

**REGULAR MEETING OF THE
CITY OF ALVARADO City Council
104 W. COLLEGE
JUNE 17, 2024
6:30 PM**

AGENDA

The City Council of the City of Alvarado will meet in a Regular Called Session on June 17, 2024 at 6:30 p.m. in the Council Chambers at City Hall for the following agenda items.

CALL TO ORDER - Roll Call - Council determines excused/unexcused absence of members.

INVOCATION

PLEDGE OF ALLEGIANCE

CITIZEN PARTICIPATION AND PUBLIC INPUT:

This is an opportunity for citizens to address the convened board of this meeting on any matter. The presiding officer may ask for the citizen to hold his or her comment on an agenda item until that agenda item is reached. Any response from a member of the convened Board to comments related to items not on the agenda is limited to a statement of specific factual information, a recitation of existing policy, or direction to staff to place the subject on the agenda for a future meeting.

RECOGNITION/PROCLAMATION

1. Juneteenth 2024 Proclamation
2. City of Alvarado TAMIO Awards

INTRODUCTION OF NEW EMPLOYEES

CONSENT AGENDA:

3. Consideration and action to approve minutes from the 5/20/24 City Council Meeting.
4. Consideration and action to approve Resolution R2024-0015 Authorizing Participation in TexPool Investment Pools and Designating Authorized Representatives.(Cox)
5. Consideration and action to approve Ordinance 2024-0009 amending section 16-125 of the City of Alvarado Code of Ordinances concerning fireworks. (Rodgers)
6. Consideration and action to approve Resolution R2024-0011 adopting the 2024 Johnson County Hazard Mitigation Plan. (Rodgers)

NEW BUSINESS:

7. Presentation from Christmas-In-Action. (Suber)
8. Consideration and action to approve changes to the Master Fee Schedule. (DeBuff)
9. Presentation of 22-2023 City of Alvarado Fiscal Audit Report. (Cox)
10. Consideration and action to receive and approve the City of Alvarado financial audit for Fiscal

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Year 2022-23. (Cox)

11. Consideration and action to approve Resolution R2024-0012, directing publication of notice of intention to issue combination tax and revenue certificates of obligation and declare its intention to reimburse itself for project-related payments made prior to the issuance of the Certificates.(Cox)
12. Presentation by Heath Haigood representing HUB International regarding recommendations for 2024-25 benefit plans. (Walls)
13. Consideration and action to approve authorizing the City Manager to enter into an agreement with HUB International for 2024-25 benefit plans. (Walls)
14. Consideration and action to approve Resolution R2024-0009 authorizing the creation of an employee benefit trust and authorize the City Manager to negotiate and approve a trust agreement governing the employee benefit trust. (Walls, Cox)
15. Consideration and action on the application of Chris Wall with JBI Partners, Inc. on behalf of GRBK Edgewood LLC & Century Land Holdings of Texas, LLC for approval of the Lone Oak Addition Phase 1 final plat on 70.219 acres known as tracts and portions of tracts out of the James B. Conger Survey, A-150, and the George S. McIntosh Survey, A-625, approximately addressed at 825 and 1029 CR 607.(French)
16. Presentation and guidance on refinishing Parkway Park Concrete benches. (DeBuff)
17. Consideration and action to approve Resolution R2024-0013 regarding accepting a grant for body armor. (May)
18. Consideration and action to approve Resolution R2024-0014 regarding a grant for crime victim assistance. (May)
19. Consideration and action to approve the Alvarado Public Library Advisory Board appointments. (P. Moore)
20. Consideration and action to appoint and reappoint members to the Zoning Board of Adjustment (ZBA). (French)

EXECUTIVE SESSION:

EXECUTIVE SESSION:

- Pursuant to the Texas Open Meetings Act, Chapter 551 of the Texas Government Code, the City Council may convene in executive session to deliberate regarding the following matters:
 - 1. § 551.071. Consultation with Attorney. The City Council may convene in executive session to conduct a private consultation with its attorney on any legally posted agenda item, when the City Council seeks the advice of its attorney about pending or contemplated litigation, a settlement offer, or on a matter in which the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the provisions of Chapter 551, including the following items: A.) Any item listed on the agenda.
 - 2. § 551.087. Deliberation regarding economic development negotiations. The City Council may convene in Executive to discuss or deliberate regarding commercial or financial information that the city has received from a business prospect that the city seeks to have locate, stay, or expand in or near the city and with which the city is conducting economic development negotiations; or to deliberate the offer of a financial or other incentive to a business prospect as described above.
 - A.) 200 Maple Ave.
 - B.) 118 Weaver St.

RECONVENE OPEN SESSION:

21. Reconvene into open session for possible action resulting from any items posted and legally

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discussed in Executive Session. (DeBuff)

COUNCIL COMMENTS:

Pursuant to LGC Section 551.0415, City Council Members may make a report about items of Community interest during a meeting of the governing body without having given notice of the report. Items of community interest may include, but not necessarily limited to any of the following:

- Expressions of thanks, congratulations, or condolence;
- Information regarding holiday schedules;
- An honorary or salutary recognition of a public official, public employee, or other citizen, except that a discussion regarding a change in the status of the person's public office of public employment is not an honorary or salutary recognition for purposes of this subdivision;
- A reminder about an upcoming event organized or sponsored by the governing body;
- Information regarding a social, ceremonial, or community event organized or sponsored by an entity other than the governing body that was attended or is scheduled to be attended by a member of the governing body or an official or employee of the municipality; and
- Announcements involving an imminent threat to the public health and safety of people in the municipality that has arisen after the posting of the agenda.

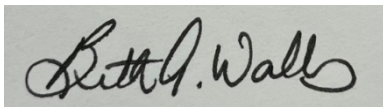
ACCESSIBILITY STATEMENT

The Alvarado City Hall and Council Chamber are wheelchair accessible. The exit and parking ramps are located in the front of the building. Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services such as interpreters for persons who are deaf or hearing impaired, readers, or large print, are requested to contact the City Secretary's Office at 817-790-3351, FAX: 817-783-7925, e-mail: wallsb@cityofalvarado.org Please call at least two (2) working days prior to the meeting so that appropriate arrangements can be made.

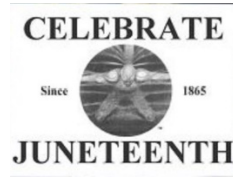
NON-DISCRIMINATION STATEMENT

The City of Alvarado does not discriminate on the basis of race, color, national origin, sex, religion, or disability in the employment or the provision of services.

I, the undersigned authority, do hereby certify that the above Agenda was posted on the bulletin board in the City Hall of the City of Alvarado, Texas, a place convenient and readily accessible to the general public at all times, and said Agenda was posted on June 14, 2024, at 6:00 p.m. and remained so posted continuously for at least 72 hours preceding the scheduled time of said meeting.



Beth A Walls, TRMC, IPMA-SCP, CPM
City SecretaryHRD



CITY OF ALVARADO PROCLAMATION

Juneteenth National Freedom Day: A Day of Observance.

June 19, 2024

WHEREAS, after the Union Army captured New Orleans in 1862, slave owners in Confederate states migrated to Texas with more than 150,000 enslaved Black persons. For three years, even after President Abraham Lincoln issued the Emancipation Proclamation, enslaved Black Americans in Texas remained in brutal bondage, immorally and illegally deprived of their freedom and basic dignity; and

WHEREAS, on June 19, 1865 — over two years after President Lincoln declared all enslaved persons free — Union Army troops marched to Galveston, Texas, to enforce the Emancipation Proclamation and free the last enslaved Black Americans in Texas; and

WHEREAS, those who were freed from bondage celebrated their long-overdue emancipation on June 19. Today, our Nation commemorates Juneteenth: a chance to celebrate human freedom, reflect on the grievous and ongoing legacy of slavery, and rededicate ourselves to rooting out the systemic racism that continues to plague our society as we strive to deliver the full promise of America to every American; and

WHEREAS, the post-emancipation period known as Reconstruction (from 1865-1877) marked an era of great hope, uncertainty, and struggle for the nation as a whole. Formerly enslaved people immediately sought to reunify families, establish schools, run for political office, push radical legislation, and sue slaveholders for compensation; and

WHEREAS, celebration of the end of slavery, which became known as Juneteenth, is the oldest known public celebration of the end of slavery in the United States; and

WHEREAS, Juneteenth commemorates African American freedom and celebrates the successes gained through education and greater opportunity; and

WHEREAS, on a larger scale, celebration of Juneteenth reminds each of us of the precious promises of freedom, equality, and opportunity which are at the core of the American Dream.

NOW, THEREFORE, I, Jacob Wheat, Mayor of the City of Alvarado, along with the Alvarado City Council Members, do hereby proclaim June 19, 2024 as “Juneteenth National Freedom Day: A Day of Observance.” urge all citizens to join in this celebration.

Jacob Wheat, Mayor

Carrie Keeton, Ward 1
Ward 3

Lydia Moon, Ward 2

Kevin Thomas,

Beverly Short, Ward 1

Cherry Bryant, Ward 2

Scott Arthur, Ward 3



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Mikaela Hall, Communications Manager

Phone: 817-790-3351, ext. 137

AGENDA ITEM: Presentation on the City of Alvarado's 2024 Texas Association of Municipal Information Officers (TAMIO) Conference Wins

BACKGROUND AND FINDINGS: The 2024 Texas Association of Municipal Information Officers conference was held in San Antonio, Texas, from June 5-7. This conference marked the organization's 50th year of furthering education and networking for attendees as well as celebrating communications excellence across municipalities in Texas. Mikaela Hall, Communications Manager, not only attended the conference, but presented during the conference about what it takes to manage social media as a "small shop" – a team of two or less employees.

The conference mostly consists of sessions to better understand marketing and communications topics, but at the end of the conference, there is a competition for many communications categories. Over 100 cities in Texas of varying populations and staff sizes participate in this conference every year, with this year holding the record for most entries submitted across a multitude of competition categories (over 600 entries).

The City of Alvarado submitted work into three categories and was a finalist in two of them. Alvarado won a TAMI Award, the highest honor, in the Best Marketing PSA category (Population Break: 75K Residents) and won an Award of Excellence in the Best Use of Humor Category (Population Break: 50K Residents) for the "Fix the Dang Roads" video that introduced the new Street Corner page on the website. The video introducing our new informative webpage was filmed in an astonishing nine minutes by Phillip Contreras.

With this video reaching nearly 36,000 people on social media across the country and garnering over 450 likes and 100, mostly positive, comments, it was regarded highly for its transparent, effective, authentic, and certainly creative communication. In addition, this video was written about in Good Government Files, a newsletter written by Will Hampton, former TAMIO president.

The TAMIO conference put Alvarado on the "communications" map. Thank you to everyone that gave time and effort into preparing the information for the Street Corner page, helped film the video, and made this happen.

FINANCIAL IMPACT: N/A

MANAGEMENT REVIEW: N/A

ATTACHMENTS: N/A

CITY OF ALVARADO
County of Johnson
State of Texas
05/20/2024
City Council Minutes

The City Council of the City of Alvarado met in Regular Called Session on Monday, May 20, 2024 at 6:30 p.m. The following were present for roll call:

Name	Title	Present	Absent	Excused
Jacob Wheat	Mayor	X		
Michael Bennett	Council Ward 1	X		
Carrie Keeton	Council Ward 1 elect	X		
Beverly Short	Council Ward 1	X		
Lydia Moon	Mayor Pro-Tem Ward 2	X		
Cherry Bryant	Council Ward 2	X		
Scott Arthur	Council Ward 3	X		
Kevin Thomas	Council Ward 3	X		

Others Present:

Paul DeBuff	City Manager
Beth A Walls	City Secretary
Jessica Hill	Deputy City Secretary
Laura Cox	Chief Financial Officer
Jennifer Drysdale	City Attorney
Donielle Suber	Director of Administrative Services
Justin French	Community Dev. Director
Hillary Cromer	Economic Dev. Director
Paula Hardison	Director Billing/Accounting
John Rodgers	Fire Chief
Precious Moore	Library Director
Teddy May	Police Chief
Ben Moore	Asst. Police Chief
Michael Duggins	Public Works Director
Mikaela Hall	Communications Manager

Mayor Jacob Wheat call the meeting to order at 6:34 p.m. and Scott Arthur gave the invocation.

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS-

Jameye Jones – Thank you to FD and PD for a successful Safety Day. Heart of Hearts Quarter Auction scheduled for Saturday, June 8th.

Martha Dean – Johnson County Master Gardeners & Tri County Master Naturalist presenting Save the Monarchs at the library Tuesday, June 4th.
Naveen Khammampati – The Hillcrest at Alvarado development.

CONSENT AGENDA:

- 1. **CONSIDERATION AND ACTION TO APPROVE THE MINUTES OF THE 04/15/2024 REGULAR CITY COUNCIL MEETING.**
- 2. **CONSIDERATION AND ACTION TO APPROVE THE MEETING MINUTES OF THE 04/25/2024 MEETING BETWEEN THE CITY OF ALVARADO CITY COUNCIL, THE EDC BOARD, AND THE P&Z COMMISSION ON THURSDAY, APRIL 25, 2024.**

Motion was made by Kevin Thomas and seconded by Beverly Short to approve the Consent Agenda.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

NEW BUSINESS:

- 3. **CONSIDERATION AND ACTION TO APPROVE ORDINANCE 2024-0008 CANVASSING RETURNS AND DECLARING RESULTS OF THE GENERAL AND SPECIAL ELECTION HELD ON MAY 4, 2024 TO ELECT COUNCIL MEMBER WARD 2, PLACE 2 AND PROPOSITION A, REAUTHORIZING STREET MAINTENANCE SALE TAX. (WALLS)**

COUNCIL MEMBER WARD 2, PLACE 2

Candidate	Early Voting/Mail-In	Election Day	Total	Percentage
Lydia Moon	26	11	37	77.09%
Barron Blakeney	3	1	4	8.34%
No Vote	4	3	7	14.57%

PROPOSITION A – REAUTHORIZATION STREET MAINTENANCE TAX

Proposition A	Early Voting/Mail-In	Election Day	Total	Percentage
For	73	53	126	85.72%
Against	11	10	21	14.28%

Motion was made by Lydia Moon and seconded by Keven Thomas to approve Ordinance 2024-0008 canvassing returns and declaring results of the General and Special Election held on May 4, 2024 to elect Council Member Ward 2, Place 2 and Proposition A, reauthorizing Street Maintenance Sale Tax.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

4. RECOGNITION OF SERVICE FOR COUNCIL MEMBER MICHAEL BENNETT. (WALLS)

No action necessary.

5. SWEARING IN OF NEWLY ELECTED COUNCIL MEMBERS. (WALLS)

No action necessary.

6. CONSIDERATION AND ACTION TO APPOINT ONE COUNCILMEMBER AS MAYOR PRO TEM WHO SHALL HOLD OFFICE FOR ONE (1) YEAR AS SET FORTH IN SECTION 3.08 OF THE ALVARADO CITY CHARTER. (WHEAT)

Motion was made by Cherry Bryant and seconded by Beverly Short to appoint Council Member Lydia Moon as Mayor Pro Tem who shall hold office for one (1) year as set forth in section 3.08 of the Alvarado City Charter.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

7. EMPLOYEE OF THE QUARTER - 1Q (WALLS)

No action necessary. Precious Moore, Library Director, was presented with an appreciation gift for being nominated as Quarter 1 Employee of the Quarter.

8. PUBLIC HEARING, CONSIDERATION AND ACTION TO APPROVE RESOLUTION NO. R2024-0010 AUTHORIZING THE CREATION OF THE AGAVE TRAIL PUBLIC IMPROVEMENT DISTRICT, APPROXIMATELY 117.18 ACRES OF LAND GENERALLY LOCATED EAST OF N. CUMMINGS DRIVE AND SOUTH OF CR 508. (AGAVE TRAIL) (FRENCH)

Mayor Jacob Wheat opened the Public Hearing at 6:53 p.m.

Jeff Gulbas addressed the council.

BACKGROUND & FINDINGS: The City previously approved the Agave Trail Planned Development District on November 20, 2023, and conditionally approved the Agave Trail Addition preliminary plat on February 19, 2024.

FINANCIAL IMPACT: None

RECOMMENDATION: Staff recommends City Council action on Resolution No. R2024-0010.

Mayor Jacob Wheat closed the Public Hearing and reconvened into Regular Session at 6:55 p.m.

Motion was made by Lydia Moon and seconded by Scott Arthur to approve Resolution No. R2024-0010 authorizing the creation of the Agave Trail Public Improvement District.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

9. CONSIDERATION AND ACTION TO APPROVE LONE OAK REIMBURSEMENT AGREEMENT, PHASE 1. (LONE OAK) (FRENCH)

BACKGROUND & FINDINGS: This agreement is entered into by GRBK Edgewood, LLC and Century Land Holdings of Texas, LLC (the “developer”) and the City of Alvarado for the purpose of payment from City-collected Public Improvement District (PID) funds to the developer for labor, materials, fees, and/or other general costs related to creation, acquisition, or construction of certain Authorized Improvements related to the Lone Oak Public Improvement District.

FINANCIAL IMPACT: None

RECOMMENDATION: Staff recommends City Council take action on the Lone Oak Reimbursement Agreement.

Motion was made by Lydia Moon and seconded by Beverly Short to approve Lone Oak Reimbursement Agreement, Phase 1 as written.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

10. CONSIDERATION AND ACTION TO APPROVE THE APPLICATION OF CHRIS WALL WITH JBI PARTNERS, INC. ON BEHALF OF GRBK EDGEWOOD LLC & CENTURY LAND HOLDINGS OF TEXAS, LLC FOR APPROVAL OF THE LONE OAK ADDITION PHASE 1 FINAL PLAT ON 70.219 ACRES KNOWN AS TRACTS AND PORTIONS OF TRACTS OUT OF THE JAMES B. CONGER SURVEY, A-150, AND THE GEORGE S. MCINTOSH SURVEY, A-625, APPROXIMATELY ADDRESSED AT 825 AND 1029 CR 607. (LONE OAK ADDITION, PH. 1) (FRENCH)

BACKGROUND & FINDINGS: The final plat application was submitted and deemed administratively complete on April 22, 2024. Per Section 34-36(d), the City Council shall: (1) Act within 30 days after the filing of final plat, (2) Conclude one of the following:

- a. Approve.
- b. Approve with conditions.
- c. Disapprove with reasons.

The Future Lane Use (FLU) map within the Alvarado Comprehensive Plan designates the subject site for Low Density Residential. The proposed plat is consistent with the City’s FLU map but the final plat shall not be recorded unless and until all requirements of the subdivision regulations have been complied with and until such stipulations as may be set by the City council have been met.

FINANCIAL IMPACT: None

RECOMMENDATION: On May 20, 2024, the P&Z Commission by a 5-0 vote recommended Council disapprove because of the comments in the attached recommended disapproval letter.

Motion was made by Lydia Moon and seconded by Beverly Short to disapprove the application for Lone Oak Addition Phase 1 final plat based on the comments included in the provided disapproval letter, per section 34-36(d) of the subdivision ordinance.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

11. CONSIDERATION AND ACTION ON THE APPLICATION OF HEATH VOYLES WITH WESTFALL ENGINEERING ON BEHALF OF SHAW DEVELOPMENT GROUP, LLC FOR APPROVAL OF THE PARKVIEW AT ALVARADO APARTMENTS ADDITION PRELIMINARY PLAT ON 29.021 ACRES KNOWN AS TRACT 161 IN THE I. GLAZE SURVEY, A-313, TRACT 29A IN THE J. DIXON SURVEY, A-214, AND TRACT 1A IN THE J. M. ROSS SURVEY, A-737, APPROXIMATELY ADDRESSED AT 600 N. PARKWAY DRIVE. (ALVARADO APT. ADDITION, PRELIMINARY PLAT) (FRENCH)

BACKGROUND & FINDINGS: The preliminary plat application was submitted and deemed administratively complete on April 17, 2023, then recommended for disapproval by the Planning and Zoning Commission on May 9, 2023. The applicant then requested that action on preliminary plat be tabled prior to City Council consideration and has now resubmitted to address the reasons for the recommendation of disapproval. Per Section 34-34(c) of the subdivision ordinance, City Council must: (1) Act within 30 days after the filing of preliminary plat, (2) Submit one of the following recommendations to the City Council.

- a. Approve.
- b. Approve with conditions.
- c. Disapprove with reasons.

The Future Lane Use (FLU) map within the Alvarado Comprehensive Plan designates the north portion of the subject site for Local Business with Medium Density Residential behind. The west side of the subject site is primarily Floodplain with a smaller portion designated Interstate Business having frontage to N. Parkway Drive (aka IH 35W Business Route). On April 4, 2022, City Council approved a rezoning of the site to the Planned Development (PD) District, and the rezoning in effect amended the Medium Density Residential on the Future Land Use map to High Density Residential. Staff finds the preliminary plat to comply with the minimum standards of the Alvarado subdivision ordinance and all other ordinances with the exceptions being stated in the attached recommended conditional approval letter.

FINANCIAL IMPACT: None

RECOMMENDATION: On May 16, 2024, the P&Z Commission by a vote of 5-0 recommended Council approve with conditions listed in the attached recommended conditional approval letter.

Motion was made by Lydia Moon and seconded by Kevin Thomas to approve the application for Parkview at Alvarado Apartments addition preliminary plat with the conditions stated in the conditional approval letter provided, per section 34-34© of the subdivision ordinance.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

12. CONSIDERATION AND ACTION TO RESCIND PREVIOUSLY AWARDED BID TO REYNOLDS ASPHALT FOR JAMES ST. & S. BAUGH. (DWIGGINS)

Motion was made by Lydia Moon and seconded by Cherry Bryant to rescind the original bid of \$82,586.00 awarded to Reynolds Asphalt for James St. & S. Baugh and readvertise with warranty.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

13. CONSIDERATION AND ACTION TO AUTHORIZE THE ECONOMIC DEVELOPMENT DIRECTOR TO NEGOTIATE AND EXECUTE A \$5,000.00 GRANT FOR PROMOTIONAL PARTNERSHIP WITH BLOSSOMS ON THE SQUARE, LOCATED AT 101 S. FRIOU STREET. (CROMER)

BACKGROUND AND FINDINGS: The Alvarado Economic Development Corporation (AEDC) is committed to promoting Alvarado as a thriving community for business development and expansion. As part of our strategic efforts to bolster the visibility of the city and attract new business ventures, the AEDC is proposing a Promotional Partnership grant to Blossoms on the Square, a local business located in the heart of the Downtown Square.

As part of the partnership, Blossoms on the Square will engage in a variety of promotional activities that will increase the city's exposure, including:

- Displaying a promotional poster in their storefront.
- Installing an a-frame sign outside their storefront.
- Sharing agreed-upon content on their social media platforms.
- Creating a local printed advertisement in a magazine or newspaper.

RECOMMENDATION: Staff recommends City Council grant of \$5,000 to Blossoms on the Square to provide much-needed assistance and support to their continued operation and growth. Staff also believe this will show businesses that the City is ready to invest in the revitalization of downtown where this business is located.

Motion was made by Lydia Moon and seconded by Scott Arthur to authorize the Economic Development Director to negotiate and execute a \$5,000.00 grant for Promotional Partnership with Blossoms on the Square.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

14. CONSIDERATION AND ACTION TO AUTHORIZE THE DIRECTOR OF ECONOMIC DEVELOPMENT TO EXECUTE 380 AGREEMENT BETWEEN THE CITY OF ALVARADO, AEDC, AND ATWOOD DISTRIBUTING, L.P. FOR THE DEVELOPMENT OF AN ATWOODS RANCH & HOME RETAIL STORE. (CROMER)

BACKGROUND AND FINDINGS: Atwoods, a well-established retail business specializing in home and ranch products, has expressed interest in expanding its operations to Alvarado. The proposed project involves purchasing the property located at 1011 N. Cummings Drive, a currently vacant parcel of land, and constructing a new 63,000 square foot retail store with 30 to 40 employees. As part of the agreement, Atwoods commits to starting construction within 12 months of the execution of the agreement. The project represents a significant capital investment, with Atwoods planning to invest \$5,000,000 in the development of the store and related infrastructure. This investment will not only transform a vacant property into a bustling commercial site but will also contribute to the city's tax base, providing additional revenue for essential public services and future economic development projects.

On May 16, the AEDC board voted in favor of authorizing the Director of Economic Development to execute a 380 Agreement between the City of Alvarado, AEDC and Atwood Distributing, LP for

development of an Atwoods retail store in Alvarado. The terms outline that Atwoods would receive an annual 50% structured sales tax rebate, with a maximum of \$400,000, over a period of five (5) years.

RECOMMENDATION: City staff and the AEDC board of directors recommend that City Council consider and take action to authorize the Director of Economic Development to execute a 380 Agreement between the City of Alvarado, AEDC, and Atwood Distributing, LP for the development of an Atwoods Ranch & Home Goods retail store on the property located at 1011 N Cummings Drive and to include an annual 50% sales tax rebate, with a maximum of \$400,000, over a period of five (5) years. In addition, City staff and the board recommend that the entire amount rebated to Atwoods be funded by the AEDC.

Motion was made by Lydia Moon and seconded by Beverly Short to authorize the Director of Economic Development to execute 380 Agreement between the City of Alvarado, AEDC, and Atwood Distributing, L.P. to include an annual 50% sales tax rebate, with a maximum of \$400,000.00 over a period of 5 years; and that the entire amount rebated to Atwoods over the 5 years be funded by the EDC.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

15. CONSIDERATION AND ACTION TO APPROVE THE ALVARADO ECONOMIC DEVELOPMENT CORPORATION'S AMENDED AND RESTATED BYLAWS. (CROMER)

BACKGROUND AND FINDINGS: The original Alvarado Economic Development Corporation (AEDC) bylaws were adopted by the Board of Directors on April 16, 2001, and subsequently by the City Council on April 23, 2001. Since then, to the best of staff's knowledge, these bylaws have remained unchanged for over two decades. In 2023, staff engaged legal counsel to review the existing bylaws and propose amendments to ensure alignment with current laws and regulations.

One of the key clarifications in the revised bylaws is the residency requirement for board members: individuals must either live in Johnson County or within 10 miles of the city's boundaries, provided that they also reside in a county adjacent to Johnson County. Additionally, the updated bylaws confirm that three directors must be individuals who are neither employees, officers, nor members of the City Council. Board members are appointed to serve two-year terms, with the option to be reappointed at the end of each term. Furthermore, the amended bylaws include a new Article V that outlines the procedures for managing conflicts of interest, promoting nondiscrimination, and protecting confidential information.

RECOMMENDATION: Staff recommends that City Council approve the Alvarado Economic Development Corporation's amended and restated bylaws.

Motion was made by Lydia Moon and seconded by Beverly Short to approve the Alvarado Economic Development Corporation's amended and restated bylaws.

This motion supported votes 5 in approval and 1 vote opposed. Motion carried.

16.

17. STEP GRANT PRESENTATION. (MAY)

No action necessary. Ben Moore, Assistant Police Chief, presented to the council.

18. PRESENTATION AND DISCUSSION REGARDING PAINTING THE CONCRETE TABLES AT PARKWAY PARK. (DEBUFF)

No action necessary. It was decided to paint the concrete tables a natural color. If paint is determined to be damaging to the stone, the council requested the item be brought back for consideration.

EXECUTIVE SESSION:

Mayor Wheat declared Council to be in Executive Session at 7:43 p.m. and reconvened to Regular Session at 8:37 p.m.

19. CONSIDERATION AND ACTION TO AUTHORIZE THE CITY MANAGER TO EXECUTE THE UNIMPROVED PROPERTY CONTRACT BETWEEN AGAVE DEVELOPMENT GROUP LLC AND THE CITY OF ALVARADO.

Lydia Moon moved, seconded by Kevin Thomas to authorize the City Manager to execute the unimproved property contract between Agave Development Group LLC and the city of Alvarado as discussed in Executive Session.

This motion supported votes 6 in approval and 0 votes opposed. Motion carried.

There being no further business, Mayor Wheat adjourned the meeting at 8:38 p.m.

Passed and approved this the 17th day of June, 2024.

Mayor Jacob Wheat

Respectfully Submitted,

Beth A Walls, City Secretary/HRD



City Council Meeting Management Report

Meeting Date: Monday, June 17, 2024

Contact: Laura Cox, CFO

AGENDA ITEM:

Consideration and action to approve Resolution R2024-0015 Authorizing Participation in TexPool Investment Pools and Designating Authorized Representatives.

BACKGROUND AND FINDINGS:

The adoption of the Investment Policy in January 2024 added commercial paper as a permitted investment. Resultantly, the City can deposit funds in a TexPool Prime account. In order to open a TexPool Prime account from a TexPool account, a resolution is needed.

FINANCIAL IMPACT:

Accounts that are in TexPool Prime earn interest at a higher rate. Average Net Yield for May was 5.3161% for TexPool accounts and 5.4549% for TexPool Prime. We will be able to move funds to the new TexPool Prime account number once it has been created.

RECOMMENDATION:

Staff recommends approval of this item

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

1. Resolution R2024-0015 Authorizing Participation in TexPool Investment Pools and Designating Authorized Representatives
2. TexPool Investment Pools Participation Agreement
3. Pool Information for May 2024



Welcome to TexConnect


[Deposit
Reports](#)
[Withdrawal
Report Scheduler](#)
[Transfer
Report Access](#)
[Multi Transaction
Statements
Help / Contact Us](#)
[Vendor Payment
Inquiry
Update Profile](#)
[Maintenance
Change Location
Logout](#)

Pool Information

Location: 77858
City of Alvarado

TexPool

Average Daily Net Yield for May	5.3161%
Average Dividend Factor for May	0.000145646
Information as of	June 11, 2024
Daily Net Yield	5.3087%
Dividend Factor	0.000145445
7 Day Net Yield	5.31%
Daily Assets	\$34,747,228,481.69
Weighted Average Maturity	37 days
Weighted Average Life	90 days
NAV	0.999883

TexPool Prime

Average Daily Net Yield for May	5.4549%
Average Dividend Factor for May	0.000149449
Information as of	June 11, 2024
Daily Net Yield	5.4649%
Dividend Factor	0.000149722
7 Day Net Yield	5.46%
Daily Assets	\$14,126,472,372.03
Weighted Average Maturity	45 days
Weighted Average Life	81 days
NAV	0.99990

Contact Information

Participant Services 1-866-839-7665

Performance quoted represents past performance which is no guarantee of future results. Investment return will vary. The value of an investment when redeemed may be worth more or less than

the original cost. Current performance may be higher or lower than what is stated.

For more complete information, see the TexPool Investment Policy and Information Statement available on the TexPool web site, www.texpool.com. You should consider the investment's objectives, risks, charges, and expenses carefully before investing. Information about these and other important subjects is in the Investment Policy and Information Statement which you should read carefully before investing.

An investment in the Pool is not insured or guaranteed by any government or government agency. Although the manager of the Pool seeks to preserve the principal, it is possible to lose money by depositing money in the Pool.



Resolution Authorizing Participation in the TexPool Investment Pools and Designating Authorized Representatives

WHEREAS, CITY OF ALVARADO

("Participant") is a local government or state agency of the State of Texas and is empowered to delegate to the public funds investment pools the authority to invest funds and to act as custodian of investments purchased with local investment funds; and

WHEREAS, it is in the best interest of the Participant to invest local funds in investments that provide for the preservation and safety of principal, liquidity, and yield consistent with the Public Funds Investment Act; and

WHEREAS, the Texas Local Government Investment Pools ("TexPool/TexPool Prime"), public funds investment pools, were created on behalf of entities whose investment objectives in order of priority are preservation and safety of principal, liquidity, and yield consistent with the Public Funds Investment Act.

NOW THEREFORE, be it resolved as follows:

- A. That Participant shall enter into a Participation Agreement to establish an account in its name in TexPool/TexPool Prime, for the purpose of transmitting local funds for investment in TexPool/TexPool Prime.
- B. That the individuals, whose signatures appear in this Resolution, are authorized representatives of the Participant and are each hereby authorized to transmit funds for investment in TexPool/TexPool Prime and are each further authorized to withdraw funds from time to time, to issue letters of instruction, and to take all other actions deemed necessary or appropriate for the investment of local funds.

Authorized Representatives of the Participant

These individuals will be issued P.I.N. numbers to transact business via telephone with a Participant Service Representative.

1.	Signature <u>Laura Cox</u> Printed Name <u>Chief Financial Officer</u> Title	<u>8 1 7 7 9 0 3 3 5 1</u> Telephone Number <u>8 1 7 7 8 3 7 9 2 5</u> Fax Number <u>cox1@cityofalvarado.org</u> Email
2.	Signature <u>Paula Hardison</u> Printed Name <u>Accounting/Billing Director</u> Title	<u>8 1 7 7 9 0 3 3 5 1</u> Telephone Number <u>8 1 7 7 8 3 7 9 2 5</u> Fax Number <u>hardisonp@cityofalvarado.org</u> Email
3.	Signature Printed Name Title	Telephone Number Fax Number Email
4.	Signature Printed Name Title	Telephone Number Fax Number Email

Authorized Representatives of the Participant (continued)

5.		
	Signature	Telephone Number
	Printed Name	Fax Number
	Title	Email
6.		
	Signature	Telephone Number
	Printed Name	Fax Number
	Title	Email

List the name of the Authorized Representative provided above that will have primary responsibility for performing transactions and receiving confirmations and monthly statements under the Participation Agreement.

Paula Hardison
Printed Name

In addition and at the option of the Participant, additional authorized representative(s) can be designated to perform inquiry only of selected information. This limited representative cannot make deposits or withdrawals. If the Participant desires to designate a representative with inquiry rights only, complete the following information.

1.	Paul DeBuff	City Manager
	Printed Name	Title
	Telephone Number	Fax Number
		Email
		debuffp@cityofalvarado.org
2.		
	Printed Name	Title
	Telephone Number	Fax Number
		Email
3.		
	Printed Name	Title
	Telephone Number	Fax Number
		Email
4.		
	Printed Name	Title
	Telephone Number	Fax Number
		Email
5.		
	Printed Name	Title
	Telephone Number	Fax Number
		Email
6.		
	Printed Name	Title
	Telephone Number	Fax Number
		Email

Authorized Representatives of the Participant (continued)

C. That this resolution and its authorization shall continue in full force and effect until amended or revoked by the Participant, and until TexPool/TexPool Prime receives a copy of any such amendment or revocation.

This resolution is hereby introduced and adopted by the Participant at its regular/special meeting held on the

day of , 2 0 .

Document is to be signed by a Board Officer, Mayor or County Judge and attested by a Board Officer, City Secretary or County Clerk.

Name of Participant

SIGNED:

Signature

Jacob Wheat

Printed Name

Mayor

Title

ATTEST:

Signature

Beth Walls

Printed Name

Human Resources Director/City Secretary

Title

Delivery Instructions

Please return this document to **TexPool Participant Services:**

Email: texpool@dstsystems.com

Fax: 866-839-3291



TexPool Investment Pools Participation Agreement

Preamble

This participation agreement (the "**Agreement**") is made and entered into by and between the Comptroller of Public Accounts (the "**Comptroller**"), acting through the Texas Treasury Safekeeping Trust Company (the "**Trust Company**"), Trustee of the Texas Local Government Investment Pool (TexPool) and TexPool Prime, (collectively the "**TexPool Investment Pools**"), and
CITY OF ALVARADO (the "**Participant**").

WHEREAS, the Interlocal Cooperation Act, TEX GOV'T CODE ANN, ch. 791 and the Public Funds Investment Act, TEX. GOV'T CODE ANN. ch. 2256 (the "**Acts**") provide for the creation of a public funds investment pool to which any local government or state agency may delegate, by contract, the authority to hold legal title as custodian and to make investments purchased with local funds;

WHEREAS, the Trust Company is a special purpose trust company authorized pursuant to TEX. GOV'T CODE ANN. § 404.103 to receive, transfer and disburse money and securities belonging to state agencies and local political subdivisions of the state and for which the Comptroller is the sole officer, director and shareholder;

WHEREAS, TexPool and TexPool Prime are public funds investment pools, which funds are invested in certain eligible investments as more fully described hereafter;

WHEREAS, the Participant has determined that it is authorized to invest in a public funds investment pool created under the Acts and to enter into this Agreement;

WHEREAS, the Participant acknowledges that the Trust Company is not responsible for independently verifying the Participant's authority to invest under the Acts or to enter this Agreement;

WHEREAS, the Participant acknowledges that the performance of TexPool Investment Pools is not guaranteed by the State of Texas, the Comptroller, or the Trust Company and that there is no secondary source of payment for the TexPool Investment Pools; and

WHEREAS, in an effort to ensure the continued availability of an investment pool as a vehicle for investment of local government funds and simultaneously provide for enhancement in services and potential decreases in management and administrative fees, Participant and Trust Company desire to provide in this Agreement that the Trust Company may obtain private professional investment management and related services.

NOW THEREFORE, for and in consideration of the mutual promises, covenants and agreements herein contained, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree with each other as follows:

Article I: Definitions

"Account" shall mean any account or accounts, established by the Participant in TexPool Investment Pools in accordance with this Agreement and the Operating Procedures (as defined herein), which Account represents an undivided beneficial ownership in TexPool Investment Pools.

"Authorized Investments" shall mean those investments which are authorized by the Investment Act (as herein defined) for investment of public funds.

"Authorized Representative(s) of the Participant" shall mean any individual who is authorized to execute documents and take such other necessary actions under this Agreement as evidenced by the duly enacted Resolution of the Participant.

"Authorized Representative(s) of the Trust Company" shall mean any employee of the Comptroller or Trust Company who is designated in writing by the Comptroller or the Trust Company's Chief Executive Officer to act as the authorized Trust Company representative for purposes of this Agreement and shall include employees of any private entity performing the obligations of the Comptroller under this Agreement.

"Board" shall mean the advisory board provided for in the Investment Act (as defined below).

"Investment Act" shall mean the Public Funds Investment Act, TEX. GOV'T CODE ANN. ch. 2256, as amended from time to time.

"Investment Policy" shall mean the written TexPool Investment Pools Investment Policies, as amended from time to time, relating to the investment and management of funds in TexPool Investment Pools as established by the Trust Company consistent with the Investment Act.

"Letter of Instruction" shall mean a written authorization and direction to the Trust Company signed by an Authorized Representative of the Participant.

Article I: Definitions (continued)

"Operating Procedures" shall mean the written procedures established by the Trust Company describing the management and operation of TexPool Investment Pools, and providing for the establishment of, deposits to and withdrawals from the Accounts, as amended from time to time.

"Participant" shall mean any entity authorized by the Acts to participate in a public funds investment pool that has executed this Agreement pursuant to a Resolution.

"Resolution" shall mean the resolution adopted by the governing body of a local governmental entity authorizing the entity's participation in TexPool Investment Pools and designating persons to serve as Authorized Representatives of the Participant.

Article II: General Administration

Section 2.01. TexPool Investment Pools Defined.

- (a) TexPool Investment Pools are public funds investment pools created pursuant to the Acts.
- (b) Subject to Section 6.10, the Trust Company agrees to manage the Participant's Account(s) in accordance with the Investment Act and the Investment Policy.

Section 2.02. Board.

- (a) The Board is composed of members appointed pursuant to the requirements of the Investment Act.
- (b) The Board shall advise the Trust Company on the Investment Policy and on various other matters affecting TexPool Investment Pools, and shall approve fee increases.

Section 2.03. General Administration.

- (a) The Trust Company shall establish and maintain the Investment Policy specifically identifying the Authorized Investments consistent with the Investment Act and the general policy and investment goals for TexPool Investment Pools.
- (b) The Trust Company shall establish and maintain the Operating Procedures, describing the management and operation of TexPool Investment Pools and providing for procedures to be followed for the establishment of, deposits to, and withdrawals from the Accounts and such other matters as are necessary to carry out the intent of this Agreement.
- (c) The Trust Company shall have the power to take any action necessary to carry out the purposes of this Agreement, subject to applicable law and the terms of this Agreement.

Section 2.04. Ownership Interest. Each Participant shall own an undivided beneficial interest in the assets of TexPool Investment Pools in an amount proportional to the total amount of such Participant's Accounts relative to the total amount of all Participants' Accounts in TexPool Investment Pools, computed on a daily basis.

Section 2.05. Independent Audit. TexPool Investment Pools are subject to annual review by an independent auditor consistent with Ch. 2256, TEX GOV'T CODE ANN. In addition, reviews of TexPool Investment Pools may be conducted by the State Auditor's Office and the Comptroller's office. The Trust Company may obtain such legal, accounting, financial or other professional services as it deems necessary or appropriate to assist TexPool Investment Pools in meeting its goals and objectives.

Section 2.06. Liability. Any liability of the Comptroller, the Comptroller's office, the Trust Company, representatives or agents of the Trust Company, any Comptroller employee, Trust Company or any member of the Board for any loss, damage or claim, including losses from investments and transfers, to the Participant shall be limited to the full extent allowed by applicable laws. The Trust Company's responsibilities hereunder are limited to the management and investment of TexPool Investment Pools and the providing of reports and information herein required.

Article III: Participant Requirement

Section 3.01. The Participation Agreement. The Participant must execute this Agreement and provide a Resolution authorizing participation in TexPool Investment Pools and designating persons to serve as Authorized Representatives of the Participant and any other documents as are required under, and substantially in the form prescribed by, the Operating Procedures before depositing any funds into TexPool Investment Pools. The Participant must provide an updated Resolution designating Authorized Representatives within 5 business days of the departure of any Authorized Representative of the Participant.

Section 3.02. Operating Procedures.

- (a) The Participant acknowledges receipt of a copy of the Operating Procedures. The Operating Procedures describe in detail the procedures required for the establishment of accounts, deposits to and withdrawals from TexPool Investment Pools, and related information.
- (b) The Operating Procedures may be modified by the Trust Company as appropriate to remain consistent with established banking practices and capabilities and when such modification is deemed necessary to improve the operation of TexPool Investment Pools.
- (c) The Participant hereby concurs with and agrees to abide by the Operating Procedures.

Article IV: Investments

Section 4.01. Investments. All monies held in TexPool Investment Pools shall be invested and reinvested by the Trust Company or Authorized Representatives of the Trust Company only in Authorized Investments in accordance with the Agreement, the Investment Policy and the Investment Act. Participant hereby concurs with any such investment so made by the Trust Company. Available funds of TexPool Investment Pools that are uninvested may be held at the Trust Company's account at the Federal Reserve Bank of Dallas, or any designated custodian account, or with a custodian selected by the Trust Company. All investment assets and collateral will be in the possession of the Trust Company and held in its book-entry safekeeping account at the Federal Reserve Bank, any designated custodian account, or with a custodian selected by the Trust Company.

Section 4.02. Failed Investment Transaction. In the extraordinary event that a purchase of securities results in a failed settlement, any resulting uninvested funds shall remain in the Trust Company's Federal Bank of Dallas account, any designated custodian account or with a custodian selected by the Trust Company. If an alternative investment can be secured after the failure of the trade to settle, TexPool Investment Pools will receive all the income earnings, including but not limited to, any compensation from the purchaser failing in the trade and the interest income from the alternative investment.

Section 4.03. Investment Earnings and Losses Allocation. All interest earnings in TexPool Investment Pools will be valued daily and credited to the Participant's Accounts monthly, on a pro rata allocation basis. All losses, if any, resulting from the investment of monies in TexPool shall also be allocated on a pro rata allocation basis. All earnings and losses will be allocated to the Participant's Accounts in accordance with generally accepted accounting procedures.

Section 4.04. Commingling of Accounts. Participant agrees that monies deposited in TexPool and TexPool Prime, may be commingled with all other monies held in TexPool and TexPool Prime, respectively for purposes of common investment and operational efficiency. However, each Participant will have separate Accounts on the books and records of TexPool Investment Pools, as further provided for in the Operating Procedures.

Article V: Fees, Expenses and Reports

Section 5.01. Fees and Expenses. The Participant agrees to pay the amount set forth in the fee schedule. Participant agrees that all fees shall be directly and automatically assessed and charged against the Participant's Accounts. The basic service fee shall be calculated as a reduction in the daily income earned, thus only the net income shall be credited to the Participant's Account. Fees for special services shall be charged to each Participant's account as they are incurred or performed. A schedule of fees shall be provided to the Participant annually. Each Participant will be notified thirty (30) days prior to the effective date of any change in the fee schedule.

Section 5.02. Reports. A monthly statement will be mailed to the Participant within the first five (5) business days of the succeeding month. The monthly statement shall include a detailed listing of the balance in the Participant's Accounts as of the date of the statement; all account activity, including deposits and withdrawals; the daily and monthly yield information; and any special fees and expenses charged. Additionally, copies of the Participant's reports in physical or computer form will be maintained for a minimum of three prior fiscal years. All records shall be available for inspection at all reasonable hours of the business day and under reasonable conditions.

Section 5.03. Confidentiality. The Trust Company and any private entity acting on behalf of the Trust Company for purposes of this Agreement will maintain the confidentiality of the Participant's Accounts, subject to the Public Information Act, TEX GOV'T CODE ANN. ch. 552, as amended.

Article VI: Miscellaneous

Section 6.01. Notices. Any notices, Letters of Instructions or other information required or permitted to be given hereunder shall be submitted in writing and shall be deemed duly given when deposited in the U.S. mail postage prepaid or successfully transmitted via facsimile addressed to the parties as follows:

To the **Participant**:

CITY OF ALVARADO

Participant

104 W College St

Address

Alvarado TX 76009

City

State

Zip

8177903351 8177837925

Telephone

Fax

Article VI: Miscellaneous (continued)

To **Trust Company** with respect to contractual matters or disputes under this Agreement:

Texas Treasury Safekeeping Trust Company
Attn: TexPool Investment Pools
Rusk State Office Building
208 East 10th Street
Austin, TX 78701
Telephone: (512) 463-4300
FAX No.: (512) 463-4368

To **TexPool Investment Pools** with respect to operational matters, including enrollment documents; changes to Authorized Representatives; Bank Information Sheets; initiation of deposits or withdrawals of funds; changes to addresses; audit confirmation requests; and account inquiry:

TexPool Participant Services
1001 Texas Ave., Suite 1150
Houston, TX 77002
Telephone: 1-866-839-7665 (1-866-TEX-POOL)
FAX No.: 1-866-839-3291 (1-866-TEX-FAX1)

The Participant and the Trust Company agree to notify the other of any change affecting this information and agree that unless and until so notified, the other party shall be entitled to rely on the last information provided.

Section 6.02. Taxpayer Identification Number. The Participant's taxpayer identification number assigned by the Internal Revenue Service is: 75-6000443. The Participant hereby agrees to notify the Trust Company of any change affecting this Taxpayer Identification number and agrees that unless and until so notified, the Trust Company shall be entitled to rely on same in providing any and all reports or other information necessary or required by the Federal tax laws as amended from time to time.

Section 6.03. Severability. If any provision of this Agreement shall be held or deemed to be in fact illegal, inoperative or unenforceable, the same shall not affect any other provision or provisions herein contained or render the same invalid, inoperative or unenforceable to any extent whatsoever.

Section 6.04. Execution of Counterparts. This Agreement may be simultaneously executed in several separate counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 6.05. Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas. Venue for any dispute under this Agreement shall be in Travis County, Texas.

Section 6.06. Captions. The captions or headings in this Agreement are for convenience only and in no way defined, limit or describe the scope or intent of any provisions, articles or sections of this Agreement.

Section 6.07. Amendments.

- (a) The Trust Company shall advise the Participant in writing of any amendments to this Agreement no less than 45 days prior to the effective date of such amendment. The Participant may ratify the proposed amendment of this Agreement by letter to the Trust Company. If the Participant elects not to ratify the amendment, the Participant may terminate this Agreement in accordance with Section 6.08. In the event the Participant fails to respond in writing to a notice of amendment prior to the effective date of such amendment, this Agreement shall be deemed amended.
- (b) The Trust Company may periodically revise the Operating Procedures from time to time as it deems necessary for the efficient operation of TexPool Investment Pools. The Participant will be bound by any amendment to the Operating Procedures with respect to any transaction occurring subsequent to the time such amendment takes effect, provided, however, that no such amendment shall affect the Participant's right to cease to be a Participant.

Section 6.08. Termination. This Agreement may be terminated by either party hereto, with or without cause, by tendering 30 days prior written notice in the manner set forth in Section 6.01 hereof.

Section 6.09. Term. Unless terminated in accordance with Section 6.08, this Agreement shall be automatically renewed on each anniversary date hereof.

Section 6.10. Assignment. The Trust Company may enter into an agreement with a third party investment manager to perform its obligations and service under this Agreement, provided that such third party investment manager shall manage TexPool Investment Pools according to the Investment Act, Investment Policy and in a manner consistent with that directed by the Trust Company. The Trust Company also shall have the right to assign its rights and obligations under the Agreement to a third party investment manager if the Trust Company determines that such assignment is in the best interest of the State and Participants. In the event a successor pool to TexPool or TexPool Prime is deemed by the Trust Company to be in the best interest of the State and the Participant, the Trust Company may take any action it deems necessary to assign its rights and benefits under any third party agreements and transfer the assets from TexPool Investment Pools to any successor pool.

Article VI: Miscellaneous (continued)

In **Witness Whereof**, the parties hereto have caused this Agreement to be executed as of the dates set forth below, and the Agreement shall be effective as of the latest such date.

Document is to be signed by a Board Officer, Mayor or County Judge, Certificate of Incumbency is to be signed by a Board Officer, City Secretary or County Clerk.

CITY OF ALVARADO

Name of Participant

SIGNED:

Signature

Jacob Wheat

Printed Name

Mayor

Title

Date

TEXAS TREASURY SAFEKEEPING TRUST COMPANY
COMPTROLLER OF PUBLIC ACCOUNTS:

Signature

Printed Name

Title

Date

CERTIFICATE OF INCUMBENCY:

The preceding signatory is a duly appointed, acting, and qualified officer of the Participant, who, in the capacity set forth above is authorized to execute this Agreement.

IN WITNESS WHEREOF, I have duly executed this certificate as of the day of , 20.

Signature

Printed Name

Title

Delivery Instructions

Please return this document to **TexPool Participant Services:**

Email: texpool@dstsystems.com

Fax: 866-839-3291

CITY OF ALVARADO

ORDINANCE NO. 2024-0009

AN ORDINANCE OF THE CITY OF ALVARADO, TEXAS AMENDING SECTION 16-125, “DISCHARGING OF FIREWORKS,” OF ARTICLE V, “FIREWORKS,” OF CHAPTER 16, “FIRE PREVENTION AND PROTECTION,” OF THE ALVARADO CODE TO PROHIBIT DISCHARGE OF FIREWORKS WITHIN CITY LIMITS; PROVIDING THAT THIS ORDINANCE SHALL BE CUMULATIVE OF ALL ORDINANCES; PROVIDING A SEVERABILITY CLAUSE; PROVIDING A PENALTY FOR VIOLATION; PROVIDING A SAVINGS CLAUSE; PROVIDING FOR PUBLICATION AS REQUIRED BY LAW; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Alvarado, Texas, (“City”) is a home-rule municipality located in Johnson County, created in accordance with the provisions of Chapter 9 of the Local Government Code and operating pursuant to the enabling legislation of the State of Texas; and

WHEREAS, the City Council previously adopted regulations regarding the discharge of fireworks in the City; and

WHEREAS, pursuant to the recommendation from the City’s fire department, the City Council finds that the regulations should be amended to prohibit the discharge any fireworks within the incorporated limits of the City; and

WHEREAS, the City Council has determined that the amendments as set out herein will protect the health, safety, welfare of the citizens of the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ALVARADO, TEXAS, THAT:

SECTION 1.

All matters stated herein above are found to be true and correct and are incorporated by reference as if copied in their entirety.

SECTION 2.

Section 16-125, “Discharging of Fireworks,” of Article V, “Fireworks,” of Chapter 16, “Fire Prevention and Protection,” of the Alvarado Code is hereby amended to read as follows:

“§ 16-125 Discharging of fireworks.

Except as otherwise specifically provided in this Article, it shall be considered a nuisance and shall be unlawful for any person to use, discharge, cause to be discharged, detonate, shoot, fire or in any way set off or cause to be set off, firecrackers, Roman candles, torpedoes, sky rockets, or any other form of fireworks within the city limits of Alvarado.”

SECTION 3.

This Ordinance shall be cumulative of all provisions of ordinances and of the Alvarado Code, as amended, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances and such Code, in which event the conflicting provisions of such ordinances and such Code are hereby repealed.

SECTION 4.

It is hereby declared to be the intention of the City Council that the phrases, clauses, sentences, paragraphs, and sections of this Ordinance are severable, and if any phrase, clause sentence, paragraph or section of this Ordinance shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Ordinance, since the same would have been enacted by the City Council without the incorporation in this Ordinance of any such unconstitutional phrase, clause, sentence, paragraph, or section.

SECTION 5.

All rights and remedies of the City are expressly saved as to any and all violations of the provisions of the Alvarado Code amended or revised herein, or any other ordinances affecting the matters regulated herein which have accrued at the time of the effective date of this Ordinance; and, as to such accrued violations and all pending litigation, both civil and criminal, whether pending in court or not, under such ordinances, same shall not be affected by this Ordinance but may be prosecuted until final disposition by the courts.

SECTION 6.

The City Secretary of the City of Alvarado is directed to publish the caption and penalty clause of this Ordinance to the extent required by law.

SECTION 7.

Any person, firm, or corporation who violates, disobeys, omits, neglects, or refuses to comply with or who resists the enforcement of any of the provisions of this Ordinance shall be fined no more than Two Thousand Dollars and no cents (\$2,000.00) for each violation of this Ordinance. Each day that a violation is permitted to exist shall constitute a separate offense.

SECTION 8.

This ordinance shall be in full force and effect from and after its passage and publication as required by law, and it is so ordained.

PASSED AND APPROVED ON THIS 17 DAY OF JUNE, 2024.

THE HONORABLE JACOB WHEAT, MAYOR

ATTEST:

BETH A. WALLS, CITY SECRETARY

EFFECTIVE DATE: 06/17/2024



FEMA

May 23, 2024

Josh Davies, State Hazard Mitigation Officer
Texas Division of Emergency Management
P.O. Box 285
Del Valle, Texas 78617-9998

RE: Approvable Pending Adoption of the Johnson County, Texas Multi-Jurisdiction
Hazard Mitigation Plan
Funding Source: PDM; PDMC-PL-06-TX-0219-008

Dear Mr. Davies:

This office has concluded its review of the referenced plan, in conformance with the Final Rule on Mitigation Planning (44 CFR § 201.6). Formal approval of this plan is contingent upon the adoption by the participants on Enclosure A, as well as the receipt of the final draft of the plan containing all plan components.

Adopting resolutions must be submitted to this agency for review and approval no later than one year from the date of this letter. Failure to submit these resolutions in a timely manner could lead to a required update of the plan prior to FEMA approval.

Once this final requirement has been met, a letter of official approval will be generated. The Local Hazard Mitigation Planning Tool, with the reviewer's comments has been enclosed to further assist the jurisdictions in complying with planning requirements. If you have any questions, please contact David Freeborn, HM Community Planner, at (940) 898-5323.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ronald C. Wanhanen".

Ronald C. Wanhanen
Chief, Risk Analysis Branch

Enclosure: Participants

cc: Anne Lehnick

Participants

Attached is the list of participating local governments included in the May 23, 2024 review of the referenced Hazard Mitigation plan.

Community Name
1) Alvarado city
2) Burleson city
3) Cleburne city
4) Godley city
5) Johnson County
6) Joshua city
7) Keene city

Adoption Submittal (Final)

Following the issuance this of Approvable Pending Adoption letter, all participants are provided one year to adopt the plan and submit it through the State to FEMA. For multi-jurisdictional plans, multiple adoptions should be submitted as a complete package as outlined below.

The State must submit the plan files via:

Risk Management Directorate (RMD) SharePoint:

<https://rmd.msc.fema.gov/Regions/VI/Mitigation%20Planning/Forms/AllItems.aspx>

Note: You will be requested to register if you have not already done so.

All plans containing Protected Critical Infrastructure Information (PCII) must be submitted as an encrypted document with the password being sent separately in an email to ensure secure file submissions.

1. Final draft of the plan in MS Word or pdf format containing:
 - a. The final plan formatted as a single document.
 - b. Documentation demonstrating adoption by the participating jurisdictions seeking approval. (i.e. copies of signed resolutions, official meeting minutes, etc....) Note: Adoption resolutions can be separate files. Additional adoptions are not required to provide a copy of the plan.
 - c. Remove strikethroughs, highlights and all Track Changes must be accepted in the final plan.
2. Send an email addressed to r6-mtd-planning@fema.dhs.gov as notification that the electronic file has been submitted. Please **DO NOT** send plans to the email inbox as it has very strict size limitations which will lock the inbox and not allow additional emails to be received. The email must include the following information:
 - a. Include the follow when applicable: (Note: A submittal letter is no longer required.)
 - i. Subject line [Approval Review for Name of Plan, State]
 - ii. FEMA funding source, grant or disaster number, and project number (when applic
 - iii. list of adopting jurisdictions
 - iv. Plan File name (file name must include date submitted)
3. Submittals which do not conform to the above requirements will be returned to the State for resubmission

Johnson County Hazard Mitigation Plan 2024



North Central Texas
Council of Governments

Executive Summary

We cannot control when or where a tornado or other natural hazard will strike, but we can save lives and reduce property damage by understanding the risks and taking action to address those risks. In the process, we can increase resilience in our community, environment, and economy. Participating jurisdictions in the Johnson County Hazard Mitigation Plan (HMP) are dedicated to the protection of local citizens and their property, and to the improvement of the quality of life for all residents.

Mitigation has been defined as “sustained action to reduce or eliminate long-term risk to human life and property from natural, human-caused, and technological hazards.”¹ It is fundamentally a loss-prevention function characterized by planned, long-term alteration of the built environment to ensure resilience against natural and human-caused hazards. This loss-prevention function has been illustrated by the Multi-Hazard Mitigation Council study of the Federal Emergency Management Agency (FEMA) mitigation projects, which shows that for every dollar invested in mitigation, six dollars of disaster losses were avoided.²

Mitigation should form the foundation of every emergency management agency’s plans and procedures. Emergency management agencies should adopt mitigation practices to reduce, minimize, or eliminate hazards in their community. The Johnson County Hazard Mitigation Plan identifies the hazards faced by participating jurisdictions, vulnerabilities to these hazards, and mitigation strategies for the future. The plan fulfills the requirements of the Federal Disaster Mitigation Act as administered by the Texas Division of Emergency Management (TDEM) and the Federal Emergency Management Agency (FEMA).

This plan is not legally binding but instead is a tool for the jurisdiction to use to become more resilient to natural hazards. Mitigation actions will be implemented as capabilities and funding allow.

¹ State of Texas Mitigation Handbook, page 1-1.

² Natural Hazard Mitigation Saves: 2017 Interim Report, page 1.

Common Acronyms

EMC- Emergency Management Coordinator

EOC- Emergency Operations Center

FEMA- Federal Emergency Management Agency

HMP- Hazard Mitigation Plan

HMPT- Hazard Mitigation Planning Team

LPT- Local Planning Team

N/A- Not Applicable

NCEI- National Centers for Environmental Information

NCTCOG- North Central Texas Council of Governments

NFIP- National Flood Insurance Program

NFPA- National Fire Protection Association

NWS- National Weather Service

OWS- Outdoor Warning Siren

RLP- Repetitive Loss Properties

SRLP- Severe Repetitive Loss Properties

TDEM- Texas Division of Emergency Management

TFS- Texas A&M Forest Service

TPW- Texas Parks & Wildlife Department

TxDOT- Texas Department of Transportation

UTA- University of Texas at Arlington

WUI- Wildland-Urban Interface

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Chapter 1: Introduction

1.1 Overview

This plan identifies natural hazards that could threaten life and property in the communities. The scope of this plan includes both short and long-term mitigation strategies, implementation, strategies, and possible sources of project funding to mitigate identified hazards.

The Johnson County Hazard Mitigation Plan (HMP) was previously referred to as the Hazard Mitigation Action Plan and fulfills the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), which is administered by the Federal Emergency Management Agency (FEMA). The Disaster Mitigation Act provides federal assistance to state and local emergency management entities to mitigate the effects of disasters. The HMP also encourages cooperation among various organizations across political subdivisions.

This HMP is an update of the 2015 FEMA-approved HMP. With each update, new challenges are identified, new strategies proposed, and when incorporated, the updated plan grows in complexity, but not necessarily in utility.

This HMP is the result of two years of study, data collection, analysis, and community feedback. Representatives and citizens from participating jurisdictions attended public meetings to discuss the hazards their communities face and the vulnerabilities those hazards present.

All participants involved in this plan understand the benefits of developing and implementing mitigation plans and strategies. Elected officials, public safety organizations, planners, and many others have worked together to develop and implement this HMP, displaying that they have the vision to implement mitigation practices and therefore reduce the loss of life and property in their communities.

There is also understanding that the participating jurisdictions in this HMP are not liable to completing the actions their identified in their mitigation strategy. The actions are suggestions, and the jurisdictions will strive to implement the actions as fundings, staffing, and time allows.

Information was collected up to 2021.

1.2 Authority

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended by the Disaster Mitigation Act of 2000, provides the legal basis for state, tribal, and local governments to undertake risk-based approaches to reducing natural hazard risks through mitigation planning. Specifically, the Stafford Act requires state, tribal, and local governments to develop and adopt FEMA-approved hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance.

The Stafford Act authorizes the following grant programs:

- Hazard Mitigation Grant Program (HMGP), which helps communities implement hazard mitigation measures following a Presidential major disaster declaration. This program also funds development and update of hazard mitigation plans.

- Pre-Disaster Mitigation Grant Program (PDM), which awards planning and project grants to assist states, territories, federally-recognized tribes, and local communities in implementing sustained pre-disaster natural hazard mitigation programs. Such efforts may include development or update of hazard mitigation plans.
- Public Assistance Grant Program (PA), which provides assistance to state, tribal, and local governments, and certain types of private nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.
- Fire Management Assistance Grant Program (FMAG), which provides assistance to state, tribal, and local governments for the mitigation, management, and control of fires on publicly or privately-owned forests or grasslands that threaten such destruction as would constitute a major disaster.

Title 44, Chapter 1, Part 201 (44 CFR Part 201) of the Code of Federal Regulations (CFR) contains requirements and procedures to implement the hazard mitigation planning provisions of the Stafford Act.

The purpose of the Stafford Act, as amended by the Disaster Mitigation Act of 2000, is “to reduce the loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from natural disasters.” Chapter 322 of the act specifically addresses mitigation planning and requires state and local governments to prepare multi-hazard mitigation plans as a precondition for receiving FEMA mitigation grants.

This Johnson County Hazard Mitigation Plan was developed by the Johnson County Hazard Mitigation Planning Team (HMPT) under the direction and guidance of the North Central Texas Council of Governments (NCTCOG) Emergency Preparedness Department. The plan represents collective efforts of citizens, elected and appointed government officials, business leaders, non-profit organizations, and other stakeholders. This plan, and updating the plan, and timely future updates of this plan, will allow Johnson County and participating jurisdictions to comply with the Disaster Mitigation Act of 2000 and its implementation regulations, 44 CFR Part 201.6, thus resulting in eligibility to apply for federal aid for technical assistance and post-disaster hazard mitigation project funding. The update will also prioritize potential risks and vulnerabilities in an effort to minimize the effects of disasters in the participating communities.

1.3 Purpose

This HMP is intended to enhance and complement federal and state recommendations for the mitigation of natural hazards in the following ways:

- Substantially reduce the risk of loss of life, injuries, and hardship from the destruction of natural and technological disasters.
- Improve public awareness of the need for individual preparedness and building safer, more disaster resilient communities.
- Develop strategies for long-term community sustainability during community disasters.
- Develop governmental and business continuity plans that will continue essential private sector and governmental operations during disasters.

Johnson County is susceptible to a number of different natural hazards that have potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. Occurrence of natural disasters cannot be prevented; however, their impact on people and property can be lessened through hazard mitigation measures.

Mitigation planning is imperative to lessen the impact of disasters in Johnson County. This plan is an excellent method by which to organize Johnson County's mitigation strategies. The implementation of the plan and its components is vital to preparing a community that is resilient to the effects of a disaster. The implementation of this HMP can reduce loss of life and property and allow the participating communities to operate with minimal disruption of vital services to citizens. This HMP provides a risk assessment of the hazards Johnson County is exposed to and puts forth several mitigation goals and objectives that are based on that risk assessment.

Chapter 2: Planning Process

2.1 Planning Area

The planning area for this plan is for Johnson County, Texas (marked in red on the Texas map) and includes the following jurisdictions:

- City of Alvarado
- City of Burleson
- City of Cleburne*
- City of Godley*
- City of Joshua
- City of Keene
- Johnson County Unincorporated



The cities of Cleburne and Godley are new to the Johnson County HMP. Cleburne had their own plan in 2015. The following map shows a more detailed look of the county.

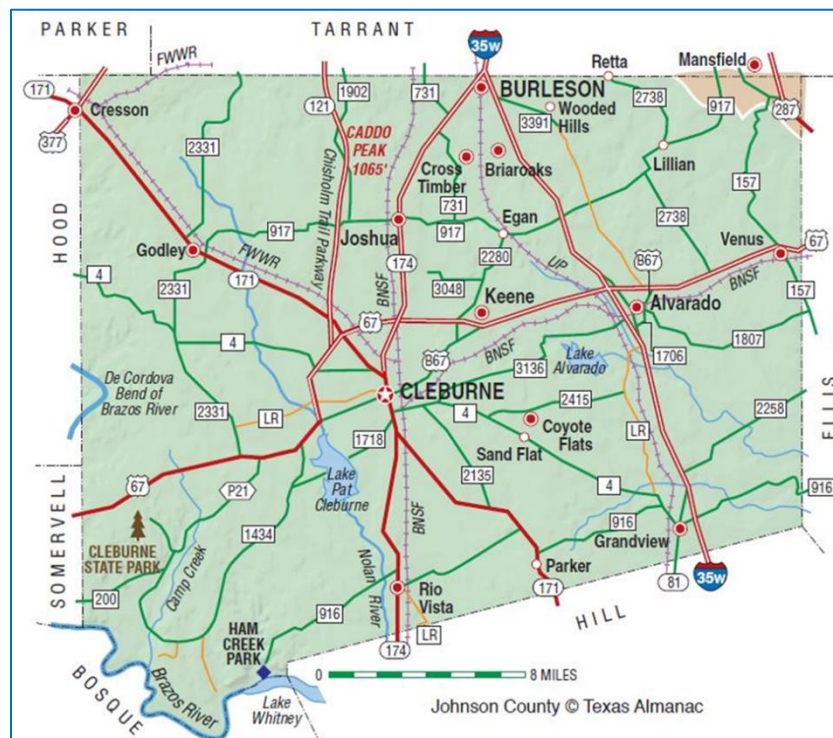


Figure 1: Johnson County³

³ [Johnson County \(tshaonline.org\)](http://tshaonline.org/johnson-county)

2.2 Collaborative Process

A comprehensive county approach was taken in developing the plan. An open public involvement process was established for the public, neighboring communities, regional agencies, businesses, academia, etc. to provide opportunities for everyone to become involved in the planning process and to make their views known. The meetings were advertised with notices in public places and city websites and social media pages.

Each jurisdiction is responsible for completing mitigation activities by providing the capabilities and authorities needed to carry out activities. Participating jurisdictions completed an analysis of their current legal, staffing, and fiscal capabilities as they relate to hazard mitigation planning. Jurisdictional capabilities and authorities identified to ensure successful mitigation planning are located within the jurisdictional annexes.

The North Central Texas Council of Governments was responsible for plan facilitation and coordination with participants throughout the process.

2.2.1 Hazard Mitigation Planning Team

Each participating jurisdiction in the planning area gathered information using a Local Planning Team (LPT), comprised of local staff that could contribute to development of this mitigation plan. The leader from each jurisdiction's LPT joined together to form the Johnson County Hazard Mitigation Planning Team (HMPT). The HMPT met regularly with the North Central Texas Council of Governments to submit individual assessments and data into one multi-jurisdictional hazard mitigation plan.

The following table lists the members of the Johnson County Hazard Mitigation Planning Team (HMPT).

Table 1: Johnson County HMPT Members

Jurisdiction	Job Title	Role in the HMPT
Alvarado	City Manager/Emergency Management Coordinator	Jurisdictional information and LPT Lead
Burleson	Emergency Management Coordinator	Jurisdictional information and LPT Lead
Cleburne	Emergency Management Coordinator	Jurisdictional information and LPT Lead
Godley	Emergency Management Coordinator	Jurisdictional information and LPT Lead
Joshua	Emergency Management Coordinator	Jurisdictional information and LPT Lead
Keene	Fire Chief	Jurisdictional information and LPT Lead
Johnson County Unincorporated	Emergency Management Coordinator	Jurisdictional information and HMPT Lead

Each HMPT member led their respective jurisdiction's Local Planning Team (LPT). The LPT members are listed in Appendix B.

2.2.2 Stakeholders

Stakeholders were invited to participate in the planning process, via email, and included local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, and neighboring communities. While the stakeholders declined to participate, information was gathered from their organizations when needed via publicly available resources.

Table 2: Invited Stakeholders

Organization Represented	Position
Somervell County	Emergency Management Coordinator
Hill County	Emergency Management Coordinator
Bosque County	Emergency Management Coordinator
Tarrant County	Emergency Management Coordinator
Ellis County	Emergency Management Coordinator
Parker County	Emergency Management Coordinator
Hood County	Emergency Management Coordinator
U.S. Army Corps of Engineers	Director – Civil Works
Dams in Participating Jurisdictions	Owners
Independent School Districts of Participating Jurisdictions	Superintendents
Texas Department of Transportation	Emergency Operations
Oncor	Emergency Operations
Local Emergency Planning Committee	Emergency Management Coordinator
Texas Division of Emergency Management	District Coordinator, Field Response
Texas Division of Emergency Management	Hazard Mitigation Planner
State Fire Marshal's Office	District 6, Inspector
National Weather Service – Fort Worth	Warning & Coordination Meteorologist
NCTCOG's Emergency Preparedness Planning Council	Chair
NCTCOG's Regional Emergency Preparedness Advisory Council	Chair
Local City Councils	Local elected officials
Brazos River Authority	Project Manager
Community Foundation of Johnson County	Administration
United Way of Johnson County	Administration

The goal for the next HMP is to involve a more robust and active stakeholder audience, including more representatives from non-governmental organizations.

2.2.3 Public Involvement

In order to meet the needs of the whole community, the Hazard Mitigation Planning Team (HMPT) used public involvement an opportunity to educate the public about hazards and risks in the community, types of activities to mitigate those risks, and how these activities impact them.

All meetings were open to the public and participation was highly encouraged. A virtual survey was also used as a way for the public to participate. This survey was the most equitable outreach capability available, as the survey could also be translated to Spanish by survey respondents, when needed, and removed the physical, social, temporal, and accessible barriers typically associated with a whole community outreach strategy.

The HMPT will look for more outreach strategies to use when maintaining this plan, once adopted, and pre-plan their strategy for the next update in order to garner more valuable feedback and reach more socially vulnerable populations and underserved communities.

The link to the survey was shared via jurisdiction's official websites and social media platforms and input from the public was heavily considered in the update of this plan. The public was also given an opportunity to review the final draft of this plan. The planning team carefully considered their feedback and made edits to the draft as necessary.

The HMPT will look for more outreach strategies to use when maintaining this plan, once adopted, and pre-plan their strategy for the next update in order to garner more valuable feedback and reach more socially vulnerable populations and underserved communities that are identified further on in this plan.

2.3 Existing Data and Plans

Existing hazard mitigation information and other relevant hazard mitigation plans were reviewed during the development of this plan. Data was gathered through numerous sources, including Geographic Information Systems (GIS). The intent of reviewing existing material was to identify existing data and information, shared objectives, and past and ongoing activities that can help inform the mitigation plan. It also helps identify the existing capabilities and planning mechanisms to implement the mitigation strategy. The table below outlines the sources used to collect data for the plan:

Table 3: Data Sources Used

Data Source	Data Incorporation	Purpose
County appraisal data, census data, city land use data	Population and demographics	Population counts, parcel data, and land use data
National Centers for Environmental Information (NCEI)	Hazard occurrences	Previous event occurrences and mapping for hazards
Texas A&M Forest Service/Texas Wildfire Risk Assessment Summary Report	Wildfire threat and urban interface	Mapping and wildfire vulnerability
U.S. Army Corps of Engineers National Dam Inventory	Dam information	Dam list
Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Map (DFIRM) Flood Zones, National Flood Insurance Program (NFIP) studies	Flood zone maps and NFIP information	GIS mapping of flood zones and NFIP data
October 2017 NFIP Flood Insurance Manual Change Package	NFIP Information	Repetitive Loss Properties and Community Rating System (CRS) ratings

Data Source	Data Incorporation	Purpose
State of Texas Hazard Mitigation Plan, 2018	Hazards and mitigation strategy	Support the goals of the state
Previous Johnson County HMP	All Chapters	This is an update of that plan
Hazard Mitigation: Integrating Best Practices into Planning	Planning process	Use proven techniques in developing the HMP
Environmental Protection Agency (EPA) Superfund National Priority List	Protected sites	Risk assessment- identify critical areas
National Register of Historic Places	Historic districts	Risk assessment
Texas Parks & Wildlife List of Rare Species	Endangered or protected species	Risk assessment
Texas Water Development Board	Lake information	Vulnerabilities
U.S. Department of Agriculture	Soil type	Expansive Soils description
TxDOT Annual Reports	Roads & Bridges	Vulnerabilities

2.4 Timeframe & Planning Meetings

The planning process for the update of the Johnson County Hazard Mitigation Plan took approximately two years (see Table 4).

Table 4: Planning Timeframe

Activity	Time Period
Kickoff meeting	July 2021
Created planning teams	July 2021
Conduct capability assessments	September 2021
Conduct risk assessments	September 2021
Update mitigation strategy	February 2022
Create and review HMP Draft	May 2022-September 2023*
Send HMP to TDEM/make revisions as needed	October 2023-January 2024
Send to FEMA/ make revisions as needed	To be determined
Adoption & signatures	Once "Approved Pending Adoption" designated received.

**Please note that due to staff changes and miscommunication between NCTCOG and TDEM, the Draft had to be updated to meet the new 2023 FEMA Local Mitigation Planning Policy Guide.*

These activities were completed in order to update every section of the 2015 HMP with current information, address current priorities, and to meet FEMA planning requirements. The public was invited to participate in every activity.

Chapter 3: Hazard Identification and Risk Assessment

3.1 Major Disaster Declarations

The following table lists the major [disaster declarations](#) between 2013-2021 that Johnson County has been a declared area, beginning with most recent.

Table 5: Major Disaster Declarations⁴

Declaration String	Declaration Type	FY Declared	Incident Type	Declaration Title
DR-4586-TX	DR	2021	Severe Ice Storm	SEVERE WINTER STORMS
EM-3554-TX	EM	2021	Severe Ice Storm	SEVERE WINTER STORM
DR-4485-TX	DR	2020	Biological	COVID-19 PANDEMIC
EM-3458-TX	EM	2020	Biological	COVID-19
DR-4223-TX	DR	2015	Severe Storm	SEVERE STORMS, TORNADOES, STRAIGHT-LINE WINDS AND FLOODING

3.2 Natural Hazard Profiles

Through an assessment of previous federally declared disasters in Texas, the State of Texas Hazard Mitigation Plan, historical and potential events in Johnson County, and a review of available local mitigation plans, it was determined that this Hazard Mitigation Plan (HMP) will address the risks associated with the following nine natural hazards:

- Drought
- Earthquakes
- Expansive Soils
- Extreme Heat
- Flooding (including dam failure)
- Thunderstorms (including hail, wind, and lightning)
- Tornadoes
- Wildfires
- Winter Storms

Each of these hazards has impacted, or can potentially impact, all participating jurisdictions. Due to the low probability and history of occurrence of coastal erosion, land subsidence, and hurricane/tropical storm, they will not be profiled in this plan.

⁴ [Declared Disasters | FEMA.gov](#)

There are no natural hazards unique to any one jurisdiction.

Since the adoption of the 2015 HMP, the definition of a thunderstorm now includes hail, high winds, and lightning. These individual hazards within a thunderstorm will not be listed nor categorized separately.

Around 2013, areas of North Central Texas began experiencing earthquakes. It is suspected that dormant fault lines have been disturbed. Earthquakes have been added to the list of natural hazards profiled in this update for jurisdictions that feel they could be potentially impacted by them.

For this HMP, dam failure is considered a technological hazard and the effects of dam failure will be addressed in the flooding portion of this plan when applicable. Dam failure is an accidental or unintentional collapse, breach, or other failure of an impoundment structure that results in downstream flooding.

Along with a general description and historical occurrences, each participating jurisdiction described the location, probability of a future event, and the maximum probable extent of each hazard. The following terms were used to describe the categories:

Table 6: Hazard Summary Descriptions

Location: Location is the geographic area within the planning area that is affected by the hazard. The planning area refers to each individual jurisdiction.
• Negligible- Less than 10% of planning area would be impacted by a single event. • Limited- 10 to 25% of planning area would be impacted by a single event. • Significant- 26 to 99% of planning area would be impacted by a single event. • Extensive- 100% of planning area would be impacted by a single event, or the event has no boundary and could occur anywhere within the planning area.
Probability of Future Events: This information was based on historic events and changing climate.
• Unlikely- Less than 1% annual probability. • Possible- Between 1 and 10% annual probability. • Likely- Between 10 and 100% annual probability. • Highly Likely- 100% annual probability.
Level of Possible Damage: Based on historic events and future probability.
• Minor- Only minor property damage and minimal disruption of life. Temporary shutdown of critical facilities. Very few injuries, if any. • Limited- More than 10% of property in affected area damaged/destroyed. Complete shutdown of critical facilities for more than one day. Minor injuries possible. • Critical- More than 25% of property in affected area damaged/destroyed. Complete shutdown of critical facilities for more than one week. Multiple deaths/injuries. • Catastrophic- More than 50% of property in affected area damaged/destroyed. Complete shutdown of critical facilities for 30 days or more. High number of deaths/injuries possible.
Maximum Probable Extent: Based on historic events and future probability.
• Minor- Minor classification on the scientific scale. • Medium- Medium classification on the scientific scale. • Major- Major classification on the scientific scale.

Hazard & Scale	Maximum Probable Extent
Drought (National Drought Mitigation Center)	- Minor: D0 - Medium: D1 - Major: D2-D4
Earthquakes (Modified Mercalli Intensity Scale; Richter Scale)	- Minor: I-IV; 3-4.9 magnitude - Medium: V-VII; 5-6.9 magnitude - Major: VIII-X; >7.0 magnitude
Expansive Soils (Expansion Index Test)	- Minor: EI 0-50 - Medium: EI 51-90 - Major: EI >91
Extreme Heat (NWS Heat Index)	- Minor: Heat Index <91°F - Medium: Heat Index 91-103°F - Major: Heat Index > 103°F
Flooding & Dam Failure Flooding (Estimated Base Flood Elevation)	- Minor: < 2 feet - Medium: 3-5 feet - Major: > 5 feet
Thunderstorms (Extreme Weather Madness Chart)	- Minor: TS1 - Medium: TS2-TS3 - Major: Moderate-High, TS4-5
Tornadoes (Enhanced Fujita (EF) Scale)	- Minor: EF0-EF1 - Medium: EF2-EF3 - Major: EF4-EF5
Wildfires (Fire Intensity Scale (FIS))	- Minor: FIS Class 1-2 - Medium: FIS Class 3 - Major: FIS Class 4-5
Winter Storms (Winter Storm Severity Index (WSSI); SPIA Index)	- Minor: WSSI Minor, SPIA 0-1 - Medium: WSSI Moderate, SPIA 2-3 - Major: WSSI Major-Extreme, SPIA 4-5

In this chapter, historical events are analyzed. Storm data was collected by the NOAA National Centers for Environmental Information (NCEI) database. This database contains data entered by the National Weather Service (NWS). NWS receives their information from a variety of sources, which include but are not limited to: county, state and federal emergency management officials, local law enforcement officials, SkyWarn spotters, NWS damage surveys, newspaper clipping services, the insurance industry, and the general public, among others. NWS Storm Data is geographically categorized by county or by NWS Forecast Zone. Localized events such as a tornado, thunderstorm winds, flash floods, and hail are categorized using the *Johnson Co.* (County) designation. More widespread events that can impact the entire county equally, such as heat, cold, drought, floods, and winter weather, are categorized using the *Johnson (Zone)*.

Below are the hazard summaries, in alphabetical order.

3.2.1 Drought

Drought can be defined as a water shortage caused by the natural reduction in the amount of precipitation expected over an extended period of time, usually a season or more in length. It can be aggravated by other factors such as high temperatures, high winds, and low relative humidity. The county's climate is characterized by hot and dry summers, which can lead to water scarcity and increased wildfire risk. This type of hazard has no geographic boundaries.

Johnson County is part of the [Region G Water Planning Group \(RCWPG\)](#), one of 16 regional water planning groups created by the Texas Water Development Board (TWDB) to help develop a comprehensive water plan for Texas through 2070. Region G is made up of voting members representing a variety of interest groups, including agriculture, counties, electric-generating utilities, environment, groundwater management areas, industry, municipalities, public, river authorities, small business, water districts and water utilities. Region G adopted a [2021 Regional Water Plan](#) that provides regional information and data into the [2022 State Water Plan](#).

County residents purchase water from the Johnson County Special Utility District, which enforces a Drought Contingency Plan. When thresholds are met, a notice will be provided to the public on the District website and via text and/or email alerts. The District water supply comes from Lake Granbury, the City of Mansfield, the City of Grand Prairie, and well water. JCSUD accounts for an ample total water supply capacity of 39.7 MGD.⁵

Figure 2 describes the drought monitoring indices and a description of the possible impacts of the severity of drought.

⁵ [Water Supply and Distribution | JCSUD, TX](#)

Drought Severity	Return Period (years)	Description of Possible Impacts	Drought Monitoring Indices		
			Standardized Precipitation Index (SPI)	NDMC* Drought Category	Palmer Drought Index
Minor Drought	3 to 4	Going into drought; short-term dryness slowing growth of crops or pastures; fire risk above average. Coming out of drought; some lingering water deficits; pastures or crops not fully recovered.	-0.5 to -0.7	D0	-1.0 to -1.9
Moderate Drought	5 to 9	Some damage to crops or pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.	-0.8 to -1.2	D1	-2.0 to -2.9
Severe Drought	10 to 17	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	-1.3 to -1.5	D2	-3.0 to -3.9
Extreme Drought	18 to 43	Major crop and pasture losses; extreme fire danger; widespread water shortages or restrictions.	-1.6 to -1.9	D3	-4.0 to -4.9
Exceptional Drought	44+	Exceptional and widespread crop and pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells creating water emergencies.	less than -2	D4	-5.0 or less

*NDMC - National Drought Mitigation Center

Figure 2: Drought Intensity Scale

Drought can impact the economy, environment, and society by limiting food and drinking water, destroying habitat, and triggering health and safety problems due to poor water quality and increased wildfires. Drought can also have a major impact on the environment, as it can lead to the loss of vegetation and wildlife habitat and increase the risk of wildfires.

Besides major crop damage, these extreme drought conditions have the potential to put Johnson County in extreme fire danger and could cause widespread water shortage and restrictions, creating a water emergency. In Texas, local governments are empowered to take action on behalf of those they serve. When drought conditions exist, a burn ban can be put in place by a county judge or county Commissioners Court, prohibiting or restricting outdoor burning for public safety.⁶

Prolonged drought can also lead to increased food prices, as well as other economic impacts such as job losses and reduced tax revenues.

Drought can be defined as a water shortage caused by the natural reduction in the amount of precipitation expected over an extended period of time, usually a season or more in length. It can be aggravated by other factors such as high temperatures, high winds, and low relative humidity.

⁶ Fire Danger: Texas Burn Bans. Texas A&M Forest Service. 2018.
<http://texasforestservice.tamu.edu/TexasBurnBans/>

Drought can impact the economy, environment, and society by limiting food and drinking water, destroying habitat, and triggering health and safety problems due to poor water quality and increased wildfires.

In Texas, local governments are empowered to act on behalf of those they serve. When drought conditions exist, a burn ban can be put in place by a county judge or county Commissioners Court prohibiting or restricting outdoor burning for public safety.⁷

As shown in the following graph from the [United States Drought Monitor](https://droughtmonitor.unl.edu/), the years 2011-2012 and 2014-2015 had the greatest severity and longest time period of extreme drought conditions in Johnson County.

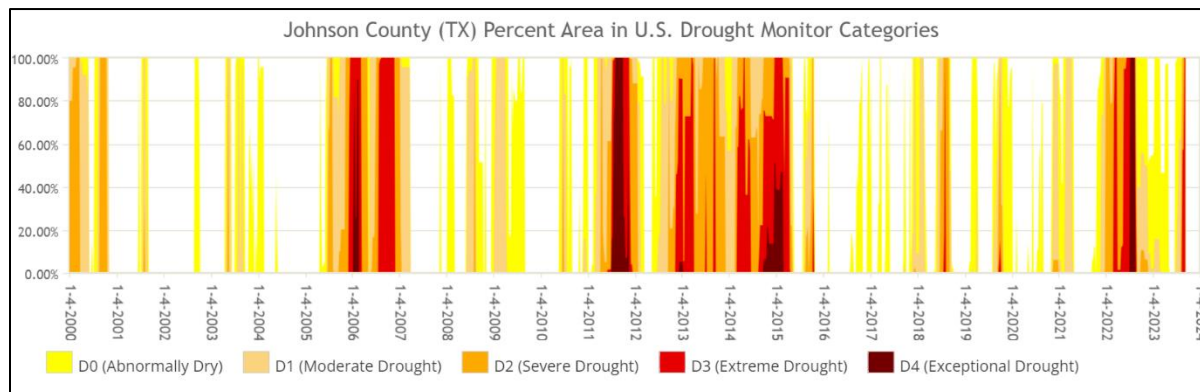


Figure 3: Historical Events- Drought

Due to the nature of drought, the Texas climate, and the effects of climate change, drought is expected to be a continual threat to the planning area.

The Long-Term Multi-Indicator Drought Index (MIDI) approximates drought impacts from changes in precipitation and moisture over a long-term timeframe (up to 5 years), such as impacts to irrigated agriculture, groundwater, and reservoir levels. Reflected in Figure 4 below, drought is predicted to have a lasting effect on Johnson County.

⁷ Fire Danger: Texas Burn Bans. Texas A&M Forest Service. 2018.
<http://texasforestservice.tamu.edu/TexasBurnBans/>

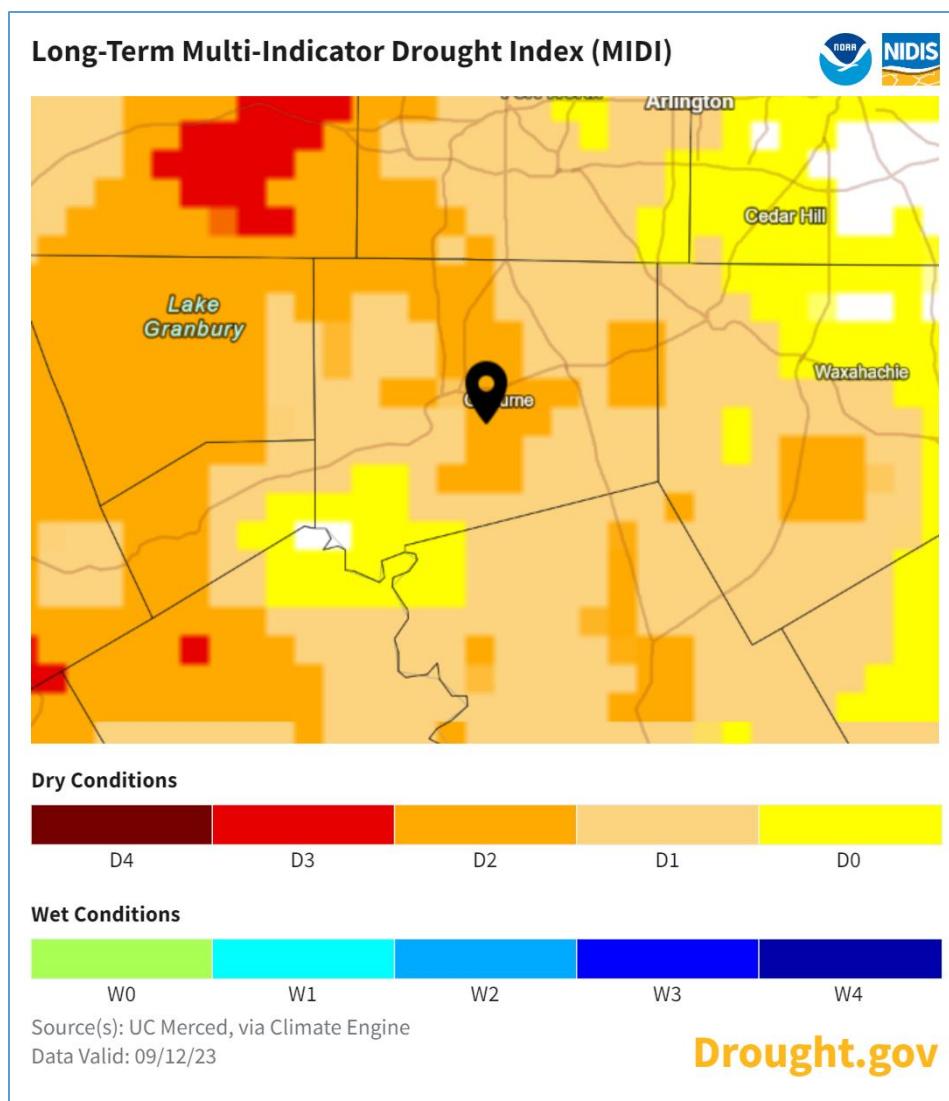


Figure 4: Long-Term MIDI⁸

Hazard Summary

The following table reflects the profile summary for drought within the planning area.

Table 7: Drought Profile Summary

Drought				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Highly Likely	Critical	Major
Burleson	Extensive	Highly Likely	Critical	Major
Cleburne	Extensive	Highly Likely	Critical	Major

⁸ [Johnson County Conditions](#) | [Drought.gov](#)

Drought				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Godley	Extensive	Highly Likely	Critical	Major
Joshua	Extensive	Highly Likely	Critical	Major
Keene	Extensive	Highly Likely	Critical	Major
Johnson County Unincorporated	Extensive	Highly Likely	Critical	Major

3.2.2 Earthquakes

An earthquake is a sudden motion or trembling of the earth, either caused by an abrupt release of accumulated strain on the tectonic plates that comprise the earth's crust or from human activities. Scientific studies have tied the quakes in North Central Texas to the disposal of wastewater from oil and gas production.

Earthquakes are measured by both magnitude and intensity.

Magnitude measures the energy released at the source of the earthquake and is determined from measurements on seismographs, as represented in Figure 5. From 1935 until 1970, the earthquake magnitude scale was the Richter Scale. Today, earthquake magnitude measurement is based on the Moment Magnitude Scale (MMS). MMS measures the movement of rock along the fault. It accurately measures larger earthquakes, which can last for minutes, affect a much larger area, and cause more damage.

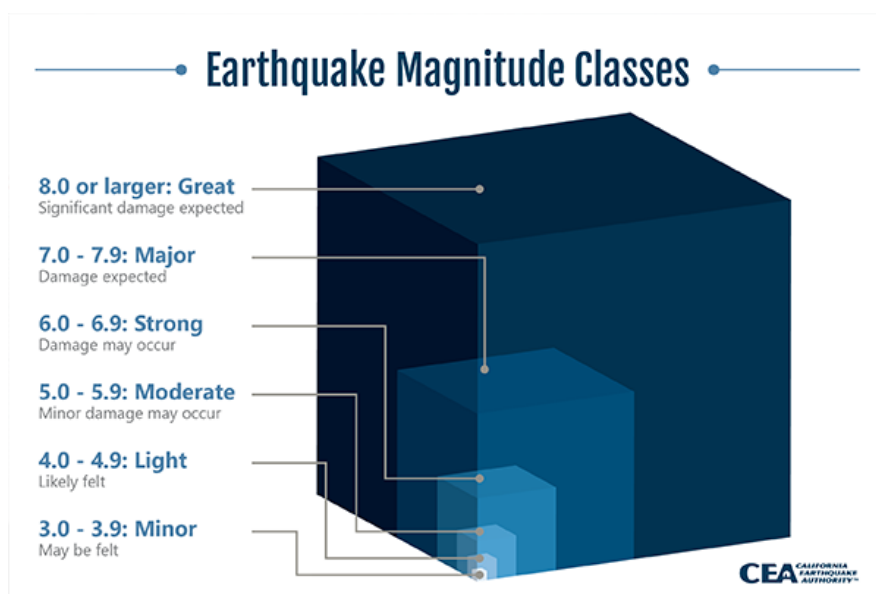


Figure 5: Earthquake Magnitude Classes⁹

⁹ [How are Earthquakes Measured? Magnitude & Intensity Scales | CEA \(earthquakeauthority.com\)](https://www.earthquakeauthority.com/How-are-Earthquakes-Measured?Magnitude-Intensity-Scales)

Intensity is determined from on-the-ground description and the effects on people and the environment. An earthquake intensity scale consists of a series of key responses that includes people awakening, movement of furniture, damage to chimneys and total destruction. The Modified Mercalli Intensity Scale (see Figure 6) classifies earthquakes by the amount of damage inflicted.

Intensity	Shaking	Description/Damage
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Figure 6: Modified Mercalli Intensity Scale¹⁰

Earthquakes can have a significant impact on the local economy. They can cause extensive damage to property and infrastructure, as well as loss of life. They can lead to reduced productivity and increased absenteeism, as well as increased demand for emergency services and disaster relief. Additionally, earthquakes can lead to power outages, landslides, and fires.

According to the United States Geological Survey (USGS) [Earthquake Catalog](#), there was a M2.4 earthquake 10 km WSW of Cleburne, Texas in 2018 and a M2.4 earthquake 2 km SSW of Joshua, Texas in 2020. No injuries or damage were reported. The following maps show the intensity of the two earthquakes.

¹⁰ [The Modified Mercalli Intensity Scale | U.S. Geological Survey \(usgs.gov\)](#)

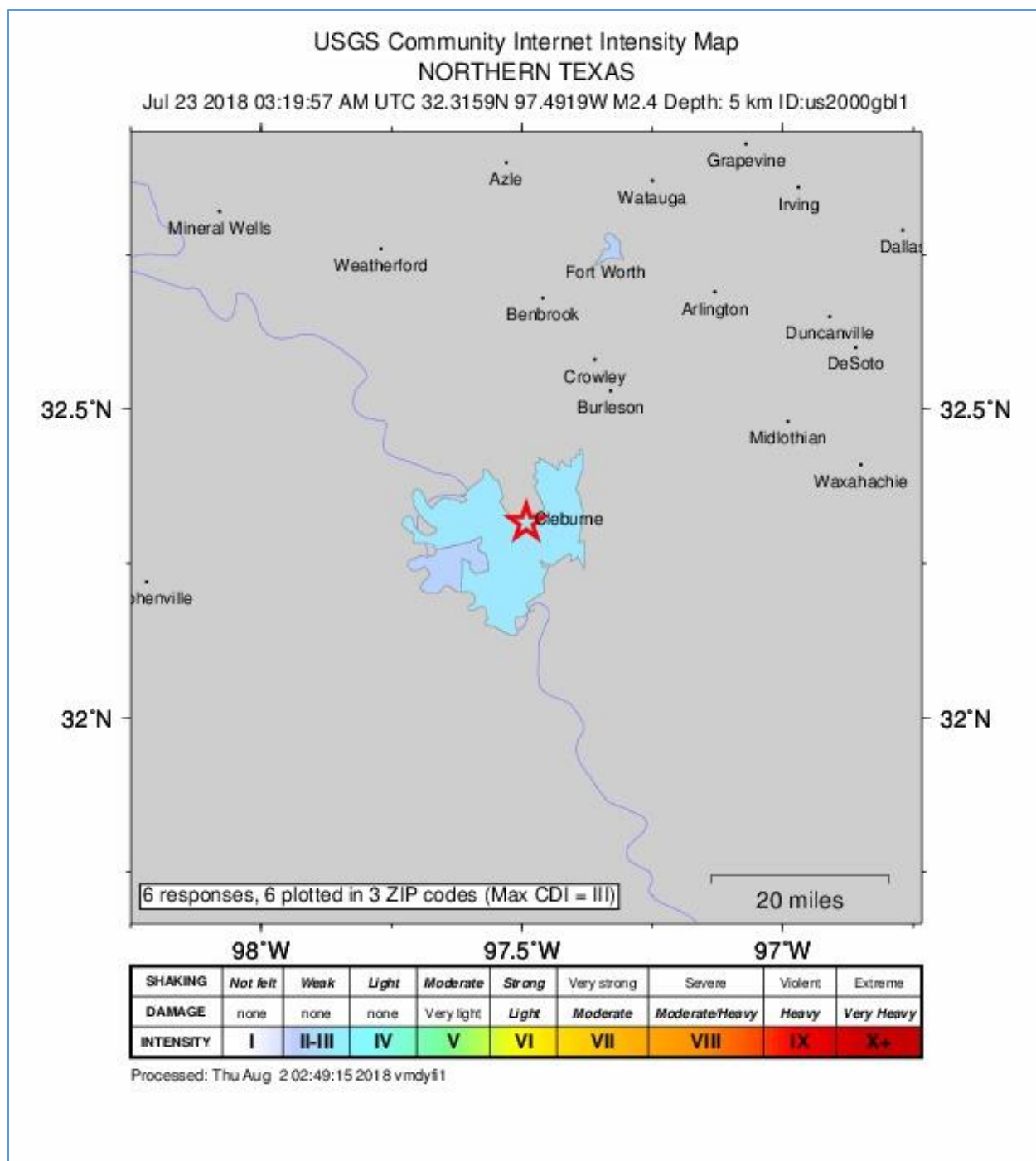


Figure 7: 2018 Earthquake Near Cleburne

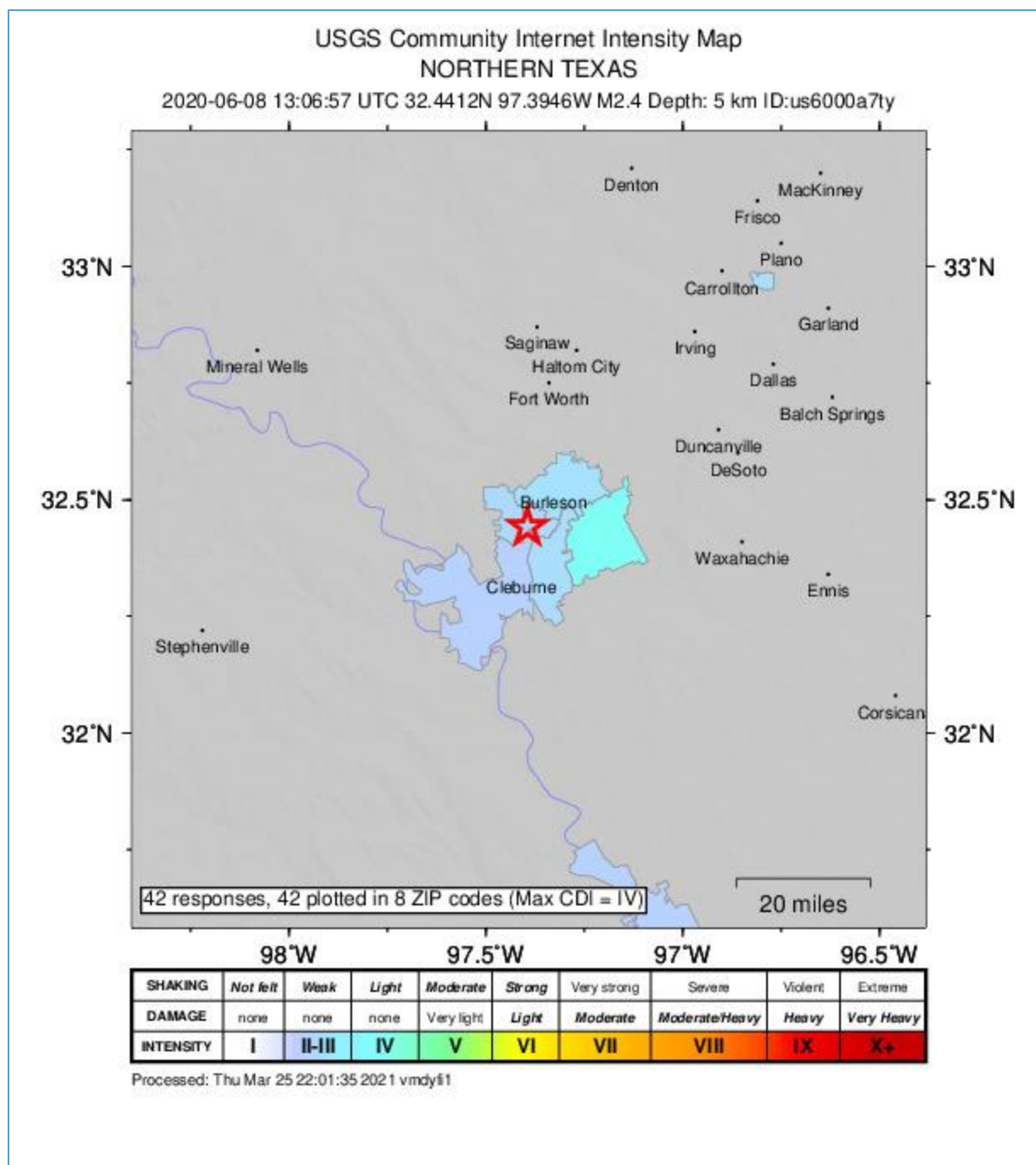


Figure 8: 2020 Earthquake Near Joshua

The map in Figure 9 shows the prediction of damaging earthquake shaking around the U.S. over the next 10,000 years; in which Johnson County is in the grey area. According to the [U.S. Geological Survey \(USGS\)](https://www.usgs.gov/), damaging shaking is possible in all fifty states. The cooler color areas, like grey, are low hazard but not *no* hazard.

