



*** PUBLIC NOTICE ***

**NOTICE OF A CITY COUNCIL REGULAR SESSION IMMEDIATELY FOLLOWING
A WORKSHOP SESSION
OF THE CITY OF CORINTH
Thursday, September 20, 2018, 5:30 P.M.
CITY HALL - 3300 CORINTH PARKWAY**

CALL TO ORDER:

WORKSHOP BUSINESS AGENDA

1. Discuss Regular Meeting Items on Regular Session Agenda, including the consideration of closed session items as set forth in the Closed Session agenda items below.

ADJOURN WORKSHOP SESSION

***NOTICE IS HEREBY GIVEN** of a Regular Session of the Corinth City Council to be held at Corinth City Hall located at 3300 Corinth Parkway, Corinth, Texas. The agenda is as follows:

CALL TO ORDER, INVOCATION, PLEDGE OF ALLEGIANCE & TEXAS PLEDGE:

"Honor the Texas Flag: I pledge allegiance to thee, Texas, one state under God, one and indivisible".

PRESENTATION

Recieve a presentation and award presentation to the City of Corinth Public Works Department for recieving accreditation from the American Public Works Association.

CITIZENS COMMENTS

In accordance with the Open Meetings Act, Council is prohibited from acting on or discussing (other than factual responses to specific questions) any items brought before them at this time. Citizen's comments will be limited to 3 minutes. Comments about any of the Council agenda items are appreciated by the Council and may be taken into consideration at this time or during that agenda item. Please complete a Public Input form if you desire to address the City Council. All remarks and questions addressed to the Council shall be addressed to the Council as a whole and not to any individual member thereof. Section 30.041B Code of Ordinance of the City of Corinth.

PUBLIC HEARING

1. TO HEAR PUBLIC OPINION REGARDING A REQUEST FROM THE APPLICANT, PETER KAVANAGH, AUTHORIZED REPRESENTATIVE FOR THE PROPERTY OWNER, NORTH CENTRAL TEXAS COLLEGE, FOR A SPECIFIC USE PERMIT TO ALLOW A VERIZON CELLULAR TOWER AND EQUIPMENT ON AN APPROXIMATELY 384 SQUARE FOOT LEASE SPACE OUT OF AN APPROXIMATELY 34.33-ACRE TRACT OF LAND SITUATED IN THE M.E.P. & P.R.R. CO. SURVEY, ABSTRACT NO. 915 AND MORE PARTICULARLY DESCRIBED AS NORTH CENTRAL TEXAS COLLEGE ADDITION, NO. 2, LOT 1R, BLOCK A, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS. (THIS PROPERTY IS LOCATED ON THE NORTH CENTRAL TEXAS COLLEGE CAMPUS, NORTH OF WALTON ROAD, EAST OF N. CORINTH PKWY).

- Staff Presentation
- Applicant Presentation
- Public Hearing
- Response by applicant
- Response by staff

BUSINESS:

Consider an ordinance for a Specific Use Permit (SUP) to allow a Verizon Cellular Tower and Equipment on an approximately 384 square foot lease space out of an approximately 34.33-acre tract of land situated in the M.E.P. & P.R.R. Co. Survey, Abstract No. 915 and more particularly described as North Central Texas College Addition, No. 2, Lot 1R, Block A, in the City of Corinth, Denton County, Texas. (This property is located on the North Central Texas College Campus, north of Walton Road, East of N. Corinth Pkwy).

BUSINESS AGENDA

2. A Resolution by the Corinth City Council Adopting the Denton County Greenbelt Plan and Recognizing the Necessity of Protecting the Natural Areas “Greenbelts” Adjacent to Creeks and Other Waterways.
3. Consider and act on an increase of speed from 45 mph to 50 mph on 2499 from 2181 to the city's northern limit.
4. Consider and act on an Ordinance adopting the 2018-2019 Annual Budget and appropriating resources for the budget year beginning October 1, 2018.
5. Consider and act on an Ordinance levying and adopting the tax rate for the 2018-2019 Fiscal Year.
6. Consider and act on an Ordinance approving the 2018 Tax Rolls and accepting the anticipated collection rate of 100 percent for the fiscal year beginning October 1, 2018 and ending September 30, 2019.
7. Consider vote to ratify the property tax increase reflected in the city’s annual budget for FY 2018-2019.
8. Consider and act on a proposed interlocal agreement with the Lake Cities Municipal Utility Authority to provide GIS services.
9. Consider and act on a Resolution approving a compensation plan for employees, adopting pay schedules for General Government, Police, and Fire employees; and providing for an effective date.

10. Consider and act on nominations, appointments, resignations and removal of members from Keep Corinth Beautiful Commission.
11. Consider and act on nominations, appointments, resignations and removal of members from the Planning and Zoning Commission.
12. Consider and act on nominations, appointments, resignations and removal of members from the Board of Construction Appeals.
13. Consider and act on nominations, appointments, resignations and removal of members from the Citizen Finance Audit Committee.
14. Consider and act on nominations, appointments, resignations and removal of members from the Ethics Committee.
15. Consider and act on nominations, appointments, resignations and removal of members from Corinth Economic Development Corporation,
16. Consider and act on the official ballot of the election of Places 11-14 of the Board of Trustees for the Texas Municipal League Intergovernmental Risk Pool.

COUNCIL COMMENTS & FUTURE AGENDA ITEMS

The purpose of this section is to allow each councilmember the opportunity to provide general updates and/or comments to fellow councilmembers, the public, and/or staff on any issues or future events. Also, in accordance with Section 30.085 of the Code of Ordinances, at this time, any Councilmember may direct that an item be added as a business item to any future agenda.

CLOSED SESSION

The City Council will convene in such executive or (closed session) to consider any matters regarding any of the above agenda items as well as the following matters pursuant to Chapter 551 of the Texas Government Code.

Section 551.071. (1) Private consultation with its attorney to seek advice about pending or contemplated litigation; and/or settlement offer; and/or (2) a matter in which the duty of the attorney to the government body under the Texas Disciplinary Rules of Professional Conduct of the State of Texas clearly conflicts with chapter 551.

- a. MCM Contract, including water line stablization.

Section 551.072. To deliberate the purchase, exchange, lease or value of real property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with a third person.

- a. Consider acquisition of Right-of-way at 1708 Post Oak Drive.
- b. Consider acquisition of Right-of-way at 2101 Lake Sharon Blvd.

Section 551.074. To deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee.

- a. City Manager evaluation.

Section 551.087. To deliberate or discuss regarding commercial or financial information that the governmental body has received from a business prospect that the governmental body seeks to have locate, stay, or expand in or near the territory of the governmental body and with which the governmental body is conducting economic development negotiations; or to deliberate the offer of a financial or other incentive to a business prospect.

After discussion of any matters in closed session, any final action or vote taken will be in public by the City Council. City Council shall have the right at any time to seek legal advice in Closed Session from its Attorney on any agenda item, whether posted for Closed Session or not.

RECONVENE IN OPEN SESSION TO TAKE ACTION, IF NECESSARY, ON CLOSED SESSION ITEMS.

ADJOURN:

Posted this 14th day of September, 2018 at 11:30 a.m. on the bulletin board at Corinth City Hall.

Kimberly Pence

Kimberly Pence, City Secretary
City of Corinth, Texas

PRESENTATION ITEM

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: American Public Works Association Accreditation Award Presentation

Submitted For: Cody Collier, Director

Submitted By: Cody Collier, Director

City Manager Review: Approval: Bob Hart, City Manager

AGENDA ITEM

Recieve a presentation and award presentation to the City of Corinth Public Works Department for recieving accreditation from the American Public Works Association.

AGENDA ITEM SUMMARY/BACKGROUND

The American Public Works Association (APWA) serves professionals in all aspects of public works—a fact that sets it apart from other organizations and makes it an effective voice of public works throughout North America. With a worldwide membership more than 30,000 strong, APWA includes not only personnel from local, county, state/province, and federal agencies, but also private sector personnel who supply products and services to those professionals.

Although originally chartered in the United States in 1937, APWA has roots in two predecessor groups that reach back to 1894, and has 63 chapters in North America, which includes eight chapters in Canada. A 17-member Board of Directors, all of whom are elected by Association members, governs APWA as a whole.

The purpose of the accreditation program is to provide a means of formally verifying and recognizing public works agencies for compliance with the recommended practices set forth in the Public Works Management Practices Manual. It is a voluntary, self-motivated approach to objectively evaluate, verify and recognize compliance with the recommended management practices. The objectives of the accreditation program are to:

- create impetus for organization self-improvement and stimulate general raising of standards
- offer a voluntary evaluation and education program rather than government-regulated activity
- recognize good performance and provide motivation to maintain and improve performance
- improve public works performance and the provision of services
- increase professionalism
- instill pride among agency staff, elected officials and the local community

The Corinth Public Works Department achieved accreditation on July 30, 2018. Corinth was recognized at the National APWA Conference in Kansas City Missouri on August 28th for this achievement and becoming the 144th city in the nation and the 11th city in Texas to achieve this goal. Further, Corinth was recognized as a record holder for the quickest completion from application submittal to completion in the program. With completion in only six months in a program that is allowed up to three years for full completion. Corinth became the topic of an accreditation meeting where several cities were shocked by our ability and sought staff suggestions on how to achieve their goal in the same manner. Corinth staff represented our city very well and we are now nationally recognized as leaders and pace setters in the world of APWA with several cities stating they would be reaching out to us for direction in the coming year.

We are very proud of our accomplishment but more so in our team here in Corinth. This accomplishment would not have happened without the incredible support from all departments and representation we had and brought to the challenge. We in Public Works share this and thank every department and employee who assisted us far beyond expectations. This fact also impressed our four site evaluators from around the country who said they had never seen such teamwork and showing of support from any other city. We are proud of this achievement, our staff, our city and hope you are as well.

RECOMMENDATION

No action required.

Attachments

APWA Exit Remarks

APWA Recommendation Letter

Press Release

EXIT SCRIPT

"On Wednesday, we started down the path of your Accreditation. We didn't know you, your organization or your operations. A day and a half later, and we've all spent time getting to know you, and now we have an understanding of your organization, and know a lot more about your operations.

We have reviewed 365 management practices, toured your community and, I'm sure at times, asked too many questions. We have observed how you interact with one another; we have observed your pride in your specific operation and witnessed the spirit of teamwork.

We would like to thank you, the staff, for being prepared for the inquisitions and for the hospitality. We have observed and will take back to our organizations a little of what we learned. We both become better! We both benefited from this experience.

We would like to thank Bob Hart and Cody Collier for their continued support. It's not easy to dedicate staff to what some would call "unproductive time". Willingness to continue with the process speaks highly about his dedication to provide the citizens of Corinth with the best services in an efficient manner. To your Accreditation Manager, Melissa Dolan, you did an amazing job coordinating and keeping the entire staff on track throughout the process.

On behalf of Tracy Quintana and my Team Member, Mary Anderson, thank you for giving of your time away from your family and your real jobs. I hope you learned from us also.

Now on with the results:

<u>315</u>	Fully compliance	<u>98%</u>
<u>6</u>	Substantial compliance	<u>2%</u>
<u>276</u>	Not Applicable	
<u>597</u>	Total Reviewed	
<u>0</u>	Not Reviewed	
<u>0</u>	P/C	
<u>0</u>	N/C	
<u>597</u>	Total	

Additionally, there were 3 Model Practices selected and will be shared with agencies as a guideline. These practices were:

- 2.8 HR Management / Career Development
- 8.4 Emergency Management / Exercises
- 40.4 Asset Management / Inventory

Explain the process from here on:

- Within 7 days, I will write a letter to the Accreditation Council
- Accreditation Council will act within 30 days

Congratulations on your Accreditation!

Today, there are now 141 agencies Accredited nationwide. There are a total of 9 agencies from the State of Texas which are accredited. (Plano, Rowlett, Little Elm, Houston, Austin, Fort Worth, Flower Mound, College Station and Arlington)

I would like to thank my team and allow them to impart their closing comments with you:

Mary
Tracy

July 20, 2018

Mr. Jim Neal, Chair
APWA Accreditation Council
American Public Works Association
1200 Main Street, Suite 1400
Kansas City, MO 64105

Subject: City of Corinth, TX Public Works Department Accreditation

BACKGROUND

An APWA sanctioned team conducted a site visit for the Public Works Department of the City of Corinth, TX on July 17-19, 2018. The 9th Edition of the American Public Works Association's Public Works Management Practices Manual was utilized.

SITE VISIT EVALUATION TEAM

The site visit team included the following individuals:

Team Leader, Paul Dornell, City of Palo Alto, CA (Retired)
Mary Anderson, Village of Niles, IL (Retired)
Tracy Quintana, Accreditation Program Manager, APWA

Our arrival to Corinth, TX was warm (109 degrees) and welcoming. The City of Corinth is approximately 30 miles north of Dallas. It has a population of approximately 24,000 and covers 8 square miles. Known as part of the Lake Cities, Corinth is joined by three neighboring communities which share several resources including Fire. The City is at 80% residential buildout and 30% commercial buildout. For the past 14 years, the City has received a Superior rating from the Texas Commission on Environmental Quality (TCEQ).

The Public Works Department employs 34 full-time employees. These employees provide services in the areas of streets, drainage, water & sewer and parks & recreation. There are 110 lane miles, 70 miles of sidewalks, 184 acres of parkland and 7,400 utility accounts. The public works staff have a strong sense of commitment to the community. This was obvious in the dialogue throughout the site visit; everyone was proud to talk about their roles in projects not only managed by their department, but those with other departments and outside agencies. The support Public Works has received from within the organization was amazing. During the site visit, representatives from Police and Fire, plus Finance and Human Resources came and participated in the review. They talked about how involved the Public Works Department was in all aspects of the organizations operations. The support was amazing.

The Team members and I would like to gratefully acknowledge the wonderful hospitality, cooperation and professionalism that were extended to us by the staff of the City of Corinth during the site visit.

FINDINGS

The 9th Edition of the Public Works Management Practices Manual contains a total of ___ management practices. The following summary reflects a breakdown of the results of the site evaluation:

COMPLIANCE/RESULTS	NUMBER
Full Compliance (FC)	315
Substantial Compliance (SC)	6
Partial Compliance (PC)	0
Non-Compliance (NC)	0
Total Applicable to Agency	341
Not Applicable	276
Waived	0
Not Reviewed	0
Total Practices	597

As you know, an agency is required to have 100 percent of the practices in substantial compliance or better, unless waived or determined to be not applicable. The detailed results of the site visit are attached for your review.

In addition, three Model Practice(s) was acknowledged and will be shared with other agencies.

RECOMMENDATION

Based on the above ratings and documentation, the Evaluation Team recommends the Public Works Department of the City of Corinth, TX be awarded full Accreditation status.

Should the Council have any questions, please feel free to contact me or Tracy Quintana of APWA staff.

Sincerely,



Paul Dornell,
City of Palo Alto, CA (Retired)
Team Leader

Ballot Attached

FOR IMMEDIATE RELEASE:

Media Contact: Jared Shilhanek
Sr. Marketing & Communications Manager
(816) 595-5257
jshilhanek@apwa.net

Advocacy-Related Media Contact: Emily Dowsett
Government Affairs Media Manager
(202) 218-6736
edowsett@apwa.net

City of Corinth, TX Achieves APWA Accreditation Status

KANSAS CITY, MO. – September 5, 2018 – The City of Corinth, TX Public Works Department has been awarded on July 30, 2018 the prestigious American Public Works Association (APWA) Accreditation designation. The APWA Accreditation program recognizes public works agencies that go beyond the requirements of the management practices established nationally in the public works industry, as contained in the APWA *Public Works Management Practices Manual*. The City of Corinth initially applied for Accreditation in February 2018.

The City of Corinth Public Works Department will receive the Accreditation award from APWA Accreditation Council member and Rowlett Public Works Director, Shawn Poe, at a presentation ceremony during the Council meeting on September 20, 2018, at 7:00 p.m. The meeting will be held at 3300 Corinth Parkway, Corinth, TX.

The Accreditation of the City's Public Works Department indicates the department met all applicable Accreditation documentation and practices over time. In a statement from Public Works Director Cody Collier, "The process of acquiring accreditation from the APWA was challenging, yet worth every minute. Working through the practices, it allows a new perspective on all of the policies and practices one's agency does well. There are also moments where you not only question why one has not been doing certain things, but also question why we have been doing things "this way" for so long. APWA accreditation is fundamental for an organization to provide best management practices, consistency and the best possible succession plan one can leave behind. The process will also show strong relationships within the organization. We relied heavily upon other departments to contribute and assist us with many of the practices. Public Works could not have accomplished what we did without the incredible support we received from other departments and we thank them for that as well. We also thank the team from APWA for all their help and patience. It takes a team and that's how it should be."

The City of Corinth Public Works Department becomes the 144th agency in North America to be awarded Accreditation, and the 11th agency in the State of Texas. In addition to Corinth, the accredited agencies in Texas include Austin, Houston, Plano, Arlington, College Station, Little Elm, University Park, Fort Worth, Flower Mound and Rowlett.

For the Corinth review, a team of public works professionals from Palo Alto, CA, Niles, IL and Kansas City, MO, completed a thorough evaluation of operations during their July 2018 site visit.

For more information about the Corinth Public Works Department, contact Director Cody Collier at cody.collier@cityofcorinth.com or Accreditation Manager Melissa Dolan at melissa.dolan@cityofcorinth.com. For more information about APWA Accreditation, please contact APWA Accreditation Manager Tracy Quintana at tquintana@apwa.net. For APWA media queries, please contact Jared Shilhanek, Sr. Marketing & Communications Editor, at (816) 595-5257 or jshilhanek@apwa.net. For advocacy-related media queries, contact Emily Dowsett, Government Affairs Media Manager, at (202) 218-6736 or edowsett@apwa.net.

About APWA

The American Public Works Association (www.apwa.net) is a not-for-profit, international organization of more than 29,000 members involved in the field of public works. APWA serves its members by promoting professional excellence and public awareness through education, advocacy and the exchange of knowledge. APWA is headquartered in Kansas City, Missouri, has an office in Washington, D.C. and 63 chapters in North America.

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City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Verizon Wireless Cell Tower SUP

Submitted For: Helen-Eve Liebman, Director

Submitted By: Lori Levy, Senior Planner

City Manager Review:

AGENDA ITEM

TO HEAR PUBLIC OPINION REGARDING A REQUEST FROM THE APPLICANT, PETER KAVANAGH, AUTHORIZED REPRESENTATIVE FOR THE PROPERTY OWNER, NORTH CENTRAL TEXAS COLLEGE, FOR A SPECIFIC USE PERMIT TO ALLOW A VERIZON CELLULAR TOWER AND EQUIPMENT ON AN APPROXIMATELY 384 SQUARE FOOT LEASE SPACE OUT OF AN APPROXIMATELY 34.33-ACRE TRACT OF LAND SITUATED IN THE M.E.P. & P.R.R. CO. SURVEY, ABSTRACT NO. 915 AND MORE PARTICULARLY DESCRIBED AS NORTH CENTRAL TEXAS COLLEGE ADDITION, NO. 2, LOT 1R, BLOCK A, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS. (THIS PROPERTY IS LOCATED ON THE NORTH CENTRAL TEXAS COLLEGE CAMPUS, NORTH OF WALTON ROAD, EAST OF N. CORINTH PKWY).

- Staff Presentation
- Applicant Presentation
- Public Hearing
- Response by applicant
- Response by staff

BUSINESS:

Consider an ordinance for a Specific Use Permit (SUP) to allow a Verizon Cellular Tower and Equipment on an approximately 384 square foot lease space out of an approximately 34.33-acre tract of land situated in the M.E.P. & P.R.R. Co. Survey, Abstract No. 915 and more particularly described as North Central Texas College Addition, No. 2, Lot 1R, Block A, in the City of Corinth, Denton County, Texas. (This property is located on the North Central Texas College Campus, north of Walton Road, East of N. Corinth Pkwy).

AGENDA ITEM SUMMARY/BACKGROUND

A one hundred twenty-five-foot (125') Verizon Wireless Telecommunication Tower and associated equipment cabinets near the cell tower is proposed on an approximately 384 sq. ft. lease space in the south end of the parking lot of the North Central Texas College campus. The monopole, cellular tower will be concealed within a flag pole similar to those, as shown in the attached photo renderings that have been installed in other communities.

An existing parking space in the parking lot of the college campus near the proposed lease space is being designated for the Verizon lessee and will also serve as an area for a portable generator for maintenance of the cell tower and equipment. An 8' solid masonry brick screening wall, painted to match the college building will screen the equipment cabinets on three sides and allow access to the equipment via metal paneled gates.

Access to the cell tower and equipment will be provided via a new 15' Access Easement from the existing driveway off Corinth Parkway and into the parking lot. A new 12' Access Road will be constructed within the existing parking lot area within a new 15' Access Easement to provide connection and access to the lessee space from the existing parking lot. A new 10' Utility Easement is also being provided for servicing the equipment. All easements are to be dedicated by separate instrument.

A Verizon Wireless Cellular Tower and Equipment was previously proposed at a different location on the North

Central Texas College property off of Walton Road. This proposal was not recommended for approval, as it was in an inappropriate location and would have impeded future development of that remaining parcel. The applicant also had not turned in a completed application. The monopole tower that was previously proposed was similar; however, a flag was not proposed for the monopole at that time.

The previous proposal was unanimously denied by the City Council at the March 15, 2018 meeting. Please see the attached aerial photo and monopole tower that was denied at the March 15, 2018 City Council meeting.

Financial Summary

Source of Funding: No funding is required.

RECOMMENDATION

Staff recommends **Approval** of the Specific Use Permit, subject to the applicant providing a report from a professional structural Engineer in the State of Texas and adding the recordation information for all new access and utility easements on the Site Plan and providing staff with copies of those instruments at the time of the building permit application.

PLANNING AND ZONING COMMISSION RECOMMENDATION

A public hearing was held at the August 27, 2018 Planning and Zoning Commission meeting. One speaker (property owner adjacent to the east of the subject property) spoke in opposition of the request. The opposition only represents 14.38% of the land area owned within 200' of the subject property; therefore, a 3/4 majority vote of the City Council is **not** required in order to approve the request.

The Planning and Zoning Commission recommended unanimous **Approval** of the Specific Use Permit request with staff stipulations at the August 27, 2018 meeting.

Attachments

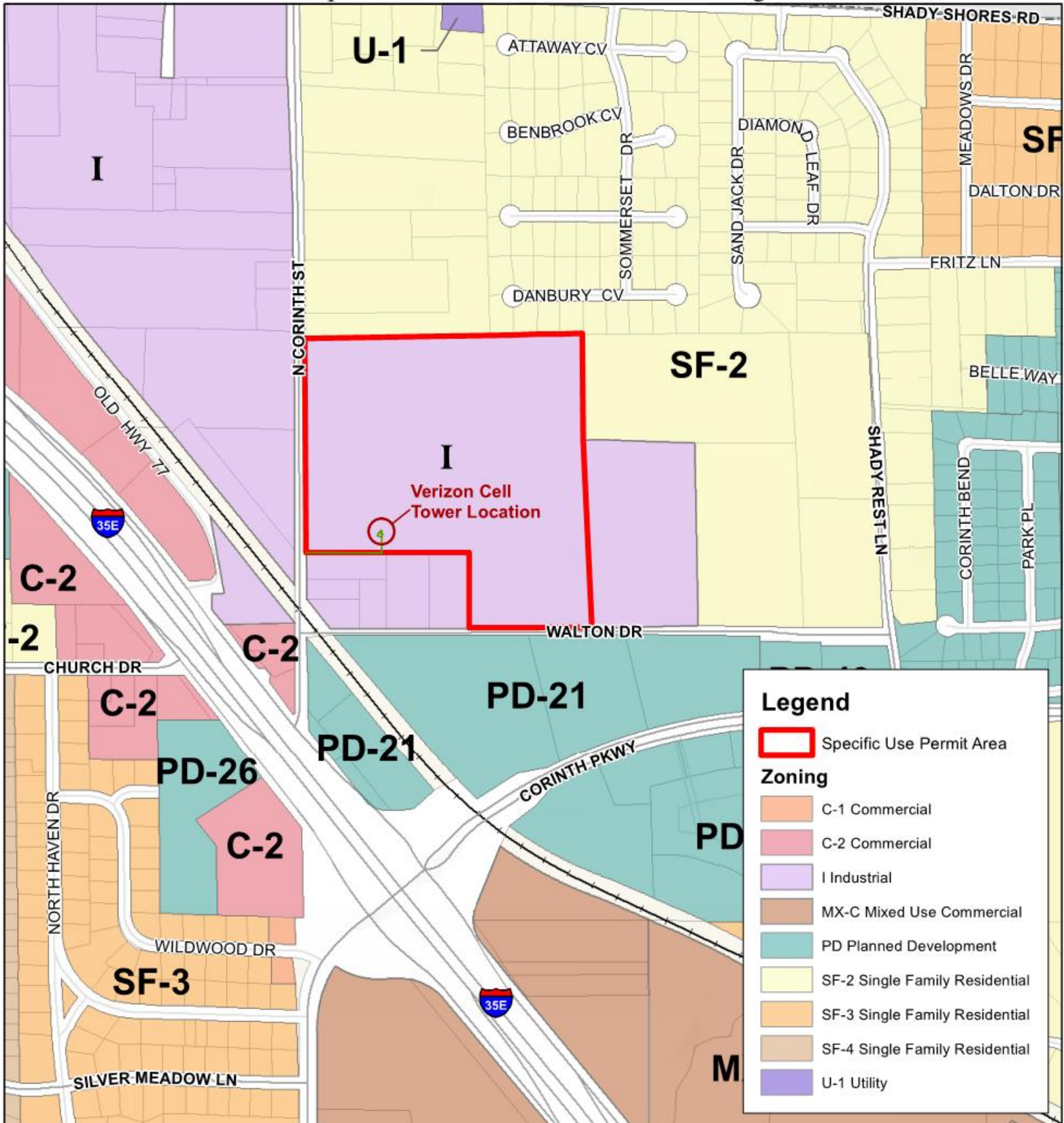
Zoning Map
Aerial Location Map
Site Plan
Color Photos of Similar Towers
Opposition Map
Location of Previously Denied SUP Request
Tower Previously Denied
Ordinance



CITY OF CORINTH

VERIZON CELL TOWER

Specific Use Permit Location and Zoning

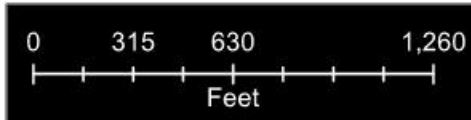


Legend

Specific Use Permit Area

Zoning

- C-1 Commercial
- C-2 Commercial
- I Industrial
- MX-C Mixed Use Commercial
- PD Planned Development
- SF-2 Single Family Residential
- SF-3 Single Family Residential
- SF-4 Single Family Residential
- U-1 Utility





CITY OF CORINTH

VERIZON WIRELESS

Flagpole Location



-97.06025, 33.155722

N CORINTH ST

WALTON DR

35E

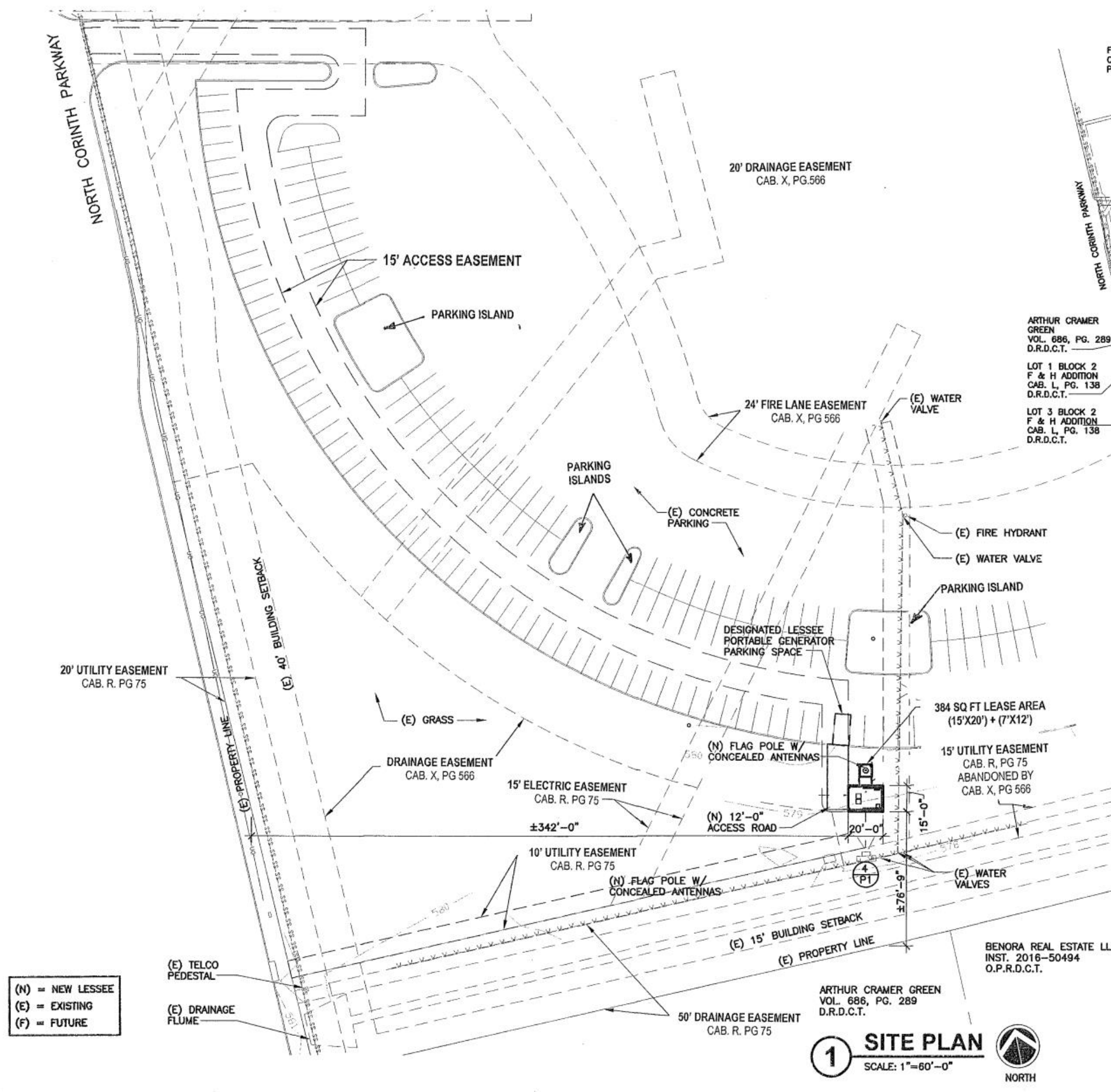
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SITE PLAN SUMMARY CHART

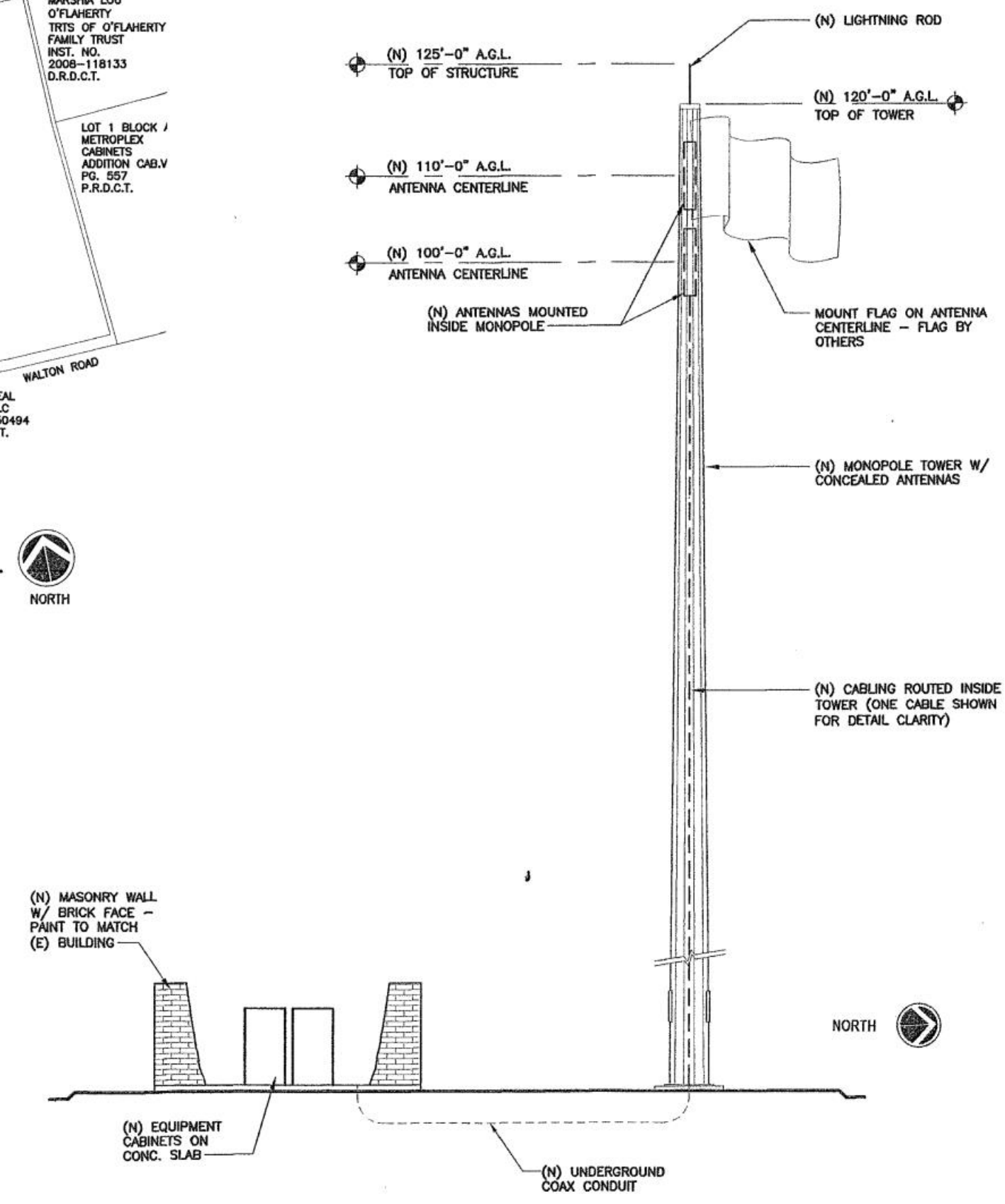
SITE DATA SUMMARY	EXISTING	PROPOSED
Existing zoning	Industrial	Industrial
Land Use Designation	Public/Semi-public	Public/Semi-public
Gross Acreage	34.33	34.33
Net Acreage	34.33	34.33
Number of proposed lots	1	1
Percentage of site coverage	0.000	0.00038 (384 sq. ft.)
Area of open space	unknown	NA
Percentage of open space	unknown	NA
Percentage of landscape	0	0
Area of impervious coverage	0.0003	0.0003
Proposed building area	unknown	384 sq ft
Number of single-story buildings	None	NA
Number of two-story buildings	none	NA
Maximum building height	0	125'
Proposed floor area	unknown	NA
Proposed floor use	unknown	Verizon Cell Tower & Equipment
Required parking	unknown	1
Provided parking	unknown	1
Standard (see site plan)	unknown	1
Handicap	unknown	0
Total	unknown	1
Inventory parking	unknown	0
Required loading spaces	unknown	0
Provided loading spaces	unknown	0
Area of outside storage	unknown	0
Percentage of outside storage	unknown	0
Start of construction		1/2019
End of construction		6/2019

DATA TABLE	
EXISTING ZONING	Industrial
PROPOSED USE	Telecommunications Antenna
LOT AREA	34.33 Acres
SITE AREA	384 Sq. Ft.
HEIGHT OF ANTENNA	125 Feet
PARKING SPACE	1 Space
HEIGHT OF MASONRY WALL	8 Feet

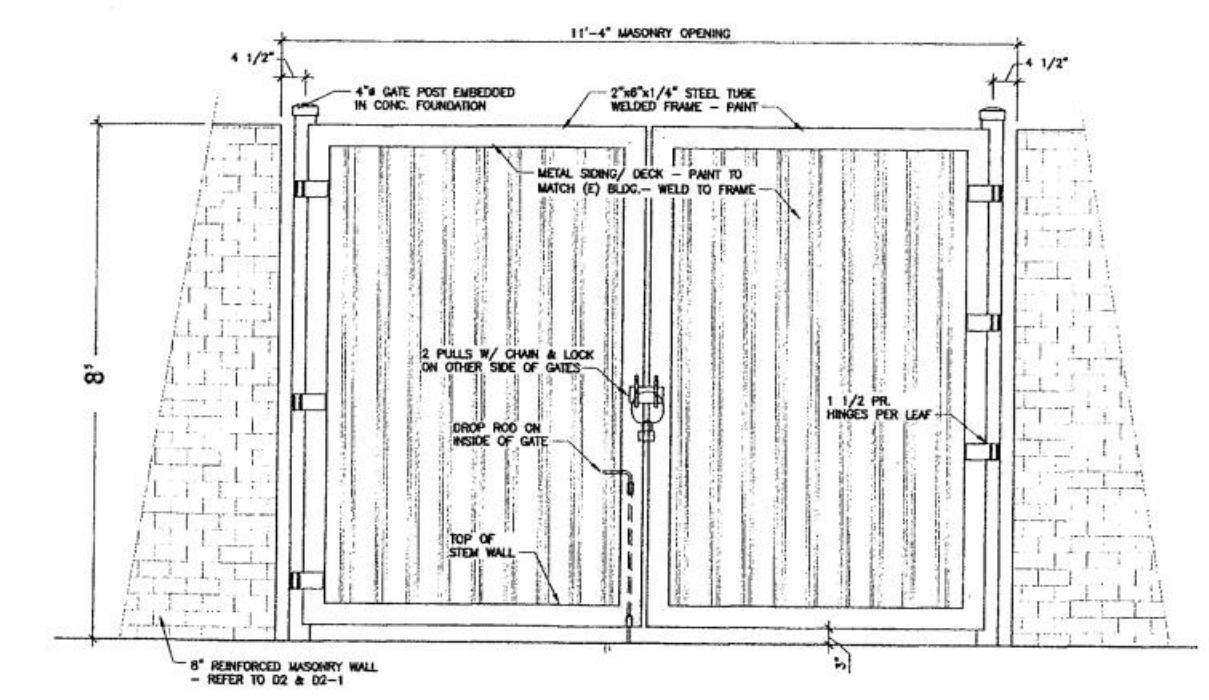


1 SITE PLAN
SCALE: 1" = 60'-0"

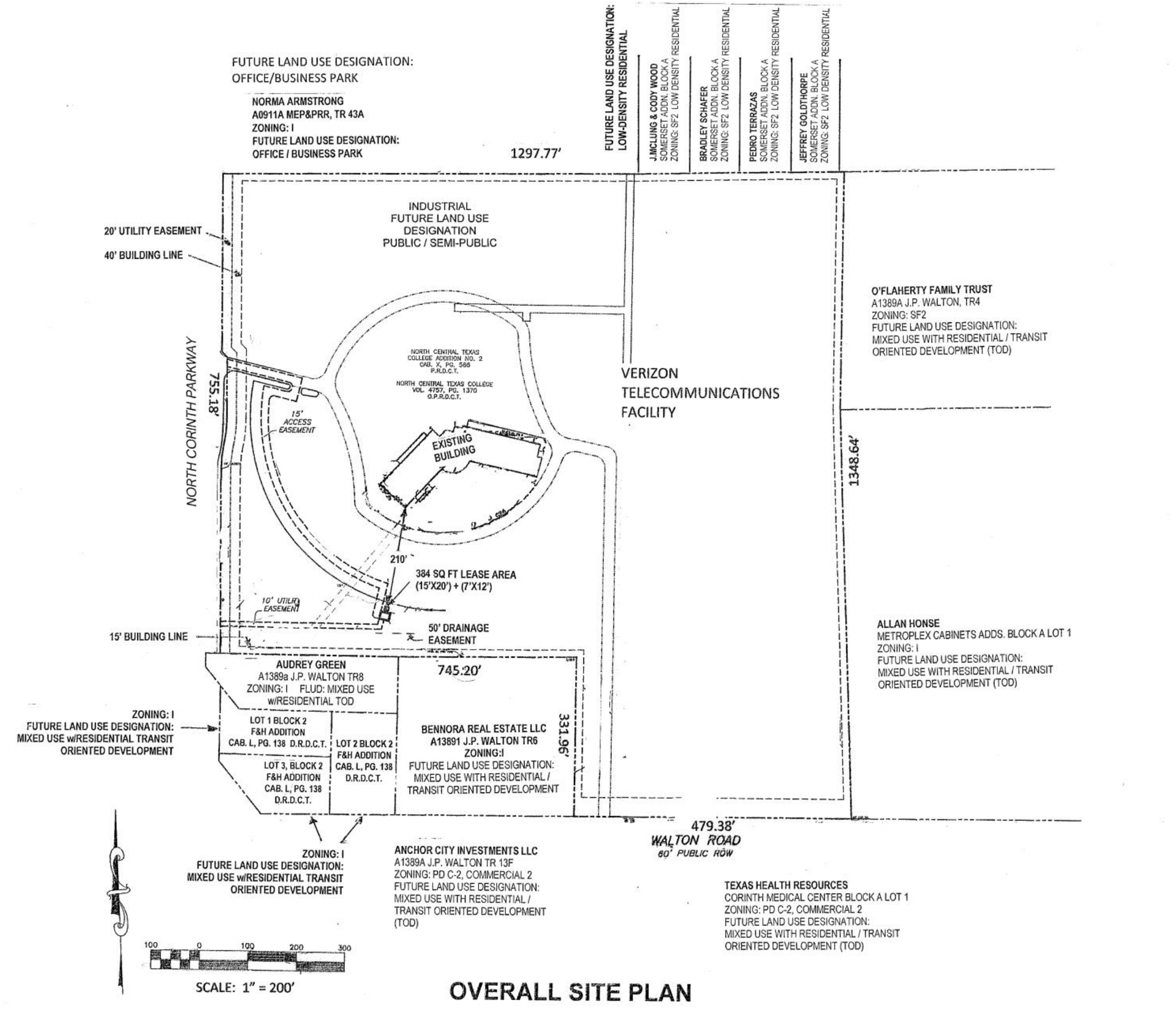
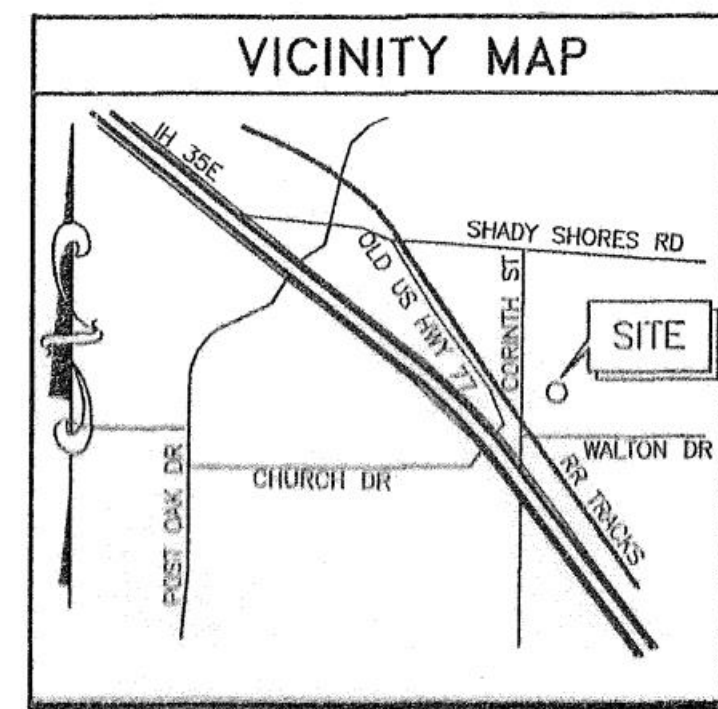
2 KEY PLAN
SCALE: N.T.S.



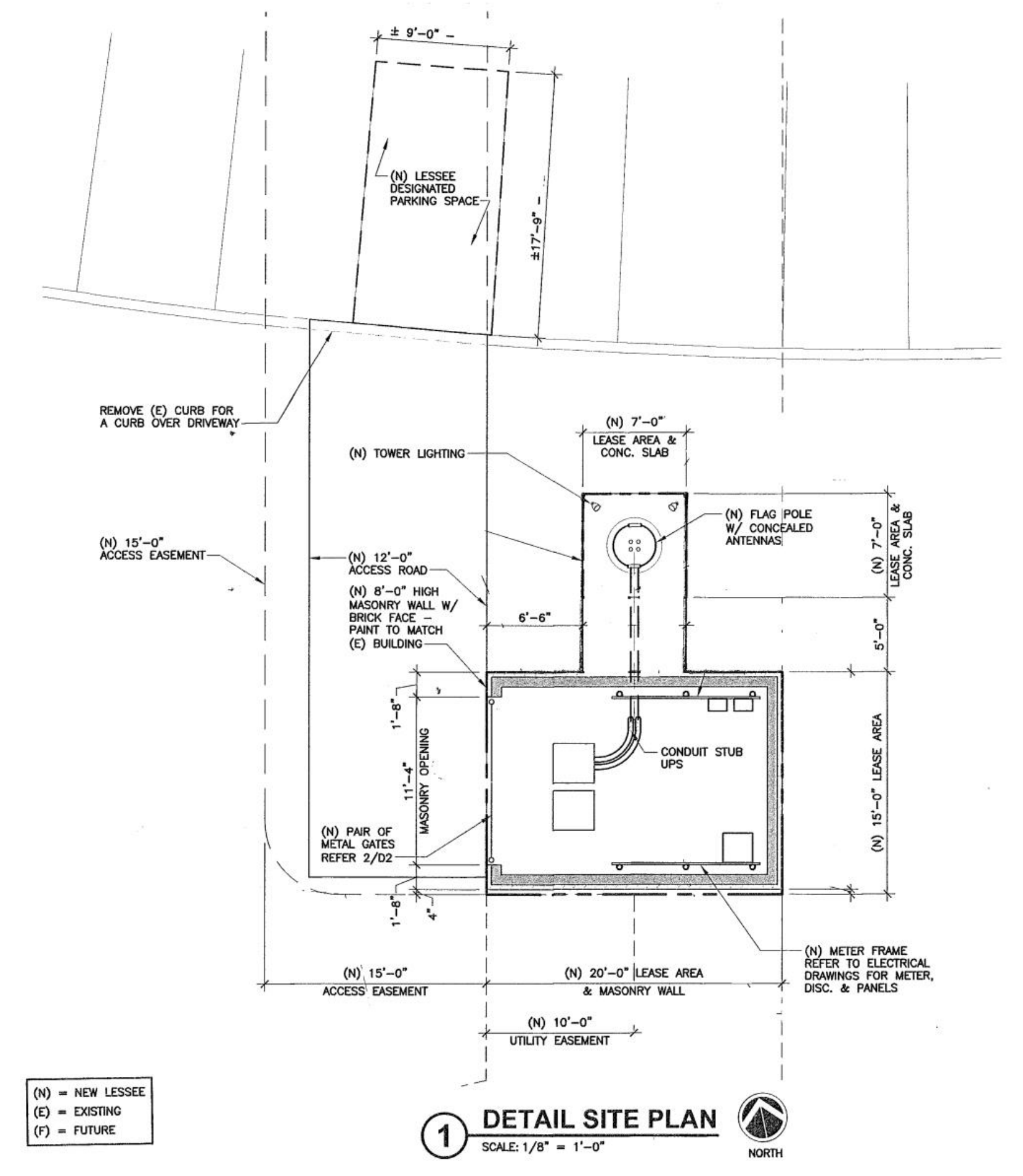
1 ARCHITECTURAL ELEVATION
SCALE: N.T.S.



1 GATE DETAIL
SCALE: 1" = 3"



OVERALL SITE PLAN
SCALE: 1" = 200'



1 DETAIL SITE PLAN
SCALE: 1/8" = 1'-0"

SITE PLAN

VERIZON WIRELESS
North Central Texas College Addn. No. 2
Block A Lot 1R

J Walton Survey
Abstract 1389
City of Corinth
Denton County

Total Acreage: 34.33

Prepared: July 2018
Revised August 2018

PETER KAVANAGH
ZONE SYSTEMS, INC
1620 HANDLEY DRIVE, SUITE A
DALLAS, TX 75208
214-941-4440
peterk@zonestystems.com



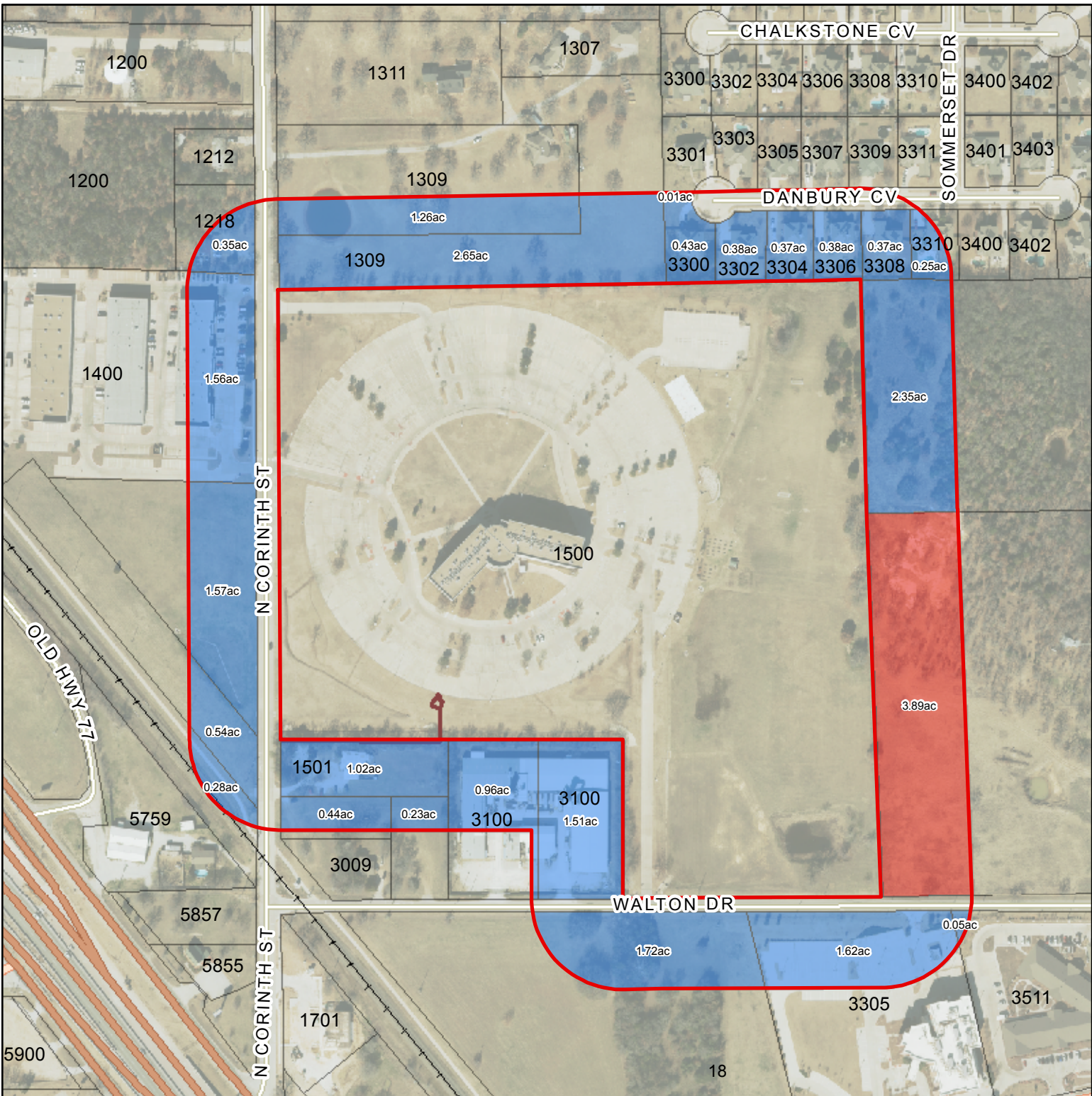
Parcels within 200ft. of Property to be Rezoned.

City of Corinth, TX

The property owners, duly signed and acknowledged, of twenty (20) percent or more of the lots or land area within a two hundred (200) foot radius of the exterior boundary of the area included in a proposed amendment.

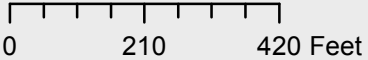
Total Acres Within Buffer: 27.06 ac.
 20% of Buffer Acres: 5.4 ac.
 Total Percentage Protested: 14.38%
 Acres of Parcels Opposed: 3.89 ac.

Does not require a super majority vote to approve Zoning Change or SUP



Legend

- 200 ft. Buffer
- Opposed**
- Parcels within Buffer
- Parcels within Buffer - Opposed
- 📶 VerizonCellTower

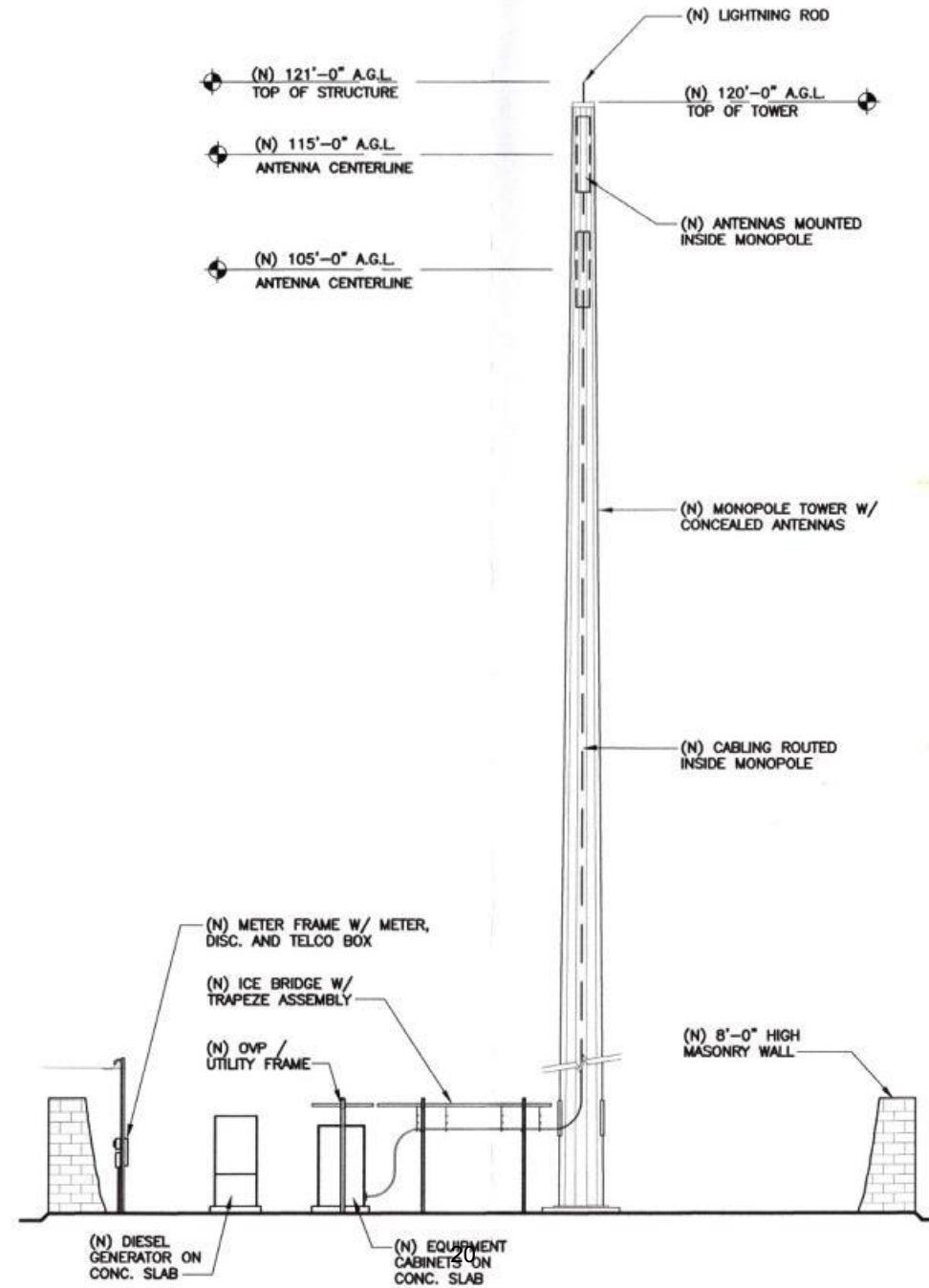


Location from previous SUP request denied on March 15, 2018

Move tower site 300' North



Tower proposed with previous SUP request denied on March 15, 2018



ORDINANCE NO. 18-09-20-

VERIZON WIRELESS CELLULAR TOWER AND EQUIPMENT SPECIFIC
USE PERMIT

AN ORDINANCE AMENDING THE COMPREHENSIVE ZONING ORDINANCE AND ZONING MAP OF THE CITY OF CORINTH, EACH BEING A PART OF THE UNIFIED DEVELOPMENT CODE, BY GRANTING A SPECIFIC USE PERMIT FOR A VERIZON CELLULAR TOWER AND EQUIPMENT ON PROPERTY ZONED INDUSTRIAL (I) AND LOCATED ON AN APPROXIMATELY 384 SQUARE FOOT LEASE SPACE OUT OF AN ENTIRE 34.33 ACRE TRACT OF LAND LEGALLY DESCRIBED AS THAT TRACT OF LAND SITUATED IN THE M.E.P. & P.R.R. CO. SURVEY, ABSTRACT NO. 915, AND MORE PARTICULARLY DESCRIBED AS NORTH CENTRAL TEXAS COLLEGE ADDITION, NO. 2, LOT 1R, BLOCK A, IN THE CITY OF CORINTH, DENTON COUNTY, TEXAS, PROVIDING A LEGAL PROPERTY DESCRIPTION; AMENDMENT; PROVIDING FOR THE INCORPORATION OF PREMISES; PROVIDING LAND USE REGULATIONS; PROVIDING ASSIGNABILITY; EXPIRATION; APPROVING A SITE PLAN; PROVIDING FOR A PENALTY NOT TO EXCEED \$2,000; PROVIDING FOR SEVERABILITY CLAUSE; PROVIDING A CUMULATIVE REPEALER CLAUSE; PROVIDING A SAVINGS CLAUSE; AND PROVIDING FOR PUBLICATION AND AN EFFECTIVE DATE.

WHEREAS, the City of Corinth, Texas has adopted Ordinance 13-05-02-08, which adopts a Unified Development Code, which includes the Comprehensive Zoning Ordinance and which, in accordance with the City's Comprehensive Plan, establishes zoning districts and adopts a Zoning Map; and

WHEREAS, the hereinafter described Property, more specifically identified in Exhibit "A" hereto, as an approximate 384 square foot piece of land out of a 34.33-acre tract of land is zoned Industrial (I) District under the City's Unified Development Code and an authorized person having a proprietary interest in the property has requested a Specific Use Permit of said Property; and

WHEREAS, the Planning and Zoning Commission of the City of Corinth and the City Council of the City of Corinth, having given the requisite notices by publication and otherwise, and after holding due hearings and affording a full and fair hearing to all the property owners generally, and to the persons interested and situated in the affected area and in the vicinity thereof, the City of Corinth City Council is of the opinion that said Specific Use Permit for a Cellular Tower and Equipment for Verizon Wireless should be granted; and

WHEREAS, the City Council considered the following factors in making a determination as to whether the requested Specific Use Permit for a Cellular Tower and Equipment should be granted or denied: safety of the motoring public and the pedestrians using the facilities in the area immediately surrounding the sites; safety from fire hazards and damages; noise producing

elements and glare of the vehicular and stationary lights and effect of such lights on established character of the neighborhood; location, lighting and types of signs and relation of signs to traffic control and adjacent property; street size and adequacy of width for traffic reasonably expected to be generated by the proposed use around the site and in the immediate neighborhood; adequacy of parking as determined by requirements of this ordinance for off-street parking facilities; location of ingress and egress points for parking and off-street loading spaces, and protection of public health by surfacing on all parking areas to control dust; effect on the promotion of health and the general welfare; effect on light and air; effect on the over-crowding of the land; effect on the concentration of population, and effect on transportation, water, sewerage, schools, parks and other public facilities; and

WHEREAS, the City Council further considered among other things the character of the districts and their peculiar suitability for particular uses and the view to conserve the value of the buildings, and encourage the most appropriate use of the land throughout this City; and

WHEREAS, the City Council finds that the change in zoning to grant the Specific Use Permit Cellular Tower and Equipment for the Property identified in Exhibit "A" promotes the health and the general welfare, provides adequate light and air, prevents the over-crowding of land, avoids undue concentration of population, and facilitates the adequate provision of transportation, water, sewerage, schools, parks and other public requirements; and the general health, safety and welfare of the community;

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

**SECTION 1.
INCORPORATION OF PREMISES**

The above and foregoing recitals are found to be true and correct and are incorporated into the body of this Ordinance for all purposes.

**SECTION 2.
LEGAL PROPERTY DESCRIPTION; AMENDMENT**

That in accordance with the Unified Development Code, the Comprehensive Zoning Ordinance and Zoning Map of the City of Corinth is hereby amended to permit a Specific Use Permit for a Cellular Tower and Equipment for Verizon Wireless on the Property, a 384 square foot lease space legally described as a portion of North Central Texas College Addition No. 2, Lot 1R, Block A being 33.34 acres situated in the M.E.P. & P.R.R. CO. Survey, Abstract No. 915 in the City of Corinth, Denton County, Texas as described in the metes and bounds description set forth in "Exhibit A" attached and incorporated herein.

**SECTION 3.
SITE PLAN**

The Site Plan documents described as "**Exhibit B**" attached hereto and made a part hereof are

approved. As a condition precedent to building permit issuance and concurrently with the submission of an application for a building permit, a report shall be provided in accordance with this section. The report shall be provided by a professional structural engineer licensed in the State of Texas documenting the following: (a) Tower height and design, showing a cross-section of the tower structure; and (b) Total anticipated capacity of the tower structure, including the number and types of antennas which can be accommodated. Additionally, copies of the recorded instruments for all new access and utility easements on the Site Plan shall be provided to City and shall be documented on the Site Plan. The approved Site Plan documents in Exhibit "B" meeting the requirements of this section shall be adhered to in its entirety for the Cellular Tower and Equipment.

