

NOTICE
GLENPOOL CITY COUNCIL
MEETING

A Regular Session of the Glenpool City Council will be held at 6:00 p.m. on Monday, July 21, 2014, at Glenpool City Hall, 3rd Floor, 12205 S. Yukon Ave., P.O. Box 70, Glenpool, Oklahoma.

The City Council welcomes comments from citizens of Glenpool who wish to address any item on the agenda. Speakers are requested to complete one of the forms located on the agenda table and return to the City Clerk PRIOR TO THE CALL TO ORDER.

AGENDA

- A. Call to Order - Mayor Ceesay
- B. Roll call, declaration of quorum - Susan White, City Clerk; Mayor Ceesay
- C. Invocation - Joe Jones, Pastor at The Landing Community Church
- D. Pledge of Allegiance - Mayor Ceesay
- E. Scheduled Business
 - 1. Discussion and possible action to approve minutes from July 7 and July 14, 2014 meetings.
 - 2. Discussion and possible action to approve RESOLUTION NO. 14-07-06, A RESOLUTION AUTHORIZING THE CITY OF GLENPOOL TO ENTER INTO A CERTAIN EQUIPMENT LEASE-PURCHASE AGREEMENT BY AND BETWEEN OKLAHOMA STATE BANK AS LESSOR AND CITY OF GLENPOOL AS LESSEE, FOR THE ACQUISITION OF CERTAIN IDENTIFIED KUBOTA BRAND MOWING EQUIPMENT FROM STEWART-MARTIN EQUIPMENT COMPANY.
(Lynn Burrow, Community Development Director)
 - 3. Discussion and possible action to approve RESOLUTION NO.14-07-05 OF THE CITY COUNCIL OF THE CITY OF GLENPOOL, OKLAHOMA ADOPTING THE UPDATED MULTI-HAZARD MITIGATION PLAN FOR THE CITY OF GLENPOOL.
(Rick Malone, City Planner/Paul Newton, Fire Chief/Andy Armstrong, Consultant)
 - 4. Discussion and possible action to approve an Agreement between the City of Glenpool and the Glenpool School District for the Provision of a School Resource Officer, including drug dog services to the extent available, for Academic Year 2014-2015.
(Dennis Waller, Chief of Police)
 - 5. Discussion and possible action to enter into Executive Session.
(Momodou Ceesay, Mayor)

6. Executive Session for the purpose of discussing confidential communications from the City and Trust Authority Attorney concerning a pending investigation, claim, or action as to which the City and the Glenpool Utility Services Authority, with the advice of their Attorney, have determined that disclosure will seriously impair the ability of the City and the Authority to process the claim or conduct the pending investigation, litigation or proceeding in the public interest, pursuant to Title 25 Sec. 307(B)(4) of the Oklahoma Statutes (Open Meeting Act), *to wit*, a status report on the course of pending litigation in U.S District Court Case No. 11-cv-441, *Creek County Rural Water District #2 vs City of Glenpool and Glenpool Utility Services Authority*.
(Lowell Peterson, City Attorney)
 7. Possible action to reconvene in Regular Session.
(Momodou Ceesay, Mayor)
- F. Other Public Comments
- G. City Manager Report
(Roger Kolman, City Manager)
- H. Mayor Report
(Momodou Ceesay, Mayor)
- I. Adjournment

This notice and agenda was posted at the Glenpool City Hall, 12205 S. Yukon Ave., Glenpool, Oklahoma, on _____, 2014 at _____ a.m./p.m..

Signed: _____
City Clerk

MINUTES

CITY COUNCIL MEETING

July 7, 2014

The Regular Session of the Glenpool City Council was held at 6:02 p.m., Glenpool City Hall, 3rd Floor, 12205 S. Yukon Ave, Glenpool, Oklahoma. Councilors present: Momodou Ceesay, Mayor; Alyce Korb, Vice-Mayor; Tim Fox, Councilor; Patricia Agee, Councilor and Jennifer Ballew, Councilor.

Staff present: Roger Kolman, City Manager; Lowell Peterson, City Attorney; Charles Barnes, Finance Director; Lynn Burrow, Community Development Director; Rick Malone, City Planner and Dennis Waller, Police Chief. Susan White, City Clerk was absent.

Others Present: Jennifer Cook, Glenpool Chamber of Commerce.

A. Mayor Ceesay called the meeting to order at 6:02 p.m.

B. Rick Malone, City Planner called the roll. Mayor Ceesay declared a quorum present.

C. Rick Malone offered the Invocation.

D. Mayor Ceesay led the Pledge of Allegiance.

E. Scheduled Business

1. Discussion and possible action to approve minutes from June 16, 2014 and June 23, 2014 meetings.

MOTION: Vice Mayor Korb moved, second by Councilor Agee to approve minutes as presented.

FOR: Councilor Fox; Councilor Agee; Councilor Ballew; Vice-Mayor Korb; Mayor Ceesay

AGAINST: None

Motion carried.

2. Discussion and possible action to renew Agreement between the City of Glenpool and the Glenpool Chamber of Commerce for professional services and lease of space in the City Hall/Conference Center for FY 2014-2015.

Mayor Ceesay announced that he and Councilor Ballew would recuse themselves from the vote because they serve on the Chamber Board. Roger Kolman, City Manager presented the Agreement for approval. He outlined the proposed changes in the renewal Agreement. Ms. Jennifer Cook, President for the Chamber of Commerce answered Council questions and offered a perspective from the Chamber.

MOTION: Councilor Agee moved, second by Vice Mayor Korb to renew Agreement with Glenpool Chamber of Commerce as presented.

FOR: Councilor Agee; Councilor Fox; Vice-Mayor Korb

RECUSE: Councilor Ballew; Mayor Ceesay

AGAINST: None

Motion carried.

3. **Discussion and possible action on Corporate Resolution No. 14-07-01 of the City of Glenpool, "Resolution Authorizing The City Of Glenpool To Renew That Certain Security Agreement By And Between The City Of Glenpool And The Glenpool Utility Services Authority With Respect To The Issuance Of Utility System Revenue Bonds, Tax Exempt Refunding Series 2010 A And Taxable Refunding Series 2010 B, Dated as of December 1, 2010."**
Charles Barnes, Finance Director presented Resolution No. 14-07-01, recommending approval.
MOTION: Vice Mayor Korb moved, second by Councilor Agee to adopt Resolution No. 14-07-01 as presented.
FOR: Councilor Ballew; Councilor Fox; Councilor Agee; Vice-Mayor Korb; Mayor Ceesay
AGAINST: None
Motion carried.
4. **Discussion and possible action on Corporate Resolution No. 14-07-02 of the City of Glenpool, "Resolution Authorizing The City Of Glenpool To Renew That Certain Security Agreement By And Between The City Of Glenpool And The Glenpool Utility Services Authority With Respect To The Issuance Of Utility System Revenue Bonds, Tax Exempt Refunding Series 2011, Dated As Of January 1, 2011."**
Mayor Ceesay announced that Resolution No. 14-07-02 mirrored Resolution No. 14-07-01 in content and required action; however this one is related to a separate Revenue Bond, dated January 1, 2011.
MOTION: Councilor Fox moved, second by Vice Mayor Korb to adopt Resolution No. 14-07-02 as presented.
FOR: Councilor Fox; Councilor Agee; Councilor Ballew; Vice-Mayor Korb; Mayor Ceesay
AGAINST: None
Motion carried.
5. **Discussion and possible action to approve "Memorandum of Understanding between the Indian Nations Council of Governments (INCOG) and Glenpool for maintenance of 9-1-1 and Master Street and Address Guide Services for Fiscal Year 2014-2015".**
Roger Kolman, City Manager presented the MOU for approval, noting the only change over last year was an increase in cost of \$43.93.
MOTION: Councilor Agee moved, second by Vice Mayor Korb to approve "MOU" as presented.
FOR: Councilor Agee; Councilor Ballew; Councilor Fox; Vice-Mayor Korb; Mayor Ceesay
AGAINST: None
Motion carried.
6. **Discussion and possible action on renewal of E-911 Service Fee Agreement with Cox Oklahoma Telcom, L.L.C., d/b/a Cox Communications.**
Roger Kolman, City Manager explained that the renewal is identical to the previous year's Agreement.
MOTION: Vice Mayor Korb moved, second by Councilor Agee to approve the renewal of E-911 Service Fee Agreement with Cox.
FOR: Councilor Ballew; Councilor Fox; Councilor Agee; Vice-Mayor Korb; Mayor Ceesay
AGAINST: None
Motion carried.

7. Discussion and possible action to renew the Agreement between the City of Glenpool and the Glenpool Area Emergency Services District ("GEMS") governing the operations of GEMS for FY 2014-2015.

Roger Kolman, City Manager described the contents of the Agreement as essentially providing for administrative services to GEMS through certain City personnel. Mr. Kolman further pointed out a few modifications to the contract language which more clearly define the process, procedure and services provided by the City.

MOTION: Councilor Fox moved, second by Councilor Agee to renew the Agreement as presented.

FOR: Councilor Fox; Councilor Agee; Councilor Ballew; Vice-Mayor Korb; Mayor Ceesay

AGAINST: None

8. Discussion and possible action to renew the Agreement among EMS Plus, the Glenpool Area Emergency Medical Services District ("GEMS") and the City of Glenpool to provide ambulance service for Glenpool for FY 2014-2015.

Mr. Kolman presented the Agreement for approval. He noted that the Agreement was substantially the same as prior years, including the cost for the services provided by EMS Plus.

MOTION: Councilor Fox moved, second by Councilor Agee to renew the Agreement with EMS Plus for FY 2014-2015.

FOR: Councilor Agee; Councilor Ballew; Councilor Fox; Vice-Mayor Korb; Mayor Ceesay

AGAINST: None

Motion carried.

9. Discussion and possible action to approve Resolution No. 14-07-04, A Resolution Amending The FY 2014-2015 Annual Budget In Compliance With The Municipal Budget Act.

Mr. Charles Barnes, Finance Director presented Resolution No. 14-07-04 for approval, describing the proposed budgetary amendment.

MOTION: Vice Mayor Korb moved, second by Councilor Agee to approve Resolution No. 14-07-04, to amend the FY 2014-2015 Annual Budget.

FOR: Councilor Ballew; Councilor Agee; Vice-Mayor Korb; Mayor Ceesay

AGAINST: Councilor Fox

Motion carried.

10. Discussion and possible action to adopt Resolution No. 14-07-03, A Resolution Of The City Of Glenpool, Oklahoma Approving Participation With The State Of Oklahoma Department Of Transportation In A Traffic Signalization Project.

Mr. Kolman advised Council that the City has been approached by ODOT to signalize the intersection of the northbound SH 75 exit and SH 117/121st Street. The Resolution represents a 75/25 basis cost sharing between ODOT and the City to fund the project. Councilor Fox opined that since the State, the County and Jenks reap a benefit from the traffic load, they should share the costs of the installation and perpetual maintenance.

MOTION: Councilor Agee moved, second by Vice Mayor Korb to approve Resolution No. 14-07-03 as presented.

FOR: Councilor Agee; Councilor Ballew; Vice-Mayor Korb; Mayor Ceesay

AGAINST: Councilor Fox

Motion carried.

11. Discussion and possible action to approve Traffic Engineering Consultants proposal at a cost not to exceed \$28,000, and authorize City Manager to enter into an Agreement for described services.

Mr. Lynn Burrow, Community Development Director presented the proposed Agreement for engineering services for traffic signalization improvements at SH 75 and SH 117 (121st St).

MOTION: Councilor Agee moved, second by Vice Mayor Korb to approve entering into an agreement with Traffic Engineering Consultants at a cost not to exceed \$28,000 and authorize City Manager to execute the Agreement.

FOR: Councilor Agee; Councilor Ballew; Vice-Mayor Korb; Mayor Ceesay

AGAINST: Councilor Fox

Motion carried.

12. Discussion and possible action to approve M.e.t. invoice for \$7,643.58.

Mr. Lynn Burrow presented the invoice for approval.

MOTION: Councilor Fox moved, second by Councilor Agee to approve invoice totaling \$7,643.58.

FOR: Councilor Ballew; Councilor Fox; Councilor Agee; Vice-Mayor Korb; Mayor Ceesay

AGAINST: None

Motion carried.

F. Other Public Comments

- Audience members discussed and suggested Council consideration to add a warning signal at 141st/SH 75.
- Audience members inquired of Kristie Walton, EMS Plus regarding annual memberships.

G. Community Development Director Report - Lynn Burrow, Com. Dev. Director

- Mr. Burrow updated the Council on various activities including street repairs, and ongoing private commercial and residential developments.

H. City Manager Report - Roger Kolman, City Manager

- City of Glenpool is now on Twitter.
- Fountains and waterfall are non-operational again. Staff has engaged a different company for repairs.
- Zip Code ballots have been delivered to mail patrons in the impacted areas. If you receive one of ballots please express your opinion and return the ballot to be counted in the survey.
- Mr. Kolman shared that he and his family enjoyed watching Fourth of July fireworks displays all across the metro area from a seat at the lake on the grounds of the Conference Center. He urged others to do the same, next year.

I. Mayor's Report - Momodou Ceesay, Mayor

- Excited to see that OMAG is paying the claim on the Elwood lift station.
- Glad to see the signalization at 121st Street was approved. He has received numerous comments from citizens in favor of the light.
- Attended the Mayor's Conference in Stillwater with the Vice Mayor. A very good conference.

J. Adjournment

Meeting was adjourned at 7:12 p.m.

Date

Mayor

ATTEST:

City Clerk

GLENPOOL CITY COUNCIL
WORKSHOP
MINUTES

The Glenpool City Council met at 7:00 p.m. on Monday, July 14, 2014, at Glenpool City Hall, 3rd Floor Conference Room, 12205 S. Yukon Ave., P.O. Box 70, Glenpool, Oklahoma. City Council present: Momodou Ceesay, Mayor; Alyce Korb, Vice Mayor; Tim Fox, Councilor; Patricia Agee, Councilor and Jennifer Ballew, Councilor.

Staff present: Roger Kolman, City Manager; Lowell Peterson, City Attorney; Susan White, City Clerk Rick Malone, City Planner and Lynn Burrow, Community Development Director.

Also present were members of the Glenpool Board of Adjustment and Planning Commission.

Mayor Ceesay called the workshop to order at 7:00 p.m.

Rick Malone announced that the workshop location would be moved from Glenpool City Council Chambers to the Third Floor Conference Room.

Discussion Items:

1. View and discuss webinar presentation, "Understanding Zoning 101".
2. View and discuss video presentation, "Understanding the Role of Elected Officials".

Mayor Momodou closed the workshop at 8:20 p.m.

Date

Mayor

ATTEST:

City Clerk

MEMORANDUM

TO: HONORABLE MAYOR and CITY COUNCIL

**FROM: LYNN BURROW, PE
COMMUNITY DEVELOPMENT DIRECTOR**

**RE: GLENPOOL CITY STREETS & PARKS DEPARTMENT MOWING
EQUIPMENT PURCHASE AND LEASE**

DATE: JULY 21, 2014

BACKGROUND

This item is for Council consideration and action regarding the review and approval of the purchase of certain replacement mowing equipment to be added to the City inventory within the Streets & Parks Department. Attached are various photos of the gasoline powered equipment being used and maintained currently. The current inventory consists of four Dixie Chopper and one Cub Cadet brand zero-turn mowers. The Dixie Chopper mowers were purchased and have been in service since 2007 (seven mowing seasons) and the Cub Cadet was purchased in 2010 and has been in use for almost four mowing seasons. The Dixie Chopper units have accumulated an average of 6000 hours of run-time which is at the extreme limit of most gasoline powered engines and hydraulic transmissions before major overhauls or complete replacement become necessary. Currently, maintenance, breakdown repair, and part replacement costs for the existing machines is averaging \$2,500 - \$3,500 per unit annually. Several of the Dixie Chopper units have experienced complete engine and transmission replacement as well as numerous other major repairs and part replacements. In short, the majority of this existing equipment has reached, or has exceeded, its economic life expectancy to the point that replacement seems to make more sense than continuing to make the expensive repairs and replacements necessary to keep the machines operational.

Therefore, we are asking Council approval to purchase the following Kubota equipment from Stewart/Martin Equipment Company:

- Two (2) ZD326-P 60" Diesel Powered Zero-Turn Mowers
- Two (2) ZD331-P 72" Diesel Powered Zero-Turn Mowers
- One (1) B2320 Compact Diesel Powered Tractor with 60" Mowing Deck

Attached is a copy of a proposal from Stewart/Martin Equipment covering the purchase of this equipment for a total of \$63,370.32 Also attached is a similar price quote from P&K Equipment in Owasso for equivalent John Deere brand equipment for a total of \$63,452.00. It should be noted that both dealers are listed with the State Department of Commerce and are on the State List that allows municipalities to the purchase of this type of equipment at fixed, pre-negotiated prices.

Staff is suggesting the acceptance of the proposal for the Kubota equipment from Stewart/Martin for several reasons: (1.) Stewart/Martin has local (Glenpool) owners and has opened a second dealership at I06th Street and Memorial Ave. in Tulsa making service or warranty work more convenient from a location standpoint; and (2.), they will provide equivalent loaner equipment any time service or warranty related items take longer than the day the equipment was brought in.

Also attached are proposals from two different lease/lending institutions covering the lease of this equipment for several different durations. As you will note, the proposal from Oklahoma State Bank in Vinita contains three different lease terms with three slightly different interest rates that are less than those quoted by Government Capital Corporation. By using the thirty (30) month rate quoted by Oklahoma State Bank, the annual payment total is \$26,235.12. Note, at the end of the lease period, the equipment is purchased for \$1.00.

Funding for this proposed purchase has been accounted for within the City of Glenpool FY 2014/2015 budget under the Streets & Parks Department within the Equipment Lease budget category. The total amount for this line item is \$30,000 as was approved as part of the FY 2014/2015 City budget.

Recommendation:

Staff has reviewed the proposals received from the vendors submitting equipment and leasing quotes and recommends the following Council actions: 1. Approval of the Stewart/Martin equipment purchase proposal in an amount not to exceed \$63,370.32; and 2., Authorization for the City Manager to finalize and execute the leasing agreement with Oklahoma State Bank covering the financial arrangements necessary to complete this purchase.

Attachments:

- A. Equipment Purchase Proposals
- B. Leasing Proposals
- C. Photos -Existing Mowing Equipment
- D. Kubota Equipment Brochures
- E. Authorizing Resolution, No. 14-07-06
- F. Form of Equipment Lease-Purchase Agreement with Oklahoma State Bank

12751 HWY 75 • P.O. BOX 38

OKMULGEE, 74447

PHONE: 918-756-3560

www.smekubota.com

smekubota@yahoo.com

WHOLE GOODS
SALES INVOICE



Nº 6235

Quote
Sold to CITY OF GLEN POOL Date 4-24-2014
Address 12205 South YUKON AVE P.O. Box 70 Salesman Andy Bealke
City GLEN POOL, OK CASH ☐ CHARGE ☐ NOTE ☐

[illegible]

TRADE - IN INFORMATION						CASH PRICE DELIVERED			
QTY	MAKE	DESCRIPTION	SERIAL NO	AMOUNT		CASH WITH ORDER			
						AND DELIVERY			
						TRADE-IN			
						TOTAL CASH & TRADE-IN			
						UNPAID CASH BALANCE			
						TIME PAYMENT DIFFERENTIAL			
						OTHER CHARGERS			
						TIME PAYMENT BALANCE			
NOTE: Complete this section when tractors are sold. Statistics show that severity of injuries is greatly reduced and fatalities practically eliminated through use of ROPS and a seat belt if a tractor overturns. I have been advised and understand that the use of ROPS and a seat belt are recommended in almost all applications.			TRADE-IN ALLOWANCE						
			LESS AMOUNT OWED TO						
			NET TRADE-IN ALLOWANCE						
						</			

RECEIVED BY _____

I _____ AM ENGAGED IN THE BUSINESS OF FARMING, AND THE FARM MACHINERY AND EQUIPMENT I HAVE PURCHASED WILL BE USED EXCLUSIVELY AND DIRECTLY AND IN THE AGRICULTURE PRODUCTION OF FOOD OR FIBER AS A BUSINESS. I AM AWARE THAT ANY FALSE REPRESENTATION MADE BY ME IN AN ATTEMPT TO PURCHASE FARM MACHINERY AND EQUIPMENT FREE FROM OKLAHOMA SALES TAX IS A MISDEMEANOR



Quote Summary

Prepared For:

City Of Glenpool
Robert Gayle
Po Box 70
Glenpool, OK 74033
Business: 918-408-9177
rgayle@cityofglenpool.com

Prepared By:

Justin Brown
P & K Equipment, Inc.
11518 E. 66th Street North
Owasso, OK 74055
Phone: 918-437-3193
Mobile: 918-346-2866
jbrown@pkequipment.com

Prices are good for in stock equipment only. 997 72" machines that have to be ordered will be \$728 more than quoted prices.

Municipal Lease with \$1 purchase option: 1st payment due at signing.
24 months: \$2746.20/mo.
36 months: \$1867.22/mo

Quote Id: 9514738
Created On: 15 April 2014
Last Modified On: 17 April 2014
Expiration Date: 22 April 2014

Equipment Summary	Selling Price	Qty	Extended
JOHN DEERE 997 Commercial L. C. Diesel Max-Frame Z-Trak with 72 In. Side Discharge 7-Iron PRO Deck (STOCK UNIT) - 1TC997SCCEF090120	\$ 12,935.00 X	1 =	\$ 12,935.00
JOHN DEERE 997 Commercial L. C. Diesel Max-Frame Z-Trak with 72 In. Side Discharge 7-Iron PRO Deck (STOCK UNIT) - 1TC997SCCEF090109	\$ 12,935.00 X	1 =	\$ 12,935.00
JOHN DEERE 997 Commercial L. C. Diesel Max-Frame Z-Trak with 60 In. Side Discharge 7-Iron PRO Deck (STOCK UNIT) - 1TC997SBEDF080628	\$ 12,510.00 X	1 =	\$ 12,510.00
JOHN DEERE 997 Commercial L. C. Diesel Max-Frame Z-Trak with 60 In. Side Discharge 7-Iron PRO Deck (ORDER UNIT)	\$ 13,228.00 X	1 =	\$ 13,228.00
JOHN DEERE 1023E Sub-Compact Utility Tractor (STOCK UNIT) - 1LV1023ECEH410955	\$ 9,444.00 X	1 =	\$ 9,444.00
JOHN DEERE 60D In. Deck (STOCK UNIT) - 1M01060DPDM040359	\$ 2,400.00 X	1 =	\$ 2,400.00
Equipment Total			\$ 63,452.00

Quote Summary**Equipment Total****\$ 63,452.00****Salesperson : X** _____**Accepted By : X** _____



MEMBER FDIC

120 West Canadian Ave.
PO Box 278
Vinita OK 74301
918-256-5585
877-611-5585
Fax 918-256-3817

DATE: 6/27/2014

TO: Lynn Burrow

FROM: Charlie, Oklahoma State Bank

ENTITY: City of Glenpool, OK

EQUIP: Kubota Mowing Tractors

COST	# PMTS	PAYMENT	RATE
\$63,570.32	24 mos	\$2,712.77	2.30%
\$63,570.32	30 mos	\$2,186.26	2.43%
\$63,570.32	36 mos	\$1,836.77	2.57%

This quote is good for 30 days.
At the end of the Lease the City will own the equipment for \$1.00
First payment due 30 days from contract date.
Quote is subject to credit approval.
\$200.00 doc fee is included in proposal.

This quote is given for a "qualified tax-exempt obligation" within the meaning of Section 265(b)(3) of the Internal Revenue Code of 1986, if this is not a "qualified tax-exempt obligation" rate(s) will be higher.



GOVERNMENT CAPITAL CORPORATION

June 27, 2014

Mr. Roger Kohlman
Glenpool City Hall
(918) 322-5409
rkolman@cityofglenpool.com

Dear Mr. Kohlman,

Thank you for the opportunity to present proposed financing for City of Glenpool. I am submitting for your review the following proposed structure:

LENDER:	Government Capital Corporation		
ISSUER:	City of Glenpool, Oklahoma		
FINANCING STRUCTURE:	Tax Exempt Structure w/ \$1.00 purchase		
EQUIPMENT COST:	\$ 63,310		
MONTHLY TERM:	24 Payments	30 Payments	36 Payments
TRUE INTEREST COST:	4.277%	4.46%	4.49%
PAYMENT AMOUNT:	\$ 2,757.04	\$ 2,234.09	\$ 1,882.99
PAYMENTS BEGINNING:	30 days from signing, monthly thereafter		

The above proposal is subject to audit analysis and mutually acceptable documentation. The terms outlined herein are subject to change and rates are valid for fourteen (14) days from the date of this proposal. If funding does not occur within this time period, rates will be indexed to markets at such time.

Our finance programs are flexible and my goal is customer delight. If you have any questions regarding other payment terms, frequencies or conditions, please do not hesitate to call.

With Best Regards,

Stephanie Cates

Stephanie Cates
Client Services

The transaction described herein is an arm's length, commercial transaction between you and Government Capital Corporation ("GCC"), in which GCC: (i) is acting solely for its own financial and other interests that may differ from yours; (ii) is not acting as your municipal advisor or financial advisor, and has no fiduciary duty to you with respect to this transaction; and (iii) is not recommending that you take an action with respect to this transaction.

RESOLUTION NO. 14-07-06 OF THE CITY OF GLENPOOL

RESOLUTION AUTHORIZING THE CITY OF GLENPOOL TO ENTER INTO A CERTAIN EQUIPMENT LEASE-PURCHASE AGREEMENT BY AND BETWEEN OKLAHOMA STATE BANK AS LESSOR AND CITY OF GLENPOOL AS LESSEE, FOR THE ACQUISITION OF CERTAIN IDENTIFIED KUBOTA BRAND MOWING EQUIPMENT FROM STEWART-MARTIN EQUIPMENT COMPANY

WHEREAS, A true and very real need exists for immediate acquisition of mowing equipment adequate to replace outdated and excessively worn equipment presently in the inventory of the City of Glenpool Streets and Parks Department; and

WHEREAS, The City has received proposals from Stewart/Martin Equipment from P&K Equipment, both of which are dealers listed with the State Department of Commerce and are on the State List that allows municipalities to purchase this type of equipment at fixed, pre-negotiated prices ,for substantially equivalent equipment; and

WHEREAS, The City has determined that its best value purchase would be that proposed by Stewart/Martin Equipment for the purchase of two (2) ZD326-P 60" Diesel Powered Zero-Turn Mowers; two (2) ZD331-P 72" Diesel Powered Zero-Turn Mowers; and one (1) B2320 Compact Diesel Powered Tractor with 60" Mowing Deck, all manufactured by Kubota, for a price of \$63,370.32 (the "Equipment"); and

WHEREAS, The City has received proposals from Oklahoma State Bank and Government Capital Corporation for financing arrangements in the form of lease-purchase agreements stating different payment options and interest rates; and

WHEREAS, The City has determined that the financing option most advantageous to the City is that proposed by Oklahoma State Bank for a lease term of 30 months at a 2.43% interest rate, and a \$200 documentation fee; and

WHEREAS, The City of Glenpool desires to finance the Equipment by entering into an Equipment Lease-Purchase Agreement with Oklahoma State Bank as Lessor and City of Glenpool as Lessee (the "Agreement") according to the terms set forth in the Quote from Oklahoma State Bank dated June 27, 2014, as presented to the City Council on July 21, 2014; and

WHEREAS, The Equipment will be used by the City of Glenpool for the purpose of enabling the City of Glenpool Streets and Parks Department to perform its lawful and necessary functions; and

WHEREAS, The City Council for the City of Glenpool has taken all necessary and appropriate steps under applicable law to arrange for the acquisition of such Equipment, including any applicable legal bidding requirements.

BE IT THEREFORE RESOLVED by the City Council for the City of Glenpool, Oklahoma, THAT:

§ 1. The terms of said Agreement are in the best interests of the City of Glenpool for the acquisition of the Equipment.

§ 2. The City Council shall and hereby does approve the purchase of the Equipment at a cost not to exceed \$63,570.32, inclusive of the documentation fee, in accordance with all other terms and conditions of the Agreement.

§ 3. The City Council shall and hereby does direct its legal counsel to review the Agreement and make such modifications to said Agreement only as necessary to assure compliance with State of Oklahoma Constitutional and statutory law and local ordinances, prior to execution of the Agreement in substantially the form attached hereto and incorporated herein by reference.

§ 4. The City Council shall and hereby does designate and authorize City Manager Roger Kolman to execute and deliver, and City Clerk Susan White to attest, respectively, the Agreement and any related documents necessary to the consummation of the transactions contemplated by the Agreement.

§ 5. The City shall and hereby does covenant that it will perform or cause to be performed all acts within its power which are or may be necessary to ensure that the interest portion of the rental payments coming due under the Agreement will at all times remain exempt from federal income taxation under the laws and regulations of the United States of America as presently enacted and construed or as hereafter amended.

§ 6. The City shall and hereby does certify that it has not issued or effected the issuance of, and reasonably anticipates that it and its subordinate entities shall not issue or effect the issuance of, more than ten million dollars (\$10,000,000.00) of tax-exempt obligations during the 2014 calendar year and hereby designates the Agreement as a "qualified tax-exempt obligation," as defined by Section 265 (b)(3) of the Internal Revenue Code of 1986, as amended.

§ 7. That all ordinances or resolutions, or parts of ordinances or resolutions, in apparent or actual conflict with this Resolution shall be and hereby are repealed or invalidated, respectively, and rendered of no effect from the date of adoption of this Resolution.

PASSED AND APPROVED by the City Council of the City of Glenpool this 21st day of July 2014.

Momodou Ceesay, Mayor

ATTEST:

[MUNICIPAL SEAL]

Susan White, City Clerk

APPROVED AS TO FORM:

Lowell Peterson, City Attorney

EQUIPMENT LEASE-PURCHASE AGREEMENT

By and between

**Oklahoma State Bank
as Lessor**

and

**City of Glenpool
as Lessee**

Dated as of July 21, 2014

EQUIPMENT LEASE-PURCHASE AGREEMENT

This EQUIPMENT LEASE-PURCHASE AGREEMENT (the "Agreement"), dated as of July 21, 2014 and entered into between Oklahoma State Bank, 120 W Canadian Ave., PO Box 278, Vinita, OK, 74301 ("Lessor") and City of Glenpool, P.O. Box 70, Glenpool, OK, 74033 ("Lessee"), a political subdivision duly organized and existing under the laws of the State of Oklahoma ("State").

WITNESSETH:

WHEREAS, Lessor desires to lease the Equipment, as hereinafter described in Exhibit "A", to Lessee, and Lessee desires to lease the Equipment from Lessor, subject to the terms and conditions of and for the purposes set forth in this Agreement; and

WHEREAS, Lessee is authorized under the Constitution and laws of the State of Oklahoma to enter into this Agreement for the purposes set forth herein:

NOW, THEREFORE, in considerations of the premises and the mutual covenants and agreements herein set forth, Lessor and Lessee do hereby covenant and agree as follows:

ARTICLE I. Section 1.01. Definitions. The following terms will have the meanings indicated below unless the context clearly requires otherwise.

"Agreement" means this Equipment Lease-Purchase Agreement and any schedule or exhibit made a part hereof by the parties hereto, together with any amendments to the Agreement made pursuant to Section 13.03 and 13.06.

"Code" means the Internal Revenue Code of 1986, as amended.

"Commencement Date" is the date when the term of this Agreement and Lessee's obligation to pay rent commences, which date shall be the date first above written.

"Equipment" means the property described in Exhibit "A", Equipment Description, and all replacements, repairs, restorations, modifications and improvements thereof or thereto made pursuant to Section 5.04 or Article VIII.

"Event of Default" means any event of default described in Section 12.01.

"Issuance Year" means the calendar year in which this Agreement was entered into by Lessee and Lessor.

"Lease Term" means the Original Term and all Renewal Terms.

"Lessee" means the entity described as such in the first paragraph of this Agreement, its successors and its assigns.

"Lessor" means the entity described as such in the first paragraph of this Agreement, its successors and its assigns.

"Original Term" means the period from the Commencement Date until the end of the budget year of Lessee in effect on the Commencement Date.

"Purchase Price" means the amount designated as such on Exhibit B hereto, together with all other amounts then due hereunder, that Lessee may, in its discretion, pay to Lessor to purchase the Equipment.

"Renewal Terms" means the renewal terms of this Agreement, each having a duration of one year and a term coextensive with Lessee's budget year.

"Rental Payments" means the basic rental payments payable by Lessee pursuant to Section 4.01.

"Rental Payment Date" means the date upon which any Rental Payment is due and payable as provided in Exhibit B.

"State" means the State of Oklahoma.

"Vendors" means the manufacturer of the Equipment as well as agents or dealers of the manufacturer from whom Lessor purchased or is purchasing the Equipment.

ARTICLE II. Section 2.01. Representations and Covenants of Lessee. Lessee represents, covenants and warrants for the benefit of Lessor as follows:

- (a) Lessee is a political subdivision of the State duly organized and existing under the Constitution and laws of the State with full power and authority to enter into this Agreement, as specified in Oklahoma Statutes, and the transactions contemplated hereby and to perform all of its obligations hereunder.
- (b) Lessee has duly authorized the execution and delivery of this Agreement by proper action by its governing body at a meeting duly called, regularly convened and attended throughout by the requisite majority of the members thereof or by other appropriate official approval, and all requirements have been met and procedures have occurred in order to ensure the validity and enforceability of this Agreement.
- (c) No event or condition that constitutes, or with the giving of notice or the lapse of time or both would constitute, an Event of Default exists at the date hereof.
- (d) Lessee has, in accordance with the requirements of law, fully budgeted and appropriated sufficient funds for the current budget year to make the Rental Payments scheduled to come due during the current budget year, and to meet its other obligations for the current budget year, and such funds have not been expended for other purposes.

- (e) Lessee will do or cause to be done all things necessary to preserve and keep in full force and effect its existence as a public body corporate and politic.
- (f) Lessee has complied with such public bidding requirements as may be applicable to this Agreement and the acquisition by Lessee of the Equipment.
- (g) During the Lease Term, the Equipment will be used by Lessee only for the purpose of performing essential governmental or proprietary functions of Lessee consistent with the permissible scope of Lessee's authority. The Equipment will have a useful life in the hands of Lessee in excess of the Original Term and all Renewal Terms.
- (h) Lessee will annually provide Lessor with current financial statements, budgets, proofs of appropriation for the ensuing budget year and other such financial information relating to the ability of Lessee to continue this Agreement as may be requested by Lessor. Should Lessor assign this Agreement, Lessee will provide updated certificates regarding the use of the Equipment and Lessee's compliance with the terms hereof.
- (i) Lessee will comply with all applicable provisions of the Code, including without limitation Sections 103 and 148 thereof, and the applicable regulations of the Treasury Department to maintain the exclusion of the interest components of Rental Payments from gross income taxation.
- (j) Lessee will use the proceeds of this Agreement as soon as practicable and with all reasonable dispatch for the purpose for which the Agreement has been entered into. No part of the proceeds of the Agreement shall be invested in any securities, obligations or other investments or used, at any time, directly or indirectly, in a manner which, if such use had been reasonably anticipated on the date of issuance of the Agreement, would have caused any portion of the Agreement to become "arbitrage bonds" within the meaning of Section 103(b)(2) or Section 148 of the Code and the applicable regulations of the Treasury Department.
- (k) Lessee represents and warrants that it is a governmental unit under the laws of the State with general taxing powers; the Agreement is not a private activity bond as defined in Section 141 of the Code; 95% or more of the net proceeds of the Agreement will be used for local governmental activities of Lessee; and the aggregate face amount of all tax-exempt obligations (other than private activity bonds) issued or to be issued by Lessee and all subordinate entities thereof during the Issuance Year is not reasonably expected to exceed \$10,000,000. Lessee and all subordinate entities thereof will not issue in excess of \$10,000,000 of tax-exempt bonds (including the Agreement but excluding private activity bonds) during the Issuance Year without first obtaining an opinion of nationally-recognized counsel in the area of tax-exempt municipal obligations acceptable to Lessor that the excludability of the interest components of Rental Payments on the agreement from gross income for federal tax purposes will not be adversely affected.

Section 2.02. Certification as to Arbitrage. Lessee hereby represents as follows:

- (a) The Equipment has been ordered or is expected to be ordered within six months of the Commencement Date, and the Equipment is expected to be delivered and installed, and the Vendor fully paid, within one year of the Commencement Date.
- (b) Lessee has not created or established, and does not expect to create or establish, any sinking fund or other similar fund (i) that is reasonably expected to be used to pay the Rental Payments, or (ii) that may be used solely to prevent a default in the payment of the Rental Payments.
- (c) The Equipment has not been and is not expected to be sold or otherwise disposed of by Lessee, either in whole or in major part, prior to the last maturity of the Rental Payments.
- (d) Lessee has not been notified of any listing or proposed listing of it by the Internal Revenue Service as an issuer whose arbitrage certificates may not be relied upon.

ARTICLE III. Section 3.01. Lease of Equipment. Lessor hereby demises, leases and lets to Lessee, and Lessee rents, leases and hires from Lessor, the Equipment in accordance with this Agreement for the Lease Term. This Agreement shall be in effect and shall commence as of the Commencement Date. The Lease Term may be continued, solely at the option of Lessee, at the end of the Original Term or any Renewal Term for an additional Renewal Term up to the maximum Lease Term set forth in Exhibit B hereto. At the end of the Original Term and at the end of each Renewal Term until the maximum Lease Term has been completed, Lessee shall be deemed to have exercised its option to continue this Agreement for the next Renewal Term if Lessee budgets and appropriates or otherwise makes legally available funds to pay Rental Payments for such Renewal Term, unless Lessee shall have terminated this Agreement pursuant to Section 10.01. The terms and conditions during any Renewal Term shall be the same as the terms and conditions during the Original Term, except that the Rental Payments shall be as provided on Exhibit B hereto.

Section 3.02. Continuation of Lease Term. It is the intent of Lessee to continue the Lease Term through the Original Term and all Renewal Terms and to pay the Rental Payments hereunder. Lessee reasonably believes that

legally available funds in an amount sufficient to make all Rental Payments during the entire Lease Term can be obtained. Lessee and lessor acknowledge that appropriation for Rental Payments is a governmental function which Lessee cannot contractually commit itself in advance to perform and this Agreement does not constitute such a commitment. However, Lessee reasonably believes that moneys in an amount sufficient to make all Rental Payments can and will lawfully be appropriated and made available to permit Lessee's continued utilization of the Equipment in the performance of its essential functions during the Lease Term. Lessee will use funds appropriated for this Agreement for no other purpose than to pay the Rental Payments and other amounts due hereunder. **Section 3.03. Nonappropriation.** Lessee is obligated only to pay such Rental Payments under this Agreement as may lawfully be made from funds budgeted and appropriated for that purpose during Lessee's then current budget year. Should Lessee fail to budget, appropriate or otherwise make available funds to pay Rental Payments following the then current Original Term or Renewal Term, this Agreement shall be deemed terminated at the end of the then current Original Term or Renewal Term. Lessee agrees to deliver notice to Lessor of such termination at least 90 days prior to the end of the then current Original Term or Renewal Term, but failure to give such notice shall not extend the term beyond such Original Term or Renewal Term. If this Agreement is terminated in accordance with this Section, Lessee agrees to peaceably deliver the Equipment, at Lessee's sole expense, to Lessor at the location(s) to be specified by Lessor.

ARTICLE IV. Section 4.01. Rental Payments. Lessee shall promptly pay Rental Payments to Lessor, exclusively from legally available funds, in lawful money of the United States of America, without notice or demand, in such amounts and on or before the applicable Rental Payment Dates set forth on Exhibit B hereto, at the address set forth on the first page hereof or such other address as Lessor or its assigns may from time to time request in writing. Lessee shall pay Lessor interest on any Rental Payment not paid on the date such payment is due at the rate of 12% per annum or the maximum amount permitted by law, whichever is less, from such date. Any Rental Payment not paid within 30 days of the due date thereof shall be subject to a late payment charge equal to two percent (2%) of the amount of the past due Rental Payment, but in no event less than Ten Dollars (\$10.00). A portion of each Rental Payment is paid as and represents payment of, interest, as set forth on Exhibit B hereto.

Section 4.02. Rental Payments to Constitute a Current Expense of Lessee. Lessor and Lessee understand and intend that the obligation of Lessee to pay Rental Payments hereunder shall constitute a current expense of Lessee and shall not in any way be construed to be a debt of Lessee in contravention of any applicable constitutional or statutory limitation or requirement governing the creation of indebtedness by Lessee, nor shall anything contained herein constitute a pledge of the general tax revenues, funds or monies of Lessee.

Section 4.03. RENTAL PAYMENTS TO BE UNCONDITIONAL. EXCEPT AS PROVIDED IN SECTION 3.03, THE OBLIGATIONS OF LESSEE TO MAKE RENTAL PAYMENTS AND TO PERFORM AND OBSERVE THE OTHER COVENANTS AND AGREEMENTS CONTAINED HEREIN SHALL BE ABSOLUTE AND UNCONDITIONAL IN ALL EVENTS WITHOUT ABATEMENT, DIMINUTION, DEDUCTION, SET-OFF OR DEFENSE, FOR ANY REASON, INCLUDING WITHOUT LIMITATION ANY FAILURE OF THE EQUIPMENT TO BE DELIVERED OR INSTALLED, ANY DEFECTS, MALFUNCTIONS, BREAKDOWNS OR INFIRMITIES IN THE EQUIPMENT OR ANY ACCIDENT, CONDEMNATION OR UNFORESEEN CIRCUMSTANCES.

ARTICLE V. Section 5.01. Delivery, Installation and Acceptance of the Equipment. Lessee shall order the Equipment and cause the Equipment to be delivered and installed at the location specified on Exhibit A. When the Equipment has been delivered and installed, Lessee shall immediately accept the Equipment and evidence said acceptance by executing and delivering to Lessor an acceptance certificate acceptable to Lessor.

Section 5.02. Enjoyment of Equipment. Lessor shall provide Lessee with quiet use and enjoyment of the Equipment during the Lease Term, and Lessee shall peaceably and quietly have, hold and enjoy the Equipment during the Lease Term, without suit, trouble or hindrance from Lessor, except as otherwise expressly set forth in this Agreement.

Section 5.03. Location; Inspection. Lessor shall have the right at all reasonable times during regular business hours to enter into and upon the property of Lessee for the purpose of inspecting the Equipment.

Section 5.04. Use and Maintenance of the Equipment. Lessee will not install, use, operate or maintain the Equipment improperly, carelessly, in violation of any applicable law or in a manner contrary to that contemplated by this Agreement. Lessee shall provide all permits and licenses, if any, necessary for the installation and operation of the Equipment. In addition, Lessee agrees to comply in all respects with all applicable laws, regulations and rulings of any legislative, executive, administrative or judicial body; provided that Lessee may contest in good faith the validity or application of any such law, regulation or ruling in any reasonable manner that does not, in the opinion of

Lessor, adversely affect the interest of Lessor in and to the Equipment or its interest or rights under this Agreement. Lessee agrees that it will, at Lessee's own cost and expense, maintain, preserve and keep the Equipment in good repair and working order. Lessor shall have no responsibility to maintain, repair or make improvements or additions to the Equipment. Upon the request of Lessor, Lessee will enter into a maintenance contract for the Equipment with one or more Vendors.

ARTICLE VI. Section 6.01. Title to the Equipment. Upon acceptance of the Equipment by Lessee, title to the Equipment shall vest in Lessee subject to Lessor's rights under this Agreement. title shall thereafter immediately and without any action by Lessee vest in Lessor, and Lessee shall immediately surrender possession of the Equipment to Lessor upon (a) any termination of this Agreement other than termination pursuant to Section 10.01 or (b) the occurrence of an Event of Default. It is the intent of the parties hereto that any transfer of title to Lessor pursuant to this Section shall occur automatically without the necessity of any bill of sale, certificate of title or other instrument of conveyance. Lessee shall, nevertheless, execute and deliver any such instruments as Lessor may request to evidence such transfer. Upon termination of this Lease in accordance with Articles 3 and 12 hereof, at the election of Lessor and upon Lessor's written notice to Lessee, full and unencumbered legal title and ownership of the Equipment shall pass to Lessor, Lessee shall have no further interest therein, and Lessee shall execute and deliver to Lessor such documents as Lessor may request to evidence the passage of legal title and ownership to Lessor and termination of Lessee's interest in the Equipment.

Section 6.02. Security Interest. To secure the payment of all of Lessee's obligations under this Agreement, Lessee hereby grants to Lessor a security interest constituting a first lien on the Equipment and on all additions, attachments and accessions thereto, substitutions therefor and proceeds therefrom. Lessee agrees to execute such additional documents, in form satisfactory to Lessor, which Lessor deems necessary or in form satisfactory to Lessor, which Lessor deems necessary or appropriate to establish and maintain its security interest and the security interest of any assignee of Lessor in the Equipment.

Section 6.03. Personal Property. The Equipment is and will remain personal property. The Equipment will not be deemed to be affixed to or a part of the real estate on which may be situated, notwithstanding that the Equipment or any part thereof may be or hereafter become in any manner physically affixed or attached to such real estate or any building thereon. Upon the request of Lessor, Lessee will, at Lessee's expense, furnish a waiver of any interest in the Equipment from any party having an interest in any such real estate or building.

ARTICLE VII. Section 7.01. Liens, Taxes, Other Governmental Charges and Utility Charges. Lessee shall keep the Equipment free of all levies, liens and encumbrances except those created by this Agreement. The parties to this Agreement contemplate that the Equipment will be used for a governmental or proprietary purpose of Lessee and that the Equipment will therefore be exempt from all property taxes. If the use, possession or acquisition of the Equipment by Lessee is nevertheless determined to be subject to taxation, Lessee shall pay when due all taxes and governmental charges lawfully assessed or levied against or with respect to the Equipment. Lessee shall pay such taxes or charges as the same may become due.

Section 7.02. Insurance. At its own expense, Lessee shall cause casualty, public liability and property damage insurance to be carried and maintained in the amounts and for the coverage set forth in Exhibit G. All insurance proceeds from casualty losses shall be payable as hereinafter provided in this Agreement. Lessee shall furnish to Lessor certificates evidencing such coverage throughout the Lease Term. Alternatively, Lessee may insure the Equipment under a blanket insurance policy or policies which cover not only the Equipment but other properties. All such insurance shall be with insurers that are acceptable to Lessor, shall name Lessee and Lessor as insureds and shall contain a provision to the effect that such insurance shall not be cancelled or modified materially without first giving written notice thereof to Lessor at least 10 days in advance of such cancellation or modification. All such casualty insurance shall contain a provision making any losses payable to Lessee and Lessor as their respective interests may appear. With written consent of Lessor, Lessee may satisfy the insurance requirements of this Section 7.02 by self-insurance.

Section 7.03. Advances. In the event Lessee shall fail to either maintain the insurance required by this Agreement or keep the Equipment in good repair and working order, Lessor may, but shall be under no obligation to, purchase the required insurance and pay the cost of the premiums thereof and maintain and repair the Equipment and pay the cost thereof. All amounts so advanced by Lessor shall constitute additional rent for the then current Original Term or Renewal Term and Lessee covenants and agrees to pay such amounts so advanced by Lessor with interest thereon from the due date until paid at the rate of 12% per annum or the maximum amount permitted by law, whichever is less.

ARTICLE VIII. Section 8.01. Damage, Destruction and Condemnation. If (a) the equipment or any portion thereof is destroyed, in whole or in part, or is damaged by fire or other casualty or (b) title to, or the temporary use of, the Equipment or any part thereof shall be taken under the exercise or threat of the power of eminent domain by any governmental body or by any person, firm or corporation acting pursuant to governmental authority, Lessee and Lessor will cause the Net Proceeds of any insurance claim, condemnation award or sale under threat of condemnation to be applied to the prompt replacement, repair, restoration, modification or improvement of the Equipment, unless Lessee shall have exercised its option to purchase the Equipment pursuant to Section 10.01. Any balance of the Net Proceeds remaining after such work has been completed shall be paid to Lessee. For purposes of this Article, the term "Net Proceeds" shall mean the amount remaining from the gross proceeds of any insurance claim, condemnation award or sale under threat of condemnation after deducting all expenses, including attorneys' fees, incurred in the collection thereof.

Section 8.02. Insufficiency of Net Proceeds. If the Net Proceeds are insufficient to pay in full the cost of any repair, restoration, modification or improvement referred to in Section 8.01, Lessee shall either (a) complete such replacement, repair, restoration, modification or improvement and pay any costs thereof in excess of the amount of the Net Proceeds, or (b) purchase Lessor's interest in the Equipment pursuant to Section 10.01. The amount of the Net Proceeds, if any, remaining after completing such repair, restoration, modification or improvement or after purchasing Lessor's interest in the Equipment shall be retained by Lessee. If Lessee shall make any payments pursuant to this Section, Lessee shall not be entitled to any reimbursement therefor from Lessor nor shall Lessee be entitled to any diminution of the amounts payable under Article IV.

ARTICLE IX. Section 9.01. DISCLAIMER OF WARRANTIES. Lessee acknowledges and agrees that the Equipment is of a size, design and capacity selected by Lessee and that Lessor is neither a manufacturer nor a vendor of such Equipment. LESSOR MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, AS TO THE VALUE, DESIGN, CONDITION, MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR USE OF THE EQUIPMENT OR ANY MANUFACTURER'S OR VENDOR'S WARRANTY WITH RESPECT THERETO. IN NO EVENT SHALL LESSOR BE LIABLE FOR ANY INCIDENTAL INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGE IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT OR THE EXISTENCE, FURNISHING, FUNCTIONING OR LESSEE'S USE OF ANY ITEM, PRODUCT OR SERVICE PROVIDED FOR IN THIS AGREEMENT.

Section 9.02. Vendors' Warranties. Lessor hereby irrevocably appoints Lessee its agent and attorney-in-fact during the Lease Term, so long as Lessee shall not be in default hereunder, to assert from time to time whatever claims and rights (including without limitation warranties) related to the Equipment that Lessor may have against the Vendors. Lessee's representation shall be against the Vendors of the Equipment and not against Lessor. Any such matter shall not have any effect whatsoever on the rights and obligations of Lessor with respect to this Agreement, including the right to receive full and timely payments hereunder. Lessee expressly acknowledges that Lessor makes, and has made, no representations or warranties whatsoever as to the existence or the availability of such warranties by the Vendors of the Equipment.

ARTICLE X. Section 10.01. Purchase Option. Lessee shall have the option to purchase Lessor's interest in the Equipment, upon giving written notice to Lessor at least 60 days before the date of purchase except the final Rental Payment Date, at the following times and upon the following terms.

- (a) On the Rental Payment Dates specified in Exhibit B, upon payment in full of the Rental Payments then due hereunder plus the then applicable Purchase Price to Lessor; or
- (b) In the event of substantial damage to or destruction or condemnation of substantially all of the Equipment, on the day Lessee specifies as the purchase date in Lessee's notice to Lessor of its exercise of the purchase option pursuant to Article VIII, upon payment in full of the Rental Payments then due hereunder plus the then applicable Purchase Price to Lessor.

ARTICLE XI. Section 11.01. Assignment by Lessor. Lessor's right, title and interest in, to and under this Agreement and the Equipment may be assigned and reassigned only in whole but not in part without the necessity of obtaining the consent of Lessee. Any assignment shall not be effective until Lessee has received written notice, signed by the assignor, of the name and address of the assignee. Lessee shall retain all such notices as a register of all assignees and shall make all payments to the assignee currently designated in such register. Lessee agrees to execute all documents, including notices of assignment and chattel mortgages or financing statements that may be reasonably requested by Lessor or any assignee to protect its interests in the Equipment and in this Agreement.

Lessee shall not have the right to and shall not assert against any assignee or any claim, counterclaim or other right Lessee may have against Lessor.

Section 11.02. Assignment and Subleasing by Lessee. None of Lessee's right, title and interest in, to and under this Agreement and in the Equipment may be assigned or encumbered by Lessee for any reason, except that Lessee may sublease all or part of the Equipment if Lessee obtains the prior written consent of Lessor and an opinion of nationally recognized counsel in the area of tax-exempt municipal obligations satisfactory to Lessor that such subleasing will not adversely affect the exclusion of the interest components of the Rental Payments from gross income for federal income tax purposes. Any such sublease of all or part of the Equipment shall be subject to this Agreement and the rights of Lessor in, to and under this Agreement and the Equipment.

ARTICLE XII. Section 12.01. Events of Default Defined. Subject to the provisions of Section 3.03, any of the following events shall constitute an "Event of Default" under this Agreement:

- (a) Failure by Lessee to pay any Rental Payment or other payment required to be paid hereunder at the time specified herein;
- (b) Failure by Lessee to maintain required insurance coverage or to observe and perform any other covenant, condition or agreement on its part to be observed or performed, other than as referred to in subparagraph (a) above, for a period of 30 days after written notice specifying such failure and requesting that it be remedied is given to Lessee by Lessor, unless Lessor shall agree in writing to an extension of such time prior to its expiration; if the failure stated in the notice cannot be corrected within the applicable period, Lessor will not unreasonably withhold its consent to an extension of such time if corrective action is instituted by Lessee within the applicable period and diligently pursued until the default is corrected;
- (c) Any statements, representations or warranty made by Lessee in or pursuant to this Agreement or its execution, delivery or performance shall prove to have been false, incorrect, misleading or breached in any material respect on the date when made;
- (d) Any provision of this Agreement shall be at any time for any reason cease to be valid and binding on Lessee, or shall be declared to be null and void, or the validity or enforceability thereof shall be contested by Lessee or any governmental agency or authority if the loss of such provision would materially adversely affect the rights or security of Lessor, or Lessee shall deny that it has any further liability or obligation under this Agreement;
- (e) Lessee shall (i) apply for or consent to the appointment of a receiver, trustee, custodian or liquidator of Lessee, or of all or a substantial part of the assets of Lessee, (ii) be unable, fail or admit in writing its inability generally to pay its debts as they become due, (iii) make a general assignment for the benefit of creditors, (iv) have an order for relief entered against it under applicable federal bankruptcy law, or (v) file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or taking advantage of any insolvency law or any answer admitting the material allegations of a petition filed against Lessee in any bankruptcy, reorganization or insolvency proceeding; or
- (f) An order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition or appointing a receiver, trustee, custodian or liquidator of Lessee or of all or a substantial part of the assets of Lessee, in each case without its application, approval or consent, and such order, judgment or decree shall continue unstayed and in effect for any period of 30 consecutive days.

Section 12.02. Remedies on Default. Whenever any Event of Default exists, Lessor shall have the right, at its sole option without any further demand or notice, to take one or any combination of the following remedial steps:

- (a) With or without terminating this Agreement, may declare all Rental Payments due or to become due during the Original or Renewal Term in effect when the default occurs to be immediately due and payable by Lessee, whereupon such Rental Payments shall be immediately due and payable; and
- (b) With or without termination of this Agreement, Lessor may enter the premises where the Equipment is located and disable the Equipment to prevent further use thereof by Lessee. In addition or alternatively, Lessor may take possession of any of all of the Equipment by giving written notice to deliver the Equipment in the manner provided in Section 12.03; in the event Lessee fails to do so within ten (10) days after receipt of such notice, Lessor may enter upon Lessee's premises where the Equipment is kept and take possession of the Equipment and charge Lessee for costs incurred in repossessing the Equipment, including reasonable attorneys' fees. Lessee hereby expressly waives any damages occasioned by such repossession. Notwithstanding the fact that Lessor has taken possession of the Equipment, Lessee shall continue to be responsible for the Rental Payments due with respect thereto during the Fiscal Year then in effect.
- (c) If Lessor terminates this Agreement and, in its discretion, takes possession and disposes of the Equipment or any portion thereof, Lessor shall apply the proceeds of any such disposition to pay the following items in the following order: (i) all costs (including, but not limited to, attorney's fees) incurred in securing possession of the Equipment; (ii) all expenses incurred in completing the disposition; (iii) any sales or transfer taxes; (iv) the balance

of any Rental Payments owed by Lessee during the Original or Renewal Term then in effect; any disposition proceeds remaining after the requirements of the clauses (i), (ii), (iii), (iv), and (v) have been met shall be paid to Lessee; (v) the applicable Purchase Price of the Equipment and

(d) Lessor may take whatever action at law or in equity may appear necessary or desirable to enforce its rights as the owner of the Equipment, and Lessee shall pay the reasonable attorney's fees and expenses incurred by Lessor in enforcing any remedy hereunder.