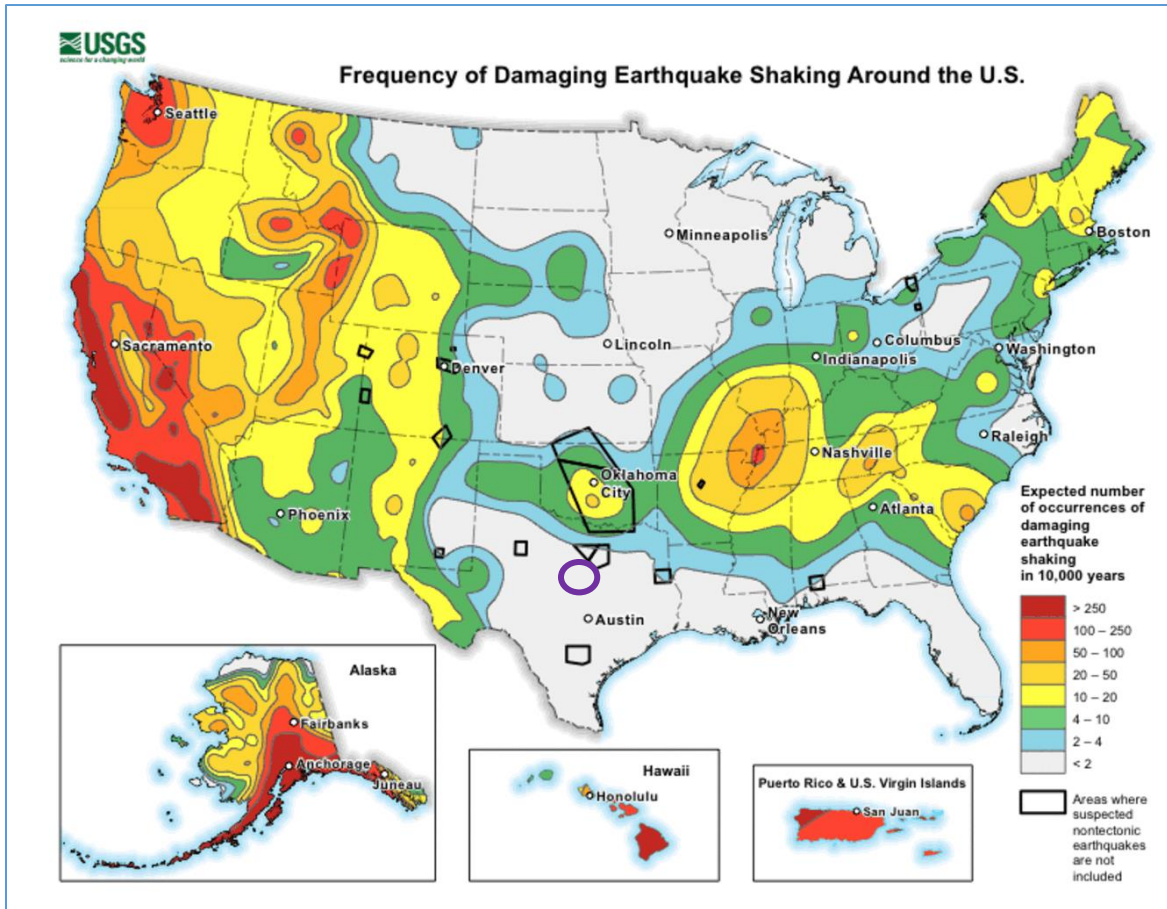


Figure 9: Future Probability Map- Johnson County

Hazard Summary

The following table reflects the profile summary for earthquakes within the planning area.

Table 8: Earthquake Profile Summary

Earthquakes				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Possible	Minor	Minor
Burleson	Extensive	Possible	Minor	Minor
Cleburne	Extensive	Possible	Minor	Minor
Godley	Extensive	Possible	Minor	Minor
Joshua	Extensive	Possible	Minor	Minor
Keene	Extensive	Possible	Minor	Minor
Johnson County Unincorporated	Extensive	Possible	Minor	Minor

3.2.3 Expansive Soils

Expansive soils are soils that expand when water is added and shrink when they dry out. It contains large percentages of swelling clays that may experience volume changes of up to 40% in the absence or presence of water. This continuous change in soil volume can cause structures built on this soil to move unevenly and crack.

Most of Johnson County is in the Cross Timbers ecoregion. This ecoregion is further subdivided into four ecological or vegetative sub-regions: East Cross Timbers, Fort Worth Prairie, Lampasas Cut Plain, and West Cross Timbers. As a member of the Eastern Cross Timbers, the area has sandy to loam soils that are acidic to neutral. This dramatically affects what plants grow in each area. The sandy acidic soils of the Eastern Cross Timbers are in sharp contrast to the heavy fertile soils of the Blacklands and Grand Prairie and Plains.¹¹ Based on the Expansive Soils Map (Figure 10) and the various limestone formations, the planning area is prone to expansion.

- Over 50 percent of these areas are underlain by soils with abundant clays of high swelling potential.
- Less than 50 percent of these areas are underlain by soils with clays of high swelling potential.

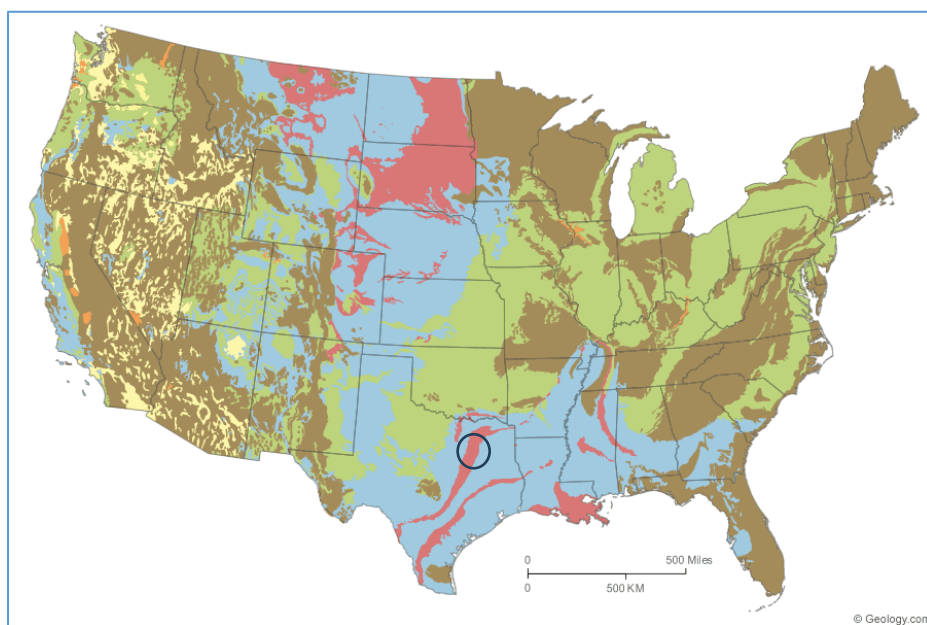


Figure 10: Expansive Soils Map¹²

¹¹ [Texas A&M Forest Service - Trees of Texas - Eco-Regions - Texas Ecoregions \(tamu.edu\)](http://TexasA&MForestService-TreesofTexas-Eco-Regions-TexasEcoregions.tamu.edu)

¹² The map is based upon "Swelling Clays Map of the Conterminous United States" by W. Olive, A. Chleborad, C. Frahme, J. Shlocker, R. Schneider and R. Schuster. It was published in 1989 as Map I-1940 in the USGS Miscellaneous Investigations Series. Land areas were assigned to map soil categories based upon the type of bedrock that exists beneath them as shown on a geologic map. In most areas, where soils are produced "in situ," this method of assignment was reasonable. However, some areas are underlain by soils which have been transported by wind, water or ice. The map soil categories would not apply for these locations.

Expansive soils are one of the more problematic soils and it causes damage to various civil engineering structures. Expansive soils behave differently from other soils due to their tendency to swell and shrink. Both the International Building Code and International Residential code adopted the Expansion Index (EI) (Table 9) to identify expansive soils and its swelling potential.¹³

Table 9: Expansion Potential Based on Expansion Index

Expansion Index (EI)	EI Potential Expansion
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
>130	Very High

The county's climate is characterized by hot and dry summers, which can lead to changes in moisture content and cause the soil to expand and contract, leading to damage.

Expansive soils can lead to increased flooding and landslides as well as other environmental hazards. Because of this swelling and shrinking behavior, expansive soils may also cause the following problems in structures or construction projects:

- Structural damage to lightweight structures such as sidewalks and driveways
- Lifting of buildings, damage to basements, and building settlement
- Cracks in walls and ceilings
- Damage to pipelines and other public utilities
- Lateral movement of foundations and retaining walls due to pressure exerted on vertical walls
- Loss of residual shear strength causing instability of slopes, etc.

Damage to these structures can lead to costly repairs and can cause major disruptions to transportation and communication. Therefore, it is essential to check for the presence of expansive soil and a suitable treatment method should be adopted before commencing any construction projects. In some cases, postconstruction treatment of expansive soil may be required if the situation has not been dealt with before construction.

While cracks in land, roads, and foundations are present, due to the slow-moving nature of expansive soils effects, there is no method of tracking damages within the county.

Due to the existing soil type in the planning area, and the current methods of engineering and structure development, expansive soils is expected to be a continual threat to the planning area.

¹³ Soil expansion index chart. (n.d.). Bing.
<https://www.bing.com/search?q=soil+expansion+index+chart&FORM=HDRSC1>

Hazard Summary

The following table reflects the profile summary for expansive soils within the planning area.

Table 10: Expansive Soils Profile Summary

Expansive Soils				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Highly Likely	Minor	Medium
Burleson	Extensive	Highly Likely	Minor	Medium
Cleburne	Extensive	Highly Likely	Minor	Medium
Godley	Extensive	Highly Likely	Minor	Medium
Joshua	Extensive	Highly Likely	Minor	Medium
Keene	Extensive	Highly Likely	Minor	Medium
Johnson County Unincorporated	Extensive	Highly Likely	Minor	Medium

3.2.4 Extreme Heat

Extreme heat is characterized by a combination of very high temperatures and exceptionally humid conditions. When persisting over a period of time, it is called a heat wave.

The National Weather Service (NWS) measure how hot weather feels on the body by utilizing the Heat Index values (Figure 11). The values in this index are for SHADE only. You can add up to 15°F to these values if you are in direct sunlight. To read the NWS Heat Index, look for the temperature across the top, then find the relative humidity on the left. The point where they intersect on the chart tells you the Heat Index, color-coded by likelihood of a heat disorder. For example, look at an air temperature of 100°F and Relative Humidity of 40%. The chart shows the Heat Index (*how hot it feels*) as 109°F, which is in the orange range for DANGER.

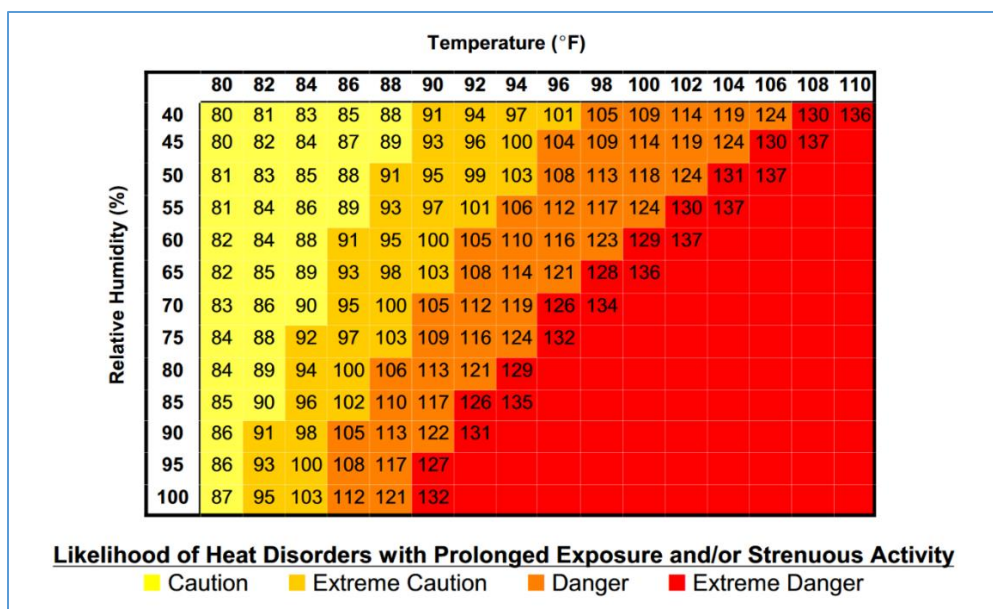


Figure 11: NWS Heat Index

Extreme heat can be a factor that drastically impacts drought conditions, as high temperatures lead to an increased rate of evaporation. The total number of days per year with maximum temperature above various thresholds is an indicator of how often very hot conditions occur. Depending upon humidity, wind, and physical workload, people who work outdoors or don't have access to air conditioning may feel very uncomfortable or experience heat stress or illness on very hot days. Hot days also stress plants, animals, and human infrastructure such as roads, railroads, and electric lines. Increased demand for electricity to cool homes and buildings can place additional stress on energy infrastructure. Potential impacts from extreme heat include:

- Heatstroke or death. Elderly people who cannot afford air conditioning are at greatest risk
- Property damage
- Loss of water supply
- Increases in grassfire potential and intensity
- Impact on logistics
- Power outages
- Road and train track buckling
- Disruption in critical infrastructure operations
- Vehicle engine failure
- Damage to crops

Throughout the summer there are various sporting events, festivals, and park activities held outside throughout the planning area, which can make attendees vulnerable to the effects of extreme heat. Luckily there have been no reports of heat casualties up to this point.

The following table lists excessive heat events and impacts from 2012-2021 recorded by the National Weather Service. During this time, one death occurred. The NWS Event Narrative stated that a soon to be two-year old toddler was found unresponsive after spending nearly five hours in a car seat in the back of the family's car. The child was later pronounced dead at the hospital.¹⁴

Table 11: Historical Events- Extreme Heat

Location	Date	Type	Death	Injury	Property Damage	Crop Damage
JOHNSON (ZONE)	04/14/2017	Excessive Heat	1	0	0.00K	0.00K
JOHNSON (ZONE)	06/20/2019	Excessive Heat	0	0	0.00K	0.00K
JOHNSON (ZONE)	08/13/2020	Excessive Heat	0	0	0.00K	0.00K
JOHNSON (ZONE)	08/28/2020	Excessive Heat	0	0	0.00K	0.00K
JOHNSON (ZONE)	06/12/2022	Excessive Heat	0	0	0.00K	0.00K
JOHNSON (ZONE)	07/07/2022	Excessive Heat	0	0	0.00K	0.00K
JOHNSON (ZONE)	07/17/2022	Excessive Heat	0	0	0.00K	0.00K

Throughout the summer there are various sporting events, festivals, and park activities held outside throughout the planning area, which can make attendees vulnerable to the effects of extreme heat. Luckily there have been no reports of heat casualties up to this point, though people need to be prepared for extreme heat events in the future.

From the graph made by the [U.S. Climate Resilience Toolkit](#), Johnson County can expect a gradual increase in the number of extreme heat days over time.

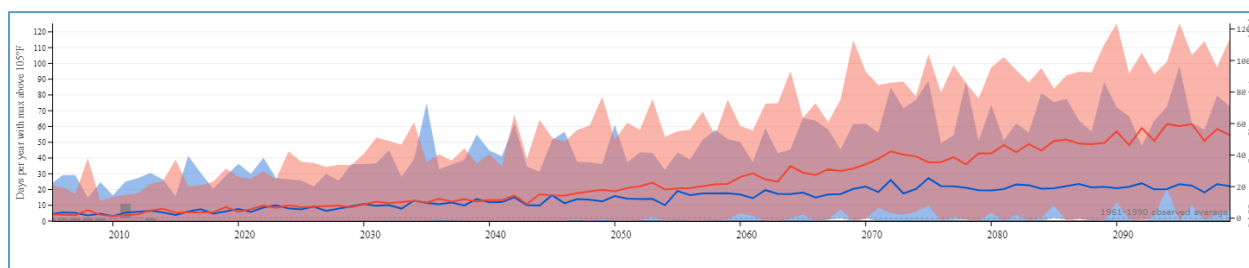


Figure 12: Predicted Number of Days with a Maximum Temperature Over 105°F in Johnson County

The trend shows how global emissions have a major role in climate change and an impact on extreme heat.

- The **blue band (lower emissions)** shows projections for 2006–2100 based on a future in which humans stop increasing global emissions of heat-trapping gases by 2040 and then dramatically reduce them through 2100. The top edge of the band represents the maximum value modeled at each time step; the bottom edge of the band represents the minimum. The darker blue line shows the weighted mean of projections for lower emissions.

¹⁴ [Storm Events Database - Event Details | National Centers for Environmental Information \(noaa.gov\)](#)

- The **red band (higher emissions)** shows projections for 2006–2100 based on a future in which global emissions of heat-trapping gases continue increasing through 2100. The top edge of the band represents the maximum value modeled at each time step; the bottom edge of the band represents the minimum. The red line shows the weighted mean of all projections for higher emissions.

Hazard Summary

The following table reflects the profile summary for extreme heat within the planning area.

Table 12: Extreme Heat Profile Summary

Extreme Heat				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Highly Likely	Minor	Major
Burleson	Extensive	Highly Likely	Minor	Major
Cleburne	Extensive	Highly Likely	Minor	Major
Godley	Extensive	Highly Likely	Minor	Major
Joshua	Extensive	Highly Likely	Minor	Major
Keene	Extensive	Highly Likely	Limited	Major
Johnson County Unincorporated	Extensive	Highly Likely	Minor	Major

3.2.5 Flooding

Flooding is defined as *the accumulation of water within a water body and the overflow of excess water onto adjacent floodplain lands*. A floodplain (or flood zone) is the land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that is susceptible to flooding. The statistical meaning of terms like “100-year flood” can be confusing. Simply stated, a floodplain can be located anywhere; it just depends on how large and how often a flood event occurs. Floodplains are those areas that are subject to inundation from flooding. Floods and the floodplains associated with them are often described in terms of the percent chance of a flood event happening in any given year. As a community management or planning term, “floodplain” or “flood zone” most often refers to an area that is subject to inundation by a flood that has a 1% chance of occurring in any given year (commonly referred to as the 100-year floodplain).

Flooding can occur anywhere in the planning area with low-lying areas, clogged drains, and/or intense rain. Common flooding hazards within the planning area include flood hazards from flash flooding and new development.

A flash flood occurs when stormwater rapidly floods and inundates low-lying areas in less than six hours. Construction and development can change the natural drainage and create brand new flood risks as the concrete that comes with new buildings, parking lots, and roads create less land that can absorb excess precipitation from heavy rains. Johnson County’s storm drainage system in the unincorporated areas is mostly comprised of grass-lined ditches. This type of ditch allows for more absorption of stormwater runoff while also filtering pollutants.

Dam failure flooding is flooding from an accidental or unintentional collapse, breach, or other failure of an impoundment structure that results in downstream flooding. Dam failure is a technological/man-made hazard that leads to a natural hazard, flooding. According to the Association of State Dam Safety Officials, dam failures are most likely to happen for one of five reasons:

- 1. Overtopping** caused by water spilling over the top of a dam. Overtopping of a dam is often a precursor of dam failure. The occasional overtopping of the spillway from major rainfall is the main cause of flooding from dam failure within North Central Texas.
- 2. Foundation Defects**, including settlement and slope instability.
- 3. Cracking** caused by movements like the natural settling of a dam.
- 4. Inadequate maintenance and upkeep.**
- 5. Piping** is internal erosion caused by seepage of soil particles that continue to progress and form sink holes in the dam. Seepage often occurs around hydraulic structures, such as pipes and spillways; through animal burrows; around roots of woody vegetation; and through cracks in dams, dam appurtenances, and dam foundations.

The Flood Hazard Boundary Map (FHBM) and Flood Insurance Rate Map (FIRM) show Flood Insurance Risk Zones that indicate the magnitude of the flood hazard in specific areas of a community. The Flood Zones range from Zone AE, A, and X in the participating jurisdictions.

The zone categories are below:

Table 13: Flood Insurance Risk Zones

High Risk Area	Description
In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.	
Zone A	Special flood hazard areas inundated by the 100-year flood; base flood elevations are not determined. Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
Zone AE	Special flood hazard areas inundated by the 100-year flood; base flood elevations are determined. The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
Zone A1-30	Special flood hazard areas inundated by the 100-year flood; base flood elevations are determined. These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
Zone AO	Special flood hazard areas inundated by the 100-year flood; with flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
Zone AH	Special flood hazard areas inundated by the 100-year flood; flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations are determined. Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year

High Risk Area	Description
In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.	
	mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
Zone A99	Special flood hazard areas inundated by the 100-year flood to be protected from the 100-year flood by a Federal flood protection system under construction; no base flood elevations are determined. Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
Moderate to Low Risk Area	Description
In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones.	
Zone B and Zone X (shaded)	Areas of 500-year flood; areas subject to the 100-year flood with average depths of less than 1 foot or with contributing drainage area less than 1 square mile; and areas protected by levees from the base flood. Area of moderate flood hazard, usually the area between the limits of the 100- year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
Zone C and Zone X (un-shaded)	Areas determined to be outside the 500-year floodplain. Area of minimal flood hazard usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100- year flood.
Undetermined Risk Area	Description
Zone D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

Dams have three different levels of classification from low to high potential. The colors on each classification below help show where these dams are on the map in Figure 13.

Dam Classifications:¹⁵

- **Low (Green)**
 - No loss of life expected (based off surrounding populated area)
 - Minimal economic impact
- **Significant (Yellow)**
 - Loss of life possible (1-2 homes based off surrounding populated area)
 - Appreciable economic impact
- **High (Red)**
 - Loss of life expected (>3 homes based off surrounding populated area)

¹⁵ Session. "2022 Dam Safety Workshop." *Texas.gov*,
<https://www.tceq.texas.gov/downloads/compliance/enforcement/dam-safety/workshop-session-1.pdf>.

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Of the 45 dams in the County, 25 are high-hazard potential dams (HHPDs). These HHPDs are all earth-type dams, regulated by TCEQ, and are required to have an Emergency Actions Plans (EAP), which include log sheets of changes, annual review checklists, plan review and update pages, and training records. The EAP should be the go-to document during a dam emergency. Further details about these HHPDs, including drainage area, are in Table 14. The drainage area listed in the table would be the areas of the County flooded in the event of a dam failure.

Table 14: HHPDs in Johnson County

Dam Name	NID ID	Owner Names	City	River or Stream Name	Dam Height (Ft)	Dam Length (Ft)	Volume (Cubic Yards)	Drainage Area (Sq Miles)
Rosenauer Dam	TX09691	RODNEY ROSENAUER			11			
Chambers Creek WS SCS Site 42 Dam	TX03612	CITY OF ALVARADO; JOHNSON COUNTY; JOHNSON COUNTY SWCD		TURKEY CREEK	49	3500	253920	15.3
Cleburne State Park Lake Dam	TX03591	TEXAS PARKS AND WILDLIFE DEPARTMENT	NEW HOPE	WEST FORK CAMP CREEK	62	1300	0	4.42
Chambers Creek WS SCS Site 35 Dam	TX03599	JOHNSON COUNTY; JOHNSON COUNTY SWCD		TR-TURKEY CREEK	22	1350	47142	0.78
Chambers Creek WS SCS Site 31 Dam	TX03613	JOHNSON COUNTY; JOHNSON COUNTY SWCD	ALVARADO	TR-NORTH FORK CHAMBERS CREEK	28	3884	158597	2
O Connor Dam	TX09559	LLOYD FOSTER	JOSHUA	TR-VILLAGE CREEK	12	1300	0	0.2
Mountain Valley Dam No 1	TX04797	MOUNTAIN VALLEY COUNTRY CLUB INC	BURLESON	VILLAGE CREEK	18	1850	0	2.07
Mountain Valley Lake No 3 Dam	TX09005	JOHNSON COUNTY PUBLIC WORKS; PARAMOUNT PLACE INC	JOSHUA	TR-VILLAGE CREEK	14	650	0	0.12
Martin Dam	TX09558	STEVEN N MARTIN MD PA	JOSHUA	TR-WILLOW CREEK	8		0	0
Mountain Valley Dam 2	TX04798	HOMES BY TOWNE	BURLESON	TR-VILLAGE CREEK	23	900	0	1.4
Chambers Creek WS SCS Site 33a Dam	TX03601	JOHNSON COUNTY; JOHNSON COUNTY SWCD		TURKEY CREEK	41	1021	78260	3.27
Chambers Creek WS SCS Site 57 Dam	TX03610	JOHNSON COUNTY; JOHNSON COUNTY SWCD		MIDDLE FORK CHAMBERS CREEK	47	1560	112269	3.51
Chambers Creek WS SCS Site 33 Dam	TX03595	JOHNSON COUNTY; JOHNSON COUNTY SWCD		TURKEY CREEK	28	2300	91951	3.82
Chambers Creek WS SCS Site 61a Dam	TX03593	JOHNSON COUNTY; JOHNSON COUNTY SWCD		N FORK S FORK CHAMBERS CREEK	29	967	45803	0.87
Chambers Creek WS SCS Site 58 Dam	TX03609	JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541		TR-MIDDLE FORK CHAMBERS CREEK	36	1408	84200	2.27
Chambers Creek WS SCS Site 59 Dam	TX03608	JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541		ROCK TANK CREEK	48	1991	105630	3.1
Chambers Creek WS SCS Site 36 Dam	TX03597	JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541		TR-TURKEY CREEK	30	1632	61179	1.1

Dam Name	NID ID	Owner Names	City	River or Stream Name	Dam Height (Ft)	Dam Length (Ft)	Volume (Cubic Yards)	Drainage Area (Sq Miles)
Chambers Creek WS SCS Site 37 Dam	TX03596	JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541		TR-TURKEY CREEK	38	1122	58766	2
Chambers Creek WS SCS Site 62 Dam	TX03607	JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541	GRANDVIEW	SOUTH FORK CHAMBERS CREEK	44	1813	118330	6.4
Lake Pat Cleburne Dam	TX03594	CITY OF CLEBURNE	BLUM	NOLAN RIVER	78	5190	0	100
Chambers Creek WS SCS Site 30 Dam	TX03600	JOHNSON COUNTY; JOHNSON COUNTY SWCD	ALVARADO	TR-NORTH FORK CHAMBERS CREEK	28	2750	105890	1.1
Chambers Creek WS SCS Site 61 Dam	TX03605	JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541		N FORK S FORK CHAMBERS CREEK	36	1700	96200	3.2
Chambers Creek WS SCS Site 34 Dam	TX03598	DALWORTH SWCD; JOHNSON COUNTY		TR-TURKEY CREEK	36	1784	95741	1.26
Chambers Creek WS SCS Site 32 Dam	TX03614	CITY OF ALVARADO; JOHNSON COUNTY; JOHNSON COUNTY SWCD NO 541	ALVARADO	TR-NORTH FORK CHAMBERS CREEK	31	1825	65277	1
West Buffalo Creek WS SCS Site 1 Dam	TX06303	CITY OF CLEBURNE	CLEBURNE	WEST BUFFALO CREEK	35	8720	321130	7

Based on this table, only the participating jurisdictions of Alvarado, Burleson, Cleburne, Joshua would be impacted by dam failure flooding.

Maps of flood areas and dam inundation zones are in Appendix C. As far at the maximum extent of flooding within the planning area, the Estimated Base Flood Elevation was used.

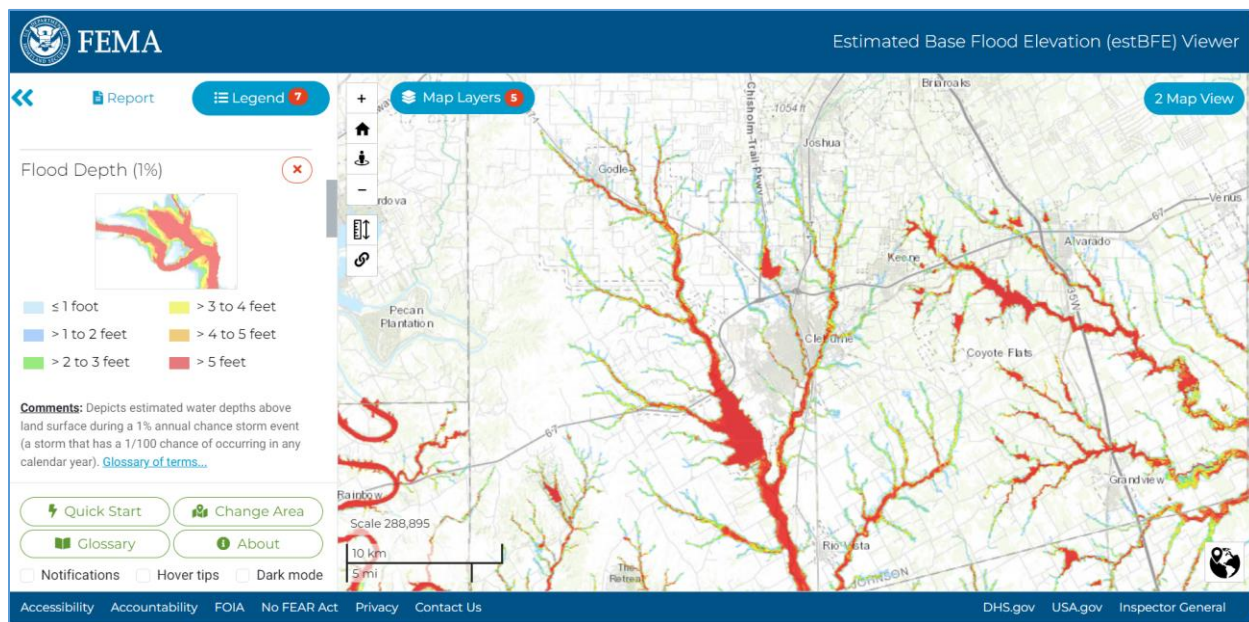


Figure 14: Estimated Base Flood Elevation Viewer

Floodwater can disguise many dangerous obstacles, like uncovered manholes or debris that can cause someone to fall over. Standing water, or water that isn't flowing, can also become a breeding ground for insects that can make people very ill. Another risk can be downed power lines which may still be live.

Potential impacts from flooding include:

- Loss of electricity
- Loss of, or contamination of, water supply
- Loss of property
- Structure and infrastructure damage – flooded structures and eroded roads
- Misplaced residents
- Snakes migrate and number of mosquitoes increase
- Fire – as a result of loss of water supply
- Debris in transportation paths
- Emergency response delays
- Disruption of traffic can lead to impacts to the economy
- Natural environment damage, to include protected species and critical habitats

The following table lists the historical flood events and impacts from 2012-2021 recorded by the National Weather Service.

Table 15: Historical Events- Flooding

Location	Date	Type	Death	Injury	Property Damage	Crop Damage
CLEBURNE	07/17/2014	Flash Flood	0	0	0.00K	0.00K
CLEBURNE	05/10/2015	Flash Flood	0	0	0.00K	0.00K
CLEBURNE MUNI ARPT	05/10/2015	Flash Flood	0	0	0.00K	0.00K
ALVARADO	05/19/2015	Flash Flood	0	0	180.00K	0.00K
LAKE ALVARADO	05/19/2015	Flash Flood	0	0	5.00K	0.00K
ALVARADO	05/20/2015	Flash Flood	0	0	5.00K	0.00K
ALVARADO	05/20/2015	Flash Flood	0	0	20.00K	0.00K
BURLESON	05/20/2015	Flash Flood	0	0	0.00K	0.00K
BURLESON	06/17/2015	Flash Flood	0	0	50.00K	0.00K
ALVARADO	03/07/2016	Flash Flood	0	0	500.00K	0.00K
BURLESON	03/07/2016	Flood	0	0	200.00K	0.00K
ALVARADO	04/17/2017	Flood	0	0	0.00K	0.00K
ALVARADO MUNI ARPT	04/17/2017	Flood	0	0	0.00K	0.00K
BURLESON	05/01/2019	Flash Flood	0	0	0.00K	0.00K
CLEBURNE	01/10/2020	Flood	0	0	0.00K	0.00K
BURLESON	08/18/2021	Flood	0	0	5.00K	0.00K
Total Flash Floods:			0	0	1627.00K	0.00K
Total Floods:			0	0	205.00K	0.00K

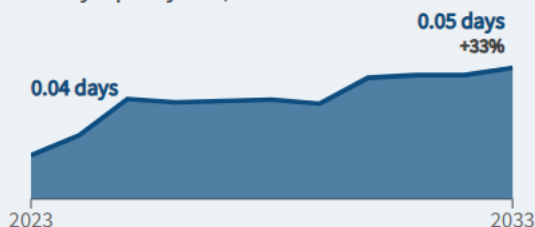
Based on the forecast in Figure 15, [Headwater Economics](#) predicts a 33% increase in days with heavy precipitation within 10 years. The increased precipitation could increase the chances of a flood event.

PRECIPITATION

Days per year with precip. above:

1" 2" 4"

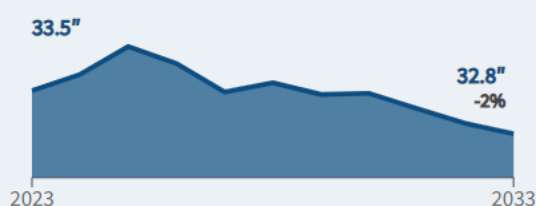
By 2033, Johnson County is expected to experience **0.01 more days** of heavy precipitation per year (from 0.04 days to 0.05 days per year).



Heavy precipitation leads to both riverine flooding and flash floods as the ground fails to absorb the high volume of precipitation that falls in a short period.

Average annual precipitation

By 2033, Johnson County is expected to have a **0.7" decrease** (from 33.5" to 32.8") in average annual precipitation.



Increasing annual precipitation contributes to sustained flooding. For example, in 2019 areas along the Mississippi remained above flood stage for at least three months.

Figure 15: 10 YR Precipitation Forecast

Hazard Summary

The following tables reflect the profile summary for flooding and dam failure flooding within the planning area.

Table 16: Flooding Profile Summary

Flooding				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Limited	Likely	Critical	Major
Burleson	Limited	Likely	Critical	Major
Cleburne	Limited	Likely	Critical	Major
Godley	Limited	Likely	Critical	Major
Joshua	Limited	Likely	Limited	Major
Keene	Limited	Highly Likely	Critical	Major
Johnson County Unincorporated	Limited	Likely	Critical	Major

Table 17: Dam Failure Flooding Profile Summary

Dam Failure Flooding				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Negligible	Unlikely	Minor	Major
Burleson	Negligible	Unlikely	Minor	Major
Cleburne	Negligible	Unlikely	Minor	Major
Joshua	Negligible	Unlikely	Minor	Major
Johnson County Unincorporated	Negligible	Unlikely	Minor	Major

3.2.6 Thunderstorms

A thunderstorm is a storm that consists of rain-bearing clouds and has the potential to produce hail, high winds, and lightning.

- **Hail:** Hail occurs when, at the outgrowth of a severe thunderstorm, balls or irregularly shaped lumps of ice greater than 19.05 mm (0.75 inches) in diameter fall with rain. Evidence indicates maximum hailstone size is the most important parameter relating to structural damage, especially towards the more severe end of the scale. It must be noted that hailstone shapes are also an important feature, especially as the “effective” diameter of non-spheroidal specimens should ideally be an average of the coordinates. Spiked or jagged hail can also increase some aspects of damage.
- **Wind:** Straight-line winds are often responsible for the wind damage associated with a thunderstorm. Downbursts or micro-bursts are examples of damaging straight-line winds. A downburst is a small area of rapidly descending rain and rain-cooled air beneath a thunderstorm that produces a violent, localized downdraft covering 2.5 miles or less. Wind speeds in some of the stronger downbursts can reach 100 to 150 miles per hour, which is similar to that of a strong tornado. The winds produced from a downburst often occur in one direction and the worst damage is usually on the forward side of the downburst.
- **Lightning:** Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas within thunderstorms. A “bolt” or brilliant flash of light is created when the buildup becomes strong enough. These bolts of lightning can be seen in cloud-to-cloud or cloud-to-ground strikes. Bolts of lightning can reach temperatures approaching 50,000°F.

Thunderstorms are not confined by geographic boundaries and can occur anywhere in the county.

The Thunderstorm Criteria in the Extreme Weather Madness Chart (Figure 16), created by Senior Meteorologist Henry Margusity, describes the rainfall, maximum wind gust, hail size, and lightning frequency. This chart was used by the Local Planning Team to determine the maximum probably intensity in the planning area.

THUNDERSTORM TYPES	Rainfall Rate/hr	MAX WIND GUST	HAIL SIZE	PEAK TORNADO Possibility	LIGHTNING FREQUENCY (5 min Intervals)
T-1 – Weak thunderstorms or Thundershowers	.03-.10	< 25 MPH	None	None	Only a few strikes during the storm.
T-2 – Moderate Thunderstorms.	.10”-.25”	25-40 MPH	None	None	Occasional 1-10
T-3 – Heavy Thunderstorms 1. Singular or lines of storms.	.25”-.55”	40-57 MPH	1/4 “ to 3/4”	EF0	Occasional to Frequent 10-20
T-4 – Intense Thunderstorms 1. Weaker supercells 2. Bow Echoes or lines of Storms	.55” – 1.25”	58 to 70 MPH	1” to 1.5”	EF0 to EF2	Frequent 20-30
T-5 – Extreme Thunderstorms 1. Supercells with family of tornadoes. 2. Derecho Windstorms	1.25” – 4”	Over 70 Mph	Over 1.5” to 4”	EF3 to EF5	Frequent to Continuous. > 30

Copyright 2010 AccuWeather.com by Sr. Meteorologist Henry Margusity

Figure 16: Extreme Weather Madness Chart- Thunderstorm Criteria

Thousands of homes and vehicles can be damaged by high winds, hail, and lightning in a single storm, causing millions of dollars in damage.

Direct lightning strikes have the power to cause significant damage to buildings, critical facilities, infrastructure, and the ignition of wildfires which can result in widespread damage to property and persons. Lightning is the most significant natural contributor to fires affecting the built environment.

Severe thunderstorms can have a significant impact on the local economy. It can lead to reduced productivity and increased absenteeism, as well as increased demand for emergency services and disaster relief. Damage from wind, hail, and lightning can lead to the loss of property and infrastructure and can disrupt transportation and communication infrastructure. Additionally, thunderstorms can lead to power outages and can create hazardous conditions for outdoor activities.

The following table lists the historical thunderstorm events and impacts from 2012-2021 recorded by the National Weather Service, in order of year. Hail, lightning, and thunderstorm wind events were compiled.

Table 18: Historical Events- Thunderstorms

Location	Date	Type	Mag	Death	Injury	Property Damage	Crop Damage
ALVARADO	03/19/2012	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	03/19/2012	Hail	0.75 in.	0	0	0.00K	0.00K
LAKE ALVARADO	06/06/2012	Hail	1.00 in.	0	0	0.00K	0.00K
CLEBURNE	06/11/2012	Thunderstorm Wind	56 kts. MG	0	0	2.00K	0.00K
CLEBURNE	06/11/2012	Thunderstorm Wind	56 kts. EG	0	0	2.00K	0.00K
ALVARADO	08/12/2012	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
ALVARADO MUNI ARPT	08/12/2012	Thunderstorm Wind	52 kts. EG	0	0	30.00K	0.00K
CLEBURNE	01/29/2013	Hail	1.00 in.	0	0	0.00K	0.00K
CLEBURNE	01/29/2013	Hail	0.88 in.	0	0	0.00K	0.00K
ALVARADO	03/09/2013	Hail	1.00 in.	0	0	0.00K	0.00K
BURLESON	03/09/2013	Hail	1.00 in.	0	0	0.00K	0.00K
BURLESON	03/09/2013	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	03/09/2013	Hail	0.75 in.	0	0	0.00K	0.00K
CLEBURNE MUNI ARPT	03/09/2013	Hail	1.75 in.	0	0	2.00K	0.00K
CLEBURNE MUNI ARPT	03/09/2013	Hail	2.00 in.	0	0	5.00K	0.00K
CLEBURNE MUNI ARPT	03/09/2013	Hail	2.75 in.	0	0	0.00K	0.00K
GODLEY	10/26/2013	Hail	1.00 in.	0	0	0.00K	0.00K
LAKE ALVARADO	10/26/2013	Hail	1.50 in.	0	0	5.00K	0.00K
ALVARADO	04/03/2014	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	04/03/2014	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	04/03/2014	Hail	1.25 in.	0	0	0.00K	0.00K
CLEBURNE	04/03/2014	Hail	1.00 in.	0	0	0.00K	0.00K
CLEBURNE	04/03/2014	Hail	1.50 in.	0	0	2.00K	0.00K
CLEBURNE	04/03/2014	Hail	0.75 in.	0	0	0.00K	0.00K
GODLEY	04/03/2014	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	04/27/2014	Hail	1.00 in.	0	0	0.00K	0.00K
CLEBURNE MUNI ARPT	04/27/2014	Hail	1.00 in.	0	0	0.00K	0.00K
ALVARADO MUNI ARPT	05/12/2014	Lightning		0	0	4.00K	0.00K
CLEBURNE	05/12/2014	Hail	0.75 in.	0	0	0.00K	0.00K

Location	Date	Type	Mag	Death	Injury	Property Damage	Crop Damage
CLEBURNE	10/02/2014	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	10/02/2014	Hail	0.88 in.	0	0	0.00K	0.00K
ALVARADO MUNI ARPT	05/07/2015	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
CLEBURNE	11/05/2015	Hail	1.00 in.	0	0	0.00K	0.00K
CLEBURNE	11/05/2015	Hail	1.75 in.	0	0	0.00K	0.00K
CLEBURNE	11/05/2015	Hail	2.75 in.	0	0	20.00K	0.00K
CLEBURNE	11/05/2015	Hail	2.00 in.	0	0	0.00K	0.00K
CLEBURNE	11/05/2015	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
ALVARADO	03/17/2016	Hail	1.00 in.	0	0	0.00K	0.00K
ALVARADO	04/26/2016	Hail	0.75 in.	0	0	0.00K	0.00K
ALVARADO MUNI ARPT	05/11/2016	Hail	0.75 in.	0	0	0.00K	0.00K
LAKE ALVARADO	05/29/2016	Hail	0.75 in.	0	0	0.00K	0.00K
ALVARADO	07/15/2016	Hail	0.75 in.	0	0	0.00K	0.00K
CLEBURNE	07/15/2016	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
CLEBURNE	07/15/2016	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
ALVARADO	03/26/2017	Hail	1.00 in.	0	0	0.00K	0.00K
ALVARADO MUNI ARPT	03/26/2017	Hail	1.75 in.	0	0	5.00K	0.00K
CLEBURNE	03/26/2017	Hail	1.50 in.	0	0	0.00K	0.00K
CLEBURNE	03/26/2017	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE	03/26/2017	Hail	2.00 in.	0	0	75.00K	0.00K
GODLEY	04/13/2018	Hail	0.88 in.	0	0	0.00K	0.00K
ALVARADO MUNI ARPT	11/30/2018	Hail	1.00 in.	0	0	0.00K	0.00K
BURLESON	04/17/2019	Hail	2.00 in.	0	0	10.00K	0.00K
BURLESON	04/17/2019	Hail	1.00 in.	0	0	0.00K	0.00K
ALVARADO	03/18/2020	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
BURLESON	03/18/2020	Thunderstorm Wind	64 kts. EG	0	0	3.00K	0.00K
GODLEY	04/11/2020	Hail	0.88 in.	0	0	0.00K	0.00K
CLEBURNE MUNI ARPT	04/28/2020	Hail	1.50 in.	0	0	0.00K	0.00K
LAKE ALVARADO	04/28/2020	Hail	1.00 in.	0	0	0.00K	0.00K

Location	Date	Type	Mag	Death	Injury	Property Damage	Crop Damage
ALVARADO	05/22/2020	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
GODLEY	05/03/2021	Hail	1.75 in.	0	0	100.00K	0.00K
GODLEY	05/03/2021	Hail	1.00 in.	0	0	0.00K	0.00K
BURLESON	05/28/2021	Thunderstorm Wind	74 kts. EG	0	0	500.00K	0.00K
ALVARADO	07/27/2021	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
ALVARADO	07/27/2021	Thunderstorm Wind	70 kts. EG	0	0	75.00K	0.00K
Total Hail:				0	0	214.00K	0.00K
Total Lightning:				0	0	4.00K	0.00K
Total Thunderstorm Wind:						644.00K	0.00K

Source: [NOAA National Centers for Environmental Information](#)

Due to the history of thunderstorms and the presence of climate change, thunderstorms are expected to be a continual threat to the planning area.

Hazard Summary

The following table reflects the profile summary for thunderstorms within the planning area.

Table 19: Thunderstorm Profile Summary

Thunderstorms				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Highly Likely	Critical	Major
Burleson	Extensive	Highly Likely	Critical	Major
Cleburne	Extensive	Highly Likely	Critical	Major
Godley	Extensive	Highly Likely	Critical	Major
Joshua	Extensive	Highly Likely	Critical	Major
Keene	Extensive	Highly Likely	Critical	Major
Johnson County Unincorporated	Extensive	Highly Likely	Critical	Major

3.2.7 Tornadoes

A tornado is a narrow, violently rotating column of air that makes contact with the ground. A tornado can either be suspended from, or occur underneath, a cumuliform cloud. It is often, but not always, visible as a condensation funnel.

As part of “Tornado Alley,” which encompasses much of northern Texas northward through Oklahoma, Kansas, Nebraska and parts of New Mexico, South Dakota, Iowa, and eastern Colorado. Johnson County faces a high potential for tornado development. It’s important to keep in mind that tornadoes are not confined by geographic boundaries and can occur anywhere in the country.

The map below shows the average annual frequency of tornadoes in the United States between 1950-1995. According to the map, Johnson County averages 5-7 tornadoes per year.

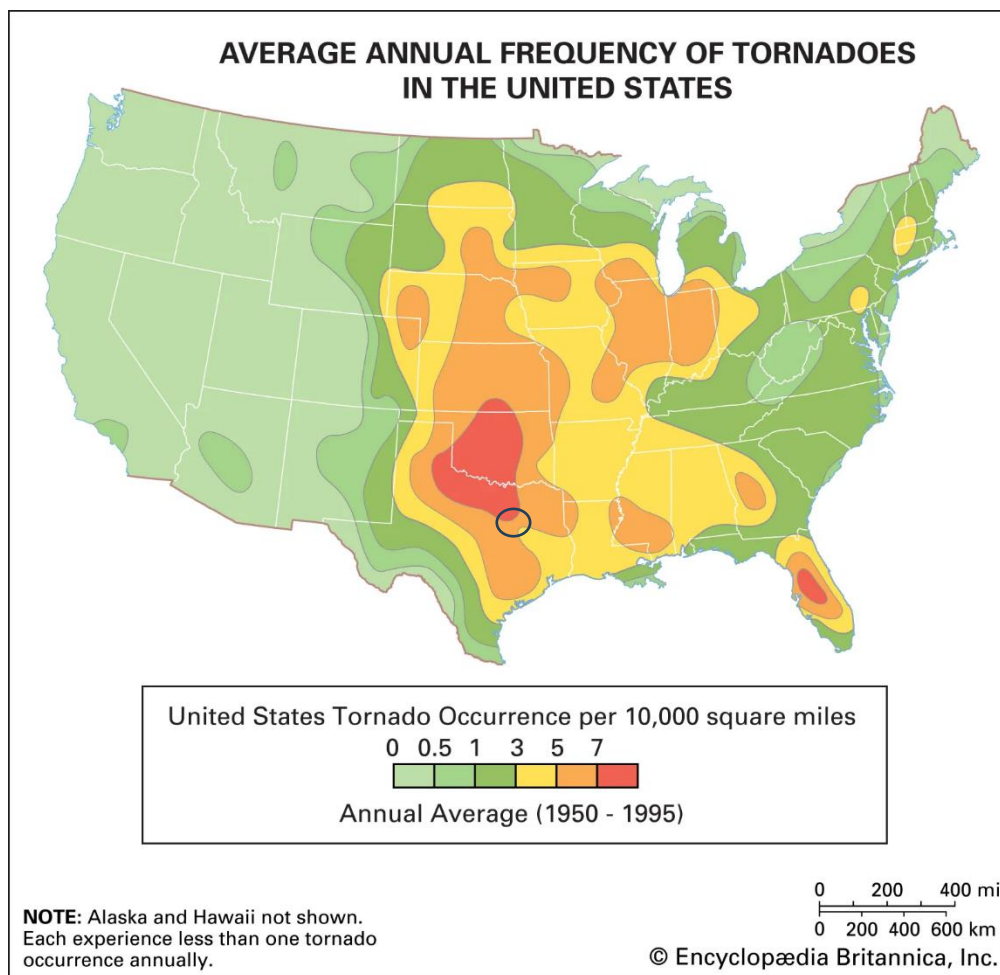


Figure 17: Average Annual Frequency of Tornadoes

The Enhanced Fujita (EF) Scale (Table 20) is used by the National Weather Service to determine the highest wind speed that occurred within the damage path. The NWS is the only federal agency with authority to provide 'official' tornado EF Scale ratings.

Table 20: EF Scale

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

After the NWS evaluator matches the construction or description of the building with the appropriate damage indicator (Table 21).

Table 21: EF Scale Damage Indicators

NUMBER (Details Linked)	DAMAGE INDICATOR	ABBREVIATION
1	Small barns, farm outbuildings	SBO
2	One- or two-family residences	FR12
3	Single-wide mobile home (MHSW)	MHSW
4	Double-wide mobile home	MHDW
5	Apt, condo, townhouse (3 stories or less)	ACT
6	Motel	M
7	Masonry apt. or motel	MAM
8	Small retail bldg. (fast food)	SRB
9	Small professional (doctor office, branch bank)	SPB
10	Strip mall	SM
11	Large shopping mall	LSM
12	Large, isolated ("big box") retail bldg.	LIRB
13	Automobile showroom	ASR
14	Automotive service building	ASB
15	School - 1-story elementary (interior or exterior halls)	ES
16	School - jr. or sr. high school	JHSH
17	Low-rise (1-4 story) bldg.	LRB
18	Mid-rise (5-20 story) bldg.	MRB
19	High-rise (over 20 stories)	HRB
20	Institutional bldg. (hospital, govt. or university)	IB
21	Metal building system	MBS
22	Service station canopy	SSC
23	Warehouse (tilt-up walls or heavy timber)	WHB
24	Transmission line tower	TLT
25	Free-standing tower	FST
26	Free standing pole (light, flag, luminary)	FSP
27	Tree - hardwood	TH
28	Tree - softwood	TS

For each DI, there are eight degrees of damage (Table 22).

Table 22: Degree of Damage (DOD)

DOD	Damage Description	EXP	LB	UB
1	Threshold of visible damage	62	53	78
2	Loss of wood or metal roof panels	74	61	91
3	Collapse of doors	83	68	102
4	Major loss of roof panels	90	78	110
5	Uplift or collapse of roof structure	93	77	114
6	Collapse of walls	97	81	119
7	Overturning or sliding of entire structure	99	83	118
8	Total destruction of building	112	94	131

Potential impacts from tornadoes include:

- Injury or death
- Power outage
- Blocked roadways from trees and damaged property
- Natural gas pipeline breaks – fire injuries, possible deaths
- Transportation disruption
- Rerouting traffic
- Loss of property
- Structure and infrastructure damage
- Misplaced residents
- Natural environment damage, to include protected species and critical habitats

Since 2012, the National Weather Service has reported EF0-EF2 tornadoes in jurisdictions in Johnson County, totaling a combined estimated loss of \$1.940M in property damage. The most costly tornado events were E1 in 2012 and E2 in 2022 (\$1.600M). In both cases several manufactured homes and metal buildings were damaged, roofs lost, and large trees uprooted.

Table 23: Historical Events- Tornadoes

Location	Date	Type	Mag	Death	Injury	Property Damage	Crop Damage
JOSHUA ARPT	4/3/2012	Tornado	EF1	0	0	600.00K	0.00K
BURLESON	4/3/2012	Tornado	EF0	0	0	0.00K	2.00K
GODLEY	5/15/2013	Tornado	EF1	0	0	260.00K	0.00K
GODLEY	5/15/2013	Tornado	EF0	0	0	10.00K	0.00K
GODLEY	1/10/2020	Tornado	EF1	0	0	20.00K	0.00K
JOSHUA ARPT	4/4/2022	Tornado	EF2	0	1	1.000M	0.00K
KEENE	4/4/2022	Tornado	EF0	0	0	50.00K	0.00K
Totals:				0	1	1.940M	2.00K

The following figures from the [National Weather Service \(NWS\) Fort Worth Tornado Climatology](#) reflect historical tornado events in the county.

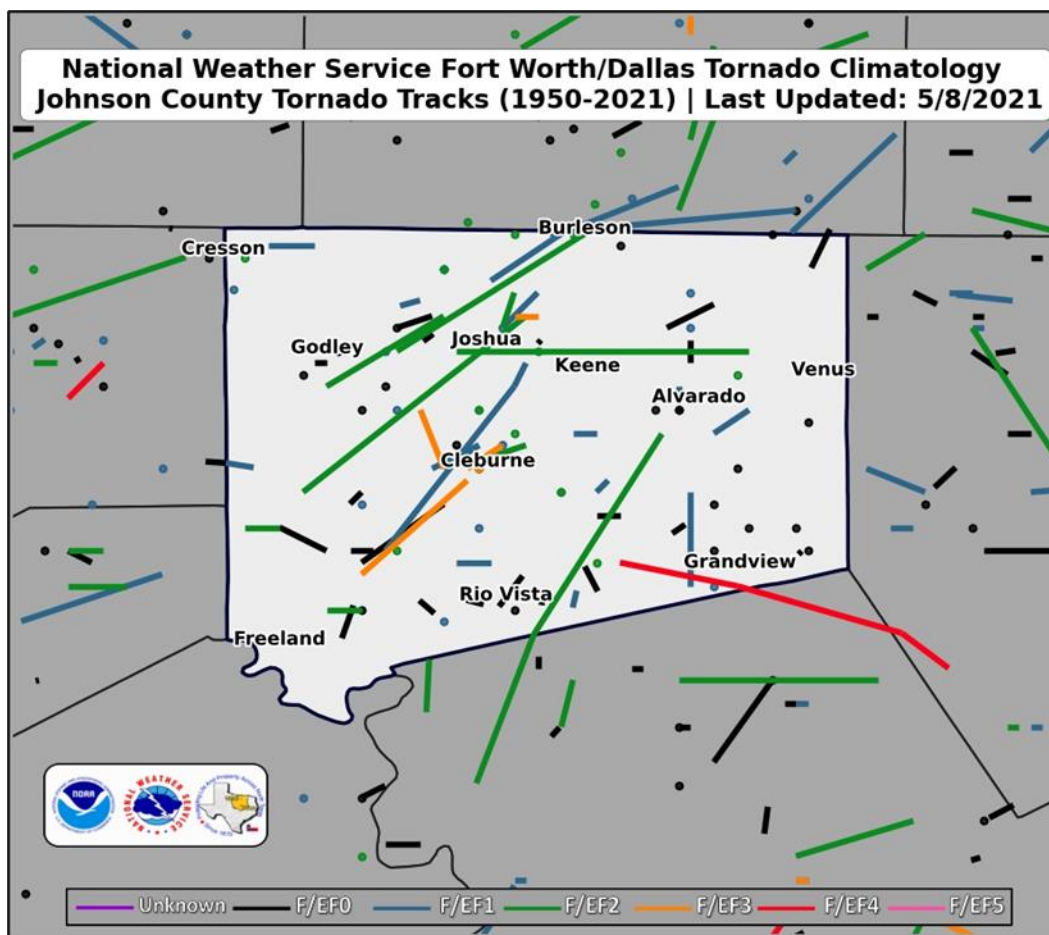


Figure 18: Tornado Tracks from 1950-2021

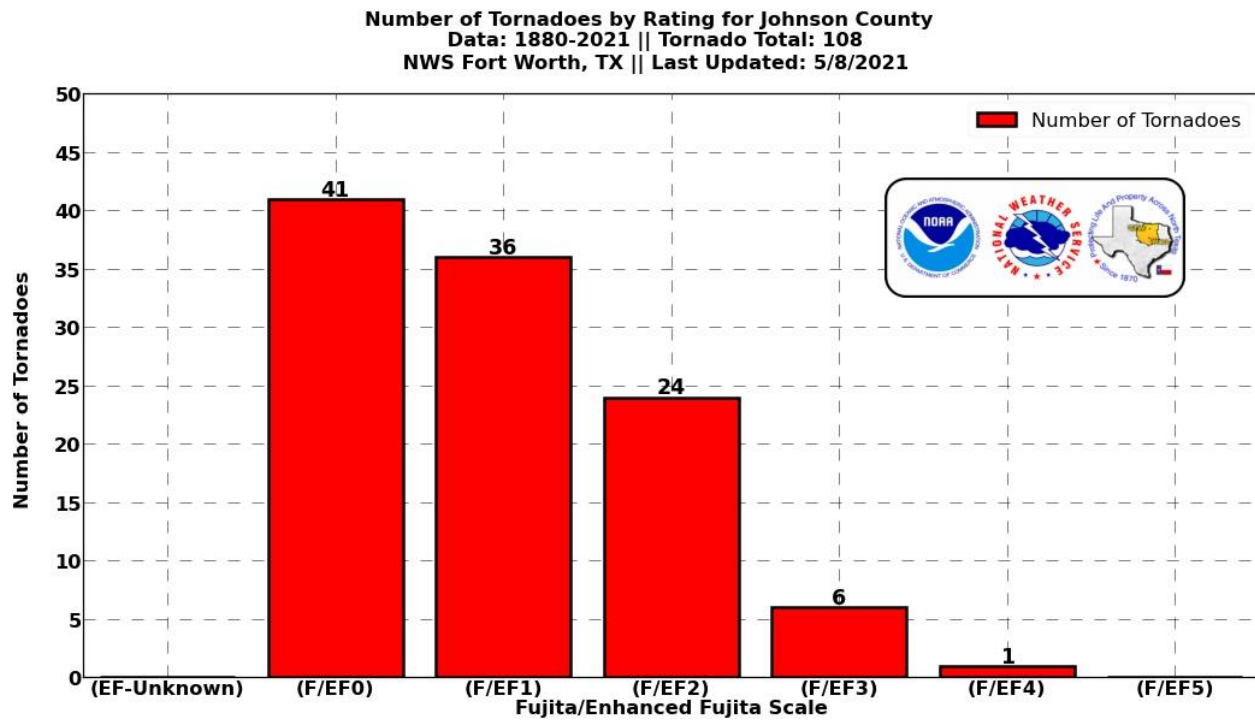


Figure 19: Number of Tornadoes by Rating

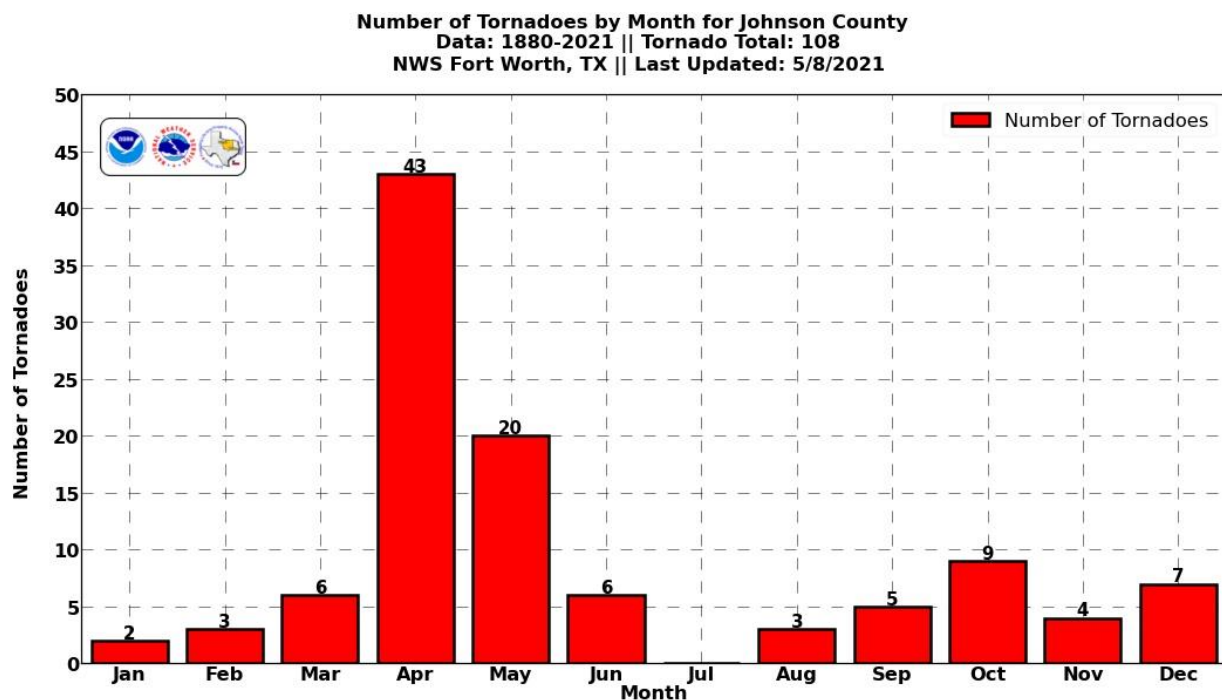


Figure 20: Number of Tornadoes by Month

Using this historical data, we can predict that there will be similar future tornado events and losses in the county.

Hazard Summary

The following table reflects the profile summary for tornadoes within the planning area.

Table 24: Tornado Profile Summary

Tornadoes				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Highly Likely	Catastrophic	Medium
Burleson	Extensive	Highly Likely	Catastrophic	Medium
Cleburne	Extensive	Highly Likely	Catastrophic	Medium
Godley	Extensive	Highly Likely	Catastrophic	Medium
Joshua	Extensive	Highly Likely	Catastrophic	Medium
Keene	Extensive	Highly Likely	Catastrophic	Medium
Johnson County Unincorporated	Extensive	Highly Likely	Critical	Medium

3.2.8 Wildfires

The profile data for wildfires was provided by the Texas A&M Forest Service, the leading state agency to respond to wildfires. Environmental weather parameters needed to compute fire behavior characteristics include 1-hour, 10-hour, and 100-hour timelag fuel moistures, herbaceous fuel moisture, woody fuel moisture, and the 20-foot 10-minute average wind speed. There are two primary fire types if wildfire – surface fire and canopy fire. Canopy fire can be further subdivided into passive canopy fire and active canopy fire. A short description of each of these is provided below:

Surface Fire

A fire that spreads through surface fuel without consuming any overlying canopy fuel. Surface fuels include grass, timber litter, shrub/brush, slash and other dead or live vegetation within about 6 feet of the ground.



Passive Canopy Fire

A type of crown fire in which the crowns of individual trees or small groups of trees burn, but solid flaming in the canopy cannot be maintained except for short periods (Scott & Reinhardt, 2001).



Active Canopy Fire

A crown fire in which the entire fuel complex (canopy) is involved in flame, but the crowning phase remains dependent on heat released from surface fuel for continued spread (Scott & Reinhardt, 2001).



In Johnson County, residents are most threatened by surface fires except for the very southwest corner of the county.

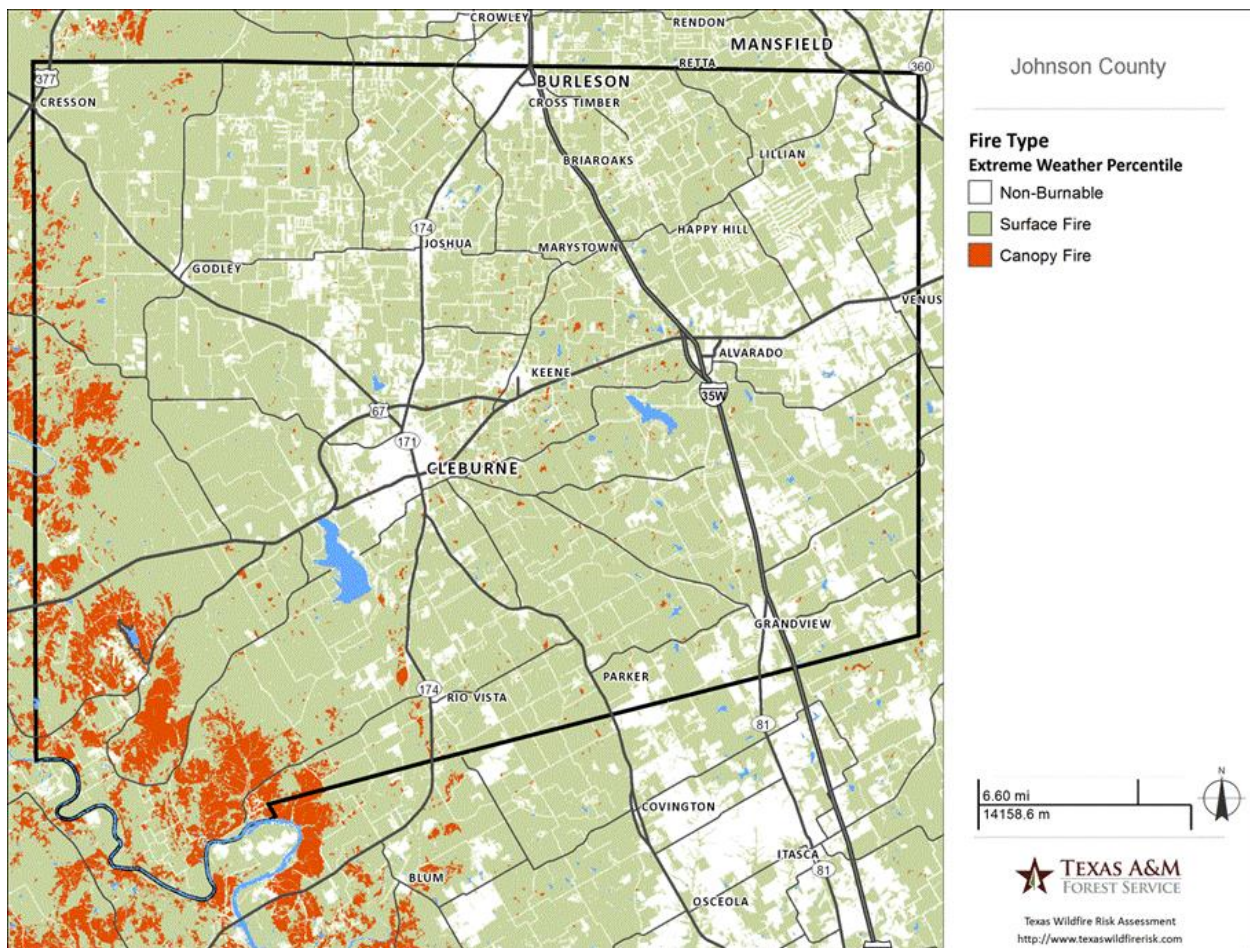


Figure 21: Fire Type

Wildfires are fueled almost exclusively by natural vegetation. Interface or intermix fires are urban/wildland fires in which vegetation and the built environment provide fuel. The following chart shows the vegetation, and thus the amount of fuel sources, in Johnson County. Grassland is the most common class compared to other vegetation classes and it can be used for grazing.

Table 25: Johnson County Vegetation

	Class	Description	Acres	Percent
	Open Water	All areas of open water, generally with < 25% cover of vegetation or soil	4,279	0.9 %
	Developed Open Space	Impervious surfaces account for < 20% of total cover (i.e. golf courses, parks, etc...)	26,181	5.5 %
	Developed Low Intensity	Impervious surfaces account for 20-49% of total cover	24,727	5.2 %
	Developed Medium Intensity	Impervious surfaces account for 50-79% of total cover	3,101	0.7 %
	Developed High Intensity	Impervious surfaces account for 80-100% of total cover	1,628	0.3 %
	Barren Land (Rock/Sand/Clay)	Vegetation generally accounts for <15% of total cover	675	0.1 %
	Cultivated Crops	Areas used for the production of annual crops, includes land being actively tilled	37,313	7.9 %
	Pasture/Hay	Areas of grasses and/or legumes planted for livestock grazing or hay production	46,322	9.8 %
	Grassland/Herbaceous	Areas dominated (> 80%) by grammanoid or herbaceous vegetation, can be grazed	248,212	52.5 %
	Marsh	Low wet areas dominated (>80%) by herbaceous vegetation	14	0.0 %
	Shrub/Scrub	Areas dominated by shrubs/trees < 5 meters tall, shrub canopy > than 20% of total vegetation	539	0.1 %
	Floodplain Forest	> 20% tree cover, the soil is periodically covered or saturated with water	8,133	1.7 %
	Deciduous Forest	> 20% tree cover, >75% of tree species shed leaves in response to seasonal change	40,040	8.5 %
	Live Oak Forest	> 20% tree cover, live oak species represent >75% of the total tree cover	3,492	0.7 %
	Live Oak/Deciduous Forest	> 20% tree cover, neither live oak or deciduous species represent >75% of the total tree cover	0	0.0 %
	Juniper or Juniper/Live Oak Forest	> 20% tree cover, juniper or juniper/live oak species represent > 75% of the total tree cover	8,208	1.7 %
	Juniper/Deciduous Forest	> 20% tree cover, neither juniper or deciduous species represent > 75% of the total tree cover	19,884	4.2 %
	Pinyon/Juniper Forest	> 20% tree cover, pinyon or juniper species represent > 75% of the total tree cover	0	0.0 %
	Eastern Redcedar Forest	> 20% tree cover, eastern redcedar represents > 75% of the total tree cover	0	0.0 %
	Eastern Redcedar/Deciduous Forest	> 20% tree cover, neither eastern redcedar or deciduous species represent > 75% of the total tree cover	0	0.0 %
	Pine Forest	> 20% tree cover, pine species represent > 75% of the total tree cover	0	0.0 %
	Pine Regeneration	Areas of pine forest in an early successional or transitional stage	0	0.0 %
	Pine/Deciduous Forest	> 20% tree cover, neither pine or deciduous species represent > 75% of the total tree cover	0	0.0 %
	Pine/Deciduous Regeneration	Areas of pine or pine/deciduous forest in an early	0	0.0 %

Class	Description	Acres	Percent
	successional or transitional stage		
Total		472,748	100.0 %

Source: Texas Wildfire Risk Assessment Portal Professional Viewer.

While wildfires know no boundaries, the Characteristic Fire Intensity Scale (FIS) identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist based on a weighted average of four percentile weather categories. Similar to the Richter scale for earthquakes, FIS provides a standard scale to measure potential wildfire intensity. FIS consists of 5 classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents very low wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. Refer to descriptions below.

- **Class 1, Very Low:** Very small, discontinuous flames, usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
- **Class 2, Low:** Small flames, usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
- **Class 3, Moderate:** Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
- **Class 4, High:** Large Flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.
- **Class 5, Very High:** Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire-induced winds. Indirect attack marginally effective at the head of the fire. Great potential for harm or damage to life and property.

The Characteristic FIS does not incorporate historical occurrence information. It only evaluates the potential fire behavior for an area, regardless if any fires have occurred there in the past. This additional information allows mitigation planners to quickly identify areas where dangerous fire behavior potential exists in relationship to nearby homes or other valued assets.

The FIS Map in Figure 22 shows that most of the county has an FIS score of Class 3-4.

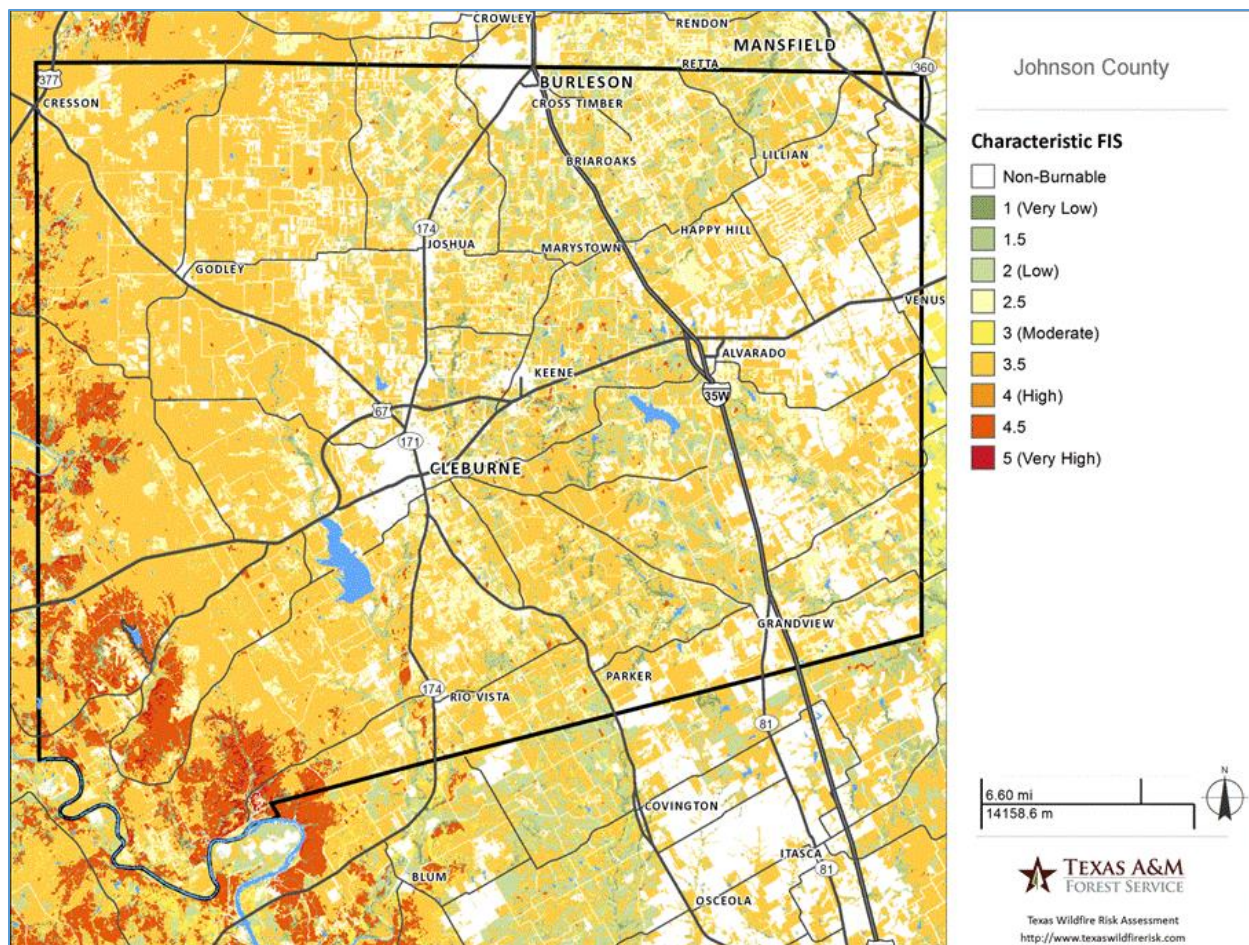


Figure 22: Fire Intensity Scale

The following graphs better reflect the FIS Class within each participating jurisdiction.

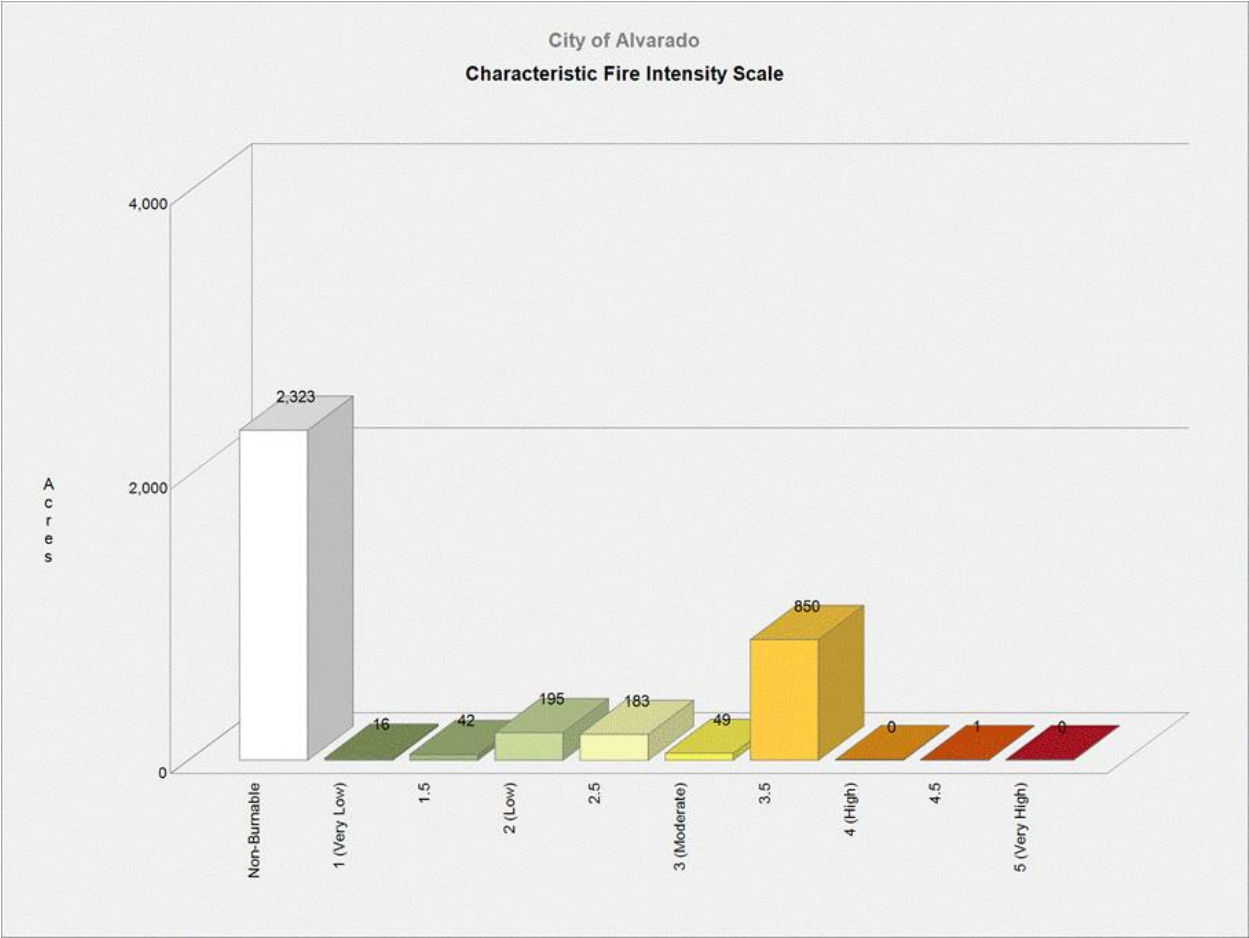


Figure 23: Alvarado FIS

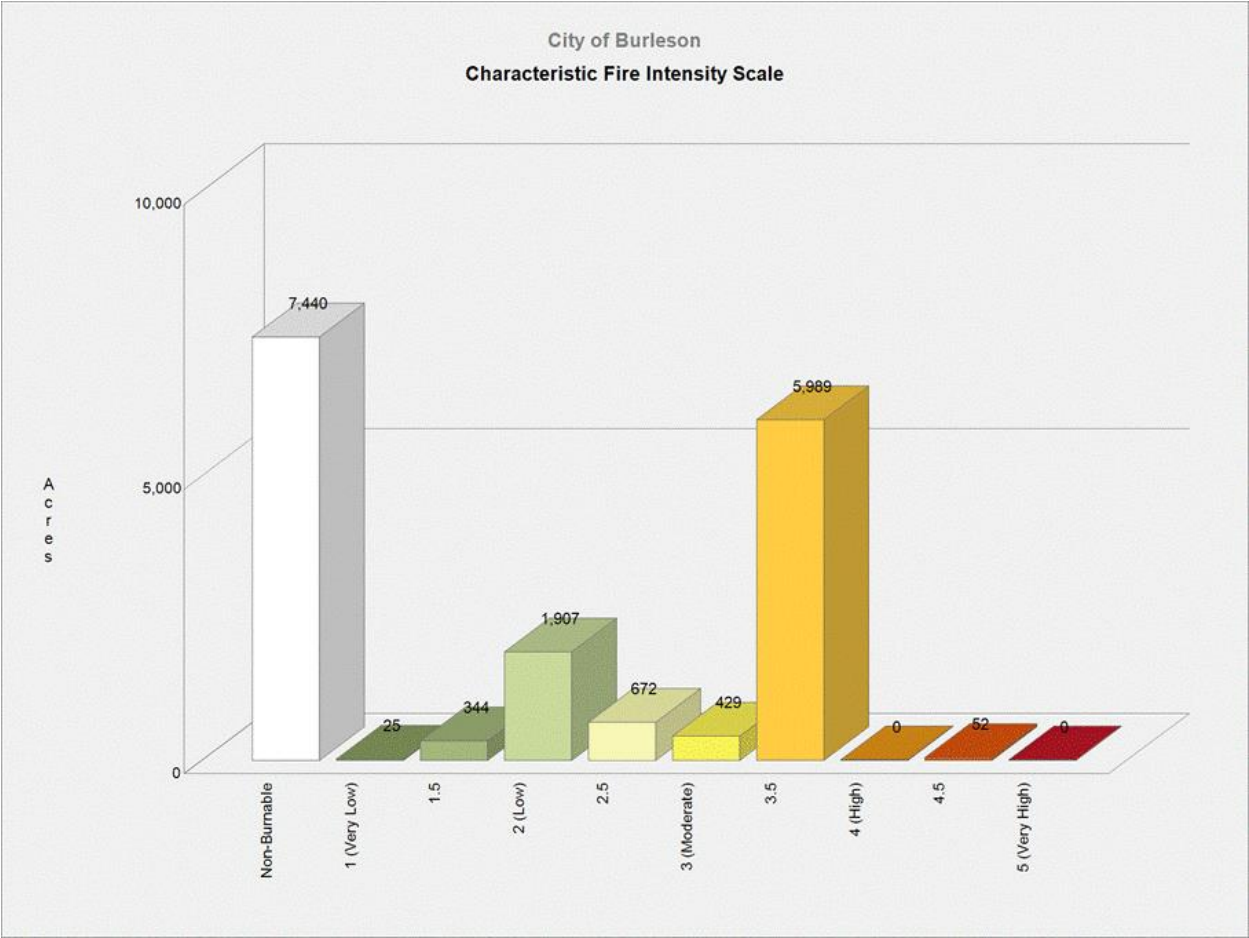


Figure 24: Burleson FIS

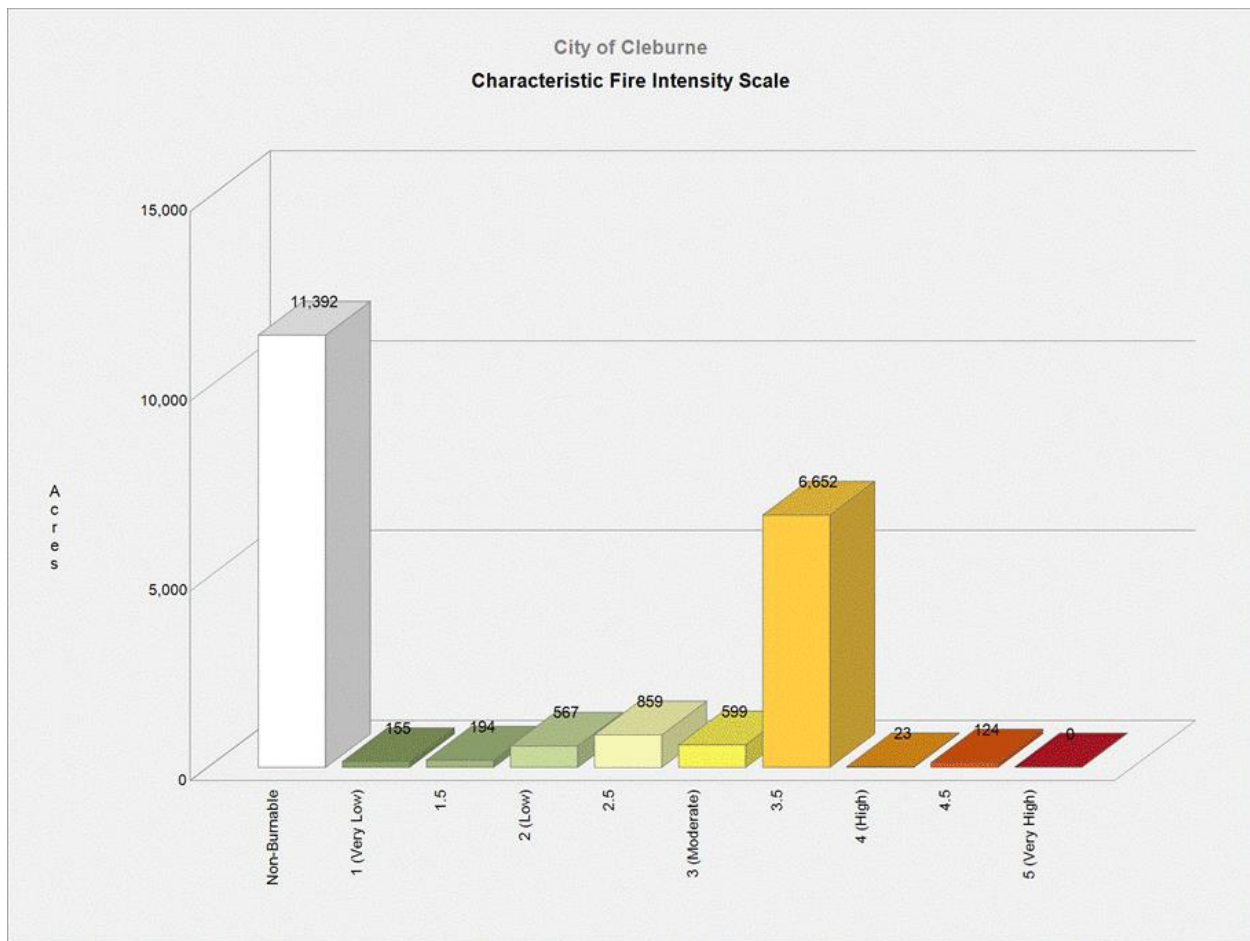


Figure 25: Cleburne FIS

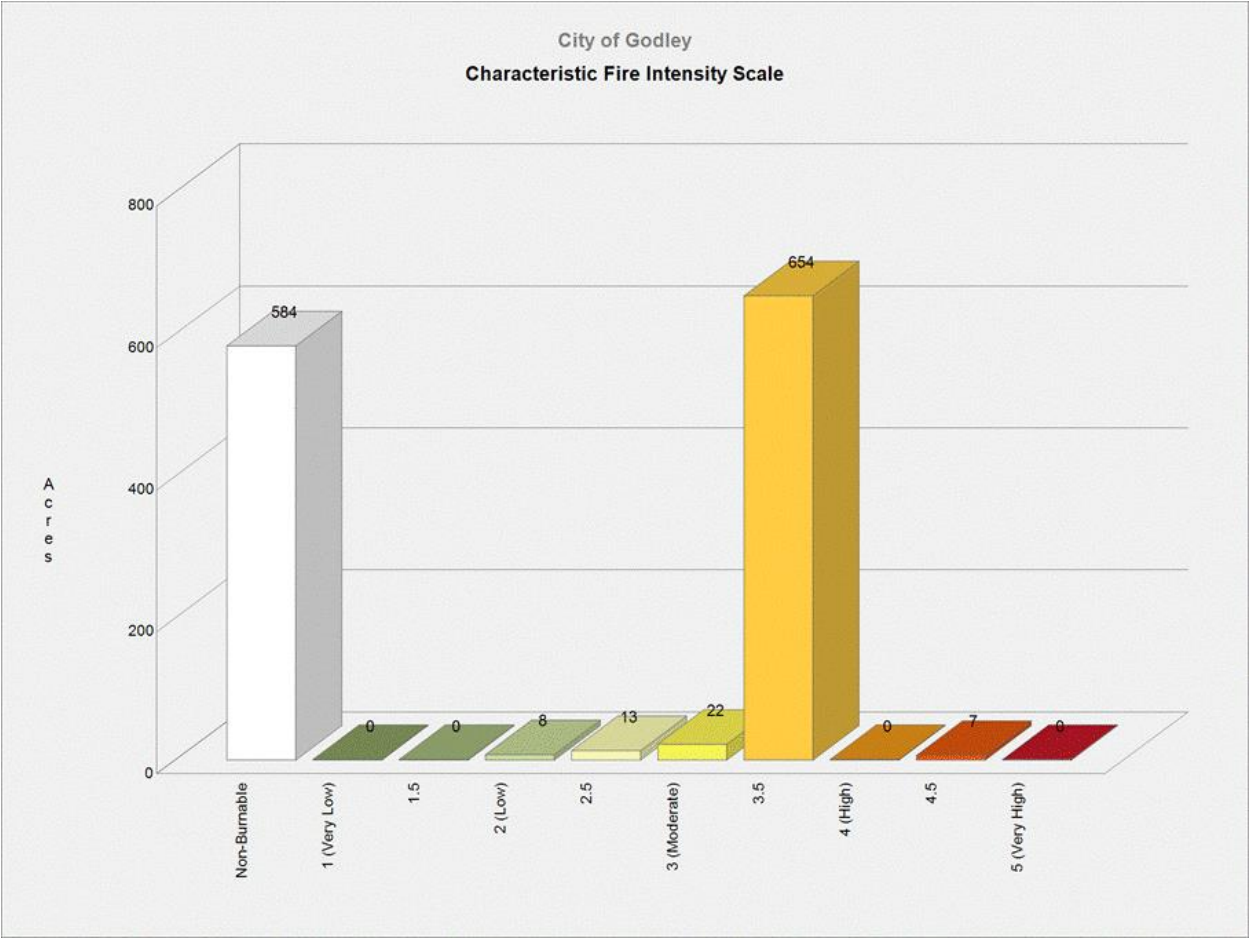


Figure 26: Godley FIS

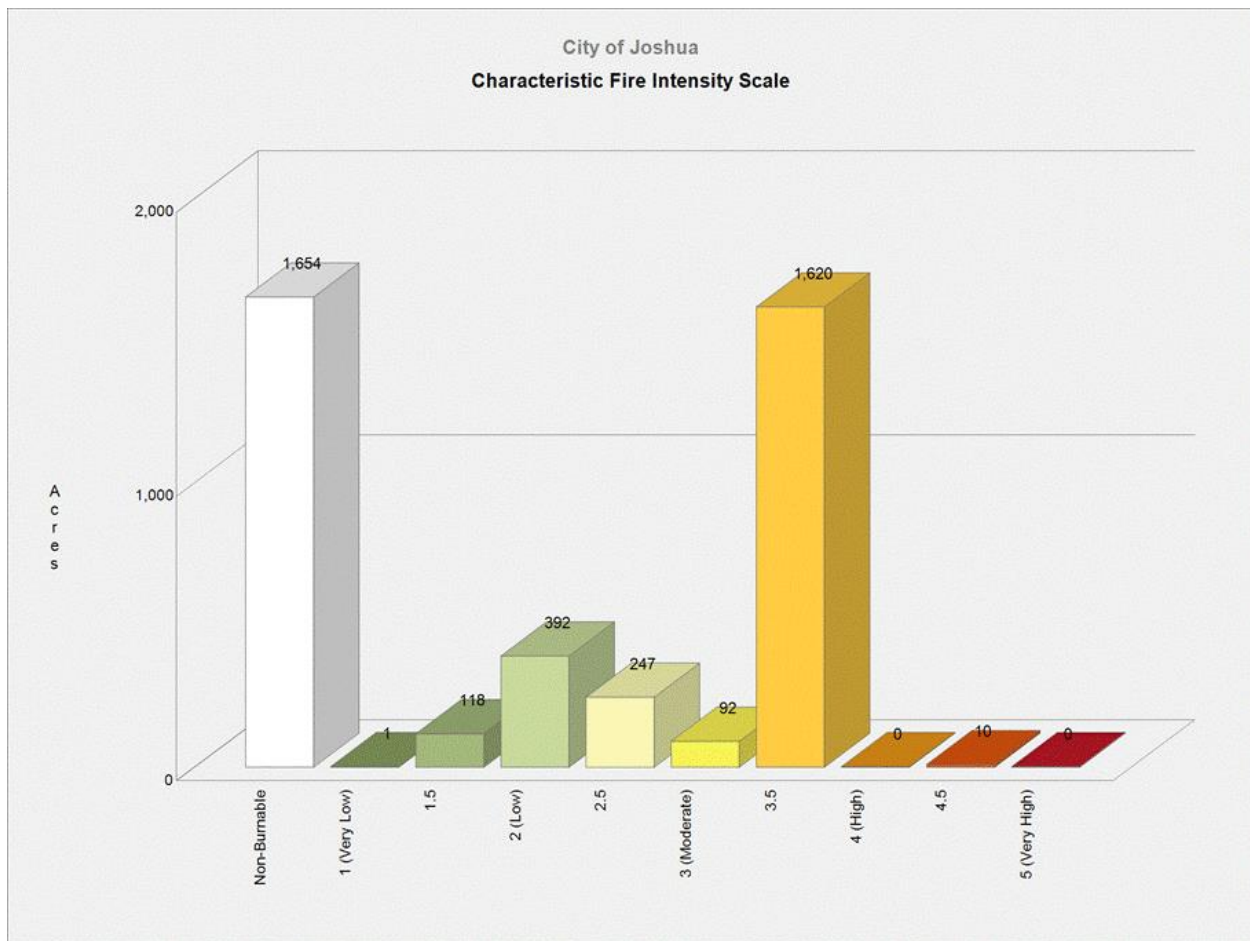


Figure 27: Joshua FIS

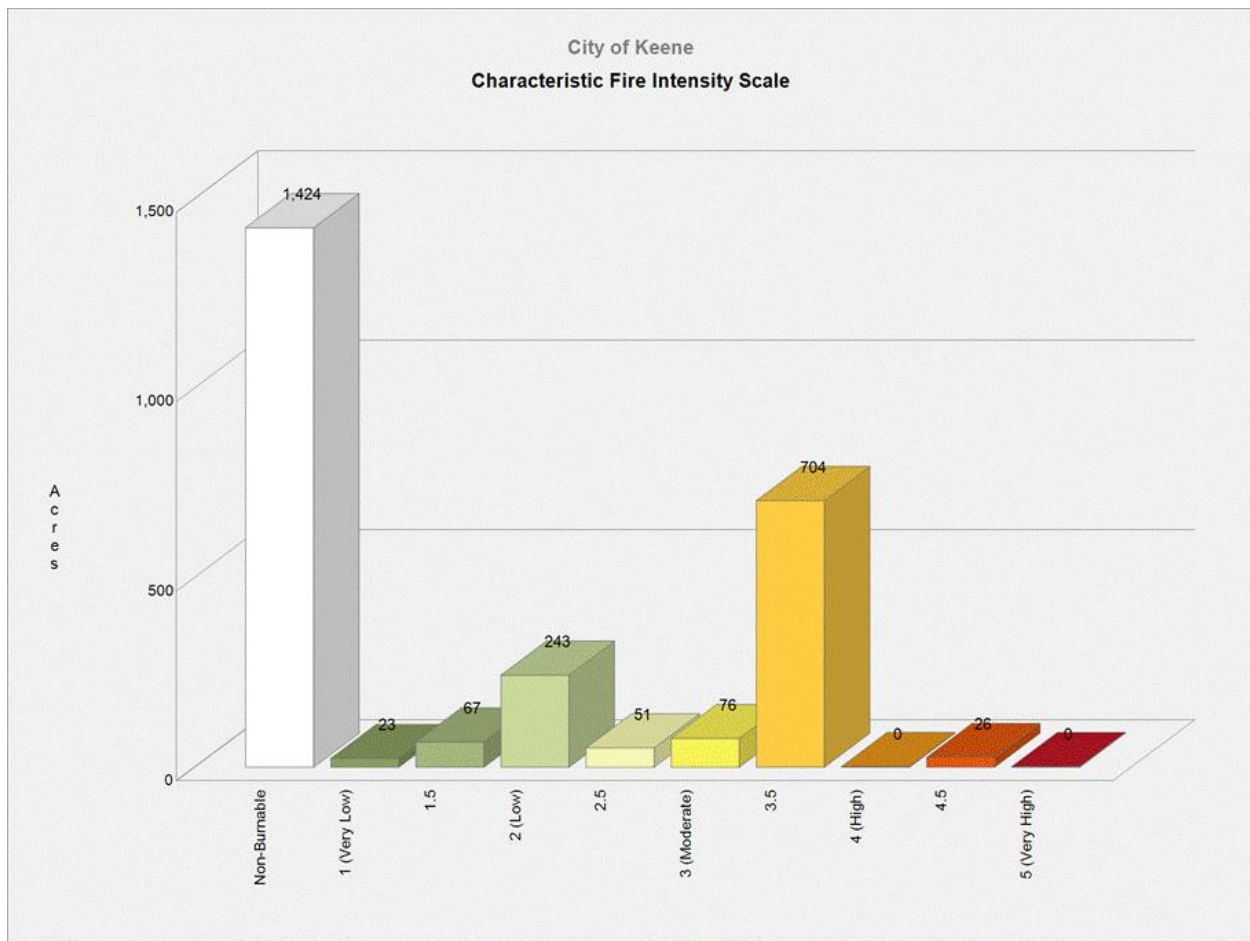


Figure 28: Keene FIS

One of the unique vulnerabilities to wildfires is the wildland-urban interface (WUI). The WUI is an area of development that is susceptible to wildfires due to the number of structures located in an area with vegetation that can act as fuel for a wildfire. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. The expansion of these areas has increased the likelihood that wildfires will threaten structures and people. The WUI Map in Figure 29 reflects housing density depicting where humans and their structures meet or intermix with wildland fuels and shows that all participating jurisdictions in this plan have highly populated WUI areas in their communities.

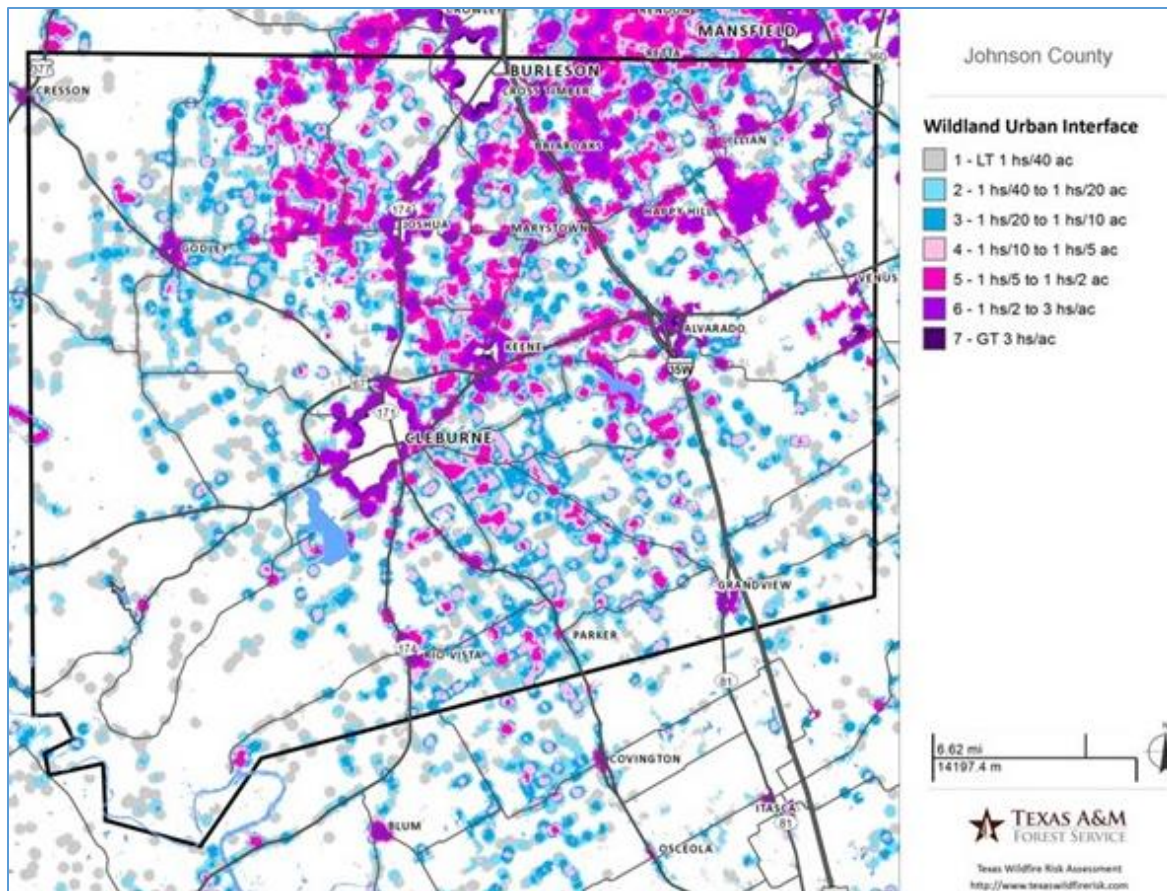


Figure 29: WUI Map

Potential impacts from wildfires include:

- Injury or death
- Property and fence damage
- Road closure
- Loss of power – burning utility poles
- Loss of property
- Loss of crops and livestock
- Structure and infrastructure damage
- Misplaced residents
- Loss of resources
- Natural environments damage, to include protected species and critical habitats

Common practices to minimize the spread of wildfire are fuel breaks and fire breaks. A **fuel break** is the thinning of vegetation, or fuels, over a specific area of land. They are most commonly used to surround a community and slow the spread of a wildfire. By decreasing the amount of vegetation that the fire has to travel through, the risk of extreme fire behavior greatly depreciates.

Types of fuel breaks include:

- **Mechanical Treatments-** A mechanical treatment removes fuels by cutting shrubs, small trees and ladder fuels that make up the understory of a forested area. Materials are either taken from the site or chipped into smaller pieces. Fuels are selected for removal based on how they would contribute to a wildfire. For example, a thick patch of cedar could readily ignite and release significant heat and embers. This fuel type contributes to the rapid spread of a wildfire and would need to be removed.

The objective of mechanical treatment is to reduce the intensity of wildfire. If there is less fuel to burn the fire stays low to the ground giving firefighters a safer condition in which to work.

- **Mulching-** A mulching operation is intended to break fuels into smaller pieces and spread them within the fuel break. While the smaller pieces will still carry fire, they will significantly reduce the intensity of it. The goal is to reduce ladder fuels like tall brush that could carry a ground fire into the top of a tree.

Mulching equipment is classified as either traditional mowers or mulchers that grind the material. Heavy duty mowers are useful when fuels are small enough to be pushed over. However, for sites with an established woody mid-story, or ladder fuels, other equipment may be needed.

- **Herbicide Treatment-** Herbicides are used to control invasive species of plants that will “take over” an area. Invasive plant species can also be reduced with mechanical thinning.

The effectiveness of herbicide treatments depends on existing vegetation, topography, and other local restrictions. Thick underbrush may require mechanical treatments prior to the use of herbicides.

- **Grazing-** Removing fuels by grazing relies on the consumption of plants by animals. Various types of livestock are used in this way across the state, including Johnson County.
- **Prescribed Burning-** Prescribed or controlled, burning is the most commonly used tool for managing hazardous fuel buildups because of its relatively low cost per acre. Prescribed fire improves natural habitats and reduces heavy fuels. It is important to use a certified prescribe burn manager to improve fire safety and reduce smoke management issues.

Fuel breaks are most effective when placed along a natural fire break like a road. Choosing a site along a road also allows easy access for equipment. Regular maintenance of breaks increases their effectiveness in preventing wildfires. To maintain a fuel break, the use of herbicides as a follow up treatment to mulching will help reduce the amount of weed sprouts. Grazing is also an option to maintain a fuel break.

When creating a fuel break, these tips should be used:

- Follow a natural fire break or contour lines.
- Prune large trees to 10 feet from ground.
- Remove ladder fuels such as tall brush and small trees.
- Thin trees to create a crown spacing of 25 to 30 feet.
- Break up thick areas of brush.
- Maintain a minimum width of 60 feet on flat land and 100 feet on slopes.

A **fire break** is a break in vegetation. In some cases, it may be a gravel road, a river, or a clearing made by a bulldozer. A 'green' fire break uses grasses with high moisture content, such as winter rye or winter wheat to provide a break in the continuity of the fuel. If wide enough, a fire break will stop the spread of direct flame. However, embers can still be lofted into the air and travel across the line.