SECTION 4. LAND USE REGULATIONS

The regulations contained in the Unified Development Code of the City of Corinth, Ordinance No. 13-05-02-08, as amended, including without limitation, Sections 2.05.04, 2.07.03, 2.07.04.A.19, shall be adhered to except as shown on "Exhibit B" attached hereto and made a part hereof for all purposes of this Specific Use Permit. In the event of conflict between the provisions of "Exhibit B" and any other provisions, the provisions of "Exhibit B" control.

SECTION 5. ASSIGNABILITY; EXPIRATION

The Specific Use Permit is non-transferrable. This permit shall expire in accordance with Section 2.10.10 of Section 2 "Zoning Regulations" of the Unified Development Code of the City of Corinth, unless construction is commenced within six months from the date of approval of this ordinance.

SECTION 6. PENALTY FOR VIOLATIONS

Any person, firm, or corporation who intentionally, knowingly or recklessly violates any provision of this Ordinance or the Code of Ordinances, as amended hereby, shall be subject to a fine not to exceed the sum of five hundred dollars (\$500.00) for each offense, and each and every day any such offense shall continue shall be deemed to constitute a separate offense, provided, however, that in all cases involving violation of any provision of this Ordinance or Code of Ordinances, as amended hereby, governing the fire safety, zoning, or public health and sanitation shall be subject to a fine not to exceed the sum of two thousand dollars (\$2,000.00) for each offense.

SECTION 7. CUMULATIVE REPEALER

This Ordinance shall be cumulative of all other Ordinances and shall not repeal any of the provisions of such Ordinances except for those instances where there are direct conflicts with the provisions of this Ordinance. Ordinances, or parts thereof, in force at the time this Ordinance shall

take effect and that are inconsistent with this Ordinance are hereby repealed to the extent that they are inconsistent with this Ordinance. Provided however, that any complaint, action, claim or lawsuit which has been initiated or has arisen under or pursuant to such other Ordinances on this date of adoption of this Ordinance shall continue to be governed by the provisions of such Ordinance and for that purpose the Ordinance shall remain in full force and effect.

**SECTION 8.
SAVINGS**

All rights and remedies of the City of Corinth, Texas are expressly saved as to any and all violations of the provisions of any other ordinance affecting zoning for the Property which have secured 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 court.

**SECTION 9.
SEVERABILITY**

The provisions of the Ordinance are severable. However, in the event this Ordinance or any procedure provided in this Ordinance becomes unlawful, or is declared or determined by a judicial, administrative or legislative authority exercising its jurisdiction to be excessive, unenforceable, void, illegal or otherwise inapplicable, in whole or in part, the remaining and lawful provisions shall be of full force and effect and the City shall promptly promulgate new revised provisions in compliance with the authority's decisions or enactment.

**SECTION 10.
PUBLICATION AND EFFECTIVE DATE**

This ordinance shall become effective after approval and publication as provided by law. The City Secretary is directed to publish the caption and penalty of this ordinance two times.

PASSED AND APPROVED THIS 20th DAY OF SEPTEMBER, 2018.

APPROVED:

Bill Heidemann, Mayor

ATTEST:

Kimberly Pence, City Secretary

APPROVED AS TO FORM:

Patricia Adams, City Attorney

**“Exhibit A”
Metes and Bounds
Property Description**

Being a tract of land situated in the J. Walton Survey Abstract No. 1389, City of Corinth, Denton County, Texas, also being situated in Lot 1-R, Block A, North Central Texas College Addition No. 2, An Addition to the City of Corinth, Denton County, Texas, according to the plat thereof recorded in Cabinet X, Page 566, Plat Records, Denton County, Texas and being out of and a portion of that certain tract conveyed to North Central Texas College by General Warranty Deed dated January 16, 2001, and recorded in Volume 4757, Page 1370, Official Public Records, Denton County, Texas, and being more particularly described by the metes and bounds as follows:

COMMENCING at an iron rod found with cap marked “Daltech” for the most westerly southwest corner of said Lot 1-R, Block A, also being on the north line of that certain tract of land conveyed to Arthur Cramer Green by Volume 686, Page 289, Deed Records, Denton County, Texas, and being on the east right-of-way line of North Corinth Road (variable width public right-of-way);

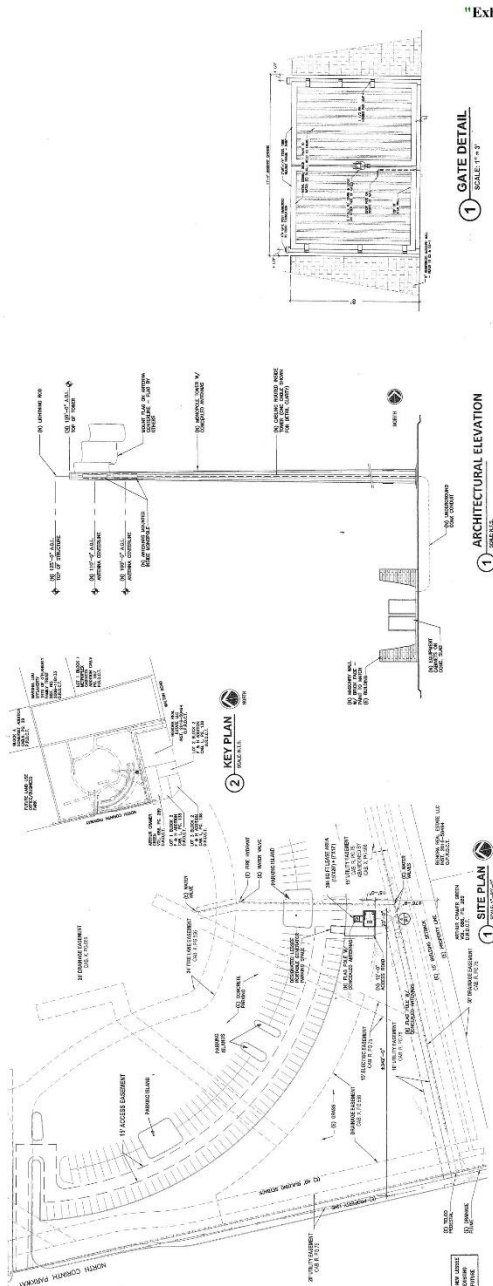
THENCE along a southerly line of said Lot 1-R, Block A, also being the north line of said Green tract, South 89 degrees 30 minutes 28 seconds East, a distance of 350 .33 feet to a Point;

THENCE through the interior of said Lot 1-R, Block A, North 00 degrees 29 minutes 32 seconds East, a distance of 74.82 feet to a 5/8 inch iron rod set with cap marked “WEBB-4125” for a POINT OF BEGINNING hereof;

THENCE continuing through the interior of said Lot 1-R, Block A, the following eight (8) courses:

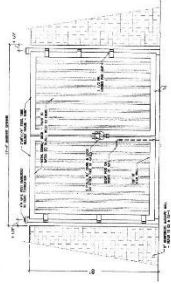
1. North 76 degrees 44 minutes 37 seconds West, a distance of 20.00 feet to a 5/8” iron rod set with cap marked WEBB-4125;
2. North 13 degrees 15 minutes 23 seconds East, a distance of 15.00 feet to a 5/8” iron rod set with cap marked “WEBB-4125”;
3. South 76 degrees 44 minutes 37 seconds East, a distance of 6.50 feet to a 5/8’ iron rod set with cap marked “WEBB-4125”;
4. North 13 degrees 15 minutes 23 seconds East, a distance of 12.00 feet to a 5/8” iron rod set with cap marked “WEBB-4125”;
5. South 76 degrees 44 minutes 37 seconds East a distance of 7.00 feet to a 5/8” iron rod set with cap marked WEBB-4125”;
6. South 13 degrees 15 minutes 23 seconds West, a distance of 12.00 feet to a 5/8” iron rod set with cap marked “WEBB-4125”;
7. South 76 degrees 44 minutes 37 seconds East, a distance of 6.50 feet to a 5/8” iron rod set with cap marked “WEBB-4125”;
8. South 13 degrees 15 minutes 23 seconds West, a distance of 15.00 feet to the POINT OF BEGINNING hereof and containing 0.0088 acres or 384 square feet of land, more or less.

"Exhibit B" Site Plan

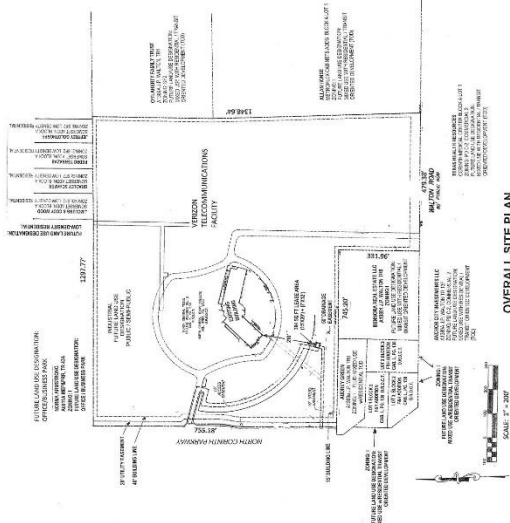
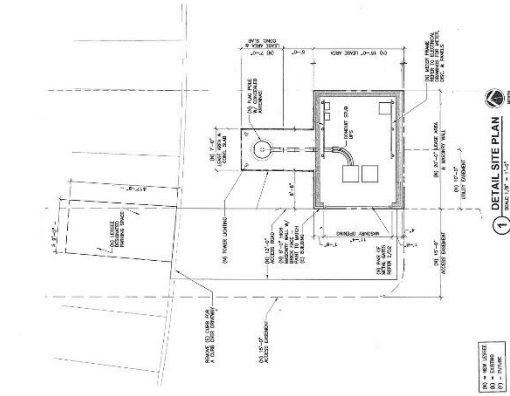


"Exhibit B"

1 GATE DETAIL
SCALE: 1" = 2'



SITE PLAN
 VERIZON WIRELESS
 North Central Texas College Addn. No. 2
 Block A, Lot 1R
 J Walton Survey
 Abstract 1389
 City of Corinth
 Denton County
 Total Acreage: 34.33
 Prepared: July 2018
 Revised August 2018
 PETER KAVANAGH
 ZONE SYSTEMS, INC
 1620 HANDLEY DRIVE, SUITE A
 DALLAS, TX 75208
 214-941-4440
 PETER@ZONESYSTEMS.COM

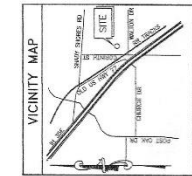


SITE PLAN SUMMARY CHART

SECTION	DESCRIPTION	REMARKS
GENERAL NOTES	SEE GENERAL NOTES	
EXISTING UTILITIES	SEE EXISTING UTILITIES	
PROPOSED UTILITIES	SEE PROPOSED UTILITIES	
PROPOSED BUILDING	SEE PROPOSED BUILDING	
PROPOSED PARKING	SEE PROPOSED PARKING	
PROPOSED DRIVEWAYS	SEE PROPOSED DRIVEWAYS	
PROPOSED LANDSCAPING	SEE PROPOSED LANDSCAPING	
PROPOSED SIGNAGE	SEE PROPOSED SIGNAGE	
PROPOSED FENCE	SEE PROPOSED FENCE	
PROPOSED LIGHTING	SEE PROPOSED LIGHTING	
PROPOSED SECURITY	SEE PROPOSED SECURITY	
PROPOSED ACCESS	SEE PROPOSED ACCESS	
PROPOSED EGRESS	SEE PROPOSED EGRESS	
PROPOSED VENTILATION	SEE PROPOSED VENTILATION	
PROPOSED MECHANICAL	SEE PROPOSED MECHANICAL	
PROPOSED ELECTRICAL	SEE PROPOSED ELECTRICAL	
PROPOSED TELECOMMUNICATIONS	SEE PROPOSED TELECOMMUNICATIONS	
PROPOSED WATER	SEE PROPOSED WATER	
PROPOSED SEWER	SEE PROPOSED SEWER	
PROPOSED GAS	SEE PROPOSED GAS	
PROPOSED OIL	SEE PROPOSED OIL	
PROPOSED CABLE	SEE PROPOSED CABLE	
PROPOSED FIBER	SEE PROPOSED FIBER	
PROPOSED RAIN	SEE PROPOSED RAIN	
PROPOSED WIND	SEE PROPOSED WIND	
PROPOSED SOIL	SEE PROPOSED SOIL	
PROPOSED VEGETATION	SEE PROPOSED VEGETATION	
PROPOSED ANIMALS	SEE PROPOSED ANIMALS	
PROPOSED PLANTS	SEE PROPOSED PLANTS	
PROPOSED TREES	SEE PROPOSED TREES	
PROPOSED SHRUBS	SEE PROPOSED SHRUBS	
PROPOSED FLOWERS	SEE PROPOSED FLOWERS	
PROPOSED GRASS	SEE PROPOSED GRASS	
PROPOSED SAND	SEE PROPOSED SAND	
PROPOSED GRAVEL	SEE PROPOSED GRAVEL	
PROPOSED ASPHALT	SEE PROPOSED ASPHALT	
PROPOSED CONCRETE	SEE PROPOSED CONCRETE	
PROPOSED BRICK	SEE PROPOSED BRICK	
PROPOSED STONE	SEE PROPOSED STONE	
PROPOSED METAL	SEE PROPOSED METAL	
PROPOSED GLASS	SEE PROPOSED GLASS	
PROPOSED CERAMIC	SEE PROPOSED CERAMIC	
PROPOSED WOOD	SEE PROPOSED WOOD	
PROPOSED PLASTER	SEE PROPOSED PLASTER	
PROPOSED GYPSUM	SEE PROPOSED GYPSUM	
PROPOSED LIME	SEE PROPOSED LIME	
PROPOSED SALT	SEE PROPOSED SALT	
PROPOSED ACID	SEE PROPOSED ACID	
PROPOSED ALKALI	SEE PROPOSED ALKALI	
PROPOSED TOXIC	SEE PROPOSED TOXIC	
PROPOSED FLAMMABLE	SEE PROPOSED FLAMMABLE	
PROPOSED CORROSIVE	SEE PROPOSED CORROSIVE	
PROPOSED REACTIVE	SEE PROPOSED REACTIVE	
PROPOSED HAZARDOUS	SEE PROPOSED HAZARDOUS	
PROPOSED RADIOACTIVE	SEE PROPOSED RADIOACTIVE	
PROPOSED INFECTIOUS	SEE PROPOSED INFECTIOUS	
PROPOSED TOXIC	SEE PROPOSED TOXIC	
PROPOSED FLAMMABLE	SEE PROPOSED FLAMMABLE	
PROPOSED CORROSIVE	SEE PROPOSED CORROSIVE	
PROPOSED REACTIVE	SEE PROPOSED REACTIVE	
PROPOSED HAZARDOUS	SEE PROPOSED HAZARDOUS	
PROPOSED RADIOACTIVE	SEE PROPOSED RADIOACTIVE	
PROPOSED INFECTIOUS	SEE PROPOSED INFECTIOUS	

DATA TABLE

NO.	DESCRIPTION	REMARKS
1	EXISTING UTILITIES	SEE EXISTING UTILITIES
2	PROPOSED UTILITIES	SEE PROPOSED UTILITIES
3	PROPOSED BUILDING	SEE PROPOSED BUILDING
4	PROPOSED PARKING	SEE PROPOSED PARKING
5	PROPOSED DRIVEWAYS	SEE PROPOSED DRIVEWAYS
6	PROPOSED LANDSCAPING	SEE PROPOSED LANDSCAPING
7	PROPOSED SIGNAGE	SEE PROPOSED SIGNAGE
8	PROPOSED FENCE	SEE PROPOSED FENCE
9	PROPOSED LIGHTING	SEE PROPOSED LIGHTING
10	PROPOSED SECURITY	SEE PROPOSED SECURITY
11	PROPOSED ACCESS	SEE PROPOSED ACCESS
12	PROPOSED EGRESS	SEE PROPOSED EGRESS
13	PROPOSED VENTILATION	SEE PROPOSED VENTILATION
14	PROPOSED MECHANICAL	SEE PROPOSED MECHANICAL
15	PROPOSED ELECTRICAL	SEE PROPOSED ELECTRICAL
16	PROPOSED TELECOMMUNICATIONS	SEE PROPOSED TELECOMMUNICATIONS
17	PROPOSED WATER	SEE PROPOSED WATER
18	PROPOSED SEWER	SEE PROPOSED SEWER
19	PROPOSED GAS	SEE PROPOSED GAS
20	PROPOSED OIL	SEE PROPOSED OIL
21	PROPOSED CABLE	SEE PROPOSED CABLE
22	PROPOSED FIBER	SEE PROPOSED FIBER
23	PROPOSED RAIN	SEE PROPOSED RAIN
24	PROPOSED WIND	SEE PROPOSED WIND
25	PROPOSED SOIL	SEE PROPOSED SOIL
26	PROPOSED VEGETATION	SEE PROPOSED VEGETATION
27	PROPOSED ANIMALS	SEE PROPOSED ANIMALS
28	PROPOSED PLANTS	SEE PROPOSED PLANTS
29	PROPOSED TREES	SEE PROPOSED TREES
30	PROPOSED SHRUBS	SEE PROPOSED SHRUBS
31	PROPOSED FLOWERS	SEE PROPOSED FLOWERS
32	PROPOSED GRASS	SEE PROPOSED GRASS
33	PROPOSED SAND	SEE PROPOSED SAND
34	PROPOSED GRAVEL	SEE PROPOSED GRAVEL
35	PROPOSED ASPHALT	SEE PROPOSED ASPHALT
36	PROPOSED CONCRETE	SEE PROPOSED CONCRETE
37	PROPOSED BRICK	SEE PROPOSED BRICK
38	PROPOSED STONE	SEE PROPOSED STONE
39	PROPOSED METAL	SEE PROPOSED METAL
40	PROPOSED GLASS	SEE PROPOSED GLASS
41	PROPOSED CERAMIC	SEE PROPOSED CERAMIC
42	PROPOSED WOOD	SEE PROPOSED WOOD
43	PROPOSED PLASTER	SEE PROPOSED PLASTER
44	PROPOSED GYPSUM	SEE PROPOSED GYPSUM
45	PROPOSED LIME	SEE PROPOSED LIME
46	PROPOSED SALT	SEE PROPOSED SALT
47	PROPOSED ACID	SEE PROPOSED ACID
48	PROPOSED ALKALI	SEE PROPOSED ALKALI
49	PROPOSED TOXIC	SEE PROPOSED TOXIC
50	PROPOSED FLAMMABLE	SEE PROPOSED FLAMMABLE
51	PROPOSED CORROSIVE	SEE PROPOSED CORROSIVE
52	PROPOSED REACTIVE	SEE PROPOSED REACTIVE
53	PROPOSED HAZARDOUS	SEE PROPOSED HAZARDOUS
54	PROPOSED RADIOACTIVE	SEE PROPOSED RADIOACTIVE
55	PROPOSED INFECTIOUS	SEE PROPOSED INFECTIOUS



City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: A Resolution by the Corinth City Council Recognizing the Necessity of Protecting the Natural Areas “Greenbelts” Adjacent to Creeks and Other Waterways
Submitted For: Helen-Eve Liebman, Director
Submitted By: Patrick Hubbard, Development Coordinator
City Manager Review: Approval: Bob Hart, City Manager

AGENDA ITEM

A Resolution by the Corinth City Council Adopting the Denton County Greenbelt Plan and Recognizing the Necessity of Protecting the Natural Areas “Greenbelts” Adjacent to Creeks and Other Waterways.

AGENDA ITEM SUMMARY/BACKGROUND

City of Corinth Planning and Development recommends adopting the Denton County Greenbelt Plan. The purpose for the Denton County Greenbelt Plan is to assist in protecting the greenbelts along and associated with streams that flow into the local water supply reservoirs. The Plan is not intended to be a regulatory document; rather, a convenient guide to encourage and enable closer coordination among stakeholders. Implementation measures undertaken by plan adoptees are on a voluntary basis. Through adoption of this resolution, City of Corinth is eligible to obtain membership on the Denton County Greenbelt Plan’s Coordinating Committee.

To address the foreseeable land use changes, the Upper Trinity Conservation Trust, Denton County, and Upper Trinity Regional Water District commissioned a study to inventory and analyze greenbelts along the County’s major streams and the Elm Fork of the Trinity River. The major emphasis for this study was to identify existing greenbelts, opportunities for developing and expanding greenbelt corridors, and to categorize and prioritize area streams and watersheds for greenbelt preservation.

Stakeholders include Denton County’s municipalities, developers, citizens, and land owners. It is important to recognize the importance of our waterways and associated riparian zones, and to acknowledge the priority streams identified within the Plan. Implementation strategies are provided in the Plan to help protect the identified priority greenbelt corridors and streams for the foreseeable future.

RECOMMENDATION

Staff recommends adoption of the proposed resolution.

Attachments

Greenbelt Adoption Resolution

RESOLUTION No. _____

A RESOLUTION BY THE CORINTH CITY COUNCIL RECOGNIZING THE NECESSITY OF PROTECTING THE NATURAL AREAS “GREENBELTS” ADJACENT TO CREEKS AND OTHER WATERWAYS; PROVIDING FOR THE INCORPORATION OF PREMISES; ADOPTING THE DENTON COUNTY GREENBELT PLAN (“PLAN”) AS A TOOL FOR PRESERVING GREENBELTS; ENDORSING THE PLAN AS AN URGENT REGIONAL PROGRAM FOR THE COUNTY, CITIES, TOWNS AND UTILITIES TO HELP PROTECT WATER QUALITY IN LOCAL WATERSHEDS; AND EXPRESSING THE CITY OF CORINTH’S INTENT TO PARTICIPATE IN IMPLEMENTING STRATEGIES THAT WILL PRESERVE AND PROTECT THE ENVIRONMENT AND SAFEGUARD THE PUBLIC WELFARE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Corinth, Texas is a home rule municipality located in the Lewisville Lake watershed; and

WHEREAS, the City of Corinth recognizes that the long-term prosperity and success of Corinth depends on an adequate and safe drinking water supply, without it our economy cannot grow or prosper; and

WHEREAS, as growth and development continue across the region, population in this watershed is expected to continue to increase, rapidly transforming from a rural setting to an area with urban characteristics; and

WHEREAS, communities, including Corinth, are knitted together by many water courses that extend into and through neighborhoods, transporting water to the nearest creek or lake -- the sources of our drinking water; and

WHEREAS, the vegetated areas along creeks and rivers, also known as greenbelts, provide a buffer between homes, farms and the neighboring creeks; filtering out harmful pollutants, such as soil, silt, fertilizers and pesticides before they reach the creeks and rivers thereby protecting the quality of water “right where we live”; and

WHEREAS, the Corinth City Council, along with other County and Regional entities, believe that protecting and preserving local greenbelts today cost very little in comparison to restoring them in the future; and

WHEREAS, Denton County, the Upper Trinity Regional Water District and Upper Trinity Conservation Trust developed the Plan as a coordinated effort to identify priority greenbelt areas and other related natural assets in need of preservation; and

WHEREAS, the Plan has identified priority greenbelts near Corinth, and provides strategies that can be implemented on a voluntary basis to help protect our water supply sources; and

WHEREAS, to help champion the Plan, Denton County is creating a Coordinating Committee, which Corinth will be eligible to participate, as a supporter of the Plan; and

WHEREAS, it is advisable to advance the Plan in a cooperative voluntary manner with neighboring communities, considering appropriate policies and actions that will help preserve and protect water resources and enhance the quality of life for all Denton County residents.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS:

SECTION 1. That all matters stated in the preamble are found to be true and correct and are hereby incorporated into the body of this Resolution as if copied in their entity.

SECTION 2. That the Corinth City Council does hereby adopt the Denton County Greenbelt Plan (“Plan”) attached hereto as Exhibits “A” and “B” to be used as a convenient guide in preserving and protecting greenbelts within the City of Corinth’s jurisdiction - - to help protect the watershed, right where we live, knowing that the quality of life for our people depend on the preservation of these irreplaceable water assets.

SECTION 3. That the Corinth City Council does hereby direct its staff to review the Plan for timely recommendations and for incorporation of appropriate items into Corinth’s policies, practices and standards, subject to the approval of the Corinth City Council- - enacting appropriate ordinances, zoning requirements or other measures that will protect greenbelts within our local jurisdiction.

SECTION 4. To help achieve the preservation and protection of local greenbelts, the Corinth City Council hereby expresses its intent to participate on the Coordinating Committee to be formed by Denton County; and will work with Denton County, Upper Trinity and other stakeholders to implement strategies and best management practices for the protection of our watershed.

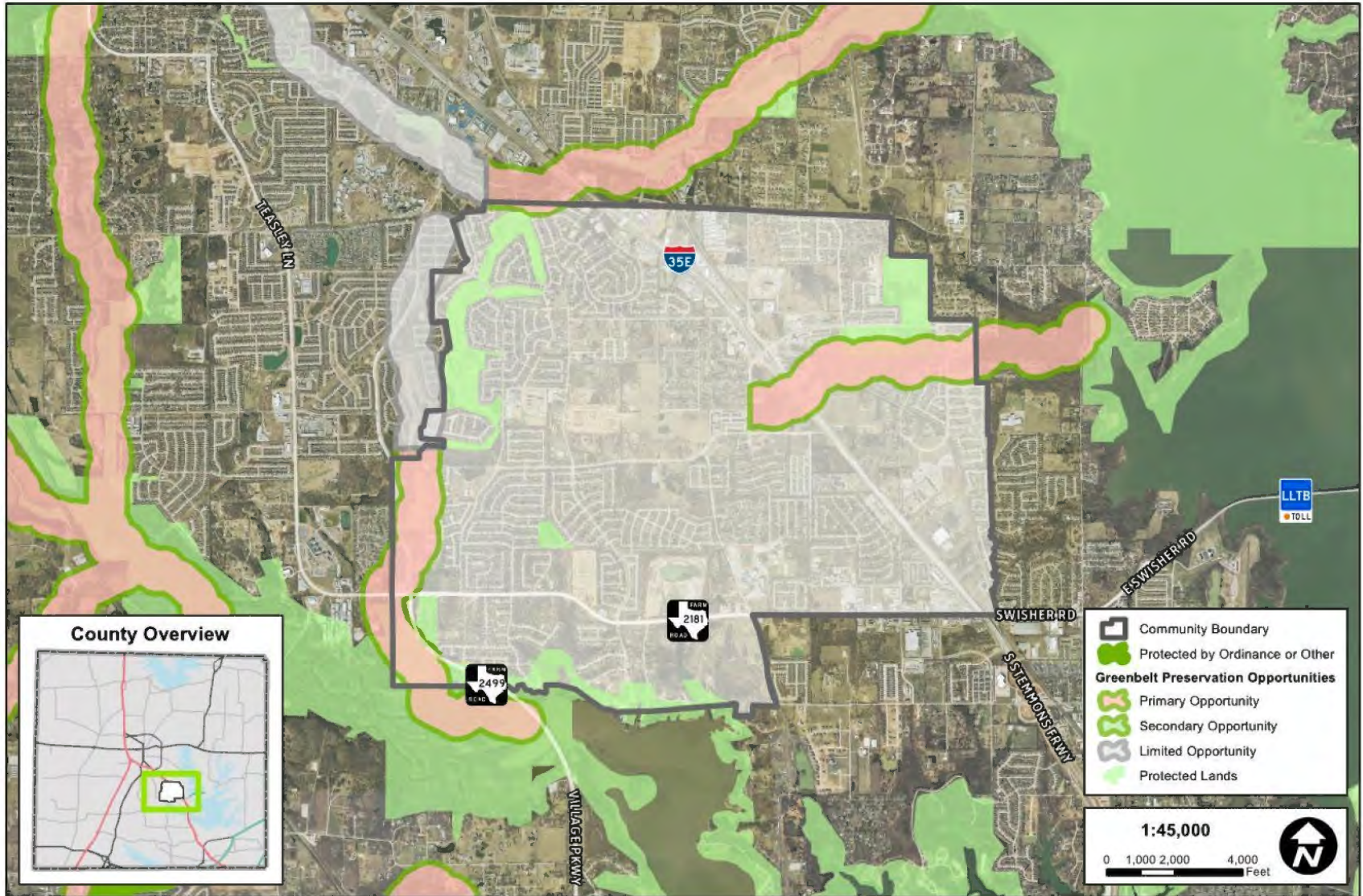
SECTION 5. This Resolution shall become effective immediately upon its passage.

DULY PASSED AND APPROVED THIS ___ DAY OF _____, ____.

By: _____

Attest: _____

Exhibit "A"
Corinth Greenbelt Plan Opportunities



Greenbelt Preservation Opportunities

City of Corinth

This map is for the sole use of the intended recipient(s) and is confidential and may be privileged. You are hereby notified that any dissemination, distribution, or reproduction of this map is strictly prohibited. This product is for informational purposes only and is not suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of depicted features. You assume all responsibility in reliance on this map for any purpose.

© 2018 UTRWD
 Date: 8/10/2018
 Author: Mark Stelzel
 Document: 20180810MTS1

**Exhibit “B”
Denton County Greenbelt Plan**



DENTON COUNTY GREENBELT PLAN

For The Future





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ACKNOWLEDGEMENTS

Denton County Greenbelt Plan Sponsors

Denton County

Denton County, under leadership of the County Judge and Commissioners, provides planning and other services for the rural and urban areas of the County; and, coordinates transportation and public works needs among communities as the population continues to grow - - while keeping sustainability, environmental protection, and quality of life as priorities.

Upper Trinity Regional Water District

Upper Trinity Regional Water District was created by the Texas Legislature in 1989 for the benefit of cities and utilities in the Denton County area. Its mandate is to develop regional plans for water and wastewater services on a wholesale basis to cities and utilities in the Denton County area. Upper Trinity is a leader in public education about water conservation and water quality protection.

Upper Trinity Conservation Trust

Created as a nonprofit 501(c)(3) land trust in 2010 by the Upper Trinity Regional Water District Board of Directors, the Conservation Trust works with communities, landowners and developers to preserve natural watershed and riparian assets within the catch basins of the District's water supply sources. The mission of the Trust is to promote the conservation and stewardship of land and water resources through educational activities, coordination with local governments, and the acquisition of land and conservation easements - - protecting water quality in our water supply basins for future generations.

Acknowledgements

Many stakeholders participated and contributed to the development of the Denton County Greenbelt Plan - - some by participating in public meetings and others through the website or online surveys. The Plan Sponsors would like to express appreciation to all stakeholders who participated. Active stakeholders included:

- Denton County Residents
- City / Town Officials and Staff
- University of North Texas – Lewisville Lake Environmental Learning Area
- Greenbelt Alliance
- North Central Texas Council of Governments
- Texas A&M AgriLife Extension Service – Denton County
- Texas A&M Forest Service
- Texas Department of Transportation
- Texas Master Naturalists
- Texas Parks and Wildlife Department
- Trust for Public Land
- and more!

Many thanks to the consultant team:
Alan Plummer Associates, Inc.
Schrickel, Rollins and Associates, Inc.





FOREWORD FROM UPPER TRINITY CONSERVATION TRUST

As land continues to be developed in Denton County, converting farms and ranches into communities, it's important to remember the role and benefits of creeks and waterways - - not only as a source of water for farm animals and wildlife, but also as a source of drinking water for our growing communities. Preserving the natural areas (greenbelts) adjacent to the creeks and other waterways is vital to having dependable, clean drinking water. As water flows across the land, these greenbelts help filter out harmful pollutants before the water enters the creeks and lakes, protecting the quality of water.

The Denton County Greenbelt Plan helps set a common vision for preserving greenbelts; and, it provides strategies for stakeholders (municipalities, developers, landowners and residents) to use in protecting these valuable natural assets. Within the mission of Upper Trinity Conservation Trust, one strategy for protecting these assets is through conservation easements. Conservation easements offer a convenient way to preserve valuable watershed areas and greenbelts - - also, wildlife habitat and family heritage lands.

Conservation easements are voluntary agreements between a landowner and a qualified land trust that enables a landowner to retain possession while protecting a designated area in perpetuity. As a nonprofit land trust, Upper Trinity Conservation Trust is available to accept conservation easements from landowners, developers and municipalities that desire to protect greenbelts and other watershed lands. Easement donors can enjoy a valuable partnership with the Trust who can help them carry out their goals that they have for their land.

The voluntary nature of the Denton County Greenbelt Plan will ensure that the municipalities, developers and others implementing it are doing so because of the great economic, environmental and social benefits for everyone in Denton County. Together, we can preserve the quality of our environment and life in Denton County and leave a legacy for future generations.



Trent Lewis
President
Upper Trinity Conservation Trust



FOREWORD FROM DENTON COUNTY

Denton County is one of the best places to live, work and raise a family. Just take a look around: a strong local economy, thriving communities, excellent educational institutions, and a rich history, and beautiful landscapes. Over the next several years, Denton County's population is expected to surpass one million people, making the County the fifth fastest growing in the State. As our County transitions to a more urban setting, we should be mindful of potential impacts on our quality of life, and to the environment, especially to protection of water quality in our local lakes - - a key source for our drinking water.

The County's long-term prosperity and success depends on an adequate and safe drinking water supply; without it, our economy cannot grow or prosper. Maintaining precious natural assets, such as greenbelts, is important to the safety and security of our water supply, and to the quality of life that residents have come to expect in Denton County. If left in their natural condition, greenbelts (the vegetated areas along creeks and streams) offer many benefits and provide a buffer between homes and the neighboring creeks. Greenbelts also provide recreational and educational opportunities to residents; and, help filter out harmful pollutants before reaching the creek.



Denton County is proud to be a sponsor of the **Denton County Greenbelt Plan** - - a voluntary guide to preserving and protecting local greenbelt areas. The Plan offers a common vision in preserving these natural assets; and, will help coordinate the roles that municipalities, developers, landowners and other stakeholders have in protecting greenbelts. Each of us can have a role in preserving and protecting greenbelts - - now, and for future generations!

A coordinating committee will help champion and oversee implementation of the Plan. The mission of the Committee will be to encourage, and work with, the many stakeholders to pursue the most effective strategies for preservation of greenbelts throughout the County. The committee will be diverse and represent the many stakeholders that makes our County so unique. Together, we can make a difference to ensure our economy continues to grow, while preserving important greenbelt areas and protecting our valuable water supply.

Now is the time to protect our natural resource assets for future generations!

Mary Horn
Denton County Judge



FOREWORD FROM UPPER TRINITY REGIONAL WATER DISTRICT

Local communities are knitted together by the many water courses that extend into and through neighborhoods, transporting water to the nearest creek or lake - - the sources of our drinking water. Please, an alert! As our region transforms from a largely rural setting to one with more urban character, it is urgent that we consider the effect on water quality and our water supply. At Upper Trinity Regional Water District, a priority goal is to safeguard our local water resources and the quality of life “right where we live”. To reach the goal, we need your help.

Now is the time to preserve natural waterways and to protect water quality in local watersheds. Greenbelts and flood plains; streams and waterways; riparian lands and wetlands - - all are irreplaceable assets. Greenbelts help protect creeks and lakes by filtering out pollutants, such as sediment, pesticides and fertilizer. Also, greenbelts are an important buffer during flood events. These critical functions are the focus of the Denton County Greenbelt Plan - - helping protect and safeguard these assets for the future. Good news: it costs very little to protect existing watershed assets - - if we do it now. In contrast, it would cost a fortune to try to restore greenbelts later, if the watershed were allowed to become impaired.

In some cases, greenbelts can help enhance the quality of life for residents by enabling hike and bike trails. Typically, greenbelts also help improve property values for nearby homes. The Greenbelt Plan will serve as a useful guide for municipalities, landowners and developers for voluntary implementation of greenbelts areas. The Plan encourages stakeholders to coordinate the planning and preservation of multi-use greenbelts according to a common vision.

If you appreciate natural greenbelt areas, we urge you to get involved, to volunteer to help. Please join in the effort to achieve sustainability of greenbelt assets in Denton County, and enhance the quality of life for all residents.

If we each do our part well, just think of the legacy you can leave for future generations!



Thomas E. Taylor
Executive Director
Upper Trinity Regional Water District



EXECUTIVE SUMMARY

DENTON COUNTY AT A POINT OF GREAT OPPORTUNITY

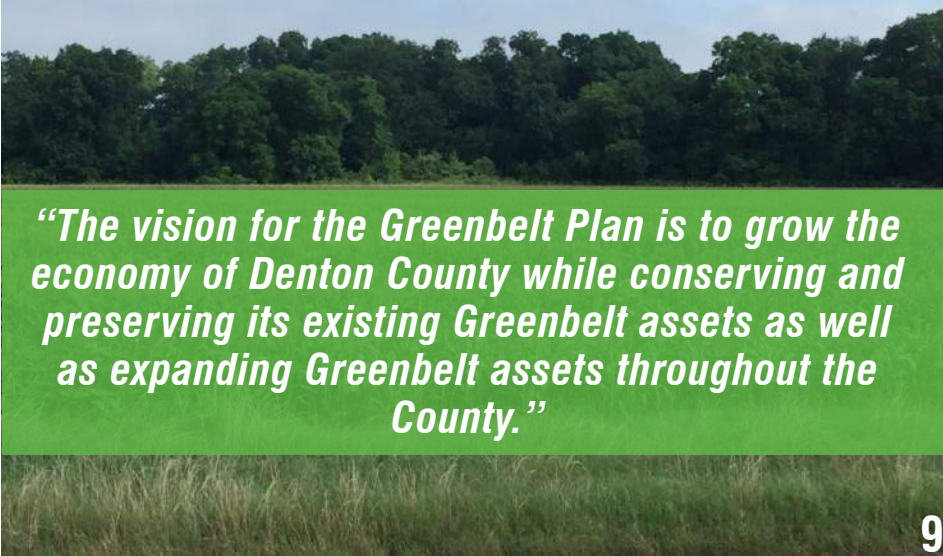
Denton County is growing - FAST. In less than 25 years, the population of Denton County is projected to be over 1.4 million, or double its current population. With growth, land uses will change. The rural character of the County will likely transform to urban and suburban land uses similar to what is occurring in neighboring Counties. As developable space becomes a premium, the County's streams, creeks, and other aquatic resources will be stressed from these impending land-use changes. Now is the time to initiate cooperative efforts for the protection of Denton County's water resources, especially its streams, creeks, and the Elm Fork of the Trinity River – the sources for our drinking water.

To address the foreseeable land use changes, the Upper Trinity Conservation Trust, Denton County, and Upper Trinity Regional Water District commissioned a study to inventory and analyze greenbelts along the County's major streams and the Elm Fork of the Trinity River. The major emphasis for this study was to identify existing greenbelts, opportunities for developing and expanding greenbelt corridors, and to categorize and prioritize area streams and watersheds for greenbelt preservation. This document summarizes those efforts with the overarching goal "to protect the water quality entering Denton County's three primary drinking water supply reservoirs – Lewisville Lake, Ray Roberts Lake, and Grapevine Lake." Of course, once preserved, a greenbelt offers community benefits far beyond just protection of water quality. Such drainageways flow through all communities, with many opportunities to benefit neighborhoods and Denton County as a whole.

"A greenbelt is defined as a vegetated portion of land typically adjacent to area streams, creeks, rivers or lakes that is set aside for preservation purposes."

The purpose for the Denton County Greenbelt Plan ("the Plan") is to assist in protecting the greenbelts along and associated with streams that flow into the local water supply reservoirs. *The Plan is not intended to be a regulatory document; rather, a convenient guide to encourage and enable closer coordination among stakeholders.*

Stakeholders include Denton County's municipalities, developers, citizens, and land owners. It is important to recognize the importance of our waterways and associated riparian zones, and to acknowledge the priority streams identified within the Plan. Implementation strategies are provided in the Plan to help protect the identified priority greenbelt corridors and streams for the foreseeable future. The following are highlights of the Denton County Greenbelt Plan.



"The vision for the Greenbelt Plan is to grow the economy of Denton County while conserving and preserving its existing Greenbelt assets as well as expanding Greenbelt assets throughout the County."

PRIORITY STREAMS FOR DENTON AND SURROUNDING COUNTIES

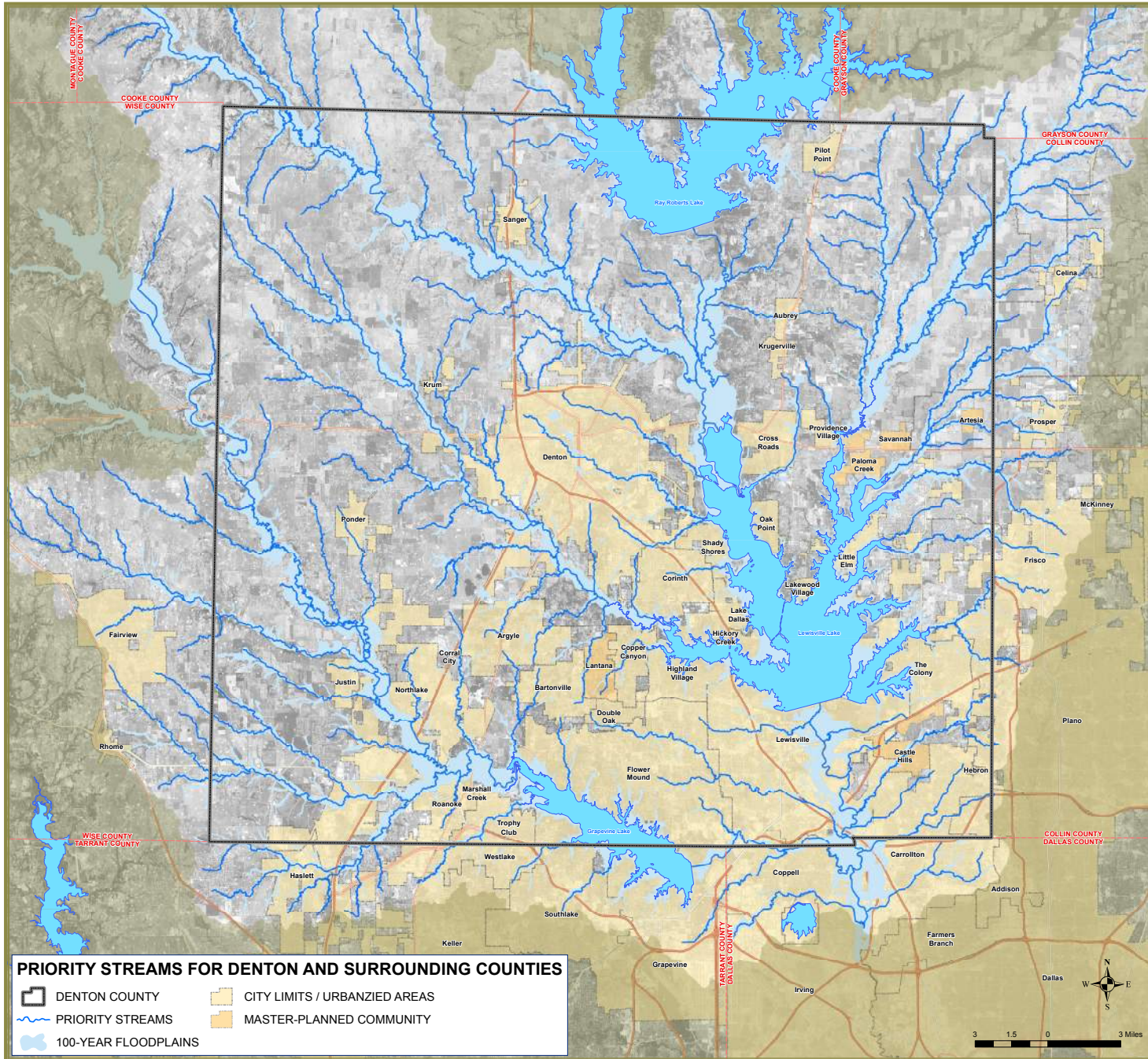


Figure ES-1: Priority Streams

GREENBELT SYSTEM COMPONENTS

Streams

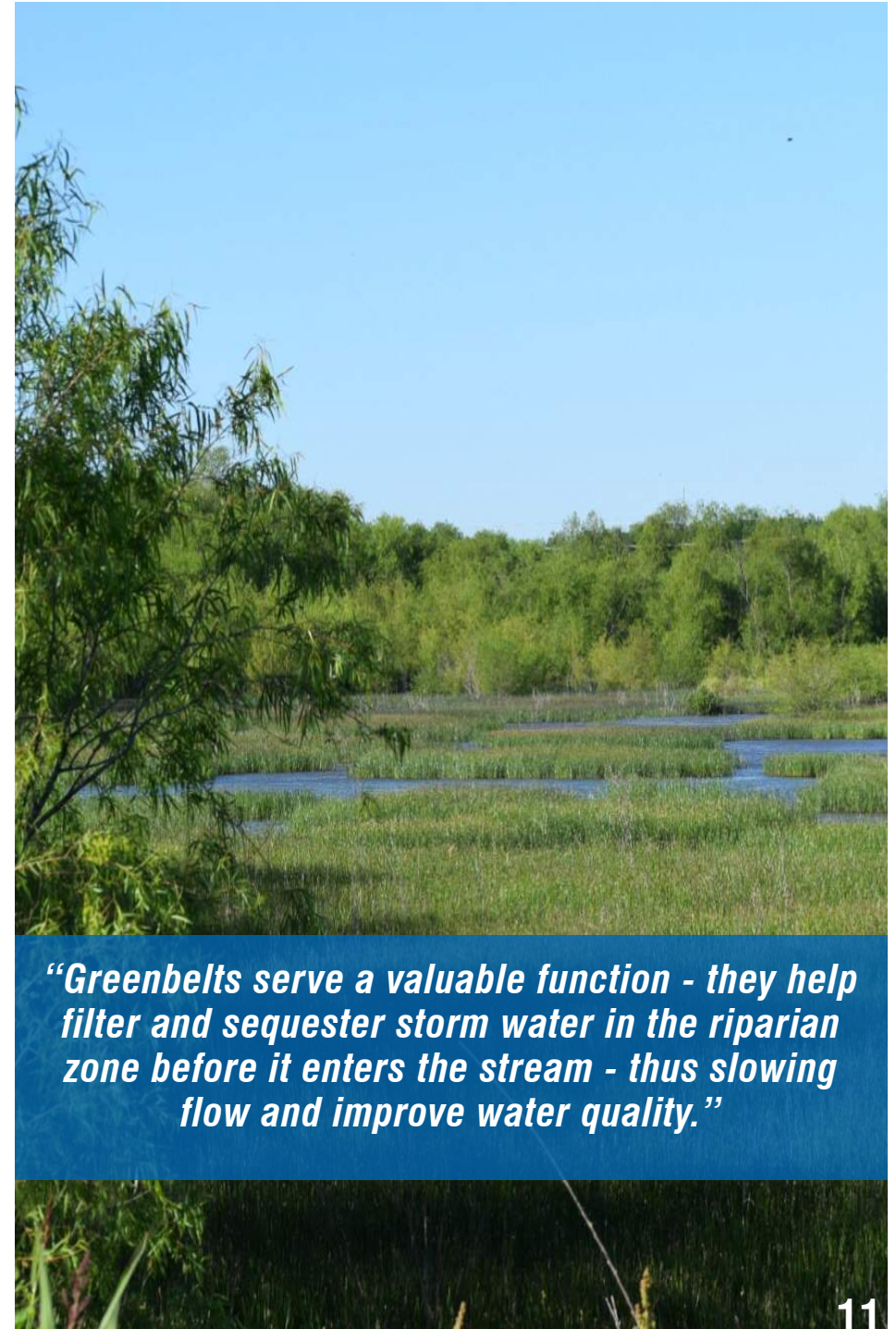
Within the Plan, approximately 1,225 miles of streams were identified as “priority streams” (Figure ES-1) both within Denton County and the adjoining Counties. These priority streams are significant contributors of water to the local water supply reservoirs. These streams are located in both urban and urbanizing areas, and in rural areas. Corridors along some of these streams already contain developments at or near the streams edge. Therefore, opportunities for greenbelt protection along these developed stream segments may be limited.

Of special note, the Plan identifies those streams that will help maintain existing greenbelts and the streams that have an opportunity to restore connections to the existing greenbelt corridors. **A compelling fact: it is much more cost effective to protect greenbelts and stream corridors now -- rather than restore greenbelts and stream corridors after they have been lost to nearby development.**

Existing Greenbelts

Several of the priority streams are flanked with significant widths of vegetation typically consisting of a mixture of trees, shrubs, and herbaceous vegetation. These heavily vegetated streams are the existing greenbelts identified within the Plan. The graphic in Figure ES-2 shows the existing greenbelt inventory.

Greenbelts serve a valuable function for all of us; they help filter and sequester storm water in the riparian zone before it enters the stream – thus slowing the flow and improving the quality of water entering the actual stream. Within Denton County, some agencies have set aside certain existing greenbelts, providing protection for water quality and riparian assets. Examples include already established linear parks, federal lands associated with the three major lakes within Denton County, and areas protected by ordinances, setbacks and dedications in the Cities of Denton and Lewisville, Town of Flower Mound, and the master-planned community of Lantana. However, a majority of the existing greenbelt opportunities lack mechanisms to protect their ecological and water quality functions.



“Greenbelts serve a valuable function - they help filter and sequester storm water in the riparian zone before it enters the stream - thus slowing flow and improve water quality.”

INVENTORY OF STREAMS WITH GREENBELT CHARACTERISTICS

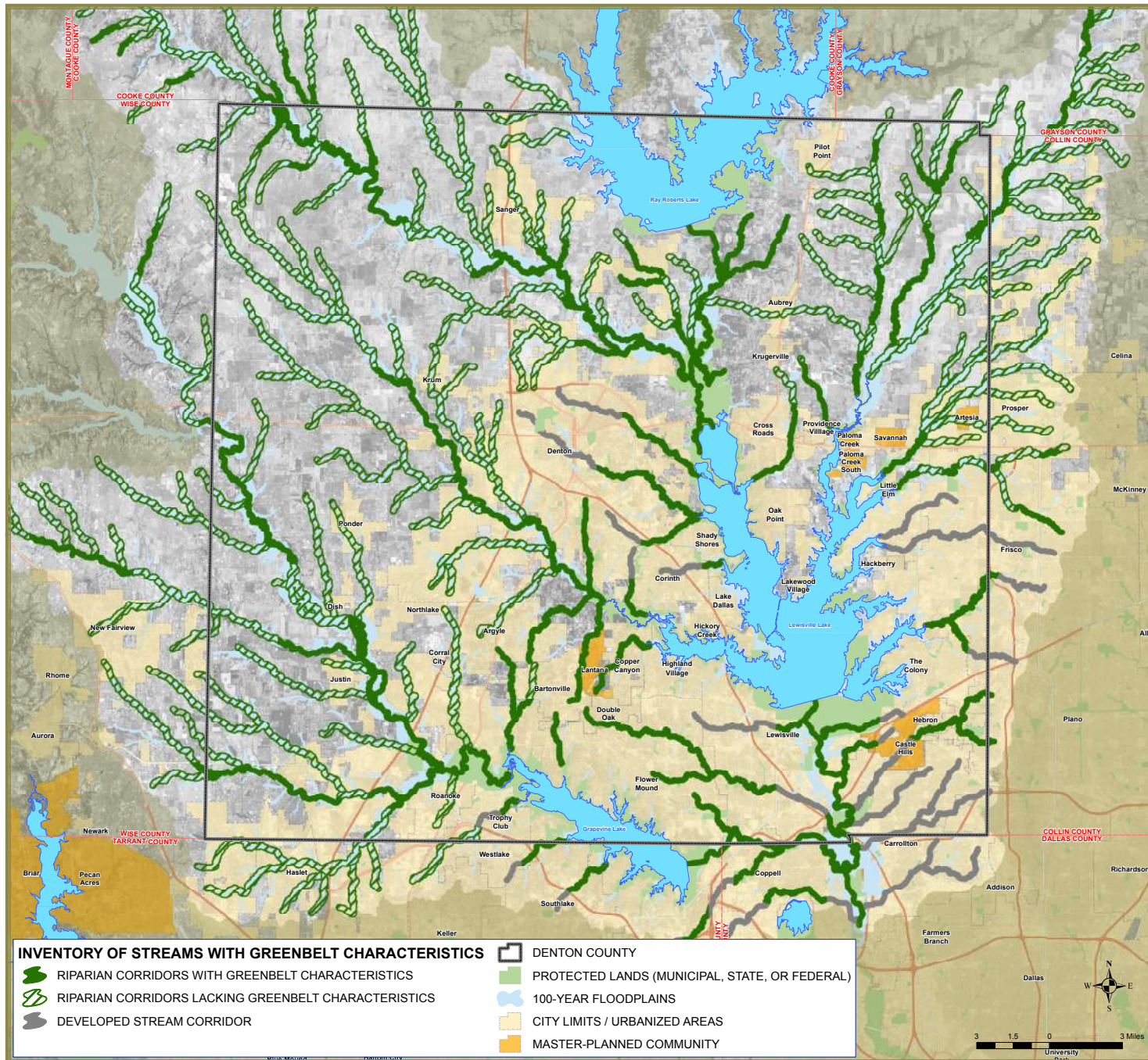


Figure ES-2: Greenbelt Inventory

GREENBELT SYSTEM OPPORTUNITIES

A majority of the priority streams identified in the Plan lack diversity of vegetation to meet the usual qualifications for greenbelt status. The vegetation surrounding these priority streams has either been greatly reduced in species composition and width, or completely removed for agricultural pursuits or for some other land use. However, all is not lost; they are still worthy of being preserved for their riparian assets and benefits.

Within the Plan, these stream segments are classified as Greenbelt Opportunities. These are the areas that need special attention and preservation to protect the quality of water and to ensure other benefits for future generations. Figure ES-4 identifies these Greenbelt Opportunities.

These Greenbelt Opportunity streams may require modifications to adjacent land uses as well as implementing protection mechanisms.

Example land use modifications include allowing vegetation to reestablish within the riparian corridor, possibly limiting or exceeding cattle or other livestock from the stream corridor - - and for the long-term, providing for preservation of the riparian zone and a potential set-back for future development from the stream's edge. Design parameters for the protection of streams are provided in the document.

In summary, to protect the quality of water within local water supply reservoirs, preserving a 100-foot wide buffer or set-back from the top of stream bank is generally recommended, as illustrated in the Figure below. However, greenbelts of lesser width will yield significant benefits for water quality protection, for bank stabilization and for trails or other uses. Existing municipal ordinances in Denton County vary in specified width; and, some municipalities have different widths depending on the size of the stream. Each municipality in cooperation with development activity is encouraged to determine what is feasible for their purposes.

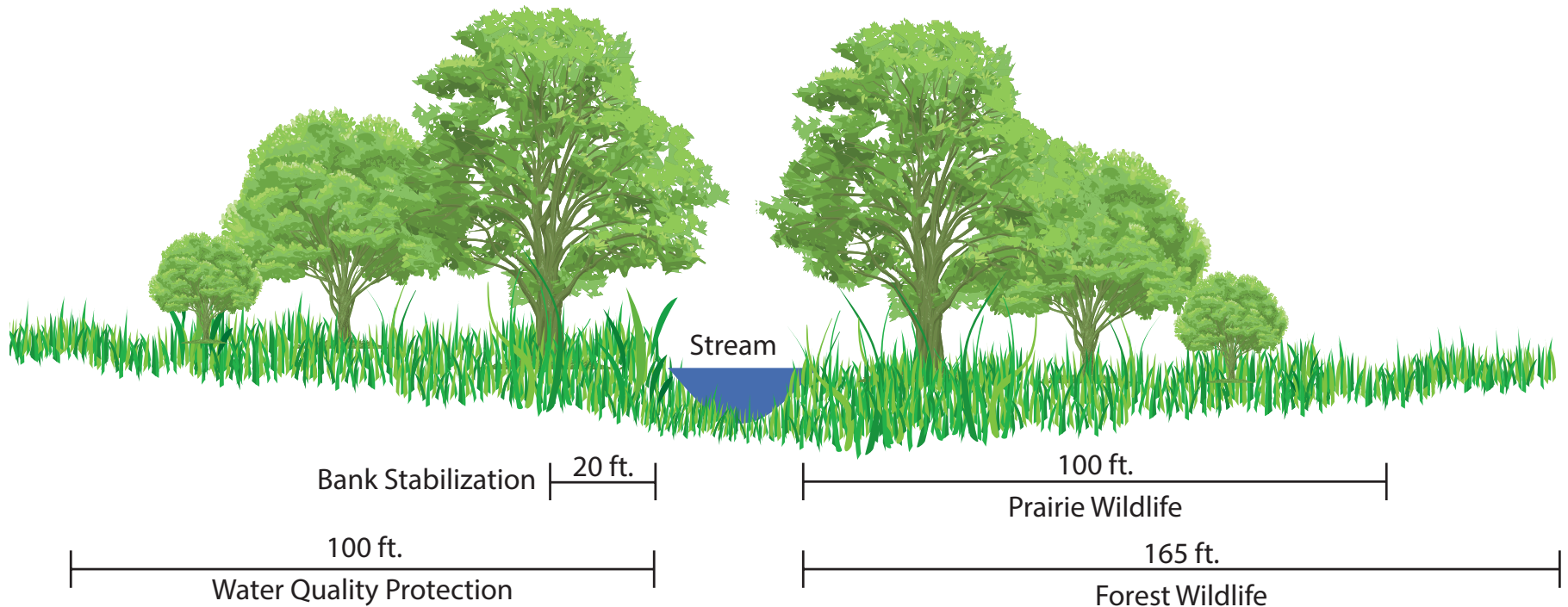


Figure ES-3: Recommended Greenbelt Corridor Width, Courtesy Texas A&M Agrilife Extension Service

GREENBELT OPPORTUNITIES

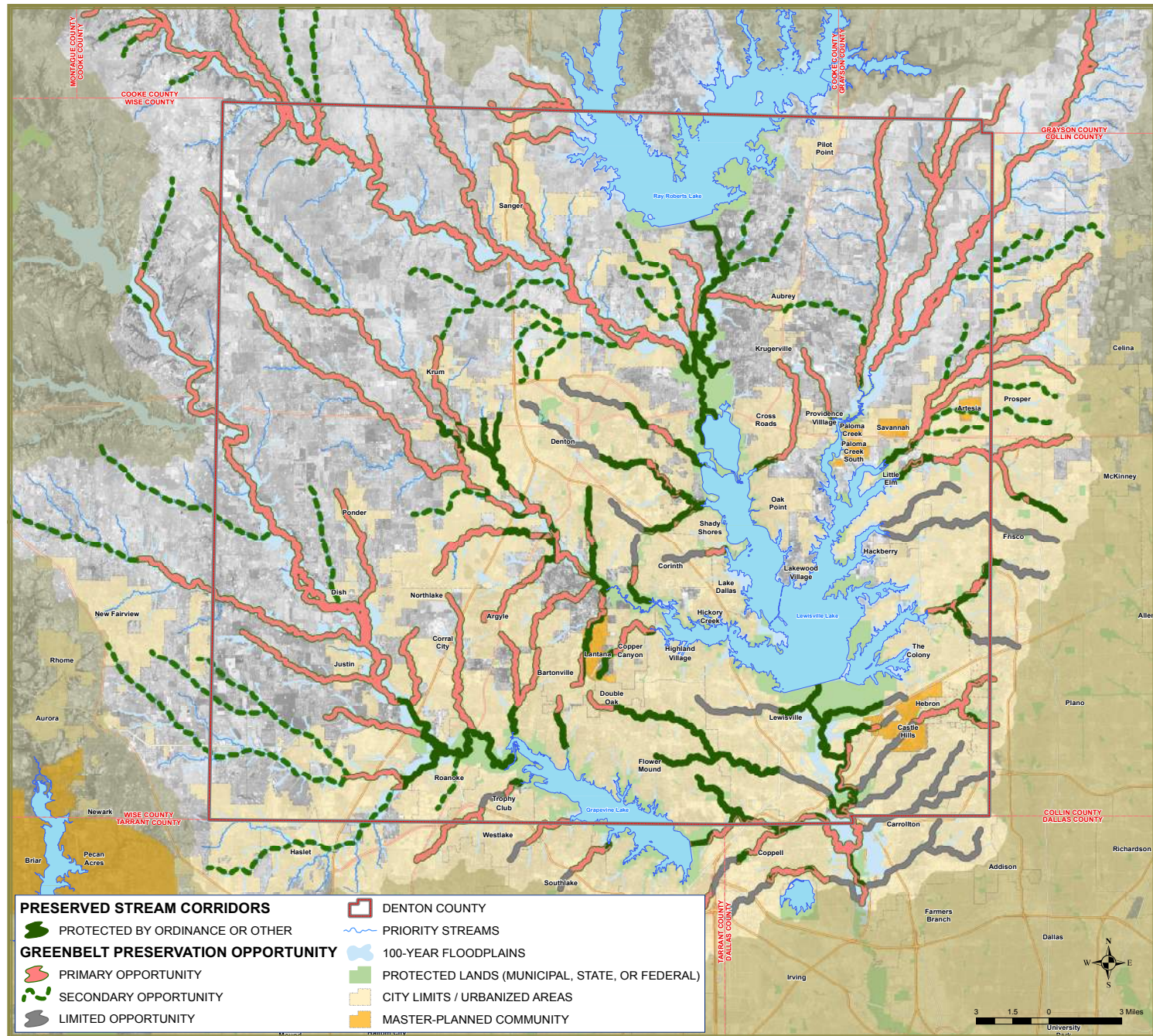


Figure ES-4: Greenbelt Opportunities

PRIORITY WATERSHEDS AND STREAMS

In the planning area, forty-one sub-watersheds to the Elm Fork of the Trinity River contribute flow directly to the three Denton County reservoirs. Within those 41 sub-watersheds, there are 73 named streams including the Elm Fork of the Trinity River. Each of the named streams, their tributaries, and their watersheds were ranked based on a high, medium, or low priority status, which translates to a timeline for implementing the Plan. The planning horizon associated with the prioritization rankings is:

1. High – 1-10 years
2. Medium – 10-20 years
3. Low – 20 years and beyond

Of the 41 sub-watersheds, 11 were ranked as high priority; and, of the 73 named streams, 26 were identified as high priority streams. Figure ES-5 shows the priority status associated with the 41 sub-watersheds and the 73 name streams and their tributaries. As shown, the majority of the high priority watersheds and streams are near the three major reservoirs and the major urban centers within Denton County.

The existing Greenbelts and Greenbelt Opportunities were then overlaid onto the prioritized watersheds and streams. This helps to identify the greenbelts in need of protection and/or preservation. Figure ES-6, on the following page, shows the highest priority watershed with existing Greenbelts and Greenbelt Opportunities identified. Each of the 41 sub-watersheds are identified in the Appendices with the existing Greenbelts and Greenbelt Opportunities shown.