Section 12.03. Return of Equipment; Release of Lessee's Interest. Upon termination of this Agreement hereunder prior to the payment of all Rental Payments or the applicable Purchase Price in accordance with Exhibit B: (i) Lessor may enter upon Lessee's premises where the Equipment is kept and disable the Equipment to prevent its further use by Lessee and (ii) Lessee shall promptly, but in any event within ten (10) days after such termination, at its own cost and expense: (a) perform any testing and repairs required to place the Equipment in the condition required by Section 5.04; (b) if deinstallation, disassembly or crating is required, cause the Equipment to be deinstalled, disassembled and crated by an authorized manufacturer's representative or such other service person as is satisfactory to Lessor; and (c) deliver the Equipment to a location specified by Lessor, freight and insurance prepaid by Lessee. If Lessee refuses to deliver the Equipment in the manner designated, Lessor may repossess the Equipment and charge to Lessee the costs of such repossession.

Section 12.04. No Remedy Exclusive. No remedy herein conferred upon or reserved to Lessor is intended to be exclusive and every such remedy shall be cumulative and shall be in addition to every other remedy given under this Agreement now or hereafter existing at law or in equity. No delay or omission to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver thereof, but any such right or power may be exercised from time to time and as often as may be deemed expedient. In order to entitle Lessor to exercise any remedy reserved to it in this Agreement it shall not be necessary to give any notice other than such notice as may be required in this Agreement.

Section 12.05. Force Majeure. If by any reason of **Force Majeure** Lessee is unable in whole or in part to carry out its agreement on its part herein contained, other than the obligations on the part of Lessee contained in Article IV and Section 7.02 hereof, Lessee shall not be deemed in default during the continuance of such inability. The term "Force Majeure" as used herein shall mean, without limitation, the following: Acts of God, strikes, lockouts or other industrial disturbances; acts of public enemies, orders or restraints of any kind of government of the United States of America or the State or any of their departments, agencies or officials, or any civil or military authority; insurrections; riots; landslides; earthquakes; fires; storms; droughts; floods; or explosions.

ARTICLE XIII. Section 13.01. Notices. All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed given when delivered or mailed by registered mail, postage prepaid, to the parties hereto at the addresses immediately after the signatures to this Agreement (or at such other address as either party hereto shall designate in writing to the other for notices to such party) and to any assignee at its address as it appears on the registration books maintained by Lessee.

Section 13.02. Release and Indemnification. To the extent permitted by law, Lessee shall indemnify, protect, hold harmless, save and keep harmless Lessor from and against any and all liability, obligation, loss claim, tax and damage whatsoever, regardless of cause thereof, and all expenses in connection therewith (including without limitation counsel fees and expenses and any federal income tax and interest and penalties connected therewith imposed on interest received) arising out of or as the result of (a) the entering into of this Agreement, (b) the ownership of any item of Equipment, (c) the ordering, acquisition, use, operation, condition, purchase, delivery, rejection, storage, or return of any item of the Equipment, (d) or any accident in connection with the operation, use, condition, possession, storage or return of any item of the Equipment resulting in damage to property or injury to or death to any person, and/or (e) the breach of any covenant herein or any material misrepresentation contained herein. The indemnification arising under this paragraph shall continue in full force and effect notwithstanding the full payment of all obligations under this Agreement or the termination of the Lease Term for any reason.

Section 13.03. Entire Agreement. This Agreement constitutes the entire agreement between Lessor and Lessee. There are no understandings, agreements, representations or warranties, express or implied, not specified herein regarding this Agreement or the Equipment leased hereunder. Any terms and conditions of any purchase order or other document submitted by Lessee in connection with this Agreement which are in addition to or inconsistent with the terms and conditions of this Agreement will not be binding on Lessor and will not apply to this Agreement. Lessee by the signature below of its authorized representative acknowledges that it has read this Agreement, understands it, and agrees to be bound by its terms and conditions. No waiver, consent, amendment, modification or change of terms of this Agreement shall bind either party unless in writing, signed by both parties, and then such

waiver, consent, amendment, modification or change shall be effective only in the specific instance and for the specific purpose given.

Section 13.04. Binding Effect. This Agreement shall inure to the benefit of and shall be binding upon Lessor and Lessee and their respective successors and assigns.

Section 13.05. Severability. In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

Section 13.06. Amendments, Changes and Modifications. This Agreement may be amended by Lessor and Lessee.

Section 13.07. Execution in Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 13.08. Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State.

Section 13.09. Captions. The captions or headings in this Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Agreement.

IN WITNESS WHEREOF, Lessor has executed this Agreement in its corporate name with its corporate seal hereunto affixed and attested by its duly authorized officers, and Lessee has caused this Agreement to be executed in its corporate name and attested by its duly authorized officers as of the date written above.

LESSOR

LESSEE

Oklahoma State Bank

City of Glenpool

By: _____

By: _____

Print Name: Charlie Enyart

Print Name: Roger Kolman

Title: Loan Officer

Title: City Manager

(SEAL)

(SEAL)

ATTEST:

ATTEST:

By: _____

By: _____

Print Name: Sandy Layton

Print Name: Susan White

Title: _____

Title: City Clerk

EXHIBIT A TO EQUIPMENT LEASE-PURCHASE AGREEMENT

Dated July 21, 2014 Between Oklahoma State Bank as Lessor and City of Glenpool as Lessee.

DESCRIPTION OF EQUIPMENT

The following Equipment description is the subject of the attached Equipment Lease-Purchase Agreement.

<u>Qty.</u>	<u>Description</u>
1	B 2320 Kubota DT/ 45 D tractor 4 wheel drive
2	ZD 326-P Kubota Zero Turn Mower 60 inch Deck
2	ZD 331- P Kubota Zero Turn mower diesel driven 72 in. deck

Together with all accessions, additions and attachments thereto.

The Equipment is located at: Street Parks and Rec.

Lessee hereby certifies that the description of the Equipment set forth above constitutes an accurate description of the "Equipment", as defined in the attached Equipment Lease-Purchase Agreement.

STATEMENT OF ESSENTIAL USE

Please state below, or on the letterhead stationary of City of Glenpool, a brief statement about why the equipment listed in Exhibit "A" has been acquired. This statement should address the following questions:

1. What is the essential function(s) to be performed by the equipment? How long do you expect it will be used?
2. Does it replace equipment that performed this (these) same function(s)? If so, how many years was the previous equipment in use?
3. Was this equipment chosen through competitive bidding, or by another method?
4. Which internal fund will be used to make the lease payments?

In answer to the above, the following is submitted:

[TO BE COMPLETED UPON EXECUTION OF AGREEMENT]

City of Glenpool

By: _____
Roger Kolman

Title: City Manager

EXHIBIT B TO EQUIPMENT LEASE-PURCHASE AGREEMENT
Dated July 21, 2014 Between Oklahoma State Bank as Lessor and City of Glenpool as Lessee.
RENTAL PAYMENT SCHEDULE

AMORTIZATION SCHEDULE

Interest Rate: 2.4393%

Total Equipment Cost = \$63,370.32 + \$200.00 Doc Fee= \$63,570.32

	Date	Payment	Interest	Principal	Balance
Loan	07/15/2014				63,570.32
1	08/15/2014	2,186.17	128.73	2,057.44	61,512.88
2	09/15/2014	2,186.17	124.56	2,061.61	59,451.27
3	10/15/2014	2,186.17	120.39	2,065.78	57,385.49
4	11/15/2014	2,186.17	116.21	2,069.96	55,315.53
5	12/15/2014	2,186.17	112.01	2,074.16	53,241.37
2014 Totals		10,930.85	601.90	10,328.95	
6	01/15/2015	2,186.17	107.81	2,078.36	51,163.01
7	02/15/2015	2,186.17	103.61	2,082.56	49,080.45
8	03/15/2015	2,186.17	99.39	2,086.78	46,993.67
9	04/15/2015	2,186.17	95.16	2,091.01	44,902.66
10	05/15/2015	2,186.17	90.93	2,095.24	42,807.42
11	06/15/2015	2,186.17	86.69	2,099.48	40,707.94
12	07/15/2015	2,186.17	82.43	2,103.74	38,604.20
13	08/15/2015	2,186.17	78.17	2,108.00	36,496.20
14	09/15/2015	2,186.17	73.90	2,112.27	34,383.93
15	10/15/2015	2,186.17	69.63	2,116.54	32,267.39
16	11/15/2015	2,186.17	65.34	2,120.83	30,146.56
17	12/15/2015	2,186.17	61.05	2,125.12	28,021.44
2015 Totals		26,234.04	1,014.11	25,219.93	
18	01/15/2016	2,186.17	56.74	2,129.43	25,892.01
19	02/15/2016	2,186.17	52.43	2,133.74	23,758.27
20	03/15/2016	2,186.17	48.11	2,138.06	21,620.21
21	04/15/2016	2,186.17	43.78	2,142.39	19,477.82
22	05/15/2016	2,186.17	39.44	2,146.73	17,331.09
23	06/15/2016	2,186.17	35.10	2,151.07	15,180.02
24	07/15/2016	2,186.17	30.74	2,155.43	13,024.59
25	08/15/2016	2,186.17	26.37	2,159.80	10,864.79
26	09/15/2016	2,186.17	22.00	2,164.17	8,700.62
27	10/15/2016	2,186.17	17.62	2,168.55	6,532.07
28	11/15/2016	2,186.17	13.23	2,172.94	4,359.13
29	12/15/2016	2,186.17	8.83	2,177.34	2,181.79
2016 Totals		26,234.04	394.39	25,839.65	
30	01/15/2017	2,186.17	4.38	2,181.79	0.00
2017 Totals		2,186.17	4.38	2,181.79	

Grand Totals	65,585.10	2,014.78	63,570.32
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City of Glenpool

By: _____
Roger Kolman

Title: **City Manager**

EXHIBIT C TO EQUIPMENT LEASE-PURCHASE AGREEMENT
ACCEPTANCE CERTIFICATE

[TO BE COMPLETED WHEN EQUIPMENT IS RECEIVED]

Oklahoma State Bank
120 W Canadian Ave., PO Box 278
Vinita , OK 74301

Re: Equipment Lease-Purchase Agreement, dated February 9, 2012 (the "Agreement") between Oklahoma State Bank ("Lessor") and City of Glenpool ("Lessee")

Ladies and Gentlemen:

In accordance with the Agreement, the undersigned Lessee hereby certifies and represents to, and agrees with, Lessor as follows:

- (1) All of the Equipment (as defined in the Agreement) has been delivered, installed and accepted on the date hereof.
- (2) Lessee has conducted such inspection and/or testing of the Equipment as it deems necessary and appropriate and hereby acknowledges that it accepts the Equipment for all purposes.
- (3) Lessee is currently maintaining the required insurance coverage.
- (4) No event or condition that constitutes, or with notice or lapse of time, or both, would constitute as Event of Default (as defined in the Agreement) exists at the date hereof.

Acceptance Date: _____

Equipment Description:	1	B 2320 Kubota DT/ 45 D tractor 4 wheel drive
	2	ZD 326-P Kubota Zero Turn Mower 60 inch Deck
	2	ZD 331- P Kubota Zero Turn mower diesel driven 72 in. deck

City of Glenpool

By: _____

Title: _____

EXAMPLE

EXHIBIT D TO EQUIPMENT LEASE-PURCHASE AGREEMENT

OPINION OF COUNSEL

(On Counsel's Letterhead)

[SEE ATTACHED]

Oklahoma State Bank
120 W Canadian Ave., PO Box 278
Vinita, OK 74301

As counsel for the City of Glenpool ("Lessee"), I have examined duly executed originals of the Equipment Lease-Purchase Agreement (the "Agreement") dated July 21, 2014, by and between Lessee and Oklahoma State Bank ("Lessor"), the proceedings taken by Lessee to authorize and execute the Agreement together with other related documents, and the Constitution of the State of Oklahoma the ("State") as presently enacted and construed. Based upon said examination and upon such other examination as I have deemed necessary or appropriate, it is my opinion that:

Lessee was duly organized and is validly existing under the Constitution and laws of the State as a political subdivision of the State.

The Agreement has been duly authorized, executed and delivered by Lessee, pursuant to Constitutional, statutory and/or home rule provisions which authorized this transaction and Lessee's Resolution, attached as Exhibit F to the Agreement.

The Agreement is a legal, valid and binding obligation of Lessee, enforceable in accordance with its terms. In the event Lessor obtains a judgment against Lessee in money damages, as a result of an event of default under the Agreement, Lessee will be obligated to pay such judgment.

Lessee has complied with applicable public bidding requirements.

To the best of our knowledge, no litigation is pending or threatened in any court or other tribunal, state or Federal, in any way affecting the validity of the Agreement.

The signatures of the officers of Lessee which appear on the Agreement are true and genuine; we know said officers and know them to hold the offices set forth below their names.

Lessee is a political subdivision within the meaning of Section 103 of the Internal Revenue Code and the related regulations and rulings.

The Lessee has, in its Resolution, designated the Agreement as a "qualified tax-exempt obligation" under Section 265 (b)(3) of the Internal Revenue Code of 1986, as amended.

Signature: _____

Printed Name: _____

Address: _____

Telephone: _____

Date: _____

EXHIBIT E TO EQUIPMENT LEASE-PURCHASE AGREEMENT

Dated July 21, 2014 Between Oklahoma State Bank as Lessor and City of Glenpool as Lessee.

CERTIFICATE OF CLERK OR SECRETARY OF LESSEE

I, the undersigned, do hereby certify that I am the duly elected or appointed and acting Secretary/Clerk of the City of Glenpool and I do hereby certify (i) that the officer of Lessee who executed the foregoing Agreement on behalf of Lessee and whose genuine signature appears thereon, is the duly qualified and acting officer of Lessee as stated beneath his or her signature and has been authorized to execute the foregoing Agreement on behalf of Lessee, and (ii) that the budget year of Lessee is from

July 1 to June 30

Dated: _____

By: _____

Susan White

Title: Clerk of Lessee

EXHIBIT G TO EQUIPMENT LEASE-PURCHASE AGREEMENT

Dated July 21, 2014 Between Oklahoma State Bank as Lessor and City of Glenpool as Lessee.

INSURANCE REQUIREMENTS

In accordance with the Equipment Lease-Purchase Agreement requirements for insurance coverage, the Lessee has instructed the insurance agent to issue:

- a. All Risk Physical Damage Insurance on the leased Equipment as defined in the Agreement, and in an amount at least equal to the then applicable Purchase Price of the Equipment, evidenced by a Certificate of Insurance and Long Form Loss Payable Clause naming Lessor "and/or its assigns" Loss Payee.**
- b. Public Liability Insurance evidenced by a Certificate of Insurance naming "Lessor and/or its Assigns" as an Additional Insured and with the following minimum coverage:**

Equipment Description: 1 B 2320 Kubota DT/ 45 D tractor 4 wheel drive

2 ZD 326-P Kubota Zero Turn Mower 60 inch Deck

2 ZD 331- P Kubota Zero Turn mower diesel driven 72 in. deck

\$500,000.00 per person

\$500,000.00 aggregate bodily injury liability

\$300,000.00 property damage liability

Insurance Agent (provide name, address and telephone number):

Proof of insurance coverage or a "Self-Insurance" Letter must be provided to Lessor prior to the time the Equipment is delivered.

EXHIBIT H TO EQUIPMENT LEASE-PURCHASE AGREEMENT

Dated July 21, 2014 Between Oklahoma State Bank as Lessor and City of Glenpool as Lessee.

CERTIFICATE OF BANK ELIGIBILITY

This Certificate of Bank Eligibility is entered into and executed by the City of Glenpool as Lessee, supplementing and adding to the Equipment Lease-Purchase Agreement (the "Agreement").

Lessee hereby certifies that it has not issued or effected the issuance of, and reasonably anticipates that it and its subordinate entities shall not issue or effect the issuance of, more than ten million dollars (\$10,000,000.00) of tax-exempt obligations during the 2011 calendar year and hereby designates the Agreement as a "qualified tax-exempt obligation", as defined by Section 256 (b)(3) of the Internal Revenue Code of 1986, as amended.

Lessee: City of Glenpool

By: _____
Charles Barnes

Title: City Finance Director

INVOICE INSTRUCTIONS

Please fill in below the address that invoices for the payments should be sent to:

Person/Department: _____

Name of Lessee: _____

Street/P.O. Box _____

City, State, Zip _____

Equipment Lease-Purchase Agreement between Oklahoma State Bank as Lessor and City of Glenpool as Lessee dated July 21, 2014

Equipment Description: 1 B 2320 Kubota DT/ 45 D tractor 4 wheel drive

2 ZD 326-P Kubota Zero Turn Mower 60 inch Deck

2 ZD 331- P Kubota Zero Turn mower diesel driven 72 in. deck

Purchase Order or other information that must be on the invoice:

Name and phone number of person to contact if payment is not received by due date:

Name: _____

Phone Number () _____













the most difficult mowing tasks look easy.

DIESEL ENGINE MODELS

ZD331P/LP



60"
Pro commercial
mower

72"
Pro commercial
mower

- 31HP Kubota diesel engine
- 6.5"-deep, 60"/72"-wide mower deck
- Adjustable front axle (oscillating/rigid)
- Semi-pneumatic (flat-free) front caster tires
- High-performance HST transmission
- Full-flat operator platform
- High-back deluxe suspension seat
- Adjustable speed control levers
- Hands-free hydraulic deck lift
- Hands-free parking brake
- Maintenance lift



Maintenance Lift*

Kubota's innovative two-pin, tilt-up, lift feature allows the front of the Z300 Series to be easily raised without having to remove the mid-mount mower, making routine maintenance underneath the mower quick and simple. It's like having a built-in jack right there when you need it.

*Stand type maintenance lift kit is optional on ZG327 and ZG332.



Full-Flat Operator Platform

Kubota's heavy-duty ZD326/ZD331 diesel mower makes ev

DIESEL ENGINE MODELS

ZD326P/S



60"
Pro commercial
mower

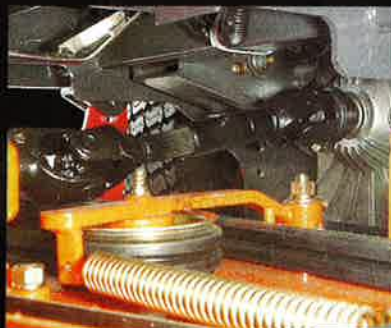


- 26HP Kubota diesel engine
- 6.5"-deep, 60"-wide mower deck
- Adjustable front axle (oscillating/rigid)
- Semi-pneumatic (flat-free) front caster tires (ZD326P)
- High-performance HST transmission
- Full-flat operator platform
- High-back deluxe suspension seat
- Adjustable speed control levers
- Hands-free hydraulic deck lift
- Hands-free parking brake
- Maintenance lift

■ Z300 Series Main Features

Mower Access

The Z300 Series features a special maintenance hatch, with a built-in storage pocket, on the full-flat operator platform. It allows easy access to the upper mower, mower belt, gearbox case and universal joint.



Shaft Drive



1/4" Increment Cutting Height Adjustment

B2320/B2620/B2920

More Speeds

With an increased maximum speed and three range shift speeds (Hi/Med/Lo), the B2320/B2620/B2920 let you find the right speed to suit your task, for outstanding productivity.

Hydraulic Pump

The 8.3 GPM hydraulic pump capacity provides exceptional efficiency and power for implement operations.

Large-capacity Radiator

The B-Series features a large-capacity radiator to keep the engine cool on a long, hot workday, and keep you on the job.

Cruise Control

Kubota's cruise control allows you to set, increase/decrease, and override pre-set speeds quickly and conveniently.



Standard Loader Valve

Loader operations are more convenient with the standard-equipped 4-position valve and control lever. Integrated into the tractor, this ergonomically positioned valve lets you attach the front loader and other front implements quickly and easily. (B2320 available without valve.)

Long Wheel Base

With a formidable, 61.5 in. (1563 mm) wheel base, the B-Series delivers increased stability during operation.



MID-MOUNT MOWER

Kubota's mid-mount mower is the ideal choice for precision grass cutting. The suspended mower deck gives the operator $\frac{1}{4}$ " cutting control, for a clean cut, every time. Plus, this innovative mower is extremely easy to connect—just drive over it, attach, and you're ready to go.



Mower Decks

Kubota's 54"/60" mid-mount mower decks manicure lawns with precision, and their functional design allow them to be attached at the same time as the front loader.



Cutting Height Adjustment Dial

A simple twist of the convenient dial allows you to make height adjustments in $\frac{1}{4}$ " increments to set your preferred cutting level.



Suspended Mower Deck

The mid-mount mower can be raised to give ample clearance, eliminating hassles when moving from job to job or riding over curbs.



Self-aligning Lift Linkage

Mid-PTO

The mid-PTO shaft spline is tapered for easy attachment of mower.

Drive-over Attachment*

Attach the mower quickly and with ease. Simply drive the tractor over the mower to get it into position for fast attachment/detachment.

**Height of mower deck should be 3 inches or less.*



To: HONORABLE MAYOR AND CITY COUNCIL
From: Rick Malone, City Planner
Date: July 21st, 2014
Subject: Adopting an Updated Multi-Hazard Mitigation Plan for the City of Glenpool

Background:

As you are aware, the City of Glenpool received a grant from the Federal Emergency Management Agency (FEMA) through the Oklahoma Department of Emergency Management (ODEM). This grant was in the amount of \$37,957.00 and was intended to fund an update to the City's existing Multi-Hazard Mitigation Plan. On June 6, 2011, the City Council selected Andy Armstrong Consulting, LLC, to assist the City in amending the current Multi-Hazard Mitigation Plan (the "Consultant"). The intent of this Plan Update process is to provide guidance for future mitigation activities related to natural and man-made hazards and hazardous materials incidents and ensuring continued eligibility for applying for and receiving FEMA funding for proposed mitigation activities.

Scope/Timing:

The scope of the Glenpool Multi-Hazard Mitigation Plan and the Update was citywide and included the Glenpool School District. It addressed all natural and man-made hazards deemed to be a threat to the citizens of Glenpool, as well as hazardous-materials events. Hazards include: Floods, Tornados, High Winds, Lightning, Hailstorms, Severe Winter Storms, Extreme Heat, Drought, Expansive Soils, Wildfires, Earthquakes and Hazardous Materials Events. Both short-term and long-term hazard mitigation opportunities are addressed beyond existing federal, state and local funding programs. The proposed time frame for the Plan Update process was estimated to be 8 to 12 months; however, this estimate was dependent upon the length of time for ODEM and FEMA review approval.

Citizen Involvement:

In addition to the appointment of the Advisory Committee, the City Staff and Consultant, under the direction of the Advisory Committee, we utilized different methods to inform the public of the Plan Update effort and to solicit their input. All meetings of the Advisory Committee have been publicly posted as required under state law. A public survey/ questionnaire was developed and circulated by the Advisory Committee and the City's website to solicit community input on hazard identification and assessment and possible mitigation measures and was very well received. We received a considerable amount of feedback. Public comments were invited by special public notice for the final Advisory Committee meetings. A public hearing was also held by the Glenpool Planning Commission to solicit public comments before submission of the plan for approval by the Glenpool City Council.

Staff Recommendation:

Staff recommends that the City Council approve the Updated Multi-Hazard Plan and the attached resolution.

Attachments:

- Letter of approval from Oklahoma Department of Emergency Management
- Resolution No. 14-07-05, Adopting an Updated Multi-Hazard Mitigation Plan for the City of Glenpool.
- Updated Multi-Hazard Plan

ALBERT ASHWOOD
State Director



MARY FALLIN
Governor

STATE OF OKLAHOMA
DEPARTMENT OF EMERGENCY MANAGEMENT

July 1, 2014

Honorable Momodou Ceesay
Mayor, City of Glenpool
PO Box 70
Glenpool, OK 74033

Reference: Hazard Mitigation Plan Update
FEMA-1876-DR-OK; #01, Hazard Mitigation Grant Program
Jurisdiction: City of Glenpool

Dear Mayor, Ceesay:

I am pleased to inform you that the City of Glenpool, Oklahoma, Oklahoma Hazard Mitigation Plan (HMGP) has been approved by the Federal Emergency Management Agency (FEMA) pending adoption by the City of Glenpool City Council. The Plan's Point of Contact (POC) will be responsible for delivering a copy (or copies) of the signed Adoption resolution(s) to my office for review, filing and forwarding to FEMA for the Plan's final approval. This action must be completed within 60 days from the date of the FEMA letter attached hereto. Please do not forward the resolution(s) directly to FEMA.

Once the Plan is formally approved by FEMA (receipt and approval of the final documentation and resolutions as described above), you will receive a final Plan Approval Notification letter that will outline the process for requesting applications for mitigation actions identified in your Plan.

If you have any questions, please contact me at (405) 521-3140, or via email at annie.vest@oem.ok.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Annie Mack Vest", written over a horizontal line.

Ms. Annie Mack Vest
State Hazard Mitigation Officer

Enclosures

Copy: GEMAC Chairman, Paul Newton

Plan Point of Contact, Rick Malone ✓



CITY OF GLENPOOL, OKLAHOMA

RESOLUTION NUMBER 14-07-05

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF GLENPOOL
ADOPTING AN UPDATED MULTI-HAZARD MITIGATION PLAN
FOR THE CITY OF GLENPOOL, OKLAHOMA**

WHEREAS, the Updated Multi-Hazard Mitigation Plan (the “PLAN UPDATE”) for the City of Glenpool is presented in fulfillment of the requirements of the Hazard Mitigation Grant Program (HMGP) for the Federal Emergency Management Agency (FEMA), according to Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Sec. 104 of the Disaster Mitigation Act of 2000, (DMA 2000) P.L. 106-390; and,

WHEREAS, the purpose of this PLAN UPDATE is to assess the ongoing mitigation activities in the community, identify and assess the hazards that pose a threat to the citizens and property, evaluate additional mitigation measures that should be undertaken, and outline a strategy for implementing projects; and,

WHEREAS, the objective of this PLAN UPDATE is to provide guidance for community activities for the next five years and to ensure that the City of Glenpool and other partners implement activities that are most effective and appropriate for mitigating natural hazard and hazardous materials incidents.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE
CITY OF GLENPOOL, OKLAHOMA, THAT**

The PLAN UPDATE for the City of Glenpool, presented in fulfillment of the requirements of Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Sec. 104 of the Disaster Mitigation Act of 2000, (DMA 2000) P.L. 106-390, is hereby approved and adopted by the City Council of the City of Glenpool.

That the PLAN UPDATE approved and adopted by this Resolution is more particularly described as a compilation labeled “Multi-Hazard Mitigation Plan Update, City of Glenpool, Oklahoma” which is attached to this Resolution as Exhibit “A”.

Approved this 21st day of July 2014,

City of Glenpool, Oklahoma

Mayor

ATTEST:

City Clerk

MULTI-HAZARD MITIGATION PLAN UPDATE 2014



Prepared By:

ANDY ARMSTRONG CONSULTING, LLC and
PROFESSIONAL ENGINEERING CONSULTANTS, PA.
JANUARY, 2014



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Resolution

Chapter 1:

Introduction

1.1 About the Plan 2014 Update

The City of Glenpool has developed a strategic planning update to the City's Multi-Hazard Mitigation Plan. It is designed to fulfill the Hazard Mitigation Grant Program requirements of the Federal Emergency Management Agency (FEMA), according to the Stafford Disaster Relief and Emergency Assistance Act. This act provides federal assistance to state and local governments to alleviate suffering and damage from disasters. It broadens existing relief programs to encourage disaster preparedness plans and programs, coordination and responsiveness, insurance coverage, and hazard mitigation measures.

This plan is developed in accordance with guidance from, and fulfills requirements for the Hazard Mitigation Grant Program (HMGP). The plan addresses natural hazards and hazardous materials events. In the future the City may initiate additional studies to address technological and man-made hazards, such as water quality emergencies, power failures, and terrorism. It was felt that due to the immediate need to complete the five year Multi-Hazard Mitigation Plan Update the plan would be more manageable if it would continue to be limited, for the time being, to natural hazards and hazardous materials events and to retain a single jurisdiction format.

The original Multi-Hazard Mitigation Plan was approved by FEMA on June 23, 2004.

1.1.1 Purpose

The purpose of this plan is to:

1. Re-Assess ongoing hazard mitigation activities in the City of Glenpool (Chapter 1)
2. Continue to follow the 10-Step Planning Process used by the City of Glenpool in completing a Multi-Hazard Mitigation Plan (Chapter 2)
3. Identify and re- assess the hazards every five years that may pose a threat to citizens and property (Chapter 3)
4. Evaluate mitigation measures that should be undertaken to protect citizens and property (Chapter 4)
5. Outline a strategy for implementation of the updated mitigation projects (Chapter 5)
6. Plan Maintenance and Adoption (Chapter 6)

The objective of this plan is to provide guidance for community activities for the next five years. It will ensure that the City of Glenpool and other partners implement activities that are most effective and appropriate for mitigating natural hazards and hazardous materials incidents.

1.1.2 Scope

The scope of the Glenpool Multi-Hazard Mitigation Plan is citywide. It addresses all natural hazards deemed to be a threat to citizens of Glenpool, as well as hazardous-materials events. Both short-term and long-term hazard mitigation opportunities are addressed beyond existing federal, state, and local funding programs.

1.1.3 Authority

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Sec. 104 the Disaster Mitigation Act of 2000, (DMA 2000) P.L. 106-390, and provides new and revitalized approaches to mitigation planning. Section 322, in concert with other sections of the Act, provides a significant opportunity to reduce the Nation's disaster losses through mitigation planning, including the requirement for communities to develop local hazard mitigation plans.

1.1.4 Funding

Funding for the Update to the Glenpool Multi-Hazard Mitigation Plan was provided by a grant from the Federal Emergency Management Agency (FEMA) and the Oklahoma Department of Emergency Management (ODEM). A 75% FEMA grant through the ODEM, with a 25% local share. The Hazard Mitigation Grant Program grant under FEMA-1876-DR-OK was \$37,957.00. The local match was \$12,652.00.

1.1.5 Goals

The goals for the Glenpool Multi-Hazard Mitigation Plan were developed by the staff and the Glenpool Emergency Management Advisory Committee (CEMAC), with input from interested citizens. The local goals were developed taking into account the hazard mitigation strategies and goals of the federal and state governments.

National Mitigation Strategy and Goal

FEMA has developed ten fundamental principles for the nation's mitigation strategy:

1. Risk reduction measures ensure long-term economic success for the community as a whole, rather than short-term benefits for special interests.
2. Risk reduction measures for one natural hazard must be compatible with risk reduction measures for other natural hazards.
3. Risk reduction measures must be evaluated to achieve the best mix for a given location.
4. Risk reduction measures for natural hazards must be compatible with risk reduction measures for technological hazards, and vice versa.
5. All mitigation is local.
6. Emphasizing proactive mitigation before emergency response can reduce disaster costs and the impacts of natural hazards. Both pre-disaster (preventive) and post-disaster (corrective) mitigation is needed.
7. Hazard identification and risk assessment are the cornerstones of mitigation.
8. Building new federal-state-local partnerships and public-private partnerships is the most effective means of implementing measures to reduce the impacts of natural hazards.
9. Those who knowingly choose to assume greater risk must accept responsibility for that choice.
10. Risk reduction measures for natural hazards must be compatible with the protection of natural and cultural resources.

FEMA's goal is to:

1. Substantially increase public awareness of natural hazard risk so that the public insists on having safer communities in which to live and work
2. Significantly reduce the risk of loss of life, injuries, economic costs, and destruction of natural and cultural resources that result from natural hazards

State of Oklahoma Mitigation Strategy and Goals

The State of Oklahoma has developed a Strategic All-Hazards Mitigation Plan to guide all levels of government, business, and the public to reduce or eliminate the effects of natural, technological, and man-made disasters. The goals and objectives are:

- Improve government recovery capability.
- Provide pre- and post-disaster recovery guidance.
- Protect public health and safety.
- Reduce losses and damage to property and infrastructure.
- Preserve natural and cultural resources in vulnerable areas.
- Preserve the environment.
- Focus only on those mitigation measures that are cost-effective and provide the best benefit to communities.

The key measures to implement these goals include:

- Enhance communication between state and federal agencies and local governments to facilitate post-disaster recovery and pre- and post-disaster mitigation.
- Coordinate federal, state, local, and private resources to enhance the preparedness and mitigation process.
- Ensure consistency between federal and state regulations.
- Protect critical facilities from hazards.
- Support legislation that protects hazardous areas from being developed.

Goals for mitigation of each of the hazards are presented in Chapter 4.

1.1.6 Definition of Terms

Hazard Mitigation as defined by FEMA as “any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.”

Glossaries of terms that are commonly used in hazard mitigation are included in Appendix A.

1.1.7 Point of Contact

The primary point of contact for information regarding this plan is:

Rick Malone, Glenpool City Planner
Glenpool City Hall
P.O. Box 70
Glenpool, OK 74033
(918)322-5409

The secondary point of contact is:

Ed Tinker, City Manager
Glenpool City Hall
P.O. Box 70
Glenpool, OK 74033
(918) 322-5409

1.2 Community Description

Like most cities in the region, the City of Glenpool is faced with a variety of hazards, both natural and man-made. In recent history, winter storms, lightning, floods, and tornadoes have made the national headlines. Any part of the city may be impacted by high winds, drought, hail, fire, hazardous materials events, and other catastrophes. In some cases such as flooding, the area most at risk have been mapped and delineated. Appendix 1 in this plan update contains several maps of the City of Glenpool, showing its major features and highways.

The City of Glenpool is located in southwest Tulsa County in the Coal Creek Basin, a tributary to Polecat Creek. According to 2010 Census figures, Glenpool has a population of 10,808. It is located in the growth trend-line for the Tulsa Metropolitan Area, and has experienced a growth rate of 24.8% since 2000, with an annual average growth of approximately 2.5%.

1.2.1 Governance

The City of Glenpool functions under a Council-Manager form of government. The City Council has all powers of a statutory Council-Manager city, including the determination of matters of policy. The governing body consists of the five-member City Council, which includes one Councilor from each of the City's four wards and one Councilor at-large. The Mayor and Vice-Mayor are elected from within the Council.

The Council's duties and responsibilities include approving the City budget, passing laws of the City (called Ordinances), conducting public meetings, investigations, and hearings as they deem necessary. Through ordinances and resolutions, the Council provides for the licenses, permits, and certificates issued by City departments and agencies. Appeals by citizens of such actions are subject to review by Council.

Under the authority of the City Council, the City Manager directs the day-to-day operations of the City. The City's Administration consists of 5 departments.

1.2.2 Geography

Latitude:	35.9577N	FIPS:	040143
Longitude:	96.0010W		

The City of Glenpool is located south and west of the Arkansas River in southwest Tulsa County. The City is 12 miles south of Tulsa on Highway 75 and 109 miles northeast of Oklahoma City. Appendix 1 contains Figure1-1, Major Streets and Highways Map, which is an illustration of current corporate boundaries and transportation corridors. Glenpool has an incorporated area of 10.317 square miles and has 28.297 square miles within its fence line. The area is part hills and bluffs and part wide prairie, marking the dividing line between the ridges of the Ozarks in the East and the broad plains of the West.

Glenpool sets at the eastern of the Polecat Creek Basin, a left-bank tributary to the Arkansas River. The basin's headwaters originate in western Creek County at an elevation of 1,050 feet above mean sea level. It has its confluence with the Arkansas River about 32 miles to the east in Tulsa County at an elevation of 610 feet at the City of Jenks, three miles north of Glenpool, (a 440 feet change in elevation). Glenpool is experiencing significant growth and development pressures from the southwest growth trend-line of the Tulsa Metropolitan Area.

1.2.3 Climate

Glenpool lies at an elevation of approximately 700 feet above sea level. Glenpool is far enough south to miss the extreme cold of winter. The climate is essentially continental characterized by rapid changes in temperature. The winter months are usually mild, with temperatures occasionally falling below zero, but only for a very short time. Temperatures of 100 degrees or higher are often experienced from late July to early September. January's average temperature is 34 degrees Fahrenheit and July's average is 79 degrees Fahrenheit. Glenpool will receive a wide variety of precipitation throughout any given year. It averages 37 inches of rainfall and 9 inches of snow each year.

April, May and June account for 55% of all severe weather during a typical year, with 77% of the severe weather occurring between the Months of March and July. June is the most active month of the year for hail, wind, floods and tornadoes.

1.2.4 History

Glenpool, Oklahoma is located 12 miles south of Tulsa on Highway 75. It is in the southwest portion of Tulsa County. Glenpool was once known as the world's largest oil field, producing more than 300 million barrels of oil in 75 years.

The name Glenpool was taken from the location of where oil was first struck in 1905. It was on the Creek Indian Land of Roger and Ida E. Glenn. This well was known as the Ida E. Glenn No. 1. Oil was struck on November 22, 1905, at a depth of 1,485 feet and flowed a continuous 85 barrels of crude a day.

By 1906 Glenpool became an oil boomtown, with men chasing oil leases and paying exorbitant prices to drill wells. Glenpool boasted a field of oil three miles wide and four miles long, producing 52,000 barrels a day with the average well producing 500 barrels of oil per day.

Even though experiencing the excitement and thrill of its newly discovered wealth, Glenpool did not really exist yet. What did exist was a cluster of 12 families in a settlement called Glenn. The Towns of Kiefer, Sapulpa, Mounds, and Tulsa were feuding over who owned the field. In May, the burgeoning field got its name; it became known as Glenpool, Glenn Pool, or GlennPool.

Early day pioneers can still remember when the south end of town was known as Tent City or Rag City. This end of town had only board sidewalks and was the home of many of the oil field workers. Then the northern end of town was referred to as Brick Flats. In addition to row upon row of apartment houses, this end of town housed the bank and opera house.

Most of the original structures in the town of Glenpool are no longer standing. The commercial buildings, as well as many of the early day residences, are gone due to fire, deterioration, or progress. Glenpool was incorporated as a city in 1979 and today it is a modern community of over 10,000 residents.

Today, Glenpool is still producing oil and gas for America's needs but a new revolution has begun. The new vibrant feeling is in its people, its resources, and its commitment to a community where friendly people make the difference. Ideally located in relation to the Tulsa area and straddling the Highway 75 transportation corridor, Glenpool enjoys easy and quick access to nearly every point within the Tulsa Metropolitan area. Its low cost housing is once again proving to be a real boon to new homebuyers. The commercial character of the city has stabilized over the past several years, particularly within the vicinity of Highway 75 from 121st Street to 141st Street and the Glenpool consumer can now enjoy the security and convenience of a wide variety of services and shops.

1.2.5 Population and Demographics

According to the US Census, the City of Glenpool has a 2010 population of 10,808. Approximately 1.8% of Tulsa County's population is located in Glenpool. Over the last ten years, Glenpool's population is growing increasingly older, with the median age increasing from 29.8 in 2000, to 31 in 2010, according to the U.S. Bureau of the Census. Older populations are more vulnerable to certain hazards, such as extreme heat and cold. A map, showing the age 65 and older areas, is shown in Figure 1-2 in Appendix 1. Low-income populations are also more vulnerable to extreme temperatures; median household incomes are shown in Figure 1-3 in Appendix 1. Manufactured housing is more vulnerable to tornadoes and high winds; parcels with mobile homes and mobile home parks are shown in Figure 1-4 in Appendix 1. Glenpool demographic data is shown below in Table 1-1.

Table 1-1:
City of Glenpool Demographic Data
Source: US Census

<i>SUBJECT</i>	<i>2000 CENSUS</i>	<i>2010 CENSUS</i>
65 Years and older	463	725
Poverty Status in 1999 (individuals)	520	586
Hispanic	271	587

According to the Tulsa County Assessor's Office there are 5,381 properties with improvements within the fence line of the City of Glenpool, with a total value, adjusted for fair market value of \$439,037,319. Numbers of properties with improvements (buildings, garages, pools, storage, etc.) and improvement values, by type are shown in the table below.

Table 1-2:
City of Glenpool Property Types by Assessed Values
Source: Tulsa County Assessor's Office

<i>PROPERTY TYPE</i>	<i>NUMBER OF PROPERTIES</i>	<i>TOTAL VALUE</i>
Residential	4,695	\$346,469,075
Other (Right of Way)	83	0
Commercial	189	63,054,303
Agricultural	458	28,592,391
Residential Mobile Home	39	921,550
Total	5,464	\$439,037,319

1.2.6 Local Utilities--Lifelines

Lifelines are defined as those infrastructure facilities that are essential to the function of the community and the well being of its residents. They generally include transportation and utility systems. Transportation systems include interstate, US, and state highways, rail, waterways, ports and harbors, and airports. Utility systems include electric power, gas and liquid fuels, telecommunications, water, and wastewater. The following table shows utilities and the companies or sources that supply each one for Glenpool.

Table 1-3:
Utility Suppliers for Glenpool

<i>UTILITY</i>	<i>SUPPLIER</i>
Electric	Oklahoma Gas and Electric Company and East Central Electric Co-Op
Water	City of Tulsa
Sewage Treatment	City of Glenpool
Natural Gas	Oklahoma Natural Gas Company
Telephone & Cable	AT&T and Cox Communications

1.2.7 Economy

Glenpool is a southwest Tulsa County community, and its economy is part of the Tulsa Metropolitan Statistical Area (MSA). According to the American Community Survey FactFinder (2008-2012 Five Year Estimate), Glenpool's labor force is 72.6% of the population age 16 and older, which is 7,835 people. Of the people in the labor force, 6.1% are unemployed. Of the people employed, 82.8% are salary and private-wage workers, 13.9% are government workers, and 3.2% are self-employed in unincorporated businesses. The median household income in 2012 inflation-adjusted dollars was \$62,523, and the median family income was \$66,745.

1.2.8 Industry

Glenpool is one of Tulsa's suburban communities with commercial oriented services as its main industry. Glenpool Public Schools is the city's largest employer, with the following list showing other major employers.

- Wal-Mart Super Center
- Champagne Metals
- Eurocraft
- Glenpool Industrial Park

1.2.9 Future Development

Economic Profile

Glenpool is a southern suburb of Tulsa and part of the Tulsa Core Based Statistical Area (CBSA) as defined by the U.S. Census Bureau. The Tulsa area ranks highly in national publications due to stable economic conditions, broad business base and lower-than-average unemployment. Glenpool itself has grown 23% over the past decade and is projected to grow another 8% by 2016. As of June, 2012, the unemployment rate within the city was a relatively low 6.20% and the total workforce available population 16 or older is 7,224. Total retail sales in the City of Glenpool have grown dramatically in the past three years and that growth is expected to continue. Workers benefit from lower-than-average costs of living and lower home prices than in other neighboring south Tulsa suburbs. Ninety percent of the population in Glenpool has at least a high school diploma and 57% have at least some post-secondary education, including those with a college degree or degrees. In residential construction, Glenpool added 884,547 square feet of new residential homes in the past three years. Benefitting from its location on US Highway 75, the more than 40,000 cars per day traveling through and from Tulsa's onward march southward, Glenpool continues to attract new businesses and new residents.

Growth Trends

Glenpool is expected to see significant and continued growth. The primary growth area will be along the US Highway 75 Corridor and along State Highway 67 to the East. Planning for this growth is reflected in the Glenpool 2030 Plan and as shown in Figure 1-6. Land use valuations identified in this Plan Update were obtained from parcel data from the Tulsa County Assessor's Office. The floodplains of the future growth areas have been identified, and the city's ordinances regulate development in the floodplains. Storm water detention requirements in Glenpool ensure that no adverse storm water impacts will result from new development. Recent population growth trends are identified in Figure 1-5 in Appendix 1.

1.3 Regulatory Framework

This section contains a summary of the current ordinances for land use, zoning, subdivision, and floodplain management in Glenpool. It also lists the current building codes and fire insurance rating.

1.3.1 Comprehensive Planning and Zoning

Glenpool has a comprehensive plan, zoning code, and subdivision regulations. The Glenpool Planning Commission oversees planning and zoning in Glenpool. The Glenpool 2030 Plan, adopted in 2009, looks to the future of the city and provides for the orderly and systematic growth of the community. The plan sets forth the city's goals and establishes objectives and policies that will accomplish these goals. This enables each future decision to be placed within larger context of the public need. Rather than a confusing and haphazard conglomeration of conflicting land uses.

See Figure 1-6 for Glenpool's Comprehensive Land Use Map. The comprehensive plan map is spatially important as a consideration for assessing vulnerability for floods, expansive soils, wildfires, and hazardous materials.

The Glenpool 2030 Plan, was prepared for, and adopted by the City of Glenpool in 2009.

Glenpool Zoning Ordinance, originally adopted in 1984, is administered by the staff of the Community Development Department. The latest Codifying Ordinance is #666, dated 2012.

City of Glenpool Subdivision Regulations (Ordinance No. 371) is administered by the Glenpool Planning Commission pursuant to the powers vested through Title 19, Oklahoma Statutes, Chapter 19.a, Sections 12 and 13, as amended to review, approve and disapprove plats for the subdivision of land within the City of Glenpool. Additional development requirements are identified in **Engineering Design Criteria** (Ordinance No. 370, and **Landscape Requirements** (Ordinance No. 357).

1.3.2 Floodplain Management

The City of Glenpool participates in the National Flood Insurance Program (NFIP). The City (Community No. 400208) is represented in the latest Tulsa County Flood Insurance Study. The current edition of the City's Floodplain Ordinance (#618) was adopted on June 20, 2009. The Community Development Director is the designated floodplain administrator and is responsible for the enforcement of floodplain management requirements. The City utilizes a Flood Hazard Development Permit process to regulate development in the floodplain. The Glenpool (Tulsa County) FIRM Map was updated on 8-3-2009.

1.3.3 Building Codes

The City of Glenpool uses the International Building Code (IBC 2009), and the NFPA.

1.3.4 ISO Fire Protection Rating

ISO's Public Protection Classification (PPC) program provides important information about municipal fire-protection services, which is used by insurance companies to establish fire insurance premiums. The program also helps communities plan for, budget, and justify improvements in order to mitigate the effects of the fire hazard. A uniform set of criteria, which incorporates nationally recognized standards developed by the National Fire Protection Association and the American Water Works Association, is used to evaluate a community's fire protection service and rate it on a scale from 1 to 10, where lower numbers indicate a better rating. The evaluation inventories and analyzes the following segments of fire protection resources:

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

Glenpool has a combination paid and volunteer fire department, and an ISO fire rating of 3. This improved rating is primarily due to recent upgrades in equipment and training. Fire Department statistics and information are discussed in more detail in Chapter 3: Wildfires.

1.4 Existing Hazard Mitigation Programs

To counter pertinent hazards, the City of Glenpool has identified plans and procedures for informing people about protection measures and warning the public of impending threats. The reviews of existing plans are important in the preparation of this hazard mitigation plan update.

1.4.1 Project Impact and Citizens Corps

Project Impact was launched by FEMA in 1998 with a goal of building disaster-resistant communities that will prevent the loss of life and damage caused by disasters. The Citizen's Corps is a public and private effort to answer the President's call for citizens to help organize and promote voluntary preparedness for families, homes, neighborhoods, businesses, and communities against natural and man-made disasters.

1.4.2 Flood and Storm water Management Plans

The Glenpool Multi-Hazard Mitigation Plan was the first effort of the City to develop a drainage plan. This plan has identified flood hazard areas within the Coal Creek basin, has inventoried floodplain buildings and their flood depths, and has identified mitigation and flood protection measures.

1.4.3 Capital Improvements Plans

The City of Glenpool has adopted and maintains a Capital Improvement Plan (CIP) as part of the City's annual budgeting process. The CIP is the principle method of scheduling and financing future capital needs that address hazard mitigation actions. Major updates to the CIP occur periodically and the plan receives a minor review during the annual budgeting process for the city. In addition, the City has recently completed a Master Water Distribution Study which will have an impact upon the city's fire response capacity as improvements are completed. The CIP related items identified in the revised and updated Action Plan will be incorporated in the next CIP update.

1.4.4 Emergency Operations Plans/Critical Facilities

The City of Glenpool has adopted an Emergency Operations Plan. As part of the EOP, critical facilities were identified. These facilities include shelters, police and fire stations, schools, childcare centers, senior citizen centers, hospitals, disability centers, vehicle and equipment storage facilities, emergency operations centers, and city hall. The City of Glenpool's critical facilities are shown in Figure 1-7 in Appendix 1, and listed in Section 3-3. The vulnerability of Critical Facilities to various hazards is addressed in this study.

Chapter 2:

The Planning Process

2.1 Documentation of the Planning Process

The Glenpool Multi-Hazard Mitigation Plan is a citywide effort to coordinate Glenpool’s multi-hazard planning, development, and mitigation activities. The City of Glenpool contracted with Andy Armstrong Consulting, LLC, in 2011 to assist with the process of updating the plan. Andy Armstrong Consulting, LLC was responsible for overall coordination and management of the plan update, aided by the staff of the City of Glenpool.

Simply stated, a mitigation plan is the product of a rational thought process that reviews the hazards, measures their impacts on the community; identifies alternative mitigation measures, and selects and designs those that will work best for the community.

This plan, as updated, continues to address the following hazards:

- Floods
- Tornados
- High Winds
- Lightning
- Hailstorms
- Severe Winter Storms
- Extreme Heat
- Drought
- Expansive Soils
- Wildfires
- Earthquakes
- Hazardous Materials Events

Mitigation Planning Process
<u>Step 1</u>
Organize
<u>Step 2</u>
Involve the Public (this step will continue throughout the process)
<u>Step 3</u>
Coordinate with Agencies & Organizations (this step will continue throughout the process)
<u>Step 4</u>
Access the Hazard
<u>Step 5</u>
Evaluate the Problem
<u>Step 6</u>
Set Goals
<u>Step 7</u>
Review Mitigation Strategies
<u>Step 8</u>
Draft Action Plan
<u>Step 9</u>
Adopt the Plan
<u>Step 10</u>
Implement, Evaluate and Revise

The approach to the multi-hazard plan update for Glenpool followed a ten-step process, based on the guidance and requirements of FEMA. The ten steps are described below.

2.1.1 Step One: Organize to Prepare the Plan

(June 2011 – August 2011)

Citizens and community leaders; city, county, regional, state, and federal staff; and professionals active in disaster mitigation planning provided important input in the development of the plan update and recommended goals and objectives, mitigation measures, and priorities for actions.

The initial planning process was formally created in 2003 by a council action of the City Council of the City of Glenpool appointing the Glenpool Hazard Mitigation Advisory Committee (GHMAC) to oversee the initial planning effort. On August 15, 2011, the Glenpool City Council updated committee appointments by Resolution and the GHMAC, again acted in an advisory capacity during the plan update process. As in the initial planning process, the Plan Update is considered to be a single jurisdiction plan.

The GHMAC membership is partially made up of representatives of departments who have roles in hazards planning, response, protection, and mitigation. Several additions to the GHMAC were made as part of the update

process. The additions included representatives of the American Red Cross; the Glenpool School District and TCC; financial institutions: the Glenpool Senior Citizens organization, local utility and pipeline companies; emergency service providers; non-profits and the general public. The GHMAC is supported by a team of City staff. Andy Armstrong Consulting, LLC and PEC worked as consultants with the committee through this plan update. The City staff and the consultant met numerous times during the planning process and attended all meetings of the GHMAC and meetings with elected officials.



The GHMAC met regularly at the Glenpool Conference Center during the plan update process to review progress, identify issues, receive task assignments, and advise the staff team dedicated to preparing the planning materials. The consultant outlined the plan and prepared a draft. Committee members reviewed the original plan and its mitigation actions; reviewed and confirmed the hazards to investigate, provided specific local and updated information, conducted the public surveys, ranked mitigation activities, and selected the action plan projects. The consultant then prepared the final plan for review. Glenpool Hazard Mitigation Advisory Committee members are shown in Table 2-1. A list of GHMAC meetings, staff meetings, and meetings and dates with governing bodies is shown in Table 2-1. The

agendas and minutes for these meetings are included in Appendix 2. The minutes record the meeting's attendance.

Table 2–1: Glenpool Emergency Management Advisory Committee Members

Committee Member	Position/Department
Paul Newton	Glenpool Fire Chief – CHAIRMAN
Rick Malone	Glenpool City Planner
Lynn Burrow	Glenpool Community Development Director
Tommy Carner	Glenpool City Council - Mayor
Dennis Waller	Glenpool Police Chief
Lea Ann Golden	Glenpool Community Relations Director
Kathy Coley	Glenpool School Superintendent
Dick Watt	Emergency Medical Service Plus - First Responder
Ron Cook	Tulsa City-County Library – Manager Glenpool Branch
Kristie Walton	EMS Plus - Owner/Manager
Samantha Henry	American Red Cross – Disaster Relief Coordinator
Pastor Joe Jones	The Landing (Non Profit) – Pastor/Founder
David Tillotson	Glenpool Assistant City Manager
Greg Turley	TCC Representative - Captain, Campus Police
Mike Grimm	OG&E – Line Supervisor
Bib Hiser	Magellan – Real Estate Representative
Tom Graves	Explorer – Area Manager
Jon Hartman	Allstate Insurance Company - Agent (Glenpool)
Michael Ramming	USDA/NRCS – Tulsa District Conservationist
Sean Stephens	Citizens Bank- Loan Officer, Assistant Vice President
Pamela Nielson	TRC Disaster Solutions – Emergency Management Volunteer
Michael Coonfield	211 CSC - Service Manager
Mary Rose Brown	Glenpool Senior Citizens - President

Table 2–2: Glenpool Hazard Mitigation Advisory Committee Meetings and Activities

Date	Activity
8-31-11	Initial meeting. Review of plan updating process, review of HMGP Action Plan activity and discussion of community survey form and content.
9-28-11	Review and draft update of Chapters 1 and 2 and review of community survey distribution and coverage.
11-30-11	Review of Hazard Survey Results. Review and draft update of Chapters 3 and 4 and revised maps as contained in Appendix 1. Additional draft updates to Chapter 2 were also discussed.
2-29-12	Review of revised new mitigation steps and public forum for evaluation of Action Plan content.
6-20-12	Consideration of final draft document and recommendation to Planning Commission and City Council

2.1.2 Step Two: Involve the Public (September 2011 – August 2012)

An open public planning process was again utilized by the City of Glenpool in the plan update process. In addition to the GHMAC public meeting format, the Committee undertook additional measures to inform the public of the effort to update the Hazard Mitigation Plan and to solicit their input. All meetings of the GHMAC were publicly posted as required by ordinances and rules of the jurisdiction. A public survey/questionnaire was developed and circulated by GHMAC members and by the City’s website to solicit and update previous community input on hazard identification and assessment and possible mitigation measures. The GHMAC discussed and considered all public comments in two committee meetings and used those comments when evaluating and updating the Action Plan. A copy of the survey and its results are included in Appendix 4. Public comments were invited by public notice for the

final committee meeting. A public hearing was held at the July 23, 2012 Planning Commission meeting to solicit public comments before plan approval. A copy of the public meeting notice, sign-in sheet, and minutes are included in Appendix 2. The entire Plan Update document was placed on the City's website for public review prior to City Council action on August 20, 2012.

2.1.3 Step Three: Coordinate with Other Agencies, Organizations and Other Community Planning Efforts

(October 2011 – June 2012)

As part of the plan update process and to collect data on the hazards impacting the City of Glenpool, staff team members reviewed several information sources, including public agencies, private organizations and businesses that contend with natural hazards. These agencies and organizations included FEMA, the Corps of Engineers, the US Geological Survey, INCOG, the City of Glenpool, the State Department of Environmental Quality, the National Climatic Data Center, the National Oceanic and Atmospheric Administration, and the Natural Resource Conservation Service. Academia included the University of Oklahoma Meteorology Department. Newspaper archives included the Glenpool American. In addition, the American Red Cross; the Glenpool School District and TCC; financial institutions; the Glenpool Senior Citizens organization, local utility and pipeline companies; emergency service providers; non-profits and the general public were also invited to directly participate on the GHMAC. The following list of agencies was invited to comment on the final draft of the plan prior to plan approval. A sample letter requesting such comments is included in Appendix 3.

Federal

US Army Corps of Engineers – Floodplain and Wetland Managers -Tulsa District Office
Natural Resource Conservation Service (NRCS) – Tulsa District Manager
US Fish and Wildlife Service – Oklahoma Ecological Services Field Office Manager

National Non-Profit

American Red Cross – Eastern Oklahoma Region CEO

State

Oklahoma Department of Emergency Management – State Hazard Mitigation Officer
Oklahoma Water Resources Board - OWRB Director
Oklahoma Conservation Commission – Executive Director
Oklahoma Department of Wildlife Conservation - Director
Oklahoma Department of Environmental Quality – Executive Director

Regional

Indian Nation Council of Governments (INCOG) – Senior Engineer

County

Tulsa County Engineering Department – County Engineer
Tulsa City County Library – Glenpool Manager

Communities

City of Jenks – City Planner

Glenpool

Community Development Department - Planner
Police Department - Chief
Fire Department - Chief

Coordination with other community planning efforts is critical to the success of the Multi-Hazard Mitigation Plan and future updates. The planning process utilized for the initial plan was again utilized for the 2011-12 update. The GHMAC used information included in the most current version of the City's Comprehensive Plan, Emergency Operations Plan, FIRM Maps, Building Codes and City Ordinances as part of the update process. The City Staff provided information in regard to the utilization of the initial Multi-Hazard Mitigation Plan as a resource for

integrating Action Plan Activities and other plan information into other City planning activities. Through participation in the GHMAC the Glenpool School District and several other local organizations also provided valuable emergency management planning information to the plan update process. Hazard Mitigation plans and action plan examples from other jurisdictions and agencies were also utilized as a resource by the GHMAC in the update process.

