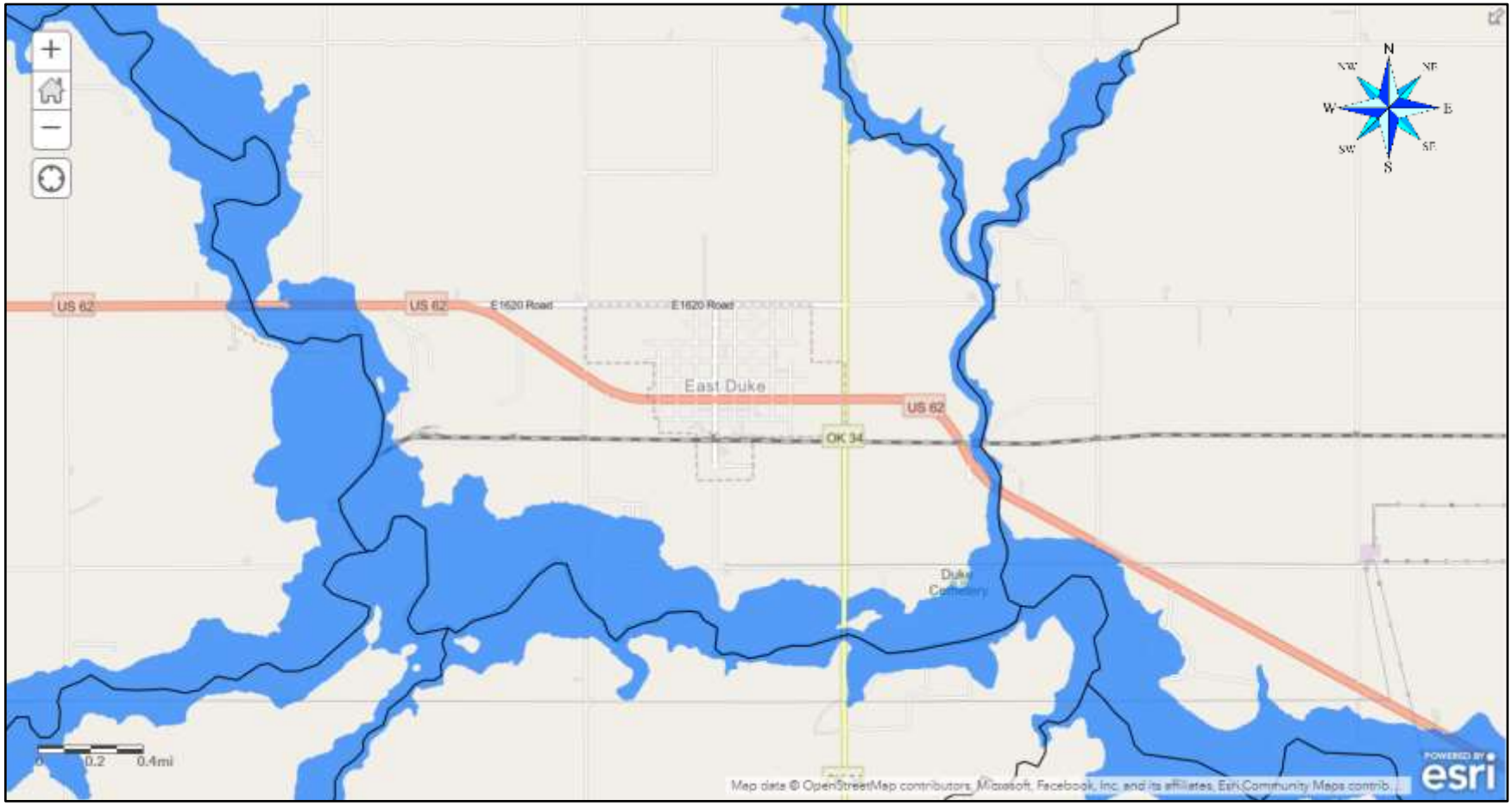
This map shows the flood plain area for the entire planning area. A majority of the floodplain follows the water shed areas throughout the county.



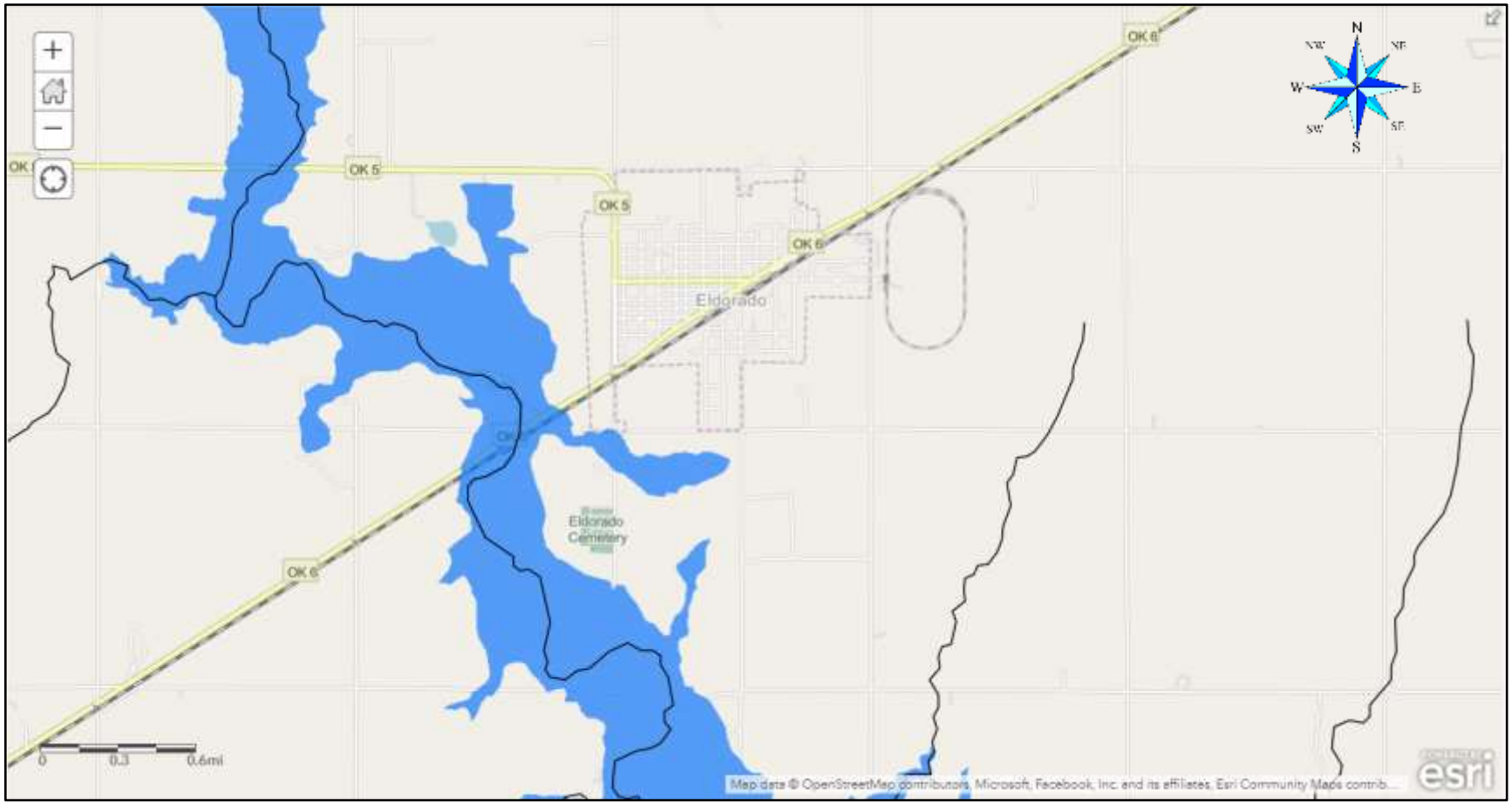
This map shows the flood plain area for the City of Altus. The floodplain areas follow the creeks and tributaries from the North Fork of the Red River.



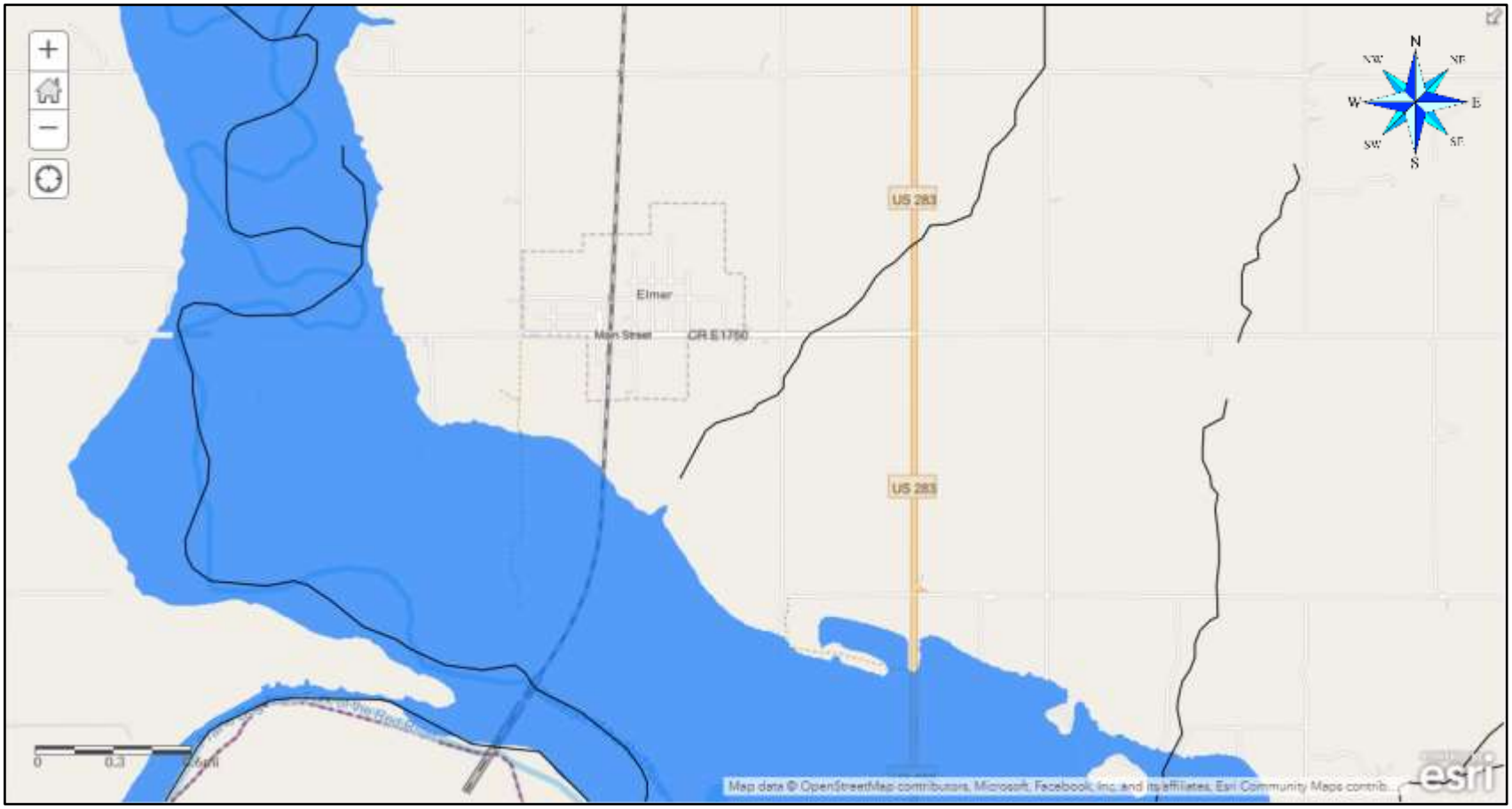
This map shows the flood plain area for the Town of Blair. The floodplain areas follow the creeks and tributaries from the North Fork of the Red River.



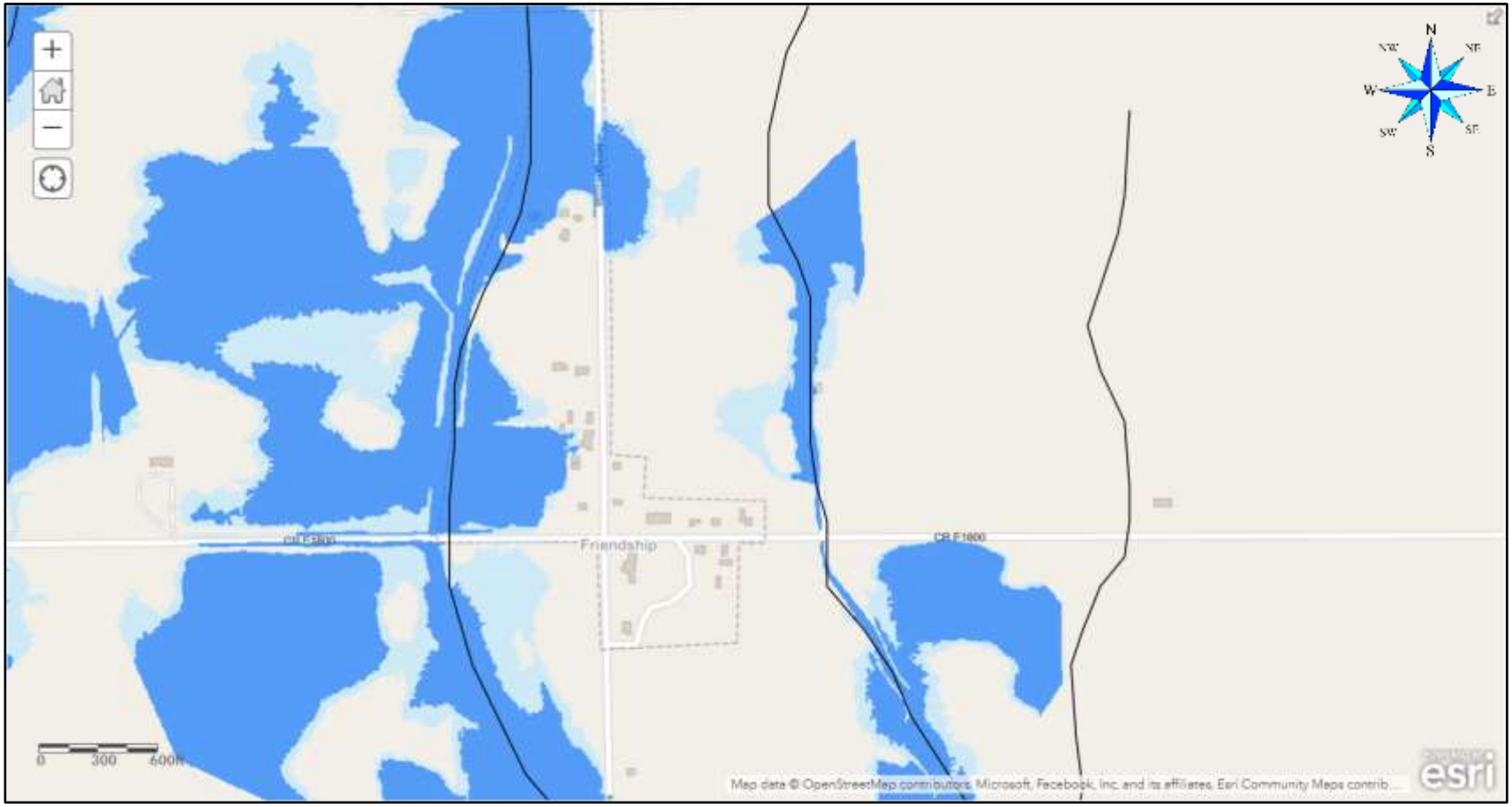
This map shows the flood plain area for the Town of East Duke. None of the town lies within the floodplain.



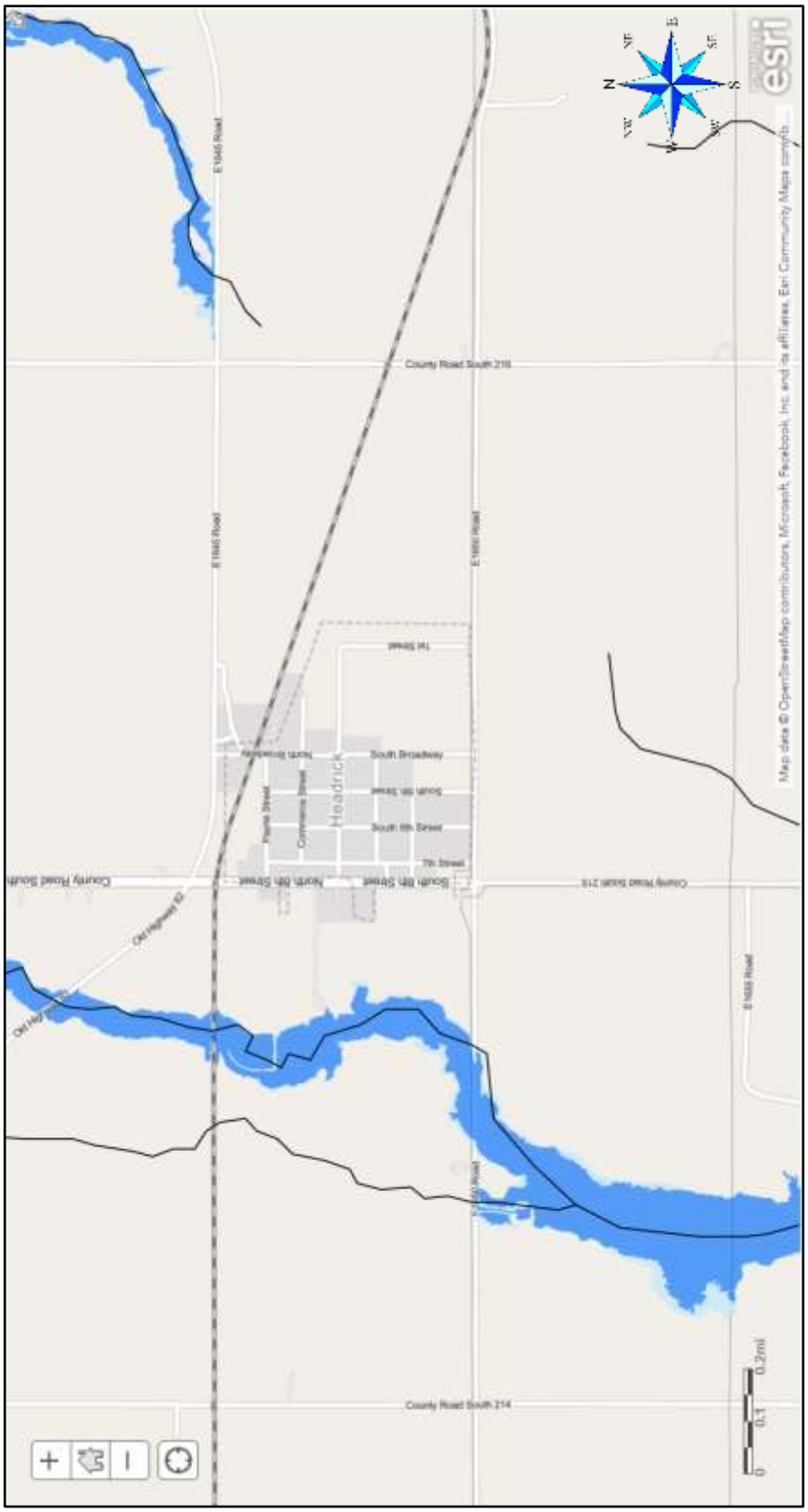
This map shows the flood plain area for the Town of Eldorado. The floodplain areas follow the creeks and tributaries from the North Fork of the Red River. Only a very small portion of the floodplain is in the southwest corner of the town limits.



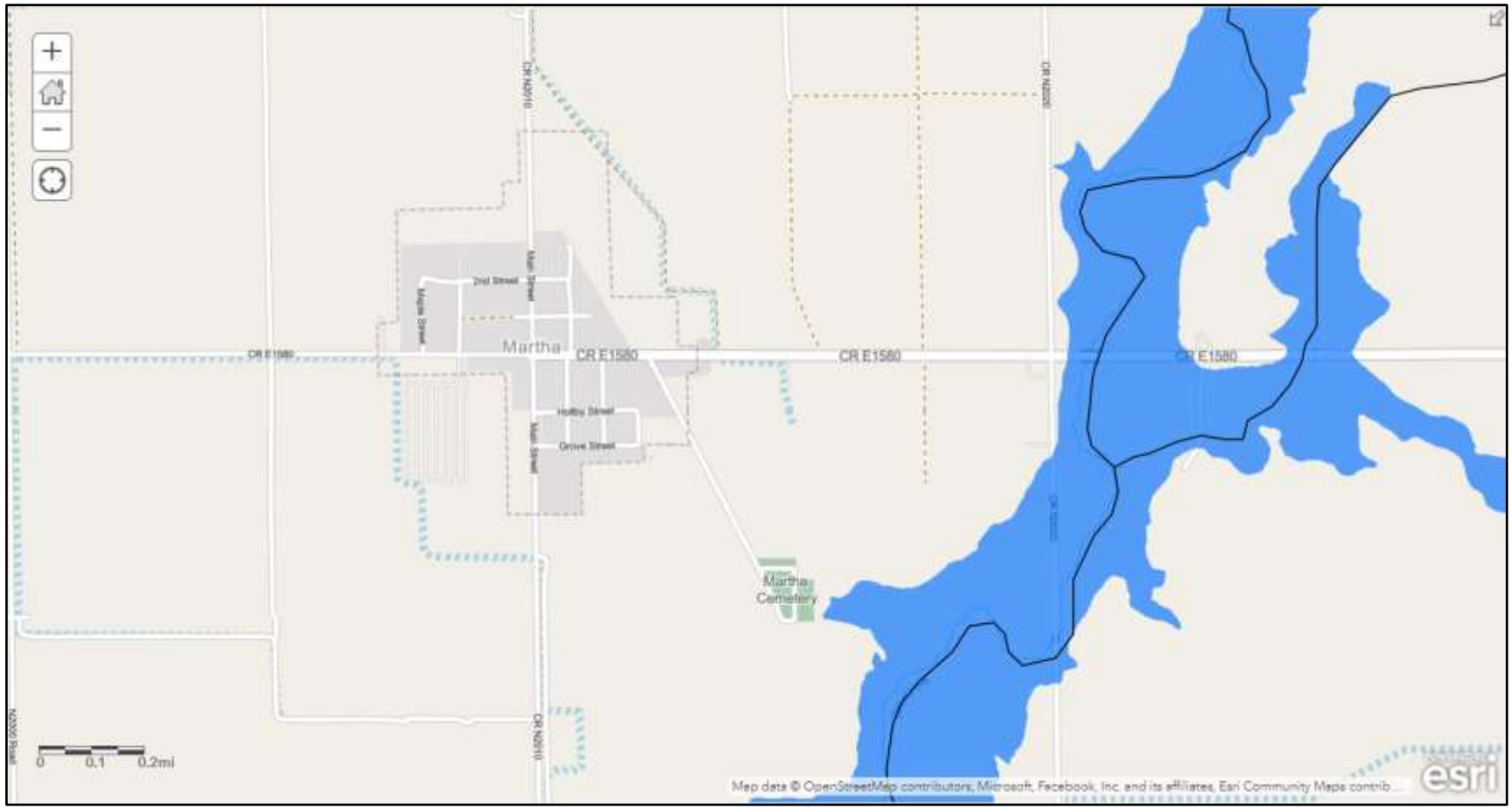
This map shows the flood plain area for the Town of Elmer. None of the town lies within the floodplain.



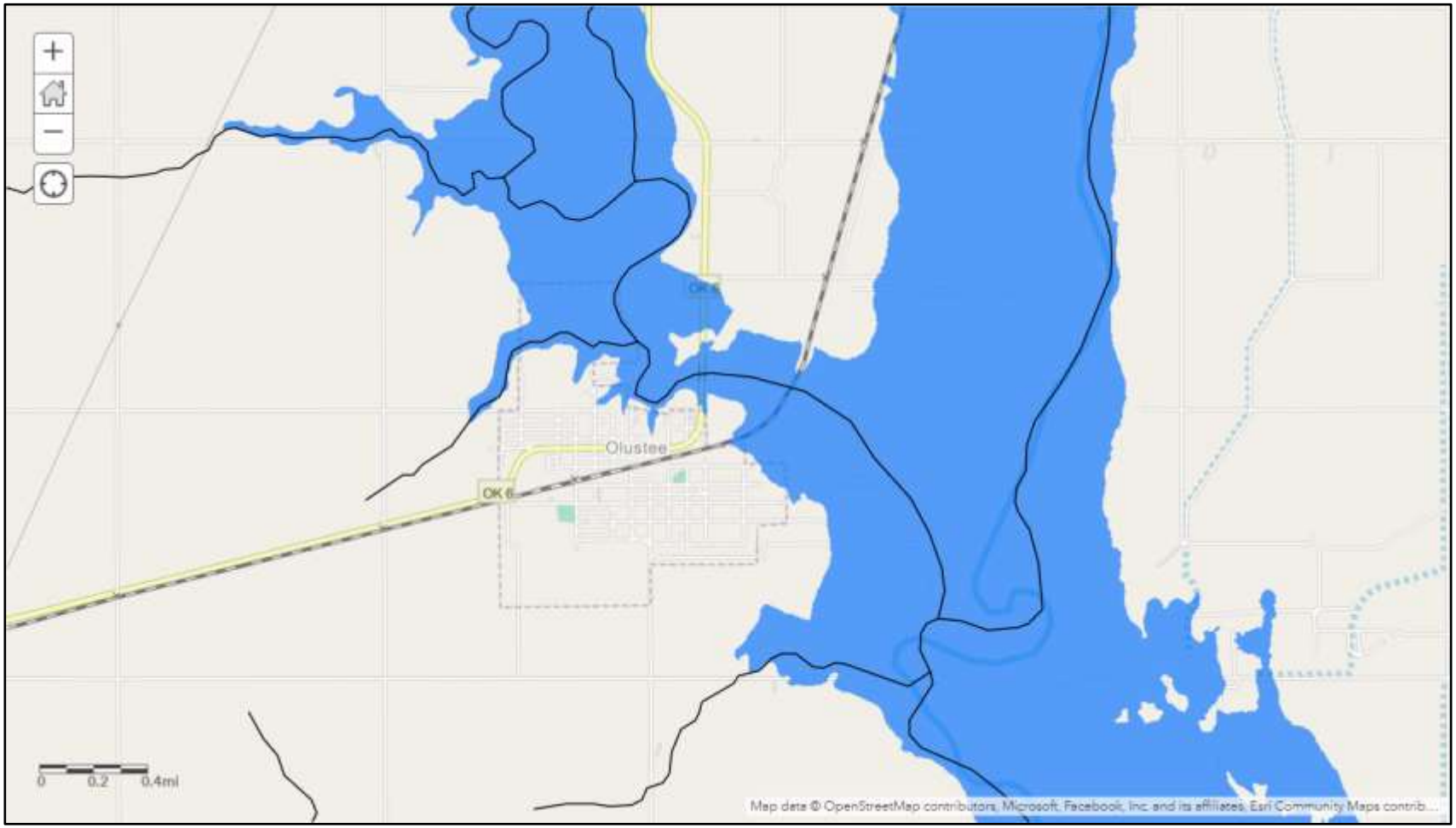
This map shows the flood plain area for the Town of Friendship. The floodplain areas follow the creeks and tributaries from the North Fork of the Red River.



This map shows the flood plain area for the Town of Headrick. None of the town lies in the floodplain.



This map shows the flood plain area for the Town of Martha. None of the town lies within the floodplain.



This map shows the flood plain area for the Town of Olustee. The floodplain areas follow the creeks and tributaries from the North Fork of the Red River.