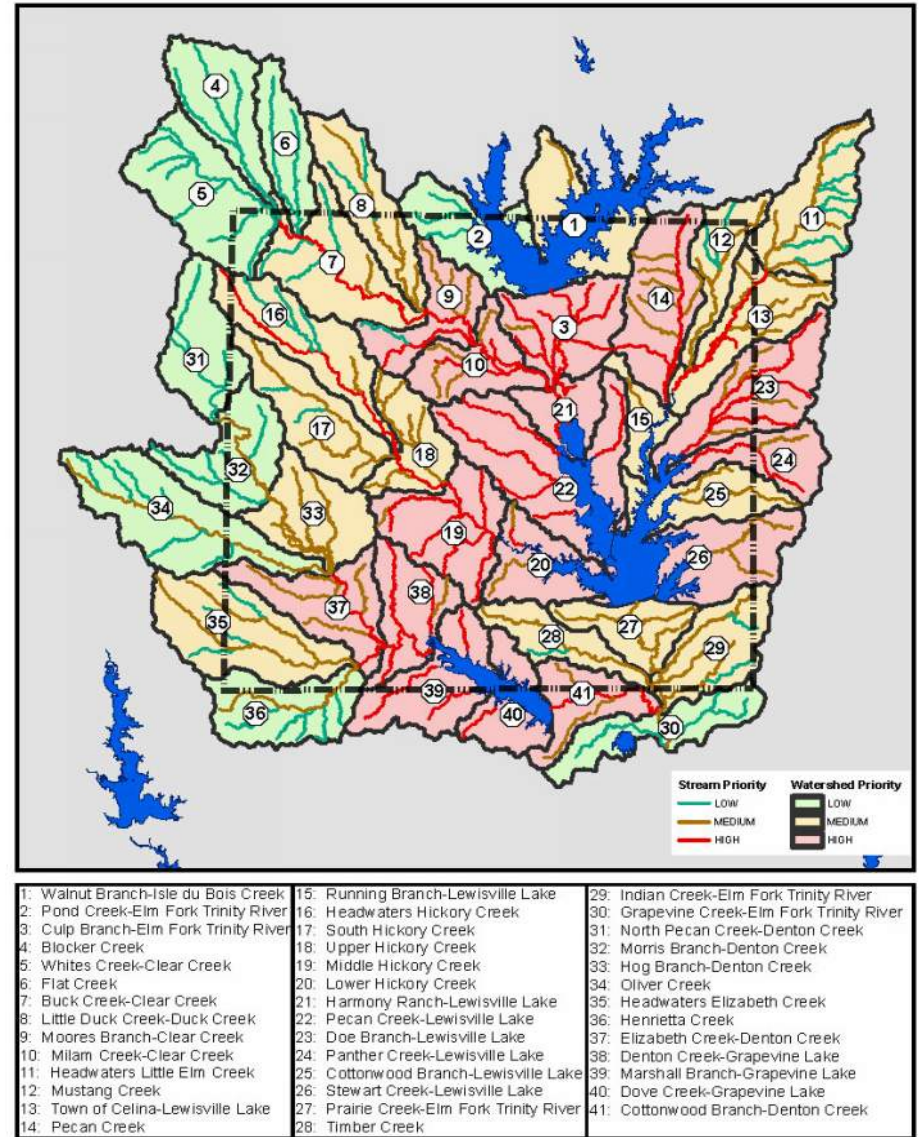


Figure ES-5 Watershed Priority Status

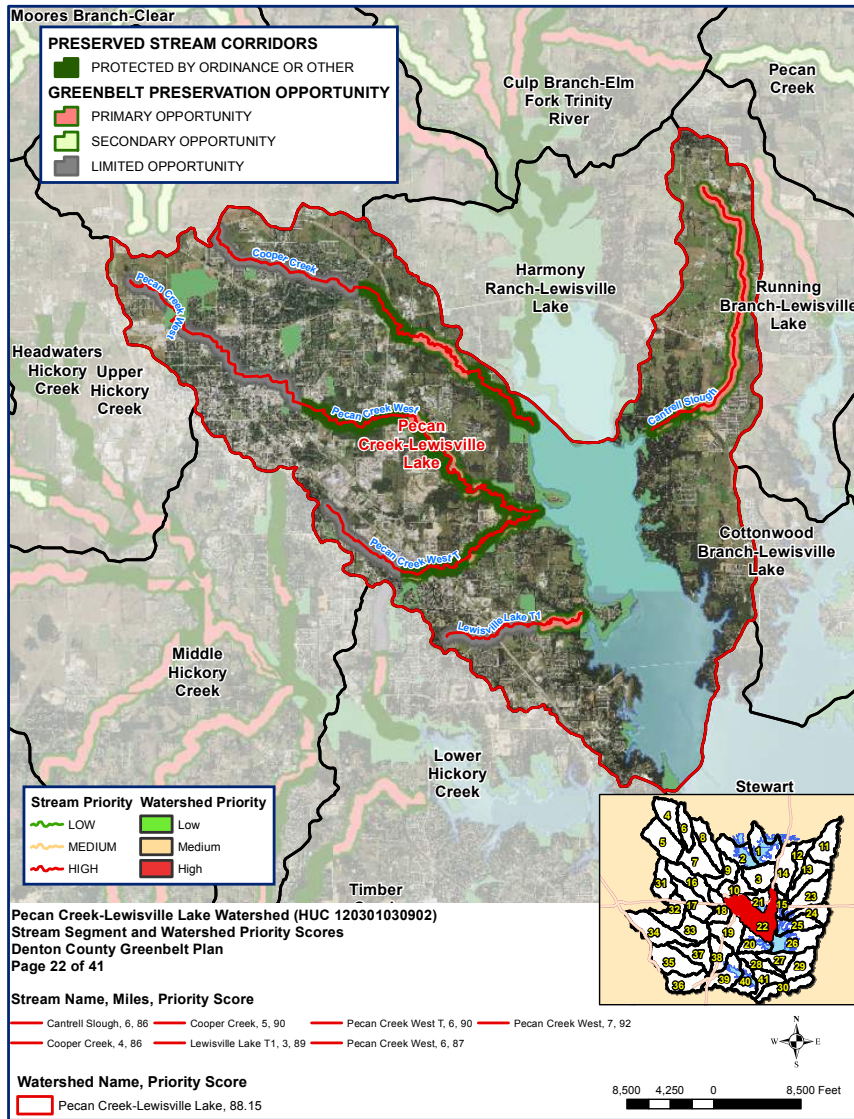


Figure ES-6: Highest Priority Watershed

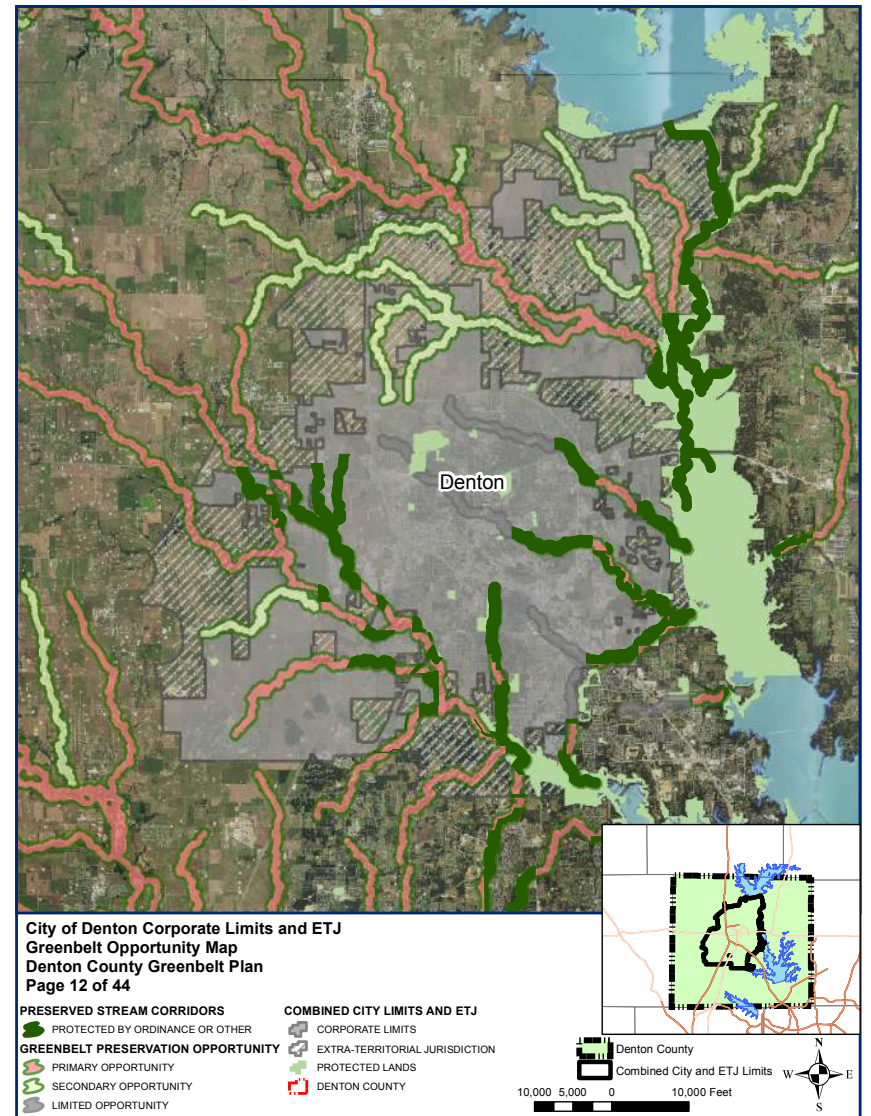


Figure ES-7: City of Denton Greenbelt Opportunity

To assist municipalities, the existing Greenbelts and Greenbelt Opportunities were superimposed onto their corporate limits and extra-territorial jurisdiction. As an example, Figure ES-7 shows the existing Greenbelts, Greenbelt Opportunities, and Developed Stream Corridors within the City of Denton.

IMPLEMENTATION

Capturing the Enthusiasm - Realizing the Vision

The Denton County Greenbelt Plan is not intended to be a regulatory document; rather, the goal for the Plan is to be a convenient guide to encourage and enable closer coordination among stakeholders. Therefore, successful implementation of the Plan, on a voluntary basis, will require strong leadership at all levels: support from County officials, and active support from local municipalities and dedicated citizens. A successful fulfillment of the Plan will depend on informed and supportive citizens and landowners, the stewardship of the County's critical natural assets - private landowners own a majority of the greenbelt corridors in Denton County. The overall, long-term vision is to grow the economy of Denton County, conserving and preserving existing natural assets, while saving and connecting greenbelts.

Implementing the Plan

Greenbelt preservation will require a concerted effort from all stakeholders, each of which may have a different role. Denton County, as well as the local municipalities have a distinct role in implementing the Plan - these entities can enact ordinances, zoning requirements or other measures that will protect greenbelt corridors within their respective jurisdictions. In addition, they can provide funding for greenbelt preservation by issuing bonds or obtaining grants. Non-profit organizations, such as the Upper Trinity Conservation Trust, and other natural resource agencies can also obtain grant funding for projects that would especially benefit landowners and other citizens through public outreach efforts.

Opportunities for leadership exist - champions for greenbelt preservation. As part of the implementation, it is recommended that a Coordinating Committee be established. To keep all stakeholders informed and connected, the Committee will have an important role - The coordinating committee would be charged with keeping all stakeholders informed and connected. The committee will have an important role in the plan's implementations as well as facilitating momentum.

To address the goal for protecting valuable watershed assets, the Plan outlines various strategies to consider in preserving greenbelts.

- Tools to facilitate preservation of Greenbelts within municipal and County jurisdictions,
- Tools for landowners to consider for greenbelt preservation efforts, and
- Funding and acquisition opportunities to help save and connect Greenbelts.

Benefits of Greenbelts

Potential benefits afforded to Denton County and its communities from the preservation of Greenbelts are numerous and quantifiable:

- Conserve the quality of water entering Denton County's water supply reservoirs, the sources of our drinking water, as the County is rapidly urbanizing,
- Increase the quality of life for Denton County residents - - by providing nature-based recreational and educational opportunities,
- Rather than barriers, greenbelts enable increased connections for both people and wildlife,
- Add zest to neighborhoods and enhance property values,
- Healthy tree roots and other vegetative material help protect homes and property by stabilizing and protecting stream banks from erosion potential,
- Increase appreciation for environmental matters through nature-based educational opportunities,
- Preserve the cultural, historical and natural landscapes of Denton County, and
- Safeguard habitat for native plants, animals and aquatic species.

Promoting and Developing Demand for Greenbelts

Education and outreach programs about greenbelts and the importance of conserving greenbelt corridors will be imperative for the success of preserving these critical resources. Within the Plan, numerous strategies are identified to provide education and outreach. The principal purpose for these efforts are to generate demand and citizen interest for greenbelts. These strategies include:

Strategy 1 – Establish a brand for the plan – Denton County For The Future



Strategy 2 – Create campaigns to promote Greenbelt awareness and preservation in Denton County and adjoining counties.

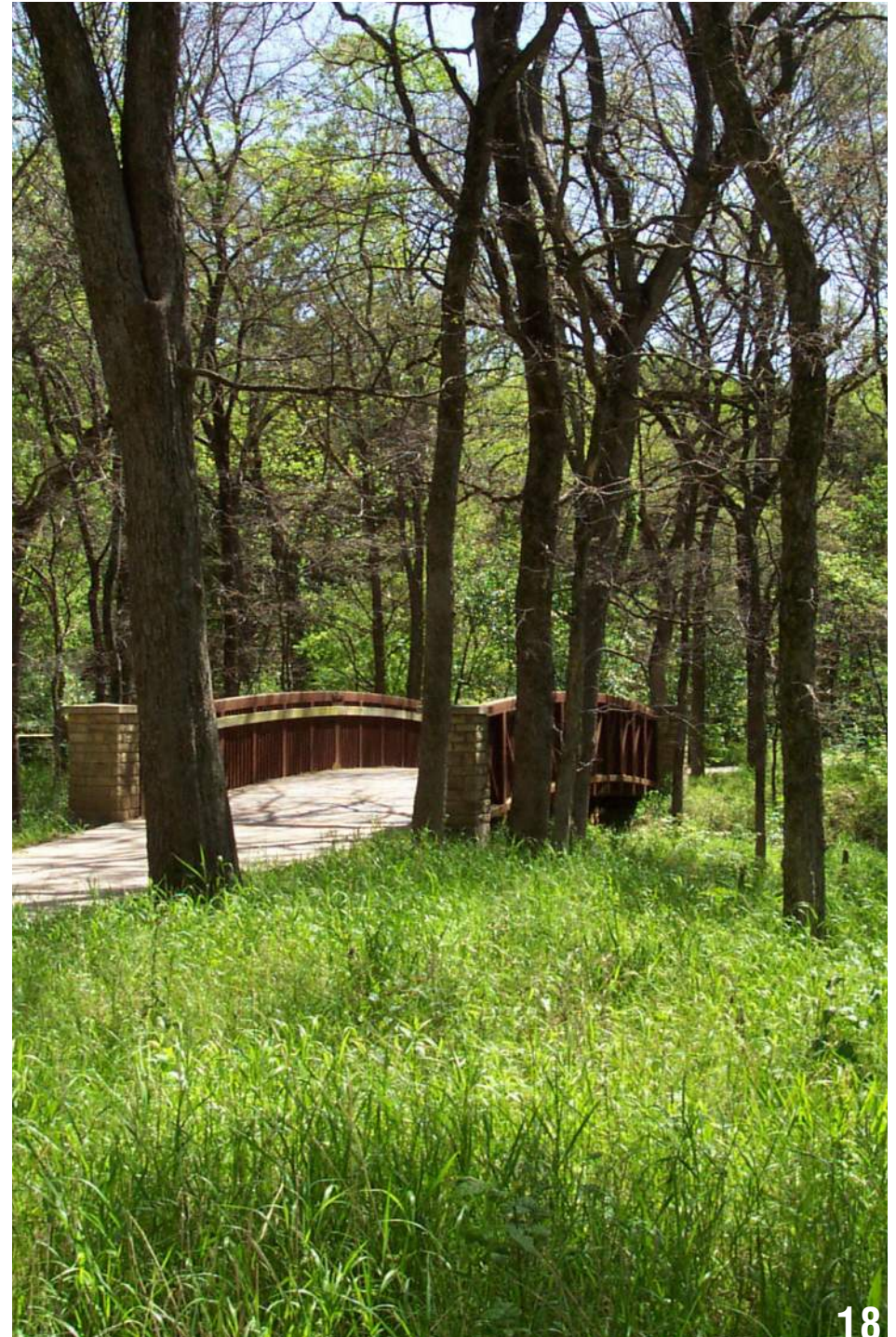
Strategy 3 – Educate, raise awareness, and increase citizen involvement in the Greenbelt preservation efforts across the County.

Strategy 4 – Collaborate with Government and Non-Government agencies and organizations to support the Greenbelt Preservation efforts.

Greenbelt Protection Measures

Protection measures need to be implemented to preserve the identified greenbelt corridors into the foreseeable future. Numerous regulations are in place on the federal and state level that protects aspects of streams; however, those regulations do not provide protections to the vegetation associated with greenbelts per se. Certain municipalities within Denton County have enacted ordinances specifically to offer protections to greenbelts. Examples include the Cities of Denton and Lewisville, and the Town of Flower Mound have ordinances in place to provide protections to Greenbelt corridors. Ordinances, in conjunction with State and Federal regulations, are excellent vehicles for protecting Greenbelts.

The Plan offers other preservation measures to consider that are not necessarily regulatory in nature. These include the establishment of Greenbelt Districts, Purchase of Development Rights, Conservation



Easements, Mitigation Banking Opportunities, In-Lieu Fee Programs, and Property Tax Exemptions. Non-profit organizations, such as the Upper Trinity Conservation Trust, specialize in these types of protection measures and can partner with the various stakeholders in Denton County to implement these needed protection measures. Specifics about these voluntary programs are outlined in the Plan.

Greenbelt Preservation for Landowners

The majority of the land occupied with existing greenbelts and Greenbelt Opportunities in Denton County is in private ownership. These landowners are key to protecting existing greenbelts on their property, as well as enable connection of Greenbelt Opportunity corridors. The Plan offers several land management suggestions for landowners to protect water quality entering the receiving streams. Management suggestions include:

- Grazing Management
- Cropland Management
- Riparian Corridor Restoration
- Invasive Species Management

Funding

Numerous funding opportunities are available to assist in the preservation of Greenbelts, including bonds, grants, and donations. Specific funding opportunities outlined in the Plan include:

- General Obligation Bonds
- Community Development Block Grants
- Development Dedications
- Recreation Grants
- Highway Grants
- 319 Grants
- Public Private Partnerships
- Donations

Other opportunities may be available that are not included in the Plan, any funding opportunity that can be applied for greenbelt protection purposes should not be discounted.

FINDING A BALANCE

Finding a balance between growth and conservation in Denton County will be a challenge. The Denton County Greenbelt Plan is a step in the direction toward finding that balance. With the existing and priority Greenbelt Corridors identified, municipal and County leaders have the tools needed to know what assets are available for protection. Also, with the Greenbelt Corridors identified, Developers have the locations of the priority Greenbelts to consider in their development plans. Finally, the landowners who have priority Greenbelt corridors located on their property have tools and mechanisms available to improve water quality and stream function within their property.

Denton County is at a point of great opportunity. Now is the time to preserve its natural assets while sustaining economic growth for the next generations to come.





CHAPTER ONE: INTRODUCTION





CHAPTER ONE: INTRODUCTION

Denton County, one of the 16 counties that make up the Dallas-Fort Worth (DFW) Metroplex, is rapidly urbanizing. Growth and development is expected to continue into the foreseeable future. The U.S. census bureau graph (Figure 1) illustrates recent significant growth that has occurred in the last decade. The County is transforming from a largely agricultural and ranching setting to one with a more urban character. The majority of this growth is attributed to the DFW Metroplex being one of the largest economic hubs within Texas, attracting businesses and development to the region.¹ According to the 2012 Region C Water Plan², the population of Denton County is projected to nearly double by 2040 to about 1.4 million people and is anticipated to eclipse the one million mark by 2030. **Based on this projected population increase, developed land within Denton County can be expected to nearly double, which can have a significant deleterious effect on the County's creeks, streams, and rivers, if left unchecked.**

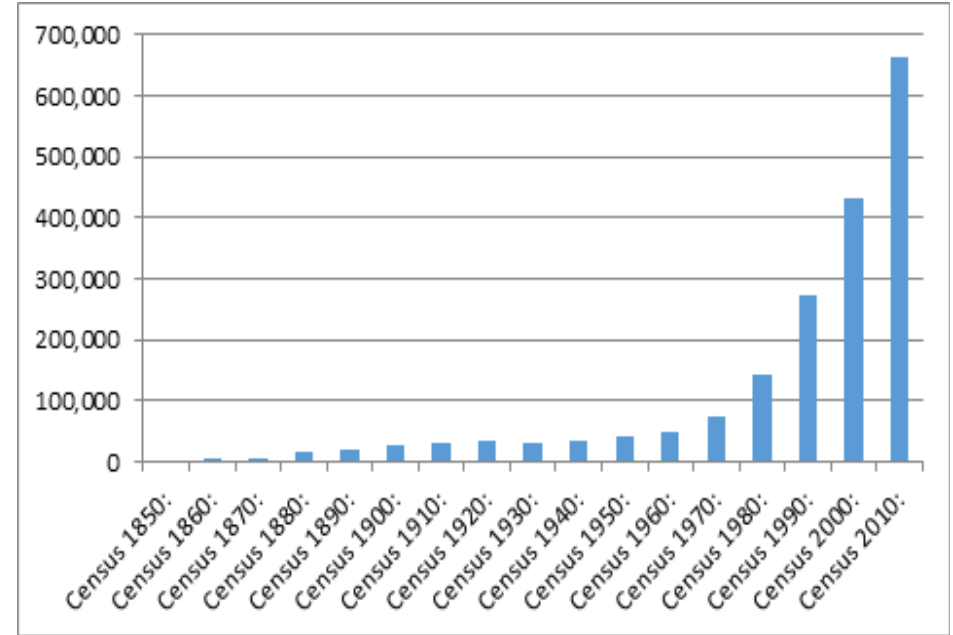


Figure 1: Denton County Populataion Estimates from U.S. Census Bureau Data

Denton County's population has steadily increased over the decades - except during the 1930's and 1940's. Since the 1980's, Denton County has experienced extremely rapid growth and urbanization. Currently, Denton County's population is estimated to be 753,363.

1. "News Release: GDP by Metropolitan Area, Advance 2011, and Revised 2001-2010" www.bea.gov
 2. <http://www.regioncwater.org/> accessed November 2, 2015.
 3. <http://www.census.gov/quickfacts/table/PST045215/48121> accessed July 1, 2015.

WHAT IS A GREENBELT?

For the Plan, a Greenbelt is defined as land typically adjacent to area streams, creeks, rivers, or lakes (aquatic resource) that is vegetated (with trees, shrubs, grasses, and wildflowers) and provides a buffer to the aquatic resource from adjacent land uses. In urban and urbanizing areas, Greenbelts provide a buffer between undeveloped and developed land. Greenbelts are usually in the form of linear parks, floodplains, or floodways. **In rural settings, Greenbelts, whether planned or not, encompass land set aside to provide buffers between active pasture and agricultural fields and stream corridors.** The Ray Roberts Greenbelt is an excellent example of a large-scale, multi-use Greenbelt within Denton County. Other examples include smaller-scale linear parks along streams in urban settings (e.g. Town of Flower Mound's Stone Creek Park) and the well-vegetated riparian buffers along streams and creeks in urban and rural settings.



“For this planning effort, a Greenbelt is defined as land typically adjacent to area streams, creeks, rivers, or lakes that is vegetated and provides a buffer to the aquatic resource from adjacent land uses.”



At the onset of the planning effort, representatives from the Upper Trinity Conservation Trust, Denton County, and the Upper Trinity Regional Water District developed the following vision statement for the planning process.

VISION STATEMENT OF THE GREENBELT PLAN



“To create a Greenbelt plan that promotes the preservation of corridors of greenspace, typically along area waterways, that includes services such as water quality improvement, recreation, habitat for wildlife, aesthetics, and social and economic benefits, the plan should provide a common vision for Greenbelt preservation in Denton County. The plan should educate the citizens of Denton County about Greenbelts and the natural assets occurring within the region. Implementation of any recommendations within the Greenbelt plan should be purely voluntary.”

BENEFITS OF GREENBELTS

People require clean water and fresh air -- Greenbelts contribute to providing these basic human needs. Greenbelts filter water before it discharges into area water ways and eventually to our drinking water supply reservoirs. Further, the vegetation surrounding these area waterways contributes to cleansing the air we breathe. Without fulfilling these basic needs, quality of life will be diminished.

People also require shelter, land is transformed, or developed, to house and shelter people, as well as to provide infrastructure and places to conduct business. Consequently, urban development threatens Greenbelts. As real estate in Denton County and surrounding Counties continues to boom, affordable housing will continue to be a commodity. To address this housing and infrastructure needs, developers move to undeveloped areas. Typically, the agricultural fields and undeveloped natural areas surrounding City centers are utilized to fulfill the housing and infrastructure demand. Developers also look to maximize the value of land. Leaving developable land in its natural condition comes at a cost. Accordingly, developers may question the need and benefits of preserving natural areas especially along streams, creeks, and rivers. It is incumbent upon the general public and local government entities to educate developers and the general public about the benefits of Greenbelts.



Greenbelts should not be considered as an obstacle to development, rather as an asset.



Potential benefits afforded to Denton County and its communities from the preservation of Greenbelts are numerous and quantifiable.

- Conserve the quality of water entering Denton County's water supply reservoirs, the sources of our drinking water, as the County is rapidly urbanizing
- Increase the quality of life for Denton County residents
- Eliminate barriers between different parts of the County and surrounding counties through Greenbelt connections for both people and wildlife
- Promote natural assets for existing and proposed developments
- Reconnect Denton County residents to the Elm Fork and its tributaries, which provide a majority of the County's raw water supply
- Increase property values
- Reduce stormwater infrastructure costs by decreasing or delaying runoff and attenuate floodwaters
- Decrease or delay the need for advanced municipal water supply treatment infrastructure due to the improved water quality entering area waters supply reservoirs
- Enhance healthy lifestyles for Denton County residents by providing nature-based recreational opportunities (such as hike and bike trails)
- Increase economic development through environmental and recreational activities
- Increase environmental knowledge of Denton County by providing nature-based educational opportunities
- Preserve the cultural, historical and natural landscapes of Denton County
- Protect vital habitats for native plants and animals

“A compelling fact: It is much more cost effective to protect greenbelts and stream corridors with greenbelt opportunities now, rather than later try to restore them after they have been lost to nearby development.”



Guiding Principles for the Greenbelt Plan

Several guiding principles were used in the decision making framework when developing the Greenbelt plan recommendations. These included:

- Identifying stream segments and watersheds at a county-wide scale for preservation,
- Ranking and prioritizing the identified streams and watersheds, based on the need for preservation,
- Coordinating with stakeholders during the planning process for input on the Greenbelt planning effort,
- Identifying current and previous green space, park and Greenbelt plans and other pertinent planning information within Denton County,
- Documenting and mapping of existing park and recreation assets, both planned and in place, as they relate to the Greenbelt planning effort,
- Developing a “toolbox” to facilitate the protection of Greenbelt corridors,
- Implementing strategies for the preservation of Greenbelts,
- Encouraging ambassadors for Greenbelts through the implementation strategy suggestions, and
- Offering guidelines for communities, developers and residents of Denton County to coordinate the planning and preservation of Greenbelts according to a common vision.



“The overarching guiding principle of the Greenbelt plan is to foster demand for Greenbelts within Denton County. If demand for Greenbelts within Denton County is known and well-established, the provision for Greenbelts will be a major factor and consideration for the development community as well as municipal and County leaders.”





CHAPTER TWO: DENTON COUNTY



CHAPTER TWO: DENTON COUNTY

BRIEF HISTORY OF DENTON COUNTY

Early pioneers of present day Denton County settled in this area of northeast Texas principally along the Elm Fork of the Trinity River (Elm Fork) and its major tributaries. Although settlements within this area of Texas were infrequent, the first towns of present day Denton County were the Cities of Hebron, Pilot Point, and Little Elm. It was not until 1841, during the Republic of Texas, that settlements increased. This increase in colonization was attributed to an impresario grant from the Texas Emigration and Land Company, authorized by the Republic of Texas, which would be known as the Peters Colony. At the time, the Peters Colony area was, in part, considered the delineation of the United States' western frontier.⁴

In 1846, Denton County, named after Captain John B. Denton, was established by the Texas Legislature, shortly after Texas became a state in the Union. Captain Denton was a preacher and lawyer living in Clarksville, Texas in present day Red River County. Captain Denton was a volunteer in the Texas militia and assisted in patrolling the region investigating Native American raids on area settlers. In 1841, following a Native American raid on the Ripley Family in Clarksville, Captain Denton set out to find the attackers. The patrolling party encountered groups of Keechi near Village Creek in present day Tarrant County. During one of the patrols, Captain Denton was mortally wounded by a bullet. After his passing, his men crossed into present day Denton County and buried Captain Denton's body alongside a creek.⁵

From 1867 until 1885, the 1,200 mile Chisholm Trail traversed the western portions of Denton County.⁶ At the time, Texas was replete with longhorn cattle. Demand for beef was high along the east coast; however, infrastructure to get the cattle from Texas to the east coast was



“To commemorate the greatest man-influenced animal migration, the National Park Service is considering designating the Chisolm Trail as National Historic Trail.”

4. <http://dentoncounty.com/Departments/History-and-Culture/Historical-Commission/Denton-County-History.aspx> accessed November 2, 2015

5. <http://dentoncounty.com/Departments/History-and-Culture/Historical-Commission/John-B-Denton.aspx> accessed November 2, 2015

6. Blazing a New Trail. Kim Phillips. Denton Record-Chronicle. Published January 24, 2015

nonexistent. The nearest railroad infrastructure was located in Kansas. To satisfy the demand for beef, cowboys drove herds of cattle north to Kansas, with herds at times reaching a mile in width.

The early 20th century began to connect Denton County to the rest of the world with the introduction of the automobile and roads, telephone, radio, and television. The County also became an educational and industrial hub at the turn of the century. Denton County currently houses two establishments for higher education: University of North Texas (formerly the North Texas Normal College, established in 1890) and Texas Woman's University (formerly Girls College of Industrial Arts, established in 1903).⁷ Industry is primarily located around the City of Denton, as well as the various municipalities located in the southern and eastern portions of the County. However, much of the remainder of the County remains undeveloped, consisting principally of either pasture/rangeland for livestock production, natural landscapes, or cultivated cropland.



“Based on the projected population increase, developed land within Denton County could be expected to double by 2030.”

7. <https://tshaonline.org/handbook/online/articles/hcd06> accessed November 2, 2015.

ECOLOGY OF DENTON COUNTY

Denton County encompasses approximately 953 square miles in area. As such, it spans a diversity of vegetation zones, as illustrated in Figure 2. Across Denton County, these vegetation zones have been delineated into ecological areas known as the Northern Blackland Prairie, the Eastern Cross-Timbers, the Grand Prairie, and the Western Cross-Timbers, from east to west respectively. Each of the ecological zones contains unique geology and accordingly displays unique vegetative species and physical characteristics.

Within Denton County, the Northern Blackland Prairie occupies the eastern portion of County and demonstrates a nearly level to rolling topography. Its subsoil is a mixture of chalks, marls, limestone, and shale. The topsoil is mostly fine-textured, dark, deep calcareous clays, which are extremely productive for crops. Historical vegetation was mostly native grasses and forbs consisting predominantly of little bluestem, big bluestem, indiangrass, tall dropseed, gamagrass, and switchgrass. Common forbs (wildflowers) consisted of a variety of sunflowers and legumes. Remnants of the Northern Blackland Prairie still exist within Denton County today; however, the majority of the former Blackland Prairie has either been converted to pasture grasses for livestock rearing or crop production practices. In the southeastern portion of the County, the Northern Blackland Prairie is rapidly becoming urbanized.

The Eastern Cross-Timbers is centrally located within Denton County. This ecoregion mostly follows the Elm Fork's path to include the area surrounding Lake Grapevine. The Eastern Cross-Timbers is flanked by the Northern Blackland Prairie to the east and the Grand Prairie to the west. The topography of this ecoregion is rolling hills and valleys. The soil consists mostly of red and yellow sands with limited nutrients. Historically, the predominant vegetation of the Eastern Cross-Timbers was comprised of densely forested post and blackjack oak mottes interspersed with open areas consisting of mesquite and native grasses, such as little bluestem. In areas with suitable soils and topography, the Eastern Cross-Timbers have been converted to cattle grazing, as well as farming for sorghum, peanuts, and vegetables. In other suitable areas, farming for the production of peaches and pecans is another beneficial land use. In the southern and central portions of Denton County,

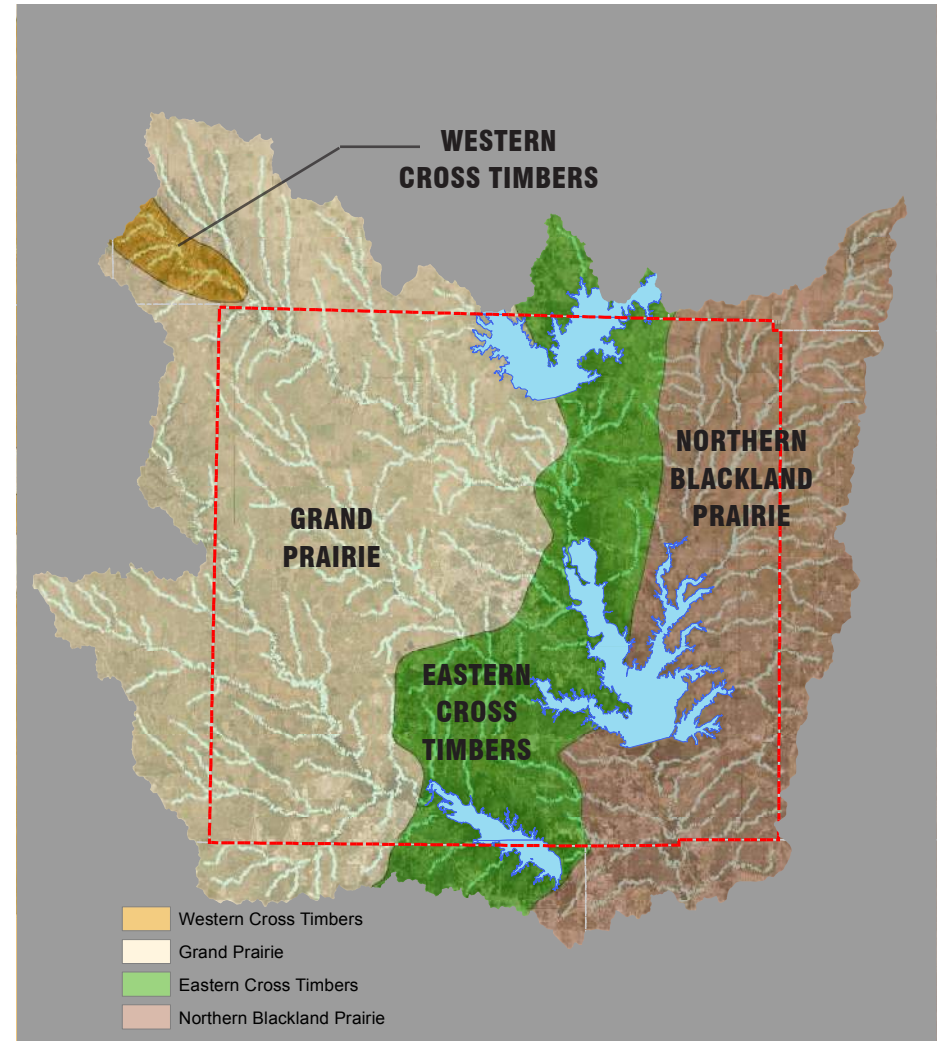


Figure 2: Ecoregions within Denton County

extensive urban development has occurred. Post Oaks, one of the dominant tree species in the Eastern Cross-Timbers, are slow growing and cannot be commercially cultivated. Land clearing for agricultural purposes and urbanization has greatly reduced the native range of the Post Oak community within Denton County.



Blackland Prairie in Denton County



Eastern Cross-Timbers

Photo Courtesy of Courtney Blevins, Texas A&M Forest Service

The western half of Denton County is occupied by the Grand Prairie. The Grand Prairie, which is very similar in character to the Northern Blackland Prairie, is an undulating plain with a subsoil consisting of limestones, marl, and clays. Dissimilar to the Northern Blackland Prairie, the limestone subsoil of the Grand Prairie is more resistant to weathering, which gives the topography a rougher appearance. Additionally, the meandering streams within this ecoregion deeply incise the limestone surface, making way for deep valleys. The historical vegetation within the Grand Prairie consists of native tall grasses, such as big bluestem, indiagrass, little bluestem, and grammas in the upland areas. Trees typically occupied the valleys and stream corridors. With the absence of grazing bison and the sequestration of wildfires, juniper and mesquite have increased in this ecoregion, displacing native grasslands and invading pastures. In areas not dedicated to pasture land, farming of corn, grain, cotton, and wheat are common agricultural practices.



Grand Prairie in Denton County



Natural Gas Well Pad in Denton County

Oil and gas exploration and transmission pipelines have occurred extensively within the Grand Prairie ecoregion, primarily west of the Interstate 35 corridor. The Barnett-Shale, which is the geological formation below the Grand Prairie, is a hydro-carbon producing geological formation. It has provided economic benefits to Denton County through royalty incomes, increased jobs, and increased tax revenues. However, gas well pad sites do come at a cost to the environment. In this area of Denton County, gas well pads sites, on average, occupy 1.5 acres of the Grand Prairie ecoregion and are numerous.

Finally, the Western Cross-Timbers occupies a small portion slightly outside of the northwestern corner boundary. It is worth mentioning because of the transition zone that occurs between the Western Cross-Timbers and the Grand Prairie. The Western Cross-Timbers, similar to the Eastern Cross-Timbers, is a band of wooded areas consisting mostly of post and blackjack oaks. The topography of this ecoregion is rolling hills consisting of gentle slopes and steep scarps. The soils are mostly fine sandy loams with clay subsoils. Amongst the thick bands of oaks, areas of prairie openings occur and consist mostly of little bluestem and purpletop grasses.

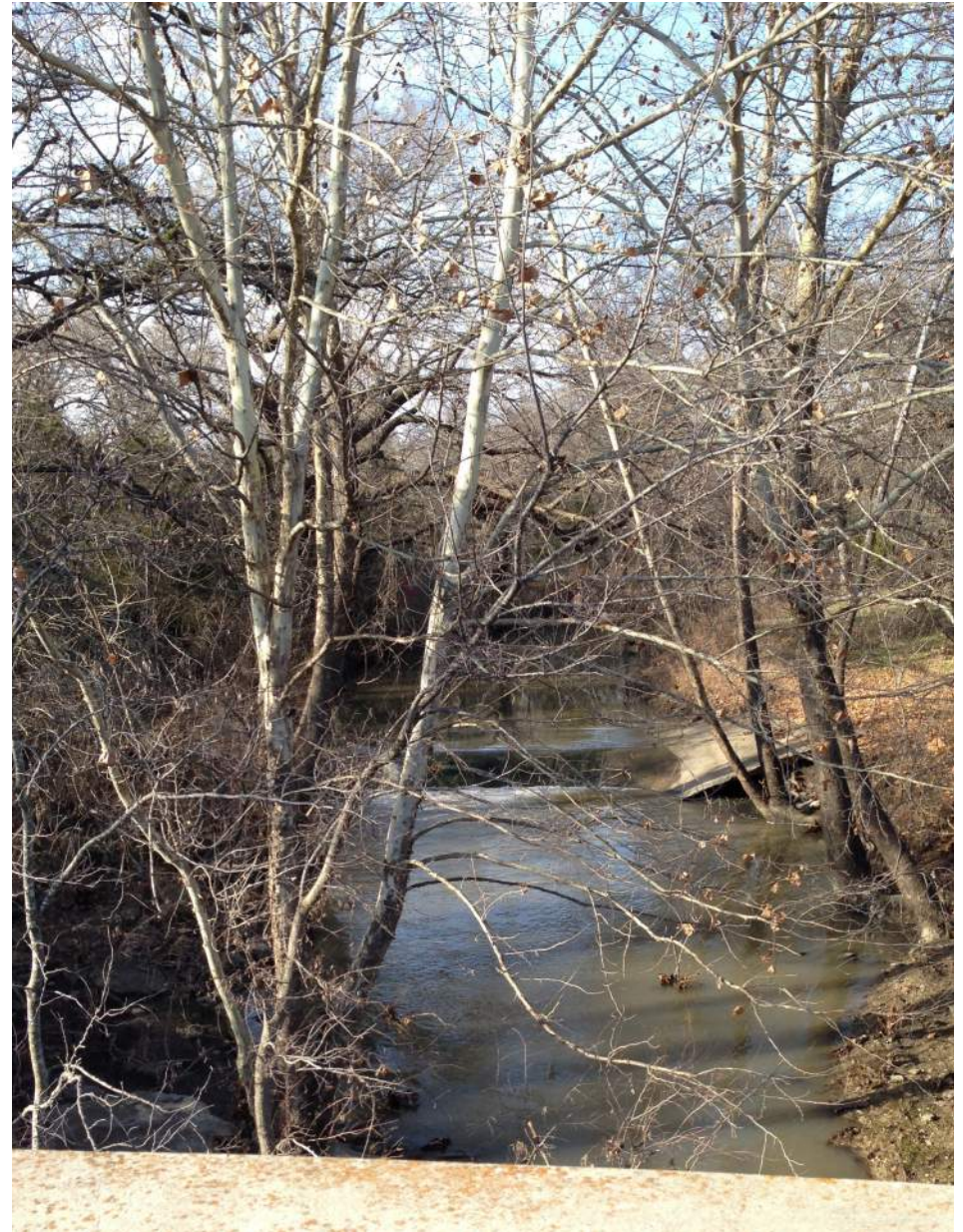
The Elm Fork, and its larger tributaries and their associated woodlands or riparian corridors within the County, often do not resemble any of the aforementioned ecoregions. These stream bottom soils are typically the result of erosion from the upland areas, with deposition of those soils as alluvial deposits. These stream bottoms are typically a mixture of sands and clays and are often vegetated with both trees and shrubs. These riparian corridors are mostly comprised of bur oak, shumard oak, hackberry, elm, ash, eastern cottonwood, and pecan. Wildlife utilize these riparian corridors for food, shelter, and mobility.⁸

WILDLIFE WITHIN DENTON COUNTY

A variety of mammals are known to be within Denton County. These include opossum, bats, beaver, plains pocket gopher, eastern gray squirrel, fox squirrel, jackrabbit, eastern cottontail, white-tailed deer, nine-banded armadillo, raccoon, red fox, coyote, bobcat, and a myriad of others including nuisance species such as feral hogs and nutria. Many of these species have been able to tolerate urbanization, while species that formerly inhabited the region such as gray and red wolves, mountain lion, river otter, and bison were extirpated from the area due to hunting, trapping, and/or behavioral intolerance to human activity.

The situation is similar for birds, reptiles, and amphibians. The species less tolerant of human activity have declined, while the more tolerant species have flourished. Common reptile species include lizards and various snakes, such as copperhead, cottonmouth, diamond-back

8. Griffith, G.E., Bryce, S.A., Omernik, J.M., Comstock, J.A., Rogers, A.C., Harrison, B., Hatch, S.L., and Bezanson, D., 2004, Ecoregions of Texas (color poster with map, descriptive text, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:2,500,000).



Unnamed Tributary to Denton Creek Located Within Denton County



White-Tailed Deer

watersnake, and bullsnake, while amphibians include turtles and frogs. A large number of native bird species utilize the stream bottomlands (woodpeckers, ducks), oak woodlands (cardinals, blue jays, titmouse, chickadee), and native grasslands (scissor-tail fly catchers, hawks) in Denton County, whereas species such as the house sparrow, mourning dove, pigeon, grackle, American crow, and European starling dominate the more urbanized areas.

Finally, the common fish species known to be in the Elm Fork of the Trinity River, as well as its significant tributaries, include various species of bass, bluegill, carp, catfish, drum, gar, sunfish, and shad.

The Texas Parks and Wildlife Department has compiled a list of rare, threatened, or endangered species for Denton County. In total, Texas Parks and Wildlife Department lists 11 bird species, two mammals, two mollusks, three reptiles, and two plants as rare, threatened, or endangered. The listing of the species and their status listing are included in the adjacent column.

AQUATIC RESOURCES WITH DENTON COUNTY

RIVERS AND STREAMS

The major river located within Denton County is the Elm Fork of the Trinity River. The headwaters for the Elm Fork start near the town of Saint Jo in Montague County and continue eastward into Cooke County toward the City of Gainesville. At Gainesville, the Elm Fork turns southerly into Denton County. Within Denton County, Ray Roberts Lake and Lewisville Lake are impoundments of the Elm Fork. South of the Lewisville Lake dam, the Elm Fork continues in a southerly direction into Dallas County where it converges with the West Fork of the Trinity River to form the Trinity River. The Elm Fork totals approximately 125 miles in length, with approximately 45 miles flowing through Denton County.

TEXAS PARKS & WILDLIFE DEPARTMENTS RARE THREATENED OR ENDANGERED SPECIES

Denton County Endangered or Threatened Birds

- American Peregrin Falcon *Falco peregrinus annatum*
- Peregrin Falcon *Falco peregrinus (2 types)*
- Bald Eagle *Haliaeetus leucocephalus*
- Henslow's Sparrow *Ammodramus henslowii*
- Red Knot *Calidris canutus rufa*
- Sprague's Pipit *Anthus spragueii*
- Western Burrowing Owl *Athene cunicularia hypugaea*
- White-Faced Ibis *Plegadis chihi*
- Whooping Crane *Grus americana*
- Wood Stork *Mycteria americana*

Denton County Endangered or Threatened Mammals

- Plains Spotted Skunk *Spilogale putorius interrupta*
- Red Wolf *Canis rufus*

Denton County Endangered or Threatened Mollusks

- Louisiana Pigtoe *Pleurobema riddelli*
- Texas Heelsplitter *Potomilus amphichaenus*

Denton County Endangered or Threatened Reptiles

- Texas Garter Snake *Thamnophis sirtalis annectens*
- Texas Horned Lizard *Phrynosoma cornutum*
- Timber Rattlesnake *Crotalus horridus*

Denton County Endangered or Threatened Plants

- Glen Rose Yucca *Yucca necopina*
- Topeka Purple Coneflower *Echinacea atrorubens*

Named streams in Denton County:

- Aubrey Branch
- Blocker Creek
- Bray Branch
- Boom Branch
- Burns Branch
- Cannon Creek
- Carter Branch
- Clear Creek
- Cooper Creek
- Cottonwood Branch
- Culp Branch
- Doe Branch
- Duck Creek
- Elizabeth Creek
- Flat Creek
- Furneaux Creek
- Grasshopper Creek
- Harriet Creek
- Hickory Creek
- Indian Creek
- Little Duck Creek
- Loving Branch
- Marshall Branch
- Milam Creek
- Moores Branch
- Mustang Creek
- Oliver Creek
- Pecan Creek
- Pond Creek
- Ranger Branch
- Running Branch
- Sharps Branch
- Stewart Creek
- Timber Creek
- Veal Springs Branch
- Whites Creek
- Bakers Branch
- Boom Branch
- Bryant Branch
- Buck Creek
- Cade Branch
- Cantrell Slough
- Catherine Branch
- Cleveland Branch
- Copperas Branch
- Crow Branch
- Denton Creek
- Dry Fork Hickory Creek
- Dudley Branch
- Fincher Branch
- Fletcher Branch
- Graham Branch
- Graveyard Branch
- Henrietta Creek
- Hog Branch
- Jordan Creek
- Little Elm Creek
- McWhorter Creek
- Midway Branch
- Mill Branch
- Morris Branch
- North Hickory Creek
- Panther Creek
- Poindexter Branch
- Prairie Creek
- Roark Branch
- Sand Branch
- South Hickory Creek
- Timber Branch
- Trail Creek
- Whites Branch
- Willow Branch

In addition to the named streams within Denton County, there are numerous locally named or unnamed tributaries. These unnamed tributaries range from small ephemeral (only flowing following rain events) creeks to larger intermittent (some degree of groundwater inflow) streams. Most of the tributaries to the Elm Fork within Denton County are located adjacent to agricultural fields, pastures, or cropland. Along the southern and eastern portions of the County, the streams are bordered by urban and urbanizing areas. **Without buffers, specifically vegetative buffers, potential risks to the area's streams and reservoirs are present through increased sediment deposition, fertilizer and chemical runoff, trash and debris, and other anthropogenic hazards.**

Elm Fork of the Trinity River in Denton County



Lakes and Reservoirs

As mentioned, the total area of Denton County is approximately 953 square miles. Portions of that land, approximately 75 square miles, are covered by water associated with three major water supply and flood storage reservoirs: Lewisville Lake, Ray Roberts Lake, and Grapevine Lake. All three major lakes within Denton County are U.S. Army Corps of Engineers' lakes.

The Elm Fork was first impounded in 1927 when the City of Dallas built the Garza Dam to create Lake Dallas. The Lewisville Dam, just below the Garza Dam, was completed in 1955, and in 1957 Lake Dallas became part of Lake Lewisville when the original dam was breached.⁹ Lewisville Lake is entirely within Denton County and provides water supply to the Cities of Dallas and Denton, as well as the Upper Trinity Regional Water District and their customer cities. To a lesser degree, the City of Irving discharges a portion of its water supply into Lewisville Lake, which is allowed to pass through and discharge into the Elm Fork. The City of Irving captures its water supply downstream of Lewisville Lake within the river.

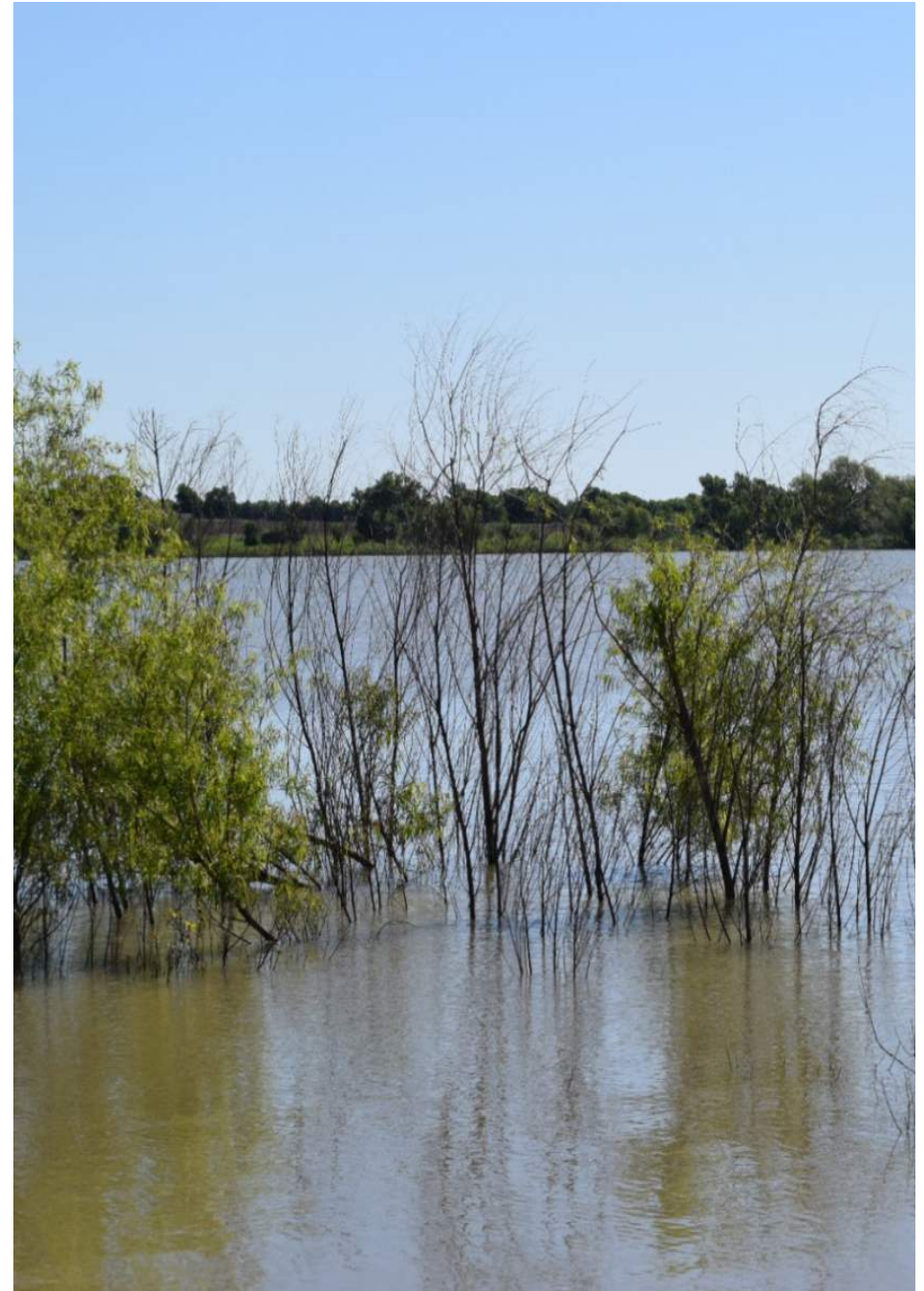
Approximately 60 river miles upstream of Lewisville Lake dam, near the Denton County and Cooke County line, is Ray Roberts Lake. Ray Roberts Lake is an expansive reservoir, covering nearly 29,350 acres at conservation pool.¹⁰ The dam for Ray Roberts Lake, also an impoundment of the Elm Fork, was completed in 1987 and is located within Denton County. However, Ray Roberts Lake occupies portions of Denton, Cooke, and Grayson Counties. The Cities of Denton and Dallas have contracts with the U.S. Army Corps of Engineers to withdraw water from Ray Roberts Lake for municipal water supply.

Grapevine Lake is the third major reservoir in Denton County. Grapevine Lake, created in 1952, is an impoundment of Denton Creek, one of the Elm Fork's major tributaries. The impoundment for Grapevine Lake resides in Tarrant County; however, a majority of the conservation pool for the reservoir resides in Denton County. Grapevine Lake provides water supply to the Cities of Dallas, Grapevine, Highland Park, and University Park.¹¹

9. <http://www.swf-wc.usace.army.mil/lewisville/Information/History.asp> accessed November 7, 2015.

10. <http://www.swf-wc.usace.army.mil/pertdata/rrlt2.pdf> accessed November 7, 2015.

11. <http://www.swf-wc.usace.army.mil/pertdata/gpvt2.pdf> accessed November 7, 2015



Lewisville Lake at high water levels

In addition to these three reservoirs, numerous impoundments of named and unnamed tributaries to the Elm Fork reside in Denton County. These open water areas (also known as stock tanks, ponds, Soil Conservation Service (SCS) reservoirs, and lakes) are principally used for recreational purposes, sediment control, flood control. Other open water features that reside within Denton County include off-channel ponds. These ponds capture overland flow following rain events. They are typically limited in size and principally used as a watering source for livestock. Aqua-culture is not a predominant industry in Denton County; thus, open water features for the production of aquatic faunal species are essentially non-existent.

**Ray Roberts Lake from the Ray Robert Lake Dam (Top)
Grapevine Lake (Bottom)**



Lastly, in portions of Denton County, typically along major tributaries to the Elm Fork, sand and gravel mining operations are present. The mining of sand and gravel adjacent to area streams usually encounters groundwater during excavations. Following excavations and conclusion of the sand and gravel mining operation, the sand and gravel pits frequently remain inundated, creating an open water feature, as shown in the following graphic.



**Sand and Gravel Mining Operations in Lewisville Lake Watershed near the City of Krugerville
(Image obtained from Google Earth™)**



CHAPTER THREE: PLANNING PROCESS



CHAPTER THREE: PLANNING PROCESS

OVERVIEW OF THE PLANNING PROCESS

The planning process in developing the Greenbelt Plan consisted of identifying existing stakeholders, interviewing and participating in stakeholder information gathering events, data collection of existing and proposed parks, trail, and greenspace assets within Denton County, analysis of the collected data, and finally summarizing the stakeholder input and collected data into a cohesive planning document. The following details the planning efforts performed and the information derived from the planning events.

STAKEHOLDERS AND INTERESTED PARTIES TO THE PLANNING EFFORT

MUNICIPAL AND COUNTY STAKEHOLDERS

There are 45 municipalities either located wholly within Denton County or portions of their corporate limits lie within the county. In addition to the 45 municipalities, there are several existing and planned master-planned communities located in unincorporated areas of Denton County (e.g. Lantana, Savannah, Castle Hills, Artesia and Union Park). Representatives from these various entities were invited to participate in the stakeholder sessions. Their input is necessary to develop “buy-in” for the recommendations outlined in this planning document. Furthermore, these entities represent the owners of a majority of the existing and proposed park and trail assets within Denton County. These individuals also recognize the challenges they face in preserving their Greenbelt assets, and in planning for future park and trail features.



“It should be noted and recognized that each of these municipalities and master-planned community has its own identity. Accordingly, each municipality or master-planned community maintains its own planning efforts for parks, trails, and greenspace. This plan is not intended to supplant those planning efforts but to allow for an opportunity for those planning efforts to cross corporate limits for the benefit of Denton County.”

Further, a major component of this planning effort was to identify resources worthy of preservation on a county-wide scale and to prioritize those resources and the watersheds they encompass for preservation consideration. With the resources identified and prioritized, planners will have the information available for consideration of those assets for Greenbelt connections, and future park, recreation, and greenspace planning efforts.

NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

The North Central Texas Council of Governments (NCTCOG) is a leader in regional planning efforts for the Dallas-Fort Worth Metroplex, which includes Denton County. Portions of these planning efforts include environmental and transportation concerns. As an example, the NCTCOG prepared the Regional Ecosystem Framework (REF) including an interactive website¹² shown in Figure 3. This website is a tool to assist its users in the identification of areas suitable for green infrastructure, areas with high ecosystem values, and areas with aquatic resource considerations. The REF was used to previously “greenprint”¹³ a portion of the Lewisville Lake watershed specifically the Stewart Creek, Cottonwood Creek, and Panther Creek sub-watersheds.¹⁴ The purpose for the greenprinting effort was to identify areas that if left undeveloped would offer significant water quality protection benefits. The outcome from the greenprinting effort generated the map illustrated in Figure 4 on the following page.

For transportation concerns, the NCTCOG has also developed the Draft 2040 Regional Veloweb and On-Street Bicycle Network, illustrated in Figure 5, located on page 50.

NCTCOG also administers an informational program on best management practices (BMPs) for stormwater controls. This program is known as Integrated Stormwater Management¹⁵ or iSWM™. The iSWM program is

12. www.nctcog.org/ref

13. Greenprint is a term developed by the Trust for Public Land to identify areas for conservation.

14. NCTCOG Water Quality Protection Greenprint: Lake Arlington Watershed and Lewisville Lake East Watershed Project Report. Trust for Public Land. July 1, 2011.

15. Information on iSWM can be found on the North Central Texas Council of Government’s website www.nctcog.org

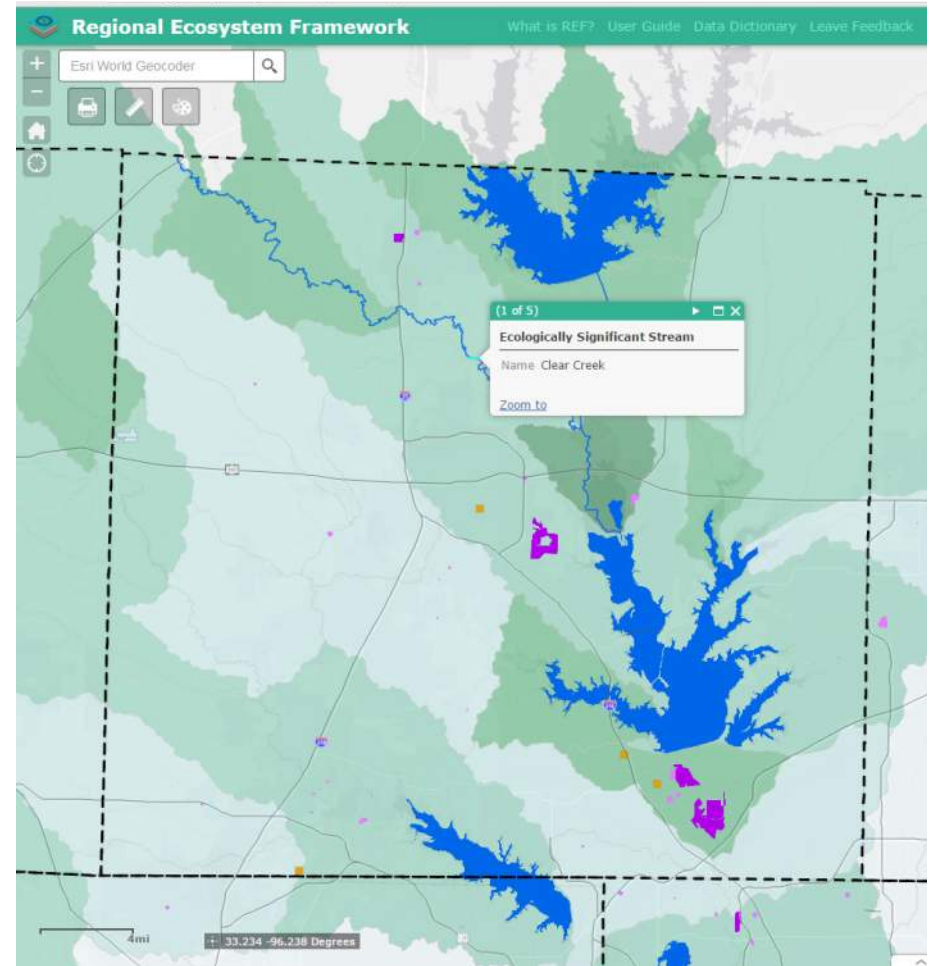


Figure 3: Regional Ecosystem Framework Web-based Tool for Assets Within Denton County

The NCTCOG is an invaluable partner for regional planning efforts and a valid voice for the Greenbelt planning effort for Denton County.