Considering the various types of fuel and fire breaks, the participating jurisdictions who have identified wildfires as a threat have listed wildfire mitigation actions in Chapter 4, along with actions for all the other identified hazards.

Seventeen years of historic fire report data was used to create the Fire Occurrence Summary Chart below. Data was obtained from state and local fire department report data sources for the years 2005 to 2021.

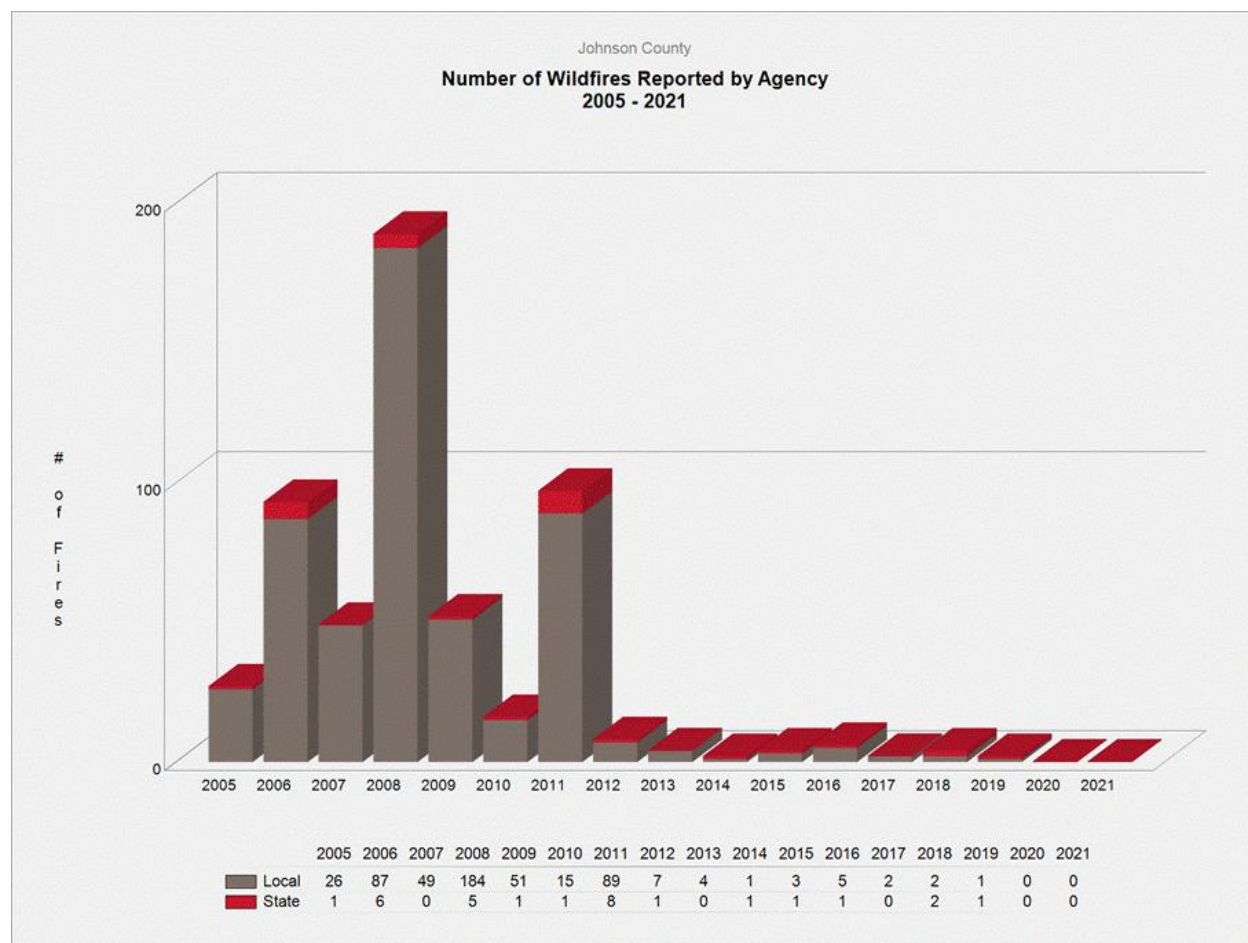


Figure 30: 2005-2021 Fire Occurrence Summary Chart

Debris burning, equipment use, and miscellaneous were the three primary causes of wildfires, with over 200 fires started by each (see Figure 31).

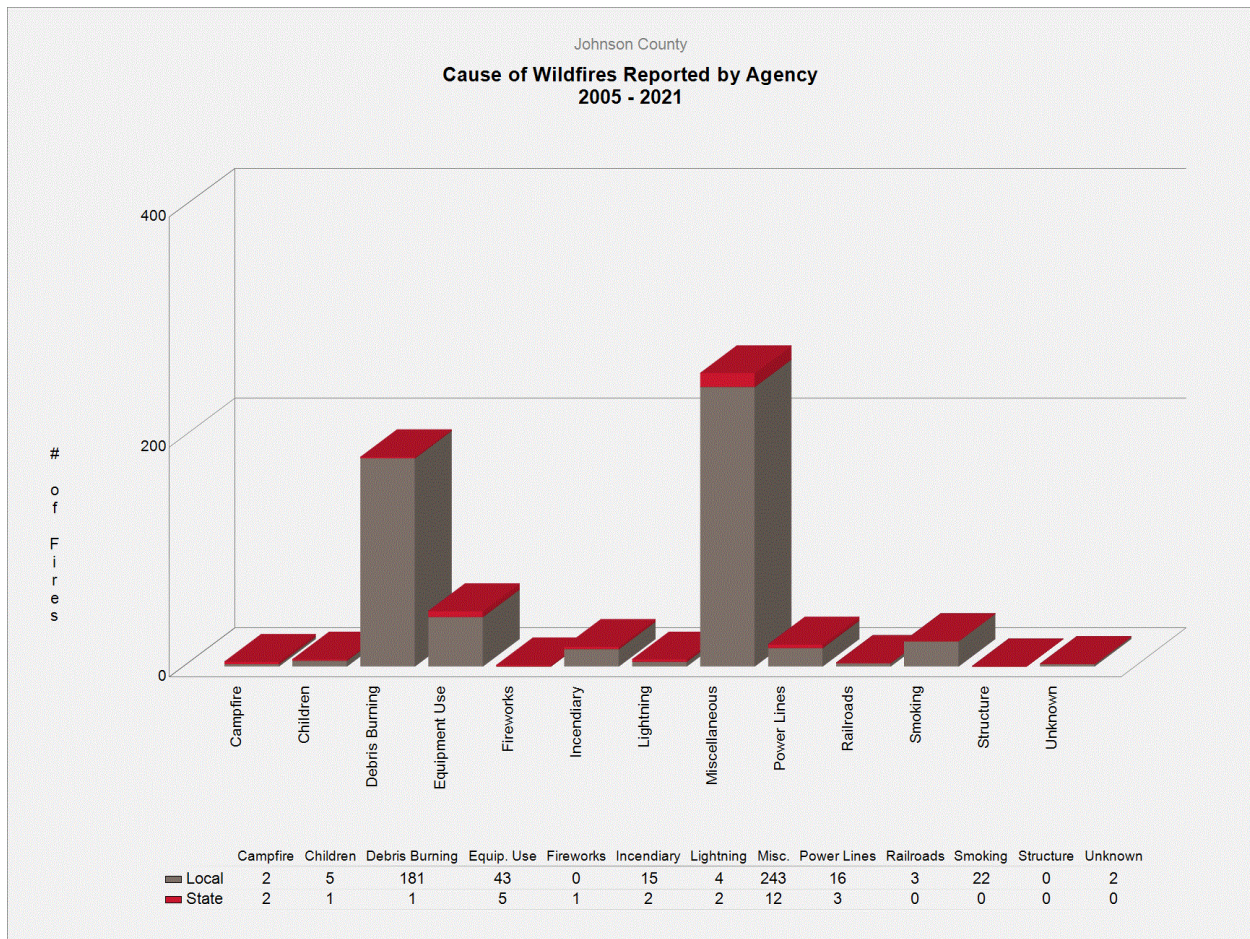


Figure 31: Cause of Fires

We can determine the possibility of wildfires by looking at Wildfire Threat in Figure 32. Wildfire Threat is the likelihood of a wildfire occurring or burning into an area. Threat is derived by combining several landscape characteristics including surface fuels and canopy fuels, resultant fire behavior, historical fire occurrence, percentile weather derived from historical weather observations, and terrain conditions. These inputs are combined using analysis techniques based on established fire science.

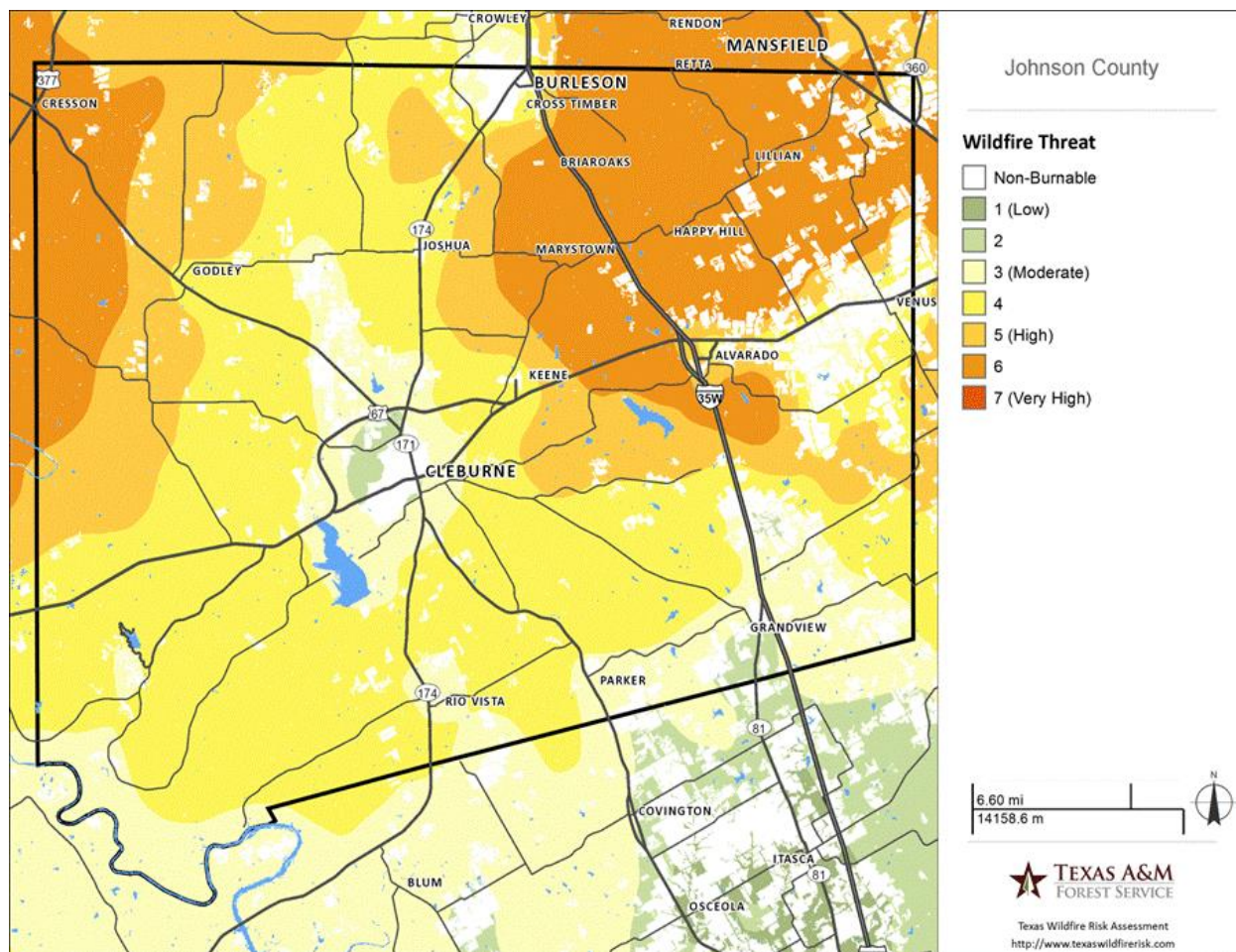


Figure 32: Wildfire Threat

The following maps show a more detailed outlook at the Wildfire Threat for each participating jurisdiction.

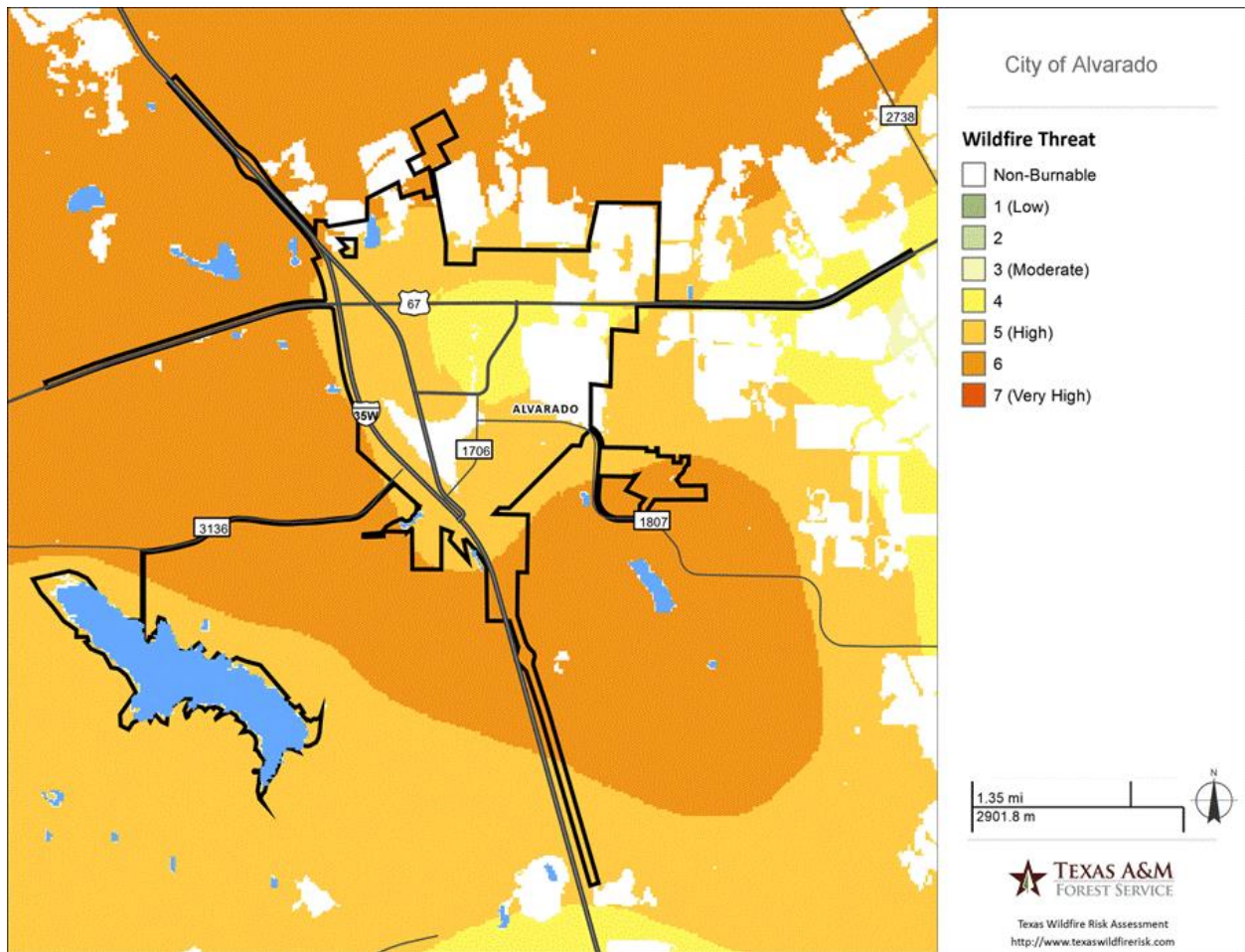


Figure 33: Alvarado Wildfire Threat

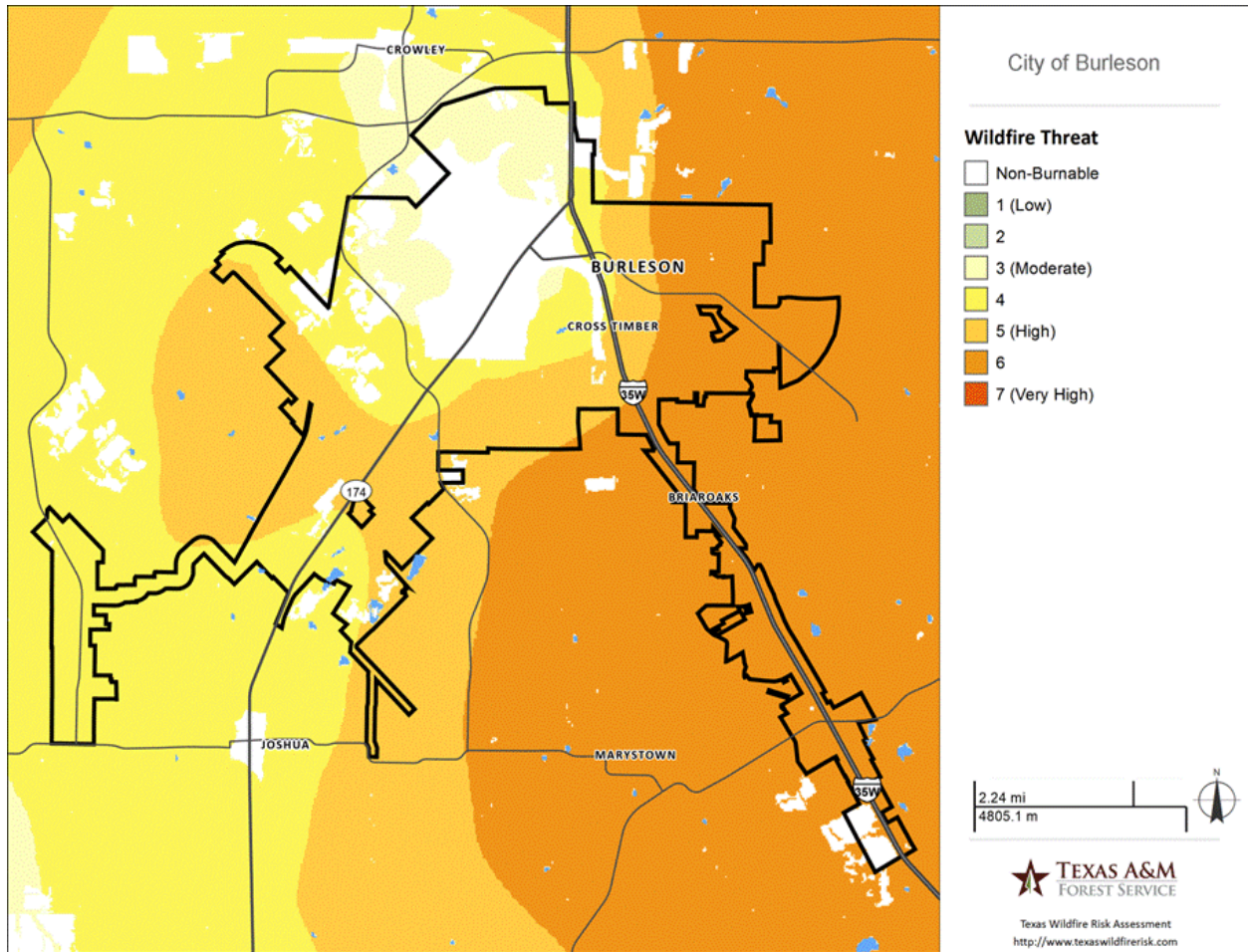


Figure 34: Burleson Wildfire Threat

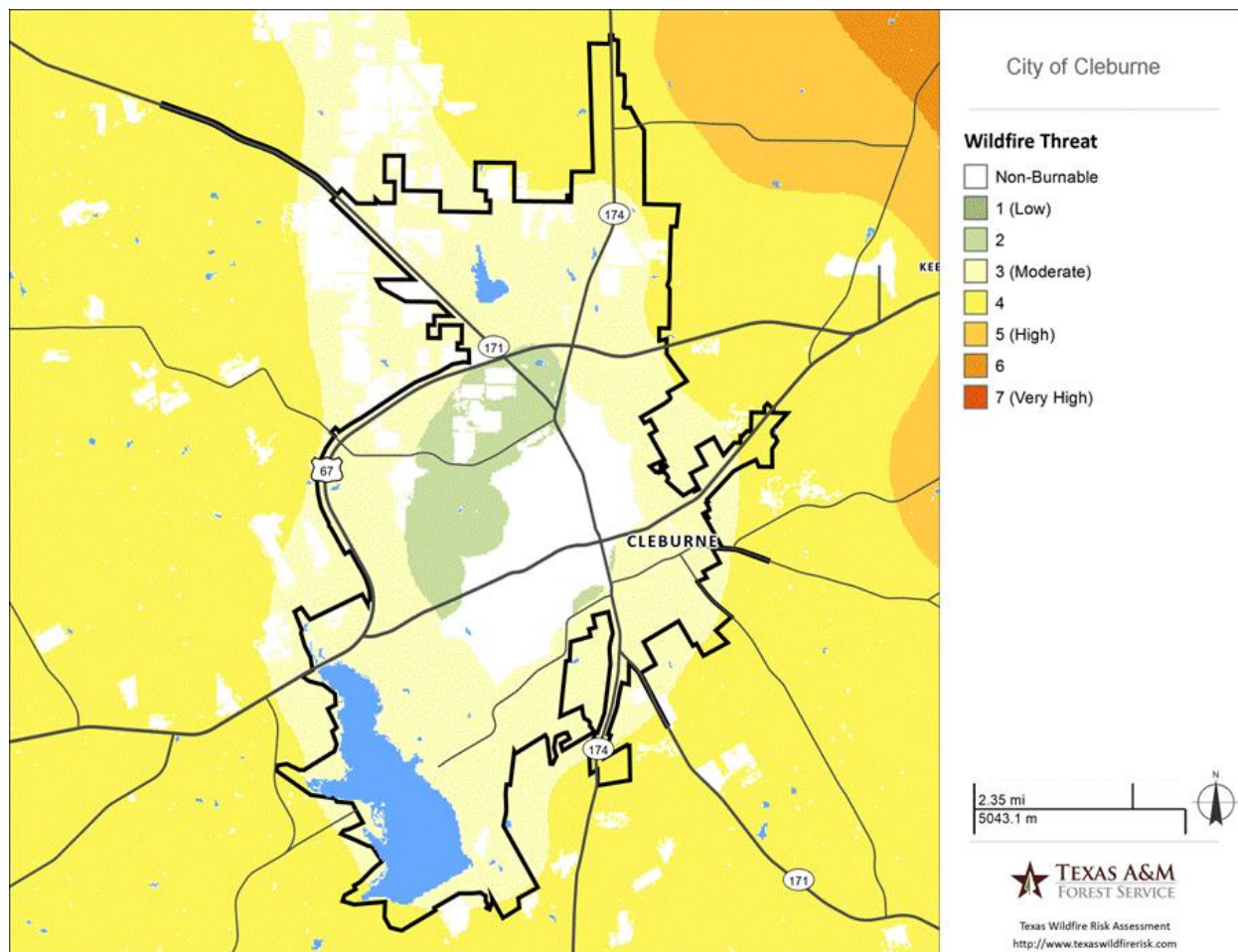


Figure 35: Cleburne Wildfire Threat

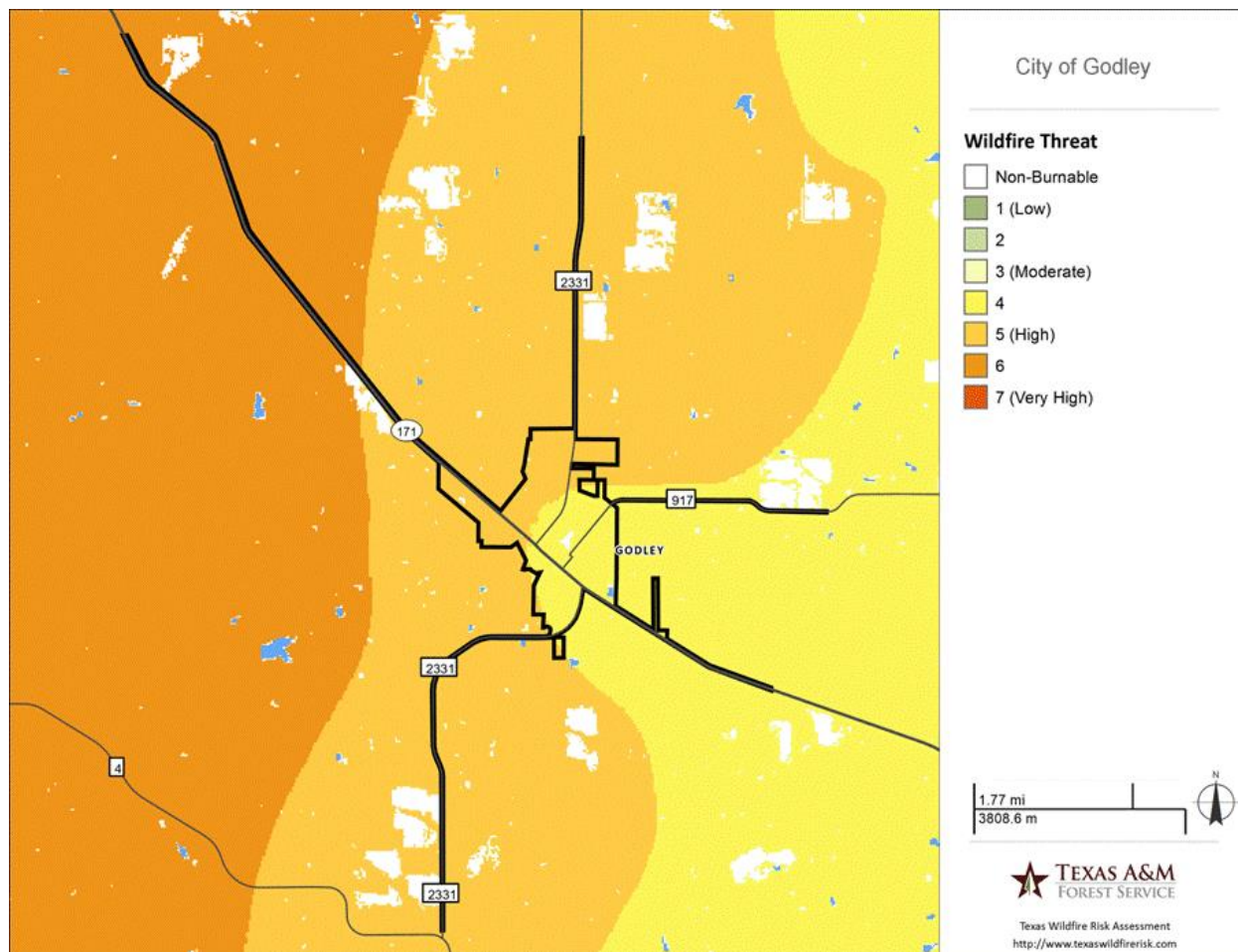


Figure 36: Godley Wildfire Threat

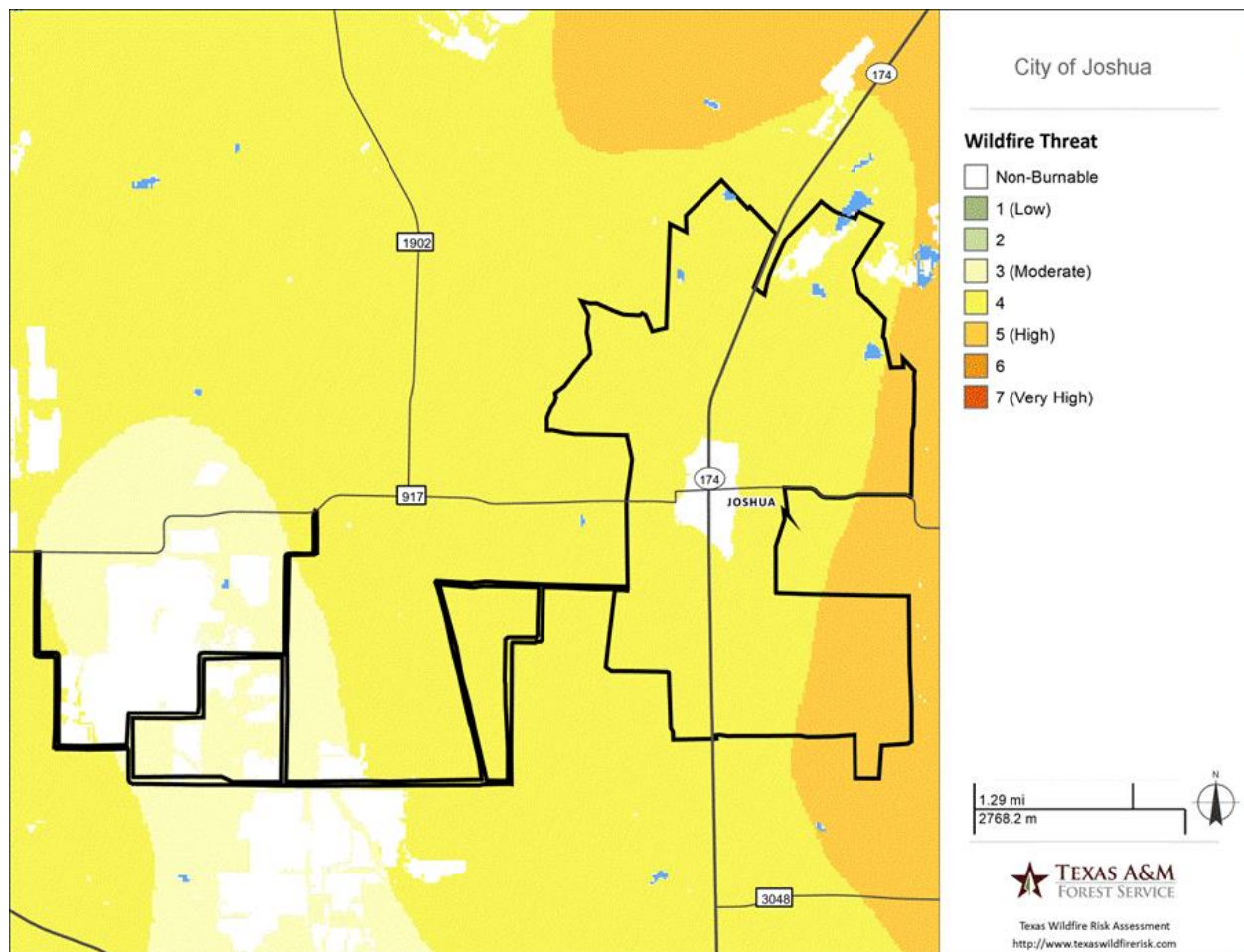


Figure 37: Joshua Wildfire Threat

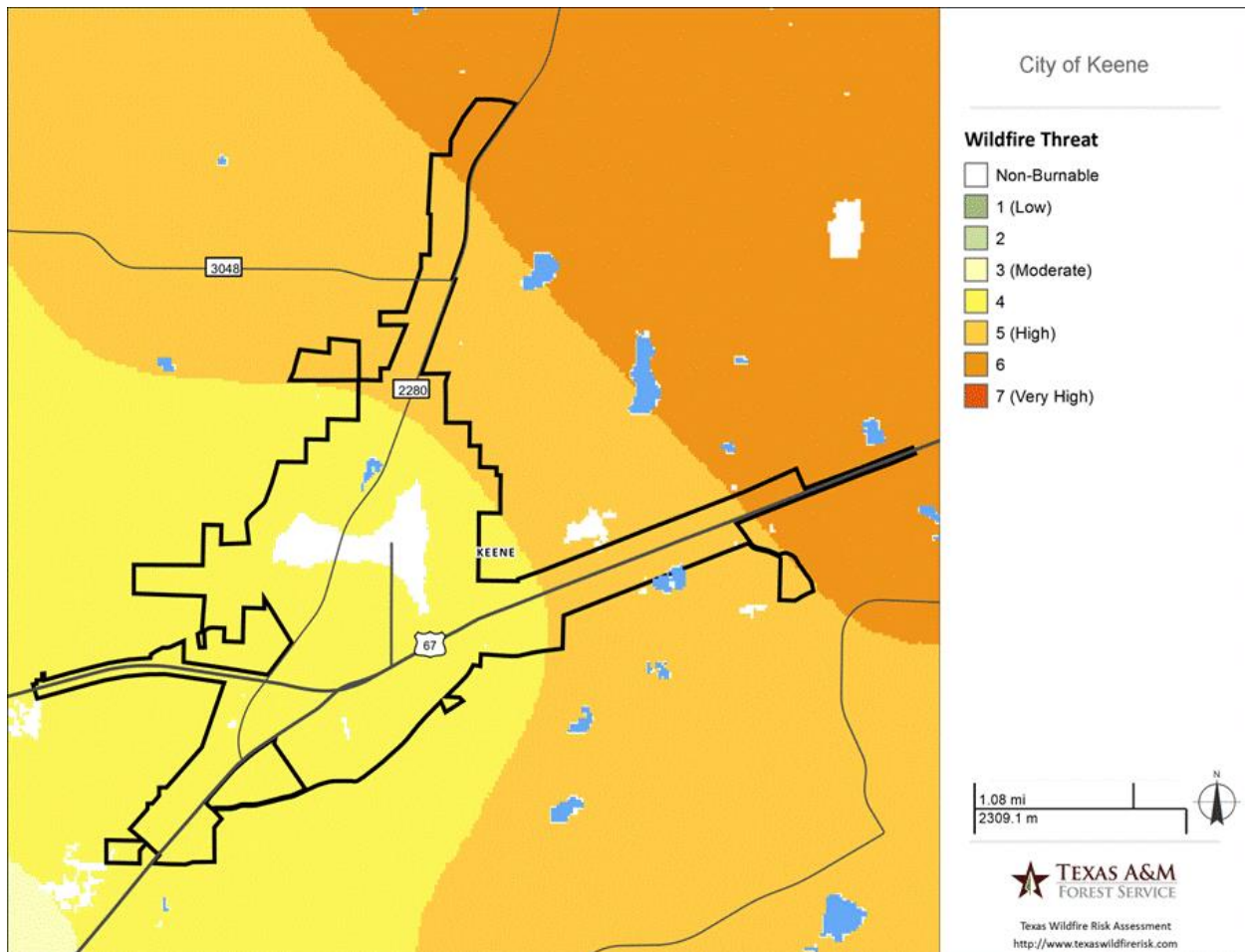


Figure 38: Keene Wildfire Threat

Hazard Summary

The following table reflects the profile summary for wildfires within the planning area.

Table 26: Wildfire Profile Summary

Wildfires				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Significant	Highly Likely	Critical	Major
Burleson	Significant	Likely	Critical	Major
Cleburne	Significant	Likely	Critical	Major
Godley	Extensive	Likely	Critical	Major
Joshua	Extensive	Likely	Critical	Major
Keene	Extensive	Likely	Critical	Major
Johnson County Unincorporated	Significant	Highly Likely	Critical	Major

3.2.9 Winter Storms

Winter storms originate as mid-latitude depressions or cyclonic weather systems, sometimes following the path of the jet stream. A winter storm or blizzard combines heavy snowfall, high winds, extreme cold, and ice storms. Many winter depressions give rise to exceptionally heavy rain and widespread flooding and conditions worsen if the precipitation falls in the form of snow. The winter storm season varies widely, depending on latitude, altitude, and proximity to moderating influences. The timeframe of most winter weather is expected to be during the winter season, between November and March.

Winter storms affect the entire planning area equally.

The National Weather Service now uses the Winter Storm Severity Index (WSSI) (Figure 39) to forecast potential impacts of winter storms. The WSSI provides a classification of the overall expected severity of winter weather using the following terminology: “Minor,” “Moderate,” “Major,” and “Extreme.” The “Winter Weather Area” pertains to areas where winter weather conditions are expected, but are not anticipated to impact daily life. The WSSI consists of a series of component algorithms, each of which use meteorological and non-meteorological data to model predicted severity of six specific characteristics of winter weather. Each of the components produce a 0 to 5 output scale value that equates to the potential severity based on the winter weather hazards (0 = no winter weather, 1 = winter weather area, 2 = minor, 3 = moderate, 4 = major, and 5 = extreme). The final WSSI value is the maximum value from all the sub-components. The 4 impact levels are given the following descriptors: Minor, Moderate, Major, and Extreme.

The six sub-components of the WSSI are:

- Snow Load Index
 - Indicates potential infrastructure impacts due to the weight of the snow. This index accounts for the land cover type. For example, more forested and urban areas will show increased severity versus the same snow conditions in grasslands.
- Snow Amount Index
 - Indicates potential impacts due to the total amount of snow or the snow accumulation rate. This index also normalizes for climatology, such that regions of the country that experience, on average, less snowfall will show a higher level of severity for the same amount of snow that is forecast across a region that experiences more snowfall on average. Designated urban areas are also weighted a little more than non-urban areas.
- Ice Accumulation
 - Indicates potential infrastructure impacts (e.g. roads/bridges) due to combined effects and severity of ice and wind. Designated urban areas are also weighted a little more than non-urban areas. Please note that not all NWS offices provide ice accumulation information into the National Digital Forecast Database (NDFD). In those areas, the ice accumulation is not calculated.
- Blowing Snow Index
 - Indicates the potential disruption due to blowing and drifting snow. This index accounts for land use type. For example, more densely forested areas will show less blowing snow than open grassland areas.

- Flash Freeze Index
 - Indicates the potential impacts of flash freezing (temperatures starting above freezing and quickly dropping below freezing) during or after precipitation events.
- Ground Blizzard
 - Indicates the potential travel-related impacts of strong winds interacting with pre-existing snow cover. This is the only sub-component that does not require snow to be forecast in order for calculations to be made. The NWS National Operational Hydrologic Remote Sensing Center (NOHRSC) snow cover data along with forecast winds are used to model the ground blizzard. Adjustments are made based upon the land cover type. For example, heavily forested areas will have a lower ground blizzard severity than the same conditions occurring across open areas.

Potential Winter Storm Impacts	
	Winter Weather Area Expect Winter Weather. • Winter driving conditions. Drive carefully.
	Minor Impacts Expect a few inconveniences to daily life. • Winter driving conditions. Use caution while driving.
	Moderate Impacts Expect disruptions to daily life. • Hazardous driving conditions. Use extra caution while driving. • Closures and disruptions to infrastructure may occur.
	Major Impacts Expect considerable disruptions to daily life. • Dangerous or impossible driving conditions. Avoid travel if possible. • Widespread closures and disruptions to infrastructure may occur.
	Extreme Impacts Expect substantial disruptions to daily life. • Extremely dangerous or impossible driving conditions. Travel is not advised. • Extensive and widespread closures and disruptions to infrastructure may occur. • Life-saving actions may be needed.

Figure 39: WSSI Impact Scale with Descriptions

The planning team compared the WSSI and the Sperry–Piltz Ice Accumulation Index to determine the maximum potential extent for winter storms.

During periods of extreme cold and freezing temperatures, water pipes can freeze and crack, roads and bridges can become unpassable, and critical services could be paralyzed. Ice can build up, causing power lines to break under the weight or causing tree limbs to fall on the lines. These events can disrupt electric service for long periods of time. Potential impacts from winter storms also include:

- Structure and infrastructure damage

- Injury or death
- Power outages
- Loss of ability to use roads for driving
- Increased traffic accidents
- Loss of heat
- Stranded travelers / motels at full capacity
- Tree debris create fuel load for fire hazard
- Delayed emergency response time
- Frozen/ busted pipes leading to loss of water
- Disruption of traffic
- Impacts to the economy
- Communication capabilities decrease

An economic impact may occur due to increased consumption of heating fuel, which can lead to energy shortages and higher prices. Schools often close when severe winter weather is forecasted, and it becomes a logistical burden for parents who then have to miss work or find alternative childcare. House fires and resulting deaths tend to occur more frequently from increased and improper use of alternate heating sources. Fires during winter storms also present a greater danger because water supplies may freeze and impede firefighting efforts.

An economic impact may occur due to increased consumption of heating fuel, which can lead to energy shortages and higher prices. Schools often close when severe winter weather is forecasted, and it becomes a logistical burden for parents who then have to miss work or find alternative childcare. House fires and resulting deaths tend to occur more frequently from increased and improper use of alternate heating sources. Fires during winter storms also present a greater danger because water supplies may freeze and impede firefighting efforts.

One of the most recent disaster declarations in the County, and the whole State, was for a winter storm. Johnson County was a designated county for Individual Assistance AND Public Assistance Category B. As a result of the disaster, lawmakers passed a sweeping piece of legislation to require power plants to “weatherize” their facilities against extreme weather conditions. They left the details of how to do that up to the Public Utility Commission of Texas, which regulates utilities and is designing the weatherization requirements for power plants, and the Texas Railroad Commission, which regulates the state’s oil and gas industry.”¹⁶

Disaster	Event	Incident Period	Declared
DR-4586	Texas Severe Winter Storms	February 11-21, 2021	February 19, 2021

DR-4586 showed how the effect of no power resulted in lack of heat and lack of water, causing hypothermia and death in many vulnerable populations.

¹⁶ By Erin Douglas, The Texas Tribune. <https://www.texastribune.org/2021/10/21/texas-power-companies-winter-weather-rule/>

The following table lists the historical winter storm events and impacts in Johnson County from 2012-2021 recorded by the National Weather Service.

Table 27: Historical Events- Winter Storms

Location	Date	Type	Death	Injury	Property Damage	Crop Damage
JOHNSON (ZONE)	12/5/2013	Winter Storm	0	0	400.00K	0.00K
JOHNSON (ZONE)	2/22/2015	Winter Storm	0	0	6.00K	0.00K
JOHNSON (ZONE)	12/7/2017	Winter Weather	0	0	0.00K	0.00K
JOHNSON (ZONE)	2/11/2018	Winter Weather	0	0	0.00K	0.00K
JOHNSON (ZONE)	2/13/2021	Winter Storm	0	0	0.00K	0.00K

The Event Narrative for the 2013 Winter Storm that caused an estimated \$400K in property damage reported that many tree branches were broken and power lines were knocked down due to the weight of the ice. The Burleson police reported 65 minor vehicle accidents and 3 major accidents.¹⁷

Hazard Summary

The following table reflects the profile summary for winter storms within the planning area.

Table 28: Winter Storm Profile Summary

Winter Storms				
Jurisdiction	Location	Probability of Future Events	Level of Possible Damage	Maximum Probable Extent/Strength
Alvarado	Extensive	Likely	Critical	Medium
Burleson	Extensive	Likely	Critical	Medium
Cleburne	Extensive	Likely	Critical	Medium
Godley	Extensive	Likely	Critical	Medium
Joshua	Extensive	Likely	Critical	Medium
Keene	Extensive	Likely	Catastrophic	Major
Johnson County Unincorporated	Extensive	Likely	Critical	Major

¹⁷ [Storm Events Database - Event Details | National Centers for Environmental Information \(noaa.gov\)](#)

3.3 Assets

The following information is an overview of assets within the planning that could be negatively impacted by the identified hazards. Community assets include people, the built environment, economic assets, and the natural environment.

3.3.1 People

According to the [Census Reporter](#), in 2021 it was estimated that 195,506 people resided within the 725 square miles of Johnson County. The following figure further breaks out the demographics of the County.



Figure 40: Johnson County Demographics¹⁸

The following table provides population and demographic information from the Census Reporter for the participating municipalities.

Table 29: City Demographics

Jurisdiction	2021 Population	Median Age	Sex		Race & Ethnicity							
			Male	Female	White	Black	Native	Asian	Islander	Other	Two +	Hispanic
Alvarado ¹⁹	46,575	37.5	51%	49%	62%	6%	0%	1%	0%	0%	2%	29%
Burleson ²⁰	47,230	35.4	49%	51%	72%	5%	0%	2%	0%	0%	4%	16%
Cleburne ²¹	30,984	35.6	52%	48%	60%	6%	0%	1%	0%	0%	2%	31%

¹⁸ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Johnson County, TX* <http://censusreporter.org/profiles/05000US48251-johnson-county-tx/>

¹⁹ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Alvarado, TX* <http://censusreporter.org/profiles/16000US4802260-alvarado-tx/>

²⁰ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Burleson, TX* <http://censusreporter.org/profiles/16000US4811428-burleson-tx/>

²¹ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Cleburne, TX* <http://censusreporter.org/profiles/16000US4815364-cleburne-tx/>

Jurisdiction	2021 Population	Median Age	Sex		Race & Ethnicity							
			Male	Female	White	Black	Native	Asian	Islander	Other	Two +	Hispanic
Godley ²²	1,680	35.1	51%	49%	71%	1%	0%	0%	0%	0%	1%	26%
Joshua ²³	7,722	31.9	45%	55%	93%	0%	1%	0%	0%	0%	1%	6%
Keene ²⁴	6,346	30.2	45%	55%	87%	2%	1%	3%	0%	0%	5%	31%

3.3.2 Built Environment

If earthquakes, expansive soils, floods, thunderstorms, tornadoes, or winter storms occur with the maximum intensity predicted, the entire built environment and all structures could be impacted.

Drought would impact all water-related infrastructure listed and wildfire would impact facilities closest to an ignition source.

The 2021 property values documented by the Johnson County Appraisal District provide a picture of the values of structures in the County and the potential dollar loss if a catastrophic event occurs.

²² U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Godley, TX* <http://censusreporter.org/profiles/16000US4829972-godley-tx/>

²³ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Joshua, TX* <<http://censusreporter.org/profiles/16000US4838080-joshua-tx/>>

²⁴ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Keene, TX* <http://censusreporter.org/profiles/16000US4838548-keene-tx/>

2021 PROPERTY VALUES					
TAX ENTITIES	TOTAL VALUE LESS TOTAL EXEMPT	TAXABLE VALUE	M & O	I & S	TOTAL
Alvarado ISD	\$2,351,791,603	\$1,679,378,521	0.872000	0.500000	1.372000
Burleson ISD *	\$4,872,614,239	\$3,888,857,510	0.994600	0.500000	1.494600
Cleburne ISD	\$4,278,737,338	\$3,208,132,684	0.994200	0.454400	1.448600
Crowley ISD *	\$90,622,913	\$57,057,119	0.984100	0.500000	1.484100
Godley ISD *	\$1,673,232,156	\$1,058,584,798	0.992000	0.500000	1.492000
Granbury ISD *	\$100,311,679	\$81,245,447	0.943800	0.145000	1.088800
Grandview ISD *	\$734,497,043	\$420,835,872	0.872000	0.306100	1.178100
Joshua ISD	\$2,848,853,357	\$2,105,871,353	0.960300	0.329700	1.290000
Keene ISD	\$268,532,116	\$214,534,135	1.008700	0.222570	1.231270
Mansfield ISD *	\$1,603,692,385	\$1,287,678,316	1.058300	0.360000	1.418300
Rio Vista ISD *	\$586,868,461	\$371,339,697	0.967200	0.355790	1.322990
Venus ISD	\$732,571,607	\$510,548,036	0.953500	0.430000	1.383500
Alvarado City	\$474,205,022	\$412,643,685	0.589013	0.223683	0.812696
Burleson City *	\$4,196,686,573	\$3,747,264,263	0.497400	0.188500	0.685900
Cleburne City	\$3,018,292,434	\$2,580,531,695	0.629748	0.060750	0.690498
Crowley City *	\$3,190,135	\$2,924,637	0.526103	0.203442	0.729545
Godley City	\$188,795,845	\$169,064,477	0.490390	0.000000	0.490390
Grandview City	\$121,897,646	\$106,604,452	0.465969	0.294597	0.760566
Joshua City	\$606,831,947	\$494,232,796	0.535994	0.175499	0.711493
Keene City	\$335,531,191	\$301,484,923	0.747134	0.097000	0.844134
Mansfield City *	\$1,149,951,451	\$946,168,300	0.465001	0.224999	0.690000
Rio Vista City	\$56,180,150	\$53,638,657	0.388269	0.114472	0.502741
Venus City *	\$266,390,708	\$246,989,608	0.628408	0.178816	0.807224
Johnson County	\$20,160,025,375	\$15,810,596,892	0.370153	0.009547	0.379700
Johnson Cty Lat Rd	\$20,160,025,375	\$16,038,477,246	0.040300	0.000000	0.040300
Emergency Service Dist. 1	\$11,785,188,872	\$8,793,946,117	0.060000	0.000000	0.060000
Hill College Alvarado	\$2,351,791,603	\$1,796,780,480	0.050000	0.000000	0.050000
Hill College Cleburne	\$4,278,737,338	\$3,390,173,740	0.050000	0.000000	0.050000
Hill College Godley	\$1,673,232,156	\$1,097,115,974	0.026092	0.000000	0.026092
Hill College Grandview *	\$734,497,043	\$443,971,974	0.050000	0.000000	0.050000
Hill College Joshua	\$2,848,853,357	\$2,194,938,291	0.049928	0.000000	0.049928
Hill College Keene	\$268,532,116	\$226,368,673	0.049548	0.000000	0.049548
Hill College Rio Vista *	\$586,868,461	\$389,575,572	0.033478	0.000000	0.033478
Hill College Venus	\$732,571,607	\$546,346,259	0.047245	0.000000	0.047245

* Johnson County Portion

Based on 2021 Certified Values

Figure 41: 2021 Property Values

Critical Facilities & Infrastructure

Critical facilities and infrastructure provide services and functions essential to a community, especially during and after a disaster. For a critical facility to function, building systems and equipment must remain operational. Furthermore, it must be supplied with essential utilities (typically power, water, waste disposal, and communications, but occasionally natural gas and steam).

When critical infrastructure fails, it becomes nearly impossible to aid those who lack the means of evacuating on their own. This results in rescue operations that take longer to plan and execute and pose increased risks to first responders and residents due to the lack of information on the number of affected residents or the location of those who need additional assistance.

Resilience Analysis and Planning Tool Generation

The Planning Team used FEMA’s Resilience Analysis and Planning Tool ([RAPT](#)) to generate an inventory of the critical facilities within the jurisdictions.

Table 30: Fire Stations

NAME	ADDRESS	CITY
Blue Water Oaks Volunteer Fire Department	295 Chambers Drive	Alvarado
Alvarado Volunteer Fire Department	205 South Friou Street	Alvarado
Briaroaks Volunteer Fire Station	515 Ward Lane	Burleson
Burleson Fire Department Station 2	650 Memorial Plaza	Burleson
Burleson Fire Department Station 1	828 Southwest Alsbury Boulevard	Burleson
Cleburne Fire Department and Ambulance Station 1	801 East Henderson Street	Cleburne
Liberty Chapel Volunteer Fire Department	3336 County Road 312	Cleburne
Cleburne Fire Department and Ambulance Station 3	901 West Kilpatrick Avenue	Cleburne
Cleburne Fire Department and Ambulance Station 2	606 South Nolan River Road	Cleburne
Bono Volunteer Fire Department	5536 US Highway 67 West	Cleburne
Godley Fire Department	200 South Main Street	Godley
Mid North Johnson County Fire Department	6317 Sky Road	Godley
Joshua Fire Department	770 North Main Street	Joshua
Keene Fire Rescue	213 West Hillcrest Street	Keene

Table 31: Local Law Enforcement Locations

Name	Address	City	Type
Alvarado Police Department	104 West College Street	Alvarado	Local Police Department
Burleson Police Department	225 West Renfro Street	Burleson	Local Police Department
Burleson Fire Marshals Office	141 West Renfro Street	Burleson	Constable/Marshal
Cleburne Police Department	302 West Henderson Street	Cleburne	Local Police Department
Johnson County Sheriff’s Office	1102 East Kilpatrick Street	Cleburne	Sheriff’s Office
Texas Department of Public Safety - Highway Patrol Region 6 District A Sergeant O Area 5	600 West Kilpatrick Street	Cleburne	Primary State Agency
Godley Police Department	125-A South Main Street	Godley	Local Police Department
Joshua Police Department	102 South Main Street	Joshua	Local Police Department
Keene Police Department	213 West Hillcrest Street	Keene	Local Police Department

Table 32: Mobile Home Parks

Name	Address	City	Type	Size
Not Available	99 Breezy Meadows Ln	Alvarado	Mobile Home Park	Small (<50)
Not Available	300 I 35-Br	Alvarado	Mobile Home Park	Small (<50)
Not Available	8031 Lopez Dr	Alvarado	Mobile Home Park	Small (<50)
Not Available	1118 Wildwood Dr	Alvarado	Mobile Home Park	Medium (51-100)
Walnut Creek MHP	3600 County Road 600	Alvarado	Mobile Home Park	Medium (51-100)
Not Available	4617 County Road 616	Alvarado	Mobile Home Park	Small (<50)
Oakridge Square MHP	248 East Bethesda Road	Burleson	Mobile Home Park	Medium (51-100)
Not Available	2335 I 35w N	Burleson	Recreational Vehicle Park	Medium (51-100)
Not Available	2307 I 35w N	Burleson	Recreational Vehicle Park	Medium (51-100)
Williams Trailer Park	2050 South Burleson Boulevard	Burleson	Mobile Home Park	Medium (51-100)
Little Corral MHP	2000 S Burleson Blvd	Burleson	Mobile Home Park	Small (<50)
Mockingbird Hill Mobile Home	1990 South Burleson Boulevard	Burleson	Mobile Home Park	Medium (51-100)
Not Available	9625 County Road 528	Burleson	Mobile Home Park	Small (<50)
Not Available	209 Cr 316a	Cleburne	Mobile Home Park	Small (<50)
Not Available	1905 E Henderson St	Cleburne	Mobile Home Park	Small (<50)
Not Available	2023 E Henderson St	Cleburne	Mobile Home Park	Small (<50)
Not Available	72 El Campo Rd	Cleburne	Mobile Home Park	Small (<50)
Not Available	2633 Us 67-Br	Cleburne	Mobile Home Park	Small (<50)
Not Available	112 W Kilpatrick Ave	Cleburne	Mobile Home Park	Medium (51-100)
Not Available	3010 Tx 174	Cleburne	Mobile Home Park	Small (<50)
Not Available	3901 County Road 317	Cleburne	Mobile Home Park	Small (<50)
North Park	800 Old Betsy Rd	Cleburne	Mobile Home Park	Small (<50)
Not Available	4208 Us 67	Cleburne	Mobile Home Park	Small (<50)
Not Available	4208 Us 67	Cleburne	Mobile Home Park	Small (<50)
Not Available	817 Barnes Rd	Cleburne	Mobile Home Park	Small (<50)
Not Available	3309 Fm 2280	Cleburne	Mobile Home Park	Medium (51-100)
Not Available	4801 W Country Rd	Cleburne	Mobile Home Park	Small (<50)
Not Available	112 W Links Dr	Godley	Mobile Home Park	Small (<50)
Not Available	5864 Blackburn Dr	Joshua	Mobile Home Park	Small (<50)
4-J Mobile Home Park	N Main St	Joshua	Mobile Home Park	Small (<50)
Joshua Ranchettes	811 Ranchette Drive	Joshua	Mobile Home Park	Medium (51-100)

Name	Address	City	Type	Size
Not Available	6128 Cr 1022	Joshua	Mobile Home Park	Small (<50)
Timber Ridge Mobile Home Park	398 Gregory St	Joshua	Mobile Home Park	Small (<50)
Pecan Village Mobile Home Park	88 Oak Hill Dr	Joshua	Mobile Home Park	Medium (51-100)
Oak Hill MHP	229 Oak Hill Drive #100	Joshua	Mobile Home Park	Small (<50)
Ranches Of Joshua MHP	424 N Broadway Street	Joshua	Mobile Home Park	Small (<50)
Western Inn Mobile Home Park	Western Inn Mobile Home Park	Joshua	Mobile Home Park	Medium (51-100)
Not Available	7112 Walden Dr	Joshua	Mobile Home Park	Medium (51-100)
Not Available	31 Lee St	Keene	Mobile Home Park	Medium (51-100)
Not Available	29 Blue Star Dr	Keene	Recreational Vehicle Park	Medium (51-100)
Not Available	311 Stoner Way	Keene	Recreational Vehicle Park	Large (>100)
Not Available	612 Iowa St	Keene	Mobile Home Park	Medium (51-100)
Not Available	109 Stoner Way	Keene	Mobile Home Park	Small (<50)
Not Available	122 Us 67	Keene	Mobile Home Park	Small (<50)
Not Available	410 N Fairview St	Keene	Mobile Home Park	Small (<50)
Happy Hollow	511 East Oakdale Street	Keene	Mobile Home Park	Medium (51-100)

Table 33: Nursing Homes

Name	Address	City
Alvarado LTC Partners Inc	101 N Parkway	Alvarado
Advanced Rehabilitation & Healthcare of Burleson	275 Se John Jones Drive	Burleson
Elk Creek Senior Living Community	301 Elk Drive	Burleson
Burleson Nursing and Rehabilitation Center	600 Maple Ave.	Burleson
Mustang Creek Estates Burleson House A	1155 NW John Jones Drive	Burleson
Mustang Creek Estates Burleson House C&D	1155 NW John Jones Drive	Burleson
Mustang Creek Estates Burleson House F	1155 John Jones Drive	Burleson
Mustang Creek Estates Burleson House B	1155 NW John Jones Drive	Burleson
Mustang Creek Estates Burleson House E	1155 NW John Jones Drive	Burleson
Wren House	814 Woodard Ave	Cleburne
Heritage Trails Nursing and Rehabilitation Center	301 Lincoln Park Dr	Cleburne
Colonial Manor Nursing Center	2035 N Granbury St	Cleburne
Santa Fe Trails Assisted Living and Memory Care Community	402 Colonial Dr	Cleburne
Ridgeview Rehabilitation and Skilled Nursing	206 Walls Dr	Cleburne
Heartis Cleburne	902 Walter Holiday Drive	Cleburne

Name	Address	City
The Gardens at Chisholm Trail	513 Old Betsy Rd.	Keene
Town Hall Estates Keene Inc	207 S Old Betsy Rd	Keene

Table 34: Places of Worship

Name	Street	City
Five Points Church	5525 E Highway 67	Alvarado
Alvarado Worship Center	Po Box 313	Alvarado
I-35 Church of Christ	Po Box 1269	Alvarado
Paula Rayburn Ministries	Po Box 12	Alvarado
Valley Educational Foundation Inc	Po Box 800	Alvarado
Cedar Cross Country Church	4664 S Ih - 35w	Alvarado
Texas Conference of Seventh Day Adventists	Po Box 800	Alvarado
Alvarado New Life Ministries Inc	Po Box 488	Alvarado
Church of God	Po Box 1095	Alvarado
Episcopal Diocese of Fort Worth	Po Box 447	Alvarado
Living Word Baptist Church	Po Box 1857	Alvarado
Shepherds Valley Cowboy Church	8901 E Highway 67	Alvarado
David Salinas Ministries Inc	8625 Marthas Way	Alvarado
San Gabriel Lutheran Church	4029 County Road 610	Alvarado
St Paul Missionary Baptist Church	Po Box 1481	Avarado
Mid Cities Family Baptist Church	3175 Collins Rd	Burleson
G B North Ministries International	2249 Etta Ln	Burleson
John Patton Ministries Intl	300 Emerald Ct	Burleson
New Life Christian Fellowship	167 Stella St	Burleson
Northpointe First Baptist Church	2450 SW Wilshire Blvd	Burleson
Bethesda Gospel Tabernacle Inc	2505 S I-35	Burleson
Vass Ministries of Burleson Texas	565 E Bethesda Rd	Burleson
Ken Dornhecker Ministries Inc	119 Woodbine Dr	Burleson
Recovery Impact	2716 Ranchview Dr	Burleson
Grace Church	880 W County Road 714	Burleson
Global Evangel Ministries	8612 Fm 1902	Burleson
Burleson Commons Church of Christ	305 Se John Jones Dr	Burleson
Brian Paul Jennings Project	233 Woodbine Dr	Burleson
Charity Lutheran Church	1101 SW Wilshire Blvd	Burleson
Charity Lutheran Preschool	1101 SW Wilshire Blvd	Burleson
Victory Family Church	455 NW John Jones Dr	Burleson
Fort Worth TX Group	218 NW Suzanne Ter	Burleson
By Grace International Inc	917 Monticello Dr	Burleson
Jeff A Grove Ministries	9001 County Road 1019	Burleson
Impact Family Church Burleson	1320 Gayle St	Burleson
Redemption Evangelical Church	621 SW Johnson Ave Ste B	Burleson

Name	Street	City
Cana Baptist Church	2309 E Renfro St	Burleson
Hallelujah Honduras Ministries	857 Huebner Way	Burleson
Amputee Basketball Invigorated	904 Willow Cir S	Burleson
Lifegate Assembly of God Church	601 SW Thomas St	Burleson
Student Discipleship Ministries	510 SW Wilshire Blvd	Burleson
National Fellowship of Ministries Inc	388 SW Johnson Ave	Burleson
National Fellowship of Ministries Inc	388 SW Johnson Ave	Burleson
Compassion In Action Inc	620 Gracie Ln	Burleson
Open Door Fellowship Ministries Inc	301 S Dobson St	Burleson
Spark Worldwide	301 S Dobson St	Burleson
Brazos Christian Church	939 Joshua Dr	Burleson
First Christian Church	Po Box 57	Burleson
Different World Christian Cathedral & Complex Inc	Po Box 2094	Burleson
Southwestern Union Conference of Seventh Day Adventists	Po Box 4000	Burleson
Southwest Estate Services Inc	Po Box 4000	Burleson
Lighthouse Church of Burleson	Po Box 1403	Burleson
Labor of Love Fellowship Church	Po Box 369	Burleson
Faith Christian Fellowship of Fort Worth	Po Box 983	Burleson
Faith Christian Fellowship of Fort Worth	Po Box 983	Burleson
Alliance of Free Grace Leaders Inc	Po Box 2439	Burleson
Hope For Albania Inc	Po Box 983	Burleson
Be Gotten by His Word Inc	Po Box 1761	Burleson
Word Of Life Church Center Inc	Po Box 517	Burleson
Dmitry Bodyu Ministries International Inc	Po Box 2121	Burleson
Burleson Church Of Christ Inc	1150 NW John Jones Dr	Burleson
Southwest Christian Fellowship Inc	251 Wilshire Blvd Ste 124 434	Burleson
Burleson Bible Church	260 S Hurst Rd	Burleson
Pathway Cumberland Presbyterian Church of Burleson	380 NW Tarrant Ave	Burleson
Tu Hieu Buddhist Temple	275 Fox Ln	Burleson
Burleson Church of The Nazarene	127 SW Thomas St	Burleson
3 King Ranch	124 N Dobson St	Burleson
Church of God Proclaiming the Kingdom Inc	845 NW Summercrest Blvd Apt A	Burleson
Faith To Faith Ministries	336 SW Rand Dr	Burleson
Bloodlove Worldwide	501 NW Renfro St	Burleson
Living Water Church of Burleson	342 SW Alsbury Blvd	Burleson
Crestmont Baptist Church of Burleson Texas Inc	640 NW Tarrant Ave	Burleson
Burleson Adventist School	1635 Fox Ln	Burleson
Victory Life Outreach	205 William Wallace Dr	Burleson
Rophe Ranches Inc	2724 Dave Angel Rd	Burleson

Name	Street	City
Prayer Chapel	1615 Fm 3136	Cleburne
Faith Fellowship of Cleburne Inc	1108 County Road 314	Cleburne
Christian Methodist Episcopal Church	507 Royal St	Cleburne
Royal Street Church of Christ Inc	505 Royal St	Cleburne
Emmanuel Temple Outreach Church	501 Robbins St	Cleburne
Centro Cristiano Bethel	1924 E Henderson St	Cleburne
Soldiers For Christ Chapter D	906 W Chambers	Cleburne
Cleburne Christian Center	104 S Robinson St	Cleburne
Episcopal Diocese of Fort Worth	209 E Wardville St	Cleburne
Little Church Fellowship	504 Chase Ave	Cleburne
Bridgeway Family Fellowship	504 Chase Ave	Cleburne
Iglesia Christiana El Camino	502 W Wardville St	Cleburne
Grace Worship Center	118 Williams Ave	Cleburne
Open Heart Ministries Inc of Cleburne Texas	801 Boone St	Cleburne
National Fellowship of Ministries Inc	1101 N Wilhite St	Cleburne
Full Gospel Pentecostal Church	1312 N Robinson St	Cleburne
Exodus Missions	3501 Fm 2415	Cleburne
Crossroads Church of Cleburne Texas	111 N Pendell Ave	Cleburne
Highpoint Church of God	Po Box 815	Cleburne
Gotel Ministries Inc	Po Box 655	Cleburne
Cleburne Bible Church	Po Box 1522	Cleburne
Clowns For Christ Incorporated	Po Box 643	Cleburne
Believers Word Center Incorporated	Po Box 79	Cleburne
Marshallse First Assembly	Po Box 1094	Cleburne
House Of Wisdom Inc	Po Box 2543	Cleburne
Zona Maya Mission Ministries	Po Box 487	Cleburne
Hill Church Cleburne	Po Box 3113	Cleburne
Compelling Church of Anointed Ministries	Po Box 654	Cleburne
Central Fellowship Church Incorporated	1509 County Road 700	Cleburne
Bethel Temple Assembly of God	600 S Colonial Dr	Cleburne
Cleburne Family Fellowship Ag	710 W Kilpatrick St	Cleburne
Cleburne Christian Business Club Inc	904 Jennifer Ct	Cleburne
Menorah Fellowship Church	1635 Robin Pl	Cleburne
Stonelake Church	1655 W Henderson St	Cleburne
First Christian Church	200 S Nolan River Rd	Cleburne
Hope Church of The Ag Of Cleburne	2125 N Nolan River Rd	Cleburne
Church Of St John Vianney Catholic Congregation Inc	501 N Nolan River Rd	Cleburne
Faith Temple Church Inc	1440 Kilpatrick Ct	Cleburne
Cleburne Adventist Christian School	111 Meadow View Dr	Cleburne
Peak Ministries Inc	3224 Dove Creek Rd	Cleburne
Vibrant Life Foundation Inc	1109 Snowberry St	Cleburne

Name	Street	City
Cherrywood Resources	910 W Bethesda Rd	Cleburne
Georges Creek Baptist Church	9901 W Highway 67	Cleburne
Corner Point Church	Po Box 241	Godley
Godley Church of Christ Inc	Po Box 6	Godley
Amandas Wishes	4609 Thomas Acres Rd	Joshua
Lane Prairie Baptist Church Inc	412 County Road 704	Joshua
Carpenters Church Of Joshua	1524 S Broadway St	Joshua
Race Track Chaplaincy Of Texas Inc	326 Eddy Ave	Joshua
TLC Ministries Inc	301 S Main St	Joshua
Ladies Praise	Po Box 784	Joshua
First Assembly of God	Po Box 543	Joshua
Joshua Adventist Multigrade School	Po Box 329	Joshua
Grace Connection Church Joshua	Po Box 838	Joshua
Covenant Church of Burleson	Po Box 95	Joshua
Hampton Evangelistic Assn	7001 Reservoir Rd	Joshua
Abundant Life Church Burleson	5821 Thousand Oaks Dr	Joshua
Joshua Baptist Church	3231 SW Wilshire Blvd	Joshua
Bible Talk Radio	1115 Honeysuckle Dr	Keene
Bible Clarity	1115 Honeysuckle Dr	Keene
Town Hall Estates-Keene Inc	207 S Old Betsy Rd	Keene
Southwestern Adventist University	100 W Hillcrest St	Keene
Seminars Unlimited	Po Box 66	Keene
Chisholm Trail Academy	Po Box 717	Keene
New Discovery Bible Schools	Po Box 614	Keene
Faith Fm Plus Inc	200 N Fairview St Unit B	Keene
Keene Adventist Elementary School	302 Pecan St	Keene

Table 35: Public Schools

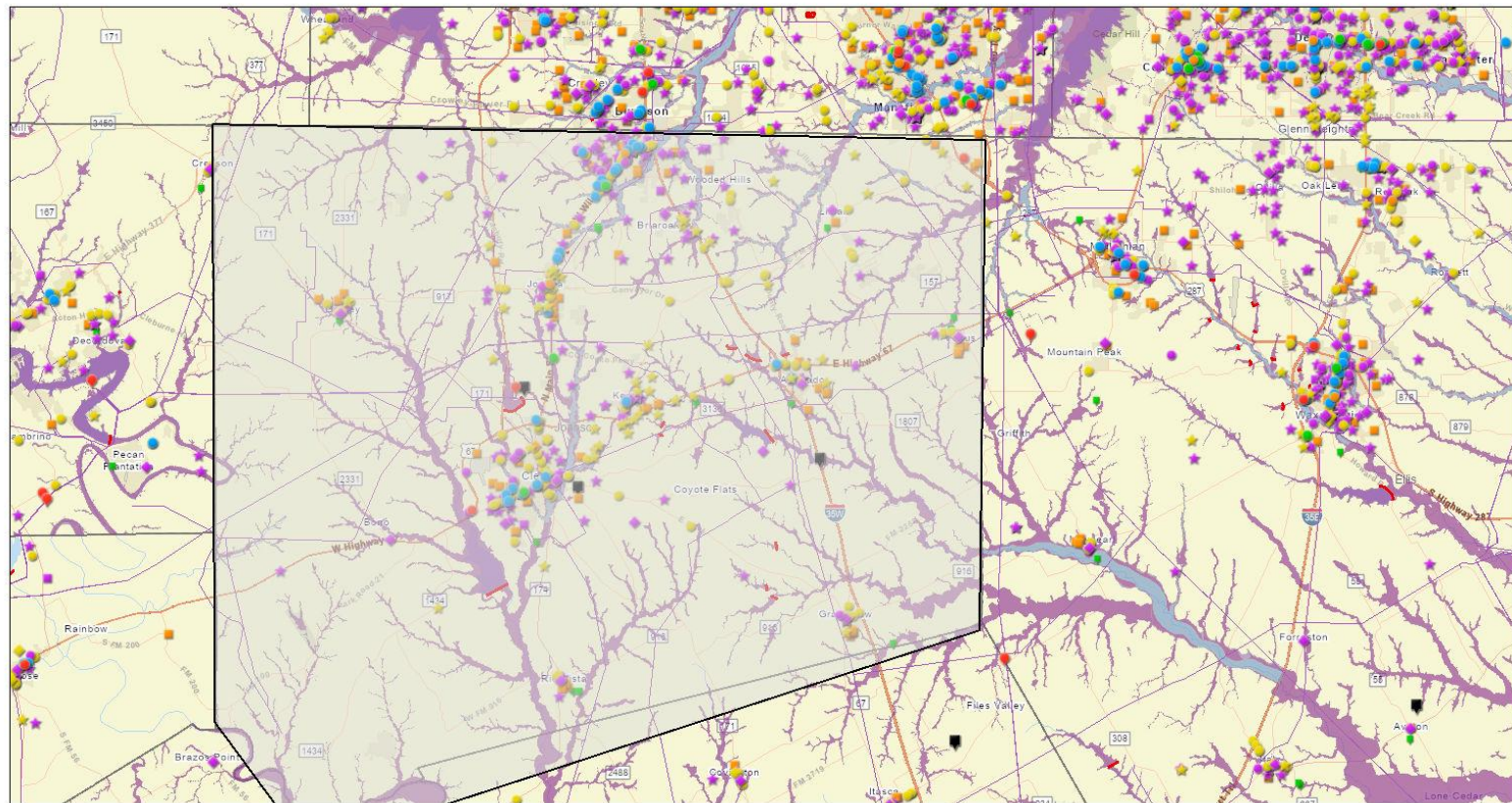
Name	Address	City	Level	Enrollment
Alvarado H S	1301 S Pkwy	Alvarado	Not Reported	1121
Alvarado J H	1000 N Cummings	Alvarado	Elementary	591
Alvarado EL -South	1000 E Davis	Alvarado	Middle	387
Alvarado EL -North	1500 N Cummings	Alvarado	Elementary	363
Alvarado Int	1401 E Davis	Alvarado	Middle	824
Alvarado Int	1401 E Davis	Alvarado	Middle	756
Lillian EL	5001 Fm 2738	Alvarado	High	345
Tom And Nita Nichols Middle	2845 Fm 731	Burleson	Middle	564
North Joshua EL	100 S Ranchway	Burleson	High	586
Johnson County JJAEP	1160 SW Wilshire Blvd	Burleson	Elementary	-999
Norwood EL	619 Evelyn Ln	Burleson		404

Name	Address	City	Level	Enrollment
Burleson H S	100 Elk Dr	Burleson	Elementary	1649
Crossroads H S	505 Pleasant Manor	Burleson	Elementary	92
Irene Clinkscale EL	600 Blayke St	Burleson	High	546
Richard Bransom EL	820 S Hurst	Burleson	Elementary	580
Frazier EL	1125 NW Summercrest Blvd	Burleson	High	587
Steam Middle	900 S W Hillside Dr	Burleson	Elementary	564
Realm	517 SW Johnson Ave Ste 200	Burleson		367
Nick Kerr Middle	1320 E Hidden Creek Pkwy	Burleson	Middle	1184
William Stribling El	1881 E Renfro	Burleson	Elementary	509
Academy At Nola Dunn	201 S Dobson St	Burleson	Elementary	660
Hughes Middle	316 S W Thomas St	Burleson	Other	1060
Mound EL	205 S W Thomas St	Burleson	Elementary	483
Mound EL	205 S W Thomas St	Burleson	Not Reported	428
Burleson Centennial H S	201 S Hurst Rd	Burleson	Secondary	2003
Burleson Collegiate H S	517 SW Johnson Ste 100	Burleson	Elementary	241
Adams EL	1492 Is Grove Rd	Cleburne	Elementary	407
Santa Fe EL	1601 E Henderson	Cleburne	Middle	347
Juvenile Justice Alternative	1102 E Kilpatrick Ste C	Cleburne	Elementary	2
Rio Vista ISD JJAEP	1102 E Kilpatrick Ste C	Cleburne	High	-999
Team Sch	1005 S Anglin	Cleburne	Pre-K	47
Kauffman Leadership Academy	1108 N Anglin	Cleburne	Other	-999
Irving EL	345 Hix Rd	Cleburne	High	506
Coleman EL	920 W Westhill Dr	Cleburne	Middle	525
Coleman EL	920 W Westhill Dr	Cleburne	Elementary	521
Johnson County JJAEP	1102 E Kilpatrick St	Cleburne	High	-999
Cooke EL	902 Phillips St	Cleburne	Not Reported	559
JJAEP	505 N Ridgeway Ste 100	Cleburne		-999
Lowell Smith Jr Middle	1710 Country Club	Cleburne	High	859
Gerard EL	1212 Hyde Park	Cleburne	Middle	488
Ad Wheat Middle	810 N Colonial	Cleburne	High	701
Cleburne H S	850 N Nolan River Rd	Cleburne	Elementary	1960
Marti EL	2020 W Kilpatrick	Cleburne	Middle	460
Godley JJAEP	313 N Pearson	Godley	Elementary	0
Godley Middle	9401 N Hwy 171	Godley	Elementary	390
Godley Links Academy	401 Bruce Rd	Godley		23
Godley EL	604 N Pearson	Godley	Not Applicable	460
Godley Int	309 N Pearson	Godley	Elementary	905
Godley H S	9501 N Hwy 171	Godley	Elementary	665

Name	Address	City	Level	Enrollment
Plum Creek EL	500 Plum St	Joshua	Elementary	412
R C Loflin Middle	6801 Cr 1902	Joshua	Elementary	748
New Horizon H S	603 Plum St	Joshua	Other	34
Joshua H S	909 S Broadway	Joshua	Other	1128
A G Elder EL	513 Henderson St	Joshua	High	553
H D Staples EL	505 S Main	Joshua	High	450
Joshua H S Ninth Grade Campus	1035 S Broadway	Joshua	Middle	464
Caddo Grove EL	7301 Fm 1902	Joshua	Elementary	551
Keene EL	300 Hwy 67 E	Keene	Elementary	470
Alter Learning Ctr	3625 Hwy 67 E Bldg A	Keene	Elementary	8
Keene H S	404 Charger Dr	Keene	Elementary	331
Keene JJAEP	3625 C Hwy 67 E	Keene	Elementary	-999
Keene J H	401 Charger Dr	Keene	Middle	273

The afore-mentioned facilities and infrastructure are identified in the following RAPT-generated map. According to the map, they're predominantly located in or near a floodplain.

Johnson County RAPT

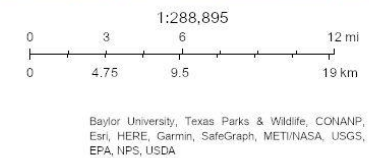


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- County Boundaries (click on county for data on 22 CRCI Indicators)
- Urgent Care Facilities
- Hospitals
- Dialysis Centers (RxOpen)
- ★ Mobile Home Parks
- Pharmacies (RxOpen)
- ★ Nursing Homes
- ◆ Fire Stations
- Power Plants
- ◆ Public Health Departments
- ◆ Local Law Enforcement Locations
- SNAP Authorized Retailer Locations (zoom to activate)

- ★ Places of Worship
- Colleges and Universities
- Private Schools
- Public Schools
- Transmission Lines
- Wastewater Treatment Plants (EPA)

- Solid Waste Landfill Facilities
- High Hazard Dam Lines
- Flood Hazard (zoom to activate)
- 0.2% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard
- Regulatory Floodway



Resilience Analysis and Planning Tool
Baylor University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA | NOAA/NWS/SPC | NOAA/NWS/CPC and NOAA/NWS/WPC | NOAA/NWS/WPC | National Weather Service | NOAA Office for Coastal Management | NOAA/NWS/NHC | NOAA/NWS/NWC |

Figure 42: RAPT Map

Dams

There are also 45 total dams within Johnson County according to the U.S. Army Corps of Engineers. The primary purpose of these dams is flood risk reduction, irrigation, water supply, or recreation.

Table 36: Dams

Hazard Potential Classification	Dam Name	NID ID	Owner Types	Dam Height (Ft)	Dam Length (Ft)	Drainage Area (Sq Miles)	Condition Assessment
High	Chambers Creek WS SCS Site 57 Dam	TX03610	Local Government	47	1560	3.51	Fair
High	Chambers Creek WS SCS Site 31 Dam	TX03613	Local Government	28	3884	2	Unsatisfactory
High	Chambers Creek WS SCS Site 33a Dam	TX03601	Local Government	41	1021	3.27	Fair
High	Chambers Creek WS SCS Site 61a Dam	TX03593	Local Government	29	967	0.87	Fair
High	Chambers Creek WS SCS Site 58 Dam	TX03609	Local Government	36	1408	2.27	Fair
High	Chambers Creek WS SCS Site 33 Dam	TX03595	Local Government	28	2300	3.82	Fair
High	Chambers Creek WS SCS Site 42 Dam	TX03612	Local Government	49	3500	15.3	Unsatisfactory
High	Chambers Creek WS SCS Site 35 Dam	TX03599	Local Government	22	1350	0.78	Fair
High	Cleburne State Park Lake Dam	TX03591	State	62	1300	4.42	Poor
High	Chambers Creek WS SCS Site 59 Dam	TX03608	Local Government	48	1991	3.1	Fair
High	Chambers Creek WS SCS Site 30 Dam	TX03600	Local Government	28	2750	1.1	Fair
High	Chambers Creek WS SCS Site 62 Dam	TX03607	Local Government	44	1813	6.4	Fair
High	Chambers Creek WS SCS Site 36 Dam	TX03597	Local Government	30	1632	1.1	Fair
High	Chambers Creek WS SCS Site 61 Dam	TX03605	Local Government	36	1700	3.2	Fair
High	Chambers Creek WS SCS Site 37 Dam	TX03596	Local Government	38	1122	2	Fair
High	Chambers Creek WS SCS Site 32 Dam	TX03614	Local Government	31	1825	1	Fair

Hazard Potential Classification	Dam Name	NID ID	Owner Types	Dam Height (Ft)	Dam Length (Ft)	Drainage Area (Sq Miles)	Condition Assessment
High	Chambers Creek WS SCS Site 34 Dam	TX03598	Local Government	36	1784	1.26	Fair
High	Rosenauer Dam	TX09691	Private	11			Not Rated
High	Mountain Valley Lake No 3 Dam	TX09005	Private	14	650	0.12	Not Rated
High	Martin Dam	TX09558	Private	8		0	Not Rated
High	O Connor Dam	TX09559	Private	12	1300	0.2	Poor
High	Lake Pat Cleburne Dam	TX03594	Local Government	78	5190	100	Fair
High	Mountain Valley Dam 2	TX04798	Private	23	900	1.4	Not Rated
High	Mountain Valley Dam No 1	TX04797	Private	18	1850	2.07	Unsatisfactory
High	West Buffalo Creek WS SCS Site 1 Dam	TX06303	Local Government	35	8720	7	Satisfactory
Low	Chambers Creek WS SCS Site 38 Dam	TX03592	Local Government	36	2545	3.35	Not Rated
Low	Chambers Creek WS SCS Gss 12	TX06725	Local Government	34	950	602	Not Rated
Low	Chambers Creek WS SCS Site 63 Dam	TX03604	Local Government	42	1480	2.5	Not Rated
Low	Chambers Creek WS SCS Site 43a Dam	TX03615	Local Government	35	1508	3.49	Not Rated
Low	Chambers Creek WS SCS Site 60 Dam	TX03606	Local Government	33	2544	2.08	Not Rated
Low	Chambers Creek WS SCS Site 44a Dam	TX03603	Local Government	39	2582	1.04	Not Rated
Low	Chambers Creek WS SCS Site 46a Dam	TX06726	Local Government	30	1900	927	Not Rated
Low	Chambers Creek WS SCS Site 44 Dam	TX03611	Local Government	45	3470	2.37	Not Rated
Low	Chambers Creek WS SCS Site 64a Dam	TX03602	Local Government	38	2295	2.98	Not Rated
Low	Relvea Gss No 1	TX06198	Private	29	420	0	Not Rated
Low	Mcnaughto Gss No 1	TX06200	Private	25	1080	0	Not Rated
Low	K D Livestock Dam	TX09560	Private	7		0	Not Rated
Low	Lanman Gss No 1	TX06199	Private	21	652	0	Not Rated
Low	Clark Dam	TX03617	Private	22	854	0	Not Rated
Low	Young Lake Dam	TX04792	Private	23	650	0	Not Rated
Low	Carousel Farms Lake Dam	TX03616	Private	24	580	0	Not Rated

Hazard Potential Classification	Dam Name	NID ID	Owner Types	Dam Height (Ft)	Dam Length (Ft)	Drainage Area (Sq Miles)	Condition Assessment
Low	Buck Ranch Lake No 4 Dam	TX04336	Private	16	1000	0	Not Rated
Significant	Lake Charca Dam	TX04407	Private	39	860	1.15	Not Rated
Significant	Retreat Boulevard Dam	TX07431	Private	28	500	0.06	Not Rated
Significant	Duggins Lake Dam	TX07313	Private	30	660	0	Not Rated

Local emergency management is only responsible for the *impact* of flooding from dam failure on surrounding areas. The responsibility for maintaining a safe dam rests with its owner. The table below further assigns the responsible parties to dam related safety activities.

Table 37: Responsible Parties for Dam Related Safety Activities

Responsible Parties	Dam Related Safety Activities
Dam Owners/Operators	• Identification of emergency at dam • Initial notifications • Implementation of repairs • Security and technical assistance on site
Local Emergency Management and Local Responders	• Public warning • Possible evacuation • Shelter plan activated • Rescue and recovery • State of Emergency declaration • Termination of emergency status
State Emergency Management	• Aid affected area when requested • Coordinate specialized assistance • Notify appropriate state agencies • Determine who does what in an emergency

Transportation System

A community's transportation system is vital to its ability to grow in a positive manner. Transportation is inherently linked to land use. The type of roadway dictates the use of adjacent land, and conversely, the type of land use dictates the size, capacity and flow of the roadway.

Roads are another aspect of the built environment that make a crucial contribution to economic development and growth and bring important social benefits. They are of vital importance to make a community grow and develop. In addition, providing access to employment, social, health and education services makes a road network crucial in fighting against poverty. Roads open more areas and stimulate economic and social development.

Bridges are also immensely important to everyday travel. Bridges allow safe passage where previously it was not possible or much more difficult. Bridges allow people go to school, seek medical help, and go to work without having to negotiate a busy road, a dangerous railway line, or a fast-flowing river. As extreme weather events become more common, transport infrastructure is increasingly being tested by these events.

[illegible]

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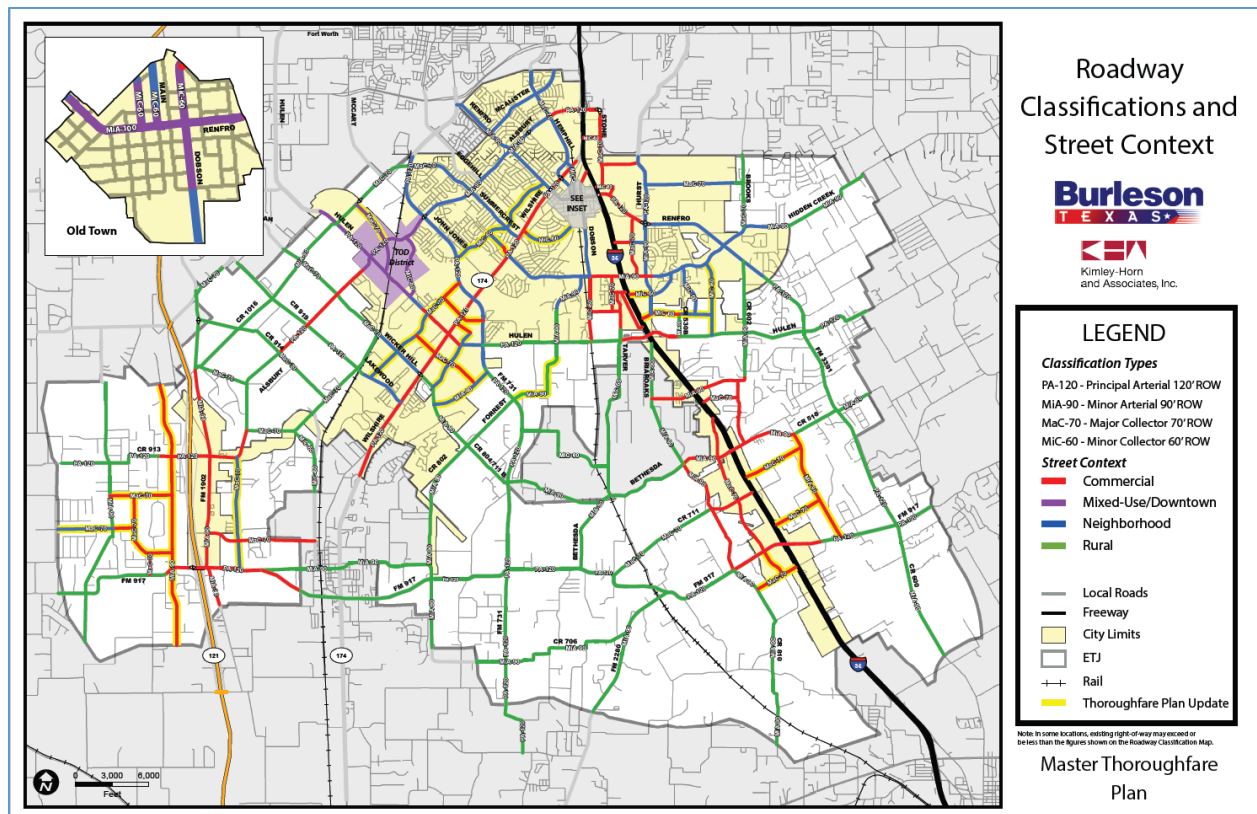


Figure 44: Burleson Thoroughfare Map

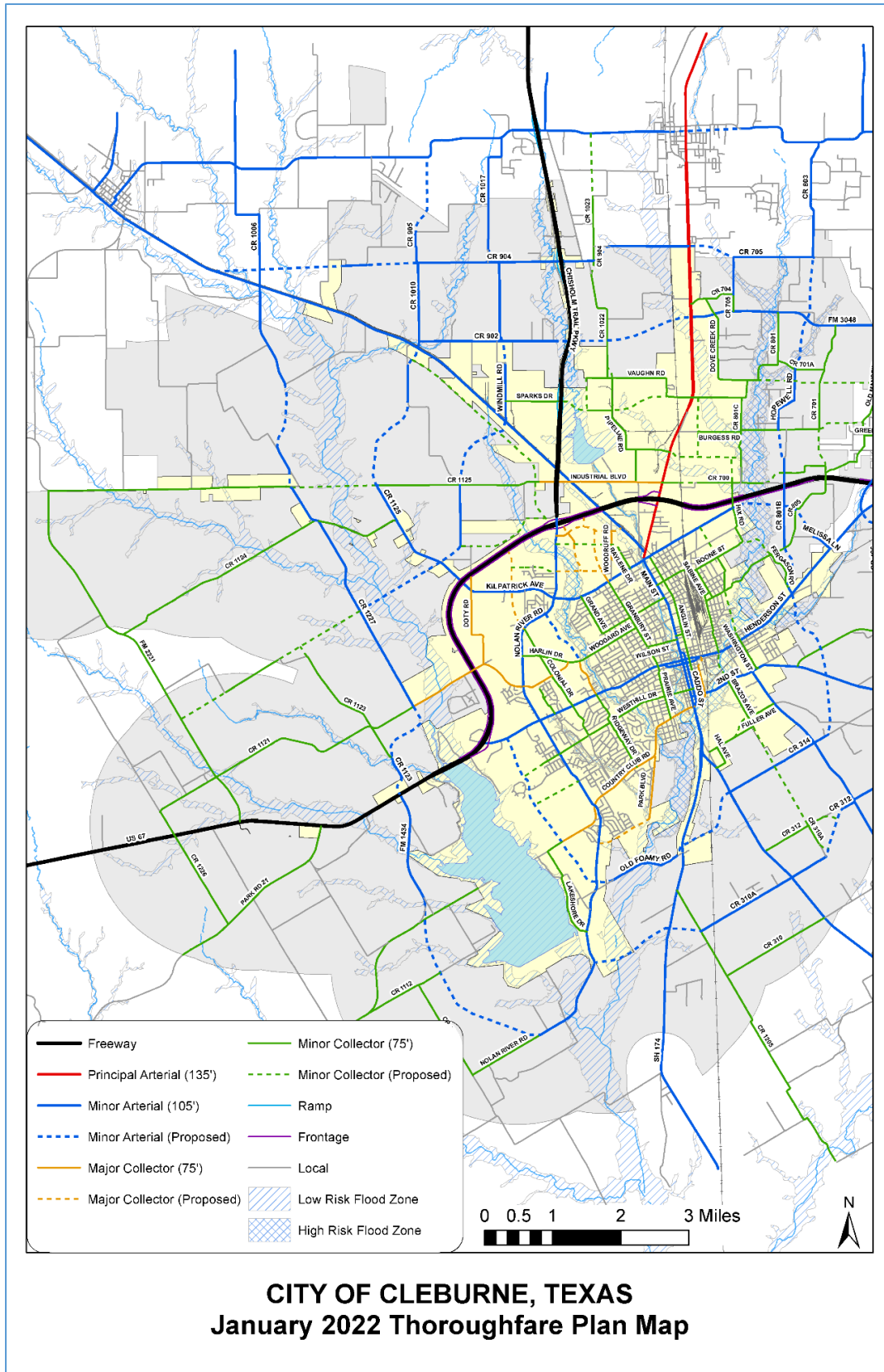


Figure 45: Cleburne Thoroughfare Map

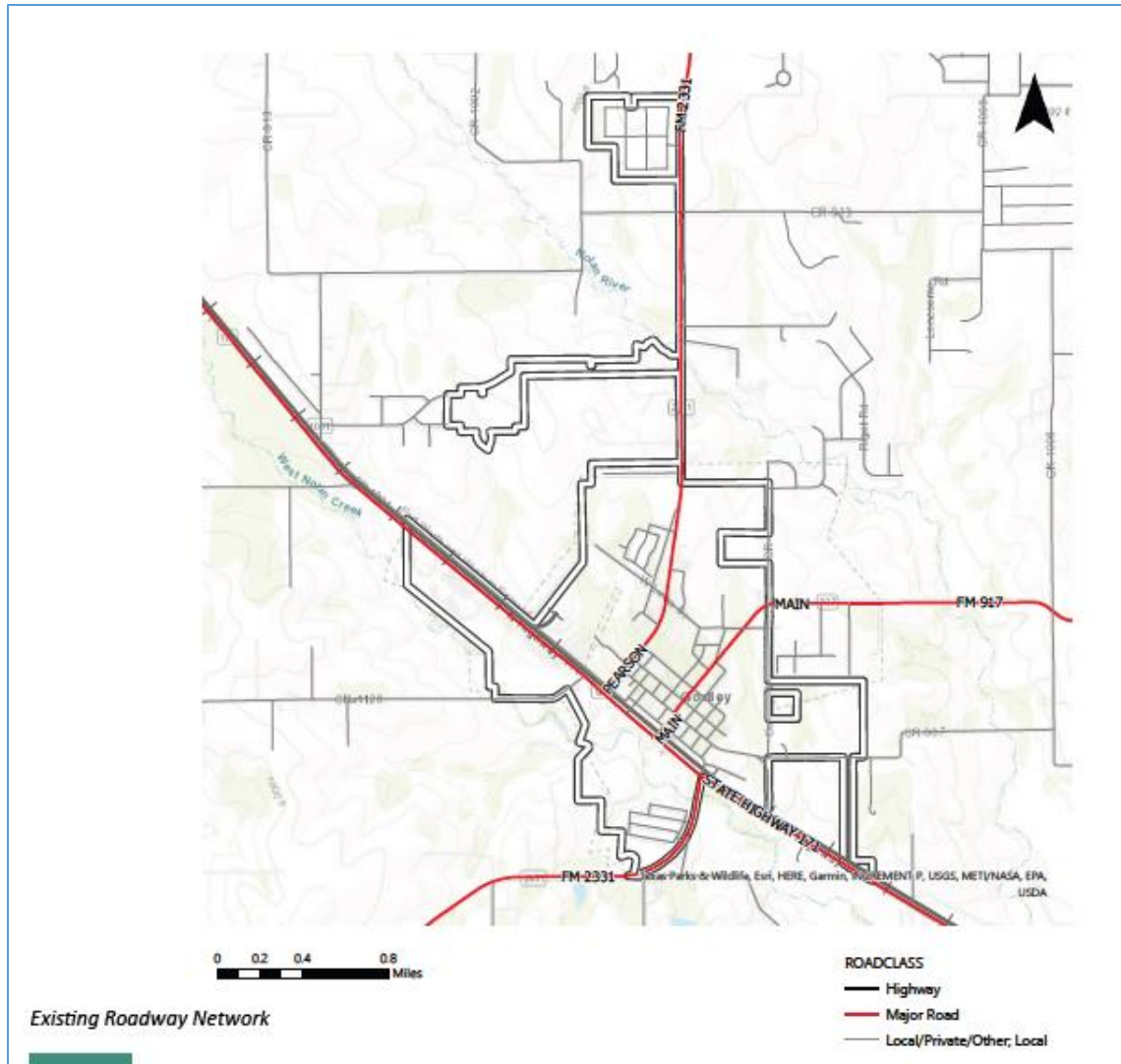


Figure 46: Godley Thoroughfare Map

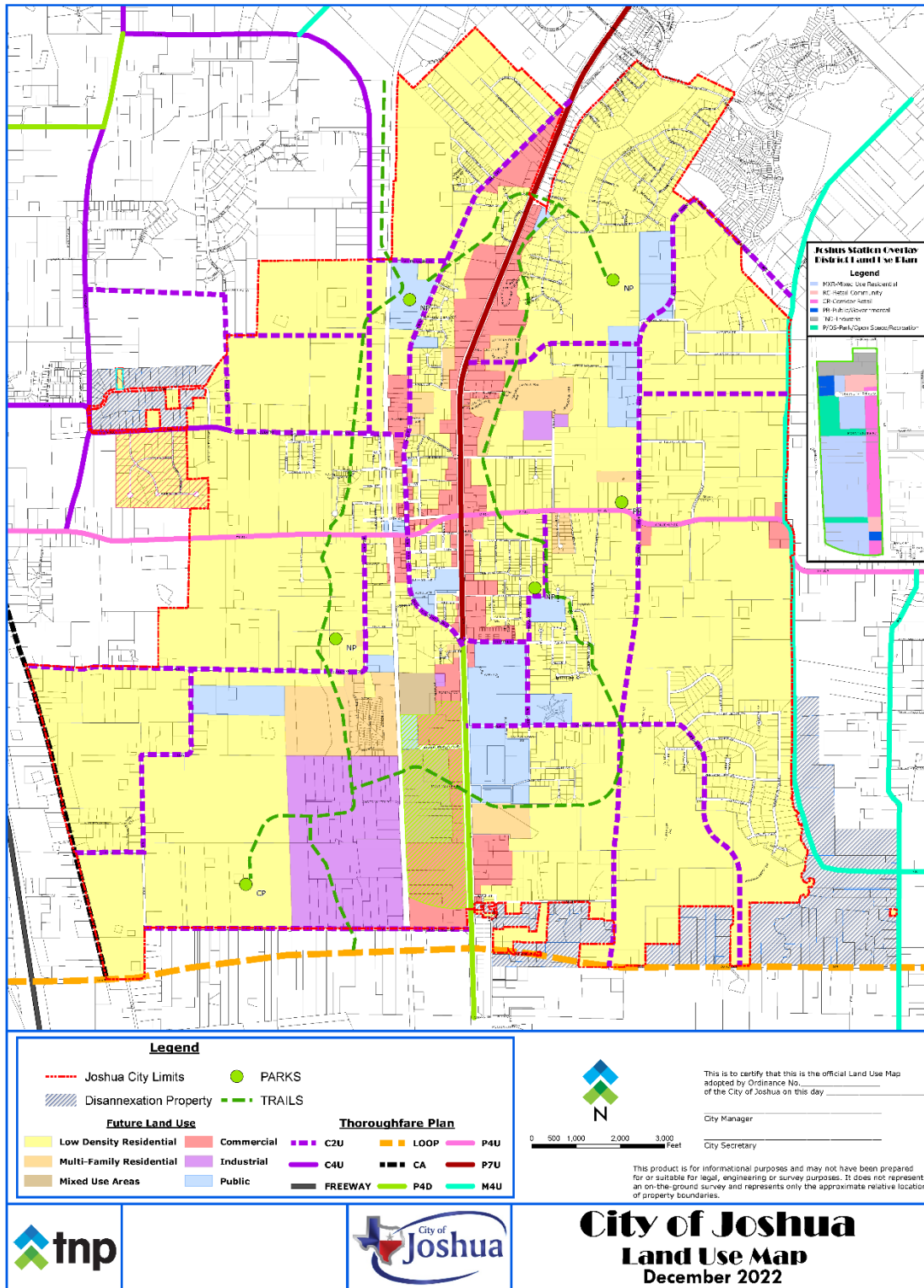


Figure 47: Joshua Thoroughfare Map

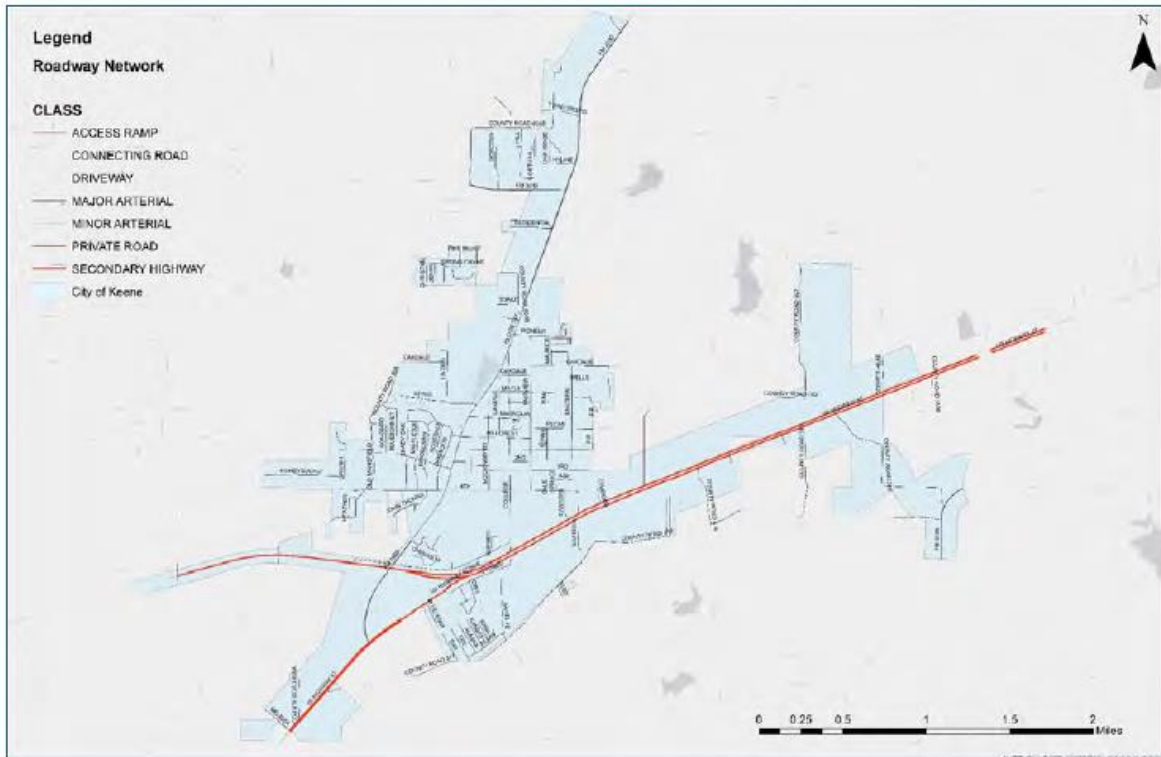


Figure 48: Keene Road Network Map

Roads and bridges that are not owned by jurisdictions fall under the responsibility of the Texas Department of Transportation (TxDOT). TxDOT uses the following terminology when describing their roadways.

- **On-System:** Under the jurisdiction of TxDOT.
- **Off-System:** Not under the jurisdiction of TxDOT.
- **Centerline Mileage:** Mileage of a segment of roadway, regardless of the number of through lanes. Unless other Johnson specified, “mileage” in this document is by default centerline mileage. Centerline mileage for mainlanes is calculated separately from centerline mileage for frontage roads, which are considered distinct roadways. For instance, a 1-mile segment of highway with left and right roadbeds, each with four lanes, would be represented as 1 centerline mile. If that segment contained right and left frontage roads, the mainlanes and frontage roads would be represented in the data as 3 unique roadways, 1 centerline mile each, for a total of 3 miles.
- **Lane Mileage:** Mileage of all through lanes of a segment of roadway. For instance, a 1-mile segment of highway with left and right roadbeds, each with four through lanes, would be represented as 8 lane miles. As with centerline mileage, frontage road lane mileage is calculated separately from the lane mileage of mainlanes.
- **Daily Vehicle Miles of Travel (DVMT):** Daily number of miles traveled by all vehicles. Inclusive of Truck DVMT.