2.1.4 Step Four: Assess the Hazard (November 2011 – February 2012)

The staff team collected data on the hazards from available sources. Hazard assessment is included in Chapter 3, with the discussion of each hazard.

Table 2-3 lists the various hazards that affect the City of Glenpool, describes how they were identified, and why they were identified.

Table 2–3: How and Why Hazards Were Identified

Hazard	How Identified	Why Identified
Floods	- Review of FEMA and City floodplain maps - Buildings in the floodplains - Historical floods and damages (detailed in Chapter 3)	11% of City land is located in the Coal Creek floodplain - At present, there are no repetitive loss structures located within the City - Over \$4.9 million (less than 2%) of property at risk
Tornadoes	- Review of recent disaster declarations - Input from Emergency Manager - Consensus of Hazard Mitigation Advisory Committee - Review of data from the National Climatic Data Center - Project Impact analysis of tornado vulnerability in Oklahoma, Texas and Arkansas	- Glenpool is located in “Tornado Alley” - An average of 52 tornadoes per year strike Oklahoma - Recent disaster events and damage - All citizens and buildings are at risk 8 deaths, and approximately \$370 million in property damage in 50 years in Tulsa County
High Winds	- National Weather Service data - Loss information provided by national insurance companies	7 high wind-related events in Tulsa County area in the last 11 years, and \$57,000 in damage
Lightning	National Climatic Data Center information and statistics	- Oklahoma ranks 15th in lighting related casualties 88 deaths and 243 injuries over 38 years due to lighting
Hailstorms	National Climatic Data Center and State Disaster Declarations	9 hail damage events in Glenpool over the last 13 years
Severe Winter Storms	- Review of past Disaster Declarations - Input from State Emergency Management Agency and Glenpool Emergency Management - Input from area utility companies	16 snow and ice events affected Tulsa County in the last 13 years 2 winter storm-related Disaster Declarations in Tulsa County In the past 3 years causing major damage.
Extreme Heat	- Review of number of heat-related deaths and injuries during hot Oklahoma summers - Review of data from National Climatic Data Center and National Center for Disease Control	19 Tulsa County Events in past 13 years. - Local community service organizations have made heat-related deaths a high priority
Drought	Historical vulnerability to drought, the “Dust Bowl” era	8 Tulsa County Events in past 13 years.

	• Drought and water shortages in adjacent communities in recent years	• Need to ensure adequate long- term water resources for the City of Glenpool
Expansive Soils	• Input from INCOG • Review of NRCS data	• Damage to buildings from expansive soils can be mitigated with public information and building code provisions
Wildfires	• Input from Glenpool Fire Department • Input from State Fire Marshal	• Continuing loss of life and property due to fires • Several miles of Glenpool’s perimeter are exposed and vulnerable to wildfires
Earthquakes	• Historic records of area earthquakes • Input from Oklahoma Geological Survey • Input from USGS	• Glenpool has a history of mild earthquakes • Glenpool has experienced one earthquake every 5 years
Dam Breaks	• Review of USGS quad maps • Review Glenpool drainage studies	• No dams are located in the watershed through Glenpool • This hazard is not applicable to Glenpool.
Hazardous Materials Events	• Input from ODEQ • Input from the State Fire Marshall	• 75 City Events in previous 5 years • Several hazardous materials sites are scattered throughout the community • Major traffic ways expose Glenpool to potential traffic way hazardous materials incidents

2.1.5 Step Five: Assess the Problem (November 2011 – June 2012)

The hazard data was analyzed in light of what it means to public safety, health, buildings, transportation, infrastructure, critical facilities and the economy. City and Consultant staff prepared several analyses using Glenpool’s geographic information system. The discussion of the problem assessment is addressed for each hazard in Chapter 3. A summary paragraph discussing the changes made as a result of the 2014 Update is included at the end of each subsection in Chapter 3. The only hazard determined to need revision and in-depth risk analysis was floods.

DAMAGE ESTIMATION METHODOLOGY

The following methodologies were used in the development of damage cost estimated for buildings and contents for flooding and tornado/high wind damage, used in the City of Glenpool’s *Multi-Hazard Mitigation Plan Update 2014*.

Tornado Damage: Damage estimates for the tornado scenario were based on:

1. Structure value: Tulsa County Assessor’s office.
2. Contents: FEMA’s Contents Value, *Understanding Your Risks*.
3. Damage to structure: based on percent damage experienced during typical events, using the Fujita Scale, damage characteristics, Table 3-12.

Damage estimates were based on a “worst case” scenario, assuming about 25% of the buildings in the tornado path would experience substantial damage or total destruction;

HAZUS Damage Estimation Model: FEMA’s HAZUS Damage Estimation Models to calculate damages from Flooding

Depth of Damage: Flooding damage estimates for building and contents are based on actual structures’ estimated flood depth determined by aerial topographic mapping and field investigations. Maps of the floodplains are included in Chapter 3.

Flood damage curves, for structures (single-family, multi-family, office, commercial, industrial), and contents were estimated using “Damage Factors”.
Flood depth of damage curve estimates were used for riverine flooding and dam failures in (Chapter 3).

Structure Value: Value of buildings within the City of Glenpool was obtained from the Tulsa County Assessor’s offices.

For critical facilities, non-profit properties with structural improvements, such as churches, which are tax exempt and where no county assessor valuation was available, the buildings’ footprints were measured using aerial photography, GIS, and field investigation to determine size, in square feet. The value of structure was obtained by calculating the square footage times the value per square foot obtained by using FEMA publication *State and Local Mitigation Planning: Understanding Your Risks: Identifying Hazards and Estimating Losses*, August 2001, “Average Building Replacement Value per square foot,” see below, source: HAZUS

Contents Value: Value of contents for all buildings was estimated using “Contents Value as Percentage of Building Replacement Value” table found in *Understanding Your Risks*.

The average replacement values were adjusted by the Consumer Price Index (CPI) to represent 2000 dollar figures. The CPI is the ratio of the value of a basket of goods in the current year to the value of that same basket of goods in the previous year. It measures the average level of prices of the goods and services typically consumed by an urban American family. The

<http://woodrow.mpls.frb.fed.us/research/data/us/calc/hist1800.cfm>

Website can be used to adjust historic dollar figures to current year dollar figures.

Average Building Replacement Value per Square Foot	
Occupancy Class	Total \$/sq. ft.
Single Family Dwelling	77
Mobile Home Dwelling	52
Multi-family Dwelling	98
Temporary Lodging	102
Institutional Dormitory	98
Nursing Home	89
Retail Trade	67
Wholesale Trade	53
Personal/Rep air Services	92
Professional/ Tech. Services	87
Banks	151
Hospital	145
Medical Office/Clinic	112
Entertainment & Recreation	131
Theaters	98
Parking	30
Heavy	69

Industrial	
Light	69
Industrial	
Food/Drugs/C	69
hemicals	
Metals/Miner	69
als Processing	
High	69
Technology	
Construction	69
Agriculture	26
Church/Non-	113
Profit Offices	
General	88
Services	
Emergency	130
Response	
Schools	91
Colleges/Uni	115
versities	

Flood Contents Loss Estimation Table

Flood Depth (feet)	One Story No Basement (% Contents Damage)	Two Story No Basement (% Contents damage)	One or Two Story With Basement (% Contents damage)	Manufactu red Home (% Contents damage)
-2	0	0	6	0
-1	0	0	12	0
0	13.5	7.5	16.5	12
1	21	13.5	22.5	66
2	33	19.5	30	90
3	40.5	27	34.5	90
4	43.5	30	42	90
5	45	33	49.5	90
6	60	36	57	90
7	64.5	39	66	90
8	66	43.5	73.5	90
>8	67.5	49.5	76.5	90

Source: FEMA Benefit-Cost Analysis Full Data Module

2.1.6 Step Six: Set Goals

(November 2011 – February 2012)

Project and community hazard mitigation goals and objectives for Glenpool were developed by the GHMAC to guide the development of the plan. The hazard mitigation goals for the City are listed in Chapter 4.

2.1.7 Step Seven: Review Possible Activities

(November 2011 – June 2012)

A wide variety of measures that can affect hazards or the damage from hazards were examined. The mitigation activities were organized under the following six categories. A more detailed description of each category is located in “Chapter 4: Mitigation Strategies.”

1. **Preventive activities**—zoning, building codes, city ordinances
2. **Structural Projects**—levees, reservoirs, channel improvements
3. **Property protection**—acquisition, retrofitting, insurance
4. **Emergency services**—warning, sandbagging, evacuation
6. **Public information and education**—outreach projects and technical assistance

2.1.8 Step Eight: Draft an Action Plan *(January 2012 – June 2012)*

The GHMAC reviewed the list of recommended actions included in the initial Multi-Hazard Mitigation Plan to determine if the actions were completed prior to the update, or if they should be deferred, cancelled or continued. The results of this review are contained in Chapter 5. Potential future hazard mitigation activities were also reviewed and the Update to the Multi-Hazard Mitigation Plan was drafted. It identified the high-priority mitigation measures, identified the party responsible for implementing the tasks, estimated the cost of the projects, identified potential funding sources, and determined the target completion date for each task. Once the plan had been drafted, it was widely circulated to city staff and the general public for comment and review.

2.1.9 Step Nine: Adopt the Plan *(July 2012 - August 2012)*

The GHMAC approved the final plan and submitted it to the Glenpool Planning Commission and City Council for adoption.

2.1.10 Step Ten: Implement, Evaluate, and Revise *(August 2012 - Ongoing)*

Adoption of the Updated Multi-Hazard Mitigation Plan is only the beginning of this effort. Community offices, other agencies, and private partners will proceed with implementation. The GHMAC will monitor progress, evaluate the activities and annually recommend revisions to the action items. This process will involve quarterly meetings in which the GHMAC will monitor progress on the Action Plan and review other mitigation actions for inclusion in the Action Plan for the next 4 years. This monitoring and review process will also be coordinated so as to provide input into other appropriate city planning efforts specifically updates to the City’s Capital Improvement Plan and the Annual Budget.

Chapter 3:

Updated Risk Assessment and Vulnerability Analysis

3.1 Identifying Hazards

There were 12 hazards investigated by the Glenpool Hazard Mitigation Advisory Committee (GHMAC). These were considered to be all the relevant hazards, following the committee's hazard information search. Hazard identification was discussed and reviewed at the GHMAC planning meeting held on November 16, 2011.



These hazards are listed in Table 2.2. The table lists each hazard, the items that were considered in how the hazard was identified, and why each hazard was identified. Hazard information was obtained from the emergency management department, public works, fire and police department, city community development department, regional planning agency (INCOG), review of FIRMs, state and federal agency websites, and public input.

Since July 15, 2003 five major disaster declarations have been issued by FEMA that affected Glenpool and Tulsa County in Oklahoma. These disaster declarations are listed as follows.

DR-1985 (1/31/11 to 2/5/11) Severe Winter Storm and Snowstorm; DR-1876 (12/24/09 to 12/25/09) Severe Winter Storm; DR-1735 (12/8/07 to 1/3/08) Severe Winter Storm; DR-1678 (1/12/07 to 1/26/07) Severe Winter Storm; DR-1623 (11/23/05 to 3/31/06) Severe Wildfire Threat. These events are also mentioned and/or further described under each hazard below.

3.2 Profiling Hazard Events

This section provides a profile of each hazard. Subsection 3.2.X.1 describes the hazard, subsection 3.2.X.2 identifies the location of the hazard, subsection 3.2.X.3 identifies the extent (such as severity or magnitude) of the hazard, subsection 3.2.X.4 provides information on previous occurrences, subsection 3.2.X.5 discusses the probability of future occurrences, and subsection 3.2.X.6 discusses vulnerability and impacts. Each hazard affects the Tulsa County as a whole, except flood hazards, expansive soil hazards, and hazardous material hazards. Dam break hazards are not applicable to Glenpool.

3.2.1 Flood Hazard

3.2.1.1 Description

Flooding is defined as the accumulation of water within a water body and the overflow of the excess water onto adjacent lands. The floodplains are the lands adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that is susceptible to flooding. Flooding can take many forms including river floods (riverine) and creeks and flash floods. The most likely event for serious flooding would be flash flooding due to storm water drainage backup caused by a large amount of rain from a thunderstorm. Flash floods occur with little or no warning and can reach peak flow within a few minutes. Waters from flash floods move with great force and velocity and can roll boulders, tear out trees, destroy buildings, and sweep away bridges. These walls of water can reach heights of 10 to 30 feet and generally carry large amounts of debris. Most flood deaths are due to flash floods.

3.2.1.2 Location

The location of the flood hazard in the City of Glenpool is its regulatory floodplain, as defined by the City's Flood Insurance Rate Maps (FIRMs). The regulatory floodplain lies principally in the Coal Creek watershed, which drains an area of approximately 13.5 square miles. Other watersheds that impact the City of Glenpool, or its fence line area, include Polecat Creek, Childers Creek, Posey Creek and Duck Creek. Coal Creek in the City of Glenpool has been channelized in a few areas. The most extensively improved area is approximately a half mile of channel constructed around the petroleum products tank farm between 121st and 126th Streets. This channel does generally contain the 100-year flood. The flood hazard is shown in Figure 1-8 in Appendix 1.

3.2.1.3 Extent

The severity of a flood is determined by several factors; including, rainfall intensity, rainfall duration, rainfall location, size of watershed, topography of watershed, and ground cover imperviousness and degree of saturation. The magnitude of the flood hazard is the regulatory floodplain. The regulatory floodplain is defined as the area inundated by the runoff from the rainfall having a one-percent chance of occurring in any given year. The City of Glenpool considers a rainfall of 1 inch per hour or a creek rise that stays within the creek bank or drainage channel to be a minor severity. A major severity to the City of Glenpool is identified as a rainfall of 3 inches per hour and greater, or more than 1 inch in three hours on saturated ground, or a creek rise that overflows the banks of the creek or drainage channel.

3.2.1.4 Previous Occurrences

Historically, Glenpool has recognized flooding within the community as a major hazard. The City joined the National Flood Insurance Program (NFIP) in March of 1981, adopting a Flood Damage Prevention Ordinance, and requiring that all future development comply with the ordinance. In succeeding years the City has adopted, by ordinance, additional provisions that require new development to detain urban runoff, through storm water detention facilities, in excess of that amount that occurred under pre-development or natural conditions. In the City of Glenpool, the most recent significant flooding events occurred on October 8, 1998, April 25&26, 1999, May 6, 2000, August 30, 2003, and July 2, 2004. In each case the flood event was classified as a flash flood where highway and road closings occurred and some minor damage was sustained.

3.2.1.5 Probability of Future Events

The probability of future flooding from the regulatory floodplain is statistically a one-percent chance of occurring in any given year, the 100-year floodplain. The City requires all new development to mitigate any increase in runoff through measures such as on-site storm water detention. Therefore, new development will not cause an increase in the 100-year floodplain over its existing condition. So the probability of future events should not increase with future development.

3.2.1.6 Vulnerability and Impact

Flooding can take many forms including river floods (riverine) and creeks and flash floods. The most likely event for serious flooding would be flash flooding due to storm water drainage backup caused by a large amount of rain from a thunderstorm. Flash floods occur with little or no warning and can reach peak flow within a few minutes. Waters from flash floods move with great force and velocity and can roll boulders, tear out trees, destroy buildings, and sweep away bridges. These walls of water can reach heights of 10 to 30 feet and generally carry large amounts of debris. Most flood deaths are due to flash floods.

The low-lying areas in the flood plains would be more susceptible to flooding. Roadways in the area are vulnerable and some have a history of being closed during flooding events. This can cause temporary interruptions to the highway and road system and has the potential to isolate a portion of the community for a period of time. Glenpool currently does not have any structures classified as repetitive loss structures within the City. Private water wells, houses, utility lines and sewer systems can be damaged by flood waters. This situation can result in citizens within the community to be without power, homes and in some cases people must be relocated to other areas.

Table 3-1: Contributing Factors to Flash-flood Hazard and Vulnerability in Oklahoma

Factor	Effect
Precipitation Rate	The most obvious contributing factor. As the rate of precipitation increases, so too does its ability to outpace the ability of the watershed to absorb it. <i>This is the dominant factor in flash flooding events, and can overwhelm any or all of the following factors.</i>
Training Echoes	Storm cells that follow each other (much like box cars on a train) can repeatedly deposit large amounts of water on the same watershed, overwhelming its ability to handle runoff.
Slope of Watershed	Steeper topography (hills, canyons, etc.) will move runoff into waterways more quickly, resulting in a quicker, flashier response to precipitation.

Shape of Watershed	Longer, narrower watersheds will tend to “meter out” runoff so that water arrives from down shed (nearer to the mouth of the stream) areas faster than from up shed areas. In watersheds that are more square or circular than elongated, runoff tends to arrive in the main stem at the same time, intensifying the response. This factor becomes more significant with larger watersheds.
Saturation of Soils	Saturated or near-saturated soils can greatly reduce the rate at which water can soak into the ground. This can increase runoff dramatically.
Hardened Soils	Extremely dry soils can develop a pavement or “crust” that can be resistant to infiltration. This is especially true in areas of recent wildfire, where plant oils or resins may cause the soil to be even more water-resistant.
Urbanization	The urban environment usually intensifies the response to heavy precipitation. The two dominant urban factors are: 1) increased pavement coverage, which prevents infiltration and dramatically increases runoff; and 2) Urban systems are designed to remove water from streets and byways as quickly as possible. This accelerates the natural response to precipitation by placing runoff in waterways much more quickly.
Low-water crossings	The vast majority of flash flood related deaths occur in vehicles. Many of these deaths occur at low-water crossings where the driver is unaware of the depth of the water or the consequences of driving into it.

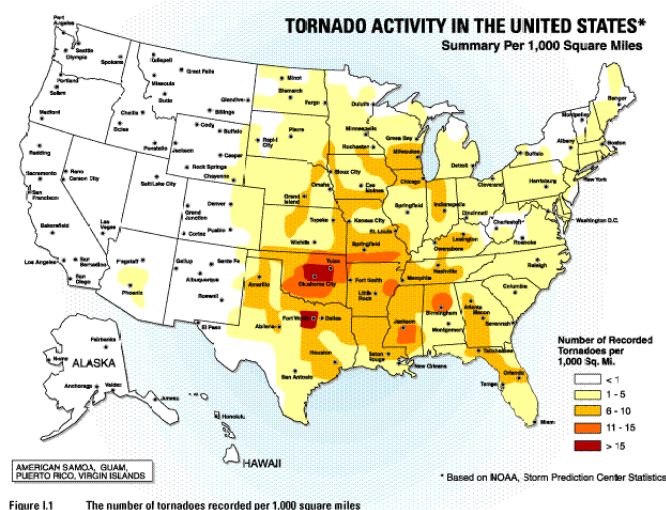
Contributing factors to flash-flood hazard and vulnerability in Oklahoma.

Glenpool has no repetitive loss structures located within the limits of the 100-year Regulatory Floodplain.

3.2.2 Tornado Hazard

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

3.2.2.2 Location The City of Glenpool is located in Tulsa County, south of the City of Tulsa, Oklahoma. The following figure obtained from the FEMA web site shows central Oklahoma, along with the area around Fort Worth Texas, to be the area of highest number of recorded tornados per area in the country. Therefore, due to its location, the entire City of Glenpool is at risk from tornados.



3.2.2.3 Extent The severity of tornados is measured on the Fujita Tornado Scale (see below). Almost 70% of all tornadoes are measured F0 and F1, causing light to moderate damage, with wind speeds between 40 and 112

miles per hour. F4 and F5 tornadoes are considerably less frequent, but are the big killers. Sixty-seven percent of all tornado deaths were caused by F4 and F5 storms, which represent only 1% of all tornadoes. From 1950 – 2011, Tulsa County has experienced 64 tornados up to an F-3 magnitude tornado. Only one tornado, an F4 in 1974, has been experienced during the same time frame.

Table 3-2: Fujita Tornado Scale

Category	Wind Speed (mph)	Damage
F0	Gale tornado (40-72)	Light: Damage to chimneys, tree branches, shallow-root trees, sign boards
F1	Moderate tornado (73-112)	Moderate: Lower limit is beginning of hurricane wind speed—surfaces peeled off roofs, mobile homes pushed off foundations or overturned, cars pushed off roads
F2	Significant tornado (113-157)	Considerable: Roofs torn off frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted, light-object missiles generated
F3	Severe tornado (158-206)	Severe: Roofs and some walls torn off well-constructed houses, trains overturned, most trees in forest uprooted, cars lifted off the ground and thrown
F4	Devastating tornado (207-260)	Devastating: Well-constructed houses leveled, structures with weak foundations blown off some distance, cars thrown and large missiles generated
F5	Incredible tornado (261-318)	Incredible: Strong frame houses lifted off foundations and carried considerable distance to disintegrate, automobile-sized missiles fly through the air in excess of 100 yards, trees debarked

On February 1, 2007, the Fujita scale was decommissioned in favor of the more accurate Enhanced Fujita Scale, which replaces it. None of the tornadoes recorded on or before January 31, 2007 will be re-categorized. Therefore maintaining the Fujita scale will be necessary when referring to previous events.

Table 3-3: Enhanced Fujita Tornado Scale

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.
source: http://en.wikipedia.org/wiki/Enhanced_Fujita_Scale		

The City of Glenpool considers any event of EF3 and above to be a major severity.

3.2.2.4 Previous Occurrences

Figure 1-9 in Appendix 1 shows past tornado events in Tulsa County. 49 tornados have been recorded in the county from 1950 through 1995. According to the National Climatic Data Center information, since 1995, Tulsa County has experienced 15 tornados causing \$3,153,000 in property damage. 1 tornado event, an F0 in 1997, was recorded in the Glenpool area with \$25,000 in damage.

Episode Narrative	Date
An F1 tornado touched down for a minute one mile southeast of Tulsa International airport or in the vicinity of the corner of Pine and Garnett. The tornado damaged some equipment at a farm implement dealership and threw a parked car on top of another parked car. Six to eight power poles were blown down as well. Property damage was estimated at 100K.	02-25-2000
An F0 tornado briefly touched down just north of Sperry. The only damage was to trees.	03-07-2000
A spotter reported a brief tornado (F0) touchdown just north of Leonard near the intersection of Highway 64 and Snake Creek. No damage was reported.	03-26-2000
An F1 tornado developed along the leading edge of a line of thunderstorms. The tornado severely damaged a hotel near the airport injuring seven people, damaged covered parking at the airport, snapped trees, and turned over a sports utility vehicle at the airport. Seventy-five other cars were also damaged by the tornado. Property damage was estimated at 250K.	04-01-2006
An EF0 tornado destroyed a storage building on the west side of Rhema Bible College, damaged the roofs of a business and several homes, and blew down trees and power lines. Property damage was estimated at 75K.	05-07-2008
The EF1 tornado that developed near Kiefer in Creek	

County moved northeast across the north side of Glenpool before dissipating over Broken Arrow. In Tulsa County, the tornado damaged several homes, damaged a gas station canopy, uprooted several trees, snapped numerous large tree limbs, and blew down power poles. The estimated peak wind in the tornado based on this damage was 95 mph. Property damage was estimated at 100K.	05-13-2010
The EF2 tornado that developed on the west side of Sapulpa in Creek County moved northeast across the City of Tulsa. The tornado severely damaged a number of homes just west of Highway 75, where the most intense damage was noted. Numerous other homes and businesses were damaged as it moved through Tulsa. The tornado snapped or uprooted numerous trees, and blew down numerous power poles. The estimated peak wind in this tornado based on the most intense damage to homes was 120 mph. Property damage was estimated at 500K.	05-13-2010

3.2.2.5 Probability of Future Events The probability of future tornado events in the City of Glenpool is the same as that of the county; random throughout the county as shown in tornado scenario Figure 1-10. No area of the city is any more or less at risk from the tornado hazard.

3.2.2.6 Vulnerability and Impact Glenpool is located in what is considered an active part of tornado alley and every structure in Glenpool is vulnerable to tornadoes. Structures, automobiles and plant and animal life can sustain damage from such an event or be completely destroyed by it. Utility service (electric, gas, water, sewage) outages can affect large segments of the population for long periods of time. Economic losses to homeowners and businesses alike can be devastating. Food spoilage with lack of refrigeration, gas pumps not operating and daily life activities can all come to a halt. People displaced from homes that are damaged and destroyed also create a new set of challenges for the agencies and individuals trying to provide them with the basics of food, shelter and clothing.

On the lower end, damage from an F0 tornado with winds from 40-72 mph can result in destruction of road signs, tall structures, trees, and possible damage to shingled roofs. Mid-range F2 and F3 tornadoes with winds from 113-206 mph will result in considerable damage. Roofs will be torn off structures, mobile homes completely demolished, most trees and plant life destroyed, objects as big as cars thrown small distances (as well as other light missiles being generated), and trains being blown over can result from these storms. The worst case is the F5 tornado with winds from 261-318 mph. Total destruction will occur in the path of the tornadoes, which have been up to ½ mile wide in the past. Homes, automobiles, appliances, outbuildings, and anything outdoors can be picked up and thrown long distances as large missiles. Most plant life including lawns, shrubs and trees are completely destroyed.

Utility infrastructure such as power lines, substations, water towers, and water wells, are vulnerable and can be severely damage or destroyed from a tornado. Emergency vehicles responding to the devastated areas can have trouble responding due to downed power lines and debris in roadways. Livestock is vulnerable during tornado events and are often killed since there is little protection for the animals on the open range. People caught in the path of a tornado who don't take shelter have the potential of being injured or killed. Residents most vulnerable to tornadoes are those living in mobile homes.

Historically the tornado will move in a southwest to northeast direction, but can move in any direction. Consequently, vulnerability of humans and property is difficult to evaluate since the tornadoes form at different strengths, in random locations, and create narrow paths of destruction.

Advances in meteorology and the use of Doppler radar allow efficient prediction of tornado formation before they occur. A network of storm watchers attempt to identify funnel clouds and report to various networks to alert the population. The City has developed a plan for improvements to the outdoor warning system coverage. This plan is

illustrated in Figure1-11 in Appendix 1. Even though these advances have significantly improved the available response time, tornadoes can still occur unexpectedly and without warning.

By utilizing storm spotters and early warning systems, Glenpool residents can take appropriate precautions during these events. As a result, casualty rates can be kept low. The popularity of mobile/manufactured housing has increased the risk of existing structures to tornadoes. The use of better building techniques, tie-down systems and the availability of storm shelters all help mitigate losses in Glenpool.

3.2.3 High Wind Hazard

3.2.3.1 Description Wind is defined as the motion of air relative to the earth's surface. Extreme windstorm events are associated with cyclones, severe thunderstorms, and accompanying phenomena such as tornadoes and downbursts. Winds vary from zero at ground level to 200 mph in the upper atmospheric jet stream at 6 to 8 miles above the earth's surface. The mean annual wind speed in the mainland United States is reported by FEMA to be 8 to 12 mph, with frequent speeds of 50 mph and occasional wind speeds of greater than 70 mph. Oklahoma wind speeds average 10 miles per hour.

3.2.3.2 Location The location of this hazard is uniform over the entire City area. No area of the city is more or less at risk from a high wind hazard than another.

3.2.3.3 Extent The magnitude of the high wind hazard is categorized on various wind scales, such as the Beaufort, Saffir-Simpson, and the Fujita measurement scales. The tables below containing the Beaufort and Saffir-Simpson scales show that there is little consensus of opinion as to what wind speeds produce various damages. (The Fujita Scale is shown in the Table 3.1.) The National Weather Service (NWS) issues Severe Thunderstorm Warnings whenever a thunderstorm is forecast to produce wind gusts to 58 miles per hour (50 knots) or greater and/or hail one inch in diameter or larger. Hail size increased from ¾ inch to one inch on January 5, 2010.

Table 3-4: Beaufort Scale of Wind Strength

Force	Wind Speed (mph)	Damages
9	47-54	Strong gale: Chimneys blown down, slate and tiles torn from roofs
10	55-63	Whole gale: Trees broken or uprooted
11	64-75	Storm: Trees Uprooted, cars overturned
12	75+	Severe Storm: Devastation is widespread, buildings destroyed

Table 3-5: Saffir-Simpson Scale

Category	Wind Speed (mph)	Storm Surge (feet)	Damages
1	74-95	4- 5	Minimal: Trees, shrubbery, unanchored mobile homes, and some signs damaged, no real damage to structures
2	96-110	6-8	Moderate: Some trees toppled, some roof coverings damaged, major damage to mobile homes
3	111-130	9-12	Extensive: Large trees are toppled, some structural damage to roofs, mobile homes destroyed, structural damage to small homes and utility buildings
4	131-155	13-18	Extreme: Extensive damage to roofs, windows, and doors, roof systems on small buildings completely fail, some curtain walls fall
5	155+	18+	Catastrophic: Roof damage is considerable and widespread, window and door damage is severe, extensive glass failure, entire buildings could fall

The City of Glenpool considers a reading of 9 and below a minor severity and a reading of 10 and above on the Beaufort scale above to be a major severity.

3.2.3.4 Previous Occurrences According to the National Climatic Data Center, there have been 5 recorded events of property damage from high winds during the period of 1999 to 2010. The following table lists damage information from high winds in Glenpool and Tulsa County.

Table 3-6: Fatalities and Property Damage Caused by High Winds from 1999 to 2010

Location	Events	Deaths	Damage
Tulsa County	7	0	\$57,000
Glenpool	2	0	\$0,000

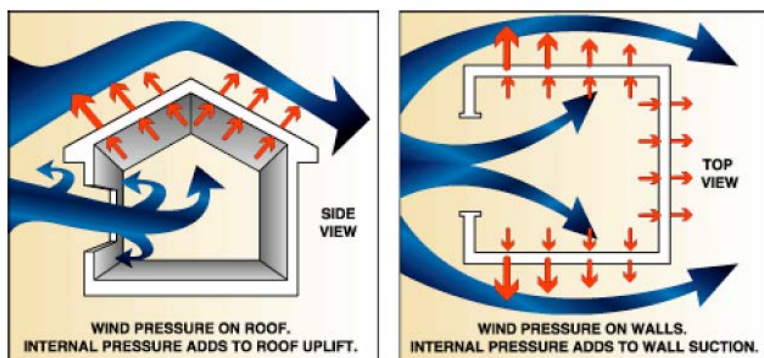
3.2.3.5 Probability of Future Events The majority of the United States is at some risk of high wind hazards, including the City of Glenpool. Meteorological conditions have not changed so future events should occur at the same probability as the previous events.

3.2.3.6 Vulnerability and Impact Property damage and loss of life from windstorms are increasing due to a variety of factors. The use of manufactured housing and mobile homes is on an upward trend, and this type of structure provides less resistance to wind than conventional construction. With the deteriorating condition of older homes and the increased use of aluminum-clad mobile homes, and poorly designed homes, the impacts of wind hazards will likely continue to increase.

Winds are always part of severe storms such as tornadoes and blizzards, but do not have to accompany a storm to be dangerous. Down-slope windstorms, straight-line winds, and microbursts can all cause death, injury and property damage. Very little available data exists separate from thunderstorms or tornado data. Any efforts made to mitigate for tornadoes or thunderstorm winds should address the hazard of high winds.

Extreme winds can cause several kinds of damage to a building. The diagram below shows how extreme winds affect a building and helps explain why these winds cause buildings to fail. Wind speeds, even in these extreme wind events, rapidly increase and decrease. An obstruction, such as a house, in the path of the wind causes the wind to change direction. This change in wind direction increases pressure on parts of the house. The combination of increased pressures and fluctuating wind speeds creates stress on the house that frequently causes connections between building components to fail. For example, the roof or siding can be pulled off or the windows can be pushed in.

Diagram of Windstorm Effects



Buildings that fail under the effects of extreme winds often appear to have exploded, giving rise to the misconception that the damage is caused by unequal wind pressures inside and outside the building. This

misconception has led to the myth that during an extreme wind event, the windows and doors in a building should be opened to equalize the pressure. In fact, opening a window or door allows wind to enter a building and increases the risk of building failure.

Damage can also be caused by flying debris (referred to as windborne missiles). If wind speeds are high enough, missiles can be thrown at a building with enough force to penetrate windows, walls, or the roof. For example, an object such as a 2" x 4" wood stud weighing 15 pounds, when carried by a 250-mph wind, can have a horizontal speed of 100 mph and enough force to penetrate most common building materials used in houses today. Even a reinforced masonry wall will be penetrated unless it has been designed and constructed to resist debris impact during extreme winds. Because missiles can severely damage and even penetrate walls and roofs, they threaten not only buildings but the occupants as well.

Glenpool and Tulsa County have significant exposure to high wind events. Infrastructure damage most often occurs to power transmission lines and communications facilities; however, occasional damage to structures can arise during Downbursts. Unfortunately, early warning for downburst is limited due to the speed in which they develop, although research is ongoing through the National Weather Service (NWS) and the Storm Prediction Center, located in Norman, Oklahoma, to increase warning information for the public.

3.2.4 Lightning Hazard

3.2.4.1 Description Lightning is a discharge of atmospheric electricity, accompanied by a vivid flash of light, from a thunderstorm, frequently from one cloud to another, sometimes from a cloud to the earth. The sound produced by the electricity in passing rapidly through the atmosphere causes thunder.



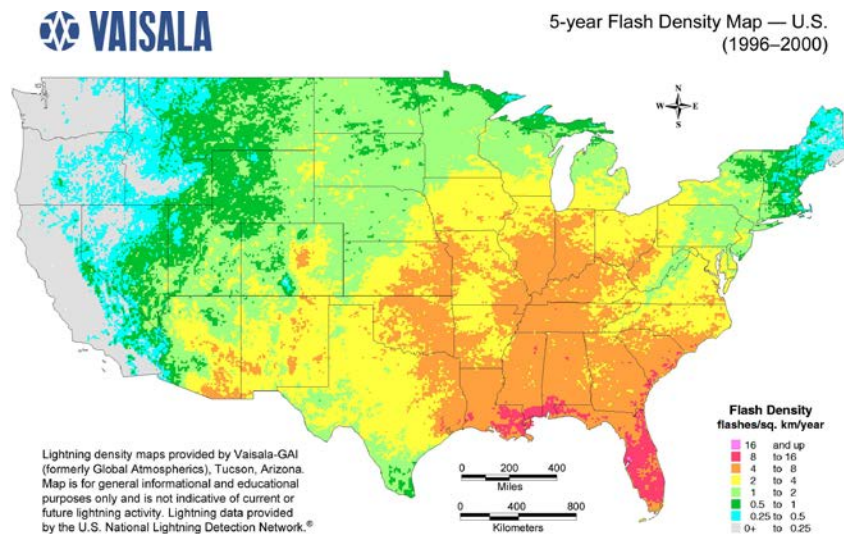
Within the thunderstorm clouds, rising and falling air causes turbulence which results in a buildup of a static charge. The negative charges concentrate in the base of the cloud. Since like charges repel, some of the negative charges on the ground are pushed down away from the surface, leaving a net positive charge on the surface. Opposite charges attract, so the positive and negative charges are pulled toward each other. This first, invisible stroke is called a stepped leader. As soon as the negative and positive parts of the stepped leader connect there is a conductive path from the cloud to the ground and the negative charges rush down it causing the visible stroke. Thunder is caused by extreme heat associated with the lightning flash. In less than a second, the air is heated to 15,000 to 60,000 degrees. When

the air is heated to this temperature, it rapidly expands. When lightning strikes very close by, the sound will be a loud bang, crack or snap. Thunder can typically be heard up to 10 miles away. During heavy rain and wind this distance will be less, but on quiet nights, when the storm is many miles away, thunder can be heard at longer distances.

3.2.4.2 Location The location of this hazard is uniform over the entire City area. No area of the city is more or less at risk from a lightning hazard than another.

3.2.4.3 Extent

The Vaisala map shown below shows a flash density of 4-8 flashes/square kilometer/year in the Glenpool area. Records are not kept in the City on every lightning event, unless it causes major damage to structures or starts major fires as illustrated on the previous page. City officials consider all events which contain lightning to be severe events and warrant evasive actions.



3.2.4.4 Previous Occurrences

For Tulsa County, the National Climatic Data Center (NCDC) received reports of 7 lightning strikes during the thirteen-year period from 2000 to 2012, 2 of which were in Glenpool, producing significant property damage and one death. With the frequent wind and thunderstorm activity the county experiences, it is certain that many more lightning strikes were not reported. In June of 2006 lightning struck a fuel tank which contained 5 million gallons of gasoline causing a fire. The fuel tank was part of a tank farm near the City. 800,000 gallons of fuel burned with much of the rest being pumped out of the tank. The tank was originally 48 feet tall and when the fire was finally put out by covering it with chemical foam it stood at 20 feet tall. The fire started early in the morning and was put out early that evening. Residents from five surrounding homes were voluntarily evacuated.

Table 3-7: Reported History of Lightning Events, Fatalities and Damages from 2000 to 2012

Location	Number of Events	Number of Deaths	Amount of Damage
Tulsa County	7	1	\$2,100,000
Glenpool	2	0	\$2,025,000

Lightning strikes can also cause high-voltage power surges that have the ability to seriously damage equipment and valuable data if surge protection devices are not installed properly. Property damage from power surges and resulting fires can destroy not only the electronics in private homes, but also unprotected PBXs, telecommunications equipment, wireless systems, and radio base stations.

3.2.4.5 Probability of Future Events

Meteorological conditions have not changed so future events should occur at the same probability as the previous events.

3.2.4.6 Vulnerability and Impact

The largest vulnerability to lightning is the potential loss of human life. Most people are injured or killed by lightning while participating in some form of recreation. Lightning is considered one of the top killers in the United States because it sometimes strikes in advance of the thunderstorm that produced it. At particular risk of thunderstorms are outdoor activities such as fishing, sports events, bicycling, all of which are abundant in the City of Glenpool. Glenpool does not have a public pool but does have a public

splash pad. Although the splash pad does not have an early storm warning device, the City does have a policy and procedures to clear children from the splash pad in the event of an approaching electrical storm or when conditions do not appear to be safe.

Property damage can also occur to structures, electrical equipment, water wells, etc. Damage to trees and homes would generally be under \$1,000 if a strike occurs without causing a structure fire.

3.2.5 Hail Storm Hazard

3.2.5.1 Description Hail is frozen water droplets formed inside a thunderstorm cloud. They are formed during the strong updrafts of warm air and downdrafts of cold air, when the water droplets are carried well above the freezing level to temperatures below 32 degrees Fahrenheit, and then the frozen droplet begins to fall, carried by cold downdrafts, and may begin to thaw as it moves into warmer air toward the bottom of the thunderstorm. This movement up and down inside the cloud, through cold then warmer temperatures, causes the droplet to add layers of ice and can become quite large, sometimes round or oval shaped and sometimes irregularly shaped, before it finally falls to the ground as hail.

Even small hail can cause significant damage to young and tender plants. Hail usually lasts an average of 10 to 20 minutes but may last much longer in some storms. Hail causes \$1 billion in damage to crops and property each year in the U.S. Anyone out of doors during a thunderstorm is exposed and at risk of injury from lightning. The peak periods for hailstorms are in late spring and early summer.

3.2.5.2 Location The location of this hazard is uniform over the entire City area. No area of the city is more or less at risk from the hail storm hazard than another.

3.2.5.3 Extent The severity of a hail storm is dependent upon the size and number of the hailstones. The extent of the hazard can range from damage through destruction of structures and personal property to bodily injury, depending on the size of the hail. The National Climatic Data Center has reported hail up to 2 ¾ -inches in diameter. The City of Glenpool considers any hail of H4 or higher on the NOAA/TORRO hail scale, illustrated below, to be a Major Severity.

Combined NOAA/TORRO Hailstorm Intensity Scales

Size Code	Intensity Category	Typical Hail Diameter (Inches)	Approximate Size	Typical Damage Impacts
H0	Hard Hail	Up to 0.33	Pea	No damage
H1	Potentially Damaging	0.33-0.60	Marble	Slight damage to plants, crops
H2	Potentially Damaging	0.60-0.80	Dime	Significant damage to fruit, crops, vegetation
H3	Severe	0.80-1.2	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	3.0-3.5	Baseball to	Severe damage to aircraft bodywork

	destructive		Orange	
H9	Super hailstones	3.5-40	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super hailstones	4+	Softball and up	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

3.2.5.4 Previous Occurrences According to the National Climatic Data Center, Oklahoma has experienced 4,070 hailstorm incidents with hail of at least 1-inch in diameter in the twelve-year period from January 1, 2000 to December 31, 2012. Damage to buildings and crops is unknown. Over this same time period, Glenpool has experienced 9, 1-inch or greater, hailstorm incidents.

Table 3-8: History of Significant Hail Events in Glenpool from 2000 to 2012

Date	Magnitude	Episode Narrative
4-22-2011	1.75	On the afternoon of the 22nd, a cold front pushed into the region with deep low level moisture and high atmospheric instability already in place. Severe thunderstorms developed ahead of the front with large hail up to tennis ball size, damaging wind gusts, and five brief tornadoes in eastern Oklahoma.
4-14-2011	1.0	Low pressure was centered over southern Kansas during the early afternoon of the 14th with a sharp dryline extending from the low pressure system through central Oklahoma. A moist and very unstable air mass was in place across eastern Oklahoma ahead of the dryline. Severe thunderstorms developed along the dryline during the afternoon and moved into eastern Oklahoma during the early evening hours. Large hail up to grapefruit size, damaging wind gusts, and numerous tornadoes occurred as the storms moved through the region.
6-1-2008	1.75	Widespread severe thunderstorms occurred across eastern Oklahoma from the overnight hours into the late morning hours.
5-31-2008	1.75	Severe thunderstorms occurred primarily over northeast Oklahoma during the morning of the 31st.
4-08-2008	1.0	Severe thunderstorms occurred across northeast Oklahoma during the late evening and early morning hours of the 7th and 8th.
4-22-2004	1.0	
11-23-01	1.0	

3.2.5.5 Probability of Future Events Meteorological conditions have not changed so future events should occur at the same probability as the previous events.

3.2.5.6 Vulnerability and Impact Vulnerability is difficult to evaluate since hail occurs in random locations and creates relatively narrow paths of destruction. Hail is capable of causing considerable damage to crops, buildings, and vehicles, and occasionally death to farm animals. Hail can also strip leaves and small limbs from non-evergreen trees. While large hail poses a threat to people caught outside in a storm, it seldom causes loss of human life.

- Costs and losses to agricultural and livestock producers
- Reduced yields and crop loss
- Injuries or loss of livestock
- Damage to barns and other farm buildings
- Damage to trees resulting in increased susceptibility to disease
- Urban, residential, and commercial
- Damage to buildings, possibly City of Glenpool critical facilities
- Roofs
- Windows
- Damage to automobiles, trucks, trains, airplanes, etc.
- Disruptions to local utilities and services

- Power
- Communications
- Transportation

Past storms in Glenpool have caused damage, but the dollar loss is unknown. Damage to vehicles can range from several hundred dollars to total loss of the vehicle. At times when large parking lots or dealerships get hit, losses can be in the millions of dollars. Loss from a major hailstorm damaging automobiles and structures in a larger city could total in the tens of millions of dollars.

3.2.6 Winter Storm Hazard

3.2.6.1 Description

All winter storms are accompanied by cold temperatures and blowing snow, which can severely reduce visibility. A severe winter storm is one that drops 4 or more inches of snow during a 12 – hour period, or 6 or more inches during a 24- hour span. An ice storm occurs when freezing rain falls from clouds and freezes immediately on impact. All winter storms make driving and walking extremely hazardous. The aftermath of a winter storm can impact a community or region for days, weeks, and even months. Storm effects such as extreme cold, flooding, and snow accumulation can cause hazardous conditions and hidden problems for people in the affected area. People can become stranded on the road or trapped at home, without utilities or other services. Residents, travelers and livestock may become isolated or stranded without adequate food, water and fuel supplies. The conditions may overwhelm the capabilities of a local jurisdiction.



3.2.6.2 Location

The location of this hazard is uniform over the entire City area. No area of the city is more or less at risk from the winter storm hazard than another. Winter storms are considered deceptive killers as they indirectly cause transportation accidents, and injury and death resulting from exhaustion/overexertion, hypothermia and frostbite from wind chill, and asphyxiation; house fires occur more frequently in the winter due to lack of proper safety precautions.

3.2.6.3 Extent

A winter storm can range from moderate snow over a few hours to blizzard conditions with high winds, freezing rain or sleet, heavy snowfall with blinding wind-driven snow and

extremely cold temperatures that lasts several days. Some winter storms may be large enough to affect several states while others may affect only a single community. The table below gives a range of physical intensities from winter storms along with the potential effect. The City of Glenpool considers Level 3 and Level 4 as significant events but may experience a level anywhere on this chart.

Table 3-9: The Balthrop Ice Scale

Level	Cause	Effect
Level 1; Nuisance Event, No Major Impact	Freezing rain and sleet, but little ice accumulation. Roads not hazardous. Ice forming on grass.	Little to no effect on the State of Oklahoma.
Level 2; Minor Event, Caution Advised	No measurable ice. Black ice on roads and bridges. Winter Weather Advisory.	Untreated roadways and bridges may become hazardous and slick. Livestock may need additional supplemental feed.
Level 3; Major Event, Isolated Emergency	Ice accumulations of ¼ to ½ inches. Reduced visibility.	Widespread hazardous road conditions. Travel discouraged. Isolated power

Conditions in the State of Oklahoma	Winter Storm Warning.	outages because of down power lines from ice accumulations. Tree damage. Livestock loss potential increases. Supplemental feed necessary.
Level 4; Extreme Event, The State of Oklahoma Under Full State of Emergency	Crippling event. Winds over 35 mph. Little to no visibility. Ice accumulations of more than ½ inch. Blizzard Warning.	Road conditions hazardous to impassable. People and livestock isolated. Widespread power and utility outages. Infrastructure damage. High potential for loss of livestock. Structures threatened from accumulating ice. Communications infrastructure lost from ice accumulation. May be a long lasting event.

3.2.6.4 Previous Occurrences

According to the National Climatic Data Center, 11 winter storms, 4 ice storms and 1 blizzard were reported in Tulsa County from 2000-2012 that resulted in \$101,000,000 of property damage. The specific description for each event is detailed below. The City of Glenpool was directly affected during each event.

Table 3-10: History of Severe Winter Storms and Ice Storms in Tulsa County from 2000 to 2012

Date	Episode Narrative (Excerpt)
02/08/2011 02/09/2011	A strong upper level disturbance moved from the northwestern United States southeastward into the Southern Plains on the 8th and 9th. Snow developed across the region during the evening hours of the 8th and continued through the 9th. Widespread light to moderate snow fell across eastern Oklahoma and bands of very heavy snow developed. Much of northeastern Oklahoma received more than a foot of snow while portions of far northeastern Oklahoma picked up about two feet of snow. The NWS Cooperative Observer measured 27 inches of snow in about nineteen hours from this storm. This measurement breaks the state 24-hour snowfall record. Many roads were impassable as blowing and drifting snow resulted in two to four foot snow drifts. Record cold followed this storm with temperatures falling well below zero degrees Fahrenheit on the morning of the 10th. The Oklahoma Mesonet station near Nowata measured -31 degrees Fahrenheit, a reading that breaks the all-time state minimum temperature record. Six to twelve inches of snow fell across Tulsa County.
02/04/2011	A strong upper level disturbance moved from southwest Texas to northern Texas into northern Arkansas on the 4th. Snow developed into the area during the morning hours and continued into the evening hours. Some of this snow was moderate to heavy and resulted in bands of locally heavy accumulations of up to five inches across eastern Oklahoma. Four to five inches of snow fell across Tulsa County
02/01/2011	A very strong storm system moved across the Southern Rockies into the Southern Plains on the 31st of January and 1st of February. Cold air had surged into the region ahead of this system on the 30th and 31st. Precipitation developed into eastern Oklahoma during the evening of the 31st, beginning as freezing rain and sleet. Most places transitioned to snow fairly quickly although some locations in northeastern Oklahoma and east-central Oklahoma received between one quarter and one half inch of sleet before the transition. Other locations received about one quarter of an inch of ice before changing over to snow. Heavy snow fell during most of the day resulting in more than four inch accumulations north of a Sallisaw to McAlester line. A large portion of northeastern Oklahoma received more than ten inches of snow and a swath of 20 inch snows were measured across Osage, northern Tulsa, Rogers, and Ottawa Counties. Strong winds frequently gusting to more than 35 mph resulted in near zero visibilities and

	snow drifts up to about five feet across northeastern Oklahoma. The storm had a crippling impact on the region with interstate highways impassable and closed, the Tulsa International Airport closed, and many businesses shut down for a couple days during and following the storm. The storm's effects on the area lasted days. Hundreds of traffic accidents occurred and numerous vehicles were stranded in the snow. This storm resulted in a disaster declaration. One half inch of sleet fell early in the event then twelve to sixteen inches of snow fell across Tulsa county.
01/19/2011 01/20/2011	An upper level disturbance approached the region from the northwest late on the 19th. Light freezing rain and sleet developed ahead of this system over northeastern Oklahoma late in the evening of the 19th. The precipitation changed over to snow around midnight on the 20th and continued to spread southward over time. Snow continued into the morning hours of the 20th before the system moved to the east of the region. Four to six inches of snow fell across a large portion of northeastern Oklahoma.
03/20/2010 03.21.2010	A strong upper level storm system moved from the Southern Rockies into the Southern Plains on the 20th and 21st while a cold front moved across the area on the 19th and 20th. Precipitation formed over the region late on the 19th. A mixture of rain, light freezing rain, and light sleet changed over to snow from north to south on the 20th. Periods of snow, some heavy at times, continued into the afternoon and evening hours of the 21st as the storm exited the region. Widespread four to six inch snows occurred over eastern Oklahoma with nearly a foot accumulating across portions of northeastern Oklahoma. Portions of Adair County received a foot of snow, ten inches of snow fell across portions of Latimer and Le Flore Counties, nine inches of snow fell across portions of Muskogee and Sequoyah Counties, and eight inches were reported across portions of Cherokee County. Roads were snow packed and very treacherous during and after the storm, resulting in numerous automobile accidents. Four to six inches of snow fell across Tulsa County.
01/28/2010 01/29/2010	A strong upper level low pressure system moved from Baja California into the Southern Rockies on the 28th and into the Southern Plains on the 29th. Rain changed to freezing rain and sleet during the morning and early afternoon of the 28th. The freezing rain resulted in 1/4 to 3/4 of an inch of glaze across much of northeast Oklahoma. Sleet amounts were up to an inch across portions of northeast Oklahoma. An estimated 5000 electric customers in northeastern Oklahoma were without power during the height of the storm. As the upper low neared the region on the 29th, the precipitation changed to snow with more than 4 inches falling generally north of a McAlester to Fort Smith line. Up to 8 inches of snow fell across portions of northeast Oklahoma by the evening of the 29th. Many automobile accidents occurred across the area as a result of the icy conditions, which resulted in numerous indirect injuries. One to three quarters of an inch of glaze occurred across Tulsa County along with five to eight inches of snow.
12/24/2009 12/25/2009	A strong upper level low pressure system moved from the Southern Rockies across the Southern Plains on the 24th. Widespread precipitation developed as this system approached. Arctic air gradually spread into the region behind a strong cold front changing the rain to sleet over much of northeastern Oklahoma during the morning hours and then to snow during the afternoon. Many locations received between one half and one and a half inches of sleet over the northeastern portion of the state. Periods of heavy snow followed resulting in at least four inches of snow along and north of I-40. Heavier bands of snow between eight and twelve inches fell along a Pawnee to Pawhuska line and along an Okmulgee to Vinita line. Many roads were snow covered and closed across the region, including interstate highways and turnpikes. Numerous automobile accidents occurred during this storm as roads became treacherous. These accidents resulted in three (indirect) fatalities and numerous injuries. The Tulsa International Airport was also closed during the storm with numerous flights into and out of the airport cancelled. Very strong wind with frequent gusts above 35 mph caused very low visibility in blowing snow and near blizzard conditions. Snow drifts of several feet occurred across portions of northeastern Oklahoma.

	A major disaster declaration was approved for 29 counties in Oklahoma to help with the \$18 million spent in response and recovery efforts as a result of this storm. The declaration included the following counties in eastern Oklahoma: Nowata, Craig, Ottawa, Tulsa, Rogers, Delaware, Okfuskee, Okmulgee, Muskogee, and Sequoyah. Four to eight inches of sleet and snow fell across Tulsa County.
03/28/2009	A strong upper level low pressure system translated from northwestern Texas across southeastern Oklahoma into northeastern Arkansas. Rain associated with this system changed to snow during the morning of the 28th and continued into the evening. Some of this snow became very heavy with rapid accumulations reported. Widespread four to six inch snowfalls occurred across much of northeastern Oklahoma. A persistent band of convective snow developed over portions of Tulsa, Creek, Pawnee, Osage, Okmulgee, Wagoner, and Rogers Counties with up to ten inches of snow reported across northern Creek, southeastern Pawnee, and southeastern Osage Counties.
01/26/2009 01/27/2009	Upper level disturbances passing through the Southern Plains resulted in precipitation development north of a stationary arctic front located in North Texas. Freezing rain began across the area during the late morning hours of the 26th and became more widespread and heavy during the afternoon and evening hours. Freezing rain changed to sleet north of a Okemah-Wagoner-Colcord line during the morning of the 27th with heavy freezing rain continuing south of that line. The heaviest icing and most widespread power outages and tree damage occurred across portions of Cherokee, Sequoyah, Muskogee, and Adair Counties where one to one and a half inches of ice accumulated. More than 100,000 electric customers were without power during the height of the storm in eastern Oklahoma and some customers in remote rural areas continued to be without power for more than two weeks. A 40 to 50 mile wide swath of heavy sleet occurred just to the west of the most significant ice with two to three inches accumulating along and near an Okemah-Wagoner-Grove line. Elsewhere up to an inch of sleet fell on top of the heavy ice.
03/03/2008 03/04/2008	A strong upper level storm system tracked across the Southern Plains resulting in widespread precipitation north of a cold front. The precipitation changed to snow over eastern Oklahoma during the evening of the 3rd. The snowfall was heavy at times and resulted in accumulations of four to eight inches over a number of counties before it ended. Four to six inches of snow fell across Tulsa County.
12/08/2007 12/10/2007	Arctic air spread into the region ahead of a strong storm system over the desert southwest. Several disturbances translated from the low pressure area across the Southern Plains, resulting in several periods of precipitation, including thunderstorms. Freezing rain was the dominant precipitation type during the event; the thunderstorms resulted in an increased rate of ice accumulation. One to two inches of ice accumulated on trees and power lines within a 40 mile wide band along a Bristow-Tulsa-Vinita-Miami line and one to one and a half inches of ice accumulated on exposed surfaces along a Welty-Coweta-Jay line. Nearly one million people were estimated to be without power in eastern Oklahoma after this event, some of which remained without power for up to two weeks. Early estimates indicate that this storm could be the most costly weather-related disaster in Oklahoma history. A number of indirect related injuries and fatalities were attributed to this storm in eastern Oklahoma, including seven fatalities in automobile accidents on treacherous roads; one carbon monoxide fatality due to improper use of a heat source indoors; and six fatalities due to house fires that were started by temporary heat or light sources during the power outages. There were also three direct fatalities, including one in which a male was killed in Tulsa when a utility pole fell on his vehicle due to ice weighting; and two hypothermia deaths, one in Tulsa on the 15th and one in Skiatook on the 18th. Up to two inches of ice accumulated on trees, power lines, and other exposed surfaces in Tulsa County.
01/12/2007 01/14/2007	An arctic cold front moved into northeastern Oklahoma during the late evening hours of the 11th and had finally passed through the southeastern portion of the state by the evening of the 12th. A strong upper level low pressure system moved into the southern Rockies and several disturbances translated across the Southern Plains bringing periods of heavy sleet and

	freezing rain to the region. The initial precipitation began around daybreak on the 12th and the final round occurred on the 14th. A devastating swath of one to three inch ice amounts fell in an estimated 60 to 80 mile wide band from roughly Atoka to McAlester to Muskogee to Grove. An estimated 120,000 electric customers were without power due to downed power poles and power lines within this swath, some of which were without power for more than two weeks. West of the heavy ice, one to three inches of sleet occurred with lesser amounts of freezing rain, generally between 1/4 to 1/2 inch.
02/18/2006 02/20/2006	Arctic air spread into the region on the 16th setting the stage for a period of wintry precipitation as several upper level disturbances moved through the area from the 17th through the 20th. Precipitation began during the late evening on the 17th as the first disturbance approached. A combination of freezing rain, sleet, and snow began accumulating during the late evening hours of the 17th and by daybreak on the 18th had resulted in significant impact across the region. The first round of wintry precipitation ended around midday on the 18th but another began during the evening hours of the 19th, which continued through the early morning hours of the 20th.
12/03/2002 12/04/2002	An upper level system moving out of the desert southwest into the southern plains interacted with cold air near the surface to produce freezing rain from the afternoon hours on December 3rd to the early morning hours on December 4th. The freezing rain resulted in ice on power lines and trees causing power outages. The power outages were the most widespread to the west and north of Tulsa in western Tulsa, northern Creek, Pawnee, Osage, Washington and Nowata counties. At one time 4,000 homes were without power in Sand Springs and 2,000 homes were without power in Bartlesville. The cities of Drumright, Skiatook and Nowata also experienced significant power outages. Isolated power outages occurred in the rural areas of Rogers, Craig, Mayes, Ottawa and Delaware counties. In addition to the power outages, many roads in the area became slick and hazardous. Several schools were closed on the 4th.
12/25/2000 12/27/2000	Summary of winter weather events for December 25-27 2000. A slow moving winter storm moved across the State Christmas day bringing heavy freezing rain and dangerous ice accumulations. While all of Eastern Oklahoma received significant ice accumulations, East Central and Southeast Oklahoma were hardest hit. One to two inches of ice accumulation were common in these areas with locally higher amounts. Over 500 power poles were downed during the event and over 200,000 Oklahomans were without power. The heavy ice accumulations also left thousands without telephone and water service. Some locations in Southeast Oklahoma were without utility services for more than a week. Numerous shelters and feeding sites were established across Southeast Oklahoma to provide water, food and a warm place to sleep. Thousands of trees were damaged across Southeast Oklahoma including 7 State parks where damage was estimated at over 1 million dollars. Numerous reports of trees downed on vehicles and homes were reported across Southeast Oklahoma. Some of the areas that experienced the most damage were in Pittsburg, Latimer and LeFlore counties. While damage estimates were not finalized as of late February, a preliminary total for the state was \$168.9 million.
12/11/2000	A strong Arctic cold front moved south across Eastern Oklahoma on the morning of December 11, 2000. Freezing rain and freezing drizzle developed behind the boundary producing a thin layer of ice on pavement surfaces. Cold temperatures produced black ice across a large portion of Eastern Oklahoma. This thin layer of ice was responsible for numerous accidents during the morning commute across a large portion of Eastern Oklahoma. No widespread power outages were reported. Many area schools and some government offices were also closed due to the slick roads.