NCTCOG Water Quality Protection Greenprint

Lewisville Lake East Watershed

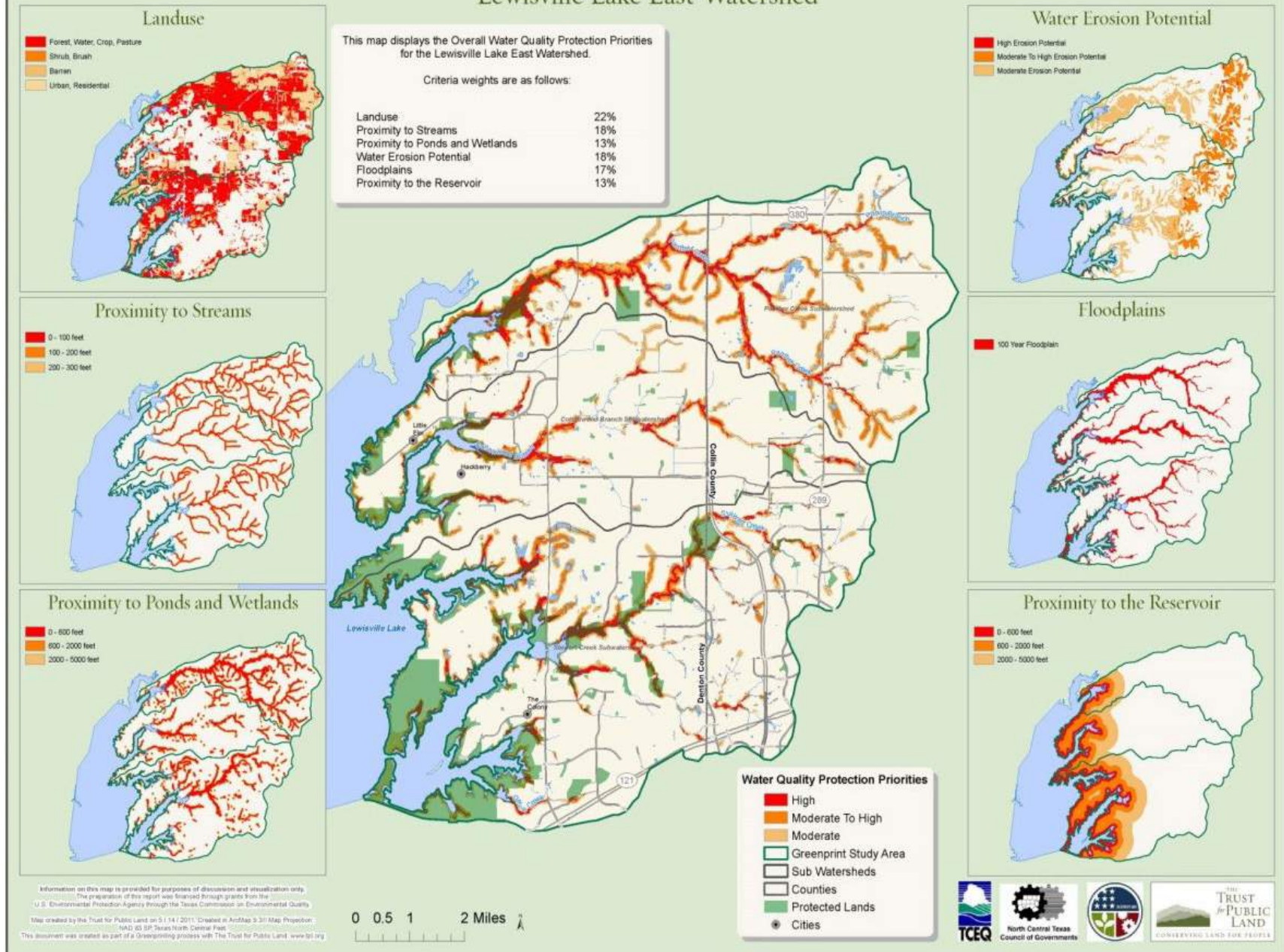


Figure 4: Lewisville Lake East Watershed Greenprinting Effort

a cooperative initiative of over 60 local governments within the NCTCOG's sixteen county region with the objective of achieving their goals for water quality, streambank protection, and flood mitigation, while meeting construction and post-construction stormwater obligations under state stormwater permits.

The program is designed to assist towns, cities and counties with the implementation of their own stormwater management programs. The benefits afforded to a municipality's residents, businesses, and property owners from the adoption of the iSWM program are as follows:

- iSWM designs emphasize open space development and preservation of natural features that create livable communities,
- iSWM designs reduce flooding potentials which, in turn, save lives and damages to property,
- iSWM designs reduce erosion potentials which, in turn, reduces damages to property and property values, and
- iSWM designs provide developers with a toolbox of stormwater controls, technical standards, and methodologies that can be applied across the DFW Metro-area as a whole.

Local governments can also benefit from the adoption of iSWM by:

- Reducing operation and maintenance costs through the protection of natural systems,
- Providing consistent stormwater approaches across jurisdictions with shared watersheds, which provide more effective stormwater management,
- Preserving natural features and assets that create more sustainable and more desirable communities over time,
- Providing a customizable program to meet a City's or County's unique needs,
- Achieving credits toward a lower FEMA Community Rating System rating, and
- Satisfying Municipal Separate Storm Sewer System (MS4) Permitting requirements.



iSWM is designed to assist towns, cities and counties with the implementation of their own stormwater management program.

Protecting and preserving greenspace and natural systems, specifically green space and natural systems adjacent to area waterways or Greenbelts, are primary objectives of iSWM.

The iSWM Program, specifically the stormwater control BMPs for site development as outlined in the iSWM design manual, were used as the basis for a study of the Hickory Creek Watershed by the City of Denton.¹⁶ This study was performed to identify actions that could reduce pollutant loads to the Hickory Creek arm of Lewisville Lake and improve water quality in advance of continued urbanization. Key conclusions identified in the study included:

- BMP implementation can provide significant loading (sediment and nutrient) reductions,
- BMPs can be effectively implemented in new developments and retrofitted into existing developments, open spaces, and drainage systems, and
- BMP implementation is best integrated into site planning at an early stage, especially in conjunction with other utilities.

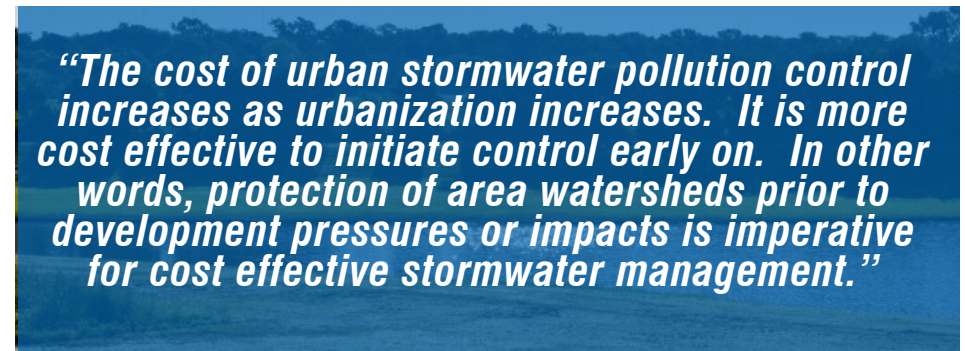
As a follow up to the Hickory Creek Watershed Protection Plan Study, an additional study¹⁷ was performed where nine BMPs were assessed for pollutant removal efficiencies, life expectancies, and cost for implementation for three streams in Denton County: Hickory Creek, Doe Branch, and Stewart Creek.

16. Report for Task 2, Watershed Protection Plan, of the [Section 319 Nonpoint Source] Grant Entitled Control of Nonpoint Source Loads in the Hickory Creek Sub-basin of the Lake Lewisville Watershed as a Component of a Watershed-based Water Quality Trading Program. The City of Denton in cooperation with CH2MHill, Texas A&M University, and the University of North Texas. August 6, 2008.

17. Adapting the Hickory Creek Watershed Protection Plan for Use in Other Areas of the Lewisville Lake Watershed: the Doe Branch and Stewart Creek Sub-Watersheds prepared for the City of Denton, Upper Trinity Regional Water District, and North Texas Municipal Water District. Prepared by CH2MHill. April 3, 2012.

The nine BMPs assessed for watershed protection included:

- Grass Planting
- Grassed Waterways/Filter Strips
- Grade Stabilization Structures
- Detention Ponds
- Retention (Wet) Ponds
- Treatment Ponds
- Riparian Buffers
- Vegetated Swales/Strips
- Infiltration Basins



The iSWM program, in conjunction with the findings from the two watershed protection studies, compliments the purpose of this study: the establishment and protection of Greenbelts along the County’s streams, creeks, and Elm Fork of the Trinity River. Protection of riparian corridors are low cost and effective means for filtering pollutants such as sediment, nitrogen, and phosphorous from entering area waterways. **Of the nine BMPs assessed in the Hickory Creek Watershed Protection Plan Study, the lowest cost and longest useful life BMP was the protection of riparian buffers.** The protection of Greenbelts can provide low cost, effective means for water quality protection while serving a dual purpose for the preservation of natural assets and the provision for recreational opportunities.

UNITED STATES GOVERNMENT – U.S. ARMY CORPS OF ENGINEERS, U.S. FOREST SERVICE, AND NATURAL RESOURCES CONSERVATION SERVICE

The United States Government through the U.S. Army Corps of Engineers, is a major landowner in Denton County. Ray Roberts Lake, Lewisville Lake, and Grapevine Lake occupy nearly 118,904 acres¹⁸ or approximately 186 square miles, not all of which is located wholly within Denton County. Associated with these area lakes are acres of greenspace, improved and unimproved parks and recreation facilities, and wildlife management areas. The parks and recreation areas associated with the U.S. Army Corps of Engineers' lakes are invaluable assets for the citizens of Denton County, including visitors from neighboring counties. Accordingly, the U.S. Army Corps of Engineers should be a voice in the planning efforts for greenspace preservation in Denton County.

In addition to the U.S. Army Corps of Engineers' lakes, the U.S. Forest Service manages the Lyndon B. Johnson (LBJ) National Grasslands, which are located in neighboring Wise County (immediately west of Denton County). The LBJ unit is comprised of more than 20,250¹⁹ acres and is a great asset for outdoor recreation opportunities. Stream segments within Denton County have the opportunity to connect residents of Denton County to the LBJ Unit of the National Grasslands located near the City of Decatur.

The Natural Resources Conservation Service (NRCS) is another federal agency that is a stakeholder in the Greenbelt planning effort for Denton County. The NRCS provides America's farmers and ranchers with financial and technical assistance to voluntarily put conservation on the ground, which not only helps the environment but agricultural operations, as well. The NRCS provides funds and technical assistance through its conservation programs, landscape conservation and planning initiatives, easements, and technical tools and resources. The NRCS has specialists available to assist farmers or ranchers which include specialists in soil sciences, wetlands, forestry, wildlife, engineering, agronomists, and natural resources.

In Texas, the NRCS has funding available under the authority of the Wetlands Reserve Program, Grassland Reserve Program, and the Farm and Ranch Lands Protection Program for the acquisition of conservation easements to protect significant natural resources. The NRCS, through the Agricultural Conservation Easement Program, helps state and local governments and non-government organizations protect working agricultural lands and wetlands and limit non-agricultural uses of the land. Through the National Water Quality Initiative, the NRCS offers financial and technical assistance to farmers, ranchers, and forest landowners who are interested in improving water quality and aquatic habitats in priority watersheds with impaired streams. All of these programs through the NRCS have the ability to assist with the preservation of area streams, wetlands, agricultural, and ranch lands.



18. <http://www.swf-wc.usace.army.mil/cgi-bin/rcshtml.pl?page=Pertinent> accessed November 7, 2015.

19. http://www.fs.usda.gov/detail/texas/about-forest/districts/?cid=fswdev3_008440 accessed November 7, 2015.

TEXAS PARKS AND WILDLIFE DEPARTMENT

Texas Parks and Wildlife Department is another valuable partner for outdoor recreation facilities and opportunities in Denton County. Texas Parks and Wildlife Department administers and manages the Ray Roberts State Park, which is comprised of Isle du Bois Unit along the southeastern portion of the Lake, the Jordan Unit along the eastern portion, and the Johnson Branch Unit located along the northern portion of Ray Roberts Lake. TPWD also manages the day to day operation of the Ray Roberts Greenbelt, which follows the Elm Fork of the Trinity River from the Ray Roberts Dam to Lewisville Lake.

In addition to the TPWD managed park and recreation assets within Denton County, the TPWD administers the park and recreation grants program for the state. The park and recreation grants program offers financial assistance to communities to help fund and build new parks, trails, conserve natural resources, access to water bodies, develop educational programs for youth, and other programs. The TPWD grants program is designed to build access to outdoor experiences and encourages connection with nature that is vital to promoting conservation and environmental stewardship.

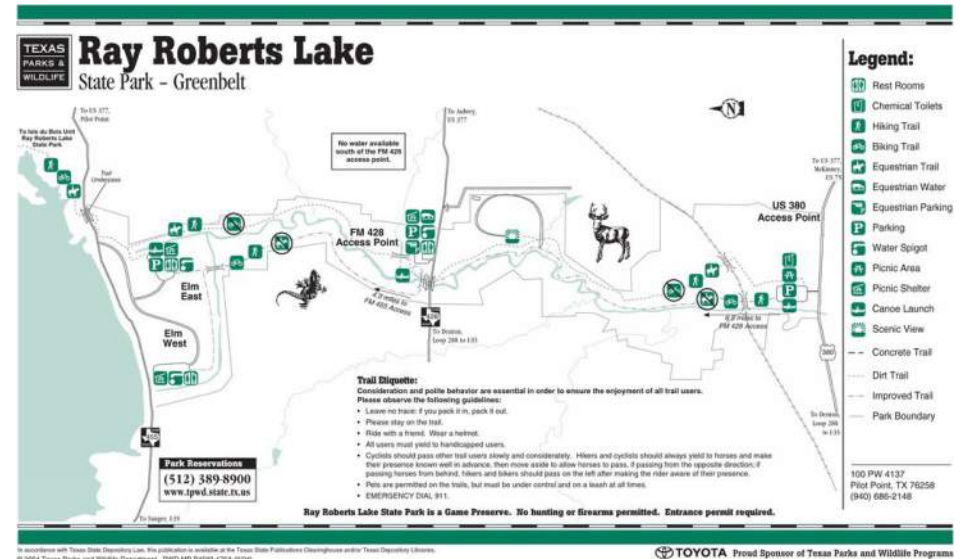
THE GREENBELT ALLIANCE OF DENTON COUNTY

The Greenbelt Alliance of Denton County²⁰ is a group of citizens in Denton County who are dedicated advocates for the Ray Roberts Greenbelt and trail system in Denton County. The Greenbelt Alliance provides funds and awareness for the Ray Roberts Greenbelt, as well as the Lake Ray Roberts Equestrian Trail Association. The Greenbelt Alliance sponsors and hosts an annual event at the Ray Roberts Greenbelt, known as Greenfest. This event celebrates “outdoor family fun” and is held on the last Saturday in September each year.

TEXAS A&M FOREST SERVICE

Although the Texas A&M Forest Service does not have state forest service managed lands within Denton County, the Texas A&M Forest Service employs foresters that provide excellent information for property owners, public and private, to help maintain land and natural resources to ensure forestlands remain productive and healthy for future generations. The

Texas A&M Forest Service foresters are not limited to rural Texas forests – they also employ urban foresters. These urban forestry specialists work with communities to plant, care for, and conserve trees within their respective jurisdictions.



One of Many Environmental Exhibits at Greenfest

20. <http://www.friendsoftheGreenbelt.org/#!who-we-are/c2zm> accessed December 30, 2015.

TEXAS DEPARTMENT OF TRANSPORTATION AND NORTH TEXAS TOLLWAY AUTHORITY

The Texas Department of Transportation (TxDOT) and the North Texas Tollway Authority are planning for the future transportation needs for the state, including Denton County. If provided with sufficient foresight, representatives from these organizations can incorporate Greenbelt planning into their proposed infrastructure. Furthermore, TxDOT, and to a lesser extent the North Texas Tollway Authority, are administrators of funding for transportation concerns. Projects awarded funding by the program typically go above and beyond standard transportation activities. Projects considered typically are integrated into the surrounding environment in a sensitive and creative manner that contributes to the livelihood of the community, promotes environmental quality, and enhances the roadway aesthetics. Trail networks within Greenbelts are prime examples of recipients for portions of those funding opportunities.

DENTON COUNTY SOIL AND WATER CONSERVATION DISTRICT

Established in 1941, the Denton County Soil and Water Conservation District (DCSWCD) is an entity consisting of a five member board elected by landowners within Denton County. The purpose of the DCSWCD is to promote land and water stewardship and landowner sustainability in the following areas:

- Conservation planning
- Conservation practices
- USDA (NRCS) programs
- Flood prevention
- Education and outreach
- Conservation awards

Every year, the DCSWCD honors deserving landowners in Denton County with an award for managing their land with sustainable agricultural principles. DCSWCD also manages 22 flood control structures within Denton County for the purpose of flood prevention.

TEXAS A&M AGRILIFE EXTENSION SERVICE

Texas A&M AgriLife Extension Service (AgriLife) is an outreach education agency with a statewide network of professional educators, trained volunteers, and County officials. The primary purpose for AgriLife is to disseminate information and expertise to the public on topics consisting of agricultural and natural resources, family and consumer sciences, 4-H youth development, and community economic development.

AgriLife maintains a vast array of publications that assist landowners with property management including nuisance and invasive species, crop and soilmanagement, riparian and stream corridor management, fisheries and pond management, and wildlife management, to name a few. In Denton County, the local AgriLife Extension Service office is located in Denton, Texas.

GENERAL PUBLIC AND SPECIAL INTEREST GROUPS

In the planning process, the citizens of Denton County play a key role as stakeholders in the Greenbelt planning effort. These are the principal users of the park, trail, and greenspace assets within Denton County. The citizens of Denton County also represent the major landowners within the County. Their wants and desires are valid and pertinent and should not be ignored.

Many representatives of the general public also participate and represent special interest groups. Groups such as the Texas Master Naturalist and Master Gardener chapters located in Denton County, the Cross Timbers Equestrian Trail Association, or Bike Denton are excellent examples of special interest groups that are advocates for greenspace in Denton County. These advocates have specific expertise and knowledge in general nature preservation, equestrian recreation opportunities, and cycling as examples. Obviously, there are many other special interest groups who recreate in the area's greenspace. These individuals will be the advocates for Greenbelt establishment and preservation within Denton County.

EXISTING ASSETS IN DENTON COUNTY

Within Denton County, there are over 150 public parks, public open space, and nature preserves that are greater than 10-acres in size. The surface area these parks occupy total approximately 25,000 acres or nearly 40 square miles. The majority of these parks and greenspace areas surround the U.S. Army Corps of Engineers' reservoirs, areas such as Ray Roberts State Park, Lake Lewisville Environmental Learning Area (LLELA), Lewisville Independent School District's Outdoor Learning Area (LISDOLA), and the numerous municipal parks and open space along Lewisville Lake and Grapevine Lake. Municipalities within Denton County also have larger parks within their jurisdiction, which are away from U.S. Army Corps of Engineers' lakes. Examples include the City of Denton's North and South Lakes Parks and the City of Lewisville's Railroad Park.

Parks along Lake Ray Roberts are managed by the Texas Parks and Wildlife Department and offer many nature based opportunities through the conservation of Greenbelts and open space, which include camping, 20 plus miles of multi-use trails, equestrian trails, geocaching, swimming, paddling, fishing, nature watching, and a marina. LLELA is an environmental preservation area managed by the University of North Texas and offers recreational activities that are compatible with their mission to preserve, protect, and restore degraded ecosystems, communities, and native biodiversity. Activities at LLELA include hiking, birding, wildlife viewing, fishing, paddling, camping, picnicking, and guided educational opportunities.

Additionally, there are approximately 650 miles of trails within Denton County and another approximately 550 miles of proposed trails that the planning team identified. In addition to the 20 plus miles of trails associated with the Ray Roberts Greenbelt, the City of Denton's approximately nine mile Denton Branch Rail Trail is another excellent example of existing trail assets within Denton County.

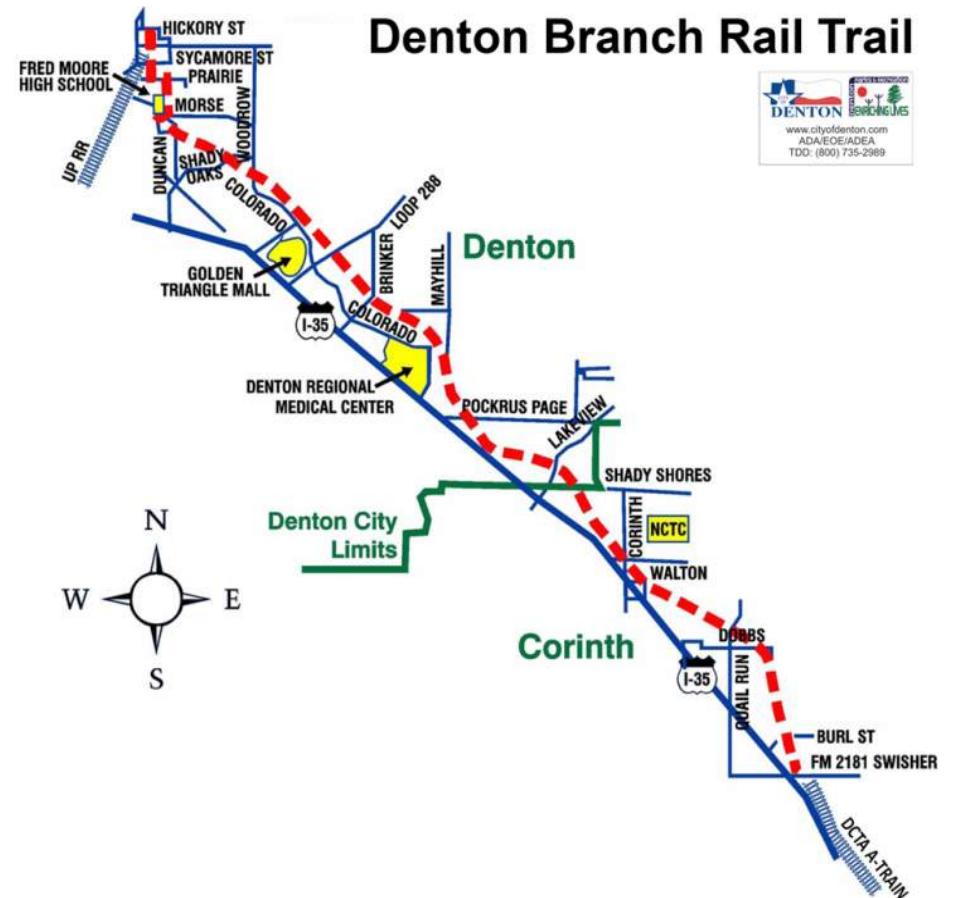
Denton County cities have numerous park and recreational assets; however, a majority of those park and recreational assets are only within city limits. In other words, the trails and greenspace within the



City of Lewisville Railroad Park

County are fragmented by city jurisdictions. An important goal of the Plan is to lessen fragmentation between cities and identify opportunities for Greenbelt connections – and eventually potential trail system connections.

Finally, a majority of Denton County is largely rural, especially in the northern and western limits of the County. This land is primarily used as rangeland, pasture land for livestock rearing, farming practices, or remains in a natural to naturalistic condition. Therefore, these unincorporated areas of Denton County have many acres of undeveloped greenspace, the majority of which do not have greenspace protection measures for eventual preservation. At this juncture, it is incumbent upon the landowners to be the stewards for sustainable greenspace and Greenbelt preservation on their property.



Denton Branch Rail Trail (Above)
Isle Du Bois Unit of Ray Roberts Lake State Park (Left)



“A goal of the Greenbelt Plan is to increase connectivity between cities and identify opportunities for Greenbelt connections.”

NEEDS IDENTIFICATION

Basic needs for Denton County (or any County), as it relates to Greenbelt preservation, include the following:

- Protect and preserve the County's water and other natural resources,
- Minimize the loss of greenspace/Greenbelt corridors to urbanization,
- Connect the various municipalities within Denton County with trail and Greenbelt networks,
- Alleviate user congestion and conflicts on existing trail and greenspace assets within the County; and
- Provide more recreational opportunities and improve the lives of County residents.

The planning team sought public participation by hosting public meetings, social media campaigns, a project specific website, on-line surveys, and face-to-face meetings with area citizens, stakeholders, and the development community. The results of the public participation efforts are as follows.

PUBLIC PARTICIPATION

Gathering information from area stakeholders was designed to be a multi-faceted approach that included in-person input sessions, one-on-one interviews, surveys, and a social media campaign. To get the word out about participation opportunities, the planning team took advantage of area events, such as being present at the Upper Trinity Regional Water District's member breakfast, as well as operating a booth at Greenfest 2015. Post cards, posters, and flyers were also developed to help circulate the message amongst the Denton County constituency.



Information Pieces Developed for the Planning Effort Including the Logo Developed for the Plan.

INFORMATION GATHERING AND PUBLIC PARTICIPATION EVENTS

For the first information dissemination event, representatives from municipalities, regulatory agencies, developers, and citizens were invited to attend a meeting to discuss the Greenbelt Plan for Denton County. This session was held on July 29, 2015, and attendees were briefed on four aspects of the project where their feedback was documented and used in the planning process.

The format for the session was conversational, and the representatives attending the session rotated through a sequence of four informational stations. This allowed participants to have one-on-one conversations with the planning team. The stations consisted of following:

- Station 1 – Conceptual Project Logos and Tag lines
- Station 2 – Existing and Planned Parks, Trails, and Open Space
- Station 3 – Priority Areas for Greenbelt Planning in Denton County
- Station 4 – Opportunities and Constraints for Greenbelt Planning in Denton County

Station 1 – Prior to the stakeholder event, the planning team developed five logo and tag line options. The purpose of this was to create a logo and tag line that would be used as the Greenbelt plan is being implemented. During the event, stakeholders were allowed to vote and comment on the logos and tag lines in order to help develop an identifiable logo. It was explained to them that this logo must be simple, easily understood, and convey a message about the purpose of the Greenbelt plan. Out of the options shown, there was a general consensus from the participants with some minor modifications to the graphic and font sizes. The proposed tag lines generated additional comments. The steering committee ultimately selected “For the Future” as the tag line for the project. The final logo is located on the cover of this document.

Station 2 – Designed to gather input from participants regarding existing and planned parks, trails, and greenspace, Station 2 consisted of a map that identified proposed and existing trail and park features. The planning team utilized this station to identify the following information:



STATION 2 COMMENTS

- Planned parks or trails that are not represented on the map;
- Opportunities for partnerships between municipalities and agencies to connect trails and parks; and
- Understanding needs and hindrances.

This station generated excellent discussion and the following planning needs were identified:

- A result of the Greenbelt plan should be a county wide map that identified existing Greenbelts and trails. The map should identify differing types of trail use/surfaces and should clearly label city boundaries, major transportation routes, streams, and lakes. This plan should be incorporated into the County's Transportation Master Plan.
- More City to City communication and coordination needed on connectivity, planning, and mapping.
- Educate public users and private developers on the economic, social, and environmental benefits of Greenbelts and open space.
- Recommendations for land to be preserved for Greenbelts and open space. A set of guidelines and standards that municipalities could refer to for new developments.
- Recommendations for trail design standards that could be utilized by smaller communities within Denton County.

In addition to the adjacent listed planning needs, the participants identified some specified areas within the County that should be addressed:

- A multi-use trail on the toll bridge across Lewisville Lake.
- Add a paved multi-use trail through the large north/south Greenbelt between Ray Roberts Lake and Lewisville Lake.
- Analyze a trail scheme that connects via a loop: Denton, Corinth, Hickory Creek, Oak Point, and Little Elm with the north / south Greenbelt between Ray Roberts Lake and Lewisville Lake.
- Solutions are needed for the trail/Greenbelt/park user congestion and conflict common around Lewisville Lake and Grapevine Lake, particularly on weekends and holidays.
- Provide more kayak opportunities.
- Provide more public art.
- Identify opportunities for incorporating destinations within the Greenbelts such as vistas, overlooks, exercise stations, and interpretive signage.
- Identify the need for and ways to control invasive species.

Station 3 – Illustrated potential priority areas within Denton County. The intent of this station was to begin to layer the human element onto a Geographic Information Systems (GIS) generated map that identified priority stream and Greenbelt segments. It also provided an opportunity to identify and discuss specific obstacles and opportunities that participants were aware of in regards to open space preservation.

STATION 3 COMMENTS

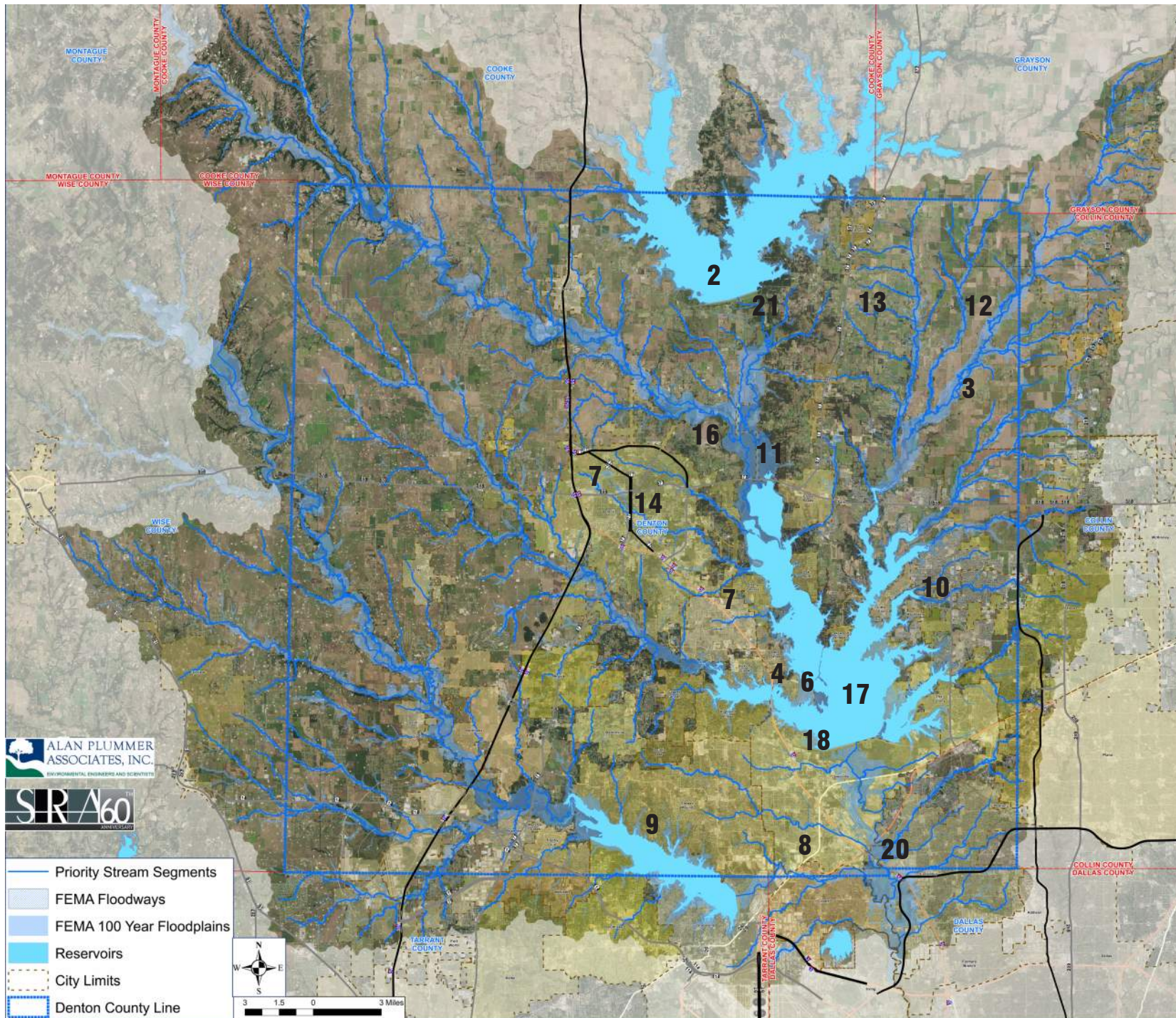
- The municipalities and agencies would benefit from one voice, especially when coordinating trails and Greenbelts within U.S. Army Corps of Engineers' lands.
- Look at planning efforts west of Flower Mound that promoted low water usage, minimal to no fertilization, cooperative grazing and cluster development.

Map Reference Comments (commenters placed a marker on the map):

1. Sycamore Park and Elm Creek Trail, lake access is governed by the U.S. Army Corps of Engineers. Need an access easement for parking and maintenance.
2. This area has multiple owners: Dallas, Denton, TPWD, USACE, and Lake Ray Roberts.
3. There is an outer transportation loop planned in this area that will require 500 feet of right of way. This will impact open space and Greenbelts.
4. Arrowhead Park, there is a bridge needed to connect Hickory Creek and DCTRA. There is a trailhead.
5. The Katy Trail along the rail needs to be shown.
6. West Lake Park along Hickory Creek has been obtained from the U.S. Army Corps of Engineers. The area is green and natural.
7. North Lakes Park 350 acres. South Lakes Park 190 acres. In Denton, there is untouched prairie along prairie trail. There is a 2,900 acre at Clear Creek Heritage – it consists of green bottom land.
8. There are multi-use Greenbelt trails in this area along a utility corridor.
9. This is a highly used trail on U.S. Army Corps of Engineers' property.
10. Union Park is an active space that has been clear cut. Future phases are planned along the floodplain. McCord Park is more natural. Municipality is working on a lease along Doe Branch.

11. Open space with the intent of preserving fresh water supply diversion.
12. Toll roads proposed along the county line that will cross over into Denton County. Currently, the majority of the property is owned by Tally Ranch. This road will cross identified priority streams.
13. There is a need to educate developers about the benefits of open space and Greenbelt preservations.
14. The City of Denton has an ordinance that limits development within sensitive areas. The Watershed Manager can supply more information.
15. This area has a creek ordinance draft and an update to the trail and open space plan.
16. Park acquisition is in process along Clear Creek. Keep Sanger Beautiful promotes preservation. Identify Ranger Branch as an area for preservation.
17. Lewisville Lake, look at all the areas around the reservoirs – they are all important. Facilitate partnerships amongst land owners.
18. LLELA – Lewisville Lake Environmental Learning Area. This area consists of green habitat, wetlands and healthy upland grasslands. The bird population is in decline. Water quality improvement and protection needs to be addressed.
19. Hickory Creek has a watershed plan. They are willing to partner with adjacent stakeholders.
20. Lewisville ISD Outdoor Learning Center (LISDOLA) Trails, Environmental learning area that has served over 10,000 kids. Pets are not allowed in this area.
21. Ray Roberts Greenbelt – 10 miles of gravel trail, 10 miles of equestrian trails. Trails connect to Isle du Bois. Includes signage, programming, kayaking on river. Owned by USACE, leased to TPWD. Project is funded by the Greenbelt Alliance. Working on keeping up with removal of invasive species.
22. Identify remnants of native Cross Timbers Prairies.

STATION 3 PRIORITY AREAS



Station 4 – The intent of this station was to identify opportunities and constraints for the plan. Large post-it boards and markers allowed moderators to catalogue the comments. This station generated a generous amount of feedback. Comments that are not already identified in the previous station write-ups are listed below:



Opportunities:

- This planning effort needs to be a grassroots effort to promote and educate about preservation through a marketing campaign. It should sell conservation and improved quality of life. Education should be multi-faceted and be geared towards citizens, agencies, developers, and policy makers and protect rural heritage of smaller communities.
- Denton County would benefit from a holistic view and set of rules for all municipalities to use for Greenbelt development is needed.
- Promote conservation easement and open space/Greenbelt dedication and provide incentives.
- Show research for monetary value of Greenbelts: increase property values, reduce stormwater infrastructure cost by decreased run-off, decrease municipal water supply treatment infrastructure and reservoirs due to improved water supply and quality, increase economic development through environmental and recreation activities.
- Show local examples of conservation developments and ordinances. Promote iSWM as a tool
- Greenbelts should be treated as a capital program, i.e. transportation, stormwater. Use programs in place and include as an added value.
- Provide green space perspective from urban folks versus rural folks.
- Cure for nature deficit disorder.
- General populace of county lacking education.
- Provide mitigation funds for development portion of Greenbelts.

Constraints:

- Hard to quantify the benefits of Greenbelts.
- Education about the benefits is lacking.
- Tough to appreciate green space until it is gone.
- Maintenance money is limited.
- Public demand for Greenbelt and open space preservation is high but implementation tools are lacking.
- TxDOT connectivity
- Provisions need to be in place for Greenbelt corridors.
- Crossings of roads need to be planned way in advance.
- There is no incentive for conservation easements.
- Municipalities can be viewed as anti-development if strong ordinances to preserve and protect are in play.
- U.S. Army Corps of Engineers' coordination and access slows the process down.

Stakeholder participation at the first information event was productive, but most input was received from municipal representatives, and federal, state, and local agencies. In order to reach out to the citizens of Denton County, the planning team attended a second stakeholder event – Greenfest. This event was held on Saturday, September 26, 2015. The planning team operated and manned a booth at this event with the intent of getting the word out about the Greenbelt plan, social media engagement opportunities, and to collect public input.

Greenfest is an annual festival hosted by the Greenbelt Alliance of Denton County. Although activities and informational booths are the primary focus of the event, Greenfest provides an opportunity for the promotion of

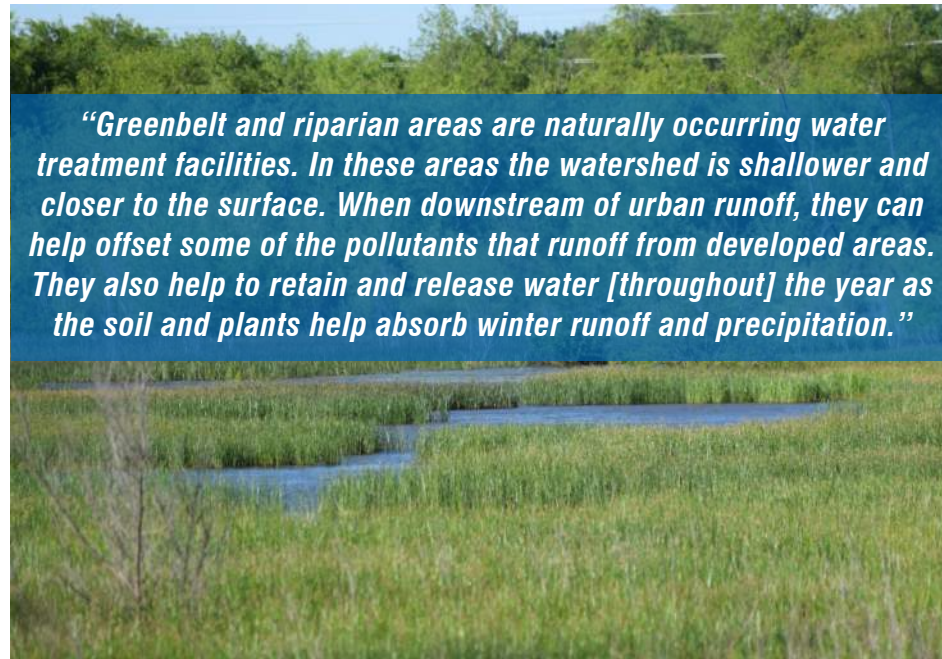
the Ray Roberts Greenbelt to residents of Denton County and attendees from the surrounding areas. Attendees were able to participate in a variety of outdoor activities at Ray Roberts Lake State Park where the festival was held, including kayaking on the Elm Fork and exploring the park's nature trails. Many of the participants that stopped by the booth were in favor of conservation easements and expressed a willingness to help support the Greenbelt planning effort. Our team used these conversations as opportunities to educate and spread the message for Greenbelt preservation. Participants were invited to join the conversation through social media and were encouraged to invite their friends and family to participate.



SOCIAL MEDIA AND ELECTRONIC INFORMATION DISSEMINATION EFFORTS

For the Greenbelt Plan, social media efforts were employed to provide information to the general public. Site specific pages and “handles” were created on Facebook²¹ and Twitter²² respectively to share information about the project, as well as general information related to Greenbelt initiatives and environmental concerns. In addition to using Facebook and Twitter, a site specific web page was also created for the project, which was linked to the service- mySidewalk™. MySidewalk²³ specifically targets service areas, such as Denton County and surrounding areas. The idea was to target individuals within a specific region to empower those individuals to provide a voice to help planning groups can make informed decisions.

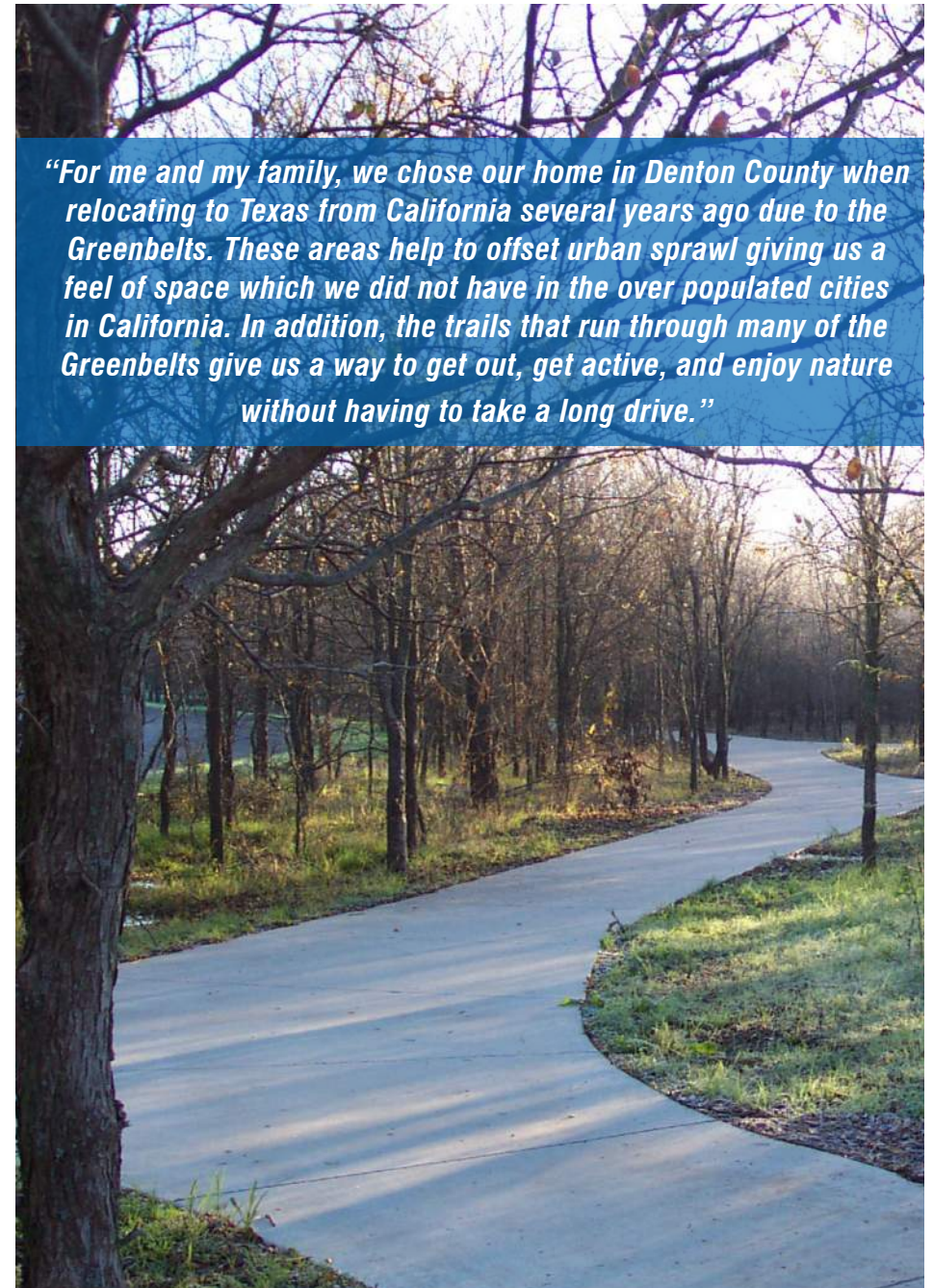
Numerous questions were raised on the Denton County Greenbelt Plan’s website, requesting feedback for planning efforts such as, “What, in your opinion, is a Greenbelt or riparian corridor?”



21. <https://www.facebook.com/UpperTrinityConservationTrust?ref=ts>

22. <https://twitter.com/UTCTrust>

23. <https://mysidewalk.com>



ON-LINE SURVEY

In order to gain more input from the citizens of Denton County, the planning team created an on-line survey and used social media and the mySidewalk website to request and receive input. The questions and responses are as follows:

Do you live in Denton County?

- 75 – Yes
- 7 – No

Have you visited the Ray Roberts Greenbelt between Lake Ray Roberts and Lake Lewisville?

- 65 – Yes
- 17 – No

Do you enjoy or recreate in any of the Greenbelts in the Dallas Fort Worth Metro-plex?

- 68 – Yes
- 14 – No.

Which of the following best describes your activity in Greenbelts? (Choose up to 3)

- 30 – Walker
 - 9 – Jogger
 - 58 – Nature Buff
 - 7 – Kayaking / Boating
 - 48 – Birdwatcher
 - 11 – Cyclist
 - 39 – Equestrian
 - 3 – Other
- § (Ray Roberts Greenbelt is next to our farm.)

Which of the following paths do you prefer within the Greenbelt? (Choose up to 2)

- 3 – No path
- 65 – Natural surface
- 45 – Concrete Surface
- 10 – Multi use 8' wide
- 1 – Other
- 6 – Single- Track
- 5 – Asphalt Surface
- 9 – Single use 4 feet wide surface
- 2 – Equestrian

What features would you like to see along a Greenbelt? (Choose 3)

- 17 – Parking
- 6 – Playgrounds
- 52 – Lighting
- 19 – Benches
- 51 – Picnic Tables
- 3 – Bird Blinds
- 2 - Other (§ Don't care what you put. Viewing areas off the main trail)
- 7 – Water Fountains
- 6 – Boat Access
- 22 – Trash Bins
- 51 – Informational / Educational Signage
- 2 – Exercise Equipment
- 18 – Trailheads

In your opinion, what are the 3 greatest benefits of Greenbelts?

- 17 – Protect Vegetation
- 20 - Protect Natural Water Systems
- 68 - Preserve Wildlife Habitat
- 18 - Access to Public Land
- 1 – Other (§ Wastes land that could be used for houses.)
- 8 – Preserve Agricultural Lands
- 58 - Preserve Recreational Opportunity
- 9 - Enhance Water Quality
- 46 - Provide Educational Opportunity

How far would you be willing to travel to use a Greenbelt?

- 1- Less than a mile
- 58 – 3 – 5 miles
- 2 – Do not intend to use a Greenbelt
- 5 – 1-3 miles
- 25 – Greater than 5 miles

How would you like to receive information about Greenbelts and Greenbelt Development in Denton County?

- 11 – Website
- 54 – Email
- 0 – Billboards
- 1 – Television Commercials
- 14 – Social Media
- 1 – Other

From the survey, the important take-a-ways were the following:

- **The majority of the responders reside in Denton County.**
- **The majority of the responders have visited and used area Greenbelt assets.**
- **The responders trend toward nature buffs, birdwatchers, and equestrian pursuits.**
- **The responders prefer to see either natural or concrete surfaces within their trail systems and are divided on trail widths (four or eight feet widths) and trail surfaces (natural and concrete).**
- **The responders prefer to see picnic tables, informational/educational signage, and lighting within their trail systems.**
- **The responders feel the greatest benefits of Greenbelts area the preservation of wildlife habitat, preservation of recreational opportunities, and the provision of educational opportunities.**
- **The responders are willing to travel to get to Greenbelts. The responders stated that they would be willing to travel anywhere from 3 to 5 miles and greater than 5 miles to get to Greenbelt facilities.**
- **The responders would prefer that information specific to Greenbelts be shared through e-mail notifications and, to a lesser extent, social media and websites.**

FACE-TO-FACE MEETINGS

The in-person input sessions identified a need to meet with local community developers and gain their thoughts in regards to preservation of open space and Greenbelts. Staff from the Upper Trinity Regional Water District met with representatives from four companies actively developing large tracts of land within Denton County. In general, developers did realize a benefit to providing Greenbelts, open space, and trails within a community. The questions and a condensed version of the response are below:

1. Have you worked to preserve Greenbelts in your projects? If so, would you say this contributed to the quality of the development? All four of the developers responded that they have worked to preserve Greenbelts. Often times, due to ordinances or federal requirements. If so, would you say this contributed to the quality of the development? In each case the developers reported that the Greenbelts are an amenity to the community whether they offer scenery or serve as a buffer. They did mention working with federal agencies and ordinances have caused financial and time constraints.

2. How do you view floodplains/Greenbelts within your projects? Asset or liability? They are viewed as an asset and liability.

3. If a floodplain affected one of your projects, have you incorporated multi-use features within the floodplain such as

- | | | | |
|------------------------|----|---------------------------|-----|
| a. Stormwater feature? | NR | b. hike/bike trails? | Yes |
| c. Utility corridors? | NR | d. Left in natural state? | Yes |
| e. Developed within? | NR | f. Pocket parks? | Yes |
| g. Other? | | | |

Could you elaborate on the feature you included? Trails and open space were common elements identified.

“One of the interesting take-a-ways from the survey was that responders did not perceive water quality enhancement as a major benefit provided by Greenbelts.”

4. Do you see an increase or decrease in property values for parcels that are located in close proximity to a Greenbelt/park/natural area?

One developer said they did see an increase and the others weren't sure if they did or did not.

5. Does market indicate need for more open space/native areas?

Several did market research that indicated trails and open space were one of the higher desired elements in a planned community.

6. What challenges have you faced in developments that have creeks and Greenbelts in them? How have you handled these challenges?

Working within federal guidelines was difficult and a slow process.

7. If an award was given to projects that support land conservation, specifically Greenbelts, would you use that award in your marketing materials? Yes

8. Would you be interested in preserving Greenbelts if they served as an amenity to your community and could increase the value of individual lots? Yes

9. What is your opinion(s) on conservation easements? Would you be willing to set aside land, typically undevelopable land, into a conservation easement? Yes

10. Would you be willing to publicly support a Comprehensive Greenbelt Plan for Denton County? Yes



From the face-to-face meetings, the important takeaway items were, developers do recognize Greenbelts as asset that can increase the value of a development and it would be beneficial if federal guidelines did not slow down the process.



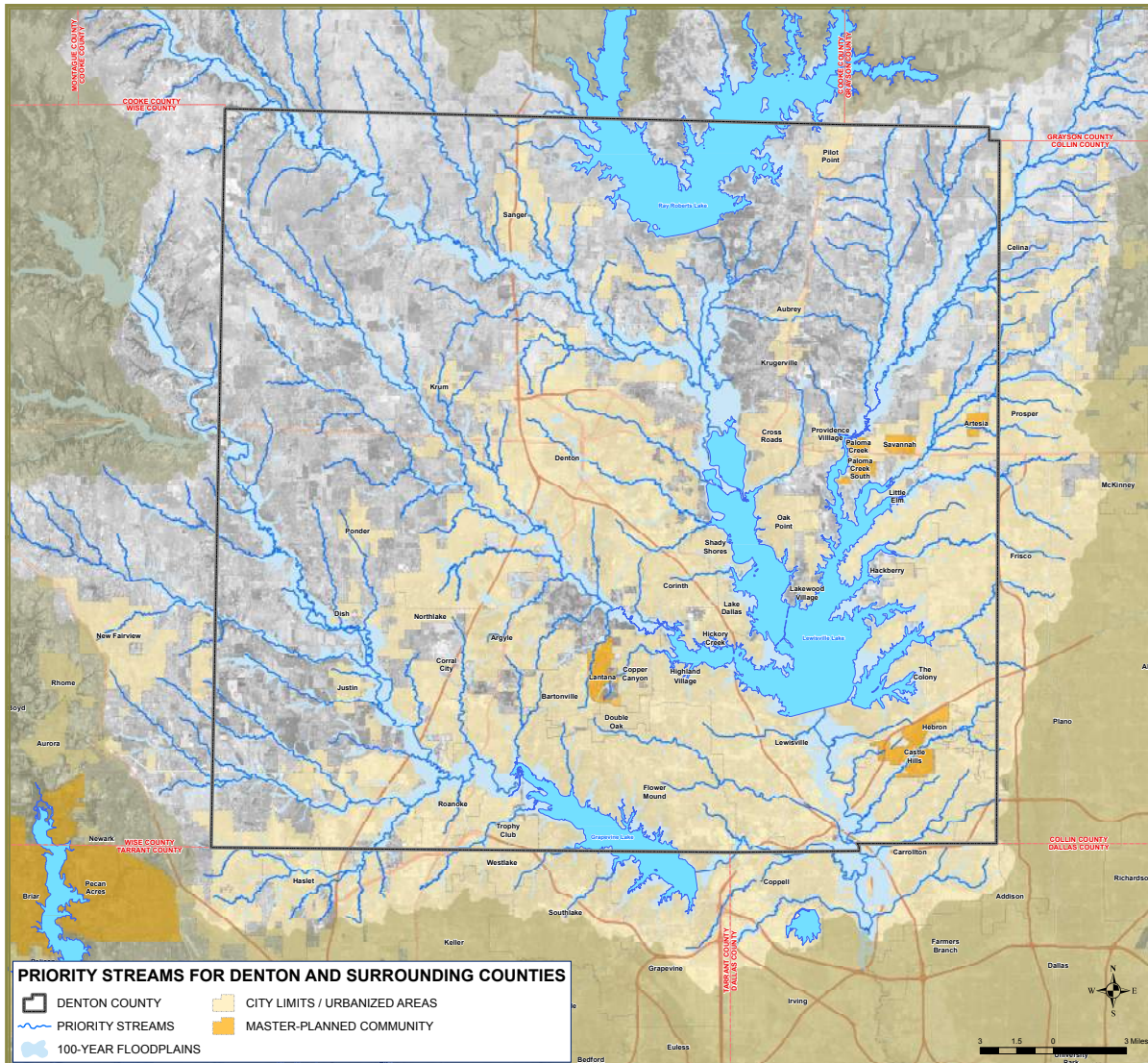
CHAPTER FOUR: GREENBELT PLAN





CHAPTER FOUR: GREENBELT PLAN

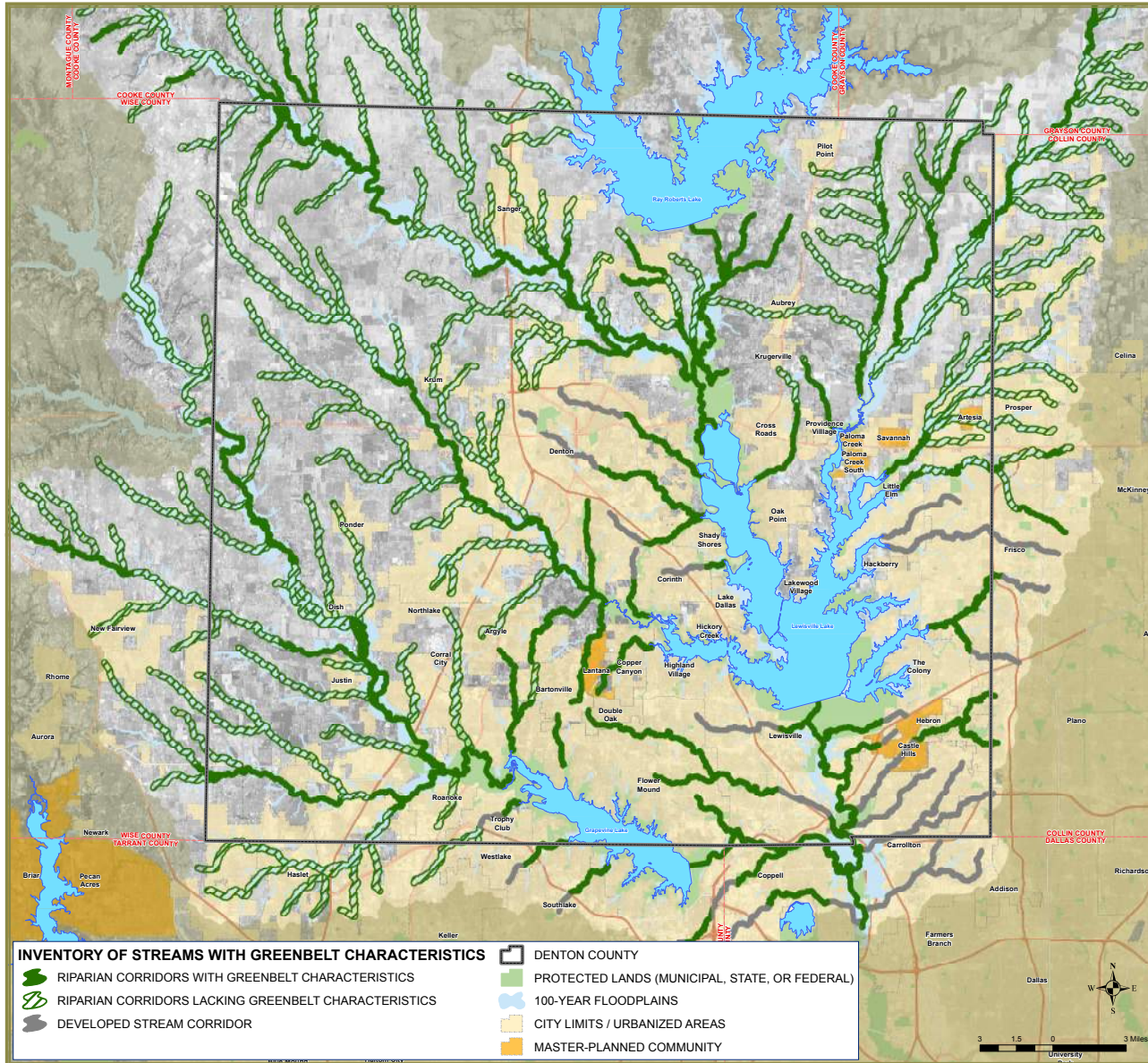
Since the planning effort encompasses all of Denton County, a screening process was necessary to capture highly functioning stream corridors at a regional scale. The screening process consisted of a four part 'yes or no' questionnaire. Specific criteria for the identification of highly functioning streams are summarized in a technical memorandum included in Appendix A. Figure 6 displays the priority streams within Denton County following the screening process.



The planning team acknowledges that there may be less extensive, higher functioning Greenbelts that have been excluded from the planning effort. Those smaller, highly functioning Greenbelts should be considered on the municipal or developer scale.

Figure 6: Priority Streams

With the priority streams identified, an inventory was performed to determine whether or not each riparian corridor had sufficient vegetation, referred to as greenbelt characteristics herein, to qualify as a Greenbelt (see sidebar). This inventory examines the current extent of greenbelt corridors in the County. Riparian corridors that lack greenbelt characteristics can be preserved and allow vegetation to return naturally or by replanting. Developed stream corridors are present in the more urbanized portions of the County that lack vegetation and/or are encroached upon by development in the riparian corridor. If the priority stream was manipulated by anthropogenic activities (e.g. concrete lined channel), those streams were also inventoried as developed stream corridors. Figure 7 represents the greenbelt inventory for the priority streams.



Greenbelt Characteristics

Streams with qualifying Greenbelt characteristics are defined as woody vegetation (trees and shrubs) occupying greater than 50% of the selected riparian corridor.

Streams lacking qualifying Greenbelt characteristics are defined as corridors with less than 50% woody vegetation. Within Denton County, these areas were mostly either pastureland, farmland, fallow fields consisting mostly of herbaceous vegetation, or urbanizing and urban areas with limited woody riparian vegetation.

Developed stream corridors are streams flanked by development, whether it be residential or commercial, that have minimal vegetative coverage.

Figure 7: Greenbelt Inventory

Following the inventory of greenbelt characteristics for the priority streams, an analysis was performed to identify which priority streams were already offered some form of protection, whether it be from ordinance protections, already located in protected lands (state, federal, or municipal parklands), or by some other means. Figure 8 represents the undeveloped and developed stream corridors that are offered some form of protection. As the Figure illustrates, the majority of the greenbelts associated with the priority streams within Denton County currently do not have a protection mechanism in place.

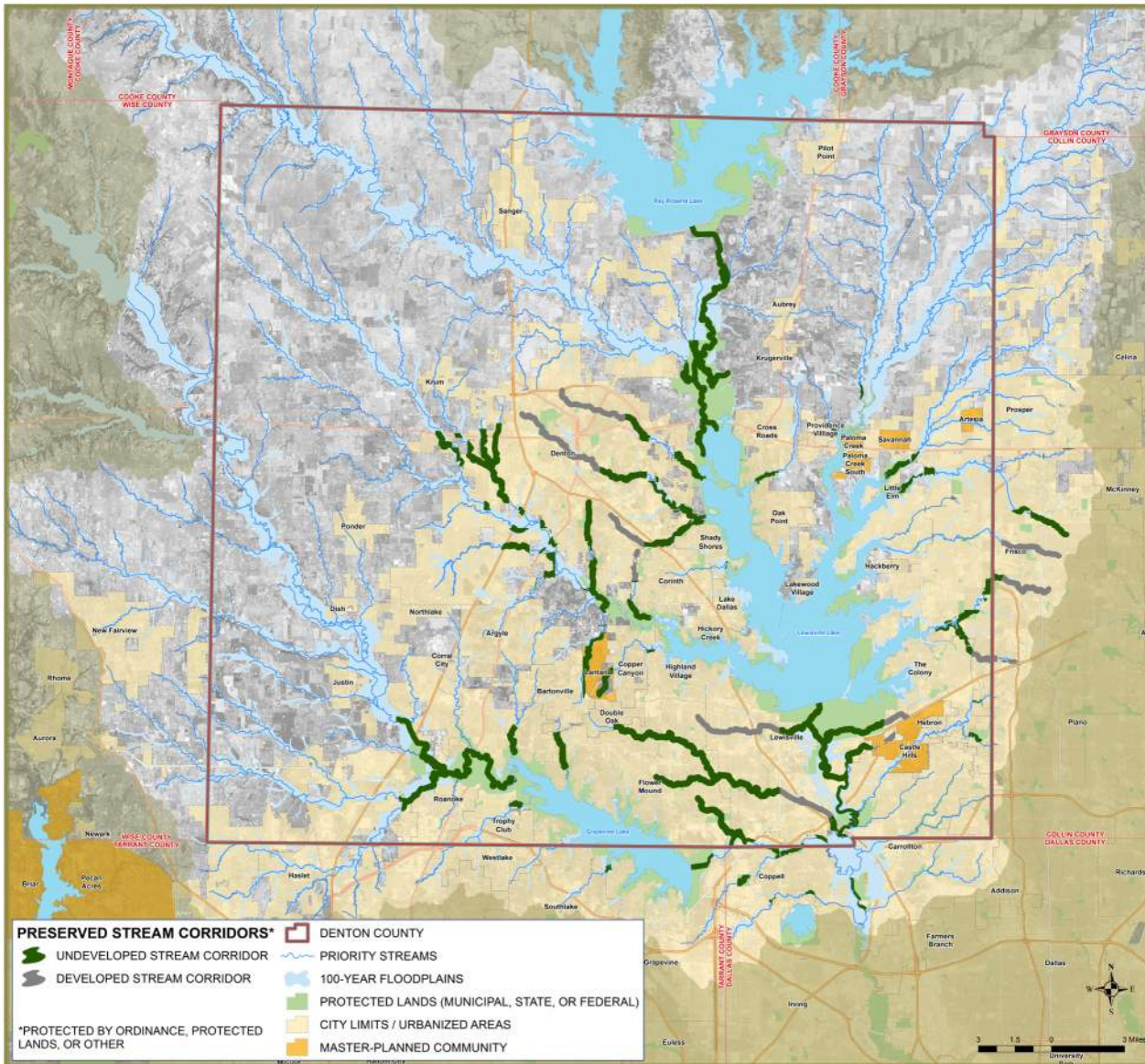


Figure 8: Preserved Greenbelt Corridors

Preserved Greenbelt Corridors

Within Denton County, there are a limited number of stream corridors that display qualifying Greenbelt characteristics where the vegetation supporting these corridors is offered protection. These protections are in the form of ordinances associated with the Town of Flower Mound and the Cities of Denton and Lewisville. The Cities of Frisco and Highland Village provide design standards within their jurisdiction that require developmental set-backs from streams. The master-planned community of Lantana also offers protections to streams within the limits of the community.