Extent

The planning area uses the FEMA Flood Damage Categories and Criteria to assess flood depth. The levels are described as follows:

FEMA Flood Damage Categories and Criteria	
Affected	0-6 inches of water inside the structure; minimal damage to the exterior and/or contents of the home
Minor	6-18 inches of water inside the structure; encompasses a wide range of damage that does not affect the structural integrity of the residence
Major	18-48 inches of water inside the structure; structure sustains significant structural damage and will require extensive repairs
Destroyed	48+ inches of water inside the structure; structure is a total loss and repair is unfeasible

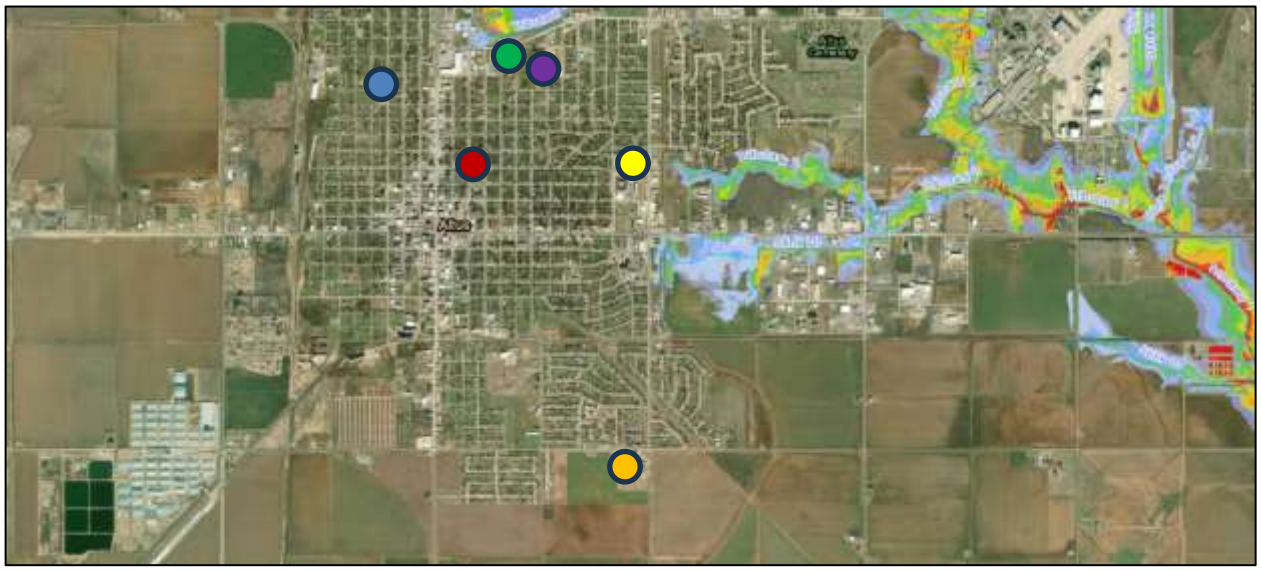
The planning area has the potential to experience the entire range of these flood levels, though the most likely range is from “Affected” to “Minor.” Though in extremely heavy rainfall, there are a few areas throughout the planning area that could experience “Major” flooding.

Flood extent maps are included to provide an idea of the extent of flood depths near the participating jurisdictions, except for Blair, Blair PS, East Duke, Duke PS, Elmer, Martha, Olustee, and Olustee-Eldorado PS. The BFE maps have not been developed on the BFE Viewer site, and FIRM maps will be included instead.

The City of Altus has tributaries from the Stinking Creek throughout the city. As shown on the maps, the flood depth ranges from less than a foot (light blue) to over 5 feet (red). This map shows the northern half of Altus. Altus Elementary (blue circle) and Rivers Elementary (orange circle); neither campus lies within a flood plain. SWTC (yellow circle) is not within a floodplain area.



This map shows the southern half of Altus. The flood depth ranges from less than a foot (light blue) to over 5 feet (red). Wilson Elementary (blue circle), Washington Elementary (red circle), Altus Intermediate (green circle), Altus Early Childhood (purple circle), Altus High School (yellow circle), Altus Jr. High (orange circle) do not lie within a floodplain area.



The town of Blair has areas within the floodplain. Blair PS (orange circle) is not within a floodplain area. The expected flood extent is from less than 12” to over 5’.



The town of East Duke has no areas within the floodplain. Duke PS (orange circle) is not within a floodplain.



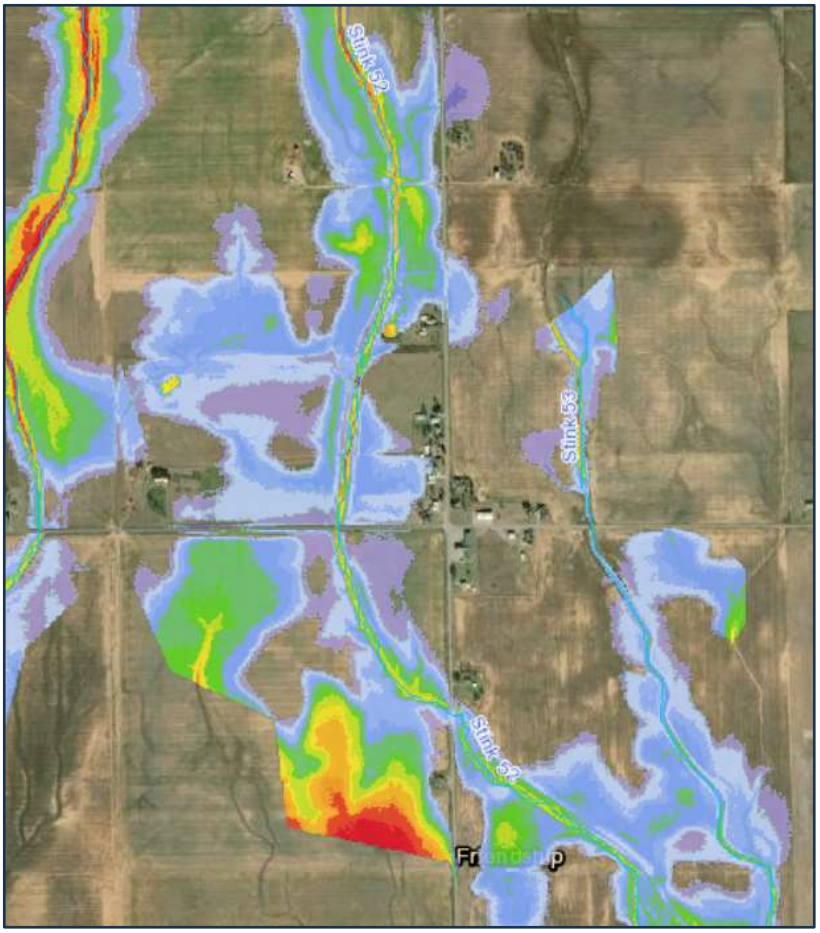
The City of Eldorado has no areas within the floodplain. There are no schools within Eldorado.



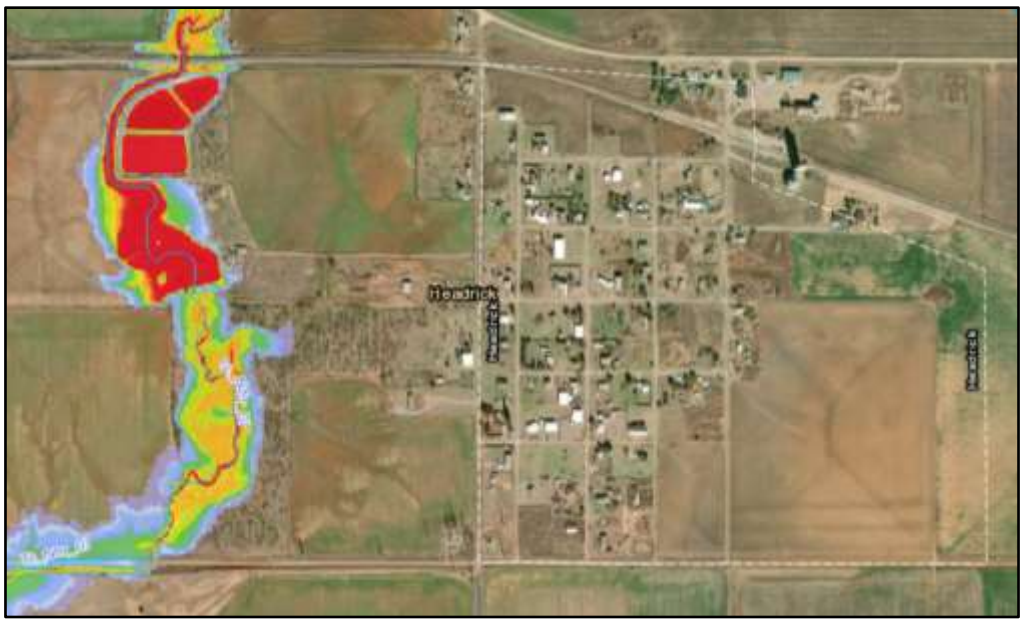
The town of Elmer has no areas within the floodplain. There are no schools within Elmer.



The town of Friendship has areas within the floodplain, as tributaries from the Stinking Creek lie throughout the town. The range of flood depth is from less than 12” (light blue) to over 5’ (red). There are no schools in the area.



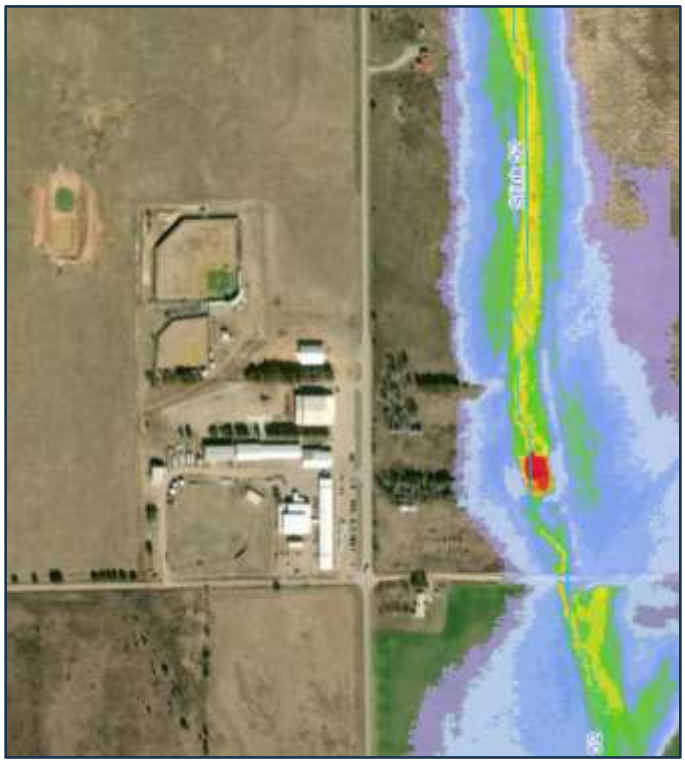
The town of Headrick does not lie within the floodplain. However, the lagoons west of town lie in a typically dry tributary area of the North Fork of the Red River; it could flood to a depth of over 5 feet.



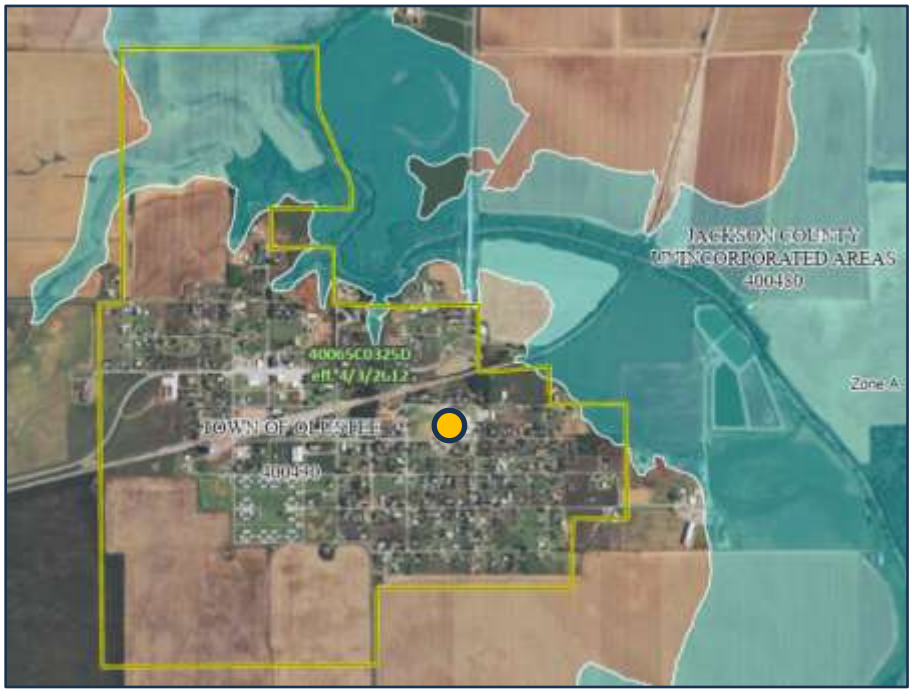
The town of Martha does not lie within a floodplain.



Navajo PS does not lie within a floodplain, but floodplain areas lie in close proximity. The expected flood depth is from less than 12” (light blue) to 3’-4’ (yellow). The red area indicates a small pond that remains dry most of the time. When it is full, it is more than 5’ deep.



The town of Olustee has areas within the floodplain. The Olustee-Eldorado PS (orange circle) is not within a floodplain area. The expected flood extent is from less than 12” to over 5’.



Previous Occurrences

The following table lists the flood and flash flood events within the planning area as reported by the NCEI between 2013-2023. There were no deaths or injuries associated with these events.

Location	Date	Type	Property Damage	Location	Date	Type	Property Damage
Altus	June 8, 2014	Flood	0	Altus, Blair	Oct. 7, 2018	Flash Flood	0
Blair	May 7, 2015	Flash Flood	0	Altus	Oct. 9, 2018	Flash Flood	0
Altus	May 19, 2015	Flash Flood	$30,000	Altus	May 24, 2019	Flash Flood	0
Blair	May 23, 2015	Flash Flood	0	Altus	Mar. 15, 2020	Flash Flood	0
Headrick, Altus	April 16, 2016	Flash Flood	$15,000	Altus	May 18, 2020	Flash Flood	0
Altus	July 8, 2016	Flash Flood	$30,000	Altus	May 31, 2022	Flash Flood	0
Martha	June 13, 2018	Flood	$0				

Altus reported that areas throughout the city have nuisance flooding.

Olustee-Eldorado PS reported that the school experiences minor flooding 2-4 times annually in the agriculture building and special education building due to the runoff from the school parking lots.

Probability of Future Events

The probability of the planning area experiencing flooding is likely. While the towns of East Duke, Eldorado, Elmer, Headrick, and Martha have no floodplain areas within their town limits, **all jurisdictions** can experience flooding due to excessive rainfall and flash flooding. The probability is expected to remain likely.

Vulnerability and Impact

Throughout Jackson County, the main vulnerabilities lie in close proximity to the Salt Fork and North Fork of the Red River, and the Stinking Creek. Due to the topography of the land, flooding impacts are largely limited to roads and highways across the planning area. The vulnerabilities and impacts of the planning area are below.

Vulnerabilities and Impact of Flooding in Jackson County		
Jurisdiction	**Vulnerability**	**Impact**
City of Altus	The drainage areas throughout Altus are vulnerable to filling with dried vegetation and other debris that can slow the flooding/ stormwaters. The lagoons are vulnerable to flooding in excessive rain. If the area had several days of excessive rainfall, the cumulative effect of excessive rainfall could cause the lagoons to overtop.	Blocked drainage areas can exacerbate the flooding in and around the water shed areas, potentially causing more flooding throughout town. If the lagoons overtopped in excessive rainfall, the lagoon runoff could eventually reach the tributaries of the Salt Fork of the Red River west of the lagoons. While this is unlikely in normal rain events, if a catastrophic amount of rain were to fall, the overtopping of the lagoons would result in a costly contamination cleanup for the city.
Town of Blair	Highway 19 is vulnerable to flooding in excessive rain as portions of it lie within a floodplain and 2 tributaries flow through the town. The SE to NE corner of the town limits lies within the floodplain, and the US highway 19 goes through Blair. One area west of Blair and another area east of Blair where the highway lies is within the floodplain. Also, two areas of Highway 283 are vulnerable to flooding as the tributaries cross the highway in 2 areas.	Highway 19 provides highway access east and west through the county. Highway 283 provides north and south access throughout the county. In times of excessive rain, these roads could become inundated, causing detours until the flood waters receded.

Vulnerabilities and Impact of Flooding in Jackson County		
Jurisdiction	**Vulnerability**	**Impact**
Town of East Duke	Highway 62 is vulnerable to flooding in excessive rain. Highway 62 lies east and west through East Duke. There is an area west and east where the highway lies in the floodplain, where Turkey Creek lies.	Highway 62 is a main access highway that lies east and west. If this highway becomes inundated in excessive rainfall, it would cause long detours that would impede travel as well as any emergency services if they were needed.
Town of Elmer	The town is surrounded by the Salt Fork of the Red River on the west and to the south. These watershed areas are vulnerable to flooding in excessive rainfall. US Highway 283 to the southeast and County Road (CR) E1750 to the west have low-lying areas that are vulnerable to flooding in excessive rain.	If the watershed area of the Salt Fork exceeded its banks, low-lying portions of could flood US Highway 283 to the southeast of Elmer and CR E1750. These are the main access roads to the community, if flooded, long detours, impeding travel and emergency services, until the floodwaters receded.
Town of Eldorado	Highway 6 is vulnerable to flooding in excessive rain as Sandy Creek crosses this highway.	If this highway becomes inundated in excessive rainfall, it would cause long detours that would impede travel as well as any emergency services if they were needed.
Town of Friendship	A significant portion of the town lies within the floodplain, and is vulnerable to flooding due to excessive rain.	The town is largely open farmland and pastures. If the flood prone areas were to become inundated, it could result in a loss of agricultural crops, which would be an economic loss to the residents.
Town of Headrick	The lagoons are vulnerable to flooding. The lagoons lie within a flood plain area, and in a catastrophic rain the lagoons could overtop.	The impact of flooding at the lagoons could possibly lead to a contamination of the watershed, which would result in a costly economic loss to the town.
Town of Martha	CR1580 is the main access road that goes through the town. East of Martha, CR1580 is vulnerable to flooding due to excessive rain.	If this highway becomes inundated in excessive rainfall, it would cause long detours that would impede travel as well as any emergency services if they were needed.
Town of Olustee	Turkey Creek flows on the north and east sides of Olustee and is vulnerable to flooding. The lagoons lie next to Turkey Creek, and the creek could exceed its banks in times of excessive rainfall. Highway 6, a main thoroughfare, is vulnerable to flooding where it crosses Turkey Creek, going north.	If the Turkey Creek were to exceed its banks and overflow into the lagoons, it could cause a potential contamination problem. The cleanup would be a costly economic loss to the town. If this highway becomes inundated in excessive rainfall, it would cause long detours that would impede travel as well as any emergency services if they were needed.

Vulnerabilities and Impact of Flooding in Jackson County		
Jurisdiction	**Vulnerability**	**Impact**
Jackson County	Unincorporated areas around the watershed of the North Fork of the Red River, Stinking Creek, and Salt Fork of the Red River, and multiple tributaries are vulnerable to flooding from excessive rain.	The impact of flooding is primarily that the roads and highways become flooded in low-lying areas during times of excessive rain. This can cause delays and detours if the roads must be closed until the waters recede. If the flash flooding causes culverts to wash out or damage to bridges or roads, this results in an economic loss to the county and road closures if necessary until repairs are made.
SWTC Altus PS	All campuses are vulnerable to flooding in excessive rainfall, particularly in areas where the drainage gets overwhelmed in a heavy rain.	While none of the campuses lie in a floodplain area, they all lie in urban areas where the stormwater runoff can overwhelm the drainage systems, causing nuisance flooding. The flooding can impede traffic, causing potential delays to and from school.
Blair PS	Most of the roads used for rural bus routes are dirt roads, and these dirt roads are vulnerable to flooding.	Flooding can cause the dirt roads to become extremely muddy and impassable for buses. If the buses cannot navigate down the road safely, those students must be brought into school by parents or make up school.
Duke PS	One of the East Duke PS buildings is a fallout shelter, partially built into the ground. This building is vulnerable to rainwater seeping into the walls. Most of the roads used for rural bus routes are dirt roads, and these dirt roads are vulnerable to flooding.	The flooding impact is that the water has begun seeping into the walls of the building, causing the acceleration of aging. The water damage can damage the contents of the building if they are in those areas where the water seeps in. Flooding can cause the dirt roads to become extremely muddy and impassable for buses. If the buses cannot navigate down the road safely, those students must be brought into school by parents or make up school.
Navajo PS	Most of the roads used for rural bus routes are dirt roads, and these dirt roads are vulnerable to flooding.	Flooding can cause the dirt roads to become extremely muddy and impassable for buses. If the buses cannot navigate down the road safely, those students must be brought into school by parents or make up school.

Vulnerabilities and Impact of Flood in Jackson County		
Jurisdiction	**Vulnerability**	**Impact**
Olustee-Eldorado PS	The ag building and the special education building are vulnerable to flooding from excessive rain. The parking lots slightly slope toward the buildings, causing the runoff to pool in front of these buildings and seep into the buildings. Several additions have been made over the years to the school, and the seams that connect the old and new walls are vulnerable to water leaks from excessive rainfall.	The flooding impact causes minimal damage and economic expense in cleanup. The school is evaluating the possibility of installing French drains to alleviate the flooding impact, but the construction/ installation of these will be an economic expense to the school. These leaks cause minor damage and nuisance flooding at the school.

Climatological Change: Climatological changes influence flooding impacts in the planning area. Flooding occurs when the planning area receives unusual amounts of rain in a brief period of time. Flooding can also occur when the watershed areas exceed the banks due to rainfall in the planning area or upstream. However, the planning area has not seen an increase of flooding impacts. If there has been a change, the planning area has seen a decrease in flooding impacts due to the drought conditions that have affected the area.

Land Use/Development Impact: Land use developments have not influenced flood impacts, and there has been no noticeable increase or decrease the flood impacts. The planning area has seen very little change in land use or development between 2013-2023.

Population Impact: Population patterns have not influenced flood impacts. The planning area has seen very little change in the population patterns between 2013-2023; there has been no increase or decrease of flood impacts due to population patterns.

If the planning area were to see an increase in the population or an increase in development, these changes would likely result in an increase of flooding impacts.

HAIL

Hail forms in storm clouds when super cooled water droplets freeze on contact with condensation nuclei, such as dust. The storm's updraft blows the hailstones to the upper part of the cloud. The updraft dissipates and the hailstones fall down, back into the updraft, and are lifted up again. The hailstone gains an icy layer and grows increasingly larger with each ascent. Once a hailstone becomes too heavy to be supported by the storm's updraft, it falls out of the cloud.

Location:

The entire planning area includes all of Jackson County, participating jurisdictions and public school districts, all of which are at risk from hailstorms.

Extent:

The NOAA/Torro Hail scale shown below describes the levels of hail possible and damage that results. Jackson County and participating jurisdictions are at risk from all levels of the NOAA/Torro Hailstorm Intensity Scale.

Combined NOAA/TORRO Hailstorm Intensity Scale				
Size Code	**Intensity Category**	**Typical Hail Diameter (inches)**	**Approximate Size**	**Typical Damage Impacts**
H1	Potentially Damaging	0.33-0.60	Marble or Mothball	Slight damage to plants, crops
H2	Potentially Damaging	0.60-0.80	Dime or grape	Significant damage to fruit, crops, vegetation
H3	Severe	0.80-1.20	Nickel to Quarter	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	1.2-1.6	Half Dollar to Ping Pong Ball	Widespread glass damage, vehicle bodywork damage
H5	Destructive	1.6-2.0	Silver Dollar to Golf Ball	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	2.0-2.4	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 and up	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Officials in Jackson County consider anything in the magnitude of H2 or lower on this scale a minor hail event. Hail events with hail greater than H2 is considered significant due to crop losses and the economic hardship it creates for farmers and ranchers. Once the size of hail rises to H4-H5 magnitude it becomes disastrous to equipment that is parked outside due to insufficient cover. Jackson County, participating jurisdictions and school officials consider any hail in the range of H4 and above as a major event.

Previous Occurrences:

There have been numerous hail events produced by severe thunderstorms occurring in Jackson County each year. The National Climatic Data Center reports the following hail events that have impacted communities in Jackson County between 2013 and 2023. There were 37 hail events listed and events occurring on the same day but affecting multiple jurisdictions will be listed as a single event.

Jurisdiction	Date	Magnitude of Hail	Cost of Damage Estimate
Martha	April 13, 2013	.88" to .75"	$0
Elmer	April 17, 2013	1.75"	$0
Hess	May 9, 2013	1"	$0
Eldorado, Friendship, Uninc. Jackson Co. East Duke, Blair, Altus	May 18, 2013	1" to 2.75"	$0
Martha	October 4, 2013	1"	$0
Eldorado, Olustee	April 20, 2014	1" to 2"	$0
Headrick	April 27, 2014	1"	$0
Eldorado	March 31, 2015	1"	$0
Uninc. Jackson Co.	April 18, 2015	1.75"	$0
Elmer, Headrick	May 6, 2015	1.75" to 2.75"	$0
Martha, Blair	May 8, 2015	1" to 2.5"	$0
Friendship	June 19, 2015	1.25"	$0
Eldorado	April 10, 2016	1.75"	$0
Headrick	April 16, 2016	1.25"	$0
Olustee, Martha	April 26, 2016	1.25" to 1.75"	$0
Altus	April 29, 2016	1" to 1.5"	$0
Elmer	March 28, 2017	1.75"	$0
Eldorado, Olustee, Altus, Blair	May 10, 2017	1" to 2"	$0
East Duke, Blair, Eldorado	May 19, 2017	1" to 2.75"	$0
Altus	June 9, 2017	.88"	$0
Altus	June 30, 2017	.88" to 1"	$0

Jurisdiction	Date	Magnitude of Hail	Cost of Damage Estimate
Eldorado	August 13, 2017	1” to 1.5”	$0
Headrick	October 21, 2017	1.75” to 3”	$7,000.00
Altus	May 2, 2018	.75” to 1”	$0
Olustee, Altus	April 3, 2019	.75” to 2”	$0
Olustee	May 8, 2019	1.75”	$0
Altus, Uninc. Jackson Co.	April 11, 2020	.75” to 1.75”	$0
Eldorado	May 7, 2020	1.75 to 3”	$0
Altus	May 15, 2020	1” to 2”	$0
Altus	April 13, 2021	.75”	$0
Elmer, Altus	October 10, 2021	1” to 1.25”	$0
Olustee	April 9, 2023	.75”	$0
Martha, Altus	June 13, 2023	.75” to 1”	$0
Martha Altus	June 15, 2023	1” to 2.25”	$0
Altus	July 3, 2023	.75”	$0
Altus	August 11, 2023	.88”	$0
East Duke, Martha, Altus, Blair, Elmer	September 19, 2023	.75 to 1.5”	$0

There were no deaths associated with the hail events during this timeframe.

There was one injury reported with the hail event on October 21, 2017 near the community of Headrick.

Altus PS reported that minor hail damage occurred to the roofing and vehicles in 2023.

Probability of Future Events:

The probability of the planning area experiencing a hail event is high. The probability of hail events in the planning area is expected to remain high.

Vulnerability and Impacts:

In Jackson County, participating jurisdictions and schools, all people, buildings, automobiles and other items or equipment that may be outdoors during a hail storm event are at risk from hailstone damages. Roofs, large windows, and cars seem to carry the highest dollar damage claims from hailstorm events. Crops and livestock are also at risk. People can be injured or even killed if struck by a medium to large hailstone. Buildings and other items outside during a hailstorm event

can be damaged or sometimes destroyed by hail leading to high cost roof replacements or high cost repairs or replacement of equipment and other outdoor items. Damage to crops and livestock can create a devastating blow to the income of farmers and ranchers and even to the economy of local jurisdictions.

Jackson County Schools tend to have a lot of roof mounted equipment like HVAC units, exhaust fans, and security cameras which when damaged by a hailstorm are expensive to repair or replace. Schools throughout Jackson County also have large windows that if struck by a hailstone could break injuring staff and students and are expensive to replace. School busses parked outside can also suffer damages and broken windows costing the school for repairs. Trees and other landscaping can also be ravaged by hail once again costing money to replace. See Appendix A for critical facilities at risk from the hail hazard. List schools and municipalities.

Jurisdiction	**Vulnerability**	**Impact**
City of Altus	The gravel/tar roofing on municipal buildings is vulnerable to the effects of hail. The exterior windows are vulnerable to breaking if large hail were to hit them.	Large hail can damage these roofs and cause water leaks in less severe events and can cause total roof replacement in severe events. This results in an economic loss to the city. If the glass shatters upon impact, airborne shards could potentially injure in close proximity. Repairing the windows results in an economic loss to the city.
Town of Blair Town of East Duke Town of Elmer Town of Eldorado Town of Headrick Town of Martha Town of Olustee	The main vulnerability to hail in these respective towns are the windows in the town halls and community building/ senior centers. The windows are not resistant to hail damage.	If the glass shatters upon impact, airborne shards could potentially injure in close proximity. Repairing the windows results in an economic loss to the town.
Town of Friendship	The volunteer fire department's trucks are vulnerable to hail damage due to the lack of covered parking.	If the fire trucks are outdoors during a hail event, they can be damaged. Depending on the severity of the hail, the trucks might be out of commission while being repaired, limiting the response capability of the fire department.

Jurisdiction	Vulnerability	Impact
SWTC	The exterior windows do not have impact resistant film and could break in a hail storm. There is no covered parking and any school fleet vehicles are vulnerable to hail damage.	If the glass shatters upon impact, airborne shards could potentially injure in close proximity. Repairing the windows results in an economic loss to the town. Any hail damage results in an economic loss to the school, and could delay projects if vehicles require extensive repair.
Jackson County	The courthouse and the district barns do not have adequate covered parking to protect county equipment and vehicles in a hail event. The windows of all vehicles and equipment are vulnerable to breaking in a hail event.	The lack of covered parking results in an economic loss to the county if equipment and vehicles is damaged in a hail event. Depending on the damage, the vehicles could also be out of commission for several weeks, which can potentially delay road projects.
Altus PS Blair PS Duke PS Navajo PS Olustee-Eldorado PS	In a hailstorm, all schools reported that the respective transportation fleets would be vulnerable to hail damage due to a lack of covered parking at all campuses.	The lack of parking results in school vehicles getting damaged and possibly being out of commission while they are repaired. The repairs can result in an economic loss to the school.