3.2.6.5 Probability of Future Events Meteorological conditions have not changed so future events should occur at the same probability as the previous events.

3.2.6.6 Vulnerability and Impact The City of Glenpool is affected periodically by heavy snow and ice that cause damage. Trees and power lines fall due to the weight of ice and snow causing damage to their surroundings as well

as blocking streets and roads. Icy roads cause accident rates to increase and impair the ability for emergency vehicles to respond which can result in more injuries and a higher loss of life.

Winter storms can range from accumulating snow and/or ice over just a few hours to blizzard conditions with blinding wind-driven snow that can last several days. The aftermath from a damaging winter storm can continue to impact a region for weeks and even months. Economic losses can occur to any business in the affected areas. Water systems can shut down and frozen pipes can disrupt social services, schools, homes, and businesses. Carbon monoxide poisoning is always a possibility as homeowners and businesses use alternative heat sources to keep warm. Personal health can be affected in a variety of ways including mental and physical stress, frostbite or related injuries and inability to travel for care.

Cold waves pose a variety of threats to individuals and communities. The list below summarizes some of the most common impacts of cold waves.

- Costs and losses to livestock producers
 - Loss of livestock due to exposure
 - Greater mortality due to Increased vulnerability to disease
 - Increased feed costs
 - Reduced milk production
 - Cost of supplemental water for livestock if onsite ponds and streams are frozen
 - Machinery and farm vehicles that will not operate in cold weather
- Urban, residential, and commercial impacts
 - Availability of water for municipal use due to frozen and burst water lines
 - Homes with alternative energy sources
 - House fires from overburdened chimneys
 - Carbon monoxide poisoning from exhaust produced by heaters and generators
 - Vehicles that will not operate in cold weather
 - Cost of keeping transportation lanes clear of ice and snow
- Health
 - Mental and physical stress in the form of "cabin fever"
 - Frostbite and hypothermia
 - Disruption of services
 - Government offices and schools closed
 - Garbage collection halted
- General economic effects
 - Revenue loss from lost production in business and industry
 - Negative impact of economic multipliers
 - Higher energy costs
 - Damage to animal species
 - Loss of wildlife, particularly if cold wave is coupled with prolonged snow cover that makes sources of food unavailable
 - Greater mortality due to increased vulnerability to disease
 - Loss of trees and woody shrubs that are not hardy enough to survive prolonged exposure to cold temperatures, especially when soil moisture is low
 - Pollution from increased energy production

A major winter storm can be lethal. Preparing for cold weather conditions and responding to them effectively can reduce the dangers caused by winter storms.

As noted under Previous Occurrences, the City of Glenpool has a history of winter storms and ice storms. These ranged in severity from heavy snow to severe ice conditions. Winter storms created numerous problems for residents and local government due to loss of work time and revenue, wear and tear on city equipment, and the additional expense in dealing with the situation. Winter storms will continue to occur in the Glenpool area but proper mitigation efforts can alleviate the effects of winter storms on the citizens. Mitigating ice storm damage must be a

joint effort by **City of Glenpool** and County workers, private land owners, and corporate entities. Regular trimming by all levels of participants can substantially reduce the damage caused by future episodes.

3.2.7 Heat Hazard

3.2.7.1 Description The Glenpool area of Northeast Oklahoma, as part of the Southern Great Plains, is prone to wide swings of temperature. Summertime temperatures routinely climb above the 100-degree mark, and wintertime temperatures dip below zero. Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a “dome” of high atmospheric pressure traps hazy, damp air near the ground.

The hottest period of the summer extends from mid-July through mid-August. The gradually shortening days and the occasional arrival of cooler weather from the North frequently bring modest relief from the heat by late August. Overall, August, the third and final month of the climatological summer, is Oklahoma's second hottest, fifth driest, and least windy month. The normal statewide monthly temperature is 80.9 degrees Fahrenheit.

3.2.7.2 Location The location of this hazard is uniform over the entire City area. No area of the city is more or less at risk from the heat hazard than another.

3.2.7.3 Extent The Heat Index is a measure of the severity of a heat hazard. This index is designed to indicate how the heat and humidity in the air combine to make individuals feel. It relates index ranges with specific heat disorders. Tulsa County can experience index readings into the heat stroke range. Higher humidity plus higher temperatures often combine to make us feel a superficial temperature that is higher than the actual air temperature. The City of Glenpool considers any reading 105 degrees and hotter to be a major severity.

Table 3-11 Heat Index

Temperature (F) versus Relative Humidity (%)						
°F	90%	80%	70%	60%	50%	40%
80	85	84	82	81	80	79
85	101	96	92	90	86	84
90	121	113	105	99	94	90
95		133	122	113	105	98
100			142	129	118	109
105				148	133	121
110						135

HI	Possible Heat Disorder:
80°F - 90°F	Fatigue possible with prolonged exposure and physical activity.
90°F - 105°F	Sunstroke, heat cramps and heat exhaustion possible.
105°F - 130°F	Sunstroke, heat cramps, and heat exhaustion likely, and heat stroke possible.
130°F or greater	Heat stroke highly likely with continued exposure.

3.2.7.4 Previous Occurrences According to the NOAA Storm Events Data Base, 9 deaths and 757 injuries resulted from 19 excessive heat episodes from 2007 to 2012 in Tulsa County where the City of Glenpool is located. Structural damage is not considered applicable for a heat hazard for either the City or Tulsa County.

3.2.7.5 Probability of Future Events Meteorological conditions have not changed so future events should occur at the same probability as the previous events.

3.2.7.6 Vulnerability and Impact

The State of Oklahoma has a significant Extreme Heat hazard due to its climate, and the City of Glenpool and the surrounding Tulsa County area is no exception. During the summer months of July and August, Glenpool may experience several days exceeding 100 degrees. According to the Centers for Disease Control and Prevention (CDC) (MMWR Weekly, July 28, 2006, 55(29); 796-798) from 1993 to 2003, a total of 3,442 Americans died (annual mean was 688) from extreme heat related issues. Sixty-six percent of the deaths were male and the age categories for all fatalities are as follows: 7% < 15 years old, 53% were between 15 and 64 years old and 40% were $\geq$ 65 years old. In Oklahoma, July is generally the hottest month of the year, followed by August.

Heat kills by pushing the human body beyond its limits. Under normal conditions, the body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.

Most heat disorders occur because the victim has been overexposed to heat or has over exercised for his or her age and physical condition. Other conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can provoke dust storms and low visibility. Drought occurs when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

Extreme heat can have a serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources. Moreover, damage to food supplies may occur as the heat damages agricultural crops and livestock are susceptible to heat related injuries or death. Extreme heat also often affects local infrastructure. Concrete roads can explode or crack, and asphalt roads tend to soften with continued heat. The damaged roads can create a significant drain on city resources, which in some cases results in loss of revenue to merchants and businesses in Glenpool. Extreme heat can also affect city personnel who work out-of-doors, and critical outside work may have to be reduced or halted during heat situations.

Young children, elderly people, and those who are sick or overweight are more likely to become the victims of extreme heat. Other conditions that can limit the ability to regulate temperature include fever, dehydration, heart disease, mental illness, poor circulation, sunburn, prescription drug use, and alcohol use. Another segment of the population at risk is those whose jobs consist of strenuous labor outside. When temperatures reach 90 degrees and above, people and animals are more likely to suffer sunstroke, heat cramps, and heat exhaustion.

Another extreme heat hazard is air pollution. During summer months, consistent high temperatures and stagnant airflow patterns cause a build-up of hydrocarbons to form a dome-like ceiling over large cities. The abundance of factories, automobiles, lawn equipment and other internal combustion machines emit high particulate matter that builds and worsens with the increase in temperature. The resulting stagnant, dirty, and toxic air does not move away until a weather front arrives to disperse it. When the particulate matter reaches a pre-determined level, an ozone alert is issued for the Tulsa area and implementation measures are undertaken to reduce the use of cars and the output of the offending chemicals. Ozone alerts in the Glenpool area usually include advisories for the elderly and those with breathing difficulties to stay indoors in air-conditioned environments.

3.2.8 Drought Hazard

3.2.8.1 Description

A drought is a period of drier-than-normal conditions that results in water-related problems. Precipitation (rain or snow) falls in uneven patterns across the country. When no rain or only a small amount of rain falls, soils can dry out and plants can die. When rainfall is less than normal for several weeks, months, or years, the flow of streams and rivers declines, water levels in lakes and reservoirs fall, and the depth to water in wells decreases. If dry weather persists and water supply problems develop, the dry period can become a drought. The first evidence of drought usually is seen in records of decreased rainfall. Within a short period of time, the amount of moisture in soils can begin to decrease

3.2.8.2 Location

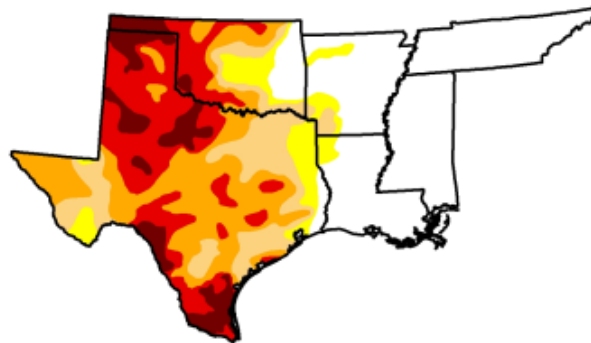
The location of this hazard is uniform over the entire City area. No area of the city is more or less at risk from the drought hazard than another.

3.2.8.3 Extent

U.S. Drought Monitor South

May 7, 2013
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	36.77	63.23	56.17	43.82	24.87	7.66
Last Week (04/30/2013 map)	36.44	63.56	56.10	44.27	22.46	5.95
3 Months Ago (02/05/2013 map)	34.65	65.35	55.82	41.66	23.91	9.20
Start of Calendar Year (01/01/2013 map)	21.18	78.82	63.69	50.50	32.80	10.98
Start of Water Year (09/25/2012 map)	24.13	75.87	66.61	51.50	29.86	9.11
One Year Ago (05/01/2012 map)	45.10	54.90	36.70	26.40	12.92	4.39



Intensity:

D0 Abnormally Dry	D3 Drought - Extreme
D1 Drought - Moderate	D4 Drought - Exceptional
D2 Drought - Severe	

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, May 9, 2013
National Drought Mitigation Center,

Based on the intensity scale above the City of Glenpool considers a reading of D2 and below to be a minor severity and a reading of D3 and above to be a major severity.

3.2.8.4 Previous Occurrences

One of the greatest natural disasters in U.S. history and the most severe and devastating to Oklahoma was the decade-long drought in the 1930s that has become known as the Dust Bowl. Reaching its peak from 1935 through 1938, high temperatures and low rainfall combined to destroy crops and

livestock. High winds literally blew the land away, causing massive soil erosion. Hundreds of small rural communities were ruined and about 800,000 people were displaced. The total expenditure by the American Red Cross for drought relief in Oklahoma in 1930-1931 was the third largest ever in the nation.

In northeastern Oklahoma, where the City of Glenpool is located, an area referred to as “Green Country” for its lush forests and preponderance of lakes, streams and waterways, is not immune to the growing spread of drought. According to the National Climatic Data Center, there have been 8 drought events in Tulsa County, which includes Glenpool from 2000 through 2014.

Table 3-12: History of Drought Events in Tulsa County (and Glenpool) from 2000 to January 2014

01/01/2014 01/31/2014	Several storm systems brought generally light precipitation to eastern Oklahoma during early to mid-January 2014. Toward month's end, a strong storm system moved across the region producing one half to more than three inches of rain as widespread showers and thunderstorms tracked across the area. As a result of this rain event on the 29th, portions of northeastern Oklahoma ended up receiving near normal to well above normal monthly precipitation while much of southeastern Oklahoma received well below normal precipitation. Due to the persistent dry pattern the area had experienced for much of 2012, the rainfall during January 2014 generally resulted in only a very slight improvement in the overall drought conditions over eastern Oklahoma. Much of the region remained in extreme drought (D3) conditions during the month while Osage, Pawnee, Washington, Creek, and Nowata Counties remained in exceptional drought (D4) conditions. Monetary damage estimates resulting from the drought were not available.
12/01/2012 12/31/2012	Precipitation over eastern Oklahoma continued below normal during December 2012, ranging from 0.25 inches near the Kansas/Missouri border to nearly four inches locally in southeastern Oklahoma. Much of southeastern Oklahoma received between 75 and 90 percent of normal precipitation while much of northeastern Oklahoma north of I-44 only received between 10 and 25 percent of normal precipitation. As a result of this continued dry weather, most of eastern Oklahoma remained in extreme drought (D3) conditions while exceptional drought (D4) conditions continued across much of Osage, Pawnee, Washington, and Creek Counties. Monetary damage estimates resulting from the drought were not available.
11/01/2012 11/30/2012	November 2012 was extremely dry across all of eastern Oklahoma. In fact, the entire region received less than 50 percent of its normal average precipitation for the month with much of the region south of I-44 receiving less than 25 percent of normal precipitation. Portions of far southeastern Oklahoma only received about 5 percent of normal precipitation for the month. For the southeastern climate region of the state, November 2012 was the second driest on record and rainfall received during the Autumn months also went down as the second driest Autumn period on record. As a result of this continued dry weather, most of eastern Oklahoma remained in extreme (D3) drought conditions while exceptional (D4) drought conditions persisted across much of Pawnee, Osage, Washington, and Creek Counties. Monetary damage estimates resulting from the drought were not available.
10/01/2012 10/31/2012	Rainfall during October 2012 was once again below normal across much of eastern Oklahoma. The exception was across northern Tulsa County and much of Rogers County, where thunderstorms brought locally heavy rainfall to those areas during the middle of the month. Most of eastern Oklahoma received

	between 25 and 75 percent of normal rainfall for the month, while the east-central portion of the state received less than 25 percent of normal rainfall for that region. Severe (D2) to extreme (D3) drought conditions persisted across all of eastern Oklahoma during the month while exceptional (D4) drought conditions persisted across much of Pawnee, Osage, Washington, and Nowata Counties. Monetary damage estimates resulting from the drought were not available.
09/01/2012 09/31/2012	Rainfall was once again sporadic across eastern Oklahoma during September 2012 with hot and dry weather dominating the region throughout much of the month. A few cold frontal passages did yield some much needed rainfall but it was too spotty to make a real difference in the ongoing drought conditions across the area. Despite a few locations actually receiving slightly above normal precipitation during the month, the area as a whole received between 25 and 75 percent of normal. Much of Osage and Pawnee Counties received less than 25 percent of normal average rainfall for the month. Exceptional (D4) drought conditions persisted during the month across much of northeastern Oklahoma along and north of I-44 while extreme (D3) drought conditions persisted across the remainder of eastern Oklahoma. Monetary damage estimates resulting from the drought were not available.
08/01/2012 08/31/2012	Rainfall was typically sporadic for August across eastern Oklahoma. Much of the region received below average rainfall for the month with areas north of I-44 only receiving between 10 and 25 percent of normal rainfall. Given the prolonged period of unusually dry weather that the region has experienced, the precipitation that was received in August 2012 did little to improve the drought, which had slipped into the extreme (D3) category across much of eastern Oklahoma early in the month. Much of the area north of I-40 had moved into the exceptional drought (D4) category by the middle of the month. Monetary damage estimates resulting from the drought were not available.
07/01/2012 07/30/2012	Very hot temperatures combined with a lack of appreciable rainfall resulted in significantly worsening drought conditions across all of eastern Oklahoma during the month of July. Much of northeastern Oklahoma received less than 25 percent of average precipitation for the month while much of the southeastern portion of the state received less than 50 percent of average monthly precipitation amounts. By the end of the month, much of eastern Oklahoma was considered to be in extreme drought (D3). The USDA declared all counties in eastern Oklahoma disaster areas due to the drought. Monetary damage estimates resulting from the drought were not available.
11/01/2011 11/30/2011	Several precipitation events resulted in widespread, significant rainfall across much of eastern Oklahoma during the month with much of the region receiving between four and eight inches of precipitation. Rainfall totals for the month were from about 2.50 inches across portions of Osage and Pawnee Counties (about 75 percent of normal rainfall for the month) to 15 to 20 inches across southern Le Flore County (from 200 to 300 percent of normal rainfall for the month). As a result of this rainfall, drought conditions across much of eastern Oklahoma improved during the month with the exception of Osage, Pawnee, Washington, and Nowata Counties where severe drought conditions persisted. Monetary damage estimates resulting from the drought were not available.

3.2.8.5 Probability of Future Events

Meteorological conditions have not changed so future events should occur at the same probability as the previous events.

3.2.8.6 Vulnerability and Impact

Lack of fresh water is damaging to livestock and crops. During the summer months, temperatures in the Glenpool area can easily reach over 100 degrees Fahrenheit. Often these high temperatures will persist for many days and possibly for weeks. When these high temperatures coincide with times of little or no rain, drought can occur.

The effects of a drought on flow in streams and rivers or on water levels in lakes and reservoirs may not be noticed for several weeks or months. Water levels in wells may not reflect a shortage of rainfall for a year or more after the drought begins. A period of below-normal rainfall does not necessarily result in drought conditions. Some areas of the United States are more likely to have droughts than other areas. In humid, or wet, regions, a drought of a few weeks is quickly reflected in a decrease in soil moisture and in declining flow in streams. In arid, or dry, regions, such as Oklahoma, people rely on ground water and water in reservoirs to supply their needs. They are protected from short-term droughts, but may have severe problems during long dry periods because they may have no other water source if wells or reservoirs go dry. Drought conditions increase fire hazards and reduce water supplies.

Heat and drought also effect local workforce capabilities. Workers exposed to these elements must be monitored for heat exhaustion and heat stroke. Another problem associated with drought is stale water. Areas of stale water are known to produce deadly bacteria.

Drought impacts are far reaching and capable of affecting the economy as well as the environment. Specific impacts can include:

- reduced crop, rangeland;
- increased livestock and wildlife mortality rates;
- reduced income for farmers and agribusiness;
- increased fire hazard;
- reduced water supplies for municipal/industrial, agricultural and power uses;
- damage to fish and wildlife habitat;
- increased consumer prices for food;
- reduced tourism and recreational activities;
- unemployment;
- reduced tax revenues because of reduced expenditures; and
- foreclosures on bank loans to farmers and businesses.

The most direct impact of drought is economic loss rather than loss of life or immediate destruction of property. While drought impacts in Oklahoma are numerous and often dependent upon the timing and length of individual drought episodes, the greatest impacts of drought are usually experienced in the agricultural community. In addition to the obvious direct losses of both crop and livestock production due to a lack of surface and subsurface water, drought is frequently associated with increases in insect infestations, plant disease, and wind erosion.

One of the most significant potential impacts of drought relates to public water supply. In metropolitan areas, including the City of Glenpool, there may be a need to stop washing cars, cease watering the grass and take other water conservation steps. In smaller communities, reduced flow in rivers and streams can have a significant effect on the water amount allowed for municipal use. Hot weather during the summer increases demand and subsequent use of supplies, as well as evaporation. In turn, increased water demand can stress many smaller and/or antiquated delivery and treatment facilities to the point of collapse. The City of Glenpool receives its water supply from the Tulsa Metropolitan Utility Authority.

Water shortages can also affect firefighting capabilities in both urban and rural settings through reduced water flows and pressures. Most droughts dramatically increase the danger of fires on wild land. Although drought can have a serious impact during winter months, it is most often associated with extreme heat. Wildlife, pets, livestock, crops, and humans are vulnerable to the high heat that can accompany drought.

3.2.9 Expansive Soils Hazard

3.2.9.1 Description Soils and soft rock that tend to swell or shrink due to changes in moisture content are commonly known as expansive soils. Changes in soil volume present a hazard primarily to structures built on top of expansive soils. The most extensive damage occurs to highways and streets. The effect of expansive soils are most prevalent in regions of moderate to high precipitation, where prolonged periods of drought are followed by long periods of rainfall.

Soils containing expansive clays become very sticky when wet and usually are characterized by surface cracks or a "popcorn" texture when dry. Therefore, the presence of surface cracks is usually an indication of an expansive soil.

3.2.9.2 Location The Natural Resources Conservation Service (NRCS) has identified the soils in Tulsa County. The expansive tendency of a soil is a function of its shrink-swell potential. The locations of these types of soils are shown in Figure 1-12 in Appendix 1.

3.2.9.3 Extent The NRCS in Tulsa County sorts shrink-swell potential soil property into five categories: very low, low, moderate, high, and very high. Shrink-swell potential categories are based on the change in length of an unconfined clod, as moisture content increases from air-dry to filled capacity. For mapping purposes these categories are combined into three categories: low and very low are considered low, moderate and high and very high are considered to be severe.

Table 3-13: NRCS Tulsa County Magnitude of Expansive Soils Hazard (including Glenpool)

CATEGORIES	PERCENT OF CHANGE
Very low	< than 1%
Low	1 to 3%
Moderate	3 - 6%
High	6 - 9%
Very high	> than 9%

This is the range of magnitude of an expansive soils hazard. There is little risk of fatalities or injuries unless the soil situation caused a partial or full collapse of a building. The City of Glenpool considers low and moderate categories to be a minor severity and the severe category to be a major severity. There is a significant presence of moderate and severe category soils in the Glenpool area.

3.2.9.4 Previous Occurrences The City of Glenpool and Tulsa County does not have disaster information on Expansive Soils because a catastrophic event has not and probably won't occur. This hazard develops gradually and is difficult to attribute dollar amounts to this hazard. No history is available because there are no reported losses. No specific information is available for the Glenpool area on how expansive soils have damaged structures.

3.2.9.5 Probability of Future Events The potential for serious Expansive Soil events in the City of Glenpool is Occasional, due to the significant presence of expansive soils within the City. The soils' properties obviously do not change so future occurrences of soils expanding and contracting will continue. An estimate of future occurrences is shown in the Likelihood Rating field in the Hazard Summary Table in Appendix 6.

3.2.9.6 Vulnerability and Impact Vulnerabilities include structures with foundations such as homes and businesses, concrete slabs in driveways and sidewalks, and parking lots. Asphalt surfaces on highways and streets in Glenpool have been occasionally affected. These structures are affected because expansive soils cause uneven settlement of the soil under the structures' foundations. This causes cracking and damage to the foundation and structure above the foundation, such as a building's wall and a road's pavement

In Glenpool, the most obvious appearance of damage to buildings are sticking doors, uneven floors, and cracked foundations, floors, walls, ceilings, and windows. If damage is severe, the cost of repair may exceed the value of the building and force residents to relocate. The most extensive damage from expansive soils occurs to highways and streets. Risk of fatalities or injuries is minimal unless the soil situation causes a partial or full collapse of a building.

Some areas in Glenpool are at higher risk to expansive soils than others as illustrated in Figure 1-12, but a dollar amount for damages is difficult to ascertain or assign to this particular hazard since very little incident record keeping is done. Although no records exist concerning damage to residential and commercial buildings from expansive soils, some damages due to expansive soils may have occurred.

3.2.10 Wildfire Hazard

3.2.10.1 Description Wildfires are defined as the uncontrolled burning of highly vegetated area, usually in forests and wooded areas. Wildfire has been a natural part of Glenpool and Northeast Oklahoma's ecosystem. Long before the Glenpool area was settled, wildfires ran across the prairies, replenishing nutrients to the soils and controlling invasive plant species. As suburban development has occurred, however, the interaction of wildfire and the environment has changed. Now, people and structures are at risk from flames spreading across the grasslands and wooded areas of Glenpool. Today, the developed areas of Glenpool lie alongside wild lands, creating an urban-wildland interface that is at risk of uncontrolled burns. Glenpool does not have any significant wooded areas, but grass fires in the undeveloped areas pose a problem every year.

Weather plays a major role in the birth, growth and death of a wildfire. Drought leads to extremely favorable conditions for wildfires, and winds aid a wildfire's progress. The combination of wind, temperature and humidity affects how fast wildland fires can spread. These combinations will change throughout the day and night, and the presence of fire will impact each factor, causing even greater variation.

3.2.10.2 Location Glenpool is characterized by low residential densities and the presence of wildland-urban interface areas throughout the community. The Glenpool Fire Department has determined that all locations throughout the City area are susceptible to grass fires. The degree of susceptibility is dependent upon seasonal environmental factors such as current and antecedent weather (including wind velocity and humidity), fuel types, and both live and dead moisture. Changes in these factors raise or lower the fire danger rating throughout the community. The urban interface is where the main risk and vulnerability exists. The exhibit illustrated below represents currently identified interface areas within the community.



3.2.10.3 Extent The City of Glenpool and surrounding Tulsa County experiences a variety of wildfire conditions found in the Keetch-Byram Drought Index. Spring usually centers on the 0-200 rating while July through December are usually drier and depending on fuel and moisture usually will rate in the 400-600 range. During extreme dry and or drought times such as during 2005-2006, the Glenpool area will be rated at 600-800.

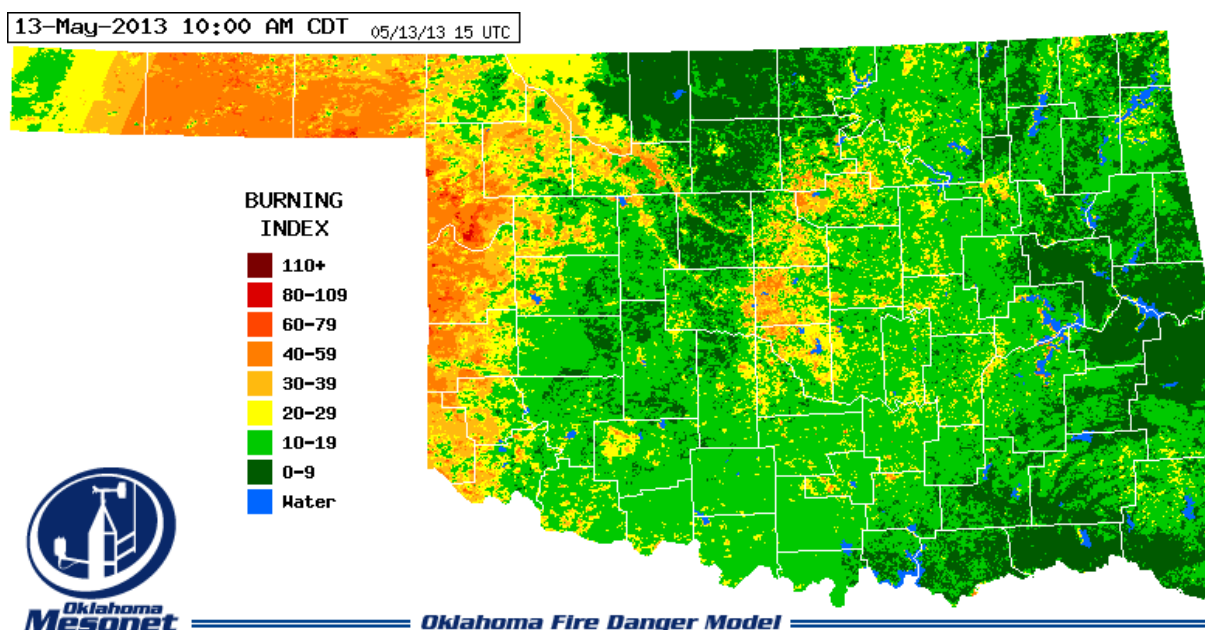
There are three different classes of wildland or wildfires. A surface fire is the most common type and burns along the floor of a forest, moving slowly and killing or damaging trees. A ground fire is usually started by lightning and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by jumping along the tops of trees. Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires often begin unnoticed and spread quickly, igniting brush, trees, and homes. The magnitude of the fire hazard in Glenpool is “highly likely”, based on the likelihood rating in the Hazard Summary in Appendix 6. There were a total of 182 grass fires during the years 2005 through 2010.

The Keetch-Byram Drought Index (KBDI) <i>fire danger rating system</i>	
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

Fire Danger Rating System		
Rating	Basic Description	Detailed Description
CLASS 1: Low Danger (L) COLOR CODE: Green	fires not easily started	Fuels do not ignite readily from small firebrands. Fires in open or cured grassland may burn freely a few hours after rain, but wood fires spread slowly by creeping or smoldering and burn in irregular fingers. There is little danger of spotting.
CLASS 2: Moderate Danger (M) COLOR CODE: Blue	fires start easily and spread at a moderate rate	Fires can start from most accidental causes. Fires in open cured grassland will burn briskly and spread rapidly on windy days. Woods fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel – especially draped fuel -- may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious and control is relatively easy.
CLASS 3: High Danger (H) COLOR CODE: Yellow	fires start easily and spread at a rapid rate	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High intensity burning may develop on slopes or in concentrations of fine fuel. Fires may become serious and their control difficult, unless they are hit hard and fast while small.
CLASS 4: Very High Danger (VH) COLOR CODE: Orange	fires start very easily and spread at a very fast rate	Fires start easily from all causes and immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics - such as long-distance spotting – and fire whirlwinds, when they burn into heavier fuels. Direct attack at the head of such fires is rarely possible after they have been burning more than a few minutes.
CLASS 5: Extreme (E) COLOR CODE: Red	fire situation is explosive and can result in extensive property damage	Fires under extreme conditions start quickly, spread furiously and burn intensely. All fires are potentially serious. Development into high-intensity burning will usually be faster and occur from smaller fires than in the Very High Danger class (4). Direct attack is rarely possible and may be dangerous, except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks, until the weather changes or the fuel supply lessens.
source: http://www.wfas.net/content/view/34/51/		

Wildfires are generally started by humans, either through arson or by carelessness. This was the situation in 2011-2012 when numerous wildfires broke out in Northeast Oklahoma, largely due to the dry drought conditions. Many were started by discarded cigarettes, careless trash burning or other miscellaneous methods. Nationally only 2% of wildfires are started by lightning. Few if any of these fires were started by lightning. The Current Oklahoma Fire Danger Model is illustrated below.



The BI yields expected flame height in tenths of feet. For example, values of 80-109 in much of far Western Oklahoma suggests potential flame lengths of 8-11 ft. BI values are highly dependent on hour to-hour weather changes. BI values often exceeded 100 across much of Northeast Oklahoma during several January afternoons.

Fire intensity is controlled by both short-term weather conditions and longer-term vegetation conditions. During intense fires, under story vegetation, such as leaves, small branches, and other organic materials that accumulate on the ground, can become additional fuel for the fire. The most explosive conditions occur when dry, gusty winds blow across dry vegetation. In order to represent both processes, the Fire Danger Model uses two measures: The Burning Index (BI) and Keetch-Byram Drought Index (KDBI).

The Burning Index is a short-term response to meteorological factors. The burning index includes real-time observations of temperature, relative humidity, wind speed and solar radiation. It applies those factors to a vegetation model, which includes the “relative greenness” – a satellite-derived measure of the health of the vegetation – and fuel models for native vegetation, assigned on a 1-kilometer grid across the State of Oklahoma. The model uses these inputs to produce four indices: Spread Component, Energy Release Component, Ignition Component, and Burning Index. Burning Index is a synthesis of the Spread and Energy Release components, and infers fire line intensity and flame length. The higher the number, the more difficult it is to fight a wildfire.

Flame Length (ft)	Fire Line Intensity (Btu/ft/s)	Interpretations
4 (BI <40)	<100	Fires can generally be attacked at the head or flanks by persons using hand tools. Hand line should hold the fire.
		Fires are too intense for direct

4-8 (BI=40-80)	100-500	attack on the head by persons using hand tools. Hand line cannot be relied on to hold fire. Equipment such as dozers, pumpers, and retardant aircraft can be effective.
8-11 (BI=80-110)	500-1,000	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
> 11 (BI > 110)	> 1,000	Crowning, spotting, and major fire runs are probable. Control efforts at head of fire are ineffective.

Fine fuels, such as small twigs and vegetation litter, respond quickly to changing weather conditions and can dry quickly following a rain. Locations with a higher average burning index most likely have experienced repeated episodes of high fire danger, although individual events can peak at locations that are not as prone to high fire danger. Nearly one in three of the 120 Oklahoma Mesonet stations, which have continuous records from July 1996 – present, have peaked in the upper category of the Burning Index (BI >110). While many of these locations are in western Oklahoma, the Glenpool area also experiences times where wind speeds are higher and humidity is lower, contributing to more favorable burning conditions.

The City of Glenpool considers a Fire Line Intensity of < or = 500 to be a minor severity and a Fire Line Intensity of >500 to be a major severity.

3.2.10.4 Previous Occurrences The City of Glenpool responded to a total of 3,769 runs for all incidents during the six year period 2005 through 2010 in and around the City of Glenpool, 182 of these runs were for grass fires.

Table 3-14: Number of Grass Fires per Year

Year	Number of Grass Fires
2005	32
2006	34
2007	22
2008	37
2009	30
2010	27
Total	182

Data supplied by the City of Glenpool Fire Department

3.2.10.5 Probability of Future Events The Glenpool Fire Department is continuing with its campaign to educating the public on the causes and effects of fires. However, all fires cannot be prevented so this hazard will continue.

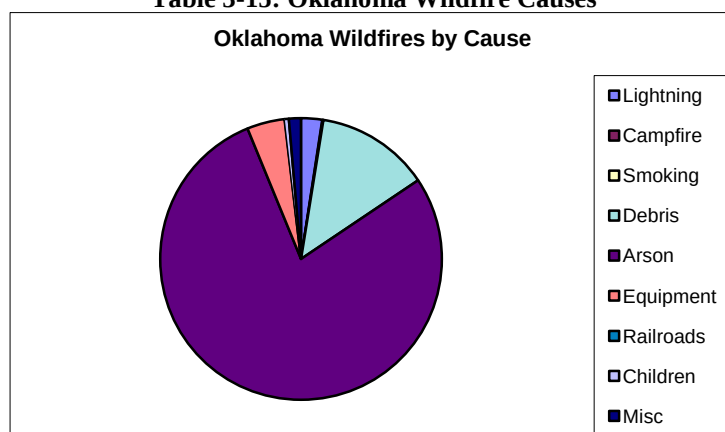
3.2.10.6 Vulnerability and Impact Periods of drought, dry conditions, high temperatures, and low humidity set the stage for wildfires. Areas along railroads and people whose homes are in woodland settings (especially cedar woodlands) in rural areas have an increased risk of wildfire. The sparsely populated tall grassed range lands are capable of experiencing large sweeping fires. Ironically, fire suppression is capable of creating larger fire hazards, because live and dead vegetation is allowed to accumulate in areas where fire has been excluded.



According to Oklahoma Forestry Services information people start 9 out of 10 wildfires, usually as debris burns, arson, or carelessness. Lightning strikes are another leading cause of wildfires. Other sources of ignition include railroads, catalytic converters on automobiles, and spontaneous ignition of hay bales. It is difficult to calculate damages caused by wildfires that do not encounter a human population. Homes and businesses that are burned in naturally occurring fires are usually privately owned. When wild lands are destroyed by fire, the resulting erosion can cause heavy silting of streams, rivers, and reservoirs. Serious damage to aquatic life, irrigation, and power production then occurs.

This vulnerability to wildfire results in over 18,000 wildfires in the State each year. These fires burn about 300,000 acres. As stated above, a majority of these wildfires are caused by humans. In fact, Oklahoma's fire risk is more closely associated with the presence of people than with fire danger or fuel types. Since human activity accounts for such a high percentage of the wildfires, there is limited opportunity for mitigation through public awareness and education. The City of Glenpool does not have a significant problem with wildfire because of its urban nature and burning ordinances, it does have the potential for major fires, particularly along the outer edges of the city as identified in the figure locating interface areas above that are a significant concern to the City.

Table 3-15: Oklahoma Wildfire Causes



Arson is responsible for a large percentage of all wildfires. Based on the above data, Oklahoma has a high probability of future hazard events. On average, fires kill nearly 5,500 Americans each year. Over 30,000 people are injured in fires annually. In the United States, someone dies in a fire every 40 minutes. Most often, victims are children or the elderly. Nearly 25 percent of the fires that kill young children are started by children playing with fire. Approximately 1,300 senior citizens die in fires annually. Approximately three-quarters of all fire fatalities occur in residential dwellings. Each year in the US, fire causes over \$2 billion worth of damage to homes.

The national fire death rate in 2006 was 13.2 deaths per million populations. Oklahoma ranks 12th in the nation with a 2006 fire death rate of 19.1 deaths per million populations. (FEMA U.S. Fire Administration State Fire Death Rates)

3.2.11 Earthquake Hazard

3.2.11.1 Description An earthquake is a sudden, rapid shaking of the Earth caused by the breaking and shifting of rock beneath the Earth's surface. For hundreds of millions of years, the forces of plate tectonics have shaped the Earth as the huge plates that form the Earth's surface move slowly over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free causing the ground to shake. Most earthquakes occur at the boundaries where the plates meet; however, some earthquakes occur in the middle of plates. Earthquakes strike suddenly, without warning. Earthquakes can occur at any time of the year and at any time of the day or night. On a yearly basis, 70 to 75 damaging earthquakes occur throughout the world. Estimates of losses from a future earthquake in the United States approach \$200 billion. There are 45 states and territories in the United States at moderate to very high risk from earthquakes, and they are located in every region of the country. California experiences the most frequent damaging earthquakes; however, Alaska experiences the greatest number of large earthquakes—most located in uninhabited areas. The largest earthquakes felt in the United States were along the New Madrid Fault in Missouri, where a three-month long series of quakes from 1811 to 1812 included three quakes larger than a magnitude of 8 on the Richter scale. These earthquakes were felt over a large area of the United States, with Missouri, Tennessee, Kentucky, Indiana, Illinois, Ohio, Alabama, Arkansas, and Mississippi experiencing the strongest ground shaking.

3.2.11.2 Location The faults most likely to affect the Glenpool area are the New Madrid Fault, centered in the Missouri Bootheel region, and the Meers Fault, located in southwestern Oklahoma near Lawton. The area around the City of Glenpool is considered to be a part of the low intensity area of the New Madrid Fault in Missouri.

3.2.11.3 Extent The severity of an earthquake can be expressed in several ways. The magnitude of an earthquake, usually expressed by the *Richter Scale*, is a measure of the amplitude of the seismic waves. The Richter Scale, named after Dr. Charles F. Richter of the California Institute of Technology, is the best known scale for measuring the magnitude of earthquakes. The scale is logarithmic. An earthquake of magnitude 2 is the smallest quake normally felt by people. Earthquakes with a Richter value of 6 or more are commonly considered major; great earthquakes have magnitude of 8 or more on the Richter scale. A comparison of the Mercalli Scale and the Richter Scale is illustrated below.

The City of Glenpool considers a reading of 5.4 and below on the Richter scale a minor severity and 5.5 and above to be a major severity.

Table 3-16: Mercalli/Richter Earthquake Scale Comparison

Mercalli	Richter	Full Description
I.	0-1.9	Not felt. Marginal and long period effects of large earthquakes.
II.	2.0-2.9	Felt by persons at rest, on upper floors, or favorably placed.
III.	3.0-3.9	Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.
IV.	4.0-4.3	Hanging objects swing. Vibration like passing of heavy trucks. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink the upper range of IV, wooden walls and frame creak.
V.	4.4-4.8	Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Pendulum clocks stop, start.
VI.	4.9-5.4	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Books, etc., off shelves. Pictures off walls. Furniture moved. Weak plaster and masonry D cracked. Small bells ring. Trees, bushes shaken.
VII.	5.5-6.1	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices. Some cracks in masonry C. Waves on ponds. Small slides and caving in along sand or gravel banks.

		Large bells ring. Concrete irrigation ditches damaged.
VIII.	6.2-6.5	Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.
IX.	6.6-6.9	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas sand and mud ejected, earthquake fountains, sand craters.
X.	7.0-7.3	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.
XI.	7.4-8.1	Rails bent greatly. Underground pipelines completely out of service.
XII.	>8.1	Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.

Masonry A: Good workmanship, mortar, and design; reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces.

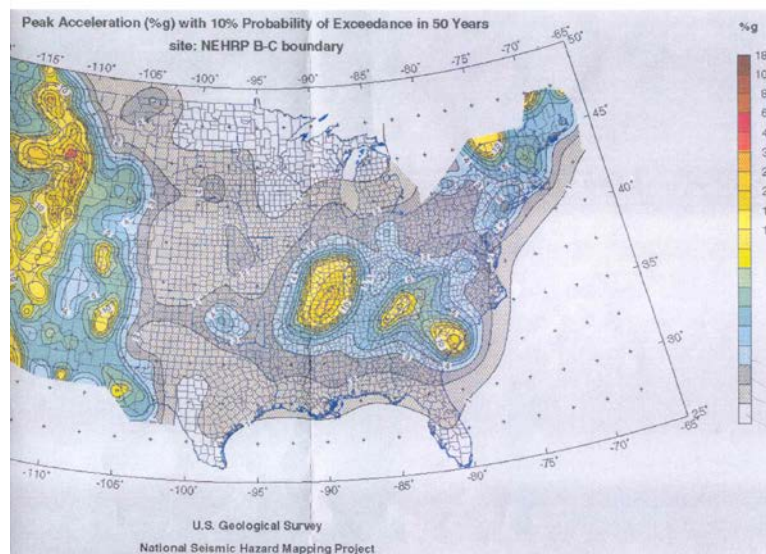
Masonry B: Good workmanship and mortar; reinforced, but not designed in detail to resist lateral forces.

Masonry C: Ordinary workmanship and mortar; no extreme weaknesses like failing to tie in at corners, but neither reinforced nor designed against horizontal forces.

Masonry D: Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

Source: <http://www.abag.ca.gov/bayarea/eqmaps/doc/mmigif/m10.html>

The USGS National Seismic Hazard Mapping, shown below, shows Tulsa County in the 2%g (peak acceleration), 10% probability of exceedance in 50 years area. According to the FEMA 386-2, "Understanding Your Risks", Step 1; areas with 2%g peak acceleration or less have a relatively low seismic risk, and an earthquake risk assessment is not warranted.



3.2.11.4 Previous Occurrences

During the period of 1972-2008 approximately 2-6 earthquakes a year were recorded by the USGS National Earthquake Center in Oklahoma. Earthquake activity was generally scattered across the east-central part of Oklahoma. Beginning in 2008 through 2010 the rate of earthquakes began to climb with nearly 50 earthquakes recorded in 2009, with several big enough to be felt. This activity has continued with three significant earthquakes occurring in November 2011. The magnitude 4.7 and 5.6 earthquakes of November 5 and 6th and the 4.7 on November 8th, 2011, are the largest events recorded during this period of increased

seismicity. Additionally, the magnitude 5.6 earthquake is the largest quake to hit Oklahoma in modern times. There is a possibility that these recent earthquakes occurred on the Wilzetta Fault, one of a series of small faults formed approximately 300 million years ago. The relationship between these recent earthquakes and this fault structure is still unknown and requires further investigation. The most likely major earthquake event that could impact the Glenpool area would probably originate in the New Madrid Fault Zone, which has been relatively quiet for 150 years. Seismologists estimate the probability of a 6 to 7 magnitude earthquake in the New Madrid area in the next 50 years to be higher than 90%. There have been no reported previous earthquake events, of significant magnitude, within the immediate vicinity of Glenpool.

3.2.11.5 Probability of Future Events The potential of future Earthquake events is a threat to Glenpool and most of Northeast Oklahoma is considered slight because of slow geological movement. However, since 2009, according to the Oklahoma Geological Survey, the frequency of earthquakes has temporarily increased in Oklahoma. These earthquakes do not appear to be inconsistent with what might be called normal seismicity for Oklahoma.

3.2.11.6 Vulnerability and Impact Buildings with foundations resting on unconsolidated landfill and other unstable soil, and trailers and homes not tied to their foundations are at risk because they can be shaken off their mountings during an earthquake. Oklahoma is within the stable interior of the United States, averaging 58 minor earthquakes each year most of which are too small to be felt, that could change. Even small magnitude earthquakes can cause damage.

Based on available information, the potential impact of earthquakes to the City of Glenpool is small. As mentioned above Glenpool is in a relatively inactive earthquake area; and appears to have limited potential for earthquake damage based on historical occurrences of earthquakes in Northeast Oklahoma. The one known exception could be failure of the New Madrid fault which could result in some damage, though likely minor in Glenpool and Tulsa County.

3.2.12 Hazardous Material Hazard

3.2.12.1 Description Hazardous materials are chemical substances that, if released or misused, can pose a threat to the environment or human health. These chemicals are used in industry, agriculture, medicine, research, and consumer goods. Hazardous materials come in the form of explosives, flammable and combustible substances, poisons, and radioactive materials. These substances are most often released as a result of transportation accidents or chemical accidents at plant sites.

3.2.12.2 Location The extent of the hazard is discussed on section 3.2.12.3. The location of Tier II facilities is shown in Figure 1-13 in Appendix 1. The following table lists the Tier II facilities in and around the City of Glenpool.

Table 3-17: GLENPOOL AREA TIER II FACILITIES

Facility Name	Address
Abco Station	643 W. 138th Street
Alpha Tank Cleaning, Inc.	225 E. 161st Street
Frances Lease	126th Street South & 1/2 Mile East of US75
Glenpool South Facility (Tank Farm)	917 W. 131st Street South
Green Country Marble, Inc.	600 West 158th Street
Lamamco Drilling-Isabelle Lewis Lease	S/T/R-NW 10-17N-12E
Miller Lease	131 st Street S. & Elwood, 1/4 Mile West & 1/4 Mile North
Mullins	W2 SE SE SW
North Silvadon	SW SE SW SE
Scissortail - Glenpool Gas Plant	SECTION 7-17N-13E 13505 S Peoria
South Silvadon	NW NE NW NE
T&L Foundry	515 West 138th Street

3.2.12.3 Extent The extent of the hazardous materials hazard in Glenpool are principally, the fixed location sites (Tier II), which includes buildings or property where hazardous materials are manufactured or stored, and are regulated nationally under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) by the U.S. Environmental Protection Agency (EPA), and in Oklahoma by the Department of Environmental Quality. A secondary hazard is represented by the volume of hazardous materials transported along US Highway 75. The City of Glenpool considers any hazardous material spill at a Tier II site or within any major transportation corridor to be a Major Severity.

3.2.12.4 Previous Occurrences The City Fire Department responded to 75 hazardous material spills during the 2005 to 2010 time frame. The City's planning status is at the awareness level and the department has trained Haz-Mat technicians and several others to the operational level and has standard operating procedures (SOPs) in place. The plan provides the Fire Department personnel with guidance and assistance in determining incident levels for response to hazardous materials incidents.

Table 3-18: Number of hazardous material spill runs per year

Year	Haz-Mat Runs
2005	8
2006	15
2007	13
2008	13
2009	16
2010	10
Total	75



The City Fire Department, in 2010, conducted a survey of transported materials within the US Highway 75 Corridor. Principal Haz-Mat materials noted include: Refrigerated Ethylene, Propane, Ethylene Glycol Monomethyl Ether Acetate, Gasoline, Petroleum Crude Oil, Toluene, Hydrochloric Acid/Muriatic Acid, Resin Solution, Combustible or Flammable Liquids, Diethylenetriamine, Carbon Dioxide-Refrigerated Liquid, Aluminum/Aluminum Byproducts and Elevated Temperature Liquid n.o.s. (At or above 212 Degrees Fahrenheit). These transported materials represent a significant ongoing risk to the City and its residents.

3.2.12.5 Probability of Future Events

Chemicals and hazardous materials are used throughout our society today, and will continue to be used in the future. And the City of Glenpool will continue to be exposed to this

hazard.

3.2.12.6 Vulnerability and Impact

All areas of Glenpool are susceptible to hazardous materials events due to the high number of highly traveled roads and highways. Under certain conditions, hazardous material spills can create health hazards to citizens, first aid responders and Haz-Mat crews. Potential impacts include disruptions in transportation if highways are shut-down. Local businesses and residences can be affected by the roads being closed. Soils and waterways could become contaminated by spills and require clean up by professional response teams.

3.3 Assessing Vulnerability: Identifying Assets

This section describes vulnerability in terms of the type and number of existing buildings and critical facilities in the hazard location. The vulnerability analysis utilized FEMA publication 386-2, “Understanding Your Risks,” Step 3, in order to determine the building value and contents value to determine a total value per building at risk from the hazard.

The Tulsa County Assessor classified properties into three (3) categories; residential, commercial, and agricultural. A value for each building (improvements) was determined by the assessor, separate from the land value. The contents value was determined as a percentage of the building value, based on the Contents Value table in FEMA 386-2, Step 3.

Flood hazards and hazards from expansive soils are the only two hazards that vary in magnitude in a pre-determined location. A hypothetical tornado was analyzed in the tornado hazard section. For these hazards, GIS programs were used to determine the buildings in a hazard location.

For each hazard, a table of type of building, number of buildings/improvements and total improvement value, for each type of in Glenpool and in the hazard area. These tables follow the format in FEMA 386-2, worksheets 3a “Inventory Assets”. The vulnerability also determined with GIS models the critical facilities and mobile homes at risk from the hazard, and are listed in the asset inventory.

The following table shows this information for all buildings in the City of Glenpool, and all the critical facilities and mobile homes. This table will be referred to for all hazards that do not vary by location throughout the city.

Table 3-19: TOTAL BUILDING/IMPROVEMENTS WITHIN CITY FENCELINE

Type	Number of Buildings/Improvements	Total Improvement Value (\$)
Residential	4,695	\$346,469,075
Commercial	189	\$63,054,303
Agricultural	458	\$28,592,391
Critical Facilities	43	0
Mobile Homes	39	\$921,550

This section also discusses special populations at risk. These populations are the elderly, low/moderate income populations, and parcels of property with mobile homes. The elderly population is shown in Figure 1-2 in Appendix 1, the median household income population is shown in Figure 1-3 in Appendix 1, and the location of manufactured housing parcels is shown in Figure 1-4 in Appendix 1. The elderly populations and the low/moderate income areas were obtained from 2000 US Census data. Where a hazard varies by location, the hazard is shown with the special population areas on a separate map.

Facilities that are classified to be critical by the City of Glenpool are shown in Figure 1-7 in Appendix 1. These facilities are critical to the city in they provide public safety and emergency response



services to the public in the event of a hazard occurrence, they are necessary to preserve welfare and quality of life to the community, or in their propensity to gather groups of people. These facilities are listed below.

Table 3-20: GLENPOOL CRITICAL FACILITIES

MAP ID	NAME	ADDRESS	PHONE
1	Rainbow Early Learning Center	596 W. 141st Street	(918) 322-3782
2	Glenpool Elementary School	14800 South Fern Street	(918) 322-9500
3	Hope Christian Academy		(918) 322-3516
4	A Great Beginning Child Care Center	480 East 141st Street	(918) 322-6116
5	Growing Tree	14201 S Elwood Ave	(918) 322-9091
6	Patricia Childcare Center	13910 1/2 S Elwood Ave	(918) 291-2960
7	Glenpool Middle School	14401 S. College Street	(918) 322-3823
8	Glenpool Pub School -Elementary 5	14623 S. College Street	(918) 322-9115
9	Glenpool High School	412 E. 144th Street	(918) 322-3285
10	Glenpool School Dist. Admin.	461 E. 146th Street	(918) 322-9500
11	Family Medicine of Glenpool	159 W. 146th Street	(918) 322-3838
12	Glenpool Family Clinic	14226 S. Elm Street	(918) 322-9510
13	US Post Office	14169 S. Broadway Street	(918) 322-3724
14	Glenwood Healthcare	1700 E. 141st Street	(918) 291-4230
15	Glenpool/Jenks Rec. Center	13800 S. Peoria Ave.	(918) 746-3780
16	Glenpool Senior Citizens Center	W 145th Street	(918) 746-5190
17	Glenpool Civic Center/City Hall	12205 S Yukon Ave	(918) 322-5409
18	Glenpool Library	730 E. 141st Street	(918) 549-7535
19	Glenpool Emergency Services	14522 S. Broadway	(918) 258-1122
20	Glenpool Public Safety	14600 S. Elwood Avenue	(918) 322-9110
21	Glenpool Utility Billing	14526 S. Elwood Avenue	(918) 322-9110
22	Glenpool Schools Transportation	161 E. 146th Street	(918) 322-9500
23	Citizen's Security Bank and Trust	381 E. 141st Street	(918) 298-7371
24	Bancfirst	394 E. 141st Street	(918) 322-9015
25	American Heritage Bank	12120 S. Vancouver Ave.	(918) 299-3296
26	Redbud Retirement Center	14900 S. Broadway St.	(918) 322-5100
27	Maple Leaf Apartments	14900 S. Birch St.	(918) 322-9639
28	Peachtree Apartments	1050 E 141st St.	(918) 743-7997
29	Glenshire Apartments	13900 S. Peoria Ave.	(918) 298-8822
30	Sports Complexes	W. 161 st and Elwood Ave	
31	Faith Church	1901 W. 171 st St.	(918) 827-7901
32	First Baptist Church	52 E. 145 th St.	(918) 322-5229
33	Landing Church	496 W. 141 st St.	(918) 321-2300

34	Wal-Mart	12200 S. Waco Ave.	(918) 299-8030
35	TCC Building	140 W. 141 st St.	918) 595-7000
36	Tractor Supply	140 W. 161 st St.	(918) 322-3377
37	Eurocraft	16052 S. Broadway	(918) 322-5500
38	Champagne Metals	149 W. 158 th St.	(918) 322-1131
39	Green Country Marble	600 W. 158 th St.	(918) 322-6103
40	Triumph Worship Center	2125 W. 181 st St.	(918) 827-6511
41	Utica Park Clinic	550 W 121 st St.	(918)291-5200
42	Comfort Inn	12119 S. Casper St.	(918) 995-2225
43	Best Western	14831 S. Casper St.	(918) 322-5201

Summary of Hazard Description and Historic Occurrences. The description and historical occurrences of each hazard is discussed in section 3.2: “Profiling Hazard Events”. The hazard description is in sub-section 3.2.X.1, and the historical occurrence discussion is in sub-section 3.2.X.4; where X=1-12 for each of the 12 hazards.

3.3.1 Flood Hazard

For the structures at risk from a flood hazard, those buildings on properties intersecting the regulatory floodplain is summarized below.

Table 3-21: TOTAL PROPERTIES IN REGULATORY FLOODPLAIN

Type	Number of Properties	Total Improvement Value (\$)
Residential	304	\$25,576,267
Commercial	33	\$6,906,333
Agricultural	79	\$4,322,033
Critical Facilities	5	0
Mobile Homes	0	0

Figure 1-14 in Appendix 1 shows the location of the critical facilities in relation to the flood hazard. Figure 1-4 in Appendix 1 shows the location of the mobile home parcels in relation to the flood hazard. Figure 1-2 in Appendix 1 shows the location of the elderly population in relation to the flood hazard. Figure 1-3 in Appendix 1 shows the location of the median household income population groups in relation to the flood hazard. Figure 1-15 shows hazardous materials sites in relation to the flood hazard.