In addition to ordinance protections, numerous stream segments are preserved by municipal, state, and federal owned lands. As shown, these are the linear and regional municipal parks, and state and federal owned parks and recreation facilities. For graphical purposes, only parks and protected lands greater than

The inventory was analyzed further to prioritize areas for Greenbelt preservation opportunities, those corridors were subdivided into primary and secondary opportunities. Limited opportunity greenbelt corridors are comprised of streams and their associated greenbelts previously impacted by development activities. Figure 9 shows the primary, secondary, and limited greenbelt opportunity stream corridors. Figure 9 also shows the streams already offered protection by ordinance or other means.

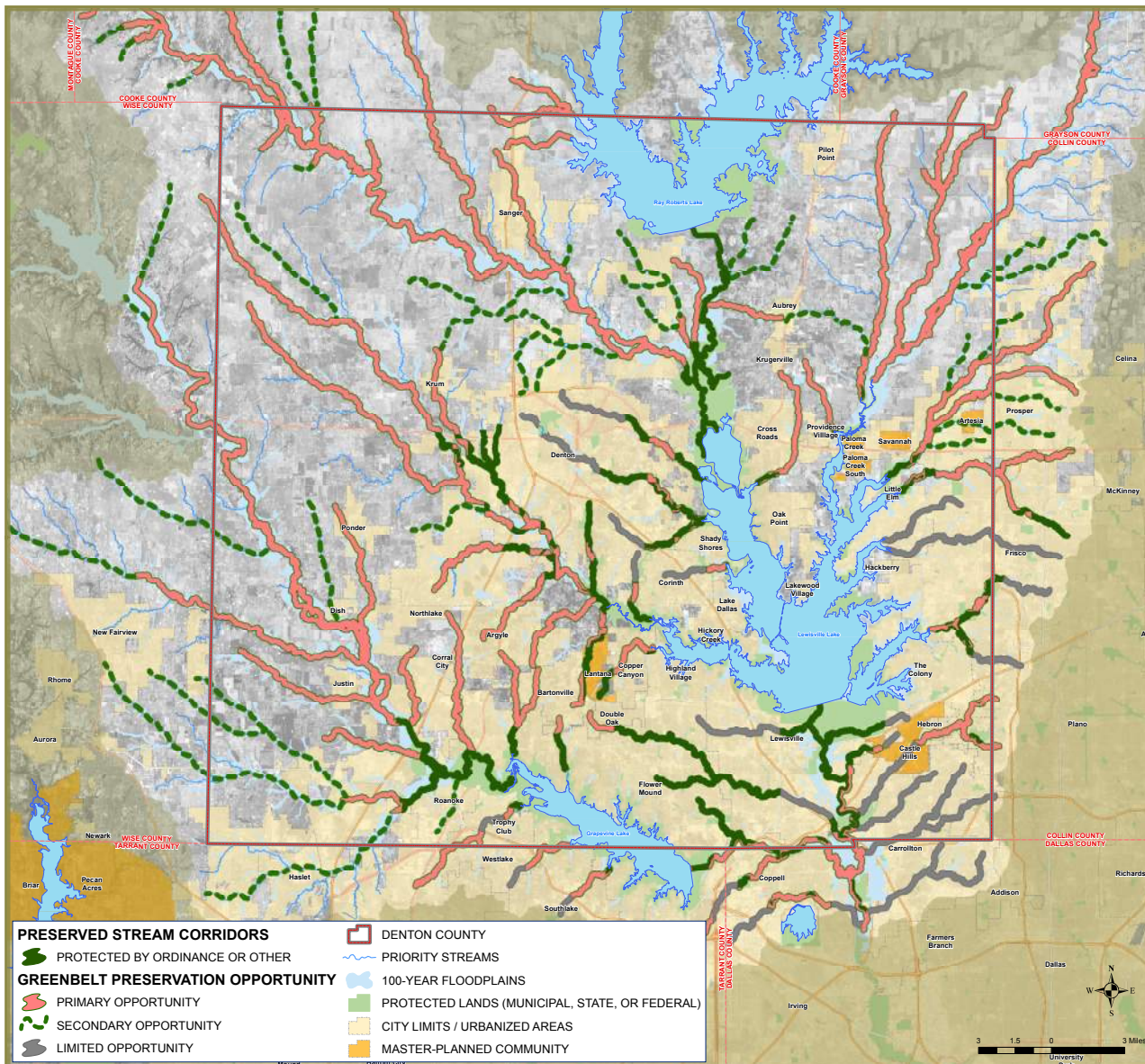


Figure 9: Greenbelt Preservation Opportunities

Primary Greenbelt Preservation Opportunity-

- Stream corridors that meet the following criteria:
- Direct connection to a reservoir within Denton County,
 - Major stream,
 - Located with a municipality's corporate limits within Denton County, or
 - Located within a designated high priority watershed

Primary Opportunity streams may or may not have Greenbelt characteristics, reference Figure 7 for streams with Greenbelt characteristics.

Secondary Greenbelt Preservation Opportunity-

Stream corridors not included as Primary Greenbelt Preservation Opportunity, but do provide a significant contribution to Primary Opportunity corridors. Secondary Opportunity streams may or may not contain streams with Greenbelt characteristics, similar to Primary Opportunities.

Limited Greenbelt Preservation Opportunity

Streams that are extensively developed corridors, and have minimal opportunity for Greenbelt Preservation.

Streams that consist of the less significant tributaries in the medium to low priority watersheds were not provided with a greenbelt opportunity identifier. If an opportunity is available to preserve lower priority streams, it should be considered.

Primary Greenbelt Opportunities consist of the major streams, significant tributaries to the major streams, or streams that could bridge two existing Greenbelts. Secondary Greenbelt Opportunities include the less significant streams, or streams that are not expected to face development pressure in the near future. Not all streams identified as priority were given an opportunity status. These streams include the less significant priority streams (limited watershed), their location within Denton County, and their likelihood of being impacted by urbanization. The purpose for excluding these streams is to allow for interested parties to concentrate on the Primary and Secondary Greenbelt Opportunities.

With the Greenbelts inventoried and streams identified for consideration, the priority streams were sub-divided by the corresponding 12-digit hydrologic unit code (HUC), which is essentially a sub-watershed for the stream systems associated with the Elm Fork system within Denton County and included areas immediately surrounding Denton County. With the streams sub-divided by their respective watershed, each stream and watershed was ranked for prioritization based on the following factor categories: hydrologic, ecologic, land use and cultural / historical.

- Hydrologic
- Ecologic
- Land Use
- Cultural/Historical

The planning team recognizes there are exceptions to every rule, ecologically significant stream segments, stream segments that provide opportunities to bridge watersheds, stream segments that provide exceptional habitat for plants and animals (i.e. critical habitat for threatened or endangered species), and culturally/historically significant stream segments should be considered. Stream segments that do not qualify based on the screening questionnaire yet provide a significant benefit and are threatened by development should be given immediate prioritization, even if they are not identified in this planning document.

According to the Texas Riparian Association, there are numerous benefits to healthy riparian areas and stream systems:

- **High quality habitat for both aquatic and riparian species.**
- **Dissipation of flood energy and reduced downstream flood intensity and frequency.**
- **Higher, longer-lasting and less variable baseflow between storm events.**
- **Deposition of sediment in the floodplain, stabilizing and maintaining downstream reservoir capacity longer.**
- **Debris and nutrient use and filtering in the floodplain to improve water quality and dissolved oxygen levels in the aquatic system.**
- **Riparian vegetation canopies to shade streams and reduce their temperatures, providing a food base for aquatic and riparian fauna.**
- **Fewer invasions of exotic undesirable riparian species.**
- **Higher biodiversity than terrestrial uplands.**
- **“Stabilized” banks, which reduce erosion and protect ownership boundaries.**
- **Increased economic value through wildlife, livestock, timber, and recreational enterprises.**
- **Improved rural land aesthetics and real estate values.²⁴**

24. <http://texasriparian.org/riparian-education-program/benefits-of-healthy-riparian-areas/> accessed December 17, 2015.

The specific criteria for the prioritization of the watersheds and streams are summarized in a technical memorandum included in Appendix A. The watershed and stream prioritization screening process is also on Figure 11.

In total, 41 sub-watershed were assessed and provided with a priority for preservation status ranging from high to low. Of the sub-watersheds assessed, 15 were ranked as high priority²⁵, 16 were ranked as medium priority, and 10 were ranked as low priority. As shown in Figure 10, the majority of the high priority watersheds are centered on Lewisville and Grapevine Lakes, which are then flanked by medium to low priority watersheds respectively as you progress away from those lakes. The main reason for this outcome is due to development and impending development occurring within those watersheds and the proximity of those watersheds to existing water supply reservoirs.

The ranking and prioritization summary results for all watersheds assessed are detailed in Table 1, reference Figure 12. For this planning effort, the prioritization rankings correspond to a timeframe for implementation. The planning team foresees the planning horizon associated with the prioritization rankings as follows:

- High – 1-10 years
- Medium – 10-20 years
- Low – 20 years

In other words, the planning team recognizes that significant development pressures will be realized within the ranked watersheds during the specified time horizons. Accordingly, the watersheds, specifically the identified streams within those watersheds, should be afforded some form of preservation measure, prior to development.

As mentioned, stream segments that met the criteria outlined herein were also provided with a priority for preservation status ranking ranging from high to low. These stream segments and their associated riparian corridors are the priority streams identified for Greenbelt dedication on a regional basis.²⁶

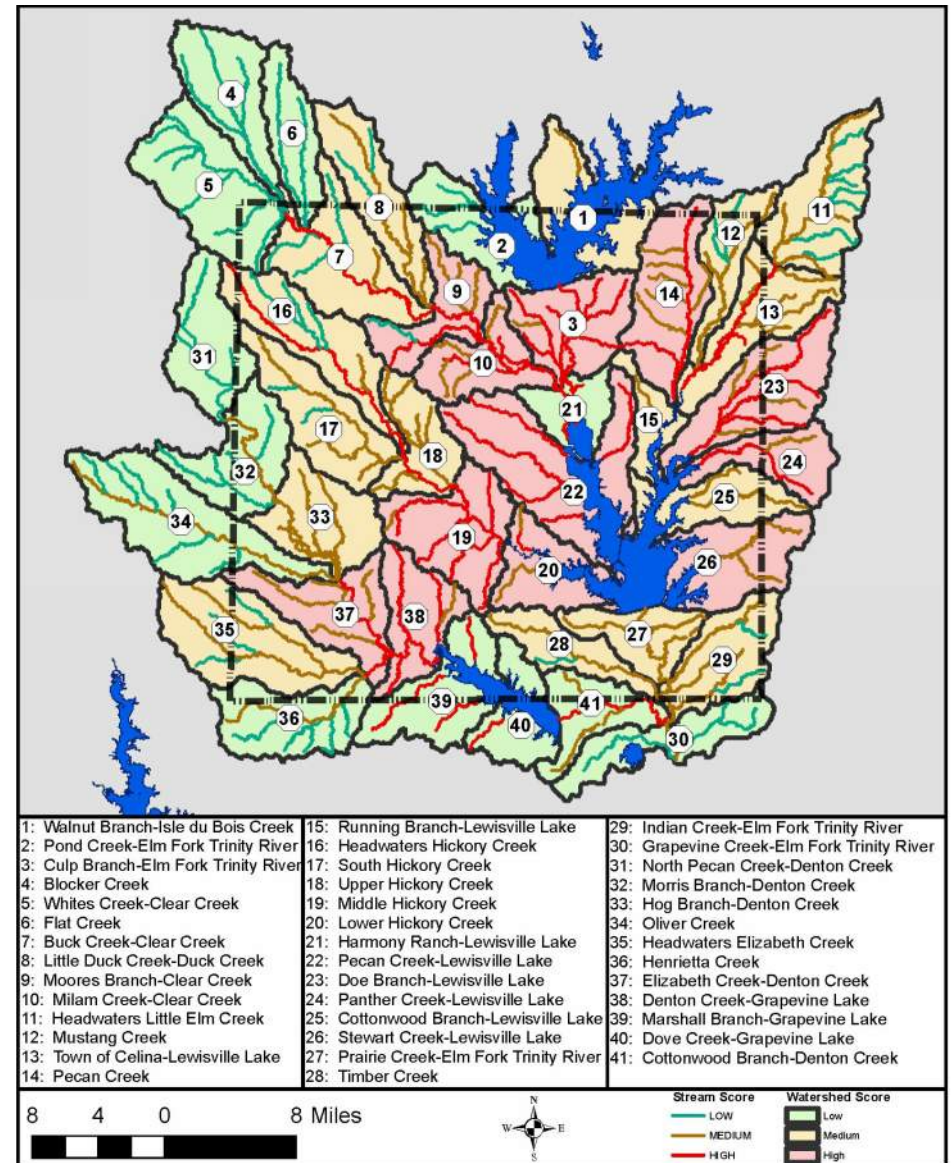


Figure 10: Stream and Watershed Preservation Prioritization Ranking

25. Four watersheds assessed for this planning effort will be reduced to low priority. The document explains the rationale for reducing the priority ranking.

26. This does not preclude highly functioning streams not identified in this planning document from being afforded preservation measures.

Screening Process

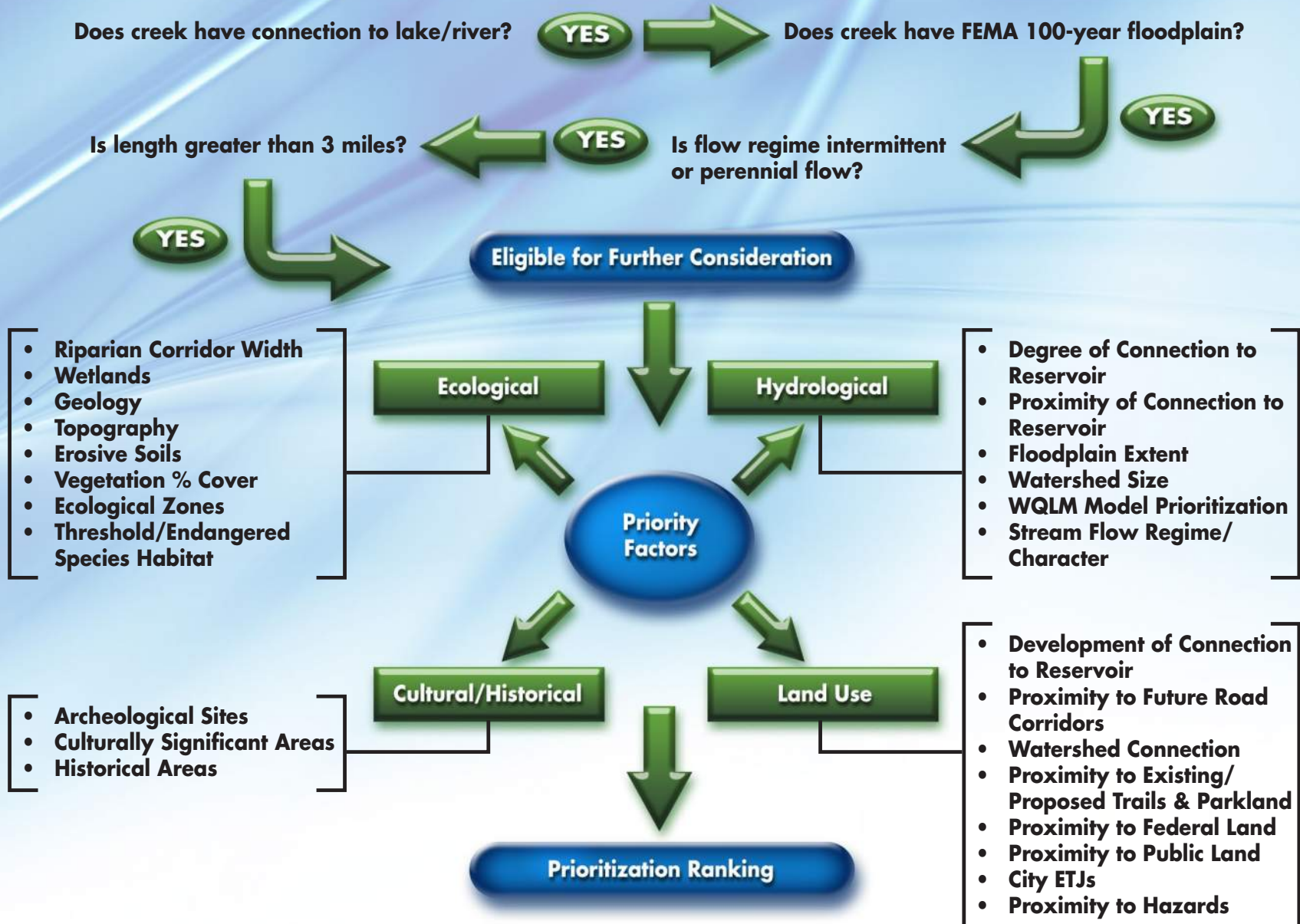


Figure 11- Screening Process

Table 1: Watershed Prioritization and Ranking

In total, 26 named streams were identified as high priority streams in the planning area and are as follows:

Elm Fork of the Trinity River, Aubrey Branch, Bray Branch, Bryant Branch, Cade Branch, Cantrell Slough, Clear Creek, Cooper Creek, Culp Branch, Denton Creek, Doe Branch, Dove Creek, Fletcher’s Branch, Graham Branch, Graveyard Branch, Hickory Creek, Kirkwood Branch, Little Elm Creek, Loving Branch, Marshall Branch, Milam Creek, Moore’s Branch, Panther Creek, Pecan Creek, Roark Branch, and Sharp’s Branch.

Table B-1 in Appendix B provides a complete summary of prioritization and ranking for all 41 sub-watersheds and identified priority streams and the County or city jurisdiction identified within the watershed. Also included in Appendix B are maps of each individual watershed and its watershed and stream preservation priority ranking(s).

As shown in Table 1, the top five watersheds recognized for immediate Greenbelt preservation efforts include the following:

1. Pecan Creek-Lewisville Lake Watershed (HUC 120301030902) (Watershed Identification Number 22)
2. Middle Hickory Creek Watershed (HUC 120301030804) (Watershed Identification Number 19)
3. Panther Creek-Lewisville Lake Watershed (HUC120301030904) (Watershed Identification Number 24)
4. Culp Branch-Elm Fork Trinity River (HUC 120301030406) (Watershed Identification Number 3)
5. Denton Creek-Grapevine Lake (HUC 120301040304) (Watershed Identification Number 3)

Prioritization Ranking	Watershed Number	Prioritization Score	Prioritization Status	Watershed Name
1	22	88.2	High	Pecan Creek Lewisville Lake
2	19	87.1	High	Middle Hickory Creek
3	24	85.9	High	Panther Creek Lewisville Lake
4	3	85.6	High	Culp Branch Elm Fork Trinity River
5	38	84.5	High	Denton Creek Grapevine Lake
6	20	84.0	High	Lower Hickory Creek
7	23	84.0	High	Doe Branch Lewisville Lake
8	37	83.6	High	Elizabeth Creek Denton Creek
9	14	83.5	High	Pecan Creek
10	9	83.3	High	Moore’s Branch Clear Creek
11	10	82.7	High	Milam Creek Clear Creek
12	26	82.4	Medium	Stewart Creek Lewisville Lake
13	13	80.9	Medium	Town of Celina (Little Elm Creek) Lewisville Lake
14	18	80.5	Medium	Upper Hickory Creek
15	15	80.3	Medium	Running Branch Lewisville Lake
16	27	79.5	Medium	Prairie Creek Elm Fork Trinity River
17	1	79.3	Medium	Walnut Branch Isle du Bois Creek
18	33	79.2	Medium	Hog Branch Denton Creek
19	25	78.8	Medium	Cottonwood Branch Lewisville Lake
20	17	77.7	Medium	South Hickory Creek
21	35	77.3	Medium	Headwaters Elizabeth Creek
22	16	76.9	Medium	Headwaters Hickory Creek
23	7	76.5	Medium	Buck Creek Clear Creek
24	12	76.5	Medium	Mustang Creek
25	29	76.1	Medium	Indian Creek Elm Fork Trinity River
26	28	75.3	Medium	Timber Creek
27	11	74.1	Medium	Headwaters Little Elm Creek
28	8	73.1	Low	Little Duck Creek Duck Creek
29	30	72.6	Low	Grapevine Creek Elm Fork Trinity River
30	36	72.2	Low	Henrietta Creek
31	32	71.9	Low	Morris Branch Denton Creek
32	31	70.7	Low	North Pecan Creek Denton Creek
33	34	68.7	Low	Oliver Creek
34	5	67.9	Low	Whites Creek Clear Creek
35	2	67.4	Low	Pond Creek Elm Fork Trinity River
36	4	67.2	Low	Blocker Creek
37	6	65.6	Low	Flat Creek
38	40	87.0	Low* (Reclassified from High)	Dove Creek Grapevine Lake
39	39	86.5	Low* (Reclassified from High)	Marshall Branch Grapevine Lake
40	21	86.0	Low* (Reclassified from High)	Harmony Ranch Lewisville Lake
41	41	83.6	Low* (Reclassified from High)	Cottonwood Branch Denton Creek

*Reclassified to low based on lack of streams in Denton County for Dove Creek, Marshall Branch, and Cottonwood Branch Watersheds, and watershed protection measures in place associated with the Ray Roberts Greenbelt for Harmony Ranch.

These five watersheds were selected based on prioritization criteria. Descriptions are located on the following pages and also include the cities whose corporate limits or extra-territorial jurisdiction are located within the watershed and the stream segments identified for Greenbelt preservation.

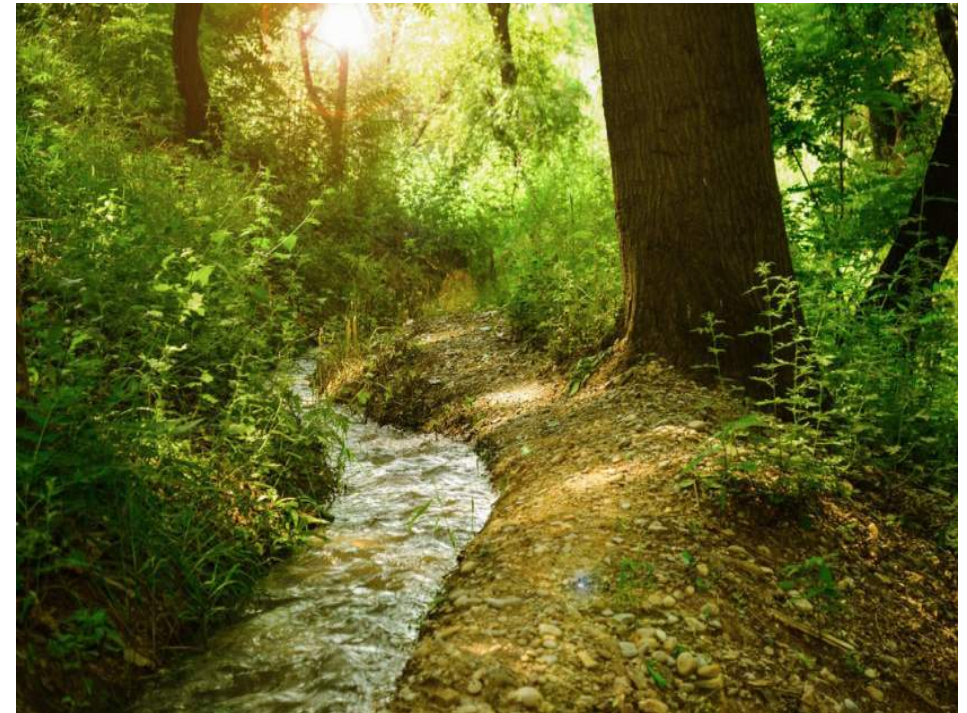
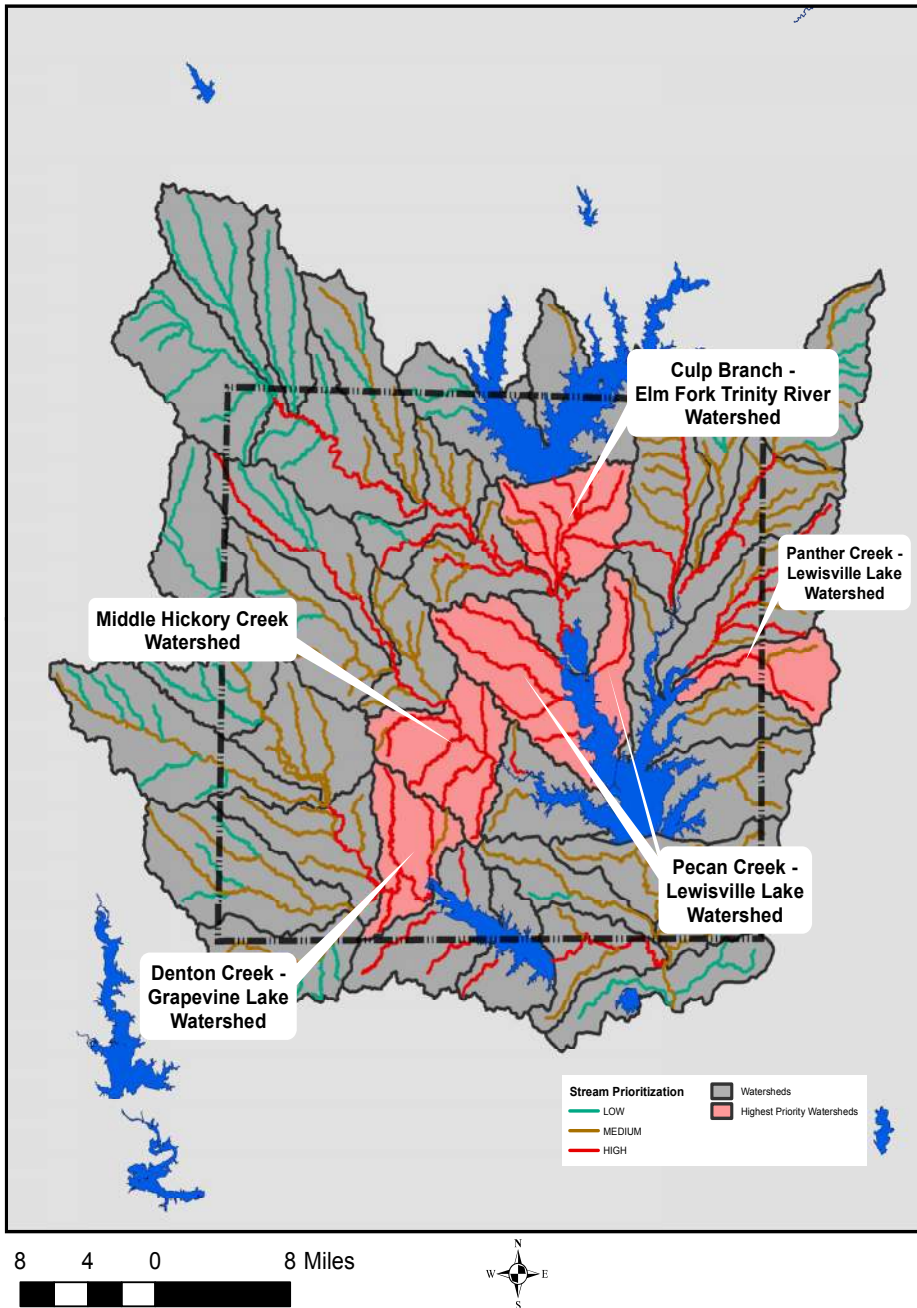


Figure 12: Five Highest Priority Watersheds Identified for Greenbelt Preservation Measures

PRIORITY WATERSHED DESCRIPTIONS

PRIORITY NUMBER ONE– THE PECAN CREEK/LEWISVILLE LAKE WATERSHED

Watershed No. 22, this was the highest ranked watershed for Greenbelt preservation efforts. This watershed is located within the city limits/extra-territorial jurisdiction of incorporated areas of Shady Shores, Krugerville, Aubrey, Crossroads, Oak Point, Denton, and Corinth. The Interstate Highway (IH) 35 E corridor is also located within this watershed and is largely developed. The area east of Lewisville Lake still remains relatively undeveloped.

The streams identified for Greenbelt preservation for this planning effort include the following:

- Pecan Creek West
- Tributary to Pecan Creek West
- Cooper Creek
- Unnamed Tributary to Lewisville Lake
- Cantrell Slough

All streams identified are considered high priority streams.

This watershed, which is bisected by the upper end of Lewisville Lake, has experienced and is anticipated to continue experiencing significant development pressures. Some of the stream corridors (Pecan Creek and Cooper Creek for example) within this watershed are already developed. A majority of the streams within this watershed contain existing Greenbelts. Any efforts to provide Greenbelt protection and/or preservation measures are warranted for the five identified stream segments with Greenbelt assets. Cantrell Slough should be the key stream for Greenbelt protection measures due to the undeveloped areas surrounding this stream channel. The remaining streams have preservation protection ordinances associated with the Cities of Denton and Lewisville.

It should also be noted that numerous park and trail assets are available within this watershed to provide trail connectivity to Lewisville Lake. These streams should serve as a central network for trail and park connections within this watershed. Additionally, these streams represent a central vein to Lewisville Lake – efforts should be implemented to limit non-point source pollution from entering into Lewisville Lake associated with these five high priority streams.

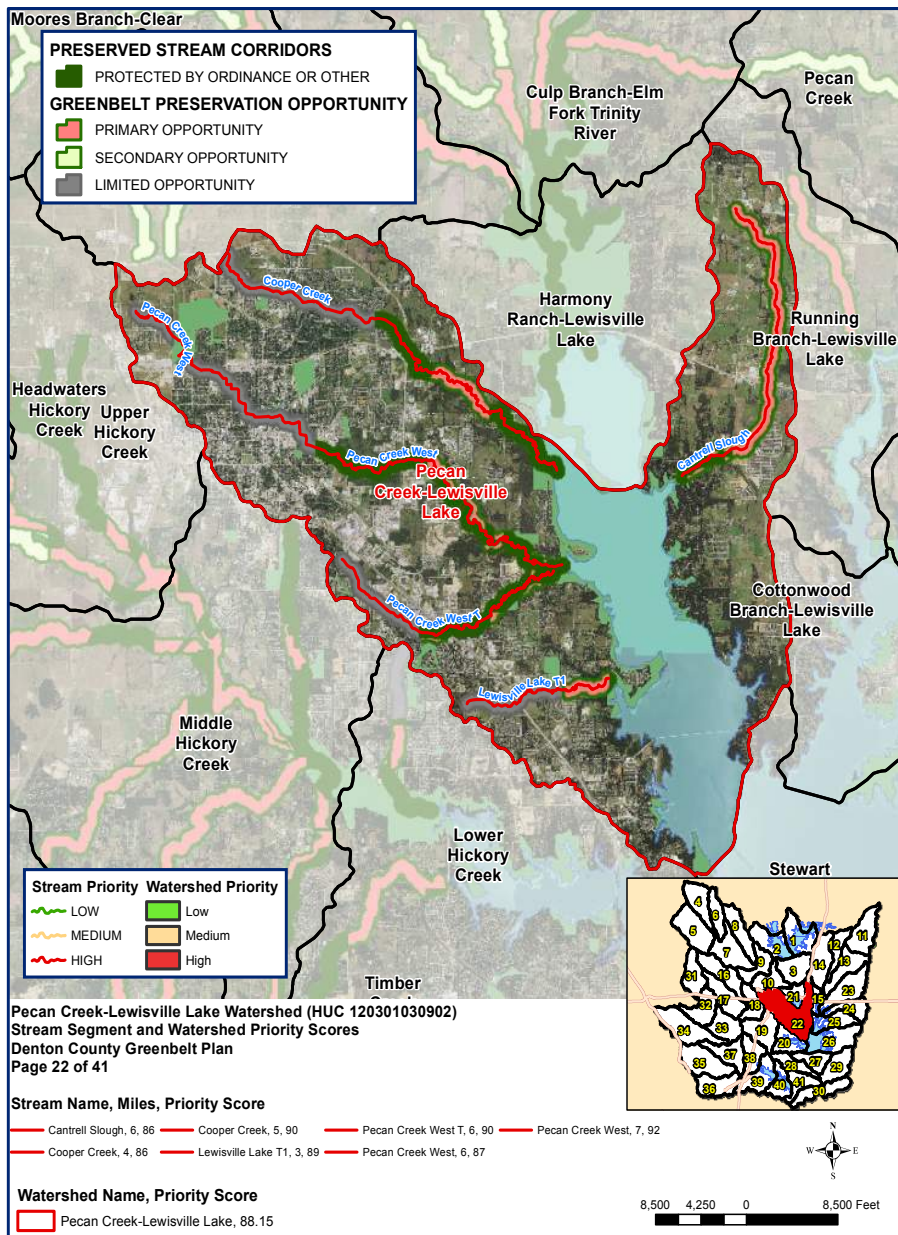


Figure 13: Priority No. 1 - Pecan Creek / Lewisville Lake Watershed

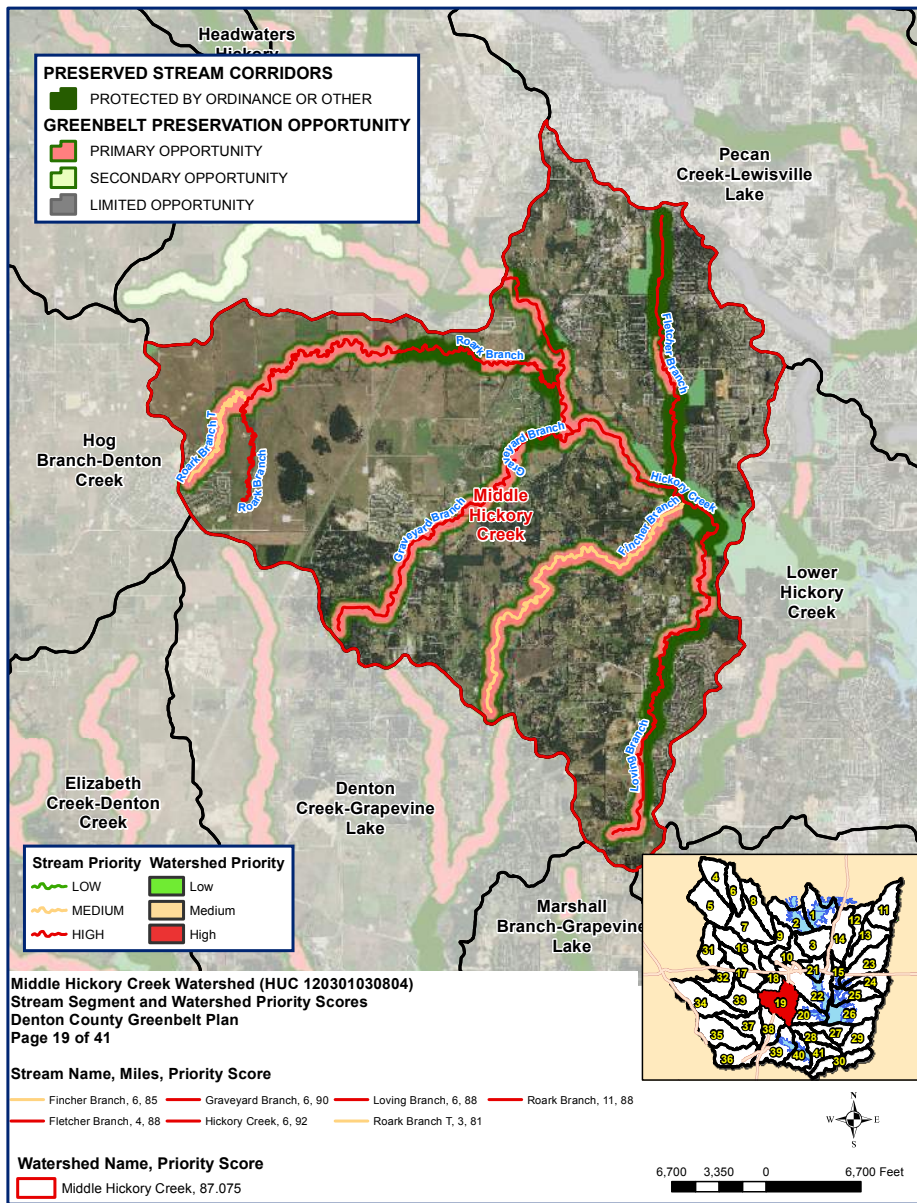


Figure 14: Priority No. 2 - Middle Hickory Creek Watershed

Stream segments within the City of Denton are considered to be environmentally sensitive areas and subject to the City's Preservation Ordinances

PRIORITY NUMBER TWO - THE MIDDLE HICKORY CREEK WATERSHED

Watershed No. 19, is located to the west of Lewisville Lake and encompasses the City of Denton and Towns of Argyle, Copper Canyon, and Bartonville. Within this watershed, seven streams were identified for Greenbelt preservation and include:

- Hickory Creek
- Loving Branch
- Graveyard Branch
- Fletcher Branch
- Roark Branch
- Unnamed Tributary to Roark Branch

All streams are considered high priority streams with the exception of Fincher Branch and an Unnamed Tributary to Roark Branch, both of which are considered medium priority streams. These streams all provide a direct connection to Lewisville Lake. The lower segment of Hickory Branch within the watershed is protected by land owned by the federal government associated with Lewisville Lake. Numerous streams within this watershed contain existing Greenbelts. Opportunities also exist to create and enhance Greenbelts along Roark Branch, Graveyard Branch, and Loving Branch. Further, numerous park and trail assets are located in the vicinity of Hickory Creek and Fletcher Branch. Trial connections using these streams as Greenbelt corridors would provide direct access to Lewisville Lake, as well as other park and recreation assets located in these streams vicinity.

The IH-35 W, IH-35 E, and US Highway 377 corridors are also located within this watershed. As development pressures encroach from the south from the City of Denton and as the Towns of Argyle, Copper Canyon, and Bartonville expand, development pressures adjacent to these streams segments will likely increase without preservation measures in place. The Towns of Argyle, Copper Canyon, and Bartonville should consider Greenbelt preservation efforts along these stream segments. Further, these stream networks have the ability to provide access to the City of Denton, the University of North Texas, and Texas Woman's University, as well as park and recreation assets within the City of Denton and along Lewisville Lake.

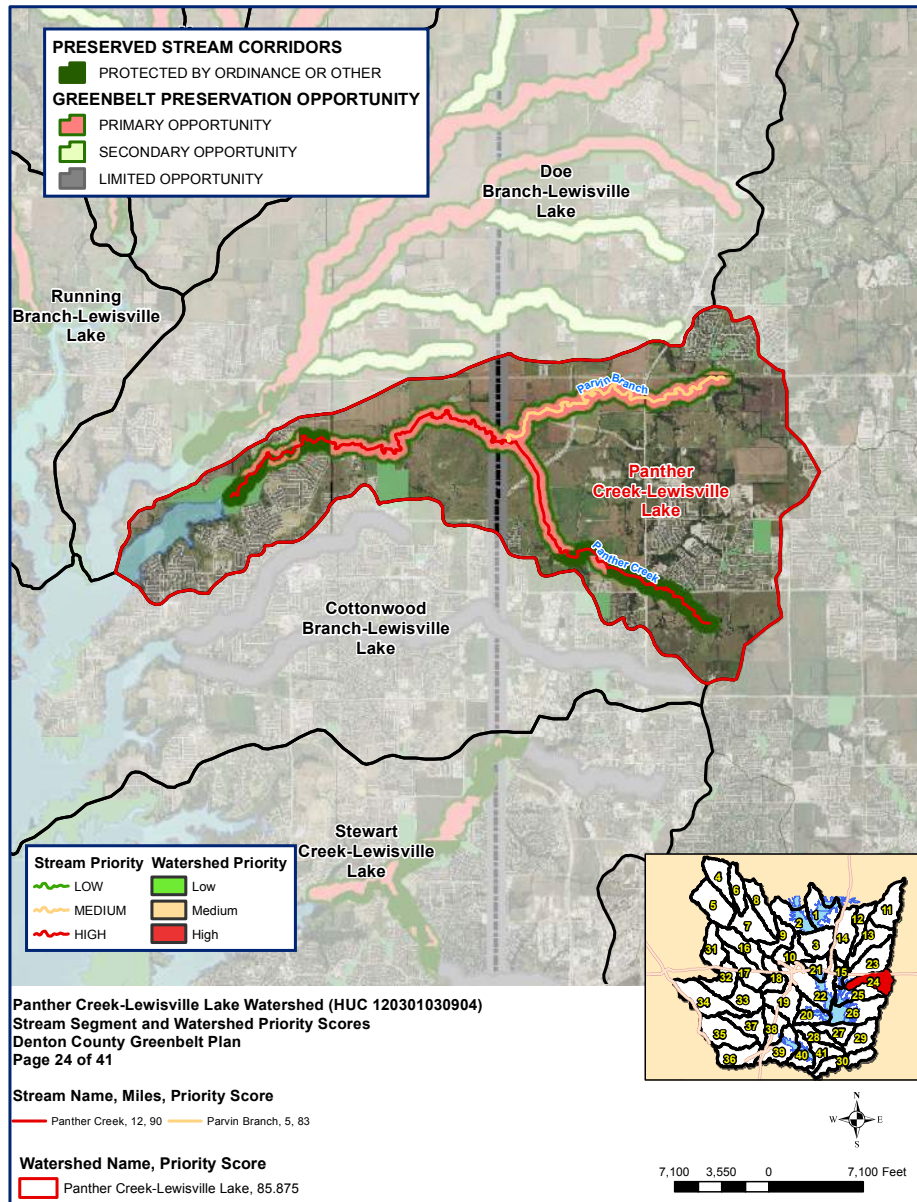


Figure 15: Priority No. 3 - Panther Creek / Lewisville Lake Watershed

PRIORITY NUMBER THREE - THE PANTHER CREEK/ LEWISVILLE LAKE WATERSHED

Watershed No. 24, encompasses the City of Frisco and Town of Little Elm. This watershed is located to the northeast of Lewisville Lake and bisects the Denton and Collin County line. Panther Creek, a high priority stream, and Parvin Branch, a medium priority stream, were the two streams identified for Greenbelt preservation within this watershed. Both Panther Creek and Parvin Branch have fragmented, isolated Greenbelt assets. Connections to these fragmented, isolated Greenbelt assets should be a priority for these two priority streams.

Park and trail assets are limited within this watershed; therefore, opportunities exist for increasing those numbers as well as linkages to existing park and trail assets located in the watersheds to the south. This watershed is largely undeveloped; however, it is primed for future developments based on development pressures increasing from the south. The lower limits of Panther Creek, near the confluence with Lewisville Lake, are rapidly being developed.

The terminus of the existing North Dallas Tollway is located within this watershed. It should also be noted that the “Outer Loop” roadway expansion is located in the vicinity of this watershed. The North Dallas Tollway and the proposed “Outer Loop” are major roadway projects that would provide commuter access to areas within this watershed that are currently undeveloped. Accordingly, development pressures would be expected to increase as commuter access is provided. Panther Creek and Parvin Branch should be considered by Frisco and Little Elm for Greenbelt preservation measures.

The City of Frisco maintains Development Standards for activities within floodplains currently Frisco mandates a 20 foot setback adjacent to a “No Build and Preservation Easement” to preserve topography and vegetation. It also stipulates no grade changes or vegetation removal.

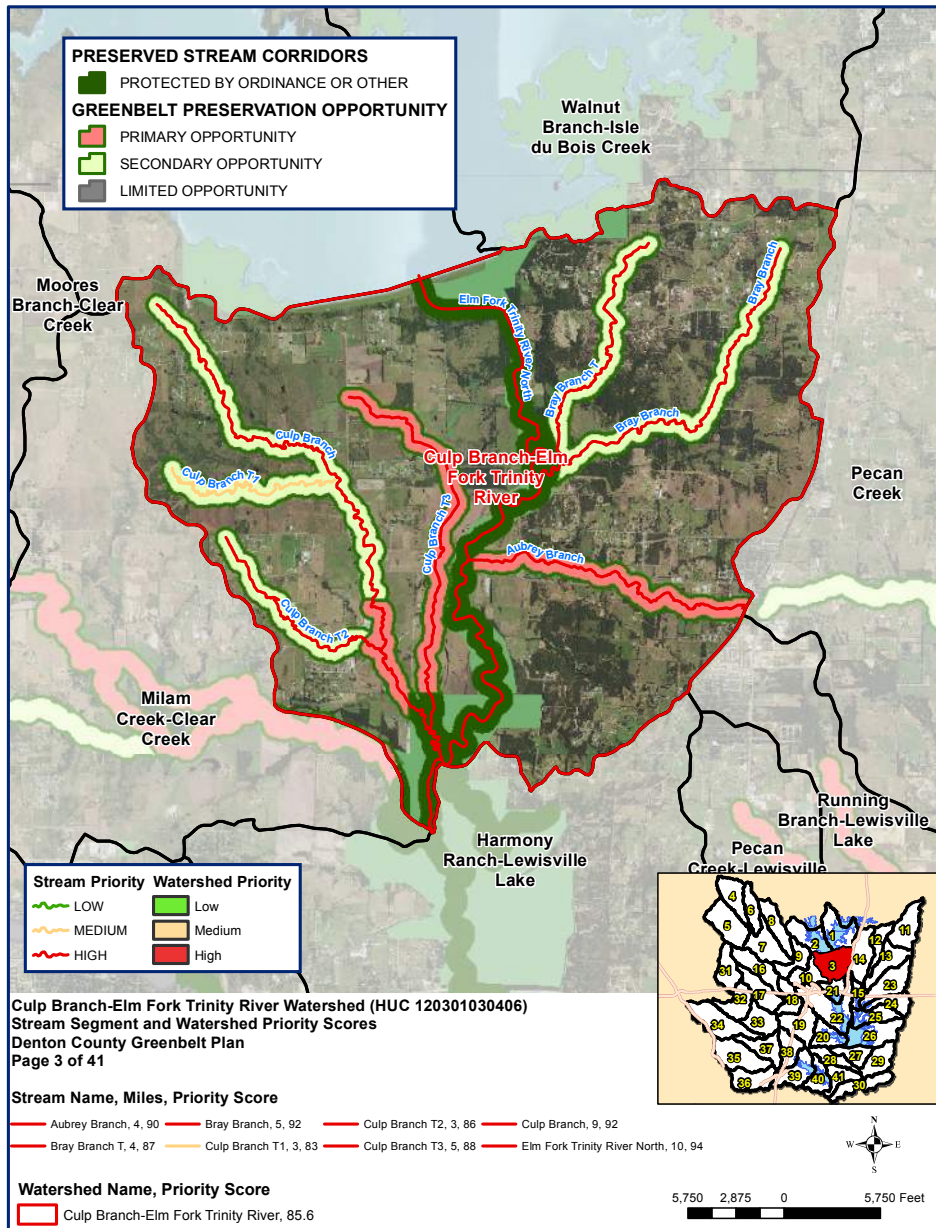


Figure 16: Priority No. 4 - Culp Branch / Elm Fork Trinity River Watershed

PRIORITY NUMBER FOUR– THE CULP BRANCH/ELM FORK TRINITY RIVER WATERSHED

Watershed No. 3, is the primary watershed located below Ray Roberts Lake and above Lewisville Lake. It includes the Elm Fork Trinity River and the Ray Roberts Greenbelt Park. Within this watershed, protection measures are in place for the Elm Fork and its associated riparian corridor. However, this watershed also includes three tributaries to the Elm Fork that are not afforded protection by the Ray Roberts Greenbelt Park. These tributaries include Aubrey Branch, Bray Branch, and Culp Branch. In addition, Culp Branch has three unnamed tributaries and Bray Branch has one unnamed tributary, which were identified for Greenbelt designation. All streams identified within this watershed have a high prioritization ranking with the exception of one tributary to Culp Branch, which is ranked as medium.

This watershed includes the Cities of Aubrey, Denton, and Pilot Point. Aside from the Ray Roberts Greenbelt Park, no other park or trail assets were identified along these area watercourses. Due to the proximity to U.S. Highway 380, the Ray Roberts Greenbelt Park, and Ray Roberts and Lewisville Lakes, the undeveloped land within this watershed would be expected to see increased developmental pressures in the near term. A transportation system referred to as the “outer loop” is being considered for this area. Therefore, the Cities of Aubrey and Pilot Point should consider Greenbelt protection measures for the identified priority streams and their associated Greenbelts located within this watershed. Greenbelt connection opportunities are available along Aubrey Branch, Culp Branch, and Bray Branch, including tributaries to these streams. All of these stream corridors provide a direct connection to the Ray Roberts Greenbelt, which would be a positive benefit for any future proposed developments.

Stream segments within the City of Denton are considered to be environmentally sensitive areas and subject to the City's Preservation Ordinances

PRIORITY NUMBER FIVE - THE DENTON CREEK/GRAPEVINE LAKE WATERSHED

Watershed No. 38, is located immediately west of Grapevine Lake and includes the confluence of Denton Creek with Grapevine Lake. Within this watershed, protection measures are in place for Denton Creek associated with federally owned land connected with Grapevine Lake. However, four tributaries – Cade Branch, Graham Branch, White’s Branch, and an unnamed tributary to White’s Branch – were identified for Greenbelt designation. Graham Branch and Cade Branch are both ranked as high priority streams and White’s Branch and its unnamed tributary are classified as medium priority streams. Denton Creek and White’s Branch are the only streams within this watershed that have existing Greenbelts. Opportunities exist along Cade Branch and Graham Branch to create Greenbelts and provide connections to the existing Greenbelt along Denton Creek.

This watershed includes the municipalities of Roanoke, Argyle, Bartonville, Trophy Club, Westlake, and Flower Mound. Cade Branch is located within a rapidly developing area of Roanoke and requires immediate Greenbelt protection measures. Graham Branch, which flows through the Towns of Argyle and Flower Mound, is still relatively undeveloped. However, development pressures along Graham Branch would be expected in the near term and thus should be afforded Greenbelt protection measures. White’s Branch and its tributary are located within the Towns of Argyle, Bartonville, and Flower Mound. Although these are medium priority streams, development pressures are anticipated to encroach into these streams and accordingly should be considered for Greenbelt protection measures.

The Town of Flower Mound has ordinances in place that protect aquatic resources and their corresponding adjacent natural areas.

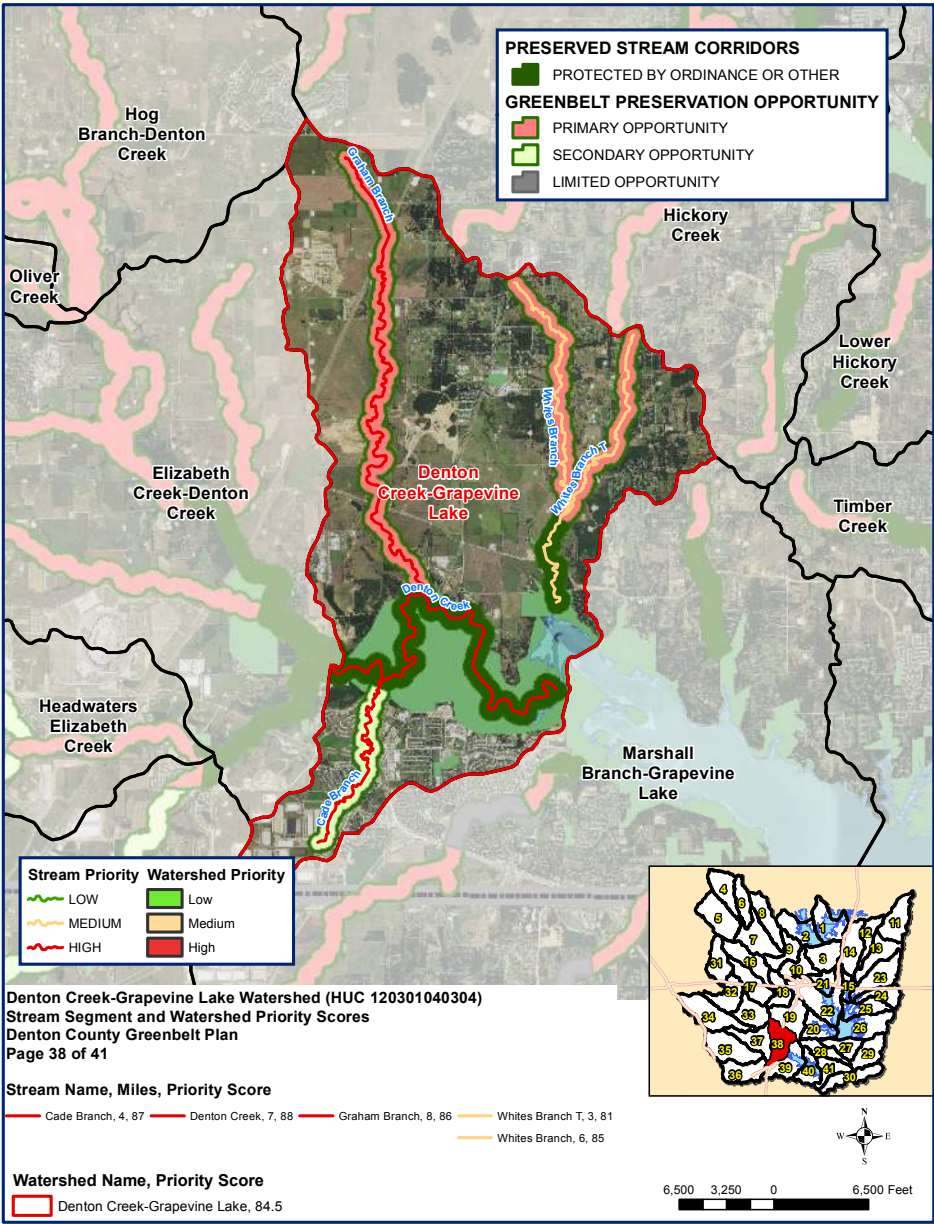


Figure 17: Priority No. 5 - Denton Creek / Grapevine Lake Watershed

The previous examples described the five highest priority watersheds identified during the watershed and stream prioritization process within the limits of the planning area, which included the entirety of Denton County and watersheds overlapping Denton County into adjacent Counties. Each of the example watersheds contains areas that have been developed, are currently being developed, or are largely undeveloped. Many of the streams within these watersheds have existing Greenbelts, which will require protection measures. Other opportunities along streams lacking Greenbelts require strategies to protect the corridors they encompass and plans to revegetate the corridors. Connecting areas along streams lacking Greenbelts to areas with existing Greenbelts will only improve the integrity of the stream corridor and afford the ancillary benefits associated with Greenbelts described herein.

It should also be noted that many of the priority streams include existing park and trail assets where connections to other park and trail assets or other municipalities could be provided through Greenbelts along the priority stream segments. It is incumbent upon Denton County, its municipalities, and the development community doing business in the County to reference the identified priority stream segments and watersheds for preservation opportunities such as; connections to existing Greenbelts; and existing proposed assets such as parks, trails, and other recreational and passive outlets. In Appendix C, each municipal jurisdiction is superimposed onto the priority watersheds. These maps will assist municipalities and County leaders in identifying opportunities to connect their existing Greenbelt assets, as well as connecting existing park and trail assets to neighboring park and trail assets either within their corporate limits or to neighboring municipalities or County park and trail assets.

Assets of Greenbelts

Conservation/Preservation: Greenbelts support land conservation, habitat preservation, cultural and historical preservation, and opportunities for sustainable practices.

Increased Property Values: According to a 2014 study by the City of Fort Worth for its Lake Worth Greenprint Project, market values of properties located adjacent to parks increased by five percent when compared to neighboring properties not abutting greenspace.²⁷

Quality of life: Recreational opportunities, both passive and active, increase quality of life.

Transportation Alternatives: Greenbelts promote the use of non-motorized transportation, such as cycling or running, for travel between destinations.

Placemaking: Greenbelts go beyond simply developing land for a singular purpose—Greenbelts provide destinations or a means to get to certain destinations. This, in turn, provides a community with a sense of place. Grassroots involvement from the community living within the space help define what's best for that community furthering its sense of place.

Commonality: The Greenbelts provide public common areas for multiple uses by many different groups. This will help to unite the people of Denton County in a way that is rewarding socially, as well as physically.

27. http://fortworthtexas.gov/uploadedFiles/Planning_and_Development/Boards_and_Commissions/Lake_Worth_RCC/Documents/141219-lake-worth-green-print.pdf accessed September 2, 2015.



 **CHAPTER FIVE: IMPLEMENTATION STRATEGIES**



CHAPTER FIVE: IMPLEMENTATION STRATEGIES

Prior to this plan, numerous parks, linear trails, greenspace preservation areas, and Greenbelts planning efforts have been established in Denton County. The crown jewel of this planning effort is the Greenbelt Corridor from Ray Roberts Lake to Lewisville Lake. This multi-use Greenbelt park provides an array of trails and facilities for users to enjoy along its eleven mile stretch of the Elm Fork of the Trinity River, a perfect model for future Greenbelts in Denton County. Altruism will not protect all existing Greenbelts, priority streams, and priority watersheds identified in this planning document. Protecting and preserving Greenbelt corridors within Denton County will require demand from the general public, protection measures specific to Greenbelt preservation, and funding mechanisms to make the Greenbelt corridors become real. The following outlines a menu of implementation strategies to facilitate Greenbelt corridor preservation. A toolbox of these implementation strategies is provided in Appendix D.

The following outlines implementation strategies to garner interest in the Denton County Greenbelt Plan. Strategies are included for developers, County or municipal agents, and landowners to assist in implementing the Greenbelt Plan. Also included with the toolbox of implementation strategies in Appendix D is a matrix identifying which tools are applicable to specific interested parties.

INTEREST AND DEMAND FOR GREENBELTS

Education and outreach is paramount for future Greenbelt preservation efforts in Denton County. An informed constituency will generate interest in Greenbelts. Interest would, in turn, command demand for Greenbelts. Consequently, as awareness and demand for Greenbelts increase, supply will have to meet that demand. The following are concepts to generate awareness, interest, and eventual demand for Greenbelts within Denton County.

LOGO AND TAG LINE

As previously mentioned, a logo and tag line were prepared, based on input from the stakeholders during the planning efforts. The logo and tag line should become the brand for Greenbelt preservation in Denton County. This brand should be included on any advertisement or product developed on behalf of the project: television commercials, billboard advertising, social media outlets, Denton County Greenbelt Plan website, signage, brochures, mailers, awards programs, and any other applicable informational product. Brand recognition is vital to developing interest in Greenbelt preservation for Denton County.



**Denton County
Greenbelt Plan**

For the Future

BROCHURES

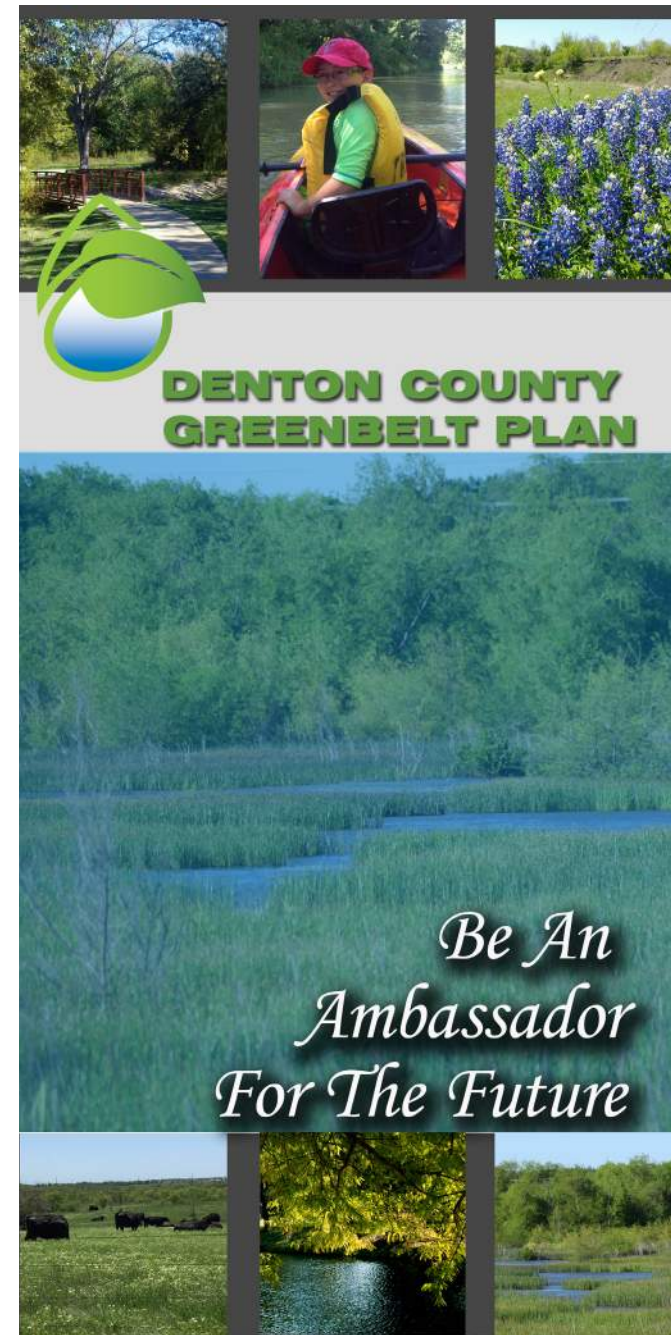
Another product of this planning effort was the development of a simple, creative, and informative brochure for Greenbelt preservation. The brochure will easily identify the benefits of Greenbelts, the five priority areas within the County and discuss implementation strategies for the Greenbelt plan.