- **Truck Daily Vehicle Miles of Travel (Truck DVMT):** Daily number of miles traveled by trucks only. Unlike other data types, Truck DVMT values are not rounded before aggregation. Therefore, aggregating Truck DVMT by different combinations of subtotal values may result in a negligible discrepancy from the Statewide Total, especially regarding Rural / Urban subtotals.
- **Roadway Data Tables:** The data for many of these reports are also available in tabular format in the MultiYear Roadway Data Tables. This document also contains extensive annotations regarding data criteria and calculations and is intended as a companion to these Annual Reports. The Roadway Data Tables can be found at the following URL: <https://www.txdot.gov/inside-txdot/division/transportation-planning/roadway-inventory.html>

The road inventory listed in Table 38 below was obtained from the County Information Program's on-line [database](#), which compiled road information from the Texas Department of Transportation 2021 Annual Roadway Inventory Reports

Table 38: Road Inventory Within Johnson County (TxDOT)²⁵

ROAD INVENTORY WITHIN JOHNSON COUNTY (TXDOT)	
Centerline Miles - 2021	
IH Highways:	23.164
US Highways:	39.660
State Highways, Spurs, Loops, Business Routes:	68.230
Farm or Ranch to Market Roads and Spurs:	217.518
Pass, Park and Recreation Roads:	9.473
Frontage Roads:	56.560
On-System Subtotal:	414.605
City Streets:	616.688
Certified County Roads:	915.630
Toll Road Authority Roads:	12.202
Federal Roads:	2.842
Off-System Subtotal:	1,547.362
Center Line Miles: County Total:	1,961.967
Lane Miles - 2021	
IH Highways:	92.656
US Highways:	134.539
State Highways, Spurs, Loops, Business Routes:	199.491
Farm or Ranch to Market Roads and Spurs:	446.796
Pass, Park and Recreation Roads:	18.946
Frontage Roads:	113.120

²⁵ [Johnson County Profile \(txcip.org\)](#): The data contained in the CID database are obtained from official sources and are not the product of the CIP. The CIP, therefore, does not expressly or impliedly warrant the accuracy of the data.

ROAD INVENTORY WITHIN JOHNSON COUNTY (TXDOT)	
On-System Subtotal:	1,005.548
City Streets:	1,251.476
Certified County Roads:	1,831.260
Toll Road Authority Roads:	28.643
Federal Roads:	5.684
Off-System Subtotal:	3,117.063
County Total:	4,122.611

The State's 55,000 bridges connect communities and commerce alike, allowing citizens to experience a quality of life unique to Texas. As we face unprecedented mobility demands from the state's rapid growth, increased traffic on our bridges can impact their performance and the funding needed to maintain them in a state of good repair. According to TxDOT's [Report on Texas Bridges 2020](#), there are 379 on & off system bridges open to public traffic within the County. *On-system bridges* are located on the designated state highway system, are maintained by TxDOT, and are typically funded with a combination of federal and state or state-only funds. *Off-system bridges* are not part of the designated state highway system and are under the direct jurisdiction of the local government such as a county, city, other political subdivision of the state, or special district with authority to finance a highway improvement project. Based on the minimum condition rating of its primary components, each bridge is assigned a numeric score from 50 to 95. The Bridge Condition Score is the average of these numeric values, weighted by deck area, making the Bridge Condition Score in Johnson County 90.75.

Utilities

Oncor, Atmos Energy, and TXU Energy are the main electric providers in the planning area.

Water & wastewater services are provided by the municipalities or Johnson County Special Utility District (JCSUC). The [Johnson County Special Utility District](#) (JCSUC) is a very important component of providing clean drinking water to the residents of Johnson County. Their system has about 900 miles of distribution pipeline and 50 miles of transmission lines and is divided into 15 separate pressure planes. JCSUD operates 7 elevated storage tanks with a combined total of 5 million gallons of water in the system. The water CCN (certificate of convenience and necessity) service area of the District is approximately 320 square miles; predominately in Johnson County, but also serving in Tarrant and Hill County.

JCSUD began construction on approximately 28 miles of infrastructure within their system starting in June 2020. These projects will improve the supply of water in some areas of the system, while also providing fire hydrants that will benefit the local area. The installation of these lines will also improve the District's service capacity.

Historic Buildings and Districts

Historic landmarks and districts are important to consider when evaluating vulnerabilities to hazards. What is historic, and worth saving, varies with the beholder. "Historic" applies to a building that is part of a community's tangible past. Due to the advanced age of these structures, they are highly susceptible to cracking, leaning, and total destruction caused by any of the hazards. The [Johnson County Historical Commission](#) is responsible for identifying and preserving Johnson County's historic resources.

According to the Texas Historic Sites Atlas, there are 6 courthouses, 93 cemeteries, 5 museums, 79 historical markers within Johnson County.²⁶ In addition to the THSA, the National Register of Historic Places listed four place in the planning area that have local or state historical significance.

Table 39: NRHP in Johnson County²⁷

Property Name	City	Street & Number	Area of Significance	Level of Significance - Local	Level of Significance - State
Cleburne Carnegie Library	Cleburne	201 N. Caddo St.	ARCHITECTURE	True	False
Cleburne Downtown Historic District	Cleburne	Roughly bounded by Brown, Border, Harrell & Buffalo Sts.	ARCHITECTURE; COMMUNITY PLANNING AND DEVELOPMENT	True	False
Johnson County Courthouse	Cleburne	1 Public Sq.	POLITICS/GOVERNMENT; ARCHITECTURE	False	True
Joiner-Long House	Cleburne	604 Prairie Av.	ARCHITECTURE	True	False
Wright Building	Cleburne	1 E. James St.	COMMERCE; ARCHITECTURE	True	False

3.3.3 Economy

According to the [Census Reporter](#), the 2021 average income per capita in Johnson County was \$32,362, 9.9% of the population is living below the poverty line, and the mean travel time to work is 31.6 minutes. There are roughly 70,869 housing units in the County with a median value of \$284,500 for owner-occupied housing units. Additional profiles of the planning area are reflected in the table below.

Table 40: 2021 Economic Profile of Planning Area²⁸

Jurisdiction	Per Capita Income	Persons Below Poverty Line	Mean Travel Time to Work	Number of Housing Units	Median Value of Owner-Occupied Housing Units
Alvarado²⁹	\$22,621	9.8%	26.9 minutes	1,632	\$136,100
Burleson³⁰	\$34,084	6.5%	30 minutes	16,843	\$219,200

²⁶ Texas Historical Sites Atlas. 2015. Texas Historical Commission. <https://atlas.thc.state.tx.us/>

²⁷ [National Register Database and Research - National Register of Historic Places \(U.S. National Park Service\) \(nps.gov\)](#)

²⁸ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Johnson County, TX* <http://censusreporter.org/profiles/05000US48251-johnson-county-tx/>

²⁹ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Alvarado, TX* <http://censusreporter.org/profiles/16000US4802260-alvarado-tx/>

³⁰ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Burleson, TX* <http://censusreporter.org/profiles/16000US4811428-burleson-tx/>

Jurisdiction	Per Capita Income	Persons Below Poverty Line	Mean Travel Time to Work	Number of Housing Units	Median Value of Owner-Occupied Housing Units
Cleburne ³¹	\$25,392	13.6%	28 minutes	11,626	\$139,200
Godley ³²	\$28,622	16.2%	30.2 minutes	666	\$225,600
Joshua ³³	\$31,199	7.8%	31.9 minutes	3,126	\$217,500
Keene ³⁴	\$20,757	11.4%	25.8 minutes	2,275	\$162,600

According to the U.S. Census Bureau's 2021 County Business Patterns, there are 3,177 establishments for selected industries in the County. The following graph separates these industries by their 2-digit NAICS sector levels.

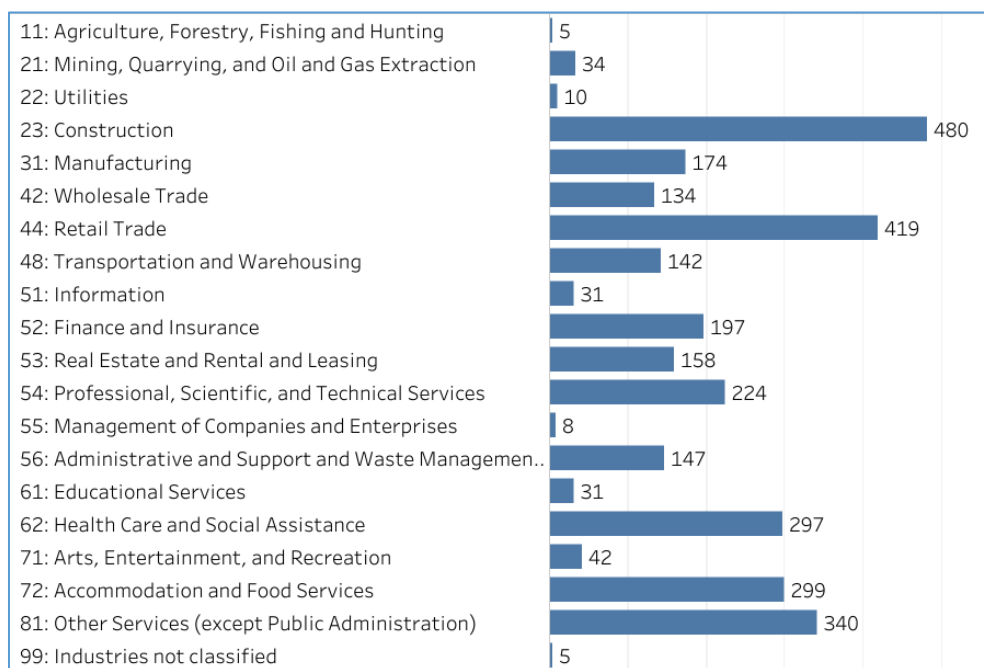


Figure 49: Number of Establishment for Selected Industries³⁵

³¹ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Cleburne, TX* <http://censusreporter.org/profiles/16000US4815364-cleburne-tx/>

³² U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Godley, TX* <http://censusreporter.org/profiles/16000US4829972-godley-tx/>

³³ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Joshua, TX* <http://censusreporter.org/profiles/16000US4838080-joshua-tx/>

³⁴ U.S. Census Bureau (2021). *American Community Survey 5-year estimates*. Retrieved from *Census Reporter Profile page for Keene, TX* <http://censusreporter.org/profiles/16000US4838548-keene-tx/>

³⁵ 2021 County Business Patterns, <https://www.census.gov/programs-surveys/cbp.html>

CEDS SWOT Analysis

To tie the risk assessment into the region's economic development strategy, a review of the Comprehensive Economic Development Strategy SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis is beneficial. The SWOT analysis is an in-depth analysis of regional strengths, weaknesses, opportunities and threats, as the name suggests. It identifies what makes the region special or competitive in larger economies. These strengths are compared with factors that could keep a region from realizing its potential. Knowing a region's capacity for growth is critical to choose how to promote economic vitality. It is affected by cultural, economic, technological, intellectual and physical assets. A region can use the activities and engagement of business, government leaders and others to maximize its economic potential.

Being a member of the NCTCOG Region, Johnson County participated in the 2022 NCTCOG Comprehensive Economic Development Strategy (CEDS), in which the 16-country region broke up into clusters to conduct a Strength, Weakness, Opportunities, and Threats (SWOT) Analysis. The results from the Cluster 3 SWOT analysis that Johnson County participated in are provided below.

SWOT ANALYSIS BY CLUSTER — CLUSTER 3

Cluster 3 includes the following counties: **JOHNSON, ELLIS, AND NAVARRO**

STRENGTHS

- Power Grid
- Transportation Infrastructure: I-35E, I-35W, I-45, Highway 287, Highway 67, Highway 77, Chisholm Trail Parkway
- Water availability and low cost
- Skilled workforce (need a better-skilled one to compete, however)
- Access to job training
- Plenty of land
- Proximity to markets
- Higher education availability (highest return on investment)
- Competitive tax burden
- Strong pro-business climate
- Local infrastructure and capacity
- Access to airports
- High quality of life and lower cost of living
- Growing arts & entertainment
- Access to outdoor recreation: lakes and parks
- Rail (BNSF & Union Pacific)
- Proximity to ports
- Growing healthcare options
- Growing population

WEAKNESSES

- Low median household incomes (good for manufacturing)

- Limited rail spurs
- Limited incentive options & funding for incentives
- Destination retail (commerce)
- Lack of social services
- Education attainment
- Broadband access

OPPORTUNITIES

- Reshoring/onshoring/offshoring (some companies are coming back)
- Foreign direct investment (opportunities for FDIs who want to invest/buy a piece of the action in the region)
- Power Grid
- Expand diverse housing options
- Take advantage of metro business industry leakage
- Retail opportunities
- The southern region of DFW Metroplex growth opportunities
- Expansion of utility infrastructure
- Utilization of federal infrastructure funds

THREATS

- Weather (tornadoes)
- Increased incentives from other states
- A decline in standard manufacturing base (being replaced with automation)
- Offshoring (financial and manufacturing)
- Tighter environmental regulations (i.e., air quality)
- Poorly educated workforce
- Aging infrastructure
- Uncertainty in the future of electrical infrastructure
- Housing bubble
- Financial market volatility
- Construction materials cost and availability
- Disruption of retail due to e-commerce
- Diverse housing options
- Lack of water for manufacturing and all development

3.3.4 Natural Environment

Land

The E.P.A. defines ecoregions as areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. According to the Texas Parks and Wildlife Department (TPWD), Texas is divided into 10 natural regions or ecoregions: the Piney Woods, the Gulf Prairies and marshes, the Post Oak Savannah, the Blackland Prairies, the Cross Timbers, the South Texas Plains, the Edwards Plateau, the Rolling Plains, the High Plains, and the Trans-Pecos. According to the following map, most of Johnson County is in the Cross Timbers Ecoregion, with a sliver of the eastern portion of the county in the Blackland Prairies.

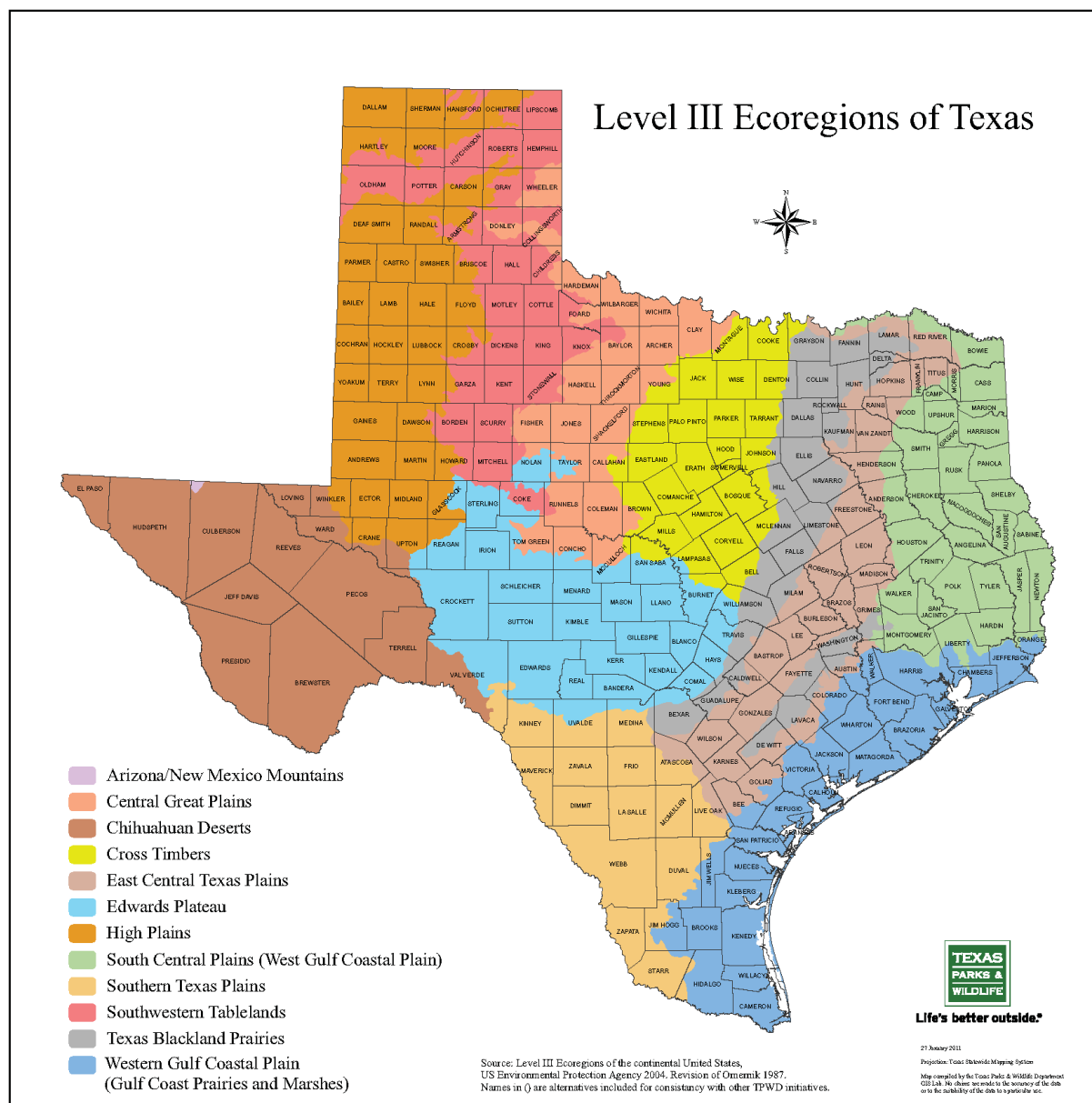


Figure 50: TPWD Ecoregions

The Cross Timbers Ecoregion, in north and central Texas, includes areas with high density of trees and irregular plains and prairies. Soils are primarily sandy to loamy. Rainfall can be moderate, but somewhat erratic, therefore moisture is often limiting during part of the growing season. Also known as the Osage Plains, it is the southernmost of three tallgrass prairies. It varies from savannah and woodland to the east and south, into shorter mixed-grass prairie to the west.

As in the rest of the Great Plains, fire, topography, and drought-maintained prairie and established the location of woodlands.³⁶ Giant dinosaurs once roamed this region and the neighboring county, Somervell, is home to Dinosaur Valley State Park with the largest collection of dinosaur footprints.

Wildlife

TPWD is the steward of the [Texas Conservation Action Plan](#), a conservation plan for species most at risk with a primary purpose to bring people together to realize conservation benefits, prevent species listings, and preserve our natural heritage for future generations.

Johnson County is one of the 43 counties in the Cross Timbers Wildlife District. Cross Timbers [Handbook](#) contains information on Species of Greatest Conservation Need, regionally important habitats, local conservation goals and projects, regional and statewide activities, contact information for conservation partners, and maps that could help County officials better protect and improve its natural assets.³⁷

There are 47 documented species of greatest conservation need (SGCN) within Johnson County (see Table 41). All species on the county list are tracked in the [Texas Natural Diversity Database \(TXNDD\)](#).

Table 41: SGCN Species in Johnson County

Taxon	Common Name	State Rank
Amphibians	Woodhouse's toad	SU
Amphibians	Strecker's chorus frog	S3
Birds	white-faced ibis	S4B
Birds	bald eagle	S3B,S3N
Birds	black rail	S2
Birds	whooping crane	S1S2N
Birds	piping plover	S2N
Birds	mountain plover	S2
Birds	rufa red knot	S2N
Birds	Franklin's gull	S2N
Birds	western burrowing owl	S2
Birds	Sprague's pipit	S3N
Birds	black-capped vireo	S3B
Birds	golden-cheeked warbler	S2S3B
Birds	lark bunting	S4B
Birds	chestnut-collared longspur	S3
Fish	Mississippi silvery minnow	S4

³⁶ [Texas Ecoregions — Texas Parks & Wildlife Department](#)

³⁷ Texas Conservation Action Plan. Texas Parks & Wildlife.

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/tcap/

Taxon	Common Name	State Rank
Mammals	cave myotis bat	S2S3
Mammals	tricolored bat	S2
Mammals	big brown bat	S5
Mammals	eastern red bat	S4
Mammals	hoary bat	S3
Mammals	swamp rabbit	S5
Mammals	black-tailed prairie dog	S3
Mammals	muskrat	S5
Mammals	long-tailed weasel	S5
Mammals	eastern spotted skunk	S1S3
Mammals	western hog-nosed skunk	S4
Mammals	mountain lion	S2S3
Reptiles	eastern box turtle	S3
Reptiles	western box turtle	S3
Reptiles	smooth softshell	S3
Reptiles	slender glass lizard	S3
Reptiles	Texas horned lizard	S3
Reptiles	prairie skink	S2
Reptiles	Brazos water snake	S1
Reptiles	Texas garter snake	S1
Reptiles	western massasauga	S3
Insects	American bumblebee	SNR
Insects	No accepted common name	S1
Mollusks	Brazos heelsplitter	SNR
Mollusks	Texas fawnsfoot	S2
Plants	tree dodder	S3
Plants	Texas milk vetch	S3
Plants	Hall's prairie clover	S2
Plants	Comanche Peak prairie clover	S2S3
Plants	Reverchon's scurfpea	S3

Water

Part of the Prairies & Lakes Region of TPWD, the planning area consists of Alvarado Park Lake, Lake Pat Cleburne, and Cleburne State Park lake.

Lake Pat Cleburne (Pat Cleburne Reservoir) is the only water reservoir from the Brazos-G Planning Region in Johnson County. The Reservoir is a 1,568-acre impoundment located on the Nolan, owned and operated by the City of Cleburne, and primary used for municipal water supply and recreation. The reservoir has a drainage area of 100 square miles, a storage capacity of 26,008 acre-feet, and a shoreline length of 15.3 miles. Water level has been within 4 feet of conservation pool (733.5 above mean sea level [MSL]) since 2016.

Johnson County is also a part of the Trinity River Basin (TWDB Flood Planning Region – 3) and Lower Brazos River Basin (TWDB Flood Planning Region – 8).

Groundwater comes from the Trinity Aquifer (Subcrop) major aquifer and there are an estimated 584 wells within the county.

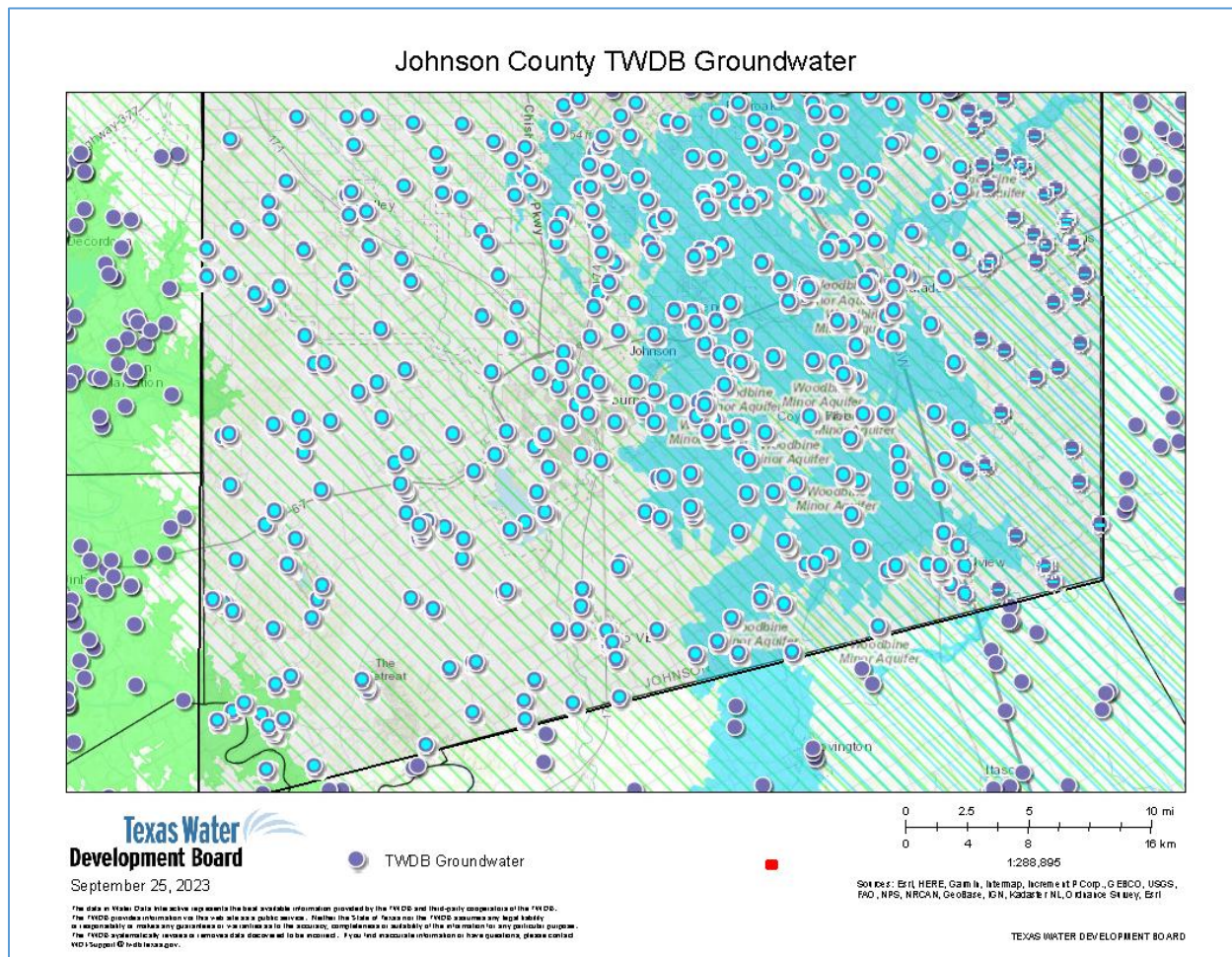


Figure 51: Wells in Johnson County

Bodies of water, such as lakes, reservoirs, and rivers, are vulnerable to severe weather and natural hazards, and the level of water has a dramatic effect on drought and flooding impacts on people and property in the participating jurisdictions.

3.4 Changes in Development

FEMA's defines changes in development as "recent development, potential development, or conditions that may affect the risks and vulnerabilities of the jurisdictions (for example, climate change, declining populations or projected increases in population, or foreclosures) or shifts in the needs of underserved communities or gaps in social equity. This can also include changes in local policies, standards, codes, regulations, land use regulations and other conditions."

While the overall vulnerability level and priorities of the participants have remained the same since the previous mitigation plan, the following changes in development require local officials to be prepared to take action when necessary.

3.4.1 Changes that Increase Vulnerability

Future Land Use and Zoning

New development in hazard-prone areas increases the risk of damage and injury from that hazard. All future development is vulnerable to severe weather events. Local planning mechanisms have identified planned development projects, such as road expansions, downtown revitalizations, and capital improvement projects in the participating jurisdictions that could be impacted by hazards.

Climate Change

A key factor to an increase in vulnerability is climate change. According to the United States Environmental Protection Agency (EPA),

Texas's climate is changing. Most of the state has warmed between one-half and one-degree Fahrenheit (°F) in the past century. In the eastern two-thirds of the state, average annual rainfall is increasing, yet the soil is becoming drier. Rainstorms are becoming more intense, and floods are becoming more severe... In the coming decades, storms are likely to become more severe, deserts may expand, and summers are likely to become increasingly hot and dry, creating problems for agriculture and possibly human health. Our climate is changing because the earth is warming. People have increased the amount of carbon dioxide in the air by 40% since the late 1700s. Other heat-trapping greenhouse gases are also increasing. These gases have warmed the surface and lower atmosphere of our planet about one degree during the last 50 years. Evaporation increases as the atmosphere warms, which increases humidity, average rainfall, and the frequency of heavy rainstorms in many places—but contributes to drought in others...³⁸

According to [Headwater Economics](#), Johnson County is expected to experience a 11% increase in extremely hot days and a 4% decrease in days with heavy precipitation within ten years in a higher emissions scenario (Figure 52).

³⁸ What Climate Change Means for Texas. August 2016. EPA 430-F-16-045. United States Environmental Protection Agency. <https://archive.epa.gov/epa/sites/production/files/2016-09/documents/climate-change-tx.pdf>

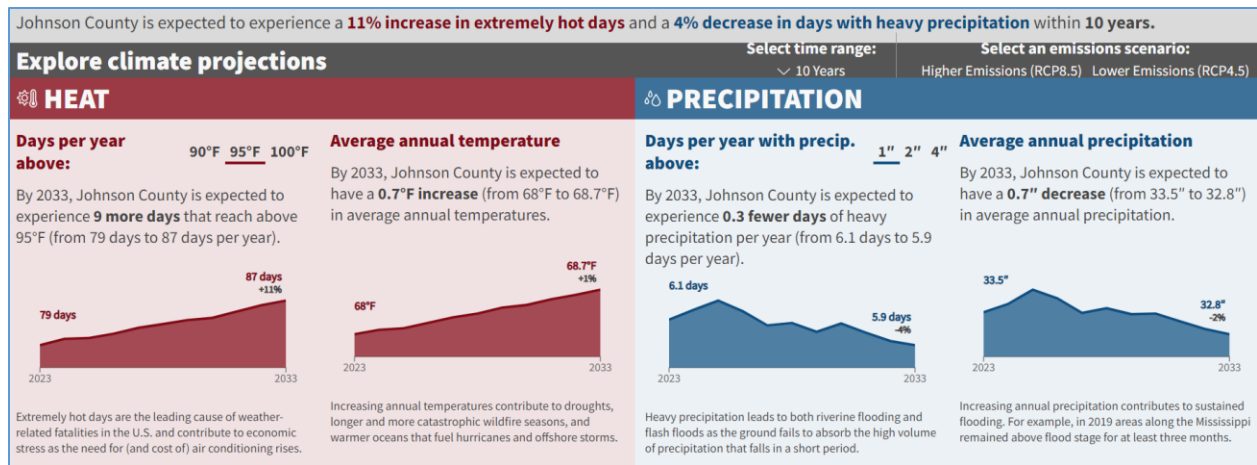


Figure 52: 10 Year Climate Projection

The following is an article from the Dallas Morning News that describes the effects of climate change in North Central Texas and the impacts on the existing natural hazards:

The United States has just come off a record year for weather and climate disasters and, by most accounts, it's only going to get worse.

Last year hurricanes Harvey, Irma, and Maria; the wildfires and floods in California; and tornado outbreaks in the Midwest and the South delivered \$306.2 billion in damages, more than any year in history when adjusted for inflation.

Texas is particularly vulnerable to a changing climate. It has had more costly weather-related disasters than any other state, and those events will happen more often as air and ocean temperatures climb, scientists say.

"Climate change is not just about polar bears," said Katharine Hayhoe, a climate scientist at Texas Tech University with an impressive YouTube following. "It will affect North Texas profoundly."

Between 2041 and 2050, Dallas-Fort Worth may see August temperatures rise from a mean of 86 °F at the end of the 20th century to 94 °F, with extremes rising above 120, reports one study by scientists at the University of Texas at Arlington.

Longer droughts and more extreme rainstorms will pose a challenge for those who manage drinking water supplies, those who raise cattle, and those who oversee our roads and railways.

The changes may also have unexpected effects on people's daily lives, including jobs. Intense heat can imperil cars and airplanes, evaporate drinking water supplies, and halt outdoor labor such as farm work and construction.

Adam Smith, a scientist with the federal government's main climate agency, the National Oceanic and Atmospheric Administration, calls Texas "the disaster capital of the United States."

As Smith explains, Texas is susceptible to almost every kind of weather and climate hazard, from extreme cold to extreme heat, from severe drought and wildfires to torrential floods. Texas is also home to a booming population and critical infrastructure, including the petrochemical plants that were damaged in Hurricane Harvey.

"Texas is a hot-spot for a wide range of extreme natural events due to its geography," said Smith. "We expect many of these extremes to become more frequent and intense as time moves forward."

While uncertainty is built into climate models, scientists have a high degree of confidence in many of the changes they observe and predict.

The bigger, longer and more common an event is, the greater the accuracy with which scientists can project how climate change will impact it, said Hayhoe, a lead author of a November 2017 climate change report overseen by scientists at 13 federal agencies. Larger events have more data associated with them and can be easier to model.

Researchers are very confident that climate change will increase both average and extreme temperatures. They are also confident that climate change is likely to increase the risk of heavy precipitation in many areas and may bring stronger droughts to the south-central and southwestern parts of the U.S.

Projected impacts on smaller-scale events like tornadoes and hailstorms are less well understood.

One area of consensus is the cause of climate change. "It is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century," note the authors of the Fourth National Climate Assessment, a Congressionally mandated review that scientists conduct every four years. They add that there are no convincing alternative explanations.

Below is how these changes will affect our area, the evidence behind the projections, and how confident scientists are in each of these findings.

Heat

More record-setting heat in North Texas is a virtual certainty. Already, we are living through the warmest period in the history of modern civilization, the federal report found, and that warming will accelerate.

Climate science contrarians often attack the models on which climate projections are based. Myron Ebell, who led President Donald Trump's transition team at the Environmental Protection Agency, accepts that humans are most likely responsible for warming, but he says models have exaggerated the outcome. Ebell is director of the Center for Energy and Environment at the Competitive Enterprise Institute, a libertarian advocacy group based in Washington, D.C. He acknowledges that he is not a scientist.

In fact, researchers have used models to predict global temperature changes for more than 50 years, and the models' projections have been fairly accurate over the long term. In the early 21st century, a discrepancy appeared between observed and modeled temperatures—a period dubbed the "global warming slowdown" or "hiatus."

Scientists have published scores of studies on the mismatch and tied it to several factors that contributed to lower-than-expected observed temperatures. Those factors include a series of small volcanic eruptions, the cooling effects of which scientists had underestimated, and lower than expected solar output.

Findings from those studies are helping to improve climate model simulations and helping scientists better understand why there are differences between simulations and observations in the early 21st century, said Ben Santer, a climate scientist at the Lawrence Livermore National Laboratory.

Global average temperatures increased about 1.8 degrees Fahrenheit in the last 115 years. In Dallas, they climbed from about 65 °F during the early part of the 20th century to 68 °F during the most recent decade. If nothing is done to reduce emissions of carbon dioxide and other greenhouse gases, average temperatures in the city may reach the low 70s by 2050 and surpass 75°F by the end of the century.

Earlier this year, Amir Jina and colleagues published a study in the journal *Science* that estimated economic damage from climate change in each county of the United States.

Once temperatures reach the high 90s, equal to or above body temperature, fatality rates go up.

Besides people, heat also affects roads. A 2015 study by the University of Texas at Arlington (UTA) that focused on the impact of climate change on transportation predicted "an increase in wildfires along paved highways, heat-induced stress on bridges and railroads, air-conditioning problems in public transport vehicles and heat-related accidents by failure of individual vehicles and heat-related stress."

The study concluded, "These impacts can be translated into substantial mobility and economic loss."

Drought

Along with heat will come stronger drought, which "has profound economic impacts," said Hayhoe.

The prediction that North Texas will have longer and more severe droughts is based on multiple factors, including the relationship between high temperatures and soil dryness and the presence of more frequent and longer lasting high-pressure systems in summer that suppress rainfall and deflect storms away from our area.

Hayhoe points to Texas' 2010-2013 drought as a probable sign of things to come. Although this drought occurred naturally, as a result of a strong La Niña event that typically brings dry conditions to our area, it was exacerbated by extreme heat. That event created severe hay shortages for cattle farmers and led some ranchers to prematurely slaughter their herds or export them out of state.

"Cotton can be drought-resistant, but not cattle," said Hayhoe.

The 2015 UTA study predicts a reduction in soil moisture of 10% to 15% in all seasons by 2050, which can also lead to cracked pavement and the premature loss of roads, railways, and other infrastructure.

Heat and drought also pose a problem for drinking water supplies, which North Texas sources from surface reservoirs that will be increasingly prone to evaporation. Hayhoe says some water managers are considering pumping the reservoirs underground during exceptionally hot and dry conditions, or covering them with polymer "blankets."

The blankets are an invisible layer of organic molecules that can help reduce evaporation.

Floods

While it's not likely that annual precipitation totals will change in North Texas, rainfall patterns likely will. Hayhoe and Nielsen-Gammon both say we will likely see enhanced "feast or famine" cycles with torrential rainstorms in the spring followed by longer than usual dry periods.

These predictions carry a high degree of certainty, because climatologists have already recorded this trend playing out.

"Rainfall becoming more extreme is something we expect because we've observed this not just in North Texas but throughout the United States, and models consistently predict it will continue to happen," said Nielsen-Gammon.

Severe rainstorms, the UTA scientists predict, will have the capacity to flood highway exit and service roads in the Federal Emergency Management Agency (FEMA) 100-year floodplain.

"While the state highway system was built above flooding levels, the connector roads may be easily flooded," said Arne Winguth, a climate scientist at UTA who co-authored the report.

Tornadoes and hail

Two events climate scientists cannot reliably project are hailstorms and tornadoes. "A lot of the things we care about are too small-scale to predict with more confidence," said Nielsen-Gammon. "The historical record is not large enough for longer-term forecasts."

There is some evidence that tornadoes, like rainstorms, are becoming more concentrated on fewer days and that their season has become less predictable.

The same is true with hail. "One thing we expect to happen with a warming climate is that the average humidity in the lower atmosphere may decrease, and if that happens it's easier for hail to stay frozen," said Nielsen-Gammon. "That factor might increase hailstorms, but that's just one of many factors that do affect hail."

Economy

Jina of the University of Chicago predicted in his study that climate change would decrease Dallas County's annual income by 10% to 20% in the coming decades unless emissions are reduced. "North Texas is one of the worst-affected places in the country," he said. Much of the loss comes from higher mortality rates, soaring air-conditioning costs, and reduced labor productivity.

To track labor productivity, Jina and his colleagues examined national time-use surveys, diaries kept by thousands of volunteers across the country, and compared them with local weather data. He found that on extremely hot days, people tended to stop working about 30 minutes early.

"There's direct evidence that people concentrate less well, make more mistakes and their brain just functions less efficiently if it's too hot," he said. Heat also disrupts sleep. "The general lack of productivity leads to them saying, 'No more work today.'"

The good news is that many climate-change effects are manageable. They do require local and federal authorities to plan ahead and take action, said Smith of the National Oceanic and Atmospheric Administration.

"It is important," he said, "to address where we build, how we build and also to build protections for populations already exposed in vulnerable areas."³⁹

All participating jurisdictions are experiencing the effects of climate change.

Aging Structure and Infrastructure

The age of this infrastructure ties into its level of vulnerability. The older the infrastructure, the more likely it is to fail due to the impacting hazards.

The participating jurisdictions provided an inventory of critical facilities and infrastructure that did not list the age of the facilities. This deficiency will be included as a mitigation action item in each jurisdiction.

Population Increase

Population growth and distribution, especially increased population density and urbanization, increases vulnerability to disasters.⁴⁰

The following table reflects the estimated changes in participating jurisdictions' demographics since the adoption of the 2015 HMP.

Table 42: Population Increase⁴¹

Name	Status	Population Census 2000-04-01	Population Census 2010-04-01	Population Census 2020-04-01	Population Estimate 2022-07-01
Alvarado	City	3,007	3,302	3,864	4,898
Burleson	City	16,296	21,755	36,876	47,633
Cleburne	City	22,775	26,371	29,634	31,293
Godley	City	679	930	1,006	1,457
Joshua	City	4,226	5,031	6,413	7,918
Keene	City	4,302	5,650	6,117	6,419
Johnson	County	126,811	150,934	179,927	195,506

Socially Vulnerable Populations

Socially Vulnerable Populations include those who have special needs, such as, but not limited to, people without vehicles, people with disabilities, older adults, and people with limited English proficiency. For these populations, emergency response failures can have catastrophic consequences, including loss of the ability to work or live independently, permanent injury, and death. Without appropriate preparation, vulnerable individuals may not be able to evacuate as instructed, reach points of distribution for medical countermeasures, understand written or verbal communications during an emergency, or find suitable housing if their residences are destroyed during a disaster.

³⁹ Climate change to bring North Texas longer droughts, heavy rains, 120-degree temps within 25 years. Kuchment, Anna. 2018, February 15. <https://www.dallasnews.com/news/climate-change-1/2018/02/15/climate-change-to-bring-texas-longer-droughts-heavy-rains-120-temps-august-within-25-years>

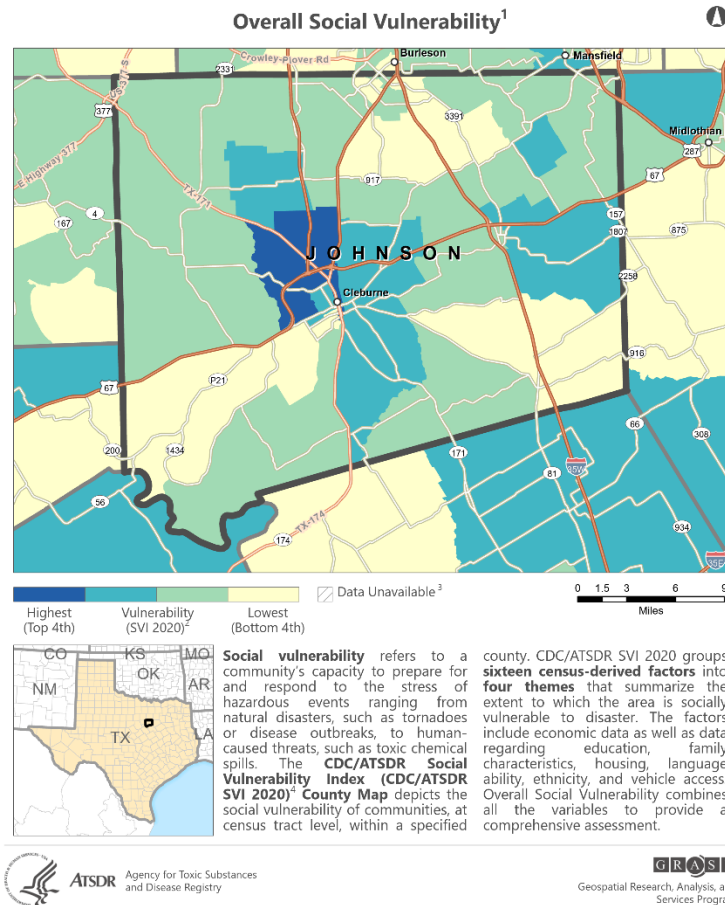
⁴⁰ Ben Wisner et al., At Risk: Natural Hazards, People's Vulnerability, and Disasters, 2d ed. (London: Routledge, 2004).

⁴¹ [USA: States, Counties, Cities, Places, Urban Areas & Metropolitan Areas - Population Statistics in Maps and Charts \(citypopulation.de\)](https://citypopulation.de/)

To help public health officials and emergency response planners meet the needs of socially vulnerable populations in emergency response and recovery efforts, the Geospatial Research, Analysis, and Services Program (GRASP) created and maintains the CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI).

The CDC/ATSDR SVI uses U.S. Census data to determine the social vulnerability of every census tract. Census tracts are subdivisions of counties for which the Census collects statistical data. The SVI ranks each tract on 16 social factors, including poverty, lack of vehicle access, and crowded housing, and groups them into four related themes. Maps of the four themes and overall SVI are shown in Figure 53 on the following page.

CDC/ATSDR Social Vulnerability Index 2020 JOHNSON COUNTY, TEXAS



CDC/ATSDR SVI 2020 – JOHNSON COUNTY, TEXAS

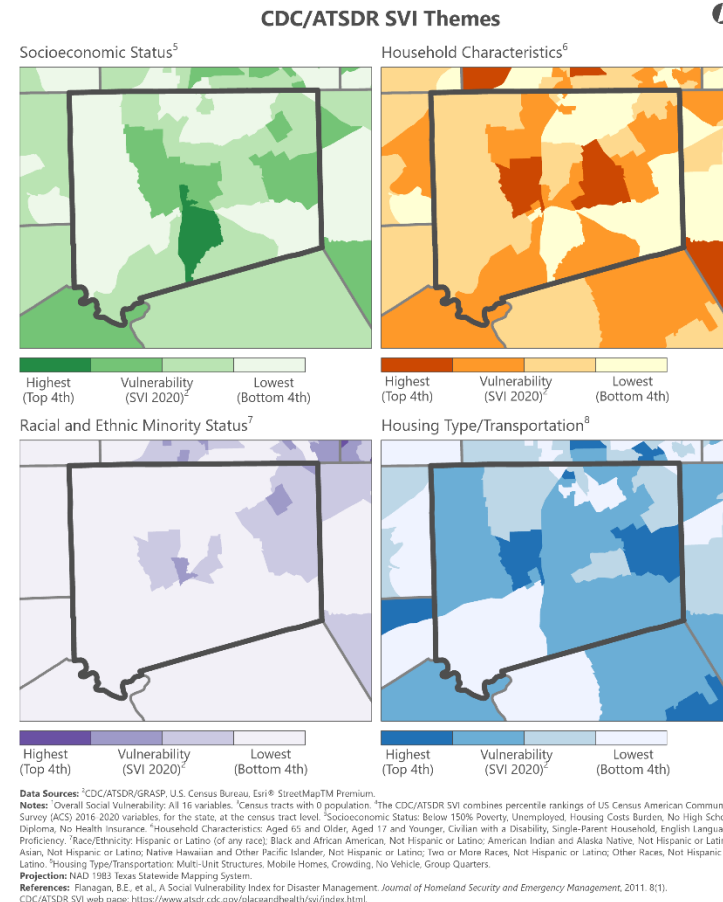


Figure 53: CDC /ATSDR Social Vulnerability Index of Johnson County

Repetitive Loss Properties

Among the National Flood Insurance Policy (NFIP) policyholders are thousands whose properties have flooded multiple times. Called “repetitive loss properties,” these are buildings and/or contents for which the NFIP has paid at least two claims of more than \$1,000 in any 10-year period since 1978. “Severe repetitive loss properties” are those for which the program has either made at least four payments for buildings and/or contents of more than \$5,000 or at least two building-only payments that exceeded the value of the property. These two kinds of properties are the biggest draw on the NFIP Fund. They not only increase the NFIP’s annual losses and the need for borrowing; but they drain funds needed to prepare for catastrophic events. Community leaders and residents should also be concerned with the Repetitive Loss problem because residents’ lives are disrupted and may be threatened by the continual flooding.

The tables below provide information about the repetitive loss and severe repetitive loss properties within the participating jurisdictions, as provided by the Federal Emergency Management Agency. The primary objective of identifying these properties is to eliminate or reduce the damage to property and the disruption to life caused by repeated flooding of the same properties.

Table 43: NFIP Repetitive Loss Properties

Community Name	Mitigated	NFIP Insured	Occupancy 1	Total Losses	Total Paid	As Of Date
ALVARADO, CITY OF	NO	SDF	SINGLE FMLY (OLD METHODOLOGY)	3	\$134,182.87	9/10/2023
BURLESON, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	3	\$53,370.19	9/10/2023
BURLESON, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$2,367.09	9/10/2023
BURLESON, CITY OF	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$24,141.38	9/10/2023
BURLESON, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$16,579.52	9/10/2023
BURLESON, CITY OF	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$48,907.47	9/10/2023
BURLESON, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	3	\$109,486.27	9/10/2023
BURLESON, CITY OF	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$71,815.55	9/10/2023
CLEBURNE, CITY OF	YES	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$16,110.79	9/10/2023
CLEBURNE, CITY OF	YES	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$10,761.16	9/10/2023
CLEBURNE, CITY OF	YES	NO	SINGLE FMLY (OLD METHODOLOGY)	3	\$20,075.54	9/10/2023
CLEBURNE, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	4	\$70,050.70	9/10/2023
CLEBURNE, CITY OF	NO	NO	2-4 FAMILY (OLD METHODOLOGY)	2	\$19,785.65	9/10/2023
CLEBURNE, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	3	\$60,935.08	9/10/2023
CLEBURNE, CITY OF	YES	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$18,443.95	9/10/2023
CLEBURNE, CITY OF	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	5	\$59,421.46	9/10/2023

Community Name	Mitigated	NFIP Insured	Occupancy 1	Total Losses	Total Paid	As Of Date
CLEBURNE, CITY OF	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	3	\$134,195.40	9/10/2023
CLEBURNE, CITY OF	NO	NO	OTHER RESID (OLD METHODOLOGY)	2	\$61,997.81	9/10/2023
CLEBURNE, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$15,500.00	9/10/2023
JOHNSON COUNTY*	NO	SDF	SINGLE FMLY (OLD METHODOLOGY)	5	\$191,151.92	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	3	\$12,288.33	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$18,502.31	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	5	\$249,234.77	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$34,588.26	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$94,597.42	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$24,704.52	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$23,533.97	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$24,219.36	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	3	\$38,078.66	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$320,760.51	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$52,645.63	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$118,546.55	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$30,152.16	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$18,891.79	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$98,563.19	9/10/2023
JOHNSON COUNTY*	NO	YES	OTHR-NONRES (OLD METHODOLOGY)	2	\$173,220.26	9/10/2023
JOHNSON COUNTY*	NO	YES	SINGLE FMLY (OLD METHODOLOGY)	2	\$50,978.14	9/10/2023
JOHNSON COUNTY*	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$17,813.60	9/10/2023
KEENE, CITY OF	NO	NO	SINGLE FMLY (OLD METHODOLOGY)	2	\$35,030.84	9/10/2023

Wildland-Urban Interface

The Wildland-Urban Interface (WUI) layer of a map reflects housing density depicting where humans and their structures meet or intermix with wildland fuels. WUI housing density is categorized based on the standard Federal Register and United States Forest Service (USFS) Silvics data set categories. The number of housing density categories is extended to provide a better gradation of housing distribution to meet specific requirements of the states for their fire protection planning activities. While units of the data set are in houses per square kilometer, which is consistent with other data such as USFS SILVIS, the data is presented as the number of houses per acre to aid with interpretation and use in Texas.

Wildfires can cause significant damage to property and threaten the lives of people who are unable to evacuate WUI areas. All improved property, critical facilities, and critical structures and infrastructure located in these wildfire-prone areas are considered vulnerable and can be exposed to this hazard. The following map reflects the WUI areas in Johnson County.

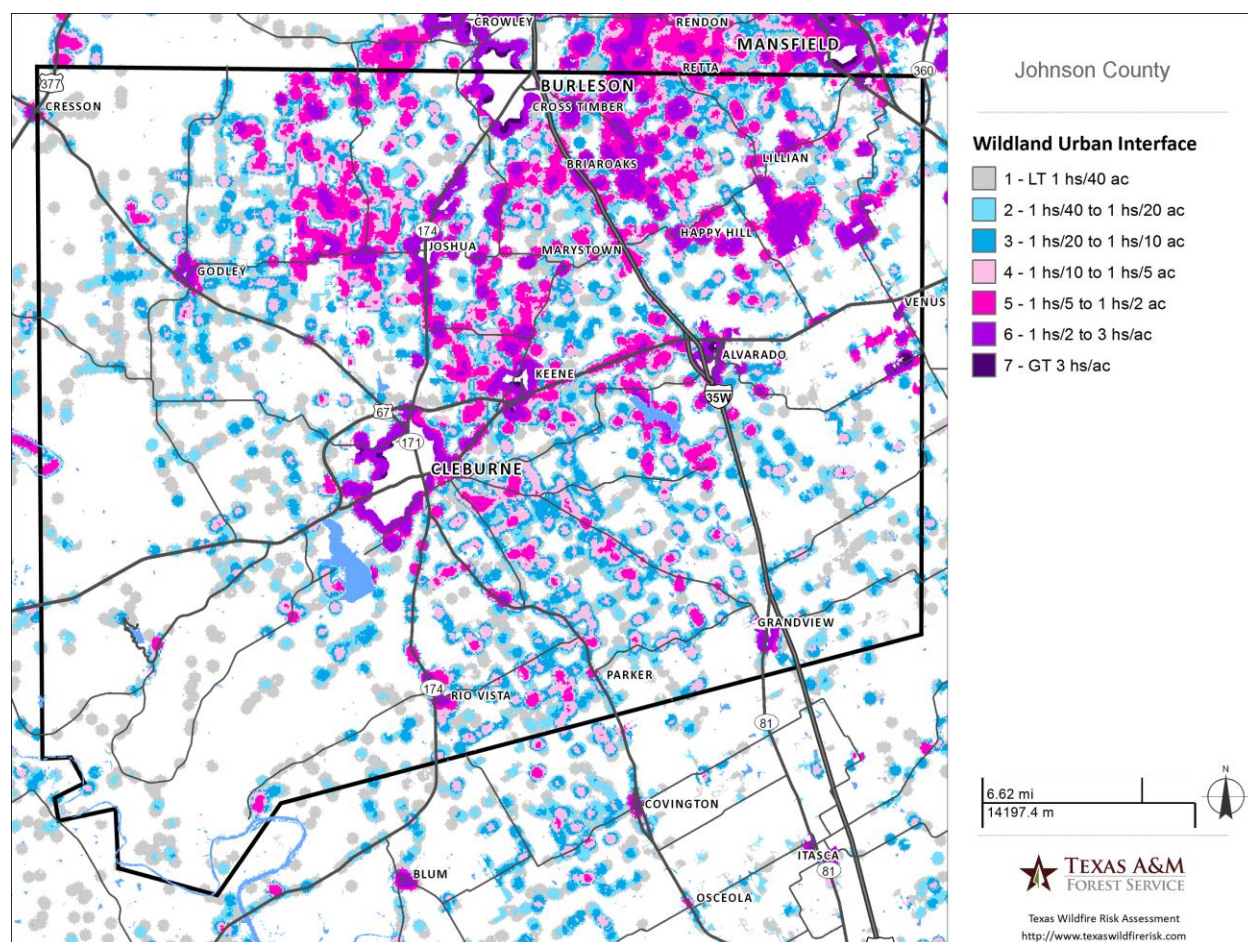


Figure 54: WUI Area

3.4.2 Changes that can Decrease Vulnerability

Factors that decrease vulnerability to hazards include the mitigation actions that have previously been implemented, the adoption of new codes and policies, and the participation in regional projects sponsored by the North Central Texas Council of Governments (NCTCOG) and other governing agencies.

Local Mitigation Activities

The participating jurisdictions have not taken advantage of FEMA's non-disaster grants to fund and implement mitigation actions. One of the goals following the approval and adoption of this HMP is to prioritize the mitigation strategy as a focus for the local governing bodies.

Regional Projects

Johnson County is a member of the North Central Texas Council of Governments (NCTCOG), which is a voluntary association established to assist in regional planning. NCTCOG consists of many departments that implement programs and projects that address the mitigation goals of the participating jurisdictions.

The Environment & Development Department at NCTCOG plays a major role in regional coordination and management of reports and projects that improve regional resilience to natural hazards through the following programs:

- **The Corridor Development Certificate (CDC)** – The CDC process aims to stabilize flood risk along the Trinity River. The CDC process does not prohibit floodplain development but ensures that any development that does occur in the floodplain will not raise flood water levels or reduce flood storage capacity. A CDC permit is required to develop land within a specific area of the Trinity floodplain called the Regulatory Zone, which is similar to the 100-year floodplain.
 - Under the CDC process, local governments retain ultimate control over floodplain permitting decisions, but other communities along the Trinity River Corridor are given the opportunity to review and comment on projects in their neighbor's jurisdiction. As the Metroplex economy continues to grow and develop, the CDC process will prevent increased flood risks.
- **NCTCOG-OneRain Contrail Flood Warning Software**- Contrail software that delivers automated real-time data collection, processing, validation, analysis, archiving and visualization of hydrometeorological and environmental sensor data.
- **The *integrated* Stormwater Management (iSWM) Program**- The iSWM™ Program for Construction and Development is a cooperative initiative that assists cities and counties to achieve their goals of water quality protection, streambank protection, and flood mitigation, while also helping communities meet their construction and post-construction obligations under state stormwater permits.
 - Development and redevelopment by their nature increase the amount of imperviousness in our surrounding environment. This increased imperviousness translates into loss of natural areas, more sources for pollution in runoff, and heightened flooding risks. To help mitigate these impacts, more than 60 local governments are cooperating to proactively create sound stormwater management guidance for the region through the *integrated* Stormwater Management (iSWM) Program.
- **16-County Watershed Management Initiative**- Communities from across the region come together to collaborate on how to reduce the risks of flooding in their communities.
- **Texas Smartscape**- Texas SmartScape™ is a landscape program crafted to be "smart" for North Central Texas. Based on water-efficient landscape principles, it promotes the use of plants suited to our region's soil, climate, and precipitation that don't require much—if any—additional irrigation, pesticides, fertilizer, or herbicides to thrive.

- The two main goals of the program are to:
 - Improve stormwater runoff quality
 - Conserve local water supplies

The Transportation Department promotes the following programs:

- **Bicycle-Pedestrian-** The passage of the 1991 Intermodal Surface Transportation Efficiency Act prompted NCTCOG to include non-motorized transportation network improvements in regional planning efforts. NCTCOG established the Bicycle and Pedestrian program in 1992 to address the various activities related to implementing bicycle and pedestrian facilities as an alternative mode of regional transportation.
- **Sustainable Development-** As land uses influence regional travel patterns and demand on the transportation system, and transportation connects land uses and provides access to developments, both need to be planned in conjunction with one another. NCTCOG supports Sustainable Development: mixed-use, infill, and transit-oriented developments that reduce vehicle miles traveled, enable the use of alternative modes of transportation, promote economic development, and improve air quality.

State Programs

State programs can increase the resiliency of communities in Texas. The Hazard Mitigation Section of the Texas Division of Emergency Management (TDEM) supports Texas communities as they reduce their risk and increase their resilience. The section is comprised of two units, the Plans Unit and the Grants Unit. The two units provide a comprehensive program to support local jurisdictions as they assess the risks they face, plan to mitigate them, and fund those plans to implement mitigation projects that reduce risk across the state.

Federal Policies & Programs

On October 5, 2018, President Trump signed the Disaster Recovery Reform Act of 2018 (DRRA) into law as part of the Federal Aviation Administration Reauthorization Act of 2018. These reforms acknowledge the shared responsibility of disaster response and recovery, aim to reduce the complexity of FEMA and build the nation's capacity for the next catastrophic event. The law contains more than 50 provisions that require FEMA policy or regulation changes for full implementation, as they amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act. It has yet to be seen how the DRRA will be implemented and how it will impact state and local agencies, but highlights from the DRRA include:

Highlights from the DRRA include:

- **Greater investment in mitigation, before a disaster:** Authorizing the National Public Infrastructure Pre-Disaster Hazard Mitigation Grant Program, which will be funded through the Disaster Relief Fund as a six percent set aside from disaster expenses.
 - This program will focus on funding public infrastructure projects that increase community resilience before a disaster occurs.

- Previously, funding for pre-disaster mitigation grants relied on congressional appropriations which varied from year to year. Now, with a reliable stream of sufficient funding, communities will be able to plan and execute mitigation programs to reduce disaster risk nationwide.
- According to a 2017 National Institute of Building Sciences report, the nation saves six dollars in future disaster costs for every one dollar invested in mitigation activities.
- **Reducing risk from future disasters after fire:** Providing hazard mitigation grant funding in areas that received Fire Management Assistance Grants as a result of wildfire. Adding fourteen new mitigation project types associated with wildfires and windstorms.
- **Increasing state capacity to manage disaster recovery:** Allowing for higher rates of reimbursement to state, local and tribal partners for their administrative costs when implementing public assistance (12 percent) and hazard mitigation projects (15 percent). Additionally, the legislation provides flexibility for states and tribes to administer their own post-disaster housing missions, while encouraging the development of disaster housing strategies.
 - States, tribes, territories and local governments bear significant administrative costs implementing disaster recovery programs. Often these costs can be high and substantially burdensome for the impacted entity to meet. Increasing the funding for administrative costs will enable faster, more effective delivery of vital recovery programs to communities.
 - State and tribal officials have the best understanding of the temporary housing needs for survivors in their communities. This provision incentivizes innovation, cost containment and prudent management by providing general eligibility requirements while allowing them the flexibility to design their own programs.
- **Providing greater flexibility to survivors with disabilities:** Increasing the amount of assistance available to individuals and households affected by disasters, including allowing accessibility repairs for people with disabilities, without counting those repairs against their maximum disaster assistance grant award.
- **Retaining skilled response and recovery personnel:** Authorizing FEMA to appoint certain types of temporary employees who have been with the agency for three continuous years to full time positions in the same manner as federal employees with competitive status. This allows the agency to retain and promote talented, experienced emergency managers.

In 2021, President Biden approved more than \$3.46 billion to increase resilience to the potential impacts of climate change nationwide. This significant investment will be available for natural hazard mitigation measures across the 59 major disaster declarations issued due to the COVID-19 global pandemic.

With the growing climate change crisis facing the nation, FEMA's Hazard Mitigation Grant Program will provide funding to states, tribes, and territories for mitigation projects to reduce the potential impacts of climate change. Every state, tribe, and territory that received a major disaster declaration in response to the COVID-19 pandemic will be eligible to receive 4% of those disaster costs to invest in mitigation projects that reduce risks from natural disasters.

This influx of funding will help communities prioritize mitigation needs for a more resilient future, including underserved communities that are most vulnerable to the potential impacts of climate change. These projects can help address the effects of climate change and other unmet mitigation needs, including using funds to promote equitable outcomes in underserved communities.

As dollar losses increase along with the number of disaster declarations, it is expected that national policy will continue playing a huge part in community resilience.

Justice40 Initiative

A national commitment to environmental justice of this magnitude has never been made before. To meet the goal of the Justice40 Initiative, the Administration is transforming hundreds of Federal programs across the government to ensure that disadvantaged communities receive the benefits of new and existing Federal investments in these categories. Through the President's Inflation Reduction Act, Bipartisan Infrastructure Law, and the American Rescue Plan, Federal agencies are making historic levels of investment to advance environmental justice. This investment will help confront decades of underinvestment in disadvantaged communities and bring critical resources to communities that have been overburdened by legacy pollution and environmental hazards.⁴²

Federal agencies will use the Climate and Economic Justice Screening Tool (CEJT) to help identify disadvantaged communities that will benefit from programs included in the Justice40 Initiative. The tool has an interactive map and uses datasets that are indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. Communities that are disadvantaged live in tracts that experience burdens. These tracts are highlighted in blue, informing the user of what a disadvantaged community is depicted as on the map (see Figure 55 for example). These are the communities that are disadvantaged because they are overburdened and underserved.

⁴² [Justice40 Initiative | Environmental Justice | The White House](#)



Figure 55: Climate and Economic Justice Screening Tool⁴³

National Flood Insurance Program



The National Flood Insurance Program (NFIP) aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners, renters and businesses and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures. Overall, the program reduces the socio-economic impact of disasters by promoting the purchase and retention of general risk insurance, but also of flood insurance, specifically. When a community participates in the NFIP, it participates in one of two phases: the Emergency Program or the Regular Program.

Emergency Program: Entry-level participation phase.

- Limited coverage
- Flat rates
- Basic Flood Hazard Boundary Map (FHBM)*

**Initial flood hazard identification*

Regular Program: Most participating communities are in this phase.

- Full participation
- Detailed Flood Insurance Rate Map (FIRM)
- NFIP's full limits of insurance

The following table lists the jurisdictions participating in the NFIP.

Table 44: Communities Participating in the National Flood Program⁴⁴

⁴³ [Explore the map - Climate & Economic Justice Screening Tool \(geoplatform.gov\)](https://geoplatform.gov/)

⁴⁴ FEMA. *Communities Participating in the National Flood Program*. 2023, <https://www.fema.gov/cis/TX.html>.

CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal
480397#	ALVARADO, CITY OF	JOHNSON COUNTY	08/09/74	05/04/82	12/04/12	05/04/82	No
485459B	BURLESON, CITY OF	TARRANT COUNTY/JOHNSON COUNTY	11/02/73	11/02/73	09/21/23	11/02/73	No
485462C	CLEBURNE, CITY OF	JOHNSON COUNTY	07/13/72	07/13/72	09/21/23	06/23/72	No
480880C	GODLEY, CITY OF	JOHNSON COUNTY	08/22/75	09/27/91	09/21/23	02/18/11	No
480882C	JOSHUA, CITY OF	JOHNSON COUNTY	06/27/75	09/27/91	09/21/23	09/27/91	No
481107#	KEENE, CITY OF	JOHNSON COUNTY	06/04/76	09/27/91	12/04/12	02/21/01	No
480879C	JOHNSON COUNTY*	JOHNSON COUNTY	05/17/77	09/27/91	09/21/23	09/27/91	No

Community Rating System

Going beyond the minimum flood standards, the Community Rating System (CRS) is a voluntary program for communities that participate in the National Flood Insurance Program (NFIP). The goals of the CRS are to reduce flood damages to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management. The CRS has been developed to provide incentives in the form of premium discounts for communities to go beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding. For a community to be eligible, it must be in full compliance with the NFIP.

All communities start out with a Class 10 rating, which provides no discount. There are 10 CRS classes: Class 1 requires the most credit points and gives the greatest premium discount; Class 10 identifies a community that does not apply for the CRS or does not obtain a minimum number of credit points and receives no discount. There are 18 activities recognized as measures for eliminating exposure to floods. Credit points are assigned to each activity. The activities are organized under 4 main categories:

- Public Information
- Mapping and Regulation
- Flood Damage Reduction
- Flood Preparedness

Premium discounts ranging from 5% to a maximum of 45% are applied to eligible policies written in a community as recognition of the floodplain management activities instituted.

All CRS communities must maintain completed FEMA elevation and floodproofing certificates for all new and substantially improved construction in the Special Flood Hazard Area (SFHA) after the date of application for CRS classification. These certificates must be available upon request. Therefore, in writing a policy, an agent/producer should be able to get these certificates from any CRS community. In addition, some CRS communities receive credit for having completed certificates for Post-Flood Insurance Rate Map (FIRM) buildings constructed prior to the CRS application date. If they do receive this credit, these certificates should also be available to agents/producers writing flood insurance.

Table 45: CRS Participants

Community Name	CRS Entry Date	Current Effective Date	Current Class	% Discount for SFHA	% Discount for Non- SFHA	Status
Burleson	10/1/1991	10/1/2021	10	0	0	R
Cleburne	10/1/1992	5/1/2013	8	10	5	C

3.3.5 Greatest Vulnerabilities

The overall vulnerability level of the participants has remained the same since the previous mitigation plan, yet can increase with the aging infrastructure, increase in population, and presence of climate change.

Below is a list of the participating jurisdictions greatest vulnerabilities in relation to natural hazards.

Table 46: Greatest Vulnerabilities

Jurisdiction	Vulnerabilities
Alvarado	- Any substantial event would be devastating to the financial capabilities of the city. - Any major event would overwhelm the local resources.
Burleson	- Any substantial event would be devastating to the financial capabilities of the city. - Any major event would overwhelm the local resources.
Cleburne	- Any substantial event would be devastating to the financial capabilities of the city. - Any major event would overwhelm the local resources.
Godley	- Any substantial event would be devastating to the financial capabilities of the city. - Any major event would overwhelm the local resources.
Joshua	- Any substantial event would be devastating to the financial capabilities of the city. - Any major event would overwhelm the local resources.
Keene	- Any substantial event would be devastating to the financial capabilities of the city. - Any major event would overwhelm the local resources. - The city has a lot of parcels with unmaintained and dilapidated properties, which affects the overall appearance of the city. - The infrastructure such as streets, sewer lines, water lines, gas lines and sidewalks need to be updated and maintained. - Accessibility to health services such as hospitals/county hospitals, EMR response time, healthy food, sidewalks, parks and trails and bike lanes. Food desert is an issue in Keene.
Johnson County Unincorporated	Any substantial event would be devastating to the financial capabilities of the county.

Jurisdiction	Vulnerabilities
	Any major event would overwhelm the local resources.

3.6. National Risk Index

According to FEMA’s National Risk Index, the Risk Index rating is **relatively moderate** for Johnson County, TX when compared to the rest of the U.S. The Risk Index leverages available source data for natural hazard and community risk factors to develop a baseline risk measurement for each United States county and Census tract.

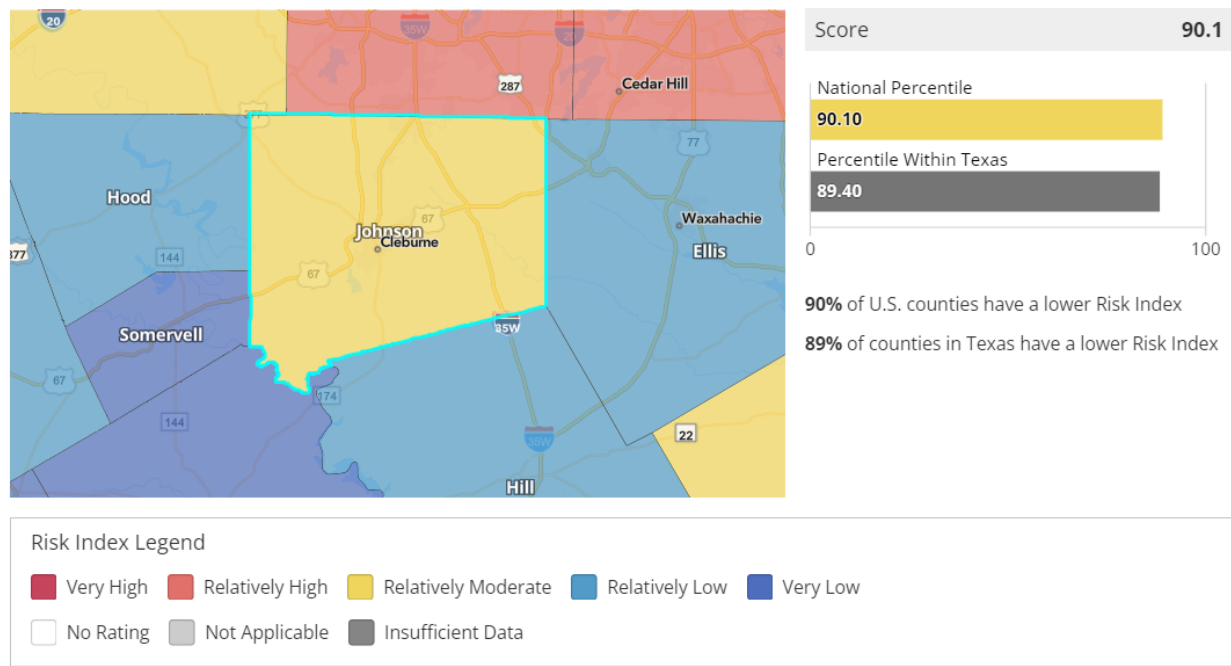


Figure 56: Risk Index Comparison

The risk equation behind the Risk Index includes three components: a *natural hazards component (Expected Annual Loss)*, a *consequence enhancing component (Social Vulnerability)*, and a *consequence reduction component (Community Resilience)*. The summary of each of these comments in provided in Figure 57 below.

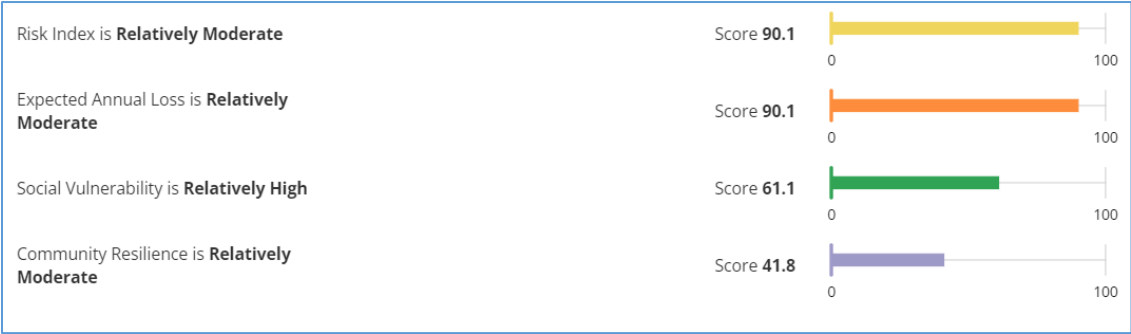


Figure 57: Risk Index Summary

3.6.1 Hazard Type Risk Index

Hazard Type Risk Index Scores (Table 47) are calculated using data for only a single hazard type and reflect a community's Expected Annual Loss (EAL) value, community risk factors, and the adjustment factor used to calculate the risk value. Please note that the hazards identified in this National Risk Index are slightly different from how the hazards are identified in this hazard mitigation plan.

Table 47: Hazard Type Risk Index Scores

Hazard Type	EAL Value	Social Vulnerability	Community Resilience	Risk Value	Score
Tornado	\$24,415,786	Relatively High	Relatively Moderate	\$28,818,886	98.4
Wildfire	\$4,252,803	Relatively High	Relatively Moderate	\$4,776,818	95.7
Heat Wave	\$3,784,202	Relatively High	Relatively Moderate	\$4,463,341	97.3
Strong Wind	\$2,104,989	Relatively High	Relatively Moderate	\$2,489,162	93.9
Riverine Flooding	\$1,491,852	Relatively High	Relatively Moderate	\$1,745,923	78.2
Hail	\$593,929	Relatively High	Relatively Moderate	\$702,115	84.8
Winter Weather	\$591,001	Relatively High	Relatively Moderate	\$697,136	94.8
Cold Wave	\$527,236	Relatively High	Relatively Moderate	\$621,529	87.4
Lightning	\$282,949	Relatively High	Relatively Moderate	\$331,667	79.9
Earthquake	\$175,301	Relatively High	Relatively Moderate	\$210,795	56
Ice Storm	\$107,572	Relatively High	Relatively Moderate	\$127,103	63.4
Drought	\$17,034	Relatively High	Relatively Moderate	\$20,814	47.2

Chapter 4: Mitigation Strategy

4.1 Mitigation Goals

The goals from the previous plan are listed in the following box.

2015 Mitigation Goals and Objectives

- **Goal 1 Reduce or eliminate loss of life and property damage resulting from severe weather events.**
 - Objective 1-A Provide adequate warning and communication before, during, and after a hazard event.
 - Objective 1-B Expand and coordinate Early Warning Systems currently in use.
 - Objective 1-C Reduce or eliminate loss of life and property damage from tornados through the construction and use of safe rooms or shelter areas.
- **Goal 2 Protect existing and new properties from the effects of all natural hazards.**
 - Objective 2-A Conduct studies to determine hazard and vulnerability threat assessment for all natural hazards.
 - Objective 2-B Rehabilitate or retrofit identified high hazard critical infrastructure.
 - Objective 2-C Enact and enforce regulatory measures that enforce hazard mitigation measures.
 - Objective 2-D Construct enhancements or additions to current and new facilities which mitigate the effects of natural hazards.
 - Objective 2-E Maintain NFIP compliance, storm water management, and implement drainage projects.
- **Goal 3 Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.**
 - Objective 3-A Conduct a hazard/vulnerability assessment of personal properties and structures located in flood zones within Johnson County.
 - Objective 3-B Develop and implement a buyout program for those personal properties and structures located in high hazard flood zones starting with those that are most vulnerable to life and property loss.
 - Objective 3-C Develop and execute new programs which identify and reduce threats from natural hazards.
- **Goal 4 Develop Public Education Campaigns to educate the public on what actions they can take to mitigate the effects of loss of life or property damage resulting from all natural hazards.**
 - Objective 4-A Educate the public on risks, threats, and vulnerability from all natural hazards.
 - Objective 4-B Educate the public on actions they can take to prevent or reduce the loss of life or property from all natural hazards.
 - Objective 4-C Develop and implement a community education campaign to heighten public awareness about chronic flooding and options for insurance coverage to protect their personal properties as well as long term benefits from a buyout program.

The Johnson County Hazard Mitigation Planning Team reviewed the previous Johnson County mitigation goals and unanimously agreed to forego these goals and adopt the following hazard mitigation goals:

Goal 1: Protect lives and reduce bodily harm from hazards.

Goal 2: Lessen the impacts of hazards on property and the community.

Every mitigation action listed in this strategy supports these goals and the natural hazards that could impact the planning area:

- Drought
- Earthquakes
- Expansive Soils
- Extreme Heat
- Flooding (including dam failure)
- Thunderstorms (including hail, wind, and lightning)
- Tornadoes
- Wildfires
- Winter Storms

4.2 Mitigation Strategy

The mitigation strategy serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The Stafford Act directs hazard mitigation plans to describe hazard mitigation actions and establish a strategy to implement those actions. Therefore, each participating jurisdiction in this plan recommended strategies and actions that would support the mitigation goals, then went through a ranking process to determine which actions they would prioritize for completion.

4.2.1 Implementation Priority

Priority of mitigation actions will go toward projects that are most cost-effective with 1) the highest positive impact on vulnerable populations and 2) the highest impact on overall community resilience by using the STAPLEE method to evaluate and prioritize actions when applying for funding.

The STAPLEE evaluation method uses seven criteria for evaluating a mitigation action: Social, Technical, Administrative, Political, Legal, Economic, and Environmental. Within each of those criteria are additional considerations. Actions with the highest score will be considered to have higher success potential.

Prioritization may change over time in response to changes in community characteristics and risks and to take advantage of available resources.

4.2.2 Funding

As necessary, participating jurisdictions will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. Potential funding sources, both internal and external, have been identified for proposed actions listed in the mitigation strategies.

Sources of local funding may include the general fund, general operating budget, capital improvement budgets, staff time, impact fees, special assessment districts, and more. The [Mitigation Funding Resource Guides | FEMA.gov](#) identifies potential state and federal resources.

The planning teams that recorded “Grants” as a potential funding source for their actions intend to apply to any grants in which the action is eligible for and are not limiting themselves to one source. Under FEMA [Hazard Mitigation Assistance \(HMA\) Grants](#) , there is funding through the Hazard Mitigation Grant Program (HMGP), HMGP-Post Fire, Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance (FMA) programs.

These funding streams may be matched to pre- and post-disaster conditions for mitigation projects, the development or update of hazard mitigation plans, and management costs.

HMA Grants also provide funding for Climate Resilient Mitigation Activities, which support communities in reducing risks associated with climate change. There are four eligible activities: Aquifer Storage and Recovery, Floodplain and Stream Restoration, Flood Diversion and Storage, and Green Infrastructure Methods. While focused on addressing the long-term impacts of flooding and drought, these activities can mitigate any natural hazard.

Two other prominent federal funding programs include the Department of Housing and Urban Development’s (HUD) Community Development Block Grant (CDBG) program and the EPA’s Smart Growth program. The CDBG program aims to develop viable communities through an annual block grant to states, cities, and urban counties, but additional disaster recovery (DR) funds can also be appropriated following a Presidentially declared disaster for the purpose of recovery and mitigation. CDBG-DR prioritizes low- and moderate-income persons, but funding is fairly flexible and can be used to supplement other programs.

Many other agencies and organizations support hazard mitigation and community resilience through funding and technical assistance. The planning team will also consider opportunities for private sector funding and partnerships, as well as resources that may be provided by academic institutions.

4.2.3 Mitigation Action Items

A comprehensive range of action types (Figure 58) have been identified in this mitigation strategy, including plans and regulations, structure and infrastructure projects, natural systems protection, and education and awareness programs.

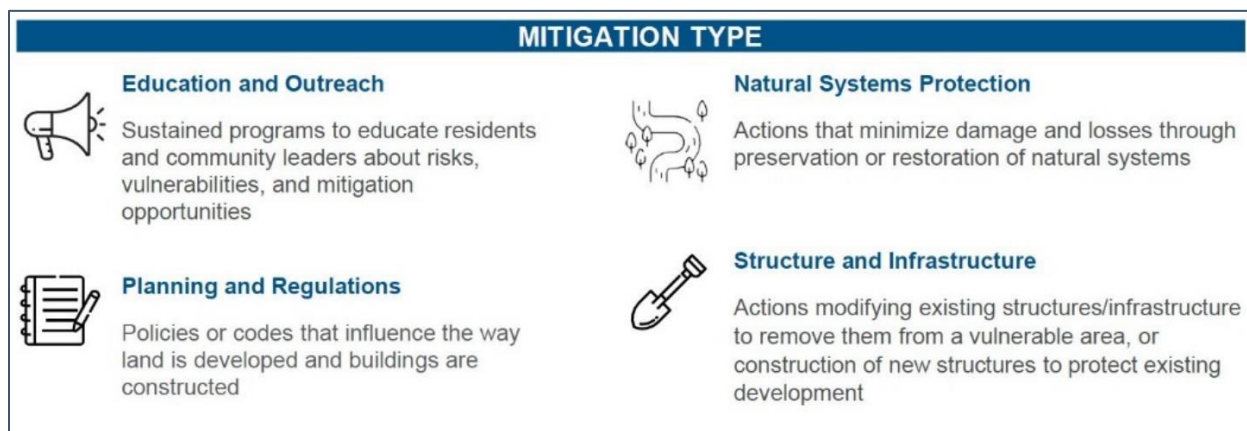


Figure 58: Mitigation Action Types

Previous Mitigation Action Items

The action items in the 2015 Johnson County HMP were determined by the 2015 Local Planning Team (LPT) in each jurisdiction. Below are the action items from each participating jurisdiction from the 2015 plan and the status of each action. Actions deferred were deferred to this edition of the HMP and actions deleted were deleted because they are no longer a priority. Due to competing priorities and limited capabilities over the last five years, many jurisdictions did not complete any actions.

Table 48: Status of Previous Mitigation Actions

Jurisdiction	Status	2015 Mitigation Actions
Alvarado	Deferred	Expand and coordinate early warning systems to new developments and populations.
Alvarado	Deferred	Purchase and install a CASA WX Radar System.
Alvarado	Deferred	Implement Individual Tornado Safe Room Rebate Program.
Alvarado	Deferred	Purchase NOAA weather radios for distribution to residents.
Alvarado	Deferred	Adopt codes requiring hail resistant roofing on all new construction and roof replacements.
Alvarado	Deferred	Educate builders and residents about “hail resistant” roofing in new construction and roof replacements.
Alvarado	Deferred	Educate builders and residents about mitigating wind damage.
Alvarado	Deferred	Develop and implement public education concerning winter storm mitigation.
Alvarado	Deferred	Develop and implement public education programs on the dangers of excessive heat.
Alvarado	Deferred	Improve water supply and delivery systems to save water by designing water delivery systems to accommodate drought events and developing new or upgrading existing water delivery systems to eliminate breaks and leaks.
Alvarado	Deferred	Design and implement specific water conservation public education efforts to complement existing programs.
Alvarado	Deferred	Increase public education on how to reduce the risks from wildfires.
Alvarado	Deferred	Partner with the Texas A&M Forest Service to become a “Firewise” Community.
Alvarado	Deferred	Adopt debris management and flood abatement ordinances to prevent buildup of debris and materials that could cause flooding.
Alvarado	Deferred	Raise the road level of Atchley Street at creek.
Alvarado	Deferred	Incorporate flood mitigation into local planning.
Alvarado	Deferred	Develop an Emergency Plan for drought.
Alvarado	Deferred	Develop and implement public education programs on the dangers of severe thunderstorms.
Alvarado	Deferred	Hire a consultant to complete inundation studies of all high and moderate hazard dams that threaten the city.
Burleson	In- Progress	Develop and implement comprehensive public education program for natural hazards.
Burleson	Deferred	Purchase NOAA weather radios for distribution to residents.
Burleson	Complete	Purchase and install CASA WX Weather Radar.

Jurisdiction	Status	2015 Mitigation Actions
Burleson	In-Progress	Implement individual tornado safe room rebate program.
Burleson	In- Progress	Purchase and install outdoor warning sirens to encompass new developments and populations.
Burleson	Complete	Develop annual program for inspection, prevention, and trimming of tree limbs next to high voltage power lines.
Burleson	Complete	Require underground high voltage power lines for new developments.
Burleson	Complete	Adopt, implement, and enforce debris management and flood abatement ordinances to prevent buildup of debris and materials that could cause flooding.
Burleson	In- Progress	Identify and implement capital improvements to municipal utility distribution system.
Burleson	Deleted	Hire a consultant to complete inundation studies of all high and moderate hazard dams that threaten the City.
Burleson	Complete	Increase conservation of water by developing and implementing drought contingency plan.
Cleburne	Deferred	Implement codes for underground high voltage power lines for new developments.
Cleburne	Deferred	Develop program for inspection and trimming of tree limbs next to high voltage power lines.
Cleburne	Deferred	Develop and implement comprehensive public education program for natural hazards.
Cleburne	Deferred	Increase conservation of water by developing and implementing a drought contingency plan.
Cleburne	Deferred	Establish a secondary water supply from Lake Whitney to Lake Pat Cleburne.
Cleburne	Deferred	Administer grant programs to install safe rooms to reduce the injuries and deaths to citizens associated with high winds and debris from a tornado or severe weather event.
Cleburne	Deferred	Purchase and install CASA WX Weather Radar.
Cleburne	Deferred	Mitigate the effects of severe weather to citizens through early warning systems.
Cleburne	Deferred	Identify and implement capital improvements to municipal utility distribution system.
Cleburne	Deferred	Develop a flood threat recognition system.
Cleburne	Deferred	Adopt debris management and flood abatement ordinances to prevent buildup of debris and materials that could cause flooding.
Cleburne	Deferred	Hire a consultant to complete inundation studies of all high and moderate hazard dams that threaten the City.
Godley	Deferred	Purchase NOAA weather radios for distribution to vulnerable populations.
Godley	Deferred	Purchase and install a CASA WX Radar System.
Godley	Deferred	Implement Individual Tornado Safe Room Rebate Program.
Godley	Deferred	Develop, implement, and enforce water restriction ordinances.
Godley	Deferred	Create and implement a natural hazard public education program for residents.

Jurisdiction	Status	2015 Mitigation Actions
Godley	Deferred	Identify and implement capital improvements to municipal utility distribution system.
Godley	Deferred	Hire a consultant to complete inundation studies of all high and moderate hazard dams that threaten the City.
Joshua	Deferred	Mitigate the effects of severe weather to citizens through early warning systems.
Joshua	Deferred	Install and maintain a CASA WX Weather Radar System.
Joshua	Deferred	Adopt debris management and flood abatement ordinances to prevent buildup of debris and materials that could cause flooding.
Joshua	Deferred	Mitigate effects of extreme heat through installation of covered patios in public parks.
Joshua	Deferred	Develop Community Wildfire Protection Plan (CWPP) and implement fuels reduction programs.
Joshua	Deferred	Hire a consultant to complete inundation studies of all high and moderate hazard dams within the City.
Joshua	Deferred	Identify and implement capital improvements to municipal utility distribution system.
Joshua	Deferred	Create and implement a natural hazard public education program for residents.
Keene	Deferred	Develop and implement comprehensive public education program for natural hazards.
Keene	Deferred	Mitigate the effects of severe weather to citizens through early warning systems.
Keene	Deferred	Purchase and install a CASA WX Weather Radar system.
Keene	Deferred	Implement an Individual Tornado Safe Room Rebate Program.
Keene	Deferred	Adopt debris management and flood abatement ordinances to prevent buildup of debris and materials that could cause flooding.
Keene	Deferred	Mitigate effects of extreme heat through installation of covered patios in public parks.
Keene	Deferred	Create temporary public cooling centers to mitigate the effects of extreme heat.
Keene	Deferred	Develop Community Wildfire Protection Plan (CWPP) and Implement Fuels Reduction Programs.
Keene	Deferred	Identify and implement capital improvements to municipal utility distribution system.
Keene	Deferred	Hire a consultant to complete inundation studies of all high and moderate hazard dams within the City.
Johnson County	Deferred	Purchase and distribute NOAA all-hazard radios to provide the residents and commercial businesses.
Johnson County	Deferred	Purchase and install a CASA Weather Radar System.
Johnson County	Deferred	Implement Individual Tornado Safe Room Rebate Program.
Johnson County	Deferred	Mitigate effects of extreme heat through installation of covered patios in public parks.

Jurisdiction	Status	2015 Mitigation Actions
Johnson County	Deferred	Identify, equip, and open heating and cooling centers across Johnson County to prevent special populations from temperature injury.
Johnson County	Deferred	Develop an emergency plan for drought.
Johnson County	Deferred	Develop Community Wildfire Protection Plan (CWPP) and implement fuels reduction programs.
Johnson County	Deferred	Hire a consultant to complete inundation studies of all high and moderate hazard dams within the County.
Johnson County	Deferred	Adopt debris management and flood abatement ordinances to prevent buildup of debris and materials that could cause flooding.
Johnson County	Deferred	Develop and implement a comprehensive public education program for natural hazards.

New Mitigation Action Items

In addition to their previous actions, new actions were identified by the Planning Team after reviewing their risk and capability assessments. Actions that would take longer than FEMA's three-year period of performance to implement would be broken into phases when seeking grant funding.

Many of the actions have a "primary" community lifeline they could impact, though multiple lifelines could be impacted. Community Lifelines can be a powerful tool for state, local, tribal, and territorial governments to use in evaluating risk and developing strategies to reduce hazard impacts.

To determine the estimated benefit of each action item, data from the 2017 Interim Report was used to develop a cost-benefit analysis [*Estimated Cost* x 6 = *Estimated Benefit*], as it reports that \$1 spent in mitigation saves a community an average of \$6 in recovery.⁴⁵

The following tables identify the new mitigation actions for jurisdictions in this hazard mitigation plan.