Any future building in a flood hazard will be built in conformance with the city’s Flood Damage Prevention Ordinance as part of Glenpool’s membership in the NFIP; therefore, these buildings will not be considered by FEMA as at risk from the regulatory floodplain.

3.3.2 Tornado Hazard

Glenpool is fortunate to have never been hit by a tornado. However, to illustrate the damage a tornado could cause, a hypothetical tornado was located across the downtown area of Glenpool. This hypothetical tornado is one-mile long with a damage width of 600 feet. This hypothetical tornado is shown in Figure 1-10 in Appendix 1, and the location of the critical facilities is also shown on this map. The mobile home locations in relation to this hypothetical tornado are also shown in Figure 1-10 in Appendix 1. The total number of buildings within this tornado example, at risk from this example, is shown in the following table. The analysis of this hypothetical tornado is shown in Section 3.4.2.

Table 3-22: TOTAL PROPERTIES IN TORNADO SCENARIO

Type	Number of Properties	Total Improvement Value (\$)
Residential	273	\$12,607,733
Commercial	9	\$5,132,000
Agricultural	3	\$0
Critical Facilities	5	\$3,787,511
Mobile Homes	28	\$228,697

The elderly population locations, and the median household income population locations, in relation to this hypothetical tornado are shown in Figure 1-2 and 1-3, respectively, in Appendix 1.

3.3.3 High Wind Hazard

All areas, and all buildings, in Glenpool are at equal risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section.

3.3.4 Lightning Hazard

All areas, and all buildings, in Glenpool are at equal risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section.

3.3.5 Hail Storm Hazard

All areas, and all buildings, in Glenpool are at equal risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section.

3.3.6 Winter Storm Hazard

All areas, and all buildings, in Glenpool are at equal risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section.

3.3.7 Heat Hazard

All areas, and all buildings, in Glenpool are not considered to be at risk in this hazard.

3.3.8 Drought Hazard

All areas, and all buildings, in Glenpool are at equal risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section.

3.3.9 Expansive Soils Hazard

Structures at risk from severe shrink-swell potential soils can be determined from an examination of the expansive soils map as shown on Figure 1-12 in Appendix 1.

3.3.10 Wildfire Hazard

The Wildland Urban Interface (WUI) is defined as areas where homes are built near or among lands prone to wildland fire. It can be best described as a set of conditions. These conditions can include the amount, type, and distribution of vegetation; the flammability of structures in the area; and their proximity to fire-prone vegetation and to other combustible structures; weather patterns and general climate conditions; topography, hydrology, average lot

size and road construction. Significant variations in these conditions, such as high winds and drought, and the general suburban/rural development pattern of Glenpool place virtually all areas and buildings in Glenpool at risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section. Fires can also destroy non-structural assets such as agriculture, vegetation, and vehicles. Vulnerability of these non-structural assets, both in identifying these assets and estimating their damage potential was not quantified.

3.3.11 Earthquake Hazard

All areas, and all buildings, in Glenpool are at equal risk from this hazard. The total number of buildings, and value, in Glenpool is shown in the table at the beginning of this section.

3.3.12 Hazardous Material Hazard

The public is most at risk from hazardous materials when they are being transported. The City has defined major transportation routes which are shown in Figure 1-1 in Appendix 1.

3.4 Assessing Vulnerability: Estimating Potential Losses

For each hazard, an analysis was done to determine the potential dollar losses to vulnerable buildings identified in Section 3.3. The analysis followed the methodology discussed in FEMA 386-2, step 4, and the format of FEMA 386-2 worksheet #4 “Estimate Losses”.

Only the flood hazard and the hypothetical tornado analyses identified structures with varying amounts of damage.

3.4.1 Flood Hazard

For the flood hazard, for this planning exercise, all structures on property intersecting the regulatory floodplain are evaluated at one foot below the base flood elevation. (Actual first floor elevations were not surveyed and the best available topography has 10 foot contour intervals making windshield surveys plus and minus five feet.) Using FEMA 386-2, part 4, building damage with one foot of flood depth is estimated to be 14 percent of the building value, and content damage is estimated to be 21 percent of the building value.

3.4.2 Tornado Hazard

For the tornado hazard, a hypothetical tornado was located across the downtown area of Glenpool. This hypothetical tornado is one-mile long with a damage width of 600 feet. The FEMA 386-2 literature states there are no standard loss estimation models and tables for tornados. For damage estimation purposes, those structures within 100 feet to the tornado path were assigned to be completely damaged, those structures between 100 to 200 feet from the tornado path were assigned to be 50 percent damaged, and those structures between 200 and the outside edge of the damage buffer were assigned to be 25 percent damaged.

Table 3-23: BUILDINGS IN TORNADO SCENARIO

Type	Number of Properties	Total Improvement Value (\$)
Residential	273	\$12,607,733
Commercial	9	\$5,132,000
Agricultural	3	\$0
Critical Facilities	5	\$3,787,511
Mobile Homes	28	\$228,697

0 to 100 feet: COMPLETELY DESTROYED BUILDINGS

Type	Number of Properties	Total Improvement Value (\$)
Residential	91	\$4,202,157
Commercial	3	\$1,710,496
Agricultural	1	\$0
Critical Facilities	1	\$1,701,000
Mobile Homes	9	\$76,225

100 to 200 feet: 50% DAMAGEED

Type	Number of Properties	Total Improvement Value (\$)
Residential	91	\$4,202,157
Commercial	3	\$1,710,496
Agricultural	1	\$0
Critical Facilities	2	\$1,262,377
Mobile Homes	10	\$76,225

200 to 300 feet: 25% DAMAGED

Type	Number of Properties	Total Improvement Value (\$)
Residential	91	\$4,203,416
Commercial	3	\$1,711,008
Agricultural	1	\$0
Critical Facilities	2	\$824,134
Mobile Homes	9	\$76,274

3.4.3 Hazardous Material Hazard

The locations of the mobile homes in relation to the hazardous material locations can be determined by examining Figures 1-4 and 1-13 in Appendix 1. The locations of the elderly population in relation to the hazardous material locations can be determined by examining Figures 1-2 and 1-13 in Appendix 1. The locations of the low/moderate income population in relation to the hazardous material locations can be determined by examining Figures 1-2 and 1-13 in Appendix 1.

3.4.4 Expansive Soils

The potential damage to structures and infrastructure located on severe shrink-swell potential soils is dependent on the design of its foundation and quality of the construction of the foundation. Both factors were beyond the scope of this multi-hazard mitigation plan. Set damage estimates based on a percentage of the structure value were not used because of the wide variation of the factors involved in a foundation's stability.

3.4.5 All Other Hazards

The magnitude of the damage to structures from all the other hazards does not vary by location. The total building and content value for all structures in Glenpool is totaled and shown in the table in the beginning of Section 3.

3.5 Assessing Vulnerability: Analyzing Development Trends

This section discusses the community's vulnerability in terms of a general description of land use and development trends so that mitigation options can be considered in future land use decisions. Three areas were analyzed. These are the types of existing and proposed land uses, development densities in the hazard areas, and anticipated changes in land use

3.5.1 The Tulsa County Assessor assigns three land use categories for the county, and thereby for the City of Glenpool. These are residential, commercial, and agricultural. Land use changes can occur, and are initiated by the property owner, usually to accommodate a new development. The City's Board of Adjustment reviews each change request, and takes into account hazards and hazard prone areas in ruling on any land use change request.

3.5.2 There are 5,381 non right-of-way parcels of property in Glenpool. Of these, 458 parcels are undeveloped. And of these 5,381 parcels, 421 parcels are in the regulatory floodplain; 304 residential, 33 commercial, 79 agricultural and 5 critical facilities. It must be noted that no new building development will be added to the flood hazard because any new building will conform to the City's Flood Damage Prevention Ordinance, which the City will continue to vigorously enforce. It will be recommended to all new construction to investigate the shrink-swell potential of its soils, and design and construct the foundation with the soils' properties as a consideration.

3.5.3 Anticipated changes in land use are along US Highway 75, and State Highway 67. This would be a mixture of commercial and residential development. These are the growth corridors of Glenpool. These areas have seen single family residential subdivisions and two multi-family apartment complexes develop in the past several years. Commercial development projects are currently underway along US 75 in the vicinity of 121st Street. These developments are not occurring in hazard areas, principally floodplains, and development controls are in place and enforced to insure that the vulnerability of adjacent areas is not affected.

Chapter 4:

Mitigation Strategies

This chapter identifies the hazard mitigation goals set by the City of Glenpool and discusses the mitigation projects, or measures, to be taken to achieve those goals.

4.1 Hazard Mitigation Goals

4.1.1 Mission Statement

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

The mission statement and goals identified within the initial Hazard Mitigation Plan were reviewed by the GHMAC in their initial meetings. The Specific Goals and Objectives that were developed in the initial Hazard Mitigation Plan were again considered and evaluated during the risk assessment phase and evaluated again as potential action steps were considered. The GHMAC decided not to make any changes to the Mission Statement or the Goals and Objectives in the updated Hazard Mitigation Plan.

4.1.2 Specific Goals and Objectives

Goal 1 General: To protect vulnerable populations and critical facilities from hazards.

Objectives:

1. Minimize loss of life and property and infrastructure damage from natural and man-made disasters.
2. Increase public awareness of risks from hazards and implement measures that can be taken to protect families and property from disasters.
3. Reduce the risk and effects of hazards and minimize community disruption.
4. Identify and protect vulnerable populations from natural and man-made hazards.
5. Identify and protect critical community facilities from hazards so that they can continue their missions in the event of a disaster.

Goal 2 Flood Hazard: To reduce the risk of flood hazard in Glenpool

Objectives:

1. Identify at risk properties from the 100-year flood under existing and fully urbanized conditions.
2. Ensure that future urbanization and development does not increase flooding downstream or have off-site adverse impacts.
3. Identify and maximize the natural and beneficial uses of the floodplain.
4. Implement the best flood control measures to reduce vulnerability of flood-prone properties.

Goal 3 Tornado Hazard: To reduce the risk from tornados in Glenpool

Objectives:

1. Encourage building of individual safe rooms and storm shelters.

2. Educate and encourage the building trades industry about construction standards that are adequate to withstand frequent high winds.

Goal 4 Hailstorm Hazard: To reduce the risk from hailstorms in Glenpool.

Objectives:

1. Promote construction of hail resistant roofs.

Goal 5 Lightning Hazard: To reduce the risk from lightning in Glenpool.

Objectives:

1. Reduce loss of life and property, and injury due to lightning by increased public awareness of measures to prevent and reduce damage, including warnings.

Goal 6 Winter Storm Hazard: To reduce the hazards from winter storms in Glenpool.

Objectives:

1. Reduce property loss and community disruption due to severe winter cold and ice storms.

Goal 7 High Winds Hazard: To reduce the risk from high winds in Glenpool.

Objectives:

1. Educate and encourage the building trades industry about construction standards that are adequate to withstand frequent high winds.

Goal 8 Drought Hazard: Reduce the economic impact of drought hazards to Glenpool.

Objectives:

1. Reduce drought-related property and building foundation damage by improving building codes.

Goal 9 Wildfire Hazard: To reduce the threat and financial impact of wildfire hazards in Glenpool.

Objectives:

1. Develop a City-wide fire response and support group to facilitate the provisioning of water to fires during large fires.

Goal 10 Expansive Soil Hazard: Reduce structure's susceptibility to soil movement.

Objectives:

1. Reduce damage to property and building foundations due to expansive soils by improving building codes.

Goal 11 Earthquake Hazard: To reduce the risk from earthquakes in Glenpool.

Objectives:

1. Educate and encourage the building trades industry about earthquake resistant construction.

Goal 12 Hazardous Materials Hazard: To reduce the risk from hazardous material storage facilities around Glenpool.

Objectives:

1. Protect the public from exposure from hazardous materials events from sites within the community.

Goal 13 Extreme Heat: To reduce the risk from extreme heat in Glenpool.

Objectives:

1. Reduce injury and potential loss of life to citizens during periods of extreme heat through education.

4.2 Mitigation Categories

There are several types of measures that communities and individuals can use to protect themselves from, or mitigate the impacts of, natural and man-made hazards. Mitigation measures, for purposes of this study, fall into the following categories:

- Preventive Measures
- Structural Projects
- Property Protection
- Emergency Services
- Public Information and Education

4.2.1 Preventive Measures

Preventive activities are designed to keep certain conditions from occurring or getting worse. The objective is to ensure that **new** development does not increase damages or loss of life and that new construction is protected from those hazards. Preventive measures are usually administered by building, zoning, planning, and code enforcement offices. They typically include planning, zoning, building codes, and floodplain development regulations and storm water management.

The first two measures, planning and zoning, work to keep damage-prone development out of the hazardous or sensitive areas. Glenpool's Comprehensive Plan identifies areas that are sensitive to urban development. Glenpool's Zoning Ordinance regulates development by dividing the community into zones or districts and setting development criteria for each zone or district. A zoning ordinance is considered the primary tool to implement the comprehensive plan's guidelines for how land should be developed.

The next two measures, floodplain development regulations and storm water management. Glenpool participates in the National Flood Insurance Program (NFIP). The NFIP sets minimum requirements for subdivision regulations and building codes. Storm water management regulations require developers to mitigate any increase in runoff due to their development. Building codes require a level of new construction standards for new building construction.

4.2.1.1 Preventative Activities

- Planning and zoning help the City of Glenpool develop proactively so that the resulting infrastructure is laid out in a coherent and safe manner.
- Building codes for foundations, sprinkler systems, masonry, and structural elements such as roofs and the exterior building envelope are prime mitigation measures for occurrences of floods, tornadoes, high winds, extreme heat and cold, and earthquakes.
- Participation in the NFIP and using floodplain ordinances and subdivision regulations to regulate floodplain development is beneficial for Glenpool.
- Tree trimming adjacent to overhead power lines and placing new lines underground would help in preventing power outages during winter ice storms.
- Better information about hazardous materials in and being transported through the Glenpool community is desired for community safety and contingency planning.

4.2.2 Structural Projects

Structural projects are usually designed by engineers or architects, constructed by both the public and private sector, and maintained and managed by governmental entities. Structural projects traditionally include storm water detention reservoirs, levees and floodwalls, channel modifications, and drainage and storm sewer improvements.

4.2.2.1 Structural Activities

- Crossing and roadway drainage improvements must take into account additional detention or run-off reduction.
- Drainage and storm sewer improvements carry runoff from smaller, more frequent storms.
- Drainage system maintenance is an ongoing project of removing debris that decreases the effectiveness of detention ponds, channels, ditches, and culverts.

4.2.3 Property Protection Measures

Property protection measures are used to modify **existing** buildings or property subject to damage from various hazardous events. Property protection measures are normally implemented by the property owner. However, in some cases, technical and financial assistance can be provided by a governmental agency. Property protection measures from flooding typically include acquisition and relocation, flood-proofing, building elevation, and barriers. Property protection measures from other natural hazards include retrofitting, reinforced foundations, enhanced building codes with emphasis on the exterior building envelope, anchoring of roof and foundation, installation of safe rooms, hail resistant roofing, and insurance.

4.2.3.1 Property Protection Activities

Floods

- Dry floodproofing (making walls watertight so floodwaters cannot get inside)
- Wet floodproofing (letting the water in and removing everything that could be damaged by a flood)
- Installing drain plugs, standpipes or backflow valves to stop sewer backup

Tornado

- Constructing an underground shelter or in-building “safe room”
- Securing roofs, walls and foundations with adequate fasteners or tie downs
- Strengthening garage doors and other large openings

High Winds

- Installing storm shutters and storm windows
- Burying utility lines
- Installing/incorporating backup power
- supplies

Hailstorms

- Installing hail resistant roofing materials

Lightning

- Installing lightning rods and lightning surge interrupters
- Burying utility lines
- Installing/incorporating backup power supplies

Winter Storms

- Adding insulation
- Relocating water lines from outside walls to interior spaces
- Sealing windows
- Burying utility lines
- Installing/incorporating backup power supplies

Extreme Heat and Drought

- Adding insulation
- Installing water saver appliances, such as shower heads and toilets

Wild Fires

- Adding spark arrestors on chimneys
- Landscaping to keep bushes and trees away from structures
- Installing sprinkler systems
- Installing smoke alarms

General Measures

From the above lists, it can be seen that certain approaches can help protect from more than one hazard. These include:

- Strengthening roofs and walls to protect from wind and earthquake forces
- Bolting or tying walls to the foundation protect from wind and earthquake forces
- and the effects of buoyancy during a flood
- Adding insulation to protect for extreme heat and cold
- Anchoring water heaters and tanks to protect from ground shaking and flotation
- Burying utility lines to protect from wind, ice and snow
- Installing backup power systems for power losses during storms
- Installing roofing that is hail resistant and fireproof

Insurance has the advantage that, as long as the policy is in force, the property is protected and no human intervention is needed for the measure to work. Although most homeowner's insurance policies do not cover a property for flood damage, an owner can insure a building for damage by surface flooding through the National Flood Insurance Program (NFIP). Flood insurance coverage is provided for buildings and their contents damaged by a "general condition of surface flooding" in the area.

4.2.4 Emergency Service Measures

Emergency services measures protect people during and after a hazard event. Locally, these measures are coordinated by the emergency management agencies of the individual communities. Measures include preparedness, threat recognition, warning, response, critical facilities protection, and post-disaster recovery and mitigation.

Threat recognition is the key. The first step in responding to a flood, tornado, storm or other natural hazard is to know that one is coming. Without a proper and timely threat recognition system, adequate warnings cannot be disseminated.

After the threat recognition system tells the Glenpool and/or Tulsa County Emergency Management Agency that a hazard is coming, the next step is to notify, **or warn**, the public and staff of other agencies and critical facilities. The following are the more common warning media:

- Outdoor warning sirens
- Digitally based city-wide notification system
- Sirens on public safety vehicles
- NOAA Weather Radio
- Commercial or public radio or TV stations
- Cable TV emergency news inserts
- Telephone trees
- Door-to-door contact
- Mobile public address systems

Just as important as issuing a warning is telling people what to do. A warning program should have a public information aspect. People need to know the difference between a tornado warning (when they should seek shelter in a basement) and a flood warning (when they should stay out of basements).

4.2.4.1 Emergency Services Activities

The protection of life and property is the foremost important task of emergency responders. Concurrent with threat recognition and issuing warnings, a community should respond with actions that can prevent or reduce damage and injuries. Typical actions and responding parties include the following:

Response Activities

- Activating the emergency operations room (Emergency Management)
- Closing streets or bridges (Police or Public Works)
- Shutting off power to threatened areas (OG&E or ONG)
- Holding children at school/releasing children from school (School District)
- Passing out sand and sandbags (Public Works)
- Ordering an evacuation (Mayor)
- Opening evacuation shelters (Red Cross)
- Monitoring water levels (Public Works)
- Security and other protection measures (Police)

After a disaster, communities should undertake activities to protect public health and safety, facilitate recovery, and prepare people and property for the next disaster. This is commonly referred to as Post-Disaster Recovery and Mitigation.

Recovery Activities

- Patrolling evacuated areas to prevent looting
- Providing safe drinking water
- Monitoring for diseases
- Vaccinating residents for tetanus
- Clearing streets
- Cleaning up debris and garbage
- Regulating reconstruction to ensure that it meets all code requirements, including the NFIP's substantial damage regulations

Mitigation Activities

- Conducting a public information effort to advise residents about mitigation measures they can incorporate into their reconstruction work
- Evaluating damaged public facilities to identify mitigation measures that can be included during repairs
- Acquiring substantially or repeatedly damaged properties from willing sellers

- Planning for long term mitigation activities
- Applying for post-disaster mitigation funds

Overall Emergency Service Activities:

- Using solid, dependable threat recognition systems is first and foremost in emergency services.
- Following a threat recognition, multiple or redundant warning systems and instructions for action are most effective in protecting citizens.
- Good emergency response plans that are updated yearly ensure that well-trained and experienced people can quickly take the appropriate measures to protect citizens and property.
- To ensure effective emergency response, critical facilities protection must be part of the plan.
- Post-disaster recovery activities include providing neighborhood security, safe drinking water, appropriate vaccinations, and cleanup and regulated reconstruction.

4.2.5 Public Information and Education Measures

Successful public information and education measures involve both public and private sectors. Public information and education activities advise and educate citizens, property owners, renters, businesses, and local officials about hazards and ways to protect people and property from them. Public information activities are among the least expensive mitigation measures, and at the same time are often the most effective thing a community can do to save lives and property. All mitigation activities begin with public information and education.

Many benefits stem from providing map information to inquirers. Residents and businesses that are aware of the potential hazards can take steps to avoid problems and reduce their exposure to flooding, dam failure or releases, hazardous materials events, and other hazards that have a geographical distribution. These mapped hazards are included in this Hazard Mitigation study, and are discussed below. Flood Insurance Rate Maps (FIRMS) and Flood Hazard Boundary maps are available to show the flood zones for each property. Flood insurance is always recommended for those properties subject to flooding, especially for those in Flood Zone A.

Hazardous materials sites, listed in the Oklahoma Department of Environmental Quality's Tier II list, are shown on Map Number 10 in Appendix 1, and are listed in Section 3.2.12. Transportation routes frequently used in the transport of hazardous materials include US Highway 75 and State Highway 67. Railroads include the Burlington Northern Santa Fe (BNSE) adjacent to US 75Alt in Creek County. High-pressure pipeline locations have been suppressed by the Federal government since 9/11.

The Tulsa City-County Library Branch location in Glenpool is a place for residents to seek information on hazards, hazard protection, and protecting natural resources. Historically, libraries have been the first place people turn to when they want to research a topic. Interested property owners can read or check out handbooks or other publications that cover their situation. The libraries also have their own public information campaigns with displays, lectures, and other projects, which can augment the activities of the local government.

4.2.5.1 Public Information and Education Activities

- There are many ways that public information programs can be used so that people and businesses will be more aware of the hazards they face and how they can protect themselves.
- Most public information activities can be used to advise people about all hazards, not just floods.
- Other public information activities require coordination with other organizations, such as schools and real estate agents.
- There are several area organizations that can provide support for public information and educational programs.

4.3 Research, Review, and Prioritization

A wide range of literature searches and other sources were researched to identify mitigation measures for each hazard. Measures were identified to ascertain those that were most appropriate for the City of Glenpool. The public involvement process included the utilization of City's Website as part of a general hazard mitigation questionnaire solicitation effort. 556 comments were received. A summary of the public's responses are included in Appendix 4. A list of potential mitigation measures was prepared by staff and presented to the GHMAC to stimulate debate and discussion prior to ranking priority mitigation measures. The complete listing of potential mitigation activities is included in Appendix 5.

The GHMAC reviewed the mitigation activities. The committee incorporated the criteria and principles of the STAPLE+E project evaluation method in their consideration of the mitigation activities. While not referred to by name at the time of the mitigation activity review, the intent of the method was used. An explanation of each STAPLE+E criteria item is as follows:

S: Social	Mitigation actions are acceptable to the community if they do not adversely affect a particular segment of the population, do not cause relocation of lower income people, and if they are compatible with the community's social and cultural values.
T: Technical	Mitigation actions are technically most effective if they provide long-term reduction of losses and have minimal secondary adverse impacts.
A: Administrative	Mitigation actions are easier to implement if the jurisdiction has the necessary staffing and funding.
P: Political	Mitigation actions can truly be successful if all stakeholders have been offered an opportunity to participate in the planning process and if there is public support for the action.
L: Legal	It is critical that the jurisdiction or implementing agency have the legal authority to implement and enforce a mitigation action.
E: Economic	Budget constraints can significantly deter the implementation of mitigation actions. It is important to evaluate whether an action is cost-effective before an action is implemented.
E: Environmental	Sustainable mitigation actions that do not have an adverse effect on the environment, that comply with environmental regulations, and that are consistent with the community's environmental goals, have mitigation benefits while being environmentally sound.

A cost-benefit analysis was not done for each activity under consideration, but the GHMAC decided to have a formal cost-benefit evaluation done for any selected activity that would follow the requirements of the funding source where funds are being sought.

Chapter 5:

Action Plan

The City of Glenpool has reviewed and analyzed the risk assessment studies for the natural hazards and hazardous material events that may impact the Glenpool area. The GHMAC also reviewed the list of recommended actions included in **the initial Hazard Mitigation Plan** to determine if the actions should be deferred, cancelled or continued. The results of this review are included in Table 5-1 below.

Table 5-1. Status of Mitigation Measures from Previous Plan

Action Plan #	2004 Action Plan Measures	Progress 2004-2012	Status in 2014 Plan Update
1	Install Street Addresses on all buildings and curbs	Activity only partially completed.	Revised to use GPS designation and included in Updated Plan as Action Item #5.
2	Teach Glenpool employees the symptoms of common, life-threatening emergencies and how to give CPR and first aid.	Program continued. Activity addressed by Fire Department.	Ongoing project restated and reassigned as Action Plan Item #9. Potential providers could include Red Cross and Tulsa City County Health Department.
3	Perform tornado and high wind evaluations at Glenpool Public Schools	No activity.	Continued as part of Action Item #13.
4	Inventory local businesses and industry to identify dangerous chemicals that are being manufactured in, stored, or transported through the community.	Ongoing activity routinely completed through Fire Department pre-plan process.	Ongoing project redefined and reassigned as Action Plan Item #13.
5	Build community partnerships involving local government leaders, civic, business and volunteer groups to work together to mitigate natural and man-made hazards.	Some activity has taken place due to participation with Tulsa County and other adjacent community Emergency Management team exercises and other coordinating efforts.	Ongoing project redefined and reassigned as Action Plan Items #7 and #8.
6	Install window air conditioners for elderly shut-ins for whom extreme heat can be a life threatening hazard.	No Activity.	This Action Item was deleted and community-based strategies were redefined and assigned as Action Plan Items #10 and #15
7	Sponsor a "Helping Your Neighbors" program through the Glenpool school system to encourage children to think of people who require special assistance such as elders, infants, and people with disabilities during dangerous	No activity.	This Action Item was deleted as part of the 2014 Plan Update.

	weather conditions.		
8	When replaced, install break resistant glass in City Hall, City Offices, and critical facilities.	Activity was evaluated but eliminated due to cost during new construction of City facilities, i.e., Conference Center and Public Safety Building.	This Action Item was deleted as part of the 2014 Plan Update.
9	Provide for routine trimming of trees to reduce power outages during storms.	OG&E, the local power utility provider, has continued routine trimming program on an, as needed, basis.	Ongoing project, restated and reassigned as Action Plan Item #6
10	Replace/continue replacing inadequately sized water lines with lines of sufficient size to provide proper fire protection to annexed and existing areas.	City Ongoing City Capital Improvement Activity. Now covered under City Development Ordinances.	Ongoing project, restated and reassigned as Action Plan Item #10

As part of the plan update process, this chapter identifies specific high priority actions to achieve the mitigation goals, the lead agency for each action item, an anticipated time schedule, estimated cost, and identification of funding sources. Once funding is sought, a detailed benefit/cost analysis will be done and will follow the requirements of the funding source.

The following table identifies which mitigation type project is associated with each hazard.

<u>Hazard Type</u>	<u>Action Plan Activity Number</u>
Floods	1, 7, 12, 14, 20, 21
Tornadoes	1, 2, 3, 4, 5, 7, 12, 13
High Winds	1, 4, 6, 7, 12, 13
Lightning	1, 7, 12, 19
Hailstorms	1, 7, 12, 13
Severe Winter Storms	1, 4, 6, 7, 11, 12, 19
Extreme Heat	1, 7, 9, 11, 12, 15
Expansive Soils	1, 7, 8, 12, 13
Drought	1, 7, 8, 10, 12
Wildfires	1, 7, 10, 12, 18
Earthquakes	1, 7, 13, 12, 16
Hazardous Materials Events	1, 7, 11, 12, 17

2014 ACTION PLAN ITEMS:

1. Upgrade the Glenpool Outdoor warning system.

Hazard Type: Tornado, Hail Storms, Floods, High Winds, Lightening, Wild Fires, Earthquakes, Hazardous Materials Events

Action Plan Project Type: Mitigation

Lead: City Fire Department

Time Schedule: FY 2014

Estimated Cost: \$175,000 (includes developer participation)

Source of Funding: Local

Work Product/Expected Outcome: The work product is to implement the recently prepared outdoor warning system location study (10 estimated locations within the fence line including 2 new sites/sirens) and to require new developments to site future siren locations as part of the development process. The expected outcome is to provide an outdoor warning system that adequately covers all parts of the City.

2. Promote individual safe rooms within the community.

Hazard Type: Tornado

Action Plan Project Type: Education

Lead: City Fire Department

Time Schedule: Ongoing

Estimated Cost: \$5,000 (estimate for promotional materials)

Source of Funding: Local/Grants

Work Product/Expected Outcome: Develop public information program to foster 'shelter-in-place' practices and to promote participation in programs such as the SoonerSafe – Safe Room Rebate Program administered by the Oklahoma Department of Emergency Management. The expected outcome is to increase the number of residential safe rooms within the community by facilitating participation in FEMA and State rebate programs when they become available.

3. Provide FEMA grant funded reimbursement for Community Safe Rooms in Mobile Home Communities.

Hazard Type: Tornado

Action Plan Project Type: Mitigation

Lead: City Fire Department/Community Development Department

Time Schedule: FY 2014 and ongoing

Estimated Cost: Unknown at this time

Source of Funding: Local / FEMA Grant

Work Product/Expected Outcome: The work product is to assess the potential need and possible financing strategies for a community safe room located within existing City Mobile Home Communities. The concept of "shelter in place" for a targeted population group will be addressed. The expected outcome is providing a safe location from tornados for citizens living in neighborhoods with concentrations of mobile homes or in public mobile home parks.

4. Install new electric utility lines underground.

Hazard Type: Tornado, High Winds, Severe Winter Storms

Action Plan Project Type: Mitigation

Lead: OG&E and City Community Development

Time Schedule: FY 2014-2018

Estimated Cost: Unknown

Source of Funding: Local / Utility

Work Product/Expected Outcome: The work product will be the development of a cooperative plan for future developments within the community and the consideration of underground construction of existing lines that are replaced. The expected outcome will be an increased percentage of underground utility lines within the community.

5. Develop a GPS identification methodology for all buildings and residences within the community.

Hazard Type: Floods, Tornados, High Winds, Lightening, Hail Storms, Severe Winter Storms, Extreme Heat, Expansive Soils, Drought, Wild Fires, Earthquakes, Hazardous Materials Events

Action Plan Project Type: Preparedness and Response

Lead: City Fire Department

Time Schedule: FY 2014-2018

Estimated Cost: City force account

Source of Funding: Local / Grants

Work Product/Expected Outcome: The work product is to develop a database and mapping system that utilizes GPS as the basis for locating structures and other facilities within the community. The expected outcome is to achieve 100% coverage within 5 years.

6. Provide for routine trimming of trees to reduce power outages during storms.

Hazard Type: High Winds, Severe Winter Storms

Action Plan Project Type: Maintenance

Lead: OG&E

Time Schedule: FY 2014 and ongoing

Estimated Cost: unknown

Source of Funding: Local

Work Product/Expected Outcome: The work product is to remove tree branches that are overhanging power lines. The expected outcome is to lessen the probability of tree branches, weighted down by snow and ice, interfering with power lines and causing power outages.

7. Develop a coordinating network of Public Information staff, i.e., City, Schools OG&E etc. by meeting on a regular basis to maintain lines of communication to effectively respond to emergency events.

Hazard Type: Floods, Tornados, High Winds, Lightening, Hail Storms, Severe Winter Storms, Extreme Heat, Expansive Soils, Drought, Wild Fires, Earthquakes, Hazardous Materials Events

Action Plan Project Type: Education

Lead: City Community Relations Director

Time Schedule: FY 2014 and ongoing

Estimated Cost: \$5,000

Source of Funding: Local

Work Product/Expected Outcome: The work product is to develop a localized network of agency representatives that are aware of operational changes in other agencies. The expected outcome is to have effective communication and situational awareness of other local agencies.

8. Develop and implement public information program designed to educate the public on a variety of hazard mitigation issues including the dangers of expansive soils and the potential severity of drought conditions.

Hazard Type: Expansive Soils, Drought

Action Plan Project Type: Education/Mitigation

Lead: City Community Development

Time Schedule: FY 2014 and ongoing

Estimated Cost: \$5,000

Source of Funding: Local

Work Product/Expected Outcome: The work product will be to provide education materials on specific mitigation activities that the public can implement. This would include meeting with and/or informing builders and homeowners of specific landscaping and construction measures that can be utilized to mitigate expansive soil effects. The expected outcome will be more mitigation activities implemented by the citizens of the community.

9. Develop a coordinated training strategy for teaching public employees and other community groups the symptoms of common, life threatening emergencies, heat disorders and how to give CPR and first aid by providing additional classes.

Hazard Type: Floods, Tornados, High Winds, Lightening, Hail Storms, Severe Winter Storms, Extreme Heat, Expansive Soils, Drought, Wild Fires, Earthquakes, Hazardous Materials Events

Action Plan Project Type: Education

Lead: City Fire Department, Red Cross and current EMS provider

Time Schedule: FY 2014, and ongoing

Estimated Cost: \$1,000 (estimated annually)

Source of Funding: Local

Work Product/Expected Outcome: The work product is to provide adequate training and response to life threatening emergencies by public employees and community groups. The expected outcome is a more effective response to emergency situations.

10. Replace/continue replacing inadequately sized water lines and acquisition of water tender(s) to cover currently under-protected areas.

Hazard Type: Urban Fires and Wildfires, Drought

Action Plan Project Type: Maintenance

Lead: City Community Development

Time Schedule: FY 2014-2018

Estimated Cost: undetermined at this time

Source of Funding: Local

Work Product/Expected Outcome: The work product will be the implementation of the City's Master Water Distribution Plan through the City's Capital Improvement Program. Also, new developments will be expected to

provide adequately sized water lines as part of the development process. As an interim step the City will purchase one or more water tenders (tanker trucks) to facilitate the City's response to wildland fires. The expected outcome is to provide adequate volume and pressure to meet ISO standards throughout the community.

11. Promote certification of local emergency shelters within the community for use by the Red Cross in emergency situations requiring shelter. Support legislative initiatives that reduce liability in sheltering situations.

Hazard Type: Floods, Tornados, High Winds, Lightening, Hail Storms, Severe Winter Storms, Extreme Heat, Expansive Soils, Drought, Wild Fires, Earthquakes, Hazardous Materials Events

Action Plan Project Type: Training

Lead: City Fire Department, Red Cross

Time Schedule: FY 2014, and ongoing

Estimated Cost: varies by location and scope of project due to certification

Source of Funding: Local

Work Product/Expected Outcome: The work product is to identify appropriate facilities that can become temporary shelters in the event of an emergency that causes evacuation or relocation of residents. The expected outcome is that sufficient certified shelters will be staffed by Red Cross staff during emergencies.

12. Explore the option to upgrade the City's mass emergency oriented warning system using digital communications and automation technology as part of a multi layered notification approach to cover city wide emergencies.

Hazard Type: Floods, Tornados, High Winds, Lightening, Hail Storms, Severe Winter Storms, Extreme Heat, Expansive Soils, Drought, Wild Fires, Earthquakes, Hazardous Materials Events

Action Plan Project Type: Mitigation

Lead: City Fire Department

Time Schedule: FY 2014, and ongoing

Estimated Cost: Unknown at this time

Source of Funding: Local

Work Product/Expected Outcome: The work product is to acquire and implement a digitally based notification system that can accomplish immediate city-wide emergency notification. The expected outcome is achieving better coverage through a multi-layered "all hazards" notification capability in the event of an emergency.

13. Adopt appropriate building codes for adequacy for tornados, high winds, hailstorms expansive soils and earthquakes.

Hazard Type: Tornados, High Winds, Hailstorms, Expansive Soils, Earthquakes

Action Plan Project Type: Mitigation

Lead: City Community Development

Time Schedule: FY 2014, and annually

Estimated Cost: minimal (to include staff research time and publication costs)

Source of Funding: Local

Work Product/Expected Outcome: The work product is to develop a comparison summary between the current edition of the IBC and the next published edition, anticipated to be available in 2014 and to adopt the new IBC, if necessary. The expected outcome is to update the City's codes to include the latest technical updates that the City considers to be appropriate for the City of Glenpool. These codes will be applied to New and Existing Buildings.

14. Construct adequate bridges to a standard of one foot above the Base Flood Elevation.

Hazard Type: Flooding

Action Plan Project Type: Mitigation

Lead: City Community Development

Time Schedule: FY 2014-2018

Estimated Cost: Undetermined at this time.

Source of Funding: Local/Grants

Work Product/Expected Outcome: The work product will be the identification of currently inadequate bridges that have significantly overtopped and the scheduled replacement of those bridges through the City's Capital Improvement Program. The expected outcome is to provide adequate access in flooding conditions and reduce the occurrence of road closures due to flooding conditions.

15. Establish cooling centers within the community for heat emergencies.

Hazard Type: Extreme Heat

Action Plan Project Type: Mitigation

Lead: City Fire Department, Red Cross

Time Schedule: FY 2014, and annually

Estimated Cost: Unknown at this time

Source of Funding: Local

Work Product/Expected Outcome: The work product is to identify and to develop working agreements for the use of public spaces for use in heat emergencies. The expected outcome is educating the public as to the availability and location of cooling centers.

16. Adopt Building Code requirements for public buildings, including school facilities, to protect against earthquakes.

Hazard Type: Earthquakes

Action Plan Project Type: Mitigation

Lead: City Administration

Time Schedule: As funds become available

Estimated Cost: Unknown, dependent upon the structure

Source of Funding: Grant and local match

Work Product/Expected Outcome: The work product would be the strengthening of structures to resist damage from minor ground movement. The expected outcome would be the safer structures to be in, and less structural damages, from an earthquake. These codes will be applied to New and Existing Buildings

17. Review and update contingency planning for transportation related hazardous materials incidents on US Highway 75.

Hazard Type: Hazardous Materials

Action Plan Project Type: Preparedness

Lead: City Fire Department

Time Schedule: FY 2014, and annually

Estimated Cost: City force account contribution

Source of Funding: Local

Work Product/Expected Outcome: Work product is the review and update of incident plans for emergency response personnel. The expected outcome is to allow City personnel and personnel who respond to City emergencies to properly identify potentially hazardous situations, assess the magnitude and monitor the event until hazardous material response contractors arrive. Also include a public information campaign to educate the general public on how to evacuate from the immediate incident area, if necessary.

18. Continued participation in the Oklahoma Red Flag Fire Alert Program/OK-Fire Website.

Hazard Type: Urban Fires and Wildfires

Action Plan Project Type: Education

Lead: City Fire Department

Time Schedule: FY 2014 and ongoing

Estimated Cost: City Public Information

Source of Funding: Local

Work Product/Expected Outcome: The work product is to utilize the City Website and other media resources to keep the public informed about wildfire conditions. The expected outcome is to reduce the incidence of wildfires within the community.

19. Provide and/or maintain surge protection and uninterruptible power sources for electronic-reliant City facilities, such as the Fire Department, Public Schools, City Offices, and Police Dispatch Center.

Hazard Type: Lightning

Action Plan Project Type: Mitigation

Lead: All City Departments

Time Schedule: FY 2014- and ongoing

Estimated Cost: \$5,000

Source of Funding: Local / Grants

Work Product/Expected Outcome: With so much data and municipal records stored electronically, access to that data is vital to the continuous operation of government. The work product will be electronic protection units to protect the electronic equipment in City facilities. The expected outcome will be uninterrupted data retrieval from City facilities. . These activities will be applied to New and Existing Buildings.

20. Identify and map vulnerable structures susceptible to flooding.

Hazard Type: Flood

Action Plan Project Type: Mitigation

Lead: Community Development Department

Time Schedule: FY 2014- and ongoing

Estimated Cost: \$5,000

Source of Funding: Local / Grants

Work Product/Expected Outcome: FEMA has recently issued new FIRM maps for the City. The work product will be the identification of new structures vulnerable to flooding as a result of the revised FIRM maps. The expected outcome will be the updated inventory of vulnerable flood zone structures.

21. Require new development projects to control downstream flooding by constructing on-site water retention structures or participating in other off-site mitigation strategies.

Hazard Type: Flood

Action Plan Project Type: Mitigation

Lead: Community Development Department

Time Schedule: FY 2014- and ongoing

Estimated Cost: Unknown

Source of Funding: Local / Grants

Work Product/Expected Outcome: City Development Codes now require new development projects to control downstream flooding through the use of water retention structures and other appropriate mitigation strategies as part of the site development approval process. The work product will be the application of current development requirements on all new development activities within the City. The expected outcome will be to effectively mitigate and control additional runoff created by new development activity and reducing downstream flooding.

Chapter 6:

Plan Maintenance and Adoption

This chapter includes a discussion of the plan maintenance process and documentation of the adoption of the plan by the Glenpool Hazard Mitigation Advisory Committee and the Glenpool City Council. The plan update process reviewed City actions in regard to incorporation of mitigation strategies contained in the original plan into other planning mechanisms and determined that several actions had been taken including updating the Fire Department hazardous materials inventory; pro-active tree trimming programs by utility providers; surge protection for critical facilities; pre-disaster contingency planning; fire suppression system for new Convention Center; capital improvement planning for replacement of bridge and drainage facilities; adoption of IBC Code; updating the city's Emergency Operations Plan; and working with OEM and FEMA on revisions to the city's FIRM Maps.

6.1 Monitoring, Evaluating, Updating the Plan

The Glenpool Multi-Hazard Mitigation Plan includes a range of action items to reduce losses from hazard events. Together, the action items provide a framework for activities that the City can choose to implement over the next five years. The effectiveness of the plan depends on the incorporation of the action items into existing City plans, policies, and programs.

The Glenpool City Manager, or his designee, and the Community Development Department will be jointly responsible for overseeing the plan's implementation and maintenance through existing City programs. The Director of Community Development or designated appointee will assume lead responsibility for facilitating plan implementation and maintenance meetings. The City of Glenpool will utilize a staff management team that will contribute to the monitoring, evaluations, and updates to the Multi-Hazard Mitigation Plan. The Glenpool Hazard Mitigation Advisory Committee (GHMAC) will continue to meet on, at least, an annual basis. This group will monitor the progress of the mitigation activities. Monitoring will include getting annual reports from the agencies and departments involved in the mitigation activities as to their progress. The GHMAC will make annual reports to the City Council summarizing the accomplishments of the mitigation activities.

The GHMAC will also evaluate the mitigation plan on an annual basis. The GHMAC evaluation shall include reviewing the goals and objectives of the mitigation plan for any changes. The GHMAC evaluation will also include a review of the hazards in the plan to determine if the risks or hazard locations have changed. The GHMAC will complete and provide an annual evaluation to the Glenpool City Council. In the action plan, the GHMAC will review the items identified to implement each action plan activity for their appropriateness, and report problems to the City Council. These implementation items include the responsible agency to oversee the mitigation activity, the time schedule, the funding source, and the funding source.

The GHMAC, assisted by City Management and staff, will be tasked by the City Council to begin a comprehensive update to the Multi-Hazard Mitigation Plan within four years from the date of approval of the current update, as per FEMA requirements, in accordance with the FEMA Local Mitigation Planning Handbook, will be resubmitted to OEM and FEMA for approval, as required.

6.2 Incorporating the Multi-Hazard Mitigation Plan

The Glenpool Multi-Hazard Mitigation Plan has been adopted by the Glenpool Planning Commission as an amendment to the Glenpool Comprehensive Plan. The Glenpool City Council has adopted the plan to guide City mitigation activities. Glenpool currently has a comprehensive plan and a capital improvement plan to guide development and future improvements. Appropriate Action Plan activities will be incorporated into the annual planning process for the City Budget and periodic updates to the Comprehensive Plan and Capital Improvements

Plan (CIP). The City annually uses public hearings (usually 2 to 3) to discuss the Budget and updates and amendments to the Comprehensive Plan and CIP. The Planning Commission is often used to ask for additional public inputs and approval when required. As part of the Planning Commission process, the GHMAC will monitor how mitigation activities are incorporated into the Budget, Comprehensive Plan and CIP.

As mentioned, Glenpool currently has a comprehensive plan and a capital improvement plan to guide development and future improvements. These plans have incorporated mitigation strategies from the initial Mitigation Plan, and will incorporate updated or new mitigation plan strategies into those plans when the Hazard Mitigation Plan is updated. The inspections department enforces the buildings codes in Glenpool. After adoption of the mitigation plan, the inspections department will continue to enforce the building codes on new construction. Selection of future CIP projects will include consideration of the goals and objectives of the mitigation plan. Note: All plans are updated as needed by the City of Glenpool.

6.3 Public Involvement

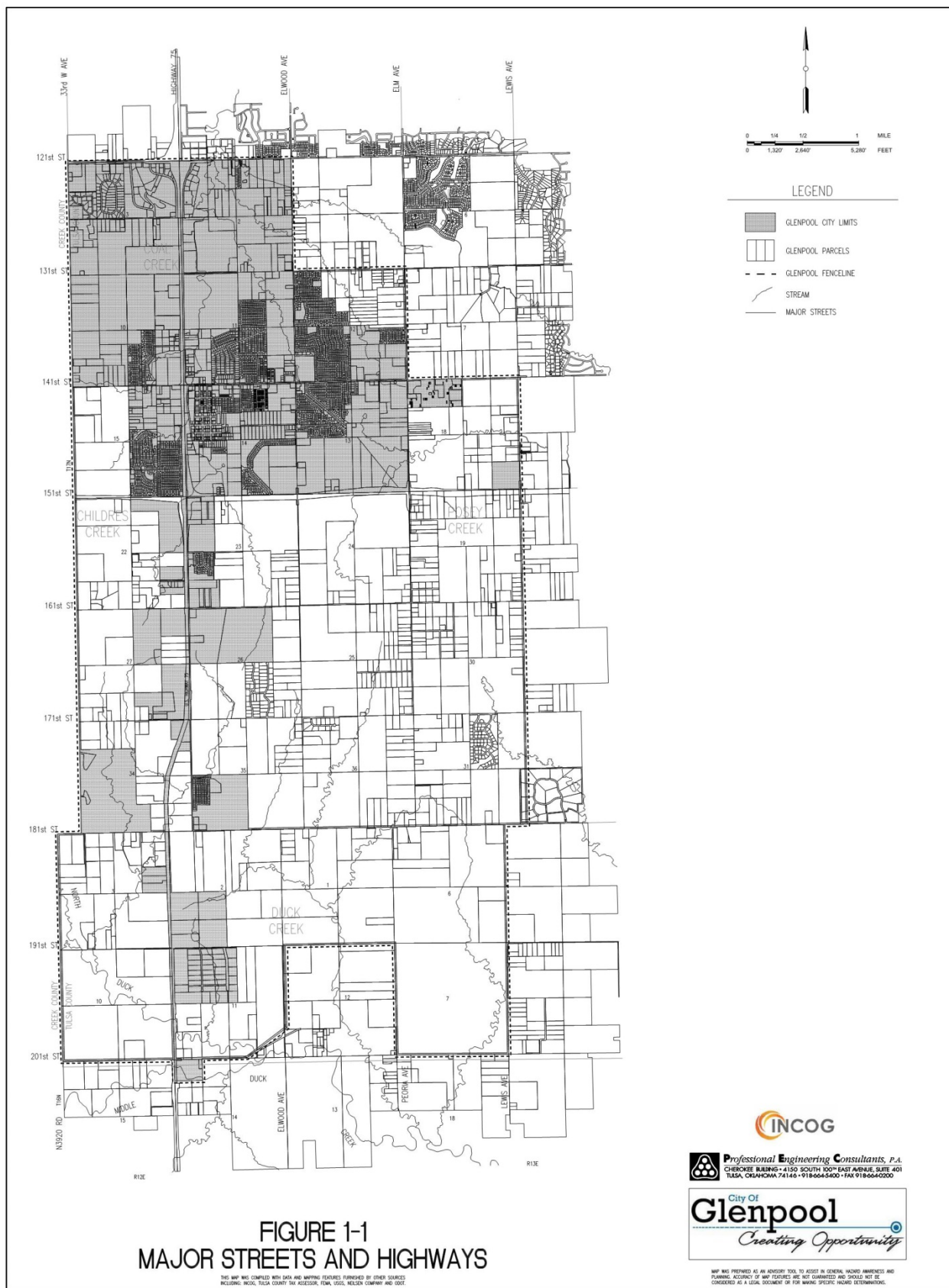
The City of Glenpool is committed to involving the public directly in updating and maintaining the Multi-Hazard Mitigation Plan. Copies of the Plan will be available at the local branch of the Tulsa City-County Library, Glenpool Convention Center, and City of Glenpool's website. This website address is glenpoolonline.com.

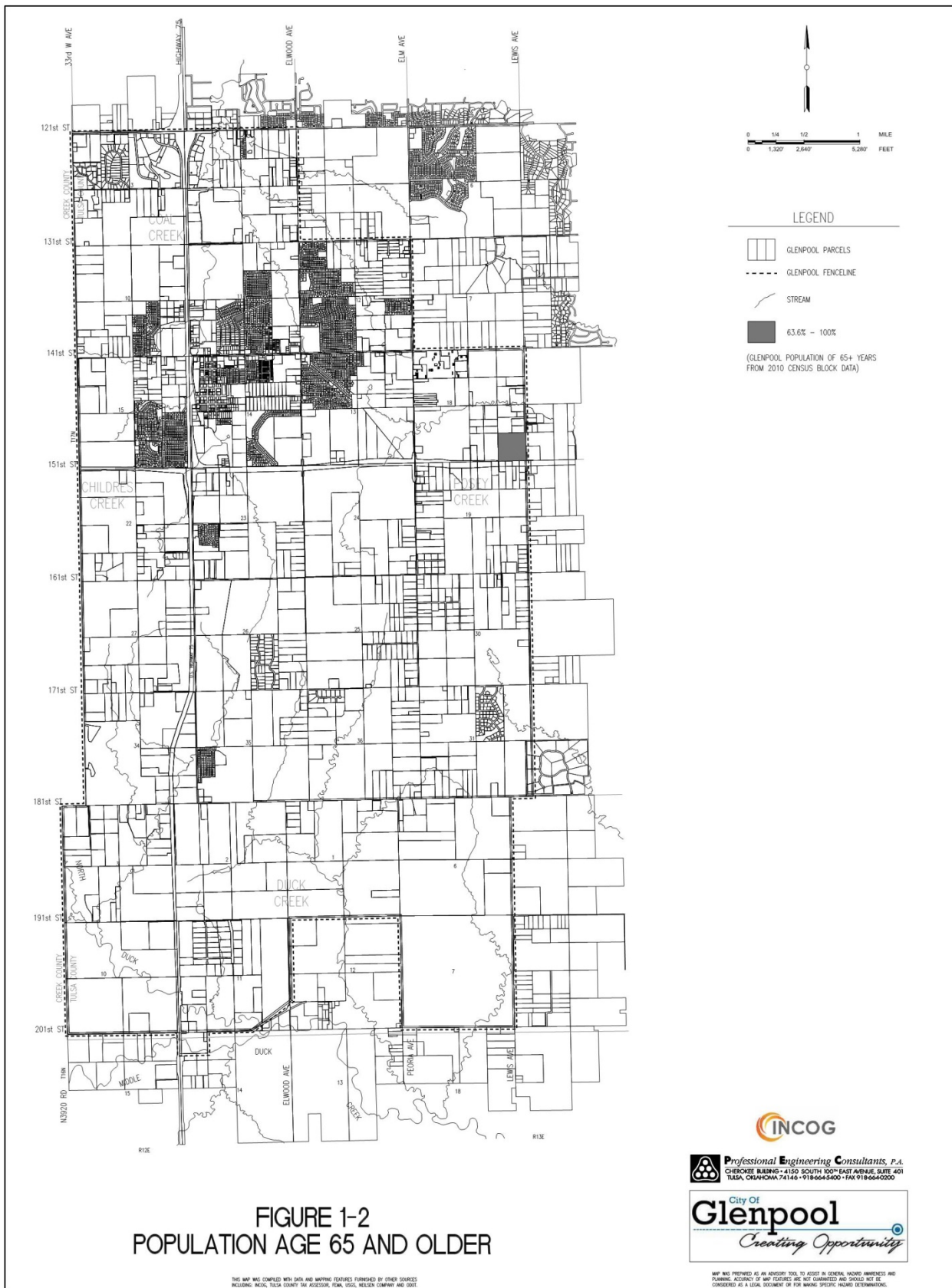
The GHMAC will meet annually to assist the City staff in its efforts to promote continuing outreach to the public and other stakeholders during plan maintenance and implementation. Input from citizens will be solicited through the City website and local print media as to how the mitigation process can be more effective. Comments can be made directly to the Community Development Director and the City Planner, or can be e-mailed to the webmaster through the City's website.