Climatological: Climatological change influences Hail impacts. Hail impacts are closely connected to the atmospheric conditions that produce hailstorms.

Land Use: There is minimal increase in population from people moving outside the Oklahoma City metro area to the planning area. This increases the effect of hail impacts due to a slight increase of structures being built and the development of land for commercial or agricultural uses.

Population: Population patterns have not influenced hail impacts. There has been no increase or decrease of hail impacts upon the population as the population within the planning area is familiar with the effects of hail.

HIGH WINDS

High winds are a common feature of thunderstorms, particularly severe thunderstorms, but damaging straight-line winds can and have occurred outside of thunderstorms. Wind is defined as the motion of air relative to the earth's surface. High winds can result from thunderstorm inflow and outflow, or downburst winds when the storm collapses, and can result from strong frontal systems, or gradient winds (high or low-pressure systems) moving across the planning area. "*High winds*" are wind speeds reaching 50 mph or greater, either sustained or gusting.

Location:

Jackson County, participating jurisdictions and schools experience high winds and occasional downbursts during some thunderstorms exposing virtually all structures, infrastructure, and individuals in the county to their effects.

Extent:

The Beaufort Wind Scale is a system of estimating and reporting wind speeds. Its basis is the Beaufort Force composed of wind speeds classification, from the World Meteorologists Organization (WMO), and descriptions of the visible effects of wind on land and water. The planning area can experience any wind speed on this scale, but the expected range of wind speeds is from 0-40 mph. However, as shown in the previous occurrences following, the planning area can also expect wind events exceeding this range, where wind speeds reach 40-60 mph or higher, depending on the conditions of each individual storm.

Beaufort Wind Scale for Land				
No.	**Knots**	**mph**	**Description**	**Effects on land**
0	0	0mph	Calm	Smoke rises vertically.
1	1-3	1-3mph	Light air	Smoke drifts in the wind.
2	4-6	4-7mph	Light breeze	Leaves rustle. Wind felt on face.
3	7-10	8-12mph	Gentle breeze	Small twigs in constant motion. Light flags extended.
4	11-16	13-18mph	Moderate wind	Dust, leaves and loose paper lifted. Small branches move
5	17-21	19-24mph	Fresh wind	Small trees sway.
6	22-27	25-31mph	Strong wind	Large branches move. Whistling in phone wires. Difficult to use umbrellas.
7	28-33	32-38mph	Very strong wind	Whole trees in motion.
8	34-40	39-46mph	Gale	Twigs break off trees. Difficult to walk.
9	41-47	47-54mph	Severe gale	Chimney pots and slates removed.
10	48-55	55-63mph	Storm	Trees uprooted. Structural damage.
11	56-63	64-72mph	Severe storm	Widespread damage.
12	63	73mph	Hurricane force	Widespread damage. Very rarely experienced on land.

Previous Occurrences:

Following are the high wind events in the planning area from January 2013 to December 2023. There were no injuries or deaths in the planning area associated with the high wind events reported to the NCDC.

Wind events in Jackson County 2013-2023			
Jurisdiction	**Date**	**Magnitude of wind in knots**	**Cost of Damage Estimate**
Altus	May 29, 2013	52-61 mph	$10,000
Blair	June 8, 2013	58	None
Eldorado	August 7, 2013	52	$10,000
Altus	October 30, 2013	55-58	None
Altus	June 7, 2014	52-63	None
Altus, Elmer	October 21, 2014	65-70	$6,000 to $7,000
Martha	May 8, 2015	61	None
East Duke, Elmer	May 16, 2015	56-61	None
Headrick	July 31, 2015	54	None
Uninc. Jackson Co.	April 10, 2016	52	$3,000
Elmer	May 22, 2016	52	None
Blair	June 26, 2016	52	None
Altus	June 28, 2016	56-60	None
Eldorado, Olustee, Altus	July 6, 2016	51-71	$5,000
Altus	July 8, 2016	50	None
Olustee, Altus	July 15, 2016	55-68	None
Elmer	December 25, 2016	56	None
Altus	April 29, 2017	54	None
Elmer, Altus	May 10, 2017	60-66	None
Friendship	June 9, 2017	52	$2,000
Martha	July 3, 2017	50	None
Altus	September 17, 2017	52-56	$4,000
Altus	May 2, 2018	50	None
Altus	May 15, 2018	55-63	None
Altus	June 13, 2018	52-59	$5,000
Altus	June 25, 2018	52-61	None
Altus	August 14, 2018	54	None
East Duke	August 17, 2018	54	None
All Jurisdictions	March 10, 2019	61	None
All Jurisdictions	March 13, 2019	51	None
Eldorado	April 3, 2019	57	None
Altus	May 7, 2019	53	None
Eldorado, Altus, Friendship	May 24, 2019	50-69	$5,000
Altus	June 5, 2019	53	None
Altus	June 18, 2019	57	None
Altus	August 17, 2019	63-82	None
Altus	May 23, 2020	50	None

Wind events in Jackson County 2013-2023			
Jurisdiction	**Date**	**Magnitude of wind in knots**	**Cost of Damage Estimate**
Altus	July 4, 2020	52-60	None
Friendship	June 26, 2021	51	None
Altus	July 25, 2021	56-61	None
Altus	October 10, 2021	69-71	None
All Jurisdictions	January 14, 2022	51	None
All Jurisdictions	April 4, 2022	56	None
All Jurisdictions	April 7, 2022	50	None
All Jurisdictions	May 1, 2022	56	None
East Duke, Altus	May 31, 2022	52-65	$20,000
Altus	June 8, 2022	52	None
Altus	June 9, 2022	61	None
Altus	August 10, 2022	51	None
Altus	October 27, 2022	50	None
All Jurisdictions	December 22, 2022	50	None
Altus	February 26, 2023	51-55	None
All Jurisdictions	March 31, 2023	51	None
Martha, Altus	June 13, 2023	59-60	None
Altus	July 3, 2023	50-53	None
Altus	July 7, 2023	60	None
Altus	July 9, 2023	52-67	None
Altus, Olustee	August 11, 2023	51-56	None
Altus	August 12, 2023	58	None

Straight-line winds damaged the doors of the fire station in 2019 in Altus.

Altus PS reported that the outbuildings and dugouts at the sports fields have wind damage almost annually.

The town of Blair reported that high winds caused $25,000-$26,000 in damage to the town hall roof in 2023.

The town of East Duke reported that high winds damaged the roof and the police department building in June 2022.

Duke PS reported that high wind damage to outbuildings and the scoreboards totaled $12,000 in 2023.

Navajo PS reported that a portion of the school roofing blew off due to high winds the day before school in 2021.

The Town of Eldorado reported that high winds have damaged the roofing on the city barn where supplies and equipment are kept. This has happened several times between 2013-2023.

The Town of Olustee reported that a massive downburst occurred and caused significant damage to the town on August 11, 2023. No indication or warning was on the radar, and there was no forecast of severe weather. The town lost power due to downed power lines and poles in the area. This same downburst storm produced winds estimated up to 100 mph. The town hall awnings, metal fencing, and roofing all had damage, requiring repairs. Anecdotal reports from residents included trees uprooted, carports blown over, and a trailer overturned.

Probability of Future Events:

The probability of the planning area experiencing high winds is high. It is expected that high winds, downbursts, and straight-line winds will continue to occur in the planning area, with some events causing damage.

Vulnerability and Impact:

All school districts in the planning area reported that they are vulnerable to power outages due to high winds. While generally, power is restored quickly, if the school is unable to provide lunch due to a power outage, the school sends the students home. None of the school districts have backup generators to provide power if the school has a prolonged power outage due to high winds. The lack of generators can result in the economic loss of food service.

Jurisdiction	Vulnerability	Impact
City of Altus	The doors on the fire station are vulnerable to damage from high winds, that cause the doors to buckle.	The damage results in an economic loss to the city and the doors do not function as designed until repairs can be made.
	Trees and high line wires are vulnerable to breaking in high winds.	Broken tree limbs and other debris result in potentially blocking roads that impede traffic until it can be removed.
	Older, abandoned buildings are	These abandoned lots result in an

	vulnerable to collapsing in high winds, as they no longer have the structural integrity to remain upright.	economic loss to the city in clean up efforts.
Town of Blair	The roof on the town hall is vulnerable to damage from high winds. The town hall houses the communications center for the town and the equipment is vulnerable to water damage if rain occurred when the roof is in disrepair.	Any roof damage is an economic loss to the town. If the communications equipment were to sustain water damage from the roof being in disrepair, it would be an additional economic loss, as well as a disruption to providing emergency services in the community.
Town of East Duke	The roofing on the mechanic shop and the police department are vulnerable to blowing off or being damaged in high winds.	The damage and repairs to the roof are an economic loss to the town. If any equipment is damaged due to rain leaking in while the roof is in disrepair, it is an additional economic loss.
Town of Elmer	The community building's roof is vulnerable to being damage or torn off in high winds.	The repairs would be an economic loss to the town, and the town does not have the funds to pay for these repairs. Residents of the town pay for the expense and do the work themselves when it is needed.
Town of Eldorado	The town's barn is vulnerable to high winds, as the roofing could be damaged or torn off. If the damage is significant, any contents that get damaged from precipitation leaking into the barn are vulnerable to water damage.	The damage and repairs to the roof are an economic loss to the town. If any equipment is damaged due to rain leaking in while the roof is in disrepair, it is an additional economic loss.
Town of Friendship	The town is vulnerable to power outages due to high winds and does not have a backup generator at the fire station.	A lack of generators at the fire station results in the inability to have emergency power in a widespread power outage due to high winds.
Town of Headrick	The communications center does not have a backup generator and the building is vulnerable to power outages due to high winds.	If the communications center cannot operate, the lack of communications can compromise the response of emergency services.
Town of Martha	The town is vulnerable to power outages due to high winds and does not have a backup generator at the town hall.	A lack of generators results in the inability to have emergency power in a widespread power outage due to high winds.

Town of Olustee	The town is vulnerable to power outages due to high winds and does not have a backup generator at the town hall. The town's water pressure in fire hydrants is vulnerable to power outages due to high winds.	A lack of generators results in the inability to have emergency power in a widespread power outage due to high winds. The town lacks a reliable generator and as the town discovered in the downburst storm on August 11, 2023, the fire hydrants require a minimum threshold of pressure to operate. The lack of back up power resulted in the loss of a home burning due to the lack of water pressure during the widespread power outage.
Jackson County	The district barns do not have reinforced roofing that can blow off in high winds.	The roof damage results in an economic loss to the county. If the damage is extensive, the contents of the building are compromised by potential precipitation until the roof can be fully repaired. Any damage to the contents of the building result in an additional economic loss to the county.
SWTC	The roofing is vulnerable to high winds, as the metal roofing loosens over time. While the school conducts periodic inspections to tighten the bolts and panels, it is a perpetual problem.	As the roof loosens, it increases the likelihood that portions of the roof can blow off or be damaged in high winds. The damage and repairs results in an economic loss to the school.
Altus PS	The dugouts, storage building, and other outbuildings at the sports complex are vulnerable to high winds, as they can be damaged or blown over.	Wind damage to these structures results in an economic loss to the school, diverting resources from other projects.
Blair PS	The school is vulnerable to power outages due to high winds and does not have backup generators to preserve food service.	A lack of generators results in the economic loss of the food service in a prolonged power outage due to high winds.
Duke PS	The school is vulnerable to power outages due to high winds and does not have backup generators to preserve food service.	A lack of generators results in the economic loss of the food service in a prolonged power outage due to high winds.
Navajo PS	The school is vulnerable to power outages due to high winds and does not have backup generators to preserve food service.	A lack of generators results in the economic loss of the food service in a prolonged power outage due to high winds.
Olustee-Eldorado PS	The school is vulnerable to power outages due to high winds and does not have backup generators to	A lack of generators results in the economic loss of the food service in a prolonged power outage due to high

	preserve food service.	winds.

Climatological: Climatological factors have not influenced the High winds impacts. Based on the data available, the minimum number of days with high winds has remained the relatively consistent in the past 10 years in the planning area. Therefore, the impacts of High Winds have not increased or decreased.

Land Use: Land use development has not influenced High Wind impacts. While there has been a slight increase in the development of infrastructure, the building practices remain consistent and have not necessarily incorporated practices to resistant to high winds.

Population: Population patterns have not influenced high wind impacts. The minimal population increase is largely from the Oklahoma City area and high winds are not unique to the planning area. Therefore, the impact of high winds is familiar to those moving to the area.

LIGHTNING

Lightning is a result of electrical charges accumulating at the base of the clouds until lightning is discharged. Lightning is defined as the occurrence of a natural electrical discharge of very short duration and high voltage between a cloud and the ground or within a cloud, accompanied by a bright flash and typically also thunder. Thunderstorms occur when moist air near the ground becomes heated, especially in the summer, and rises, forming cumulonimbus clouds that produce precipitation. Lightning is always a part of a thunderstorm. Air in the path of the lightning expands as a result of being heated, causing thunder. The sound produced by the electricity passing rapidly through the atmosphere causes thunder.

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.

LOCATION

The entire planning area is vulnerable to lightning.

EXTENT

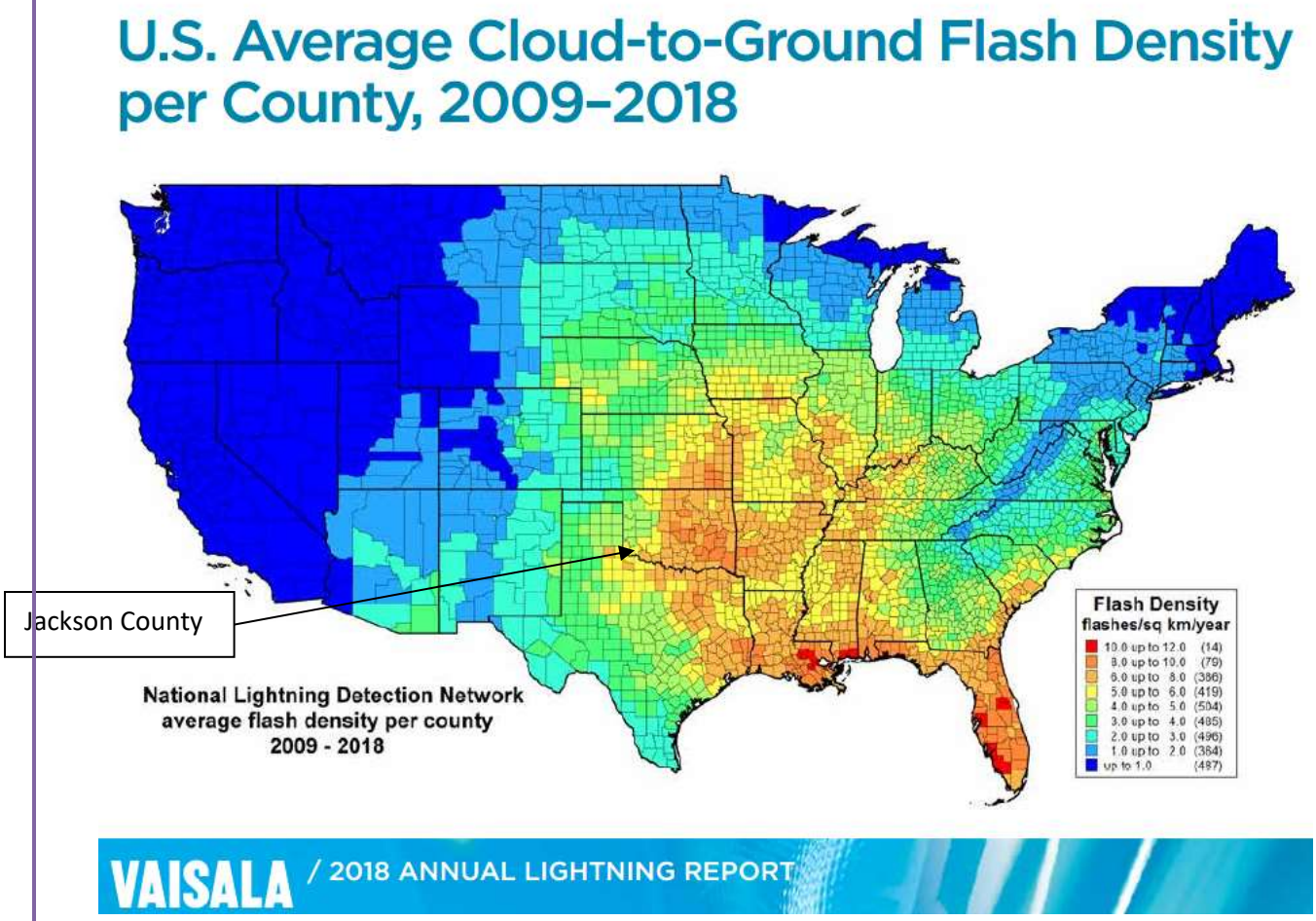
The planning area uses the Lightning Activity Level (LAL) to describe lightning extent. The planning area can experience any level of lighting activity on the LAL scale, depending on the conditions of individual storms. The expected range of lightning activity is LAL 1 to LAL 4.

PREVIOUS OCCURRENCES

Hundreds of thunderstorm events take place across Oklahoma each year. Most bring welcome precipitation but the lightning that accompanies them occasionally causes damage, injury or death. No deaths or injuries due to lightning were reported within the planning area.

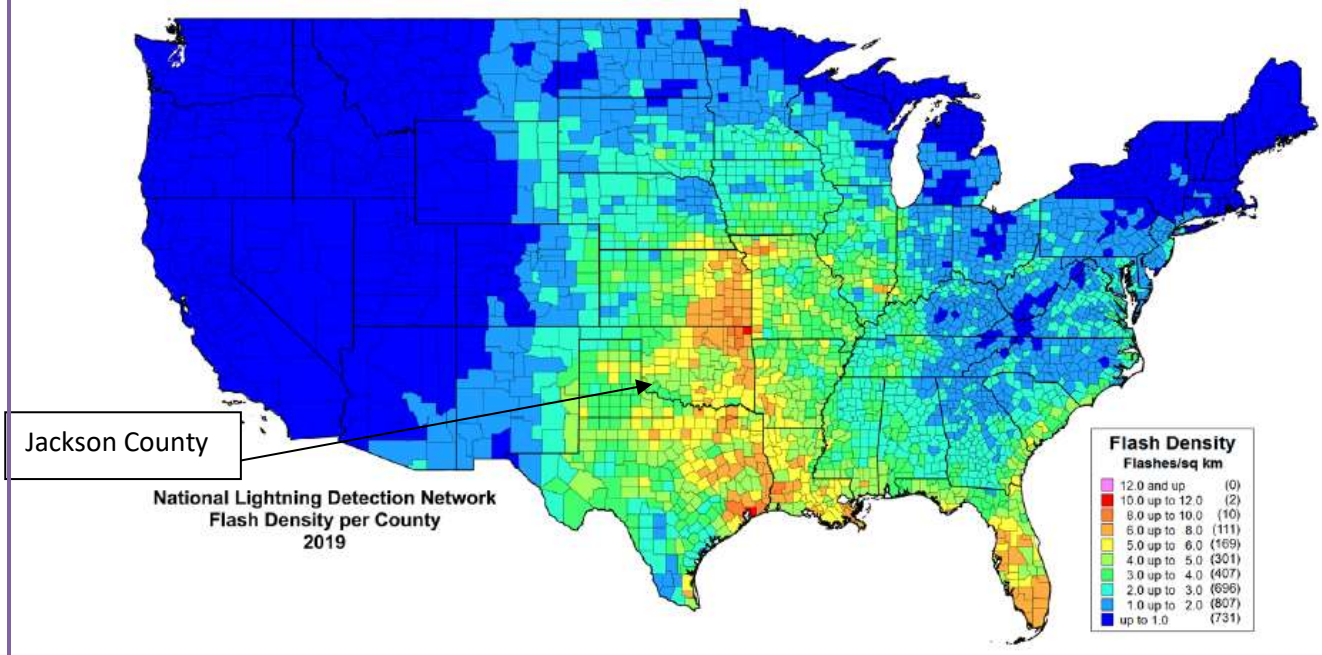
The planning team used the Vaisala Maps to demonstrate the previous occurrences of lightning in the planning area. The anecdotal accounts within the planning area cannot quantify the number of lightning strikes typically observed. The lightning maps show the cloud-to-ground strikes within the planning area from 2013-2022. The 2022 map is the latest map available as the data for 2023 had not yet been released at the time of writing this HMP.

Jackson County is indicated on each map and the average Cloud-to-Ground Flash Density from 2009-2018 was 5-6 flashes per square kilometer annually.

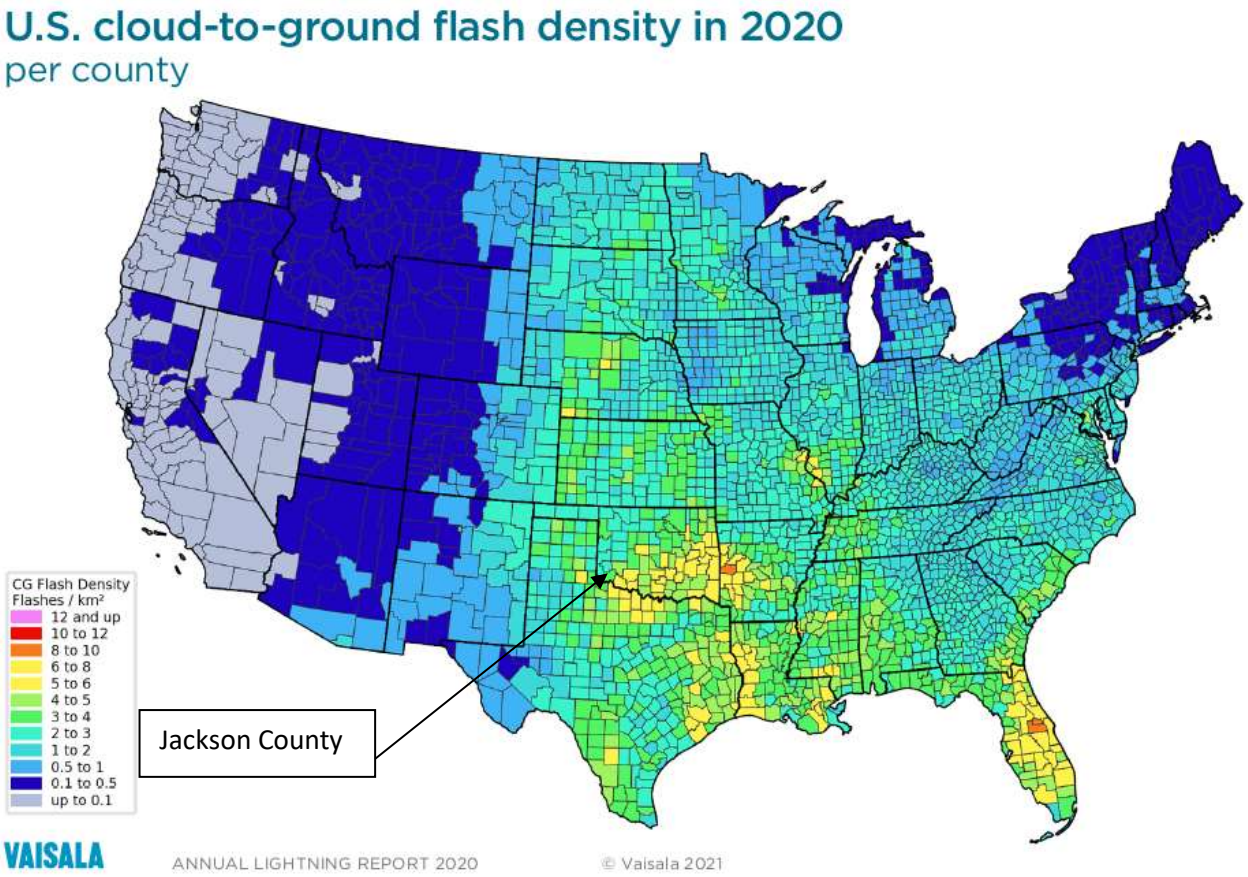


Jackson County is indicated on each map and the average Cloud-to-Ground Flash Density from 2019 was 3-4 flashes per square kilometer that year.

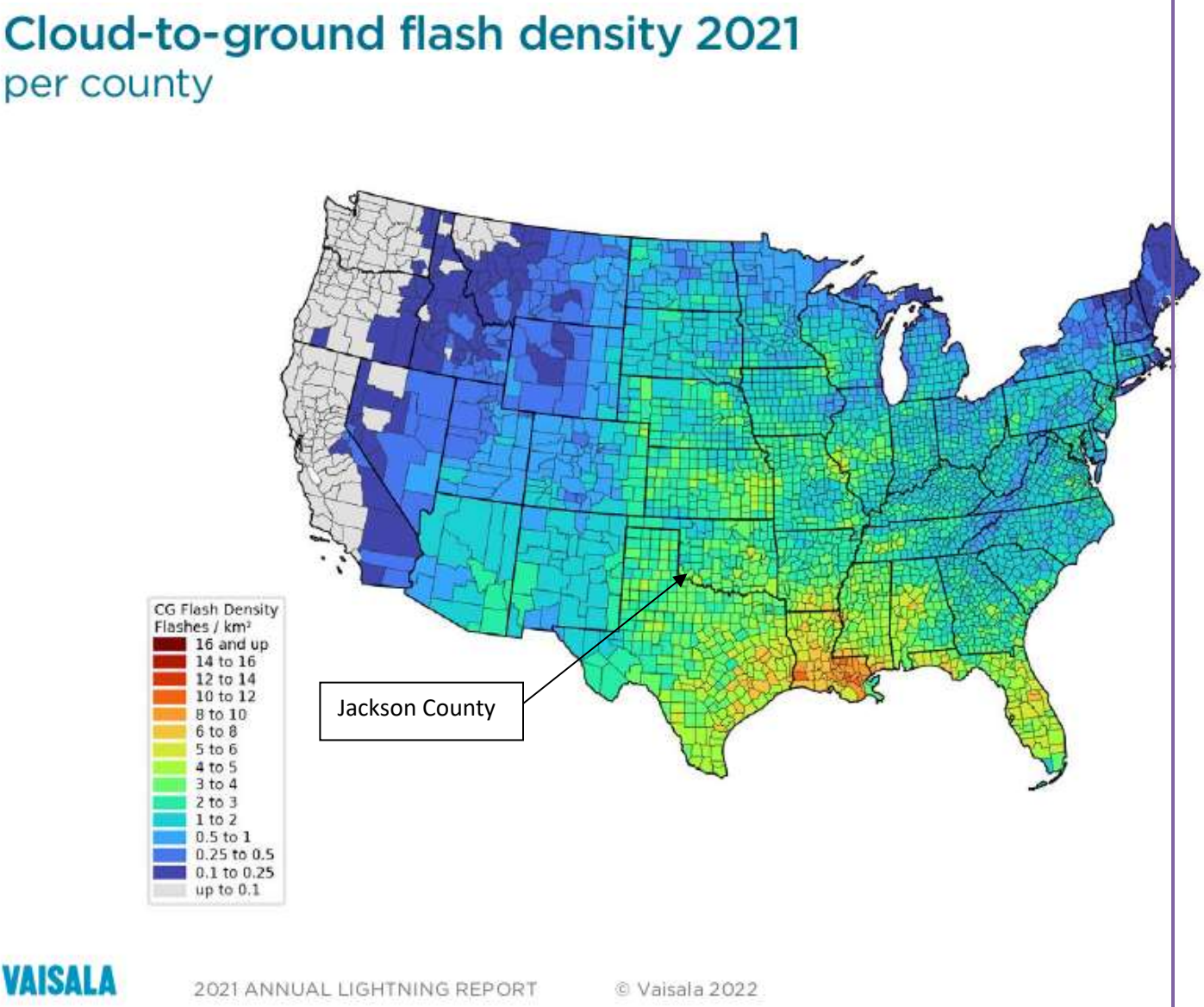
U.S. Cloud-to-Ground Flash Density per County in 2019



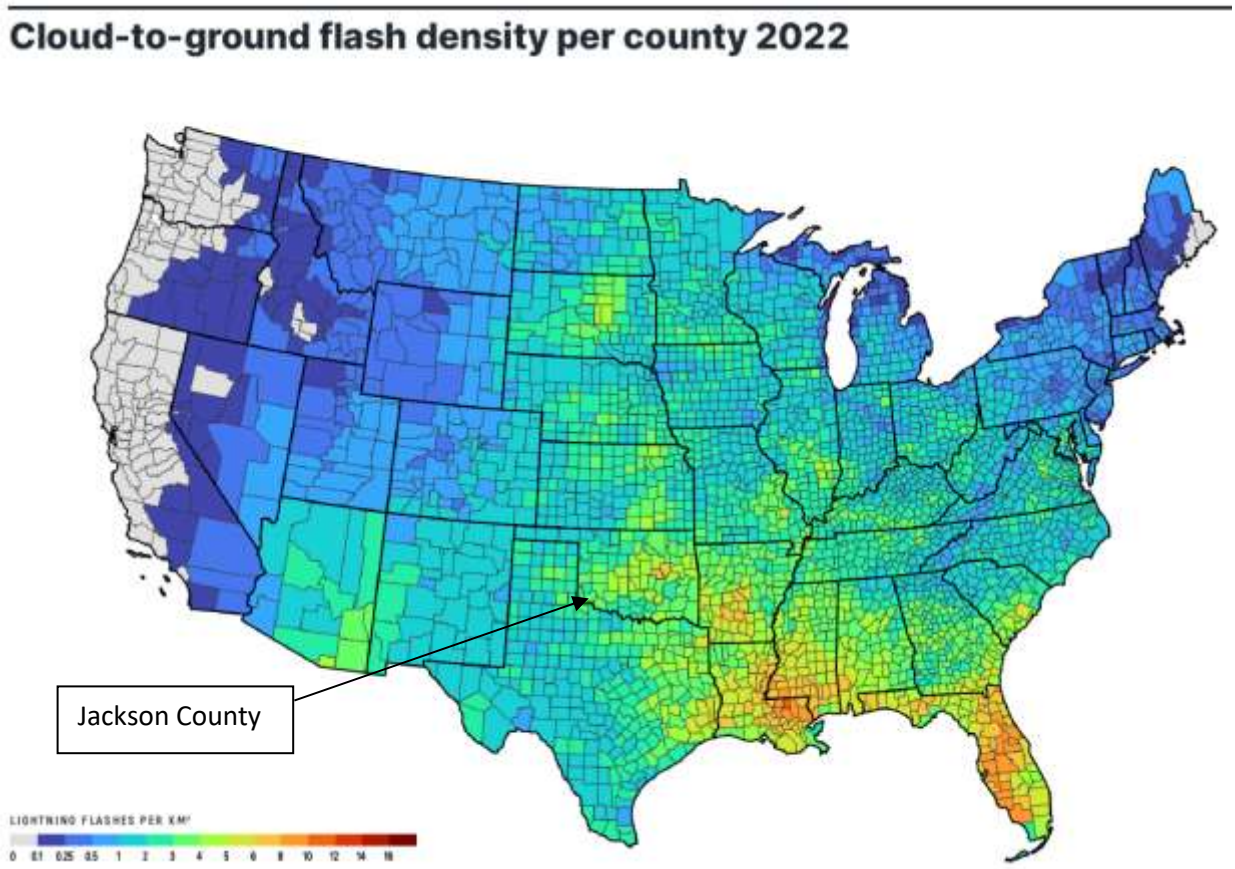
Jackson County is indicated on each map and the average Cloud-to-Ground Flash Density from 2020 was 3-4 flashes per square kilometer that year.