Table 49: City of Alvarado Mitigation Actions

Hazard(s) Addressed	All Hazards
Action: Implement the deferred 2015 mitigation actions (listed in the previous section) when capabilities and priorities allow.	
Participating Jurisdiction	City of Alvarado
Priority:	1
Estimated Cost:	TBD
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible:	City Council
Implementation Schedule:	36 months

⁴⁵ Natural Hazard Mitigation Saves: 2017 Interim Report. National Institute of Building Science.
<https://www.nibs.org/page/mitigationsaves>

Hazard(s) Addressed	All Hazards
Action: Install quick-connect emergency generator hook-ups, generators, generator bracing, generator security, on-site fuel storage, and all other necessary equipment to protect and maintain power for critical facilities in the event of a natural disaster.	
Participating Jurisdiction	City of Alvarado
Priority:	2
Estimated Cost:	\$50M
Estimated Benefit:	\$300M
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding
Action: Use minor structural projects that are smaller and more localized (e.g., floodwalls or small berms) around facilities critical to the wellbeing of city residents, in areas that cannot be mitigated through non-structural activities, or where structural activities are not feasible due to low densities.	
Participating Jurisdiction	City of Alvarado
Priority:	3
Estimated Cost:	\$25,000
Estimated Benefit:	\$150,000
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	18 months
Hazard(s) Addressed	All Hazards
Action: Protect visitors and natural assets at city parks from severe weather by implementing any mitigation actions necessary and feasible, such as outdoor tornado shelters, hazard-conscious landscaping, lightning prediction and notification systems, hydration stations, splash pads, covered rest areas, covered playgrounds, covered parking, and educational signage. (Covered areas could be covered by solar panels that power security lights and charging ports, green roofs that absorb stormwater, shade clothes, tree canopy, or traditional roofing material.)	
Participating Jurisdiction	City of Alvarado
Priority:	4
Estimated Cost:	\$6M
Estimated Benefit:	\$36M
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Parks & Recreation, Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	Extreme Heat, Winter Storm
Action: Establish cooling and warming centers at select city buildings and Alvarado ISD schools, staff the centers with qualified volunteers or staff, and supply centers with proper warming and heating supplies, hydration products, first aid supplies, comfort items, and hazard educational material to protect citizens, especially vulnerable populations, from extreme temperatures and educate them on personal protective measures.	
Participating Jurisdiction	City of Alvarado
Priority:	5
Estimated Cost:	\$200,000
Estimated Benefit:	\$1,200,000
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	12 months
Hazard(s) Addressed	All Hazards
Action: Conduct a study to prioritize existing government facilities and critical facilities needing to be retrofitted from natural hazards.	
Participating Jurisdiction	City of Alvarado
Priority:	6
Estimated Cost:	\$300,000
Estimated Benefit:	\$1.8M
Potential Funding Source(s):	Grants, General Funds, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Retrofit existing government facilities and critical facilities to withstand all hazards and more efficiently use their power supplies.	
Participating Jurisdiction	City of Alvarado
Priority:	7
Estimated Cost:	\$30M
Estimated Benefit:	\$180M
Potential Funding Source(s):	Grants, General Funds, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	Winter Storms
Action: Winterize all public utilities.	
Participating Jurisdiction	City of Alvarado
Priority:	8
Estimated Cost:	\$4
Estimated Benefit:	\$24M
Potential Funding Source(s):	Grants, General Funds, Water & Sewage Fund,
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	6 months
Hazard(s) Addressed	Drought, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Wildfires, Winter Storms
Action: Create a list of city-approved plants to support a landscape ordinance that promotes the use of native, drought-friendly, water-absorbing, fire-resistant, high evapotranspiration (ET)-rated plants throughout the city (including private property) to naturally mitigate potential hazard impacts.	
Participating Jurisdiction	City of Alvarado
Priority:	9
Estimated Cost:	\$5,000
Estimated Benefit:	\$30,000
Potential Funding Source(s):	Grants, General Fund, department budget
Lead Agency/Department Responsible	City Council, Public Works
Implementation Schedule:	12 months
Hazard(s) Addressed	All Hazards
Action: Create an incentive program to encourage business owners and residents to implement hazard mitigation measures, purchase NFIP insurance, and follow city mitigation recommendations.	
Participating Jurisdiction	City of Alvarado
Priority:	10
Estimated Cost:	\$1M
Estimated Benefit:	\$6M
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	24 months

Hazard(s) Addressed	All Hazards
Action: Mitigate water supply impacts from hazards using various mitigation measures, such as building back-up water tanks and wells, upgrading existing water delivery systems to eliminate breaks and leaks, insulating pipes, installing water- conservative appliances and irrigation equipment, installing shutoff valves and emergency connector hoses on water mains, and upgrading fire hydrants.	
Participating Jurisdiction	City of Alvarado
Priority:	11
Estimated Cost:	\$700,000
Estimated Benefit:	\$4.2M
Potential Funding Source(s):	Grants, Water & Sewage Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Approve the use of impact fees to help fund public projects to mitigate impacts of land development.	
Participating Jurisdiction	City of Alvarado
Priority:	12
Estimated Cost:	\$500
Estimated Benefit:	\$3,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	City Council
Implementation Schedule:	12 months
Hazard(s) Addressed	Flooding
Action: Elevate roads and bridges above base flood elevation to maintain dry access.	
Participating Jurisdiction	City of Alvarado
Priority:	13
Estimated Cost:	\$500M
Estimated Benefit:	\$3B
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Develop and maintain a database to track community vulnerability and members of the underserved population.	
Participating Jurisdiction	City of Alvarado
Priority:	14
Estimated Cost:	\$10,000
Estimated Benefit:	\$60,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Obtain local data including tax parcels, building values, critical facility locations, storm damage, changes to local assets mentioned in the plan, and other information for use in hazard risk analysis.	
Participating Jurisdiction	City of Alvarado
Priority:	15
Estimated Cost:	\$20,000
Estimated Benefit:	\$120,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Fund activities by local artists, students, volunteer organizations, and interest groups that increases community awareness of the local hazards, historical events, and the City's hazard education program.	
Participating Jurisdiction	City of Alvarado
Priority:	16
Estimated Cost:	\$200,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	36 months

Table 50: City of Burleson Mitigation Actions

Hazard(s) Addressed:	Flooding, Thunderstorms, Tornadoes, Wildfire
Action: Purchase and install outdoor warning sirens to encompass new developments and populations.	
Participating Jurisdiction	City of Burleson
Priority:	1
Estimated Cost:	\$650,000
Estimated Benefit:	\$3.9 M
Potential Funding Source(s):	City Funds
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	36 Months
Hazard(s) Addressed:	All Hazards
Action: Enhance the city's comprehensive public education program for natural hazards to incorporate education about various mitigation techniques.	
Participating Jurisdiction	City of Burleson
Priority:	2
Estimated Cost:	\$20,000
Estimated Benefit:	\$120,000
Potential Funding Source(s):	City Funds, In-Kind, Donations
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Ongoing
Hazard(s) Addressed:	Winter Storm, Flooding, Thunderstorms, Tornadoes, Extreme Heat
Action: Purchase and install generator(s) in existing and future city owned or operated facilities.	
Participating Jurisdiction	City of Burleson
Priority:	3
Estimated Cost:	\$1.5 M
Estimated Benefit:	\$9 M
Potential Funding Source(s):	HMPG, City Funds
Lead Agency/Department Responsible:	Emergency Management, Parks and Recreation
Implementation Schedule:	36 Months

Hazard(s) Addressed:	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Winter Storms
Action: Ensure new and existing utilities are strengthened and reinforced with insulation and flex piping to prevent disruption in services.	
Participating Jurisdiction	City of Burleson
Priority:	4
Estimated Cost:	\$ 500 K
Estimated Benefit:	\$ 3 M
Potential Funding Source(s):	General Funds, Property Owners
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	24 Months
Hazard(s) Addressed:	Earthquake, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Install quick-connect emergency generator hook-ups for critical facilities.	
Participating Jurisdiction	City of Burleson
Priority:	5
Estimated Cost:	\$300 K
Estimated Benefit:	\$1.8 M
Potential Funding Source(s):	HMGP, City Funds
Lead Agency/Department Responsible:	Emergency Management- Public Works
Implementation Schedule:	36 Months
Hazard(s) Addressed:	Earthquake, Thunderstorms, Tornadoes
Action: Incorporate tornado shelters into existing and future government-owned facilities to withstand severe hazards.	
Participating Jurisdiction	City of Burleson
Priority:	6
Estimated Cost:	\$200 K
Estimated Benefit:	\$1.2 M
Potential Funding Source(s):	HMGP, City Funds
Lead Agency/Department Responsible:	Emergency Management- Public Works
Implementation Schedule:	36 Months

Hazard(s) Addressed:	Flooding, Thunderstorms, Tornadoes, Wildfire, Winter Storms
Action: Purchase NOAA Weather Radios and Basic Emergency Preparedness Kits for distribution to residents at public events.	
Participating Jurisdiction	City of Burleson
Priority:	7
Estimated Cost:	\$ 4,000
Estimated Benefit:	\$ 24,000
Potential Funding Source(s):	HMGP, City Funds
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	36 Months

Table 51: City of Cleburne Mitigation Actions

Hazard(s) Addressed	All Hazards
Action: Purchase four generators to ensure continued operation of critical infrastructure during and after severe weather events and other disasters.	
Participating Jurisdiction	City of Cleburne
Priority:	1
Estimated Cost:	\$250,000
Estimated Benefit:	\$1.5M
Potential Funding Source(s):	HMGP, city budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	24 months
Hazard(s) Addressed	Extreme Heat, Thunderstorms, Tornadoes, Winter Storms
Action: Install covered parking to protect government vehicle and critical equipment from severe weather.	
Participating Jurisdiction	City of Cleburne
Priority:	2
Estimated Cost:	\$500,000
Estimated Benefit:	\$1.5M
Potential Funding Source(s):	HMGP, General Fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Thunderstorms, Tornadoes
Action: Install weather stations, including CASA Radar, in appropriate locations to aid in early warning of severe weather in the immediate area and increase public safety.	
Participating Jurisdiction	City of Cleburne
Priority:	3
Estimated Cost:	\$25,000
Estimated Benefit:	\$150,000
Potential Funding Source(s):	HMGP, General Fund
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	18 months

Hazard(s) Addressed	Thunderstorms
Action: Install a combined technology of structural protection devices (lightning rods), arrestors, and grounding minimize lightning damage to critical facilities and emergency communications infrastructure.	
Participating Jurisdiction	City of Cleburne
Priority:	4
Estimated Cost:	\$200,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	HMGP, General Fund
Lead Agency/Department Responsible	Public Works
Implementation Schedule:	18 months
Hazard(s) Addressed	Thunderstorms
Action: Install lightning prediction and notification systems in city parks to provide early warning of the possibility of lightning in the immediate area and increase public safety during outdoor activities.	
Participating Jurisdiction	City of Cleburne
Priority:	5
Estimated Cost:	\$200,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	HMGP, General Fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	18 months
Hazard(s) Addressed	Extreme Heat, Winter Storm
Action: Establish and supply select city buildings and Cleburne ISD schools as cooling and warming centers to allow citizens, especially vulnerable populations, to seek refuge from extreme temperatures.	
Participating Jurisdiction	City of Cleburne
Priority:	6
Estimated Cost:	\$20,000
Estimated Benefit:	\$120,000
Potential Funding Source(s):	FEMA grants
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Installing quick-connect emergency generator hook-ups for critical facilities.	
Participating Jurisdiction	City of Cleburne
Priority:	7
Estimated Cost:	\$300,000
Estimated Benefit:	\$1.8M
Potential Funding Source(s):	HMGP, General Funds
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	24 months
Hazard(s) Addressed	All Hazards
Action: Add grant management/mitigation staff to ensure hazard mitigation actions are carried out.	
Participating Jurisdiction	City of Cleburne
Priority:	8
Estimated Cost:	\$65,000
Estimated Benefit:	\$390,000
Potential Funding Source(s):	HMGP, General Funds
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	6 months
Hazard(s) Addressed	Extreme Heat
Action: Reduce heat island effect by installing cool roof products for city facilities that reflect sunlight and heat away from buildings.	
Participating Jurisdiction	City of Cleburne
Priority:	9
Estimated Cost:	\$1M
Estimated Benefit:	\$6M
Potential Funding Source(s):	HMGP, General Fund, Capital Improvement
Lead Agency/Department Responsible	Engineering
Implementation Schedule:	36 months
Hazard(s) Addressed	Earthquake, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Create an emergency shelter for citizens.	
Participating Jurisdiction	City of Cleburne
Priority:	10
Estimated Cost:	\$1M
Estimated Benefit:	\$6M
Potential Funding Source(s):	HMGP, General Fund
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Wildfires
Action: Mitigate water supply impacts from hazards by upgrading water lines with enhanced pipes and improving fire hydrants and water delivery systems.	
Participating Jurisdiction	City of Cleburne
Priority:	11
Estimated Cost:	\$700,000.00
Estimated Benefit:	\$4.2M
Potential Funding Source(s):	75% FEMA Grants, 25% General operating budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Winter Storms
Action: Ensure new and existing utilities are strengthened and reinforced with insulation and flex piping to prevent disruption in services.	
Participating Jurisdiction	City of Cleburne
Priority:	12
Estimated Cost:	\$500,000
Estimated Benefit:	\$3M
Potential Funding Source(s):	HMGP, General Funds, Property Owners
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	24 months
Hazard(s) Addressed	Flooding
Action: Adopt, implement, participate, and promote the National Flood Insurance Program.	
Participating Jurisdiction	City of Cleburne
Priority:	13
Estimated Cost:	\$2,000
Estimated Benefit:	\$12,000
Potential Funding Source(s):	HMGP, General Fund
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	36 months
Hazard(s) Addressed	Extreme Heat, Winter Storm
Action: Create a weatherization assistance program to assist the vulnerable population and protect them from extreme temperatures.	
Participating Jurisdiction	City of Cleburne
Priority:	14
Estimated Cost:	\$150,000.00
Estimated Benefit:	\$900,000.00
Potential Funding Source(s):	75% FEMA Grants, 25% General operating budget
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Increase ability of Cleburne residents to receive early warning and special information about natural hazards by purchasing and distributing NOAA All Hazard Radios to each household and business in Cleburne.	
Participating Jurisdiction	City of Cleburne
Priority:	15
Estimated Cost:	\$25,000
Estimated Benefit:	\$150,000
Potential Funding Source(s):	HMGP, city budget
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	24 months

Table 52: City of Godley Mitigation Actions

Hazard(s) Addressed	All Hazards
Action: Implement the deferred 2015 mitigation actions (listed in the previous section) when capabilities and priorities allow.	
Participating Jurisdiction	City of Godley
Priority:	1
Estimated Cost:	TBD
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible:	City Council
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Install quick-connect emergency generator hook-ups, generators, generator bracing, generator security, on-site fuel storage, and all other necessary equipment to protect and maintain power for critical facilities in the event of a natural disaster.	
Participating Jurisdiction	City of Godley
Priority:	2
Estimated Cost:	\$50M
Estimated Benefit:	\$300M
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding
Action: Use minor structural projects that are smaller and more localized (e.g., floodwalls or small berms) around facilities critical to the wellbeing of city residents, in areas that cannot be mitigated through non-structural activities, or where structural activities are not feasible due to low densities.	
Participating Jurisdiction	City of Godley
Priority:	3
Estimated Cost:	\$25,000
Estimated Benefit:	\$150,000
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	18 months

Hazard(s) Addressed	Extreme Heat, Flooding, Thunderstorms, Tornadoes, Winter Storms
Action: Purchase and install NOAA weather radios in schools, government buildings, parks, nursing homes, and other vulnerable facilities.	
Participating Jurisdiction	City of Godley
Priority:	4
Estimated Cost:	\$10,000
Estimated Benefit:	\$60,000
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible	Fire
Implementation Schedule:	18 months
Hazard(s) Addressed	All Hazards
Action: Protect visitors and natural assets at city parks from severe weather by implementing any mitigation actions necessary and feasible, such as outdoor tornado shelters, hazard-conscious landscaping, lightning prediction and notification systems, hydration stations, splash pads, covered rest areas, covered playgrounds, covered parking, and educational signage. (Covered areas could be covered by solar panels that power security lights and charging ports, green roofs that absorb stormwater, shade clothes, tree canopy, or traditional roofing material.)	
Participating Jurisdiction	City of Godley
Priority:	5
Estimated Cost:	\$6M
Estimated Benefit:	\$36M
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Parks & Recreation, Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Extreme Heat, Winter Storm
Action: Establish cooling and warming centers at select city buildings and Godley ISD schools, staff the centers with qualified volunteers or staff, and supply centers with proper warming and heating supplies, hydration products, first aid supplies, comfort items, and hazard educational material to protect citizens, especially vulnerable populations, from extreme temperatures and educate them on personal protective measures.	
Participating Jurisdiction	City of Godley
Priority:	6
Estimated Cost:	\$200,000
Estimated Benefit:	\$1,200,000
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	12 months

Hazard(s) Addressed	All Hazards
Action: Conduct a study to prioritize existing government facilities and critical facilities needing to be retrofitted from natural hazards.	
Participating Jurisdiction	City of Godley
Priority:	7
Estimated Cost:	\$300,000
Estimated Benefit:	\$1.8M
Potential Funding Source(s):	Grants, General Funds, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Retrofit existing government facilities and critical facilities to withstand all hazards and more efficiently use their power supplies.	
Participating Jurisdiction	City of Godley
Priority:	8
Estimated Cost:	\$30M
Estimated Benefit:	\$180M
Potential Funding Source(s):	Grants, General Funds, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Winter Storms
Action: Winterize all public utilities.	
Participating Jurisdiction	City of Godley
Priority:	9
Estimated Cost:	\$4
Estimated Benefit:	\$24M
Potential Funding Source(s):	Grants, General Funds, Water & Sewage Fund,
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	6 months

Hazard(s) Addressed	Drought, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Wildfires, Winter Storms
Action: Create a list of city-approved plants to support a landscape ordinance that promotes the use of native, drought-friendly, water-absorbing, fire-resistant, high evapotranspiration (ET)-rated plants throughout the city (including private property) to naturally mitigate potential hazard impacts.	
Participating Jurisdiction	City of Godley
Priority:	10
Estimated Cost:	\$5,000
Estimated Benefit:	\$30,000
Potential Funding Source(s):	Grants, General Fund, department budget
Lead Agency/Department Responsible	City Council, Public Works
Implementation Schedule:	12 months
Hazard(s) Addressed	All Hazards
Action: Create an incentive program to encourage business owners and residents to implement hazard mitigation measures, purchase NFIP insurance, and follow city mitigation recommendations.	
Participating Jurisdiction	City of Godley
Priority:	11
Estimated Cost:	\$1M
Estimated Benefit:	\$6M
Potential Funding Source(s):	Grants, General Fund
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	24 months
Hazard(s) Addressed	All Hazards
Action: Mitigate water supply impacts from hazards using various mitigation measures, such as building back-up water tanks and wells, upgrading existing water delivery systems to eliminate breaks and leaks, insulating pipes, installing water- conservative appliances and irrigation equipment, installing shutoff valves and emergency connector hoses on water mains, and upgrading fire hydrants.	
Participating Jurisdiction	City of Godley
Priority:	12
Estimated Cost:	\$700,000
Estimated Benefit:	\$4.2M
Potential Funding Source(s):	Grants, Water & Sewage Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Approve the use of impact fees to help fund public projects to mitigate impacts of land development.	
Participating Jurisdiction	City of Godley
Priority:	13
Estimated Cost:	\$500
Estimated Benefit:	\$3,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	City Council
Implementation Schedule:	12 months
Hazard(s) Addressed	Flooding
Action: Elevate roads and bridges above base flood elevation to maintain dry access.	
Participating Jurisdiction	City of Godley
Priority:	14
Estimated Cost:	\$500M
Estimated Benefit:	\$3B
Potential Funding Source(s):	Grants, General Fund, Capital Improvement Budget
Lead Agency/Department Responsible:	Engineering
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Develop and maintain a database to track community vulnerability and members of the underserved population.	
Participating Jurisdiction	City of Godley
Priority:	15
Estimated Cost:	\$10,000
Estimated Benefit:	\$60,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Obtain local data including tax parcels, building values, critical facility locations, storm damage, changes to local assets mentioned in the plan, and other information for use in hazard risk analysis.	
Participating Jurisdiction	City of Godley
Priority:	16
Estimated Cost:	\$20,000
Estimated Benefit:	\$120,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Fund activities by local artists, students, volunteer organizations, and interest groups that increases community awareness of the local hazards, historical events, and the City's hazard education program.	
Participating Jurisdiction	City of Godley
Priority:	16
Estimated Cost:	\$200,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	Fire
Implementation Schedule:	36 months

Table 53: City of Joshua Mitigation Actions

Hazard(s) Addressed	All Hazards
Action: Purchase generators to ensure continued operation of critical infrastructure during and after severe weather events and other disasters for government facilities, including City Hall, Animal Control, Public Works, Parks & Recreation.	
Participating Jurisdiction	City of Joshua
Priority:	1
Estimated Cost:	\$300,000
Estimated Benefit:	\$1.8M
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	City Management
Implementation Schedule:	24 months
Hazard(s) Addressed	Thunderstorms, Tornadoes
Action: Equip City Hall building with a safe room.	
Participating Jurisdiction	City of Joshua
Priority:	2
Estimated Cost:	\$200,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	City Management
Implementation Schedule:	24 months
Hazard(s) Addressed	All Hazards
Action: Develop Damage Assessment Teams utilizing paid staff and citizen volunteer disaster teams.	
Participating Jurisdiction	City of Joshua
Priority:	3
Estimated Cost:	\$10,000
Estimated Benefit:	\$60,000
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	Fire/EMC
Implementation Schedule:	12 months

Hazard(s) Addressed	All Hazards
Action: Upgrade CASA WX weather radar System.	
Participating Jurisdiction	City of Joshua
Priority:	4
Estimated Cost:	\$10,000
Estimated Benefit:	\$60,000
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	Fire/Emergency Management
Implementation Schedule:	Immediate/Ongoing
Hazard(s) Addressed	All Hazards
Action: Upgrade Outdoor Warning Siren system to increase ability to provide warning during severe weather events by adding additional and relocating sirens and upgrading activation software system to automatic activation during tornado warnings.	
Participating Jurisdiction	City of Joshua
Priority:	5
Estimated Cost:	\$80,000
Estimated Benefit:	\$480,000
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	Fire/Emergency Management
Implementation Schedule:	12 months
Hazard(s) Addressed	All Hazards
Action: Ensure maintenance of overhead utility infrastructure through removal of overgrown tree limbs.	
Participating Jurisdiction	City of Joshua
Priority:	6
Estimated Cost:	\$20,000
Estimated Benefit:	\$120,000
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	12 months

Hazard(s) Addressed	Wildfires
Action: Require defensible space around existing and future development in the WUI.	
Participating Jurisdiction	City of Joshua
Priority:	7
Estimated Cost:	\$20,000
Estimated Benefit:	\$120,000
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible:	Code Enforcement
Implementation Schedule:	24 months
Hazard(s) Addressed	Drought, Extreme Heat, Wildfires
Action: Utilize drought tolerant, xeriscaping practices and install water-saving equipment in new and existing city facilities.	
Participating Jurisdiction	City of Joshua
Priority:	8
Estimated Cost:	\$150,000
Estimated Benefit:	\$900,000
Potential Funding Source(s):	City budget
Lead Agency/Department Responsible	Public Works, Parks & Recreation
Implementation Schedule:	36 months
Hazard(s) Addressed	Earthquake, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Create an emergency shelter for citizens.	
Participating Jurisdiction	City of Joshua
Priority:	9
Estimated Cost:	\$3M
Estimated Benefit:	\$18M
Potential Funding Source(s):	Grants, City issued bonds
Lead Agency/Department Responsible:	Fire/Emergency Management
Implementation Schedule:	36 months

Table 54: City of Keene Mitigation Actions

Hazard(s) Addressed	All Hazards
Action: Use the Capability Assessment to identify existing capabilities to use to implement mitigation measures and identify measures that could improve capabilities.	
Participating Jurisdiction	Keene
Priority:	1
Estimated Cost:	\$10,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	OEM
Implementation Schedule:	48 months
Hazard(s) Addressed	All Hazards
Action: Acquire and install generators, the generator connections/infrastructure, proper mounting system, security barriers, and fuel reservoirs for existing and future critical facilities to prevent power failure in the event of a disaster and to continue essential duties.	
Participating Jurisdiction	Keene
Priority:	2
Estimated Cost:	\$250,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	12 months
Hazard(s) Addressed	Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Upgrade road safety elements to improve visibility on roads during severe weather and evacuations. Elements could include reflective guard rails, signs, lane reflectors, and contrasting, high-visibility pavement markings that are wider, more durable, and designed for high visibility and reflectivity, no matter the weather.	
Participating Jurisdiction	Keene
Priority:	3
Estimated Cost:	\$800,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Upgrade or replace inadequate emergency & public works apparatus' so crews can mitigate property damage or loss of life more efficiently.	
Participating Jurisdiction	Keene
Priority:	4
Estimated Cost:	\$850,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Finance
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Upgrade or replace water storage facilities to withstand impacts from natural hazards.	
Participating Jurisdiction	Keene
Priority:	5
Estimated Cost:	\$3,500,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Create fuel storage to hold fuel on-site at critical facilities or have multiple ways to obtain fuel for maintaining power during a power outage from an event.	
Participating Jurisdiction	Keene
Priority:	6
Estimated Cost:	\$3,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	24 months

Hazard(s) Addressed	Tornadoes
Action: Require tie-downs, with anchors appropriate for soil stabilization, for manufactured housing, outdoor furniture, and propane tanks.	
Participating Jurisdiction	Keene
Priority:	7
Estimated Cost:	\$450,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Code Enforcement
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Install more cellular towers to supply adequate emergency notifications to residents.	
Participating Jurisdiction	Keene
Priority:	8
Estimated Cost:	\$300,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Economic Development
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Develop and implement a public education program to provide information on natural hazard mitigation measures, including the benefits of flood insurance.	
Participating Jurisdiction	Keene
Priority:	9
Estimated Cost:	\$100,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	OEM
Implementation Schedule:	36 months

Hazard(s) Addressed	All Hazards
Action: Work with the power company and emergency management agency to get priority power restoration during and after a disaster.	
Participating Jurisdiction	Keene
Priority:	10
Estimated Cost:	\$200,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	OEM
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding
Action: Require porous surface in all future road, sidewalk, and parking lot development to mitigate flash flooding when the benefits are determined to outweigh the costs.	
Participating Jurisdiction	Keene
Priority:	11
Estimated Cost:	\$15,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Economic Development
Implementation Schedule:	36 months
Hazard(s) Addressed	All hazards
Action: Retrofit existing government-owned facilities to withstand all hazards.	
Participating Jurisdiction	Keene
Priority:	12
Estimated Cost:	\$5,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Building Development
Implementation Schedule:	36 months

Hazard(s) Addressed	Earthquakes
Action: Create a Road Maintenance Plan and Debris Removal Priority Plan for critical roads to ensure accessibility during an emergency, help crews proactively plan for damages, and to enforce once impacts are known.	
Participating Jurisdiction	Keene
Priority:	13
Estimated Cost:	\$70,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding/Thunderstorms/Winter storms
Action: Develop a debris removal program for educate residents and train crews on safe, efficient methods of debris prevention and removal.	
Participating Jurisdiction	Keene
Priority:	14
Estimated Cost:	\$5,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	Extreme Heat
Action: Install public gazebos at public parks and covered seating at sporting events to protect visitors from extreme heat or severe weather.	
Participating Jurisdiction	Keene
Priority:	15
Estimated Cost:	\$325,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding
Action: Improve drainage system at Elisa Carver Park to include but not limit to retaining walls, drainage ditches, etc.	
Participating Jurisdiction	Keene
Priority:	16
Estimated Cost:	\$200,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	All hazards
Action: Acquire mobile and portable lighting to protect crews and motorists when limited visibility is present due to severe weather or power failure from a natural disaster.	
Participating Jurisdiction	Keene
Priority:	17
Estimated Cost:	\$50,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	Winter Storms
Action: Retrofit and stock an existing facility with winter weather supplies to create a warming station/ shelter for vulnerable populations during winter storms.	
Participating Jurisdiction	Keene
Priority:	18
Estimated Cost:	\$3,500,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	OEM
Implementation Schedule:	36 months
Hazard(s) Addressed	Winter Storms
Action: Protect power lines from severe weather by either burying overhead power lines, ensuring ordinances for proper vegetation management practices, replacing wood poles with steel or composite ones, or reinforcing utility poles with guy wires.	
Participating Jurisdiction	Keene
Priority:	19
Estimated Cost:	\$7,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	OEM
Implementation Schedule:	36 months
Hazard(s) Addressed	Tornadoes
Action: Construct safe rooms in existing and future schools, nursing homes, assisted living facilities, hospitals, emergency service buildings, and other critical facilities.	
Participating Jurisdiction	Keene
Priority:	20
Estimated Cost:	\$7,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Building Development
Implementation Schedule:	36 months

Hazard(s) Addressed	Expansive Soils
Action: Upgrade roads damaged by expansive soil.	
Participating Jurisdiction	Keene
Priority:	21
Estimated Cost:	\$15,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months
Hazard(s) Addressed	Drought
Action: Place water restrictions designed to reduce or eliminate non-essential uses during a drought.	
Participating Jurisdiction	Keene
Priority:	22
Estimated Cost:	\$20,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	36 months
Hazard(s) Addressed	Drought, Expansive Soil, Earthquake
Action: Implement a leak detection and repair program to reduce lost water.	
Participating Jurisdiction	Keene
Priority:	23
Estimated Cost:	\$400,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding
Action: Participate in the Community Rating System (CRS) in the NFIP.	
Participating Jurisdiction	Keene
Priority:	24
Estimated Cost:	\$50,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Planning & Zoning Commission
Implementation Schedule:	48 months

Hazard(s) Addressed	Flooding, Thunderstorms
Action: Retrofit waste-water collection system.	
Participating Jurisdiction	Keene
Priority:	25
Estimated Cost:	\$20,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	36 months
Hazard(s) Addressed	Wildfires
Action: Participate in a Community Wildfire Protection Plan.	
Participating Jurisdiction	Keene
Priority:	26
Estimated Cost:	\$100,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Fire & Rescue
Implementation Schedule:	36 months
Hazard(s) Addressed	Flooding, Thunderstorms
Action: Develop vector control measures to control mosquito populations attracted to standing water after severe rain and mitigate the spread of mosquito-borne illnesses.	
Participating Jurisdiction	Keene
Priority:	27
Estimated Cost:	\$250,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	OEM
Implementation Schedule:	36 months

Hazard(s) Addressed	Earthquakes
Action: Use flexible piping and fittings when extending or replacing water, sewer, natural gas service, or other critical services.	
Participating Jurisdiction	Keene
Priority:	28
Estimated Cost:	\$1,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Utilities
Implementation Schedule:	36 months
Hazard(s) Addressed	Expansive Soils, Flooding, Thunderstorms
Action: Use of porous pavement, pavers, bio swales, rain gardens, tree trenches, smartscape, vegetative buffers, trees, and islands in and around large parking areas, roads, buildings, and public rights-of-way and easements to reduce stormwater runoff and lessen the impact of extreme heat and expansive soils.	
Participating Jurisdiction	Keene
Priority:	29
Estimated Cost:	\$15,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Economic Development
Implementation Schedule:	36 months
Hazard(s) Addressed	All Hazards
Action: Incorporate nature-based, green infrastructure throughout the city, where applicable.	
Participating Jurisdiction	Keene
Priority:	30
Estimated Cost:	\$5,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Economic Development
Implementation Schedule:	36 months

Hazard(s) Addressed	Thunderstorms
Action: Build covered parking for the fire station and City Hall to protect emergency and city vehicles during severe weather.	
Participating Jurisdiction	Keene
Priority:	31
Estimated Cost:	\$300,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Building Development
Implementation Schedule:	24 months
Hazard(s) Addressed	Earthquakes
Action: Require bracing of generators, elevators, and other vital equipment in existing and future hospitals and critical facilities.	
Participating Jurisdiction	Keene
Priority:	32
Estimated Cost:	\$5,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Code Enforcement
Implementation Schedule:	36 months
Hazard(s) Addressed	Extreme Heat
Action: Reduce urban heat island effect by planting more trees, utilizing shade clothes, and building green roofs.	
Participating Jurisdiction	Keene
Priority:	33
Estimated Cost:	\$400,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months

Hazard(s) Addressed	Flooding
Action: Flooding / Buyout Program – Buyout or relocate SRL, RL, and other vulnerable structures within or near a floodplain or dam spillway.	
Participating Jurisdiction	Keene
Priority:	34
Estimated Cost:	\$10,000,000
Estimated Benefit:	Cost x 6
Potential Funding Source(s):	Grant(s)
Lead Agency/Department Responsible:	Planning & Zoning Commission
Implementation Schedule:	48 months

Table 55: Johnson County Unincorporated New Mitigation Actions

 Hazard(s) Addressed: All Hazards	
Action: Acquire and install generators, the generator connections/infrastructure, proper mounting system, security barriers, and fuel reservoir for existing and future critical facilities to prevent power failure in the event of a disaster and to continue essential duties.	
Participating Jurisdiction	Johnson County Unincorporated
Priority:	1
Estimated Cost:	\$1.25M
Estimated Benefit:	\$6M
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Johnson County Commissioners
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Enhance Johnson County EOC with all possible mitigation measures to ensure operations during any disaster.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	2
Estimated Cost:	\$4M
Estimated Benefit:	\$15M
Potential Funding Source(s):	Grants, Budget
Lead Agency/Department Responsible:	Johnson County OEM
Implementation Schedule:	36 Months



Hazard(s) Addressed: Flooding

Action: Install automated flood gates and warning signs in critical areas to prevent travelers and residents from entering flooded roadways and crossings.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	4
Estimated Cost:	\$400,000
Estimated Benefit:	\$2,000,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	18-20 months



Hazard(s) Addressed: All Hazards

Action: Create fuel storage at facilities or have multiple ways to obtain fuel for maintaining power during a power outage from an event.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	5
Estimated Cost:	\$40,000
Estimated Benefit:	\$90,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Adopt and enforce most current building codes.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	6
Estimated Cost:	\$5,000
Estimated Benefit:	\$20,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	County Commissioners Court
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Update codes, policies, and regulations to address risks and vulnerabilities to hazards.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	7
Estimated Cost:	\$500
Estimated Benefit:	\$3,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	County Planning and Zoning
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Retrofit existing government-owned facilities to withstand all hazards.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	8
Estimated Cost:	\$4M
Estimated Benefit:	\$12M
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Assist homeowners with application and implementation of residential mitigation projects.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	9
Estimated Cost:	\$10,000
Estimated Benefit:	\$70,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Johnson County OEM
Implementation Schedule:	36 months



Hazard(s) Addressed: Flooding

Action: Participate in the National Flood Insurance Program (NFIP) Community Rating System.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	10
Estimated Cost:	\$10,000
Estimated Benefit:	\$50,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Floodplain Administrator
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Educate the public on their risks to local hazards, and mitigation actions to take, using various outreach methods.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	11
Estimated Cost:	\$5,000
Estimated Benefit:	\$30,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Johnson County OEM
Implementation Schedule:	12 months



Hazard(s) Addressed: Flooding

Action: Buyout or relocate SRL, RL, and other vulnerable structures within or near a floodplain or dam spillway.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	12
Estimated Cost:	\$1,500,000
Estimated Benefit:	\$4M
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	County Planning and Zoning
Implementation Schedule:	36 months



Hazard(s) Addressed: Flooding

Action: Educate the public on NFIP policies and their flood risks from various flood sources (bodies of water, dams, flash flooding).

Participating Jurisdiction	Johnson County Unincorporated
Priority:	13
Estimated Cost:	\$500
Estimated Benefit:	\$3,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Johnson County OEM
Implementation Schedule:	18 months



Hazard(s) Addressed: All Hazards

Action: Incorporate nature-based, green infrastructure throughout the planning area, where applicable.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	14
Estimated Cost:	\$20,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months



Hazard(s) Addressed: Wildfires

Action: Create defensible space around existing and future development in the WUI.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	15
Estimated Cost:	\$100,000
Estimated Benefit:	\$2,000,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Johnson County Commissioners
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Work with neighboring communities on multi-jurisdictional mitigation projects and studies.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	16
Estimated Cost:	\$200,000
Estimated Benefit:	\$1.2M
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Johnson County OEM
Implementation Schedule:	36 months



Hazard(s) Addressed: All Hazards

Action: Conduct hazard studies in planning area and surrounding jurisdictions, to address data deficiencies and to update our risk assessment.

Participating Jurisdiction	Johnson County Unincorporated
Priority:	17
Estimated Cost:	\$70,000
Estimated Benefit:	\$420,000
Potential Funding Source(s):	Grants, general fund
Lead Agency/Department Responsible:	Public Works
Implementation Schedule:	36 months



Hazard(s) Addressed: Wildfires

Action: Develop a Community Wildfire Protection Plan (CWPP).

Participating Jurisdiction	Johnson County Unincorporated
Priority:	18
Estimated Cost:	\$10,000
Estimated Benefit:	\$60,000
Potential Funding Source(s):	TFS Grants, general fund
Lead Agency/Department Responsible:	Johnson Count OEM
Implementation Schedule:	12 months

Chapter 5: Plan Maintenance

The Johnson County Emergency Management Coordinator (EMC), or their designee, is responsible for ensuring the HMP and its components are monitored, evaluated, and reviewed on a regular basis.

Members of the Hazard Mitigation Planning Team (HMPT) are responsible for ensuring the mitigation strategies of participating jurisdictions are monitored, evaluated, and reviewed on a regular basis. This will be accomplished by the Johnson County EMC calling an annual meeting of the HMPT, whose members will assist in plan review, evaluation, updates, and monitoring.

5.1 Schedule

Maintenance tasks will take place according to the following table. The Johnson County EMC will use email to request the maintenance task noted below be implemented and changes documented.

Table 56: Maintenance Schedule of Tasks

Responsible Personnel	Tasks	Update Schedule
Johnson County EMC	Monitor Plan: integrate into existing mechanisms; track implementation of action items, changes to risk assessment, changes to Local Planning Team (LPT), changes to capabilities, and plan integrations.	Twice a year
	Evaluate Plan during HMP Maintenance Meeting.	Annually
	Update Plan by reviewing and revising the plan to meet requirements.	Once every five years

To annually evaluate the HMP, the Johnson County EMC will host a HMP Maintenance Meeting. During this meeting, the members will provide information and updates on the implementation status of each action item included in the plan. The team will assess whether goals address current and expected conditions, whether the nature and/or magnitude of the risks have changed, if there has been a change in local capabilities, if current resources are appropriate for implementing the HMP, whether outcomes have occurred as expected, and if other agencies and partners have information to input.

The Disaster Mitigation Act of 2000 requires that the Johnson County Hazard Mitigation Plan be updated at least once every five years. During this process, the entire plan will be updated with current information, current analyses of risks and capabilities, and new and/or modified mitigation strategies. Public meetings will be hosted for the HMPT and the public to address each section of the plan. The revised plan will be submitted for state and federal review after local public review and presented for approval to the Johnson County Commissioners Court and the respective councils of incorporated cities included in this HMP.

Following formal adoption by the Johnson County's Commissioners Court and the governing council of each participating jurisdiction, the actions outlined in the HMP will be implemented as local capabilities allow.

5.2 Continued Public Participation

Public participation will remain an active component of this plan, even after adoption, to ensure all residents understand what the local government is doing on their behalf, and to provide a chance for input on community vulnerabilities and mitigation activities.

With assistance from NCTCOG, and as local capabilities improve, the HMPT will assess their capabilities and pre-plan their outreach strategy for the next update in order to garner more valuable feedback and reach more socially vulnerable populations and underserved communities.

The HMPT will look for more equitable outreach strategies to use when maintaining this plan, once adopted, including periodic presentations on the plan's progress to elected officials, schools, or other community groups; lunch-n-learns; virtual questionnaires and surveys; public meetings; and postings on social media and interactive websites.

5.3 Incorporation into Existing Planning Mechanisms

The Local Planning Teams will expand their mitigation strategies by incorporating the HMP into other planning mechanisms, such as plan amendments, ordinance revisions, and capital improvement projects. Previously, jurisdictions each listed the following planning mechanisms to incorporate the 2015 HMP:

- Budget meetings, Emergency Action Plan Update, floodplain ordinances, Capital Improvement Plan, Economic Development Plan, Drought Contingency Plan, and Natural Resource Conservation Plan

Incorporation was not accomplished due to limited capabilities and coordination. Also, a Natural Resource Conservation Plan was listed but there is no documentation of this plan.

Planning mechanisms in which this HMP will be integrated are listed below.

Table 57: Local Planning Mechanisms

Jurisdiction	Type of Plan or Activity	Department Responsible	Update Schedule
Alvarado	Capital Improvement Plan	City Administration	Every 10 years
Alvarado	Comprehensive Plan	City Administration and Public Works Departments	Every 5 years
Burleson	Capital Improvement Plan	City Administration	Every 10 years
Burleson	Comprehensive Plan	City Administration and Public Works Departments	Annually
Cleburne	Capital Improvement Plan	City Administration	Every 10 years
Cleburne	Comprehensive Plan	City Administration	Every 5 years

Jurisdiction	Type of Plan or Activity	Department Responsible	Update Schedule
Godley	Capital Improvement Plan	City Administration	Every 10 years
Godley	Comprehensive Plan	City Administration and Public Works Departments	Every 5 years
Joshua	Capital Improvement Plan	City Administration	Every 10 years
Joshua	Comprehensive Plan	City Administration and Public Works Departments	Every 5 years
Keene	Capital Improvement Plan	City Administration	Every 10 years
Keene	Comprehensive Plan	City Administration and Public Works Departments	Every 5 years
Johnson County	Capital Improvement Plan	City Administration	Every 10 years
Johnson County	Comprehensive Plan	County Commissioners, Planning and Zoning, Floodplain Admin, Elected Office Holders and OEM	5 Years
Johnson County	Emergency Operations Plan	OEM	5 years

During the update of each of the identified planning mechanisms, the mechanism's update committee and authors will review this HMP and incorporate plan elements and mitigation actions relevant to the respective mechanism and ensure all goals and strategies of the respective documents are consistent with and support the mitigation goals and will not contribute to increased vulnerability to hazards.

The members of the HMPT will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions are consistent with the goals and actions of the Johnson County HMP and will not contribute to increased hazard vulnerability in Johnson County or its participating jurisdictions.

Participating jurisdictions will provide a copy of the Johnson County HMP to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents are consistent with and support the goals of the Johnson County HMP and will not contribute to increased hazards in the affected jurisdiction(s).

Although it is recognized that there are many possible benefits to integrating components of this Hazard Mitigation Plan (HMP) into other planning mechanisms, the participating jurisdictions consider this HMP, including development and maintenance, to be the primary vehicle to ensure implementation of local hazard mitigation actions.

Chapter 6: Conclusion

Through the development of this plan, Johnson County has developed a thorough hazard history, an inventory of critical facilities, and an assessment of their current capabilities. This data, when used in conjunction with the updated information about hazard threats and vulnerabilities, will prove to be invaluable to Johnson County and its participating jurisdictions.

Natural hazards have been identified county-wide and technological hazards have been listed for selected jurisdictions that opted to include these hazards. Mitigation projects that could reduce the risk of lives and property due to the identified threats have been compiled and prioritized.

The creation of the Johnson County Hazard Mitigation Planning Team (HMPT) brought together stakeholders from communities and organizations onto one planning team. This group has been able to work together effectively and efficiently to produce this document and establish a greater awareness of risks and mitigation strategies.

In addition to the HMPT, the creation of the Local Planning Team (LPT) in each jurisdiction brought together stakeholders and departments within the jurisdiction onto one planning team. This group was able to work together effectively and efficiently to produce jurisdictional data for this document and establish a greater awareness of risks and mitigation strategies.

This plan will continue to evolve as necessary to properly represent the threats and vulnerabilities affecting Johnson County. Continued public participation is encouraged and will continue through the ongoing multijurisdictional hazard mitigation process. The plan, in its entirety (not limited to but including development, public participation, hazard identification, and mitigation actions), will continue to be monitored and evaluated.

Appendix A: Capability Assessments

A.1 NFIP Assessment

The NFIP provides flood insurance to property owners, renters, and businesses, and having this coverage helps them recover faster when floodwaters recede. The NFIP works with communities required to adopt and enforce floodplain management regulations that help mitigate flooding effects.

Flood insurance is available to anyone living in one of the 23,000 participating NFIP communities.

The following tables describe NFIP compliance within the participating jurisdictions.

Table 58: NFIP Policy Information as of 04/30/2022⁴⁶

NFIP Policy Information as of 04/30/2022			
Community Name (Number)	Policies in Force	Total Coverage	Total Written Premium + FPF*
ALVARADO, CITY OF (480397)	8	\$3,793,000	\$16,461
BURLESON, CITY OF (485459)	99	\$27,659,800	\$79,707
CLEBURNE, CITY OF (485462)	128	\$ 26,967,500	\$99,342
GODLEY, CITY OF (480880)	2	\$660,000	\$1,968
JOSHUA, CITY OF (480882)	28	\$7,650,600	\$9,406
KEENE, CITY OF (481107)	4	\$1,330,000	\$2,718
Unknown (Unknown)	17	\$2,337,000	\$10,815
JOHNSON COUNTY* (480879)	248	\$30,485,200	\$64,430,600

*FPF (Federal Policy Fee) - A flat charge that the policyholder must pay on each new or renewal policy to defray certain administrative expenses incurred in carrying out the NFIP.

Table 59: Local Floodplain Regulations

Adoption of NFIP minimum floodplain management criteria via local regulation.		
Community	Description	Source
Alvarado	Code of Ordinances Chapter 18 Flood Hazard Reduction: The city manager is hereby appointed the floodplain administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 CFR (emergency management and assistance—national flood	Website: https://ecode360.com/42203392

⁴⁶ | [Flood Insurance Data and Analytics \(floodsmart.gov\)](#)

Adoption of NFIP minimum floodplain management criteria via local regulation.		
Community	Description	Source
	insurance program regulations) pertaining to floodplain management. (2008 Code, sec. 151.20; Ordinance 2012-025 adopted 9/17/2012)	
Burleson	Code of Ordinances Chapter 42 Floods: In order to accomplish its purposes, this article uses the following methods: (1) Restrict or prohibit uses that are dangerous to health, safety or property in times of flood , or cause excessive increases in flood heights or velocities; (2) Require that uses vulnerable to floods, including facilities which seNe such uses, be protected against flood damage at the time of initial construction; (3) Control the alteration of natural floodplains, stream channels and natural protective barriers, which are involved in the accommodation of floodwaters; (4) Control filing, grading, dredging and other development which may increase flood damage; (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.	Website: https://ecode360.com/39931087
Cleburne	As a participating community, the City has adopted a Floodplain Management Ordinance that limits the development allowed in 100-year floodplains (the area inundated by a storm that has a 1% chance of happening in any year). For property with any portion located within the 100-year floodplain, regardless of structure location, a flood insurance policy may be required by mortgage companies. The City of Cleburne standards require all new structures be constructed two feet above the existing water surface elevation of the 100-year floodplain, or one foot above the "ultimate" water surface elevation. When developing along a major creek within the City of Cleburne, the developer must submit a Flood Study to the	Website: https://www.cleburne.net/1149/Floodplain-Management

Adoption of NFIP minimum floodplain management criteria via local regulation.		
Community	Description	Source
	city showing the 100-year floodplain and water surface elevation based on both current land-use and future land-use assumptions. [See Building in the Floodplain for more information.]	
Godley	Code of Ordinances CHAPTER 156: Flood Damage Prevention § 156.01 Statutory Authorization. The Legislature of the State of Texas has in the Flood Control Insurance Act, Tex. Water Code, § 16.315, delegated the responsibility of local governmental units to adopt regulations designed to minimize flood losses. The City Administrator is hereby appointed the Floodplain Administrator to administer and implement the provisions of this chapter and other appropriate sections of 44 CFR (Emergency Management and Assistance - National Flood Insurance Program Regulations) pertaining to floodplain management. (Ord. OR-10292012-FDP, passed 10-29-2012)	Website: https://codelibrary.amlegal.com/codes/godley/latest/godley_tx/0-0-0-5752#JD_156.01
Joshua	Code of Ordinances Building Regulations ARTICLE 3.07 FLOOD DAMAGE PREVENTION: The city manager is hereby appointed the floodplain administrator to administer and implement the provisions of this article and other appropriate sections of 44 CFR (Emergency Management and Assistance - National Flood Insurance Program regulations) pertaining to floodplain management. (Ordinance 554-2012 adopted 10/18/12)	Website: https://ecode360.com/40359866
Keene	Code of Ordinances TITLE XV. - LAND USAGE CHAPTER 152. - FLOOD DAMAGE PREVENTION:	Website: https://library.municode.com/tx/keene/codes/code_of_ordinances?nodeId=TITXVLAUS_CH152FLDAPR
Johnson County	The Johnson County Public Works Director is hereby appointed the floodplain administrator to administer and implement the provisions of this article and other appropriate sections of 44 CFR (Emergency	Website: https://www.johnsoncountytexas.org/departments/public-works/floodplain-management

Adoption of NFIP minimum floodplain management criteria via local regulation.		
Community	Description	Source
	Management and Assistance - National Flood Insurance Program regulations) pertaining to floodplain management.	

Table 60: FIRM Dates⁴⁷

Adoption of the latest effective Flood Insurance Rate Map (FIRM), if applicable.		
CID	CID	Current Effective Map Date
Alvarado	480397#	12/04/12
Burleson	485459B	09/21/23
Cleburne	485462C	09/21/23
Godley	480880C	09/21/23
Joshua	480882C	09/21/23
Keene	481107#	12/04/12
Johnson County	480879C	09/21/23

Table 61: Floodplain Administrators⁴⁸

Appointment of a designee or agency to implement the addressed commitments and requirements of the NFIP.	
Community	Floodplain Administrator Title
Alvarado	City Manager
Burleson	Assistant Director-Engineering
Cleburne	Project Engineer
Godley	City Administrator
Joshua	Development Services Director
Keene	Development Services Coordinator
Johnson County	Director of Public Works

Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs.	
The local floodplain administrators (FPAs) in Johnson County serve as the local FPA in addition to their primary position in their respective communities. When acting as the FPA, duties mainly consist of reviewing permit applications for development in the floodplain to ensure the development will not negatively impact the community's floodplain. They are also responsible for addressing code violations related to the flood damage prevention ordinance and coordinating recovery efforts after a major disaster. More specifically, local ordinance states that the	

⁴⁷ FEMA. *Communities Participating in the National Flood Program*. 2023, <https://www.fema.gov/cis/TX.html>.

⁴⁸ [Floodplain Administrators | Texas Flood](#)

Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs.

duties and responsibilities of the floodplain administrator shall include, but not be limited to, the following:

- (1) Maintain and hold open for public inspection all records pertaining to the provisions of this chapter.
- (2) Review permit application to determine whether to ensure that the proposed building site project, including the placement of manufactured homes, will be reasonably safe from flooding.
- (3) Review, approve or deny all applications for development permits required by adoption of this chapter.
- (4) Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) from which prior approval is required.
- (5) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the floodplain administrator shall make the necessary interpretation.
- (6) Notify, in riverine situations, adjacent communities and the state coordinating agency which is the Texas Water Development Board (TWDB) and also the Texas Commission on Environmental Quality (TCEQ), prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the federal emergency management agency.
- (7) Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
- (8) When base flood elevation data has not been provided in accordance with the associated section, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, in order to administer the provisions of associated section.
- (9) When a regulatory floodway has not been designated, the floodplain administrator must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
- (10) Under the provisions of 44 CFR chapter 1, section 65.12, of the National Flood Insurance Program regulations, a community may approve certain development in zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than 1 foot, provided that the community first applies for a conditional firm revision through FEMA and completes all of the provisions required by section 65.12.
- (11) The floodplain administrator shall appoint a qualified person to review all permit applications and approve any such permits in the absence of the administrator.

Implementation and enforcement of local floodplain management regulations to regulate and permit development in SFHAs.

(12) Review subdivision proposals and other proposed new development, including manufactured home parks and subdivisions, to determine whether such proposals will be reasonably safe from flooding.

(13) Require within flood hazard areas that new and replacement water supply and sanitary sewerage systems be designed to minimize or eliminate infiltration of flood waters into the systems, and that discharges from the systems into floodwaters and on-site waste disposal systems be located to avoid impairment to them or contamination from them during flooding.

(14) Require proposed developments to obtain a LOMA when appropriate.

(15) Require proposed developments to obtain a conditional letter of map revision (CLOMR) when appropriate prior to any construction. After such construction a formal LOMR shall be required.

Description of how participants implement the substantial improvement/substantial damage provisions of their floodplain management regulations after an event.

For communities participating in the National Flood Insurance Program (NFIP), structures located in the Special Flood Hazard Area (SFHA) that are substantially modified (either damaged or improved) more than 50 percent are required to comply with local building and floodplain requirements. Local community officials (typically floodplain administrators) are responsible for substantial damage and improvement (SI/SD) determinations. These determinations are required to be in compliance for participation in the NFIP.

How a community and FEMA assess the structure owner's compliance with these requirements is part of the process referred to as Substantial Improvement (SI) and Substantial Damage (SD). After a disaster, communities are required to complete damage assessments for structures in the SFHA.

The following describes the responsibilities that specifically apply to administering the SI/SD requirements, as determined by FEMA and implemented by the communities. The local FPAs seek help from the County and State FPA in implementation due to their lack of experience and the overwhelming events during a disaster:

- Review permit applications to determine whether improvements or repairs of buildings in SFHAs constitute substantial improvement or repair of substantial damage.
- Review descriptions of proposed work submitted by applicants to ensure that all requirements are addressed.
- Review cost estimates of the proposed work submitted by applicants and determine if the costs are reasonable for the proposed work or use other acceptable methods to estimate the costs.
- Decide the method to determine market value (including which method to use after an event that damages many buildings) and identify the buildings most likely to have sustained substantial damage.

Description of how participants implement the substantial improvement/substantial damage provisions of their floodplain management regulations after an event.

- Review market value appraisals, if submitted by applicants, to determine if the appraisals reasonably represent the characteristics of the building and the market value of the structures (excluding land value).
- Determine if proposed improvements are substantial improvements based on the costs of the proposed work compared to the market value of the building.
- Determine if damaged buildings are substantially damaged based on cost estimates for repairs compared to the market value of the building before the damage occurred.
- Issue a letter to the property owner to convey the SI/SD determination.
- Retain all versions of the Flood Insurance Rate Maps (FIRMs) and allow citizens to access the maps.
- Maintain in the permit file specific information on all development that occurs within the SFHA and make this information available for public inspection. The documentation includes the lowest floor elevations, other pertinent elevations such as for machinery and equipment, and flood protection designs.
- Conduct periodic field inspections during construction to ensure that development complies with issued permits, work with builders and property owners to correct deficiencies and violations and check for unpermitted development.
- Perform assessments after events that cause damage, inform property owners of the requirement to obtain permits for repairs, and determine whether the damage qualifies as substantial damage.
- Coordinate with property owners and insurance adjusters regarding NFIP flood insurance claims and ICC coverage.

A.2 Capability Assessment

As FEMA states, reviewing each participant's capabilities helps the planning team find and evaluate resources they can use to reduce disaster losses now or in the future. The assessment encompasses the following types of mitigation capabilities:

1. **Planning and Regulatory:** Plans, policies, statutes or regulations that could affect resilience to future natural hazard events and other future conditions, including the potential effects of climate change.
2. **Administrative and Technical:** Staff, skills, and tools that can reduce the risk of hazards in the planning area.
3. **Financial:** Potential funding resources to support hazard mitigation. These may be local funds and programs, FEMA or other federal programs, and private and non-profit resources.

A.2.1 Results

The Local Planning Team of each jurisdiction reviewed their 2015 Capability Assessments to examine the ability of their jurisdiction to implement and manage a comprehensive mitigation strategy. The capabilities identified have not changed since 2015 and are available pre- and post-disaster. They can be used as mechanisms to implement the mitigation actions identified in this plan

Table 62: Legal and Regulatory Capability Summary

Capability	Alvarado	Burleson	Cleburne	Godley	Joshua	Keene	Johnson County
Building Code	Y	Y	Y	Y	Y	Y	N
Zoning Ordinance	Y	Y	Y	Y	Y	Y	N
Subdivision Ordinance or regulation	Y	Y	Y	Y	Y	Y	N
Special purpose ordinances (floodplain management, storm water management, hillside or steep slope ordinances wildfire ordinances, hazard setback requirements)	Y	Y	Y	Y	Y	Y	Y
Growth management ordinances (also called "smart growth" or anti-sprawl programs)	N	Y	Y	N	N	N	N
Site Plan review requirements	Y	Y	Y	Y	Y	Y	Y
General or comprehensive plan	Y	Y	Y	Y	Y	Y	Y
A capital improvements plan	Y	Y	Y	Y	Y	Y	Y
An economic development plan	N	Y	Y	Y	Y	Y	Y
An emergency response plan	Y	Y	Y	Y	Y	Y	Y
A post-disaster recovery plan	Y	Y	Y	N	Y	N	N
A post-disaster recovery ordinance	Y	Y	N	N	N	N	N
Real estate disclosure requirements	N	Y	Y	N	N	Y	Y
Other	N	N	N	N	N	N	N

Table 63: Administrative and Technical Capability Summary

Capability	Alvarado	Burleson	Cleburne	Godley	Joshua	Keene	Johnson County
Planner(s) or engineer(s) with knowledge of land development and land management	N	Y	Y	Y	Y	Y	Y
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	N	Y	Y	Y	Y	Y	Y
Planners or engineer(s) with an understanding of natural and/or human caused hazards	N	Y	Y	Y	Y	Y	Y
Floodplain Administrator	Y	Y	Y	Y	Y	Y	Y
Surveyors	N	N	N	N	N	N	N
Staff with education or expertise to assess the community's vulnerability to hazards	Y	Y	Y	Y	Y	Y	Y
Personnel skilled in GIS	N	Y	Y	Y	Y	Y	N
Scientists familiar with the hazards of the community	N	N	N	N	N	N	N
Emergency Manager	Y	Y	Y	Y	Y	Y	Y
Grant writers	N	Y	Y	Y	Y	Y	N

Table 64: Fiscal Capability Summary

Capability	Alvarado	Burleson	Cleburne	Godley	Joshua	Keene	Johnson County
Community Development Block Grants (CDBG)	Y	N	N	Y	N	Y	N
Capital improvements project funding	Y	Y	Y	Y	Y	Y	Y
Authority to levy taxes for specific purposes	Y	Y	Y	Y	Y	Y	Y
Fees for water, sewer, gas, or electric service	Y	Y	Y	Y	N	Y	N
Impact fees for homebuyers or developers for new developments/homes	N	Y	Y	Y	Y	Y	N
Incur debt through general obligation bonds	Y	Y	Y	Y	Y	Y	Y
Incur debt through special tax bonds	Y	Y	Y	N	Y	Y	Y
Incur debt through private activity bonds	Y	Y	N	N	N	N	Y
Withhold spending in hazard-prone areas	Y	N	Y	N	N	N	Y
Other	N	N	N	N	N	N	N

A.2.2 Gaps & Improvements

After completing the assessments, the Local Planning Teams realized that they each have a few gaps in each type of mitigation capability.

To expand on planning and regulatory capabilities and reduce future risks, jurisdictions could budget and pass policies and procedures for mitigation actions, create more land use ordinances, add mitigation strategies to existing plans and create new plans related to hazard mitigation.

To expand on administrative and technical capabilities, approving the hiring and training of staff for mitigation activities, acquiring data-collecting software, and tracking inventory of assets.

To expand on financial capabilities, jurisdictions could use existing funding resources to implement mitigation activities and work with grant writers to apply to grants.

Appendix B: Local Planning Teams

The following tables identify the members of the Local Planning Team (LPT) from each participating jurisdiction.

Table 65: Alvarado Local Planning Team Members

City of Alvarado		
Agency/Organization	Position	Role in LPT
City Council	Mayor	General oversight hazard identification, and plan development
City Manager's Office	City Manager	Hazard identification and plan development
Emergency Management	EM Director	Hazard identification and plan development
City Manager's Office	Asst. City Manager	Hazard identification and plan development
Public Works	Director of Public Works	Hazard identification and plan development
Electrical Services	Electric Supt.	Hazard identification and plan development

Table 66: Burleson Local Planning Team Members

City of Burleson		
Agency/Organization	Position	Role in LPT
City Council	Mayor	General oversight hazard identification, and plan development
Mayor's Office	Public Works Dir.	Hazard identification and plan development
Mayor's Office	Code Enforcement	Hazard identification and plan development
Mayor's Office	Building Insp.	Hazard identification and plan development
Mayor's Office	Street Dept.	Help identify and plan develop with street planning.
Mayor's Office	Animal Control	Hazard Identification and Plan Development

Table 67: Cleburne Local Planning Team Members

City of Cleburne		
Agency/Organization	Position	Role in LPT
Fire Department	EMC	General oversight hazard identification, and plan development
Public Works	Public Works Director	Hazard identification and plan development
Police Department	Code Enforcer	Hazard identification and plan development
Police Department	Police Chief	Hazard identification and plan development
Fire Department	Fire Chief	Help identify and plan development
Engineer	City Engineer	Hazard Identification and Plan Development

Table 68: Godley Local Planning Team Members

City of Godley		
Agency/Organization	Position	Role in LPT
City Admin	City Administrator	General oversight hazard identification, and plan development
Fire Department	Fire Chief	Hazard identification and plan development
Public Works	PW Director	Hazard identification and plan development
Police Department	Police Chief	Hazard identification and plan development
Fire Department	Emergency Manager Coordinator	Hazard identification and plan development

Table 69: Joshua Local Planning Team Members

City of Joshua		
Agency/Organization	Position	Role in LPT
Police Department	Director	General oversight hazard identification, and plan development
City Hall	City Mayor	General oversight hazard identification, and plan development
Fire Department	Chief	Hazard identification and plan development
City Hall	Mayor	Plan development

City of Joshua		
Agency/Organization	Position	Role in LPT
Police Department	Emergency Management Coordinator	General oversight hazard identification, and plan development
Public Works	Director	Hazard identification and plan development

Table 70: Keene Local Planning Team Members

City of Keene		
Agency/Organization	Position	Role in LPT
City Council	Mayor	General oversight hazard identification, and plan development
Fire Department	Fire Chief	General oversight, hazard identification, and plan development
Emergency Management Department	Emergency Management Coordinator	General oversight, hazard identification, and plan development
Fire Department	Code Enforcement Officer	Hazard identification and plan development
City Hall	City Manager	Hazard identification and plan development
Development Services	Flood Plain Administrator	Hazard identification and plan development
Public Works	Public Works Director	Hazard identification and plan development
Police Department	Police Chief	Hazard identification and plan development

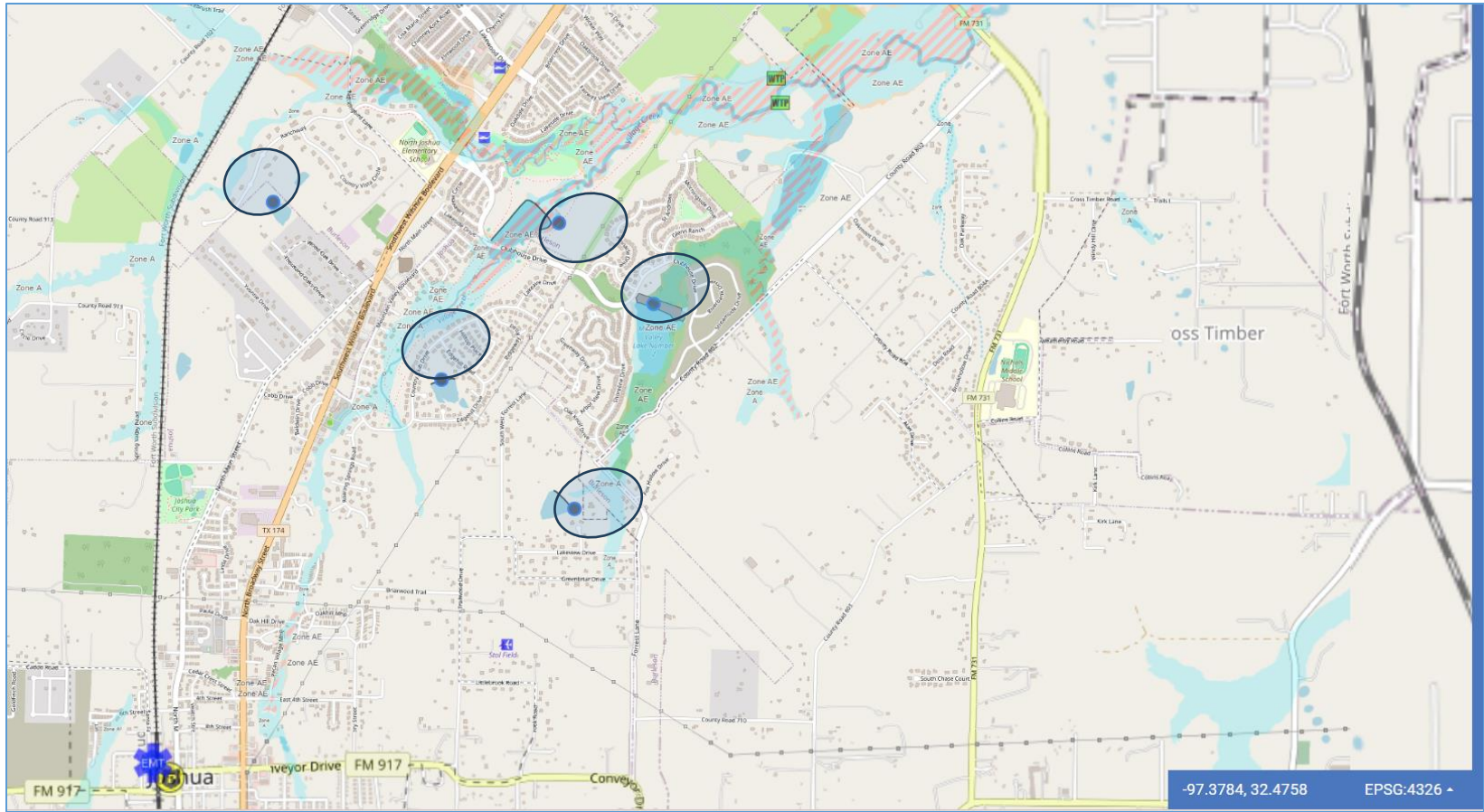
Table 71: Johnson County Local Planning Team Members

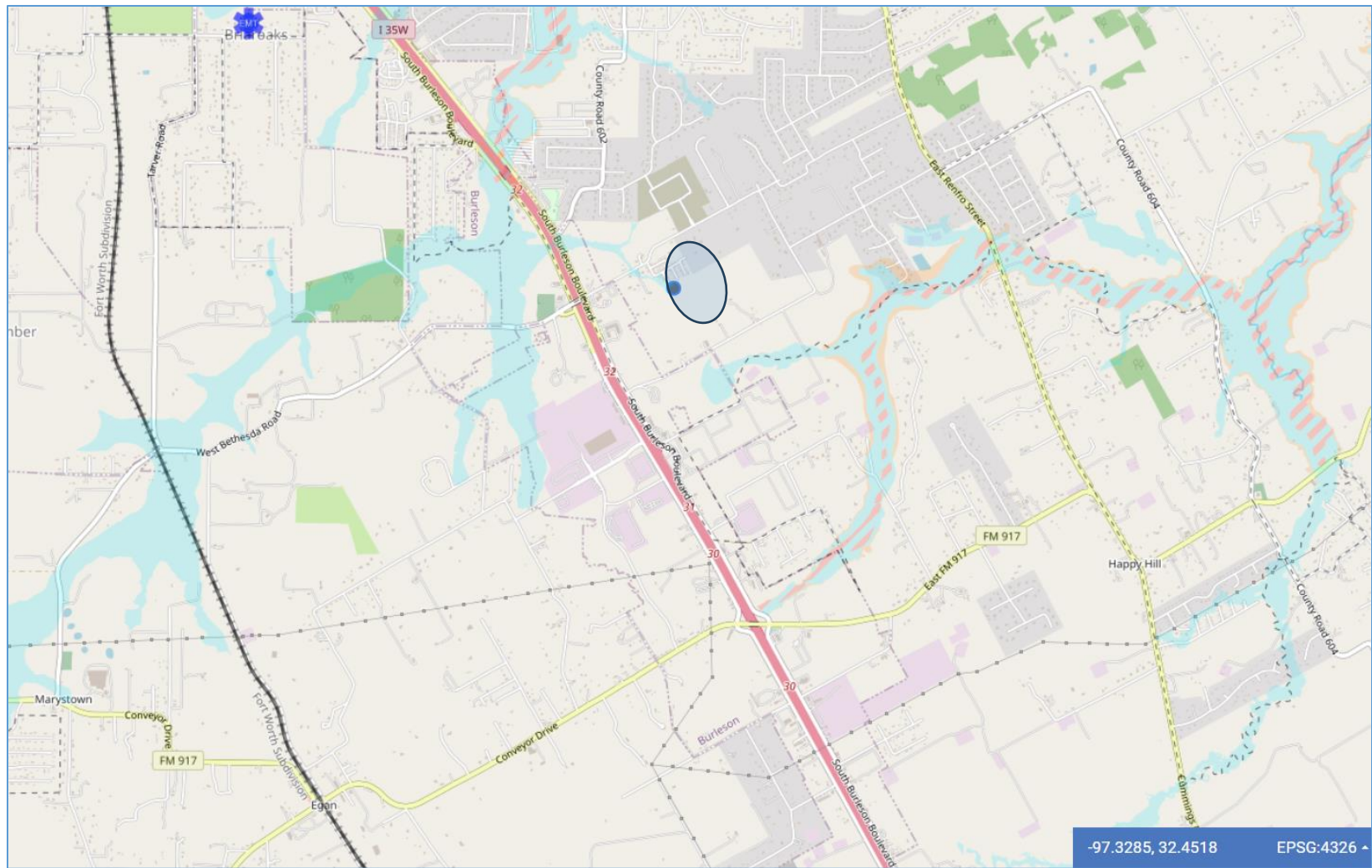
Johnson County Unincorporated		
Agency/Organization	Position	Role in LPT
Emergency Management	EMC	General oversight hazard identification, and plan development
Emergency Management	OEM-Admin	Plan development
Police Department	Director 911 Addressing	Hazard identification and plan development
Public Works	Watershed Ops/Maintenance	Hazard identification and plan development
City Hall	Engineer	Hazard identification and plan development

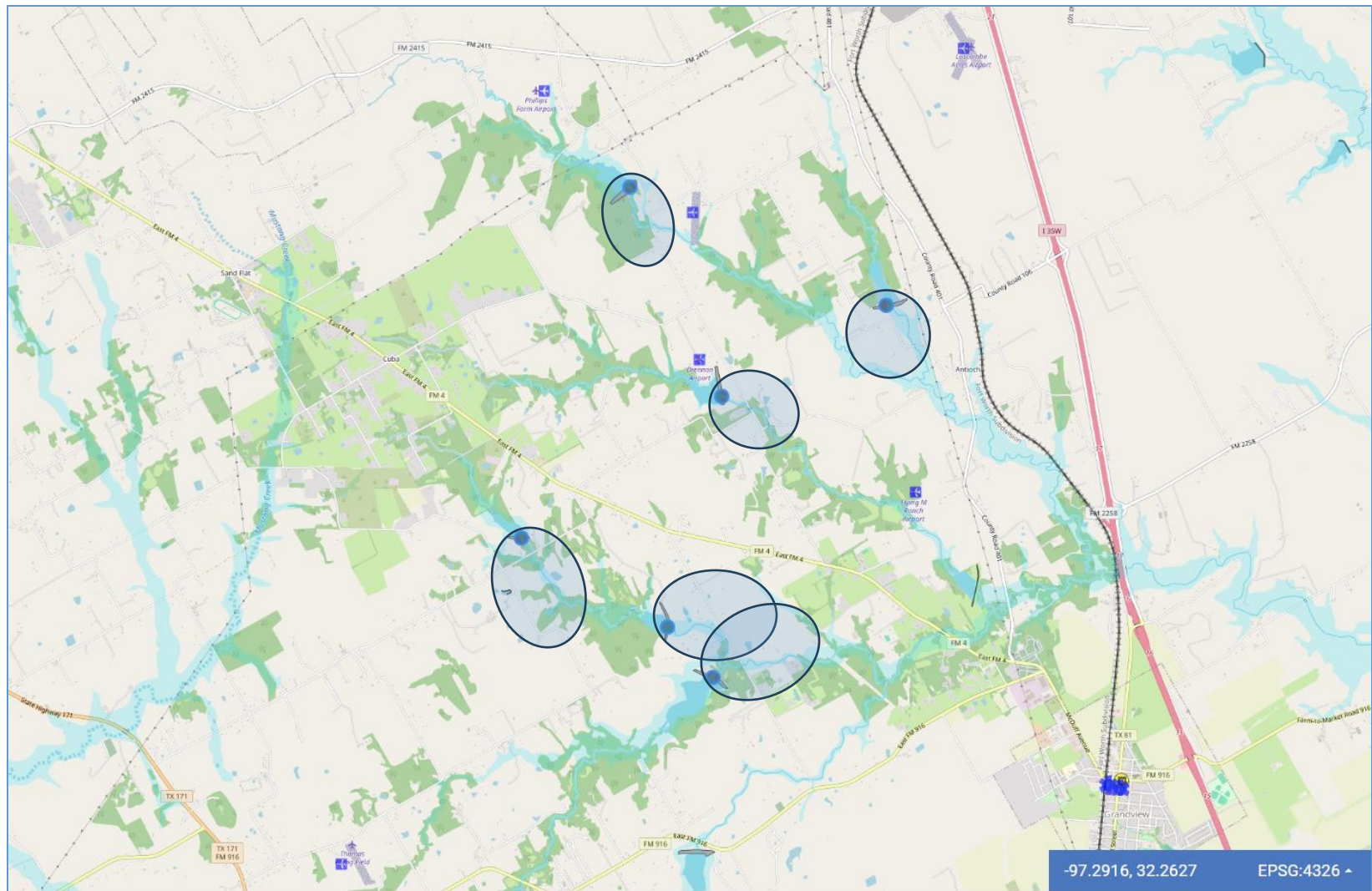
Johnson County Unincorporated		
Agency/Organization	Position	Role in LPT
Public Works	Buildings/Maintenance	Hazard identification and plan development
City Hall	Judge	General oversight hazard identification, and plan development

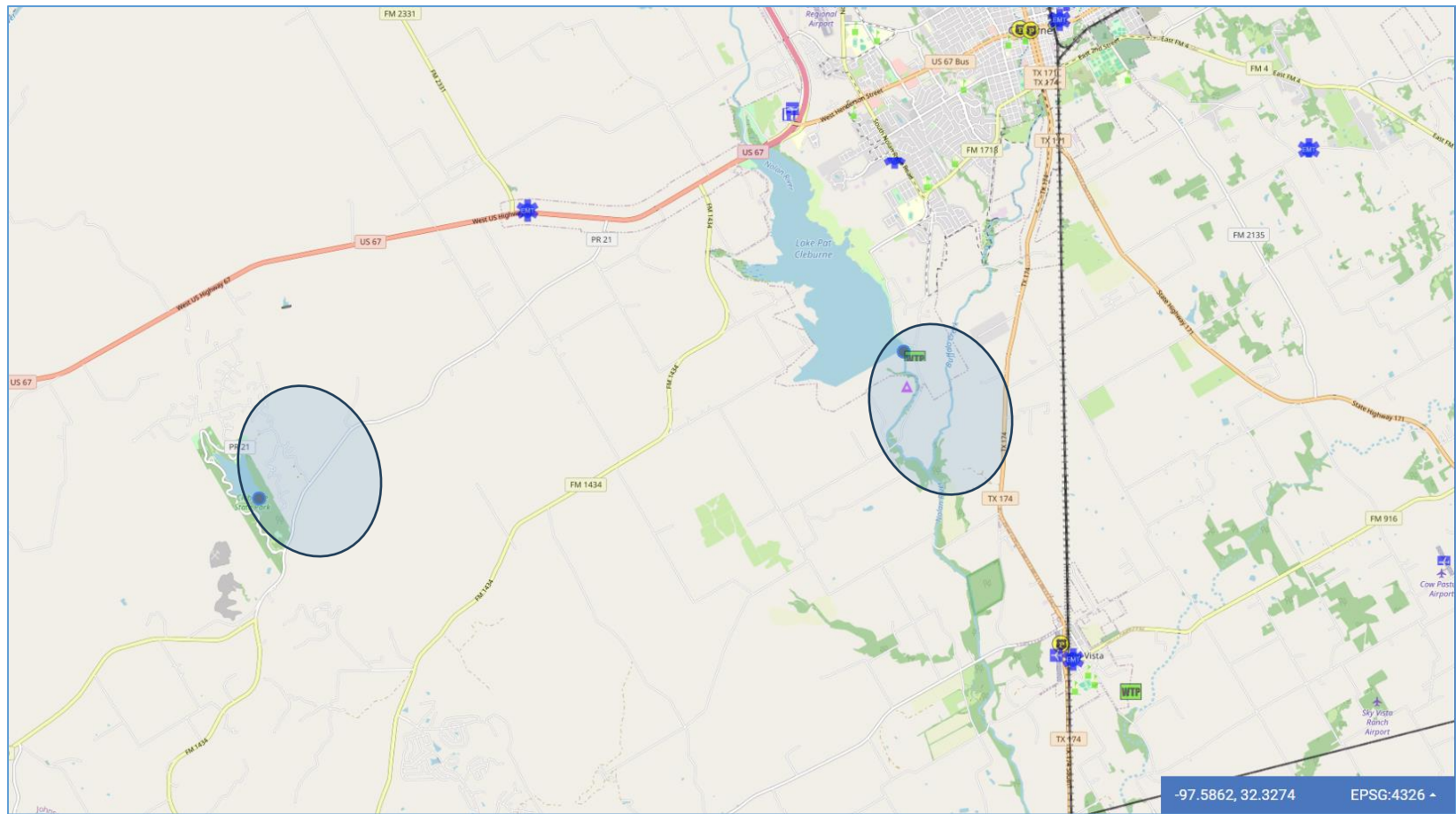
Appendix C: Flood Maps

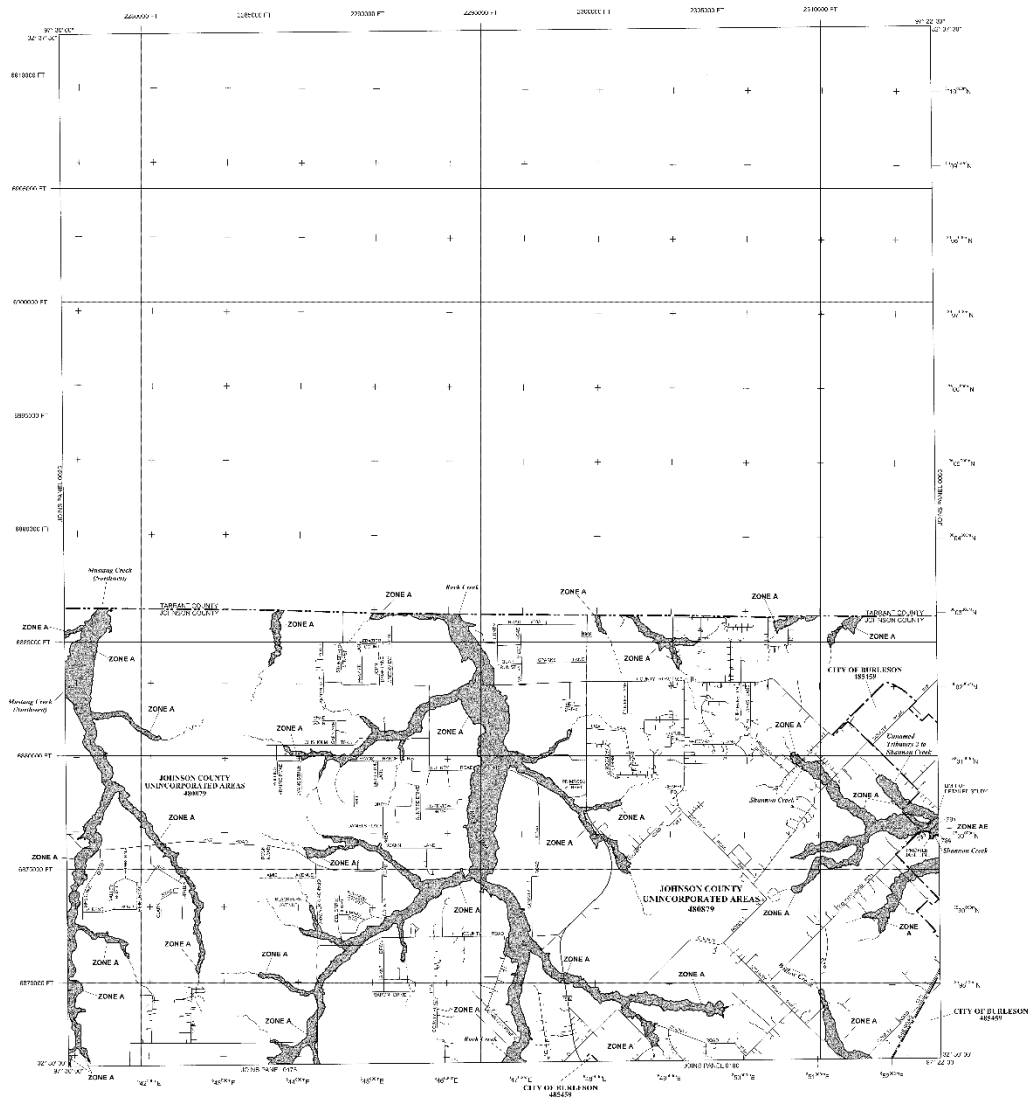
This Appendix includes estimated maps of the HHPD inundation zones and the Flood Insurance Rate Maps (FIRMs).

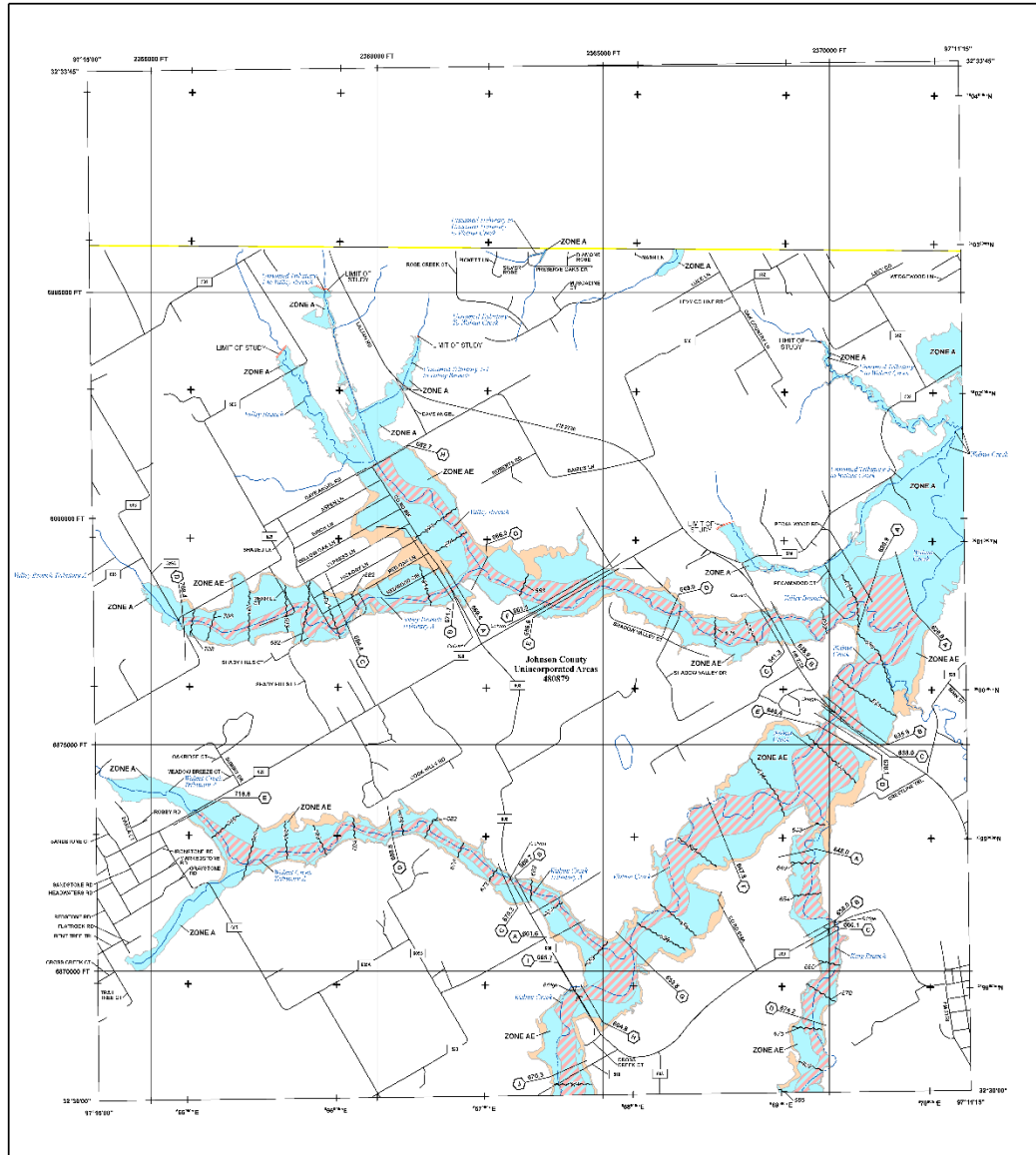


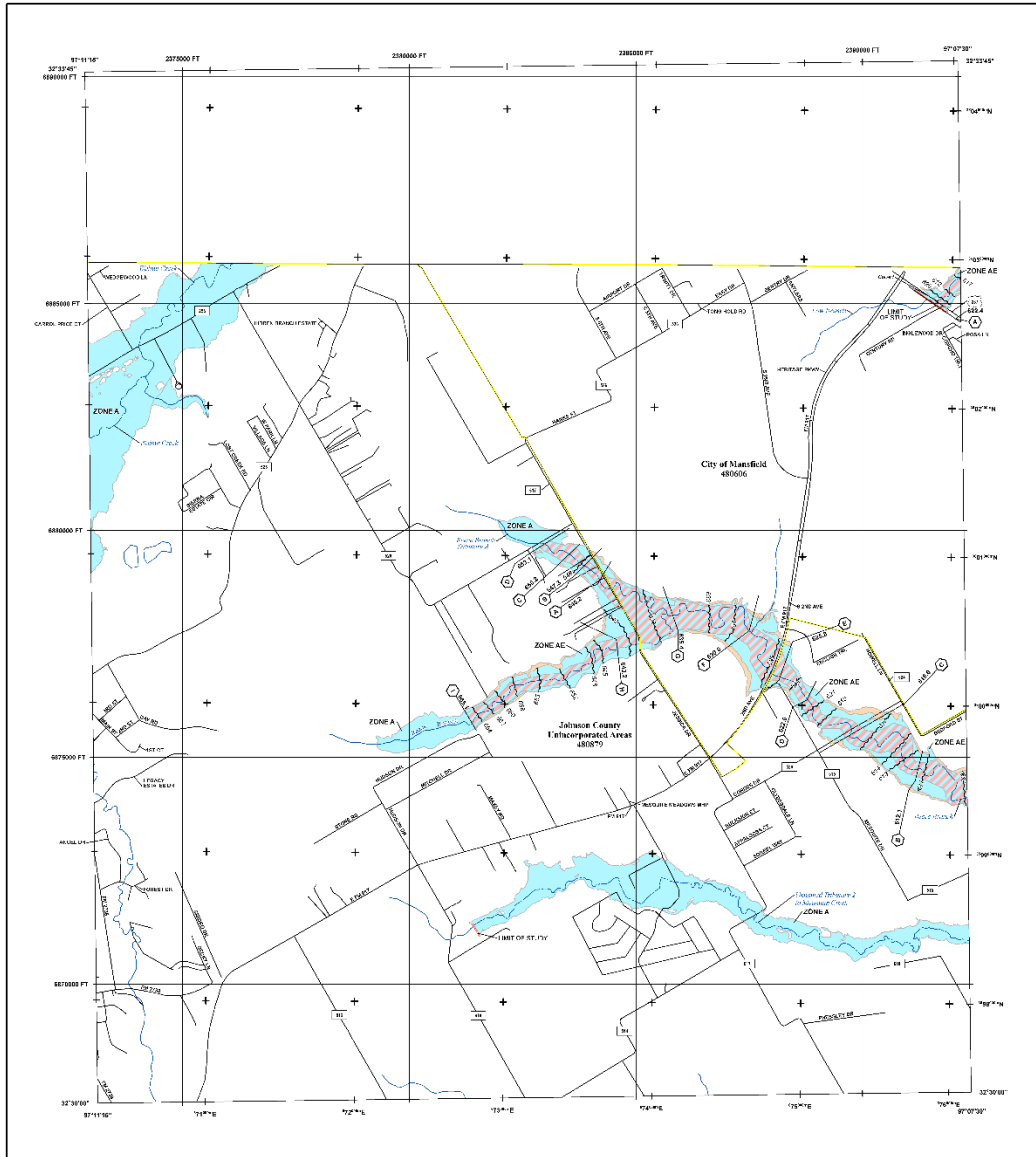






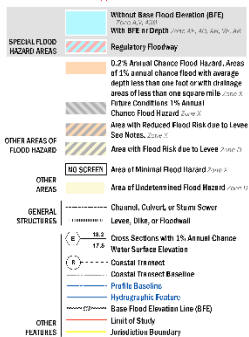
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FLOOD HAZARD INFORMATION

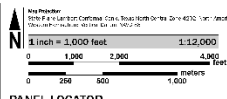
USE TO REPORT FOR REVIEW, LOG-NO, AND INDEX FOR (B)AMMEL LOGS
 THE INFORMATION DEPICTED ON THIS MAP AND REPORTING
 DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTPS://MSC.FEMA.GOV](https://msc.fema.gov)



NOTES TO USERS

The information on this map is based on the best available data at the time of the map's preparation. The information is not intended to be used for any purpose other than the purpose for which it was prepared. The information is not intended to be used for any purpose other than the purpose for which it was prepared. The information is not intended to be used for any purpose other than the purpose for which it was prepared.

SCALE



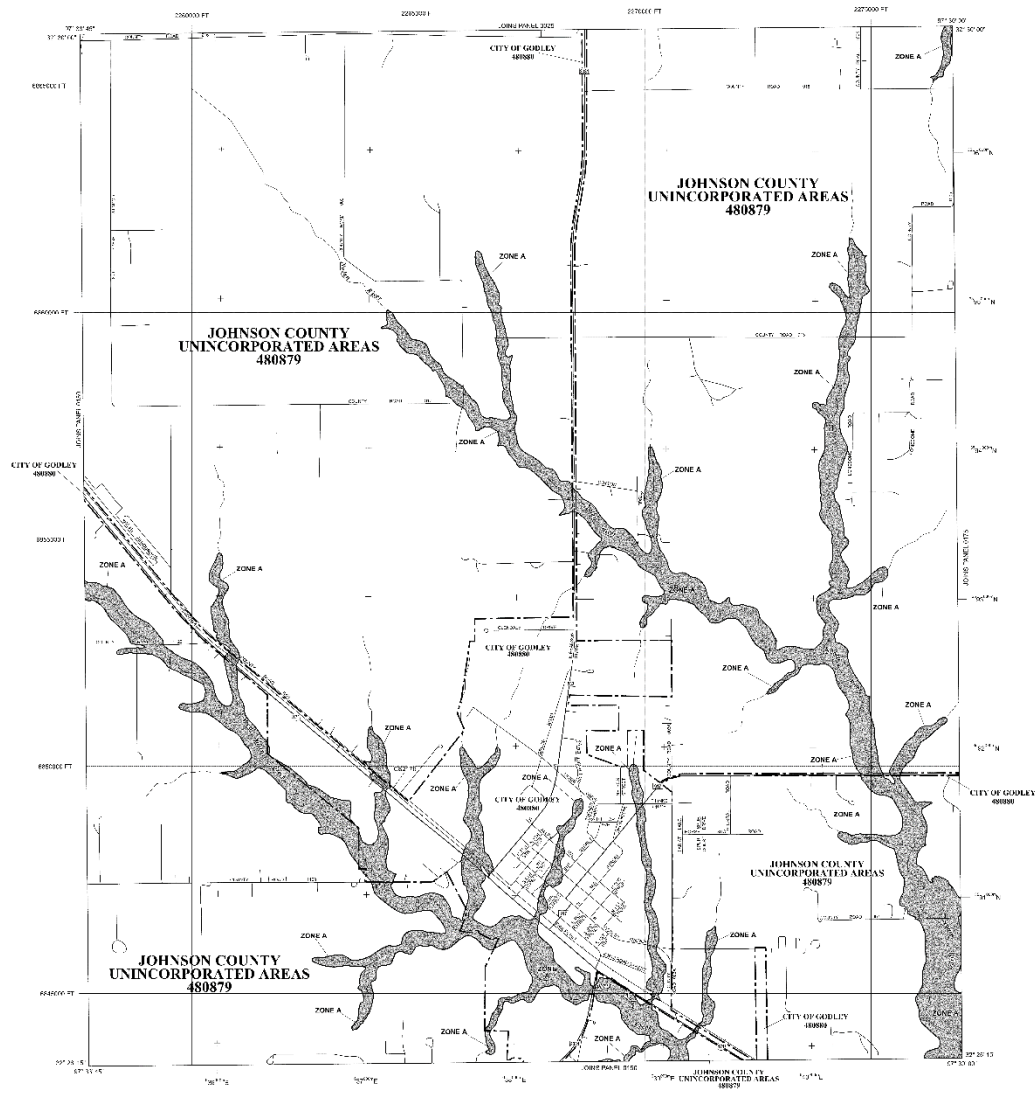
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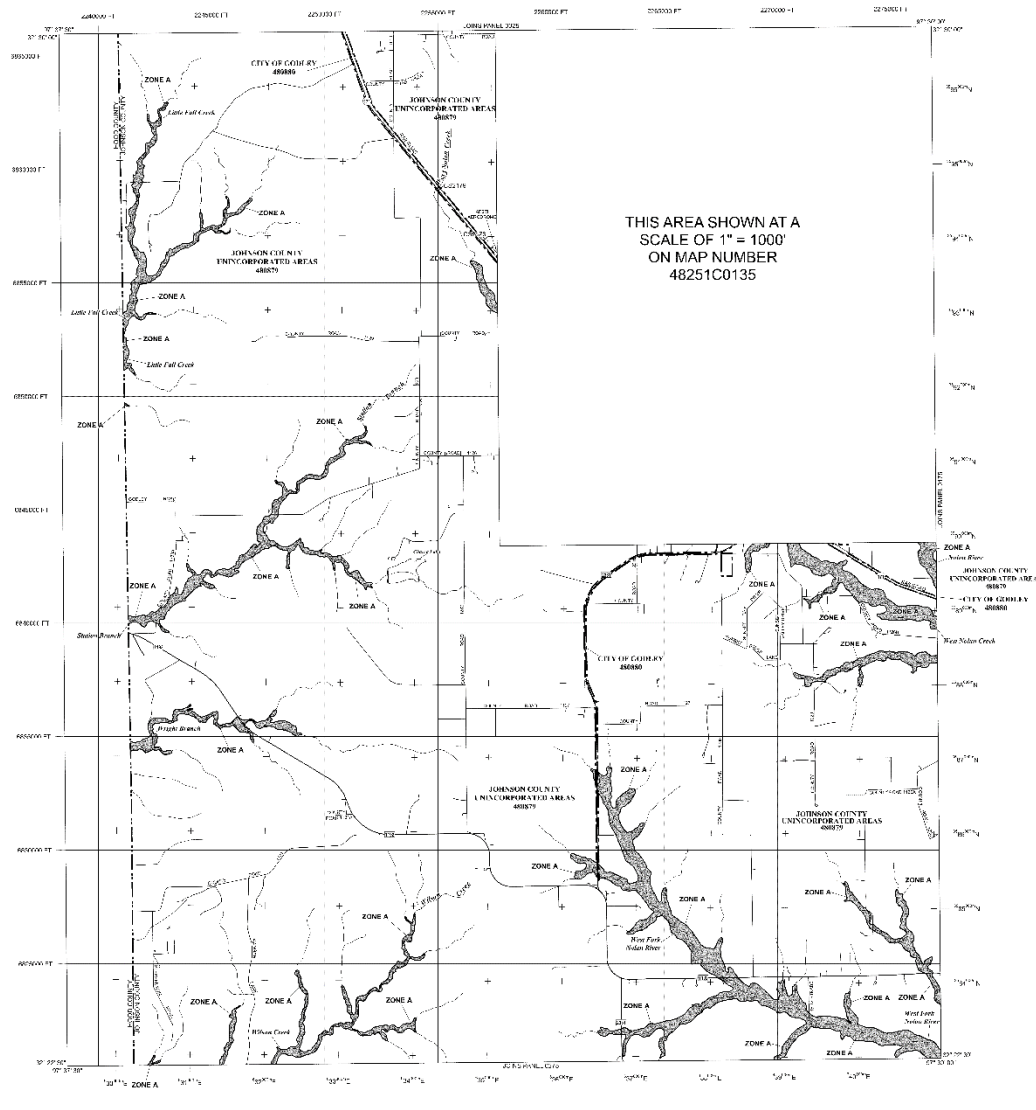


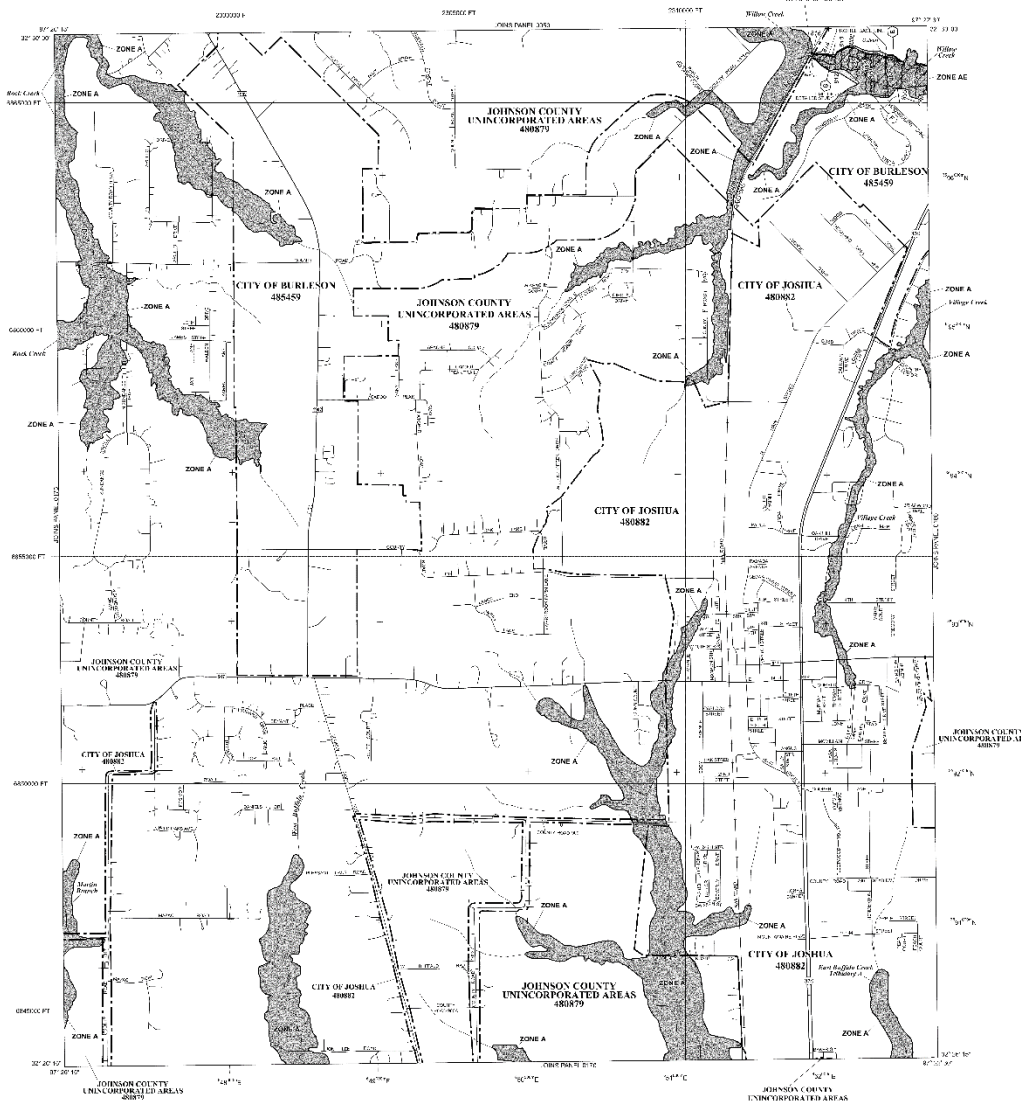
NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP
 JOHNSON COUNTY,
 TEXAS
 PANEL 95 of 475

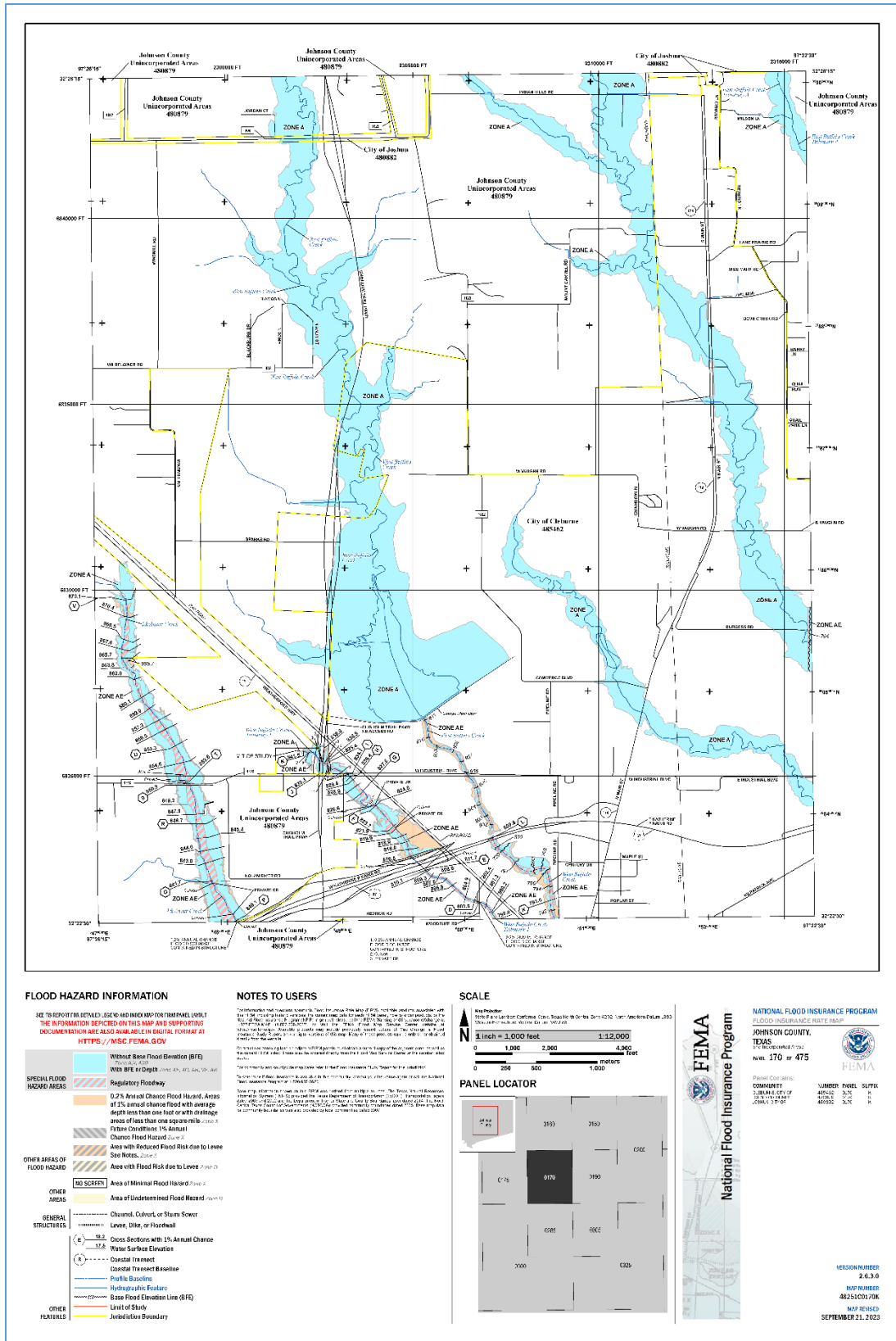
Community: 48066
 Panel: 95 of 475

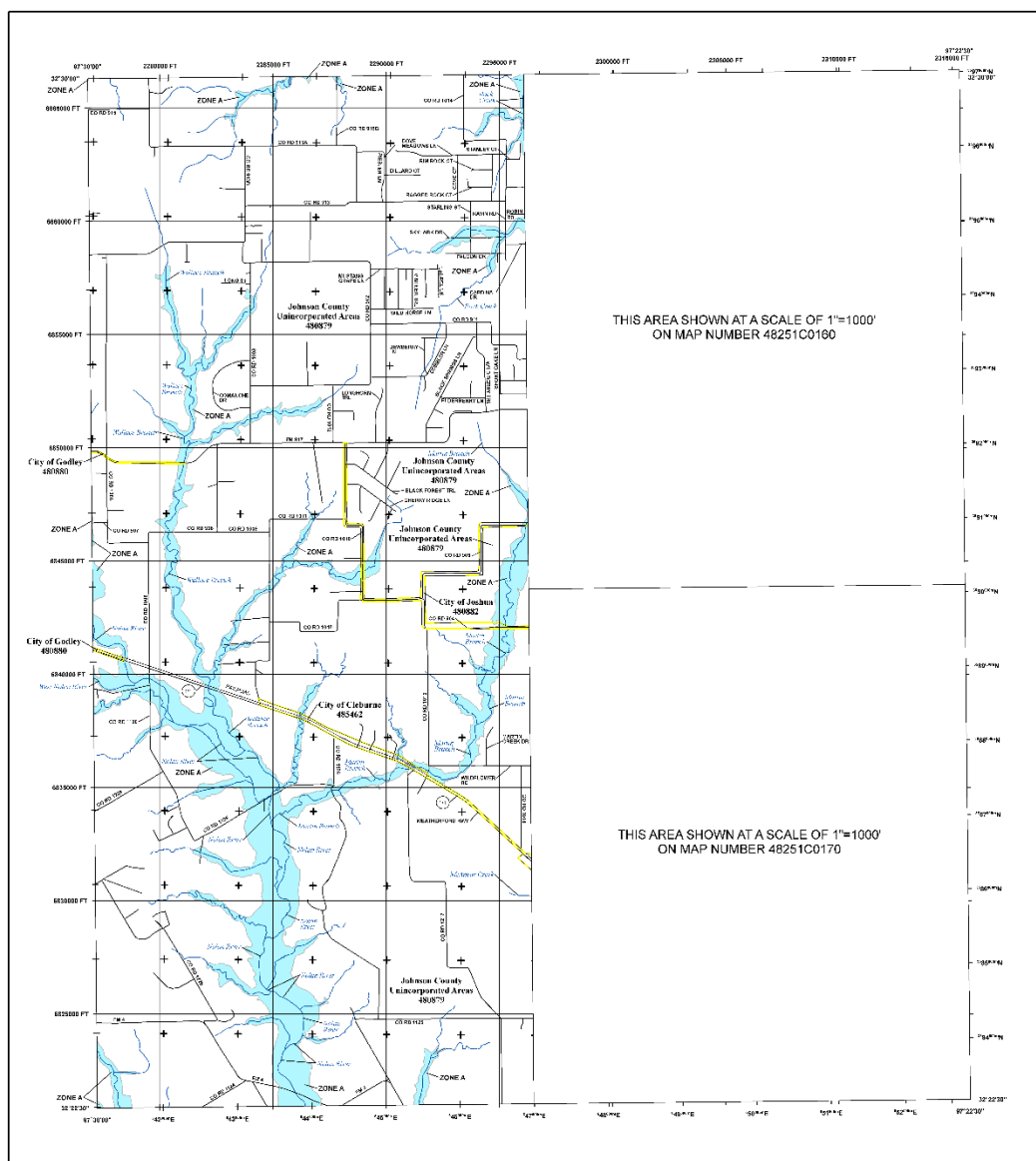
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 MAP NUMBER
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 MAP REVISION
 SEPTEMBER 21, 2023

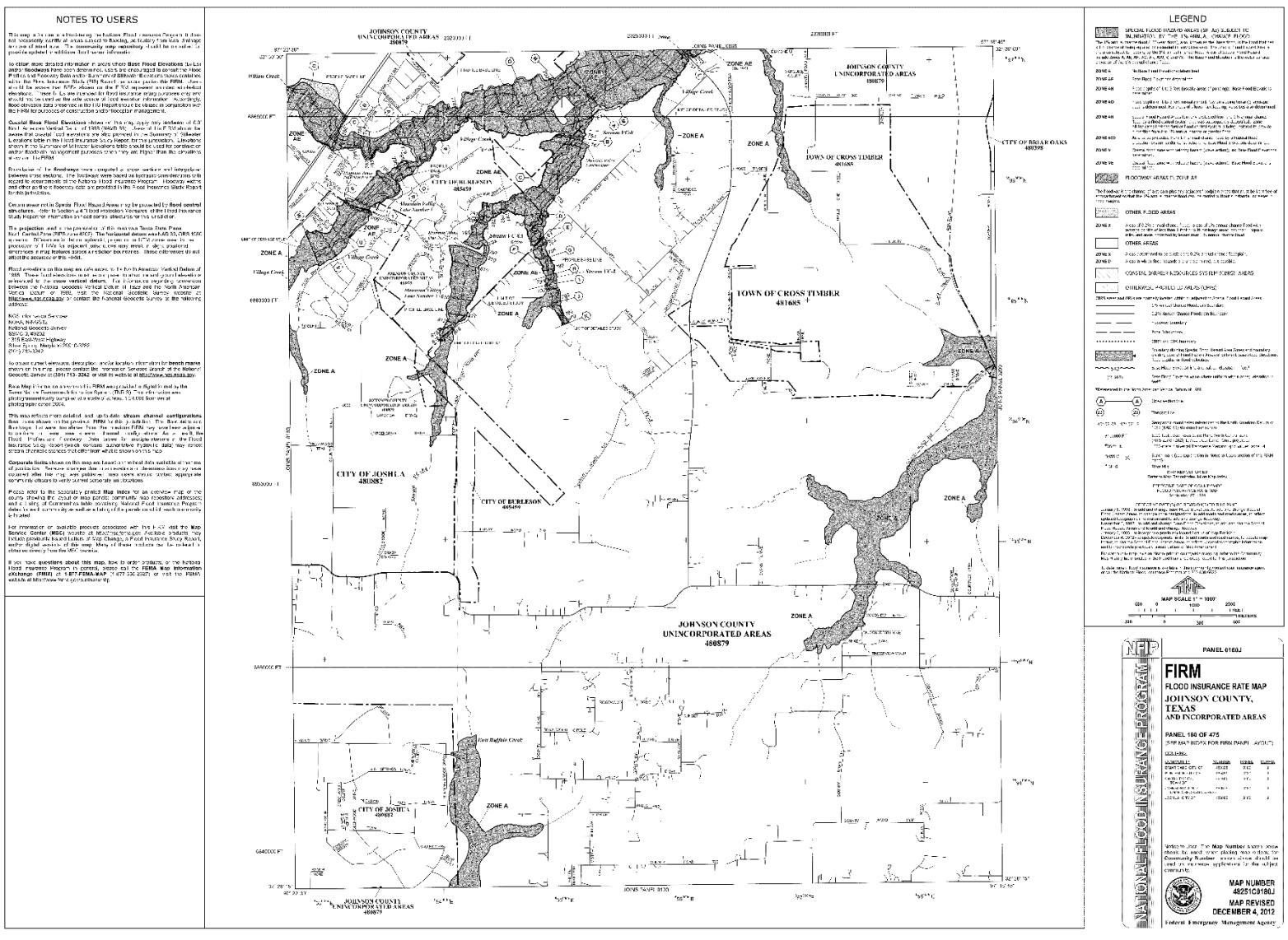
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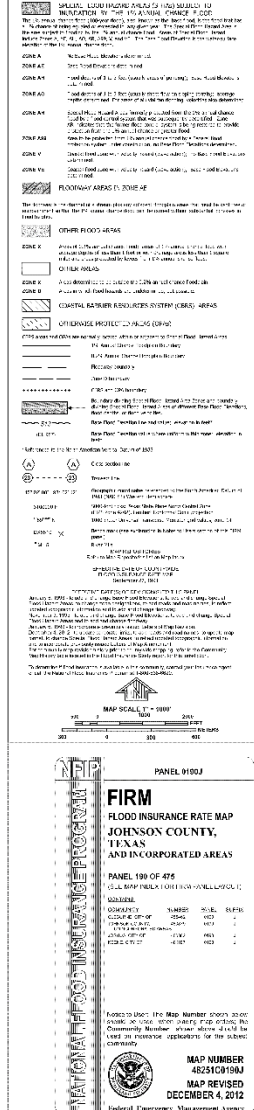
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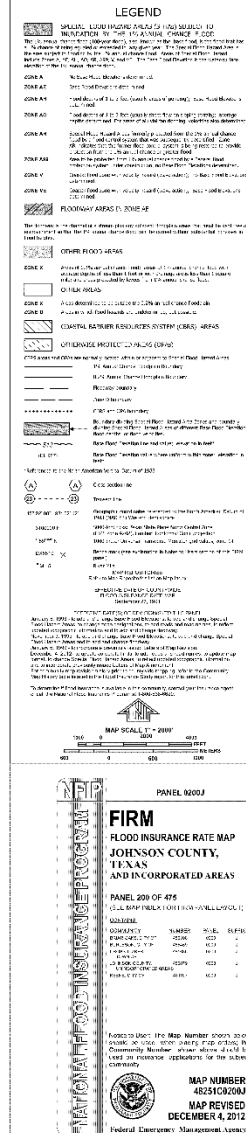


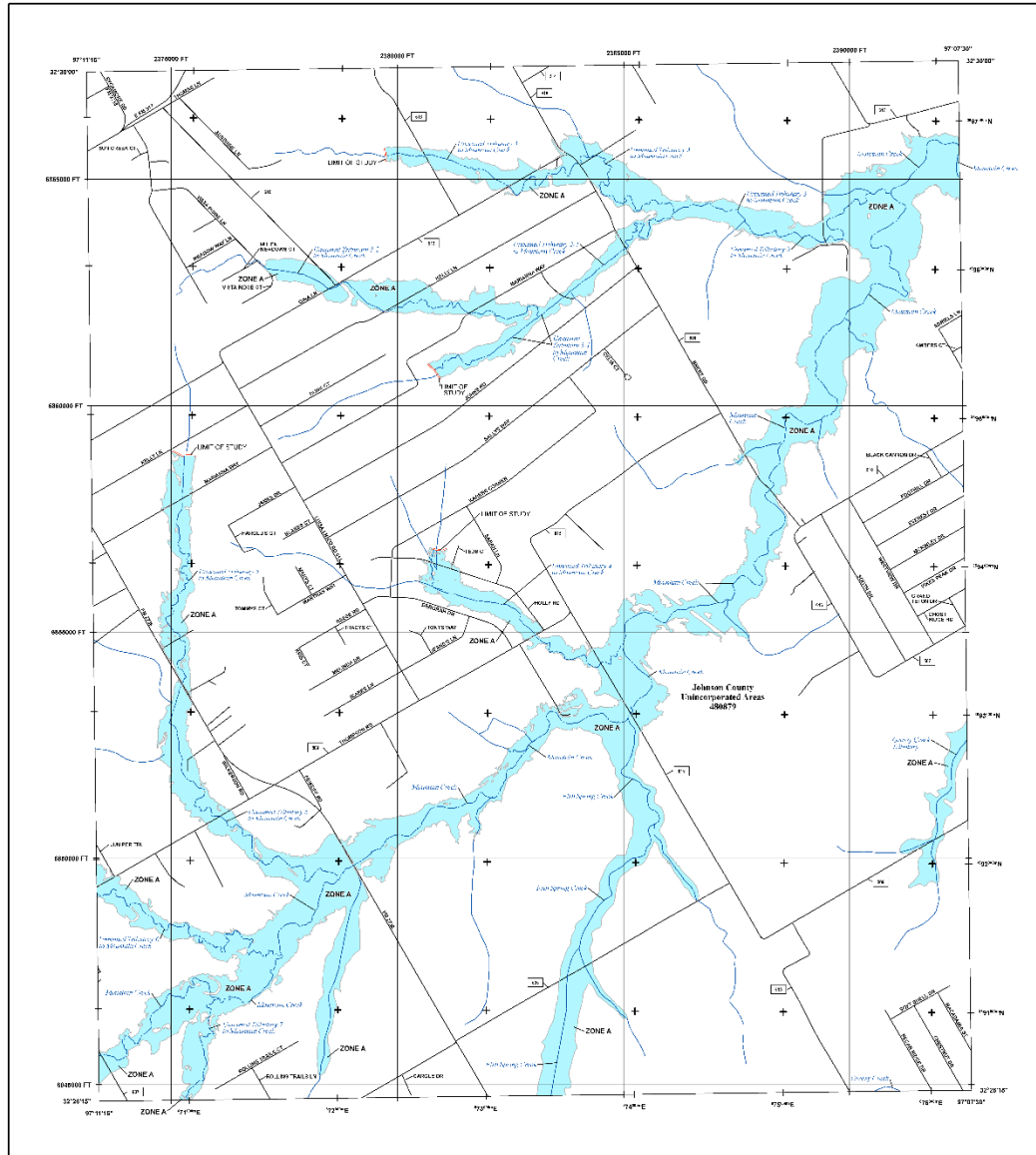


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SCALE OF 1" = 1000'
ON MAP NUMBER
48251C0190





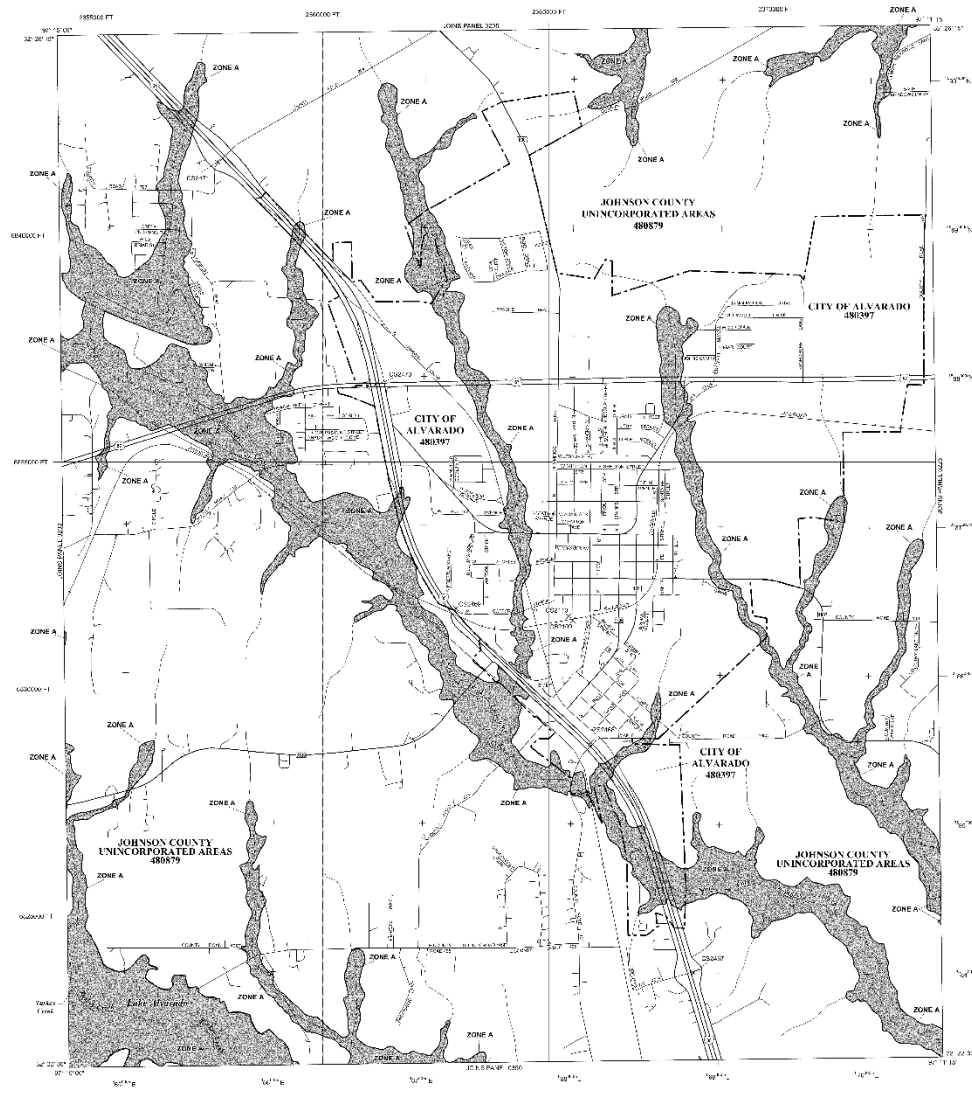
NOTES TO USERS

This map is a Flood Insurance Rate Map (FIRM) for Johnson County, Texas. It shows the flood insurance risk areas for the county and its incorporated areas. The map is based on the Flood Insurance Risk Assessment (FIRA) conducted by the Federal Emergency Management Agency (FEMA) in 2012. The map is intended to be used by property owners, lenders, and insurance companies to determine the flood insurance risk for a particular property. The map is not intended to be used for any other purpose.