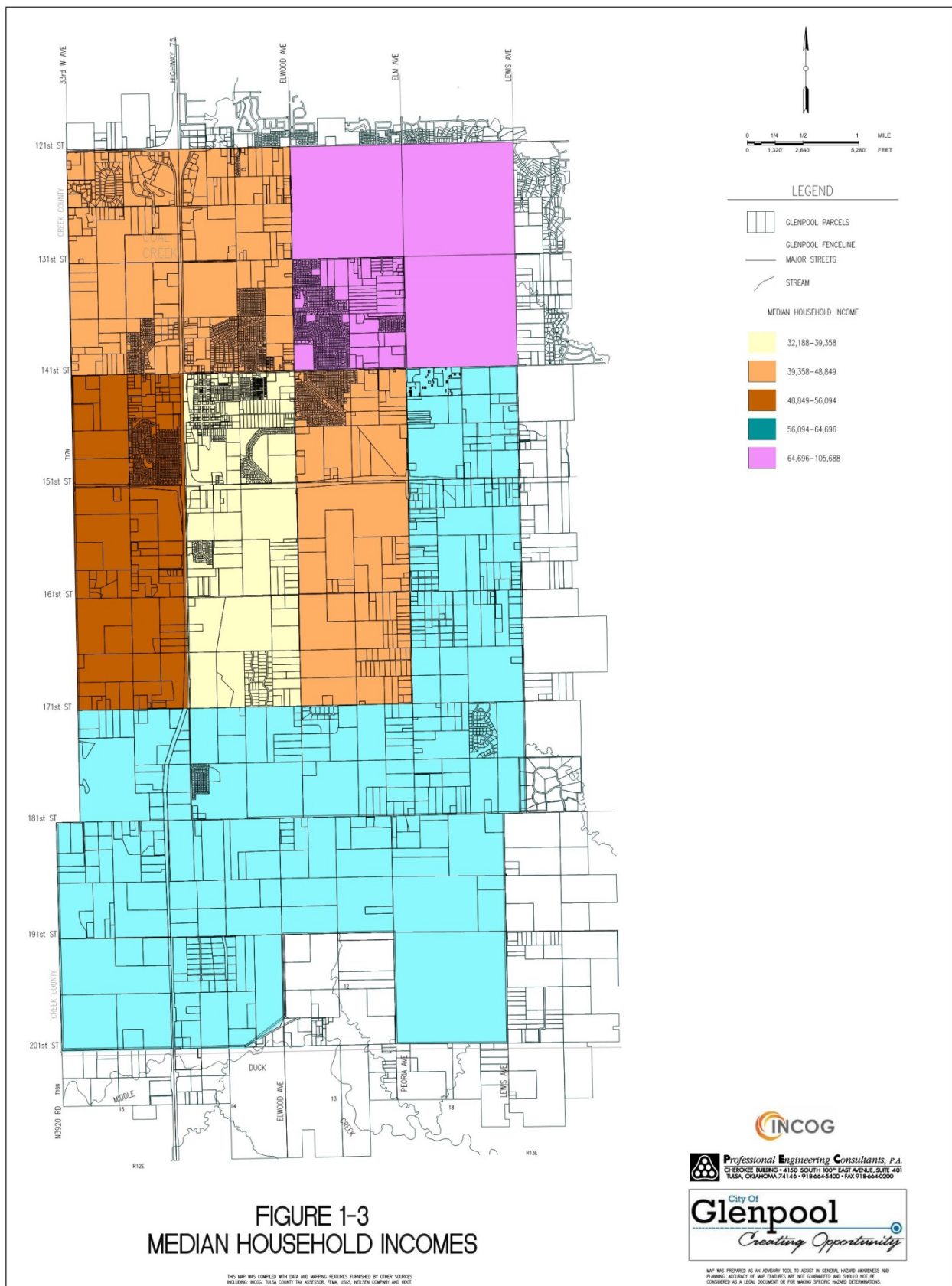
Appendix 1:

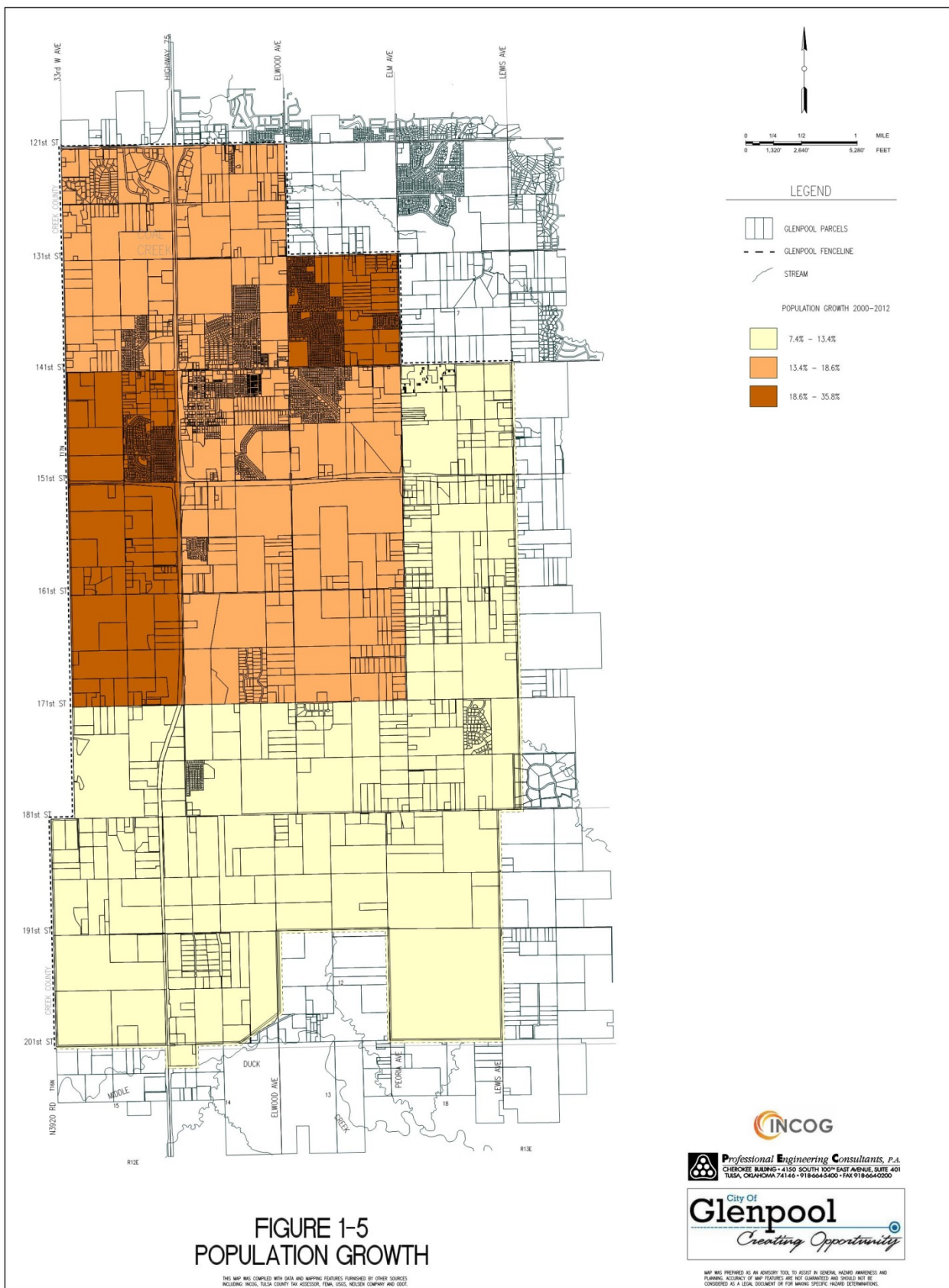
Maps

Figure 1-1	Major Streets and Highways
Figure 1-2	Population Over 65
Figure 1-3	Median Household Income
Figure 1-4	Manufactured Housing
Figure 1-5	Population Growth
Figure 1-6	Comprehensive Land Use
Figure 1-7	Critical Facilities
Figure 1-8	Floodplains
Figure 1-9	Historic Tornadoes
Figure 1-10	Tornado Scenarios
Figure 1-11	Outdoor Warning System
Figure 1-12	Expansive Soils
Figure 1-13	Hazardous Materials
Figure 1-14	Critical Facilities and Floodplains
Figure 1-15	Hazardous Materials and Floodplains









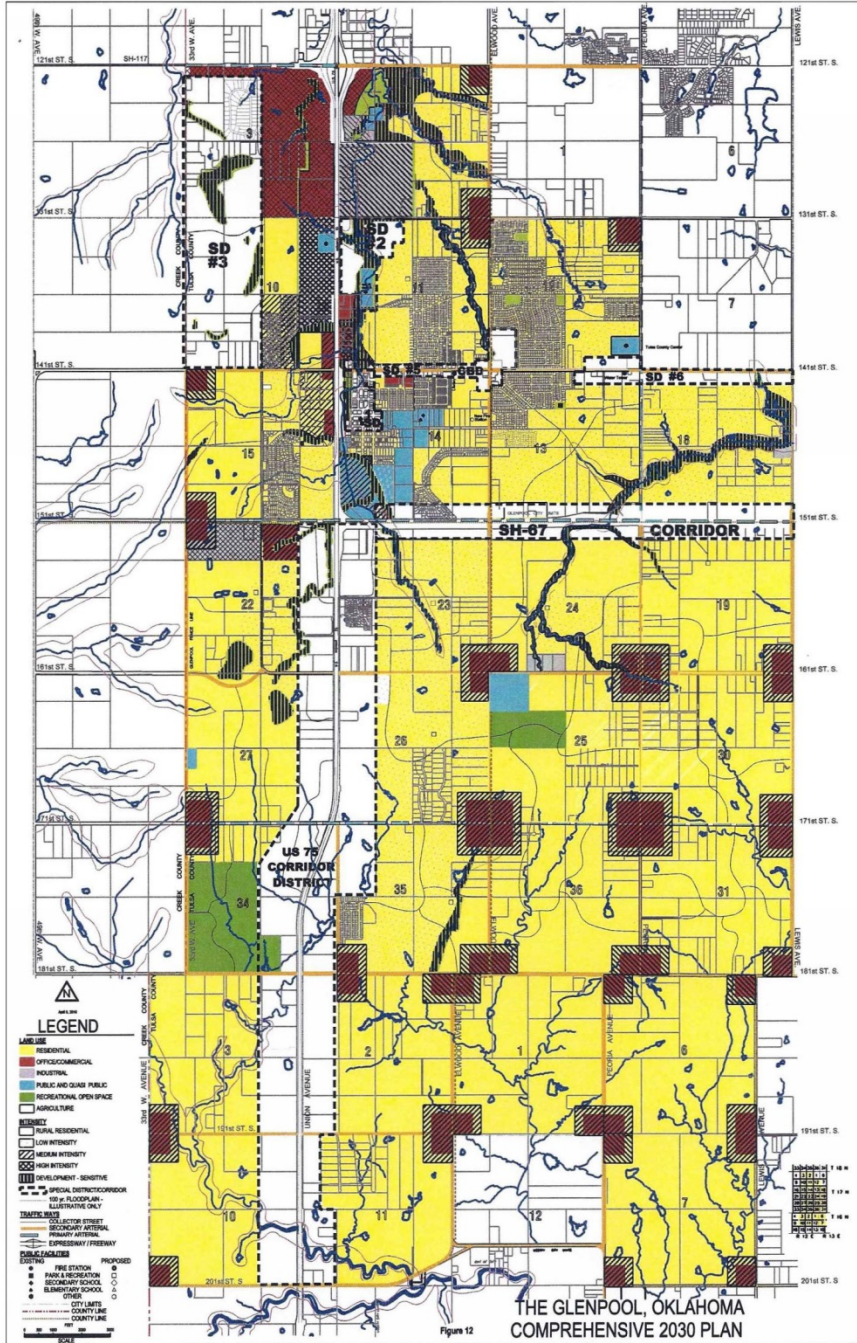


FIGURE 1-6
COMPREHENSIVE LAND USE

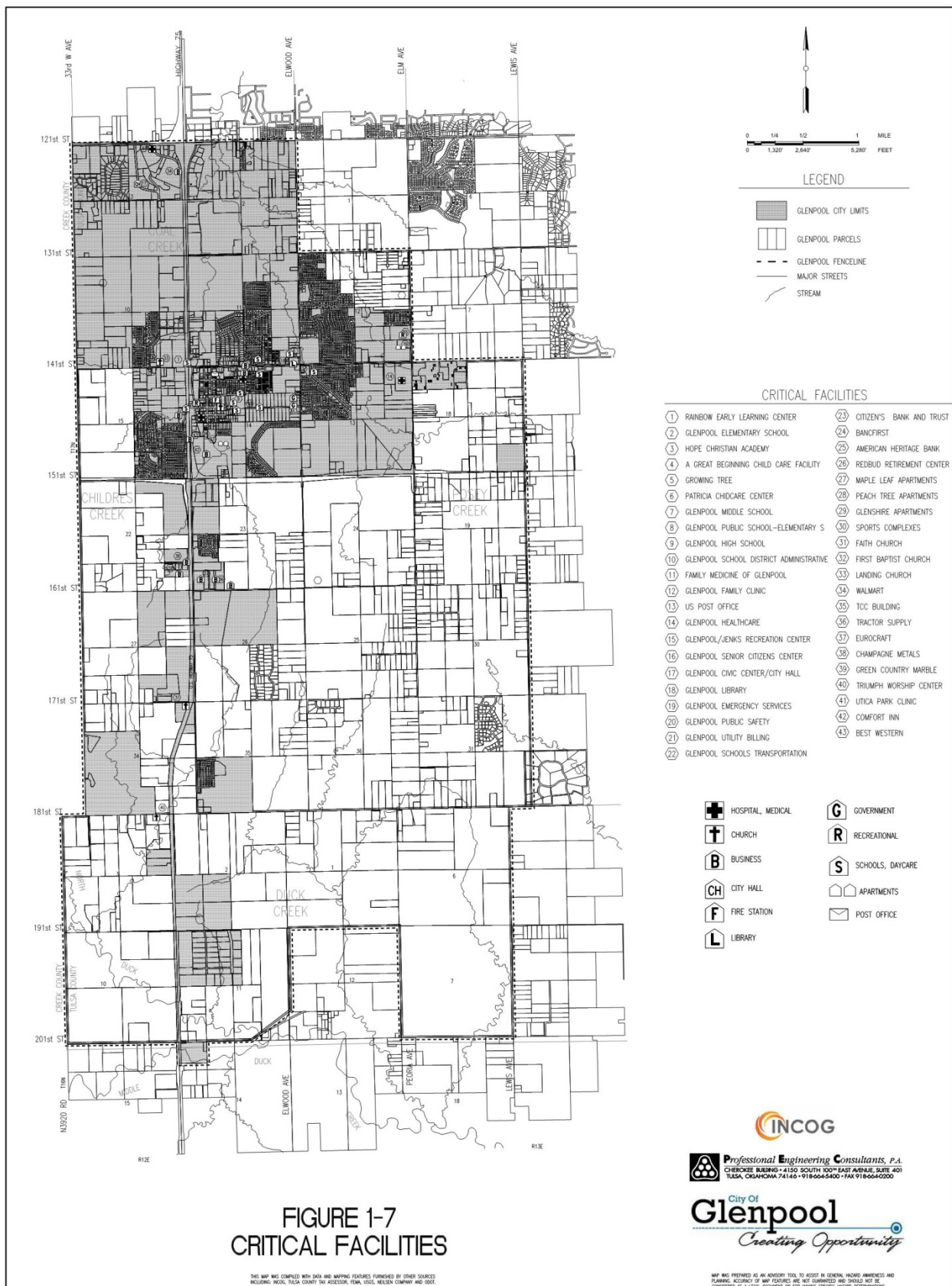
THIS MAP WAS COMPILED WITH DATA AND MAPPING FEATURES PROVIDED BY OTHER SOURCES INCLUDING: NACOL, TULSA COUNTY TAX ASSESSOR, FEMA, USGS, NELSON COMPANY AND DOT.

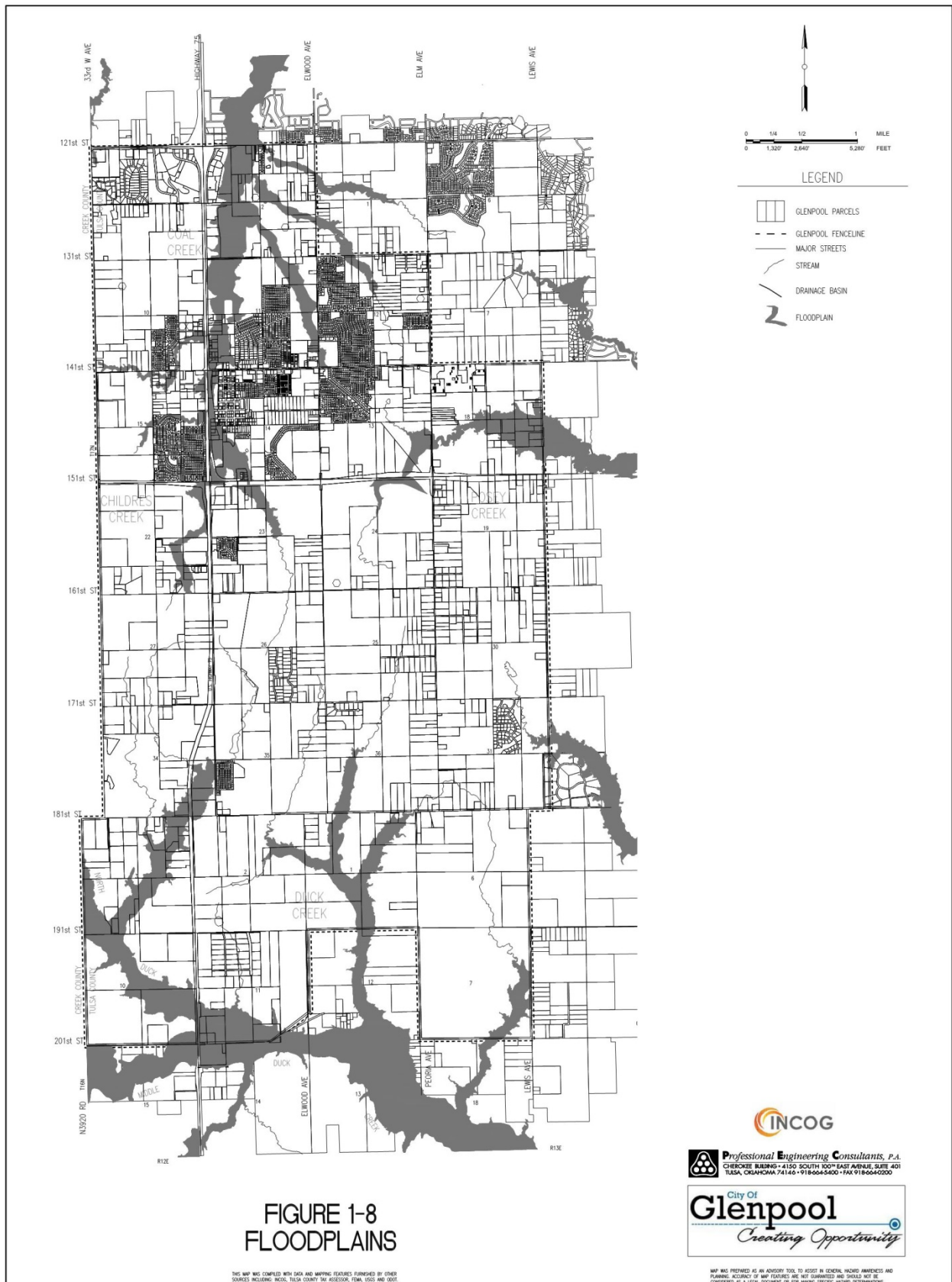


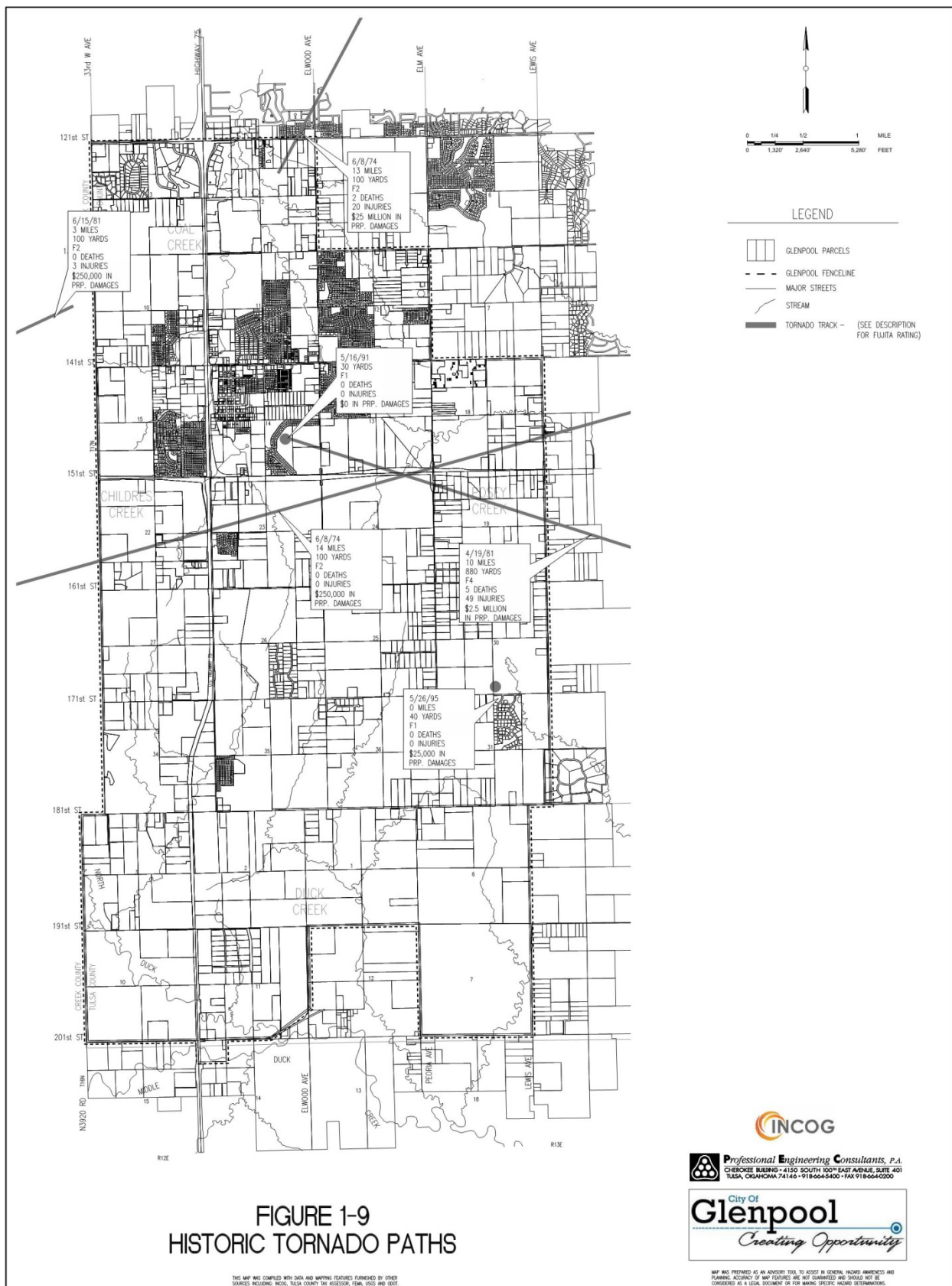
Professional Engineering Consultants, P.A.
CHRYSTIE BLANKINS - 4150 SOUTH 100TH EAST AVENUE, SUITE 401
TULSA, OKLAHOMA 74146 • (918) 646-5300 • FAX (918) 646-2200

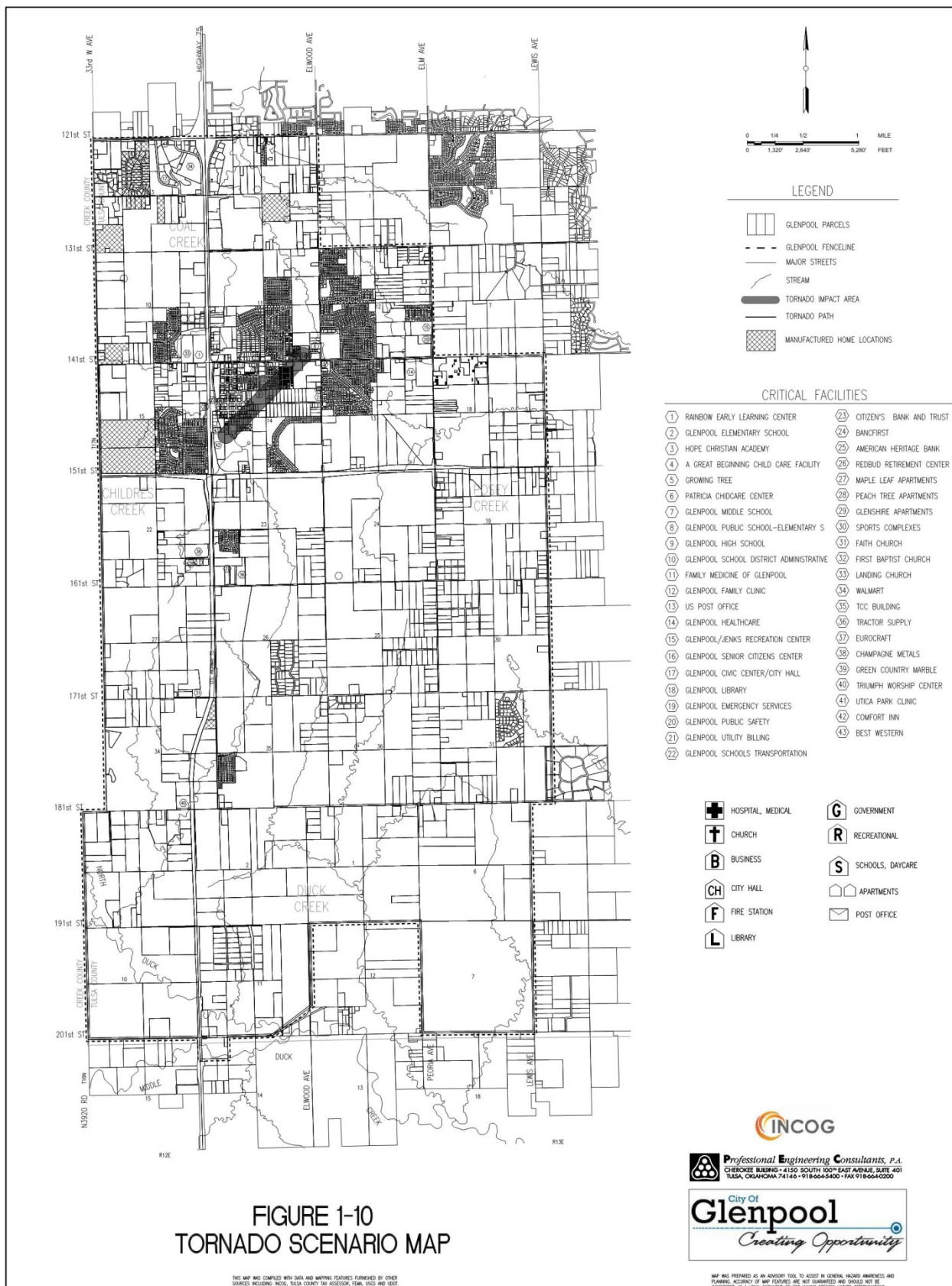


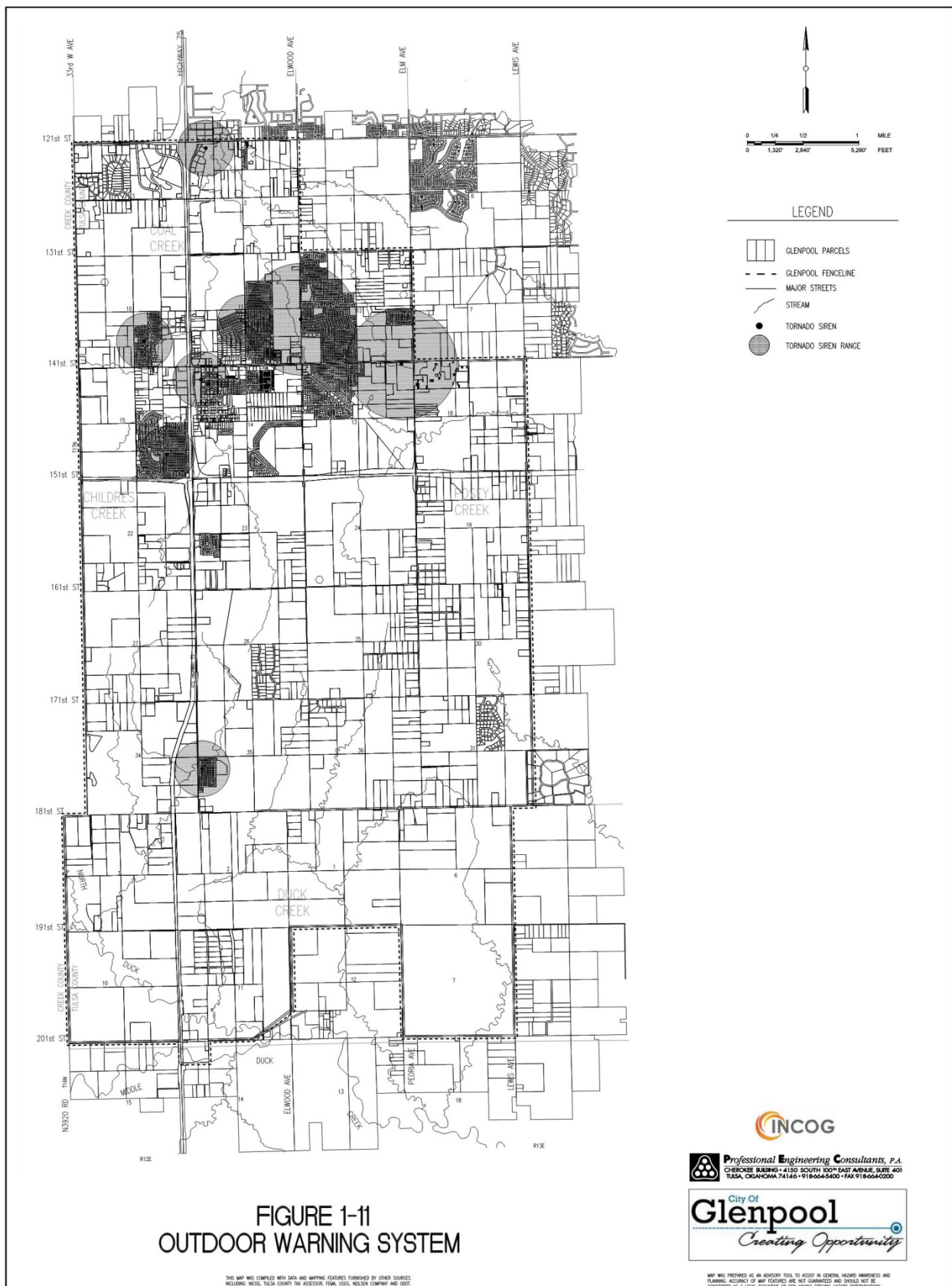
MAP WAS PREPARED AS AN ADVISORY TOOL TO ASSIST IN GENERAL INCOME ADEQUACY AND PLANNING. ACCURACY OF MAP FEATURES ARE NOT GUARANTEED AND SHOULD NOT BE CONSIDERED AS A LEGAL DOCUMENT OR FOR MAKING SPECIFIC INCOME DETERMINATIONS.

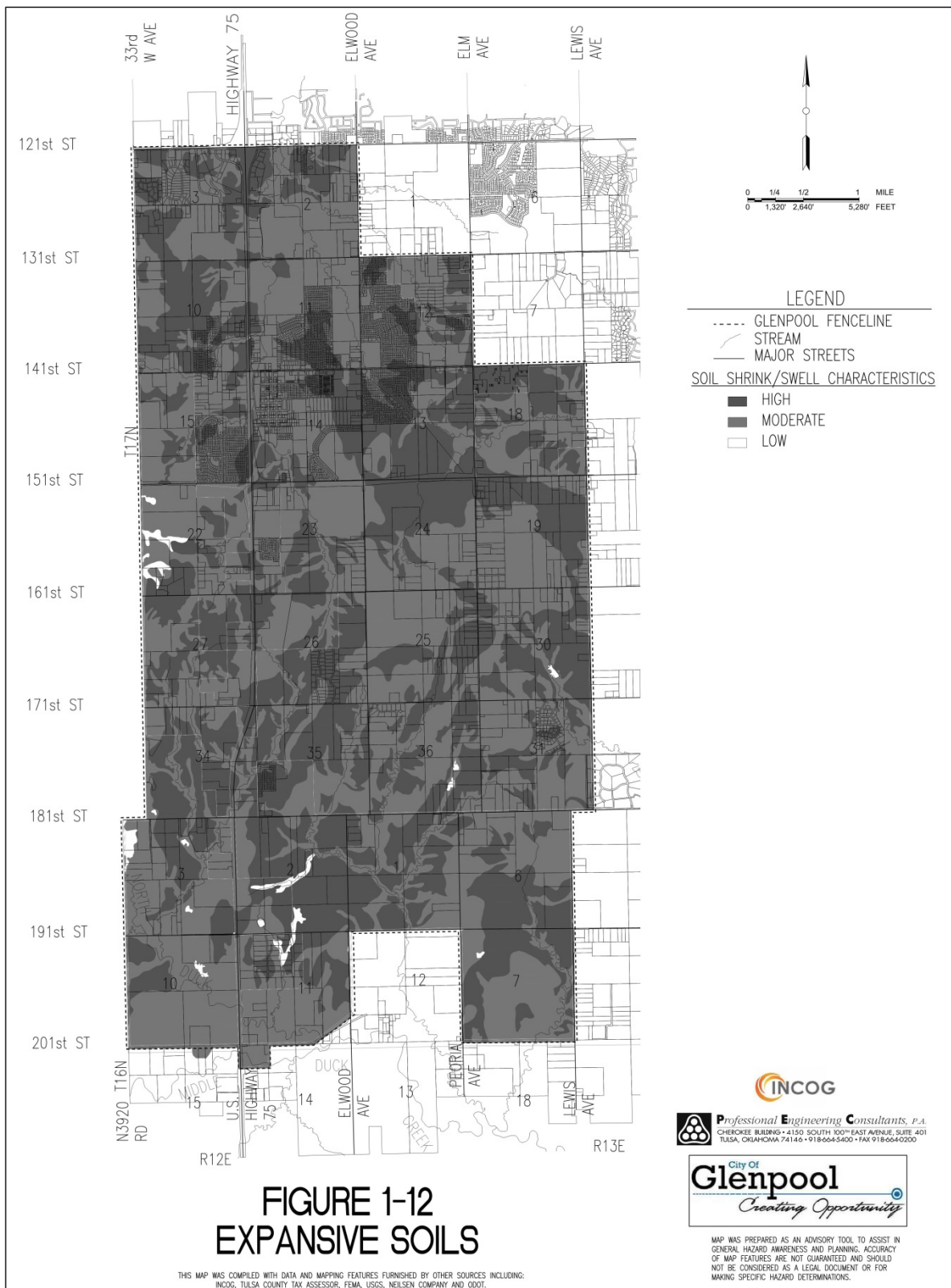


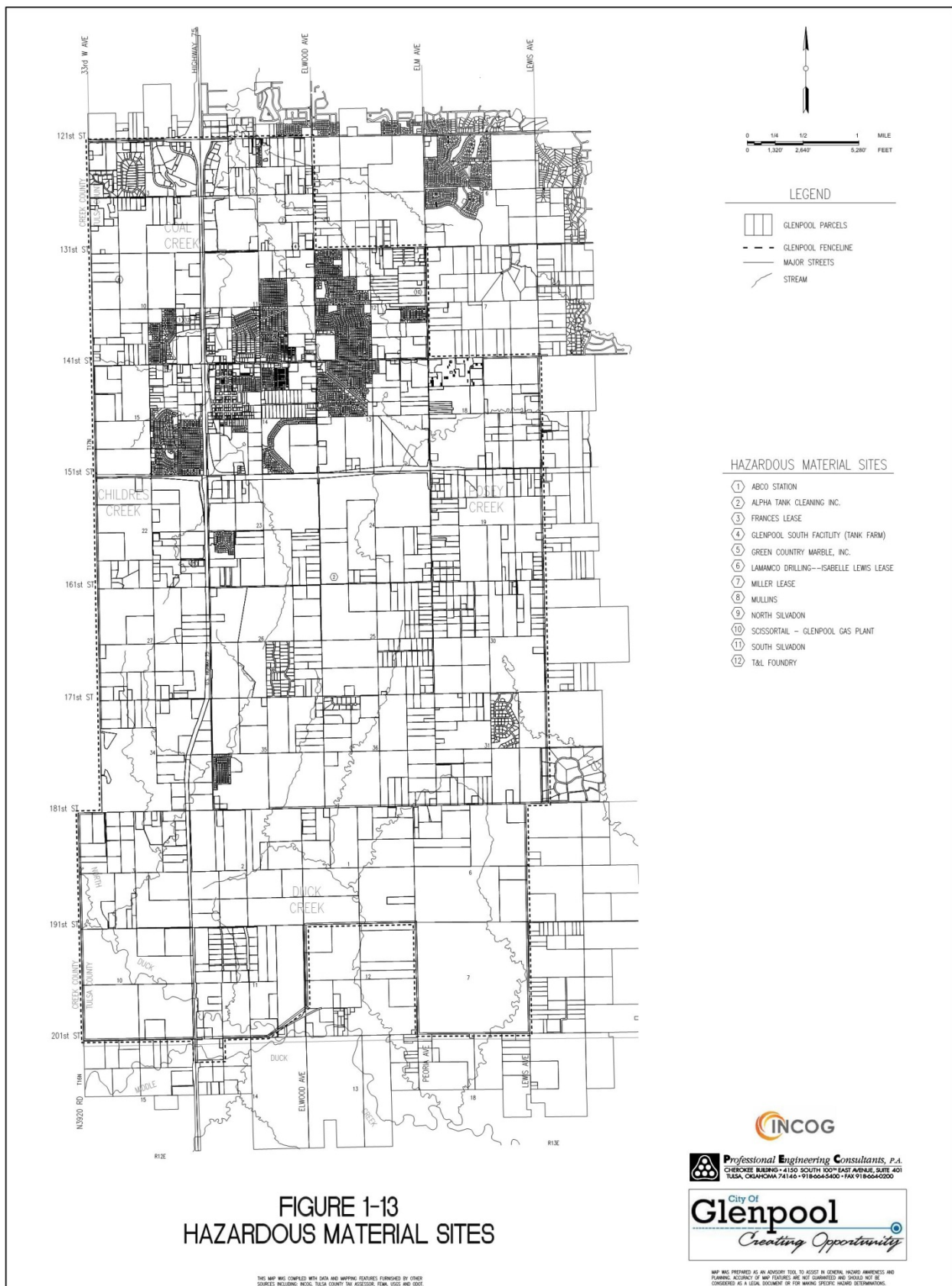


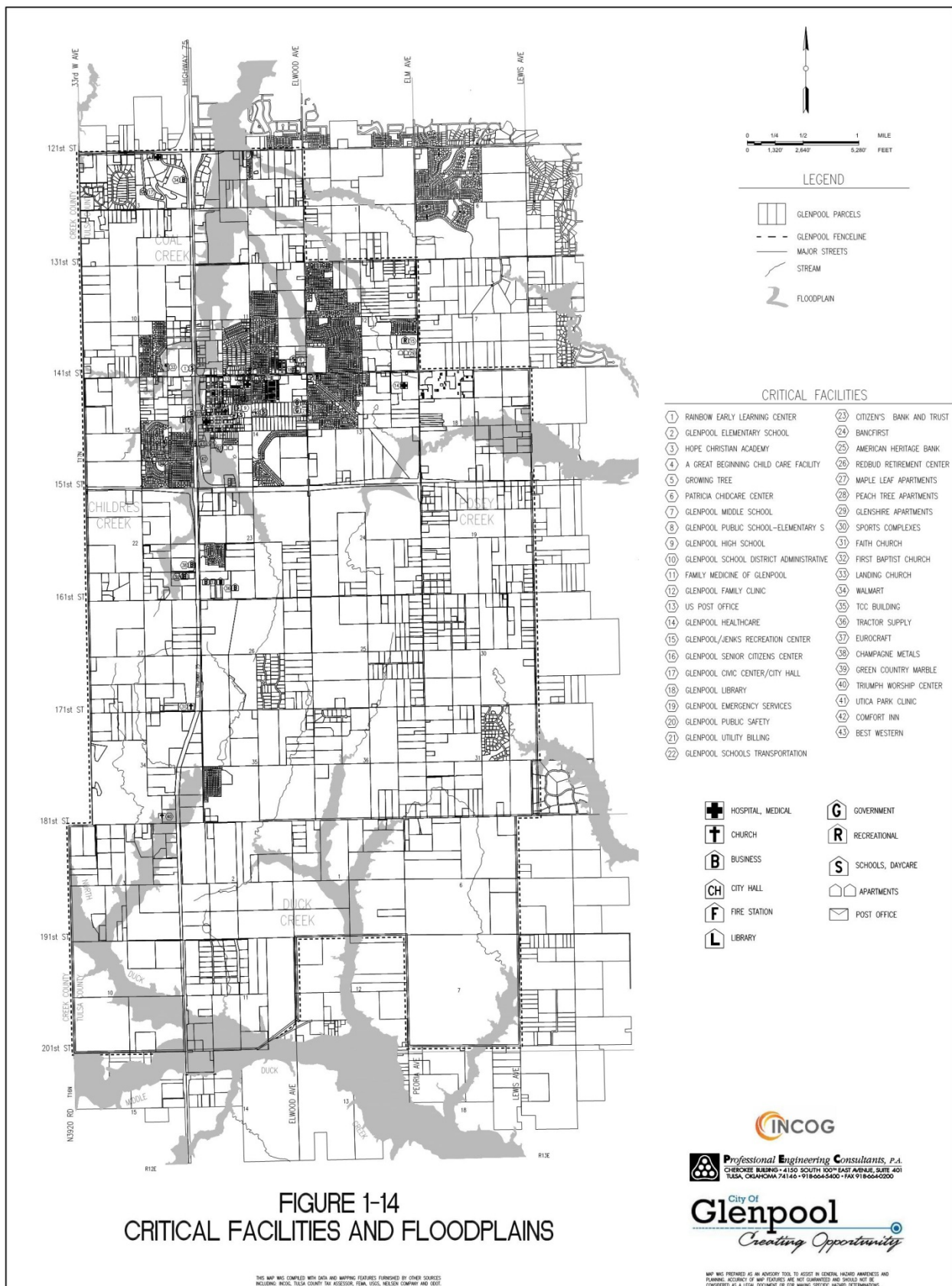


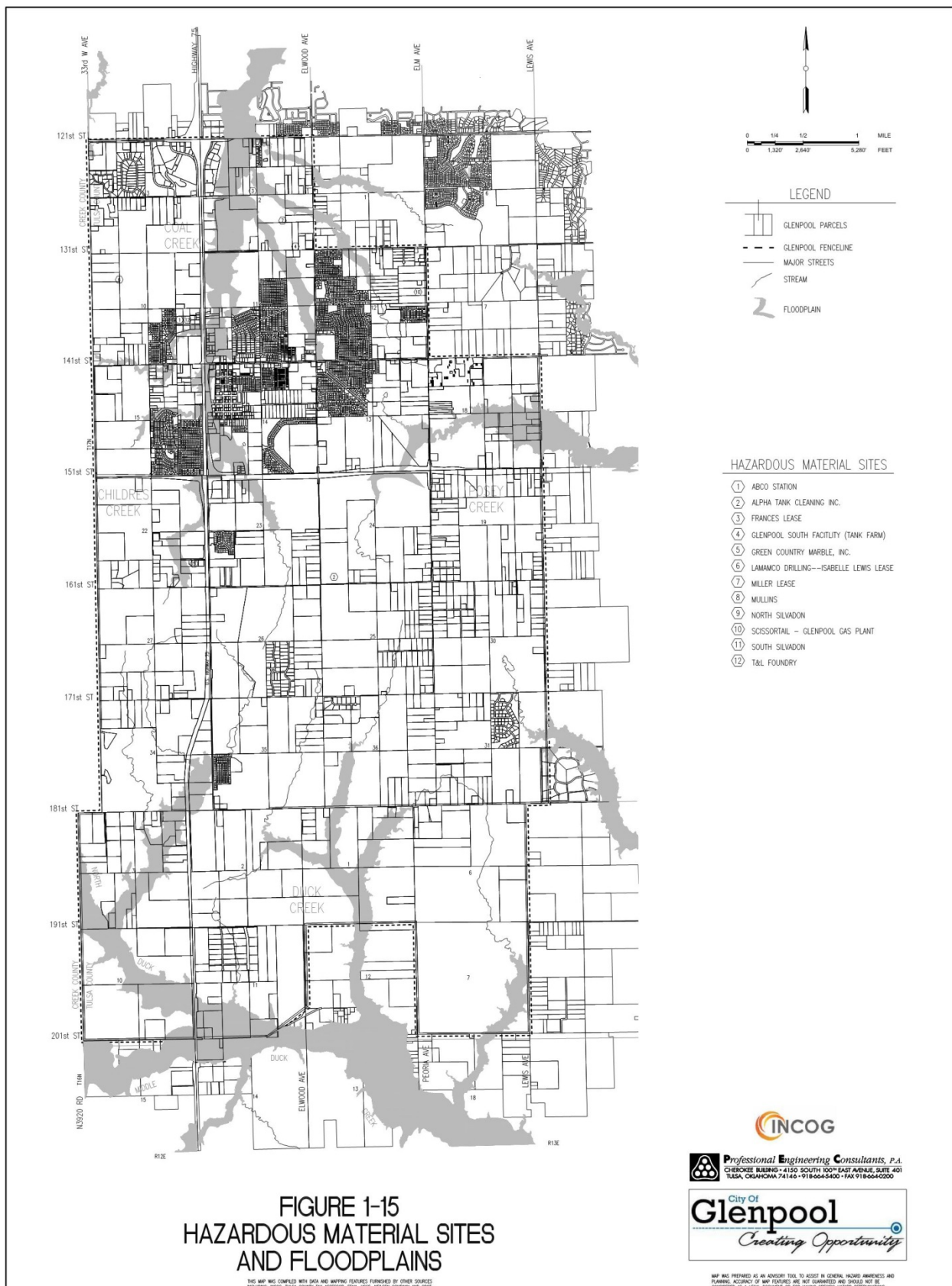












Appendix 2:

Committee Meetings

August 31, 2011 Committee Meeting Agenda

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
NORTH 3A/3B MEETING ROOM
GLENPOOL CONFERENCE CENTER

August 31, 2011
3:30 P.M.

- I. Call to Order by Chairman
- II. Introduction of Committee Members
- III. Introduction of Planning Consultant Team Members
- IV. Review of Planning Update Process Including School District Participation
- V. Review and Discussion of Initial HMGP Action Plan Items and Activity to Date
- VI. Discussion of Hazard Identification and Assessment Issues and Citizen Input Options
- VII. Set Next Meeting Date
- VIII. Adjourn

August 31, 2011 Committee Meeting Minutes

CITY OF GLENPOOL HAZARD MITIGATION PLANNING COMMITTEE NORTH 3A/3B MEETING ROOM GLENPOOL CONFERENCE CENTER

Members Present:

Joe Jones
Greg Turley
Kristie Walton
Michael Grimm
Mary Rose Brown
Ron Cook
Jon Hartman
Brian Wood
David Tillotson
Tom Graves
Michael Coonfield
Tommy Carner
Dennis Waller
Lea Ann Golden
Shaun Stephens
Lynn Burrow
Rick Malone
Kathy Coley
Dick Watts

Members Absent:

Paul Newton
Samantha Henry
Bob Hiser
Michael Ramming

Consultants Present:

Andy Armstrong
Dean Kendrick
Russell Wells

Guests:

Virginia Burnap

IX. Call to Order by Chairman

Meeting was called to order by Acting Chairman, Assistant Fire Chief, Brian Wood, at 3:35 P.M.

X. Introduction of Committee Members

Participants went around the table and introduced themselves. See attached attendance sheet.

XI. Introduction of Planning Consultant Team Members

The City Planner, Rick Malone, introduced Andy Armstrong from Andy Armstrong Consulting, LLC, who is the principal consultant on the proposed plan update process. He introduced Dean Kendrick and Russell Wells from Professional Engineering Consultants (PEC) who will provide GIS and Mapping Services.

XII. Review of Planning Update Process Including School District Participation

Andy Armstrong described the Hazard Mitigation update process that the City of Glenpool has initiated with the help of ODEM and FEMA. He indicated that the City initially completed a plan in 2003 and that some progress has been made in completing mitigation actions contained within the initial plan. He mentioned that the School District and other organizations will be involved in the update process and are represented on the Advisory Committee. At the direction of the committee various forms of citizen input will be utilized, including a community survey, to help evaluate the community's current concerns. He stated that FEMA uses a 17 page crosswalk to evaluate the completeness of a Hazard Mitigation Plan and all of the items on that crosswalk will be successfully checked off before the update process is completed. Five or six advisory committee meetings will likely be needed over the course of the next six to eight months.

XIII. Review and Discussion of Initial HMGP Action Plan Items and Activity to Date

Brian Wood reviewed Chapter 5: Action Plan was conducted (See Section 5 in the 2003 Plan. City Staff and other Committee members participated in the review (according to their area of expertise) and the results are as follows:

1. **Install Street Addresses on all buildings and curbs.** Street signs have been recently installed but not much other progress has been made. GPS designations were mentioned as a more current way of identifying locations. Joplin was mentioned as a justification for this updated approach.
2. **Teach Glenpool employees the symptoms of common, life-threatening emergencies and how to give CPR and first aid.** Recently all fire department personnel are qualified first responders and they will continue to teach other city employees.
3. **Perform tornado and high wind evaluations at Glenpool public schools.** This item has not been addressed to date.
4. **Inventory local businesses and industry to identify dangerous chemicals that are being manufactured in, stored, or transported through the community.** The Fire Department has completed and maintains an annual inspection of all commercial buildings which is now computerized.
5. **Build community partnership involving local government leaders, civic, business and volunteer groups to work together to mitigate natural and man-made hazards.** Developing partnerships is an ongoing project with the City as evidenced by the formation of this committee.
6. **Install window air conditioners for elderly shut-ins for whom extreme heat can be a life-threatening hazard.** No progress on this issue has been identified but some assistance is available for electric utility payments.
7. **Sponsor a "Helping Your Neighbors" program through the Glenpool school system to encourage children to think of people who require special assistance such as elders, infants, and people with disabilities during dangerous weather conditions.** The School District staff (Kathy Coley) indicated that this program was not currently in place and did not know if the program was ever initiated.
8. **When replaced, install break resistant glass in City Hall, City offices, and critical facilities.** The city now has new facilities so this item is now outdated.
9. **Provide for routine trimming of trees to reduce power outages during storms.** OG&E has done a significant amount tree cutting on an annual basis which has been beneficial. They have a five year plan in place to continue to handle this and have established a communications portal for identifying damage areas and downed power lines.(Michael Grimm)
10. **Replace/continue replacing inadequately sided waterlines with lines of sufficient size to provide proper fire protection to annex and existing areas.** All new construction areas have been properly sized. The City has updated its Development Code and has a Water System Master Plan in place. (Lynn Burrow) Fire hydrants are now color coded for flow and usage. (Brian Wood)

Additional discussion illustrated that staffing and commitment to these action steps are necessary so that progress can be made.

XIV. Discussion of Hazard Identification and Assessment Issues and Citizen Input Options

Andy Armstrong covered a draft of the Community Survey and made several comments related to the draft composition. He requested input as to how to receive feedback from 300 or 400 individuals and

other forms of input including a community workshop. Several comments were received from the committee members as to how to receive comments. Twitter and Survey Monkey were mentioned as techniques. The senior citizens group is a special needs group and will be covered by a separate meeting and presentation. A table for input in front of Wal-Mart and at School Events was also mentioned. Age and gender questions were mentioned as being important as part of the survey process. City staff mentioned a possible utility billing cycle as a way of distributing the survey. Local city newspapers and circulars were also mentioned.

XV. Set Next Meeting Date

The next meeting will be held on September 28, 2011 at 3:30 P.M.

XVI. Adjourn

The Meeting was adjourned at 4:40 P.M.

MEETING SIGN-IN SHEET

Project: Glenpool Hazard Mitigation Advisory Committee Meeting

Meeting Date: 8-31-11

Facilitator: Andy Armstrong

Place/Room: Conference Center Room 3A/3B

Name	Title	Company	Phone	Fax	E-Mail
Joe Jones	st pastor	The Landing	321-2300		land.ny@re.com
Greg Turley	supervisor	risk management college	918-545-8158		GTurley@rbacc.edu
Kristie Walton	owner	Ems Plus	918-258-6671	918-258-6675	KWalton@emsplus.com
Michael Grimm	Dist Sup	OGE	918-227-6207		GrimmPM@OGE.COM
Mary Rose Brown	Pres.	So. City, Inc.	918-269-1113	-	-
Virginia Bowman	Vice-Pres	Solidigen	918-333-3430	-	-
Ron Cook	Library Manager	Glenpool Library	918-517-5375		rcok@talsahistory.org
Jeff Hartman	owner	Alstate	918-309-7400		jmh@alstate.com
Bryan Wood	Deputy Chief	City of Glenpool	918-867-0077		Bwood@cityofglenpool.org
David Thomas		City	918-322-5409		
Tom Graves	Area Manager	EXETER PUBLIC	718-591-3222		tgraves@expi.com
Michael Connelley	PIO	211	918-295-1230	918-295-7721	Michael.Connelley@211.org
Tommy Carner	MAYOR		918-291-2552		frugladef@qcd.com
Dennis Waller	Chief of Police	City of Glenpool	918-867-0010		dwaller@cityofglenpool.org
LeAnn Golden	PIO	City			
Shawn Stephens	Credit Analyst	Citizens Security Bank	918-326-1476		Stephens@CitizensSecurity.com
Lynn Brown	COMMUNITY DEV DIRECTOR	CITY OF GLENPOOL	322-5409	209-4641	LBROWN@CITYOFGLENPOOL.COM
Rick Malone	CITY PLANNER	CITY OF GLENPOOL	322-5409	209-4641	RMALONE@CITYOFGLENPOOL.COM

Second Meeting Agenda

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
NORTH 3A/3B MEETING ROOM
GLENPOOL CONFERENCE CENTER

September 28, 2011
3:30 P.M.

AGENDA

- I. Call to order.
- II. Introductions.
- III. Approval of August 31, 2011 Committee meeting minutes.
- IV. Review and update chapter 1 of Glenpool's current Multi-hazard Mitigation Plan. (Note: Chapter 1 will be divided into two Chapters in new Plan format.)
- V. Review progress of mitigation survey; discuss additional methods to disseminate the survey, and final due date.
- VI. Set next meeting date.
- VII. Adjourn.

September 28, 2011 Committee Meeting Minutes

CITY OF GLENPOOL HAZARD MITIGATION PLANNING COMMITTEE NORTH 3A/3B MEETING ROOM GLENPOOL CONFERENCE CENTER

Members Present:

Brian Wood
Paul Newton
John Hartman
Michael Grimm
Mary Rose Brown
Virginia Burnap
Dianne Bileck
Jon Hartman
Kristie Walton
Michael Coonfield
Michael Grimm
Tommy Carner
Dick Watts
Kathy Coley
Megan Durham
Shaun Stephens
Steven James
Rick Malone
David Tillotson
Lea Ann Golden

Members Absent:

Dennis Waller
Ron Cook
Samantha Henry
Bob Hiser
Michael Ramming

Consultants Present:

Andy Armstrong
Dean Kendrick
Russell Wells

I. Call to Order by Chairman

Meeting was called to order by the Chairman, Fire Chief, Paul Newton, at 3:37 P.M.

II. Introduction of Committee Members

As in the first meeting participants went around the table and introduced themselves. See attached attendance sheet.

III. Approval of August 31, 2011 Committee meeting minutes.

The Chairman asked the members of the committee to review the minutes of the August 31, 2011 Advisory Committee Meeting. The City Planner, Rick Malone, moved for approval of the minutes and received a second from Dick Watts. All of those in attendance voted aye and the minutes were approved.

IV. Review and Update Chapter 1 of Glenpool's current Multi-hazard Mitigation Plan (Note: Chapter 1 will be divided into two Chapters in new Plan format)

Andy Armstrong described the format changes for the Hazard Mitigation update process. Chapter I of the original plan has been modified to include a discussion of the Plan Update process including the purpose of the update, scope, authority, funding, goals, etc.; a description of changes to the community including governance, geography, climate, history, demographics, local utilities, economy, industry and development trends; a discussion of the regulatory framework, i.e., planning and zoning, floodplain management, building codes and fire protection; and a section containing listing existing mitigation programs and plans. Paul Newton, Brian Wood, David Tillotson and Rick Malone also contributed to the presentation and commented on relevant changes and updated plans and demographics what that means to the community.

V. Review progress of mitigation survey; discuss additional methods to disseminate the survey and final due date.

Andy Armstrong, Rick Malone and Lea Ann Golden led the discussion in regard to survey results to date. Only a limited number of surveys (30 or so) have been turned in to date using the City website and Survey Monkey and additional efforts will need to be made to disseminate the survey. A special effort was made to the Glenpool Senior Citizens group on August 22nd to present the plan update process. Mary Rose Brown and Virginia Burnap hosted the meeting and several surveys were secured. Tommy Garner, David Tillotson and Lea Ann Golden indicated that the City could and would use the utility billing system to disseminate the survey. Kathy Coley indicated that she would use the School System to advertise the survey as well. Steven James from the Glenpool Post indicated that the paper would assist as well.

VI. Set next meeting date.

The next meeting will be held on November 30, 2011 at 3:30 P.M.

VII. Adjourn

The Meeting was adjourned at 4:45 P.M.

MEETING SIGN-IN SHEET

Project: Glenpool Hazard Mitigation Advisory Committee Meeting

Meeting Date: September 28, 2011

Facilitator: Andy Armstrong

Place/Room: Conference Center Room 3A/3B

Name	Title	Company	Phone	Fax	E-Mail
Bryan Wood	Deputy Chief	Glenpool Fire			
Paul Newton	Chief	Glenpool Fire	918-639-9711		pnw@cityofglenpool.com
Russell Wells					
TEAN KENDRICK		PEC			
Jon Hartman		ALLSTATE			
Dianne Bileck	Exec. Director	Glenpool Chamber	918-322-3505		dbileck@glencpoolchamber.org
Kristie Walton	owner	Erms Plus			
Michael Conforti	Resource Specialist PIO	211	(918) 295-1230		mconforti@cityofglenpool.com
Michael Grimm		OGGE			
Dick Wutts		WuttsCO	918-204-2597	918-204-2000	the.wuttsco@streglobal.net
Ursula Brown	VP Business Development				
Mary Ross Brown	PRES. Sr. Citizen		918-269-1115		
Kathy Coley	Supt	Public School	918-322-4400	918-322-4429	Kacoley@glencpool.k12.ok.us
Megan Durham	Statehouse News to the People	OKlahoma News Weekly	918-358-7443		mdurham@att.net
Tommy Carner	Mayor				
STEVEN JAMES	SUPV WR. 20	Glenpool Post	918-299-6451		stevo.j@glencpoolpost.com
Lea Ann Golden	Dir of Com. Relations	City	918-209-4032		lgolden@cityofglenpool.com
DAVID THURSON	Asst. City Mgr	City			
Rick Malone	City Manager	City of Glenpool	918-322-5409		rmalone@cityofglenpool.com
Shawn Stephens	Credit Analyst	Citizen Security Bank	918-271-2645		stephens@citizenssecurity.com

Page 1 of 1

Third Meeting Agenda

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
NORTH 3A/3B MEETING ROOM
GLENPOOL CONFERENCE CENTER

November 30, 2011
3:30 P.M.

AGENDA

1. Call to order.
2. Approval of September 28, 2011 Committee meeting minutes.
3. Review community survey results.
4. Review and update reformatted Chapter 3, Risk Assessment and Vulnerability Analysis of Glenpool's Multi-hazard Mitigation Plan Update including related Mapping.
5. Review and update Chapter 4, Mitigation Strategies, of Glenpool's Multi-hazard Mitigation Plan Update, and discuss committee process for selecting Glenpool's Mitigation Activities.
6. Set next meeting date.
7. Adjourn.

Third Meeting Minutes and Sign-in Sheet

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
NORTH 3A/3B MEETING ROOM
GLENPOOL CONFERENCE CENTER

November 30, 2011

3:30 P.M.