Distribution of this brochure should be widespread throughout Denton County – in public spaces, economic development offices, county and municipal buildings, libraries, schools, and any other applicable venue. These informational pieces are mini-advertisements promoting Greenbelt preservation. The brochure will be made available digitally via the internet and social media.

PUBLIC AWARENESS CAMPAIGNS

Water conservation is a hot topic in North Central Texas, especially during the persistent drought in the late 2000's through 2015. The water purveyors in North Central Texas have invested heavily in media campaigns to disseminate information on water conservation efforts, which have paid dividends. Despite increasing population projections, regional water planning groups estimate that approximately one-quarter of the state's future water supply will come from water conservation efforts.²⁸ Public awareness campaigns are the principal outlets for distributing water conservation information to the general public. Billboards, radio, and television continue to be the primary sources for these public awareness campaigns.

Public awareness campaigns work, and the water conservation marketing campaign is an excellent model to duplicate for the promotion of Greenbelts in Denton County. At a minimum, advertisement of the logo, tagline, and website on prominent billboards in Denton County should be employed. As funding and interest in Greenbelt preservation increases, radio and television spots should be considered. These radio and television spots should not be limited to local media outlets. Opportunities exist for advertisement on application based radio stations, such as Pandora or Spotify and visual media applications, such as YouTube.



28. An Assessment of Water Conservation – Report to the 82nd Legislature. Texas Water Development Board and Texas State Soil and Water Conservation Board. March 2012.

WATER BILL INSERTS

Akin to brochures, water bill inserts are another avenue for information sharing. Water bill inserts are low cost informational pieces designed to inform the public on community initiatives. At a minimum, a water bill insert should be prepared for distribution to the communities within Denton County to include in their water bill. These water bill inserts should consist of the logo, tag line, website, and general Greenbelt preservation Information.

AMBASSADORS FOR GREENBELTS PROGRAMS

Ambassadors for Greenbelt programs should educate and inform the general public on all aspects of Greenbelts. Analogous to the Master Gardener, Master Naturalist, or Texas Water Specialist programs, the Ambassadors for Greenbelts program should follow a curriculum where prospective ambassadors participate in a classroom setting. At the conclusion of the program, the participant becomes a certified Ambassador for Greenbelt preservation. These individuals will become the grassroots advocates for Greenbelt preservation in Denton County.

PUBLIC SPEAKING ENGAGEMENTS

Another effective strategy to develop and promote ambassadors or stewards for Greenbelts is to speak at public events focusing on land development concerns. Ambassadors should advocate for, provide expertise on, and build support for public policy and planning that supports greenspace conservation. Stewards/ambassadors should be encouraged to attend zoning and planning commission public meetings, general speaking engagements, and be a voice for greenspace preservation in local settings.

GREENSPACE ADVISORY COMMITTEE

Encouraging and supporting municipalities within Denton County to create an advisory committee or board with appointed positions is another way to promote the Greenbelt preservation initiative. The members of the advisory committee or board would serve as experts on Greenbelt planning and acquisitions, coordinate preservation efforts and advise City Councils on proper and suitable lands for greenspace preservation.

RECOGNITION PROGRAMS (AWARDS AND ENDORSEMENTS)

For the development community, develop criteria for the endorsement of development projects that promote Greenbelt preservation. As developers preserve Greenbelts, the developer should be allowed to include an endorsement from the Upper Trinity Conservation Trust or similar entity that the project is a “Denton County Greenbelt Endorsed Project.” These endorsement materials can be used for promotional materials, website, etc. To expand on the endorsement program, an awards program should be developed to acknowledge and award developers who promote Greenbelt preservation. This awards program could be performed on an annual or biannual basis.

For private and public land owners, stewardship award programs, similar to the award provided by the Denton County Soil and Water Conservation District’s stewardship award, should be developed to recognize individuals and entities performing watershed protection measures on their property.

OUTINGS

There should also be efforts to encourage municipalities, organizations, and user groups to sponsor events within Greenbelts, events that support Greenbelt initiatives, or events or programs that support and promote clean waterways. The best way to foster Greenbelt preservation is to get out and enjoy Greenbelts. Greenfest is an excellent example of a public outing encouraging and promoting the enjoyment of the Ray Roberts Greenbelt. Keep Denton Beautiful and Keep Lewisville Beautiful are other outlets that could promote Greenbelt preservation as well as clean watershed programs. For example, Keep Lewisville Beautiful and the City of Lewisville promote the “Clean Stream Team.” The Clean Stream Team participants, similar to the Adopt-a-Highway program, adopt a waterway for the purpose of cleaning the waterway monthly, bimonthly, quarterly, or at a minimum annually. The Tarrant Regional Water District supports an Adopt-a-River program along the Trinity Trails.

COMMENT LETTERS

The Upper Trinity Conservation Trust or similar entity should draft and provide sample letters to promote Greenbelts and greenspace preservation within Denton County including surrounding Counties. These sample letters should target city council members, city managers, mayors, County commissioners, and state representatives touting the benefits of Greenbelt preservation and the benefits they afford their constituents.

SCHOOL EDUCATION CURRICULA

School curricula should be established to promote the benefits of greenspace/Greenbelt preservation to the school-aged children. The Trinity Learning Across New Dimensions in Science (L.A.N.D.S.) Program²⁹ is a prime example of teaching children about natural resource literacy, the benefits of clean watersheds, and about the Trinity River watershed. Empowering children to be advocates for greenspace preservation will permeate the family, which should shift attitudes toward the value of land stewardship.

TRAINING PROGRAMS

Government staff, landowners and others involved in managing natural resources would benefit from training programs to learn fundamentals of Greenbelt and stream corridor management principles and how to monitor effectiveness over time. The Texas Water Resources Institute³⁰ has a statewide training program with two different courses. The Riparian and Stream Ecosystem Workshop teaches the basic principles of stream hydrology and riparian stewardship and includes a site visit to a nearby creek to evaluate based on those learned principles. The Proper Functioning Condition workshop is a two-day workshop that teaches the Proper Functioning Condition assessment tool for evaluating Greenbelt and stream conditions over time.

SUMMARY

The strategies and practices outlined herein to promote and generate demand for Greenbelt preservation are not all inclusive. Other means may be available and should be incorporated as the opportunity is identified. These “demand for Greenbelt” generating practices are concepts that should be performed at a minimum to generate interests for Greenbelt preservation.



29. <https://www.texas-wildlife.org/program-areas/learning-across-new-dimensions-in-science>.a.n.d.s

30. <http://twri.tamu.edu/>

PROTECTION MEASURES FOR GREENBELTS

As shown in the Greenbelt Plan, numerous Greenbelt assets exist in Denton County. Further, opportunities do exist within Denton County to expand those Greenbelt assets before they are lost to urbanization. Accordingly, protection measures are warranted to maintain these identified Greenbelt Corridors in perpetuity. The following are a listing of measures that municipalities or Denton County can implement to protect the identified Greenbelt corridors into the foreseeable future.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM – MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

Population growth and the development of urban/urbanizing areas are major contributors to the quantity of pollutants in stormwater runoff, as well as the volume and rate of runoff from impervious surfaces. Together, they cause changes to hydrology and water quality that result in habitat modification and loss, increased flooding, decreased aquatic biological diversity, and increased sedimentation and erosion.

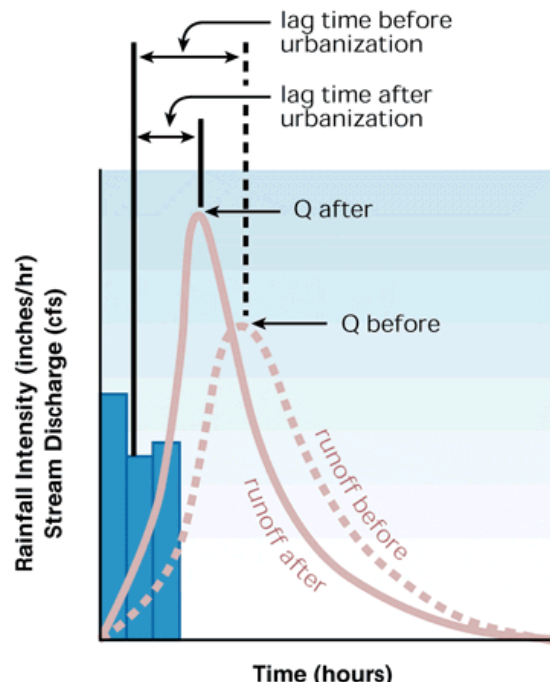


Figure 18: A Comparison of Hydrographs Before and After Urbanization ³⁰

The benefits of effective stormwater runoff management include:

- Improved water quality of receiving water bodies,
- Protection of wetlands and aquatic ecosystems,
- Conservation of water resources,
- Protection of public health, and
- Flood control.

The National Pollutant Discharge Elimination System (NPDES) program addresses water pollution by regulating point sources that discharge pollutants to waters of the U.S. The three sources the NPDES program regulates include: municipal separate storm sewer systems (MS4), construction activities, and industrial activities. Specific to this planning effort, municipalities can benefit from the development and protection of Greenbelts in order to comply with their MS4 permit conditions. MS4's are stormwater conveyance systems that are owned by a state, city, town, village, or other public entity that convey stormwater directly to a water of the U.S. These conveyance systems can include ditches, curbs, gutters, storm sewers, and similar means for collecting and conveying stormwater runoff. These systems do not include combined storm and sanitary sewer systems or components of a sewage treatment facility.

In urbanized settings, following storm events, stormwater increases in volume and is much more prone to flash flooding than natural settings.

In Texas, the Texas Commission on Environmental Quality issues MS4 permits to municipalities. For issuance of a MS4 permit, the permittee must develop a stormwater management program that describes the stormwater control practices that will be implemented to minimize the discharge of pollutants from their stormwater conveyance systems. The focus of the stormwater management program is to describe how the MS4 will reduce the discharge of pollutants from its stormwater

³¹ https://cfpub.epa.gov/watertrain/moduleFrame.cfm?parent_object_id=624&object_id=629
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conveyance systems through the following program areas:

- Construction site runoff controls,
- Illicit discharge detection and elimination,
- Pollution prevention and good housekeeping measures,
- Post-construction runoff controls,
- Public outreach and education,
- Public involvement and participation,
- Program effectiveness evaluations, and
- Total maximum daily load limits.

Of the eight program areas listed, Greenbelts and the waterways they encompass apply to four of the program areas:

- Post-construction runoff controls,
- Public outreach and education,
- Public involvement and participation, and
- Program effectiveness evaluations.

Protection of Greenbelts and the waterways they encompass are opportunities for municipalities to comply with numerous aspects of the stormwater management plan within their jurisdiction, as well as the MS4 permit conditions.

ENVIRONMENTAL REGULATIONS AND GUIDELINES

Numerous federal regulations and executive orders have been enacted to protect aquatic resources and infrastructure. Notable regulations include the Clean Water Act, Flood Disaster Protection Act, National Flood Insurance Act, and National Environmental Policy Act. Executive Orders include EO 11988 for floodplain management and EO 11990 for the protection of wetlands. These regulations and executive orders deter development from encroaching into and/or impacting aquatic resources. If aquatic resources are to be impacted, necessary compensation is required to comply with these regulations. Permits are required from the administering federal agency to impact these resources. The Section 404 of the Clean Water Act permitting process for impacts to waters of the U.S. is a prime example. Denton County and its municipalities should require all federal permits, associated with development within identified Greenbelt corridors, prior to authorization of the site development plan.

ORDINANCES

An ordinance is a piece of legislation enacted by municipal or County governments designed to provide certain prohibitions within municipal or County jurisdictions. For the Greenbelt planning effort, ordinances can be developed to deter or prevent development within the identified priority streams or watersheds. Specific ordinances that have been implemented by municipalities to deter or prevent development within stream corridors, watersheds, or environmentally sensitive areas include at a minimum the following:

- Designation of Environmentally Sensitive Areas
- Floodplain Provisions
- Watershed Protection
- Greenspace Preservation Areas
- Tree Removal
- Urban Forestry
- Oil and Gas Development
- Parkland Dedication

The City of Denton has watershed protection programs in place that include tree, floodplain, environmentally sensitive area ordinances, and others such as oil and gas development. The Town of Flower Mound also has a tree protection ordinance as well as their SMARTGrowth program. The City of Lewisville has environmental-centric ordinances, which offer floodplain protections, and the City of Fort Worth has an urban forestry ordinance. All of these ordinances are designed to maintain the natural integrity of their City, portions of which include the preservation of Greenbelts along the streams within their jurisdiction. The ordinances



authored by the Cities of Denton, Flower Mound, or Lewisville should be used as a reference for the development of environmental related ordinances within a municipal jurisdiction. The specific ordinance language is available on their respective websites.

PROPERTY TAX EXEMPTIONS

Open Space Easements, either temporary or in perpetuity, between Denton County and the landowner, voluntarily entered into by the landowner, can act to preserve their land as open space or for wildlife management in exchange for certain tax benefits or exemptions. This would require cooperation and coordination with the Denton County Appraisal District and Denton County.

Denton County allows for an Open Space Agricultural Valuation for Wildlife Management. Under Comptrollers' Rule 9.2002, Denton County falls into the Cross Timbers and Prairies region as designated by Texas Parks and Wildlife Department. According to Comptrollers' rule 9.2005, the minimum number of acres required to qualify for an agricultural appraisal based on wildlife management within Denton County is 14.25 acres.³² The Denton County Appraisal District can be contacted for further information.

GREENBELT DISTRICTS

Municipalities or Denton County should consider the identification of preferred Greenbelt or greenspace areas within the jurisdiction of a municipality and designate those preferred Greenbelt or greenspace areas into districts. Any development within Greenbelt Districts would require special permission from City or County interests. An excellent example of a program that the Greenbelt Districts could be modeled after is the Town of Flower Mound's Cross Timbers Conservation Development District. The principal purpose for this conservation development district is to preserve the cross-timbers ecosystem and other natural systems using conservation easements and other conservation techniques.³³

32. https://www.dentoncad.com/index.php?option=com_docman&task=doc_details&gid=16420&Itemid=96 accessed January 3, 2016.

33. <http://www.flower-mound.com/index.aspx?NID=1194> accessed January 3, 2016.

PURCHASE OF DEVELOPMENT RIGHTS

A "purchase of development rights" is a permanent restriction on the land initiated after an agreement between an entity, a municipality, or Denton County and the landowner. This agreement would be voluntarily entered into by the landowner to preserve their land as open space in exchange for a cash payment for those development rights. Upper Trinity Conservation Trust could serve as the facilitator of these trusts.

CONSERVATION EASEMENTS

A conservation easement is a written agreement between a landowner and a governmental entity or a land trust, such as the Upper Trinity Conservation Trust, whereby the landowner voluntarily restricts certain uses of the property in perpetuity to protect its natural, productive or

If a landowner donates a conservation easement to a qualified land trust, the donation may qualify as a charitable contribution under IRS regulations if:

- a) The easement is granted in perpetuity;**
- b) The easement is granted to a qualified organization, such as a nonprofit, 501(c)(3) charitable land trust;**
- c) The easement achieves at least one of the following conservation purposes:**
 - 1) Preserves land for public outdoor recreation or education;**
 - 2) Protects relatively natural habitats of fish, wildlife or plants;**
 - 3) Preserves open space, either for scenic enjoyment or in keeping with a clearly delineated public policy (such as local open space plan); or**
 - 4) Preserves historically important land or certified historic structures.**

cultural features. Conservation easements are generally developed to limit the right to subdivide or develop the property. Conservation easements are unique to each landowner and property and are written to meet the individual needs of the landowner. It allows flexibility for other activities, such as hunting, as long as the conservation values agreed to in the easement are protected.

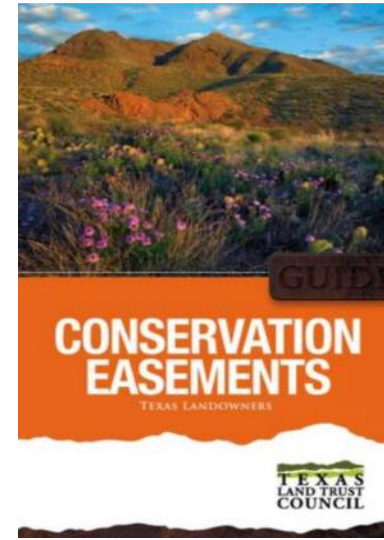
Conservation easements do not have to cover the entire property and may only apply to portions of the property, depending on the landowner's wishes. For example, the Upper Trinity Conservation Trust's seeks to acquire easements specifically on riparian areas and Greenbelts but will accept easements for upland areas as well, depending on the situation and the value to water quality protection.

As a condition of the conservation easement, the land trust or other qualified easement holder has enforcement rights to protect the easement, which includes legal remedies. If interested in a conservation easement, one may read though the handbook "Conservation Easements: A Guide for Texas Landowners," developed by the Texas Land Trust Council, which can be found at the Upper Trinity Conservation Trust website.³⁴

As of December 2015, the U.S. Congress made permanent a federal tax incentive for donated conservation easements and includes changes, such as:

- Raises the deduction a donor can take for donating a conservation easement from 30 percent of their income in any year to 50 percent.
- Allows qualifying farmers and ranchers to deduct up to 100 percent of their income.
- Extends the carry-forward period for a donor to take tax deductions for a voluntary conservation easement from 5 to 15 years.

To learn more about the permanent incentive, see the Land Trust Alliance Tax Incentive brochure in Appendix E.



Why should I grant a conservation easement to the Upper Trinity Conservation Trust?

A conservation easement is a voluntary, legal agreement between a landowner and a land trust or government agency that permanently limits uses of the land in order to protect its conservation values. It allows you to continue to own and use your land and to sell it or pass it on to heirs. When you donate a conservation easement to Upper Trinity Conservation Trust (Trust), you give up some of the rights associated with the land. For example, you might give up the right to build additional structures, while retaining the right to ranch. Future owners also will be bound by the easement's terms. The Trust is responsible for making sure the easement's terms are followed on a long-term basis.

A conservation easement offers one of the best ways to permanently preserve natural features of land, whether floodplain, a meadow, trees, a creek or wetland. It is a legal agreement made with the landowner to maintain natural conditions and to limit future development of the property.

People execute conservation easements because they love their open space land, and want to protect its natural features along the creeks and streams - - which helps to safeguard the quality of water we drink, the air we breathe and the food we eat.

34. <http://utct.org/downloads.html>

MITIGATION BANKING

Mitigation banking is an enterprise where a wetland, stream, or other aquatic resource area is restored, established, enhanced, or in certain circumstances, preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under Section 404 of the Clean Water Act. A Mitigation Bank (or land area that encompasses the restored wetlands, streams or other aquatic resources) may be created when a government agency, corporation, non-profit organization, or other entity undertakes the restoration activities following a formal agreement with the regulatory agency that administers the program. At this juncture, the U.S. Army Corps of Engineers is the lead regulatory agency that approves mitigation banks.

The value of the mitigation bank is defined by “compensatory mitigation credits.” A bank’s agreement (or instrument) with the U.S. Army Corps of Engineers identifies the number of credits available for sale. The mitigation bank owner sets the price of those compensatory mitigation credits. Any entity that impacts waters of the U.S. has to purchase credits to offset those impacts. More information specific to mitigation banking is available on the U.S. Army Corp of Engineers website.

Mitigation banks are excellent opportunities for landowners to restore, enhance, and preserve natural resources within their lands while providing a revenue stream for those preservation efforts. An example of a mitigation bank located in Denton County is the Mill Branch Stream Mitigation Bank. The Mill Branch Stream Mitigation Bank is situated along Mill Branch in the northwestern portion of Denton County, west of the City of Sanger. The credits sold by the Mill Branch Stream Mitigation Bank include intermittent stream and riparian buffer credits. If a developer adversely impacts streams associated with their development within Denton County, or even portions of the surrounding counties, they can offset those impacts to streams or riparian corridors with Mill Branch’s stream or riparian buffer credits.

IN-LIEU FEE PROGRAMS

In-lieu Fee programs are monies paid to a governmental or non-profit natural resources management entity, such as the Upper Trinity Conservation Trust, to satisfy compensatory mitigation requirements associated with Department of the Army permits (specifically Section 404 of the Clean Water Act permits). From the monies received, the governmental agency or non-profit uses those funds for restoration, establishment, enhancement, and/or preservation of aquatic resources.

In-Lieu Fee programs require U.S. Army Corps of Engineers approval and are similar to mitigation banks in that they sell mitigation credits to permittees whose obligation is to provide compensatory mitigation for impacts to aquatic resources.

In-Lieu Fee programs are excellent opportunities for a government or non-profit entity to restore lands within their operational or jurisdictional area with the funds for the restoration efforts provided by the permittee (developer) seeking the Section 404 of the Clean Water Act permit. This program, as well as the mitigation banking program, would allow for the development monies to be spent to provide compensation for impacts to aquatic resources associated with projects within Denton County to stay within Denton County. Further, those monies would go towards preserving and enhancing the aquatic resources within Denton County, a component of which could include the preservation by product of greenbelts.

SUMMARY

The aforementioned are examples of the protection measures that can be incorporated into future planning efforts to ensure that the aquatic resources and their associated riparian areas (Greenbelts) are protected from future development encroachment. This list is not all encompassing – other protection measures are available. Any measures to ensure the protection of the aquatic resources within Denton County would be a positive for the residents of Denton County as a whole.

WATER QUALITY PROTECTION FOR PRIVATE LAND OWNERS

In Texas, the majority of the land is in private ownership. That same trend applies to Denton County. With the exception of the three U.S. Army Corps of Engineers' lakes, the majority of the land in Denton County is in private ownership. Private landowners have a responsibility to manage their land so that the County's waterways are not negatively impacted by their agricultural land practices. The following provides a bullet list of ways private land owners can improve water quality to receiving streams on their land:

- Grazing Management
- Cropland Management
- Riparian Corridor Restoration
- Invasive Species Management

The Texas A&M AgriLife Extension Service, USDA – Natural Resources Conservation Service and other agencies have produced numerous manuals, online courses and videos to provide guidance on management practices that will benefit water quality in streams and improve the sustainability of the land operation. An overview of guidelines and available resources addressing the aforementioned management practices are provided below.

GRAZING MANAGEMENT

As the largest agricultural activity in Texas, cattle grazing can have a significant impact on land management and water quality in streams and lakes. Improper grazing practices that lead to overgrazed pastures, degraded riparian areas and damaged stream banks will likely lead to poor water quality due to greater erosion and increased levels of fecal bacteria in waterbodies. Proper grazing techniques, however, such as proper stocking rates and rotational grazing, may improve productivity and sustainability of the cattle operation. Riparian areas should be treated with extra care, mainly by restricting the amount of time that livestock have access to the riparian area and stream bank. Creating a separate riparian pasture or fencing off the riparian area completely can help. The resources below will provide more detailed information on different practices. The local AgriLife Extension County office or Natural Resources Conservation Service office can be contacted for more specific guidance.

The Lone Star Healthy Streams (LSHS) program, developed by Texas A&M AgriLife Extension Service, consists of five resource manuals that focus on bacterial runoff management for beef cattle, dairy cattle, horses, poultry, and feral hogs. As part of this educational program, the current best management practices that protect Texas waterways through enhanced riparian protection and vegetation management on grazing lands are disseminated in three ways:

- Resource Manuals
- In-person Workshops
- Online Courses

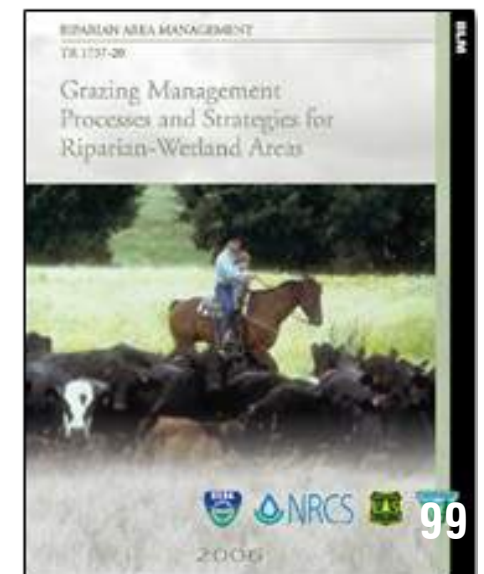
To learn more, visit <http://lshs.tamu.edu/>.

Developed by several federal natural resource agencies, "Grazing Management Processes and Strategies for Riparian-Wetland Areas" provides more in-depth guidance on different grazing techniques for riparian areas.

To learn more, visit <http://www.blm.gov/or/programs/nrst/grazing.php>.

Additional Resources:

Stocking Rate Calculator for Grazing Livestock Mobile App – Texas A&M AgriLife Extension <https://itunes.apple.com/us/app/stocking-rate-calculator-for/id814140174?mt=8>



CROPLAND MANAGEMENT

Row crop farming is another major land use in Denton County, which has the potential for greater impacts on riparian areas and streams than grazed pastures. Runoff and erosion is substantially greater on cultivated fields that are left bare for most of the year or on recently tilled fields. It is imperative that riparian buffers are maintained and farm management practices are incorporated to reduce runoff and subsequent erosion in the field. Employing buffers and other farm management practices to reduce field runoff and erosion is critical to ensure the integrity of the area's streams, which will in turn protect water quality.

Buffer width is important and should be determined for each property. General research-based recommendations indicate that buffers established for stabilizing banks should be at least 20 feet wide, whereas buffers established for water quality protection should be a minimum 100 feet. The USDA – Natural Resources Conservation Service (USDA – NRCS) has cost-share programs available, such as the Conservation Reserve Program, to assist landowners in planning and financing the establishment of buffers.

“Erosion and runoff are greater on cultivated fields, carrying pollutants such as fertilizer, herbicides and pesticides into nearby waterways.” Photo credit: NRCS

Reducing runoff and erosion from the field is also important since pollutants such as fertilizer, herbicides and pesticides that are commonly used in farming practices attach to soil particles that can harm water quality once it reaches the stream. Cover crops and no-till planting techniques are becoming more popular for erosion protection, allows for greater water infiltration, and reduces the need for pollutants which harm water quality.

The USDA – NRCS strongly encourages farmers to plant cover crops, implement no-till practices and diversify cropping rotations to improve soil health and water quality. Available resources are available at the USDA – NRCS website at <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health/> or contact the local Service Center.

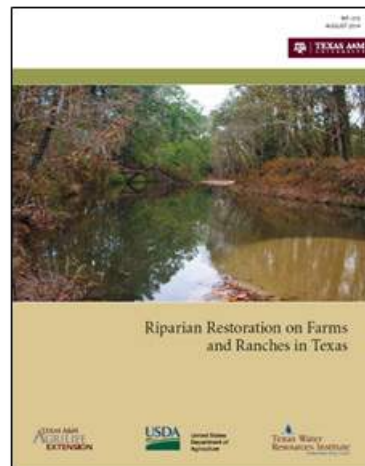
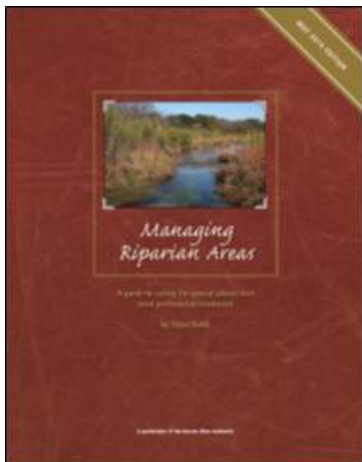


GREENBELT AND STREAM CORRIDOR STEWARDSHIP

With over 191,000 miles of waterways in Texas, private landowners have a significant responsibility to carefully manage the associated riparian areas that cross their land for the benefit of good water quality and water supply. To provide guidance in this area, the Texas A&M AgriLife Extension Service and others have produced publications and online resources to educate landowners. “Riparian Restoration on Farms and Ranches in Texas” explains basic stream hydrology and riparian ecosystem function principles and provides recommendations that include restoration techniques, plant species selection, monitoring methods, and grazing and cropland management.

The “Texas Field Guide to Evaluating Rangeland Stream and Riparian Health” discusses how to visually evaluate the health of Texas stream and riparian ecosystems and identify any changes in that health over time. This guide discusses two monitoring and evaluation procedures: a visual assessment checklist using 10 key indicators and photo monitoring of key locations. This guide is available at the AgriLife Bookstore.

“Managing Riparian Areas,” published by the Nueces River Authority, is a guidebook for landowners to gain understanding of how creeks and riparian corridors function and how different land uses can affect those areas. The guide discusses how proper management can restore the functions of healthy creek and riparian areas. It is available at the Nueces River Authority website.



The Texas Riparian Association has a number of online courses and videos that teach riparian and stream management principles. They are available at the Texas Riparian Association website.

“Range Plants of North Central Texas” is a landowner’s guide to the identification, value and management of plants that occur naturally in the Denton County area. It is available at the Botanical Research Institute of Texas website.

INVASIVE SPECIES MANAGEMENT

Invasive species, those that do not occur naturally in Texas, can be plants or animals that can cause serious damage to native wildlife and vegetation. These plants and animals can also harm water quality. The most recognizable invasive animal is the feral hog. Feral hogs damage crops and pasture lands, harm livestock and wildlife, and negatively affect water quality as they spend a majority of their time near water.

The Texas A&M AgriLife Extension Service has produced many publications, videos and online courses to understand their biology and behavior and to learn management techniques to control their population. Publications and online courses can be found at the AgriLife Bookstore. Videos can be found on the AgriLife Extension - Wildlife and Fisheries unit YouTube channel. Mobile phone based applications are also available such as the “Feral Hog Management” iPhone app from the App Store.

ADDITIONAL RESOURCES

Texas A&M AgriLife Extension Service – Wildlife and Fisheries Unit Mobile Apps - <http://wildlife.tamu.edu/mobile-apps/>

Texas Watershed Stewards – Educational program developed by the Texas A&M AgriLife Extension Service. Publication and online course available at <http://tw.s.tamu.edu/>.

“Watershed Monitoring Benefits Private Lands and Public Water Supplies” available at the AgriLife Bookstore, describes how different land uses have different impacts on water quality and supply.

FUNDING FOR GREENBELTS

Funding mechanisms for preservation of greenspace areas is fiscally challenging. Although not all inclusive, the following lists general funding opportunities for municipalities or Denton County to consider. It is solely guidance on funding options and strategies to consider. The Trust for Public Land (TPL) is the nation's leading source for research, education, and policy information for conservation funding. TPL employs a conservation finance team. Entities should be encouraged to engage the Trust for Public Land to identify and secure public financing.

GENERAL OBLIGATION BONDS

General obligation bonds are debt instruments issued by local governments to raise funds for public projects. These bonds would be subject to voter approval. However, as indicated in a 2013 study conducted by the City of Fort Worth, citizens are likely to support the issuance of general obligation bonds to fund the purchase of land to promote water quality protection.

COMMUNITY DEVELOPMENT BLOCK GRANTS

This is a federal program administered by the U.S. Department of Housing and Urban Development that provides communities with the resources to address a wide range of community development needs. Greenspace and public facilities are, at times, included in Community Development Block Grants.

DEVELOPMENT DEDICATIONS

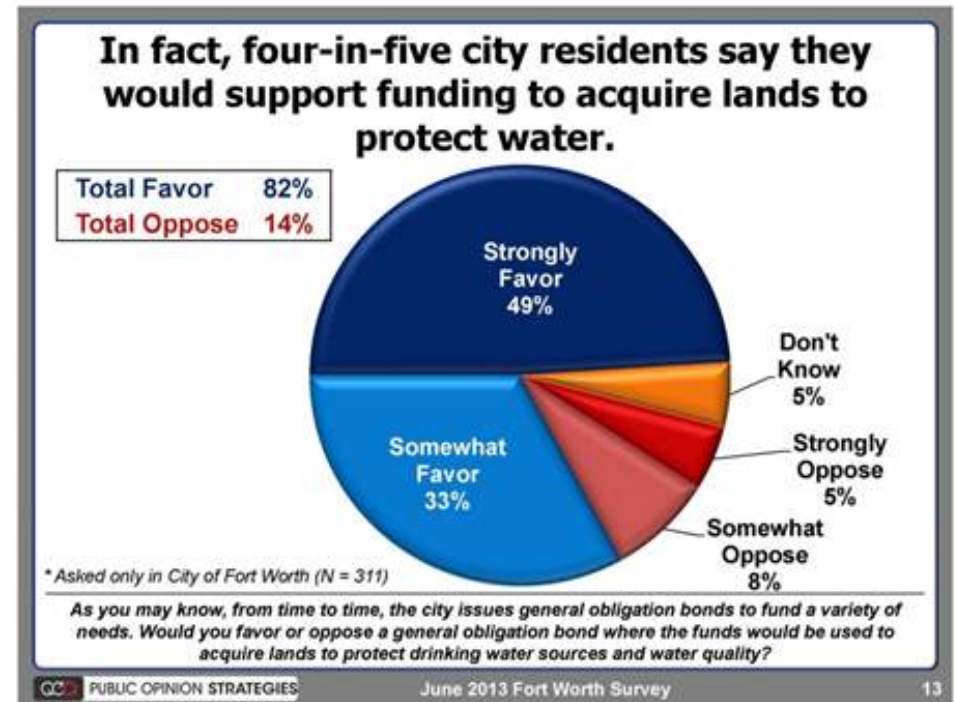
Parkland dedication is a local government requirement imposed on subdivision and site plan applications that mandates the dedication of land for a park and/or the payment of a fee to be used by the governmental entity to acquire land and/or develop park facilities.

TEXAS PARKS AND WILDLIFE PARKS AND RECREATION GRANTS

The Texas Parks and Wildlife Department administers the recreation grants program for the State of Texas. This program assists communities across Texas with their outdoor recreation needs. These grants help build new parks, conserve natural resources, provide access to waterways, and develop education programs for Texas' youth.

In reviewing a 2013 study conducted by the City of Fort Worth, the following question was asked:

“As you may know, from time to time, the City issues general obligation bonds to fund a variety of needs. Would you favor or oppose a general obligation bond where the funds would be used to acquire lands to protect drinking water sources and water quality?”



FEDERAL HIGHWAY ADMINISTRATION RECREATIONAL TRAILS PROGRAM

The U.S. Department of Transportation's Federal Highway Administration administers a program that funds pedestrian and bicycling projects and transportation trails. The Texas Department of Transportation is the agency that considers funding opportunities for pedestrian and bicycling projects and facilities.

CLEAN WATER ACT SECTION 319 GRANTS

Clean Water Act Section 319(h) Grants are available to communities with impaired water resources. These grants are designed to help communities with non-point source pollution issues. The U.S. EPA administers the program and distributes funds to states for allocation purposes.

FARM AND RANCH LANDS CONSERVATION PROGRAM

The Texas Parks and Wildlife Department administers the Texas Farm and Ranch Lands Conservation Program (TFRLCP). The mission of this program is to conserve natural resources by protecting working lands from fragmentation and development. The program maintains and enhances the ecological and agricultural productivity of these lands through agricultural conservation easements. The program uses state and federal dollars to purchase these conservation easements on working lands.

PRIVATE AND PUBLIC PARTNERSHIPS

Private and public partnerships are contracts between a private entity and public sector authority in which the private party provides a public service and assumes financial, technical, and operational risks in the project. For the purpose of this planning effort, an example of a public/private partnership would be if a private entity entered into an agreement with the U.S. Army Corps of Engineers to provide Greenbelt assets within federal lands for the purpose of benefitting the public sector.



Texas Farm and Ranch Lands Conservation Program

INTRODUCTION

The Texas Farm and Ranch Lands Conservation Program (TFRLCP) was established by the Texas Legislature in 2005 with the purpose of conserving working lands with high values for water, fish and wildlife, and agricultural production; especially lands at risk of development. In 2015, the 84th Legislature transferred the program from the Texas General Land Office (GLO) to the Texas Parks and Wildlife Department (TPWD), effective January 1, 2016 (HB1925). The program aligns with TPWD's mission to encourage stewardship of private lands for conservation of natural resources. The Legislature also appropriated \$2 million in state money to fund the program for the 2016-2017 biennium. An objective of the program will be to leverage this appropriation with other private, state, or federal dollars. These funds will be awarded to assist with the acquisition of conservation easements on working lands that conserve important natural resources.



TFRLC COUNCIL

The legislation also established a council to support the TFRLCP. The Texas Farm and Ranch Lands Conservation Council (TFRLCC) consists of 12 members, six Ex-Officio and six Governor-appointed members. Appointed members serve staggered terms of six years. The specific affiliation of each member is outlined in legislation, and a list of members is available on the TPWD TFRLCP webpages. The purpose of the TFRLCC is to select applicants to receive grants using TFRLCC adopted criteria.



CONTACT INFORMATION

For additional information, please visit our website at <http://tpwd.texas.gov/texasfarmandranch> or email us at texasfarmandranch@tpwd.texas.gov

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DONATIONS

Donations to dedicated Greenbelt preservation organizations could be established for the purpose of purchasing land outright or purchasing conservation easements on priority stream segments. The Upper Trinity Conservation Trust is one such organization equipped to receive funds for the express purpose of purchasing conservation easement.

Other entities could develop Green Space Preservation Fund programs for the purpose of purchasing land outright or conservation easements.

As previously indicated, Appendix D contains a toolbox for implementation strategies. The toolbox also provides benefits and drawback associated with the implementation strategy, as well as a user applicability matrix.





CHAPTER SIX: GREENBELT DESIGN CRITERIA AND STANDARDS



CHAPTER SIX: GREENBELT DESIGN CRITERIA AND STANDARDS

The following development criteria and standards are meant to be basic guidelines for the protection, reestablishment and maintenance of riparian Greenbelts. According to the USDA, a riparian area is a three-dimensional ecotone of aquatic and terrestrial ecosystems. This area consists of topography sloping towards a water body and is covered by tree canopy, grasses and understory plants. A riparian corridor is a management area designed to include much of the riparian area.

GREENBELT CORRIDOR RECOMMENDATIONS

GREENBELT CORRIDOR WIDTH

The stream segments identified for Greenbelt preservation and their associated riparian corridors are all unique to their geographic juxtaposition within Denton County. Each stream segment is affected by the geology and soil composition, watershed, slope, vegetation composition, and surrounding land use. Numerous models have been authored to determine buffer widths based on site factors; however, for ease of simplicity, fixed buffer width recommendations are the easiest to administer. Fixed buffer width determinations should be assessed for the particular stream resource identified for preservation. For example, the larger the stream, the larger riparian buffer width should be considered for preservation.

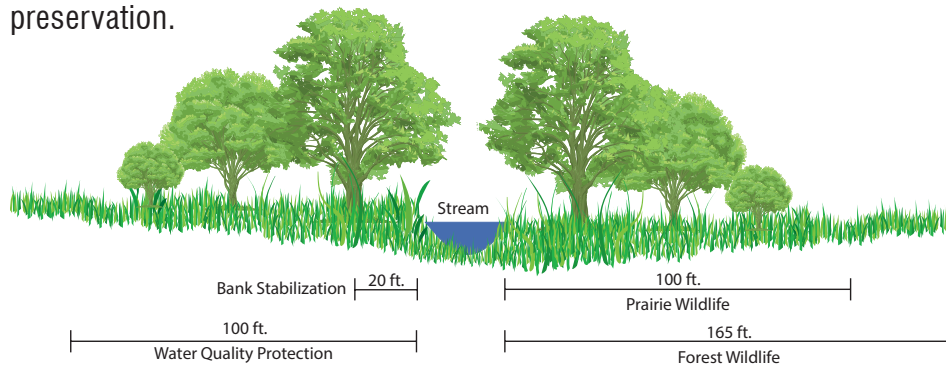


Figure 19: Greenbelt Width Recommendations. Photo Courtesy Texas A&M AgriLife Extension Service

Buffer width determinations are also dependent upon the type of resource targeted for protection. If bank stabilization is the main goal for preservation, research suggests riparian buffers should extend a minimum of 20 feet from the top of bank. Since water quality protection is the overarching purpose for the Greenbelt plan, a minimum riparian width of 100 feet from the top of bank is recommended for water quality protection, as illustrated in Figure 19.

GREENBELT CORRIDOR CONNECTIVITY

Connectivity is measured by how continuous greenspace is longitudinally adjoining a riparian feature such as a stream, river, pond or lake. Gaps in connectivity are weak points within the Greenbelt that do not perform as well in regards to improving water quality, reducing erosion, creating wildlife corridors and providing habitat. This fragmentation in the Greenbelt has occurred from urban, industrial and agricultural practices.

Within this document, gaps in Greenbelts were identified and strategies are suggested to improve connectivity and reduce fragmentation. These strategies should include revegetation through encouragement of natural revegetation or manual planting of native species suited to riparian environments. When manually revegetating Greenbelts, plant selection factors such as diversity, erosion control, habitat and run-off filtration should be taken into consideration. The Appendix includes a plant list for Denton County.

Sensitive Creekside Area

Grow Zone
(No Mowing!)

Riparian Zones with tall grasses and plants :

- Improve water quality and quantity
- Stabilize streambanks from erosion
- Provide wildlife habitat and food
- Shade streams and lower temperatures

**Zona ribereña delicada
¡No corte las hierbas!**

Zona ribereña de pastos altos y plantas silvestres:

- Mejoran la cantidad y calidad del agua
- Estabilizan los causes de erosión
- Proporcionan un entorno de vida silvestre y de alimentos
- Hay mucha sombra para el suelo y para moderar las temperaturas del agua

www.austintexas.gov/watershed/creekside

GREENBELT MAINTENANCE

Greenbelts that allow native trees, grasses, perennials and other understory growth to grow in their natural state perform better at improving water quality, creating habitat and reducing erosion than routinely mowed and manicured riparian areas. Mowing is not recommended but can be used occasionally as a tool to control invasive or unruly vegetation. Municipalities should educate maintenance crews on the importance of Greenbelt buffers along streams, creeks, rivers, ponds and lakes. The Grow Zone Sign in the adjacent column, created by the City of Austin, is a good example of how this type of maintenance program can be used to identify non mow areas and educate maintenance crews. Greenbelt maintenance should also include periodic removal of trash and debris, removal and monitoring of invasive species, and monitoring of erosion.

GREENBELT ACCESS

Within these water quality riparian buffers, multi-use trails, single-use trails, paddle trails, equestrian trails, bridges and trailheads can be situated, utility corridors placed, and other linear features included so that the Greenbelt corridor is afforded multiple uses and benefits. By providing Greenbelt access and recreational opportunities, people within the County will develop a greater knowledge and appreciation of natural systems and the importance of Greenbelts. To aid municipalities, or other entities, Appendix F provides Greenbelt Trail Standards to be considered. Incorporation of aspects of these standards will facilitate connectivity of trail acoutrements for trail users, which in turn will provide cohesiveness of trail assets crossing multiple jurisdiction.



APPENDIX

APPENDIX - TECHNICAL MEMORANDUM



TECHNICAL MEMORANDUM

TECHNICAL MEMORANDUM Comprehensive Greenbelt Plan for Denton County Greenbelt Selection Factors

UPPER TRINITY CONSERVATION TRUST In Conjunction with Denton County and Upper Trinity Regional Water District Comprehensive Greenbelt Plan for Denton County

GREENBELT SELECTION FACTORS

Project No.:	0449-067-01
Date:	July 6, 2015
Prepared For:	Upper Trinity Conservation Trust, Denton County, and Upper Trinity Regional Water District
Prepared By:	Jason Voight and Janna Tidwell

The total area of Denton County is approximately 953 square miles. Portions of that land, approximately 75 square miles, are covered by water associated with three major water supply and flood storage reservoirs: Grapevine Lake, Lewisville Lake, and Ray Roberts Lake. The major river located within Denton County is the Elm Fork of the Trinity River (Elm Fork). The headwaters for the Elm Fork start near the town of Saint Jo in Montague County and continue eastward into Cooke County toward the City of Gainesville. At Gainesville, the Elm Fork trends southerly into Denton County. Within Denton County, Ray Roberts Lake and Lewisville Lake are impoundments of the Elm Fork. South of the Lewisville Lake dam, the Elm Fork continues in a southerly direction into Dallas County where it converges with the West Fork of the Trinity River to form the Trinity River. Grapevine Lake is an impoundment of Denton Creek, a major tributary to the Elm Fork. Within Denton County, the Elm Fork watershed has numerous other named streams which include:

Aubrey Branch, Bakers Branch, Blocker Creek, Boom Branch, Bray Branch, Bryant Branch, Buck Creek, Burns Branch, Cade Branch, Cannon Creek, Cantrell Slough, Carter Branch, Catherine Branch, Clear Creek, Cleveland Branch, Cooper Creek, Copperas Branch, Cottonwood Branch, Crow Branch, Culp Branch, Doe Branch, Dry Fork Hickory Creek, Duck Creek, Dudley Branch, Elizabeth Creek, Fincher Branch, Flat Creek, Fletcher Branch, Furneaux Creek, Graham Branch, Grasshopper Creek, Graveyard Branch, Harriet Creek, Henrietta Creek, Hickory Creek, Hog Branch, Indian Creek, Jordan Creek, Little Duck Creek, Little Elm Creek, Loving Branch, Marshall Branch, McWhorter Creek, Midway Branch, Milam Creek, Mill Branch, Moores Branch, Morris Branch, Mustang Creek, North Hickory Creek, Oliver Creek, Panther Creek, Pecan Creek, Poindexter Branch, Pond Creek, Prairie Creek, Ranger Branch, Roark Branch, Running Branch, Sand Branch, Sharps Branch, South Hickory Creek, Stewart Creek, Timber Branch, Timber Creek, Trail Creek, Veal Springs Branch, Whites Branch, Whites Creek, Willow Branch, and Wolf Branch.

There are 45 municipalities either located wholly within the Denton County or portions of their corporate limits lie within the County. In addition to the 45 municipalities, there are several existing and planned master-planned communities located in unincorporated areas of Denton County (e.g. Lantana, Savannah, and Union Park). The County is also home to numerous farms and ranches. The United States (US) Census Bureau estimated the 2014 population of Denton County at 753,363 persons. According to the 2012 Region C Water Plan, the population of Denton County is projected to nearly double by 2040 to about 1.4 million persons. Based on this projected population increase, developed land within Denton County could also be expected to nearly double, which could have a significant deleterious effect on the County's open space, creeks, streams, and river; if left unchecked.

The Upper Trinity Conservation Trust with its partners Denton County and the Upper Trinity Regional Water District are preparing for this projected development pressure by providing a planning document to identify resource areas to preserve for future generations – specifically – greenbelts along waterways. Greenbelts are simply areas of undeveloped land, usually wooded, that typically follow creeks, streams, or rivers. Greenbelts provide recreational opportunities, preserve cultural, historical, and natural landscapes, preserve habitat for plants and animals that utilize these corridors, and provide water quality benefits for area streams and lakes.

As previously shown, there are approximately 73 named streams, creeks, or rivers within Denton County. Each of those 73 named waterways has numerous unnamed streams as tributaries, and those unnamed streams may also have their own unnamed tributaries. The diversity of aquatic resources compounds the factors that should be considered for planning greenbelts. This memorandum presents a screening process for selecting streams within Denton County to consider for preservation within a designated greenbelt. Although important, not every stream would or should be eligible for greenbelt planning consideration.

The first step in the screening process is to identify highly functioning riparian corridors through a four part yes or no questionnaire:

1. Does the creek, stream, or river have a hydrologic connection to Grapevine Lake, Lewisville Lake, or Ray Roberts Lake, or the Elm Fork Trinity River? Yes or No – If yes, continue to question #2.
2. Does the creek, stream, or river, and its associated riparian corridor have a Federal Emergency Management Agency delineated 100-year floodplain? Yes or No – If yes, continue to question #3.
3. Does the creek, stream, or river's flow regime evidence either intermittent or perennial flow? Yes or No – If yes, continue to question #4.
4. Is the creek, stream, or river's length greater than or equal to 3.0 miles? Yes or No – If yes, the stream is eligible for further consideration for the Greenbelt Plan.

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Comprehensive Greenbelt Plan for Denton County
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The rationale for Question #1 is that nearly all creeks, streams, and rivers within Denton County are hydrologically connected to Grapevine Lake, Lewisville Lake, or Ray Roberts Lake. The exceptions to this are the creeks and streams located below the dams of Grapevine Lake and Lewisville Lake. These streams are all located within a highly developed and previously park planned portions of Denton County. Development has already encroached upon a majority of these streams to the maximum extent possible and a majority of the streams already contain trail elements established during prior urban planning efforts. However, opportunities do exist to provide greenbelts along the major tributaries to the Elm Fork. Thus, connections to these major tributaries to the Elm Fork will be considered in the overall plan on an individual basis.

The objective of Question #2 is to identify streams with significant watersheds and sub-watersheds. If the stream has a delineated 100-year floodplain, likely there is a significant contribution from the surrounding land to the stream, which could have a considerable effect on water quality. Further, streams without floodplains are typically headwater streams. Headwater streams are usually shorter in length, sustain limited wooded riparian corridors, and have smaller watersheds.

Similar to Question #2, Question #3 addresses the flow regime associated with a creek, stream, or river. To gauge flow regimes, the US Geological Survey topographic quadrangle maps will be assessed to determine intermittent to perennial flow. Streams with intermittent to perennial flow typically have significant watersheds and wooded riparian corridors. Although an ephemeral stream may have a floodplain, sufficiently sized watershed, and riparian corridor, its flow regime is drastically different than intermittent to perennial streams. Ephemeral streams do provide both ecological and hydrological benefits; however, from an aquatic habitat perspective, ephemeral streams are limited by their dependency on hydrology from rainfall exclusively.

Finally, the purpose for Question #4 is to identify streams with sufficient length. Streams with a minimum length of three miles should be considered for greenbelt preservation. Three miles provides sufficient distance for approximately one hour of walking in one direction. This assumes an individual walks at approximately three miles per hour or 20 minutes per mile. This distance is also sufficient length for planning on a regional basis.

The planning team realizes there are exceptions to every rule. Exceptions that should be considered include ecologically significant stream segments, stream segments that provide opportunities to bridge watersheds, stream segments that provide exceptional habitat for plants and animals (i.e. critical habitat for threatened or endangered species), and culturally/historically significant stream segments. Stream segments that do not qualify based on the screening questionnaire yet provide a significant benefit and are threatened by development should be given immediate prioritization.

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Once streams are identified for consideration, the streams will be sub-divided by the corresponding 12-digit hydrologic unit code (HUC), which is essentially a sub-watershed for the stream systems associated with the Elm Fork system. Some sub-watersheds may contain several eligible stream segments. In total, there are approximately 42 individual sub-watersheds in Denton County. Each stream within the sub-watershed will then be ranked for prioritization based on the following principal factor categories:

- Hydrologic
- Ecologic
- Land Use
- Cultural/Historical

Sub-factors for each of the major factor categories will be considered, scored, and ranked. The scoring of the factors and the prioritization matrix is included in Attachment A. The sub-factors considered for each principal factor category are as follows:

Hydrologic

- Degree of Connection to a County Reservoir – This metric is based on the stream order of connection to a county reservoir. Streams with a direct connection to a county reservoir are ranked highest, and tributaries to those directly connected streams are ranked by their subsequent orders of connection.
- Proximity of Connection to County Reservoir – This metric measures the distance of the stream system associated with a HUC to a county reservoir. The closer the HUC is to a county reservoir, the more likely the stream network would have a directly impact to the county reservoir. Thus, the closer the stream network within the designated HUC is to a county reservoir, the higher the ranking.
- Floodplain Extent (Floodway, 100-year Floodplain, 500-year, No Floodplain) – Streams that contain floodways are ranked highest followed sequentially by streams with 100-year floodplains, 500-year floodplains, and no floodplains. Typically streams that contain floodways are the more perennial flowing streams with frequent out of bank events and direct connections to area reservoirs; therefore, these streams should receive a higher ranking. Similarly, streams that contain 100-year floodplains have a higher propensity to have out of bank events and thus should be ranked subsequent to streams that contain floodways. Streams with 500-year floodplains and no floodplains have lesser tendencies to have out of bank events if any and thus are ranked lower, respectively.
- Watershed Size – This metric accounts for the streams located in larger HUCs. The larger the watershed, the more likely the watershed would be impacted by anthropogenic activities. Further, there would be increased stream lengths within the larger watersheds. This metric is divided into HUCs that are greater than 15,000 acres are ranked the highest, followed by 10,000 to 15,000 acre HUCs, followed by 5,000 to 10,000 acre HUCs, and finally less than 5,000 acre HUCs.
- WQCM Model Prioritization – This metric only includes the watersheds associated with Lewisville Lake. Lewisville Lake is located wholly within Denton County. The majority of HUCs within Denton County feed into Lewisville Lake. The WQCM model, crafted by professors from the University of North Texas, takes into account multiple factors some of which are included herein. The model accounts for these factors and prioritizes the watersheds into preservation categories defined as Highest, High, Moderate, and Low. Highest prioritized watersheds are given the higher ranking. Watersheds not included within the Lewisville Lake watershed will be given a score of zero for this metric.

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- Stream Flow Regime/Character – This metric accounts for the flow regime represented by a stream. Perennial streams typically have larger watersheds, and have direct connections to county reservoirs. Therefore, these streams provide higher degrees of functions and should receive a higher prioritization. Intermittent streams are usually tributaries to perennial streams and contain smaller watersheds. However, these streams also provide important functions and should rank higher than ephemeral streams and streams that have been previously impaired (e.g. ditched, channelized, or concrete lined streams).

Ecologic

- Riparian Corridor Width – Streams with riparian corridor widths greater than 150 feet have higher degrees of functions compared to those streams with riparian corridor widths less than 50 feet. Thus, the wider the riparian corridor width the higher the ranking.
- Wetlands – Wetlands provide high degrees of ecological functions. Within Denton County, the two predominant types of wetlands are forested and herbaceous wetlands. Stream corridors that contain both forested and herbaceous wetlands rank higher than stream corridors with individual types of wetlands or no wetlands. Forested wetlands rank higher than herbaceous wetlands due to the extended time for forested wetlands to become established.
- Geology – The predominant geological formations located in Denton County include alluvium, shale, marl, and limestone. Most streams are located within the alluvium geological formation, which is typically comprised of sands and gravels. These formations by their nature are deposits from streams and rivers over time from the weathering of adjacent geological formations. These formations are tenuous and subject to erosion. Therefore, streams located within alluvium substrates would score higher. Shale and marl formations have a propensity to weather and could potentially produce instability within streams thus these streams are ranked subsequent to alluvium. Streams within limestone formations are typically more stable and thus are ranked the lowest.
- Topography – This metric assesses the degree of slope across the HUC along the predominant streams flowpath within the HUC. Streams with slopes greater than five percent are ranked higher due to their likelihood for increased erosion potential. Streams with lesser degrees of slope are ranked lower.
- Erosive Soils – This metric utilizes the Soil Survey of Denton County and assesses the degree of erosiveness associated with soil types located along area streams. Soils with higher degrees of erosiveness are ranked highest.
- Vegetation Percent Cover – This metric utilizes the national landcover dataset and provides a percent cover for vegetation within a HUC. Typically soil with vegetative cover has lesser degrees of erosive potential. Therefore, HUCs displaying greater than 75 percent cover receive the highest ranking with HUCs displaying lesser percentages of vegetative cover receiving lower scores.
- Ecological Zones – According to the EPA's Level IV Ecoregions map, four ecological zones are located within Denton County: Western Crosstimbers, Eastern Crosstimbers, Grand Prairie, and Northern Blackland Prairie. The eastern crosstimbers ranks the highest due to the limited post oak timbered nature of the ecoregion, the hilly terrain associated with the ecoregion, and the sandy soils associated with the ecoregion. The Grand Prairie ranks subsequent to the eastern crosstimbers due to the thinner soils associated with the ecoregion, the area within Denton County (occupies nearly half the county), and the future development pressure located within the ecoregion. The Northern Blackland Prairie ranks subsequent to the Grand Prairie due to the deep clay soils associated with the ecoregion, and the smaller area occupied within the county. The western crosstimbers occupies a small area of northwestern Denton County and thus ranks the lowest.
- Threatened/Endangered Species Habitat – According to the U.S. Fish and Wildlife Service, there are six listed species as potentially occurring in Denton County. The Texas Parks and Wildlife

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Department lists another 13 species as potentially occurring in Denton County. Therefore, this metric assesses the potential likelihood for threatened or endangered species habitat to occur within a HUC. A HUC containing habitat for two or more species ranks the highest.

Land Use

- Development Intensity – This metric assesses the current development intensity based on the national landcover dataset (2011). The national landcover dataset ranks areas based on development intensity. Open space is ranked highest followed by varying degrees of development intensity from low to medium to high.
- Proximity to Future Road Corridors (e.g. Outer Loop) – This metric assesses the proximity of a HUC to future proposed major highway corridors. Development intensity typically increases following the construction of major commuter road networks. Thus HUCs located in close proximity to proposed major road corridors are ranked higher than areas located at greater distances.
- Watershed Characteristic – This metric assesses the character of a HUC. HUCs that are mostly natural receive the higher ranking followed by HUCs that are mostly agricultural, then HUCs where single-family housing is mixed with agricultural and natural areas, and lastly HUCs that are mostly developed.
- Proximity to Existing and Proposed Trails – This metric measures the stream's proximity to existing and proposed regional trails. The closer the proximity to a regional trail network, the higher the ranking.
- Proximity to Existing and Proposed Parkland – This metric measures the stream's proximity to existing and proposed parkland that is greater than 10 acres in area. The closer the proximity to a regional park, the higher the ranking.
- Proximity to Federal Land – This metric measures the stream's proximity to federal land (parkland associated with Ray Roberts Lake for example). The closer the proximity to federal land, the higher the ranking.
- Proximity to Public Land or Otherwise Protected Lands – This metric measures the stream's proximity to public land or otherwise protected lands. These areas are usually schools, university's, private nature preserves, etc. The closer the proximity to public/protected land, the higher the ranking.
- City ETJ's – This metric assesses the number of city ETJ's located within a HUC. The smaller municipalities in Denton County are growing. Since these municipalities are growing, a HUC may contain multiple city ETJ's. The Cities that have neighboring ETJ's may not be coordinating planning efforts. Therefore, HUCs that contain three or more city ETJ's rank the highest to facilitate planning efforts. The larger cities typically wholly occupy individual HUCs and therefore rank lower.
- Proximity to Hazards (i.e. landfills, mining areas, major highways) – This metric measures the HUC's proximity to hazards or impediments to greenbelts. The further the distance from a hazard or impediment, the higher the ranking.

Cultural/Historical

- Archaeological Sites – This metric assesses the Texas Historical Atlas and determines the number of archaeological sites located within a HUC. The higher the number of archaeological sites, the higher the ranking.
- Culturally Significant Areas – This metric assesses the Texas Historical Atlas and determines the number of culturally significant areas located within a HUC. The higher the number of culturally significant areas, the higher the ranking.

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- **Historical Areas** - This metric assesses the Texas Historical Atlas and determines the number of historical areas located within a HUC. The higher the number of historical areas, the higher the ranking.

Once the sub-factors are ranked, the scores will be tallied by major factor category. Since the preservation of water quality within Denton County reservoirs is the overarching purpose for the greenbelt preservation plan, the sub-factors associated with water quality will receive a weighting of 25 percent over the remaining sub-factors. These weightings are shown on the prioritization matrix in Attachment A.