The map is divided into several zones, each with a different flood insurance risk level. The zones are labeled as follows:

- Zone A: Moderate Flood Hazard
- Zone B: Moderate Flood Hazard
- Zone C: Moderate Flood Hazard
- Zone D: Moderate Flood Hazard
- Zone E: Moderate Flood Hazard
- Zone F: Moderate Flood Hazard
- Zone G: Moderate Flood Hazard
- Zone H: Moderate Flood Hazard
- Zone I: Moderate Flood Hazard
- Zone J: Moderate Flood Hazard
- Zone K: Moderate Flood Hazard
- Zone L: Moderate Flood Hazard
- Zone M: Moderate Flood Hazard
- Zone N: Moderate Flood Hazard
- Zone O: Moderate Flood Hazard
- Zone P: Moderate Flood Hazard
- Zone Q: Moderate Flood Hazard
- Zone R: Moderate Flood Hazard
- Zone S: Moderate Flood Hazard
- Zone T: Moderate Flood Hazard
- Zone U: Moderate Flood Hazard
- Zone V: Moderate Flood Hazard
- Zone W: Moderate Flood Hazard
- Zone X: Moderate Flood Hazard
- Zone Y: Moderate Flood Hazard
- Zone Z: Moderate Flood Hazard

The map is intended to be used by property owners, lenders, and insurance companies to determine the flood insurance risk for a particular property. The map is not intended to be used for any other purpose.



LEGEND

LEGEND

SYMBOLS:

- Zone A:** Moderate Flood Hazard
- Zone B:** Moderate Flood Hazard
- Zone C:** Moderate Flood Hazard
- Zone D:** Moderate Flood Hazard
- Zone E:** Moderate Flood Hazard
- Zone F:** Moderate Flood Hazard
- Zone G:** Moderate Flood Hazard
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- Zone P:** Moderate Flood Hazard
- Zone Q:** Moderate Flood Hazard
- Zone R:** Moderate Flood Hazard
- Zone S:** Moderate Flood Hazard
- Zone T:** Moderate Flood Hazard
- Zone U:** Moderate Flood Hazard
- Zone V:** Moderate Flood Hazard
- Zone W:** Moderate Flood Hazard
- Zone X:** Moderate Flood Hazard
- Zone Y:** Moderate Flood Hazard
- Zone Z:** Moderate Flood Hazard

Other Symbols:

- City of Alvarado:** 480397
- City of Johnson County:** 480879
- Other Symbols:** (List of other symbols and their meanings)

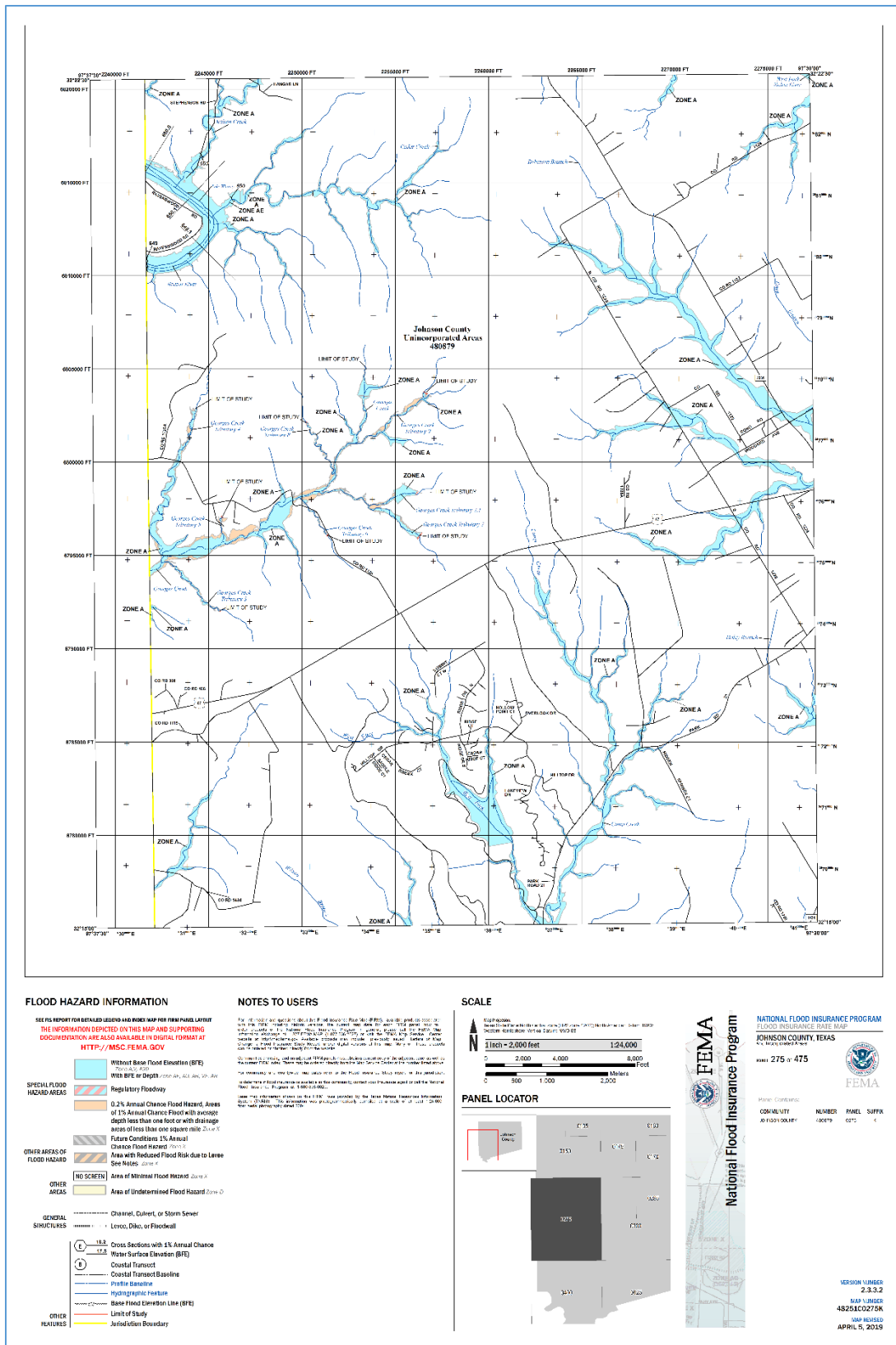
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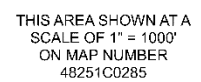
1 inch = 1 mile

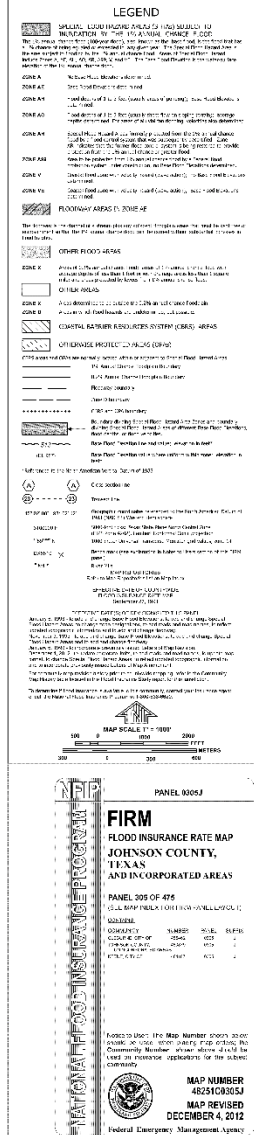
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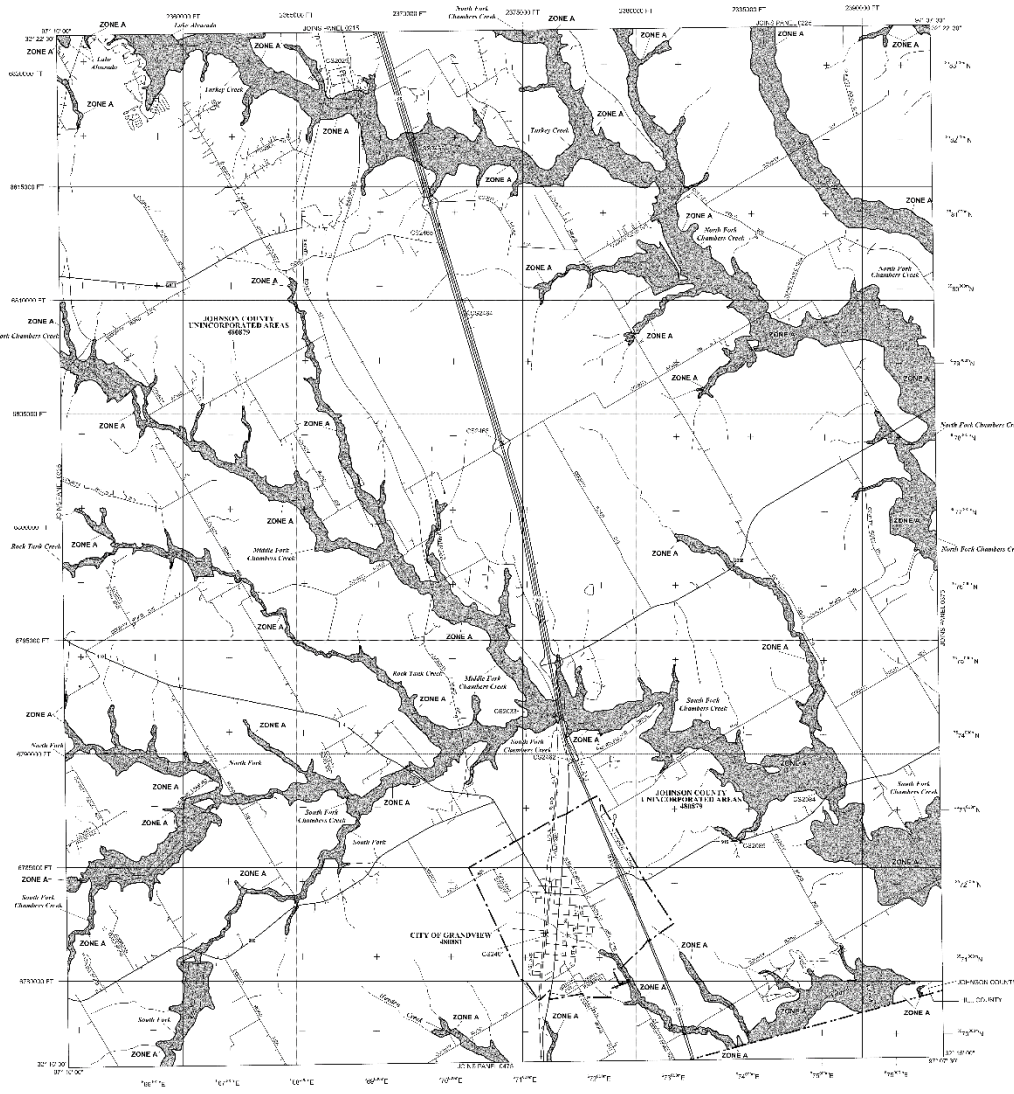
Map Revised: December 4, 2012

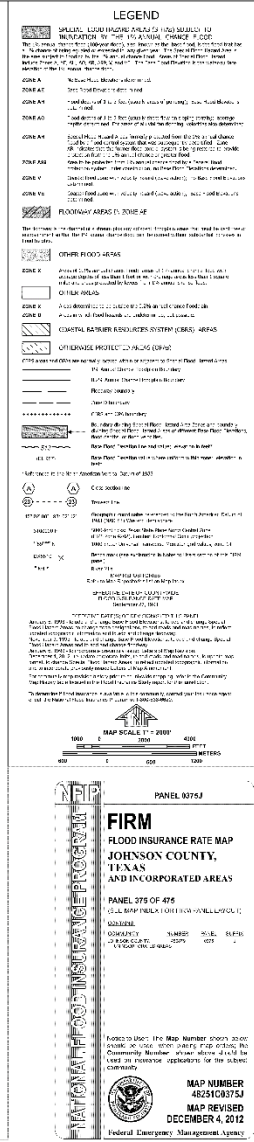
Federal Emergency Management Agency

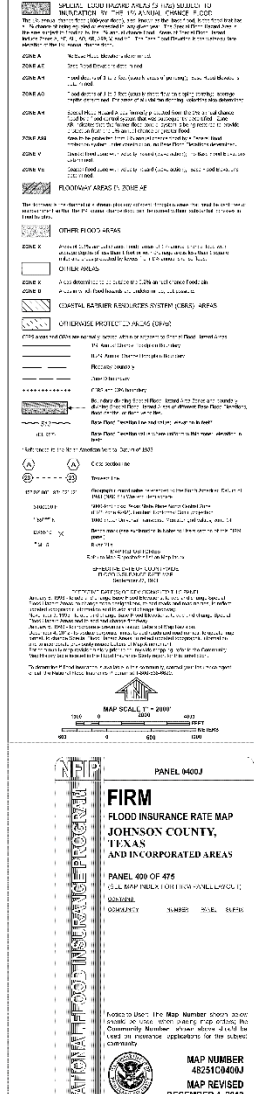


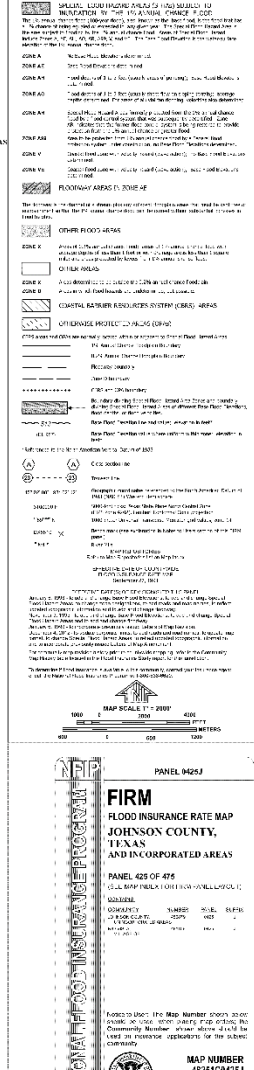
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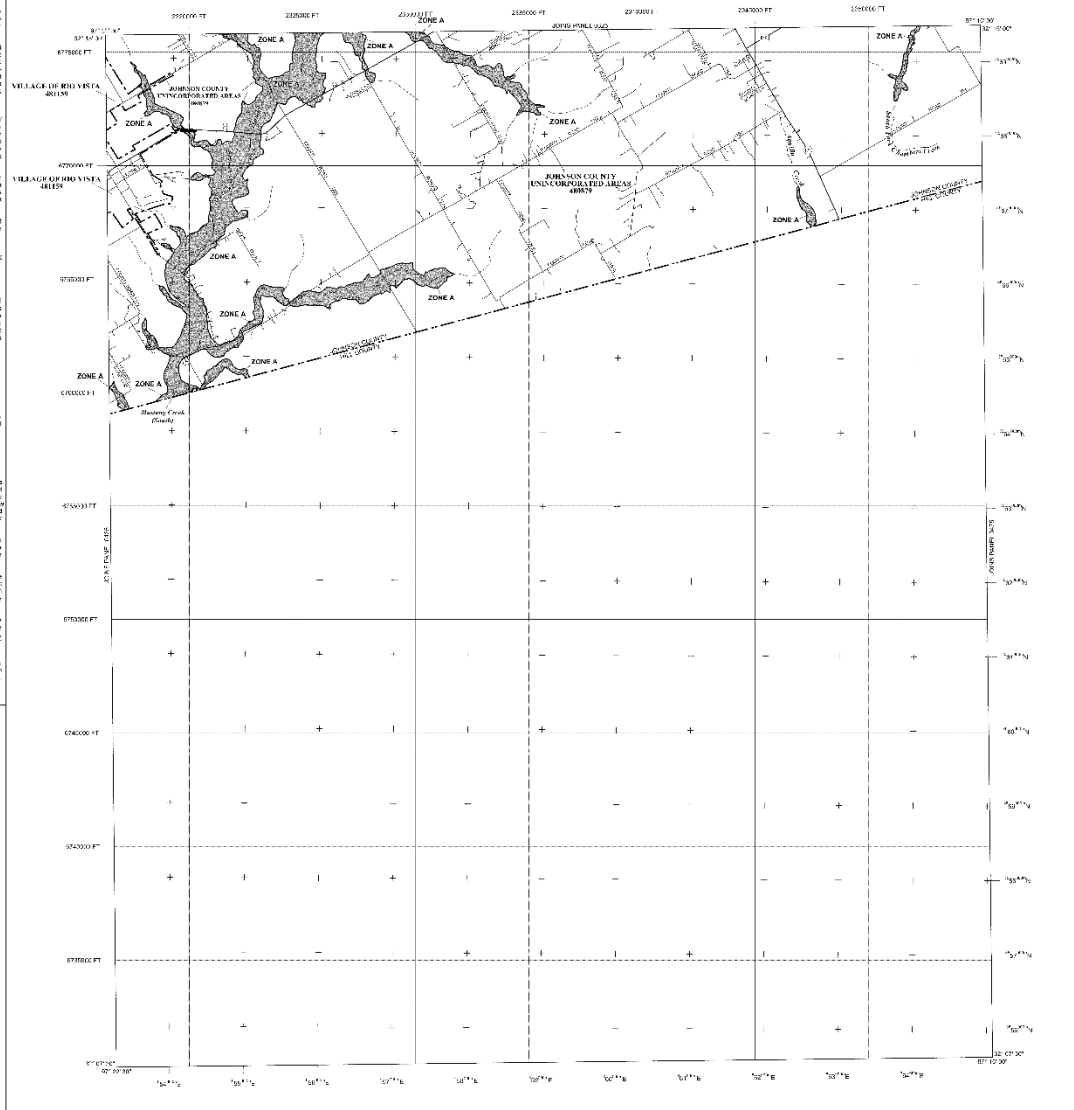
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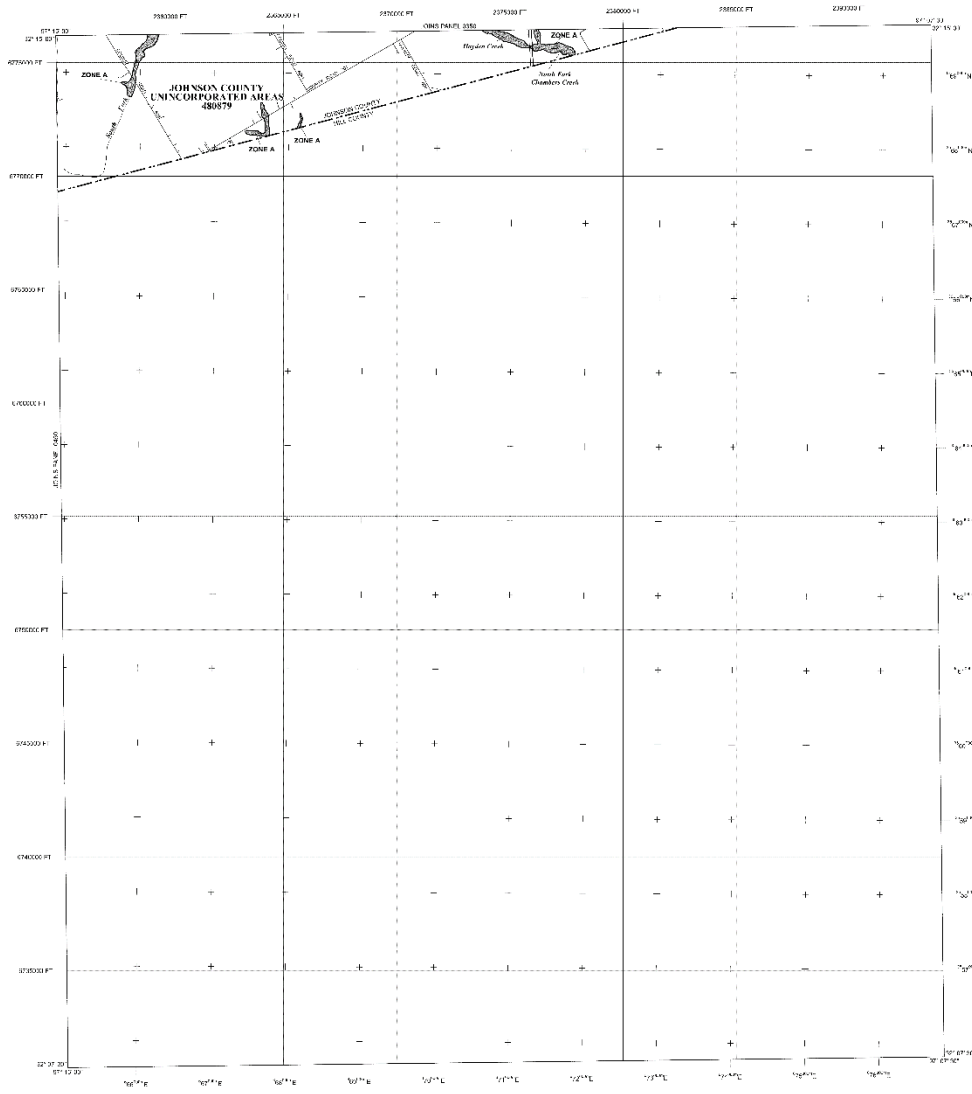
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Appendix D: Adoption

A copy of the FEMA approval letter and the adoption resolutions from all participating jurisdictions are provided in this appendix.

{Placeholder for FEMA Approval Letter}

{Placeholder for Alvarado Adoption Resolution}

{Placeholder for Burleson Adoption Resolution}

{Placeholder for Cleburne Adoption Resolution}

{Placeholder for Godley Adoption Resolution}

{Placeholder for Joshua Adoption Resolution}

{Placeholder for Keene Adoption Resolution}

{Placeholder for Johnson County Adoption Resolution}

**CITY OF ALVARADO, TEXAS
RESOLUTION NO. R2024-0011**

A RESOLUTION OF THE **CITY OF ALVARADO** ADOPTING THE 2024 JOHNSON COUNTY HAZARD MITIGATION PLAN

WHEREAS the City of Alvarado recognizes the threat that natural hazards pose to people and property within Johnson County; and

WHEREAS Johnson County has prepared a multi-jurisdictional, multi-hazard mitigation plan, hereby known as the 2024 Johnson County Hazard Mitigation Plan in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the 2024 Johnson County Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **City of Alvarado** from the impacts of future hazards and disasters; and

WHEREAS the plan is not legally binding and mitigation actions identified can be implemented as funding and capabilities allow; and

WHEREAS adoption by **the City of Alvarado** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the 2024 Johnson County Hazard Mitigation Plan.

NOW THEREFORE, BE IT RESOLVED BY THE **CITY OF ALVARADO, TEXAS**, THAT:

Section 1. In accordance with **Section 4.12 (b) of the City of Alvarado Charter**, the **City of Alvarado** adopts the 2024 Johnson County Hazard Mitigation Plan.

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this 17th day of June, 2024.

By: _____ Jacob Wheat, Mayor

ATTEST:

By: _____ Beth A. Walls, City Secretary

APPROVED AS TO FORM:

By: _____ Ashley Dierker, Attorney



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Donielle Suber, Administrative Services Director

Phone: 817-790-3351, ext. 116

AGENDA ITEM:

Presentation on Christmas-In-Action Revitalization Non-Profit Organization, by Sherri Hamilton, Christmas-In-Action Board of Directors Member.

BACKGROUND & FINDINGS:

The Christmas-In-Action (CIA) revitalization non-profit organization was established in 1999, to help seniors and disabled persons, with repairs and rehabilitation projects, in the greater Cleburne area. There are few programs available to help seniors and disabled persons, living on fixed incomes, with projects such as exterior home repairs, roofing, wheel chair ramps, electrical, plumbing, and HVAC systems, along with interior projects, because such government programs are primarily focused on low-income persons and young families.

Currently, CIA works with Alvarado residents, on a case-by-case basis, but CIA would like to expand their footprint of assistance provided, in Alvarado, by partnering with the City of Alvarado.

FINANCIAL IMPACT:

N/A

RECOMMENDATION:

N/A

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

Christmas-In-Action Brochure

COMMUNITY WORK DAYS

Held twice annually in the fall and spring, our Community Work Days brings together local businesses, civic organizations, individuals, and churches through the donation of funds, volunteers, or skilled services. People of all ages and skill levels are welcome. Volunteer teams are also welcome to choose their project and work days.

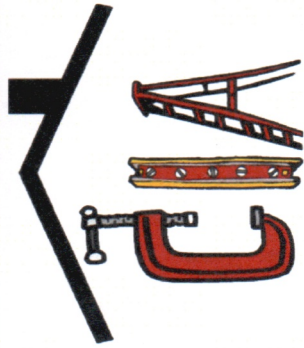


SAFE AT HOME

Safe at Home is our year-round program that provides minor repairs to homes such as wheelchair ramps, grab bars, handicap showers, window unit air conditioners, and more that enable the elderly or disabled to live safely.



OUR SUPPORTERS



CHRISTMAS IN ACTION



VOLUNTEER . DONATE . APPLY

Christmas in Action
PO Box 983, Cleburne, Texas 76033
817-774-2022 | info@ChristmasInAction.net

WWW.CHRISTMASINACTION.NET

HOPE PROGRAM

The City of Cleburne and Christmas in Action (CIA) are proud to partner for the Helping Others Prosper Everyday (HOPE) Community Revitalization Program. The City is assisting CIA to do more of what it does best: help Cleburne residents keep their owner-occupied homes in an orderly and safe condition. Residents who are unable to meet city property maintenance codes—either financially or physically—are eligible to receive services from CIA volunteers.

CIA can perform a variety of repairs including exterior work, roofing, wheel chair ramps, electrical, plumbing, HVAC, and interior jobs.



HOW TO HELP

Join our board of directors We are volunteers who want to make a difference in our community. If you'd like to volunteer your time, bring your lunch and join us for a board meeting: noon, First Wednesday of each month at our warehouse, 220 S. Ridgeway in Cleburne.

Monetary donations Donate via our website or mail a check to Christmas in Action, PO Box 983, Cleburne, TX 76033. Christmas in Action is a 501(c)(3) charitable organization, so your donation is tax deductible. 100% of your dollars stay in Johnson County.

Donate skilled labor Every electrician, plumber, or other skilled tradesman who donates his/her time to one of our projects allows us to help more homeowners. To volunteer, contact us at 817-774-2022 or email info@christmasinaction.net.

Volunteer Don't have construction skills? We need volunteers to paint houses, clean up yards, and assist the skilled workers. There's lots of work that doesn't require special skills, and children are welcome!

AmazonSmile When you shop at smile.amazon.com, Amazon will donate a portion of the purchase price to your favorite charity. <http://smile.amazon.com/ch/75-2874372>

Sponsor a project Provide a House Captain & team of volunteers and take on the repairs for one of our CIA applicants. Christmas in Action will also provide at least one Project Coordinator who will walk alongside you throughout the project. CIA will provide building supplies and materials.

APPLY FOR ASSISTANCE

Applications are available online to print or call 817-774-2022 to have an application mailed.

Completed applications must be mailed with required documentation or emailed to info@christmasinaction.net. The board will consider your application and a representative will make contact if/when repairs can be scheduled.

Christmas in Action performs most of its projects during the spring and fall. Applications are accepted throughout the year.

Safe At Home is Christmas in Action's Emergency Repair team. These repairs are performed year around but are limited to approximately \$500 per project. Emergency repairs include gas leaks, electrical hazards, wheelchair ramps, heat and air issues, and accessibility issues. Repairs due to storm damage may also be done by the Safe At Home Team. Applications are received throughout the year for emergency repairs for our Safe At Home Team.

For your application to be considered:

1. You must own and reside in your home. Christmas in Action does not make repairs on rental property.
2. The home may not be a mobile home (No work except wheelchair ramps will be performed on mobile homes)
3. You must be considered low-income elderly (over 60), disabled, or low-income families with children, and veterans.
4. You must have home owners insurance coverage.
5. All property taxes must be current.



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Paul DeBuff

AGENDA ITEM: Consideration and action to approve changes to the Master Fee Schedule.

BACKGROUND AND FINDINGS:

The various user fees charged by the City of Alvarado to inspect development infrastructure, process applications have not been updated in a considerable amount of time. Staff finds that the current fees are dated and out of alignment with competitor cities.

In addition, H.B. 3492 (approved by the Texas State Legislature in June 2023) requires that cities may no longer consider the cost of constructing or improving infrastructure for a development in determining the amount of the fee to review and inspect the improvements; instead, the fees must reflect the estimated cost of the city to perform and deliver these services. Therefore, the City commissioned a study by Willdan Financial Services to determine the reasonable full cost of delivering these services.

Recommendation

Staff recommends the City Council approve this action to update changes to the Master Fee Schedule.

FINANCIAL IMPACT

N/A

MANAGEMENT REVIEW: Paul DeBuff, City Manager

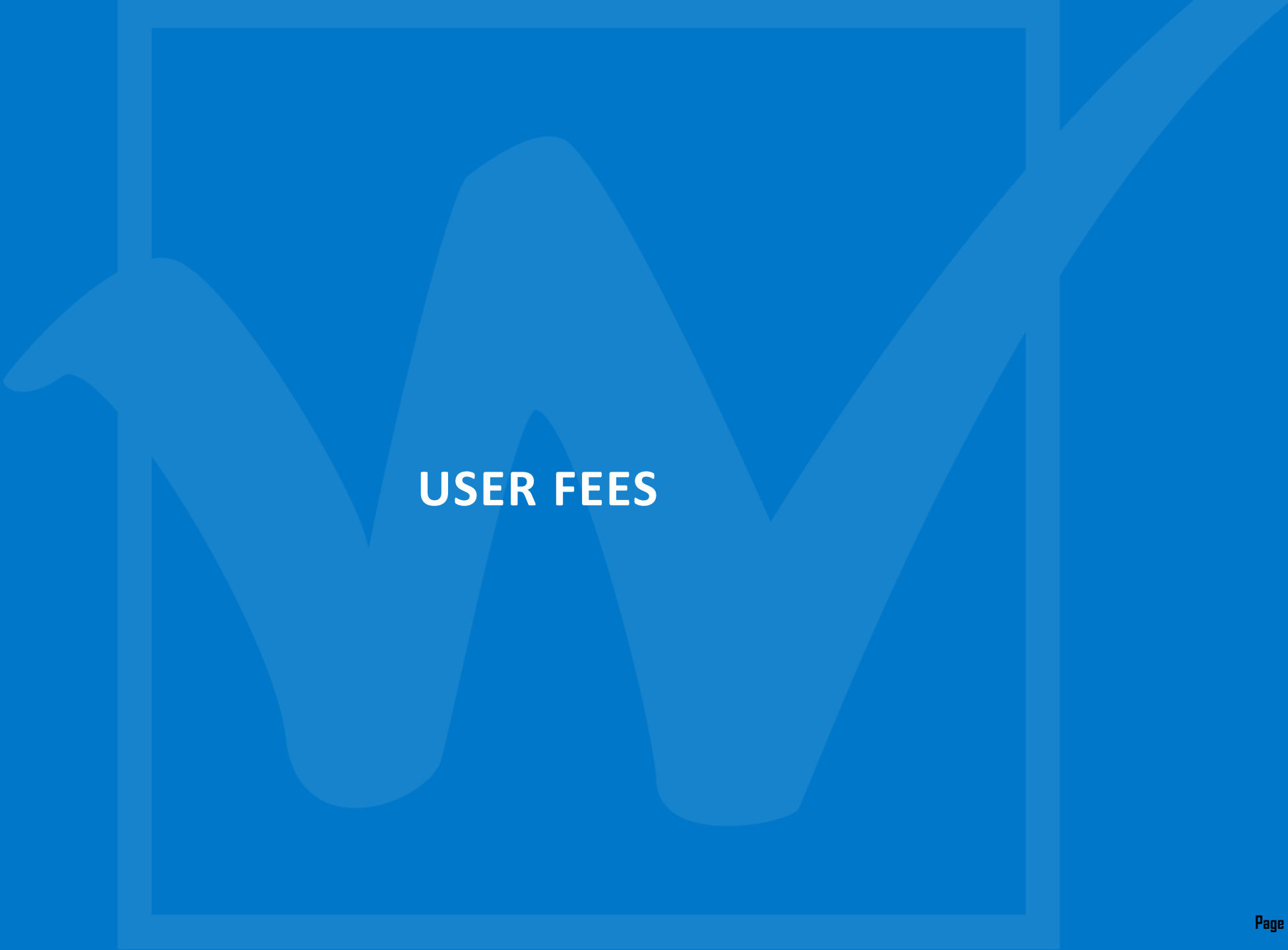
ATTACHMENTS:

User Fee Study Presentation (Willdan Financial Services)

Site Development User Fees

June 2024





USER FEES

USER FEE BACKGROUND



- **User Fees** fund programs and services that provide a specific benefit to individuals or groups requesting them, with limited or no benefit to the community as a whole
- Site development review, infrastructure permitting, and inspection fees have traditionally been set as a percentage of improvement values
- **H.B. 3492 (approved in June 2023)** requires that a cities may no longer consider the cost of constructing or improving infrastructure for a development in determining the amount of the fee to review and inspect the improvements

**The City must
change the fees
to match the
estimated cost
to perform and
deliver these
services**



USER FEE STUDY



- Primary objective of a **User Fee Study** is to determine the “reasonable” full cost of providing services
- Each fee or service’s cost is calculated individually
- Develop **fully burdened hourly rates** for personnel
 - Salary & Benefit cost divided by productive hours
 - Layer on direct and indirect overhead as applicable to the position’s department and services provided

**Up to 100% of
the full cost
may be
recovered**



USER FEE BACKGROUND



Willdan has used the following to determine full cost of providing each service:

Department
Budgets & Cost
Data

Salary & benefit
information

Staffing structures

Productive hours

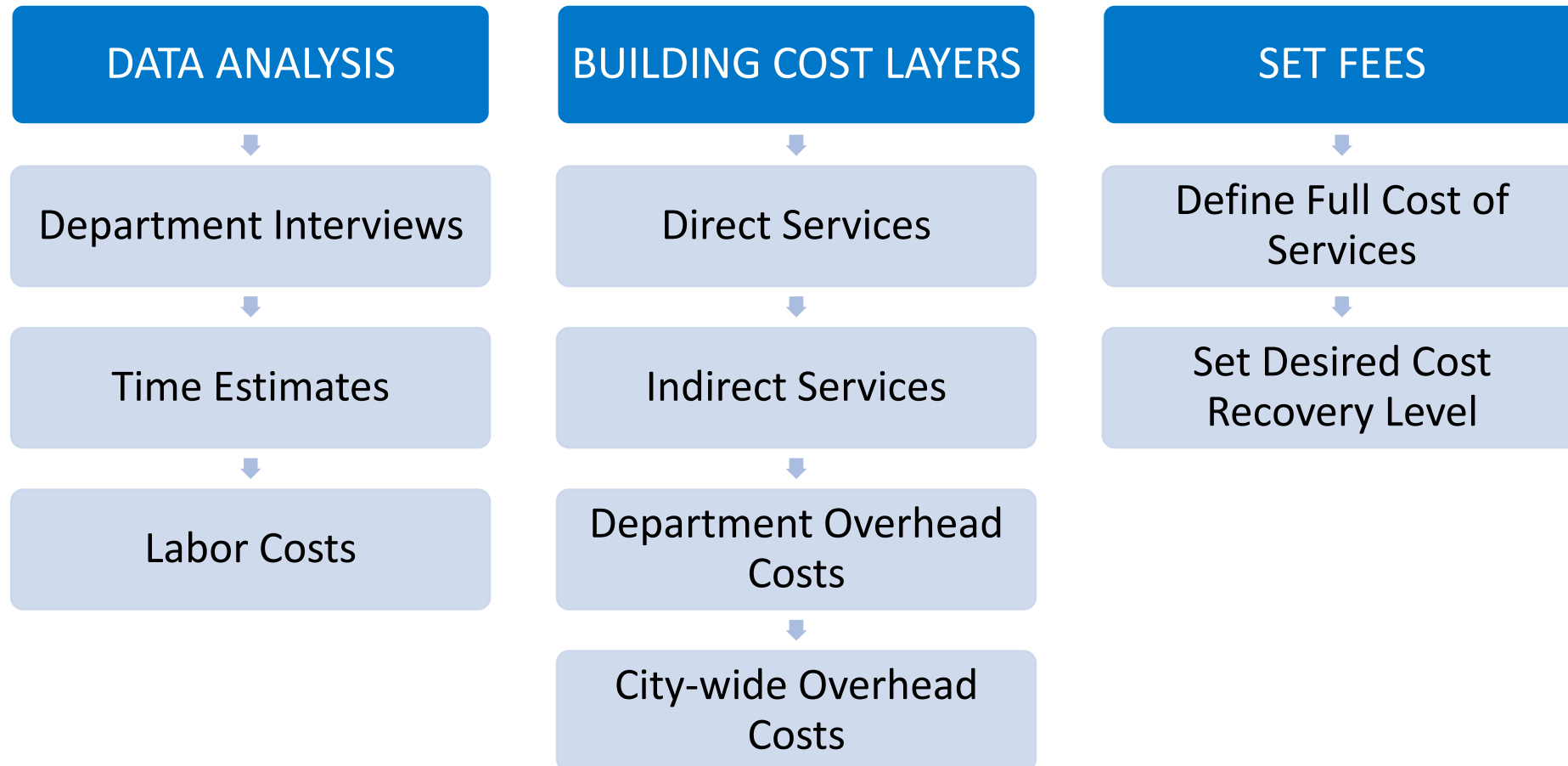
Time estimates
per program/fee

Activity level &
revenue for each
program or service

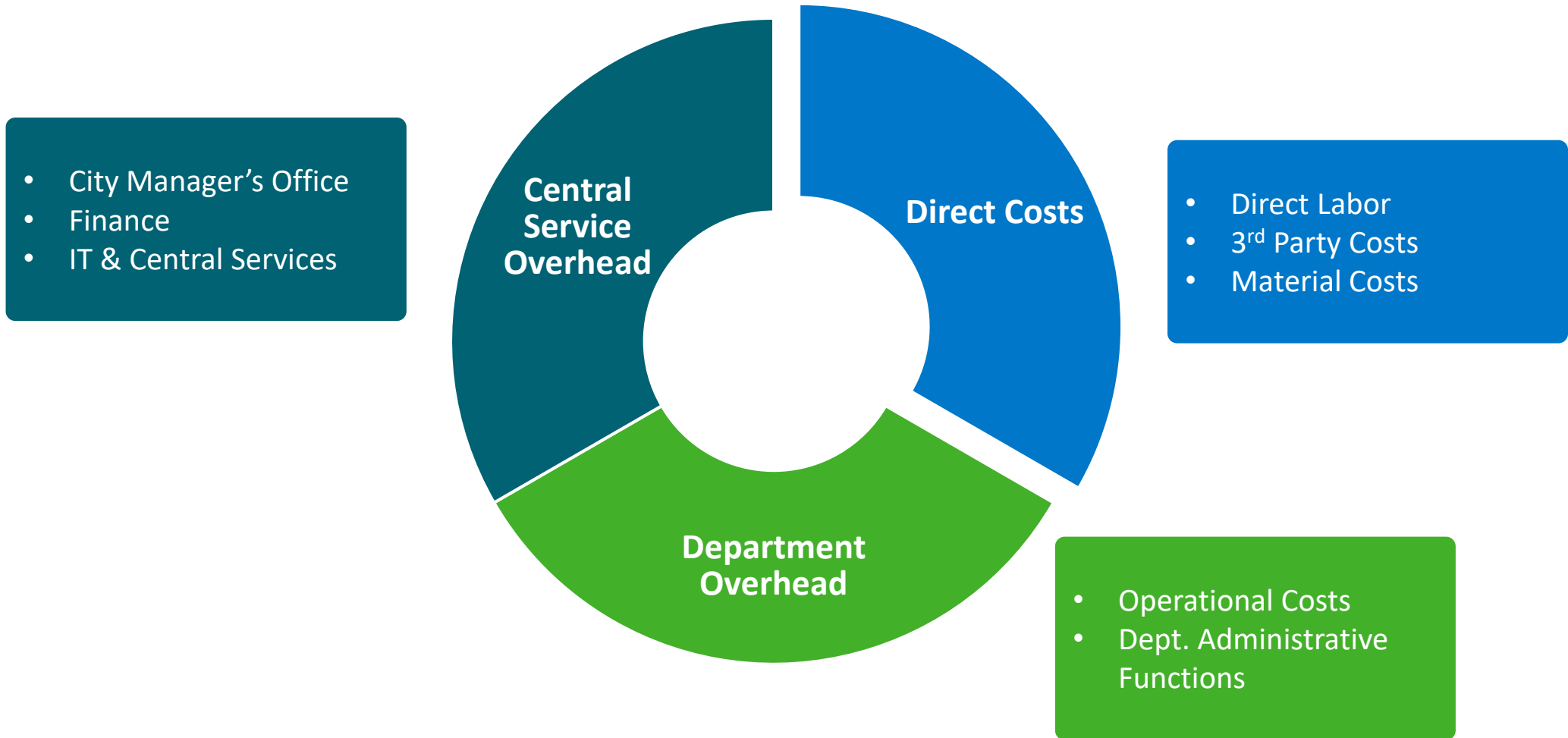
City input,
feedback, and
policies



USER FEE STUDY | METHODOLOGY COMPONENTS



TYPICAL FEE COMPOSITION



COST COMPOSITION EXAMPLE



- **Fully Burdened Hourly Rates**
predominately used to calculate full cost for fees
- Important to keep in mind **all** processes, personnel, and indirect support involved to calculate full cost for services



RECOMMENDATION

RECOMMENDED SITE DEVELOPMENT FEES



- All full cost calculations are based on direct time to complete the services and fully burdened hourly rates

Development Services								
#	Description	Current Fee/Charge	Full Cost	Subsidy %	Suggested Fee	Fee Δ	Suggested Fee Notes	
31.00	Public Improvement Construction (Drives & Sidewalks)							
	Public Improvement Development Inspection Performed by City's Third Party Inspector	Actual Cost	\$183.22	2%	\$180.00	NA	\$180 Flat City Fee + Actual 3rd Party Costs	
NEW	Inspection Fee by In-house City Personnel -- Residential	650.00	\$325.91	-1%	\$330.00	-\$320	\$330 per Residential Lot	
NEW	Inspection Fee by In-house City Personnel -- Commercial		\$401.16	0%	\$400.00	\$400	\$400 per Commercial Acre	
	Inspection Fee by In-house City Personnel -- Commercial		\$401.16	0%	\$400.00	\$400		
	Re-Inspection Fee by City Personnel	75.00	\$115.63	-4%	\$120.00	\$45	\$120 per Hour	
	Engineering Review	Actual Cost	\$596.68	-1%	\$600.00	NA	\$600 Flat City Fee + Actual 3rd Party Costs	
COMBINED	Drive Approach -- Up to 12 ft (width)	20.00	\$179.86	0%	\$180.00	\$160	\$180 Flat Fee - per Drive Approach (regardless of width)	
	Drive Approach -- 12 ft 1 in-24 ft (width)	30.00	\$179.86	0%	\$180.00	\$150		
	Drive Approach -- 24 ft 1 in and above (width)	40.00	\$179.86	0%	\$180.00	\$140		
RESTATED	Parking Lot (<=50 Spaces)	\$2/\$1000	\$246.88	-1%	\$250.00	NA	\$250 per Parking Space (<=50 Spaces) + Actual 3rd party costs	
	Parking Lot (>50 Spaces)		\$0.00	N/A	\$250.00	\$250	\$250 for first 50 spaces + \$5/space thereafter + Actual 3rd party costs.	
	Right-of-Way (No fee for franchise or their subs)	25.00	\$74.44	6%	\$70.00	\$45	\$70 flat fee	

RECOMMENDED SITE DEVELOPMENT FEES



- All full cost calculations are based on direct time to complete the services and fully burdened hourly rates

Development Services		
#	Description	Current Fee/Charge
32.00	Grading, Fill or Excavation	
COMBINED	50 cubic yards or less	25.00
	51-100 cubic yards	35.00
	101-1,000 cubic yards	35.00
	1,001-10,000 cubic yards	155.00
RESTATED	10,001+ cubic yards	1,155.00
37.00	Flood Plain Development	
	Permit Application	50.00
39.00	Plat Fees	
	Preliminary Plats	200.00
	Final Plats	200.00
	Replats	300.00
NEW	Minor Plat	
NEW	Amending Plat	
	Completeness determination and application fee	100.00
NEW	Plan Review Fee	

Full Cost	Subsidy %	Suggested Fee	Fee Δ
\$107.66	-2%	\$110.00	\$85
\$107.66	-2%	\$110.00	\$75
\$107.66	-2%	\$110.00	\$75
\$246.88	-1%	\$250.00	\$95
\$568.16	0%	\$570.00	-\$585
\$316.61	-1%	\$320.00	\$270
\$70.77	1%	\$70.00	-\$130
\$72.29	3%	\$70.00	-\$130
\$55.39	-8%	\$60.00	-\$240
\$45.12	-11%	\$50.00	\$50
\$39.12	-2%	\$40.00	\$40
\$104.98	5%	\$100.00	\$0
\$252.44	1%	\$250.00	\$250

Suggested Fee Notes
\$110 flat fee up to 1,000CY
\$250 for first 1,000CY + \$0.10/additional CY
\$570 for first 10,000CY + \$0.04/additional CY
\$320 Flat Fee
\$70 per Lot
\$70 per Lot
\$60 per Lot
\$50 per Lot
\$40 per Lot
\$100 flat Administrative Fee for all plats
\$250 per Page

USER FEE POLICY CONSIDERATIONS



- **General standard:** individuals or groups who receive specific benefit from service should pay 100% of cost
- In certain **targeted situations**, subsidization is an effective public policy tool to:
 - Encourage participation
 - Ensure compliance when cost is prohibitive to target industries or residents
 - Allow access to services
- Recommended that City **review the fees regularly**, and at update at least with every budget cycle

HB 3492 was approved in June 2023

Recommended fees are based on our preliminary study and reviewed against test cases, but should be closely monitored for actual results



DISCUSSION & QUESTIONS





City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Laura Cox, CFO

AGENDA ITEM:

Presentation of City's financial audit for Fiscal Year 2022-2023 by representatives of Waters, Vollmering & Associates, LLP.

BACKGROUND & FINDINGS:

Carey Adams, CPA, Partner with Waters, Vollmering & Associates, LLP, will be present to discuss the audit with City Council.

FINANCIAL IMPACT:

No financial impact.

RECOMMENDATION:

N/A

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

1. None



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Laura Cox, CFO

AGENDA ITEM:

Consideration and action to receive and approve the City of Alvarado financial audit for Fiscal Year 2022-2023.

BACKGROUND & FINDINGS:

Per the City's Charter, an independent audit shall be conducted at the end of each fiscal year. The financial audit for Fiscal Year 2022-2023 will be posted on the City's Finance Department's webpage for public inspection once approved.

FINANCIAL IMPACT:

No financial impact.

RECOMMENDATION:

Staff recommends acceptance and approval of the City of Alvarado financial audit for Fiscal Year 2022-2023.

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

1. FY 2023 Audit Report



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Laura Cox, CFO

AGENDA ITEM:

Consideration and action to approve Resolution R2024-0012, directing publication of notice of intention to issue combination tax and revenue certificates of obligation and declare its intention to reimburse itself for project-related payments made prior to the issuance of the Certificates.

BACKGROUND & FINDINGS:

A notice of the intent to issue combination tax and revenue certificates of obligation must be published once a week for two consecutive weeks at least 45 days prior to August 15, 2024, which is the date set for the adoption of the ordinance authorizing the issuance of the Certificates. Additionally, the notice will be posted continuously on the City's website for at least 45 days before the date tentatively set for the passage of the ordinance authorizing the issuance of the Certificates.

FINANCIAL IMPACT:

No financial impact.

RECOMMENDATION:

Staff recommends approval of this item.

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

1. Certificate Regarding Adoption of Resolution R2024-0012
2. Combination Tax and Revenue Certificates of Obligation, Series 2024 Proposed Schedule of Events

CERTIFICATE REGARDING ADOPTION OF RESOLUTION

THE STATE OF TEXAS
JOHNSON COUNTY
CITY OF ALVARADO

We, the undersigned officers of the City of Alvarado (the "City"), hereby certify as follows:

1. The City Council of the City convened in regular meeting on June 17, 2024, at the designated meeting place, and the roll was called of the duly constituted officers and members of said City Council, to wit:

Jacob Wheat – Mayor
Beverly Short
Kevin Thomas
Scott Arthur

Lydia Moon
Cherry Bryant
Carrie Keeton

and all of said persons were present, except _____, thus constituting a quorum. Whereupon, among other business, the following was transacted at said Meeting: a written

RESOLUTION R2024-0012 DIRECTING PUBLICATION OF NOTICE OF INTENTION TO ISSUE
COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION

was duly introduced for the consideration of said City Council. It was then duly moved and seconded that said Resolution be adopted and, after due discussion, said motion, carrying with it the adoption of said Resolution, prevailed and carried with all members present voting "AYE" except the following:

NAY: _____ ABSTAIN: _____

2. That a true, full and correct copy of the aforesaid Resolution adopted at the Meeting described in the above and foregoing paragraph is attached to and follows this Certificate; that said Resolution has been duly recorded in said City Council's minutes of said Meeting; that the above and foregoing paragraph is a true, full and correct excerpt from said City Council's minutes of said Meeting pertaining to the adoption of said Resolution; that the persons named in the above and foregoing paragraph are the duly chosen, qualified and acting officers and members of said City Council as indicated therein; that each of the officers and members of said City Council was duly and sufficiently notified officially and personally, in advance, of the time, place and purpose of the aforesaid Meeting, and that said Resolution would be introduced and considered for adoption at said Meeting, and each of said officers and members consented, in advance, to the holding of said Meeting for such purpose, and that said Meeting was open to the public and public notice of the time, place and purpose of said meeting was given, all as required by Chapter 551, Texas Government Code.

3. That the Mayor of said City has approved and hereby approves the aforesaid Resolution; that the Mayor and the City Secretary of said City have duly signed said Resolution; and that the Mayor and the City Secretary of said City hereby declare that their signing of this Certificate shall constitute the signing of the attached and following copy of said Resolution for all purposes.

SIGNED AND SEALED ON JUNE 17, 2024.

City Secretary,
City of Alvarado, Texas

Mayor,
City of Alvarado, Texas

{SEAL}

*City of Alvarado - Certificate Regarding Adoption of a Resolution Directing Publication of Notice of
Intention to Issue Combination Tax and Revenue Certificates of Obligation (6/17/2024)*

RESOLUTION R2024-0012 AUTHORIZING PUBLICATION OF NOTICE OF INTENTION TO
ISSUE COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION

THE STATE OF TEXAS
JOHNSON COUNTY
CITY OF ALVARADO

WHEREAS, the City of Alvarado (the *City*) deems it advisable to give notice of intention to issue one or more series of Certificates of Obligation (the *Certificates*) in the maximum principal amount of \$10,350,000 for paying all or a portion of the City's contractual obligations to be incurred in connection with (1) constructing and improving streets and roads including related drainage, landscaping, signalization, lighting, curbs, signage and rehabilitation and replacement of utility lines related thereto; (2) wastewater system facilities consisting of replacement and new sewer lines and (3) paying legal, fiscal, engineering, architectural and other professional services in connection with these projects. Such certificates are to be made payable from ad valorem taxes and a lien on and pledge of surplus revenues of the City's waterworks and sewer system; and

WHEREAS, the City Council hereby finds, considers and declares that the reimbursement of the payment by the City of such expenditures will be appropriate and consistent with the lawful objectives of the City and, as such, chooses to declare its intention, in accordance with the provisions of Section 1.150-2 of the United States Treasury Regulations, to reimburse itself for such payments at such time as it issues the Certificates; and

WHEREAS, it is hereby officially found and determined that the meeting at which this Resolution was passed was open to the public and public notice of the time, place and purpose of said meeting was given, all as required by Chapter 551, Texas Government Code.

THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALVARADO, TEXAS:

Section 1. Attached hereto as *Exhibit A* is a form of the "Notice of Intention to Issue Combination Tax and Revenue Certificates of Obligation for the City of Alvarado, Texas" (the *Notice*), the form and substance of which is hereby adopted and approved.

Section 2. The City Secretary shall cause the Notice to be published in substantially the form attached hereto, in a newspaper of general circulation in the City of Alvarado, once a week for two consecutive weeks, the date of the first publication thereof to be at least forty-five days prior to August 15, 2024, which is the date set for the adoption of the ordinance authorizing the issuance of the Certificates. Additionally, such Notice shall be posted continuously on the City's website for at least forty-five days before the date tentatively set for the passage of the ordinance authorizing the issuance of the Certificates.

Section 3. All costs to be reimbursed pursuant to this Resolution will be capital expenditures and the Certificates shall be issued within 18 months of the later of (i) the date the expenditures are paid or (ii) the date on which the property, with respect to which such expenditures were made, is placed in service; and the foregoing notwithstanding, the Certificates will not be issued on a date that is more than three years after the date any expenditure which is to be reimbursed is paid.

Section 4. The facilities and improvements to be financed with proceeds from the Certificates are to be used for the purposes described in the Notice.

Section 5. This Resolution shall become effective immediately upon adoption.

EXHIBIT A

NOTICE OF INTENTION TO ISSUE COMBINATION TAX AND REVENUE CERTIFICATES OF OBLIGATION FOR THE CITY OF ALVARADO, TEXAS

The City Council of the City of Alvarado, Texas, shall convene a meeting at 6:30 P.M. on August 15, 2024, at City Hall, 104 West College Street, Alvarado, Texas 76009 and during such meeting, the City Council will consider the passage of an ordinance or ordinances authorizing the issuance of one or more series of interest bearing certificates of obligation in the aggregate principal amount not to exceed \$10,350,000, for paying all or a portion of the City's contractual obligations to be incurred in connection with (1) constructing and improving streets and roads including related drainage, landscaping, signalization, lighting, curbs, signage and rehabilitation and replacement of utility lines related thereto; (2) wastewater system facilities consisting of replacement and new sewer lines and (3) paying legal, fiscal, engineering, architectural and other professional services in connection with these projects. Such certificates are to be made payable from ad valorem taxes and a lien on and pledge of surplus revenues of the City's waterworks and sewer system. Such certificates are to be made payable from ad valorem taxes and a lien on and pledge of surplus revenues of the City's waterworks and sewer system. The certificates are to be issued, and this notice is given, under and pursuant to the provisions of Texas Local Government Code, Chapter 271, Subchapter C.

The following information is provided to follow Tex. H.B. 477, 86 Leg., R.S. (2019). The current principal of all outstanding debt obligations of the City is \$10,093,500. The current combined principal and interest on all outstanding debt obligations of the City, paid on time and in full, is \$13,517,713. The maximum principal amount of the certificates to be authorized is \$10,350,000 and the estimated combined principal and interest required to pay the certificates to be authorized on time and in full is \$20,124,563. The maximum interest rate for the certificates may not exceed the maximum legal interest rate. The maximum maturity date of the certificates to be authorized is August 15, 2054. The above information excludes \$27,341,500 of outstanding obligations the City has designated as self-supporting which consist of the City's General Obligation Refunding Bonds, Series 2017 (\$1,640,000 is self-supporting); General Obligation Refunding Bonds, Series 2019 (\$685,500 is self-supporting); Certificates of Obligation, Series 2023 (\$24,760,000 is self-supporting) and Tax Notes, Series 2023 (\$256,000 is self-supporting). Information regarding these items may be obtained during business hours from the City Manager, 104 West College Street, Alvarado, Texas 76009, www.cityofalvarado.org.

CITY OF ALVARADO
(Johnson County, Texas)

Combination Tax and Revenue Certificates of Obligation, Series 2024

Proposed Schedule of Events

June 2024						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

July 2024						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

August 2024						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Proposed Date	Action
June 17, 2024	City Council considers Resolution of Intent to Issue Certificates of Obligation (6:00 pm Regular Meeting)
June 26, 2024	Post Notice of Intent to issue CO's on City's website (at least 45 days prior to sale)
June 27, 2024	Initial publication of Notice of Intent to Issue CO's (at least 46 days prior to sale)
July 3, 2024	Hilltop sends "Request for Information" for completion of Preliminary Official Statement ("POS").
July 4, 2024	Second publication of Notice of Intent to Issue CO's.
July 16, 2024	City returns information necessary for preparation of POS to Hilltop.
July 18, 2024	Hilltop sends out initial draft of POS for review and comment. Hilltop sends necessary information to Standard & Poors (S&P).
July 25, 2024	Comments on initial draft of POS due to Hilltop.
July 30, 2024	Hilltop sends second draft of POS to parties for review and comment
July 31, 2024	Conference Calls with S&P and Underwriter's Counsel (Exact Date & Time TBA)
August 6, 2024	Comments on second draft of POS due to Hilltop.
August 8, 2024	Hilltop submits POS for electronic distribution via internet.
August 12, 2024	Receive ratings.
August 14, 2024	Underwriters pre market Certificates
August 15, 2024	Certificate Pricing. Underwriters offer the Certificates. City Council considers Ordinance Authorizing Issuance of Certificates (6:00 pm Special Meeting)
August 16, 2024	Draft of Final Official Statement distributed for review.
August 20, 2024	Bond Counsel submits documentation to Attorney General's Office. Comments due on Final Official Statement.
August 21, 2024	Final Official Statement posted to internet and sent to printer.
August 26, 2024	Written Final Official Statement received by all parties (if necessary).
September 4, 2024	Hilltop to notify all parties of closing and delivery instructions.
September 10, 2024	Closing and Delivery.



City Council Meeting Management Report

Meeting Date: 06/17/2024

Contact: Beth A Walls, HRD/CS

AGENDA ITEM:

8. Presentation by Heath Haigood representing HUB International regarding recommendations for 2024-25 benefit plans. (Walls)

9. Consideration and action to approve authorizing the City Manager to enter into an agreement with HUB International for 2024-25 benefit plans. (Walls)

BACKGROUND & FINDINGS:

At the April 5, 2024 meeting, Council approved the City Manager to sign an Agent of Record agreement with HUB International in order to secure quotes for benefit coverages for fiscal year 2024-25.

HUB issued an RFP in May, 2024 and all bids were due by 2 pm on June 12, 2024. The City Manager and I met with Heath Haigood of HUB on June 14th and the information we received was very good news.

Heath Haigood will be presenting the results of those proposals to Council. You can see the recommendations on the following pages.

RECOMMENDATION:

Authorize the City Manager to enter into an agreement with HUB International as our agent to approve selected 2024-25 benefit plans.

MANAGEMENT REVIEW: Paul DeBuff, City Manager

Strategic Recommendations



Medical

HUB recommends moving the medical coverage to Cigna for the 2024-2025 plan year. Cigna's initial offer is -6.3% under current or an estimated \$57k in annual premium savings. If the City decides to implement the dual option with the HSA plan, assuming a 10% migration to the HSA, the City will see an estimated -8% or \$72k in annual premium savings. HUB will provide a contribution analysis once rates and plan designs are finalized.

Dental

HUB recommends moving the dental coverage to Cigna for the 2024-2025 plan year. Cigna's initial offer is -2% under current or an estimated \$840 in annual premium savings. The Cigna rates will be guaranteed for 2-years. Cigna has also included a \$17k premium credit if the dental is sold with medical.

Vision

Renewal with Ameritas is recommended for the 2024-2025 plan year. The renewal is a rate pass with no adjustment to plan design. Although HUB received competitive bids from the market, the hearing benefit that Ameritas offers is unique and not offered by most vision carriers.

Life and Disability

Moving the life and disability coverages to MetLife is recommended for the 2024-2025 plan year. MetLife has matched current plan designs with an estimated -33% or \$12k in annual premium savings. The amount of savings provided will allow the City to increase the STD and LTD maximums while rates remaining under current. MetLife also included a free EAP service with up to 5 visits. Rates will be guaranteed for 2 years.

Strategic Recommendations



Employee Assistance Program (EAP)

HUB recommends the City implement a stand-alone EAP with Alliance Work Partners (AWP). The AWP services are robust and include legal services, financial services, 24/7 access, safe ride program, critical incident services, etc.. for all members of your household. The cost for this service is \$4,500 annually and the rate will be guaranteed for 1-year.

Workspace Products

HUB is not recommending any changes to the current Accident, Critical Illness, Cancer, and Hospital Indemnity policies with American Fidelity. Renewal with American Fidelity is recommended for the 2024-2025 plan year.

Legal & ID Shield

HUB is not recommending any changes to the current Legal and ID Theft Protection programs. Renewal with Legal Shield is recommended for the 2024-2025 plan year.

MASA Transport

HUB is not recommending any changes to the current Ambulance program. Renewal with MASA is recommended for the 2024-2025 plan year.



City Council Meeting Management Report

Meeting Date: Monday, June 17, 2024

Contact: Beth A Walls, HRD/SC

AGENDA ITEM:

Consideration and action to approve Resolution R2024-0009 creating a Benefit Trust Fund for the City of Alvarado

BACKGROUND AND FINDINGS:

During conversations with HUB International, we learned that the City had been paying state taxes upon the receipt of gross premiums and revenues associated them. We also learned that Texas Insurance Code, Chapter 222 authorizes the City's exemption to payment of such premiums and revenues if the City establishes and maintains the funds under the ownership and control of a single, nonprofit trust.

This resolution and the accompanying agreement, allowing the creation of a benefit trust fund will exempt the City from paying those taxes.

FINANCIAL IMPACT:

Creating the trust will save the City about \$15,000 per year using current employee census numbers. As the City grows and staff numbers increase, the savings will be even more significant.

RECOMMENDATION:

Staff recommends approval of this item

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

1. Resolution R2024-0009 Authorizing creation of a benefit trust fund
2. Trust agreement between the City and City Council

RESOLUTION NO. R2024-0009

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ALVARADO, TEXAS, AUTHORIZING CREATION OF AN EMPLOYEE BENEFITS TRUST; DESIGNATING ALL MEMBERS OF THE CITY COUNCIL TO BE TRUSTEES OF SAID TRUST; AND AUTHORIZING THE TRUST TO PURCHASE VARIOUS FORMS OF INSURANCE FOR THE BENEFIT OF CITY OFFICERS, EMPLOYEES, QUALIFIED RETIREES, AND THEIR DEPENDENTS.

WHEREAS, the City of Alvarado, Texas (the “City”) provides or offers various employee benefits to its employees, including health, dental, and life insurance, and disability benefits; and

WHEREAS, Texas law imposes a tax upon the receipt of gross premiums and revenues associated with such benefits; and

WHEREAS, Texas Insurance Code, Chapter 222 authorizes the City’s exemption to payment of such premiums and revenues only if the City establishes and maintains the funds under the ownership and control of a single, nonprofit trust; and

WHEREAS, the City Council finds it to be in the best interest of the City of Alvarado to authorize the creation of an employee benefits trust (“Trust”) for the reasons provided above so that the City may be exempted from payment of the gross premiums tax pursuant to Chapter 222 of the Texas Insurance Code.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF ALVARADO, TEXAS:

SECTION 1

The City Council finds that all matters stated in the preamble of this Resolution are true and correct and are incorporated into the body of this Resolution.

SECTION 2

The Trust Agreement attached hereto as Exhibit “A” is hereby approved.

SECTION 3

By approval of the Trust Agreement, the City Council hereby authorizes creation of the Trust, designates all members of the City Council to be Trustees of the Trust, and authorizes the Trust to purchase various forms of insurance for the benefit of City officers, employees, qualified retirees, and their dependents, all of which are pursuant to the Trust Agreement attached as Exhibit “A.”

PASSED AND APPROVED THIS THE 17th DAY OF JUNE, 2024.

Jacob Wheat, Mayor

ATTEST:

Beth A. Walls, City Secretary

**Exhibit “A”
Trust Agreement**

SINGLE NON-PROFIT TRUST AGREEMENT

THIS TRUST AGREEMENT (“Agreement”) is made and entered into as of June 17, 2024, by and between the City of Alvarado, Texas (“City”) and the members of the City Council of the City of Alvarado as Trustees (“Trustees”).

PREMISES

WHEREAS, the City has heretofore adopted one or more insured employee welfare benefit plans which are set forth in **Exhibit A** attached hereto and made a part hereof for all purposes (the “Plan”), the sole purpose of which is to provide health, medical and/or life benefits solely for the employees of the City and their eligible dependents covered by the Plan; and

WHEREAS, the City is the Plan Administrator appointed to administer the Plan and the claims thereunder; and

WHEREAS, the insurance policy or policies described on **Exhibit A**, and any policies that in the future may replace these policies (individually and collectively, the “Policy”), as and when issued in the name of the Trustees, will continue a trust fund (“Trust Fund”) to be held for the benefit of the employees and their eligible dependents under and in accordance with the Plan; and

WHEREAS, the City desires the Trustees to hold and administer the Trust Fund under the trust created by this Agreement (“Trust”), and the Trustees are willing to hold and administer such Trust Fund, pursuant to the terms of this Agreement; and

WHEREAS, the City intends and desires to establish the Trust as a “single nonprofit trust” within the meaning of Section 222.002(c)(5) of the Texas Insurance Code.

NOW THEREFORE, in consideration of the premises and of the mutual covenants contained herein, the City and the Trustees agree as follows:

ARTICLE I -- CONTRIBUTIONS

1.1 Receipt of Contributions. The Trustees shall receive any contributions paid to it in cash or in the form of such property as it may from time to time deem acceptable and which shall have been delivered to it. All contributions so received, together with the income therefrom and any other increment thereon shall be held, invested, reinvested and administered by the Trustees pursuant to the terms of this Agreement without distinction between principal and income. The Trustees shall not be responsible for the calculation or collection of any contribution under the Plan, but shall be responsible only for property received by it pursuant to this Agreement.

1.2 Premiums. Premiums to keep the Policy in force shall be paid by the City or by its employees or by a combination thereof.

ARTICLE II -- PAYMENTS FROM TRUST FUND

2.1 Payments Directed by Plan Administrator. The Trustees shall from time to time at the Plan Administrator's direction make payments out of the Trust Fund to the persons or entities to whom such monies are to be paid in such amounts and for such purposes as may be specified in the Plan Administrator's directions. To the extent permitted by law, the Trustees shall be under no liability for any payment made pursuant to the direction of the Plan Administrator. Any direction of the Plan Administrator shall constitute a certification that the distribution or payment so directed is one which the Plan Administrator is authorized to direct.

2.2 Payment of Funds. Payments from the Trust will be limited to those which pay the group accident, health and life benefit premiums of employees or dependents of the City who are insured under the insurance policies held by the Trust or the City and those expenses reasonable and necessary for a Trustee to conduct the business of the Trust as limited by the nature of the Trust described by Section 222.02 of the Texas Insurance Code.

2.3 Impossibility of Diversion. It shall be impossible at any time for any part of the Trust Fund to be used for, or diverted to, purposes other than to provide the benefits contemplated under the Plan for the exclusive benefit of covered employees and their dependents, except that any taxes and administration expenses for which the Trust is liable may be made from the Trust Fund if such payment would be consistent with the purpose of the Trust as a "single nonprofit trust" within the meaning of Section 222.002(c)(5) of the Texas Insurance Code, and otherwise, such amounts shall be paid by the City.

ARTICLE III -- INVESTMENTS

3.1 Powers. The Trustees are nondiscretionary trustees who do not have discretion or authority with respect to the investment or administration of the Trust Fund. The Trustees will act solely as a directed trustee of the Policy and any other funds contributed to the Trust Fund; provided, however, that the contributions of any other such funds shall be consistent with the purpose of the Trust as described above in the PREMISES section of the Agreement. The Plan Administrator shall have the sole authority to direct the Trustees with respect to the exercise of its powers under this Agreement. Subject to the foregoing provisions of this section, the Trustees, in addition to all powers and authorities under common law, statutory authority, and other provisions of this Agreement, shall have the following powers and authorities:

- (a) To Purchase, or subscribe for, any securities or other property and to retain the same Trust; provided however, that the Trustees is prohibited from selling or purchasing stock options;
- (b) To sell, exchange, convey, transfer, grant options to purchase, or otherwise dispose of any securities or other property held by the Trustees, by private contract or at public auction, and any sale may be made for cash or upon credit, or partly for cash and partly for credit. No person dealing with the Trustees shall be bound to see to the application of the purchase money or to inquire into the validity, expediency, or propriety of any such sale or other disposition;

- (c) To vote upon any stocks, bonds, or other securities; to give general or special proxies or powers of attorney with or without power of substitution; to exercise any conversion privileges, subscription rights, or other similar rights, and to make any payments incidental thereto; to oppose, or consent to, or otherwise participate in, corporate reorganizations or other changes affecting corporate securities, and to delegate discretionary powers, and to pay assessments or charges in connection therewith; and generally to exercise any powers of an owner with respect to stock, bonds, securities or other property held as part of the Trust Fund;
- (d) To cause any securities or other property held as part of the Trust Fund to be registered in the Trustees' own name or in the name of one or more of the Trustees' nominees, and to hold any investments in bearer form, but the books and records of the Trustees shall at all times show that all such investments are part of the Trust Fund;
- (e) To borrow or raise money for the purpose of the Trust in such amount, and upon such terms and conditions, as the Trustees shall deem advisable; and for any sum so borrowed, to issue a promissory note as Trustees, and to secure the repayment thereof by pledging all, or any part, of the Trust Fund; and no person lending money to the Trustees shall be bound to see the application of the money lent or inquire into the validity, expediency, or propriety of any borrowing;
- (f) To keep such portion of the Trust Fund in cash or balances as may be in the best interests of the Trust created hereby, without liability for interest thereon;
- (g) To accept and retain for such time as it may deem advisable any securities or other property received or acquired by it as Trustees hereunder, whether or not such securities or other property would normally be purchased as investments hereunder;
- (h) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (i) To settle, compromise, or submit to arbitration any claims, debt, or damages to or owing to or from the Trust Fund, to commence or defend suits or legal or administrative proceedings, and to represent the Trust in all suits and legal administrative proceedings;
- (j) To employ suitable agents and counsel and to pay their expenses and compensation, such agents or counsel may or may not be agents or counsel for the City;
- (k) To acquire real estate by purchase, exchange, or as a result of any foreclosure, liquidation, or other salvage as the result of any foreclosure, liquidation, or other salvage of any investment previously made hereunder; to hold such real estate in such manner and upon such terms as the Trustees may deem advisable; and to

manage, operate, repair, develop, improve, partition, mortgage, or lease for any term or terms of years any such real estate or any other real estate constituting a part of the Trust Fund, upon such terms and conditions as the Trustees deems proper, using other trust assets for any of such purposes if deemed advisable;

- (l) To invest funds of the Trust Fund in night deposits or savings accounts bearing a reasonable rate of interest in a Trustees' bank;
- (m) To invest in Treasury Bills and other forms of United States government obligations;
- (n) To deposit monies in federally insured savings accounts or certificates of deposit in banks or savings and loan associations; and
- (o) To do all such acts, take all such proceedings, and exercise all such rights and privileges, although not specifically mentioned herein, as the Trustees may deem necessary to administer the Trust Fund, and to carry out the purpose of this Trust.

3.2 More Than One Trustee. If there shall be more than one Trustee under this Agreement, they shall act by a majority of their number, but may authorize any one or more of them to sign papers and instruments on their behalf.

3.3 Fees and Expenses. The Trustees may be paid such reasonable compensation as shall from time to time be agreed upon in writing by the City and the Trustees. An individual serving as a Trustee who already receives compensation as an employee from the City shall not receive compensation from the Trust except for reimbursement of expenses, including reasonable counsel and accounting fees, incurred by the Trustee in the administration of the Trust Fund. Such compensation and expenses shall be paid from the Trust Fund.

ARTICLE IV – TRUSTEES’ DUTIES

4.1 General. The Trustees shall discharge the duties under this Agreement solely in the interest of the employees covered under the Plan and their dependents and for the exclusive purpose of providing benefits to such persons and defraying reasonable expenses of administering the Trust, with the care, skill, prudence, and diligence under prevailing circumstances that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims, and by diversifying the investments of the Trust so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so, all in accordance with the provisions of this Agreement insofar as they are consistent with the provisions of applicable law, as this Agreement and such law may be from time to time amended; but the duties and obligations of the Trustees as such shall be limited to those expressly imposed upon it by this Agreement notwithstanding any reference herein to the Plan, or the provisions thereof, it being hereby expressly agreed that the Trustees is not a party to the Plan.

4.2 Indemnification. The City agrees, to the extent permitted by law, to indemnify and hold the Trustees harmless from and against any liability that the Trustees may incur in the

administration of the Trust Funds, unless arising from the Trustees' own willful breach of the provisions of this Agreement or of a duty imposed by law. The Trustees shall not be required to give any bond or any other security for the faithful performance of its duties under this Agreement, except such as may be required by a law which prohibits the waiver thereof.

4.3 Accounts and Records. The Trustees shall keep accurate and detailed accounts of all investments, receipts, disbursements, and other transactions hereunder, and all such accounts and other records relating thereto shall be open to inspection and audit at all reasonable times by any person designated by the Plan Administrator.

4.4 Limitation on Trustees' Liability. The Plan Administrator shall administer the Plan as provided therein, and the Trustees shall not be responsible in any aspect for administering the Plan nor shall the Trustees be responsible for the adequacy of contributions to the Trust Fund to meet or discharge any payments or liabilities under the Plan. The Trustees shall be entitled conclusively to rely upon notice, instruction, direction, or other communication of the Plan Administrator.

ARTICLE V -- RESIGNATION, REMOVAL AND SUCCESSION OF TRUSTEE

5.1 Resignation. The Trustees may resign at any time by giving thirty (30) days' notice in writing to the City. In addition, if a Trustee ceases to be a member of the City Council, he or she shall be deemed to have resigned as Trustee, effective on the date that his or her membership on the City Council terminates.

5.2 Removal. The City may remove the Trustees at any time upon (thirty) 30 days' notice in writing to the Trustees.

5.3 Successor Trustee. Upon resignation or removal of the Trustees, the City shall appoint a successor trustee who shall have the same powers and duties as those conferred upon the Trustees hereunder. Upon acceptance of such appointment by the successor trustee, the Trustee may assign, transfer, and pay over to such successor trustee the funds and properties then constituting the Trust Fund. The Trustee is authorized, however, to reserve such reasonable sum or money, as it may deem advisable for payment of its fees and expenses in connection with the settlement of its account or otherwise, and any balance of such reserve remaining after the payment of such fees and expenses shall be paid over to the successor trustee.

Notwithstanding anything to the contrary herein, the City intends for the individual members of the City Council to serve as Trustees of the Trust. Thus, all newly elected or seated members of the City Council shall automatically become a Trustee of the Trust for all purposes.

5.4 Waiver of Notice. In the event of any resignation or removal of the Trustees, the Trustees and the City may in writing waive any notice of resignation or removal as may otherwise be provided hereunder.

ARTICLE VI -- AMENDMENT AND TERMINATION OF AGREEMENT

6.1 Amendment. Any or all of the provisions of this Agreement may be amended at any time and from time to time, in whole or in part, by an instrument in writing. No such amendment shall authorize or permit any part of the Trust Fund (other than such part as is required to pay taxes and administrative expenses) to be used for or diverted to purposes other than for the exclusive benefit of the employees and their dependents; no such amendment shall cause or permit any portion of the Trust Fund to revert to or become the property of the City; and no such amendment which affects the rights or duties of the Trustees may be made without the Trustees' written consent.

6.2 Termination. This Agreement may be terminated at any time by the City, and upon such termination, the Trust Fund shall be paid out and/or transferred by the Trustees as and when directed by the Plan Administrator or the City, in accordance with the provisions of Article II hereof and the terms of the Plan.

6.3 Duration. This Agreement shall terminate automatically twenty (20) years after the day and year first above written, unless the City and Trustees agree in writing to extend the term of the Agreement.

ARTICLE VII -- GENERAL

7.1 Limited Effect of Plan and Trust. Neither the establishment of the Plan nor the Trust nor any modification thereof, nor creation of any fund or account, nor the payment of any welfare benefits, shall be construed as giving to any person covered under the Plan or other person any legal or equitable right against the Trustees, the City, or any officer or employee thereof, except as may otherwise be provided in the Plan or in the Trust. Under no circumstances shall the term of employment of any employee be modified or in any way affected by the Plan or this Trust.

7.2 Protective Clause. Neither the City nor the Trustee shall be responsible for the validity of any contract of insurance issued in connection with the Plan or Trust or for the failure on the part of the insurer to make payments provided by such contract, or for the action of any person which may delay payment or render a contract null and void or unenforceable in whole or in part.

7.3 Construction of Trust. This Trust shall be construed and enforced according to the laws of the State of Texas. If any provision of this Trust shall be held illegal or invalid for any reason, such determination shall not affect the remaining provisions of the Trust.

7.4 Gender and Number. Wherever any words are used herein in the masculine, feminine, or neuter, they shall be construed as though they were also used in another gender in all cases where they would so apply, and wherever any words are used herein in the singular or plural form, they shall be construed as though they were also used in the other form in all cases where they would so apply.

7.5 Headings. The headings and sub-headings of this Trust have been inserted for convenience of reference and are to be ignored in any construction of the provisions hereof.

IN WITNESS WHEREOF, this Agreement has been executed the day and year first above written.

City of Alvarado, Texas
1400 FM 407
Alvarado, Texas

By:

Mayor Jacob Wheat, Trustee

Councilmember Carrie Keeton, Trustee

Councilmember Cherry Bryant, Trustee

Councilmember Kevin Thomas, Trustee

Councilmember Beverly Short, Trustee

Mayor Pro Tem Lydia Moon, Trustee

Councilmember Scott Arthur, Trustee

ATTEST:

Beth A Walls, City Secretary



Planning and Zoning Commission Meeting Management Report

Meeting Date: June 17, 2024

Contact: Justin French, Community Development Director

AGENDA ITEM:

Consideration and action on the application of Chris Wall with JBI Partners, Inc. on behalf of GRBK Edgewood LLC & Century Land Holdings of Texas, LLC for approval of the Lone Oak Addition Phase 1 final plat on 70.219 acres known as tracts and portions of tracts out of the James B. Conger Survey, A-150, and the George S. McIntosh Survey, A-625, approximately addressed at 825 and 1029 CR 607.

BACKGROUND & FINDINGS:

The final plat application was submitted and deemed administratively complete on April 22, 2024. Per Section 34-36(d) of the Alvarado subdivision ordinance, the City Council shall:

- (1) Act within 30 days after the filing of final plat,
- (2) Conclude one of the following.
 - a. Approve.
 - b. Approve with conditions.
 - c. Disapprove with reasons.

On May 16, 2024, the Planning and Zoning Commission (P&Z) recommended disapproval to City Council, and on May 20, 2024, the City Council disapproved the Lone Oak Addition Phase 1 final plat. The applicant resubmitted the final plat on June 6, 2024, and the P&Z and City Council must now act on the plat within 15 days of this resubmittal per [Austin](#) statutes. On June 13, 2024, the P&Z recommended disapproval with reasons attached from the City Engineer.

The Future Lane Use (FLU) map within the Alvarado Comprehensive Plan designates the subject site for Low Density Residential. The proposed plat is consistent with the City's FLU map.

FINANCIAL IMPACT:

None.

RECOMMENDATION:

Staff suggests the Commission recommend to Council approval with conditions in the draft recommendation letter attached.

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

Application
Location Map
Final Plat
Applicant's Reply to Reasons for Disapproval
Draft Recommendation Letter
Subdivision Construction Plans (available upon request)



PLAT APPLICATION

Office Use Only

Clerk: _____ Project#: _____

Fee: \$ _____

Date Pd: _____ Check# or Cash: _____

Receipt#: _____ Received by: _____

Please submit all plat documents and ensure they are in compliance with the City of Alvarado Subdivision Ordinance.

Type of Plat

☐ Preliminary Plat

☒ Final Plat

☐ Plat Revision

☐ Administrative Plat

Title of Plat LONE OAK PHASE 1

Total Lots 257 SF RESIDENTIAL
5 OPEN SPACE
1 AMENITY CENTER
1 FIRE STATION Total Acres 70.219 Current Zoning PD

Subdivision Name LONE OAK Lots 1,657 Block(s) BLOCKS (A THROUGH TT)

Survey Name(s) JAMES B CONGER SURVEY
DAVID MITCHELL SURVEY
GEORGE S. MCINTOSH SURVEY
JAMES NICHOLSON SURVEY Abstract No.(s) ABSTRACT NO. 150
ABSTRACT NO. 586
ABSTRACT NO. 625
ABSTRACT NO. 107 Pract(s) _____

Address/Location 1029 CR 607 ALVARADO, TEXAS 76009

Applicant

Company or Name JB PARTNERS, INC

Contact Name CHRIS WALL

Address 2121 MIDWAY ROAD,
SUITE 300 City CARROLLTON State TX Zip 75006

Telephone 972-738-0212 Email CWALL@JBIPARTNERS.COM

Owner (If Different)

Company or Name GRBK EDGEWOOD LLC & CENTURY LAND HOLDINGS OF TEXAS, LLC

Contact Name BOBBY SAMUEL

Address 5501 HEADQUARTERS DRIVE,
SUITE 300W City PLANO State TX Zip 75024

Telephone 817-658-2112 Email BSAMUEL@GREENBRICKPARTNERS.COM

I further understand that this request will be placed on the appropriate Planning & Zoning Commission and City Council agendas and must meet requirements of the Subdivision Regulations. All plats must be accepted in writing. A plat is not considered filed until accepted by the City Council.

38

Signature of Applicant, Owner, or Authorized Agent

4/22/2024

Date

Planning Official

Fee: \$

Date of P&Z Meeting

Date of Council Meeting

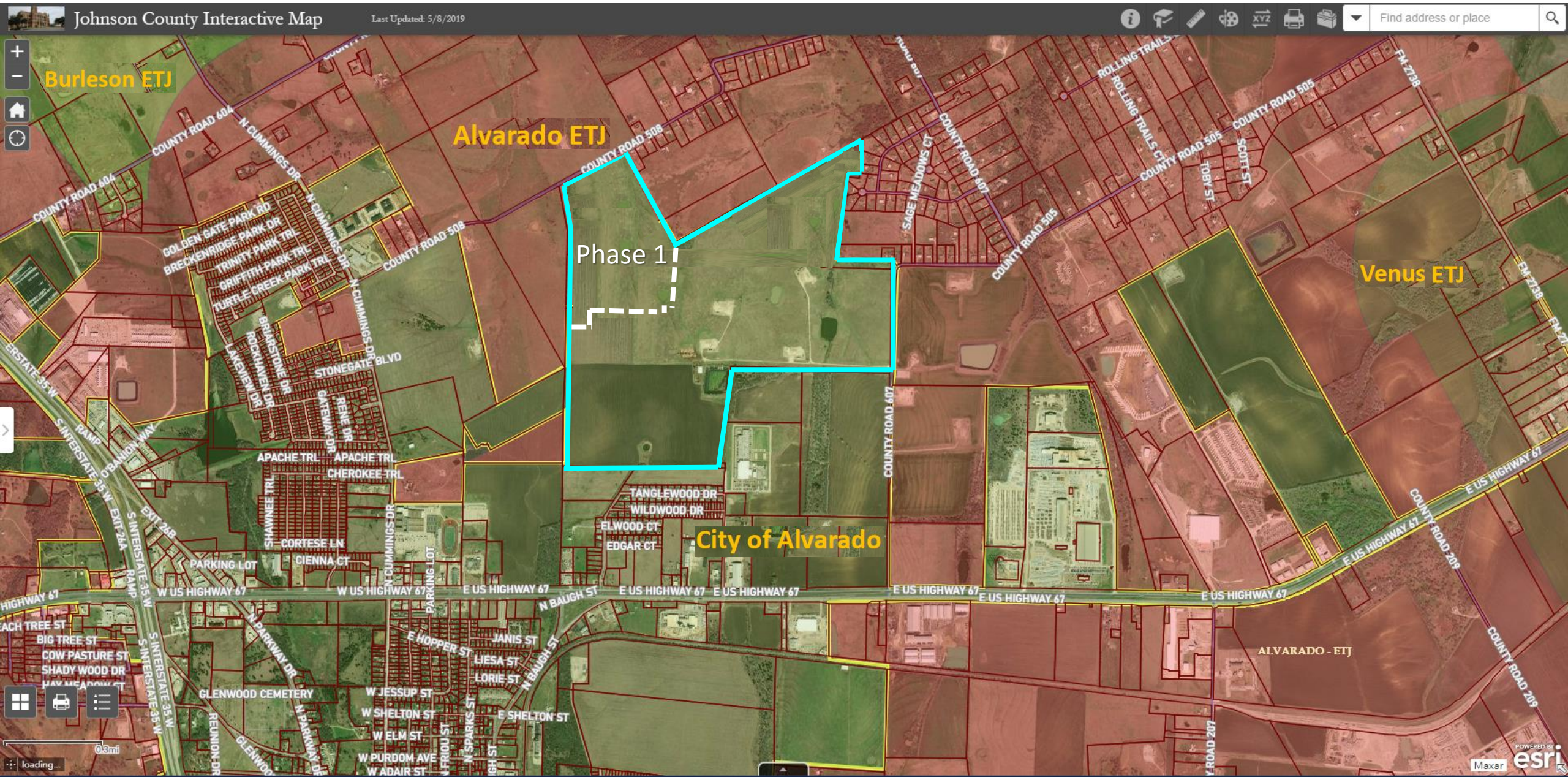
Signature of Planning Official

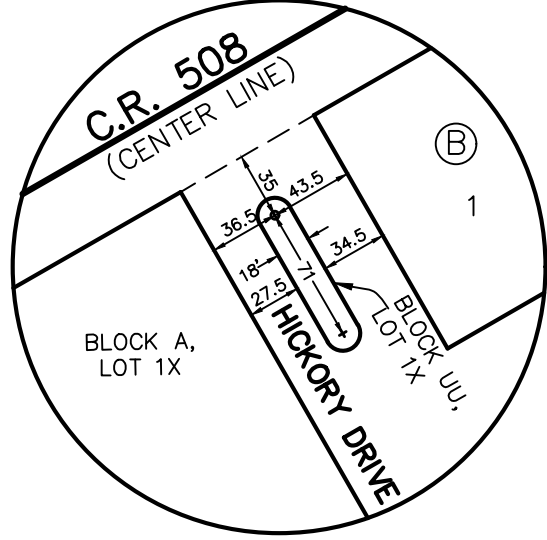
****FOR OFFICE USE ONLY****

Received By

Date Received

Date Approved





DETAIL "A"

INDIE CATCH, LLC
INST. NO. 2022-36624
CALLED 164.656 AC.

COUNTY ROAD NO. 508
(CENTER LINE OF C.R. NO. 508)
40' R.O.W. DEDICATION
(BY THIS PLAT)

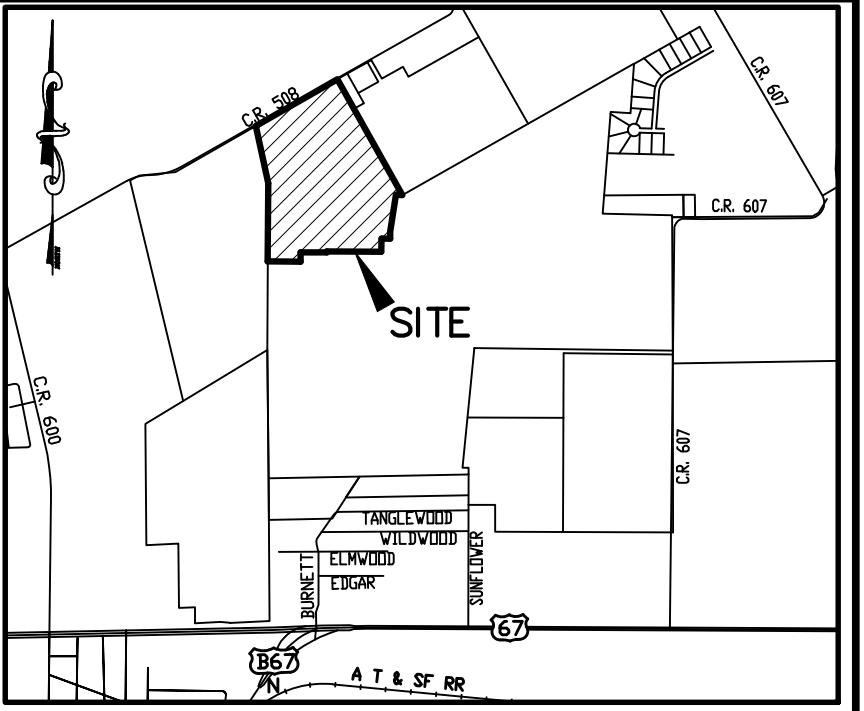
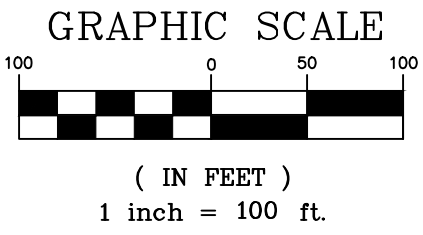
FIRE STATION LOT
LOT 11X, BLOCK B
(2.483 ACRES)

SMIA INVESTMENTS, LLC
INST. NO. 2018-5552
CALLED 1.519 AC.

NAVA LEGACY 49 LLC
INST. NO. 2019-34549
D.R.J.C.T.
CALLED 58.71 AC.

CURVE TABLE					
NO.	LENGTH	DELTA	RADIUS	TANGENT	CHORD BEARING
C1	131.77'	030°11'59"	250.00'	67.45'	N75°13'21"E
C2	131.77'	030°11'59"	250.00'	67.45'	N75°13'21"E
C3	237.45'	054°25'09"	250.00'	128.54'	N02°09'39"W
C4	35.77'	008°11'50"	250.00'	17.91'	S04°25'16"W
C5	181.86'	037°53'24"	275.00'	94.40'	N10°25'31"W
C6	136.09'	031°11'22"	250.00'	69.78'	S40°38'36"W
C7	86.55'	016°31'44"	300.00'	43.58'	S16°47°03"W
C8	35.77'	008°11'50"	250.00'	17.91'	S04°25'16"W
C9	150.83'	034°34'00"	250.00'	77.79'	S17°36'20"W
C10	115.06'	026°22'09"	250.00'	58.57'	N21°42'15"E
C11	72.12'	016°31'44"	250.00'	36.31'	S16°47°03"W

LINE TABLE		
NO.	BEARING	LENGTH
L1	S00°19'20"W	50.00'
L2	S89°40'40"E	5.99'
L3	S89°41'21"E	15.30'
L4	N29°52'39"W	25.00'
L5	S29°52'39"E	25.00'
L6	S34°53'20"W	51.76'
L7	N00°19'20"E	25.00'
L8	S45°19'20"W	21.21'
L9	N59°46'39"W	17.30'



LOCATION MAP
NTS

LEGEND

- IRF IRON ROD FOUND
- IRS IRON ROD SET
- POB POINT OF BEGINNING
- ROW RIGHT-OF-WAY
- DE DRAINAGE EASEMENT
- SSE SANITARY SEWER EASEMENT
- WE WATER EASEMENT
- UE UTILITY EASEMENT
- WME WALL MAINTENANCE EASEMENT
- BL BUILDING LINE
- CO RD COUNTY ROAD
- FM FARM-TO-MARKET HIGHWAY
- DOC DOCUMENT
- NO. NUMBER
- O.P.R.J.C.T. OFFICIAL PUBLIC RECORDS JOHNSON COUNTY, TEXAS
- D.R.J.C.T. DEED RECORDS JOHNSON COUNTY, TEXAS
- VOL. VOLUME
- PG. PAGE
- STREET NAME CHANGE INDICATOR

NOTES:

- NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF CITY ORDINANCE AND STATE LAW, AND IS SUBJECT TO FINES AND/OR WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
- A MANDATORY HOME OWNERS ASSOCIATION WILL BE RESPONSIBLE FOR THE MAINTENANCE OF DRAINAGE EASEMENTS, PRIVATE AMENITIES, OPEN SPACES, AND COMMON AREAS, INCLUDING BUT NOT LIMITED TO SCREENING WALLS AND FENCES AND THE PARKWAY BETWEEN A SCREENING WALL OR FENCE AND THE STREET; SUBDIVISION LANDSCAPING; MEDIANS; AMENITY CENTERS; AND ENHANCED ENTRYWAY FEATURES INCLUDING ENHANCED SCREENING WALLS, LANDSCAPING MONUMENTS, SIGNAGE AND ANY NON-STANDARD PAVEMENT.
- REAR AND SIDE DRIVEWAY ACCESS TO MAJOR THOROUGHFARES SHALL BE PROHIBITED.
- ALL PROPERTY CORNERS ARE ONE-HALF INCH IRON ROD WITH CAP STAMPED "JBI" SET UNLESS NOTED OTHERWISE.
- ACCORDING TO COMMUNITY PANEL NO. 48251C0215J, DATED DECEMBER 4, 2012 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY, NATIONAL FLOOD INSURANCE PROGRAM MAP, THIS PROPERTY IS WITHIN FLOOD ZONE "X", AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE (500-YEAR) FLOODPLAIN.
- NOTE: BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (NORTH CENTRAL ZONE 4202 (NAD83). DISTANCES SHOWN HEREON ARE GRID DISTANCE VALUES.

CITY PROJECT NO. FP ---

FINAL PLAT

LONE OAK PHASE 1

257 RESIDENTIAL LOTS
5 OPEN SPACE LOTS
1 AMENITY CENTER LOT
1 FIRE STATION LOT

BEING 70.219 ACRES OUT OF
JAMES B. CONGER SURVEY, ABSTRACT NO. 150
GEORGE S. MCINTOSH SURVEY, ABSTRACT NO. 625
JOHNSON COUNTY, TEXAS

GRBK EDGEWOOD, LLC OWNER/DEVELOPER

2805 Dallas Parkway, Suite 400 (817)658-2112
Plano, Texas 75093

Contact: Bobby Samuel

CENTURY LAND HOLDINGS OF TEXAS, LLC OWNER/DEVELOPER

130 East John Carpenter Frwy, #230 (972)999-2001
Irving, Texas 75062

Contact: David Aughinbaugh

JBI PARTNERS, INC. SURVEYOR/ENGINEER

2121 Midway Road, Suite 300 (972)248-7676
Carrollton, Texas 75006

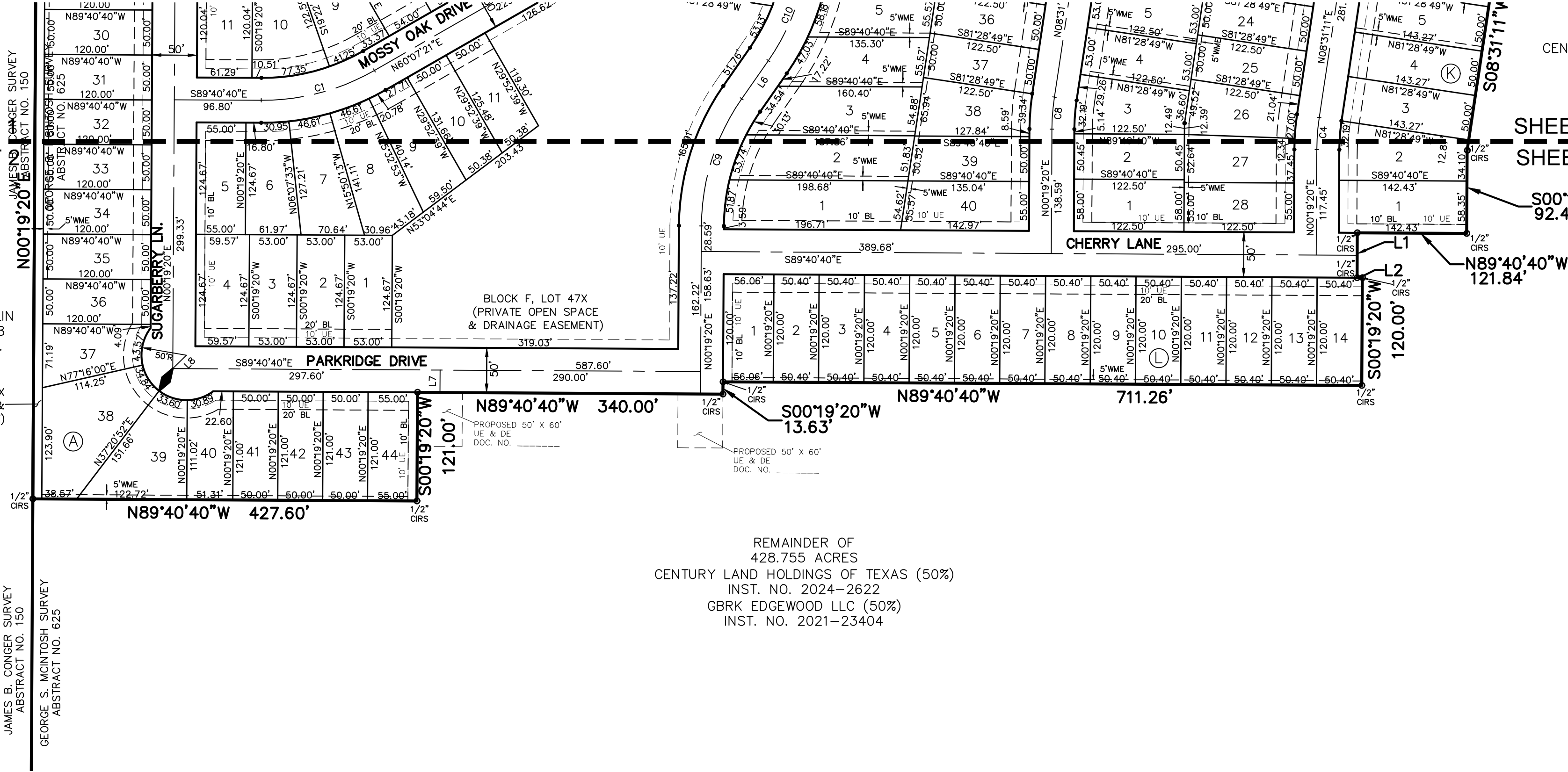
Contact: Christopher Wall, P.E.
TBPE No. F-438 TBPLS No. 10076000

Date: JUNE 04, 2024 Sheet 1 of 3

MATCH LINE SHEET
SHEET

ROBERT LEE FRANKLIN
VOL. 1085, PG. 578
CALLED 135.76 AC.