Jackson County is indicated on each map and the average Cloud-to-Ground Flash Density from 2021 was 3-4 flashes per square kilometer that year.



Jackson County is indicated on each map and the average Cloud-to-Ground Flash Density from 2022 was 3-4 flashes per square kilometer that year.



The town of Blair reported that lightning damage frequently occurs to the water pumps on the wells. The town's water supply comes from Quartz Mountain and the repairs to the pump wells totals $4,100.00 each time lightning occurs.

The town of Eldorado reported that the town's electronics and computers have had damage from lightning strikes when the surge protectors failed.

The town of Olustee had a lightning storm that accompanied the downburst storm on August 11, 2023. It was estimated that 3,000 lightning strikes occurred over an hour. The lightning strikes caused a home to burn and be utterly destroyed. As mentioned above under High Winds, the downburst caused a widespread power outage. The power outage resulted in inadequate power to create the necessary pressure in fire hydrants to put out the housefire.

It was also noted among the planning team members that at least one wildfire is started by lightning strike per year.

PROBABILITY OF FUTURE EVENTS

Considering local history and the location of Jackson County between the dry, arid southwest and the moist air from the Gulf of Mexico, Jackson County has significant exposure to lightning events. Property damage and possible injuries from lightning are anticipated in Jackson County. The probability of future lightning events in Jackson County is **"High."** The probability is expected to remain high.

VULNERABILITY AND IMPACT

In Jackson County, participating jurisdictions and schools; all people, buildings and infrastructure are vulnerable to the hazards associated with lightning. People can be injured or killed from a direct or an indirect strike. Buildings, if struck by lightning, can catch fire or many times electrical/electronic equipment and appliances are damaged or destroyed leading to costly repairs, replacement, or displacing the occupants. The electrical power distribution system is sometimes knocked offline leaving homes, schools, businesses, and critical systems without power. Trees and power poles are struck and fall blocking roads, forcing commuters and responders to locate alternate routes costing them time and money. Crops can be burned after a lightning strike has hit the ground or something else igniting a wild land fire leaving the farmer with lost crops and income. Cattle can be killed by lightning resulting in lost income for ranchers.

Jurisdiction	Vulnerability	Impact
City of Altus	The security cameras and system are vulnerable to lightning strikes as they do not have sufficient surge protection to protect the equipment in a direct lightning strike.	The damage to equipment results in an economic loss in repairs or replacement of the equipment.
Town of Blair	The town's wells at Quartz Mountain are vulnerable to lightning strikes due to insufficient surge protection. The town has considered acquiring a generator for the well's pumps; however, due to the lack of personnel for security and the remoteness of the location, it is not a viable solution at this time.	The recurring expense of repairing the water pumps is an economic loss to the town. If the town were to acquire a generator to keep the town's wells running when the pumps fail due to lightning strikes, security concerns and a lack of personnel make the acquisition financially impossible.

Jurisdiction	Vulnerability	Impact
Town of East Duke	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired.
Town of Elmer	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired.
Town of Eldorado	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired.
Town of Friendship	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired.
Town of Headrick	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired.
Town of Martha	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired.
Town of Olustee	The town's electronics and computers are vulnerable to lightning strikes as the surge protectors have failed in the past. The town's fire hydrants are vulnerable to power outages caused by lightning strikes as the hydrants require a minimum threshold of power on the water utility to operate.	The loss of electronics and computers results in an economic loss, as well as potential disruption to routine business while the computers are repaired or a new one is acquired. The lack of reliable backup power on the water supply can result in the fire hydrants not working properly and consequently the complete loss of property.
Jackson County	The security cameras and system are vulnerable to lightning strikes as they do not have sufficient surge protection to protect the equipment in a direct lightning strike.	The damage to equipment results in an economic loss in repairs or replacement of the equipment.

	The wildland areas in unincorporated areas are vulnerable to lightning strikes starting wildfires in drought.	Lightning strikes can start wildland fires anywhere in the planning area, particularly in times of drought. Any structures in close proximity to the lightning strike could be damaged or destroyed.
SWTC	The school has specific electronics equipment for the metal fabrication program and aviation mechanics program that is vulnerable to lightning strikes due to a lack of sufficient surge protection.	In a direct lightning strike to the building, the school's electronics used for these programs could be damaged, requiring repairs or replacement. This results in an economic loss to the school and potentially lost classroom hours with the equipment while the electronics are repaired.
Altus PS	The electronics at the STEM lab, the security systems, and the servers at the schools are vulnerable to the power surges from a direct lightning strike due to a lack of adequate surge protection.	A lack of adequate surge protection results in the damage or complete replacement of equipment damaged by power surges resulting from a direct lightning strike.
Blair PS	The servers are vulnerable to the power surges from a direct lightning strike due to a lack of adequate surge protection.	A lack of adequate surge protection results in the damage or complete replacement of equipment damaged by power surges resulting from a direct lightning strike.
Duke PS	The servers are vulnerable to the power surges from a direct lightning strike due to a lack of adequate surge protection.	A lack of adequate surge protection results in the damage or complete replacement of equipment damaged by power surges resulting from a direct lightning strike.
Navajo PS	The servers are vulnerable to the power surges from a direct lightning strike due to a lack of adequate surge protection.	A lack of adequate surge protection results in the damage or complete replacement of equipment damaged by power surges resulting from a direct lightning strike.
Olustee-Eldorado PS	The servers are vulnerable to the power surges from a direct lightning strike due to a lack of adequate surge protection.	A lack of adequate surge protection results in the damage or complete replacement of equipment damaged by power surges resulting from a direct lightning strike.

Climatological: Climatological factors influenced the lightning impacts. Based on the data available, the lightning activity levels have remained the relatively consistent in the past 10 years in the planning area. Therefore, the impacts of lightning have not increased or decreased.

Land Use: Land use development has not influenced lightning impacts. There has been very little development within the planning area. The lightning impacts have not increased or decreased in the past 10 years.

Population: Population patterns have not influenced lightning impacts. Lightning impacts are somewhat common in the planning area, and familiar to the people living in the area.

TORNADO

A tornado is defined as a localized, violently destructive windstorm occurring over land characterized by a long, funnel-shaped cloud extending toward the ground and made visible by condensation and debris. The damage from a tornado is a result of the high wind velocity and wind-blown debris.

LOCATION

Jackson County, participating jurisdictions, and schools are all equally at risk from tornados. The planning area is located in the infamous Tornado Alley.

EXTENT

Tornado wind speeds are estimated after the fact based on the damage they produce. In 1971, Dr. Theodore Fujita devised a scale to classify tornados in the United States into six intensity categories. These categories are based upon the estimated maximum winds occurring within the tornado. The Fujita Scale has subsequently become the definitive scale for estimating wind speeds within tornados, based upon the damage to buildings and structures.

The enhanced Fujita Scale replaced the original Scale on February 1, 2007 which made wind speed estimates more accurate than the previous scale. All events from February 1, 2007 are estimated using the enhanced scale. References to older storms still rely on the original scale.

Table 3-20 Enhanced Fujita (EF) Scale

Enhanced Fujita Category	Wind Speed (mph)	Potential Damage
EF0	65-85	**Light damage –** Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	86-110	**Moderate damage –** Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	**Considerable damage –** Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165	**Severe damage –** Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200	**Devastating damage –** Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200	**Incredible damage –** Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd.); high-rise buildings have significant structural deformation; incredible phenomena will occur.

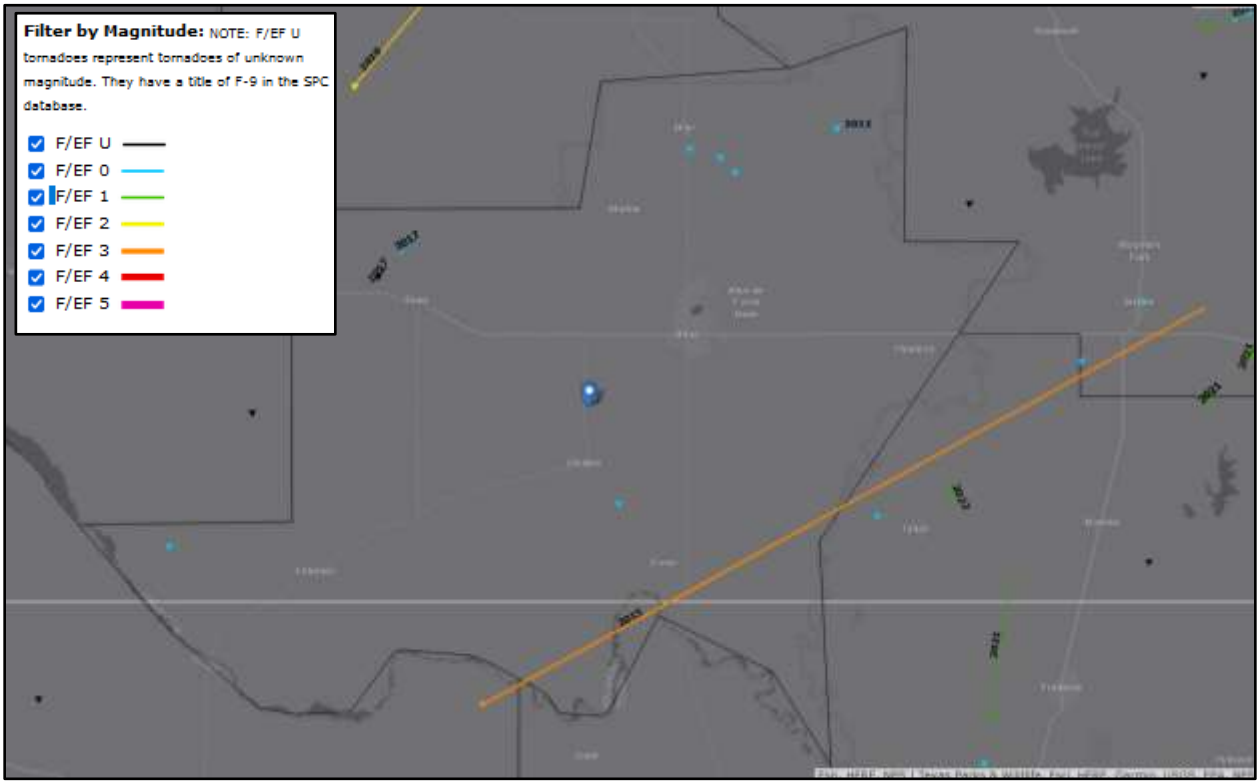
Jackson County may experience any of the levels on the EF scale at any time during the year, but the expected range of tornadic activity is between EFU to EF3.

PREVIOUS OCCURRENCES

The following table shows the tornado events that have occurred in Jackson County between 2013 and 2023. There were no injuries or deaths from tornadoes reported in this timeframe.

Tornadoes within Jackson County between 2013 and 2023			
Date	Jurisdiction	Magnitude of Tornado	Cost of Damage
May 9, 2013	Altus	EF0	$0
May 16, 2015	Elmer	EF0-EF3	$0
May 18, 2017	East Duke	EFU	$5,000
May 24, 2019	Blair	EF0	$20,000
March 13, 2021	Eldorado	EF0	$0

The map below shows all the tornado paths as recorded by the MRCC between 2012-2022.



PROBABILITY OF FUTURE EVENTS

Based on historical data, public input and review by the JCHMPT, officials in Jackson County, participating jurisdictions, and schools agree that the potential for future tornados in Jackson County is **"MEDIUM".** The probability is expected to remain medium.

VULNERABILITY AND IMPACT

All people, buildings and infrastructure in Jackson County, participating jurisdictions and schools are vulnerable to the tornado hazard. People can be injured or killed by a direct hit or from the debris tossed around by a tornado. Buildings can be affected by a tornado having roof damage, siding damage or blown out windows, leaving them with costly repairs and/or displacing the occupants. Buildings can also be totally destroyed, forcing the occupants to relocate until the facility can be repaired or rebuilt. Farmers and ranchers suffer financial losses when equipment, crops and livestock are destroyed or killed by a tornado or its debris. Businesses can be forced to close or lose business when affected by a tornado affecting the local economy through lost income and lost employment. Roads can have the pavement ripped right up off the roadbed forcing motorists to find alternate routes and costly repairs. Bridges, water towers, utility lines and other services are sometimes rendered inoperable or unusable through a direct hit or from flying debris.

Jurisdiction	Vulnerability	Impact
City of Altus	The city maintains documentation of all saferooms registered in Jackson County as they have the personnel available; however, the process of obtaining any registrations submitted within each respective community is not always sent to the Altus EM/FD to be added to the comprehensive list for the county. The city does not have a community shelter for anyone who cannot safely shelter in place. Anyone who cannot safely shelter in place is vulnerable to injury from flying debris.	This lack of comprehensive documentation regarding the safe room registrations can result in missing safe room registrations and cause a reliance on anecdotal knowledge of the community. Anyone who cannot safely shelter in place can be injured by the flying debris generated by the tornadic event.
Town of Blair	The town of Blair has an informal list of storm shelters but lacks a comprehensive list of the storm cellars and safe rooms within the jurisdiction.	The lack of a comprehensive list makes it more difficult to know which homes might need to be checked on after a tornado event, particularly if the event produced large debris that could

		potentially block anyone in a storm cellar or below ground safe room.
Town of East Duke	The town of East Duke has an informal list of storm shelters but lacks a comprehensive list of the storm cellars and safe rooms within the jurisdiction. There is also no process to ensure the most current information is given to the Altus FD who maintains the county's storm shelter registry. The town does not have a backup generator at the town hall or the fire department in case of a power outage due to a tornado event in the area.	The lack of a comprehensive list makes it more difficult to know which homes might need to be checked on after a tornado event, particularly if the event produced large debris that could potentially block anyone in a storm cellar or below ground safe room. The lack of a generator at the critical facilities results that continuity of routine business is limited during times of a prolonged power outage due to a tornadic event in the area.
Town of Elmer	The town does not have a backup generator at the town hall or the fire department in case of a power outage due to a tornado event in the area.	The lack of a generator at the critical facilities results that continuity of routine business is limited during times of a prolonged power outage due to a tornadic event in the area.
Town of Eldorado	The town's community shelter is an aging cellar in need of upgrading and it is not utilized as it does not have backup power to provide emergency lighting.	The lack of backup power to the community shelter is very dark when the power is out. The population that would utilize the cellar is mostly elderly and the lack of good emergency lighting could result in people tripping in the dark.
Town of Friendship	The town does not have a backup generator at the town hall or the fire department in case of a power outage due to a tornado event in the area.	The lack of a generator at the critical facilities results that continuity of routine business is limited during times of a prolonged power outage due to a tornadic event in the area.
Town of Headrick	The town does not have a backup generator at the town hall in case of a power outage due to a tornado event in the area.	The lack of a generator at the town hall results that continuity of routine business is limited during times of a prolonged power outage due to a tornadic event in the area.
Town of Martha	The town does not have a backup generator at the town hall or the fire department in case of a power outage due to a tornado event in the area.	The lack of a generator at the critical facilities results that continuity of routine business is limited during times of a prolonged power outage due to a tornadic event in the area.
Town of Olustee	The town does not have a backup generator at the town hall or the fire department in case of a power outage due to a tornado event in the area.	The lack of a generator at the critical facilities results that continuity of routine business is limited during times of a prolonged power outage due to a tornadic event in the area.

Jackson County	The district barns are vulnerable to a tornado event as they do not have a safe room for employees to seek shelter.	The lack of a safe room area could result in any persons being injured by airborne debris in a tornadic event.
SWTC	The main campus does not have a safe room and students shelter in place in the interior areas of the building. The school does not have a backup generator in case of a power outage due to a tornado event in the area.	The lack of a safe room area could result in any persons being injured by airborne debris in a tornadic event. The school would have no emergency power to the building to ensure that students can exit the building safely.
Altus PS	Altus PS is vulnerable to tornadoes due to a lack of storm shelters. The Altus High School, Altus Junior High, Altus, Intermediate, Altus Elementary, and Rivers Elementary all need saferooms that are adequate for the number of students and staff at each respective campus. The students and staff currently shelter in place during imminent tornadic events. The external windows of the school buildings do not have impact resistant film to reduce the effect of shattered, airborne glass. In a tornadic event, the roofing is not guaranteed to blow off completely or partially, making anyone inside vulnerable to the collapsing roof or debris that could come through the roofing.	The impact is airborne glass shards could injure anyone in close proximity to a window. Roof damage could result in anyone inside being injured or trapped, depending on how and where the debris blocked access. Any large debris that penetrates the roof or sides of the buildings could also potentially injure anyone in its path.
Blair PS	The school does not have a generator to provide basic power in power outages caused by a tornadic event in the area. If a prolonged power outage were to occur, there is no means to preserve food service	The loss of food service in a prolonged power outage results in an economic loss to the school
Duke PS	The school is partially built into the ground as it was originally a fallout shelter. The building does not have a generator to provide basic power in power outages caused by a tornadic event in the area. If a prolonged power outage were to occur, there is no means to preserve food service.	The lack of a generator results in the students being able to navigate safely in the dark building, due to a lack of windows that would otherwise provide natural light in a power outage. The loss of food service in a prolonged power outage results in an economic loss to the school.
Navajo PS	Navajo PS is vulnerable to tornadoes due to a lack of storm shelters. The	The lack of safe rooms in these buildings results in the students

	Elementary, Junior High, and Senior High buildings do not have safe rooms. The school does not have any generators to maintain basic power or the food service due to power outages caused by a tornado event in the area.	seeking shelter at the other buildings on campus that do have safe rooms. This results in students being potentially harmed by any airborne debris generated by tornadic winds. The loss of food service would result in an economic loss to the school.
Olustee-Eldorado PS	Olustee-Eldorado PS is vulnerable to tornadoes due to a lack of storm shelters. The school does not have any generators to maintain basic power or the food service due to power outages caused by a tornado event in the area.	The lack of safe rooms in these buildings results in the students seeking shelter at the other buildings on campus that do have safe rooms. This results in students being potentially harmed by any airborne debris generated by tornadic winds. The loss of food service would result in an economic loss to the school.

Climatological: Climatological change influences tornado impacts. Tornadic activity is largely dependent on atmospheric conditions. The number of tornadic events has remained somewhat consistent, and has neither increased or decreased in the planning area.

Land Use: Land use developments have not influenced tornado impacts. There has been no increase or decrease of tornado impacts due to land use.

Population: Population patterns have not influenced the hazard impact, and the hazard impacts have not decreased or increased due to changes in population.

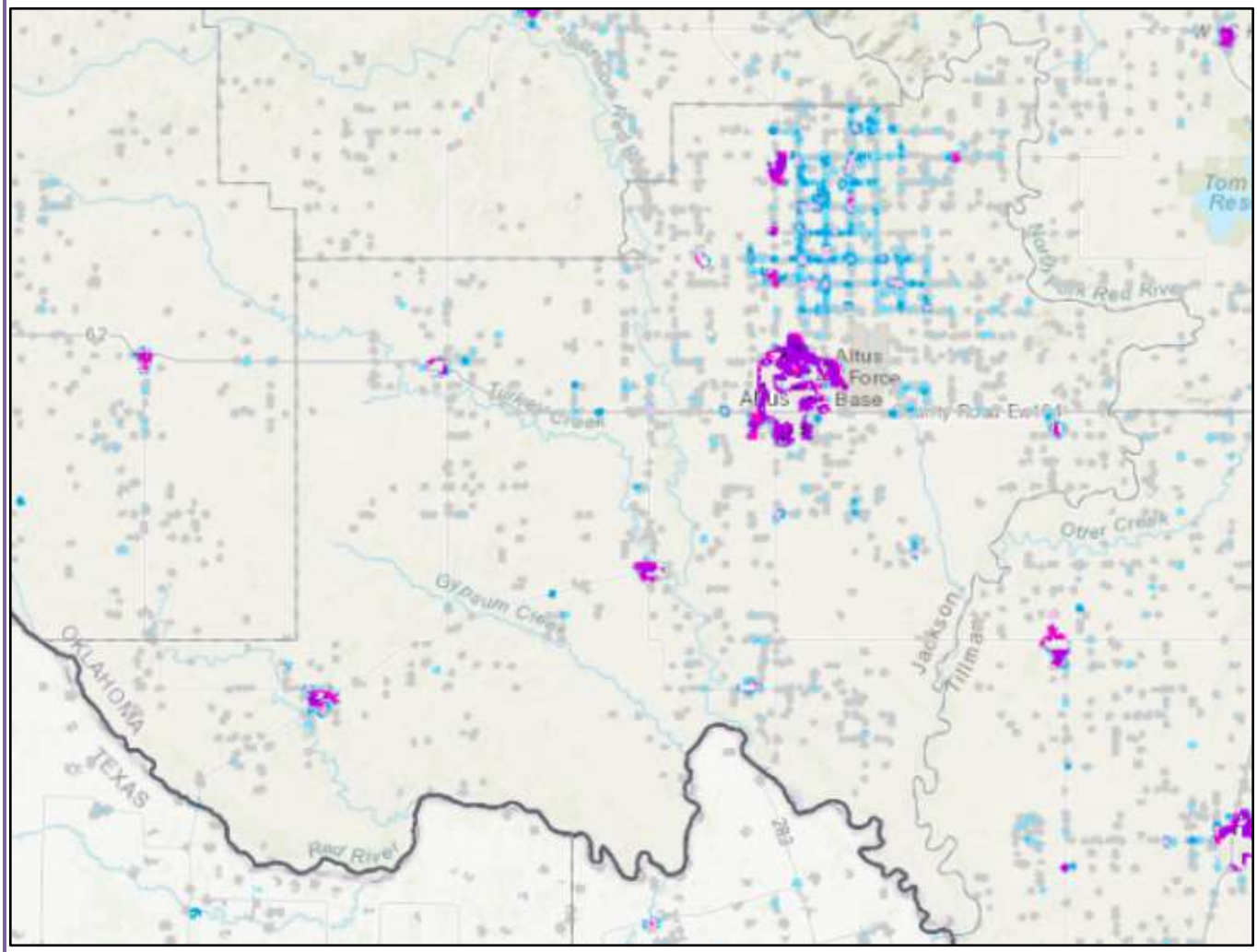
WILDFIRE

A wildfire is any uncontrollable fire that occurs in combustible vegetation and quickly spreads into dry vegetation, heavily wooded areas and/or residential structures. A wildfire, also known as a forest fire, vegetation fire, grass fire, brush fire, or bushfire is an uncontrolled fire often occurring in wildland areas, but which can also consume houses or agricultural resources.

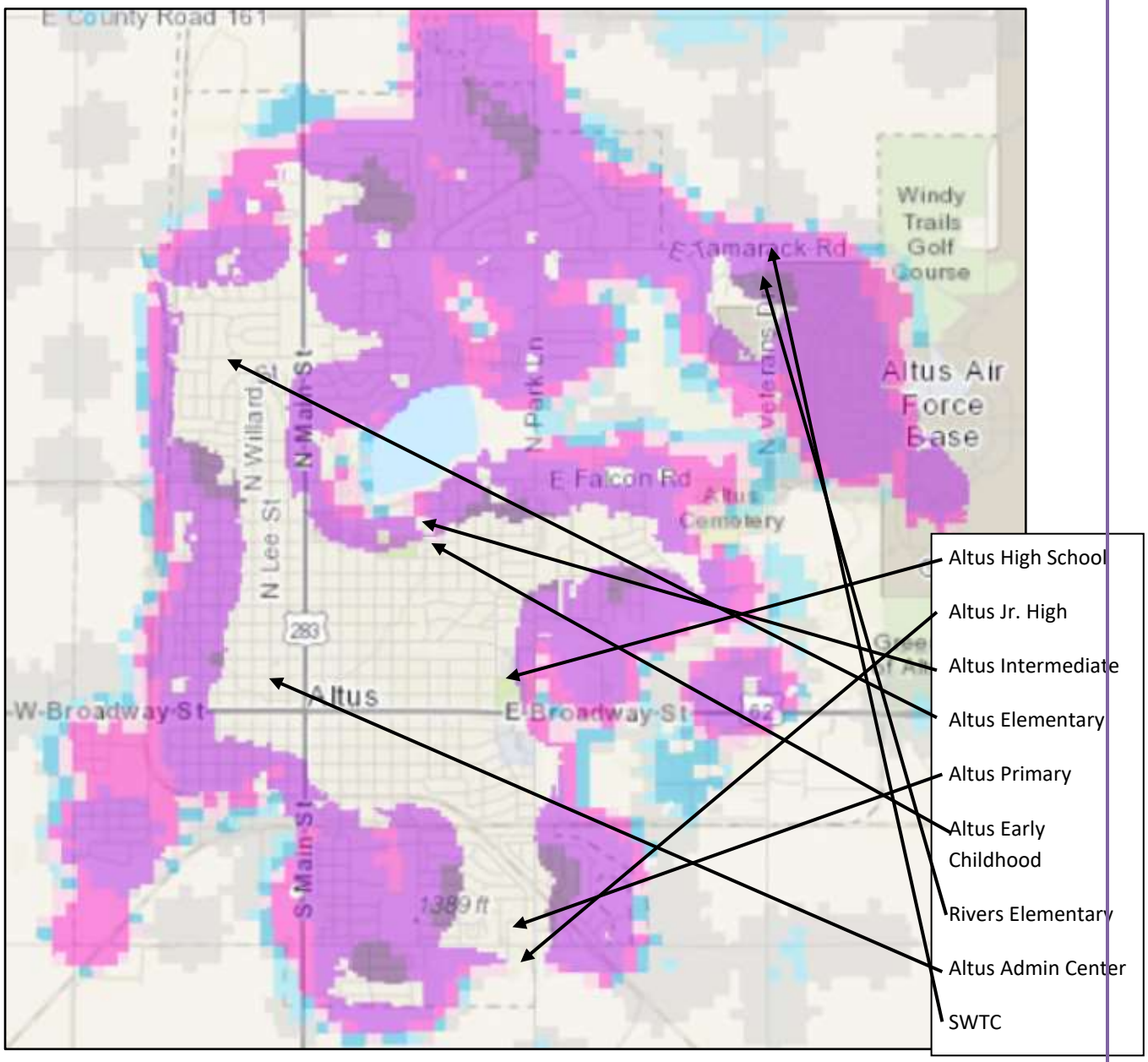
LOCATION

The planning area is affected by wildfires. This map shows the Wildland Urban Interface (WUI) for the entire county.