Members Present:

Paul Newton
Brian Wood
Lea Ann Golden
Ron Cook
Mary Rose Brown
Virginia Burnap
David Tillotson
Michael Coonfield
Tommy Carner
Dennis Waller
Shaun Stephens
Lynn Burrow
Rick Malone
Dianne Bileck

Members Absent:

Michael Grimm
Kristie Walton
Greg Turley
Joe Jones
Jon Hartman
Tom Graves
Dick Watts
Kathy Coley
Samantha Henry
Bob Hiser
Michael Ramming

Consultants Present:

Andy Armstrong
Dean Kendrick
Russell Wells

1. Call to order.

Meeting was called to order by Chairman Paul Newton, Glenpool Fire Chief at 3:35 P.M.

2. Approval of September 28, 2011 Committee meeting minutes.

The minutes of the September 28, 2011 Committee Meeting were not available so this action was deferred to a future meeting agenda.

3. Review community survey results.

Andy Armstrong described the total results of the Community Survey and briefly summarized several key results and comments that were provided by Glenpool Citizens. Approximately 560 surveys were submitted on line or by mail to City Hall. Key items of concern were tornados, meth labs and ice and snow events. Open ended comments from the survey indicated the need for more information related to obtaining funding for storm shelters and storm sirens. In addition, positive comments were directed at responsiveness and capabilities of the City Fire and Police. The committee discussed the need to look to state and federal funding sources for individual storm shelters. Community storm shelters were discussed with some concern

as to the risk that shelters represent in travel exposure during warning periods. Public information was also discussed as a key need for future action steps.

4. Review and update reformatted Chapter 3, Risk Assessment and Vulnerability Analysis of Glenpool's Multi-hazard Mitigation Plan Update including related Mapping.

Andy Armstrong covered the updated information regarding hazard assessment areas in the updated planning chapters. Dean Kendrick and Russell Wells from PEC presented several updated maps related to flood plain, critical facilities, hypothetical tornado path, hazardous material sites and transportation corridors, and other spatial issues. The PEC staff requested input from the committee and City Staff on the mapping to be included in the plan update. The committee and staff discussed several mapping issues including repositioning a typical tornado path to cover the new Wal-Mart and Convention Area.

5. Review and update Chapter 4, Mitigation Strategies, of Glenpool's Multi-hazard Mitigation Plan Update, and discuss committee process for selecting Glenpool's Mitigation Activities.

Andy Armstrong presented the background to the goals and objectives contained within Chapter 4 and mentioned that most of the goals and objectives stem from FEMA and State OEM sources and, as a result are also repeated in most local plans. The goals and objectives have not changed since the original hazard mitigation plan was prepared.

6. Set next meeting date.

The time and place for the next meeting was tentatively set for January 18th at 3:30 P.M.

7. Adjourn.

The meeting was adjourned at 4:35 P.M.

MEETING SIGN-IN SHEET

Project: Glenpool Hazard Mitigation Advisory Committee Meeting

Meeting Date: November 30, 2011

Facilitator: Andy Armstrong

Place/Room: Conference Center Room 3A/3B

Name	Title	Company	Phone	Fax	E-Mail
Andy Armstrong	CONSULTANT		918-632-8176		ANDREW.ARMSTRONG@GLENPOOL.ORG
Ron Cook	Manager	Glenpool Library	918-589-2535		rcCook@tulsalibrary.org
RUSSELL WELLS		TFC			
DEAN KENDRICK	PROJ. COORD.	PEC	918 664-5400		dean.kendrick@pec1.com
RICK MALONE	CITY MANAGER	GLENPOOL			
DAVID TILLOTSON	Asst. City Mgr	Glenpool	918 322 5409		
Dianne Bilek	Exec Director	Glenpool Chamber of Commerce	918-322-3505		dbilek@glennpoolchamber.org
Dennis Weller	Police Chief	City of Glenpool	918-322-5110		deweller@glennpoolcity.org
Michael Canfield	211 PIO	211 HelpLine	918 255 1230		mcanfield@ccsolutions.com
Erin Grotz	Mayor		918 322-5409		
Paula Pich	Chief of Police	GFD	918 322 1232		paula@glennpoolcity.org
Bryan Wood	Deputy Fire Chief	GFD			
Shawn Stephens	Credit Analyst	Citizens Security Bank	918-366-7028		ssstephens@citizenssecurity.com
Mary Beth Brown	Asst. Manager		918-322-1232		
Virginia Williams	Vice President		11		
Leahnn Golden		City			

Fourth Meeting Agenda

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
SOUTH 1A MEETING ROOM
GLENPOOL CONFERENCE CENTER

February 29, 2012
3:30 P.M.

AGENDA

1. Call to order.
2. Approval of November 30, 2011 Committee meeting minutes.
3. Review and consider changes to Chapter 5, Action Plan Activities
4. Review and update Chapter 6, Plan Maintenance and Adoption.
5. Set next meeting date.
6. Adjourn.

Fourth Meeting Minutes and Sign-in Sheet

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
SOUTH 1A MEETING ROOM
GLENPOOL CONFERENCE CENTER

MEETING MINUTES

February 29, 2012
3:30 P.M.

Members Present:

Brian Wood
Rick Malone
Kristie Walton
Michael Grimm
Mary Rose Brown
Virginia Burnap
Lea Ann Golden
Paul Newton
David Tillotson
Tommy Carner
Dennis Waller
Lynn Burrow
Kathy Coley

Members Absent:

Samantha Henry
Bob Hiser
Michael Ramming
Ron Cook
Jo Jones
Greg Turley
Jon Hartman
Michael Coonfield
Tom Graves
Shaun Stephens
Dick Watts

Consultants Present:

Andy Armstrong
Russell Wells

8. Call to order.

Meeting was called to order by the Chairman, Fire Chief, Paul Newton, at 3:40 P.M.

2. Approval of November 30, 2011 Committee meeting minutes.

The Chairman asked the members of the committee to review the minutes of the November 30, 2011 Advisory Committee Meeting. The City Planner, Rick Malone, moved for approval of the minutes and received a second from Tommy Carner. All of those in attendance voted aye and the minutes were approved.

3. Review and consider changes to Chapter 5, Action Plan Activities

The committee considered the original mitigation measures and made several suggestions as to reordering some of the measures and combining and/or restating some of the measures. Kathy Coley, Lea Ann Golden, Rick Malone, and Paul Wood initiated a discussion on back-up generators and other ways of maintaining services. Michael Grimm, Mary Rose Brown and Paul Newton made several suggestions regarding tree trimming, the use of emergency shelters and the identification of cooling centers. Paul Newton suggested that the committee look at categories of measures, i.e., public safety, communication, etc. and try to rank measures within those categories. All committee members contributed to the discussion and the final draft was left to the consultant and City Staff to prepare.

4. Review and update Chapter 6, Plan Maintenance and Adoption.

Andy Armstrong reviewed the Plan Maintenance and Adoption schedule and that the Plan Update would receive an annual and ongoing review with the Advisory Committee playing a role in that process. Key City Staff will be responsible for the ongoing review and analysis of the Action Plan and the implementation process for those measures. Andy Armstrong also gave a tentative schedule for final committee, Planning Commission and City Council action steps.

5. Set next meeting date.

The next meeting will be held at a date to be determined later.

6. Adjourn.

The Meeting was adjourned at 4:45 P.M.

MEETING SIGN-IN SHEET

Project: Glenpool Hazard Mitigation Advisory Committee Meeting

Meeting Date: February 29, 2012

Facilitator: Andy Armstrong

Place/Room: Conference Center Room 1A

Name	Title	Company	Phone	Fax	E-Mail
Virginia Bishop	Vice Pres seniors		918 832-6277	—	—
Bryan Wood	Deputy Chf	GFFD			
Mary Rose Brown	Sr Citesea Pres		918 269-1113	—	
Donna Bishop	Chief	GFD	918 639 9711		vbishop@cityofjackson
Kristie Walton	owner	EMS Plus	918-358-6671	918/353-6675	kwaltonemsplus@aol.com
Tommy Carter	Mayor		918-291-2652		Prostate Practice
Kathy Coley	Supt	GPS	918/322-9500		kcoley@cityof-jackson.ms
Michael Carlin	Dist Supt.	OGE	918-227-6207		carlin.m.p.m@OGE.COM
Shawn Elder	P.O.	City			

Final Meeting Agenda

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
SOUTH 1A MEETING ROOM
GLENPOOL CONFERENCE CENTER

June 20, 2012
3:30 P.M.

AGENDA

- I. Call to Order
- II. Review and Discuss Final Prioritization of Mitigation Actions
- III. Discuss Implementation of Action Plan Mitigation Actions (Chapter 5)
- IV. Discuss Plan Maintenance and Adoption Process (Chapter 6)
- V. Set date for City Planning Commission Public Hearing, and recommendation for City Council review and consideration for possible adoption.
- VI. Adjourn

CITY OF GLENPOOL
HAZARD MITIGATION PLANNING COMMITTEE
SOUTH 1A MEETING ROOM
GLENPOOL CONFERENCE CENTER

June 20, 2012
3:30 P.M.

MINUTES OF MEETING

Members Present:

Brian Wood
Rick Malone
Kristie Walton
Michael Grimm
Mary Rose Brown
Virginia Burnap
Lea Ann Golden
Paul Newton
Michael Coonfield
Tommy Carner
Michael Coonfield
Lynn Burrow
Kathy Coley
Ron Cook

Consultants Present:

Andy Armstrong

I. Call to Order

Meeting was called to order by the Chairman, Fire Chief, Paul Newton, at 3:42 P.M.

II. Review and Discuss Final Prioritization of Mitigation Actions

Andy Armstrong presented the final draft of the ranked Mitigation Actions (Chapter 5) and outlined the extensive input and review provided by City and OEM staff prior to the meeting. He mentioned that this final draft had been provided to the entire committee prior to the meeting. The committee members present at the meeting discussed the mitigation actions in detail and all present contributed to the discussion. The Chairman asked for approval of the mitigation measures as written and the committee expressed its approval.

III. Discuss Implementation of Action Plan Mitigation Actions (Chapter 5)

Andy Armstrong, Lynn Burrows, Rick Malone and Brian Wood led the committee discussion as to the structure of the Mitigation Action Steps included in Chapter 5 – Action Plan. They discussed the details, i.e., Lead Agency, Time Schedule, Estimated

Cost, etc. The new Action Plan is designed to be incorporated into the City's Capital Improvement Plan and other City planning efforts and monitored by City Staff and by the Advisory Committee. The Committee briefly discussed the implementation process.

IV. Discuss Plan Maintenance and Adoption Process (Chapter 6)

Andy Armstrong again reviewed the Plan Maintenance and Adoption schedule that was presented in the Fourth Committee Meeting and that the Plan Update would receive an annual and ongoing review with the Advisory Committee playing a role in that process. Key City Staff will be responsible for the ongoing review and analysis of the Action Plan and the implementation process for those measures. The Chairman asked for approval of the final draft of Chapter 6 and the committee verbally expressed its approval.

V. Set date for City Planning Commission Public Hearing, and recommendation for City Council review and consideration for possible adoption.

Andy Armstrong gave a tentative schedule for the Planning Commission (July 9th) and City Council (August 6th) action dates.

VI. Adjourn

The Meeting was adjourned at 4:15 P.M.

MEETING SIGN-IN SHEET

Project: Glenpool Hazard Mitigation Advisory Committee Meeting

Meeting Date: June 20, 2012

Facilitator: Andy Armstrong

Place/Room: Conference Center Room 1A

Name	Title	Company	Phone	Fax	E-Mail
ANDY ALMSTRÖM	CONSULTANT		(918) 250-8176		ANDREW.ALMSTRÖM@COX.NET
RICK MALONE	CITY PLANNER	CITY OF GLENPOOL	(918) 209-4017		rmaloned@cityofglenpool.com
BOB WOOD	Deputy Fire Chief	City of Glenpool	(918) 352-2272		Bwood@cityofglenpool.com
Virginia Bump	U. Pres. senior		918-322-6277		
Mary Rose Brown	Pres. seniors		918-322-6277		
Kristie Walton	owner	EMS Plus	918-258-6671	918-258-6675	KWaltonemspulse@aol.com
Michael Confield	Resource Specialist	211 Helpline	918 519 0481	918 295 7121	mconfield@cs.cshs.org



**MINUTES OF PUBLIC HEARING
GLENPOOL PLANNING COMMISSION**

TYPE OF MEETING: SPECIAL
MEETING DATE: MONDAY, JULY 23rd, 2012
TIME: 6:30 PM,
LOCATION: GLENPOOL CITY HALL 3RD FLOOR
12205 S. Yukon Ave.
P.O. Box 70,
Glenpool, Ok. 74033

1. CALL TO ORDER

Chairman Watts called the meeting to order at 6:40 pm

2. ROLL CALL, DECLARATION OF QUORUM

Chairman Watts requested a roll call and Richard Watts, Joyce Calvert, Shawn Stephens & Robert Ranford were present, Mr. Nelson was absent

3. DISCUSSION AND POSSIBLE ACTION TO APPROVE THE UPDATE OF GLENPOOL'S MULTI-HAZARD MITIGATION PLAN UPDATE.

(Andy Armstrong)

Motion: Mr. Stephens made a motion for approval of the Glenpool Multi-Hazard Mitigation Plan update and to recommend approval to the City Council

Second: Mr. Ranford

Voting Aye: Mr. Watts, Ms. Calvert, Mr. Stephens, Mr. Ranford

Voting Nay: None

Abstaining: None

Motion Passed: 4-0-0

PO Box 70, 12205 S. Yukon, Glenpool, OK 74033 OFFICE: 918-322-5409 FAX: 918-322-5433
Mayor Tommy Corner, Vice-Mayor Alyce Korb, Councilors: Tim Fox, Lemana Roberts and Patricia Agas
City Manager: Ed Tinker, City Clerk Susan White
www.glenpoolonline.com

SIGN-IN SHEET

GLENPOOL PLANNING COMMISSION

MONDAY JULY 23rd, 2012

	<u>Name</u>	<u>Address</u>	<u>Phone</u>
1.	DEAN KENDRICK	PEC	918 664-5400
2.	ANDY ARMSTRONG	CONSULTANT	(918) 630-8176
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
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18.			
19.			
20.			
21.			
22.			
23.			

SIGN IN SHEET

Appendix 3:

Sample Comment Letter

Dear Mr. _____

The Federal Emergency Management Agency through the Oklahoma Department of Emergency Management has awarded the City of Glenpool an HMGP grant (FEMA 1876-DR-OK –Plan Update Project #001) to update the City’s Multi-Hazard Mitigation Plan.

The City of Glenpool has appointed a citizens advisory committee which has been responsible for overseeing the Multi-Hazard Mitigation Plan update process. The committee has met several times and has developed an initial draft planning document. A copy of the Action Plan from that draft document is attached for your review and comment. The other updated chapters and appendices are available upon request.

You are invited to provide input and offer any suggestions that you might have as to the completeness of the data and information contained within the initial draft document. Additional committee meetings and presentations to the Planning Commission and City Council are being held prior to completion of the planning process. Our staff or our consultant may directly contact you for additional information or input or to solicit additional information or studies as the planning update process is completed.

If you have any questions you may contact the City Staff at (918) 322-5409 or rmalone@cityofglenpool.com.

Sincerely,

Rick Malone, City Planning Director

Contact List for Review Letter:

Department of the Army, Corps of Engineers

Flood Plain, Attn: Joe Remondini

Wetland, David Manning

1645 South 101 East Avenue

Tulsa, OK 74129

U. S. Department of the Interior

Fish and Wildlife Service

Division of Ecological Services

9014 E. 21st Street

Tulsa, OK 74129-1428

Natural Resources Conservation Service
Tulsa Field Service Center
5401 S Sheridan
Tulsa, OK 74145-7522

American Red Cross
Tulsa Area Chapter
10151 East 11th Street
Tulsa, OK 74128

Oklahoma Department of Emergency Management
PO Box 53365
Oklahoma City, OK 73152-4053

Oklahoma Water Resources Board
3800 North Classen Blvd.
Oklahoma City, OK 73118

Oklahoma Conservation Commission
Mr. Chris DuBois
Conservation Commission
2800 North Lincoln, Suite 160
Oklahoma City, OK 73105

Oklahoma Department of Wildlife Conservation
PO BOX 53465
OKC, OK 73152

Ms. Margaret Graham
Oklahoma Department of
Environmental Quality
P.O. Box 1677
Oklahoma City, OK 73101-1677

INCOG
2 W. 2nd Street
Tulsa, OK 74103
Attention: John McElhenney

Tulsa County Engineering Department
Tulsa County Administration Building
500 S. Denver, 3rd Floor
Tulsa, Oklahoma 74103
Attention: Tom Rains

Tulsa City-County Library
730 E. 141st Street
Glenpool, OK 74033

City of Jenks City Planner
City of Jenks
211 N. Elm St.
Jenks, OK 74037

City Community Development Department
Police Department
Fire Department

Appendix 4:

Questionnaire

The City of Glenpool in cooperation with the Federal Emergency Management Agency and the Oklahoma Department of Emergency Management is in the process of updating the Hazard Mitigation Plan for the City of Glenpool. In brief, the plan will attempt to assess and classify all hazards that might pose a threat to the citizens of Glenpool and develop a mitigation plan to help save lives and property from natural and man-made disasters. In an attempt to better understand the needs of our community the City of Glenpool asks your help and cooperation in completing this survey.

1. Do you consider yourself adequately protected from natural disasters when living and/or working in Glenpool?

☐ Yes

☐ No

☐ Not Sure

2. Below is a list of possible disasters that could affect your community. Please rate each.

Tornado - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Flood - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Terrorism - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Meth Labs - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Drought - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Dam Failure - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Hail Storm - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Lightning - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Earthquake - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Ice & Snow - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Fire - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Hazardous
Material Events - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

Expansive Soil - ☐ Extremely concerned ☐ Concerned ☐ Somewhat Concerned ☐ Not Concerned

3. When you feel threatened during a possible disaster where will you get emergency information? (Select all that apply.)

☐ Internet

☐ Television

☐ Radio

☐ Tulsa Newspaper

☐ Local Newspaper(s): _____

☐ Other(s): _____

4. I would like to see the City of Glenpool improve the following:

Upgrade Warning Siren Coverage	☐ Yes	☐ No	☐ I'm not sure
Protecting Critical Facilities	☐ Yes	☐ No	☐ I'm not sure
More police personnel	☐ Yes	☐ No	☐ I'm not sure
More fire personnel	☐ Yes	☐ No	☐ I'm not sure
Community Storm Shelter	☐ Yes	☐ No	☐ I'm not sure
Multi lingual communication	☐ Yes	☐ No	☐ I'm not sure
Emergency Operation Center	☐ Yes	☐ No	☐ I'm not sure
Improving Emergency Services Response	☐ Yes	☐ No	☐ I'm not sure
Cable channel for Glenpool Information	☐ Yes	☐ No	☐ I'm not sure

5. Please consider the following questions.

I would attend town meetings that would discuss the formation of a hazard plan for Glenpool.

☐ Yes ☐ No ☐ I'm not sure

I would be interested in grant money to help me build a safe room.

☐ Yes ☐ No ☐ I'm not sure

I would be interested in serving on a disaster recovery team

☐ Yes ☐ No ☐ I'm not sure

6. If you would like, enter your comments in the space provided below:

7. If you have a specific question or are interested in serving please tell us how to get in touch with you:

8. Age and Gender:

☐ Under 18 ☐ 19 to 29 ☐ 30 to 39 ☐ 40 to 49 ☐ 50 to 59 ☐ 60 and older

☐ Male ☐ Female

9. Do you live in Glenpool? ☐ Yes ☐ No **Work in Glenpool?** ☐ Yes ☐ No

City of Glenpool - Community Survey

1. Do you live in Glenpool?

Response

Percent

Response

Count

Yes 65.4% 159

No 34.6% 84

Answered question 243

Skipped question 0

2. Are you male or female?

Response

Percent

Response

Count

Male 23.6% 57

Female 76.4% 185

Answered question 242

Skipped question 1

3. Which category below includes your age?

Response

Percent

Response

Count

18 or younger 2.9% 7

19-29 9.5% 23

30-39 28.1% 68

40-49 30.6% 74

50-59 24.0% 58

60+ 3.7% 9

Answered question 242

Skipped question 1

4. Do you consider yourself adequately protected from natural disasters when living and/or working in Glenpool?

Response

Percent

Response

Count

Yes 42.7% 99

No 24.1% 56

Not Sure 33.2% 77

Answered question 232

Skipped question 11

5. Below is a list of possible disasters that could affect your community. Please rate your level of concern about each one.

Extremely

Concerned

Concerned

Somewhat

Concerned

Not

Concerned

Response

Count

Tornado **50.9% (117)** 30.4% (70) 13.0% (30) 5.7% (13) 230

Flood 3.0% (7) 19.0% (44) 36.4% (84) **41.6% (96)** 231

Terrorism 8.3% (19) 16.5% (38) 31.7% (73) **43.5% (100)** 230

Meth Labs **33.2% (77)** 31.5% (73) 25.0% (58) 10.3% (24) 232

Drought 7.0% (16) 30.1% (69) **31.9% (73)** 31.0% (71) 229

Dam Failure 0.9% (2) 1.7% (4) 12.6% (29) **84.8% (195)** 230

Hail Storm 14.8% (34) **42.6% (98)** 26.1% (60) 16.5% (38) 230

Lightning 7.8% (18) 33.2% (77) **34.9% (81)** 24.1% (56) 232

Earthquake 0.9% (2) 7.0% (16) 23.2% (53) **68.9% (157)** 228

Ice & Snow 28.6% (66) **44.2% (102)** 17.7% (41) 9.5% (22) 231

Fire 15.1% (35) 31.5% (73) **34.9% (81)** 18.5% (43) 232

Hazardous Material Events 10.9% (25) 28.4% (65) **36.2% (83)** 24.5% (56) 229

Expansive Soil 6.6% (15) 9.3% (21) 23.8% (54) **60.4% (137)** 227

Answered question 232

Skipped question 11

6. When you feel threatened during a possible disaster, where will you get emergency information? (Select all that apply)

Response

Percent

Response

Count

Internet 60.3% 138

Television 88.6% 203

Radio 53.7% 123

Tulsa Newspaper 7.9% 18

Local Newspaper 3.5% 8

If Local Newspaper - Please indicate which one 7

Answered question 229

Skipped question 14

7. I would like to see the City of Glenpool improve the following: (Choose one response per row)

Yes No Not Sure

Response

Count

Upgrade Warning Siren Coverage **71.8% (163)** 11.5% (26) 16.7% (38) 227

Protecting Critical Facilities **57.5% (130)** 14.2% (32) 28.3% (64) 226

More Police Personnel **50.7% (116)** 24.5% (56) 24.9% (57) 229

More Fire Personnel **51.8% (116)** 22.3% (50) 25.9% (58) 224

Community Storm Shelter **72.2% (164)** 14.1% (32) 13.7% (31) 227

Multilingual Communication 26.5% (60) **41.2% (93)** 32.3% (73) 226

Emergency Operations Center **60.8% (138)** 17.2% (39) 22.0% (50) 227

Emergency Services Response **66.2% (151)** 14.9% (34) 18.9% (43) 228

Cable Channel for Glenpool

Information

50.4% (113) 26.8% (60) 22.8% (51) 224

Answered question 229

Skipped question 14

8. Please consider the following ways to be involved or informed and indicate your interest.

Yes No Not Sure

Response

Count

I would attend town meetings that would discuss the formation of a hazard plan for Glenpool.

42.5% (96) 29.6% (67) 27.9% (63) 226

I would be interested in grant money to help me build a safe room.

71.2% (161) 19.5% (44) 9.3% (21) 226

I would be interested in serving on a disaster recovery team.

31.4% (70) 33.2% (74) **35.4% (79)** 223

Answered question 226

Skipped question 17

9. If you have a specific question or are interested in serving, please tell us how to get in touch with you by phone and/or email:

Response

Count 27

Answered question 27

Skipped question 216

10. Please enter any comments you have relating to the topics in this survey in the space below:

Response

Count

28

Answered question 28

Skipped question 215

Please enter any comments you have relating to the topics in this survey in the space below:

Open-Ended Response

We need cox services in the southern part of the city. The backwoods tds telecom network is substandard and getting disaster information via the internet is hampered by their mediocre service.

The Lack of a pedestrian crossing at HWY75 and main is a huge safety issue for Glenpool

Thanks for being concerned enough to keep the citizens of Glenpool safer.

I am new to Glenpool and I realize that the school is responsible for the traffic problem at the school, but if the City could help out since the school obviously has no clue, that would be so much appreciated. Also, I would like to see less speeding up and down 146th St by the Police (they race to the stop sign and slowly pull away on Elwood). I have witnessed this numerous times and it is a great concern for the people walking down that street and the residents living on that street as well.

I think Glenpool does a pretty good job with disaster response.

Glenpool is getting more and more people living here but no improvements in this area our road floods every time it rains thanks to Taylor's pound it getting old

Love new ISO Rating!

I work at the school & it would be nice if we had some kind of storm shelters so that the kids would feel safer if a tornado actually came through here.

Community Storm Shelter is always locked during storms! Not helpful to have if you can't use. EMSA/Hospital near-by would be helpful.

I am a teacher at Glenpool's elementary school. I am also a director with our after school program. My concern is for our students in our after school program. We do not have an administrator on site with us so when we have a tornado warning or other emergency we are left on our own to keep the children safe and deal with concerned or worried parents. I would like to see a plan put in place for our school and our students who are in activities or programs after school hours. I appreciate all that the city of Glenpool does and is trying to do for its community.

I love the idea of grant money for safe rooms or a community storm shelter. Living in Oklahoma, we need that to stay safe.

Concerned about the amount of air traffic directly over the school and the low level at which the airplanes fly.

Glenpool school needs tornado shelters.

We need to have better snow removing equipment. We were down way to long from the snow.

Glenpool Schools has to be shut down for days for snow and ice. Glenpool city does not do a good job cleaning streets for emergency or school.

I teach at Glenpool and am especially concerned about keeping the students safe in a disaster.

the structural safety of the buildings at the school

survey is good.in the past communication between city hall and the public was horrible.
A community storm shelter should be built in conjunction with the school. It could be used for school functions but upon storm or disaster, used for safe shelter.

We seem vulnerable to weather damage more than anything

I have lived in Glenpool all of my life and I am very concerned about the amount of drugs that are in our town and especially the school system.

I use a scanner to get emergency information-analog signal needs to be brough back!

We are always impressed with our police and firemen--great job! In May 2010, when the small tornado came through, we needed to dispose of a tree--city hall told us we had to dump it near I75, we did, then Tulsa County showed up to pick up trees. We would have waited for Tulsa county if we had been informed properly.

I would not attend a town meeting because citizens are not allowed to express opinions or ideas.

If we need more police and fire personnel to make improvements, my answer is yes.

I would like to see improvement with first responders.

Our EMS is very poor at best. I have personally experienced poor service. I would like to see the fire department take over EMS or use EMSA.

"No jake brake" signs on 75, especially 151st and 75 area!

Is the city center moving to 121 and 75 area vs 141st?

Where would we put a community storm shelter? We should have a digital channel for Glenpool Information. Improved communication of information is definitely a must, but we don't want to pay for TV.

I use a cell phone app for emergency information.

Meth Labs: The area behind the library is the rumor. There should be better lighting for the streets and there should be a curfew for children in Glenpool. They ride & bike & walk in the dark & it's extremely hard to see them at night. The side streets are never cleared after an ice storm. For two winters during snow I've had to stay in Tulsa to make it to work the next day because you can't get from the residential streets to the main street.

You cannot hear at all at our address. Need sired closer to back of Kendalwood 4

The fire department should be out Emergency Operation Center and I am concerned about Hazardous Material Events from Highway 75 and Tank farms.

It would be nice to have a community storm shelter. I have two babies and I'll feel better if we have one in town.

Snow removal is simply not acceptable.

I would be willing to be on a team participating in a "calling tree".

Would like to know more about Disaster Recovery Team

Paper information is out. Probability is things have happened and all citizens know about event. I have wondered why Glenpool does not do any snow or ice removal, you have county plow and Glenpool has 1 sand spreader and does a very POOR JOB cleaning roads for people to travel to work, etc. I and many others notice the badges (PD and Fire) get about 90% and public works and infrastructure and support personnel sucks hind tit and that's not right

Fire and police are quick responders here in town. Don't know about outside the town. Perhaps that should be looked at. Why have all the benches been removed? I need to stop and rest when I walk. Please put them back.

Natural disasters cannot be stopped or mitigated, only responded to. I have never seen FEMA or Red Cross actually help a homeowner. Why?

Concerned about creek (adjacent) and going through Glen Pines Mobil Park, also like to see disabled project in Glenpool; both of us are disabled.

What would I be doing if I was on the disaster recovery team?

Sometimes funds are spent just because older items are not new.

Taxes are too high with no new services
Glenpool needs a Baum's and a Community Storm Shelter and a siren warning system that works.

You cannot hear the sirens

I would like to serve on a disaster recovery team

I am physically disabled. I think we should have more police personnel if the crime vs. police ratio shows it.

Very interest in ice and snow removal equipment and quicker activation of such equipment to include school property.

I think we should have adequate public storm shelters and everyone should know where they are to go.

I live in a mobile home and we have no where to go for dangerous storms i.e. tornados and strong winds

Better Streets and Storm Drains

Tornadoes are our biggest concern, without a community shelter, we feel vulnerable.

I am not protected by you, I am protected by Jesus. We have enough multi-ligual communication.
Glenpool Information on local TV non-cable and radio.

I use the siren and my phone to get emergency information. The TU station does not work every time. Siren is the best way it should be heard inside and out. Siren-Siren-Siren-Please!!

Was the community center/city hall built to have wedding receptions?

I live in Brentwood section of Glenpool. We have to be concerned about the big open field behind our homes catching fire. In case of a real emergency (plane crash or disaster), we aren't sure all the residents in our section could get out safely, as there is only one street that goes in and out of our section. If we had a street going over Hwy 75 or at least over 131st we would feel a lot safer in the knowledge that we all could escape.

The apartments being built at 145th & Hwy 75 are a horrible idea. I e-mailed my councilman twice with no reply. Very disappointed.

Being adequately protected is too generic to answer by checking a box, the drought was man made my global warming; Hail and Ice are not preventable or predictable. I am extremely concerned about fires from petroleum storage nearby. I want to protect the oil tanks.

We really need a storm siren in northwest Glenpool close to or near the new Wal-Mart.

How can I get grant money for a storm shelter?

Live in a mobile home - nowhere to go during a tornado warning here.

Have 100 & 200 Certification (FEMA)

Clear out coal creek south of 146th St, at least some of the trees, etc. Glenpool is having lots of people move here - some from areas that have never been in "tornado county". A map included in the water bill naming surrounding counties and some cities would be helpful - along with some tips from weatherman (especially some that live in Glenpool).

PLEASE when ice-snow hits sand/salt neighborhood streets

I think we need more people to help move out the snow and ice, maybe we should sub-contract it. Could the sirens broadcast information over loud speakers for citizens to hear instructions? That could be helpful. Community storm shelter is a good idea. Churches could be designated as emergency operation centers. I think we need a top of the line siren service for warning information.

Provide a community newsletter once a month mailed to homes free letting us know current news for Glenpool and notice of community events. When is 131st between 75 and Elwood going to reopen?

Where does Glenpool fit into Tulsa County EM plan? Are police and firefighters capable of communicating with Tulsa EM and the EM of neighboring communities? I would work with EM office.

Paint the water tower.

Community storm shelter - GREAT IDEA. Would be interested in serving

I am interested in a 2 way radio course. What means of communication is used at or for a disaster?

Take care of the awful streets.

Concerned about any accident at scissortail energy storage on Peoria.

I am paraplegic. Put a permanent end to loud car stereo music in housing additions. 5 neighbors on my block drive through the neighborhood with these seep basses car stereos on and while sitting in their driveways had brain surgery and the extremely loud music hurts my head, it continues to have a heavy dull thumping after they've turned the loud gangbanger stereos off - just like it does when the Glenpool

band does at 7am and their teacher uses her megaphone right next to my housing addition, it wakes me up and the loud band and megaphone keep me from going back to sleep.

Increase fire personnel and training. Firemen can do all that police can so and they don't carry guns.

Based on billing - I do not believe in the water dept. accuracy or ethics. Our city leaders so not appear to be community leaders with best interests in long term goals.

More weather sirens in town

Dispatchers have a "don't care" attitude and do not understand what we need. I have training with the Community Emergency Response Team and was a Reserve Tulsa Police officer some time ago. I think tornados are the only serious threat here.

Water runoff in Kendalwood II

Can't hear sirens in Pecan Estates

Improve sirens on east side

They are building what looks like a ball field behind my house, they burned without a permit, I cannot enjoy my backyard and are they going to put up a privacy fence? After the games the people walk through our yards. I don't want to be responsible because they're trespassing and I will call the police if they don't quit.

I love living in Glenpool. I feel safe here.

Be prepared during ice and snow - terrible at clearing streets/neighborhoods

Need new city council

Sidewalks to schools in all directions

Improve road clearing after snow and ice

I am highly interested in seeing a community storm shelter and grant money available for safe room.

Don't know who made cable the media king, but many still have satellite. If the channel will be on a cable channel carried by satellite locally give both channel numbers, source of irritation for me,

The areas of concern I marked are simply based on storm and tank fire history experienced since I moved here in 1991. The city's response to the events has been very satisfactory. I work at an animal clinic in Tulsa (South Memorial Animal Hospital). The doctor is on the state emergency response team. I do animal rehabilitation and am a certified therapeutic massage therapist for animals. I would gladly volunteer my time to administer therapeutic massage to search and rescue dogs should an event occur in town that requires such a team. Also feel free to contact me should you need assistance in post-storm lost animal pet issues.

There is only one road that goes into our housing addition on Hickory Place

Need better ambulance. I used to hear the storm siren but can only hear it if outside, it sounds very far from me.

Would like to see better snow removal equipment on the roads.

Stop people from parking cars on residential streets

I would like the city to clean out and straighten the drainage ditch that runs from behind dollar general to the school.

Repave Oak Street in Kendalwood

In My first hour classroom at Glenpool High School is filled with black mold. I've been sick three times this year, and that is the only reason to why I would be getting sick. The teacher that's spends half of her days in there has been getting very ill as well. Also when you press against the outside wall, it's almost flimsy enough to knock the wall down. So if one room is like that, then I believe there are a good portion of rooms like that.

I believe a community storm shelter is a MUST for the citizens of Glenpool. So many homes are rentals, and the owners are not going to spend money to install a shelter for a renter.

Tornados rule

My husband and I want to have an underground storm shelter, so a FEMA grant would be amazing. My father-in-law got one a few years ago in Haskell and I hate driving all the way to Haskell to use it when we are in a tornado warning.

MORE SIRENS FUTHER SOUTH OF 151ST GLENPOOL... WE HAVE TO BE OUTSIDE AND BY CHANCE MIGHT HEAR BIXBY'S OR KIEFER'S SIREN. NEVER HEAR GLENPOOL'S

I believe there needs to be more dispatchers. I have called the police station on many occasions and have heard the phones going off and have heard the dispatchers getting over worked. They need to have AT LEAST 2 on duty at a time. I do not believe it is fair that the one on duty should have to be stressed out so much. If you gave them help they would be happier and would help serve the public even better!!!

Appendix 5:

Potential Mitigation Activities

Glenpool Hazard Mitigation Committee Ranking Sheet

Rank in 2003 Action Plan	Mitigation Measure	Hazard(s) Affected	Staff Comments/ Recommendations
	<i>Original Action Plan Mitigation Measures</i>		
1	Install Street Addresses on all buildings and curbs	Multi-hazard	Replace Address Installation with GPS identification methodology.
2	Teach Glenpool employees the symptoms of common, life-threatening emergencies and how to give CPR and first aid.	Multi-hazard	Activity addressed by Fire Department. Potential providers could include Red Cross and Health Department
3	Perform tornado and high wind evaluations at Glenpool Public Schools and City Hall	Tornado and High Winds	
4	Inventory local businesses and industry to identify dangerous chemicals that are being manufactured in, stored, or transported through the community.	Hazardous Materials Events	Activity completed through Fire Department pre-plan process.
5	Build community partnerships involving local government leaders, civic, business and volunteer groups to work together to mitigate natural and man-made hazards.	Multi-hazard	Potential providers include Glenpool Chamber of Commerce and Convention Center Staff
6	Install window air conditioners for elderly shut-ins for whom extreme heat can be a life threatening hazard.	Extreme Heat	City Staff can provide assistance in identifying individuals needing service. Potential providers include civic groups and churches.
7	Sponsor a "Helping Your Neighbors" program through the Glenpool school system to encourage children to think of people who require special assistance such as elders, infants, and people with disabilities during dangerous weather conditions.	Multi-hazard	Recommendation is to delete this activity for 2012 Plan Update
8	When replaced, install break resistant glass in City Hall, City Offices, and critical	Tornado and High Winds	Revise to include critical facilities only

	facilities.		
9	Provide for routine trimming of trees to reduce power outages during storms.	Ice and Snow	Significant activity in this area since 2003 continued maintenance is necessary, provided by OG&E and other franchise utilities
10	Replace/continue replacing inadequately sized water lines	Urban Fires	Ongoing City capital improvement activity
11	Identify most common household pollutants and make information available to local populace through media, schools, public offices, police and fire stations.	Hazardous Materials	Potential activity is to provide internet links on City Website
12	Distribute information identifying hazardous materials to at risk citizens, such as the elderly, infirm, poor, and outside workers.	Hazardous Materials	Potential activity is to provide internet links on City Website
13	Construct regional detention ponds to compensate future urban development.	Flooding	Proposed future activity is to provide on-site detention only.
14	Investigate building codes and incentives for adequacy for tornados and high winds.	Tornados and High Winds	City has adopted IBC Code.
15	Provide Safe Rooms in Fire and Police stations to protect first responders.	Tornados and High Winds	Activity completed
16	Provide group shelters at City Recreation Centers.	Tornados and High Winds/ Ice and Snow	Revise to include new County Recreation Center and other potential group shelter sites.
17	Provide surge protection for computer-reliant critical facilities, such as 911 Center, emergency operations centers, police sub-stations, and fire stations.	Lightning	Activity completed
18	Provide hail resistant roofing for City government Buildings.	Lightning	Ongoing activity.
19	Institute public information program for residents informing them of the advantages and costs of hail resistant roofing.	Hail Storms	Possible providers include utilization of City Website
20	Develop a contingency plan for responding to a massive power outage due to severe winter storm, ice and snow.	Ice and Snow	Standby power has been provided at all City facilities.
21	Develop a heat emergency action plan for Glenpool.	Extreme Heat	Encourage sheltering partnerships with business and community based organizations
22	Continue education and get funding to	Hazardous	Incident based information

	inform people on proper evacuation plans for city, business and residential homes.	Materials Events	currently provided by local media and door to door dissemination. City Website could also be utilized
23	Make sure fire extinguishers are strategically placed and serviced in all Glenpool facilities.	Urban Fires and Wild Fires	Activity completed
24	Develop contingency plan for transportation related hazardous materials incidents on US Highway 75.	Hazardous Materials Events	Incident based information currently provided by local media and door to door dissemination. City Website could also be utilized
25	Prepare for biological warfare.	Hazardous Materials Events	Recommendation is to delete this activity for 2012 Plan Update
26	Acquire and remove Repetitive Loss Properties and repeated flooded properties where the community's Repetitive Loss and master drainage plans identify acquisition to be the most cost effective and desirable mitigation measure.	Flooding	Currently there are no Repetitive Loss Properties within the Community.
27	Investigate voluntary pilot/demonstration project for mobile home communities providing a shelter and/or safe rooms for residents.	Tornados and High Winds	Investigate potential funding resources. Possible input from insurance companies and regional organizations such as INCOG
28	Provide educational demonstrations on whole-house surge protection technology.	Lightning	OG&E could provide input and City Website could also be utilized
29	Educate the community about proper lightning safety through public service announcements and other media outlets.	Lightning	OG&E could provide input and City Website could also be utilized
30	Investigate the possibility of reducing the number of overhead power lines through moving existing lines and placing new lines below ground.	Tornados and High Winds/Ice and Snow	OG&E should provide input
31	Obtain funding for distribution of public information and education materials to vulnerable populations through participating community agencies.	General	Investigate potential funding resources. Possible input from insurance companies and regional organizations such as INCOG
32	Teach Glenpool employees the symptoms of heat disorders and how to give first aid.	Extreme Heat	Provided in Action Plan Item #2
33	Develop public information program designed to communicate the potential severity of a drought and the appropriate responses of the local	Drought	Program is in place at County and State Level

	population.		
34	Develop and implement public information for informing citizens and the building industry of the dangers of expansive soils	Expansive Soils	City has adopted IBC Code
35	Implement fire suppression system at City Hall	Urban Fires	Activity completed through new construction
36	Develop public information program addressing the advantages of individual fire suppression in residences.	Urban Fires and Wild Fires	Provide internet links for home fire protection
37	Review and evaluate the Glenpool storm warning system.	Tornado and High Winds	Improved and additional expansion anticipated in the next six months
38	Develop a phased alert and warning plan based on drought conditions and moisture measurements to alert Glenpool officials of increased risk of wildfire.	Drought/ Urban Fires and Wild Fires	Activity completed at County and State Level
39	Train and coordinate fire, police, and public works departments on how to respond to a wildfire emergency.	Urban Fires and Wild Fires	Activity completed and has been addressed as part of county multi-agency response plan
40	Initiate/continue City Household Pollutant Collection program, and build a year-round site for collection.	Hazardous Materials Events	Provided through waste management programs /ODEQ /Chamber of Commerce/ Tulsa County and City Trash Haulers
41	Construct adequate bridges to pass 100-year regulatory flood without overtopping.	Flooding	Ongoing City capital improvement activity/ dependent upon outside funding sources
42	Compensate for the impacts of bridge openings and new channel improvements.	Flooding	Ongoing City capital improvement activity/ dependent upon outside funding sources
43	Construct Coal Creek main stem channel through downtown area.	Flooding	Ongoing City capital improvement activity/ dependent upon outside funding sources
44	Conserve electricity to ensure adequate energy for air conditioners during high heat periods.	Extreme Heat	Possible public information program provided through OG&E and City Website
45	Develop and implement plans to designate when a drought begins and ends.	Drought	Activity completed at County and State Level
46	Investigate codes/incentives for the construction of new foundations to avoid expansive soil problems.	Expansive Soils	City has adopted IBC Code
47	Develop a fire emergency plan that guarantees access by fire vehicles to all areas included in Glenpool rural/urban interface fire danger area.	Urban Fires and Wild Fires	Activity completed, part of pre-incident planning

48	Develop a contingency plan for evacuating population endangered by a wildfire.	Urban Fires and Wild Fires	Could be combined with an overall evacuation plan information dissemination program as listed above
49	Building reinforcements against wind and tornado damage will also protect against the minor earthquakes projected for the Glenpool Area.	Earthquakes	
	<i>New Action Plan Mitigation Measures to Consider</i>		
	Promote use of new technologies to detect and suppress fires.	Urban Fires and Wild Fires	Current codes address detection, suppression is an ongoing development and tankers are utilized
	Encourage citizens and City staff to take CERT training.	Multi-hazard	Ongoing activity
	Promote use of NOAA radios for early warning and post event information in critical facilities.	Multi-hazard	Ongoing activity
	Participate in OEM Tornado Shelter Seminar Program...	Tornados and High Winds	Schedule OEM Seminar in Glenpool area to discuss community and school shelters
	Participate in McReady Oklahoma Statewide severe weather program.	Floods, Tornados, Lightning	Schedule OEM presentation designed to prepare families for emergencies, increase awareness of severe weather threats, and build better prepared communities.
	Participate in Emergency Preparedness Public Education Program	Multi-hazard	OEM program directed to School Districts to educate and help them with an emergency preparedness plan.
	Promote individual safe rooms within the community.	Tornado and High Winds	Public announcements of new grant opportunities through insurance companies and Chamber of Commerce and City Websites
	Participate in future FEMA Planning Program Modules and NFIP Compliance Workshops.	Flooding	City Staff participation in FEMA and OWRB planning workshops.
	Continued participation in Oklahoma Red Flag Fire Alert Program/OK-Fire Website	Urban Fires and Wild Fires	Oklahoma Forestry Service Program.

	Participate in OK-FIRST Program.	Multi-hazard	Oklahoma Climatological Survey program provides instant access to vital weather data for local fire, police and emergency management departments.

Appendix 6:

Hazard Summary

Natural Hazard Assessments

Each hazard is assigned a likelihood rating based on the criteria and methods described below.

Likelihood of Event “Rating” is based on the following definitions		
Highly likely (HL)	Event is probable within the calendar year.	
Likely (L)	Event is probable within the next three years.	
Occasional (O)	Event is probable within the next five years.	
Unlikely (UL)	Event is possible within the next ten years.	
Based on History, and using the information described above, Likelihood of Event is “Quantified” as follows:		
Highly Likely (HL)	Event has 1 in 1 year chance of occurring	1/1 = 100%
Likely (L)	Event has 1 in 3 years chance of occurring	1/3 = 33%
Occasional (O)	Event has 1 in 5 years chance of occurring	1/5 = 20%
Unlikely (UL)	Event has 1 in 10 years chance of occurring	1/10 = 10%
Which results in the following “Ranges” of Likelihood:		
Event is “Highly Likely” to occur – History of events is greater than 33%.		
Event is “Likely” to occur – History of events is greater than 20%, but less than or equal to 33%.		
Event could “Occasionally” occur – History of events is greater than 10%, but less than or equal to 20%.		
Event is “Unlikely,” but is possible of occurring – History of events is less than 10%.		

Example: NWS-NCDC records show that 38 tornadoes were reported in Tulsa County between 01/01/1950 and 12/31/2003. 38 events divided by 53 years = 0.72(72%) which would make future occurrences "Highly Likely" to happen.

This table's format, categories, and the criteria for completing the table, was supplied by the Oklahoma Department of Emergency Management, 06/29/2004.

Table: Hazard Summary
Summary of Hazards in the City of Glenpool Multi-Hazard Mitigation Plan Update
City of Glenpool data was used when available as noted, otherwise county data was used.

Hazard Event	History	Estimated Total Dollar Loss (\$)	Average Cost Per Event (\$)	Likelihood Percentage	Likelihood Rating
Floods	5 Glenpool events, 1998 thru 2004	0	0	5/6=83%	HL
Winter Storms	16 Tulsa County events, 2000 thru 2012	0	0	16/13>123%	HL
Hailstorms	9 Glenpool events, 2000 thru 2012	0	0	9/13=69%	HL
Expansive Soils	No event data but significant presence of expansive soils within the community	0	0	(est.) 20%	O
Extreme Heat	19 Tulsa County events, 2006 thru 2012	0	0	19/7=271%	HL
Tornado	15 Tulsa County events, 1995 thru 2012	3,153,000	210,200	15/17>88%	HL
Dam Failure	Not applicable to Glenpool				
High Wind	7 Tulsa County events, 1999 thru 2010	57,000	8,413	7/12=58%	HL
Earthquake	47 Tulsa County events, 1977 to 2000	0	0	14/23>100%	HL
Lightning/Thunderstorm	7 Tulsa County events, 2000 thru 2012	2,100,000	300,000	7/13=53%	HL
Wildfire	182 City events, 2005 thru 2010	0	0	182/6>3000%	HL
Drought	8 Tulsa County events, 2000 thru 2014	0	0	8/13=62%	HL
Hazmat Events	75 city events, 2005 thru 2010	0	0	75/6>1250%	HL

Note: where zero events or zero dollar amounts are shown, this means there was no data reported for the hazard event.

Appendix 7:

STAPLEE TABLE

Table 5-2

STAPLEE Prioritization Tool

(Scoring: “+” = 1point, “-“ = 1 point, “n/a” = 0 point, “n/k” – not known)

	S Social		T Technical			A Administrative			P Political			L Legal			E Economic				E Environmental					
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env.	Consistent with Fed. Env. Laws	Priority Total (net)
Multi-Hazard Mitigation Action Items																								
Upgrade the Glenpool Outdoor warning system.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	18
Promote individual safe rooms within the community	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	n a	n a	n a	n a	n a	16
Provide FEMA grant funded reimbursement for Community Safe Rooms in Mobile Home Communities.	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	n a	n a	n a	n a	n a	15

Table 5-2 (continued)

STAPLEE Prioritization Tool

(Scoring : “+” = 1 point, “-“ = 1 point, “n/a” – 0 point, “n/k” – not known)

	S Social	T Technical	A Administrative	P Political	L Legal	E Economic	E Environmental	
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Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env.	Consistent with Fed. Env. Laws	Priority Total (net)
Multi-Hazard Mitigation Action Items																								
Install new electric utility lines underground.	+	+	+	+	+	+	+	+	-	-	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	16
Develop a GIS identification methodology for all buildings and residences within the community.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	18

Table 5-2 (continued)

STAPLEE Prioritization Tool

(Scoring : “+” = 1 point, “-“ = 1 point, “n/a” – 0 point, “n/k” – not known)

	S Social		T Technical		A Administrative		P Political		L Legal		E Economic		E Environmental											
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env. Goals	Consistent with Fed. Env. Laws	Priority Total (net)
Multi-Hazard Mitigation Action Items																								

Provide for routine trimming of trees to reduce power outages during storms.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	18
Develop a coordinating network of Public Information staff, i.e., City, Schools, OG&E, etc. by meeting on a regular basis to develop communication links during emergencies.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	18

Table 5-2 (continued)

STAPLEE Prioritization Tool

(Scoring : “+” = 1 point, “-“ = 1 point, “n/a” – 0 point, “n/k” – not known)

	S Social		T Technical			A Administr ative			P Political			L Legal			E Economic				E Environmental					
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env.	Consistent with Fed. Env. Laws	Priority Total (net)
Multi-Hazard Mitigation Action Items																								
Develop and implement a public information program designed to educate the public on a variety of hazard mitigation issues including the dangers of expansive soils and the potential severity of	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	18

[illegible]

Table 5-2 (continued)
STAPLEE Prioritization Tool

(Scoring : “+” = 1 point, “-” = 1 point, “n/a” – 0 point, “n/k” – not known)

	S Social		T Technical		A Administrative		P Political		L Legal		E Economic		E Environmental											
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env.	Consistent with Fed. Env. Laws	Priority Total (net)

Multi-Hazard Mitigation Action Items

Develop a coordinated training strategy for teaching public employees and other community groups the symptoms of common, life threatening emergencies, heat disorders and how to give CPR and first aid.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	1 8	
Replace/continue replacing inadequately	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	n a	n a	+	+	1 9

						ative																		
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env.	Consistent with Fed. Env. Laws	Priority Total (net)
Multi-Hazard Mitigation Action Items																								
Adopt appropriate building codes and incentives for adequacy for tornados, hailstorms, expansive soils and earthquakes.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	n a	n a	18
Construct adequate bridges to a standard of one foot above the Base Flood Elevation.	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-	+	n a	n a	+	+	19

Table 5-2 (continued)																								
STAPLEE Prioritization Tool																								
(Scoring : “+” = 1 point, “-“ = 1 point, “n/a” – 0 point, “n/k” – not known)																								
	S Social		T Technical		A Administr ative		P Political		L Legal		E Economic			E Environmental										
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env.	Consistent with Fed. Env. Laws	Priority Total (net)

Multi-Hazard Mitigation Action Items																								
Establish cooling centers within the community for heat emergencies.	+	+	+	+	+	+	-	+	+	-	+	+	+	+	+	+	-	+	n a	n a	n a	n a	n a	1 5
Adopt Building Code requirements for public buildings, including school facilities to protect against minor earthquakes.	+	+	+	+	+	+	-	+	+	-	+	+	+	+	+	+	+	-	n a	n a	n a	n a	n a	1 5
Review and update planning for transportation related hazardous Materials incidents on US Highway 75.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	n a	n a	n a	+	+	2 0

Table 5-2 (continued) STAPLEE Prioritization Tool (Scoring : “+” = 1 point, “-“ = 1 point, “n/a” – 0 point, “n/k” – not known)																						
	S Social		T Technical			A Administrative			P Political			L Legal			E Economic				E Environmental			
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env. Goals
Multi-Hazard Mitigation Action Items																						
Continued participation in the Oklahoma Red Flag Fire Alert Program/ OK-Fire Website.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	na	na	na	na

Provide and/or maintain surge protection and uninterruptible power sources for electronic-reliant City facilities, such as the Fire and Police Departments, City Offices and Public Schools.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	na	na	na	na
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Table 5-2 (continued) STAPLEE Prioritization Tool (Scoring : “+” = 1 point, “-“ = 1 point, “n/a” – 0 point, “n/k” – not known)																						
	S Social		T Technical			A Administrative			P Political			L Legal			E Economic				E Environmental			
Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT/Waste Sites	Consistent with Comm. Env. Goals
Multi-Hazard Mitigation Action Items																						
Identify and map vulnerable structures susceptible to flooding.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	na	na	+	+
Require new development projects to control downstream flooding by constructing on-site water retention structures or participating in other off-site	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	na	na	+	+

completion?

Yes (+) or No (-)

Public Support - Is there enough public support to ensure the success of the mitigation action?

Yes (+) or No (-)

Legal

State Authority - Do State regulations exist that support the implementation of the mitigation action?

Yes (+) or No (-)

Existing Local Authority - Are the proper local laws, ordinances, and resolutions in place to implement the mitigation action?

Yes (+) or No (-)

Potential Legal Challenge - Is the mitigation action likely to be challenged by stakeholders who may be negatively affected

No (+) or Yes (-)

Economic

Benefit of Action - Do the benefits of the mitigation action exceed the associated costs?

Yes (+) or No (-)

Cost of Action - Does the cost seem reasonable for the size of the problem and likely benefits?

Yes (+) or No (-)

Contributions to Economic Goals - Does the action contribute to other community economic goals, such as capital improvements or economic development?

Yes (+) or No (-)

Outside Funding Required - Will outside sources of funding be required?

No (+) or Yes (-)

Environmental

Effect on Land/Water - Will the mitigation action have a significant effect on the environment (including land, water, and air resources)?

No (+) or Yes (-)

Effect on Endangered Species - Will the mitigation action significantly affect endangered species?

No (+) or Yes (-)

Effect on HAZMAT/Waste Sites - Will the mitigation action significantly affect HAZMAT or waste sites?

No (+) or Yes (-)

Consistent with Community Environmental Goals - Will the mitigation action be in compliance with local, State, and Federal environmental laws and regulations?

Yes (+) or No (-)

Consistent with Federal Environmental Laws - Is the mitigation action consistent with the community's environmental values and goals?

Yes (+) or No (-)



DENNIS WALLER
Chief of Police

GLENPOOL POLICE DEPARTMENT

P.O. BOX 70 / 14536 S. ELWOOD AVENUE
GLENPOOL, OK 74033
(918) 322-8110 MAIN
(918) 322-3011 FAX



BART HARRIS
Assistant Chief of Police

Mayor and Council,

Before you is the SRO contract for the 2014/2015 school year. This is basically the same contract as last year's other than in the dollar amount the change was rounded off to .00 cents for convenience. This contract has been approved by the Glenpool School Board and is now presented to the Glenpool City Council for approval, staff recommends approval.

Dennis Waller

Chief of Police

Glenpool, Ok.

**CITY OF GLENPOOL AND GLENPOOL SCHOOL DISTRICT
SCHOOL RESOURCE OFFICER AGREEMENT,
INCLUDING DRUG DOG SERVICES (AS AVAILABLE)**

This Agreement is made and entered into as of the 1st day of July 2014, between Independent School District No. 13 of Tulsa County, Oklahoma (the "Glenpool School District") and the City of Glenpool ("City").

RECITALS:

- A. The Glenpool School District and the City desire to enter into an agreement for the funding of one City police officer to serve as a school resource officer ("SRO") for the Glenpool School District for the 2014-2015 academic year.
- B. The Glenpool School District also desires to obtain drug dog services so that drug dog searches may be performed on Glenpool School District property. Such services will be coordinated and facilitated by the City Police Department, depending upon the availability of K-9 Unit services (including dog and handler) through interagency mutual aid agreement(s).
- C. The City desires to provide the foregoing drug dog services through such intermediary agency to the Glenpool School District to the fullest feasible extent, pursuant to the terms of this Agreement and in accordance with current developments in the laws and cases interpreting the Fourth Amendment to the United States Constitution pertaining to search and seizure.

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein and intending to be legally bound, the Glenpool School District and the City agree as follows:

- 1. The Glenpool School District agrees to fund the SRO salary and all related services for the 2014-2015 academic year in the amount of Twenty-Nine Thousand, Four Hundred Ninety-Eight and No/100 Dollars (\$29,498.00). The City agrees to invoice the Glenpool School District from the City Treasurer's office. One-half of the billing shall be paid by the Glenpool School District no later than January 15, 2015, with the balance due no later than June 30, 2015.
- 2. The City, through the City Police Department, will screen the SRO to be used in the program and will be responsible for all payroll functions for the SRO.