BLOCK A, LOT 1X
(PRIVATE OPEN SPACE &
DRAINAGE EASEMENT)



REMAINDER OF
428.755 ACRES
CENTURY LAND HOLDINGS OF TEXAS
INST. NO. 2024-2622
GBRK EDGEWOOD LLC (50%)
INST. NO. 2021-23404

SHEET 1 MATCH LINE
SHEET 2

S00°19'20\"W
92.45'

N89°40'40\"W
121.84'

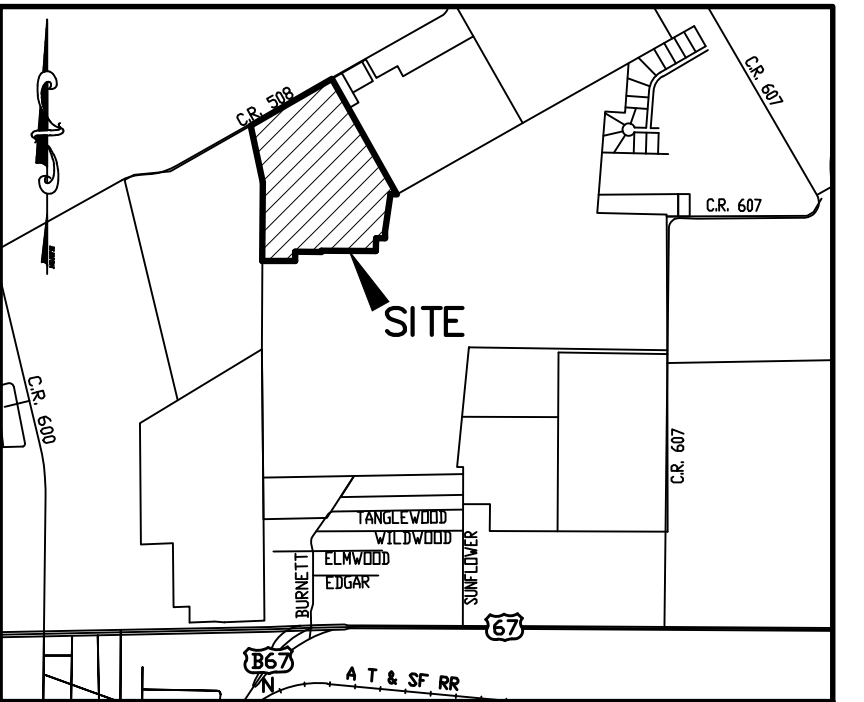
GRAPHIC SCALE



(IN FEET)
1 inch = 100 ft.

LEGEND

- | | |
|---------------|---|
| IRF | IRON ROD FOUND |
| IRS | IRON ROD SET |
| POB | POINT OF BEGINNING |
| ROW | RIGHT-OF-WAY |
| DE | DRAINAGE EASEMENT |
| SSE | SANITARY SEWER EASEMENT |
| WE | WATER EASEMENT |
| UE | UTILITY EASEMENT |
| WME | WALL MAINTENANCE EASEMENT |
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| VOL. | VOLUME |
| PG. | PAGE |
| | STREET NAME CHANGE INDICATOR |



LOCATION MAP
NTS

LOT AREA TABLE				LOT AREA TABLE				LOT AREA TABLE				LOT AREA TABLE				LOT AREA TABLE				LOT AREA TABLE				LOT AREA TABLE			
BLOCK-LOT	SQUARE FEET	ACRES		BLOCK-LOT	SQUARE FEET	ACRES		BLOCK-LOT	SQUARE FEET	ACRES		BLOCK-LOT	SQUARE FEET	ACRES		BLOCK-LOT	SQUARE FEET	ACRES		BLOCK-LOT	SQUARE FEET	ACRES		BLOCK-LOT	SQUARE FEET	ACRES	
A-1X	34,848	0.800		A-42	6,050	0.139		D-5	6,050	0.139		F-18	6,000	0.138		G-11	6,889	0.158		I-27	7,000	0.161		J-28	6,738	0.155	
A-3	7,989	0.183		A-43	6,050	0.139		D-6	6,050	0.139		F-19	6,000	0.138		G-12	6,889	0.158		I-28	6,125	0.141		K-1	8,311	0.191	
A-4	8,793	0.202		A-44	6,855	0.153		D-7	6,050	0.139		F-20	6,000	0.138		G-13	8,978	0.206		I-29	6,125	0.141		K-2	7,997	0.184	
A-5	9,597	0.220		B-1	6,249	0.143		D-8	6,655	0.153		F-21	6,000	0.138		H-1	8,012	0.184		I-30	6,125	0.141		K-3	7,163	0.164	
A-6	7,500	0.172		B-2	6,249	0.143		D-9	7,609	0.175		F-22	6,200	0.142		H-2	7,910	0.182		I-31	6,125	0.141		K-4	7,163	0.164	
A-7	9,944	0.228		B-3	6,249	0.143		D-10	6,292	0.144		F-23	6,200	0.142		H-3	7,232	0.166		I-32	6,125	0.141		K-5	7,163	0.164	
A-8	7,604	0.175		B-4	6,249	0.143		D-11	6,292	0.144		F-24	6,200	0.142		H-4	6,264	0.144		I-33	6,125	0.141		K-6	7,163	0.164	
A-9	9,042	0.208		B-5	6,249	0.143		D-12	6,292	0.144		F-25	6,820	0.157		H-5	7,193	0.165		I-34	6,125	0.141		K-7	8,037	0.184	
A-10	8,534	0.196		B-6	6,249	0.143		D-13	6,292	0.144		F-26	6,810	0.156		H-6	7,671	0.176		I-35	6,125	0.141		L-1	6,727	0.154	
A-11	7,512	0.172		B-7	6,249	0.143		D-14	6,292	0.144		F-27	6,167	0.142		H-7	6,480	0.149		I-36	6,125	0.141		L-2	6,048	0.139	
A-12	6,384	0.147		B-8	6,249	0.143		D-15	6,292	0.144		F-28	6,145	0.141		H-8	6,480	0.149		I-37	6,125	0.141		L-3	6,048	0.139	
A-13	6,384	0.147		B-9	6,249	0.143		D-16	7,502	0.172		F-29	6,123	0.141		H-9	7,665	0.176		I-38	7,064	0.162		L-4	6,048	0.139	
A-14	7,584	0.174		B-10X	7,713	0.177		E-1	6,000	0.138		F-30	6,123	0.141		H-10	8,123	0.186		I-39	6,572	0.151		L-5	6,048	0.139	
A-15	6,600	0.152		B-11	108,173	2.483		E-2	6,000	0.138		F-31	6,150	0.141		H-11	7,357	0.169		I-40	7,645	0.176		L-6	6,048	0.139	
A-16	6,000	0.138		C-1	8,031	0.184		E-3	6,000	0.138		F-32	6,150	0.141		I-1	10,936	0.251		J-1	7,105	0.163		L-7	6,048	0.139	
A-17	6,000	0.138		C-2	7,309	0.168		E-4	6,000	0.138		F-33	6,150	0.141		I-2	9,783	0.225		J-2	6,180	0.142		L-8	6,048	0.139	
A-18	6,103	0.140		C-3	7,309	0.168		E-5	6,600	0.152		F-34	6,150	0.141		I-3	9,496	0.218		J-3	7,083	0.163		L-9	6,048	0.139	
A-19	10,269	0.236		C-4	8,045	0.185		E-6	6,600	0.152		F-35	6,781	0.156		I-4	8,066	0.185		J-4	6,493	0.149		L-10	6,048	0.139	
A-20	6,858	0.157		C-5	6,544	0.150		E-7	6,000	0.138		F-36	7,151	0.164		I-5	7,088	0.163		J-5	6,493	0.149		L-11	6,048	0.139	
A-21	6,000	0.138		C-6	6,544	0.150		E-8	6,000	0.138		F-37	6,150	0.141		I-6	6,879	0.158		J-6	6,493	0.149		L-12	6,048	0.139	
A-22	6,000	0.138		C-7	6,544	0.150		E-9	6,000	0.138		F-38	6,150	0.141		I-7	6,297	0.145		J-7	6,493	0.149		L-13	6,048	0.139	
A-23	6,000	0.138		C-8	6,544	0.150		E-10	6,000	0.138		F-39	6,150	0.141		I-8	6,297	0.145		J-8	6,493	0.149		L-14	6,048	0.139	
A-24	6,000	0.138		C-9	6,544	0.150		E-11X	43,652	1.002		F-40	6,150	0.141		I-9	6,297	0.145		J-9	6,492	0.149		UU-1X	1,532	0.035	
A-25	6,000	0.138		C-10	6,544	0.150		F-1	6,607	0.152		F-41	6,150	0.141		I-10	6,296	0.145		J-10	6,493	0.149					
A-26	6,000	0.138		C-11	6,544	0.150		F-2	6,607	0.152		F-42	6,150	0.141		I-11	6,297	0.145		J-11	6,493	0.149					
A-27	6,000	0.138		C-12	6,544	0.150		F-3	6,607	0.152		F-43	6,150	0.141		I-12	6,297	0.145		J-12	6,575	0.151					
A-28	6,000	0.138		C-13	6,544	0.150		F-4	7,427	0.170		F-44	6,150	0.141		I-13	6,297	0.145		J-13	7,579	0.174					
A-29	6,000	0.138		C-14	6,544	0.150		F-5	6,857	0.157		F-45	6,150	0.141		I-14	6,563	0.151		J-14	6,493	0.149					
A-30	6,000	0.138		C-15	7,062	0.162		F-6	6,865	0.158		F-46	6,057	0.139		I-15	7,378	0.169		J-15	9,487	0.218					
A-31	6,000	0.138		C-16	7,792	0.179		F-7	7,706	0.177		F-47X	245,617	5.639		I-16	6,307	0.145		J-16	9,263	0.213					
A-32	6,000	0.138		C-17	8,855	0.203		F-8	8,565	0.197		G-1	10,414	0.239		I-17	6,296	0.145		J-17	7,130	0.164					
A-33	6,000	0.138		C-18	11,492	0.264		F-9	7,284	0.167		G-2	6,344	0.146		I-18	6,297	0.145		J-18	6,125	0.141					
A-34	6,000	0.138		C-19	7,959	0.183		F-10	6,429	0.148		G-3	6,344	0.146		I-19	6,296	0.145		J-19	6,125	0.141					
A-35	6,000	0.138		C-20	7,163	0.164		F-11	6,120	0.140		G-4	6,344	0.146		I-20	8,419	0.193		J-20	6,125	0.141					
A-36	6,000	0.138		C-21	7,880	0.181		F-12	6,075	0.139		G-5	6,344	0.146		I-21	12,039	0.276		J-21	6,125	0.141					
A-37	6,570	0.151		C-166X	208,181	4.779		F-13	7,864	0.181		G-6	7,019	0.161		I-22	10,675	0.245		J-22	6,125	0.141					
A-38	12,145	0.279		D-1	8,281	0.190		F-14	6,000	0.138		G-7	7,601	0.174		I-23	7,837	0.180		J-23	6,125	0.141					
A-39	9,111	0.209		D-2	6,050	0.139		F-15	6,000	0.138		G-8	6,724	0.154		I-24	6,545	0.150		J-24	6,125	0.141					
A-40	6,017	0.138		D-3	6,050	0.139		F-16	6,075	0.139		G-9	6,889	0.158		I-25	6,125	0.141		J-25	6,125	0.141					
A-41	6,050	0.139		D-4	6,050	0.139		F-17	7,864	0.181		G-10	6,889	0.158		I-26	7,085	0.163		J-26	6,752	0.155					

NOTES:

- NOTICE: SELLING A PORTION OF THIS ADDITION BY METES AND BOUNDS IS A VIOLATION OF CITY ORDINANCE AND STATE LAW, AND IS SUBJECT TO FINES AND/OR WITHHOLDING OF UTILITIES AND BUILDING PERMITS.
- A MANDATORY HOME OWNERS ASSOCIATION WILL BE RESPONSIBLE FOR THE MAINTENANCE OF DRAINAGE EASEMENTS, PRIVATE AMENITIES, OPEN SPACES, AND COMMON AREAS, INCLUDING BUT NOT LIMITED TO SCREENING WALLS AND FENCES AND THE PARKWAY BETWEEN A SCREENING WALL OR FENCE AND THE STREET; SUBDIVISION LANDSCAPING; MEDIANS; AMENITY CENTERS; AND ENHANCED ENTRYWAY FEATURES INCLUDING ENHANCED SCREENING WALLS, LANDSCAPING MONUMENTS, SIGNAGE AND ANY NON-STANDARD PAVEMENT.
- REAR AND SIDE DRIVEWAY ACCESS TO MAJOR THOROUGHFARES SHALL BE PROHIBITED.
- ALL PROPERTY CORNERS ARE ONE-HALF INCH IRON ROD WITH CAP STAMPED "JBI" SET UNLESS NOTED OTHERWISE.
- ACCORDING TO COMMUNITY PANEL NO. 48251C0215J, DATED DECEMBER 4, 2012 OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY, NATIONAL FLOOD INSURANCE PROGRAM MAP, THIS PROPERTY IS WITHIN FLOOD ZONE "X", AREAS OUTSIDE OF THE 0.2% ANNUAL CHANCE (500-YEAR) FLOODPLAIN.
- NOTE: BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM (NORTH CENTRAL ZONE 4202 (NAD83). DISTANCES SHOWN HEREON ARE GRID DISTANCE VALUES.

CITY PROJECT NO. FP ____

FINAL PLAT

LONE OAK PHASE 1

257 RESIDENTIAL LOTS
5 OPEN SPACE LOTS
1 AMENITY CENTER LOT
1 FIRE STATION LOT

BEING 70.219 ACRES OUT OF
JAMES B. CONGER SURVEY, ABSTRACT NO. 150
GEORGE S. MCINTOSH SURVEY, ABSTRACT NO. 625
JOHNSON COUNTY, TEXAS

GRBK EDGEWOOD, LLC OWNER/DEVELOPER

2805 Dallas Parkway, Suite 400 (817)658-2112
Plano, Texas 75093

Contact: Bobby Samuel

CENTURY LAND HOLDINGS OF TEXAS, LLC OWNER/DEVELOPER

130 East John Carpenter Frwy, #230 (972)999-2001
Irving, Texas 75062

Contact: David Aughinbaugh

JBI PARTNERS, INC. SURVEYOR/ENGINEER

2121 Midway Road, Suite 300 (972)248-7676
Carrollton, Texas 75006

Contact: Christopher Wall, P.E.
TBPE No. F-438 TBPLS No. 10076000

Date: JUNE 04, 2024

Sheet 2 of 3

OWNERS CERTIFICATION

WHEREAS Century Land Holdings of Texas, LLC and GRBK Edgewood, LLC are the owners of a tract of land located in the City of Alvarado, Johnson County, Texas, being a part of the James B. Conger Survey, Abstract No. 150, the George S. McIntosh Survey, Abstract No. 625, being part of that called 428.755 acre tract of land described in Special Warranty Deed to Century Land Holdings of Texas, LLC recorded as Instrument No. 2024-2622 and in Correction Deed to GRBK Edgewood, LLC (50% interest) recorded as Instrument Number 2023-26644, Official Public Records, Johnson County, Texas, and being more particularly described by metes and bounds as follows:

BEGINNING at an 80d nail with washer stamped "BLUESTAR SURVEYING" found at the most westerly northwest corner of said 428.755 acre tract, said point also being the northeast corner of a called 135.76 acre tract of land described in a deed to Robert Lee Franklin, recorded in Volume 1085, Page 578, Deed Records, Tarrant County, Texas, said point being in the centerline of County Road 508, more or less;

THENCE, North 60 degrees 07 minutes 21 seconds East, along the north line of said 428.755 acre tract, and along the centerline of said County Road 508, more or less, a distance of 1,221.36 feet to a one-half inch iron rod with cap stamped "JBI" set for corner, being the common corner of said 428.755 acre tract and a tract of land described in a deed to Simla Investments, LLC, recorded in Document Number 2018-5552, Deed Records, Johnson County, Texas, from which a one-half inch iron rod found bears South 19 degrees 08 minutes 32 seconds West, a distance of 1.15 feet;

THENCE, South 29 degrees 22 minutes 14 seconds East, along the common line of said 428.755 acre tract, and said Simla Investments, LLC tract, passing a one-half inch iron rod found on line at a distance of 23.38 feet, passing a one-half inch iron rod with cap stamped "FORTWORTH SURVEYING" found at the common corner of said Simla Investments, LLC tract, and a tract of land described in a deed to Nava Legacy 49, LLC, recorded in Document Number 2019-34549, Deed Records, Johnson County, Texas at a distance of 441.15 feet, and continuing a total distance of 1,730.13 feet to a 4 inch steel post found for the common corner of said 428.755 acre tract and said Nava Legacy 49, LLC tract;

THENCE, over and across 428.755 acre tract as follows:

North 87 degrees 07 minutes 12 seconds West for a distance of 85.65 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 08 degrees 31 minutes 11 seconds West for a distance of 485.24 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 00 degrees 19 minutes 20 seconds West for a distance of 92.45 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

North 89 degrees 40 minutes 40 seconds West for a distance of 121.84 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 00 degrees 19 minutes 20 seconds West for a distance of 50.00 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 89 degrees 40 minutes 40 seconds East for a distance of 5.99 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 00 degrees 19 minutes 20 seconds West for a distance of 120.00 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

North 89 degrees 40 minutes 40 seconds West for a distance of 711.26 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 00 degrees 19 minutes 20 seconds West for a distance of 13.63 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

North 89 degrees 40 minutes 40 seconds West for a distance of 340.00 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

South 00 degrees 19 minutes 20 seconds West for a distance of 121.00 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

North 89 degrees 40 minutes 40 seconds West for a distance of 427.60 feet to a one-half inch iron rod with cap stamped "JBI" set for corner, being in the west line of said 428.755 acre tract and the east line of aforementioned 135.76 acre Franklin tract;

THENCE along the east line of said 135.76 acre tract and the west line of said 428.755 acre tract as follows:

North 00 degrees 19 minutes 20 seconds East for a distance of 1,018.18 feet to a one-half inch iron rod with cap stamped "JBI" set for corner;

North 12 degrees 02 minutes 50 seconds West a distance of 761.63 feet to the POINT OF BEGINNING and containing 3,058,735 square feet or 70.219 acres of land more or less.

NOW THERFORE KNOW ALL MEN BY THESE PRESENTS:

That, Century Land Holdings of Texas, LLC and GRBK EDGEWOOD LLC are the owners of the herein described parcel, acting by and through the undersigned, its duly authorized agent, does hereby adopt the herein above describe property as LONE OAK, PHASE 1, an addition to Johnson County, Texas and does dedicate to the public use the streets and easements shown thereon.

WITNESS, my hand at Dallas, Texas, this the ____ day of _____, 2024.

CENTURY LAND HOLDINGS OF TEXAS, LLC, a limited liability company

STATE OF TEXAS §

COUNTY OF _____ §

BEFORE ME, the undersigned authority in and for the State of Texas, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity therein stated.

WITNESS MY HAND at Dallas, Texas, this ____ day of _____, 2024.

Notary Public in and for the State of Texas

WITNESS, my hand at Dallas, Texas, this the ____ day of _____, 2024.

GRBK EDGEWOOD LLC, a Texas limited liability company

STATE OF TEXAS §

COUNTY OF _____ §

BEFORE ME, the undersigned authority in and for the State of Texas, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity therein stated.

WITNESS MY HAND at Dallas, Texas, this ____ day of _____, 2024.

Notary Public in and for the State of Texas

SURVEYOR'S CERTIFICATE

This is to certify that I, WILLIAM J. JOHNSON, a Registered Professional Land Surveyor of the State of Texas, having platted the above subdivision from an actual survey on the ground, and that all lot corners, and angle points, and points of curve shall be properly marked on the ground, and that this plat correctly represents that survey made by me or under my direction and supervision.

Dated this ____ day of _____, 2024.

"PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT."

WILLIAM J. JOHNSON, R.P.L.S. No. 5426

Approved this ____ day of _____, 20____,
by the City Council of the City of Alvarado, Texas.

Mayor

City Secretary

CITY PROJECT NO. FP ____-____

FINAL PLAT

LONE OAK PHASE 1

257 RESIDENTIAL LOTS
5 OPEN SPACE LOTS
1 AMENITY CENTER LOT
1 FIRE STATION LOT

BEING 70.219 ACRES OUT OF
JAMES B. CONGER SURVEY, ABSTRACT NO. 150
GEORGE S. MCINTOSH SURVEY, ABSTRACT NO. 625
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GRBK EDGEWOOD, LLC OWNER/DEVELOPER

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Plano, Texas 75093
Contact: Bobby Samuel

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JBI PARTNERS, INC. SURVEYOR/ENGINEER

2121 Midway Road, Suite 300 (972)248-7676
Carrollton, Texas 75006
Contact: Christopher Wall, P.E.
TBPE No. F-438 TBPLS No. 10076000

Date: JUNE 04, 2024

Sheet 3 of 3



June 5, 2024

Justin French
Community Development Director
104 W. College Ave.
Alvarado, TX 76009
(817)-240-9585

Re: **LONE OAK ADDITON PHASE 1 FINAL PLAT**

Justin,

JBI has reviewed the comment letter received from the City of Alvarado on the final plat comments and have addressed the comments as follows:

Comments

1. Prior to final plat approval, adequate capacity to and at the Alvarado Wastewater Treatment Plant must be accessible to comply with the purpose of the Alvarado subdivision ordinance. The purpose of this chapter (Alvarado subdivision ordinance) is to provide for the orderly, safe, and healthful development of the area within the City and within the area surrounding the City and to promote the health, safety, morals, and transportation, water, drainage, sewage, and other facilities per Art. I, Sec. 34-4(b) of the Alvarado subdivision ordinance.

- **In Section 5.3 of our approved Development Agreement, it specifically has a pump/haul provision for Developer. An email from A-1 Little John is provided showing that they have the ability to perform pump/haul operations if needed. A-1 Little John has provided a location for disposal of waste and a truck route has also been provided. It should no hold up the review, approval, or recording of the Final Plat.**

2. Per Art. VI, Sec. 34-165(f) of the Alvarado subdivision ordinance, the location of all water and sanitary sewer lines and appurtenances thereto necessary to serve the platted land shall be in accordance with the City's master plan for water and sanitary sewer facilities. Indicate sanitary sewer connection to the future sanitary sewer main to be constructed.

- **This is not a typical item that is shown on the Final Plat itself, but rather shown on the civil engineering plans. The Lone Oak Phase 1 civil engineering plans show the connection to the future sanitary sewer main by others (green line) on Sheet 7.06.**

3. If Lone Oak Addition Phase 1 is to have temporary sanitary sewer service provided by the developer until adequate off-sit sanitary service is available with the City of Alvarado then add a note on the plat stating such that and provide the contract or agreement for the pump & haul service along with the location of proper disposal and the truck disposal route for review by the City.



- In Section 5.3 of our approved Development Agreement, it specifically has a pump/haul provision for the Developer. An email from A-1 Little John is provided showing that they can perform pump/haul operations if needed. A-1 Little John has provided a location for disposal of waste and a truck route has also been provided. The disposal place is City of Ft. Worth Liquid Waste Transfer Station and the address is:

City of Ft. Worth
3299 Yuma Drive
Fort Worth, Tx, 76119

4. Attached remarks from the City Engineer must be adequately addressed prior to final plat approval.
- The engineering comments have been addressed with this submittal.

At this time, we feel we have addressed the comments. Please let us know if you have any questions or concerns.

A handwritten signature in blue ink, appearing to read "Chris Wall".

Chris Wall, PE
Vice President/Partner



June 05, 2024

Justin French
Community Development Director
City of Alvarado
104 W. College
Alvarado, TX 76009

Re: **LONE OAK PHASE 1 CIVIL ENGINEERING PLANS**

Justin:

JBI has reviewed the comments received on the preliminary plat and have addressed the comments as follows:

Cover Sheet 0.01 –

- **Our review of the plans is for general compliance with the City of Alvarado's development requirements and good engineering practice and does not relieve the engineer of record of their responsibilities under the Texas Engineering Practice Act.**
 - **Noted.**
- **TIA and Flood study under separate review letter.**
 - **Noted. We are resubmitting the TIA and Flood Study. The TIA has been approved as part of the DA. The flood study has been revised per the latest comments.**
- **Include plans for improvements to CR 508.**
 - **Per the TIA, the only requirement for CR 508 with Phase 1 is the addition of a right turn lane into our development. The right turn lane has been added to the plans. The right-of-way instrument that is needed for the turn lane improvement has been acquired, recorded, and a copy sent to the city. The TIA also states that there will be a need to improve C.R. 508 from Agave to the eastern boundary of Lone Oak Phase 1, but that will not take place until Lone Oak Phase 5.**
- **Verify compliance with all City Masterplans. Including sewer as to verify downstream capacity.**
 - **All plans conform to the City of Alvarado 2017 Comprehensive Plan.**
 - **The north/south thoroughfare at the western edge of the property is not being included since the Approved Developer's Agreement did not show that roadway on any exhibits within the agreement. The developer will follow language outlined in the Approved Developer's Agreement regarding this future Road.**
- **Downstream sanitary sewer lines are required to be installed and accepted by the City prior to any sewer service being available to this site. (Or capacity provided in accordance with the agreement between the City and the development)**
 - **The developer has pump and haul rights as part of the approved development agreement. The downstream sewer lines are being designed and constructed that will**

have capacity for the Lone Oak development when in operation. If the downstream lines are still under construction, the developer will utilize the pump and haul as means for sewer to serve the lots until the downstream lines are completed.

- Mitigation for wetlands and waters of the US, as identified in the submitted report, is required.
 - There are no wetlands that meets the WOTUS classification within the Lone Oak development. The wetlands report and delineation map are included with this submittal.
- Verify with the City if roadway or utility stub-outs to adjacent properties are needed.
 - There are no future roadway or utility stub outs to adjacent properties being included in Lone Oak Phase 1 or Phase 2 at this time. The Phase 1 & 2 layout does not incorporate any stubs and was approved with our development agreement.
- Any channel or storm water improvements outside the areas of platting with this phase will require an easement. While it is all one owner today, if a future phase is sold to a separate entity, then this phase cannot place encumbrances on that property without the proper easements in place.
 - There are no channels or storm water improvements outside the areas of platting.

Final Plat Sheet 0.03

- Check abstract number
 - Noted. Plat is now updated.
- Is this also a drainage easement conveying off-site flow?
 - This drainage easement will capture both on and offsite flow from the west. See drainage area map.
- Incorrect spelling of adjacent land owner.
 - Noted. Plat is now updated.
- 428.755 acres?
 - Noted. Plat is now updated.
- Show the floodplain LOMR to be completed when the phase containing the floodplain is developed.
 - A LOMR is not needed with Lone Oak Phase 1 or Phase 2 as there is no floodplain within the limits of Phases 1 & 2.

Final Plat Sheet 0.04

- Check abstract number
 - Noted. Plat is now updated.

Final Plat Sheet 0.05

- Use consistent references. Inst/Doc number not consistent with exhibit.
 - **Noted. Plat is now updated.**

Sheet 1.01 – Overall Paving Plan

- 3600 PSI strength minimum. NCTCOG Class C pavement design
 - **The plans reflect the recommendations from the geotechnical engineer listed in ALPHA Report No. W213053-1. We request that this specification be deemed acceptable.**
- Insert lime rate into the plans and the required maximum PI to be achieved. If lime series test will be conducted during construction, insert that note.
 - **Notes in regard to the lime subgrade have been added. These notes are based on the ALPHA Report No. W123053-1.**

Sheet 1.02 – Paving Plan & Profile: Hickory Drive

- Add hatch into legend
 - **Hatch added to legend.**

Sheet 1.21 – Paving Plan & Profile Cherry Lane

- To where? Offsite drainage easement needed until downstream infrastructure is developed.
 - **We will be mass grading Lone Oak Phase 2 and it will have positive drainage to the proposed detention pond in Phase 2. Future storm lines will pick these areas up. Offsite drainage easements will be provided.**

Sheet 1.22 – Paving Plan & Profile Shumard Oak Drive

- Can't sheet flow off-site, capture storm water and convey.
 - **We will be mass grading Lone Oak Phase 2 and it will have positive drainage to the proposed detention pond in Phase 2. Future storm drains will pick these areas up.**

Sheet 1.23 – Overall Paving Plan – Phase 2 Mass Grading

- Easements needed for off-site grading activities outside of platted area. Mass grading for future phases may not alter drainage patterns without storm design or cause adverse impacts on adjacent properties. Any mass grading for future phases allowed by the City does not imply approval of lot configuration, grade or design of any sort. Modifications to grades due to revisions during full construction plan review are at the risk of the developer. Show actual grades and contours for the proposed mass grading.
 - **All runoff from the Lone Oak Phase 2 mass grading will be collected in the proposed detention pond next to the lift station. Please reference mass grading sheets for proposed contours and grades. We are including the easements for utility and drainage improvements that will be outside of Phase 1.**

Sheet 1.40 – Paving Details

- Update O.C. both ways for #3 bars to 18"
 - Updated.

Sheet 2.00 – Grading Plan – Overall Grading

- General note: Grading shall not create lot-to-lot drainage condition unless approved by City or City Engineer during design and easements are provided. Retaining walls 4' in height or greater must be designed by a Professional Engineer licensed to practice in the State of Texas.
 - General notes have been updated.

Sheet 2.01 – Grading Plan – Sheet 01 of 06

- If 1-ft freeboard cannot be achieved, the development will need to request a variance by the City. At the City's discretion if the variance is granted.
 - All channels have been modified to meet the 1-ft freeboard. No variance is needed.
- Insert wall plans into this set since the wall is going to be utilized for the drainage channel.
 - The retaining wall plans will be provided at time of permit request. The retaining wall plans will be added to the record drawings at the end of the project.

Sheet 2.02 – Grading Plan – Sheet 02 of 06

- No objections to this approach even though it is not an ideal scenario. Is it possible to get approval from the downstream property owner as an assurance of avoiding potential future drainage questions from them?
 - We are matching the existing conditions conditions at our east boundary line downstream of the ponds.
- Make sure the drainage area map the pre and post discharge rates are clearly listed.
 - This information is now added to the grading plan and matches the flood study.

Sheet 2.03 – Grading Plan – Sheet 03 of 06

- List elevations (typ.)
 - The elevations are now listed on all cross sections.

Sheet 2.05 – Grading Plan – Sheet 05 of 06

- Insert wall design.
 - The retaining wall plans will be provided at time of permit request. The retaining wall plans will be added to the record drawings at the end of the project.

Sheet 2.07 – Grading Plan – West and Central Channel Profiles

- Missing info, show top of bank.
 - The top of bank is now shown in the profile.

Sheet 2.08 – Retaining Wall Plan – Sheet 01 of 10

- Retaining walls 4-ft in height, or greater, shall be structurally designed by a Professional Engineer licensed to practice in the State of Texas
 - The retaining wall plans will be provided at time of permit request. The retaining wall plans will be signed off on by a structural engineer. The retaining wall plans will be added to the record drawings at the end of the project.

Sheet 2.19 – Grading Plan – Sheet 01 of 06

- Clarify if the Phase 2 plans are for Mass Grading Only.
 - The Phase 2 plans are for Mass Grading only and a plot stamp has been added for clarification.

Sheet 2.25 – Grading Details

- Label the flow rates
 - The flow rate have been added to the plan. These flow rates are from the flood study.
- To be able to clearly show the attempt to spread the flow. Provide cross-sections at increments.
 - Additional cross-sections have been added to the plans.

Sheet 4.04 –Drainage Calculations

- Verify this is the correct size.
 - The drop inlets have been resized to 2-ft x 2-ft inlets.

Sheet 4.05 –Drainage Calculations

- If sizing the storm drain for the 25-year event (the minimum by FTW iSWM manual) then show the structural overflow at each sag inlet for the remainder of the flood mitigation.
 - A new sheet has been created that shows the difference in the Q25 and Q100 for all storm main lines, 100-yr overflow capacity of street, and the overflow path.
- Downstream velocity is zero? (shown on several, clarify if this is pond or what the condition is).
 - The downstream velocities have been edited to not be zero based on the storm line outfalls.

Sheet 5.01 – Line A1

- Show and label HGL in all profiles.
 - HGL lines are now shown where applicable. In other cases where there is no HGL, the lines are labeled in partial flow.

Sheet 5.02 – Line A2 Sta 0+00 – 6+00

- Recommend aerators in the retention pond.
 - All ponds that have a normal pool will have fountains in them for aeration.
- How is HGL below the pipe.
 - HGL below the pipe has been corrected and lines are now labeled as partial flow.

Sheet 5.03 – Line A2 Sta 6+00 – End & Line A3

- Sewer?
 - The label on the parallel pipe now reads sewer for clarification.

Sheet 5.06 – Line B2 Sta 0+00 – 7+50

- Consider a railing on top of the headwalls due to drop off
 - The hand railing details have been added to Sheet 5.15.

Sheet 5.12 – Line C3

- Where are the storm calculations for the box culverts
 - The box culvert calculations were done with an HY-8 Model.
- Exceed maximum discharge velocity
 - We are providing grouted rock rip rap downstream of culvert to reduce the velocity by 0.09 fps in the channel.

Sheet 5.13 – Line C5

- Gator wrap or provide other means of making joints less likely to leak where standing water will be present in the pipe.
 - We are providing gasketed box and gasketed pipe for any areas where pond water will back up into pipes. Notes are provided on the plans.

Sheet 5.14 – Line C8 & D2

- It appears storm calculations for all storm lines are not shown
 - The storm calculations for C6, C6-C, C6-D, C6-E, & C6-F are all included in the calculations.

Sheet 5.16 – CUL-01 0+00 – 6+50

- Show top of bank
 - The top of banks are now shown in the profile.

Sheet 5.17 – CUL-01 6+50 - End

- Show top of bank
 - The top of banks are now shown in the profile.

Sheet 5.18 – OS-1 & OS-2

- Max discharge is 8 fps
 - The pipes have been sized per the flood study for detention purposes. There is substantial baffles and rock rip rap down stream of the culvert outfalls to slow down any erosive velocities.
- Missing Hydraulic Information
 - Hydraulic information has now been added.

Sheet 6.00 – Overall Water Plan

- Approval letter from JCSUD required prior to construction, including fire flow coverage
 - An official approval letter has not been issued by JCSUD. JCSUD is awaiting the final hydraulic analysis which they perform once Civil Plans are substantially complete. I am



including the information provided by JCSUD for the Lone Oak Development reevaluation based on proposed improvements.

- Fire Chief shall approve all fire hydrant locations
 - Per Justin French phone call conversation on 05-29-2024 the Fire Chief has reviewed the water plans and approved the FH locations.

Sheet 7.05 – Sanitary Sewer Plan – SS-1 (Start – STA 32+00)

- Offsite Easement needed until this portion is platted.
 - The sewer easements are now labeled in the plans. We are submitting a separate instrument document for both easements.
- Site to be dedicated to the City
 - The Lift Station lot will be dedicated to the City.

Sheet 7.07 – Sanitary Sewer Plan – SS-1 (Start – STA 26+00)

- Include full pipe flow and velocity on the profiles
 - Information has been added to each of the sewer profiles.

Sheet 7.15 – Sanitary Sewer Plan – SS-26 (Start – STA 25+00)

- Recommend a 5-ft manhole for 15-inch lines
 - All manholes along the proposed 15-inch sewer line has been upsized to a 5-ft diameter.

Sheet 7.17 – FM-1 – STA. 0+00 – 9+50

- Force main sizing will be confirmed with the lift station review.
 - The Lift Station plans are being submitted at the same time of the Civil Plan review, so that they can be looked at simultaneously.

Sheet 7.18 – FM-1 – STA. 9+50 – 18+50

- Recommend not installing a completely flat section. Lower the flowline at station 11+19 slightly so as a slight but continuously uphill grade can be constructed.
 - The force main grade has been lowered to achieve a 0.10% slope.

Sheet 7.19 – FM-1 – STA. 8+50 – 25+00

- Combination air-release/vacuum valve
 - The note on the plans have been updated to be a "Combination air-release/vacuum valve."

Sheet 7.20 – FM-1 – STA.25+00 – 35+00

- Keep Slight Grade
 - The force main grade has been lowered to achieve a 0.10% slope.



Sheet 7.23 – Sanitary Sewer Details

- Include conshield or approved equal (by the City) corrosion protection.
 - A note has been added to the details to reflect the provided comment.

At this time, we feel we have addressed the comments and would like to move forward with an early grading of the project.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris Wall". The signature is fluid and cursive, with the first name "Chris" and the last name "Wall" clearly distinguishable.

Chris Wall, PE
Vice President/Partner



City of Alvarado
104 W. College Alvarado, TX 76009
817-790-3351 ♦ Fax 817-783-7925 ♦ www.cityofalvarado.org

June 13, 2024

JBIPartners, Inc.
Attn: Chris Wall
2121 Midway Road, Suite 300
Carrollton, TX 75006
cwall@jbipartners.com

Re: Lone Oak Addition Final Plat Phase 1

Dear Mr. Wall,

This letter is to inform you that on June 13, 2024, the Alvarado Planning and Zoning Commission recommended disapproval to City Council following receipt of the Lone Oak Addition Phase 1 final plat on June 6, 2024. The following comments have not being adequately addressed to result in compliance with the Alvarado subdivision ordinance.

1. Attached remarks from the City Engineer must be adequately addressed prior to final plat approval.

Sincerely,

Justin French, AICP
Community Development Director
City of Alvarado
104 W. College Ave. | Alvarado, TX 76009
817.790.3351 | 817.240.9585 mobile
frenchj@cityofalvarado.org

Attachments: City Engineer Remarks on Final Plat and Civil Plans

Cc:
GRBK Edgewood LLC
Century Land Holdings of Texas, LLC
Attn: Bobby Samuel
5501 Headquarters Drive, Suite 300W
Plano, TX 75024
bsamuel@greenbrickpartners.com

Member Texas Municipal League

From: [Craig Kerkhoff](#)
To: [Justin French](#); [Michael Dwiggins](#)
Subject: Lone Oak - Comments
Date: Wednesday, June 12, 2024 1:30:58 PM
Attachments: [ESMT-SSWR-1 \(CC Comments\).pdf](#)
[ESMT-SSWR-2 \(CC Comments\).pdf](#)
[ESMT-UE-DE-1 \(CC Comments\).pdf](#)
[ESMT-UE-DE-2 \(CC Comments\).pdf](#)
[ESMT-WE-1.pdf](#)
[BBC010 - Lone Oak Phase 1 - 7th Submittal - 06-06-2024.BHC Comments.pdf](#)

*****EXTERNAL EMAIL*****

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Justin,

I've attached the remaining pages with comments that have not been addressed or that we can not waive. Summarizing:

- We recommend the NCTCOG standard Class C pavement for public roadways, which requires 3,600 PSI strength (minimum)
- They are draining off-site to their own pond in phase 2, but through unplatted area. They did a drainage easement for this, but still need to grade a temp channel
- Rebar spacing on their details is not correct. This is minor as the spacing shown on their typical section is correct
- They are proposing to permit the retaining walls for the public improvements separately. These typically are a separate permit through the building department but are often applicable to the walls between lots. They are showing walls along the drainage easement, to which the drainage easement functionality will be reliant. My preference would be to have those plans in this set, however I do not object to the walls plans being reviewed and permitted by the City's standard permitting process. The condition to the developer being that none of the public improvements will be accepted by the City until the plans for the walls of public improvements are submitted (and subsequent permit from the building department) and the walls constructed and inspected.
- Need to revise run-off note on a couple sheets. Overall calculations appear correct, just how they are calling out in a few locations.
- JSUD has not approved the water line plans. The developer's engineer states that JSUD won't review the plans until they are substantially complete (to which I think they are). Further, the letter for re-evaluation that JBI submitted states that the developer has to contribute to off-site improvements for JSUD. The City may want

a copy of that agreement so as you know water service can be had.

I've attached the markups along with the easement reviews. Lift station and flood study comments appear addressed.

Of the comments above, the two main (in my opinion) would be the strength of the concrete and the water study. The 3600 psi is standard throughout North Texas for public paving (if not higher strength). For the water study, JSUD hasn't confirmed the water pressure for the proposed development yet.

Craig M. Kerkhoff, PE, CFM

Birkhoff, Hendricks & Carter, L.L.P.

TBPE Firm F526, TBPLS Firm 100318

11910 Greenville Ave., Suite 600

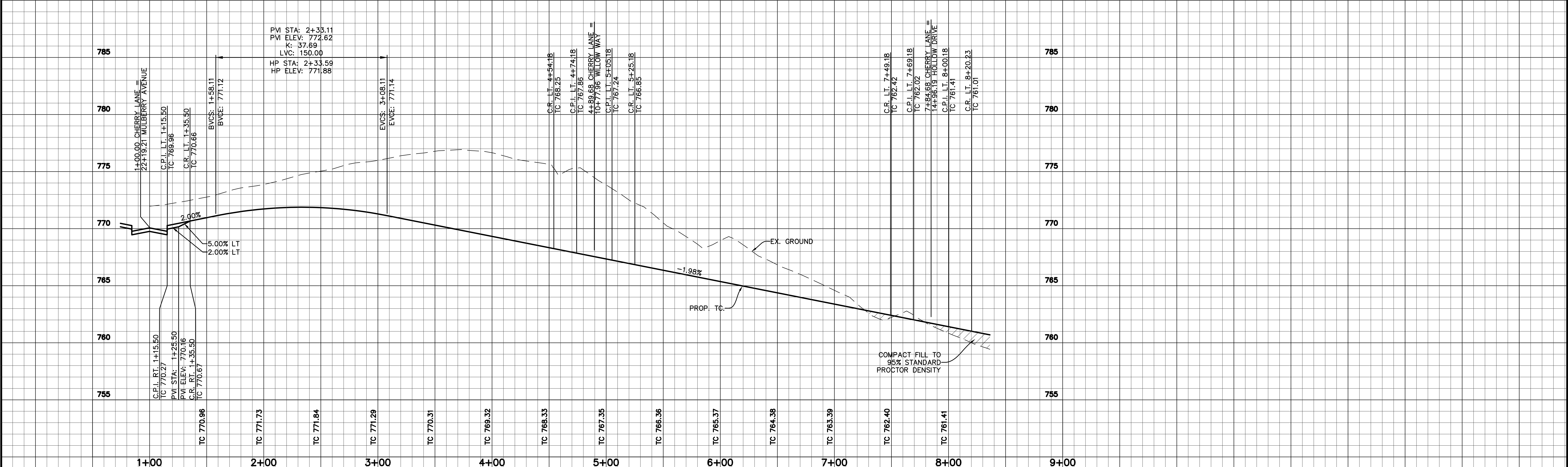
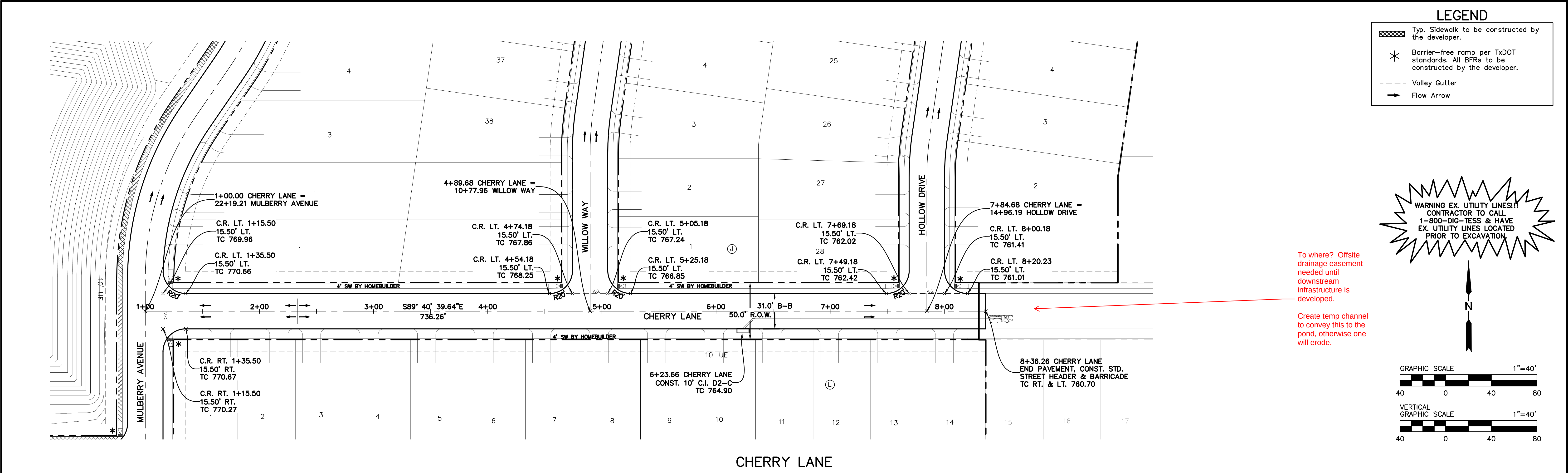
Dallas, Texas 75243

(P) 214-361-7900

(F) 214-461-8390

Birkhoff, Hendricks & Carter, L.L.P.

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BENCHMARKS

BM 1) "X" cut on concrete driveway apron located on the southwest side of County Road No. 607, in fron of residence located at 1317 County Road No 607, approximately 300 feet northwest of County Road No. 505. ELEVATION = 707.20'

BM 2) "X" cut on concrete headwall located on the east side of County Road No. 607, approximately 3,500 feet north of U.S. Highway No. 67, near the most easterly south corner of subject tract. ELEVATION = 756.49'

DESIGNED BY: ---

DRAWN BY: ---

CHECKED BY: ---

THE SEAL OF THE STATE OF TEXAS
CHRIS WALL
123372
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by CHRIS WALL, P.E. 123372. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

05-31-2024

JBI PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

PAVING PLAN & PROFILE

CHERRY LANE

LONE OAK, PHASE 1

City of Alvarado, Johnson County, Texas

PROJECT NO. BBC010

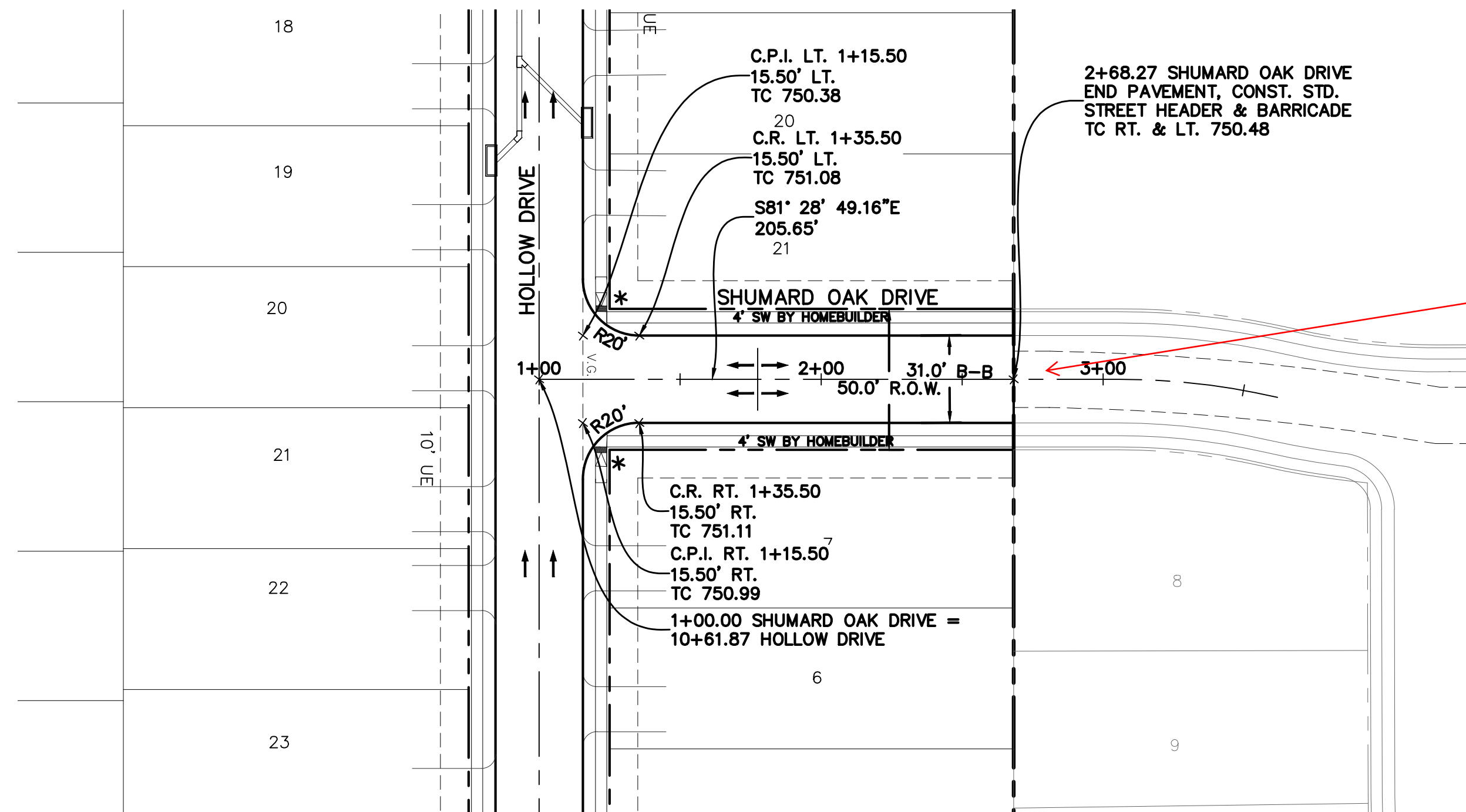
SHEET NO. 1.21

 Typ. Sidewalk to be constructed by the developer.

 Barrier-free ramp per TxDOT standards. All BFRs to be constructed by the developer.

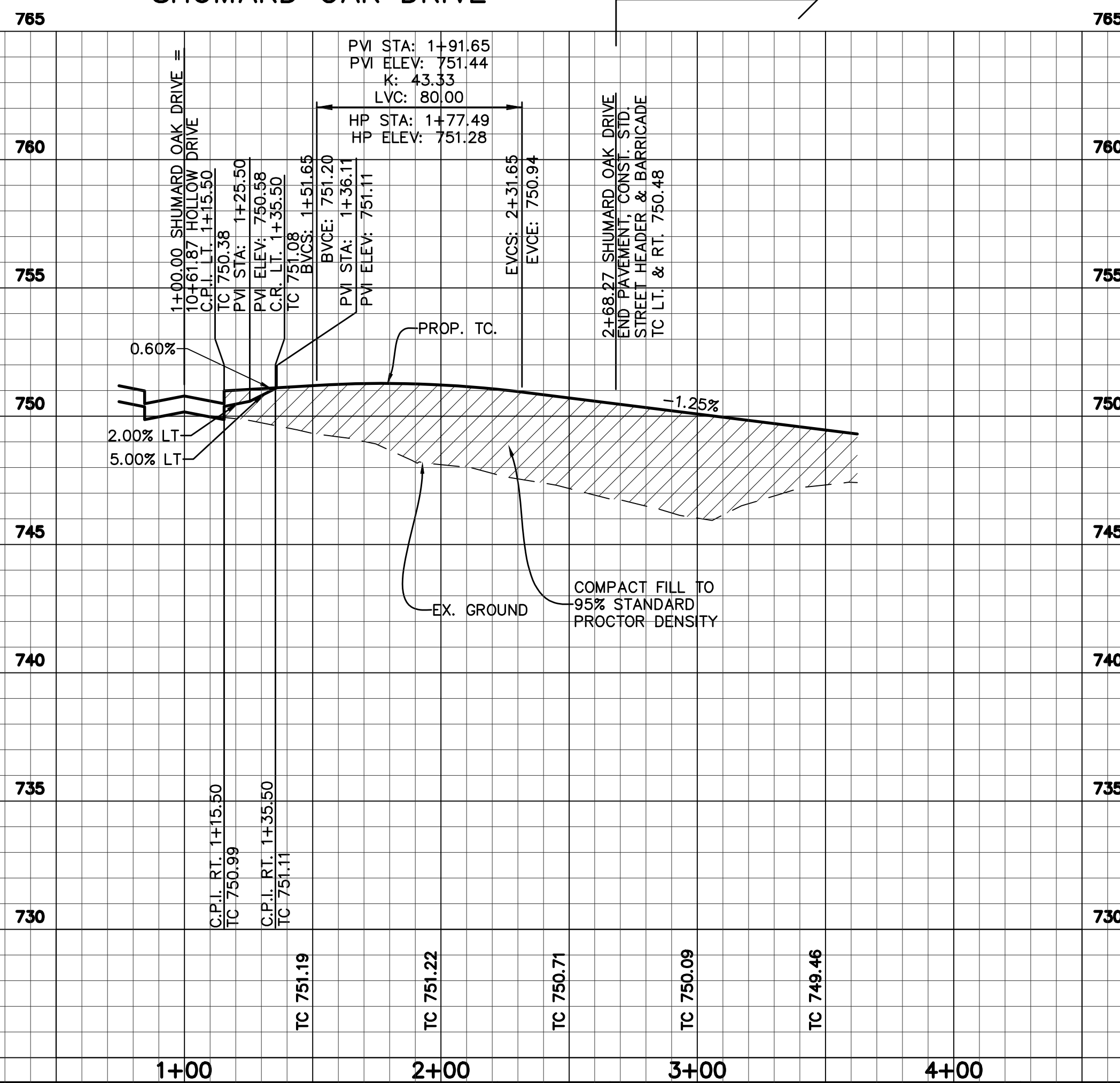
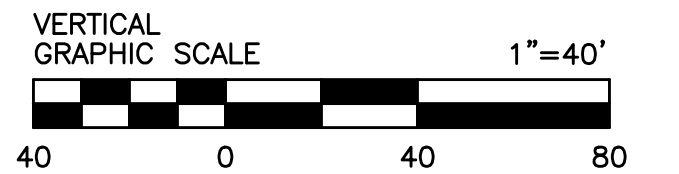
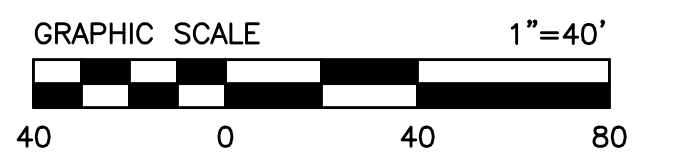
 Valley Gutter

 Flow Arrow



- Create temp channel to convey this to the pond, otherwise one will erode.

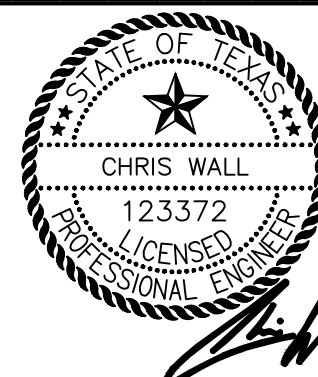
WARNING EX. UTILITY LINES!!!
CONTRACTOR TO CALL
1-800-DIG-TESS & HAVE
EX. UTILITY LINES LOCATED
PRIOR TO EXCAVATION.



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ELEVATION = 707.20'

NO.	REVISIONS DURING CONSTRUCTION	BY	DATE	NO.	SUBMITTALS	DATE

DESIGNED BY:	---
DRAWN BY:	---
CHECKED BY:	---



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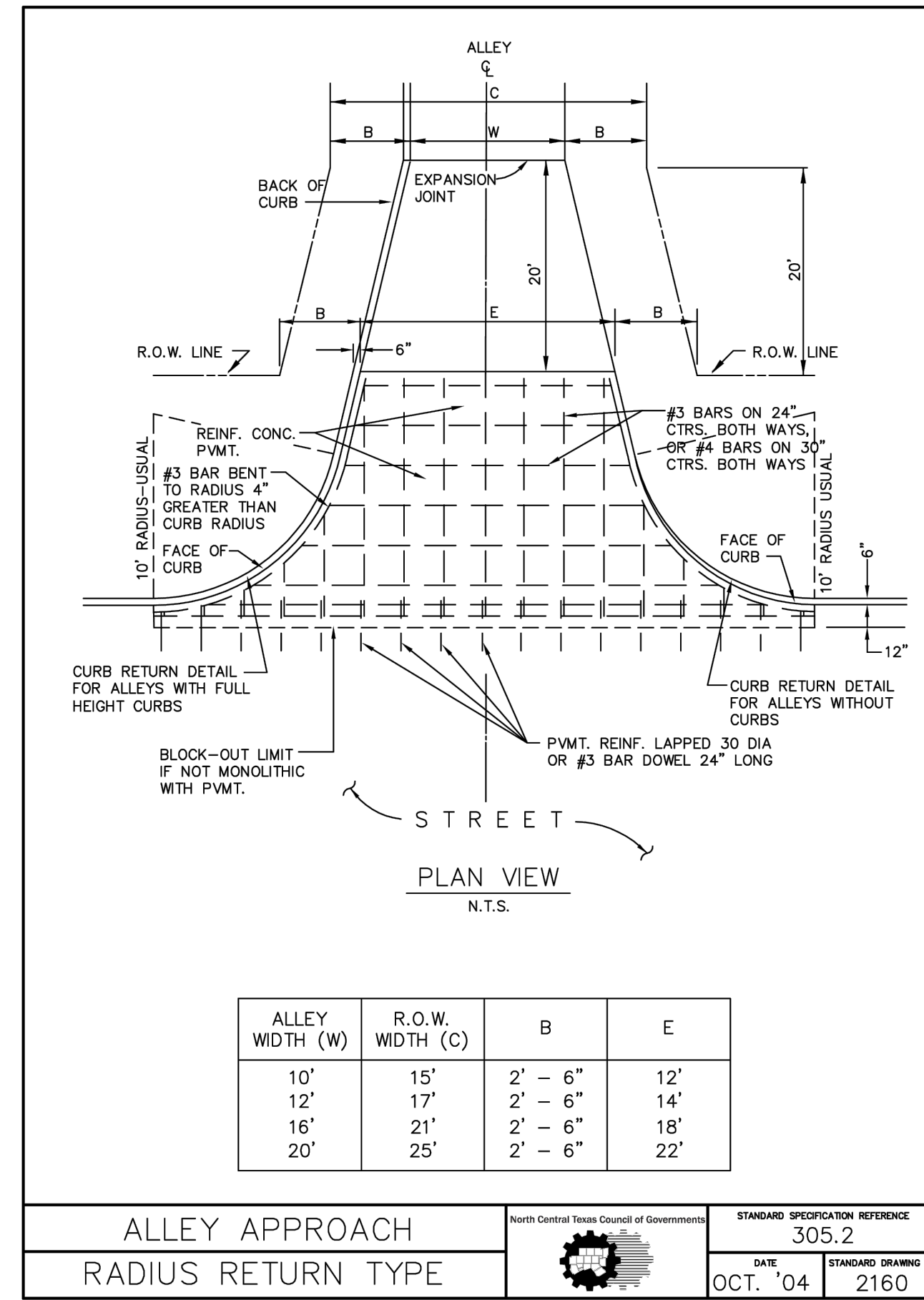
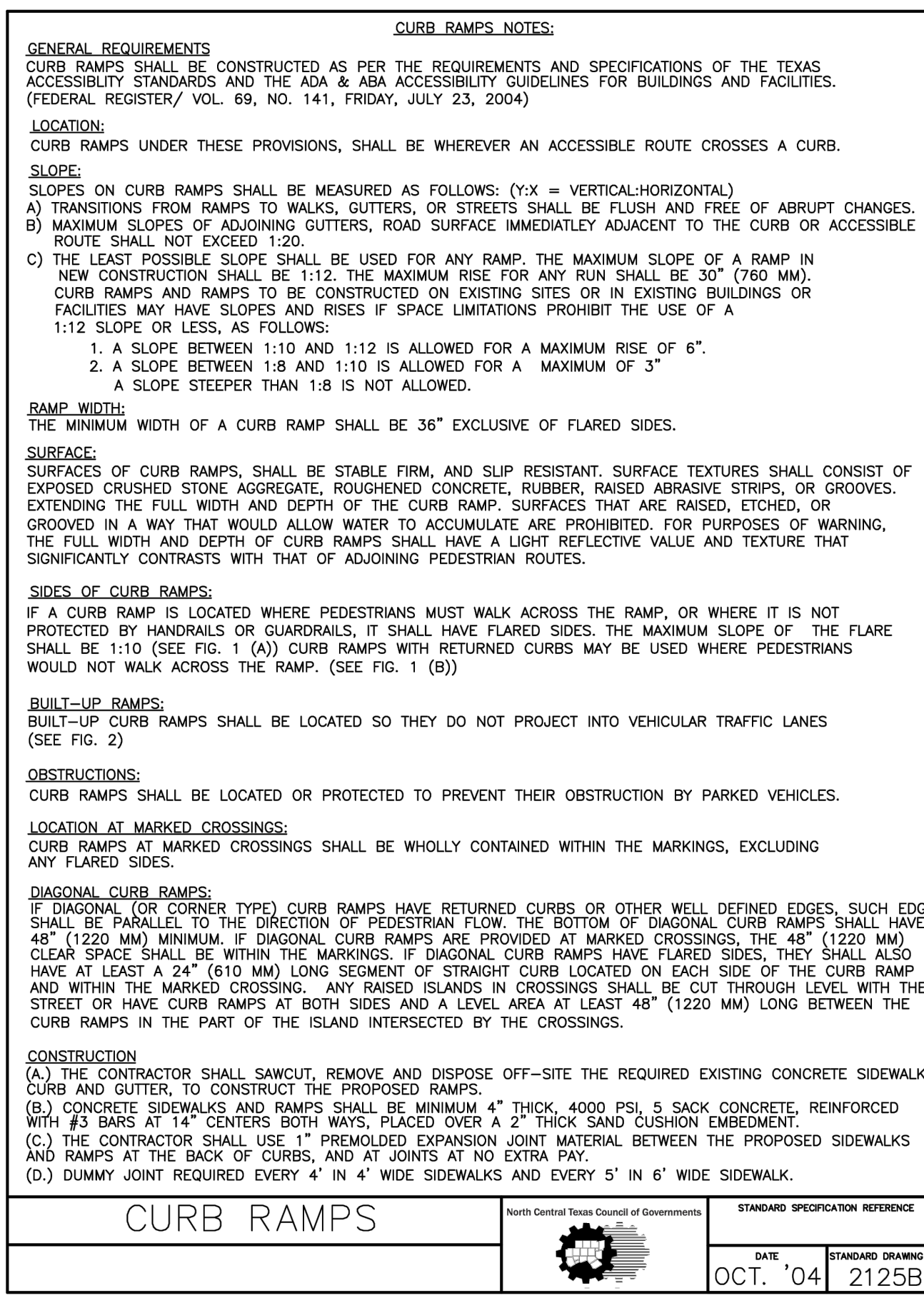
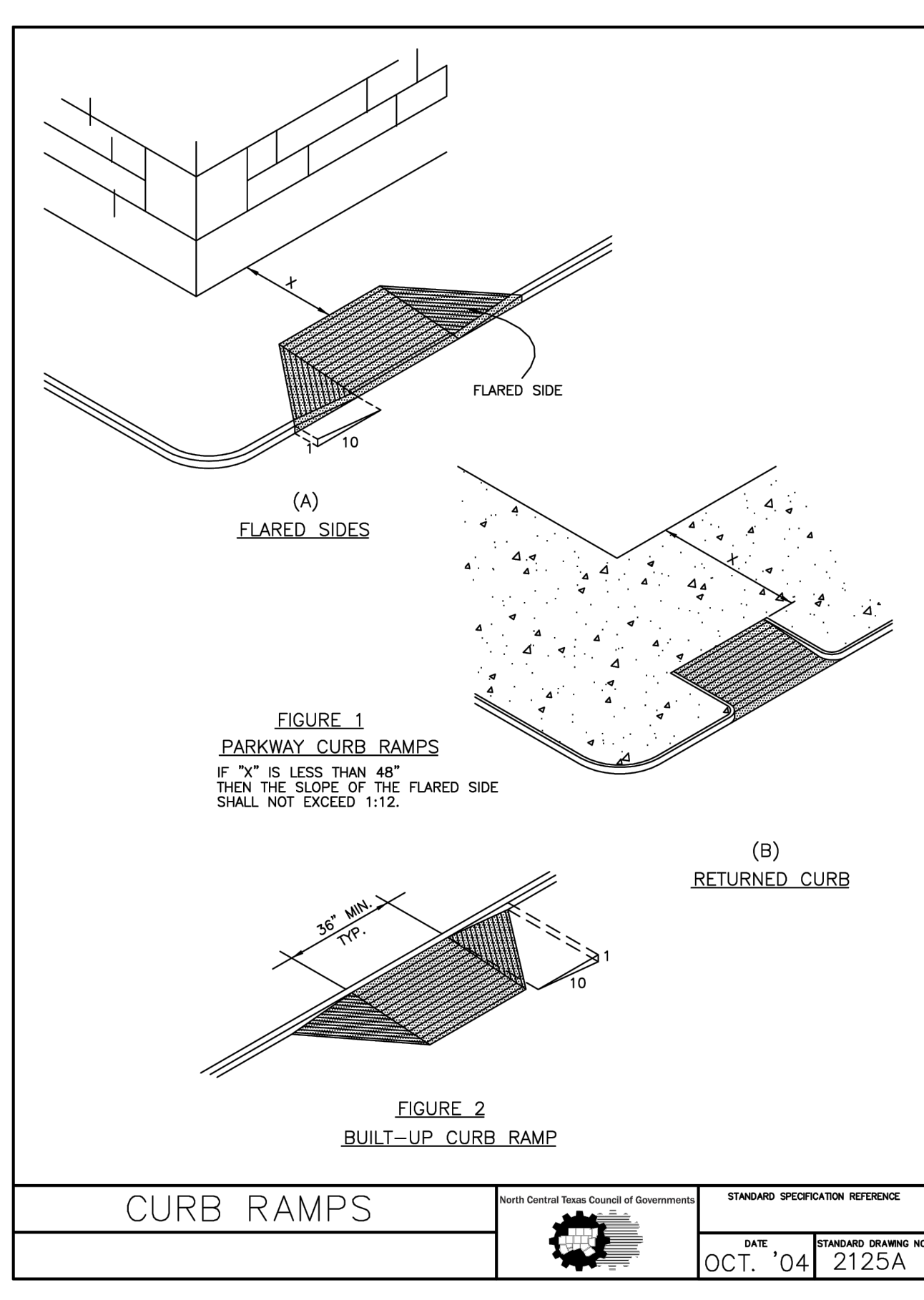
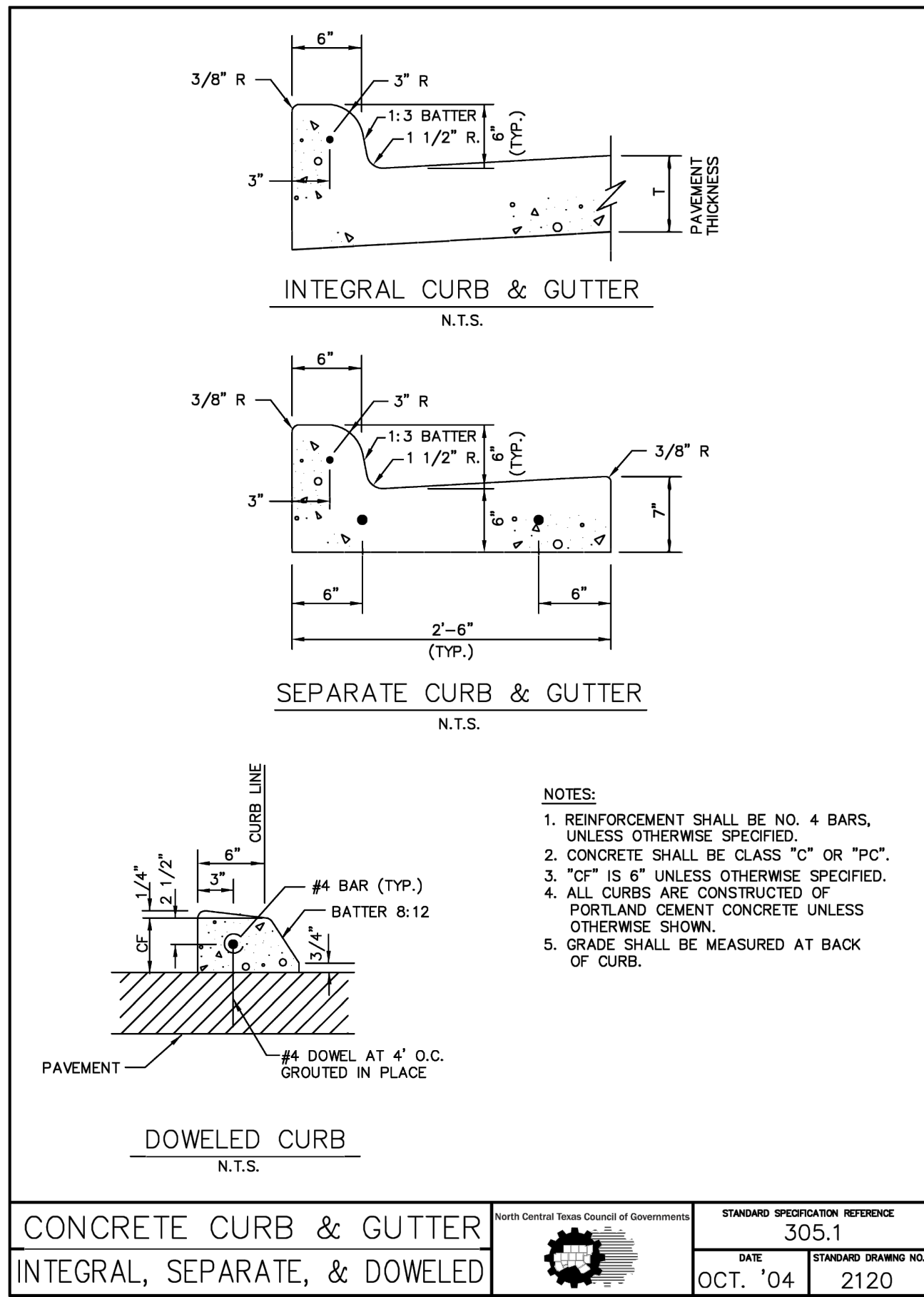
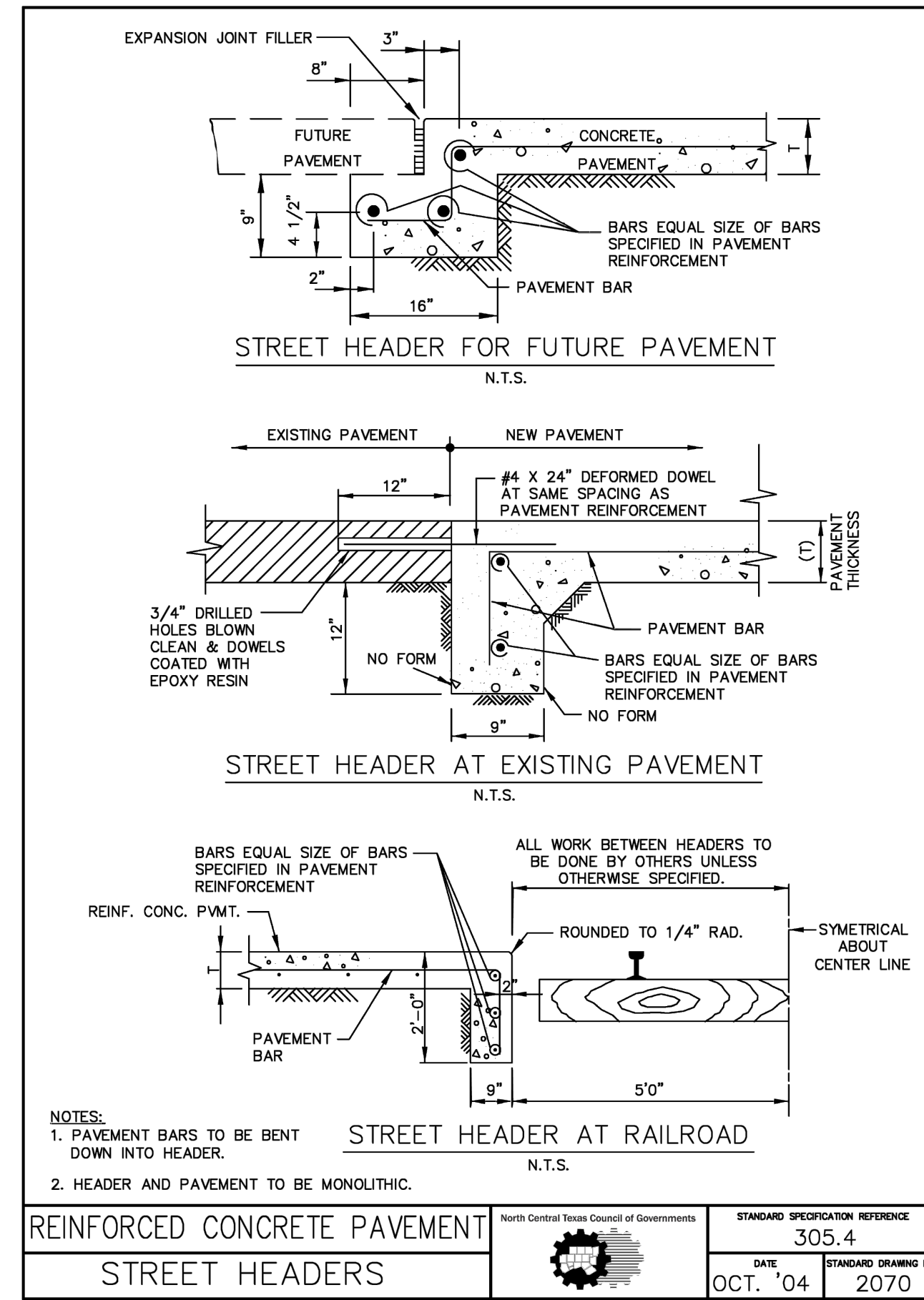
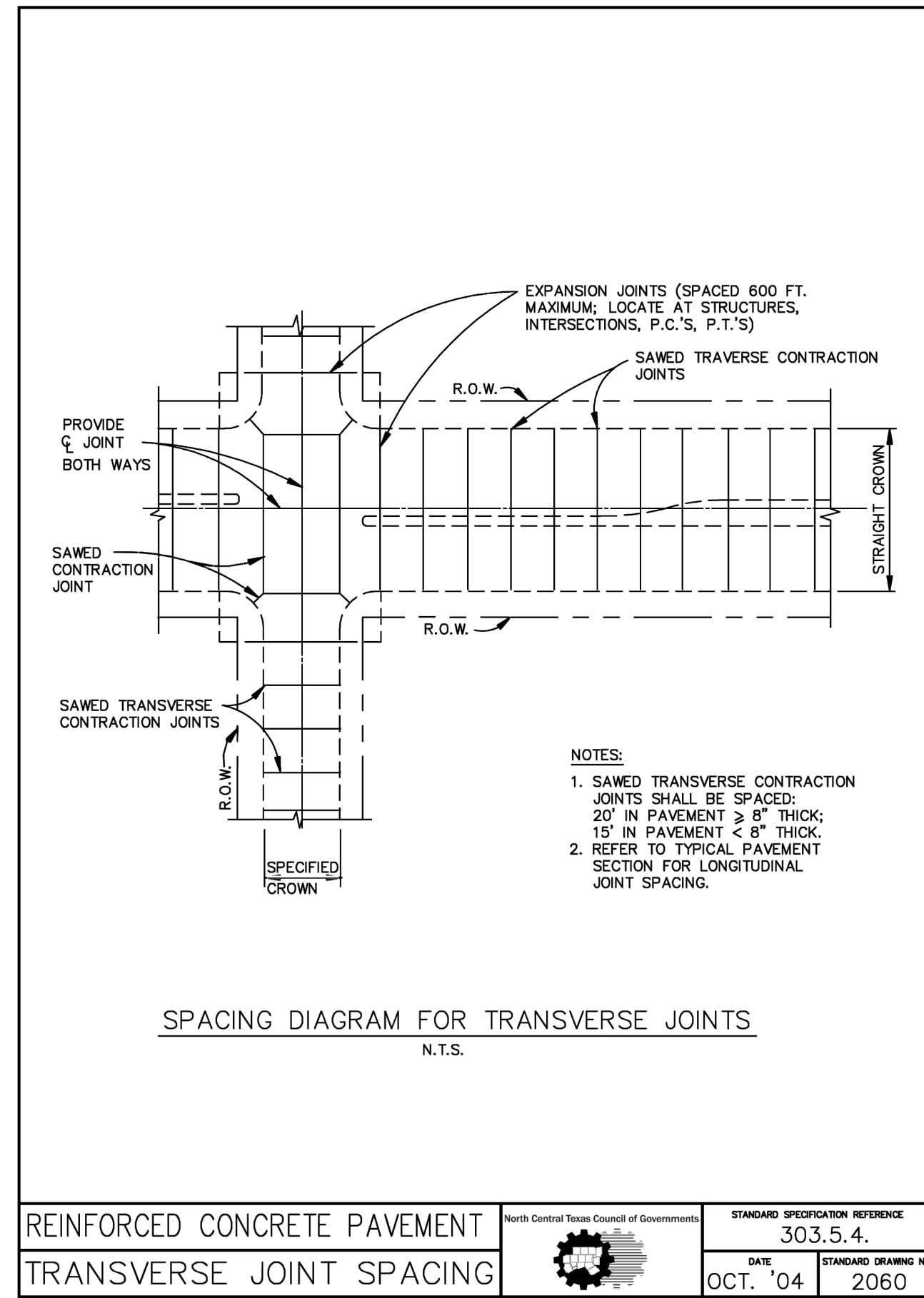
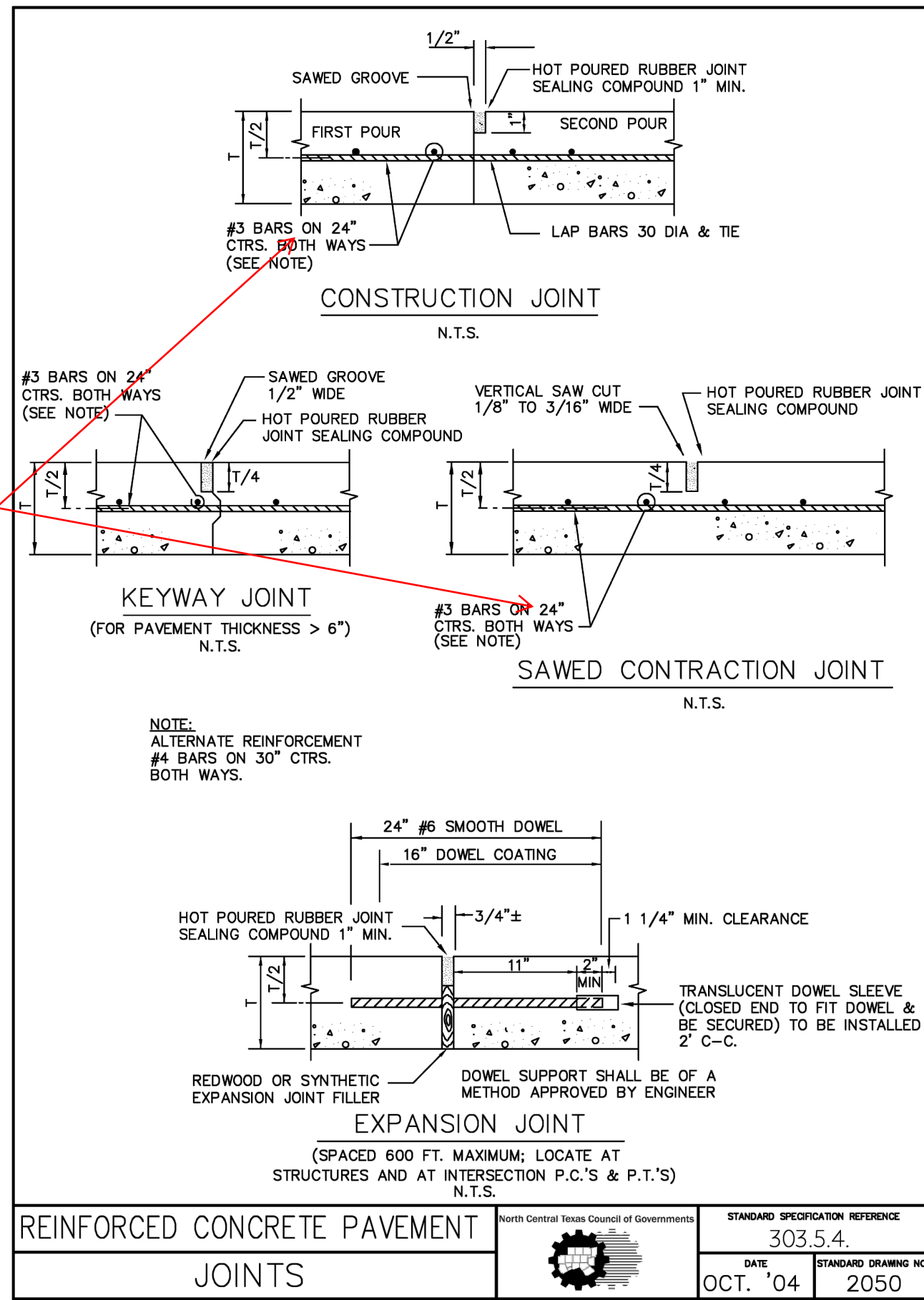
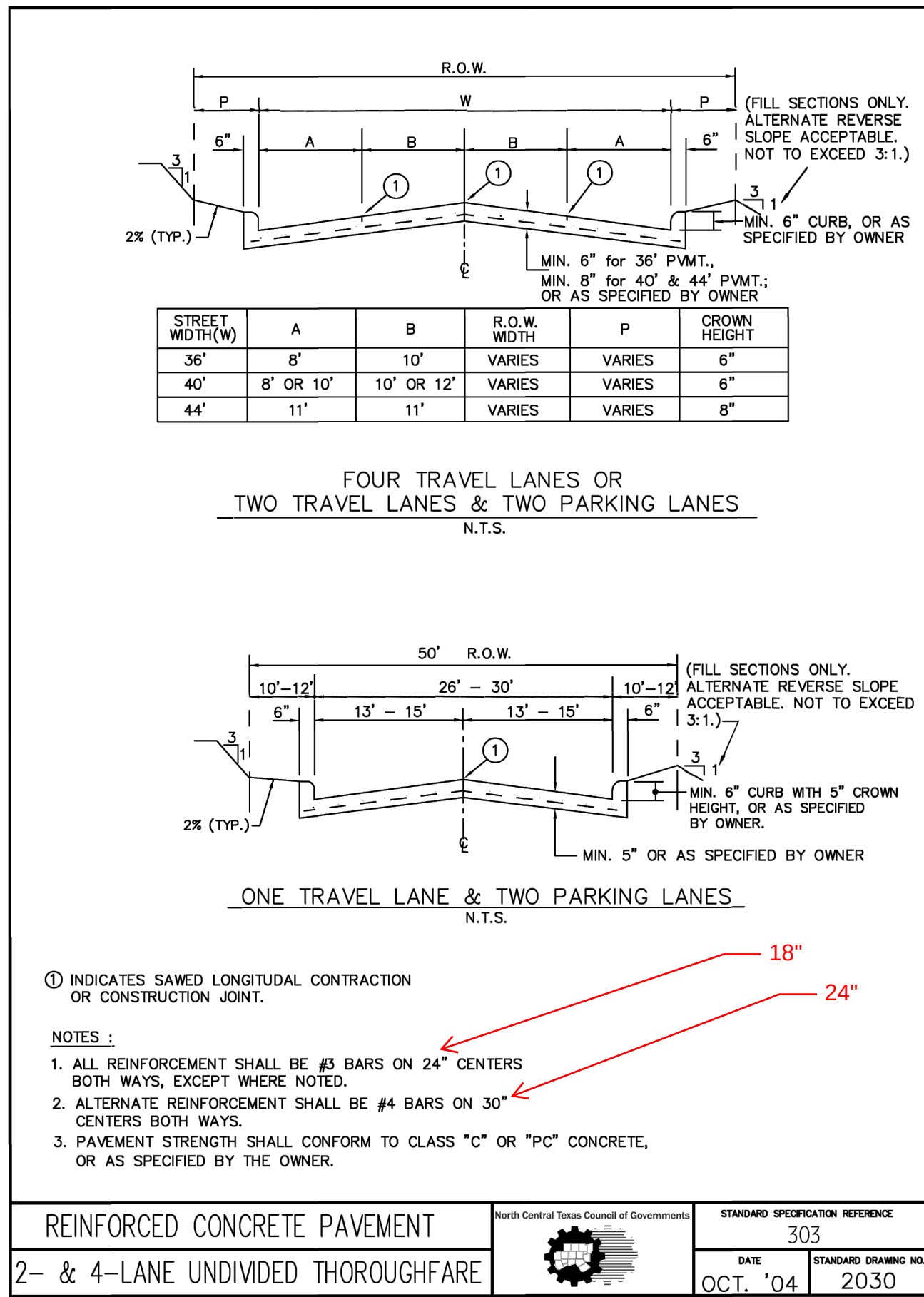
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Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

SHUMARD OAK DRIVE

LONE OAK, PHASE 1

City of Alvarado, Johnson County, Texas

PROJECT NO.	BC010
SHEET NO.	1.22



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NO.	REVISIONS DURING CONSTRUCTION	BY	DATE	NO.	SUBMITTALS	DATE

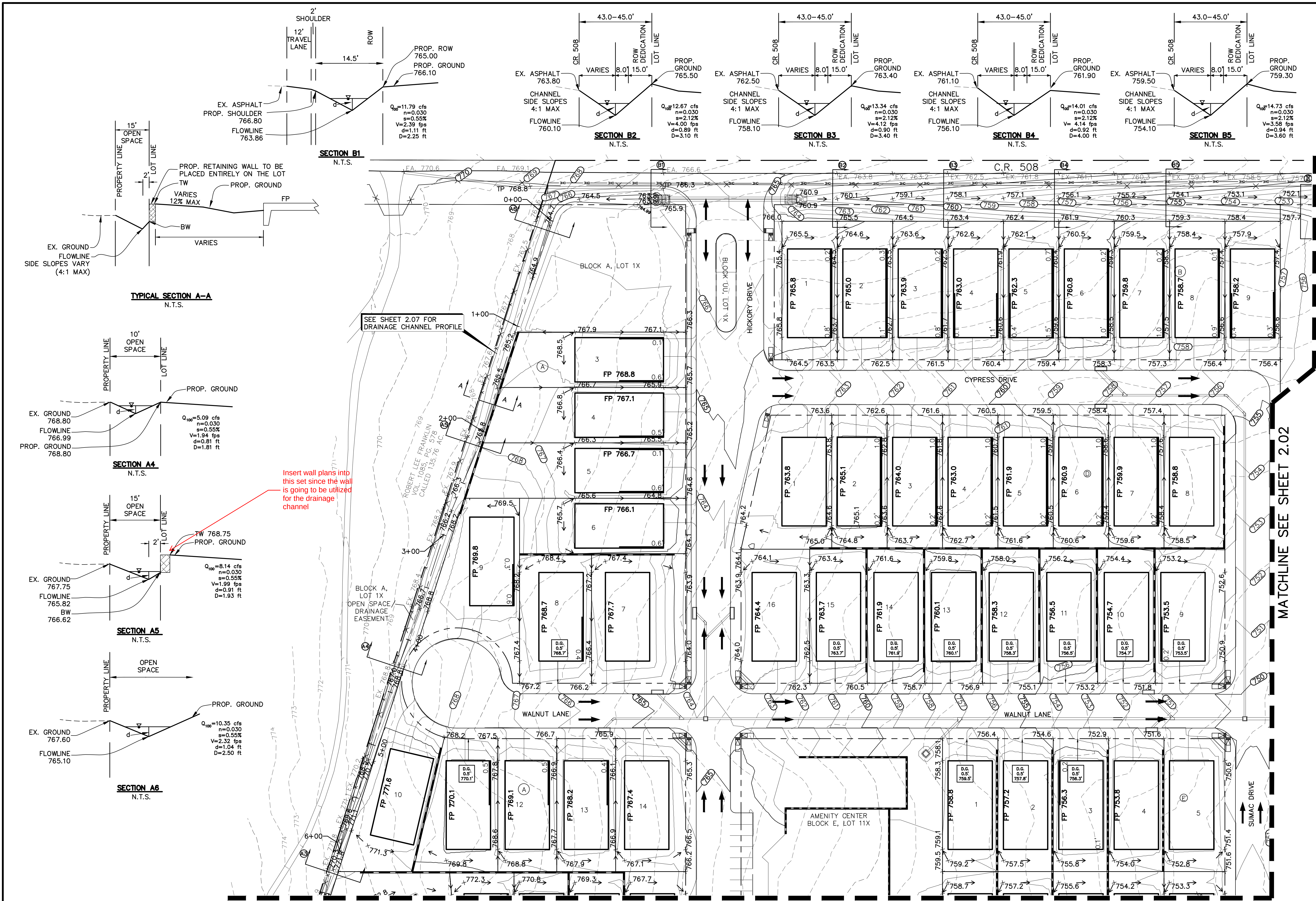


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TBPE No. F-438
TBPLS No. 10076000

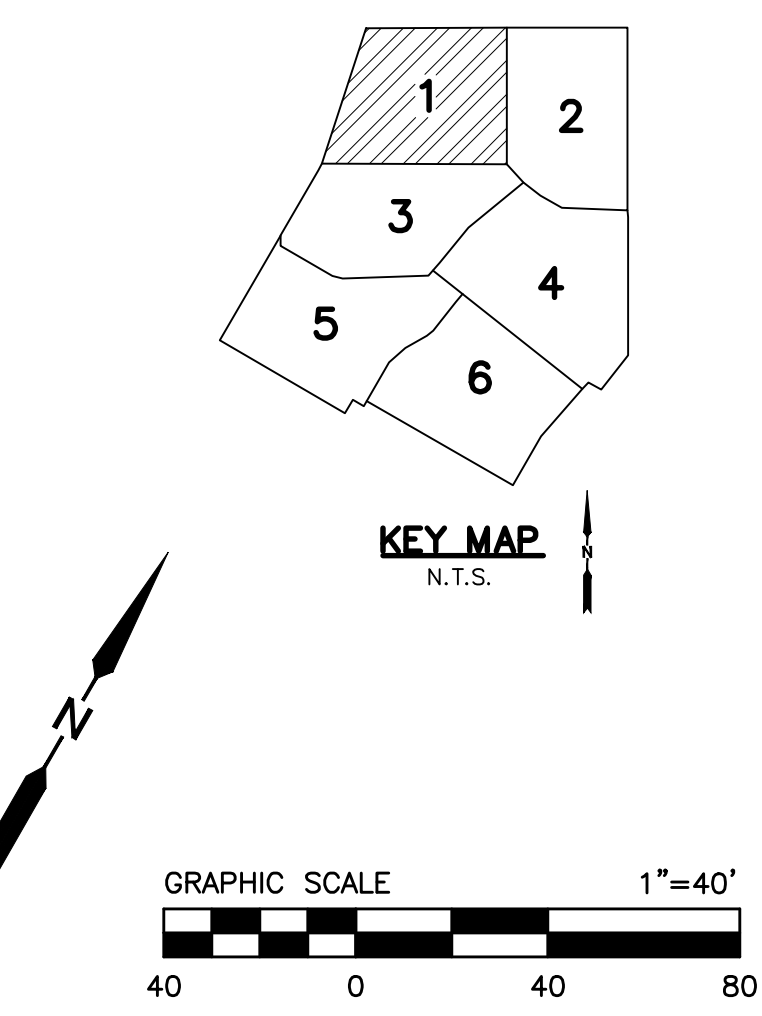
PAVING DETAILS SHEET 01 OF 02	PROJECT NO.
LONE OAK, PHASE 1	BBC010
City of Alvarado, Johnson County, Texas	SHEET NO.
	1.39



LEGEND

- FP 570.5 FINISHED PAD ELEVATION
- (575) PROPOSED MAJOR CONTOUR
- (574) PROPOSED MINOR CONTOUR
- x570.5 PROPOSED GROUND
- 575 EXISTING MAJOR CONTOUR
- 574 EXISTING MINOR CONTOUR
- x EX. 570.5 EXISTING GROUND
- PROP. STORM DRAINAGE FLOW
- PROP. DRAINAGE FLOW DIRECTION
- PROP. RETAINING WALL
- TW 537.4 / BW 535.9 ELEVATION OF GROUND AT TOP OF WALL / LOW SIDE OF WALL
- TW 537.4 / BW 535.9 ELEVATION OF GROUND AT TOP OF WALL / LOW SIDE OF FUTURE WALL
- D.G. X.X' DROP GARAGE
- X.X' DROP GARAGE DELTA
- XXX.X' DROP GARAGE ELEVATION AT FACE
- 1.5 EXPOSED GRADE BEAM-NOT TO EXCEED 18" W/ DESIGN
- INTERIM DIVERSION DIKE/BERM
- INTERIM DIVERSION SWALE

- GRADING NOTES**
- Storm water pollution prevention plan (SWPPP) to be completely implemented prior to any grading work.
 - Grading shall not create lot-to-lot drainage condition unless approved by city or city engineer during design and easements are provided.
 - Retaining walls to be placed entirely on the high side lot, unless otherwise noted.
 - The contractor shall be responsible for maintaining positive drainage throughout the site from all offsite areas.
 - Specifications for construction and testing for excavation and filling on private lots shall be provided by the project's geotechnical engineer. Specifications for construction and testing for excavation and filling within public right-of-ways shall be provided by the governing agency. In the event of an absence of a specification by a governing agency, the geotechnical engineer's specifications shall control. The contractor shall be responsible for obtaining the specifications from the geotechnical engineer and governing agency prior to commencing work.
 - The contractor shall be responsible for scheduling testing of the excavation and filling with the owner's testing laboratory. If the contractor is responsible for obtaining the testing laboratory, the selected testing laboratory shall be approved by the owner.
 - Retaining walls 4' in height or greater may require a separate permit from the building inspection department, contractor to confirm. Retaining walls 4' in height or greater shall be structurally designed by a Professional Engineer licensed to practice in the State of Texas.
 - Retaining walls & gabion walls shown on this plan are for location and elevation purposes only. Structural stability engineering of the retaining walls are not part of the design responsibility of JBI partners.
 - Any slopes greater than 3:1 shall be reviewed by the owner's geotechnical engineer for stability purposes. All slopes are designed at a maximum of 4 horizontal to 1 vertical unless otherwise noted.
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DRAWN BY: ---

CHECKED BY: ---

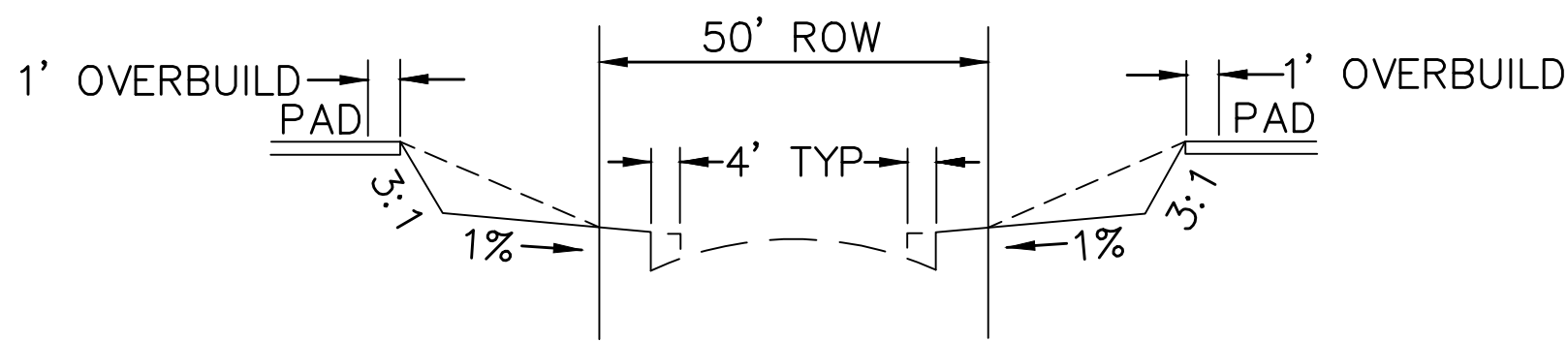
Professional Engineer Seal: CHRIS WALL, 123372, LICENSED PROFESSIONAL ENGINEER, 05-31-2024

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JBI PARTNERS

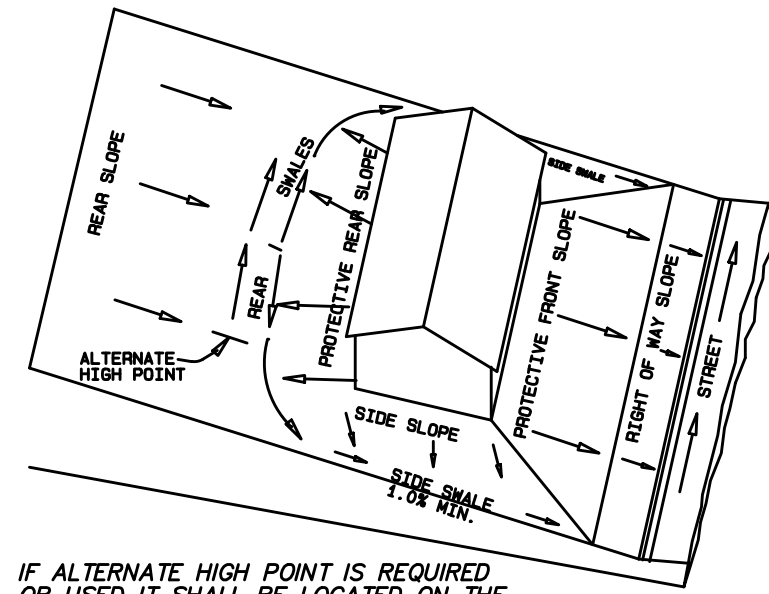
2121 Midway Road
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Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

GRADING PLAN		PROJECT NO.
SHEET 1 OF 6		BBC010
LONE OAK, PHASE 1		SHEET NO.
City of Alvarado, Johnson County, Texas		2.01



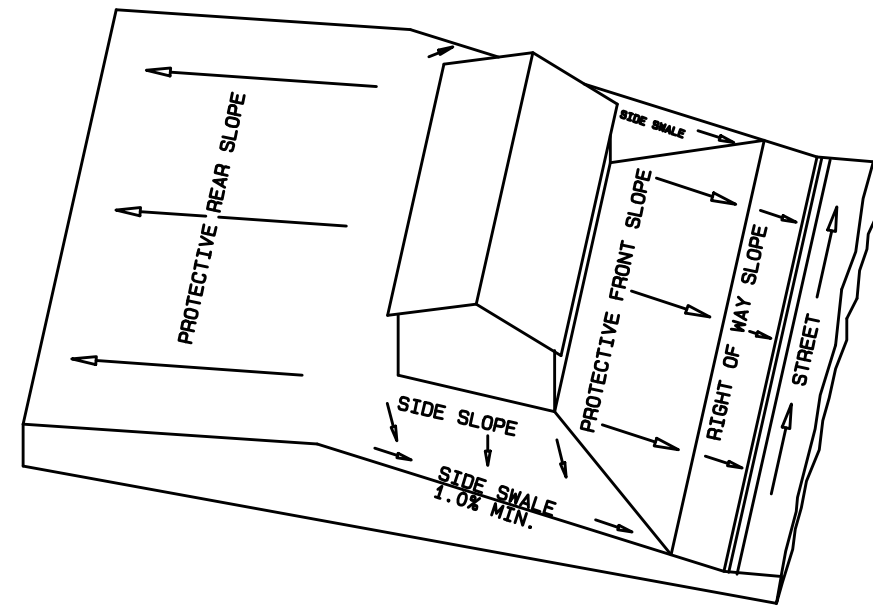
CONTRACTOR TO SLOPE FRONT YARD FROM ROW AT 1% THEN UP AT 3:1 TO FINAL PAD ELEVATION

TYPICAL GRADING CROSS SECTION
N.T.S.

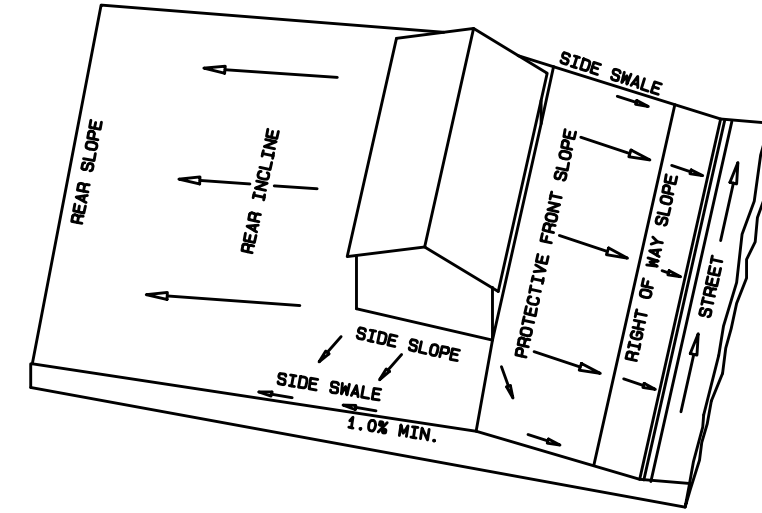


IF ALTERNATE HIGH POINT IS REQUIRED OR USED IT SHALL BE LOCATED ON THE HIGH SIDE OF THE LOT.