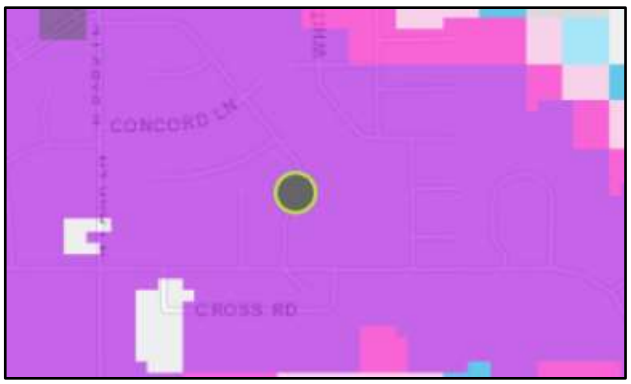
The darkest purple areas signify the areas with the most housing density (3 houses per acre), the lighter purple areas (1 house per 2-3 acres), magenta (1 house per 2-5 acres), pink (1 house per 5-10 acres), blue (1 house per 10-20 acres), light blue (1 house per 20-40 acres), areas having less housing density. The lightest grey areas show the least amount of housing density (1 house per 40+ acres). The greater the housing density, the greater the impact on the population being affected by a wildland fire.



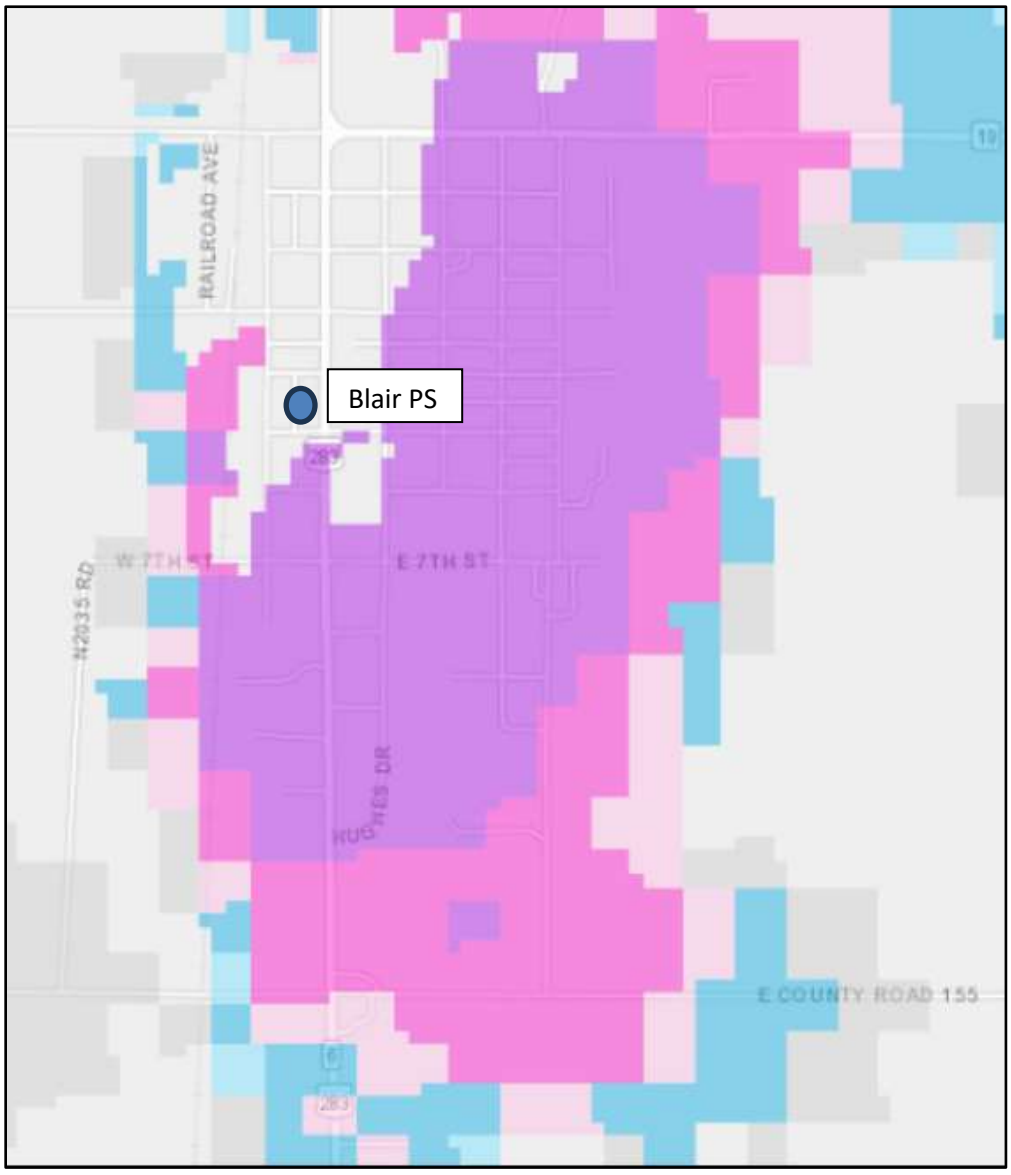
Jackson County has almost no heavily wooded areas. The wooded areas mainly exist along the major waterways, (North Fork Red River, Salt Fork Red River and along the Red River. The majority of the unincorporated land in Jackson County is used for farming and ranching and is at risk of grass wildland fires during dry periods and harvest times when crops are dry. This is the WUI map for the planning area. This is the WUI for the City of Altus and all school campuses are indicated on the map. All locations are approximate. SWTC and Rivers Elementary both lie within a WUI of the lighter purple area (1 house per 2-3 acres). None of the other campuses lie within a WUI.



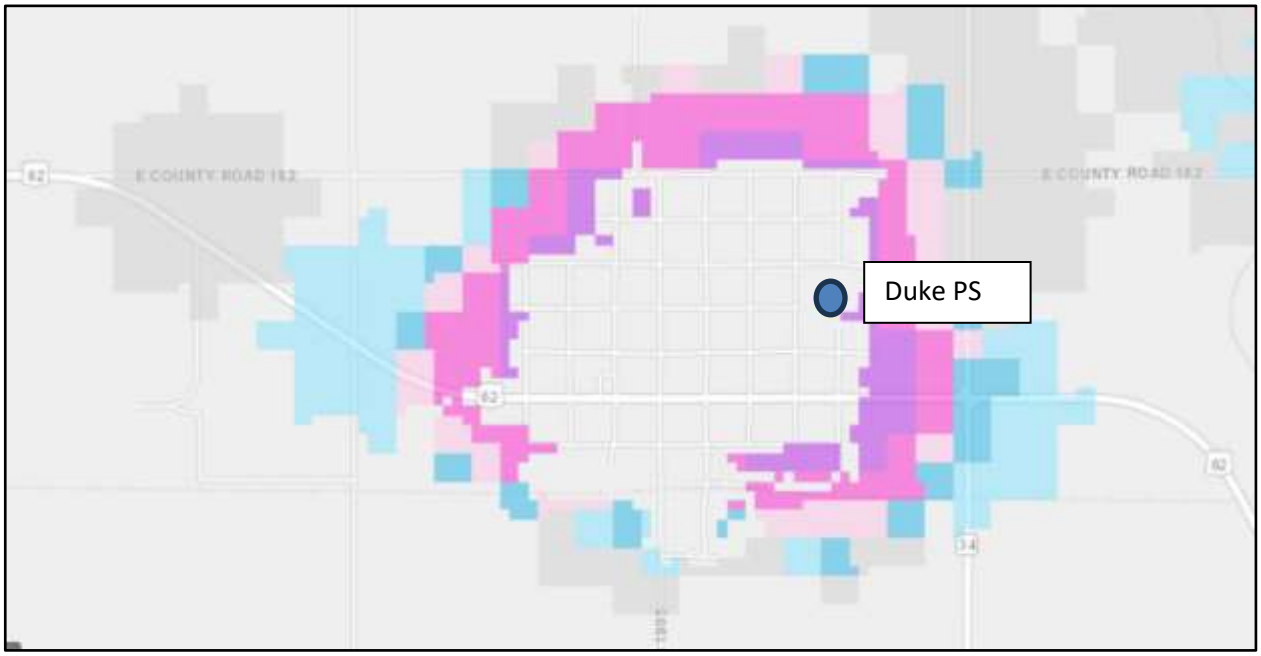
This is the WUI for SWTC; as indicated above, it lies within a WUI of the lighter purple area (1 house per 2-3 acres).



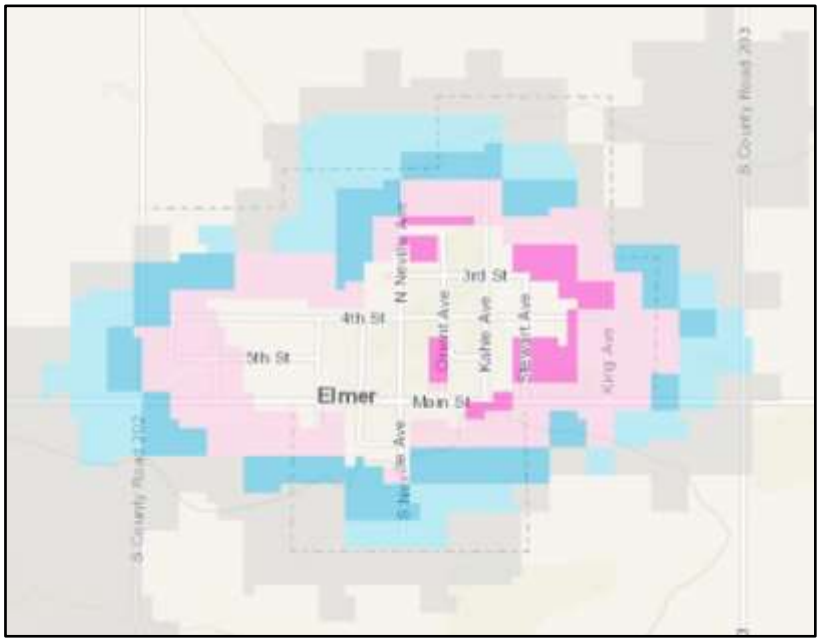
This is the WUI for the Town of Blair and Blair PS is indicated on the map by the blue circle. The school does not lie within a WUI.



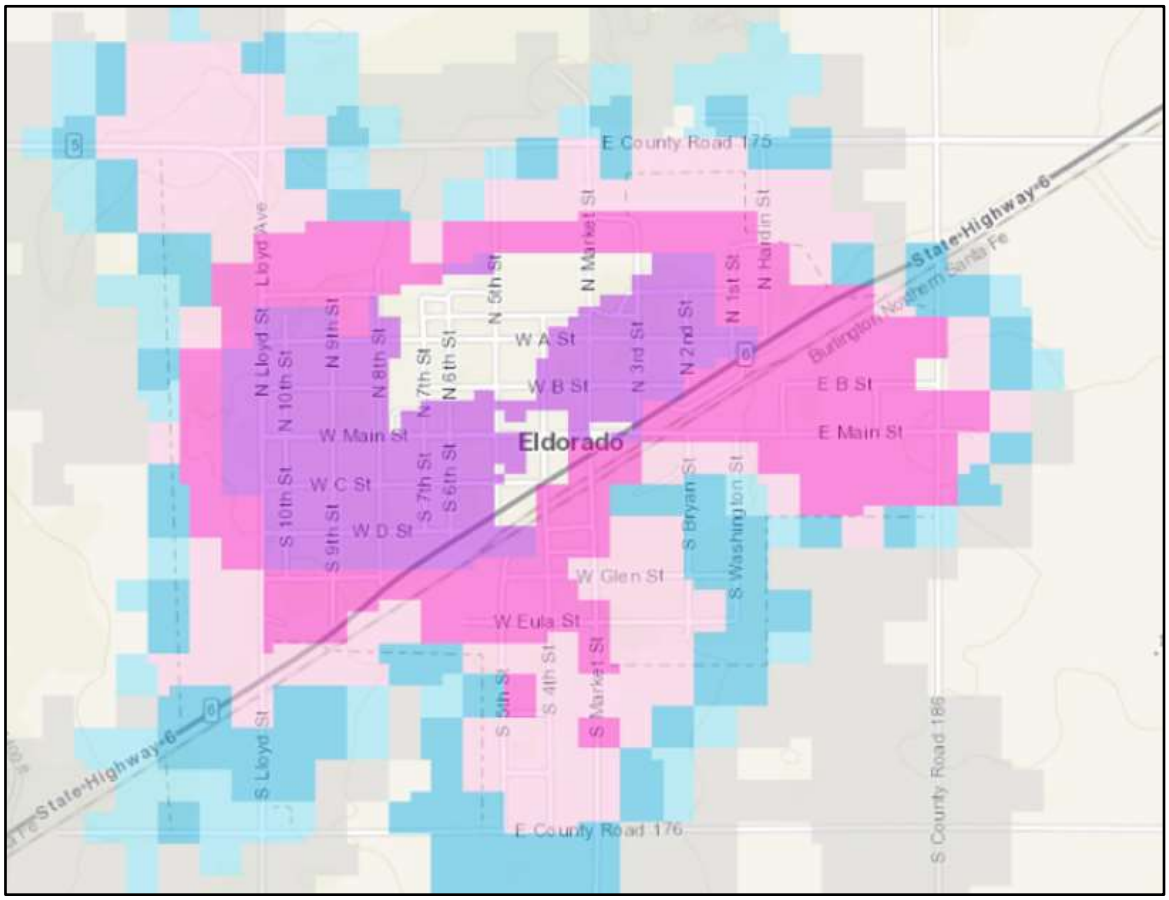
This is the WUI for the Town of East Duke and East Duke PS is indicated on the map by the blue circle. It does not lie within the WUI.



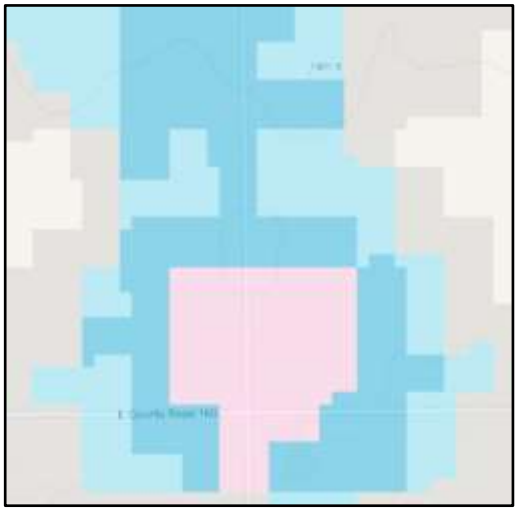
This is the WUI for Elmer and there are no schools in Elmer.



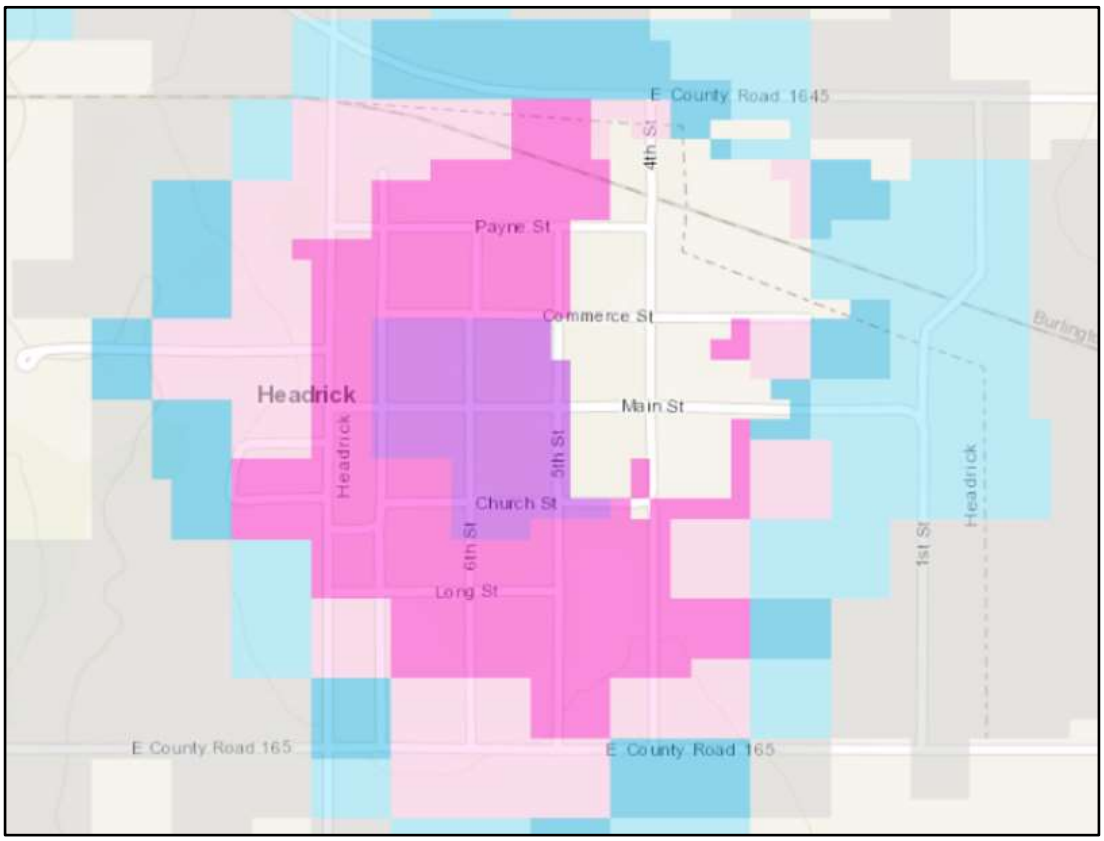
This is the WUI for the Town of Eldorado and there are no public schools in Eldorado.



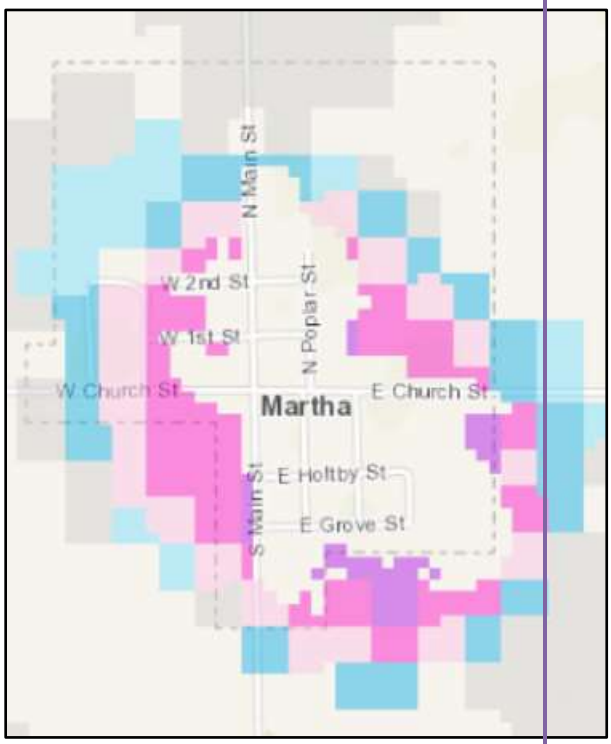
This is the WUI for Friendship and there are no schools in Friendship.



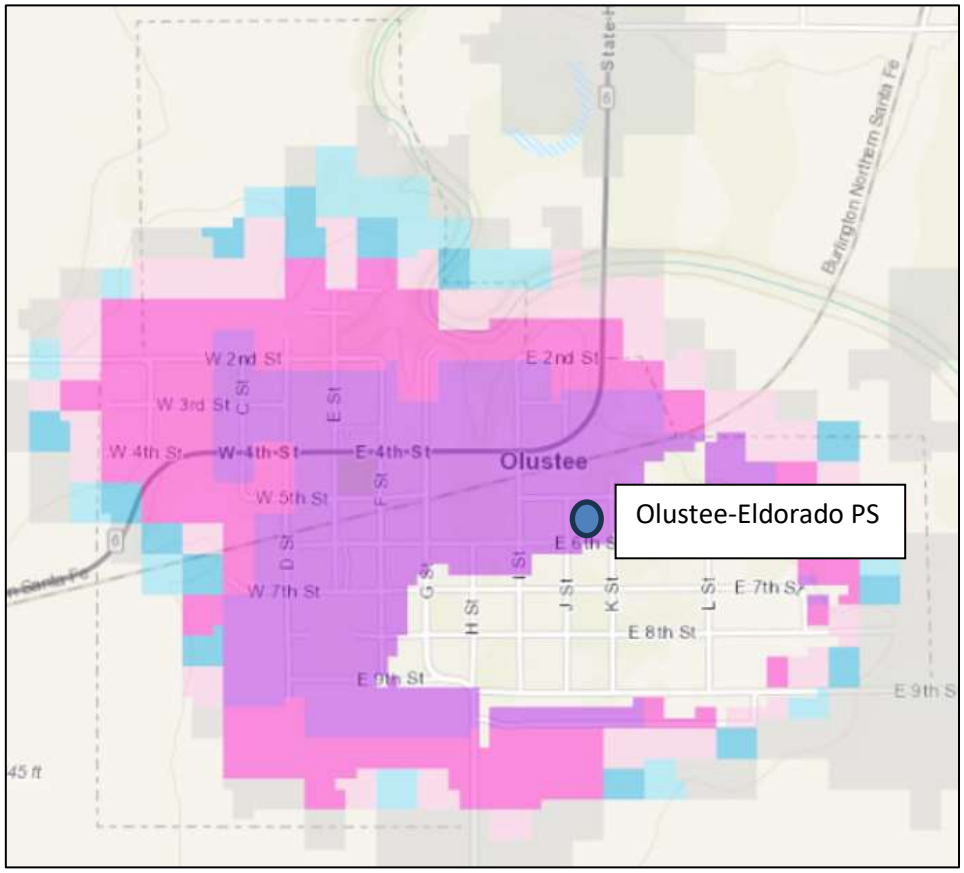
This is the WUI map for Headrick; there are no schools in Headrick.



This is the WUI map for Martha; there are no schools in Martha.



This is the WUI map for Olustee. The Olustee-Eldorado PS is indicated on the map. It lies within a WUI of the lighter purple area (1 house per 2-3 acres).



This map shows Navajo PS is located in unincorporated Jackson County and it lies within a WUI of light blue (1 house per 20-40 acres).



EXTENT

The planning area uses the Keetch-Byram Drought Index (KBDI) to identify and categorize the extent of dryness across the county. The planning area can experience all ranges of dryness on this index.

The Keetch-Byram Drought Index with Fire Danger Rating Data Incorporated	
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 thorough the night and heavier fuels will actively burn and contribute to fire intensity

PREVIOUS OCCURRENCES

The volunteer fire departments (VFD) provided the information between 2013 to 2023. These numbers can vary from year to year, based on the conditions that make wildfires conducive.

The Altus FD reported they respond to an average of 70 wildfires annually.

Blair VFD reported that they respond to an average of 14-15 wildfires annually.

The East Duke VFD reported that they respond to an average of 20 wildfires annually.

The Eldorado VFD reported that they respond to an average of 30 wildfires annually.

The Elmer VFD reported that they respond to an average of 6 wildfires annually.

The Friendship VFD reported that they respond to an average of 8 wildfires annually.

The Headrick VFD reported that they respond to an average of 10-15 wildfires annually.

The Warren VFD reported that they respond to an average of 8 wildfires annually. This department also reported that various wild animals have started wildfires between June and December 2023. One instance noted that a raccoon shocked itself in an electric transformer and the carcass started a fire. A second report was a vulture that shocked itself on a main transmission line and the carcass again started a fire. The last instance was a snake electrocuted itself in a hot wire charger against a telephone pole and the scorched carcass started a fire. These reports were filed by this department as the responding department; while not typical, these occurrences can happen in the planning area.

None of the schools reported encroachments or occurrences of wildfires between 2013 and 2023.

PROBABILITY OF FUTURE EVENTS

Based on past experiences, numerous small grass and wildfires and the wooded areas having a significant amount of tall grasses and weeds, the potential of future grass and wildfires in Jackson County and participating jurisdictions is **"High."** The probability is expected to remain High.

VULNERABILITY AND IMPACT

In Jackson County and participating jurisdictions, some homes, businesses, crops, livestock, transportation routes, pipelines, and electrical transmission lines are vulnerable to wildfires. Loss of any of these could result in a critical drain on local resources and the response and recovery capabilities of Jackson County and its jurisdictions.

Some homes and businesses are located in wooded and high grass areas and could be damaged or destroyed. Loss of these structures or facilities could result in the loss of important historical information and products or services important to the citizens. Residents may have to be evacuated and relocated. Businesses damaged or destroyed would be closed until repairs could be made, the building rebuilt, or until those evacuated can return. This would result in the loss of income for employees, owners and lost revenue for the community.

At times, smoke from wildfires may affect Jackson County citizens who suffer from asthma, emphysema or other respiratory ailments and may be forced to evacuate if smoke from a wildfire becomes extreme.

Loss of transportation routes for services to citizens due to heavy smoke could have an adverse effect through loss or delay of mail delivery, school bus access, emergency response access, local, state and intrastate commerce as well as temporary loss of access to food and other critical merchandise important to recovery efforts. Jackson County's economy could be adversely affected if products could not be delivered on time to county businesses.

Wildlife, crops and livestock owned by farmers and ranchers could suffer losses. Ranches and farms located in densely wooded or grassy areas grazing livestock could suffer losses of crops and even animals causing economic losses. Wildlife and the ecosystem could be devastated resulting in longer recovery to vital land used for agricultural and other purposes. See Appendix A for critical facilities at risk from the wild fire hazard.

Jurisdiction	Vulnerability	Impact

City of Altus	There are a few small areas throughout Altus and on the edge of town where unmanaged and undeveloped land is vulnerable to wildfire.	As these areas are within the city limits, structures and homes could be damaged or destroyed if a wildfire with high winds were to start through careless activities. The damage and/or loss to homes would be an economic loss to the homeowners.
Town of Blair	The watershed areas on the northwest and south side of town are vulnerable to wildfire, as these areas have unmanaged vegetation in the streambeds.	These watershed areas remain dry in drought conditions, and the vegetation can grow in the streambeds. This can easily become fuel in a wildfire, and portions of the streambed go through the middle of Blair, potentially endangering the structures in close proximity.
Town of East Duke	The volunteer fire department's district extends in to unincorporated areas around the watershed. These unmanaged watershed areas are vulnerable to wildfire, particularly in times of severe drought and high winds.	Areas of unmanaged wildland could easily burn in high winds and threaten any homes in the area, and evacuations might be necessary to ensure the residents' safety.
Town of Elmer	The volunteer fire department's district extends in to unincorporated areas around the watershed of the Salt Fork of the Red River. These unmanaged watershed areas are vulnerable to wildfire, particularly in times of severe drought and high winds.	Areas of unmanaged wildland could easily burn in high winds and threaten any homes in the area, and evacuations might be necessary to ensure the residents' safety.
Town of Eldorado	The town is vulnerable to wildfire, from the west, north, and south, as there are areas of unmanaged wildland that lie near the town.	Areas of unmanaged wildland could easily burn in high winds and threaten the town, especially from the west and the north. If a wildfire threatened the town, evacuations might be necessary to ensure the residents' safety.
Town of Friendship	The volunteer fire department's district extends in to unincorporated areas around the watershed of the Salt Fork of the Red River. These unmanaged watershed areas are vulnerable to wildfire, particularly in times of severe drought and high winds.	Areas of unmanaged wildland could easily burn in high winds and threaten any homes in the area, and evacuations might be necessary to ensure the residents' safety.
Town of Headrick	The volunteer fire department's district extends in to unincorporated areas around the watershed of the Salt Fork of the Red River. These unmanaged watershed areas are vulnerable to wildfire, particularly in times of severe	Areas of unmanaged wildland could easily burn in high winds and threaten any homes in the area, and evacuations might be necessary to ensure the residents' safety.

	drought and high winds.	
Town of Martha	The volunteer fire department's district extends in to unincorporated areas around the watershed of the Salt Fork of the Red River. These unmanaged watershed areas are vulnerable to wildfire, particularly in times of severe drought and high winds.	Areas of unmanaged wildland could easily burn in high winds and threaten any homes in the area, and evacuations might be necessary to ensure the residents' safety.
Town of Olustee	The volunteer fire department's district extends in to unincorporated areas around the watershed of the Salt Fork of the Red River. These unmanaged watershed areas are vulnerable to wildfire, particularly in times of severe drought and high winds.	Areas of unmanaged wildland could easily burn in high winds and threaten any homes in the area, and evacuations might be necessary to ensure the residents' safety.
Jackson County	Uninc. Jackson County is vulnerable to wildfires, particularly where the areas of wildland extend into the watershed areas of the Salt Fork of the Red River, North Fork of the Red River. These areas are largely unmanaged vegetation and remote. Cell phone and radio service is inconsistent, limiting communications in wildfire response. There are no fire plugs in these wildland areas to refill the water trucks.	If a wildfire starts in these areas, the terrain is rough and can damage the fire trucks and equipment, resulting in an economic loss to the fire departments. A lack of communications can result in a lack of coordination between departments, potentially costing valuable time in response. The impact of no fire plugs results in requiring the departments to consider the necessary refill time to the nearest option and ensure the responding departments do not run out of water.
SWTC	A loose spark could ignite the grass on the west side of the campus, making the campus vulnerable to wildfire. A loose chain on a trailer or other vehicle on the street immediately south of the campus could spark, and in times of drought, a fire could start.	A wildfire on school property would likely cause damage to the building, resulting in economic loss in repairs.
Altus PS	A loose spark could ignite the grass on the south side of the Altus Jr. High campus, making the campus vulnerable to wildfire. A loose chain on a trailer or other vehicle on the street immediately east of the campus could spark, and in times of drought, a fire could start.	A loose spark could ignite the grass on the west side of the campus, making the campus vulnerable to wildfire. A loose chain on a trailer or other vehicle on the street immediately south of the campus could spark, and in times of drought, a fire could start.
Blair PS	The rural bus routes are vulnerable to	If a wildfire encroached near or on the

	wildfire encroaching upon them.	bus route, detours would be required to ensure the students' safety.
Duke PS	The rural bus routes are vulnerable to wildfire encroaching upon them.	If a wildfire encroached near or on the bus route, detours would be required to ensure the students' safety.
Navajo PS	This campus is surrounded by open land on all sides and is vulnerable to wildfire encroaching on school property. The campus is particularly vulnerable from the north and west; county roads provide a small fire break on the east and south side of the campus. The rural bus routes are vulnerable to wildfire encroaching upon them.	A wildfire on school property would likely cause damage to the buildings, if not utterly destroying them. The nearest volunteer fire department is 5 minutes away; however, if none of these fire fighters were available, response time would take longer from the surrounding fire departments. If a wildfire encroached near or on the bus route, detours would be required to ensure the students' safety.
Olustee PS	The rural bus routes are vulnerable to wildfire encroaching upon them.	If a wildfire encroached near or on the bus route, detours would be required to ensure the students' safety.