3. The City agrees to provide such basic training as may be needed for the SRO without further charge to the Glenpool School District. The SRO's duties will include:
 - a. Enforcing the laws of the State of Oklahoma and the City of Glenpool while on school property;
 - b. Serving as an advisor to the Glenpool School District on issues of law enforcement;
 - c. Serving as a liaison to other support agencies, as appropriate within the scope of the SRO's duties;
 - d. Subject to separate, informal agreement regarding frequency, schedule and subject matter, serving as a law-related instructor to the Glenpool School District staff and students with instruction on law-related issues; and
 - e. Subject to separate, informal agreement regarding frequency, schedule and scope of any proposed search, serving as liaison to any agency or police department that agrees to provide K-9 Unit services pursuant to this Agreement.
4. Subject to the terms and conditions set forth in Sections 8 and 9 below, drug dog searches will be coordinated and facilitated by the City Police Department on dates to be set by the Superintendent and/or Site Administrator in conjunction with the City Police Department. It is essential that dates for scheduled searches be agreed upon in advance. In addition to scheduled searches, emergency drug dog searches may be provided by the City Police Department upon sufficient notice from the Superintendent and/or Site Administrator.
5. The only cost to the Glenpool School District for such drug dog services as may be provided by the City through another agency pursuant to a mutual aid agreement, more than what is included in the compensation amount provided by Section 1 above, is any actual cost incurred by the City for the provision of such services. It is anticipated that there will be no additional charge for drug dog services. If any instance of providing the services of a K-9 Unit will result in an additional charge, the City agrees to notify the Glenpool School District of such charge as part of negotiating the informal agreement referenced in section 3(e) above, thereby giving the School District the opportunity to decline such services.
6. Each sniff search involving a drug dog shall last no longer than one hour and shall include any and all school property identified by the Superintendent and/or Site Administrator to be searched. Areas may include, but are not limited to, locker areas, restrooms, classrooms, parking areas, school yards and any other areas where prohibited substances could be stored, hidden, placed or found.

7. The drug dog shall sniff areas and not individual persons. However, if the drug dog alerts on an individual person, an appropriate Glenpool School District administrator will immediately be notified for a possible follow-up search based upon reasonable suspicion, as more particularly provided in Sections 8 and 9 below.
8. Any drug dog involved in a sniff search that is used to provide services under this Agreement must conform to the following requirements:
 - a. The drug dog and the K-9 handler of the dog used must be properly certified under Oklahoma State law.
 - b. The drug dog will be handled only by a qualified K-9 handler with which the drug dog has been certified.
 - c. The K-9 handler must maintain proper training and working logs for the drug dog.
 - d. The drug dog must be experienced and shown reliable in alerting on prohibited substances.
 - e. The K-9 handler of the drug dog must be experienced and shown reliable in recognizing alerts by the particular drug dog the handler is handling.
 - f. The drug dog must be trained using actual prohibited drugs and not using "pseudo drugs."
 - g. The drug dog must be trained to alert on at least the following prohibited substances: Marijuana, cocaine, heroin, methamphetamines and by-products of the listed substances.
 - h. The Glenpool School District shall identify the City of Glenpool as an additional insured on its general liability insurance, shall provide the City a copy of the declaration page verifying such addition and, to the extent allowed by law, shall waive any claim for liability against the City for any damage to property that may occur during the course of a search authorized by this provision, regardless of whether such damage shall be allegedly or actually caused by the drug dog engaged in the search.
9. The following is a chronology of steps that shall be followed during the course of a routine (non-emergency) authorized drug dog search:
 - a. The School Superintendent or Site Administrator will negotiate a schedule of one or more drug dog searches with the City Police Department as part of the informal agreement referenced in section 3(e) above.
 - b. City Police Department will, to the fullest extent that a certified dog is available through mutual aid agreement, provide the trained and certified K-9 Unit and will oversee the search.

- c. If no certified drug dog is available on a date scheduled for a drug search, the City Police Department will make arrangements for an alternative date or dates until a dog has been made available and a search is performed.
 - d. If there is no positive alert, the search shall be terminated. If there is a positive alert from the K-9 Unit, the SRO and/or school officials shall proceed with the next steps.
 - e. A positive alert establishes probable cause for the police officer conducting the search and meets the reasonable suspicion standard applicable to a school official to authorize a search of the student.
 - f. A duly authorized school official shall then conduct a warrantless search of any property or student as to which the dog alerted.
 - g. The suspected student will be subject to normal school disciplinary procedures as well as such criminal action as municipal, state or federal law may permit or require.
 - h. The police officer conducting the search will seize the contraband for destruction or to be retained as evidence, as provided in subsection 9(g).
 - i. If the school official requests criminal prosecution of the offending student, the City Police Department will forward all investigative reports to the office of the City Prosecutor and/or the Tulsa County District Attorney's office, depending upon the nature and quantity of the contraband. In this event, the contraband will always be retained as evidence.
 - j.
10. A written report will be provided by the SRO to the Glenpool School District after each search giving the details of the search and its results. In addition, if the Glenpool School District is involved in any type of legal, administrative or other proceeding, including, but not limited to, administrative hearings, due process hearings, mediations, arbitrations or litigation involving a search performed pursuant to this Agreement, the City agrees to cooperate voluntarily with the Glenpool School District, free of charge, including, but not limited to, providing documents, testimony or affidavits from the SRO or any other employees of the City, as needed and appropriate.
11. Miscellaneous Provisions:
- a. This Agreement is for the 2014-2015 academic year only and will expire by its terms on June 30, 2015.
 - b. This Agreement shall constitute the entire agreement of the parties and may only be modified in writing signed by both parties.

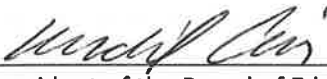
- c. Any renewal of this Agreement shall require adoption by the City Council of the City and the Board of Education of the Glenpool School District and the mutual execution of a subsequent written agreement.
- d. In the event that either party desires to terminate this Agreement, the party desiring to terminate must give thirty calendar days' notice to the other party of its decision to terminate the Agreement. If terminated by either party, the Glenpool School District will be obligated for a pro rata payment to the City of only those school days for which the City actually provided the SRO and related services to the Glenpool School District.
- e. The laws of the State of Oklahoma shall govern this Agreement.

WHEREFORE, the parties hereunto set their hands and seals.

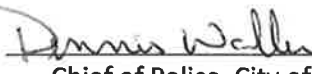
ATTEST:

Independent School District No. 13 of Tulsa
County, Oklahoma (the "Glenpool School District")


Clerk of the Board of Education

By: 
President of the Board of Education

City Clerk

By: 
Chief of Police, City of Glenpool

APPROVED AS TO FORM:

City Attorney

	2014-2015	SALES TAX		DIFF FROM	% Change
		July 13	July 14	2012-2013	2013-2014
7207	Glenpool	502,873.76	507,524.15	4,650.39	0.92%
7208	Jenks	415,888.92	474,649.27	58,760.35	14.13%
7203	Bixby	835,070.31	899,307.29	64,236.98	7.69%
7222	Sand Springs	858,484.92	924,299.24	65,814.32	7.67%
7303	Coweta	260,493.13	262,515.92	2,022.79	0.78%
1931	Sapulpa	951,723.02	957,369.58	5,646.56	0.59%
7281	Tulsa	19,214,264.41	19,978,040.30	763,775.89	3.98%
7204	Broken Arrow	3,044,000.93	3,251,891.04	207,890.11	6.83%
7214	Owasso	1,704,984.63	1,865,193.66	160,209.03	9.40%
6604	Catoosa	277,550.63	297,320.28	19,769.65	7.12%
6606	Claremore	921,438.12	921,493.73	55.61	0.01%
7205	Collinsville	130,479.31	125,714.05	(4,765.26)	-3.65%

	2014-2015	SALES TAX		DIFF FROM	% Change
		YTD 13/14	YTD 14/15	PRIOR YEAR	2013-2014
7207	Glenpool	502,873.76	507,524.15	4,650.39	0.92%
7208	Jenks	415,888.92	474,649.27	58,760.35	14.13%
7203/7316	Bixby	835,070.31	899,307.29	64,236.98	7.69%
5722/7222	Sand Springs	858,484.92	924,299.24	65,814.32	7.67%
7303	Coweta	260,493.13	262,515.92	2,022.79	0.78%
1931/7225	Sapulpa	951,723.02	957,369.58	5,646.56	0.59%
5781/7281/7381	Tulsa	19,214,264.41	19,978,040.30	763,775.89	3.98%
7204/7304	Broken Arrow	3,044,000.93	3,251,891.04	207,890.11	6.83%
6614/7214	Owasso	1,704,984.63	1,865,193.66	160,209.03	9.40%
6604/7302	Catoosa	277,550.63	297,320.28	19,769.65	7.12%
6606	Claremore	921,438.12	921,493.73	55.61	0.01%
6610/7205	Collinsville	130,479.31	125,714.05	(4,765.26)	-3.65%

Fiscal Year 2013-14

	July	Total YTD
Sales Tax	502,873.76	502,873.76
Use Tax	8,319.13	8,319.13
Combined	\$ 511,192.89	\$ 511,192.89

Fiscal Year 2014-15

	July	Total YTD
Sales Tax	507,524.15	507,524.15
Use Tax	9,307.78	9,307.78
Combined	\$ 516,831.93	\$ 516,831.93
Change	\$ 5,639.04	\$ 5,639.04
% Change	1.10%	1.10%

Sales Tax	0.92%
Use Tax	11.88%

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

01 -GENERAL FUND

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
NON-DEPARTMENTAL						
<u>TAXES</u>						
01-5-00-5001 SALES TAX	4,707,644	387,386.07	4,558,528.18	0.00	149,115.82	96.83
01-5-00-5002 DEDICATED TAX	1,564,382	129,128.70	1,518,484.07	0.00	45,897.93	97.07
01-5-00-5003 USE TAX	110,000	13,035.95	190,317.09	0.00	80,317.09	173.02
01-5-00-5004 EXCISE	20,100	1,839.15	20,678.00	0.00	578.00	102.88
01-5-00-5005 CIGARETTE TAX	77,500	6,242.40	71,687.06	0.00	5,812.94	92.50
01-5-00-5006 AD VALOREM TAX - EXPIRED	20	0.00	1.58	0.00	18.42	7.90
01-5-00-5007 ALCOHOLIC BEVERAGE TAX	19,000	1,807.79	19,567.73	0.00	567.73	102.99
01-5-00-5008 COMMERCIAL VEHICLE	80,000	7,646.07	87,390.52	0.00	7,390.52	109.24
01-5-00-5009 HOTEL MOTEL TAX	130,000	9,569.16	92,904.37	0.00	37,095.63	71.46
01-5-00-5010 FRANCHISE	450,000	22,603.61	453,905.09	0.00	3,905.09	100.87
TOTAL TAXES	7,158,646	579,258.90	7,013,463.69	0.00	145,182.31	97.97
<u>LICENSES & PERMITS</u>						
01-5-00-5150 SOLICITORS LICENSE	925	200.00	837.50	0.00	87.50	90.54
01-5-00-5151 BUILDING PERMITS	30,000	10,697.06	37,972.32	0.00	7,972.32	126.57
01-5-00-5152 OCCUPATION TAX/AL BEV LICE	1,750	2,460.00	6,525.00	0.00	4,775.00	372.86
01-5-00-5153 PLUMBING LICENSE	8,000	875.00	6,360.00	0.00	1,640.00	79.50
01-5-00-5154 ELECTRICAL LICENSE	8,800	1,690.00	7,565.00	0.00	1,235.00	85.97
01-5-00-5155 MECHANICAL LICENSE	3,700	1,330.00	4,320.00	0.00	620.00	116.76
01-5-00-5156 PET LICENSE	500	35.00	320.00	0.00	180.00	64.00
01-5-00-5158 DEVELOPMENT FEES	23,500	100.00	23,694.50	0.00	194.50	100.83
01-5-00-5159 ASSESSMENT LETTERS	3,300	280.00	3,913.00	0.00	613.00	118.58
01-5-00-5160 FIREWORKS PERMITS	5,000	950.00	9,910.00	0.00	4,910.00	198.20
01-5-00-5162 SIGN PERMITS	120	400.00	1,250.00	0.00	1,130.00	1,041.67
01-5-00-5165 STATE PERMIT FEES	50	13.50	62.50	0.00	12.50	125.00
TOTAL LICENSES & PERMITS	85,645	19,030.56	102,729.82	0.00	17,084.82	119.95
<u>CHARGES FOR SERVICES</u>						
01-5-00-5201 ZONING FEES	5,500	675.00	3,425.00	0.00	2,075.00	62.27
01-5-00-5202 INSPECTION FEES	48,000	45,993.76	100,932.32	0.00	52,932.32	210.28
01-5-00-5204 DOG POUND	5,000	365.00	5,906.00	0.00	906.00	118.12
01-5-00-5206 POLICE REPORTS	600	75.00	504.50	0.00	95.50	84.08
TOTAL CHARGES FOR SERVICES	59,100	47,108.76	110,767.82	0.00	51,667.82	187.42
<u>GRANTS</u>						
01-5-00-5250 FIRE DEPT GRANT	0	0.00	0.00	0.00	0.00	0.00
01-5-00-5251 EMERGENCY MGT GRANT	0	0.00	0.00	0.00	0.00	0.00
01-5-00-5252 GRANT - POLICE	0	0.00	1,352.56	0.00	1,352.56	0.00
01-5-00-5253 CDBG	0	0.00	73,603.34	0.00	73,603.34	0.00
TOTAL GRANTS	0	0.00	74,955.90	0.00	74,955.90	0.00
<u>POLICE</u>						
01-5-00-5260 MUNICIPAL COURT	350,000	28,981.68	296,077.60	0.00	53,922.40	84.59
01-5-00-5262 SRO CONTRACT	29,498	0.00	29,498.20	0.00	0.20	100.00

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

01 -GENERAL FUND

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
01-5-00-5265 DEA OT REIMBURSEMENT	0	0.00	0.00	0.00	0.00	0.00
01-5-00-5270 FEDERAL FORFEITURES	0	17,338.10	2,120.96	0.00 (	2,120.96)	0.00
01-5-00-5272 LOAN PROCEEDS - 7 POLICE C	0	0.00	0.00	0.00	0.00	0.00
TOTAL POLICE	379,498	46,319.78	327,696.76	0.00	51,801.24	86.35
<u>MISCELLANEOUS/OTHER</u>						
01-5-00-5301 INTEREST INCOME	1,200	17.62	309.94	0.00	890.06	25.83
01-5-00-5302 DONATIONS	0	0.00	1,030.00	0.00 (	1,030.00)	0.00
01-5-00-5304 REFUNDS	15,000	1,048.88	36,824.09	0.00 (	21,824.09)	245.49
01-5-00-5306 MISCELLANEOUS	15,000	5,030.00	23,424.59	0.00 (	8,424.59)	156.16
01-5-00-5308 ANIMAL CONTROL DONATIONS	0	0.00	0.00	0.00	0.00	0.00
01-5-00-5350 SALE OF ASSETS	0	0.00	0.00	0.00	0.00	0.00
01-5-00-5352 TRANSFER FROM GUSA	205,119	17,093.25	205,119.00	0.00	0.00	100.00
01-5-00-5353 TRANSFER FROM INDUSTRIAL A	32,466	2,705.59	32,467.08	0.00 (	1.08)	100.00
01-5-00-5354 TRANSFER FROM GEMS	33,748	3,083.00	46,578.78	0.00 (	12,830.78)	138.02
01-5-00-5355 E 911 FEES	65,000	5,578.65	75,664.90	0.00 (	10,664.90)	116.41
01-5-00-5358 RENTAL INCOME	45,000	5,411.81	60,185.10	0.00 (	15,185.10)	133.74
01-5-00-5365 FUND BALANCE REVENUE	0	0.00	0.00	0.00	0.00	0.00
TOTAL MISCELLANEOUS/OTHER	412,533	39,968.80	481,603.48	0.00 (	69,070.48)	116.74
TOTAL NON-DEPARTMENTAL	8,095,422	731,686.80	8,111,217.47	0.00 (	15,795.47)	100.20
TOTAL REVENUE	8,095,422	731,686.80	8,111,217.47	0.00 (	15,795.47)	100.20

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

01 -GENERAL FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>EXPENDITURE SUMMARY</u>						
<u>GENERAL GOVERNMENT</u>						
PERSONAL SERVICES	453,907	35,022.84	432,165.92	0.00	21,741.08	95.21
SUPPLIES	47,250	4,188.46	46,010.20	861.80	378.00	99.20
OTHER SERVICES & CHARGES	249,075	14,935.40	240,822.23	0.00	8,252.77	96.69
TRAVEL & TRAINING	9,500	250.00	5,482.68	0.00	4,017.32	57.71
REPAIRS & MAINTENANCE	24,600	1,908.59	13,762.40	2,955.50	7,882.10	67.96
MISCELLANEOUS	22,800	89.90	14,787.90	0.00	8,012.10	64.86
CAPITAL	<u>2,114,353</u>	<u>174,717.62</u>	<u>2,102,663.11</u>	<u>0.00</u>	<u>11,689.89</u>	<u>99.45</u>
TOTAL GENERAL GOVERNMENT	2,921,485	231,112.81	2,855,694.44	3,817.30	61,973.26	97.88
<u>ANIMAL CONTROL</u>						
SUPPLIES	<u>5,000</u>	<u>560.80</u>	<u>3,859.02</u>	<u>0.00</u>	<u>1,140.98</u>	<u>77.18</u>
TOTAL ANIMAL CONTROL	5,000	560.80	3,859.02	0.00	1,140.98	77.18
<u>POLICE DEPARTMENT</u>						
PERSONAL SERVICES	1,705,492	121,886.25	1,592,047.04	65.85	113,379.11	93.35
SUPPLIES	130,000	22,040.90	114,243.02	7,992.99	7,763.99	94.03
OTHER SERVICES & CHARGES	53,350	3,984.76	52,151.49	0.00	1,198.51	97.75
TRAVEL & TRAINING	1,300	467.79	1,153.02	11.30	158.28	87.82
REPAIRS & MAINTENANCE	30,550	1,105.84	30,074.76	35.44	439.80	98.56
MISCELLANEOUS	<u>90,550</u>	<u>7,526.86</u>	<u>90,322.32</u>	<u>0.00</u>	<u>227.68</u>	<u>99.75</u>
TOTAL POLICE DEPARTMENT	2,011,242	157,012.40	1,879,991.65	8,082.98	123,167.37	93.88
<u>FIRE DEPARTMENT</u>						
PERSONAL SERVICES	1,244,691	86,223.11	1,244,011.40	0.00	679.60	99.95
SUPPLIES	38,053	1,769.45	36,352.83	357.97	1,342.20	96.47
OTHER SERVICES & CHARGES	12,684	0.00	12,683.91	0.00	0.09	100.00
TRAVEL & TRAINING	8,414	437.50	8,411.96	0.00	2.04	99.98
REPAIRS & MAINTENANCE	26,991	3,548.67	25,773.64	1,212.00	5.36	99.98
MISCELLANEOUS	<u>1,964</u>	<u>0.00</u>	<u>1,964.00</u>	<u>0.00</u>	<u>0.00</u>	<u>100.00</u>
TOTAL FIRE DEPARTMENT	1,332,797	91,978.73	1,329,197.74	1,569.97	2,029.29	99.85
<u>EMERGENCY MGMT</u>						
SUPPLIES	5,500	0.00	1,163.16	0.00	4,336.84	21.15
REPAIRS & MAINTENANCE	<u>30,290</u>	<u>0.00</u>	<u>2,684.16</u>	<u>0.00</u>	<u>27,605.84</u>	<u>8.86</u>
TOTAL EMERGENCY MGMT	35,790	0.00	3,847.32	0.00	31,942.68	10.75
<u>COMMUNITY DEVELOPMENT</u>						
PERSONAL SERVICES	315,114	26,889.18	298,470.79	0.00	16,643.21	94.72
SUPPLIES	23,000	735.15	13,480.16	8,204.89	1,314.95	94.28
OTHER SERVICES & CHARGES	32,000	270.45	10,181.82	0.00	21,818.18	31.82
TRAVEL & TRAINING	5,900	207.33	4,981.42	0.00	918.58	84.43
MISCELLANEOUS	<u>7,800</u>	<u>0.00</u>	<u>3,670.64</u>	<u>0.00</u>	<u>4,129.36</u>	<u>47.06</u>
TOTAL COMMUNITY DEVELOPMENT	383,814	28,102.11	330,784.83	8,204.89	44,824.28	88.32

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

01 -GENERAL FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>ADMINISTRATION</u>						
PERSONAL SERVICES	585,742	26,921.52	585,706.41	0.00	35.59	99.99
SUPPLIES	5,500	502.39	4,429.62	274.64	795.74	85.53
OTHER SERVICES & CHARGES	114,315	3,500.00	112,962.47	0.00	1,352.53	98.82
TRAVEL & TRAINING	12,000	639.37	7,588.23	230.00	4,181.77	65.15
MISCELLANEOUS	<u>900</u>	<u>0.00</u>	<u>889.00</u>	<u>0.00</u>	<u>11.00</u>	<u>98.78</u>
TOTAL ADMINISTRATION	718,457	31,563.28	711,575.73	504.64	6,376.63	99.11
<u>STREETS & PARKS</u>						
PERSONAL SERVICES	168,580	17,412.67	158,322.11	0.00	10,257.89	93.92
SUPPLIES	47,794	6,226.90	41,463.71	3,531.48	2,798.81	94.14
OTHER SERVICES & CHARGES	158,763	7,524.87	138,001.80	287.93	20,473.27	87.10
TRAVEL & TRAINING	1,000	50.30	517.63	0.00	482.37	51.76
REPAIRS & MAINTENANCE	<u>310,700</u>	<u>151,283.66</u>	<u>290,417.69</u>	<u>1,136.25</u>	<u>19,146.06</u>	<u>93.84</u>
TOTAL STREETS & PARKS	686,837	182,498.40	628,722.94	4,955.66	53,158.40	92.26
<u>TOTAL EXPENDITURES</u>						
TOTAL EXPENDITURES	8,095,422	722,828.53	7,743,673.67	27,135.44	324,612.89	95.99
<u>REVENUE OVER/(UNDER) EXPENDITURES</u>						
REVENUE OVER/(UNDER) EXPENDITURES	0	8,858.27	367,543.80 (	27,135.44) (	340,408.36)	0.00

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

02 -GUSA

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>NON-DEPARTMENTAL</u>						
<u>CHARGES FOR SERVICES</u>						
02-5-00-5210 WATER SALES	2,043,090	164,937.57	1,985,228.61	0.00	57,861.39	97.17
02-5-00-5211 SEWER FEES	819,000	62,101.39	746,687.72	0.00	72,312.28	91.17
02-5-00-5212 REFUSE FEES	520,000	44,405.45	528,453.39	0.00	8,453.39)	101.63
02-5-00-5213 SOLID WASTE MGT FEE	16,000	1,371.30	16,312.61	0.00	312.61)	101.95
02-5-00-5214 STORM WATER MANAGEMENT FEE	91,000	7,854.00	93,432.92	0.00	2,432.92)	102.67
02-5-00-5215 WATER/WASTEWATER FEE	7,500	974.92	9,159.28	0.00	1,659.28)	122.12
02-5-00-5216 DELINQUENT FEES	93,000	8,092.13	95,311.99	0.00	2,311.99)	102.49
02-5-00-5217 CONNECT/TRANSFER FEE	6,900	700.00	6,870.00	0.00	30.00	99.57
02-5-00-5218 RECONNECT FEE	37,350	4,420.00	38,602.28	0.00	1,252.28)	103.35
02-5-00-5219 METER PULL FEE	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5220 WATER TAPS	85,000	38,300.00	113,100.00	0.00	28,100.00)	133.06
02-5-00-5221 SEWER TAPS	<u>18,000</u>	<u>5,150.00</u>	<u>19,500.00</u>	<u>0.00</u>	<u>1,500.00)</u>	<u>108.33</u>
TOTAL CHARGES FOR SERVICES	3,736,840	338,306.76	3,652,658.80	0.00	84,181.20	97.75
<u>GRANTS</u>						
02-5-00-5251 FEMA	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5252 REIMBURSEMENT	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL GRANTS	0	0.00	0.00	0.00	0.00	0.00
<u>MISCELLANEOUS/OTHER</u>						
02-5-00-5301 INTEREST INCOME	10	0.37	37.98	0.00	27.98)	379.80
02-5-00-5303 INTEREST - BOK	133,000	25.31	222.22	0.00	132,777.78	0.17
02-5-00-5305 INTEREST - C D	1,025	94.01	1,104.84	0.00	79.84)	107.79
02-5-00-5306 MISCELLANEOUS	1,500	0.00	1,635.25	0.00	135.25)	109.02
02-5-00-5307 INTEREST - SPIRIT BANK	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5310 ONLINE PYMT FEES	10,000	1,040.00	11,935.00	0.00	1,935.00)	119.35
02-5-00-5311 REFUNDS	221,910	88,042.55	310,025.93	0.00	88,115.93)	139.71
02-5-00-5312 RETURN CHECK FEES	3,200	270.00	2,430.00	0.00	770.00	75.94
02-5-00-5313 COPIES	100	0.00	55.25	0.00	44.75	55.25
02-5-00-5315 TRANSFER IN-BOND PMTS	2,020,500	181,347.98	2,439,837.45	0.00	419,337.45)	120.75
02-5-00-5317 TRANSFER IN - GENERAL FUND	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5318 TRANSFER IN - INDUSTRIAL A	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5365 FUND BALANCE REVENUE	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5366 BOND PROCEEDS	0	0.00	0.00	0.00	0.00	0.00
02-5-00-5367 OWRB LOAN PROCEEDS	<u>25,000</u>	<u>11,534.40</u>	<u>302,266.76</u>	<u>0.00</u>	<u>277,266.76)</u>	<u>1,209.07</u>
TOTAL MISCELLANEOUS/OTHER	2,416,245	282,354.62	3,069,550.68	0.00	653,305.68)	127.04
<u>TOTAL NON-DEPARTMENTAL</u>						
TOTAL NON-DEPARTMENTAL	6,153,085	620,661.38	6,722,209.48	0.00	569,124.48)	109.25
<u>TOTAL REVENUE</u>						
TOTAL REVENUE	6,153,085	620,661.38	6,722,209.48	0.00	569,124.48)	109.25

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

02 -GUSA

FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>EXPENDITURE SUMMARY</u>						
<u>WATER & SEWER</u>						
PERSONAL SERVICES	222,997	22,584.30	221,250.75	0.00	1,746.19	99.22
SUPPLIES	85,875	5,422.54	79,980.75	4,853.90	1,040.35	98.79
OTHER SERVICES & CHARGES	4,018,092	1,171,571.19	5,162,536.25	5,751.54 (	1,150,195.79)	128.63
TRAVEL & TRAINING	1,000	430.50	988.39	0.00	11.61	98.84
REPAIRS & MAINTENANCE	5,975	183.78	3,670.15	0.00	2,304.85	61.43
MISCELLANEOUS	1,010,614	18,452.30	1,010,772.50	849.05)	690.55	99.93
CAPITAL	<u>285,500</u>	<u>23,791.67</u>	<u>285,500.04</u>	<u>0.00</u> (	<u>0.04)</u>	<u>100.00</u>
TOTAL WATER & SEWER	5,630,053	1,242,436.28	6,764,698.83	9,756.39 (	1,144,402.28)	120.33
<u>REFUSE</u>						
SUPPLIES	0	0.00	0.00	0.00	0.00	0.00
OTHER SERVICES & CHARGES	502,000	41,913.89	501,964.68	0.00	35.32	99.99
MISCELLANEOUS	<u>21,032</u>	<u>0.00</u>	<u>20,680.46</u>	<u>0.00</u>	<u>351.54</u>	<u>98.33</u>
TOTAL REFUSE	523,032	41,913.89	522,645.14	0.00	386.86	99.93
TOTAL EXPENDITURES	6,153,085	1,284,350.17	7,287,343.97	9,756.39 (	1,144,015.42)	118.59
REVENUE OVER/ (UNDER) EXPENDITURES	0 (	663,688.79) (	565,134.49) (	9,756.39)	574,890.94	1,466.67-

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

03 -CAPITAL FUND

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
NON-DEPARTMENTAL						
<u>TAXES</u>						
03-5-00-5051	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5052	0	0.00	0.00	0.00	0.00	0.00
TOTAL TAXES	0	0.00	0.00	0.00	0.00	0.00
<u>MISCELLANEOUS/OTHER</u>						
03-5-00-5301 INTEREST INCOME	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5306 MISCELLANEOUS REVENUE	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5352 TRANSFER IN - GUSA	285,500	23,791.67	285,500.04	0.00	0.04)	100.00
03-5-00-5353 TRANSFER IN-INDUSTRIAL AUT	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5354 TRANSFER IN - GEMS	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5355 TRANSFER IN-SINKING FUND	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5500 TRANSFER IN - SALES TAX	1,564,382	129,128.70	1,518,484.07	0.00	45,897.93	97.07
03-5-00-5501 TRANSFER IN - CITY	546,971	45,588.92	582,067.04	0.00	35,096.04)	106.42
03-5-00-5504 TRANSFER IN - BONDS	0	0.00	0.00	0.00	0.00	0.00
03-5-00-5505 FUND BALANCE REVENUE	0	0.00	0.00	0.00	0.00	0.00
TOTAL MISCELLANEOUS/OTHER	2,396,853	198,509.29	2,386,051.15	0.00	10,801.85	99.55
TOTAL NON-DEPARTMENTAL	2,396,853	198,509.29	2,386,051.15	0.00	10,801.85	99.55
TOTAL REVENUE	2,396,853	198,509.29	2,386,051.15	0.00	10,801.85	99.55

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

03 -CAPITAL FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>EXPENDITURE SUMMARY</u>						
<u>NON-DEPARTMENTAL</u>						
MISCELLANEOUS	0	0.00	0.00	0.00	0.00	0.00
CAPITAL	<u>2,396,853</u>	<u>182,459.09</u>	<u>2,369,979.68</u>	<u>0.00</u>	<u>26,873.32</u>	<u>98.98</u>
TOTAL NON-DEPARTMENTAL	2,396,853	182,459.09	2,369,979.68	0.00	26,873.32	98.88
TOTAL EXPENDITURES	2,396,853	182,459.09	2,369,979.68	0.00	26,873.32	98.88
REVENUE OVER/(UNDER) EXPENDITURES	0	16,050.20	16,071.47	0.00	16,071.47	0.00

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

04 -PARKS & RECREATION FUND

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
NON-DEPARTMENTAL						
<u>LICENSES & PERMITS</u>						
04-5-00-5158 DEVELOPMENT FEES	0	58,300.00	75,550.00	0.00	(75,550.00)	0.00
TOTAL LICENSES & PERMITS	0	58,300.00	75,550.00	0.00	(75,550.00)	0.00
TOTAL NON-DEPARTMENTAL	0	58,300.00	75,550.00	0.00	(75,550.00)	0.00
TOTAL REVENUE	0	58,300.00	75,550.00	0.00	(75,550.00)	0.00

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

04 -PARKS & RECREATION FUND
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>EXPENDITURE SUMMARY</u>						
<u>STREETS & PARKS</u>						
REPAIRS & MAINTENANCE	0	0.00	0.00	0.00	0.00	0.00
MISCELLANEOUS	0	0.00	0.00	0.00	0.00	0.00
TOTAL STREETS & PARKS	0	0.00	0.00	0.00	0.00	0.00
<u>TOTAL EXPENDITURES</u>						
TOTAL EXPENDITURES	0	0.00	0.00	0.00	0.00	0.00
REVENUE OVER/(UNDER) EXPENDITURES	0	58,300.00	75,550.00	0.00 (	75,550.00)	0.00

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

30 -INDUSTRIAL AUTHORITY

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
NON-DEPARTMENTAL						
<u>MISCELLANEOUS/OTHER</u>						
30-5-00-5400 LEASE REVENUE - EMS PLUS	32,467	2,705.55	32,466.60	0.00	0.40	100.00
30-5-00-5410 LANDSCAPE REVENUE	0	0.00	0.00	0.00	0.00	0.00
30-5-00-5450 CONFERENCE CENTER REVENUE	200,000	23,265.79	258,832.39	0.00	58,832.39)	129.42
30-5-00-5500 TRANSFER IN	0	0.00	0.00	0.00	0.00	0.00
30-5-00-5505 MISCELLANEOUS INCOME	0	0.00	0.00	0.00	0.00	0.00
30-5-00-5510 INTEREST INCOME	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL MISCELLANEOUS/OTHER	232,467	25,971.34	291,298.99	0.00	58,831.99)	125.31
TOTAL NON-DEPARTMENTAL	232,467	25,971.34	291,298.99	0.00	58,831.99)	125.31
TOTAL REVENUE	232,467	25,971.34	291,298.99	0.00	58,831.99)	125.31

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

30 -INDUSTRIAL AUTHORITY
FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>EXPENDITURE SUMMARY</u>						
<u>NON-DEPARTMENTAL</u>						
PERSONAL SERVICES	0	0.00	0.00	0.00	0.00	0.00
SUPPLIES	30,000	8,202.29	26,677.56	302.68	3,019.76	89.93
OTHER SERVICES & CHARGES	120,000	6,162.00	80,758.73	845.00	38,396.27	68.00
REPAIRS & MAINTENANCE	50,000	1,218.47	38,164.90	400.14	11,434.96	77.13
CAPITAL	32,467	2,705.59	32,467.08	0.00	0.08	100.00
TOTAL NON-DEPARTMENTAL	232,467	18,288.35	178,068.27	1,547.82	52,850.91	77.27
TOTAL EXPENDITURES	232,467	18,288.35	178,068.27	1,547.82	52,850.91	77.27
REVENUE OVER/ (UNDER) EXPENDITURES	0	7,682.99	113,230.72	(1,547.82)	(111,682.90)	0.00

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

31 -GEMS

% OF YEAR COMPLETED: 100.00

REVENUES	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
NON-DEPARTMENTAL						
<u>TAXES</u>						
31-5-00-5006 TAXES	240,000	620.41	215,265.81	0.00	24,734.19	89.69
31-5-00-5012 FUND BALANCE	<u>0</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL TAXES	240,000	620.41	215,265.81	0.00	24,734.19	89.69
<u>MISCELLANEOUS/OTHER</u>						
31-5-00-5301 INTEREST	<u>220</u>	<u>13.61</u>	<u>144.77</u>	<u>0.00</u>	<u>75.23</u>	<u>65.80</u>
TOTAL MISCELLANEOUS/OTHER	220	13.61	144.77	0.00	75.23	65.80
TOTAL NON-DEPARTMENTAL	240,220	634.02	215,410.58	0.00	24,809.42	89.67
TOTAL REVENUE	240,220	634.02	215,410.58	0.00	24,809.42	89.67

CITY OF GLENPOOL
REVENUE & EXPENSE REPORT (UNAUDITED)
AS OF: JUNE 30TH, 2014

31 -GEMS

FINANCIAL SUMMARY

% OF YEAR COMPLETED: 100.00

	CURRENT BUDGET	CURRENT PERIOD	YEAR TO DATE ACTUAL	TOTAL ENCUMBERED	BUDGET BALANCE	% YTD BUDGET
<u>EXPENDITURE SUMMARY</u>						
<u>NON-DEPARTMENTAL</u>						
PERSONAL SERVICES	11,265	897.07	10,876.92	0.00	388.08	96.55
SUPPLIES	26,955	435.40	3,311.04	110.27	23,533.69	12.69
OTHER SERVICES & CHARGES	155,500	9,482.94	121,077.72	0.00	34,422.28	77.86
CAPITAL	<u>46,500</u>	<u>3,083.00</u>	<u>46,378.78</u>	<u>0.00</u>	<u>121.22</u>	<u>99.74</u>
TOTAL NON-DEPARTMENTAL	240,220	13,898.41	181,644.46	110.27	58,465.27	75.66
TOTAL EXPENDITURES	240,220	13,898.41	181,644.46	110.27	58,465.27	75.66
REVENUE OVER/(UNDER) EXPENDITURES	0 (	13,264.39)	33,766.12 (	110.27) (	33,655.85)	0.00

NOTICE
GLENPOOL AREA EMERGENCY MEDICAL SERVICE DISTRICT
SPECIAL SESSION

A Special Session of the Glenpool Area Emergency Medical Service District will be held immediately following the City Council Meeting. Meetings are scheduled to begin at 6:00 p.m. on Monday, July 21, 2014, at Glenpool City Hall, Council Chambers, 3rd Floor, 12205 S. Yukon Ave., P.O. Box 70, Glenpool, Oklahoma.

AGENDA

- A. Call To Order
- B. Roll Call and Declaration of Quorum
- C. Scheduled Business
 - 1. Discussion and possible action to approve the Representation Letter for the audit performed for the period of July 1, 2008 through June 30, 2013.
(Susan White, District Administrator)
 - 2. Discussion and possible action to approve the Management Response Letter to Gary Jones, Oklahoma State Auditor and Inspector regarding the Schedule of Findings contained in the audit conducted for the period of July 1, 2008 through June 30, 2013.
(Susan White, District Administrator)
- D. Adjournment

This notice and agenda was posted at Glenpool City Hall, 12205 S. Yukon Ave., P.O. Box 70, Glenpool, Oklahoma on _____, 2014 at _____ AM/PM.

Signed: _____
District Clerk/Secretary



Glenpool Area Emergency Medical Services District

P.O. Box 70
Glenpool, Oklahoma 74033

Staff Memo

Date: July 21, 2013

To: Honorable Chairman and Board Members

From: Susan White, District Administrator

Re: Representation Letter

Background

The purpose of the representation letter is to let management declare in writing that the financial statements and other presentations to the auditor are sufficient and appropriate and without omission of material facts, to the best of the management's knowledge.

Basically the Letter is a procedural issue. The letter was actually submitted to us from the State Auditor and Inspector as a form letter. Other than completing the date and signature line, the content in the letter appears exactly as we received it and will serve to satisfy the Auditor's required documentation.

Considering that the GEMS Board is appointed by the County, it seems most appropriate for the Chairman to execute the Letter.

Staff Recommendation

Staff recommends approval and to authorize Chairman to sign Representation Letter.

Attachment

- Representation Letter



Glenpool Area Emergency Medical Services District

P.O. Box 70
Glenpool, Oklahoma 74033

July 21, 2014

Gary A. Jones, CPA, CFE
State Auditor and Inspector
Investors Capital Building
217 N. Harvey, Room 209
Oklahoma City, OK 73102

Attention: Kyle Sides

Re: Representation Letter

In connection with the engagement regarding the records of the Glenpool Emergency Medical Service District for the period of July 1, 2008 through June 30, 2013, we confirm, to the best of our knowledge and belief, the following representations made to you during your engagement are true and complete.

- The accounting records cash balance is substantiated by cash in banks.
- The accounting records reflect properly all receipts and disbursements incurred.
- Any concerns we might have regarding the risks of fraud or the financial well-being of the EMS have been expressed to the auditor.

Further, we confirm the receipt and review of any Glenpool Emergency Medical Service District findings. We understand that management responses to those findings must be received by the Oklahoma State Auditor & Inspector's Office within 10 days of the receipt of this letter in order to be included as part of the published report.

Signature _____
Momodou Ceesay, Chairman
Glenpool Area Emergency Medical Service District

Date _____



Glenpool Area Emergency Medical Services District

P.O. Box 70
Glenpool, Oklahoma 74033

Staff Memo

Date: July 21, 2013

To: Honorable Chairman and Board Members

From: Susan White, District Administrator

Re: Response to Schedule of Findings

Background

This Audit encompassed a period of five years, beginning July 1, 2008 through June 30, 2013. The auditor identified five findings during those five years. I appreciate the thoroughness of the field audit. It gives me great comfort to know that the independent findings were issues that staff can easily answer, or address by making slight procedural modifications.

Staff researched each finding and has submitted a comprehensive response for your approval. During the review process, staff verified that all funds were accounted for and expended within the boundaries of the law. Additionally, amendments were made to the recently adopted Agreement with the City to capture the applicable Auditor recommendations.

Staff Recommendation

Staff recommends approval of the Response to OSAI Schedule of Findings.

Attachment

- Draft Audit Report
- Response to Findings

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
FOR THE PERIOD JULY 1, 2008 THROUGH JUNE 30, 2013**

Current date

**TO THE BOARD OF DIRECTORS OF THE
GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT**

Transmitted herewith is the audit report of Glenpool Emergency Medical Service District for the period July 1, 2008 through June 30, 2013.

The goal of the State Auditor and Inspector is to promote accountability and fiscal integrity in state and local government. Maintaining our independence as we provide this service to the taxpayers of Oklahoma is of utmost importance.

We wish to take this opportunity to express our appreciation for the assistance and cooperation extended to our office during our engagement.

Sincerely,

GARY A. JONES, CPA, CFE
OKLAHOMA STATE AUDITOR & INSPECTOR

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
JULY 1, 2008 THROUGH JUNE 30, 2013**

Presentation of Collections, Disbursements, and Cash Balances of District Funds for FY 2012 and FY 2013

	<u>FY 2012</u>	<u>FY 2013</u>
Beginning Cash Balance, July 1	<u>\$ 215,992</u>	<u>\$ 257,020</u>
Collections		
Ad Valorem Tax	238,198	207,006
Miscellaneous	<u>213</u>	<u>150</u>
Total Collections	<u>238,411</u>	<u>207,156</u>
Disbursements		
Maintenance and Operations	167,647	178,207
Audit Expense	<u>-</u>	<u>-</u>
Total Disbursements	<u>167,647</u>	<u>178,207</u>
Ending Cash Balance Estimate of Needs, June 30	<u>\$ 286,756</u>	<u>\$ 285,969</u>
Ending Cash Balance District, June 30	<u>\$ 257,020</u>	<u>\$ 293,110</u>
Reporting Variance	<u>\$ 29,736</u>	<u>\$ (7,141)</u>

Source: District Estimate of Needs (presented for informational purposes)

Glenpool Emergency Medical Service District
P.O. Box 70
Glenpool, Oklahoma 74033

**TO THE BOARD OF DIRECTORS OF THE
GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT**

For the purpose of complying with 19 O.S. § 1706.1, we have performed the following procedures:

- Determined that receipts were properly deposited and accurately reported in the accounting records.
- Determined cash balances were accurately reported in the accounting records.
- Determined whether deposits and invested funds were secured by pledged collateral.
- Determined that disbursements were properly supported, were made for purposes outlined in 19 O.S. § 1710.1, and were accurately reported in the accounting records.
- Determined that all purchases requiring bids complied with 19 O.S. § 1723.
- Determined that payroll expenditures were accurately reported in the accounting records and supporting documentation of leave records was maintained.
- Determined that fixed assets records were properly maintained.
- Determined whether the District's collections, disbursements, and cash balances for FY 2012 and FY 2013 were accurately presented on the estimate of needs.

All information included in the records of the District is the representation of the Glenpool Emergency Medical District Service.

Our emergency medical service district statutory engagement was limited to the procedures performed above and was less in scope than an audit performed in accordance with generally accepted auditing standards. Accordingly, we do not express an opinion on any basic financial statement of the Glenpool Emergency Medical Service District.

Based on our procedures performed, we have presented our findings in the accompanying schedule.

This report is intended for the information and use of the management of the Glenpool Emergency Medical Service District. This restriction is not intended to limit the distribution of this report, which is a matter of public record.

GARY A. JONES, CPA, CFE
OKLAHOMA STATE AUDITOR & INSPECTOR

End of fieldwork date

DRAFT

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
JULY 1, 2008 THROUGH JUNE 30, 2013**

SCHEDULE OF FINDINGS AND RESPONSES

Finding 1 – Bank Reconciliations

Condition: Based on a review of the Glenpool Emergency Medical Service District's (the District) reconciliation documentation, the following was noted:

- Adjustments appear to be made each fiscal year to balance the bank with the District records. For example, the June 30, 2013 reconciliation report contains a \$6.43 adjustment.
- Check 1022 was marked to be voided on the June 30, 2011 bank reconciliation, but as of June 30, 2013 this check had yet to be voided.
- There is no indication that a second review of the reconciliations is performed by an individual other than the preparer.

Cause of Condition: Policies and procedures have not been designed and implemented to ensure a true and accurate reconciliation occurs monthly between the bank balance and District records, to ensure checks to be voided are done so in a timely manner, and to ensure there is a second level of review on reconciliations performed.

Effect of Condition: These conditions could result in unrecorded transactions, misstated financial reports, undetected errors, or the misappropriation of funds.

Recommendation: The Oklahoma State Auditor & Inspector's office (OSAI) recommends the District ensure a true and accurate reconciliation be conducted on a monthly basis. This would also include ensuring all items to be voided are done so in a timely manner. Further, OSAI recommends the District implement a policy where an individual other than the preparer of the reconciliation review and sign the reconciliation as a level of review.

Management Response: DOCUMENT MANAGEMENT RESPONSE HERE

Criteria: To help ensure a proper accounting of funds, all bank reconciliations should be performed on a monthly basis and approved by someone other than the preparer and include an indication of the review.

Finding 2 – Expenditure Documentation and Approval

Condition: For the period under review 25 expenditures were tested per fiscal year. The following was noted per fiscal year:

Fiscal Year 2009

- 22 of the 25 expenditures tested were not approved by the board.
- 20 of the 25 expenditures tested did not appear to be expenditures incurred in accordance with the District's contract with their third party services provider.

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
JULY 1, 2008 THROUGH JUNE 30, 2013**

Fiscal Year 2010

- 4 of the 25 expenditures tested were not approved by the board.
- 2 of the 25 expenditures tested were voided without the voided check documentation being retained.
- 17 of the 25 expenditures tested did not appear to be expenditures incurred in accordance with the District's contract with EMS Plus.

Fiscal Year 2011

- 16 of the 25 expenditures tested were not approved by the board.
- 2 of the 25 expenditures tested were voided without the voided check documentation being retained.
- 17 of the 25 expenditures tested did not appear to be expenditures incurred in accordance with the District's contract with EMS Plus.

Fiscal Year 2012

- 100% of the 25 expenditures tested were not approved by the board.
- 3 of the 25 expenditures tested were voided without the voided check documentation being retained.
- 16 of the 25 expenditures tested did not appear to be expenditures incurred in accordance with the District's contract with EMS Plus and the City of Glenpool.

Fiscal Year 2013

- 100% of the 25 expenditures tested were not approved by the board.
- 9 of the 25 expenditures tested were voided without the voided check documentation being retained.
- 12 of the 25 expenditures tested did not appear to be expenditures incurred in accordance with the District's contract with their third party services provider and the City of Glenpool.
- The City of Glenpool was compensated administrative fees at a rate of \$1,000 per month in excess of the contractual terms with the District.

Cause of Condition: Policies and procedures have not been designed and implemented to ensure all expenditures are approved by the District Board, to ensure voided documentation is retained, and to ensure expenditures are incurred in accordance with the contractual terms between the District, the City of Glenpool and the third party services provider.

Effect of Condition: These conditions could result in unrecorded transactions, misstated financial reports, clerical errors, or misappropriation of funds not being detected in a timely manner. Further, these conditions did result in expenditures being incurred in contrast with the contractual terms between the District, the City of Glenpool, and the third party services provider.

Recommendation: OSAI recommends the District ensure every expenditure incurred is approved by the District Board. Further, OSAI recommends all documentation of voided items be retained, and that all expenditures incurred are in compliance with the contractual agreement.

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
JULY 1, 2008 THROUGH JUNE 30, 2013**

Management Response: DOCUMENT MANAGEMENT RESPONSE HERE

Criteria: Effective internal controls require that management implement policies and procedures that safeguard the assets of the District with respect to 19 O.S. § 1710.1A, which outlines purposes for expending District funds, which includes the support, organization, operation, and maintenance of the emergency medical service.

Finding 3 – Purchasing

Condition: During the course of the expenditure tests conducted, OSAI noted instances where the District was reimbursing the City of Glenpool for first responder supplies, payroll expenditures, vehicle payments, services, drinks, vehicle maintenance, licensing fees, and credit card expenditures.

Prior to fiscal year 2012, City of Glenpool expenditures were not referenced in the contract between the District and the service provider. For fiscal year 2012 and 2013, the District was to pay the City of Glenpool \$25,000 per year for administrative expenses. This amount is paid in monthly installments of \$2,083. Expenditures in excess of the \$25,000 were noted during test work.

Cause of Condition: Policies and procedures have not been designed and implemented to ensure expenditures are only incurred in accordance with applicable constitutional and contractual requirements.

Effect of Condition: This condition resulted in the District being in non-compliance with the Oklahoma Constitution and the contractual terms between the District, the City of Glenpool, and the third party services provider.

Recommendation: OSAI recommends the District ensure compliance with Article 10 § 9c of the state constitution which prescribes the proper use of tax millage by a District. Further, OSAI recommends the District review and ensure compliance with attorney general opinion 2002 OK AG 4.

Management Response: DOCUMENT MANAGEMENT RESPONSE HERE

Criteria: State Constitution Article 10 § 9c states in part, “All registered voters in such area shall be entitled to vote, as to whether or not such district shall be formed, and at the same time and in the same question authorize a tax levy not to exceed three (3) mills for the purpose of providing funds for the purpose of support, organization, operation and maintenance of district ambulance services, known as emergency medical service districts and hereinafter referred to as "districts." ”

2002 OK AG states in part that “funds levied to support an Emergency Medical Service District may not be used for other purposes.”

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
JULY 1, 2008 THROUGH JUNE 30, 2013**

Finding 4 – Audit Expense Account

Condition: For the period of July 1, 2008 through June 30, 2013, the District did not appropriate the mandatory one-tenth mill to the audit expense account. Further, balances from previous years were not properly carried forward. The following was noted per fiscal year of the period under review:

Fiscal Year	Amount to Budget	Amount Budgeted
2009	5,218.58	-
2010	6,081.96	-
2011	6,246.50	-
2012	6,511.99	-
2013	6,699.23	-

Cause of Condition: Procedures have not been designed to ensure compliance with 19 O.S §1706.1.

Effect of Condition: This condition resulted in noncompliance with the statute and under funding of the audit expense account.

Recommendation: OSAI recommends that the District implement policies and procedures designed to ensure that one-tenth mill upon the net total assessed valuation be set aside in the audit expense account, and that any unused portion be lapsed into the next year audit expense account in accordance with 19 O.S. § 1706.1.

Management Response: **DOCUMENT MANAGEMENT RESPONSE HERE**

Criteria: Accountability and stewardship are overall goals of management in the accounting of funds. A component objective of an effective internal control system is to provide accurate and reliable information through proper review and approval.

Further, according to 19 O.S. § 1706.1, the District must appropriate the net proceeds of the one-tenth mill annual ad valorem levy upon the net total assessed valuation of the District for audit expenses.

Finding 5 – Estimate of Needs

Condition: For the period of July 1, 2011 through June 30, 2013, the Estimate of Needs did not reflect the same ending balances as the District General Ledger. The June 30, 2012 Estimate of Needs balance contained an ending balance of \$29,736 more than the District General Ledger balance. The June 30, 2013 Estimate of Needs balance contained an ending balance of \$7,141 less than the District General Ledger balance.

Cause of Condition: The Estimate of Needs was not prepared in accordance with 19 O.S. § 1702.

Effect of Condition: The District Estimate of Needs for the period under review did not reflect the accurate financial condition of the District.

**GLENPOOL EMERGENCY MEDICAL SERVICE DISTRICT
STATUTORY REPORT
JULY 1, 2008 THROUGH JUNE 30, 2013**

Recommendation: OSAI recommends the District ensure the Estimate of Needs is prepared in such a manner that the complete financial situation of the District is presented.

Management Response: DOCUMENT MANAGEMENT RESPONSE HERE

Criteria: Accountability and stewardship are overall goals of management in the accounting of funds. A component objective of an effective internal control system is to provide accurate and reliable information through proper review and approval.

Title 19 O.S. § 1702 states in part that Districts should "...3. Make available to the public and investors sufficient information as to the financial conditions, requirement and expectations of the district..."

Finding 1 - Bank Reconciliations

Adjustments appear to be made each fiscal year to balance the bank with the District records. For example, the June 30, 2013 reconciliation report contains a \$6.43 adjustment.

Our accounting package, INCODE, allows the reconciler to enter routine monthly banking transactions for interest and bank charges directly into the general ledger through the bank reconciliation module. This saves time and effort on behalf of the reconciler, saving them from having to make a journal entry and post it prior to performing the bank reconciliation. Such entries show up on the bank reconciliation as an adjustment.

Check 1022 was marked to be voided on the June 30, 2011 bank reconciliation, but as of June 30, 2013 this check had yet to be voided.

We reviewed the pertinent information and found that a void packet had been created in the system to complete this but it had never been approved and posted. We have since done that.

There is no indication that a second review of the reconciliation is performed by an individual other than the preparer.

Management concurs that timely and accurate bank reconciliations are important to maintaining the integrity of the District's system of internal controls. A policy has been instituted effective with FY15 that a knowledgeable person not associated with the processing of transactions will regularly review the completed bank reconciliations.

Finding 2 – Expenditure Documentation and Approval

FY 2009 through FY 2013, expenditures not approved by the Board; expenditures not in accordance with the District's contract with EMS Plus.

In accordance with Section X-9C (a) of the Oklahoma Constitution, the District Board has elected to contract with the City of Glenpool for the management and administration of the District. While the Board retains all of its constitutional and statutory rights and responsibilities, the daily operational decisions are handled by the City in accordance with the contract. Those administrative functions are carried out in accordance with Ordinance No. 597 of the City of Glenpool which authorizes management to approve all expenditures, as funded within the adopted budget, up to an amount of \$ 7,500 without having to seek Board approval. The compensating controls for the Board are that the: Board adopts the annual budget; the Board approves the annual administrative contract; the Board must approve all contracts, including the contract with the ambulance provider; the Board receives regular financial reports, including budget to actual results, for their review; and the Board approves non-contractual expenditures in excess of \$7,500.

Additionally, expenditures made on behalf of the District during the period under audit appear to be in compliance with constitutional and statutory requirements, specifically 19 O.S. 1710.1 A. Due to the nature of the audit sampling techniques used, and the way the results of such are disclosed in the audit report, we can only answer the questions in this section generically. However, in general the amounts expended during the term under audit appear to be for: contractual payments to the ambulance provider; contractual payments for the administration of the District; payments for medical supplies and other consumables used in the provision of emergency medical services; acquisition and maintenance of equipment utilized by first responders in support of the ambulance provider; necessary overhead and administrative items; and payments made to first responders for services rendered. The

District's Board believes that these uses of tax funds are in compliance with the requirement of 19 O.S. 1710.1 A, to wit "support, organization, operation and maintenance of district ambulance services."

FY 2013 The City of Glenpool was compensated administrative fees at a rate of \$1,000 per month in excess of the contractual terms with the District.

The amount compensated to the City for FY 2013 was in accordance with the amount adopted by the District Board in the annual budget. Due to a management oversight, the contract for administrative services between the City and the District was not changed to accurately reflect the intent of the District's Board as shown through the adopted annual budget.

The District has taken the recommendations of the Auditor General's Office included in their audit and incorporated them into the contract with the City of Glenpool for FY2015 to help clarify matters going forward.

Finding 3 – Purchasing

Prior to fiscal year 2012, City of Glenpool expenditures were not referenced in the contract between the District and the service provider. For fiscal year 2012 and 2013, the District was to pay the City of Glenpool \$25,000 per year for administrative expenses. This amount is paid in monthly installments of \$2,083. Expenditures in excess of the \$25,000 were noted during test work.

See answers for Finding 2 above.

Finding 4 – Audit Expense Account

For the period of July 1, 2008 through June 30, 2013, the District did not appropriate the mandatory one-tenth mill to the audit expense account. Further, balances from previous years were not properly carried forward.

The District concurs that it has not specifically complied with 19 O.S. 1706.1 by adopting a specific line item for audit services. The District will implement a policy to comply with this statute in the future and will continue to carry forward unexpended audit expenses as part of the District's fund balance until utilized in the performance of audits of the District.

Finding 5 – Estimate of Needs

For the period July 1, 2011 through June 30, 2013, the Estimate of Needs did not reflect the same ending balances as the District General Ledger. The June 30, 2012 Estimate of Needs balance contained an ending balance of \$29,736 more than the District General Ledger balance. The June 30, 2013 Estimate of Needs balance contained an ending balance of \$7,141 less than the District General Ledger balance.

The District concurs that the Estimate of Needs did not reflect the same ending balance as the District's General Ledger. The reason for this discrepancy was that the District was trying to comply with the stated deadline for the Estimate of Needs to be filed by July 1 of each year. The County Assessor's office is not able to provide current year net assessed valuations until late July or early August. The County Assessor's staff advised the District to use the prior year's NAV for our Estimate of Needs, which was done. Now, with the assistance of Oklahoma State Auditor staff, the District understands that it is not expected that the Estimate of Needs will be prepared, published and filed by July 1 of each year.

The District will wait until the County Assessor's office has provided current year NAV before preparing the annual Estimate of Needs.