PRIORITIZATION MATRIX PER IDENTIFIED 12-DIGIT HUC WATERSHED OR STREAM SEGMENT

HUC IDENTIFICATION # _____

FACTOR	SUB-FACTOR	FACTOR RANKING				WEIGHTING	SCORE
		FOURTH ORDER CONNECTION TO RESERVOIR	THIRD ORDER CONNECTION TO RESERVOIR	SECOND ORDER CONNECTION TO RESERVOIR	FLOW DIRECTLY INTO RESERVOIR (FIRST ORDER CONNECTION TO RESERVOIR)		
HYDROLOGIC	DEGREE OF CONNECTION TO COUNTY RESERVOIR	1	2	3	4	25%	
		> 15 MILES	10-15 MILES	5-10 MILES	< 5 MILE		
	PROXIMITY OF CONNECTION TO COUNTY RESERVOIR	1	2	3	4	25%	
		NO FLOODPLAIN	500-YEAR	100-YEAR	FLOODWAY		
	FLOODPLAIN	1	2	3	4	25%	
		< 5,000 ACRES	5,000-10,000 ACRES	10,000-15,000 ACRES	> 15,000 ACRES		
	WATERSHED SIZE	1	2	3	4	25%	
		LOW	MEDIUM	HIGH	HIGHEST		
	WCQM MODEL PRIORITIZATION	1	2	3	4	25%	
		DITCH/ CHANNELIZED/ CONCRETE	EPHEMERAL	INTERMITTENT	PERENNIAL		
STREAM FLOW REGIME/ CHARACTER	1	2	3	4	25%		
	< 50 FEET	50-100 FEET	100-150 FEET	> 150 FEET			
ECOLOGIC	RIPARIAN CORRIDOR WIDTH	1	2	3	4	25%	
		NO WETLANDS	HERBACEOUS	FORESTED	HERBACEOUS AND FORESTED		
	WETLAND	1	2	3	4	25%	
		LIMESTONE	MARL	SHALE	ALLUVIUM/ SAND/ WINDBLOWN		
	GEOLOGY	1	2	3	4	0%	
		FLAT	1-2% SLOPE	2-5% SLOPE	> 5% SLOPE		
	TOPOGRAPHY	1	2	3	4	0%	
		LOW	MODERATE	HIGH	EXTREME		
	EROSIVE SOILS	1	2	3	4	25%	
		0-25%	25-50%	50-75%	> 75%		
VEGETATION PERCENT COVER	1	2	3	4	25%		
	WESTERN CROSS-TIMBERS	NORTHERN BLACKLAND PRAIRIE	GRAND PRAIRIE	EASTERN CROSS-TIMBERS			
ECOLOGICAL ZONES	1	2	3	4	0%		
	NO SPECIES	1 SPECIE	2 SPECIES	> 2 SPECIES			
THREATENED/ ENDANGERED SPECIES HABITAT	1	2	3	4	0%		
	HIGH	MEDIUM	LOW	OPEN SPACE			
LAND USE	DEVELOPMENT INTENSITY	1	2	3	4	0%	
		> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE		
	PROXIMITY TO FUTURE ROAD CORRIDORS	1	2	3	4	0%	
		URBAN	URBANIZING	AGRICULTURAL	NATURAL		
	WATERSHED CHARACTERISTIC	1	2	3	4	25%	
		> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE		
	PROXIMITY TO EXISTING TRAIL	1	2	3	4	0%	
		> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE		
	PROXIMITY TO PLANNED TRAIL	1	2	3	4	0%	
		> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE		
PROXIMITY TO EXISTING PARKLAND > 10 ACRES	1	2	3	4	0%		
	> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE			
PROXIMITY TO PLANNED PARK > 10 ACRES	1	2	3	4	0%		
	> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE			
PROXIMITY TO FEDERAL LAND	1	2	3	4	0%		
	> 5 MILES	3-5 MILES	1-3 MILES	< 1 MILE			
PROXIMITY TO PUBLIC OR OTHERWISE PROTECTED LANDS	1	2	3	4	0%		
	NO CITY	1 CITY	2 CITIES	3 OR MORE CITIES			
CITY ETJ's	1	2	3	4	0%		
	<100 FEET	100-300 FEET	300-500 FEET	> 500 FEET			
PROXIMITY TO HAZARDS	1	2	3	4	0%		
	NO SITES	1 SITE	2 SITES	> 2 SITES			
ARCHAEOLOGICAL SITES	1	2	3	4	0%		
	NO SITES	1 SITE	2 SITES	> 2 SITES			
CULTURALLY SIGNIFICANT AREAS	1	2	3	4	0%		
	NO SITES	1 SITE	2 SITES	> 2 SITES			
HISTORICAL AREAS	1	2	3	4	0%		
	TOTAL SCORE						

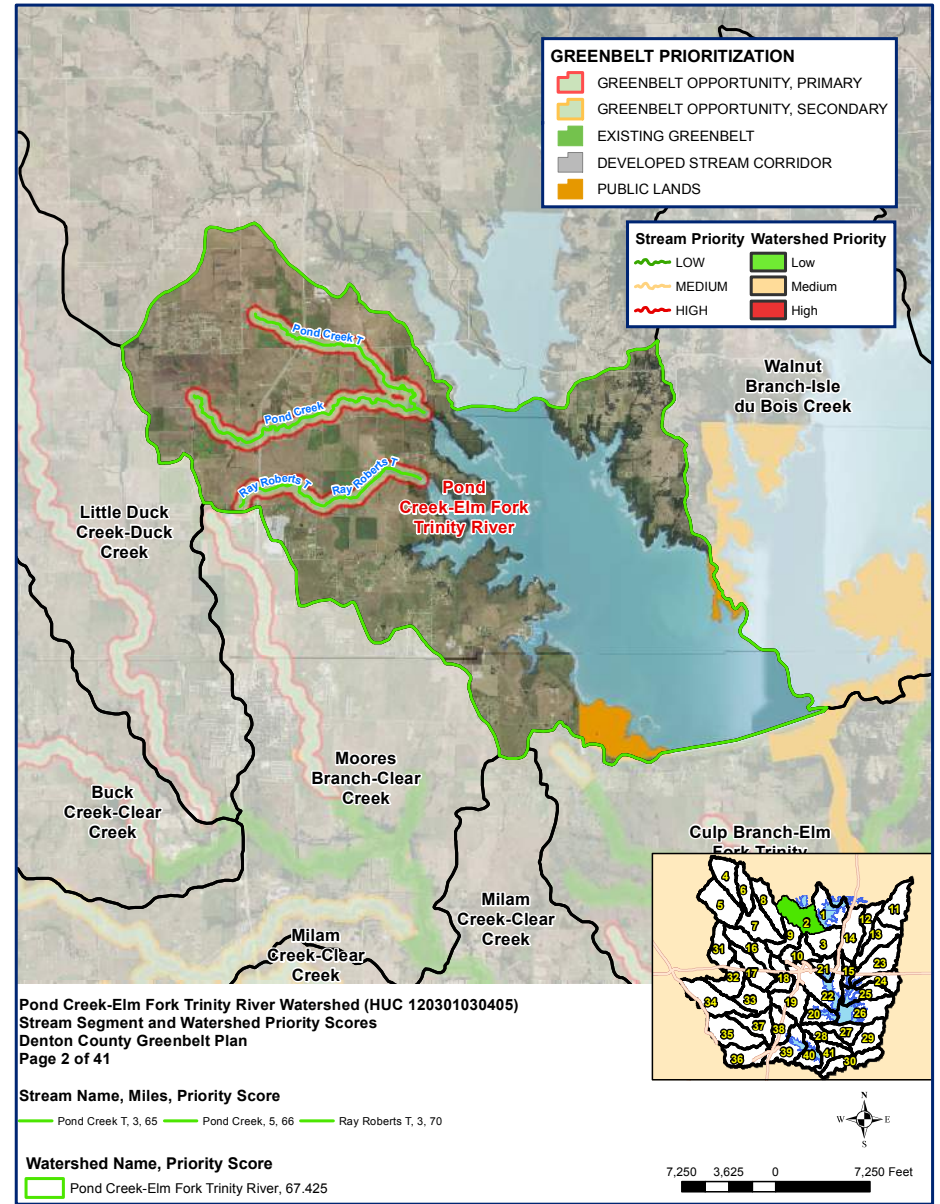
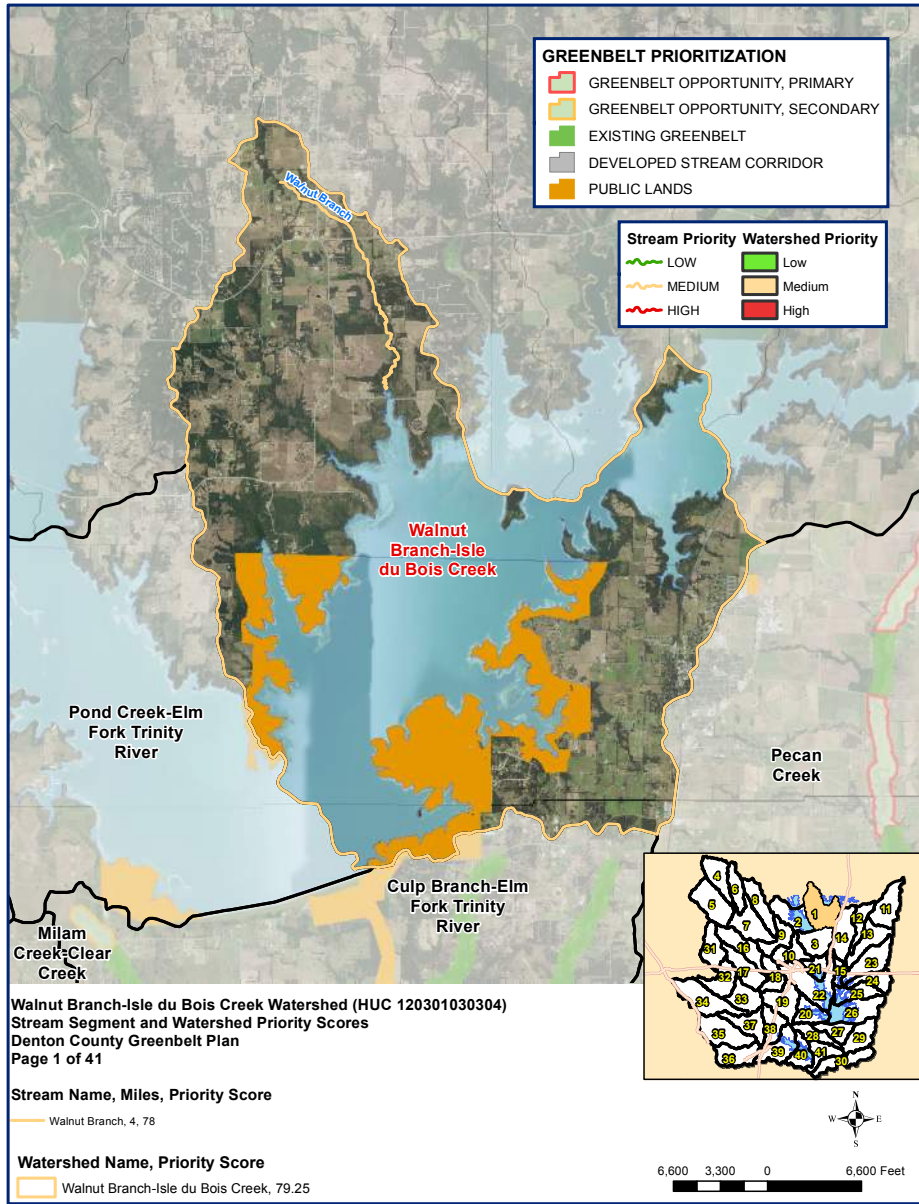


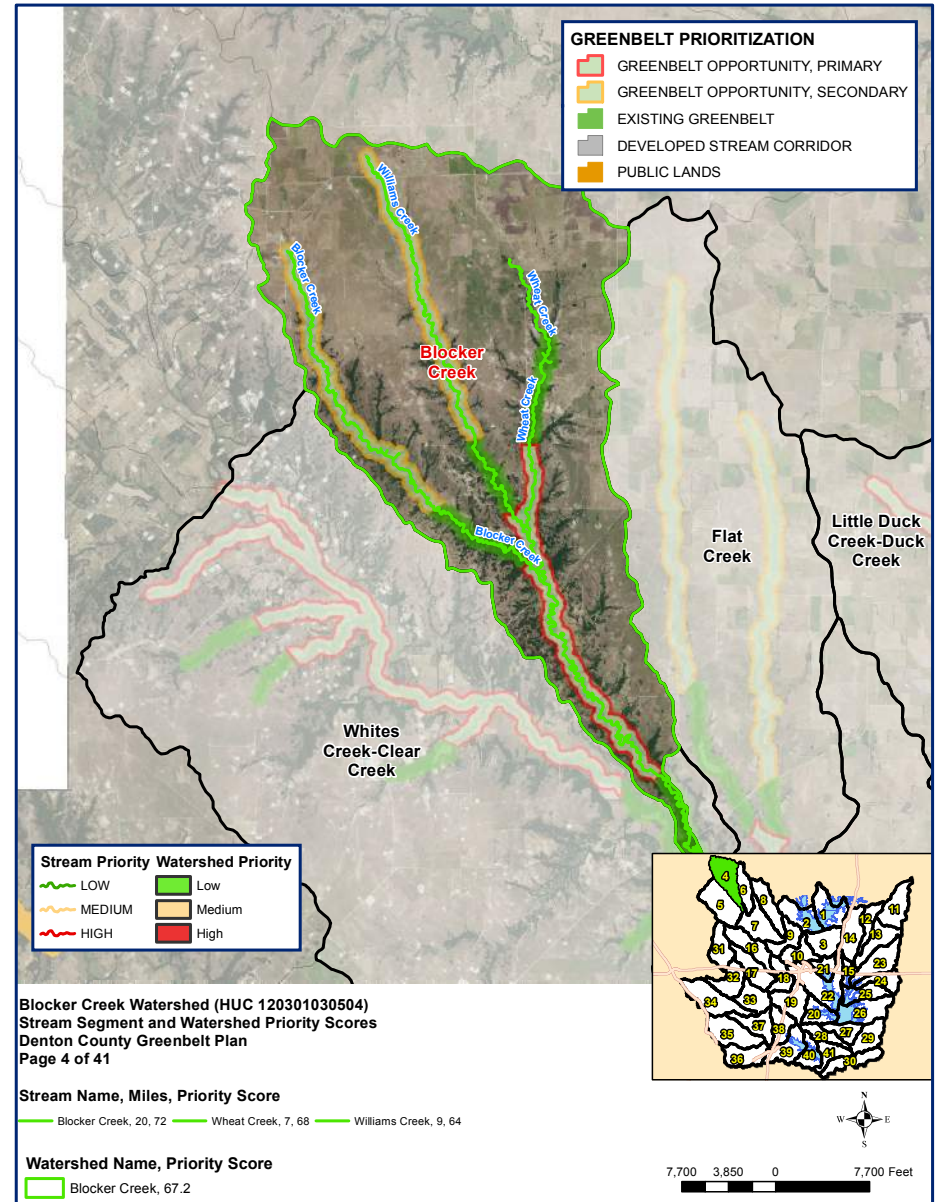
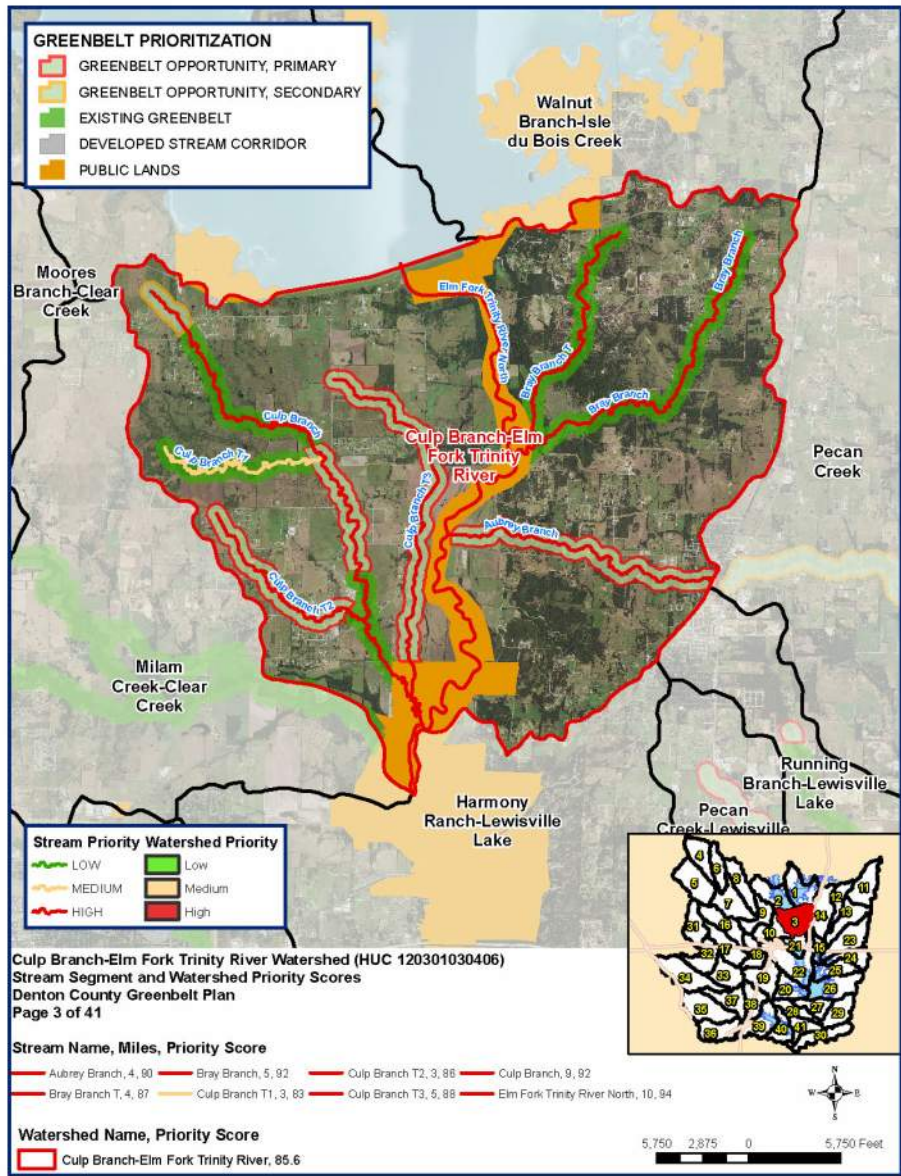
APPENDIX B - WATERSHED AND STREAM PRIORITY CLASSIFICATION

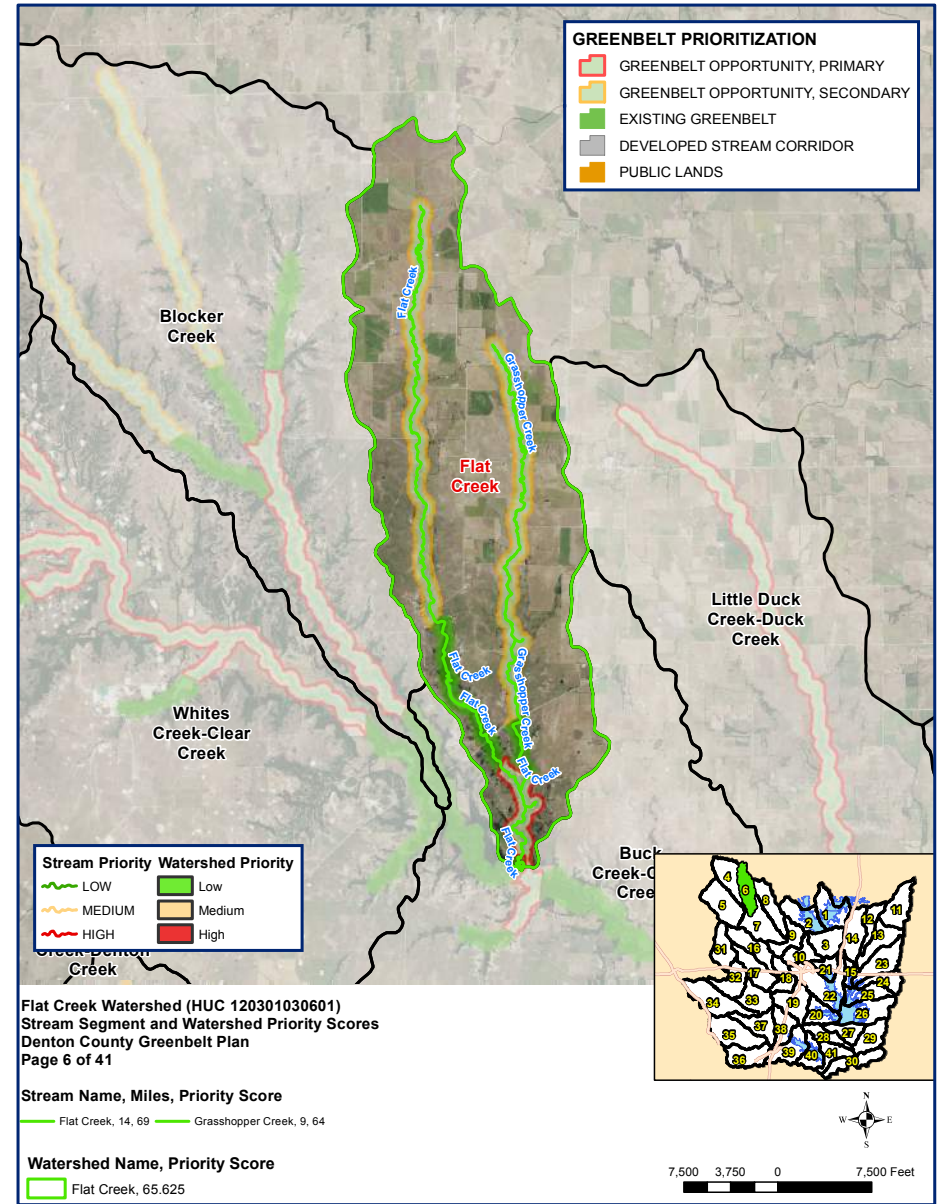
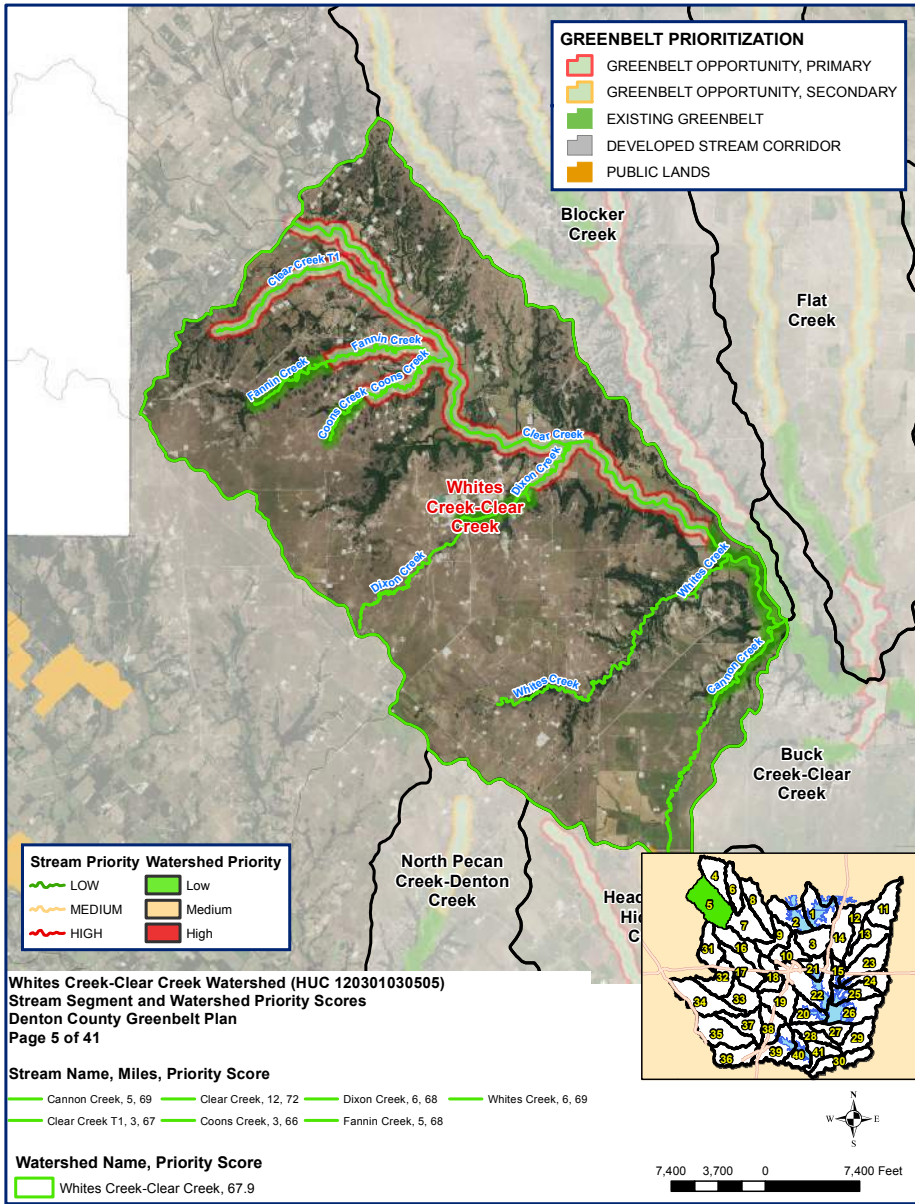
Watershed Number	Watershed Name	Watershed Prioritization	HUC 12	Stream Name	Stream Prioritization	City/County	County, and City and City ETJ	Existing Trails	Existing Parks (> 10 acres)
1	Walnut Branch-Isle du Bois Creek	Medium	120301030304	Walnut Branch	Medium	County	Cooke County, Denton County	No	Yes
2	Pond Creek-Elm Fork Trinity River	Low	120301030405	Pond Creek	Low	City/County	Sanger, Cooke County	No	Yes
				Pond Creek T	Low				
				Ray Roberts T	Low				
3	Culp Branch-Elm Fork Trinity River	High	120301030406	Aubrey Branch	High	City/County	Aubrey, Denton, Pilot Point, Denton County	Yes	Yes
				Bray Branch	High				
				Bray Branch T	High				
				Culp Branch T1	Medium				
				Culp Branch T2	High				
				Culp Branch T3	High				
				Elm Fork Trinity River North	High				
				Culp Branch	High				
4	Blocker Creek	Low	120301030504	Blocker Creek	Low	City/County	Cooke County, Denton County	No	No
5	Whites Creek-Clear Creek	Low	120301030505	Williams Creek	Low	City/County	Cooke County, Denton County	No	No
				Wheat Creek	Low				
				Clear Creek	Low				
				Cannon Creek	Low				
				Coons Creek	Low				
				Dixon Creek	Low				
				Whites Creek	Low				
6	Flat Creek	Low	120301030601	Clear Creek T1	Low	City/County	Cooke County, Denton County	No	No
7	Buck Creek-Clear Creek	Medium	120301030602	Grasshopper Creek	Low	City/County	Denton, Sanger, Cooke County, Denton County	No	No
				Clear Creek	High				
				Clear Creek T11	Medium				
				Mill Branch	Low				
8	Little Duck Creek-Duck Creek	Low	120301030603	Clear Creek T9	Low	City/County	Denton, Sanger, Cooke County, Denton County	No	No
				Buck Creek	Low				
				Duck Creek	Medium				
				Little Duck Creek	Low				
				Willow Branch	Low				
9	Moore's Branch-Clear Creek	High	120301030604	Duck Creek T4	Medium	City/County	Denton, Krum, Sanger, Denton County	Yes	Yes
10	Milam Creek-Clear Creek	High	120301030605	Clear Creek T1	Low	City	Denton	Yes	Yes
				Clear Creek T13T	Medium				
				Ranger Branch	Medium				
				Clear Creek	High				
				Clear Creek T18	High				
				Clear Creek T16	Medium				
				Milam Creek	Medium				
11	Headwaters Little Elm Creek	Medium	120301030701	Milam Creek T3	Medium	City/County	Celina, Collin County, Grayson County	No	No
12	Mustang Creek	Medium	120301030702	Little Elm Creek	Medium	City/County	Aubrey, Pilot Point, Denton County, Grayson County	No	No
				Little Elm Creek T8	Medium				
				Little Elm Creek T1	Low				
				Little Elm Creek T2	Low				
				Little Elm Creek T3	Low				
				Little Elm Creek T4	Low				
				Little Elm Creek T4T	Low				
				Little Elm Creek T5	Medium				
				Clarks Branch	Low				
				Little Elm Creek T8T	Low				
				Walnut Fork	Medium				
				Mustang Creek	Medium				
Mustang Creek T1	Low								
Mustang Creek T1T	Low								
Mustang Creek T2	Medium								

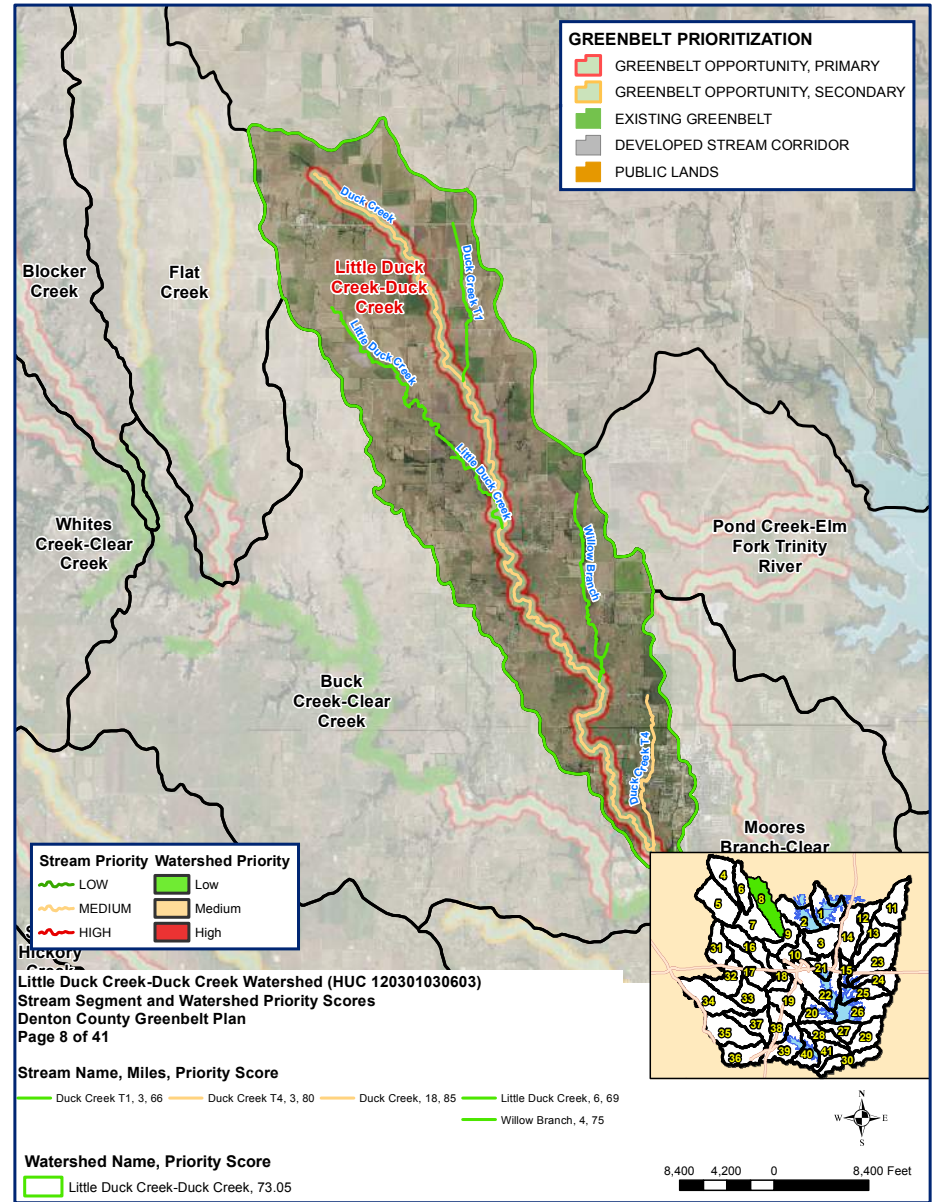
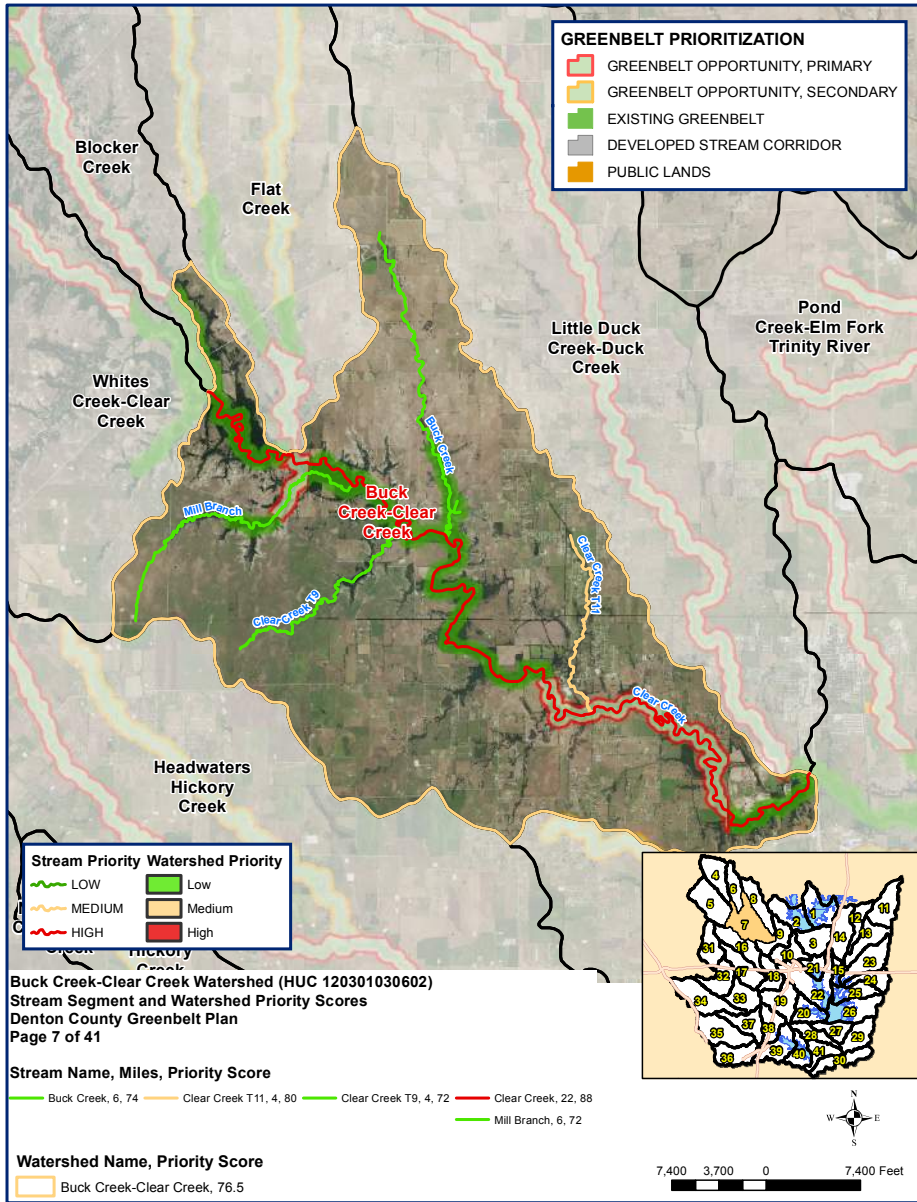
13	Town of Celina-Lewisville Lake	Medium	120301030703	Little Elm Creek	High	City/County	Aubrey, Celina, Pilot Point, Collin County	No	No
				Little Elm Creek T10	Medium				
				Little Elm Creek T9	Medium				
				Little Elm Creek T11T1	Medium				
				Little Elm Creek T11T2	Medium				
				Little Elm Creek T12	High				
Little Elm Creek T11	Medium								
14	Pecan Creek	High	120301030704	Pecan Creek East T1	Medium	City/County	Aubrey, Little Elm, Pilot Point, Denton County, Grayson County	No	No
				Pecan Creek East T3	Medium				
				Pecan Creek East T6	Medium				
				Pecan Creek East	High				
				Pecan Creek East T2	Medium				
				Pecan Creek East T4	Medium				
				Pecan Creek East T5	Medium				
				Pecan Creek East T7	High				
15	Running Branch-Lewisville Lake	Medium	120301030705	Running Branch	Medium	City/County	Aubrey, Krugerville, Little Elm, Providence Village, Denton County	Yes	Yes
16	Headwaters Hickory Creek	Medium	120301030801	North Hickory Creek	High	City/County	Denton, Krum, Denton County, Wise County	Yes	No
				North Hickory Creek T3	Medium				
				North Hickory Creek T1	Low				
				North Hickory Creek T1T	Low				
				North Hickory Creek T2	Low				
17	South Hickory Creek	Medium	120301030802	Hickory Creek	High	City/County	Denton, Ponder, Denton County	No	No
				South Hickory Creek	Medium				
				Wolf Branch	Medium				
				South Hickory Creek T4	Medium				
				South Hickory Creek T1	Low				
				Crow Branch	Low				
18	Upper Hickory Creek	Medium	120301030803	Dry Fork Hickory Creek	Medium	City	Denton, Krum	Yes	No
				Dry Fork Hickory Creek T2	Medium				
				Dry Fork Hickory Creek T1	Medium				
				Jordan Creek	Medium				
				South Hickory Creek T5	Medium				
19	Middle Hickory Creek	High	120301030804	Hickory Creek	High	City	Argyle, Bartonville, Copper Canyon, Denton	Yes	Yes
				Graveyard Branch	High				
				Roark Branch	Medium				
				Fletcher Branch	High				
				Roark Branch T	High				
				Fincher Branch	Medium				
				Loving Branch	High				
20	Lower Hickory Creek	High	120301030805	Bryant Branch	High	City	Copper Canyon, Corinth, Denton, Hickory Creek, Lake Dallas	Yes	Yes
				Poindexter Branch	Medium				
21	Harmony Ranch-Lewisville Lake	High	120301030901	Elm Fork Trinity River North T5	High	City/County	Aubrey, Crossroads, Denton, Denton County	Yes	Yes
22	Pecan Creek-Lewisville Lake	High	120301030902	Elm Fork Trinity River North	High	City	Aubrey, Corinth, Crossroads, Denton, Krugerville, Oak Point, Shady Shores	Yes	Yes
				Pecan Creek West T	High				
				Cantrell Slough	High				
				Cooper Creek	High				
				Lewisville Lake T1	High				
Pecan Creek West	High								
23	Doe Branch-Lewisville Lake	High	120301030903	Doe Branch T2	Medium	City/County	Aubrey, Celina, Frisco, Little Elm, Prosper, Collin County, Denton County	Yes	Yes
				Doe Branch T1	Medium				
				Doe Branch T3	Medium				
				Doe Branch T3TT1	Medium				
				Doe Branch T3TT2	Medium				
				Doe Branch	High				
				Doe Branch T4	Medium				
24	Panther Creek-Lewisville Lake	High	120301030904	Parvin Branch	Medium	City	Frisco, Little Elm, Prosper	Yes	Yes
				Panther Creek	High				
25	Cottonwood Branch-Lewisville Lake	Medium	120301030905	Cottonwood Branch	Medium	City/County	Frisco, Hackberry, Lakewood Village, Little Elm, Oak Point, The Colony, Denton County	Yes	Yes
				Lewisville Lake T2	Medium				
26	Stewart Creek-Lewisville Lake	High	120301030906	Stewart Creek	Medium	City/County	Frisco, Hackberry, Hickory Creek, Lakewood Village, Lewisville, Little Elm, Plano, The Colony, Denton County	Yes	Yes
				Stewart Creek T	Medium				

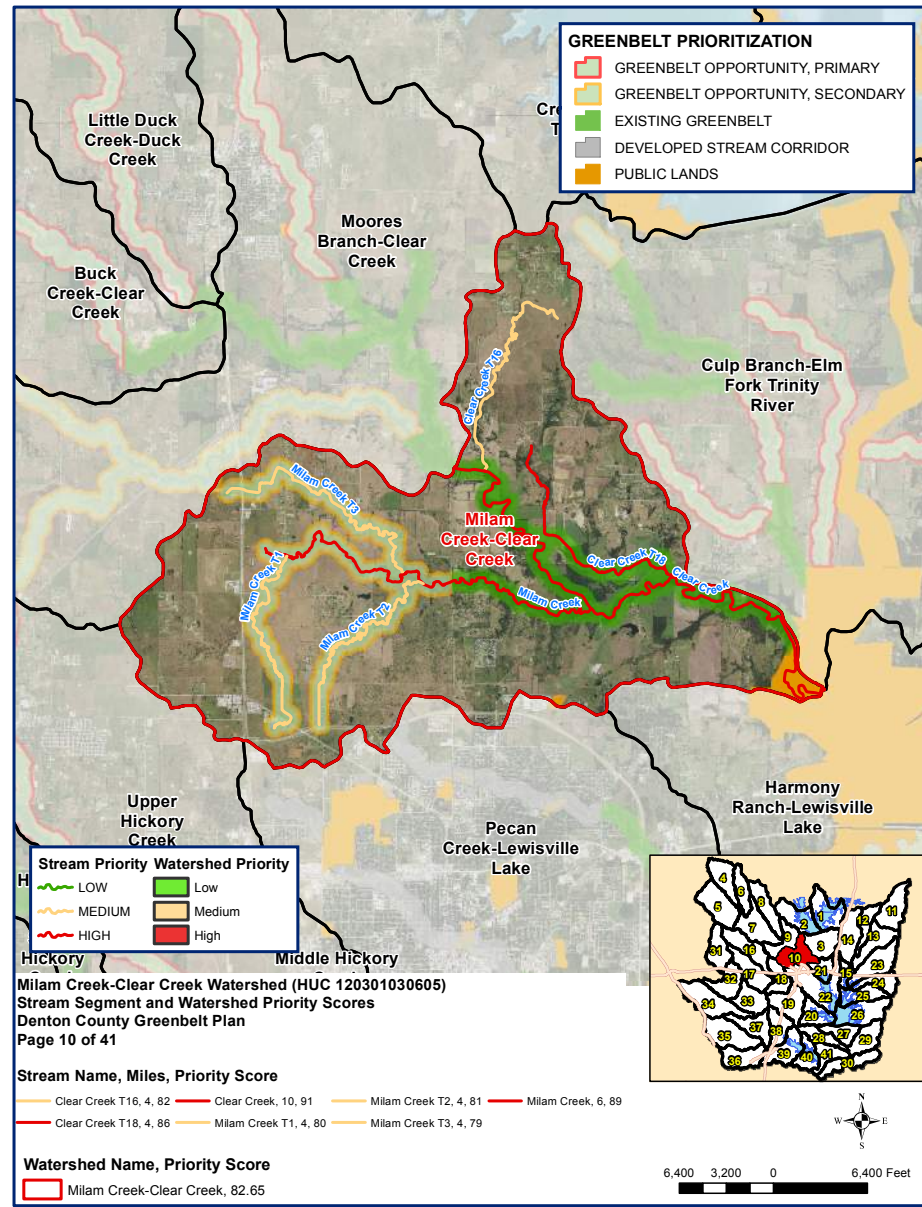
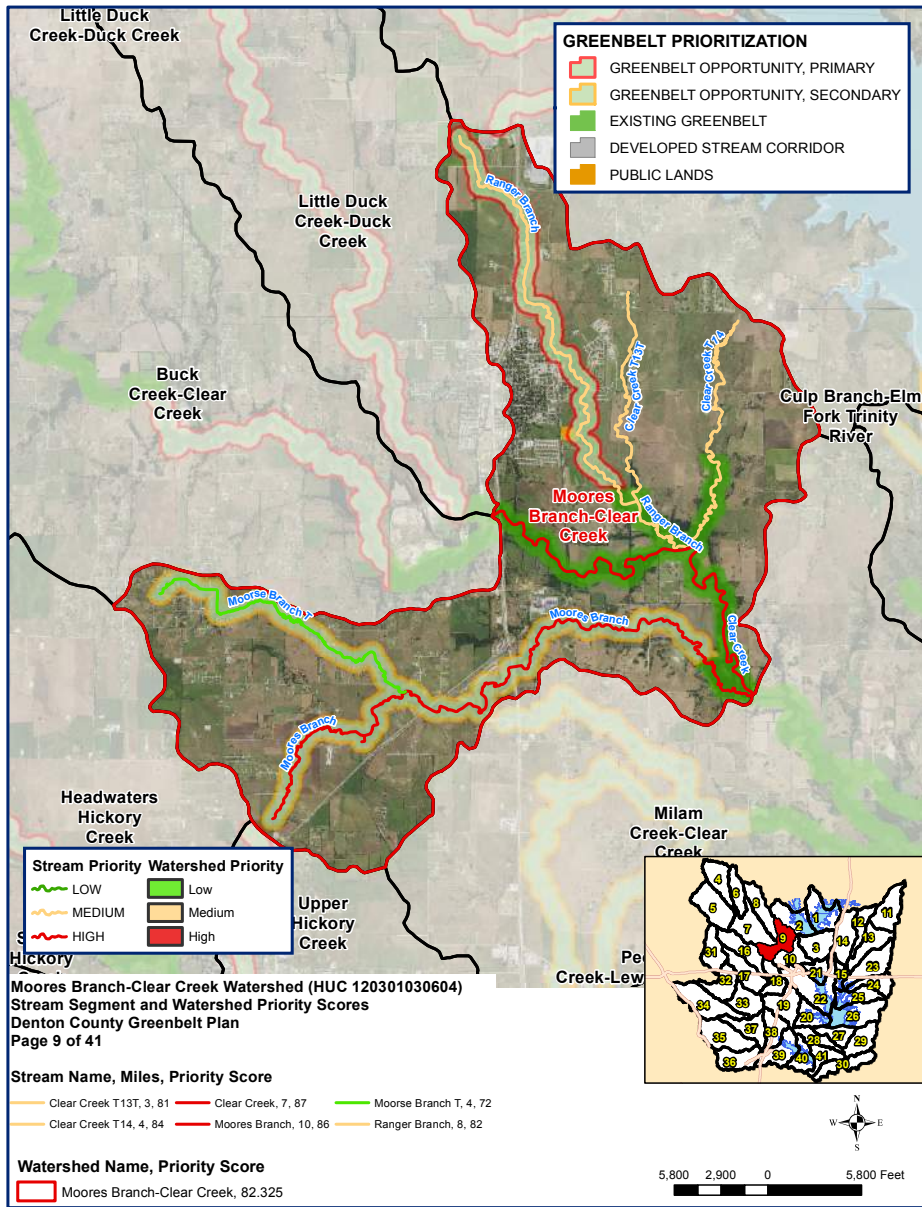
27	Prairie Creek-Elm Fork Trinity River	Medium	120301031001	Elm Fork Trinity River South	Medium	City	Carrollton, Flower Mound, Lewisville, The Colony	Yes	Yes
				Midway Branch	Medium				
				Prairie Creek	Medium				
				McWhorter Creek	Medium				
28	Timber Creek	Medium	120301031002	Timber Creek T1	Low	City/County	Bartonville, Carrollton, Copper Canyon, Double Oak, Flower Mound, Lewisville, Denton County	Yes	Yes
				Timber Creek	Medium				
29	Indian Creek-Elm Fork Trinity River	Medium	120301031003	Elm Fork Trinity River South	Medium	City	Carrollton, Dallas, Frisco, Hebron, Lewisville, Plano, The Colony	Yes	Yes
				Indian Creek T	Low				
				Indian Creek	Medium				
				Dudley Branch	Medium				
				Furneaux Creek	Medium				
				Furneaux Creek T	Low				
30	Grapevine Creek-Elm Fork Trinity River	Low	120301031004	Elm Fork Trinity River South	Medium	City	Addison, Carrollton, Coppell, Dallas, Farmers Branch, Grapevine, Irving	No	No
				Hutton Branch T	Low				
				Grapevine Creek	Low				
				Hutton Branch	Low				
31	North Pecan Creek-Denton Creek	Low	120301040202	North Pecan Creek	Low	County	Denton County, Wise County	No	No
				Denton Creek T2	Low				
				Denton Creek	Low				
32	Morris Branch-Denton Creek	Low	120301040204	Denton Creek T3	Low	City/County	Denton, Ponder, Denton County, Wise County	No	No
				Denton Creek T4	Low				
				Morris Branch T	Low				
				Morris Branch	Low				
				Denton Creek	Medium				
33	Hog Branch-Denton Creek	Medium	120301040205	Hog Branch	Medium	City/County	Denton, Dish, Justin, Northlake, Ponder, Denton County	No	No
				Denton Creek T6	Medium				
				Denton Creek T8	Medium				
				Denton Creek	Medium				
34	Oliver Creek	Low	120301040206	Oliver Creek	Medium	City/County	Justin, Fort Worth, New Fairview, Northlake, Ponder, Denton County, Wise County	No	No
				Hackberry Creek	Low				
				Oliver Creek T4	Low				
				Long Branch	Low				
				Oliver Creek T1	Low				
				Oliver Creek T2	Low				
Oliver Creek T6	Low								
35	Headwaters Elizabeth Creek	Medium	120301040301	Elizabeth Creek	Medium	City/County	Fort Worth, Haslet, New Fairview, Northlake, Rome, Denton County, Wise County	No	Yes
				Harriet Creek	Medium				
				Harriet Creek T	Low				
				Elizabeth Creek T2	Low				
				Elizabeth Creek T1	Low				
36	Henrietta Creek	Low	120301040302	Henrietta Creek	Medium	City/County	Fort Worth, Haslet, Roanoke, Tarrant County, Wise County	No	No
				Henrietta Creek T1	Low				
				Buffalo Creek	Low				
				Henrietta Creek T3	Low				
				Henrietta Creek T4	Low				
				Buffalo Creek T	Low				
37	Elizabeth Creek-Denton Creek	High	120301040303	Elizabeth Creek	Medium	City/County	Fort Worth, Justin, New Fairview, Northlake, Roanoke, Denton County, Wise County	No	No
				Denton Creek T11	Medium				
				Trail Creek T	Medium				
				Trail Creek	Medium				
				Catherine Branch	Medium				
				Denton Creek	High				
38	Denton Creek-Grapevine Lake	High	120301040304	Cade Branch	High	City	Argyle, Bartonville, Corral City, Denton, Fort Worth, Flower Mound, Northlake, Roanoke, Trophy Club, Westlake	Yes	Yes
				Whites Branch	Medium				
				Whites Branch T	Medium				
				Graham Branch	High				
				Denton Creek	High				
39	Marshall Branch-Grapevine Lake	High	120301040305	Marshall Branch	High	City/County	Bartonville, Double Oak, Fort Worth, Flower Mound, Grapevine, Keller, Roanoke, Southlake, Trophy Club, Westlake, Denton County	Yes	Yes
				Kirkwood Branch	High				
				Sharps Branch	High				
40	Dove Creek-Grapevine Lake	High	120301040306	Dove Creek	High	City/County	Flower Mound, Grapevine, Southlake, Denton County, Tarrant County	Yes	Yes
41	Cottonwood Branch-Denton Creek	High	120301040307	Cottonwood Branch	Medium	City	Carrollton, Coppell, Flower Mound, Grapevine, Lewisville	Yes	Yes
				Bakers Branch	Medium				
				Denton Creek Down	High				

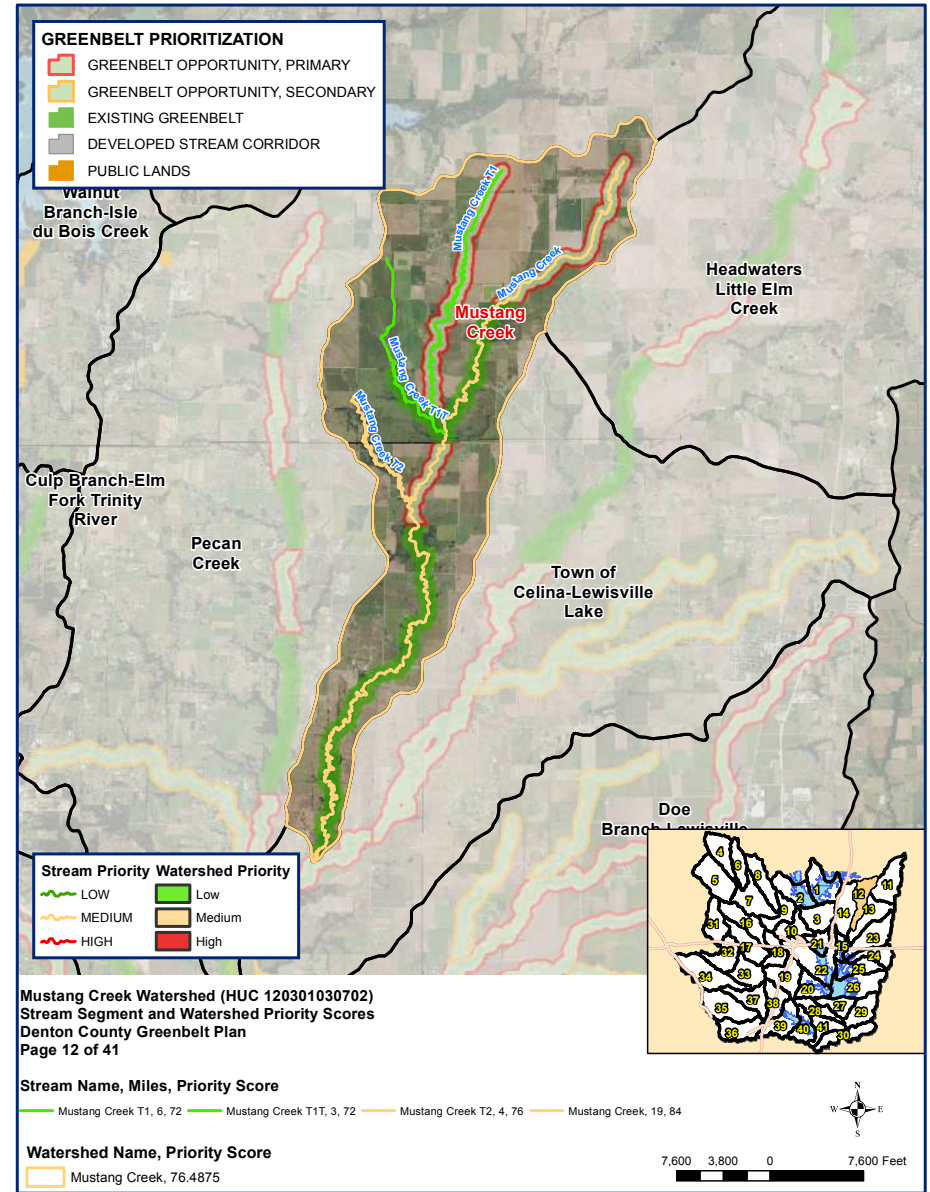
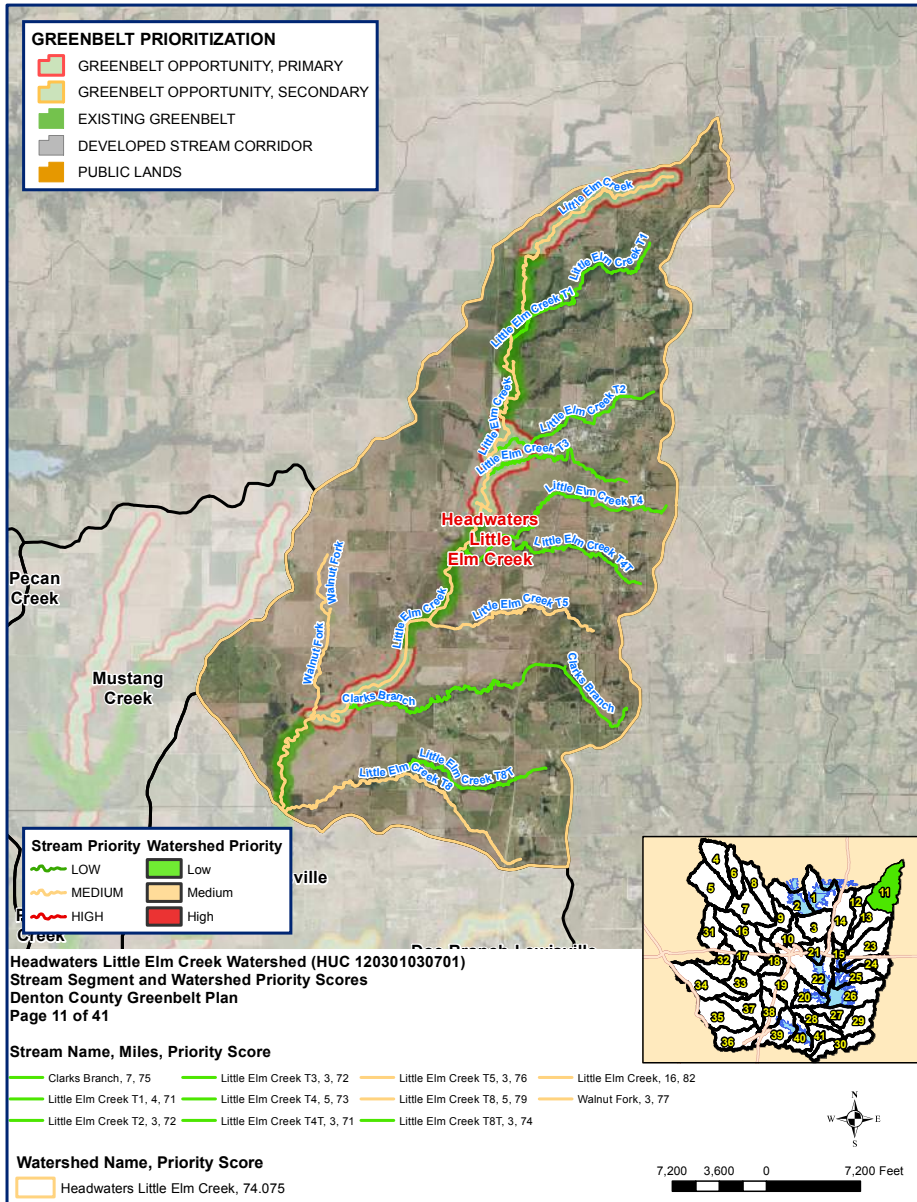


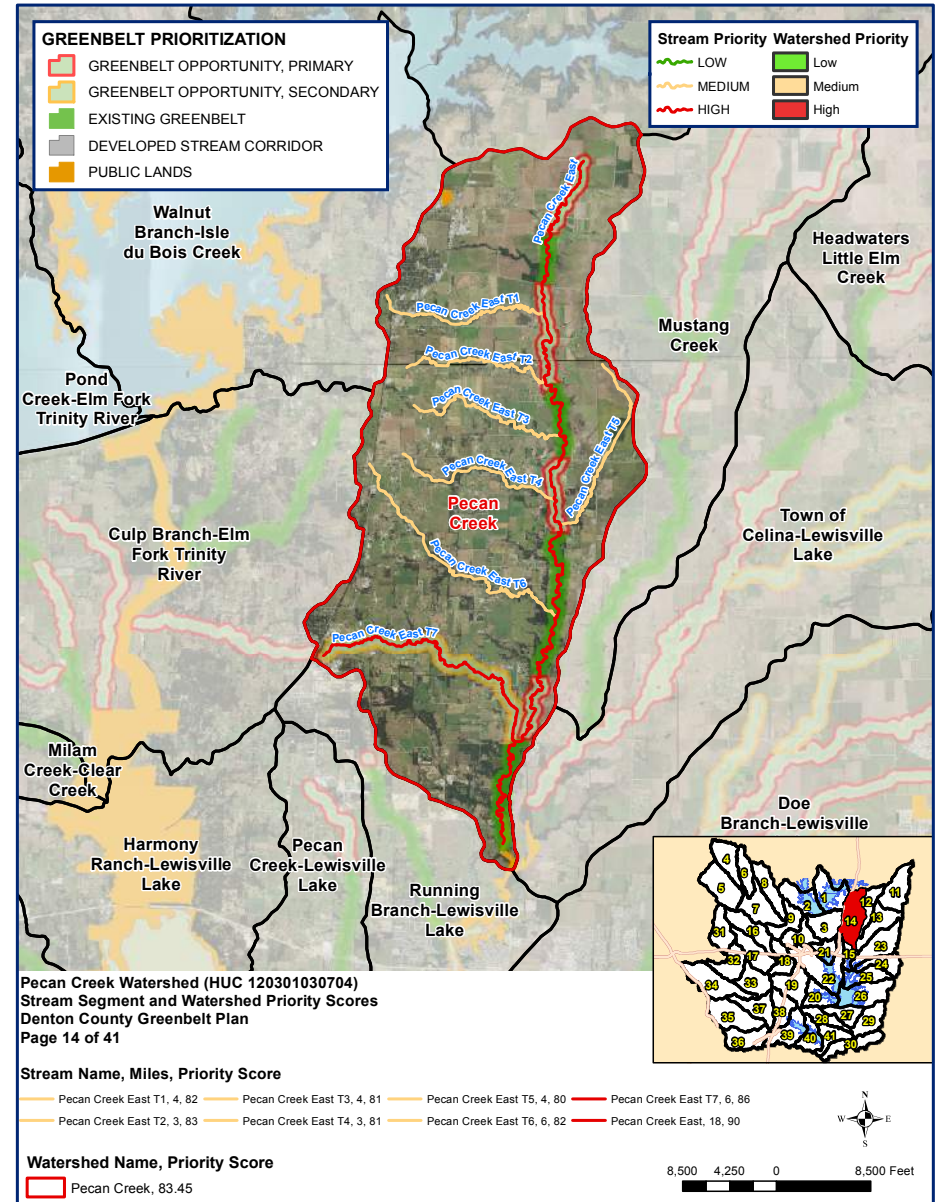
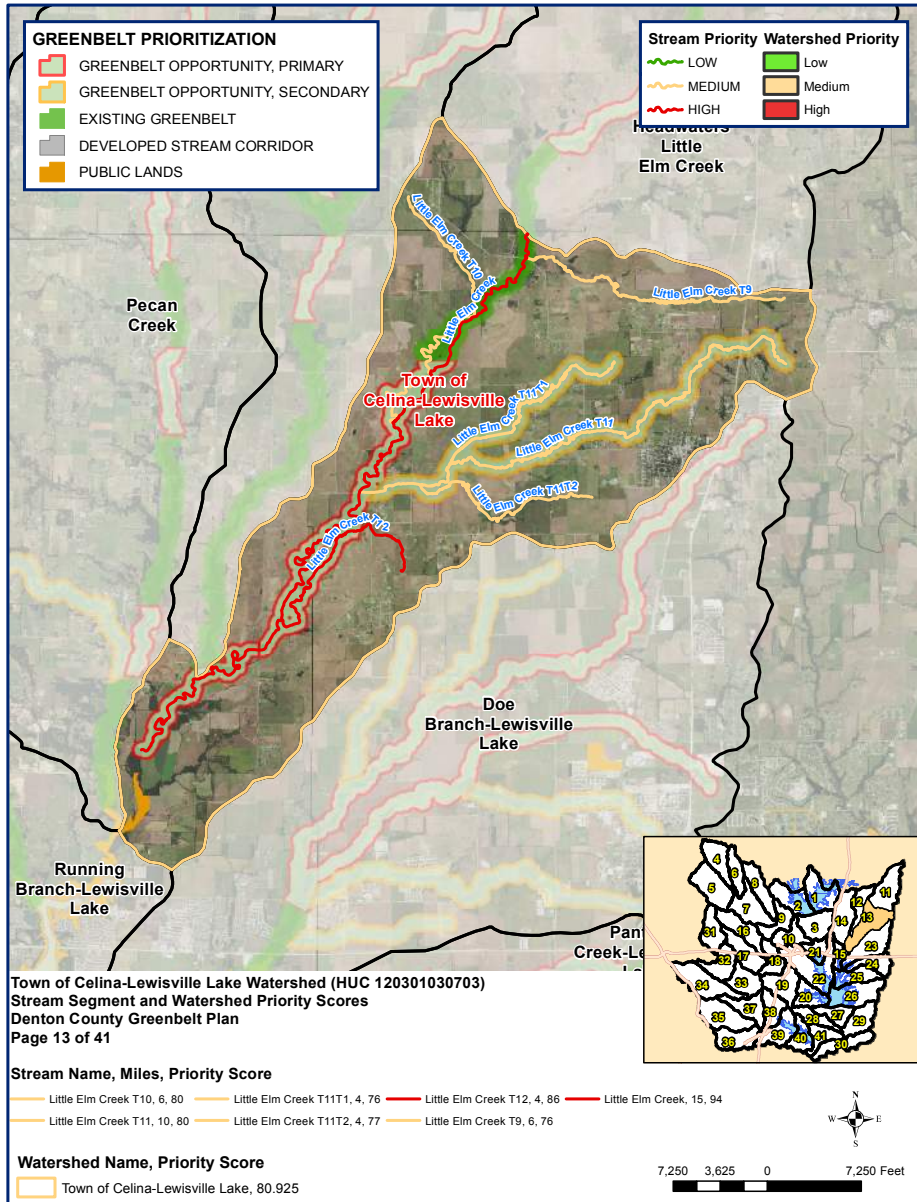