Climatological: Climatological change influences wildfire. Wildfire is closely tied to drought conditions. As the planning area has seen a slight increase of drought in the past few years, the impact of wildfire has also slightly increased.

Land Use: Land use development influences wildfire impacts. As wildland is developed, it decreases the wildfire impacts as it reduces the amount of available vegetation needed to fuel a wildfire.

Population: Population patterns have not influenced the wildfire impacts. The population is familiar with the careless activities, as well as lightning strikes, that can cause wildfires to start. The impacts of wildfire have neither decreased nor increased due to a change in population patterns in the past 10 years.

WINTER STORM

A winter storm is an event in which the dominant varieties of precipitation are forms that only occur at cold temperatures, such as snow or sleet, or a rainstorm where ground temperatures are cold enough to allow ice to form. A winter storm can range from moderate snow over a few hours to blizzard conditions with high winds, or can be freezing rain or sleet, heavy snowfall with blinding wind-driven snow and extremely cold temperatures that last several days.

LOCATION

All of Jackson County, participating jurisdictions and schools have the potential for winter snow and ice storms.

EXTENT

The planning area uses several tools to categorize the severity of winter weather. As shown by the data, the types of winter weather (and/or precipitation) vary from year to year, but it can be expected that the planning area can experience a combination of at least two types of winter weather annually. For example, extremely cold wind chill and snow, snow and ice, freezing rain and high winds, etc. The severity of winter weather depends on climatological factors and winter weather varies greatly year to year.

Snow: Based on data collected from the Oklahoma Mesonet, the planning area can expect 1" to 4" of snowfall annually. Based on data collected by the Midwest Regional Climate Center (MRCC) between 2013-2023, the planning area can experience less than 1" to 13.8" of snowfall. The average accumulation of snow in the planning area was 4.58" annually between 2013-2023.

Extreme Cold: The expected range of extreme cold temperatures can be 0-32 degrees. Based on data collected by the Oklahoma Mesonet between 1991-2020, the planning area experiences an average of 86 days with lows below 32 degrees. The planning area experiences an average of 4 days with highs below 32 degrees.The planning area can expect to experience wind chill temperatures as low as 0 degrees F for 1 or more hours at least 3-7 days annually. The higher wind chill temperatures have been documented at 30 degrees F for 1 hour or more per day for an average of 84-112 days annually. The planning area can experience wind chill temperatures between less than 0 to 30 degrees, though wind chill temperatures lower than 0 degrees is rare.

Ice: The planning area uses the Sperry-Piltz Ice Accumulation (SPIA) Index as a guide to categorize the severity of damage from ice storms. The planning area typically experiences a

range from levels 0 to 3 on this index. However, it can experience any level on this index if conditions are conducive.

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

ICE DAMAGE INDEX	DAMAGE AND IMPACT DESCRIPTIONS
0	Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.
1	Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.
2	Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.
3	Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 – 5 days.
4	Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 – 10 days.
5	Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.

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

PREVIOUS OCCURRENCES

The planning area has experienced winter storms and winter weather events between 2012-2023. The following winter weather events as recorded by the NCDC are detailed in this table.

Date	Description of Event
December 25, 2012	Up to 3" of heavy snow and blizzard conditions with sustained winds near 30 mph.
February 25, 2013	Altus reported wet snow accumulations, though usually less than 1". Gusty winds up to 40 mph lead to blizzard conditions in the late afternoon.
April 10, 2013	An unseasonal ice storm occurred, and up to ¼" of ice accumulated on elevated surfaces.
November 24, 2013	Up to 4" measured throughout the planning area and reported in Altus.
December 5-6, 2013	Snow and sleet transitioned to heavy snow. Reports of 4"-5" were recorded in the planning area.
December 20-21, 2013	Freezing rain accumulated up to ¼".
February 27-28, 2015	Snowfall began on the 27th, and continued into the 28th. Total snow accumulation was 4".
March 4, 2015	Wintry mix of snow and sleet fell and 2" accumulation by the end.
November 27-29, 2015	Ice accumulated up to ¼" and resulted in power outages throughout the planning area. Local power companies estimated that the loss was approximately $20,000.
January 3, 2019	Headrick and East Duke had a maximum of 4" of snowfall.
October 26-28, 2020	Ice accumulations between .2" and .3". Damage estimates totaled $122,000.
February 14-16, 2021	Wind chills dropped between -20 and -30 in the planning area. A maximum of 7" of snow was measured in Headrick, with 5"-7" across the planning area.
February 23, 2022	Up to ½" of sleet and freezing rain fell across the planning area.

The town of Blair experienced a power outage that took 4-6 days for the entire town to have restored power in December 2015. The fire department's generator provided a continuity of services, but fuel for the generator had to be purchased from another town.

The town of Eldorado reported that the pipes at the town hall froze and caused flooding damage in February 2021.

PROBABILITY OF FUTURE EVENTS

Due to the history of past snow and ice events, the JCHMPT has determined the probability of Jackson County experiencing winter weather in the future is **"High**." The probability of winter storms is likely to remain high.

VULNERABILITY AND IMPACT

In Jackson County, participating jurisdictions and schools, people, pets, livestock, crops and other vegetation, trees, power poles, communication towers, buildings, water lines, roads and other

things are all vulnerable to the hazards associated with winter weather. People, pets and livestock are at risk from cold temperatures and the snow and ice accumulations. Hypothermia, as well as slips and falls, can cause death or injury. People have also suffered heart attacks from exertion while shoveling snow.

Livestock die from the cold or starvation if stranded away from their food. Crops and vegetation succumb to excessive cold temperatures and die. The loss of livestock and crops can deal a significant financial loss to farmers, ranchers along with the local economy.

Trees, power poles, power lines, and communication towers are brought down by the heavy load of ice accumulations. When they come down, it is often without warning and they fall on and damage buildings, cars and other objects costing money to put back up, remove debris, or repair items damaged when they fell. Power is disrupted, often long term, and people left without power have no heat and are displaced; schools and businesses are forced to close until the power is returned. Food in refrigerators and freezers thaw and spoil leaving residents and some businesses with large financial losses.

Buildings / roofs sometimes fail and are brought down by the heavy load of snow and ice accumulating on them. Large expanse and flat roofs such as businesses and schools can experience this problem.

Precipitation from rain, snow or ice seeps into the cracks of roads and when it freezes it breaks apart the road surface leaving large pot holes that damage cars and other response vehicles. Roads and vehicles must be repaired costing money and forcing motorists to find alternate routes while repairs are in progress.

Water lines break when they become frozen from extreme cold weather. Once thawed, they often flood facilities causing additional damages which also must be repaired or replaced along with the water lines.

Jurisdiction	**Vulnerability**	**Impact**
City of Altus	The city is vulnerable to widespread power outages due to ice buildup on transmission lines and high winds breaking the power lines.	Any prolonged power outages result in the city's ability to provide a continuity of services until power is restored.
Town of Blair	The town is vulnerable to the effects of a winter storm, including tree limbs that breaks with ice buildup and power outages that occur as ice builds up on utility lines. The town hall does not have a backup generator to provide power in widespread power outages due to winter storms.	The damages and effects of a winter storm result in the economic loss to the town. The town cannot continue with routine business without a generator at the town hall and the city's business must relocate, if necessary, to the fire

	The town does not have a backup fuel supply for the backup generator at the fire station. In a prolonged power outage, the generator is vulnerable to running out of fuel if the outage is longer than a couple of days.	department where there is a generator. Without a backup fuel supply, or fuel supply on emergency power, the town must go and purchase fuel for the generator if the power outage exceeds 2-3 days.
Town of East Duke	City hall is vulnerable to power outages caused by winter storms as it does not have a backup generator. The waterlines are vulnerable to more water leaks and breaks in freezing temperatures.	The town cannot continue with routine business without a generator at the town hall. As the water lines freeze and break, it causes disruptions to the water utility and the damages and repairs are an economic loss to the town.
Town of Elmer	City hall is vulnerable to power outages caused by winter storms as it does not have a backup generator.	The town cannot continue with routine business without a generator at the town hall
Town of Eldorado	The pipes at the city hall and police department are vulnerable to freezing in extraordinarily cold temperatures. City hall is vulnerable to power outages caused by winter storms as it does not have a backup generator.	Frozen pipes burst and cause flooding which results in an economic loss to the town in repairs, as well as any furniture or other contents that were damaged beyond repair. The lack of a generator at city hall results in the inability to use city hall as a warming station if needed, and also a lack of basic power to continue services in a widespread power outage.
Town of Friendship	City hall is vulnerable to power outages caused by winter storms as it does not have a backup generator.	The town cannot continue with routine business without a generator at the town hall.
Town of Headrick	The town is vulnerable to the effects of a winter storm, including tree limbs that breaks with ice buildup and power outages that occur as ice builds up on utility lines.	The damages and effects of a winter storm result in the economic loss to the town.
Town of Martha	City hall is vulnerable to power outages caused by winter storms as it does not have a backup generator.	The town cannot continue with routine business without a generator at the town hall.
Town of Olustee	The town is vulnerable to the effects of a winter storm, including tree limbs that breaks with ice buildup and power outages that occur as ice builds up on	The damages and effects of a winter storm result in the economic loss to the town.

	utility lines.	
Jackson County	The county is vulnerable to widespread power outages due to ice buildup on transmission lines and high winds breaking the power lines. The county roads are vulnerable to debris generated by ice buildup on tree limbs.	Any prolonged power outages result in the city's ability to provide a continuity of services until power is restored. The ice, as well as tree limbs, cause dangerous travel conditions, and removing the debris requires the county commissioner crews to
SWTC	The campus is vulnerable to power outages due to winter storms and ice building up on power transmission lines. The campus does not have an adequate back up generator to supply emergency power until power is restored.	The school would have no emergency power to the building to ensure that students can exit the building safely or to use the campus as a warming station until power is restored.
Altus PS	The campus is vulnerable to power outages due to winter storms and ice building up on power transmission lines.	If the school is without power for several days, this results in a cancellation of classroom hours, and food service that some students rely upon.
Blair PS	The campus is vulnerable to power outages due to winter storms and ice building up on power transmission lines.	If the school is without power for several days, this results in a cancellation of classroom hours, and food service that some students rely upon.
East Duke PS	The campus is vulnerable to power outages due to winter storms and ice building up on power transmission lines.	If the school is without power for several days, this results in a cancellation of classroom hours, and food service that some students rely upon.
Navajo PS	The campus is vulnerable to power outages due to winter storms and ice building up on power transmission lines. The school does not have a backup generator to preserve food service or basic power in a power outage due to winter storms.	The lack of a backup generator results in economic loss of the food service.
Olustee PS	The campus is vulnerable to power outages due to winter storms and ice building up on power transmission lines.	If the school is without power for several days, this results in a cancellation of classroom hours, and food service that some students rely upon.

Climatological: Climatological changes influence Winter Storm impacts. The planning area has seen a small increase in the number of days per year with extreme cold temperatures. It is to be determined if these changes are a long-term trend.

Land Use: Land use developments influence winter storm impacts. Current building practices remain consistent and have not necessarily changed to compensate for these recent occurrences of extremely cold temperatures in the planning area.

Population: Population patterns influence winter storm impacts. As the planning area does not typically experience severe winter storms and extremely cold temperatures, it is not always considered as a hazard until it occurs and widespread power outages due to high winds and ice buildup affect the power grid over a large area.

REPETITIVE FLOOD LOSS PROPERTIES

According to Jackson County and participating jurisdiction officials, to date, in Jackson County and all participating jurisdictions there is no record of repetitive loss properties.

GOVERNMENT AUTHORITY

Jackson County, participating jurisdictions and schools are authorized to operate and given their authorities through the State of Oklahoma state statutes.

Oklahoma Statutes Citationized

Title 19. Counties and County Officers

Chapter 1 – Status and Power of Counties

Section 3 – County's Powers Exercised by Board of Commissioners – Certain Contracts Void by Individual Commissioner

Cite as: O.S. §, __ __

The powers of a county as a body politic and corporate shall be exercised by its board of county commissioners.

It is hereby declared to be contrary to law, and against public policy, for any individual county commissioner, or commissioners, when not acting as a board, to enter into any contract, or to attempt to enter into any contract, as to any of the following matters:

(a) Any purchase of equipment, machinery, supplies or materials of any kind for any county or any commissioner's district, or districts, thereof;

(b) Any contract or agreement relating to or for the leasing or rental of any equipment, machinery, supplies or materials for any county or any commissioner's district, or districts, thereof;

© To do or transact any business relating to such county, or any commissioner's district, or districts thereof, or to make any contract or agreement of any kind relating to the business of such county, or any commissioner's district, or districts thereof;

And none of such acts or attempted contracts as above set forth, done or attempted to be done, by an individual county commissioner or commissioners, when not acting as a board, shall ever be subject to ratification by the board of county commissioners, but shall be illegal, unlawful and wholly void.

Provided that nothing herein shall be construed as prohibiting or preventing the chairman of the board of county commissioners from performing such duty or duties as he may be required by law to perform as chairman of such board, but only after the board, by a majority vote thereof, shall have authorized and directed such performance by said chairman

MUNICIPAL GOVERNMENT

A **municipality** means the governing body of a municipality. A municipality is a general-purpose administrative subdivision, as opposed to a special-purpose district. Under Oklahoma law,

municipalities are divided into two categories: cities, defined as having more than 1,000 residents, and towns, with fewer than 1,000 residents. Both have legislative, judicial and public power within their boundaries, but cities can choose between a mayor-council, council-manager, or strong mayor form of government, while towns operate through an elected officer system.

TOWN DEFINITION: In Oklahoma, a town is the most common division of a county and is a municipality which has incorporated as a town in accordance with the laws of Oklahoma

CITY DEFINITION: In Oklahoma, a city is a highly autonomous incorporated area usually contained within a county. Some cities span multiple counties. Cities provide the same services as towns but operate under one of four possible government structures: aldermanic (weak mayor-council), council-manager, strong mayor-council and home rule.

Oklahoma Statutes Citationized

Title 11. Cities and Towns

Chapter 1 – Oklahoma Municipal Code

Article Article I – General Provisions and Definitions

7. *"Charter municipality" or "Municipality governed by charter" means any municipality which has adopted a charter in accordance with the provisions of the Constitution and laws of Oklahoma and at the time of adoption of the charter had a population of two thousand (2,000) or more. Once a municipal charter has been adopted and approved, it becomes the organic law of the municipality in all matters pertaining to the local government of the municipality and prevails over state law on matters relating to purely municipal concerns;*

2. "City" means a municipality which has incorporated as a city in accordance with the laws of this state;

13. "Town" means a municipality which has incorporated as a town in accordance with the laws of Oklahoma.

Section 22-101 – Corporate Powers of Municipalities

All incorporated municipalities shall be bodies corporate and politic, and shall have the powers to:

1. Sue and be sued;
2. Purchase and hold real and personal property for the use of the municipality;
3. Sell and convey any real or personal property owned by the municipality and make orders respecting the same as may be conducive to the best interests of the municipality;
4. Make all contracts and do all other acts in relation to the property and affairs of the municipality, necessary to the good government of the municipality, and to the exercise of its corporate and administrative powers; and
5. Exercise such other powers as are or may be conferred by law.

Aldermanic Form of Government

Oklahoma Statutes Citationized

Title 11. Cities and Towns

Chapter 1 – Oklahoma Municipal Code

Article Article IX – Aldermanic Form of Government

Section 9-108 – Powers Vested in Council – Designated Powers

Except as otherwise provided in this article, all powers of a statutory aldermanic city, including the determination of matters of policy, shall be vested in the council. Without limitation of the foregoing, the council may:

1. Enact municipal legislation subject to such limitations as may now or hereafter be imposed by the Oklahoma Constitution and law;

2. Raise revenue, make appropriations, regulate salaries and wages, and all other fiscal affairs of the city, subject to such limitations as may now or hereafter be imposed by the Oklahoma Constitution and law;

3. Inquire into the conduct of any office, department or agency of the city, and investigate municipal affairs, or authorize and provide for such inquiries; and

4. Create, change and abolish offices, departments and agencies other than those established by law; assign additional functions and duties to offices, departments and agencies established by this article; and define the duties, powers and privileges of all officers which are not defined by this article.

In an aldermanic or weak mayor-council structure, the city is governed by an elected at-large mayor and two councilmembers from each ward, forming the city council. The mayor serves as the presiding officer of the council and the head of state and head of government of the city, but does not vote on the council, unless to break a tie vote. The council also elects a council president that can act in the mayor's absence. As the chief executive officer of the city government, the mayor appoints city officers with the council's oversight and can remove, suspend and directly oversee city officers and employees. He or she prepares an annual budget and submits it to the council, advises the council on the city's finances and future needs, makes recommendations, enforces city ordinances, and maintains the public peace. The council is responsible for enacting municipal legislation, revenue and spending decisions, and creating or abolishing city divisions.

Statutory Council-Manager

Oklahoma Statutes Citationized

Title 11. Cities and Towns

Chapter 1 – Oklahoma Municipal Code

Article X – Council-Manager Form of City Government

Section 10-101 – Statutory Council-Manager Form of Government

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The form of government provided by Sections 11-10-101 through 11-10-121 of this title shall be known as the statutory council-manager form of city government. Cities governed under the statutory council-manager form shall have all the powers, functions, rights, privileges, franchises and immunities granted, or which may be granted, to cities. Such powers shall be exercised as provided by law applicable to cities under the statutory council-manager form, or if the manner is not thus prescribed, then in such manner as the council may prescribe.

The council-manager form is the second form of city government provided by the Legislature. The governing body of a council-manager city is a city council composed of one councilmember from each ward of the city and one-at large councilmember. The council then elects from among its members a Mayor and a Vice-Mayor to serve concurrent two-year terms. The Mayor presides over all meetings of the council. Though recognized as head of state of the city, the Mayor has no regular administrative duties except for signing all conveyances and other written obligations of the city as the council requires. In the absence of the Mayor, the Vice-Mayor acts as the Mayor.

Aside from passing ordinances and raising city revenue, the council is responsible for appointing a city manager to serve as the head of government for the city. The city manager is appointed by a majority vote of the council to serve an indefinite term. However, the city manager may be suspended or removed at any time by a majority vote of the council. The city manager must be chosen solely on the basis of executive and administrative qualifications without regard to political affiliation. Neither the Mayor nor any members of the council may be appointed city manager during their term of office or within two years after they cease to hold such office.

The city manager is the chief executive officer of the administrative branch of the city government. He is responsible to the council for executing the laws and administering the government of the city. Most city officials are appointed and removed by the city manager without prior council approval. The city manager also supervises and controls all administrative departments, prepares an annual budget for the council to approve, and is to keep the council advised of the financial condition and future needs of the city.

For the most part, the city manager is mostly independent of the council in performing his administrative duties. Except for the purposes of inquiry, the council and its members can only deal with the administrative departments of the city solely through the city manager. As such, the council may not direct or request the city manager to appoint or remove city officers or employees or give orders on ordinary administrative matters to any subordinate of the city manager either publicly or privately.

STATUTORY STRONG-MAYOR-COUNCIL

Oklahoma Statutes Citationized

Title 11. Cities and Towns

Chapter 1 – Oklahoma Municipal Code

Article Article XI – Statutory Strong-Mayor-Council Form of City Government

Section 11-106 – Mayor – Duties as Chief Executive Officer

The mayor shall be chief executive officer and head of the administrative branch of the city government. He shall execute the laws and ordinances, and administer the government of the city. He shall be recognized as the head of the city government for all ceremonial purposes and by the Governor for purposes of military law. He shall:

1. Appoint, and when necessary for the good of the service, remove, demote, lay off, or suspend all heads or directors of administrative departments and all other administrative officers and employees of the city in the manner provided by law. The mayor or the council by ordinance may authorize the head of a department, office or agency to appoint and remove subordinates in such department, office or agency;
2. Supervise and control, directly or indirectly, all administrative departments, agencies, officers and employees;
3. Prepare a budget annually and submit it to the council and be responsible for the administration of the budget after it goes into effect; and recommend to the council any changes in the budget which he deems desirable;
4. Submit to the council a report after the end of the fiscal year on the finances and administrative activities of the city for the preceding year;
5. Keep the council advised of the financial condition and future needs of the city, and make such recommendations as he deems desirable;
6. Grant pardons for violations of city ordinances, including the remission of fines and costs, upon the recommendation of the municipal judge; and
7. Have such other powers, duties and functions as may be prescribed by law or by ordinance

The strong mayor-council form, often shortened to simply *strong mayor*, is the third form of government provided by the Legislature. The governing body of a strong mayor town consists of the Mayor, who is elected at large, and one councilmember from each ward of the town. The Mayor serves as an *ex officio* councilmember at large. The council then elects from among its members a Vice-Mayor to serve a two-year term. In the absence of the Mayor, the Vice-Mayor acts as the Mayor. When a vacancy occurs in the office of Vice-Mayor, the council shall elect from among its members another Vice-Mayor for the duration of the unexpired term. When vacancies occur in both the offices of Mayor and Vice-Mayor, the council will elect one of its members to act

as Mayor.

The Mayor presides over all meetings of the council. As the councilmember at large, the Mayor has all the powers, rights, privileges, duties and responsibilities of any other councilmember, including the right to vote on all questions. However, if the council deems that the Mayor has a personal interest in any matter under consideration, the council may elect any councilmember to preside as temporary president of the council.

The Mayor serves as head of government for the town as the town's chief executive officer. He is responsible to the people of the town for executing the laws and for administering the government of the town. The Mayor appoints and removes most town officials without prior council approval, supervises and controls (either directly or indirectly) all town departments, prepares the annual budget for council approval, keeps the council advised of the financial condition and future needs of the town, and may grant pardons for violations of town ordinances upon the recommendation of the municipal judge.

The Mayor may appoint himself (or the council may elect or appoint him) to other offices and positions in the town government, subject to such regulations as the council prescribes. However, he may not receive additional compensation for such service. The council may provide that the Mayor shall hold *ex officio* designated administrative offices subordinate to the Mayor as well as other designated compatible town offices.

STATUTORY TOWN BOARD OF TRUSTEES FORM OF GOVERNMENT

Oklahoma Statutes Citationized
Title 11. Cities and Towns
Chapter 1 – Oklahoma Municipal Code
Article XII – Statutory Town Board of Trustees Form of Government
Section 12-102 – Governing Body – Board of Trustees

The town board of trustees shall consist of either three (3) or five (5) trustees who shall be nominated from wards or at large and elected at large. The governing body may submit to the voters the question of whether the town board shall consist of either three (3) or five (5) trustees. If approved, the election of trustees to fill any new positions shall take place at the time set by the town board but no later than the next regular municipal election. The terms of the new trustees shall be staggered as provided for in Sections 16-205 and 16-206 of this title.

The Board of Trustees is the simplest government type in Oklahoma. The Board is composed of three or five members, each representing a ward, and elected at large by the town. The Board exercises both executive and legislative functions. The Trustees elect from among themselves a President of the Board, who presides over the board and serves as Mayor of the town. The Mayor

is the head of state for the town and, depending on the duties of the given Mayor, may serve as the head of government of the town. The judicial branch is known as Municipal Court, which is a court of no record in Oklahoma's judicial system.

SCHOOLS

All public school districts are governed under the following state statutes.

Oklahoma Statutes Citationized

Title 70. Schools

Chapter 1 - School Code of 1971

Article Article I - Scope, Organization, and Definitions

Section 1-107.1 - Technology Defined

Cite as: O.S. §, __ __

A. Unless otherwise specifically defined, technology is applied knowledge. For educational and governmental purposes, technology shall include but not be limited to information technology, telecommunications technology and implemental technology. Information technology shall include but not be limited to computers, computer hardware, scanners, multimedia material, facsimile, e-mail, computer software, CD ROM material or other magnetic media, computer simulations, video, the World Wide Web (WWW) or Internet, listservs, multiuser domains and other technology used in distance learning or distance education. Telecommunications technology shall include but not be limited to local area networks and wide area networks. Implemental technology shall include but not be limited to implements, equipment, instruments or devices that promote the technology education process and are employed in the science or study of the practical, industrial, or mechanical arts or applied sciences

Oklahoma Statutes Citationized

Title 70. Schools

Chapter 1 - School Code of 1971

Article Article I - Scope, Organization, and Definitions

Section 1-106 - Public Schools - Definition - What Included

Cite as: O.S. §, __ __

The public schools of Oklahoma shall consist of all free schools supported by public taxation and shall include nurseries, kindergartens, elementary, which may include either K-6 or K-8, secondary schools and technology center schools, not to exceed two (2) years of junior college work, night schools, adult and other special classes, vocational and technical instruction and such other school classes and instruction as may be supported by public taxation or otherwise authorized by laws which are now in effect or which may hereafter be enacted

Oklahoma Statutes Citationized

Title 70. Schools

Chapter 1 - School Code of 1971

Article Article I - Scope, Organization, and Definitions

Section 1-108 - School District - Definition

Cite as: O.S. §, __ __

CAPABILITY ASSESSMENT

Existing Institutions, Plans and Ordinances

The following table provides a summary of the plans, codes, policies and ordinances currently in place in each participating jurisdiction. Existing programs and policies were reviewed in order to identify those that may weaken or enhance the hazard mitigation objectives outlined in this document. This list does not necessarily reflect every plan, ordinance or other guidance document within each jurisdiction; however, this is a summary of the guidance documents known to and recommended for review by the members of the planning committee. The (**Y**) indicates that the jurisdiction reported having the authority to implement the specified regulatory tool and that the tool is currently in place.

As indicated in the table, Jackson County and its incorporated jurisdictions have several policies, programs and capabilities, which help to prevent and minimize future damages resulting from hazards. These tools are valuable instruments in pre and post disaster mitigation as they facilitate the implementation of mitigation activities through the current legal and regulatory framework. These policies, programs and capabilities are described in greater detail for Jackson County and the participating jurisdictions, as well as the State and Federal levels.

Legal and Regulatory / Planning Capability																	
Jurisdiction	Comprehensive Master Plan	Capital Improvement Plan	Economic Development Plan	Local Emergency Operations Plan	Continuity of Operations Plan	Transportation Plan	Storm water Management Plan	Community Wildfire Protection Plan	Building Codes	Fire Department ISO Rating	Site Plan Review requirements	Zoning Ordinances	Subdivision Ordinance	Floodplain Ordinance	Flood Insurance Rate Maps	Acquisition of land for open space and public recreation uses	Emergency Response Plan
Jackson County	Y			Y		Y								Y	Y		
City of Altus	Y			Y		Y	Y		Y	Y	Y	Y	Y	Y	Y		
Town of Blair		Y		Y	Y		Y	Y						Y			
Town of East Duke				Y						Y	Y	Y					
Town of Elmer																	
Town of Eldorado	Y	Y		Y	Y			Y	Y	Y					Y	Y	
Town of Friendship				Y													
Town of Headrick																	
Town of Martha														Y	Y		
Town of Olustee	Y	Y		Y					Y	Y				Y	Y		
Altus PS					Y	Y			Y	Y							Y
Blair PS		Y															Y
East Duke PS		Y															Y
Navajo PS	Y	Y															Y
Olustee – Eldorado PS	Y																Y
SWTC	Y	Y	Y														Y

Legal and Regulatory Capabilities

As indicated in the previous table, Jackson County and its incorporated jurisdictions have several policies, programs and capabilities, which help to prevent and minimize future damages resulting from hazards. These tools are valuable instruments in pre and post disaster mitigation as they facilitate the implementation of mitigation activities through the current legal and regulatory framework. These policies, programs and capabilities are described in greater detail for Jackson County and the participating jurisdictions.

Comprehensive Plan

A comprehensive plan is a document which illustrates the overall vision and goals of a community. It serves as a guide for the community's future and often includes anticipated demographics, land use, transportation, and actions to achieve desired goals. Integrating mitigation concepts and policies into a comprehensive plan provides a means for implementing initiatives through legal frameworks and enhances the opportunity to reduce the risk posed by hazard events.