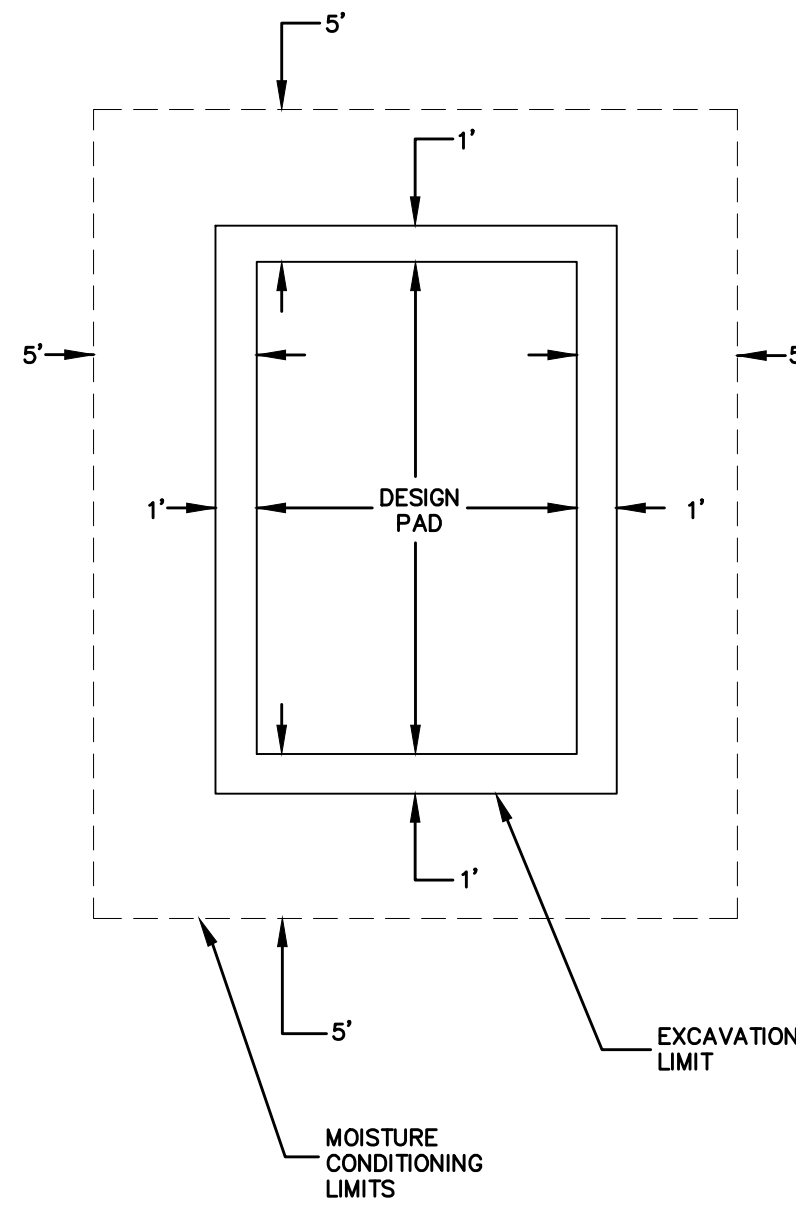
LOT GRADING TYPE A



LOT GRADING TYPE B

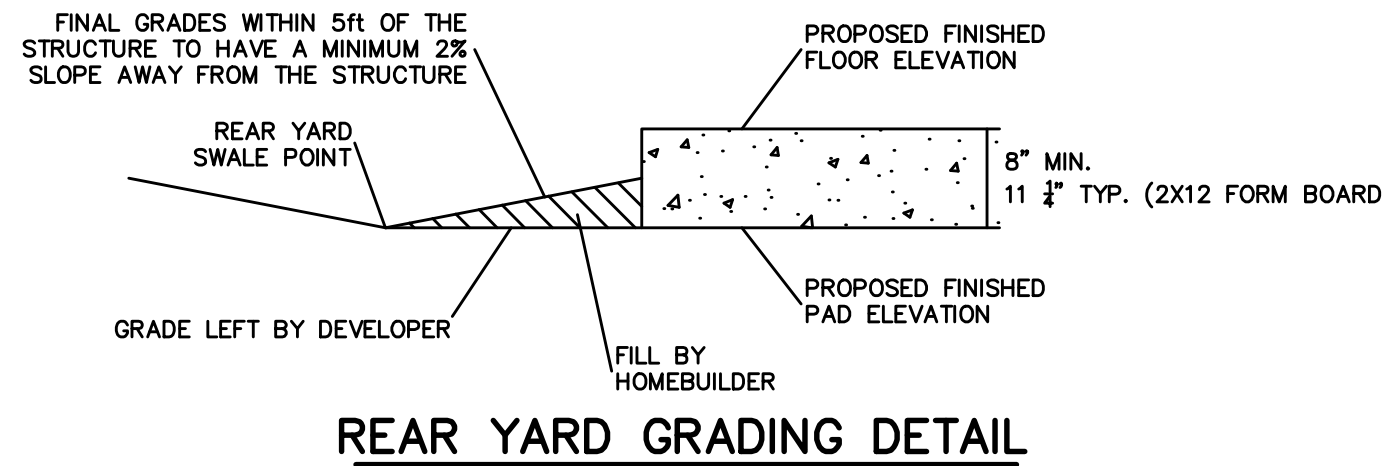
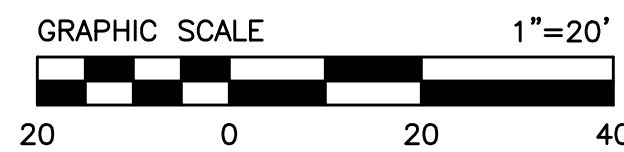


LOT GRADING TYPE D

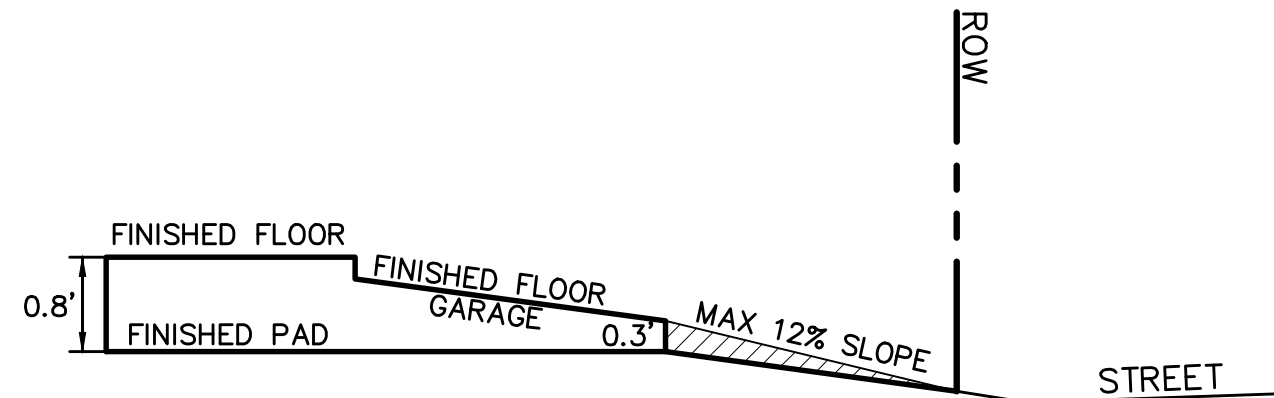


EXCAVATION NOTES:
1. CONTRACTOR TO BUILD PAD 1' BEYOND DESIGN PAD.
2. CONTRACTOR TO MOISTURE CONDITION 5' BEYOND PAD PER GEOTECH RECOMMENDATIONS.

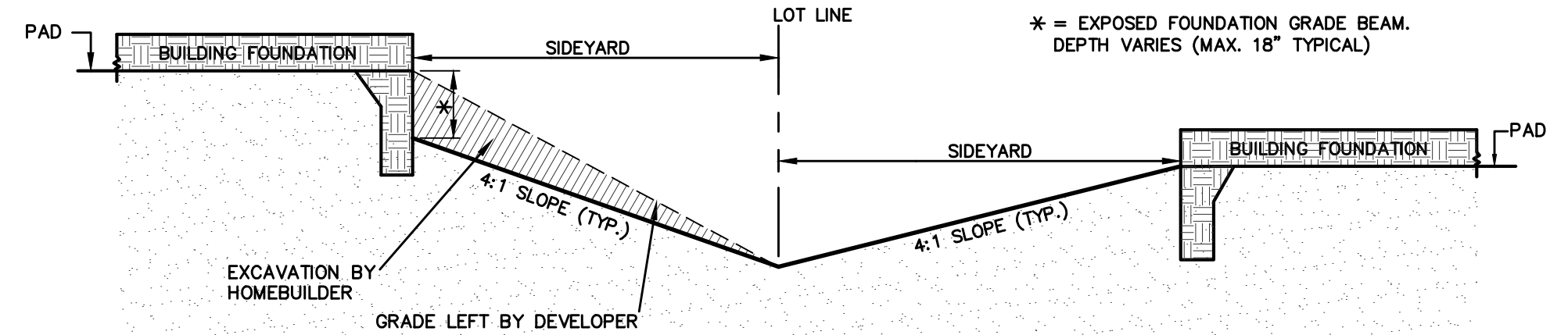
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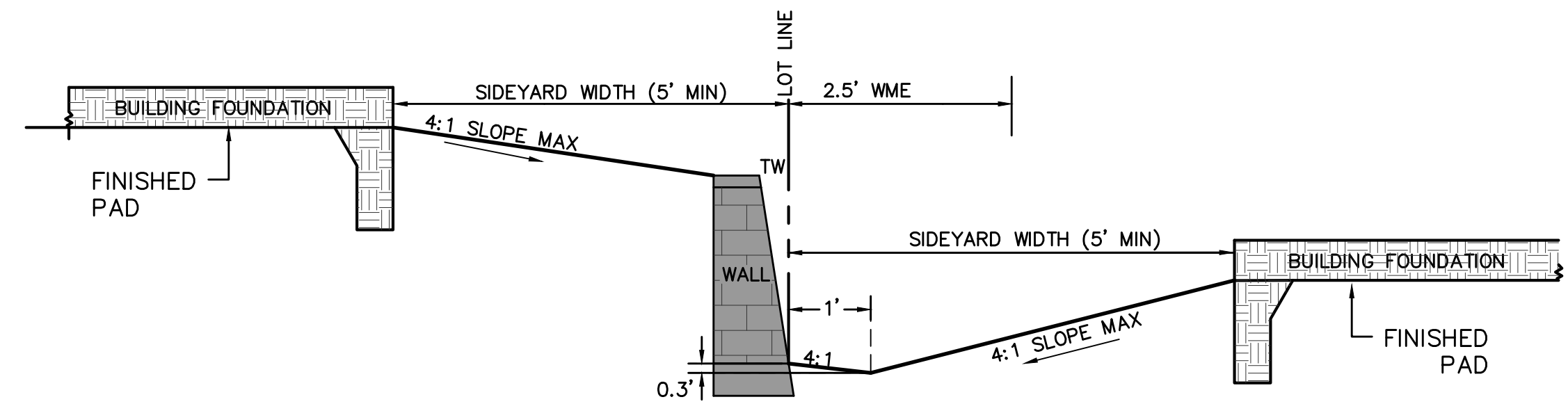
REAR YARD GRADING DETAIL



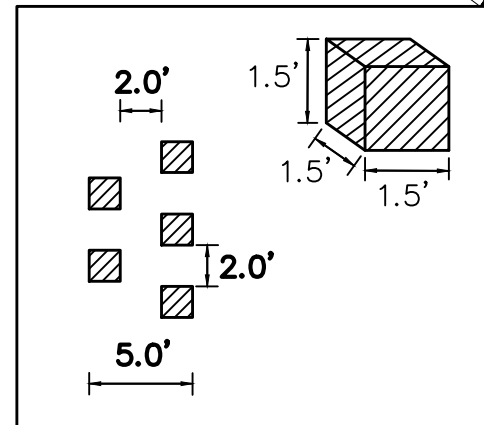
DRIVEWAY DETAIL
N.T.S.



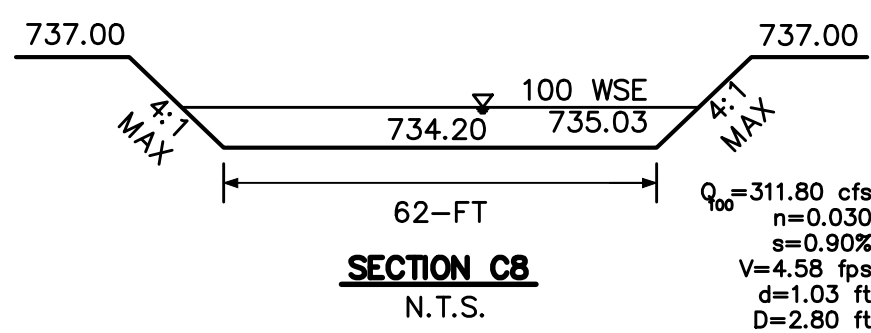
TYPICAL SECTION OF SIDEYARD SWALE W/ DROPPED GRADE BEAM.
N.T.S.



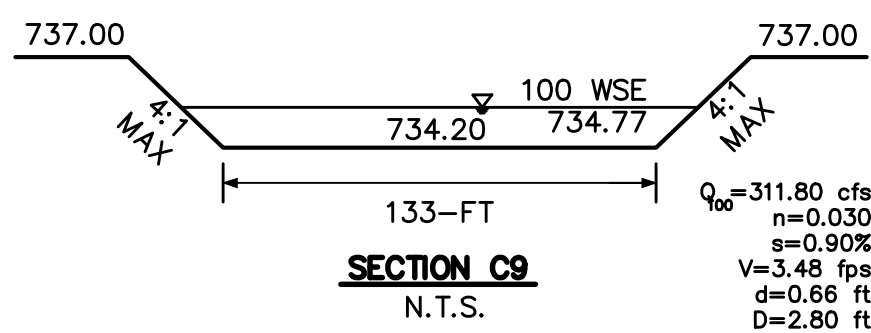
TYPICAL SECTION OF SIDEYARD SWALE W/ WALL
N.T.S.



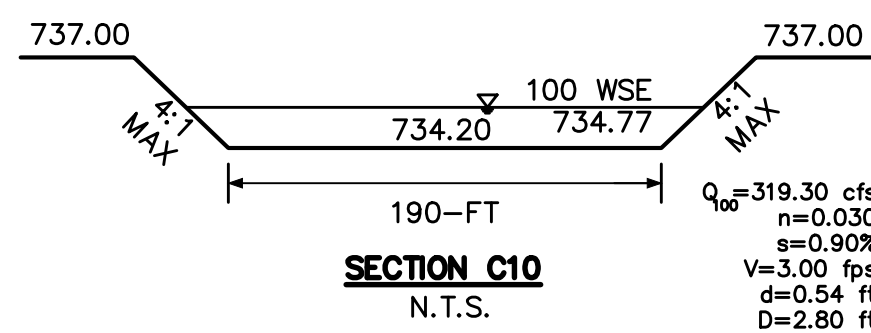
SPILLWAY BAFFLE DETAIL
1"=20'



SECTION C8
N.T.S.



SECTION C9
N.T.S.



SECTION C10
N.T.S.

BENCHMARKS

BM 1) "X" cut on concrete driveway apron located on the southwest side of County Road No. 607, in fron of residence located at 1317 County Road No 607, approximately 300 feet northwest of County Road No. 505. ELEVATION = 707.20'

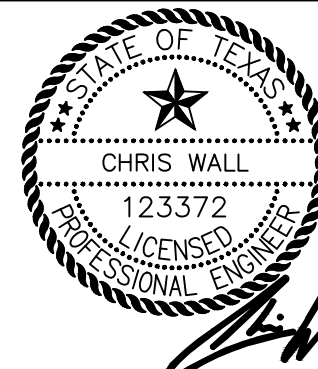
BM 2) "X" cut on concrete headwall located on the east side of County Road No. 607, approximately 3,500 feet north of U.S. Highway No. 67, near the most easterly south corner of subject tract. ELEVATION = 756.49'

NO.	REVISIONS DURING CONSTRUCTION	BY	DATE	NO.	SUBMITTALS	DATE

DESIGNED BY:

DRAWN BY:

CHECKED BY:



The seal appearing on this document was authorized by CHRIS WALL, P.E. 123372. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act. 05-31-2024



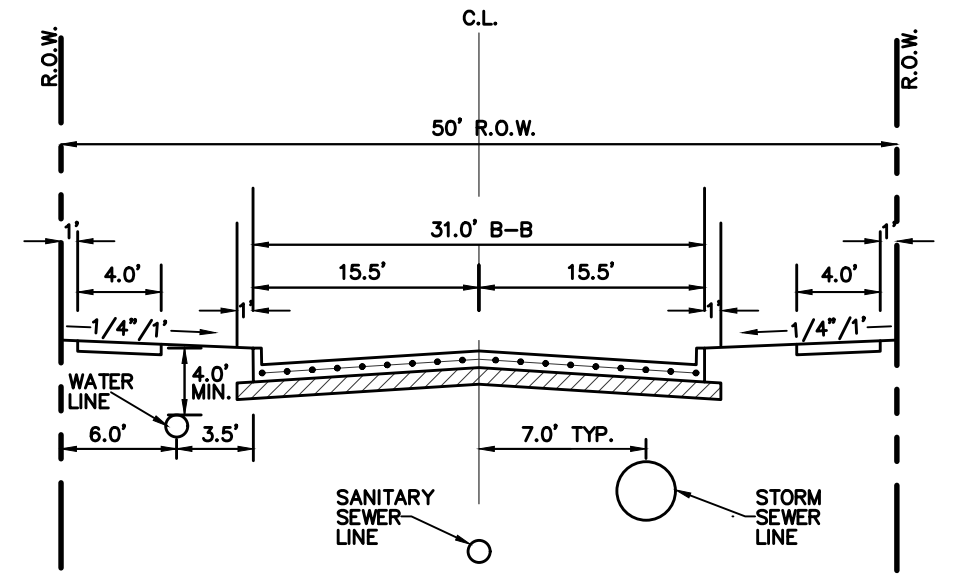
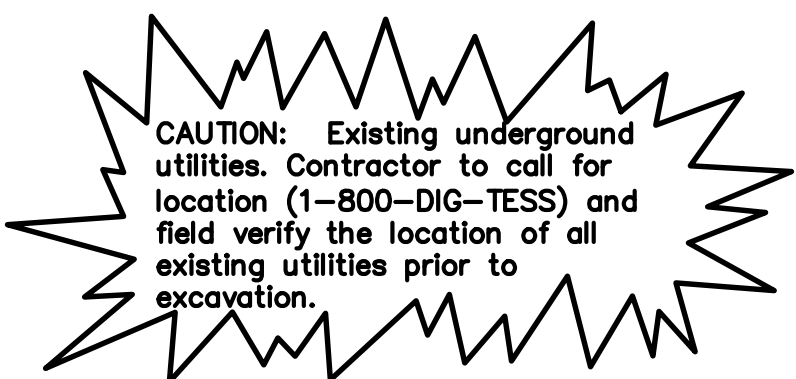
2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

GRADING DETAILS

LONE OAK, PHASE 1

City of Alvarado, Johnson County, Texas

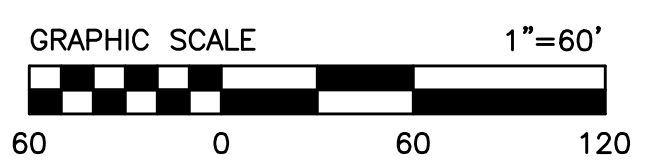
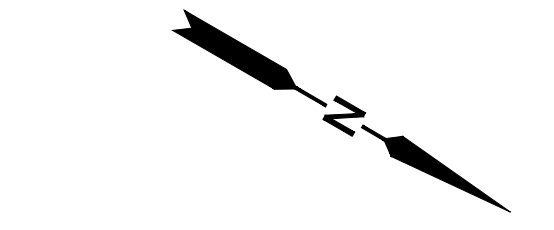
PROJECT NO.
BBC010
SHEET NO.
2.25



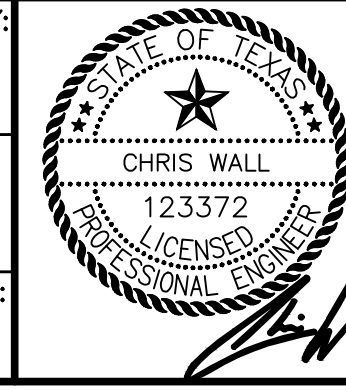
NOTE:

- FOR LINE LOCATES CALL 811--(CALL ONE).
- WATER PROVIDER SHALL BE JCSUD
- NOTIFY JCSUD 48 HRS BEFORE CONSTRUCTION STARTS.
817-760-5200
- THERE SHOULD BE AT LEAST 2' OF SEPARATION AT ALL WL CROSSINGS.
- THERE SHOULD BE AT LEAST 42" OF COVER FROM THE TOP OF THE PIPE.
- THE DEVELOPER AND CONTRACTOR ARE RESPONSIBLE FOR NOTIFYING PROPERTY OWNERS PRIOR TO CONSTRUCTION OF ANY OFF-SITE GRADING/UTILITY WORK.

Include JSUD agreement for off-site improvements by the developer

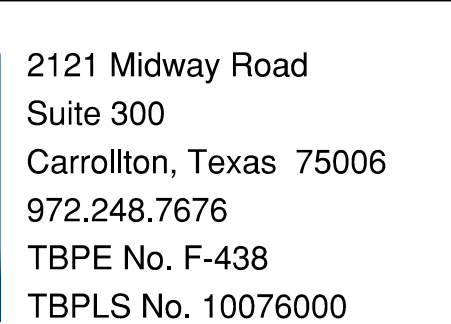


DESIGNED BY	---
DRAWN BY:	---
CHECKED BY	---



The seal appearing on this document was authorized by CHRIS WALL, P.E. 123372. Alteration of a sealed document without proper notification to the responsible engineer is an offense under the Texas Engineering Practice Act.

05-31-2024



City of Alvarado, Johnson County, Texas

PROJECT NO.	BBC010
SHEET NO.	6.00

20' — 10' **EXHIBIT A**
SANITARY SEWER EASEMENT
PAGE 1 OF 5

LEGAL DESCRIPTION

BEING a tract of land located in the City of Alvarado, Johnson County, Texas, being a part of the George S. McIntosh Survey, Abstract No. 625, being a part of that called 428.755 acre tract of land described in a deed to Century Land Holdings of Texas, LLC (50% interest) as recorded in Instrument Number 2024-2622, Official Public Records, Johnson County, Texas, being a part of that called 428.755 acre tract of land described a deed to GRBK EDGEWOOD LLC (50% interest) as recorded in Instrument Number 2023-26644, Official Public Records, Johnson County, Texas, and being more particularly described as follows: **Johnson County**

COMMENCING at an 80d nail with washer stamped "BLUESTAR SURVEYING" found at the most westerly northwest corner of said 428.755 acre tract, said point being the northeast corner of a tract of land described in a deed to Robert Lee Franklin, recorded in Volume 1085, Page 578, Deed Records, Tarrant County, Texas, said point being in the centerline of County Road 508, from which a one-half inch iron rod found at the common corner of said 428.755 acre tract and that called 1.519 acre tract of land described in a deed to Simla Investments, LLC, recorded in Document Number 2018-5552, Deed Records, Johnson County, Texas bears North 60 degrees 07 minutes 21 seconds East, 1,221.36 feet;

THENCE South 59 degrees 04 minutes 28 seconds East, 2,092.50 feet to the POINT OF BEGINNING of this easement;

THENCE, South 81 degrees 28 minutes 49 seconds East for a distance of 12.85 feet to the beginning of a non-tangent curve to the right;

THENCE, along said curve turning to the right through a central angle of 08 degrees 23 minutes 30 seconds, having a radius of 949.65 feet, an arc length of 139.09 feet, a chord bearing of South 76 degrees 11 minutes 26 seconds East and a chord distance of 138.96 feet;

THENCE, South 81 degrees 36 minutes 26 seconds East for a distance of 585.59 feet;

THENCE, North 08 degrees 23 minutes 34 seconds East for a distance of 500.40 feet;

THENCE, North 15 degrees 25 minutes 17 seconds East for a distance of 23.70 feet;

THENCE, North 60 degrees 25 minutes 17 seconds East for a distance of 1745.11 feet;

THENCE, North 29 degrees 19 minutes 58 seconds West for a distance of 100.68 feet;

	DATE 05/10/2024	DRAWN WJJ	PROJECT BBC010 ESMT-SSWR1	JBIPARTNERS 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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20' — 10'

EXHIBIT A

SANITARY SEWER EASEMENT

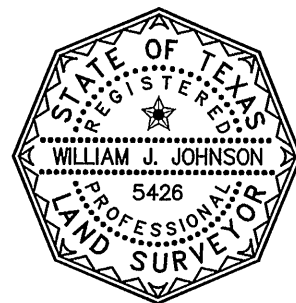
PAGE 2 OF 5

LEGAL DESCRIPTION (Cont'd)

THENCE, South 60 degrees 27 minutes 40 seconds West for a distance of 30.43 feet;
 THENCE, North 29 degrees 33 minutes 08 seconds West for a distance of 40.00 feet;
 THENCE, North 60 degrees 27 minutes 46 seconds East for a distance of 50.58 feet;
 THENCE, South 29 degrees 19 minutes 58 seconds East for a distance of 160.67 feet;
 THENCE, South 60 degrees 25 minutes 17 seconds West for a distance of 1758.94 feet;
 THENCE, South 08 degrees 23 minutes 34 seconds West for a distance of 531.90 feet;
 THENCE, North 81 degrees 36 minutes 26 seconds West for a distance of 607.28 feet to the beginning of a non-tangent curve to the left;
 THENCE, along said curve turning to the left through a central angle of 08 degrees 29 minutes 00 seconds, having a radius of 929.65 feet, an arc length of 137.64 feet, a chord bearing of North 76 degrees 07 minutes 59 seconds West and a chord distance of 137.52 feet;
 THENCE, North 81 degrees 28 minutes 49 seconds West for a distance of 12.66 feet;
 THENCE, North 08 degrees 31 minutes 11 seconds East a distance of 20.00 feet to the POINT OF BEGINNING and containing 64,767 square feet or 1.487 acres of land.

BASIS OF BEARING: The basis of bearing is based on the Texas State Plane Coordinate System, North Central Zone (4202-NAD 83), distances shown hereon are grid distance values.


 WILLIAM J. JOHNSON, R.P.L.S. NO. 5426



	DATE 05/10/2024	DRAWN WJJ	PROJECT BBC010 ESMT-SSWR1	 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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EXHIBIT A SANITARY SEWER EASEMENT PAGE 3 OF 5

20'

10'



1"=200'

LEGEND

POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET

Indie Catch, LLC

ROY ANDERSON
MANAGEMENT LLC
INST. NO. 2013-88005
CALLED 127.5 AC.

586

Simla

1/2"
CIRF
(CM)

SMA INVESTMENTS, LLC
INST. 2018-5552
CALLED 1.519 AC.

2018-5552

(SEE LINE & CURVE
TABLES ON SHEET 5)

P.O.C.
80D NAIL
FND
(CM)

ROBERT LEE
FRANKLIN
VOL. 1085,
PG. 578
CALLED
135.76 AC.

COUNTY ROAD NO. 508
(UNRECORDED RIGHT-OF-WAY)

CENTURY LAND HOLDINGS
OF TEXAS, LLC (50%)
CALLED 428.755 ACRES
DOC. NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC (50%)
CALLED 428.755 ACRES
NO. 2023-26644
O.P.R.J.C.T.

PROPOSED
LONE OAK PHASE 1
ADDITION
(PLAT PENDING)

N60°07'21"E
S59°04'28"E

2,092.50'

P.O.B.

L1
C1
L7
C2

S81°36'26"E

N81°36'26"W

585.59'

607.28'

JAMES B. CONGER SURVEY ABSTRACT NO. 150
GEORGE S. MCINTOSH SURVEY ABSTRACT NO. 625

CENTURY LAND HOLDINGS
OF TEXAS, LLC (50%)
CALLED 428.755 ACRES
DOC. NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC (50%)
CALLED 428.755 ACRES
NO. 2023-26644
O.P.R.J.C.T.

PROPOSED
LONE OAK PHASE 1
ADDITION
(PLAT PENDING)

MATCH LINE SHEET 3
MATCH LINE SHEET 4

SCALE:

1" = 200'

DATE

05/10/2024

DRAWN

WJJ

PROJECT

B-1BC010
ESMT-SSWR1

JB
I
PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

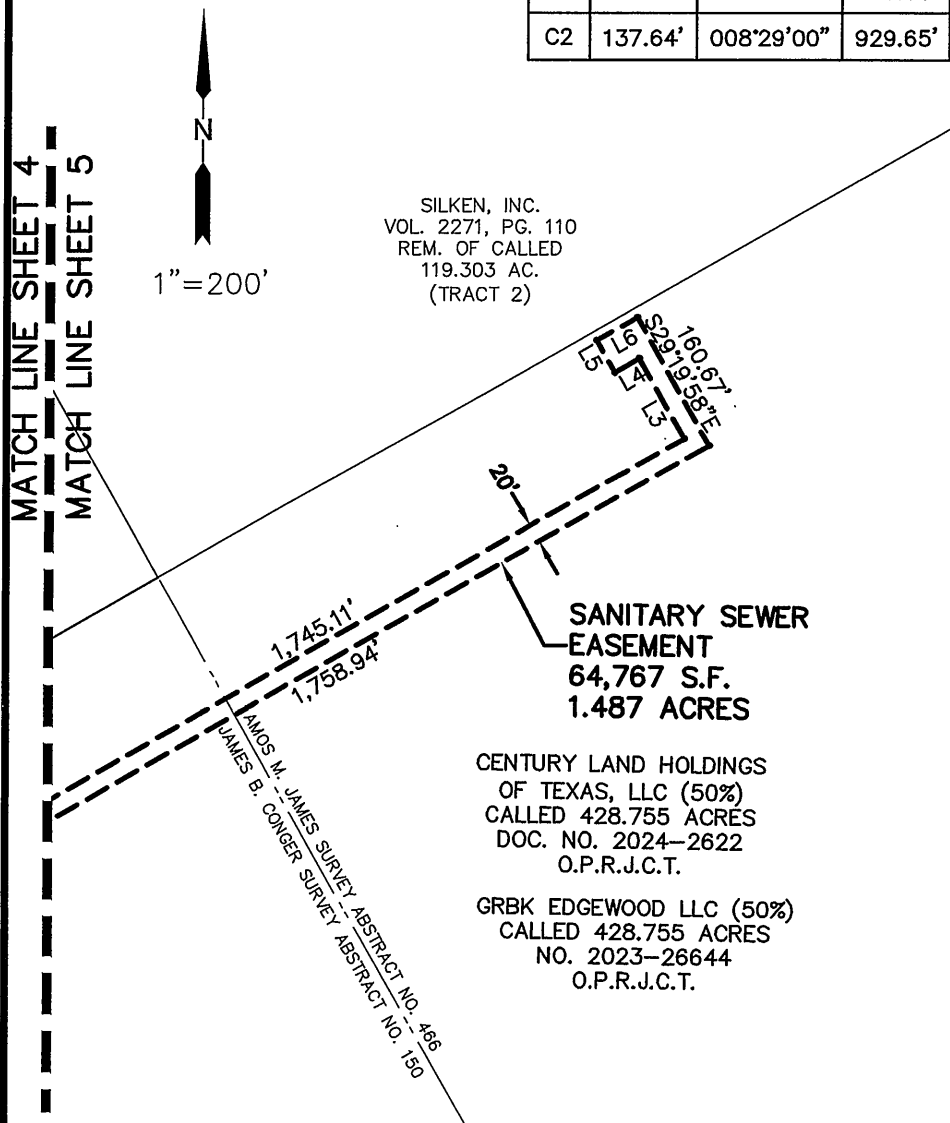
20' — **10' SANITARY SEWER EASEMENT**
PAGE 5 OF 5

LEGEND

POC POINT OF COMMENCING
 POB POINT OF BEGINNING
 IRF IRON ROD FOUND
 CM CONTROL MONUMENT
 S.F. SQUARE FEET

CURVE TABLE						
NO.	LENGTH	DELTA	RADIUS	TANGENT	CHORD BEARING	CHORD
C1	139.09'	008°23'30"	949.65'	69.67'	S76°11'26"E	138.96'
C2	137.64'	008°29'00"	929.65'	68.95'	N76°07'59"W	137.52'

LINE TABLE		
NO.	BEARING	LENGTH
L1	S81°28'49"E	12.85'
L2	N15°25'17"E	23.70'
L3	N29°19'58"W	100.68'
L4	S60°27'40"W	30.43'
L5	N29°33'08"W	40.00'
L6	N60°27'46"E	50.58'
L7	N81°28'49"W	12.66'
L8	N08°31'11"E	20.00'



SCALE: 1" = 200'	DATE 05/10/2024	DRAWN WJJ	PROJECT BBC010 ESMT-SSWR1	JBIPARTNERS 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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EXHIBIT A

20' 10' SANITARY SEWER EASEMENT PAGE 4 OF 5

LEGEND

POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET

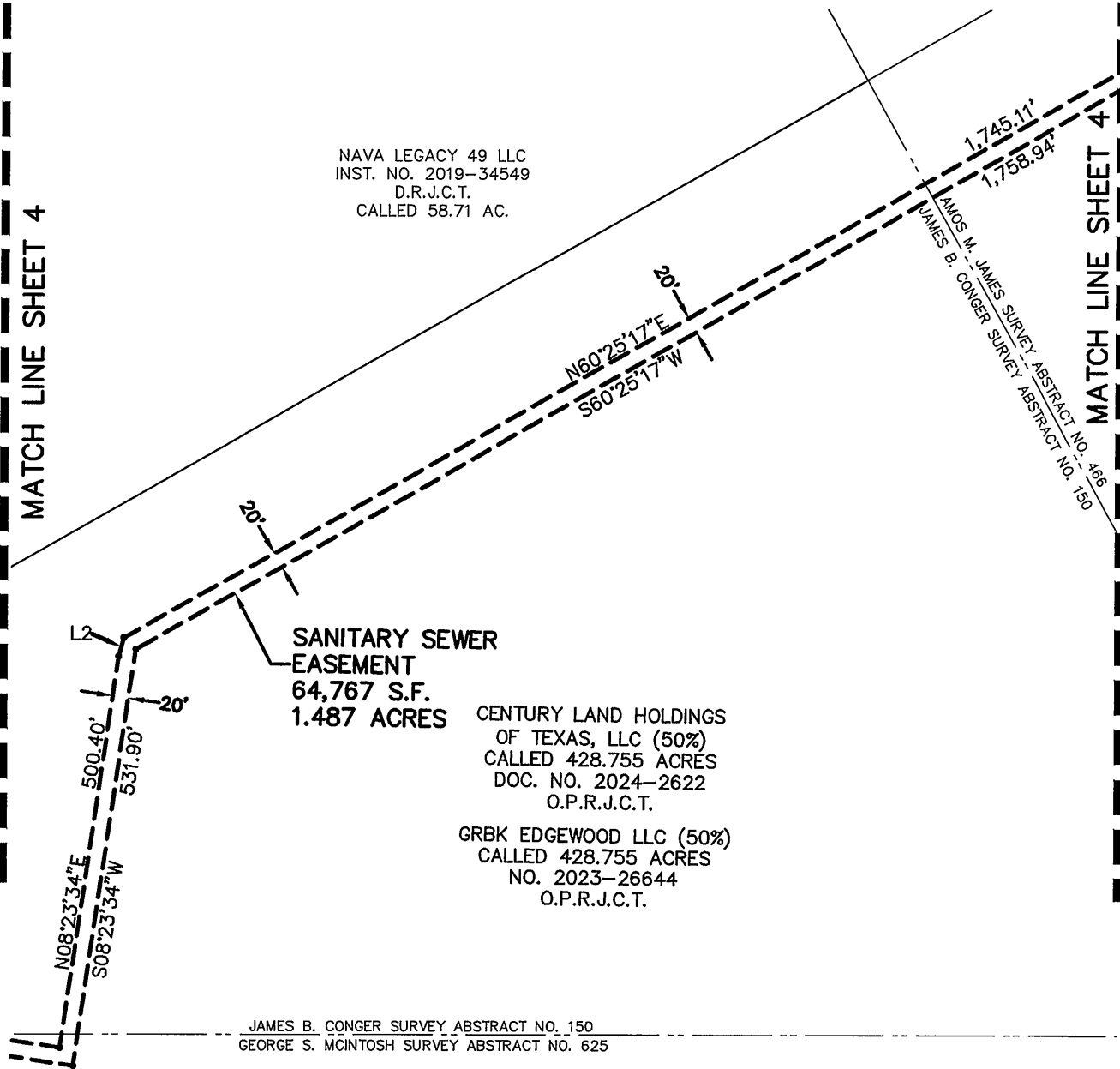
1"=200'

N

NAVA LEGACY 49 LLC
INST. NO. 2019-34549
D.R.J.C.T.
CALLED 58.71 AC.

MATCH LINE SHEET 3
MATCH LINE SHEET 4

MATCH LINE SHEET 4
MATCH LINE SHEET 5



(SEE LINE & CURVE TABLES ON SHEET 5)

SCALE:
1" = 200'

DATE
05/10/2024

DRAWN
WJJ

PROJECT
BBC010
ESMT-SSWR

JBI
PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

20' — **EXHIBIT A**
10' SANITARY SEWER EASEMENT
PAGE 1 OF 7

LEGAL DESCRIPTION

BEING a tract of land located in the City of Alvarado, Johnson County, Texas, being a part of the James B. Conger Survey, Abstract No. 150, and being a part of the George S. McIntosh Survey, Abstract No. 625, part of the Amos M. James Survey, Abstract No. 466, being a part of that called 428.755 acre tract of land described in a deed to Century Land Holdings of Texas, LLC (50% interest) recorded as Document No. 2024-2622, Official Public Records, Johnson County, Texas, being a part of that called 428.755 acre tract of land described in a deed to GRBK EDGEWOOD LLC (50% interest) as recorded in Instrument Number 2023-26644, Official Public Records, Johnson County, Texas, and being more particularly described as follows:

COMMENCING at a one-half inch iron rod with cap stamped "Bluestar" found for the southwest corner of said 428.755 acre tract, being the northeast corner of a called 12.471 acre tract (Tract 1) described in deed to Dixie Partners 8, LLC recorded as Instrument No. 2018-4925, Official Public Records, Johnson County, Texas, being in the east line of a called 101.892 acre tract of land described in deed to Alvarado Independent School District recorded in Volume 2691, Page 258, Official Public Records, Johnson County, Texas;

THENCE, along the west line of said 428.755 acre tract and the east line of said 101.892 acre tract, North 00 degrees 34 minutes 45 seconds East, a distance of 238.29 feet to the POINT OF BEGINNING;

THENCE, continuing along said common line, North 00 degrees 34 minutes 45 seconds East, a distance of 20.00 feet to a point for corner, from which a two-inch iron pipe found for the northeast corner of said 101.892 acre tract bears North 00 degrees 34 minutes 45 seconds East, a distance of 1,371.62 feet, said iron pipe being the southeast corner of a called 135.76 acre tract of land described in deed to Robert Lee Franklin recorded in Volume 1085, Page 578, Official Public Records, Johnson County, Texas;

THENCE, departing the east line of said 101.892 acre tract, over and across said 428.755 acre tract as follows:

North 89 degrees 22 minutes 40 seconds East for a distance of 173.75 feet;

North 00 degrees 37 minutes 20 seconds West for a distance of 1261.17 feet;

North 89 degrees 29 minutes 24 seconds East for a distance of 1800.14 feet;

North 44 degrees 29 minutes 24 seconds East for a distance of 25.66 feet;

North 00 degrees 30 minutes 36 seconds West for a distance of 454.81 feet to the beginning of a curve to the right;

Along said curve to the right through a central angle of 10 degrees 10 minutes 21 seconds, having a radius of 611.00 feet, an arc length of 108.48 feet, a chord bearing of North 04 degrees 34 minutes 35 seconds East and a chord distance of 108.34 feet;

North 09 degrees 39 minutes 45 seconds East for a distance of 524.62 feet to the beginning of a non-tangential curve to the left;

Along said curve to the left through a central angle of 09 degrees 21 minutes 09 seconds, having a radius of 1277.69 feet, an arc length of 208.56 feet, a chord bearing of North 04 degrees 59 minutes 11 seconds East and a chord distance of 208.33 feet;

North 00 degrees 19 minutes 20 seconds East for a distance of 171.99 feet to the beginning of a curve to the right;

Along said curve to the right through a central angle of 08 degrees 04 minutes 14 seconds, having a radius of 2076.00 feet, an arc length of 292.42 feet, a chord bearing of North 04 degrees 21 minutes 27 seconds East and a chord distance of 292.18 feet;

North 08 degrees 23 minutes 34 seconds East for a distance of 82.95 feet;

North 53 degrees 23 minutes 34 seconds East for a distance of 18.28 feet;

South 81 degrees 36 minutes 26 seconds East for a distance of 234.00 feet;

North 53 degrees 23 minutes 34 seconds East for a distance of 10.00 feet;

	DATE 05/10/2024	DRAWN WJJ	PROJECT BBC010 ESMT-SSWR2	 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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20' — 10' **EXHIBIT A**
SANITARY SEWER EASEMENT
PAGE 2 OF 7

LEGAL DESCRIPTION (Cont'd.)

North 08 degrees 23 minutes 34 seconds East for a distance of 425.09 feet to the beginning of a curve to the right;

Along said curve to the right through a central angle of 07 degrees 01 minutes 43 seconds, having a radius of 365.00 feet, an arc length of 44.77 feet, a chord bearing of North 11 degrees 54 minutes 26 seconds East and a chord distance of 44.75 feet;

North 15 degrees 25 minutes 17 seconds East for a distance of 44.39 feet;

North 60 degrees 25 minutes 17 seconds East for a distance of 1670.90 feet;

North 15 degrees 25 minutes 17 seconds East for a distance of 74.12 feet;

North 29 degrees 32 minutes 13 seconds West for a distance of 34.29 feet;

North 60 degrees 27 minutes 40 seconds East for a distance of 10.00 feet;

South 29 degrees 32 minutes 13 seconds East for a distance of 38.42 feet;

South 15 degrees 25 minutes 17 seconds West for a distance of 82.40 feet;

South 60 degrees 25 minutes 17 seconds West for a distance of 1670.90 feet;

South 15 degrees 25 minutes 17 seconds West for a distance of 40.24 feet to the beginning of a curve to the left;

Along said curve to the left through a central angle of 07 degrees 01 minutes 43 seconds, having a radius of 355.00 feet, an arc length of 43.55 feet, a chord bearing of South 11 degrees 54 minutes 26 seconds West and a chord distance of 43.52 feet;

South 08 degrees 23 minutes 34 seconds West for a distance of 429.23 feet;

South 53 degrees 23 minutes 34 seconds West for a distance of 18.28 feet;

North 81 degrees 36 minutes 26 seconds West for a distance of 234.00 feet;

South 53 degrees 23 minutes 34 seconds West for a distance of 10.00 feet;

South 08 degrees 23 minutes 34 seconds West for a distance of 78.81 feet to the beginning of a curve to the left;

Along said curve to the left through a central angle of 08 degrees 04 minutes 14 seconds, having a radius of 2,066.00 feet, an arc length of 291.01 feet, a chord bearing of South 04 degrees 21 minutes 27 seconds West and a chord distance of 290.77 feet;

South 00 degrees 19 minutes 20 seconds West for a distance of 171.99 feet to the beginning of a non-tangent curve to the right;

Along said curve to the right through a central angle of 09 degrees 21 minutes 09 seconds, having a radius of 1287.69 feet, an arc length of 210.19 feet, a chord bearing of South 04 degrees 59 minutes 11 seconds West and a chord distance of 209.96 feet;

South 09 degrees 39 minutes 45 seconds West for a distance of 524.35 feet to the beginning of a curve to the left;

Along said curve to the left through a central angle of 10 degrees 10 minutes 21 seconds, having a radius of 601.00 feet, an arc length of 106.70 feet, a chord bearing of South 04 degrees 34 minutes 35 seconds West and a chord distance of 106.56 feet;

South 00 degrees 30 minutes 36 seconds East for a distance of 473.10 feet;

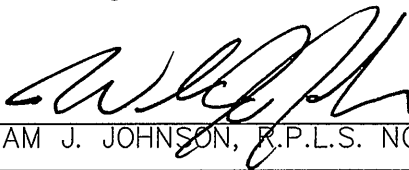
South 44 degrees 29 minutes 24 seconds West for a distance of 28.08 feet;

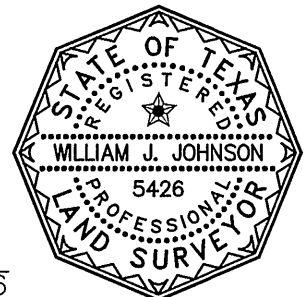
South 89 degrees 29 minutes 24 seconds West for a distance of 1788.38 feet;

South 00 degrees 37 minutes 20 seconds East for a distance of 1261.13 feet;

South 89 degrees 22 minutes 40 seconds West a distance of 194.17 feet to the POINT OF BEGINNING and containing 109,440 square feet or 2.512 acres of land.

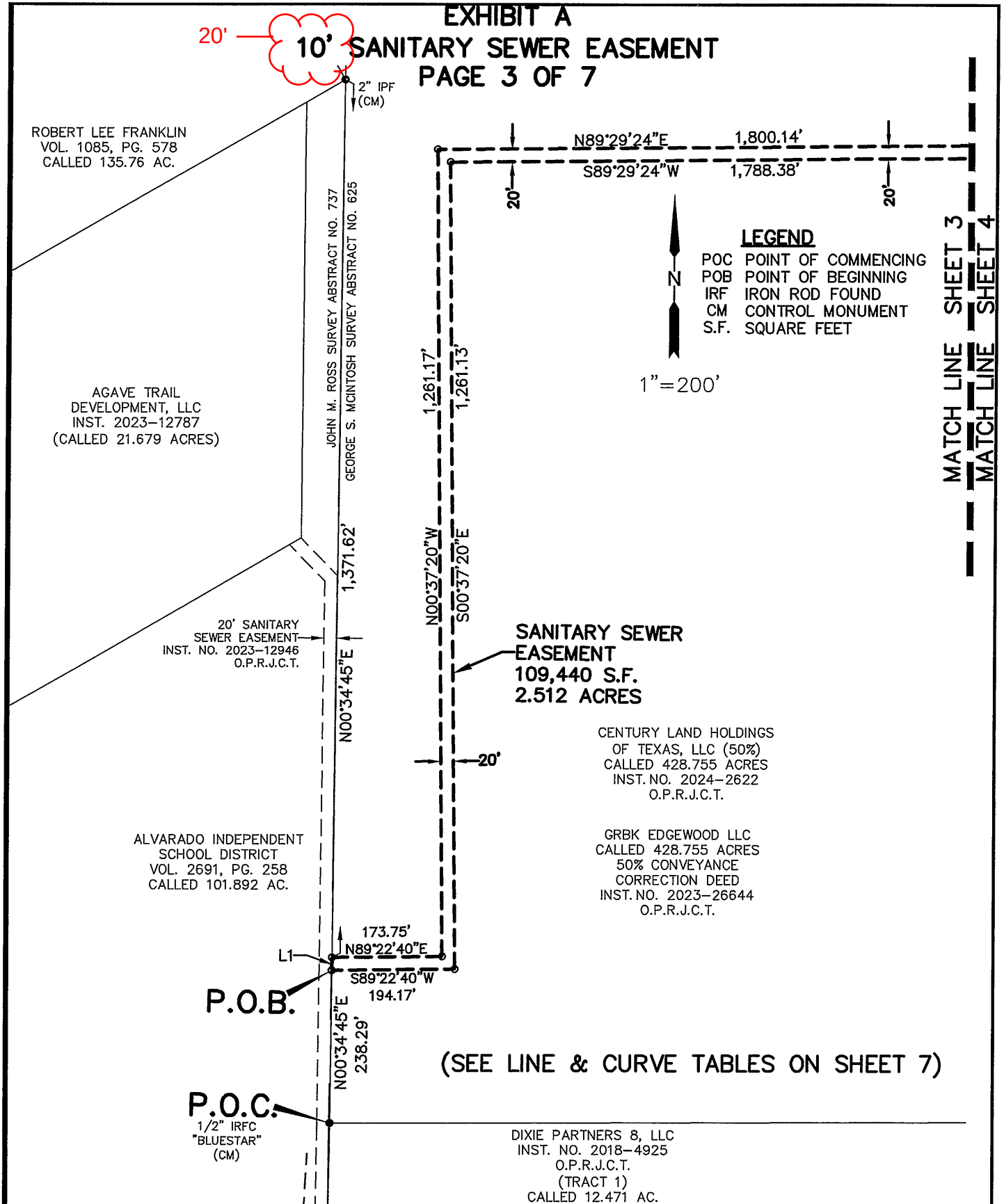
BASIS OF BEARING: The basis of bearing is based on the Texas State Plane Coordinate System, North Central Zone (4202-NAD 83), distances shown hereon are grid distance values.


 WILLIAM J. JOHNSON, R.P.L.S. NO. 5426



	DATE 05/10/2024	DRAWN WJJ	PROJECT BBC010 ESMT-SSWR2	 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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EXHIBIT A
SANITARY SEWER EASEMENT
PAGE 3 OF 7



SCALE:

1" = 200'

DATE

05/10/2024

DRAWN

WJJ

PROJECT

B-1BC010
ESMT-SSWR2



2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

20'

10'

EXHIBIT A SANITARY SEWER EASEMENT PAGE 4 OF 7

PROPOSED
LONE OAK PHASE 1
ADDITION
(PLAT PENDING)



1"=200'

LEGEND

POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET

CENTURY LAND HOLDINGS
OF TEXAS, LLC (50%)
CALLED 428.755 ACRES
INST. NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC
CALLED 428.755 ACRES
50% CONVEYANCE
CORRECTION DEED
INST. NO. 2023-26644
O.P.R.J.C.T.

SANITARY SEWER
EASEMENT
109,440 S.F.
2.512 ACRES

(SEE LINE & CURVE TABLES ON SHEET 7)

MATCH LINE SHEET 5
MATCH LINE SHEET 4

East

North

Legal description
shows 524.35'

MATCH LINE SHEET 3
MATCH LINE SHEET 4

N89°29'24"E
S89°29'24"W

1,800.14'
1,788.38'

L2

L16

10'

N00°30'36"W
S00°30'36"E
454.81'
473.10'

N09°39'45"E
S09°39'45"W

171.99'
S00°19'20"W
S00°19'20"W
171.99'

SCALE:
1" = 200'

DATE
05/10/2024

DRAWN
WJJ

PROJECT
BBC010
ESMT-SSWR2

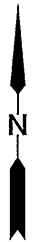
JB
I
PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

EXHIBIT A

10' SANITARY SEWER EASEMENT

PAGE 5 OF 7



1"=200'

LEGEND

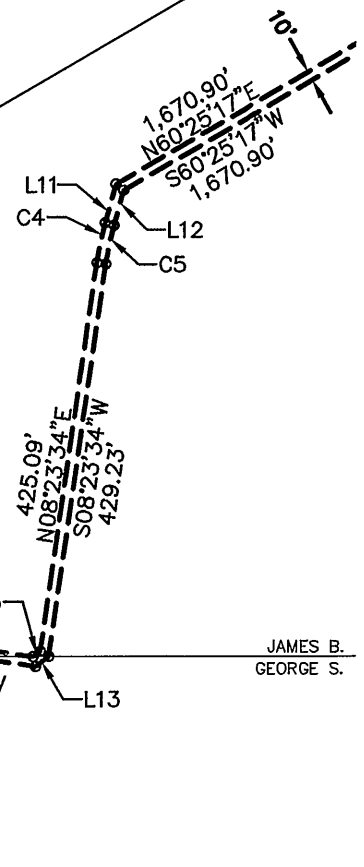
- POC POINT OF COMMENCING
- POB POINT OF BEGINNING
- IRF IRON ROD FOUND
- CM CONTROL MONUMENT
- S.F. SQUARE FEET

NAVA LEGACY 49 LLC
INST. NO. 2019-34549
D.R.J.C.T.
CALLED 58.71 AC.

PROPOSED
LONE OAK PHASE 1
ADDITION
(PLAT PENDING)

MATCH LINE SHEET 5

MATCH LINE SHEET 6



JAMES B.
GEORGE S.

MATCH LINE SHEET 5

MATCH LINE SHEET 4

(SEE LINE & CURVE TABLES ON SHEET 7)

SCALE:
1" = 200'

DATE
05/10/2024

DRAWN
WJJ

PROJECT
BBC010
ESMT-SSWR2



2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 190760348

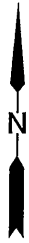
EXHIBIT A

SANITARY SEWER EASEMENT

PAGE 6 OF 7

20'

10'



LEGEND

POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET

1"=200'

SILKEN, INC.
VOL. 2271, PG. 110
REM. OF CALLED
119.303 AC.
(TRACT 2)

NAVA LEGACY 49 LLC
INST. NO. 2019-34549
D.R.J.C.T.
CALLED 58.71 AC.

**SANITARY SEWER
EASEMENT**
64,767 S.F.
1.487 ACRES

CENTURY LAND HOLDINGS
OF TEXAS, LLC (50%)
CALLED 428.755 ACRES
DOC. NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC (50%)
CALLED 428.755 ACRES
NO. 2023-26644
O.P.R.J.C.T.

**SANITARY SEWER
EASEMENT**
109,440 S.F.
2.512 ACRES

CENTURY LAND HOLDINGS
OF TEXAS, LLC (50%)
CALLED 428.755 ACRES
DOC. NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC (50%)
CALLED 428.755 ACRES
NO. 2023-26644
O.P.R.J.C.T.

AMOS M. JAMES SURVEY ABSTRACT NO. 456
JAMES B. CONGER SURVEY ABSTRACT NO. 150

MATCH LINE SHEET 5
MATCH LINE SHEET 6

(SEE LINE & CURVE TABLES ON SHEET 7)

SCALE:

1" = 200'

DATE

05/10/2024

DRAWN

WJJ

PROJECT

BBC010
ESMT-SSWR2

JB
I
PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

20' — **EXHIBIT A**
10' SANITARY SEWER EASEMENT
PAGE 7 OF 7

CURVE TABLE						
NO.	LENGTH	DELTA	RADIUS	TANGENT	CHORD BEARING	CHORD
C1	108.48'	010°10'21"	611.00'	54.38'	N04°34'35"E	108.34'
C2	208.56'	009°21'09"	1277.69'	104.51'	N04°59'11"E	208.33'
C3	292.42'	008°04'14"	2076.00'	146.45'	N04°21'27"E	292.18'
C4	44.77'	007°01'43"	365.00'	22.42'	N11°54'26"E	44.75'
C5	43.55'	007°01'43"	355.00'	21.80'	S11°54'26"W	43.52'
C6	291.01'	008°04'14"	2066.00'	145.75'	S04°21'27"W	290.77'
C7	210.19'	009°21'09"	1287.69'	105.33'	N04°59'11"E	209.96'
C8	106.70'	010°10'21"	601.00'	53.49'	S04°34'35"W	106.56'

LINE TABLE		
NO.	BEARING	LENGTH
L1	N00°34'45"E	20.00'
L2	N44°29'24"E	25.66'
L3	N08°23'34"E	82.95'
L4	N53°23'34"E	18.28'
L5	N53°23'34"E	10.00'
L6	N15°25'17"E	74.12'
L7	N29°32'13"W	34.29'
L8	N60°27'40"E	10.00'
L9	S29°32'13"E	38.42'
L10	S15°25'17"W	82.40'
L11	N15°25'17"E	44.39'
L12	S15°25'17"W	40.24'
L13	S53°23'34"W	18.28'
L14	S53°23'34"W	10.00'
L15	S08°23'34"W	78.81'
L16	S44°29'24"W	28.08'

SCALE:

DATE
05/10/2024

DRAWN
WJJ

PROJECT
BBC010
ESMT-SSWR2



2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

EXHIBIT A
UTILITY AND DRAINAGE EASEMENT
PAGE 1 OF 2

LEGAL DESCRIPTION

BEING a tract of land located in the City of Alvarado, Johnson County, Texas, being a part of the George S. McIntosh Survey, Abstract No. 625, being a part of that called 428.755 acre tract of land described in a deed to Century Land Holdings of Texas, LLC (50% interest) as recorded in Instrument Number 2024-2622, Official Public Records, Johnson County, Texas, being a part of that called 428.755 acre tract of land described a deed to GRBK EDGEWOOD LLC (50% interest) as recorded in Instrument Number 2023-26644, Official Public Records, Johnson County, Texas, and being more particularly described as follows:

COMMENCING at an 80d nail with washer stamped "BLUESTAR SURVEYING" found at the most westerly northwest corner of said 428.755 acre tract, said point being the northeast corner of a tract of land described in a deed to Robert Lee Franklin, recorded in Volume 1085, Page 578, Deed Records, Tarrant County, Texas, said point being in the centerline of County Road 508, from which a one-half inch iron rod found at the common corner of said 428.755 acre tract and that called 1.519 acre tract of land described in a deed to Simla Investments, LLC, recorded in Document Number 2018-5552, Deed Records, Johnson County, Texas bears North 60 degrees 07 minutes 21 seconds East, 1,221.36 feet;

Johnson County

THENCE South 19 degrees 28 minutes 30 seconds East, 1,744.22 feet to the POINT OF BEGINNING of this easement;

THENCE South 89 degrees 40 minutes 40 seconds East, 50.00 feet to a point for corner;

THENCE South 00 degrees 19 minutes 20 seconds West, 60.00 feet to a point for corner;

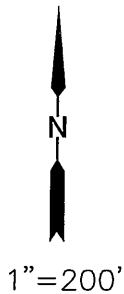
THENCE North 89 degrees 40 minutes 40 seconds West, 50.00 feet to a point for corner;

THENCE North 00 degrees 19 minute 20 seconds East, 60.00 feet to the POINT OF BEGINNING and containing 3,000 square feet or 0.069 acre of land.

BASIS OF BEARING: The basis of bearing is based on the Texas State Plane Coordinate System-North Central Zone (4202), NAB 83. Distances shown hereon are grid distance values.

	DATE 05/10/2024	DRAWN WJJ	PROJECT BBC010 ESMT-EU-DE-1	 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
--	--------------------	--------------	-----------------------------------	--

EXHIBIT A UTILITY AND DRAINAGE EASEMENT PAGE 2 OF 2



INDIE CATCH, LLC
INST. NO. 2022-36624
CALLED 164.656 AC.

DAVID MITCHELL SURVEY
ABSTRACT NO. 856

COUNTY ROAD NO. 508
(UNRECORDED RIGHT-OF-WAY)
JAMES B. CONGER SURVEY
ABSTRACT NO. 150

Simla

1/2" CIRC

INST. INVESTMENTS, LLC
INST. 2018-5552
CALLED 1.518 AC.

2018-5552

CENTURY LAND HOLDINGS
OF TEXAS, LLC
CALLED 428.755 ACRES (50%)
NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC
CALLED 428.755 ACRES (50%)
NO. 2024-26644
O.P.R.J.C.T.

P.O.C.
80D NAIL
FND
(CM)

ROBERT LEE FRANK
VOL. 1085, P. 5
CALLED 135.76 AC

1,744.22'

Text conflict

LINE TABLE		
NO.	BEARING	LENGTH
L1	S89°40'40"E	50.00'
L2	S00°19'20"W	60.00'
L3	N89°40'40"W	50.00'
L4	N00°19'20"E	60.00'

CENTURY LAND HOLDINGS
OF TEXAS, LLC
CALLED 428.755 ACRES (50%)
NO. 2024-2622
O.P.R.J.C.T.

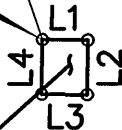
GRBK EDGEWOOD LLC
CALLED 428.755 ACRES (50%)
NO. 2024-26644
O.P.R.J.C.T.

LEGEND

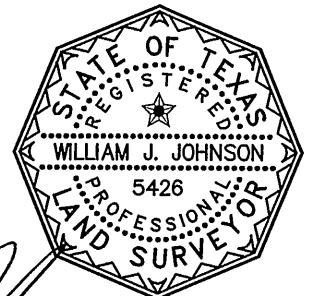
POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET

P.O.B.

S19°28'30"E



UTILITY AND
DRAINAGE EASEMENT
3,000 S.F.
0.069 ACRES



WILLIAM J. JOHNSON, R.P.L.S. NO. 5426

SCALE:

1" = 200'

DATE

05/10/2024

DRAWN

WJJ

PROJECT

BBC010
ESMT-EU-DE-1

JB
I
PARTNERS

2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

**EXHIBIT A
UTILITY AND DRAINAGE EASEMENT
PAGE 1 OF 2**

LEGAL DESCRIPTION

BEING a tract of land located in the City of Alvarado, Johnson County, Texas, being a part of the George S. McIntosh Survey, Abstract No. 625, being a part of that called 428.755 acre tract of land described in a deed to Century Land Holdings of Texas, LLC (50% interest) as recorded in Instrument Number 2024-2622, Official Public Records, Johnson County, Texas, being a part of that called 428.755 acre tract of land described a deed to GRBK EDGEWOOD LLC (50% interest) as recorded in Instrument Number 2023-26644, Official Public Records, Johnson County, Texas, and being more particularly described as follows:

COMMENCING at an 80d nail with washer stamped "BLUESTAR SURVEYING" found at the most westerly northwest corner of said 428.755 acre tract, said point being the northeast corner of a tract of land described in a deed to Robert Lee Franklin, recorded in Volume 1085, Page 578, Deed Records, Tarrant County, Texas, said point being in the centerline of County Road 508, from which a one-half inch iron rod found at the common corner of said 428.755 acre tract and that called 1.519 acre tract of land described in a deed to Simla Investments, LLC, recorded in Document Number 2018-5552, Deed Records, Johnson County, Texas bears North 60 degrees 07 minutes 21 seconds East, 1,221.36 feet;

Johnson County

THENCE South 27 degrees 53 minutes 56 seconds East, 1,862.54 feet to the POINT OF BEGINNING of this easement;

THENCE South 89 degrees 40 minutes 40 seconds East, 50.00 feet to a point for corner;

THENCE South 00 degrees 19 minutes 20 seconds West, 60.00 feet to a point for corner;

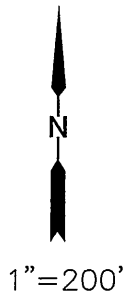
THENCE North 89 degrees 40 minutes 40 seconds West, 50.00 feet to a point for corner;

THENCE North 00 degrees 19 minutes 20 seconds East, 60.00 feet to the POINT OF BEGINNING and containing 3,000 square feet or 0.069 acres of land.

BASIS OF BEARING: The basis of bearing is based on the Texas State Plane Coordinate System-North Central Zone (4202), NAB 83. Distances shown hereon are grid distance values.

	DATE 05/10/2024	DRAWN DRB/JME	PROJECT BBC010 ESMT-UE-DE-2	 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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EXHIBIT A UTILITY AND DRAINAGE EASEMENT PAGE 2 OF 2



INDIE CATCH, LLC
INST. NO. 2022-36624
CALLED 164.656 AC.

DAVID MITCHELL SURVEY
ABSTRACT NO. 856

COUNTY ROAD NO. 508
(UNRECORDED RIGHT-OF-WAY)

JAMES B. CONGER SURVEY
ABSTRACT NO. 150

Simla

1 1/2" CIRC

3MA INVESTMENTS, LLC
INST. 2018-5552
CALLED 1.519 AC.

2018-5552

CENTURY LAND HOLDINGS
OF TEXAS, LLC
CALLED 428.755 ACRES (50%)
NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC
CALLED 428.755 ACRES (50%)
NO. 2023-26644
O.P.R.J.C.T.

P.O.C.
80D NAIL
FND
(CM)

ROBERT LEE FRANKLIN
VOL. 1085, PG. 578
CALLED 135.76 AC.

S27°53'56"E

N60°07'21"E

LINE TABLE		
NO.	BEARING	LENGTH
L1	S89°40'40"E	50.00'
L2	S00°19'20"W	60.00'
L3	N89°40'40"W	50.00'
L4	N00°19'20"E	60.00'

CENTURY LAND HOLDINGS
OF TEXAS, LLC
CALLED 428.755 ACRES (50%)
NO. 2024-2622
O.P.R.J.C.T.

GRBK EDGEWOOD LLC
CALLED 428.755
ACRES
NO. 2023-26644
O.P.R.J.C.T.

P.O.B.

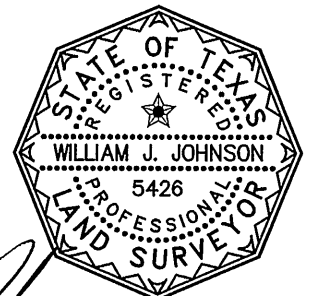
1,862.54'

L1
L2
L3
L4

UTILITY AND
DRAINAGE EASEMENT
3,000 S.F.
0.069 ACRES

LEGEND

POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET



WILLIAM J. JOHNSON, R.P.L.S. NO. 5426

SCALE:

1" = 200'

DATE

05/10/2024

DRAWN

WJJ

PROJECT

BBC010
ESMT-UE-DE-2



2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000

**EXHIBIT A
WATERLINE EASEMENT
PAGE 1 OF 2**

LEGAL DESCRIPTION

BEING a tract of land located in the City of Alvarado, Johnson County, Texas, being a part of the James Conger Survey, Abstract No. 150, being a part of that called 428.755 acre tract of land described in a deed to CENTURY LAND HOLDINGS OF TEXAS, LLC, (50% interest) as recorded in Instrument Number 2024-2622, Official Public Records, Johnson County, Texas, being a part of that called 428.755 acre tract of land described a deed to GRBK EDGEWOOD LLC (50% interest) as recorded in Instrument Number 2023-26644, Official Public Records, Johnson County, Texas, and being more particularly described as follows:

COMMENCING at an 80d nail with washer stamped "BLUESTAR SURVEYING" found at the most westerly northwest corner of said 428.755 acre tract, said point also being the northeast corner of a tract of land described in a deed to Robert Lee Franklin, recorded in Volume 1085, Page 578, Deed Records, Tarrant County, Texas, said point being in the centerline of County Road No. 508,

THENCE along the north line of said 428.755 acre tract and the centerline of County Road No. 508 as follows:

North 60 degrees 07 minutes 21 seconds East, a distance of 181.64 feet to the **POINT OF BEGINNING**;

Johnson County

North 60 degrees 07 minutes 21 seconds East, a distance of 20.00 feet to a point from which a one-half inch iron rod found at the common corner of said 428.755 acre tract and that called 1.519 acre tract of land described in a deed to Simla Investments, LLC, recorded in Document Number 2018-05552, Deed Records, Johnson County, Texas bears North 60 degrees 07 minutes 21 seconds East, 1,019.72 feet;

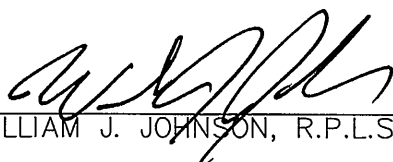
THENCE, departing said centerline, over and across said 428.755 acre tract as follows:

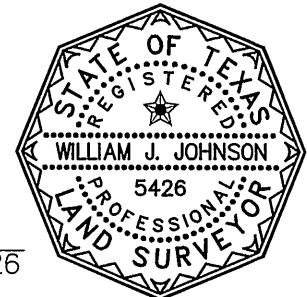
South 29 degrees 52 minutes 39 seconds East, 65.00 feet to a point for corner;

South 60 degrees 07 minutes 21 seconds West, 20.00 feet to a point for corner;

North 29 degrees 52 minutes 39 seconds West, 65.00 feet to the **POINT OF BEGINNING** and containing 13,000 square feet or 0.298 acres of land.

BASIS OF BEARING: The basis of bearing is based on the Texas State Plane Coordinate System, North Central Zone 4202 (NAD 83), distances shown hereon are grid distance values.


WILLIAM J. JOHNSON, R.P.L.S. NO. 5426



	DATE 05/16/2024	DRAWN WJJ	PROJECT BBC010 ESMT-WE-1	 2121 Midway Road Suite 300 Carrollton, Texas 75006 972.248.7676 TBPE No. F-438 TBPLS No. 10076000
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EXHIBIT A WATERLINE EASEMENT PAGE 2 OF 2



1"=100'

LEGEND

POC POINT OF COMMENCING
POB POINT OF BEGINNING
IRF IRON ROD FOUND
CM CONTROL MONUMENT
S.F. SQUARE FEET

Simla

1/2" CIRF (CM)

SILMA INVESTMENTS, LLC
INST. 2018-5832
CALLED 1.519 AC.

2018-5552

INDIE CATCH, LLC
INST. NO. 2022-36624
CALLED 164.656 AC.

P.O.B.

P.O.C.
80D NAIL FND (CM)

586

N60°07'21"E
181.64'

COUNTY ROAD NO. 508
(UNRECORDED RIGHT-OF-WAY)

1,019.72'
N60°07'21"E

WATERLINE EASEMENT
13,000 S.F.
0.298 ACRES

DAVID MITCHELL SURVEY
ABSTRACT NO. 856
JAMES B. CONGER SURVEY
ABSTRACT NO. 150

ROBERT LEE FRANKLIN
VOL. 1085, PG. 578
CALLED 135.76 AC.

CENTURY LAND HOLDINGS
OF TEXAS, LLC (50%)
NO. 2024-2622
O.P.R.J.C.T.
GRBK EDGEWOOD LLC (50%)
NO. 2023-26644
O.P.R.J.C.T.
CALLED 428.755 ACRES

PROPOSED
LONE OAK, PHASE 1
(PLAT PENDING)

LINE TABLE

NO.	BEARING	LENGTH
L1	N60°07'21"E	20.00'
L2	S29°52'39"E	65.00'
L3	S60°07'21"W	20.00'
L4	N29°52'39"W	65.00'



William J. Johnson
WILLIAM J. JOHNSON, R.P.L.S. NO. 5426

SCALE:
1" = 100'

DATE
05/16/2024

DRAWN
WJJ

PROJECT
BBC010
ESMT-WE-1



2121 Midway Road
Suite 300
Carrollton, Texas 75006
972.248.7676
TBPE No. F-438
TBPLS No. 10076000



City Council Meeting Management Report

Meeting Date: Monday, June 17, 2024

Contact: Paul DeBuff, City Manager

AGENDA ITEM:

Presentation and guidance on refinishing Parkway Park Concrete benches.

BACKGROUND AND FINDINGS:

At the Council meeting on May 20th 2024, Council directed staff to investigate the plausibility of refinishing the historic concrete benches and tables at Parkway Park in a natural tone. Kyle Lucas with That One Painter has examined the benches, and will present his findings on the condition and possible challenges involved with resurfacing the benches.

RECOMMENDATION:

N/A

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

1. N/A



City Council Meeting Management Report

Meeting Date: 6/17/2024

Contact: Chief May

AGENDA ITEM: Consideration and action to approve a Grant Resolution for FY 2025 Rifle-Resistant Body Armor Grant Program

BACKGROUND AND FINDINGS:

The Rifle-Resistant Body Armor Grant Program seeks to provide rifle resistant body armor for all regular full-time sworn police officers of the Alvarado Police Department.

FINANCIAL IMPACT

Grant in the amount of \$37, 357.31

This is fully funded grant.

MANAGEMENT REVIEW:

Management recommends approval of the grant.

ATTACHMENTS:

CITY OF ALVARADO, TEXAS
RESOLUTION NO. R2024-0013

A RESOLUTION BY THE CITY OF ALVARADO, DESIGNATING THE CHIEF OF POLICE AS BEING RESPONSIBLE FOR, ACTING FOR, AND ON BEHALF OF THE APPLICANT IN DEALING WITH THE OFFICE OF THE GOVERNOR, FOR THE PURPOSE OF SUBMITTING AN APPLICATION FOR THE VA-VICTIMS OF CRIME ACT FORMULA GRANT PROGRAM, CERTIFYING THAT THE APPLICANT IS ELIGIBLE TO RECEIVE PROGRAM ASSISTANCE; AND CERTIFYING THAT THE APPLICANT MATCHING SHARE IS READILY AVAILABLE.

WHEREAS, The City of Alvarado finds it in the best interest of the citizens of Alvarado, Texas, that the VA-Victims of Crime Act Formula Grant Program be operated for the 2025 fiscal year; and

WHEREAS, City of Alvarado agrees to provide applicable matching funds for the said project as required by the VA-Victims of Crime Act Formula grant application; and

WHEREAS, City of Alvarado agrees that in the event of loss or misuse of the Office of the Governor funds, City of Alvarado assures that the funds will be returned to the Office of the Governor in full.

WHEREAS, City of Alvarado designates Teddy May, Chief of Police as the grantee's authorized official. The authorized official is given the power to apply for, accept, reject, alter or terminate the grant on behalf of the applicant agency.

NOW THEREFORE, BE IT RESOLVED, that the City of Alvarado approves submission of the grant application for the VA-Victims of Crime Act Formula Grant Program to the Office of the Governor.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of Alvarado on this 17th day of June, 2024.

Jacob Wheat, Mayor

ATTEST

Beth A Walls, City Secretary

Grant Number: 5048301



City Council Meeting Management Report

Meeting Date: 6/17/2024

Contact: Chief May

AGENDA ITEM: Consideration and action to approve a Grant Resolution for FY 2025 General Victim Assistance Grant Program

BACKGROUND AND FINDINGS:

The purpose of this program is to provide services and assistance directly to victims of crime to speed their recovery and aid them through the criminal justice process.

Services may include the following:

- Responding to the emotional and physical needs of crime victims;
- Assisting victims in stabilizing their lives after a victimization;
- Assisting victims to understand and participate in the criminal justice system; and
- Providing victims with safety and security.

The Police Department intends to purchase software to facilitate the management of victim services, investigative follow-up, and community engagement.

FINANCIAL IMPACT

Total project is \$18,425. The grant requires 20% matching funds.

State - \$13,818.75

City - \$4606.25

MANAGEMENT REVIEW:

Management recommends approval of the grant.

ATTACHMENTS:

CITY OF ALVARADO, TEXAS
RESOLUTION NO. R2024-0014

A RESOLUTION BY THE CITY OF ALVARADO, DESIGNATING THE CHIEF OF POLICE AS BEING RESPONSIBLE FOR, ACTING FOR, AND ON BEHALF OF THE APPLICANT IN DEALING WITH THE OFFICE OF THE GOVERNOR, FOR THE PURPOSE OF SUBMITTING AN APPLICATION FOR THE VA-VICTIMS OF CRIME ACT FORMULA GRANT PROGRAM, CERTIFYING THAT THE APPLICANT IS ELIGIBLE TO RECEIVE PROGRAM ASSISTANCE; AND CERTIFYING THAT THE APPLICANT MATCHING SHARE IS READILY AVAILABLE.

WHEREAS, The City of Alvarado finds it in the best interest of the citizens of Alvarado, Texas, that the VA-Victims of Crime Act Formula Grant Program be operated for the 2025 fiscal year; and

WHEREAS, City of Alvarado agrees to provide applicable matching funds for the said project as required by the VA-Victims of Crime Act Formula grant application; and

WHEREAS, City of Alvarado agrees that in the event of loss or misuse of the Office of the Governor funds, City of Alvarado assures that the funds will be returned to the Office of the Governor in full.

WHEREAS, City of Alvarado designates Teddy May, Chief of Police as the grantee's authorized official. The authorized official is given the power to apply for, accept, reject, alter or terminate the grant on behalf of the applicant agency.

NOW THEREFORE, BE IT RESOLVED, that the City of Alvarado approves submission of the grant application for the VA-Victims of Crime Act Formula Grant Program to the Office of the Governor.

PASSED, APPROVED, AND ADOPTED by the City Council of the City of Alvarado on this 17th day of June, 2024.

Jacob Wheat, Mayor

ATTEST

Beth A Walls, City Secretary

Grant Number: 5048301



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Precious Moore, Alvarado Public Library Director

Telephone Number: 817-790-3351, ext. 314

AGENDA ITEM:

Consideration and action to appoint members of the Alvarado Public Library Advisory Board.

BACKGROUND AND FINDINGS:

The Alvarado Public Library Advisory Board member positions have all expired, and by statute the Advisory Board must consist of seven (7) members. Currently, there are five (5) existing Advisory Board members who have requested to be reappointed, and two (2) open positions that will be brought to the City Council for approval, at a later date. Staff has received interest from the following individuals to serve on the Advisory Board, and therefore staff recommends the following appointments:

Place 1, Barbara Fuller

Place 2, Dianna Roseberry

Place 3, Kay Grant

Place 4, Open

Place 5, Open

Place 6, Christi Davis

Place 7, Jameye Jones

FINANCIAL IMPACT

N/A

MANAGEMENT REVIEW:

Paul DeBuff, City Manager

ATTACHMENTS:

N/A



City Council Meeting Management Report

Meeting Date: June 17, 2024

Contact: Justin French, Community Development Director

AGENDA ITEM: Consideration and action to appoint and reappoint members to the Zoning Board of Adjustment (ZBA).

BACKGROUND AND FINDINGS:

In most recent meetings, members of the City Council have served as members of the Zoning Board of Adjustment (ZBA). ZBA shall consist of five members, each to be appointed by the City Council for a term of two years and removable for cause by the City Council upon written charges and after public hearing. If a member is absent for three consecutive meetings, or if the member misses more than 50 percent of the meetings in a calendar year, reasonable cause exists for the removal of the member unless the board has granted the member a leave of absence at a meeting due to illness or other good cause.

The City Council may also appoint up to four alternate members of the Board who shall serve in the absence of one or more of the regular members when requested to do so by the chairperson of the Board, so that all cases to be heard by the Board will always be heard by a minimum number of four members. These alternate members, when appointed, shall serve for the same period as the regular members, which is for a term of two years, and any vacancy shall be filled in the same manner and they shall be subject to removal by the same means and under the same procedures as the regular members.

Below is a suggestion as to how City Council members can serve on the Board and therefore be appointed:

Place 1, Scott Arthur

Place 2, Cherry Bryant

Place 3, Beverly Short

Place 4, Lydia Moon

Place 5, Carrie Keeton

Alternate, Kevin Thomas

Alternate, Jacob Wheat

FINANCIAL IMPACT: N/A

MANAGEMENT REVIEW: Paul DeBuff

ATTACHMENTS: Sec. 42-95 of the Zoning Ordinance

Sec. 211.008 of the Texas Local Government Code

Chapter 42 ZONING¹

ARTICLE I. APPLICABILITY OF ORDINANCE

Sec. 42-1. Interpretation, purposes, and administration.

- (a) *Purpose.* In their interpretation and application, the provisions of this chapter shall be held to be the minimum requirements adopted for the promotion of the public health, safety, morals and welfare. The zoning regulations and districts as herein established have been made in accordance with a comprehensive plan, for the purpose of promoting the health, safety, morals and welfare of the city. This chapter has been designed, among other things, to lessen congestion in the streets; to secure safety from fire, panic, and other dangers; to provide adequate light and air; to prevent the overcrowding of the land; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks, open spaces, and to protect and enhance historical, cultural and environmental qualities, and other public requirements. They have been made with reasonable consideration, among other things; of the right to use the land subject to reasonable regulations; of the character of the district and its peculiar suitability for the particular uses specified; and with a view of conserving the value of land and buildings and encouraging the most appropriate use of land throughout the city consistent with the comprehensive plan.
- (b) *Zoning administration.* The zoning administrator is charged with the administration and interpretation of this chapter. In the event that this chapter or any provision hereof is unclear as to its applicability to any property or person, the zoning administrator shall render an interpretation of the ordinance or provision after taking into consideration the purpose and intent of the ordinance as a whole. The decision of the zoning administrator shall be subject to review by the board of adjustment as provided in section 42-95.

(Ord. No. 2015-005, § 1, 4-20-2015)

Sec. 42-2. Scope of chapter.

The provisions of this zoning chapter and the regulations in the districts established herein constitute minimum requirements for the promotion of the public health, safety, morals and general welfare of the city. Wherever higher or more restrictive standards are established by provisions of any other applicable statute, ordinance or regulation than is established by the provisions of this chapter, the provisions of such other statute, ordinance or regulation shall govern.

(Ord. No. 2015-005, § 1, 4-20-2015)

¹Editor's note(s)—Ord. No. 2015-005 , § 1, adopted April 20, 2015, set out provisions for use herein as arts. I—VII, §§ 42-1—42-10, 42-20—42-36, 42-45, 42-55—42-59, 42-70—42-73, 42-80—42-85, 42-95—42-99. Inasmuch as provisions with similar numbering existed at the time of codification, and at the direction of the city, the existing provisions numbered arts. III—VII were maintained by renumbering as new arts. VIII—XII.

State law reference(s)—Regulation of land use, structures, businesses, and related activities, V.T.C.A., Local Government Code ch. 211 et seq.; planning and development, V.T.C.A., Local Government Code ch. 371 et seq.

Secs. 42-87—42-94. Reserved.

ARTICLE VII. ADMINISTRATION AND ENFORCEMENT

Sec. 42-95. Board of adjustment.

(a) *Creation, membership and procedures.*

- (1) *Zoning board of adjustment established.* A board of adjustment is hereby established in accordance with the provisions of V.T.C.A., Local Government Code § 211.008 and shall have the powers and duties as provided in said statute and this chapter.
- (2) *Membership.*
 - a. The zoning board of adjustment shall consist of five members, each to be appointed by the city council for a term of two years and removable for cause by the city council upon written charges and after public hearing. If a member is absent for three consecutive meetings, or if the member misses more than 50 percent of the meetings in a calendar year, reasonable cause exists for the removal of the member unless the board has granted the member a leave of absence at a meeting due to illness or other good cause.
 - b. Vacancies shall be filled for the unexpired term of any member whose place becomes vacant for any cause, in the same manner as the original appointment was made. Three members shall serve until January 1 of odd-numbered years, as heretofore appointed, and two members, as heretofore appointed, shall serve until January 1 of even-numbered years. Thereafter each member reappointed or each new appointee shall serve for a full term of two years unless removed as hereinabove provided.
 - c. The city council may also appoint up to four alternate members of the board who shall serve in the absence of one or more of the regular members when requested to do so by the chairperson of the board, so that all cases to be heard by the board will always be heard by a minimum number of four members. These alternate members, when appointed, shall serve for the same period as the regular members, which is for a term of two years, and any vacancy shall be filled in the same manner and they shall be subject to removal by the same means and under the same procedures as the regular members.
- (3) *Hearings.* The hearings of the board shall be public. The board shall hear the intervention of any owner of property adjacent to, in the rear of, or across the street from a lot as to which the granting of any permit is pending, and shall also hear any other parties in interest. All hearings are to be heard by at least four members of the board.
- (4) *Meetings.* Regular meetings of the board shall be held at such times as the board may determine. Special meetings of the board shall be held at the call of the chairperson or at the written request of two regular members of the board, said request to be submitted to the chairperson.
- (5) *Rules and regulations.* The board shall keep minutes of its proceedings, showing the vote of each member upon each question or, if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions, all of which shall be immediately filed in the office of the city secretary and shall be public record. The board shall adopt from time to time such additional rules and regulations as it may deem necessary to carry into effect the provisions of this chapter, and shall furnish a copy of the same to the zoning administrator, all of which rules and regulations shall operate uniformly in all cases. All of its orders shall be in accordance therewith.

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- (b) *Jurisdiction and powers.* The board of adjustment shall have all powers granted by the provisions of V.T.C.A., Local Government Code §§ 211.008—211.011. The board may, in specific cases, after public notice and public hearing and subject to appropriate conditions and safeguards, take the following actions:
- (1) Hear and decide appeals where it is alleged there is error in any order, requirement, decision or determination made by the zoning administrator or other city officer or department in the enforcement of this chapter;
 - (2) Hear appeals on zoning boundary disputes;
 - (3) Hear requests by a city officer, board, commission or city council to abate, remove, limit or terminate a nonconforming use or building through expedited compliance procedures to require the discontinuance of a nonconforming use or building under a reasonable plan whereby the owner's investment in the nonconforming use or building can be recouped through amortization over a definite period of time, taking into consideration the general character of the neighborhood and the necessity for all property to conform to the regulations of this chapter.
 - (4) Permit the expansion or extension of a nonconforming use in accordance with the provisions of section 42-83.
 - (5) Within the limits prescribed in section 42-82, the board may review nonconforming uses which have been abandoned or discontinued to determine whether such uses should be allowed to resume operation. Such action by the board shall consider any unnecessary hardship on the property owner if the use is discontinued and shall have due regard for the public welfare, the character of the area surrounding such use, and the conservation, preservation and protection of surrounding properties and their values;
 - (6) Permit the repair or reconstruction and occupancy of a nonconforming building or a building containing a nonconforming use where the building has been destroyed in excess of 50 percent, but less than the total value as provided in section 42-83, provided such reconstruction does not, in the judgment of the board, prevent the return of such property to a conforming use or increase the nonconformity of a nonconforming building beyond what is permitted by article VI. Such action by the board of adjustment shall have due regard for the property rights of the person or persons affected, when considered in light of the public welfare, the character of the area surrounding such structure, and the conservation, preservation and protection of surrounding properties and their values;
 - (7) Require the vacation and demolition of a nonconforming structure which is deemed to be obsolete, dilapidated or substandard;
 - (8) Permit variances to the development regulations in this chapter such as front yard, side yard, rear yard, lot width, lot depth, lot coverage, minimum setback, off-street parking, off-street loading, lot area, maximum height, or other development regulations where such variance is necessary to permit the reasonable development of a specific parcel of land which differs from other parcels of land in the same zoning district by being of such area, shape, topography, slope or condition that it cannot be developed in a manner commensurate with the development permitted upon other parcels of land in the same zoning district, or where, due to special conditions:
 - a. The literal enforcement of the provisions of this chapter would deprive the applicant of rights commonly enjoyed by other properties in the same district and would result in an unnecessary and/or unreasonable hardship;
 - b. The special conditions are not the result of the applicant's actions, but are peculiar to the land, structure or building involved;
 - c. The variance requested is the minimum necessary; and
 - d. No special privilege is granted which is denied to other similarly situated uses.

Any variance granted shall not adversely affect adjoining property, shall not be contrary to the public interest and shall insure that the spirit of the ordinance is observed and substantial justice is done.

- (9) Approve special exception uses which are specifically authorized by this chapter. A site plan meeting the requirements of section 42-56, shall be required to be submitted with each application for a special exception. Any special exceptions authorized by the board, either under the provisions of this chapter, or under the authority granted to the board under the statutes of the state, shall authorize the issuance of a building permit for a period of 90 days from the date of the favorable action on the part of the board of adjustment, unless the board in its minutes shall, at the same time, grant a longer period. If a building permit shall not have been issued within said 90-day period or such other period as the board of adjustment may specifically grant, the special exceptions shall be deemed waived, and all rights thereunder terminated. Such termination and waiver shall be without prejudice to a subsequent appeal to said board of adjustment in accordance with the rules and regulations regarding appeals.

(c) *Appeals.*

- (1) Except as limited for specific appeals, appeals to the board of adjustment can be taken by any person aggrieved or by any officer, department, or board of the municipality affected by any decision of the zoning administrator or any official authorized to make a decision under this chapter. Such appeal shall be taken within 15 days after the decision has been rendered by the zoning administrator or other official by filing with the official from whom the appeal is taken and with the city secretary a notice of appeal specifying the grounds thereof. The official from whom the appeal is taken shall forthwith transmit to the board of adjustment all the papers constituting the record upon which the action appealed from was taken.
 - (2) A written application for appeal shall be submitted together with the required fee, accompanied by an accurate legal description, maps, site plans, drawings, and other data or information relevant to the appeal.
 - (3) An appeal shall stay all proceedings in furtherance of the action that is appealed unless the official from whom the appeal is taken certifies in writing to the board facts supporting the official's opinion that a stay would cause imminent peril to life or property. In that case proceedings may be stayed only by a restraining order granted by the board of adjustment or by a court of record on application after notice to the official and upon a showing of due cause.
 - (4) Limitation on reapplications. When the board has denied an appeal, no new applications of similar nature shall be accepted by the board or scheduled for 12 months after the date of board denial. Applications which have been withdrawn at or before the board meeting or that have been expired after approval by the board, may be resubmitted at any time for hearing before the board.
- (d) *Hearing.* The board of adjustment shall fix a reasonable time for the hearing of an appeal, give public notice thereof, as well as due notice to the parties in interest and decide the same within a reasonable time. At the hearing any party may appear in person or by attorney or agent. The notice provided in this section shall be given by publication in the official city publication stating the time and place of such hearing, which shall not be earlier than ten days from the day of such publication, and in addition, the board of adjustment shall mail notices of such hearing to the petitioner and the owners of property lying within 200 feet of any point of the lot or portion thereof, on which an appeal is taken, and to all persons deemed by the board of adjustment to be affected. Such owners and persons shall be determined according to the current tax rolls of the city and substantial compliance therewith shall be deemed sufficient, provided, however, that the depositing of such written notice in the mail by the board of adjustment shall be deemed in compliance with this section.
- (e) *Decision of the board.* The board shall decide the appeal within a reasonable time. The board may reverse or affirm, wholly or partly, or may modify the order, requirements, decision, or determination as in its opinion ought to be made in the premises, and to that end, shall have all powers of the officer or department from whom the appeal is taken. In granting any appeal, the board may place reasonable conditions and

restrictions on the property that the board deems appropriate to assure that the spirit and intent of this chapter is observed.

- (f) *Vote of four members required.* The concurring vote of four members of the board is necessary to:
- (1) Reverse an order, requirement, decision or determination of an administrative official;
 - (2) Decide in favor of an applicant on a matter on which the board is required to pass; or
 - (3) Authorize a variation from the terms of this chapter.
- (g) *Appeals to court.* Any person or persons, jointly or separately, aggrieved by any decision of the board of adjustment or any taxpayer or any officer, department or board of the city may present to a court of record, a petition, duly verified, setting forth that such decision is illegal, in whole or in part, specifying the grounds of such illegality. Such petition shall be presented to the court within ten days after the rendering of the decision complained of by the board of adjustment, and not thereafter.
- (h) *Authorized special exceptions.* The following special exceptions may be permitted by the board of adjustment, in the district specified, subject to full and complete compliance with any and all conditions listed, together with such other conditions as the board of adjustment may impose:
- (1) Permit the erection and use of a building or the use of premises for railroads if such uses are in general conformity with the city comprehensive plan and present no conflict or nuisance to adjacent properties.
 - (2) Permit a public utility or public service building in any zoning district, or a public utility or public service building of a ground area and of a height at variance with those provided for in the district in which such public utility or public service building is permitted to be located, when found reasonably necessary for the public health, convenience, safety, or general welfare.
 - (3) Grant a permit for the extension of a use, height, or area regulation into an abutting district where the boundary line of the district divides a lot in a single ownership on the effective date of the ordinance from which this chapter is derived.
 - (4) Waive or reduce the parking and loading requirements in any of the districts, whenever the character or use of the building is such as to make unnecessary the full provision of parking or loading facilities, or where such regulations would impose an unreasonable hardship upon the use of the lot, as contrasted with merely granting an advantage or a convenience.
 - (5) Determine whether an industry should be permitted within the M-1 or M-2 District because of the methods by which it would be operated and where the board determines that there will be no adverse effects upon uses within surrounding zoning districts.
 - (6) Rule on all applications on siting of manufactured homes in districts not so zoned. Approval shall only be allowed in cases of extreme hardship under guidelines established by the board.
 - (7) Approve the location of amateur radio equipment and TV antennas (including ham radio and CB equipment but not including commercial equipment) in a residential district subject to the restrictions in this chapter.
 - (8) Approve the location of satellite receive-only antennas which exceed one meter in diameter in residential districts or two meters in diameter in non-residential districts subject to the following conditions: To receive a special exception, a satellite receive-only antenna which exceed:
 - a. One meter in diameter located in a residential zoning district, or
 - b. Two meters in diameter located in a non-residential zoning district (except governmental antennas), must comply with the following requirements:

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1. A satellite receive-only antenna shall not exceed 12 feet in height; however, satellite receive-only antennas may be placed on the roof of commercial structures if screened from public view from line of sight at ground level from the property line.
 2. Setbacks.
 - i. *Front and side.* Satellite receive-only antennas shall not be permitted in front or side yards;
 - ii. *Rear.* Satellite receive-only antennas shall be permitted in rear yards provided they meet the minimum setback as required for accessory buildings in residential districts and as for all buildings in nonresidential districts.
 3. Separation. There shall be no minimum or maximum separation requirements for satellite receive-only antennas from other structures on the same lot of record;
 4. Satellite receive-only antennas shall not be permitted in easements;
 5. Lights. No auxiliary or outdoor lighting shall be allowed on satellite receive-only antennas except such lights or lighting as may be required by the Federal Aviation Administration or the Federal Communications Commission;
 6. Construction standards. Except for satellite receive only antennas installed by a governmental entity, a building permit must be obtained prior to the construction and/or installation of a satellite receive only antenna;
 7. No part of an antenna, or any attachment thereto may extend beyond the property lines of the owner of such antenna site.
- (9) Approve the location of telecommunications antennas and towers.
- a. *Application.* To properly evaluate applications to locate telecommunications antennas or towers, the following information must be provided by the applicant, as applicable:
 1. A description of the nature of the antenna or tower site. Indicate whether the proposed structure is a monopole or lattice tower. Indicate the proposed height;
 2. Provide photos or drawings of all equipment, structures and antenna;
 3. Describe why the antenna or tower is necessary;
 4. State the name(s) of the telecommunications providers or other users of the antenna or tower and describe the use to be made by each user;
 5. Indicate if this antenna or tower site will be connected to other sites; and if so, describe how it will be connected and who will provide the backhaul network;
 6. The applicant must address whether an effort has been made to co-locate the facility proposed for this antenna or tower on existing towers or facilities in the same general area. Identify the location of existing sites. Describe in detail efforts made and explain in detail why existing site were not feasible. Attach all studies or tests performed which demonstrate why the existing sites will not provide sufficient signal coverage. Provide written documentation from existing sites' owners and/or operators which confirm the statements provided. Indicate whether or not the existing sites allow or promote co-location and, if not, describe why not;
 7. Indicate whether or not co-location will be allowed to other telecommunications providers at the requested site. If they are not allowed, state every reason and the basis for each reason;

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8. If the requested location is in a residential district the applicant must address whether an effort has been made to locate the facility in a commercial or industrial district. Identify the location of the commercial and/or industrial district sites. Describe in detail efforts and explain in detail why these commercial or industrial district sites were not feasible. Attach all studies or tests performed which demonstrate why the commercial or industrial sites will not provide sufficient signal coverage. Provide written documentation from commercial or industrial district sites' owners and/or operators which confirm the statements provided;
 9. Indicate the applicant's current coverage area for the city. Attach maps showing the areas the applicant's existing antennas currently cover, the areas the applicant's existing sites and other existing sites would cover, and the areas the applicant's existing sites and the requested site would cover;
 10. Describe the applicant's master antenna and tower plan for the city. Attach maps and other related documentation. Provide information indicating each phase of the plan;
 11. Describe the applicant's plan to minimize the number of telecommunications towers need to cover the city.
- b. *Conditions of approval.* The board of adjustment will approve a requested application for a special exception to locate a telecommunications antenna or tower subject to the finding that co-location of this facility with a nearby existing antenna facility is not feasible and subject to the following conditions:
 1. Applicant will permit co-location of others at the site;
 2. Applicant will configure its antenna and other equipment to accommodate other providers;
 3. Applicant will identify its backhaul network connecting antenna sites;
 4. Applicant will give notice to the city identifying any providers who co-locate on the site and identify their backhaul network; and
 5. Applicant shall meet the height, area, separation, and other requirements as listed in section 42-45.
 - c. *Written report upon denial of request.* The city shall document any denial of a request to place, construct, or modify personal wireless service facilities in writing, stating the reason for denial and indicating substantial evidence that supports the denial.
 - d. *Abandoned antenna facilities.* Any antenna or antenna facility that is not operated for a continuous period of 12 months shall be considered abandoned and the owner shall remove it within 90 days of receipt of notice from the city.
- (10) To grant a permit for the extension of a use, height or area regulation into an abutting district, where the boundary line of the district divides a lot in a single ownership on the effective date of the ordinance from which this chapter is derived.
 - (11) To waive or reduce the parking and loading requirements in any of the districts, when:
 - a. The character or use of the building is such as to make unnecessary the full provision of parking or loading facilities; or
 - b. When such regulations would impose an unreasonable hardship upon the use of the lot.The board shall not waive or reduce such requirements merely for the purpose of granting an advantage or a convenience.

(i) *Limitations on jurisdiction.*

- (1) The board shall have no authority to change any provisions of this chapter and its jurisdiction is limited to hardship and borderline cases which may arise from time to time. The board may not change the district designation of any land either to a more or less restrictive zone.
- (2) It is the intent of this chapter that all questions of interpretation and enforcement shall be first presented to the zoning administrator, that such questions shall be presented to the board only on appeal from the decision of the zoning administrator and that recourse from the decisions of the zoning board of adjustment shall be to the courts as provided by the laws of the state.

(Ord. No. 2015-005, § 1, 4-20-2015)

Sec. 211.008. BOARD OF ADJUSTMENT. (a) The governing body of a municipality may provide for the appointment of a board of adjustment. In the regulations adopted under this subchapter, the governing body may authorize the board of adjustment, in appropriate cases and subject to appropriate conditions and safeguards, to make special exceptions to the terms of the zoning ordinance that are consistent with the general purpose and intent of the ordinance and in accordance with any applicable rules contained in the ordinance.

(b) A board of adjustment must consist of at least five members to be appointed for terms of two years. The governing body must provide the procedure for appointment. The governing body may authorize each member of the governing body, including the mayor, to appoint one member to the board. The appointing authority may remove a board member for cause, as found by the appointing authority, on a written charge after a public hearing. A vacancy on the board shall be filled for the unexpired term.

(c) The governing body, by charter or ordinance, may provide for the appointment of alternate board members to serve in the absence of one or more regular members when requested to do so by the mayor or city manager. An alternate member serves for the same period as a regular member and is subject to removal in the same manner as a regular member. A vacancy among the alternate members is filled in the same manner as a vacancy among the regular members.

(d) Each case before the board of adjustment must be heard by at least 75 percent of the members.

(e) The board by majority vote shall adopt rules in accordance with any ordinance adopted under this subchapter and with the approval of the governing body. Meetings of the board are held at the call of the presiding officer and at other times as determined by the board. The presiding officer or acting presiding officer may administer oaths and compel the attendance of witnesses. All meetings of the board shall be open to the public.

(f) The board shall keep minutes of its proceedings that indicate the vote of each member on each question or the fact that a member is absent or fails to vote. The board shall keep records of its examinations and other official actions. The minutes and records shall be filed immediately in the board's office and are public records.

(g) The governing body of a Type A general-law municipality by ordinance may grant the members of the governing body the authority to act as a board of adjustment under this chapter.

Acts 1987, 70th Leg., ch. 149, Sec. 1, eff. Sept. 1, 1987.
Amended by Acts 1993, 73rd Leg., ch. 126, Sec. 1, eff. Sept. 1, 1993; Acts 1995, 74th Leg., ch. 724, Sec. 1, eff. Aug. 28, 1995; Acts 1997, 75th Leg., ch. 363, Sec. 1, eff. Sept. 1, 1997.

Amended by:

Acts 2019, 86th Leg., R.S., Ch. 820 (H.B. [2497](#)), Sec. 1, eff. September 1, 2019.

Sec. 211.009. AUTHORITY OF BOARD. (a) The board of adjustment may:

(1) hear and decide an appeal that alleges error in an order, requirement, decision, or determination made by an administrative official in the enforcement of this subchapter or an ordinance adopted under this subchapter;

(2) hear and decide special exceptions to the terms of a zoning ordinance when the ordinance requires the board to do so;

(3) authorize in specific cases a variance from the terms of a zoning ordinance if the variance is not contrary to the public interest and, due to special conditions, a literal enforcement of the ordinance would result in unnecessary hardship, and so that the spirit of the ordinance is observed and substantial justice is done; and

(4) hear and decide other matters authorized by an ordinance adopted under this subchapter.

(b) In exercising its authority under Subsection (a)(1), the board may reverse or affirm, in whole or in part, or modify the administrative official's order, requirement, decision, or determination from which an appeal is taken and make the correct order, requirement, decision, or determination, and for that purpose the board has the same authority as the administrative official.

(b-1) In exercising its authority under Subsection (a)(3), the board may consider the following as grounds to determine whether compliance with the ordinance as applied to a structure that is the subject of the appeal would result in unnecessary hardship:

(1) the financial cost of compliance is greater than 50 percent of the appraised value of the structure as shown on the most recent appraisal roll certified to the assessor for the municipality under Section [26.01](#), Tax Code;

(2) compliance would result in a loss to the lot on which the structure is located of at least 25 percent of the area on which development may physically occur;

(3) compliance would result in the structure not being in compliance with a requirement of a municipal ordinance, building code, or other requirement;

(4) compliance would result in the unreasonable encroachment on an adjacent property or easement; or

(5) the municipality considers the structure to be a nonconforming structure.

(c) The concurring vote of 75 percent of the members of the board is necessary to:

(1) reverse an order, requirement, decision, or determination of an administrative official;

(2) decide in favor of an applicant on a matter on which the board is required to pass under a zoning ordinance; or

(3) authorize a variation from the terms of a zoning ordinance.

Acts 1987, 70th Leg., ch. 149, Sec. 1, eff. Sept. 1, 1987.

Amended by Acts 1993, 73rd Leg., ch. 126, Sec. 2, eff. Sept. 1, 1993; Acts 1995, 74th Leg., ch. 724, Sec. 2, eff. Aug. 28, 1995.

Amended by:

Acts 2021, 87th Leg., R.S., Ch. 318 (H.B. [1475](#)), Sec. 1, eff. September 1, 2021.

Sec. 211.010. APPEAL TO BOARD. (a) Except as provided by Subsection (e), any of the following persons may appeal to the board of adjustment a decision made by an administrative official that is not related to a specific application, address, or project:

(1) a person aggrieved by the decision; or

(2) any officer, department, board, or bureau of the municipality affected by the decision.

(a-1) Except as provided by Subsection (e), any of the following persons may appeal to the board of adjustment a decision made by an administrative official that is related to a specific application, address, or project:

(1) a person who:

(A) filed the application that is the subject of the decision;

(B) is the owner or representative of the owner of the property that is the subject of the decision; or

(C) is aggrieved by the decision and is the owner of real property within 200 feet of the property that is the subject of the decision; or

(2) any officer, department, board, or bureau of the municipality affected by the decision.

(b) The appellant must file with the board and the official from whom the appeal is taken a notice of appeal specifying the grounds for the appeal. The appeal must be filed

not later than the 20th day after the date the decision is made. On receiving the notice, the official from whom the appeal is taken shall immediately transmit to the board all the papers constituting the record of the action that is appealed.

(c) An appeal stays all proceedings in furtherance of the action that is appealed unless the official from whom the appeal is taken certifies in writing to the board facts supporting the official's opinion that a stay would cause imminent peril to life or property. In that case, the proceedings may be stayed only by a restraining order granted by the board or a court of record on application, after notice to the official, if due cause is shown.

(d) The board shall set a reasonable time for the appeal hearing and shall give public notice of the hearing and due notice to the parties in interest. A party may appear at the appeal hearing in person or by agent or attorney. The board shall decide the appeal at the next meeting for which notice can be provided following the hearing and not later than the 60th day after the date the appeal is filed.

(e) A member of the governing body of the municipality who serves on the board of adjustment under Section [211.008](#)(g) may not bring an appeal under this section.

Acts 1987, 70th Leg., ch. 149, Sec. 1, eff. Sept. 1, 1987.
Amended by Acts 1997, 75th Leg., ch. 363, Sec. 2, eff. Sept. 1, 1997.

Amended by:

Acts 2019, 86th Leg., R.S., Ch. 820 (H.B. [2497](#)), Sec. 2, eff. September 1, 2019.

Sec. 211.011. JUDICIAL REVIEW OF BOARD DECISION. (a) Any of the following persons may present to a district court, county court, or county court at law a verified petition stating that the decision of the board of adjustment is illegal in whole or in part and specifying the grounds of the illegality:

(1) a person aggrieved by a decision of the board;

(2) a taxpayer; or
(3) an officer, department, board, or bureau of the municipality.

(b) The petition must be presented within 10 days after the date the decision is filed in the board's office.

(c) On the presentation of the petition, the court may grant a writ of certiorari directed to the board to review the board's decision. The writ must indicate the time by which the board's return must be made and served on the petitioner's attorney, which must be after 10 days and may be extended by the court. Granting of the writ does not stay the proceedings on the decision under appeal, but on application and after notice to the board the court may grant a restraining order if due cause is shown.

(d) The board's return must be verified and must concisely state any pertinent and material facts that show the grounds of the decision under appeal. The board is not required to return the original documents on which the board acted but may return certified or sworn copies of the documents or parts of the documents as required by the writ.

(e) If at the hearing the court determines that testimony is necessary for the proper disposition of the matter, it may take evidence or appoint a referee to take evidence as directed. The referee shall report the evidence to the court with the referee's findings of fact and conclusions of law. The referee's report constitutes a part of the proceedings on which the court shall make its decision.

(f) The court may reverse or affirm, in whole or in part, or modify the decision that is appealed. Costs may not be assessed against the board unless the court determines that the board acted with gross negligence, in bad faith, or with malice in making its decision.

(g) The court may not apply a different standard of review to a decision of a board of adjustment that is composed of members of the governing body of the municipality under Section [211.008](#) (g) than is applied to a decision of a board of

adjustment that does not contain members of the governing body of a municipality.

Acts 1987, 70th Leg., ch. 149, Sec. 1, eff. Sept. 1, 1987.
Amended by Acts 1997, 75th Leg., ch. 363, Sec. 3, eff. Sept. 1, 1997; Acts 1999, 76th Leg., ch. 646, Sec. 1, eff. Aug. 30, 1999.