Capital Improvement Plan

Capital Improvement Plans schedule the capital spending and investments necessary for public improvements such as school, roads, libraries, and fire services. These plans can serve as an important mechanism to manage development in identified hazard areas through limited public spending.

Economic Development Plan

Economic development plans offer a comprehensive overview of the local or regional economic state, establish policies to guide economic growth, and include strategies, projects, and initiatives to improve the economy in the future. Economic development plans, similar to capital improvement plans, offer an opportunity to reduce development in hazard prone areas by encouraging economic growth in areas less susceptible to hazard events.

Emergency Operation Plan

Emergency Operations Plans (EOP's) describe who will do what, as well as when, with what resources, and by what authority before, during and immediately after an emergency.

Continuity of Operation Plan

The Continuity of Operations Plan (COOP) provides an overview of the organization's approach to continuity of operations. It details continuity and organization policies, describes the organization, and assigns tasks. A COOP plan addresses emergencies from an all-hazards approach. A continuity of operations plan establishes policy and guidance ensuring that critical functions continue and that personnel and resources are relocated to an alternate facility in case of emergencies.

Transportation Plan

Transportation planning is the process of defining future policies, goals, investments, and designs to prepare for future needs to move people and goods to destinations (mass transit). Transit routes may be developed for walking, bicycling, bussing, rail, or air.

Stormwater Management Plan

A plan designed to reduce runoff of rainwater or melted snow into streets, lawns and other sites and the improvement of water quality.

Community Wildfire Protection Plan

Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure and recommends measures to reduce risk.

Building Code

Building codes regulate construction standards and are developed for specific geographic areas of the country. They consider the type, frequency and intensity of hazards present in the region. Structures built to applicable building codes are inherently resistant to many hazards such as strong winds, floods and earthquakes, up to certain levels of severity. Due to the location specific nature of the building codes, these are very valuable tools for mitigation.

Site Plan Review Requirements

A process where the construction of new buildings, new additions, and certain types of canopies and/or tax-exempt institutions are reviewed by the City Planning staff and the City Council.

Zoning Ordinances

Zoning is a useful tool to consider when developing a mitigation strategy. It can be used to restrict new development, require low-density development and designate specific uses (e.g. recreational) in the hazard prone areas. Private property rights must be considered, but enacting a zoning ordinance can reduce or potentially

eliminate damages from future hazard events. According to the State Multi-Hazard Mitigation Plan, all local communities in the state are encouraged to incorporate mitigation standards in zoning and land use ordinances.

Subdivision Ordinances
Subdivision ordinances offer an opportunity to account for natural hazards prior to the development of land as they formulate regulations when the land is subdivided. Subdivision design that incorporates mitigation principles can reduce the exposure of future development to hazard events.

Floodplain Ordinances
Regulations to ensure that participating communities take into account flood hazards, to the extent that they are known, in all official actions relating to land management and use.

Flood Insurance Rate Maps
An official map of a community within the United States that displays the floodplains, more explicitly special hazard areas and risk premium zones, as delineated by the Federal Emergency Management Agency (FEMA).

Acquisition of land for open space and public recreation uses
Acquire land where needed and to convert it to public open space in areas for parks, recreation or school use.

Emergency Response Plan
Emergency response plans provide an opportunity for local governments to anticipate an emergency and plan the response accordingly. In the event of an emergency, a previously established emergency response plan can reduce negative effects as the responsibilities and means by which resources are deployed has been previously determined.

Jackson County – Unincorporated The Comprehensive Master Plan, Emergency Operations Plan, and ordinances were reviewed and where applicable incorporated into the hazard mitigation plan. Information from the Comprehensive Master Plan was considered in the selection of action projects.

City of Altus Comprehensive Master Plan and ordinances were review and where applicable incorporated into the hazard mitigation plan. Information from the Comprehensive Master Plan was considered in the selection of action projects.

Town of Blair - The Capital Improvement Plan, Emergency Operations Plan, Storm water and Wildfire Protection Plans and ordinances were reviewed and where applicable incorporated into the hazard mitigation plan. Information from the Capital Improvement Plan was considered in the selection of action projects.

Town of East Duke – The Emergency Operations Plan and ordinances were reviewed and where applicable incorporated into the hazard mitigation plan. East Duke has no Comprehensive Master Plan, Capital Improvement Plan, or Economic Development Plan to consider.

Town of Elmer - The Town of Elmer is a small town within Jackson County having no other plans in place to review and consider in the update of the Jackson County hazard mitigation plan.

When plans are developed they will be reviewed and if applicable information from those plans will be included in future updates of the Hazard Mitigation Plan.

Town of Eldorado - The Comprehensive Master Plan, Capital Improvement Plan, Emergency Operations Plan, Wildfire Protection Plan and ordinances were reviewed and where applicable incorporated into the hazard mitigation plan. Information from the Capital Improvement Plan was considered in the selection of action projects.

Town of Friendship – The Emergency Operations Plan was reviewed and where applicable incorporated into the hazard mitigation plan. Friendship has no Comprehensive Master Plan, Capital Improvement Plan, or Economic Development Plan to consider.

Town of Headrick – The Town of Headrick is a small town within Jackson County having no other plans in place to review and consider in the update of the Jackson County hazard mitigation plan. When plans are developed they will be reviewed and if applicable information from those plans will be included in future updates of the Hazard Mitigation Plan.

Town of Martha – The Town of Martha is a small town within Jackson County having no other plans in place to review and consider in the update of the Jackson County hazard mitigation plan. When plans are developed they will be reviewed and if applicable information from those plans will be included in future updates of the Hazard Mitigation Plan.

Town of Olustee – The Comprehensive Master Plan, Capital Improvement Plan and Emergency Operations Plan, and ordinances were reviewed and where applicable incorporated into the hazard mitigation plan. Information from the Capital Improvement Plan was considered in the selection of action projects.

Altus Public School District has an Emergency Action Plan which was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school district has no Capital Improvements Plan. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes.

Duke Public School District has a Capital Improvement Plan and Emergency Action Plan. The Emergency Action Plan was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school district Capital Improvements Plan was reviewed and considered in the selection of projects such as safe rooms. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes.

Navajo Public School District has an Emergency Action Plan which was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school district Capital Improvements Plan

was reviewed and considered in the selection of projects such as safe rooms. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes.

Olustee – Eldorado Public School District has an Emergency Action Plan which was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school district Comprehensive Master Plan was reviewed and considered in the selection of projects such as safe rooms. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes.

Southwest Technology Center has an Comprehensive Master Plan, Capital Improvement Plan, Economical Development Plan, Continuity of Operations Plan and an Emergency Action Plan which was reviewed and incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The schools Capital Improvements Plan was reviewed and considered in the selection of projects such as safe rooms. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes.

Administrative and Technical Capability

The ability of a local government to develop and implement mitigation projects, policies and programs is contingent upon its staff and resources. Administrative capability is determined by evaluating whether there are an adequate number of personnel skilled in surveying and Geographic Information Systems (GIS).

The table below provides a summary of the administrative, staffing and technical capabilities currently in place in each participating jurisdiction. The (**X)** indicates that the local government reported maintaining a staff member for the given function.

Administrative and Technical Capability														
Administration														
Jurisdiction	Planning Commission	Mitigation Planning Committee	Maint Programs to reduce risk (tree trimming, clearing drainage systems)	Mutual Aid Agreement	Chief building official	Floodplain Manager	Emergency Manager	Community Planner	Civil Engineer	GIS Coordinator	Warning Systems / services (Reverse 911, outdoor warning signals)	Hazard Data and information	Grant Writing	Hazus Analysis
Jackson County		X	X	X		X	X	NA	X		X	X	X	
Altus	X		X	X	X	X	X	X	X	X	X	X	X	
Blair			X	X	X	X					X	X	X	
East Duke			X	X			X		X		X	X	X	
Elmer			X	X			X				X		X	
Eldorado			X	X			X		X		X	X	X	
Friendship				X			X							
Headrick			X	X			X				X		X	
Martha				X		X					X	X	X	
Olustee	X	X	X	X		X	X	X	X	X	X	X	X	
Altus PS											X	X		
Blair PS			X		X								X	
Duke PS		X	X		X							X	X	
Navajo PS					X		X				X			
Olustee-Eldorado PS			X										X	
SW Tech Center			X		X						X		X	

Staffing Resources

Having a planner or engineer trained in land development, construction practices, or one who has an understanding of natural or man-made hazards are great resources to a community. Having their level of knowledge and expertise will help in the process of assessing and mitigating risks while limiting risk to new development or redevelopment.

Floodplain Management

By employing floodplain management, the jurisdiction can protect its citizens against much of the devastating financial loss resulting from flood disasters. Careful local management

of development in the floodplains results in construction practices that can reduce flood losses and the high costs associated with flood disasters to all levels of government.

Surveyors

Surveyors gather information that is needed by the city engineers or city projects that involve development or redevelopment. A surveyor records geographic conditions and man-made features as they currently exist. Other noted information might include: terrain, drainage, property boundaries and ownership, soil condition and other physical features.

GIS/HAZUS

GIS (Geographical Information Systems) and HAZUS are powerful resources that the jurisdictions can use to identify important facts about the community. GIS technology can be used to improve transparency about specific risks to the community, in community planning, and resource management. HAZUS is methodology for estimating potential losses from earthquakes, hurricane winds and floods. HAZUS uses GIS technology to estimate physical, economic and social impacts of disasters.

Emergency Manager

An emergency manager performs administrative and technical work in the development, implementation and coordination of the community's emergency management program. This position also acts as the authority in disaster recovery efforts, oversees the disaster training, exercises and public awareness programs, and performs related duties as assigned.

Financial Capability										
Jurisdiction	Capital Improvement Project Funding	Authority to Levy Taxes for Specific Purposes	Water, sewer, gas or electric service fees	Incur Fees for new Development	Storm Water utility fee	Incur Debt thru general obligation funds and/or special tax bonds		Community Development Block Grants	Other Federal Funding Programs	State Funding Programs
Jackson County	X	X				X		X	X	X
Altus	X	X	X	X		X		X	X	X
Blair	X	X	X	X		X		X	X	X
East Duke		X	X	X		X			X	X
Elmer		X								
Eldorado	X	X	X					X	X	X
Friendship										
Headrick			X						X	X
Martha			X							
Olustee	X	X	X			X		X	X	X
Altus PS	X					X			X	X
Blair PS	X					X			X	X

Financial Capability										
Jurisdiction	Capital Improvement Project Funding	Authority to Levy Taxes for Specific Purposes	Water, sewer, gas or electric service fees	Incur Fees for new Development	Storm Water utility fee	Incur Debt thru general obligation funds and/or special tax bonds		Community Development Block Grants	Other Federal Funding Programs	State Funding Programs
East Duke PS	X					X			X	X
Navajo PS	X					X			X	X
Olustee-Eldorado PS	X	X				X			X	X
SW Tech Center	X					X			X	X

Education and Outreach						
Jurisdiction	Local Citizen Groups/ Non-Profit Organizations willing to assist with mitigation activities	Ongoing Public Education/ Information Program	Natural Disaster or Safety and School Programs	Storm Ready Certification	Firewise Community Certification	Public Private Partnerships initiative addressing disaster-related issues
Jackson County	X	X	X			X
Altus	X	X	X	X	X	X
Blair			X			X
East Duke	X	X	X			
Elmer		X				
Eldorado		X		X	X	X
Friendship						
Headrick						
Martha						
Olustee	X	X				
Altus PS			X			
Blair PS						
East Duke PS						
Navajo PS	X		X			X
Olustee-Eldorado PS						

SW Tech Center		X				

StormReady

StormReady is a national voluntary program, administered through the National Weather Service, which gives communities the skills and education needed to cope with and manage potential weather-related disasters, before and during the event. The program encourages communities to take a new pro-active approach.

Firewise

Firewise communities are those that have taken appropriate measures to become more resistant to wildfire structure damage. Firewise techniques include minimizing the risk of some ignition by carefully landscaping around residential structures with such actions as thinning trees and brush and choosing fire-resistant plants, selecting ignition-resistant building materials and positioning structures away from slopes.

Capability Assessment Conclusion

Mitigation requires capabilities necessary to reduce loss of life and property by lessening the impacts of disasters. Each jurisdiction has demonstrated a set of capabilities unique to their community. The capability assessment finds that Jackson County and the participating jurisdictions collectively have some level of legal, technical, and fiscal tools and resources necessary to implement hazard mitigation strategies. All of the jurisdictions have legal capabilities or ordinances and codes in place that might help reduce loss due to a disaster. The jurisdictions, including school districts, have a range of staff trained or having knowledge about hazards and their impacts. While some jurisdictions lack an emergency manager in their community, there is the Jackson County Emergency Management Department that can provide assistance. All participating jurisdictions have financial resources that can be used toward mitigation. Most of those resources are capital improvement funds or tax bonds. Jackson County has a local citizen group that is willing to assist in emergency management efforts. While most jurisdictions participate in the safety related school programs; some of the jurisdictions are a StormReady or a FireWise community. Jackson County and participating jurisdictions utilize burn bans to help prevent wildfires during dry periods. These jurisdictions can expand their capabilities by implementing wildfire plans. The participating jurisdictions have Emergency Operations Plans in place. Jurisdictions can further address hazards by generating Continuity of Operation Plans.

To further improve on capabilities, the county, participating jurisdictions, and schools will:
Participate in meetings annually to discuss mitigation planning and for reviewing the hazard mitigation plan, suggestions on changes, and additions needed for the five year update.
Comply with its published schedule of planning to insure that identified mitigation action items are considered during planning and budgeting sessions as well as following a disaster declaration which might provide funding for projects.
Review existing policies annually to increase ability to better withstand the impacts of hazards.
Continue education of personnel in the area of emergency management and mitigation planning to better enable them to identify and mitigate the multitude of hazards both natural and others that affect the jurisdictions or the schools.
Monitor various web sites that publish grant announcements and funding opportunities to locate

and apply for other sources of funding for mitigation projects.
Work to improve communication and collaboration between county, cities, towns, and schools to improve capabilities of all participants throughout the county.

NFIP Participation

Communities Participating in the National Flood Insurance Program (NFIP)						
Community ID	Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Regular – Emergency Date
400480	Jackson Co.	Jackson	----------	6/16/99	4/3/12	6/16/99
400072	Altus	Jackson	6/28/74	7/2/80	4/3/12	7/2/80
400348	Blair	Jackson	6/25/76	8/3/82	4/3/12	8/3/82
400307	Martha	Jackson	3/18/77	4/3/12	NSFHA	8/8/97
400430	Olustee	Jackson	4/9/76	8/3/82	4/3/12	8/3/82
Communities NOT Participating in the National Flood Insurance Program						
Community ID	Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Sanction Date
400372	Eldorado	Jackson	7/2/76	4/3/12	4/3/12	7/2/77
400587	Friendship	Jackson	----------	4/3/12	4/3/12	4/3/13
Un- listed Participants NOT in the NFIP						
----------	East Duke	Jackson	Not Listed as participating or non-participating			
----------	Elmer	Jackson	Not Listed as participating or non-participating			
----------	Headrick	Jackson	Not Listed as participating or non-participating			

Jackson County, the City of Altus, and the Towns of Blair, Martha and Olustee are participating in the NFIP (National Flood Insurance Program). They will continue their participation in the National Flood Insurance Program (NFIP), maintain a floodplain administrator to oversee floodplain activities and will continue to enforce floodplain ordinances and update those ordinances as required to maintain their NFIP eligibility.

The Towns of Eldorado and Friendship have been mapped but are not participating members of the NFIP (National Flood Insurance Program) and were sanctioned on the dates shown above. At this time they have no desire to join the NFIP.

The Towns of East Duke, Elmer and Headrick do not participate and are listed as non-participating members of the NFIP in the Community Status Book.

The towns of **East Duke, Eldorado, Elmer, Friendship, and Headrick** rely on the Jackson County Floodplain Manager for any floodplain questions that might arise. None of these towns have a floodplain ordinance or manager.

SUBSTANTIAL DAMAGE DETERMINATION PROVISIONS BY JURISDICTION

A determination of "substantial damage" applies to a severely damaged home or other structure in a Special Flood Hazard Area (SFHA). This determination can be made regardless of the cause of damage, where the community participates in the NFIP. The SFHA is an area designated by the NFIP floodplain management regulations that must be enforced and mandatory purchase of flood insurance by the property owner applies. All NFIP participating communities are required to adopt floodplain regulations, as outlined in 44 CFR, and the provisions for substantial improvements can be found in sections 60.3 a (3), b (4), c (2, 3, and 5), and d. The Oklahoma Statute Title 82, Section 1608 also outlines the requirement for NFIP communities to adopt a floodplain ordinance.

If the cost to repair (improve) the structure will be 50% or more of the structure's market value, then it is considered to be substantially damaged. These determinations are made by a local building official or floodplain manager.

After an event that results in substantial damage, the corresponding flood plain manager(s) in the NFIP participating jurisdiction(s) will comply with all required ordinances, to include a substantial improvement/damage provision of their floodplain management regulations.

Jurisdiction	Substantial Improvement/Damage Provisions adopted by jurisdiction	Date Adopted
Jackson County	**Article I, Article II Definitions, Article V, Section A & B**	**February 16, 2012**
City of Altus	**Article 13, Section 4.612 Flood Hazard Reduction -General Standards**	**NA**
Town of Blair	**Ordinance #12-01, Article II; Article V, Section A, Section B**	**February 9, 2012**
Town of Martha	**NA**	**NA**
Town of Olustee	**Flood Damage Prevention Ordinance, Article II, Article V, Section A**	**March 5, 2012**

Neither the town of Martha, nor the OWRB, had a floodplain ordinance on file to verify whether or not the Martha ordinance included language regarding "substantial damage/substantial improvements." Action item 16 has been added to correct this deficiency and bring the town into NFIP compliance.

GOALS OF THE PLAN

The goals listed below were reviewed by the hazard mitigation planning team and determined to be those that would have the greatest benefit in hazard reduction to Jackson County, Altus, Blair, East Duke, Eldorado, Friendship, Headrick, Martha, Olustee, Altus Schools, Eldorado Schools, Navajo Schools, Olustee Schools and Southwest Technology Center.

The goals are as follows:

1. To enhance post disaster response and recovery activities.
2. To facilitate responsible development in the county to reduce or eliminate the potential impacts of disasters.
3. To increase measures for specific hazard mitigation and reduce the risk of personal injury or death.
4. To enhance public awareness and understanding of disaster preparedness.

These goals were developed by the county's hazard mitigation planning team through public input and in consultation with county commissioners and emergency response personnel.

CHAPTER FOUR

Mitigation Action Projects

Action Project 1 UPGRADE COMMUNICATIONS EQUIPMENT

Description	Update license, install new base station towers at county locations to comply with narrow banding requirements and interoperable system		
Hazards Addressed	Dam Failure*, Drought, Earthquake, Extreme Heat, Flooding, Hail, High Wind, Lightning, Tornado, Wildfire and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Altus Emergency Manager, Jackson Co. Emergency Manager, Sheriff, County Commissioner, Blair Fire Chief, East Duke Fire Chief, Eldorado Fire Chief, Elmer fire Chief, Friendship Fire Chief, Headrick fire chief, Martha fire chief, Olustee fire chief, Altus PS Superintendent, Blair PS Superintendent, Duke PS Superintendent, Navajo PS Superintendent, Olustee-Eldorado PS Superintendent, SWTC Superintendent		
Scheduled Completion	Upon funding		
Funding Sources	County Budget, municipal funding, grants, school funds		
Current Action Status	Complete		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Notice: **Dam Failure affects only unincorporated Jackson Co.*

Action Project 2 GENERATORS FOR EMERGENCY POWER

Description	Have generators available for critical facilities and water utilities when power fails. Number to install and location not yet determined.		
Hazards Addressed	Dam Failure, Earthquake, Extreme Heat, Flooding, Hail, High Winds, Lightning, Tornado, Wildfires and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent,		
Scheduled Completion	Upon funding		
Funding Sources	Hazard Mitigation Grant Programs, Rural Economic Action Plan (REAP) grants, Homeland Security Grants		
Current Action Status	Altus water and sewage plants have installed generators. Others still needed.		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Notice: **Dam failure affects only unincorporated Jackson County.*

Action Project 3 IMPROVE EMERGENCY WARNING SYSTEM

Description	Improve Tornado Warning Siren Network (storm sirens).		
Hazards Addressed	High Wind, Tornado		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent,		
Scheduled Completion	Upon funding		
Funding Sources	Hazard Mitigation Grant Programs and REAP grants		
Current Action Status	Some outdoor warning sirens installed in Altus, others still needed in county and participating jurisdictions.		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Notice: **Dam failure affects only unincorporated Jackson County.*

Action Project 4 Mass Notification Text System

Description	Acquire a mass texting opt-in program for residence that will alert population of natural hazard warnings		
Hazards Addressed	Dam Failure*, Extreme Heat, Flooding, Hail, High Winds, Lightning, Tornado, Wildfires and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent,		
Scheduled Completion	Upon funding		
Funding Sources	Hazard Mitigation Grant Programs		
Current Action Status	Saferooms in planning stages for Altus schools, Saferoom built at Navajo school. Others still needed.		
Action affects current buildings/ infrastructure	**No**	**Action affects future buildings/infrastructure**	**No**

Notice: **Dam failure affects only unincorporated Jackson County.*

Action Project 5 BUILD SAFE ROOM/STORM SHELTER

Description	Construct safe room/storm shelter at critical facilities to reduce injury and loss of life during high wind and/or tornados		
Hazards Addressed	Hail, High Wind, Lightning, and Tornado		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent,		
Scheduled Completion	Upon funding		
Funding Sources	Hazard Mitigation Grant Programs		
Current Action Status	Saferooms in planning stages for Altus PS, Saferooms still needed at all other schools.		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 6 PROJECTS FOR AT RISK BRIDGES

Description	Build new or strengthen and/or elevate old bridges.		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County – Unincorporated		
Responsible Party	CED, Jackson Co. Commissioners		
Scheduled Completion	As funded		
Funding Sources	County Budget and Hazard Mitigation Grant Programs		
Current Action Status	Several bridges have been rebuilt / upgraded.		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 7 PURCHASE NOAA WEATHER RADIOS

Description	Purchase, program and distribute NOAA weather radios to citizens and critical facilities, particularly for the vulnerable and underserved populations in the county.		
Hazards Addressed	Dam Failure*, Drought, Extreme Heat, Flooding, Hail, High Wind, Lightning, Tornado, Wildfire and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent,		
Scheduled Completion	As funding becomes available		
Funding Sources	Hazard Mitigation Grant Programs		
Current Action Status	No action taken due to lack of funding at local levels		
Action affects current buildings/ infrastructure	**No**	**Action affects future buildings/infrastructure**	**No**

Notice: **Dam failure affects only unincorporated Jackson County.*

Action Project 8 CREATE DATABASE OF CITIZENS WITH STORM SHELTERS AND HAVE A PLAN TO REMOVE THEM FROM THESE SHELTERS IF NECESSARY

Description	Locate, map and address each existing private storm shelter within city/town limits of Jackson County and have a plan to remove them from these shelters if necessary.		
Hazards Addressed	High Wind and Tornado		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	As saferoom / shelter locations are identified and reported by owners		
Funding Sources	County budget		
Current Action Status	Complete and continuously being updated		
Action affects current buildings/ infrastructure	**No**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 9 IMPLEMENT PROGRAMS TO KEEP TREES FROM THREATENING UTILITY INFRASTRUCTURES

Description	Work with all utility providers and citizens to develop and implement programs to keep trees from threatening utility infrastructure, lives and property.		
Hazards Addressed	High Wind, Lightning, Tornado and Winter Storm		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	Upon funding		
Funding Sources	County, local and school budget, Hazard Mitigation Grant Programs		
Current Action Status	Complete, ongoing maintenance program		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 10 DEVELOP AND IMPLEMENT A CAPITAL IMPROVEMENT PLAN

Description	Develop and implement a Capital Improvement Plan that includes hazard mitigation considerations and at-risk populations		
Hazards Addressed	Drought, Extreme Heat, Flooding, Hail, High Wind, Lightning, Tornado, Wildfire and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, Town of East Duke, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, SWODA		
Scheduled Completion	Upon funding		
Funding Sources	County and city/town budget		
Current Action Status	Some have implemented, others are still considering plan development		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 11 INSTALL SURGE PROTECTORS

Description	Install surge protectors on all county city/town and school owned computer equipment, and new and existing buildings		
Hazards Addressed	High Wind, Lightning, Tornado, and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	As needed		
Funding Sources	County, City/Town, and School budgets and Hazard Mitigation Grant Programs		
Current Action Status	Complete and ongoing as needed		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 12 EDUCATIONAL CAMPAIGN

Description	Design an educational campaign to inform contractors and homeowners about wind and hail resistant building techniques using items such as hurricane clips, tie downs, hail resistant roofing, etc.		
Hazards Addressed	Hail, High Wind and Tornados		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk		
Scheduled Completion	As education materials and new construction techniques and materials become available.		
Funding Sources	County / local budgets, Hazard Mitigation Grant Programs		
Current Action Status	Done at fairs and work job fairs, presently on hold due to covid		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 13 INSTALL COVERED WALKWAYS

Description	Install covered walkways for county, local offices, and schools as needed		
Hazards Addressed	Hail, Winter Storm		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	As funding becomes available		
Funding Sources	Grants and County Budget		
Current Action Status	Deferred, lock of funding at local levels		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 14 INSTALL HAIL RESISTANT ROOFING

Description	Install hail resistant roofs on all county, local government and school buildings when need arises to replace roof. Use hail resistant roofing on new construction.		
Hazards Addressed	Hail		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	As needed with Funding		
Funding Sources	County, local and school budgets, Hazard Mitigation Grant Programs		
Current Action Status	Deferred due to lack of funding		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 15 INSTALL WINDOW SAFETY FILM

Description	Install window safety film on all critical facilities in county and participating jurisdictions.		
Hazards Addressed	Extreme Heat, Hail, High Wind and Tornado		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	Upon funding		
Funding Sources	Hazard Mitigation Grant Programs, Municipal Budgets, County Budgets, School Budgets		
Current Action Status	Deferred due to lack of funding at the local levels		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 16 Improve NFIP participation and compliance

Description	Improve compliance by adopting floodplain ordinance, and ensure that "substantial improvement/ substantial damage" language is included in the ordinance		
Hazards Addressed	Flood		
Jurisdictions Affected	Town of Martha		
Responsible Party	Jackson County Emergency Manager, Jackson County Floodplain Manager		
Scheduled Completion	Every year		
Funding Sources	Hazard Mitigation Grant Programs and Municipal/County Budgets		
Current Action Status	Status being maintained		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 17 EDUCATE PUBLIC REGARDING FLOOD INSURANCE AND THE NFIP

Description	Host educational workshops regarding flood insurance and the NFIP.		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee		
Responsible Party	Jackson County Emergency Manager, Jackson County Flood Plain Manager, Altus Floodplain Manager, OWRB		
Scheduled Completion	Conduct workshop on an annual basis as funding is available		
Funding Sources	County and local Budget, OFMA Grant		
Current Action Status	Ongoing		
Action affects current buildings/ infrastructure	**No**	**Action affects future buildings/infrastructure**	**No**

Action Project 18 PUBLIC INFORMATION ON MITIGATION

Description	Develop an all media program / hazard mitigation booklet to educate the public about mitigating risk to life and property associated with the occurrence of natural hazards. Book should inform public of hazard risk, pre hazard planning, and hazard recovery.		
Hazards Addressed	Dam Failure*, Drought, Extreme Heat, Flooding, Hail, High Wind, Lightning, Tornado, Wildfire and Winter Storms		
Jurisdictions Affected	Jackson County – Unincorporated, City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Town of Martha, Town of Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, Olustee-Eldorado PS, SWTC		
Responsible Party	Jackson Co. Emergency Manager, Jackson County Commissioners, Altus Emergency Manager, Blair town clerk, East Duke town clerk, Eldorado town clerk, Elmer mayor, Friendship fire chief, Headrick town clerk, Martha town clerk, Olustee town clerk, Altus PS superintendent, Blair PS superintendent, Duke PS Superintendent, Navajo PS superintendent, Olustee-Eldorado PS superintendent, SWTC superintendent		
Scheduled Completion	As funded		
Funding Sources	County Budget, municipal budget, school budgets		
Current Action Status	Project updated to include educational booklet		
Action affects current buildings/ infrastructure	**No**	**Action affects future buildings/infrastructure**	**No**

Notice: **Dam Failure only affects Unincorporated Jackson County.*

Action Project 19 COLLECT INUNDATION INFORMATION

Description	Collect inundation information on the Altus Reservoir		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus City Engineer, NRCS		
Scheduled Completion	Upon completion at NRCS		
Funding Sources	Municipal funds, NRCS		
Current Action Status	Awaiting data		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 20 Acquire High Hazard Properties

Description	Acquire Residential Property and Demolish Structures to Minimize Occupancy of High Hazard Areas Identified by Dam Break Inundation Model Reports.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 21 Master Drainage Plan

Description	Conduct Master Drainage Study to Identify Flood-Prone Areas in The City of Altus and Jackson County.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus, Jackson County		
Responsible Party	Altus Floodplain Administrator, Jackson Co. Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	County and city budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 22 Flood awareness and Education

Description	Develop Flood Map Tools and Interface with City/County Web Sites to Communicate Flood Risks to the Community including Developers, Builders, Real Estate Agents, Insurance Agents, Buyers and Property Owners.		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County, City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Jackson County Emergency Manager, Jackson County Floodplain Manager		
Scheduled Completion	Three years with approved funding		
Funding Sources	County and city budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 23 Broadway Flooding East of Veterans

Description	Design and Construct Structural Flood Control (such as Flood Channels, Regional Detention, or Other Structural Practice) To Reduce Flood Impacts to Commercial Property Along Broadway Street East of Veterans Drive.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 24 Falcon Rd and Challenger Dr Flooding

Description	Design and Construction Structural Flood Control (such as Flood Channels, Regional Detention, or Other Structural Practice) to Reduce Flood Impacts of the Western and Southern Boundaries of Altus Air Force Base Including Overtopping of Falcon Road and Challenger Drive to Reduce Impacts to the Main Gate and South Gate of the Air Force Base.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manage, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 25 COLLECT INUNDATION INFORMATION

Description	Design and Construction of Structural Drainage Improvements to Deer Run and White Tail Circle in the Hunter Pointe Addition to Reduce High-Water Events .		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 26 Asalee St and South Park Lane Flooding

Description	Design and Construction of Structural Drainage Improvements to Asalee Street and South Park Lane to Reduce High-Water Events.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 27 Adams St Flooding

Description	Design and Construction of Structural Improvements to Public Right-of-Way and Private Property at Several Places On Adams Street, East of S. Park Lane.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 28 Hickory St Flooding

Description	Design and Construction of Drainage Improvements on Hickory Street Between Pine Avenue and S. Park Lane.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 29 Broadway St Flooding

Description	Design and Construction of Drainage Improvements to Broadway Street Bewteen Navajoe Street and Horizon Drive.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 30 Tamarack Rd Flooding

Description	Design and Construction of Drainage Improvements to Tamarack Road at N. Park Lane.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 31 North Park Lane Flooding

Description	Design and Construction of Drainage Improvements on North Park Lane from Falcon Road to Broadway Street.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 32 San Ann, Rose Haven and Cambridge Drive's Flooding

Description	Design and Construction of Drainage Improvements on San Ann Drive, Rose Haven Drive, Cambridge Drive and other portions of the English Village Addition.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 33 Presidents Addition Flooding

Description	Design and Construction of Drainage Improvements on Lincoln Street, Cleveland Street, Polk Avenue and Other Portions of the Presidents Addition.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 34 Farm Rail Railroad Flooding

Description	Design and Construction of Drainage Improvements along the Farm Rail Railroad Tracks that run North-South on the West side of Town. Projects to Alleviate High-Water Ponds along the Berm.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 35 Market Rd Flooding

Description	Design and Construction of Regional Detention Pond in the 900 Block of N. Market Road to Reduce Flood Impacts to Market Road.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 36 Canterbury Blvd Flooding

Description	Design and Construction of Drainage Improvements for Public Rights-of-way and Private Property on Canterbury Boulevard Between Falcon Road and Village Drive.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 37 Identified Flood Areas Identified in Master Drainage Plan

Description	Design and Construction of Drainage Improvements for Any Area Identified in the Master Drainage Plan as a Problem Area.		
Hazards Addressed	Flooding		
Jurisdictions Affected	City of Altus		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 38 Broadway Flooding

Description	Design and Construction of Drainage ditches and culverts on Broadway between 7th St and Wicker.		
Hazards Addressed	Flooding		
Jurisdictions Affected	East Duke		
Responsible Party	Altus Floodplain Administrator, Altus Emergency Manager, Altus City Engineer		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 39 Highway 34 Flooding

Description	Install larger concrete box culverts on Hwy 34 from Hwy 62 to Turkey Creek		
Hazards Addressed	Flooding		
Jurisdictions Affected	East Duke		
Responsible Party	Jackson County Commissioners, East Duke Public Works		
Scheduled Completion	Three years with approved funding		
Funding Sources	City budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 40 County Rd 154 Flooding

Description	Roadway needs to be Raised and larger bridge (Beginning Lat 34.7837087, Lon -99.3786876. End Lat 34.7835675, Lon -99.3879973)		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County		
Responsible Party	Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 41 County Rd 201 Flooding

Description	Roadway need to be raised and larger bridge (Beginning Lat 34.7835675 Lon -99.3879973 End Lat 34.7794629 Lon -99.3879455)		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County		
Responsible Party	Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 42 CR 216 Bridge Replacement

Description	Replace Bridge with a larger bridge on CR 216 (Beginning Lat 34.6451883 Lon -99.1236735 End Lat 34.6417387 Lon -99.1236571)		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County		
Responsible Party	Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 43 County Rd 210 flooding

Description	Raise road bed, straighten and improve waterways to improve drainage (Beginning Lat 34.6563469 Lon -99.2056130 End Lat 34.5577079 Lon -99.2292194		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County		
Responsible Party	Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 44 County Rd 175 Larger Bridge

Description	Replace Bridge with a larger bridge on CR 175 (Beginning Lat 34.4789252 Lon -99.4211033 End Lat 34.4787340 Lon -99.4388052		
Hazards Addressed	Flooding		
Jurisdictions Affected	Jackson County		
Responsible Party	Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 45 I St Flooding

Description	Put in drainage ditches and culverts on I street to reduce flooding. (Beg 9th & I Lat 34.5436193 Lon -99.4200025 End 8th & I Lat 34.5447747 Lon -99.4202802		
Hazards Addressed	Flooding		
Jurisdictions Affected	Olustee		
Responsible Party	Olustee Public Works, Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 46 Flooding on 8th Street

Description	Put in drainage ditches and culverts on 8th street to reduce flooding. (Beg 8th & J Lat 34.5441728 Lon -99.4186631 End 8th & H Lat 34.5443320 Lon -99.4214374		
Hazards Addressed	Flooding		
Jurisdictions Affected	Olustee		
Responsible Party	Olustee Public Works, Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

Action Project 47 E Street Flooding

Description	Raise road bed and build a bridge if needed. (Beg E street Lat 34.5497282 Lon -99.4251197 End E street & W 1st Lat 34.5512629 Lon -99.4253466)		
Hazards Addressed	Flooding		
Jurisdictions Affected	Olustee		
Responsible Party	Olustee Public Works, Jackson County Commissioners		
Scheduled Completion	Three years with approved funding		
Funding Sources	County budget, HMGP		
Current Action Status	New project for hazard mitigation plan		
Action affects current buildings/ infrastructure	**Yes**	**Action affects future buildings/infrastructure**	**Yes**

PRIORITIZATION OF ACTION ITEMS

The Jackson County Hazard Mitigation Planning Team identified several hazard mitigation projects to be included in the Hazard Mitigation Plan. These projects, along with the responsible agency, funding sources and other information were listed previously.

The Jackson County Hazard Mitigation Planning Team discussed the implementation of action projects in great detail and how they would be prioritized. Discussion on the STAPLEE method (previously used) pointed out that a numbered prioritization leads to an expectation that Project One should be the first project completed followed by project two, three and so on. Needs change frequently and what is considered most important today may well drop in priority following a disaster or other event. Comments and open discussion led to addressing and prioritizing mitigation actions (i.e. warning devices, communication, education, training and possible remedies for these problems).

Consideration was given to the cost-benefit of the projects (what benefits the project provided as compared to the cost of the project). The HMPT believes the benefits of doing the proposed projects far outweighs the cost of those projects. The cost of available projects was considered in relation to the cost of doing nothing and the cost of continued loss and/or repairs due to future natural hazard events. Social and political factors were also considered (would the public at large

and the elected officials support or oppose the project) along with many other factors. Easing the hardships that usually accompany hazard events, preventing damage to buildings and infrastructure, and improving the quality of life for the citizens of Jackson County were also major factors in projects chosen to be included in the plan. The HMPT developed the following prioritization statement.

Participants of the Hazard Mitigation Team representing the jurisdictions participating in the Jackson County Hazard Mitigation Plan agreed that the priority for implementing action projects will depend on:

1. Available local funds and grant funding,
2. Public and political pressures at the time projects are chosen, and
3. Disaster related declarations and possible use of 406 mitigation funds.

Implementation of action projects will be considered based on available funding at the time, projects that work toward achieving the goals listed in the plan and achieving the greatest result for the cost. Projects at the county level will be submitted to the county commissioners for approval, funding and implementation. The county commissioners have the final say as to which projects to pursue and fund. Projects at the city and town levels will be submitted to the mayor of the jurisdiction and brought by the mayor to the city or town council for approval, funding and implementation. The city or town councils have the final say as to which projects to pursue and fund. The public school superintendents will submit projects to their respective boards for approval, funding and implementation. The boards for the public schools have the final say as to which projects to pursue and fund.

OTHER PLANS INTEGRATION

Jackson County: The Comprehensive Master Plan, Emergency Operations Plan and Floodplain Ordinances were reviewed and updated as scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was used in the annual update of these plans where applicable. None of the annual updates of the aforementioned plans were found to have any effect on the Hazard Mitigation Plan. Jackson County does not have a Capital Improvement Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the county's Comprehensive Master Plan and Emergency Operations Plan where relevant / applicable at the next scheduled update of those plans.

The County Emergency Management Director will be responsible for coordinating monitoring/updating activities of the aforementioned plans with the plan owners and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. Once the hazard mitigation plan has been approved, the Emergency Management Director will give a copy of the plan to participating jurisdictions and schools to be incorporated into their local plans as applicable. The hazard mitigation plan will remain an active and relevant document with continued public participation.

Jackson County, participating jurisdictions and public schools have other plans and capabilities as shown on the capability assessment sheets in this document. The county emergency manager (chairman of the planning team) will invite all participating members of the JCHMPT to participate in meetings annually to discuss mitigation planning and for reviewing the hazard mitigation plan, suggestions on changes and additions needed for the five-year update. As the five-year update draws near, the meetings will be held semi-annually. These reviews will also be held following any disaster that affects participants in this hazard mitigation plan.

City of Altus: The City of Altus has a Comprehensive Master Plan, Emergency Operations Plan, Floodplain Ordinances and other codes and ordinances that were reviewed and updated as scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was considered in the update of the CMP and EOP where applicable. Information from the CMP was used in the development of projects for inclusion into the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Comprehensive Master Plan, Emergency Operations Plan, Floodplain Ordinances and other codes and ordinances where relevant / applicable at the next scheduled update of those plans.

The Mayor is responsible for monitoring the EOP and CIP and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The Mayor and local Emergency Management Director will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and Comprehensive Master Plan will be incorporated as applicable.

Town of Blair: The Town of Blair has a Capital Improvement Plan, Emergency Operations Plan, Continuity of Operations Plan, Stormwater Management Plan, Wildfire Protection Plan, Floodplain Ordinances and other codes and ordinances that were reviewed and updated as

scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was considered in the update of the EOP and CIP where applicable. Information from the CIP was used in the development of projects for inclusion into the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Capital Improvement Plan, Emergency Operations Plan, Floodplain Ordinances and other codes and ordinances where relevant / applicable at the next scheduled update of those plans.

The Mayor is responsible for monitoring the EOP and CIP and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and Capital Improvement Plan will be incorporated as applicable.

Town of East Duke: The Town of East Duke has an Emergency Operations Plan and other codes and ordinances that were reviewed and updated as scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was considered in the update of the Emergency Operations Plan where applicable. None of the annual updates of the Emergency Operations Plan were found to have any effect on the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Emergency Operations Plan and other codes and ordinances where relevant / applicable at the next scheduled update of those plans.

The Town Mayor is responsible for monitoring the Emergency Operations Plan and integrating the Hazard Mitigation Plan into it along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and Emergency Operations Plan will be incorporated as applicable.

Town of Elmer: The Town of Elmer is a small incorporated jurisdiction with no other plans in place. As other plans are developed and put into place, the hazard mitigation plan will be considered as a source of reference and for possible guidance in plan development.

The City Mayor will be the person responsible for monitoring other plans once developed and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and future plans will be incorporated as applicable.

Town of Eldorado: The Town of Eldorado has a Comprehensive Master Plan, Capital Improvement Plan, Emergency Operations Plan, Continuity of Operations Plan, Wildfire Protection Plan, Floodplain Ordinances and other codes and ordinances that were reviewed and updated as scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was considered in the update of the CMP, CIP and EOP where applicable. Information from the CIP was used in the development of projects for inclusion into the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Comprehensive Master Plan, Capital Improvement Plan, Emergency Operations Plan, Continuity of Operations Plan, Wildfire Protection Plan, Floodplain Ordinances and other codes and ordinances where relevant / applicable at the next scheduled update of those plans.

The Mayor is responsible for monitoring the aforementioned plans and ordinances and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and other plans will be incorporated as applicable.

Town of Friendship: The Town of Friendship has an Emergency Operations Plan that was reviewed and updated as scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was considered in the update of the Emergency Operations Plan where applicable. None of the annual updates of the Emergency Operations Plan were found to have any effect on the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Emergency Operations Plan where relevant / applicable at the next scheduled update of the EOP.

The Town Mayor is responsible for monitoring the Emergency Operations Plan and integrating the Hazard Mitigation Plan into it along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and Emergency Operations Plan will be incorporated as applicable.

Town of Headrick: The Town of Headrick is a small incorporated jurisdiction with no other plans in place. As other plans are developed and put into place, the hazard mitigation plan will be considered as a source of reference and for possible guidance in plan development.

The City Mayor will be the person responsible for monitoring other plans once developed and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The

Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and future plans will be incorporated as applicable.

Town of Martha: The Town of Martha is a small incorporated jurisdiction with no other plans in place. As other plans are developed and put into place, the hazard mitigation plan will be considered as a source of reference and for possible guidance in plan development.

The City Mayor will be the person responsible for monitoring other plans once developed and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and future plans will be incorporated as applicable.

Town of Olustee: The Town of Olustee has a Comprehensive Master Plan, Capital Improvement Plan, Emergency Operations Plan and other codes and ordinances that were reviewed and updated as scheduled/needed. Information obtained through the risk assessment of the Hazard Mitigation Plan was considered in the update of the CMP, CIP and EOP where applicable. Information from the CIP was used in the development of projects for inclusion into the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Comprehensive Master Plan, Capital Improvement Plan, Emergency Operations Plan and other codes and ordinances where relevant / applicable at the next scheduled update of those plans.

The Mayor is responsible for monitoring the aforementioned plans and ordinances and integrating the Hazard Mitigation Plan into them along with any updates on an annual basis. The Mayor will coordinate with the County Emergency Management Director to ensure changes from the Hazard Mitigation Plan and other plans will be incorporated as applicable.

Altus Public School District: Information from the school Emergency Action Plan (EAP) was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school district does not have a Capital Improvements Plan. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the school EAP where relevant / applicable at the next scheduled update of that plan.

The school superintendent is responsible for bringing mitigation ideas and actions to the school board for discussion and approval. The school superintendent will continue to be the official responsible for review and update of the Hazard Mitigation Plan and ensuring its integration into other plans and processes. On an annual basis, the school superintendent will meet with each principal to discuss hazard mitigation priorities for the district. Any updates to the Hazard Mitigation Plan will be made at this time and incorporated into the annual update of the Plan.

Blair Public School District: Information from the school EAP was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school districts Capital Improvement Plan was considered in the selection of projects for the plan. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the school CIP and EAP where relevant / applicable at the next scheduled update of that plan.

The school superintendent is responsible for bringing mitigation ideas and actions to the school board for discussion and approval. The school superintendent will continue to be the official responsible for review and update of the Hazard Mitigation plan, and ensuring its integration into other plans and processes. On an annual basis, the school superintendent will meet with each principal to discuss hazard mitigation priorities for the district. Any updates to the hazard mitigation plan will be made at that time and incorporated into the annual update of the Plan.

East Duke Public School District: Information from the school EAP was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school districts Capital Improvement Plan was considered in the selection of projects for the plan. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the school CIP and EAP where relevant / applicable at the next scheduled update of that plan.

The school superintendent is responsible for bringing mitigation ideas and actions to the school board for discussion and approval. The school superintendent will continue to be the official responsible for review and update of the Hazard Mitigation plan, and ensuring its integration into

other plans and processes. On an annual basis, the school superintendent will meet with each principal to discuss hazard mitigation priorities for the district. Any updates to the hazard mitigation plan will be made at that time and incorporated into the annual update of the Plan.

Navajo Public School District: Information from the school EAP was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school districts Comprehensive Master Plan and Capital Improvement Plan were considered in the selection of projects for the plan. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the school CMP, CIP and EAP where relevant / applicable at the next scheduled update of that plan.

The school superintendent is responsible for bringing mitigation ideas and actions to the school board for discussion and approval. The school superintendent will continue to be the official responsible for review and update of the Hazard Mitigation plan, and ensuring its integration into other plans and processes. On an annual basis, the school superintendent will meet with each principal to discuss hazard mitigation priorities for the district. Any updates to the hazard mitigation plan will be made at that time and incorporated into the annual update of the Plan.

Olustee-Eldorado Public School District: Information from the school EAP was incorporated throughout the hazard analysis of this plan when explaining the capability of the school district to respond to and recover from an emergency event. The school districts Comprehensive Master Plan was considered in the selection of projects for the plan. Future versions of the Hazard Mitigation Plan will be incorporated into other planning processes. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the school CMP, CIP and EAP where relevant / applicable at the next scheduled update of that plan.

The school superintendent is responsible for bringing mitigation ideas and actions to the school board for discussion and approval. The school superintendent will continue to be the official responsible for review and update of the Hazard Mitigation plan, and ensuring its integration into other plans and processes. On an annual basis, the school superintendent will meet with each principal to discuss hazard mitigation priorities for the district. Any updates to the hazard mitigation plan will be made at that time and incorporated into the annual update of the Plan.

Southwest Technology Center The following plans were reviewed and considered for inclusion into the Hazard Mitigation Plan where applicable: Comprehensive Master Plan; Capital Improvement Plan (CIP); Economic Development Plan; and Emergency Response Plan. None of the annual updates of the aforementioned plans were found to have an effect on the Hazard Mitigation Plan. Information from the Capital Improvement Plan was considered during the identification of mitigation projects for the Hazard Mitigation Plan. Once the hazard mitigation plan has been approved, it will be reviewed and integrated into the Comprehensive Master Plan, Capital Improvement Plan (CIP), Economic Development Plan and Emergency Response Plan where relevant / applicable at the next scheduled update of those plans.

The school superintendent is responsible for bringing mitigation ideas and actions to the school board for discussion and approval. The school superintendent will continue to be the official responsible for review and update of the Hazard Mitigation Plan, and ensuring its integration into other plans and processes. On an annual basis, the school superintendent will meet with each principal to discuss hazard mitigation priorities for the district. Any updates to the hazard mitigation plan will be made at that time and incorporated into the annual update of the Plan.

DEVELOPMENT TRENDS

All the towns and cities of Jackson County are actively seeking new industry and are anticipating development and growth. Currently, the industrial areas are included within the jurisdiction boundaries; therefore, the normal infrastructure, including roads, water, sewer, and utilities are in place. Altus has large industrial sites with buildings and building sites available. The industrial parks are not in any flood prone areas, therefore, repetitive losses should not be expected. The risk of property loss, personal injury, or death should be considered the same for potential growth as it is for current facilities.

Residential growth for any area is regulated by availability of sewer, water, electric utilities, and roads. The availability of electric and water in unincorporated areas is a consistently changing factor for both of these utilities. Availability of areas for new development is based on current service existing to structures in the same geographic area.

Thus, development of new areas not located adjacent to existing populated areas is considered unlikely. Any post disaster redevelopment necessitated by an event would follow normal redevelopment patterns. The availability of utilities and roads would show very little permanent

change in the redevelopment criteria. The stability of the historic data indicates redevelopment would occur in the same geographic locations.

At this time, there is no major planned housing or commercial developments, county critical facility expansions or county infrastructure changes in the unincorporated area of Jackson County other than those required to meet immediate county transportation needs. Existing substandard county bridges are to be rebuilt to higher standards as funding allows. The present outlook is for a net of gain of 100 houses can be expected to be constructed randomly throughout the unincorporated areas of the county during the next decade. No new commercial growth is expected.

Future buildings, infrastructure and critical facilities are not expected to be any different from existing structures. The committee was unable to approximate costs for future structures other than housing units.

The State of Oklahoma has not granted to counties broad regulatory powers to enact and enforce building codes, building inspections, subdivision regulations and growth management initiatives. The county does have power to regulate all platting of land, all construction of dwelling units or commercial or industrial structures and all future development within a delineated floodplain area, except land held in trust by the United States for Native Americans.

There is a detectable trend in where the new housing units are being built. Most new growth is occurring within the City of Altus. This development is subject to all hazards except dam failure. Overall, there is no significant development within the planning area aside from new housing since the previous HMP.

Since the last plan update, there have been no changes in development which have notably increased or decreased each jurisdictions' vulnerability to hazards.

COMPLETED/DELETED MITIGATION PROJECTS

Action Project 1 UPGRADE COMMUNICATIONS EQUIPMENT

Description	Update license, install new base station towers at county locations to comply with narrow banding requirements and interoperable system
Current Action Status	Complete

Action Project 2 GENERATORS FOR EMERGENCY POWER

Description	Have generators available for critical facilities when power fails. Number to install and location not yet determined.
Current Action Status	Altus water and sewage plants have installed generators. Others still needed.

Action Project 3 IMPROVE EMERGENCY WARNING SYSTEM

Description	Improve Warning Systems (storm sirens, cell phone notification, fire alert, etc.).
Current Action Status	Some out door warning sirens installed in Altus, others still needed in county and participating jurisdictions.

Action Project 4 BUILD SAFE ROOM/STORM SHELTER

Description	Construct safe room/storm shelter to reduce injury and loss of life during high wind and/or tornados
Current Action Status	Saferooms in planning stages for Altus schools, Saferoom built at Navajo school. Others still needed.

Action Project 5 PROJECTS FOR AT RISK BRIDGES

Description	Build new or strengthen and/or elevate old bridges.
Current Action Status	Several bridges have been rebuilt / upgraded.

Action Project 7 CREATE DATABASE OF CITIZENS WITH STORM SHELTERS AND HAVE A PLAN TO REMOVE THEM FROM THESE SHELTERS IF NECESSARY

Description	Locate, map and address each existing private storm shelter within city/town limits of Jackson County and have a plan to remove them from these shelters if necessary.
Current Action Status	Complete and continuously being updated

Action Project 8 IMPLEMENT PROGRAMS TO KEEP TREES FROM THREATENING UTILITY INFRASTRUCTURES

Description	Work with all utility providers and citizens to develop and implement programs to keep trees from threatening utility infrastructure, lives and property.
Current Action Status	Complete, ongoing maintenance program

Action Project 10 INSTALL SURGE PROTECTORS

Description	Install surge protectors on all county city/town and school owned computer equipment, and new and existing buildings
Current Action Status	Complete and ongoing as needed

Action Project 11 EDUCATIONAL CAMPAIGN

Description	Design an educational campaign to inform contractors and homeowners about wind and hail resistant building techniques using items such as hurricane clips, tie downs, hail resistant roofing, etc.
Current Action Status	Done at fairs and work job fairs, presently on hold due to covid

Action Project 15 DEMOLITION OF DAMAGED BUILDINGS

Description	Demolish damaged buildings in the county
Current Action Status	Removed From Hazard Mitigation Plan

Action Project 16 PURCHASE SPECIAL HAZARDOUS EQUIPMENT

Description	Purchase debris removal vehicles, grader and front loader to be used to clear streets.
Current Action Status	Removed From Hazard Mitigation Plan

PRIORITY CHANGES

Participants of the Hazard Mitigation Team representing the jurisdictions participating in the Jackson County Hazard Mitigation Plan agreed that the priority for implementing action projects will depend on:

1. Available local funds and grant funding,

2. Public and political pressures at the time projects are chosen, and

3. Disaster related declarations and possible use of 406 mitigation funds.

Implementation of action projects will be considered based on available funding at the time, projects that work toward achieving the goals listed in the plan and achieving the greatest result for the cost. Priorities were not changed due to changes in the hazard risk analysis but rather projects will be prioritized as funding becomes available with public and elected officials approval at the time a project is selected to be completed.

Overall, the priorities of the planning area remain consistent with the previous HMP. Tornadic events across the state have caused the schools in the planning area to refocus on building safe rooms that would be adequate for the students.

HOW JURISDICTIONS HAVE PREVIOUSLY INTEGRATED HMP DATA

Action Items: **The City of Altus, Town of Blair, Town of East Duke, Town of Eldorado, Town of Elmer, Town of Friendship, Town of Headrick, Jackson County, and Town of Olustee** primarily focused on completing action items as funding was available. As noted in the capabilities assessments, the smaller towns have very limited budgets and personnel, as do the school districts. Hazard Mitigation projects can only be accomplished upon available funding, and usually large projects require a grant to ensure completion. Completing action items was the main extent of incorporating hazard mitigation practices into the planning area.

Each jurisdiction individually decides how to appropriate or seek funding for their most urgent or most needed projects. They follow protocols of their respective governing bodies accordingly. As much as they are able with their existing plans, the jurisdictions individually ensure that appropriate overlap with their comprehensive master plans, emergency operation plans, capital improvement plans, etc., as shown in the Capabilities Assessments on pages 145-157. Those

tables and following narrative show the planning mechanisms each jurisdiction has in place to accomplish their hazard mitigation goals.

Strategy and Goals: The LEPC meetings provide the primary opportunities for the jurisdictions and school districts to discuss and address hazard mitigation strategy and goals within the county. It is a regular agenda item for each meeting. However, participation from all jurisdictions and schools varies from meeting to meeting. Overall, the strategy and goals of the HMP remain consistent. All schools want to improve resilience and capabilities by building safe rooms and acquiring generators at all campus locations over the next few years as funding is available.

Data: The data from the previous HMP is integrated into the municipalities' respective ordinance codes on an "as-needed" basis. As there is very little, if any, development in these small towns, specific ordinances might be adopted as they are modified and released by the OUBCC or IBC. The municipalities of **Altus, Blair, East Duke, Eldorado, Elmer, Friendship Headrick, Olustee** do look for opportunities to enhance building codes that promote hazard mitigation aspects. **Jackson County** has no codes to maintain or revise.

Schools: Each respective superintendent is the primary contact responsible for ensuring that emergency plans and protocols are annually updated (or updated according to its cycle) and approved by the respective school boards. The superintendent holds this responsibility as emergency/crisis management is part of the job description. The respective superintendents work with safety committees made up of teachers who can provide the practical insight into implementation of emergency plans and protocols. As each respective superintendent presents the JCHMP Update to each respective school board for adoption, the JCHMP Update will be used to compare existing protocols with the hazards addressed in the school plans. The respective school boards are the governing authority to approve emergency plans and protocols upon the recommendation of the superintendent. The superintendent is also responsible to ensure that the school's plans and protocols meet state requirements.

Whenever possible, **Jackson County, Altus, Blair, East Duke, Eldorado, Elmer, Friendship Headrick, Olustee, Altus PS, Blair PS, Duke PS, Navajo PS, and Olustee-Eldorado PS, and SWTC** will look for funding opportunities to incorporate hazard mitigation action items into their respective Capital Improvement plans, particularly when hazard mitigation components can be incorporated.

PLAN REFERENCES:

Oklahoma Historical Society - *https://www.okhistory.org/*

Altus Public Schools web site - *www.altusps.com*

Eldorado Public Schools web site - *https://www.eldorado.k12.ok.us*

NICHE web site - *https://www.niche.com/k12*

National Climatic Data Center - *https://www.ncdc.noaa.gov/stormevents/*

National Weather Service - *http://www.srh.noaa.gov*

Oklahoma Climatological Survey - *http://climate.mesonet.org*

Oklahoma Water Resources Board - *http://www.owrb.ok.gov*

National Drought Monitor - *http://droughtmonitor.unl.edu*

Homefacts.com - *https://homefacts.com*

U.S. Geological Survey - *www.usgs.gov*

Oklahoma Geological Survey - *http://www.okgeosurvey1.gov*

National Lightning Safety Institute - *www.lightningsafety.com*

Vaisala - *http://www.vaisala.com*

FEMA Disaster Declarations - *http://www.fema.gov/disasters*

Oklahoma Supreme Court Document Index - *oscn.net/applications/oscn/Index.asp*

NFIP Community Status Book - *https://www.fema.gov/national-flood-insurance-program-community-status-book*

Oklahoma Department of Education - *www.sde.ok.gov*

Wikipedia - *https://www.wikipedia.org*

Encyclopedia of Oklahoma History and Culture - *www.okhistory.org/publications/encyclopediaonline.php*

U.S. Army Corps of Engineers - *https://www.usa.gov/federal-agencies/u-s-army-corps-of-engineers*

United States Drought Monitor - *https://www.drought.gov/drought*

Federal Emergency Management Agency - *https://www.fema.gov*

NOAA – National Weather Service - *www.noaa.gov/*

The Storm Prediction Service - *www.spc.noaa.gov/*

Weather Underground - *https://www.wunderground.com*

Local Emergency Management Records

Oklahoma State Fire Marshall records

Jackson County Volunteer Fire Dept. records