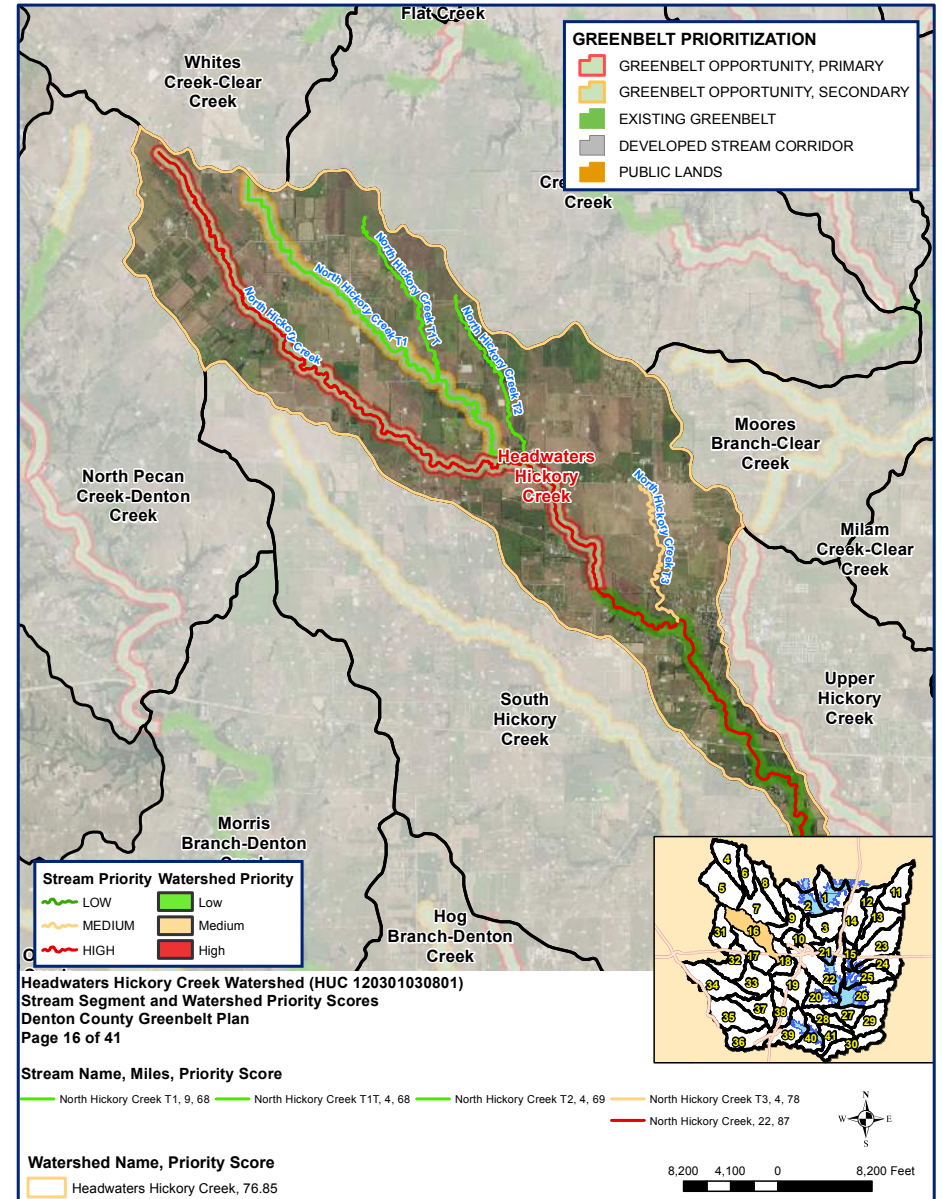
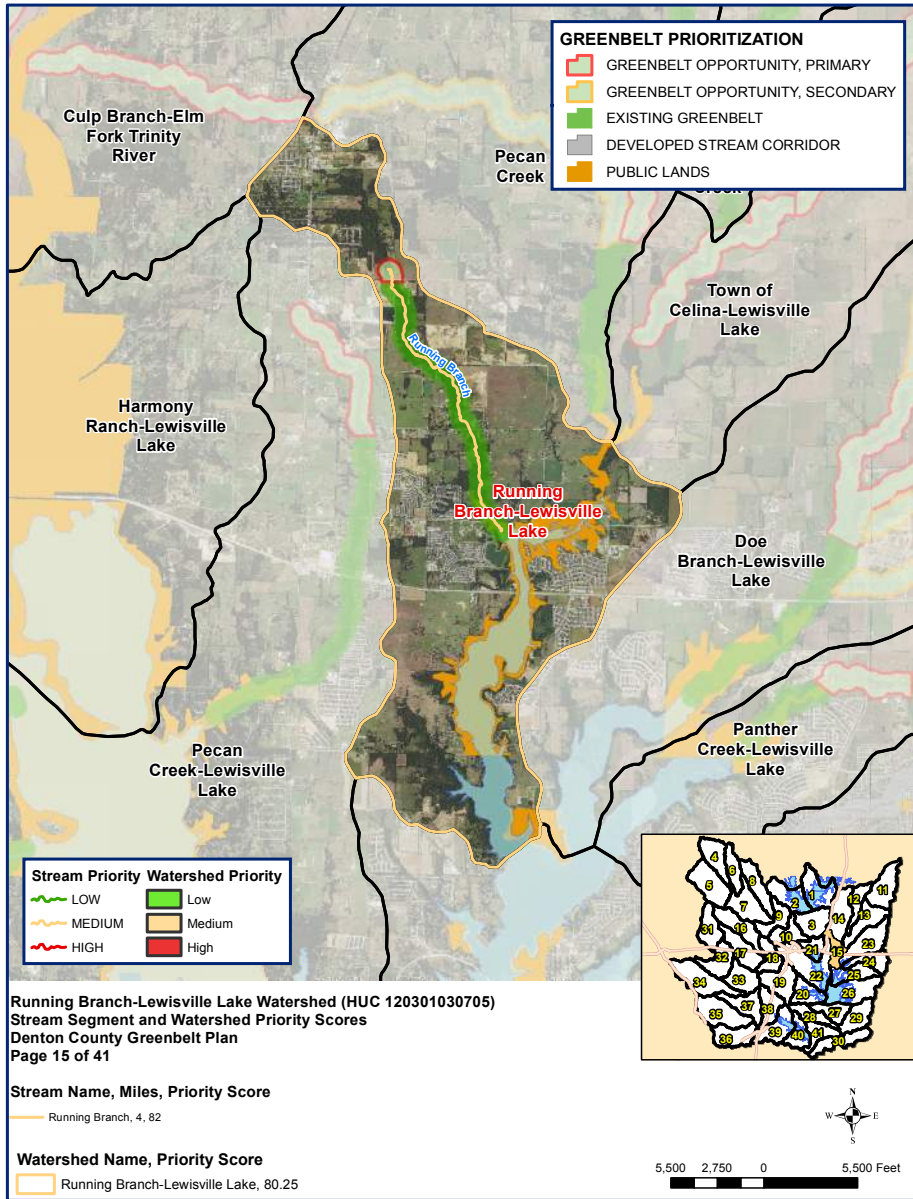


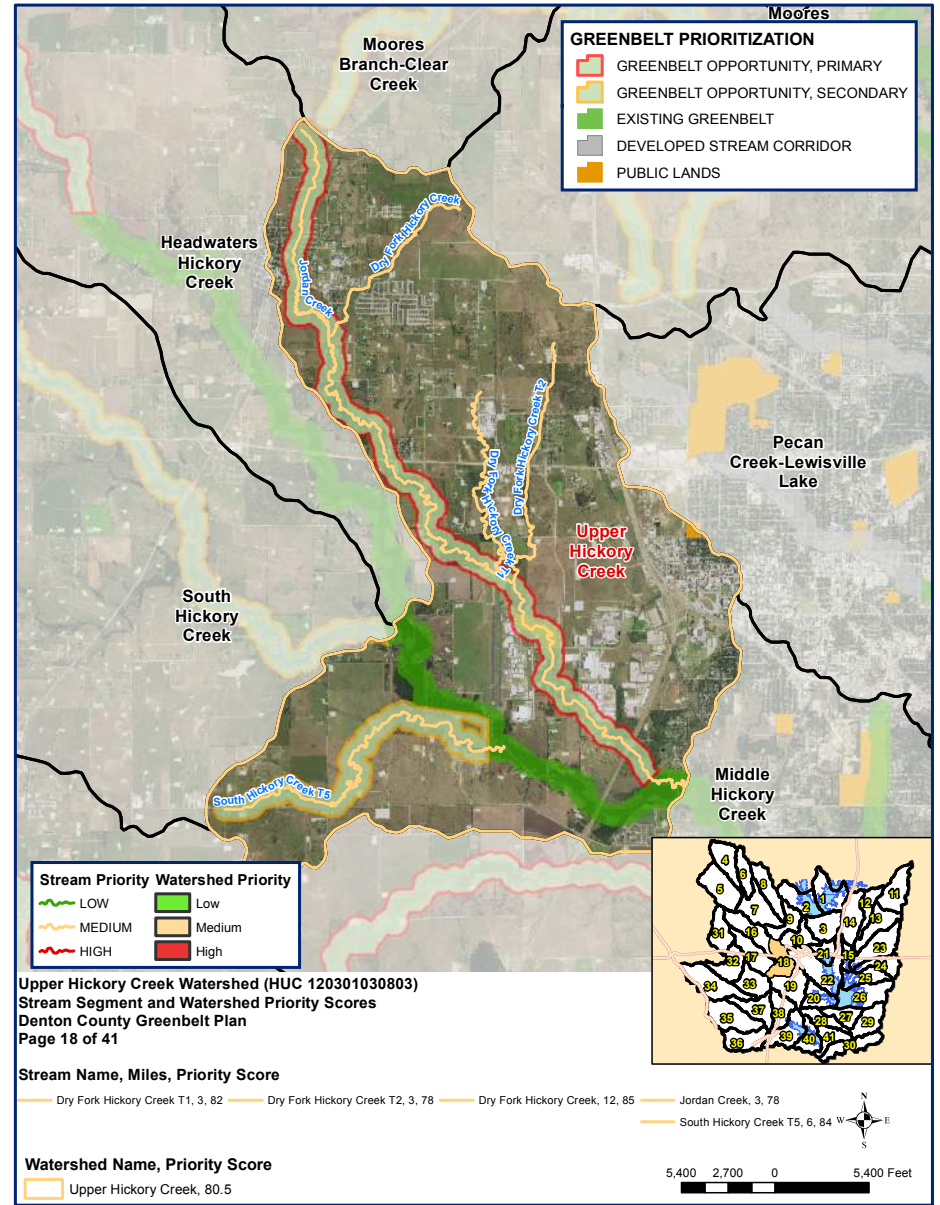
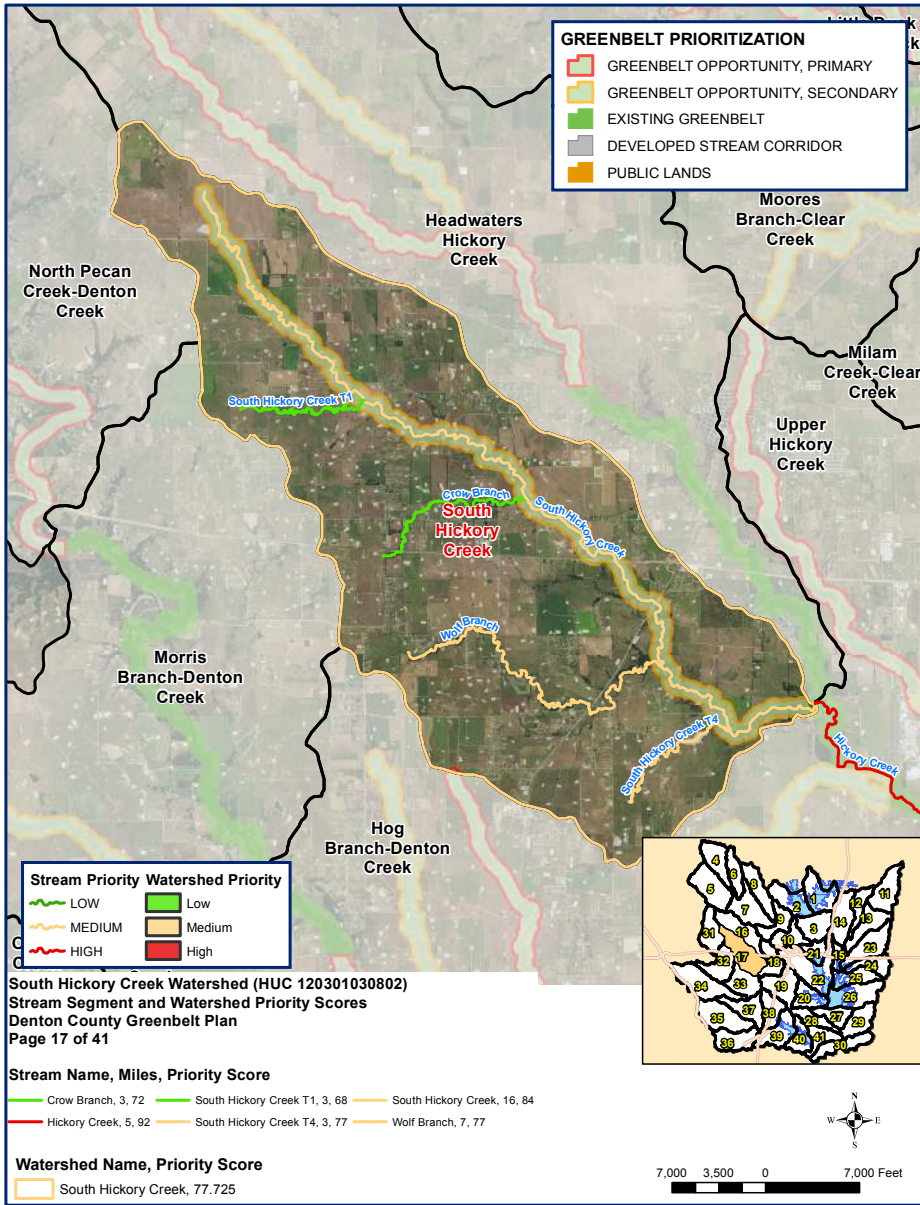


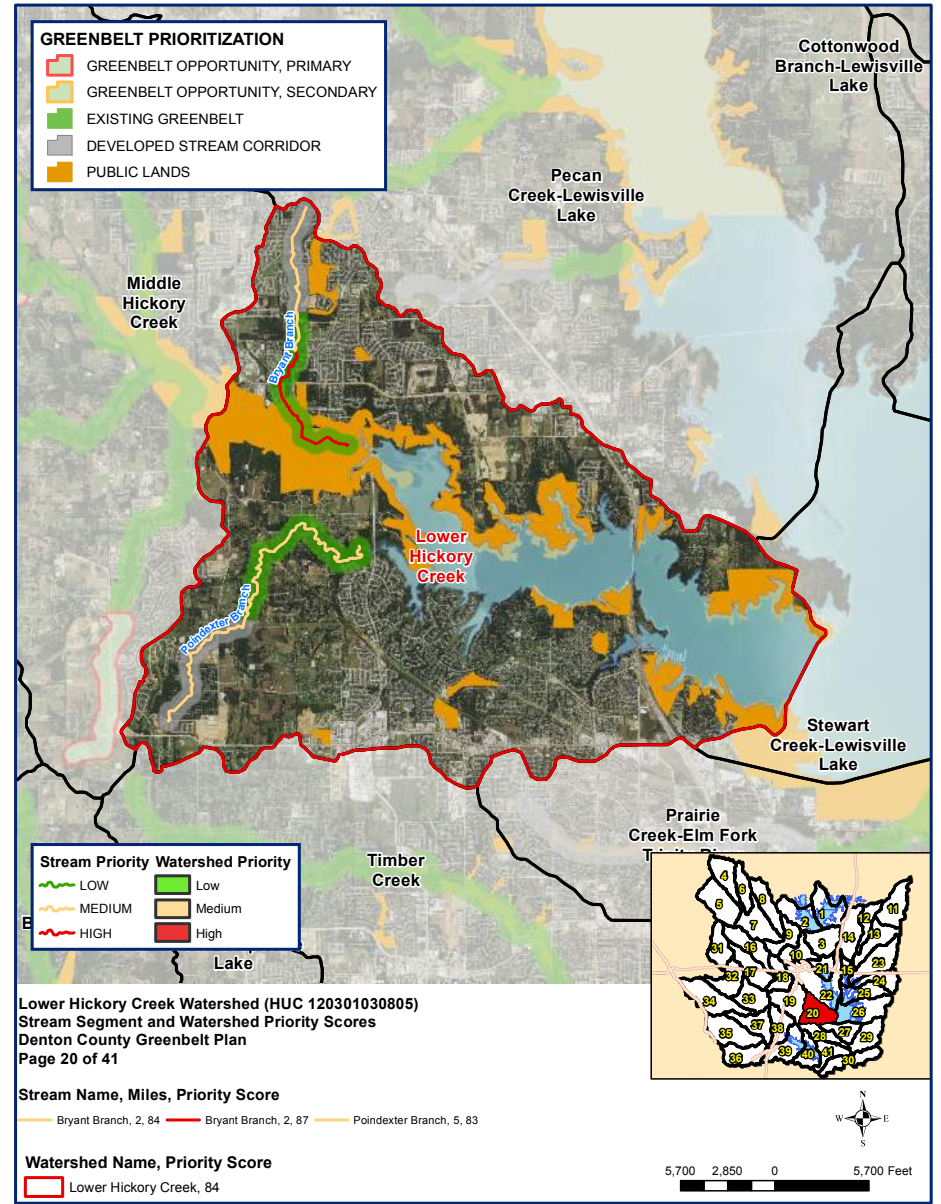
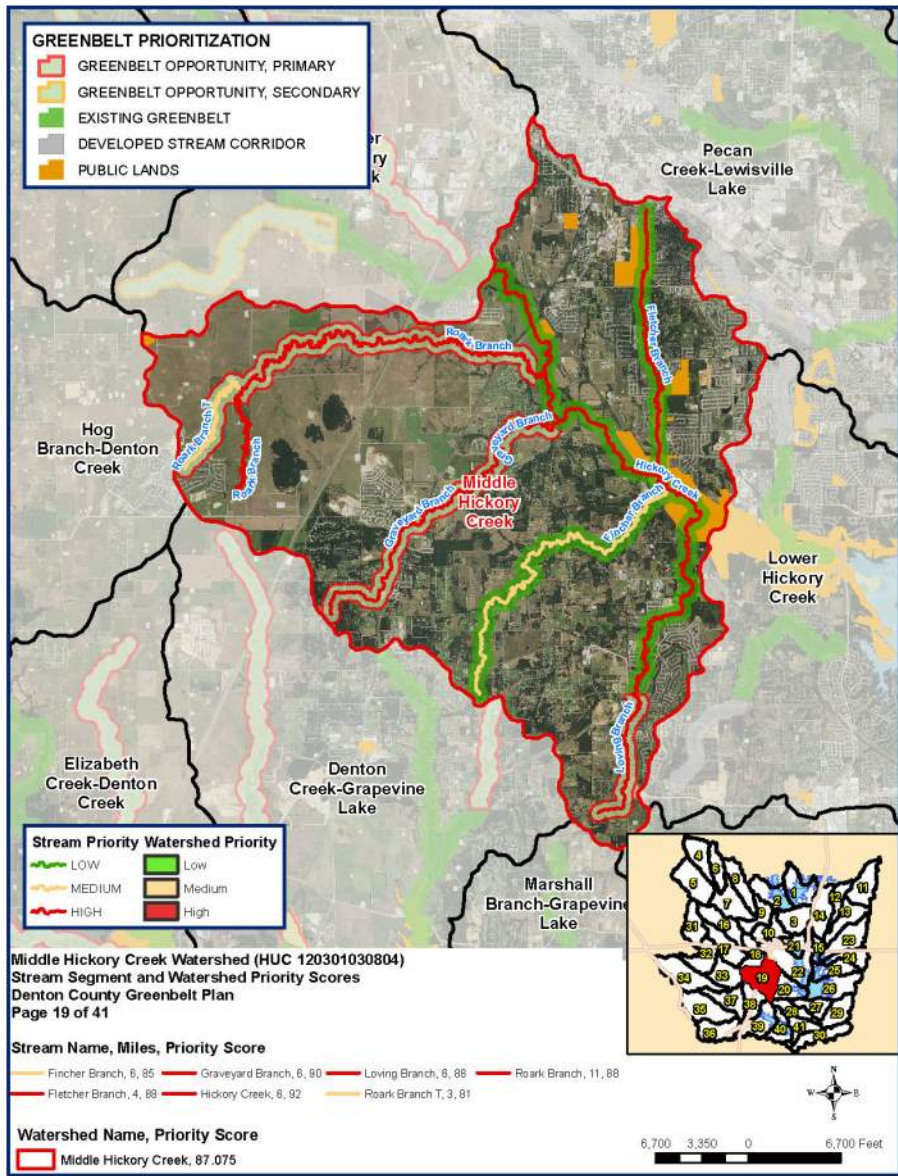


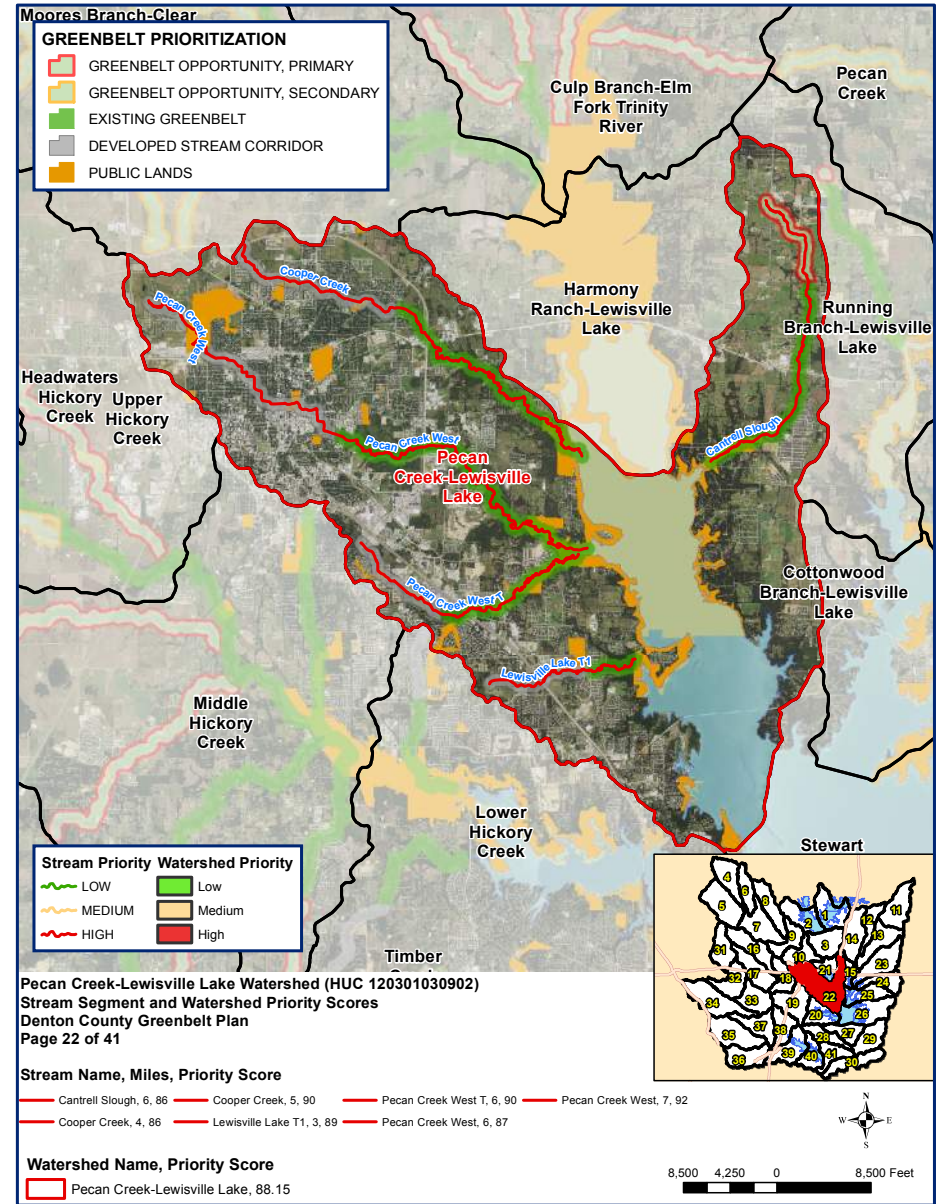
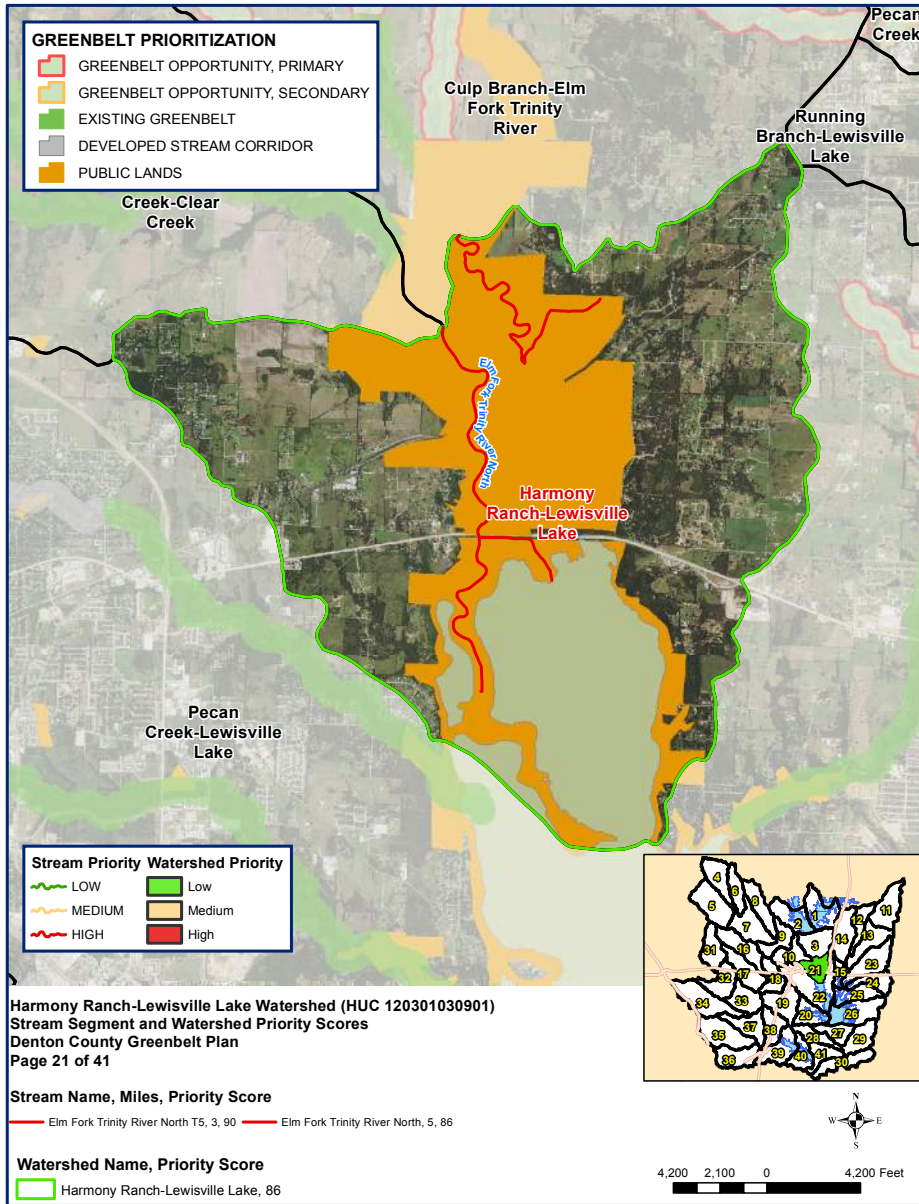


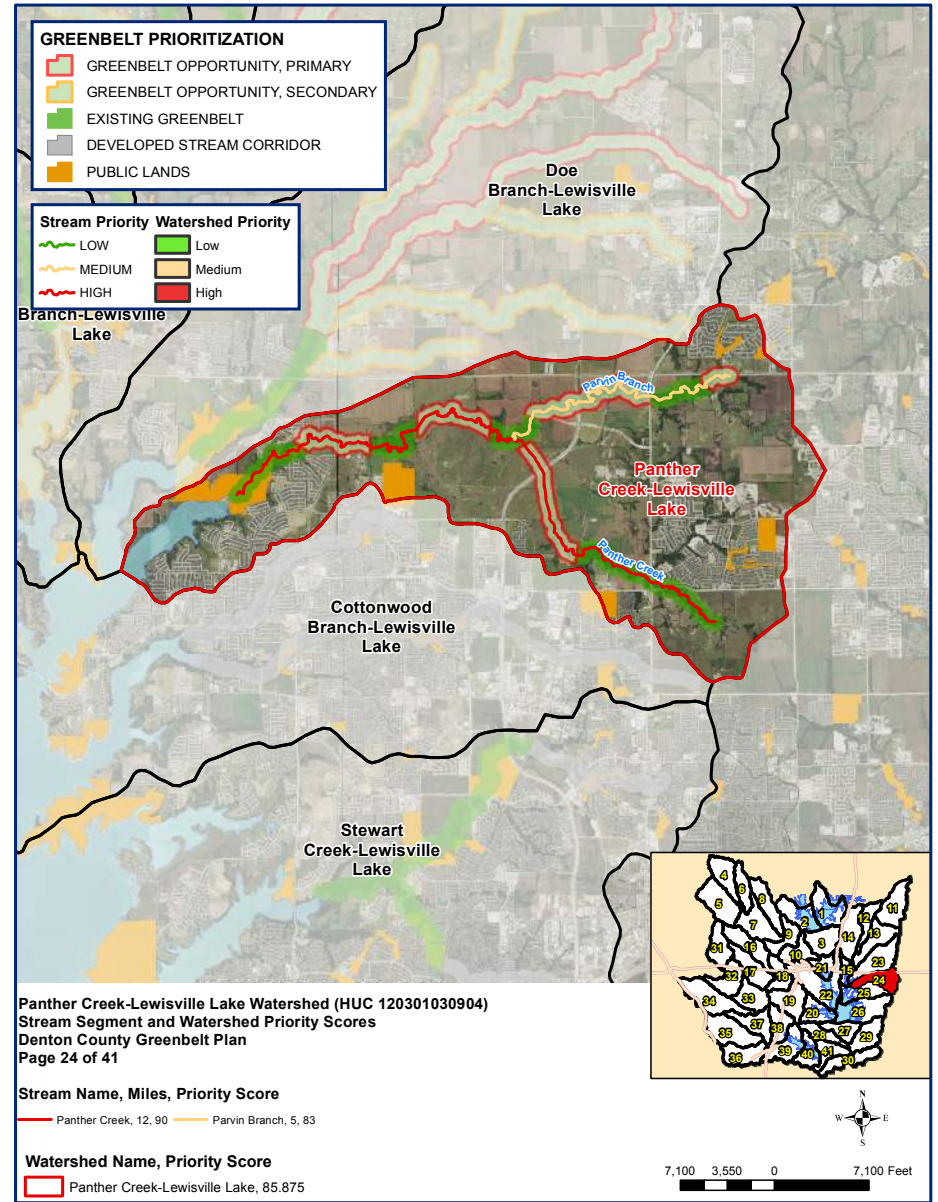
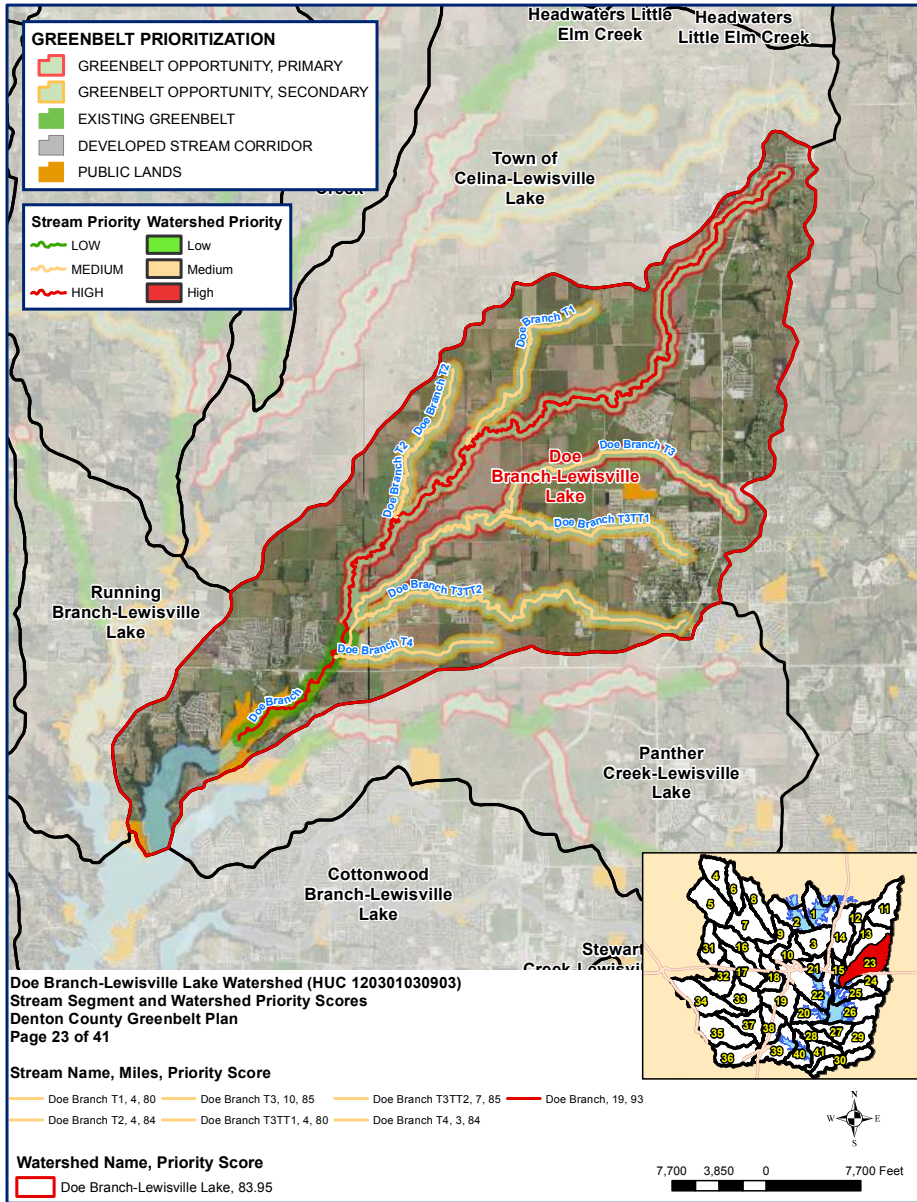


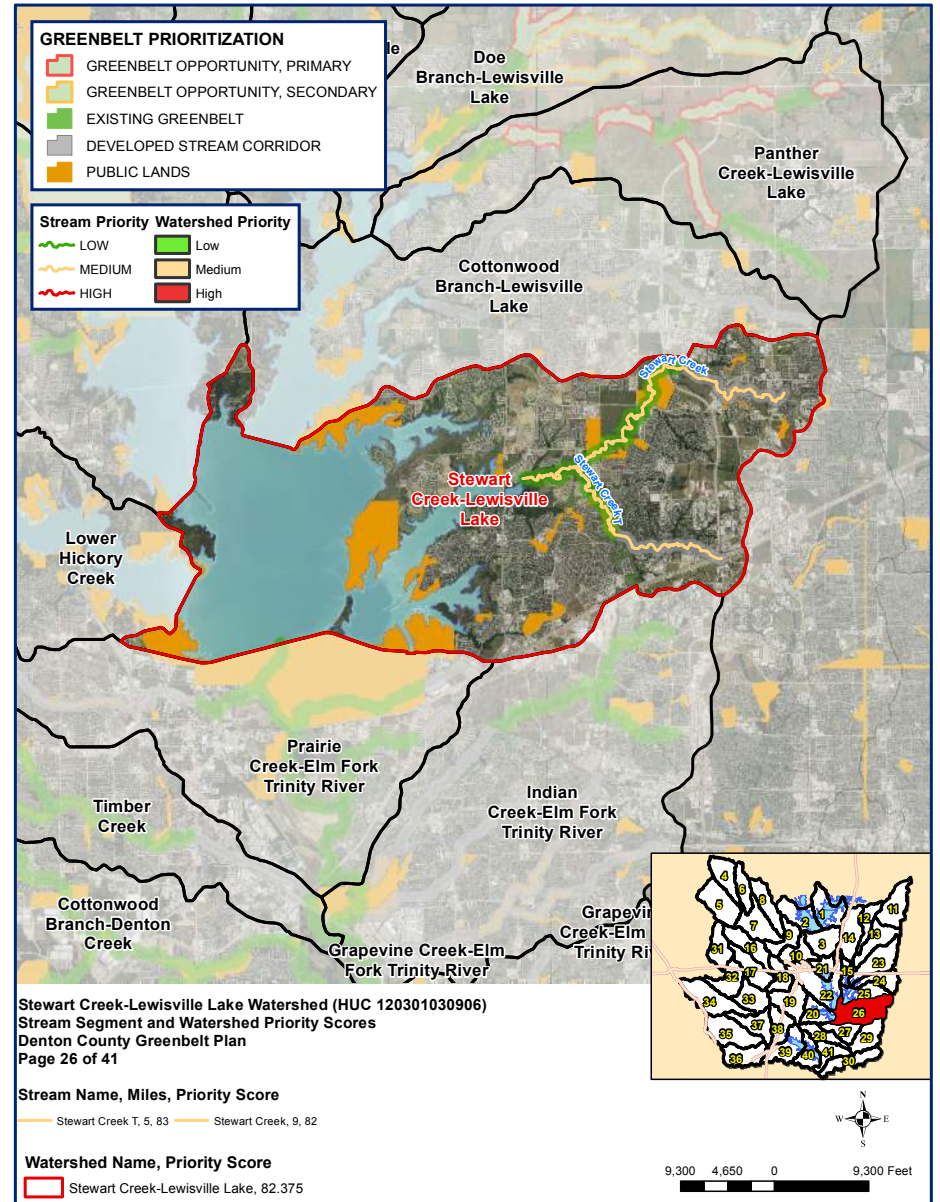
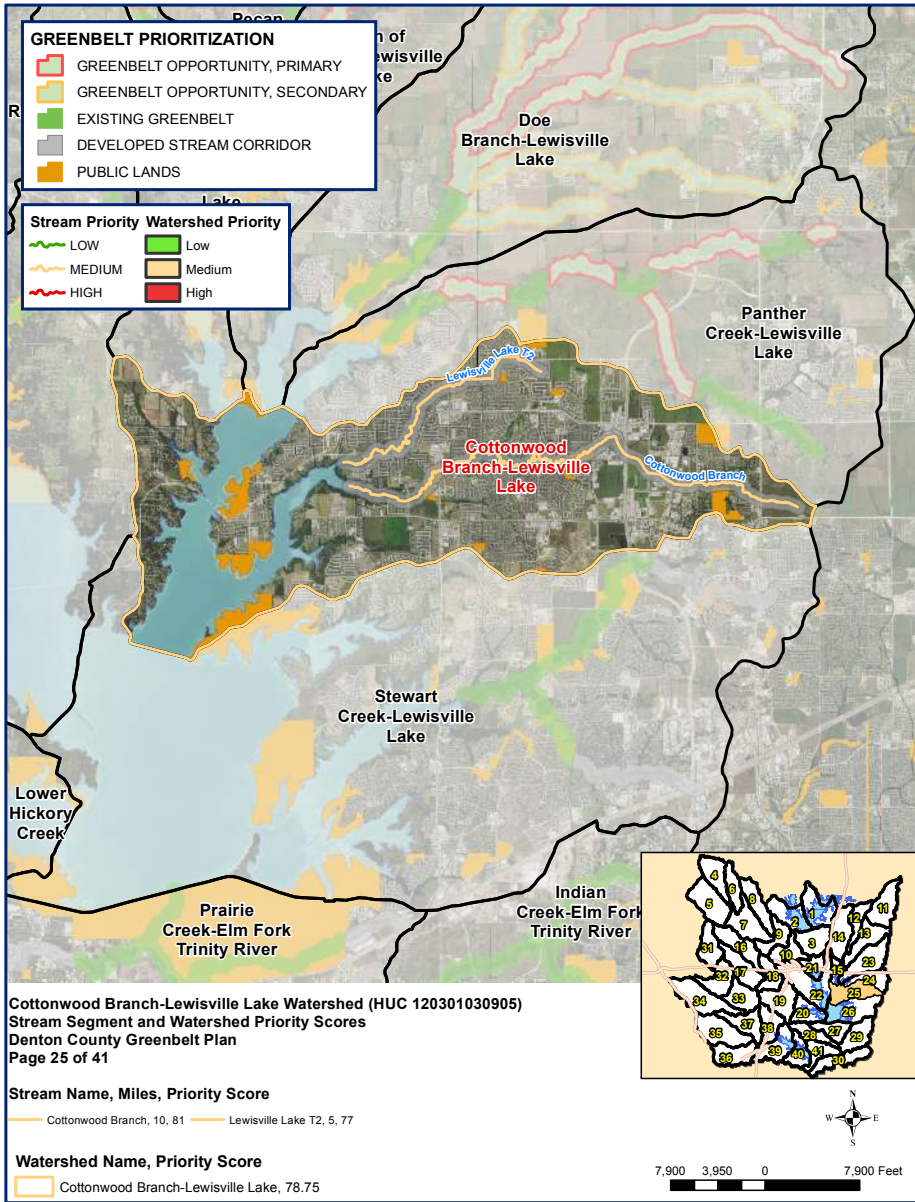


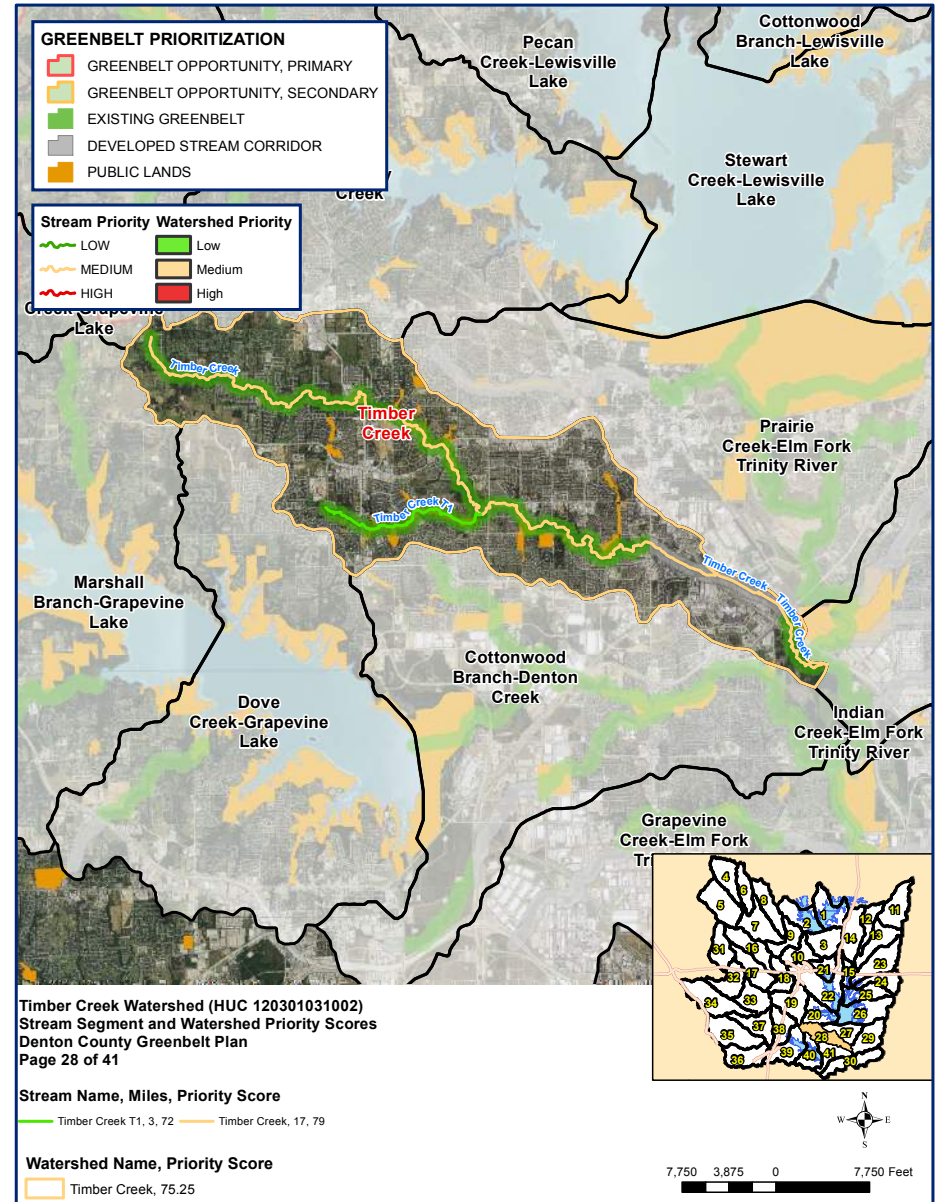
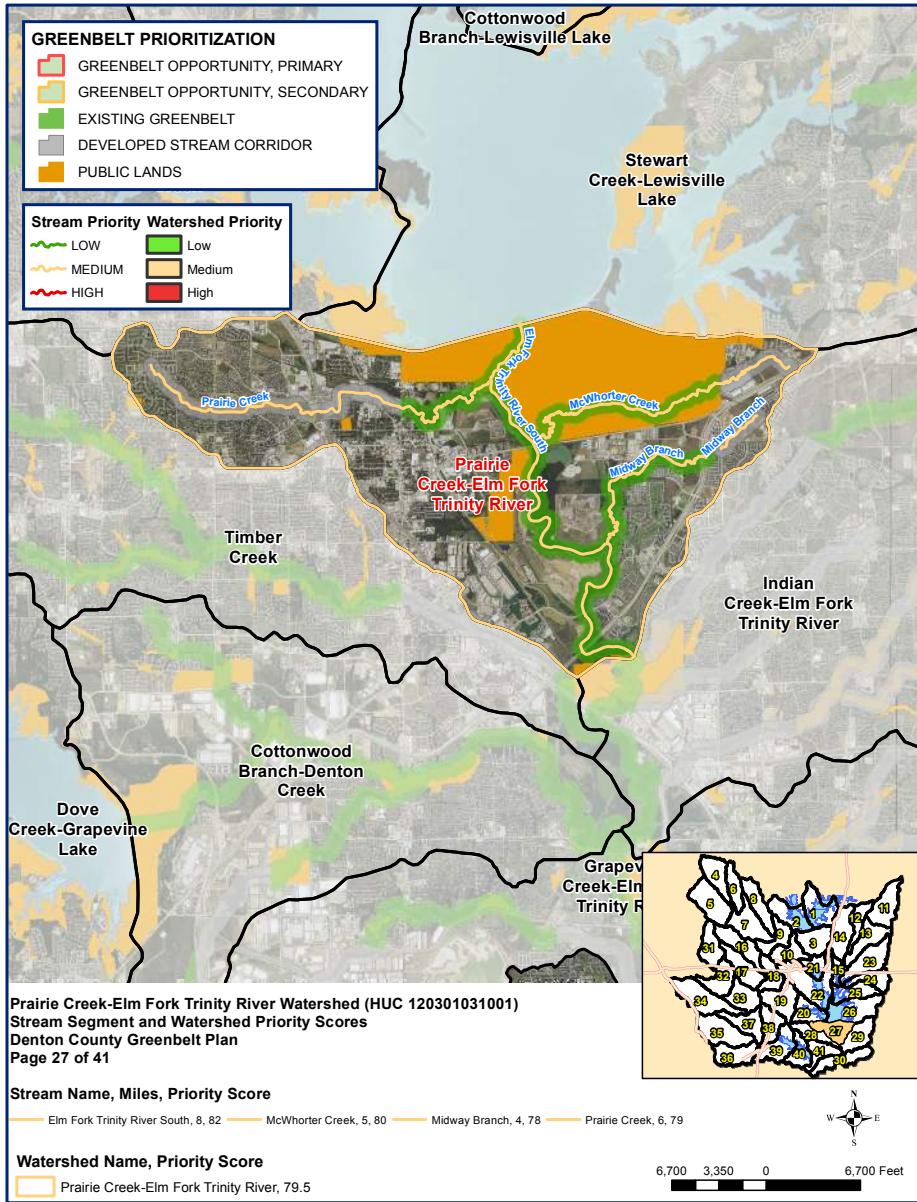


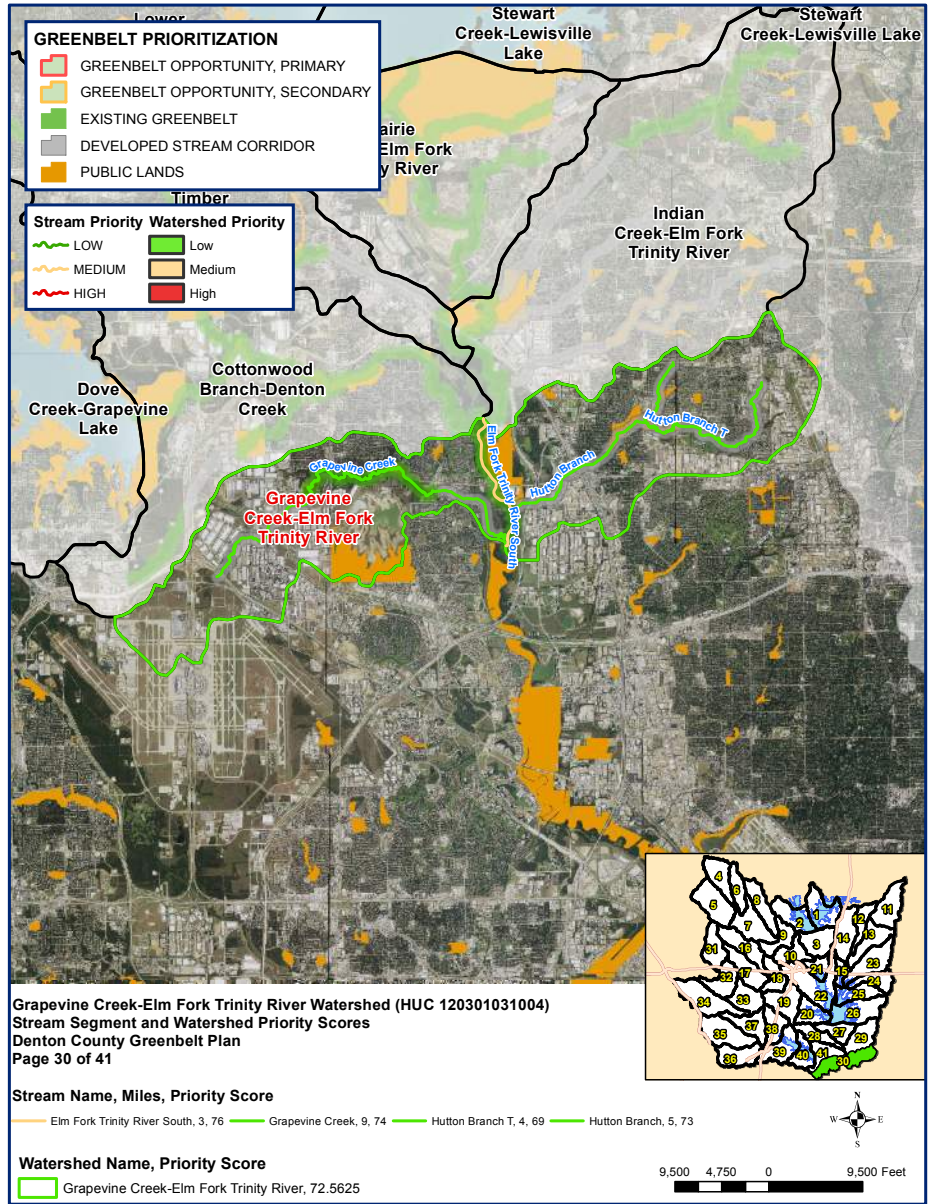
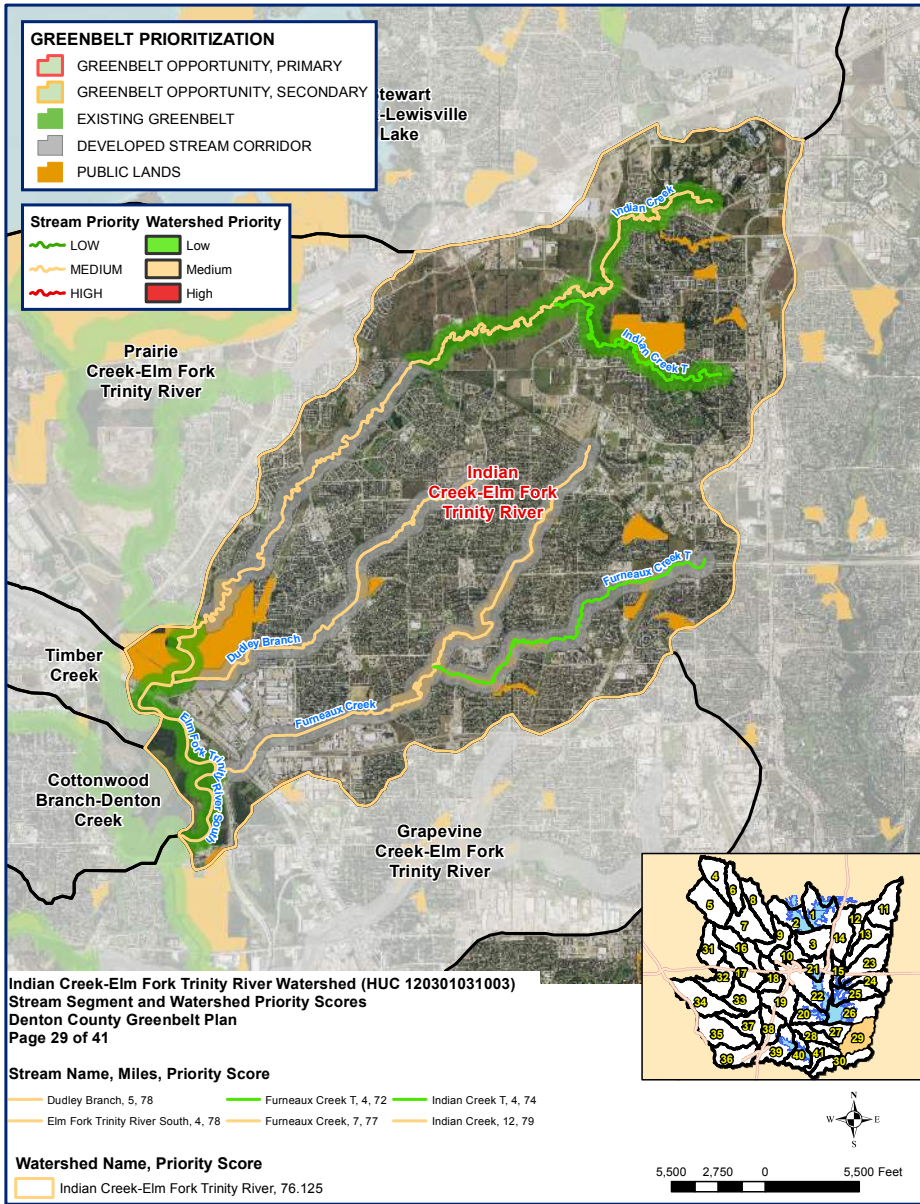


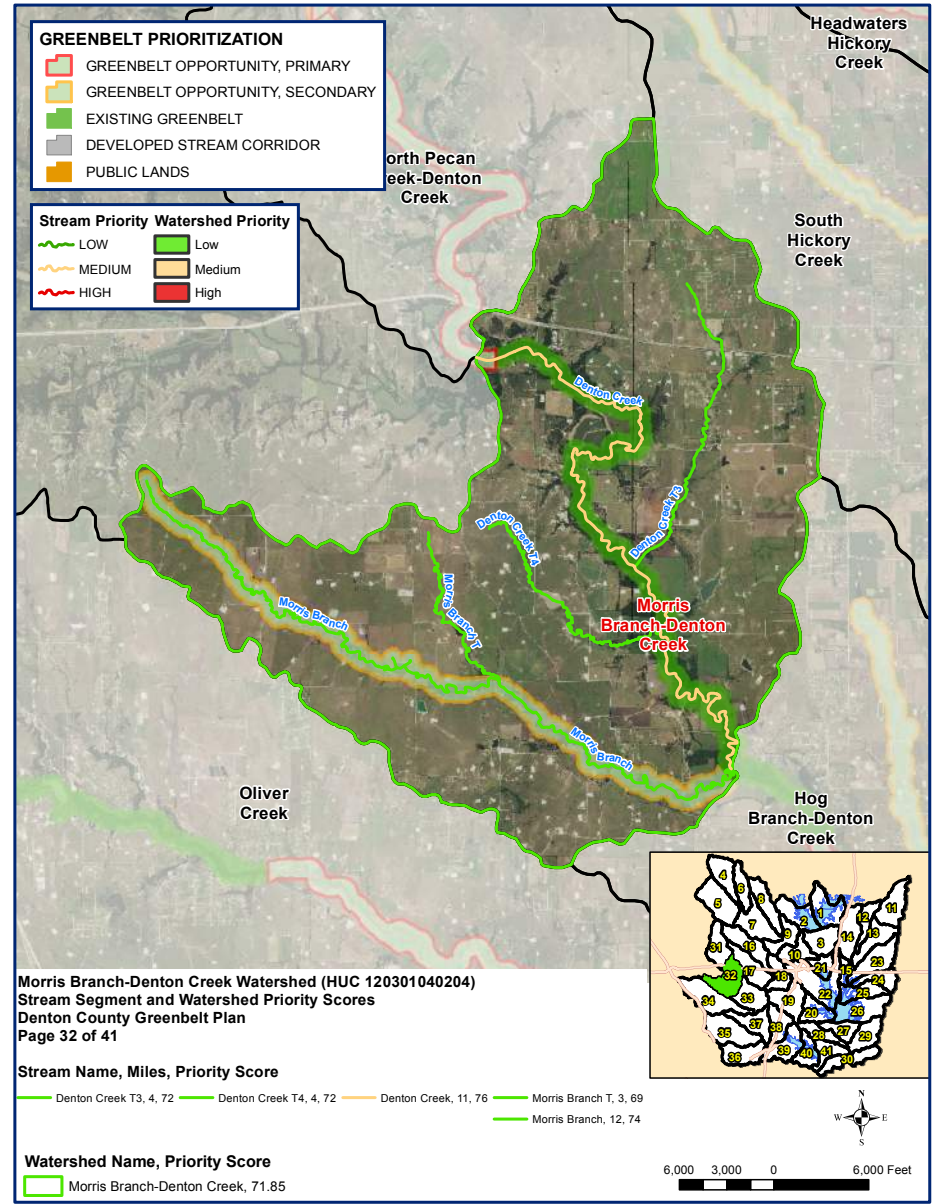
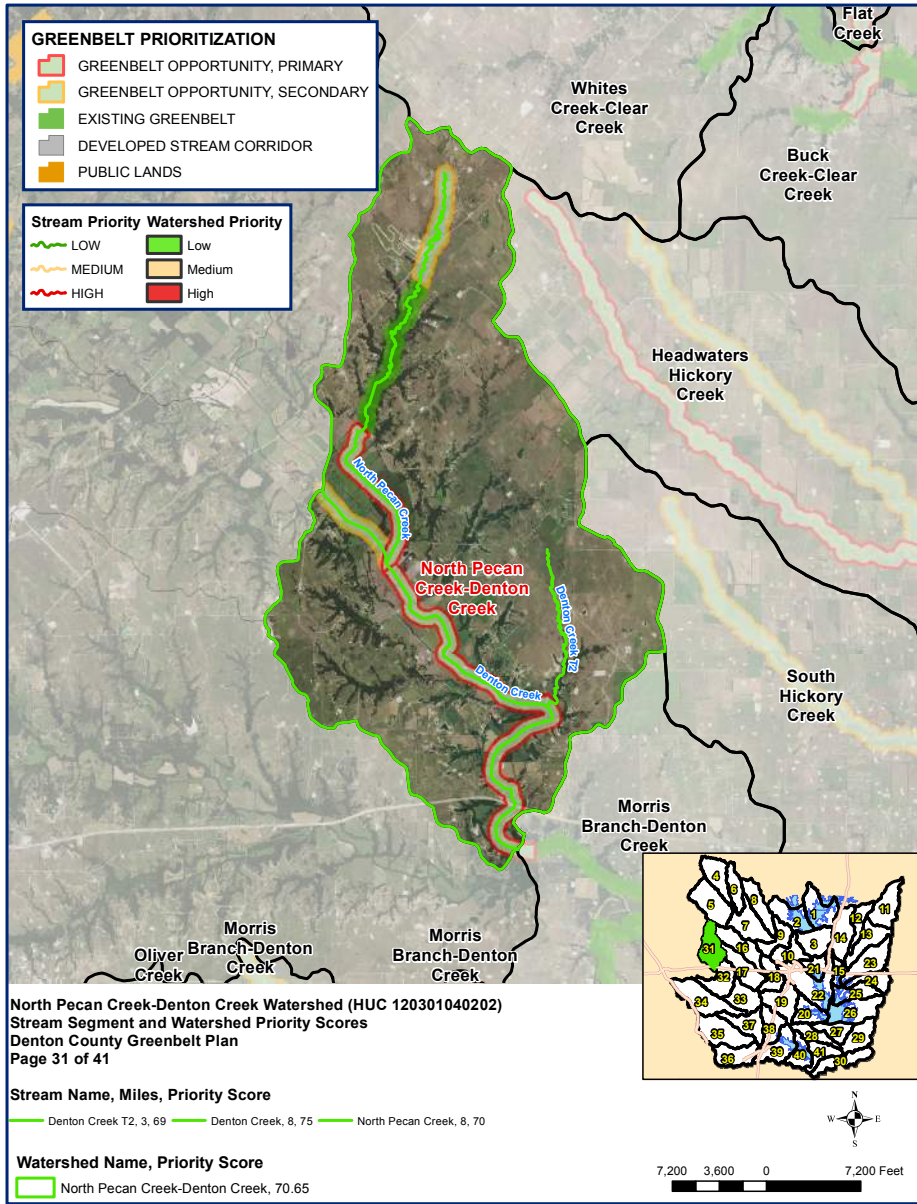


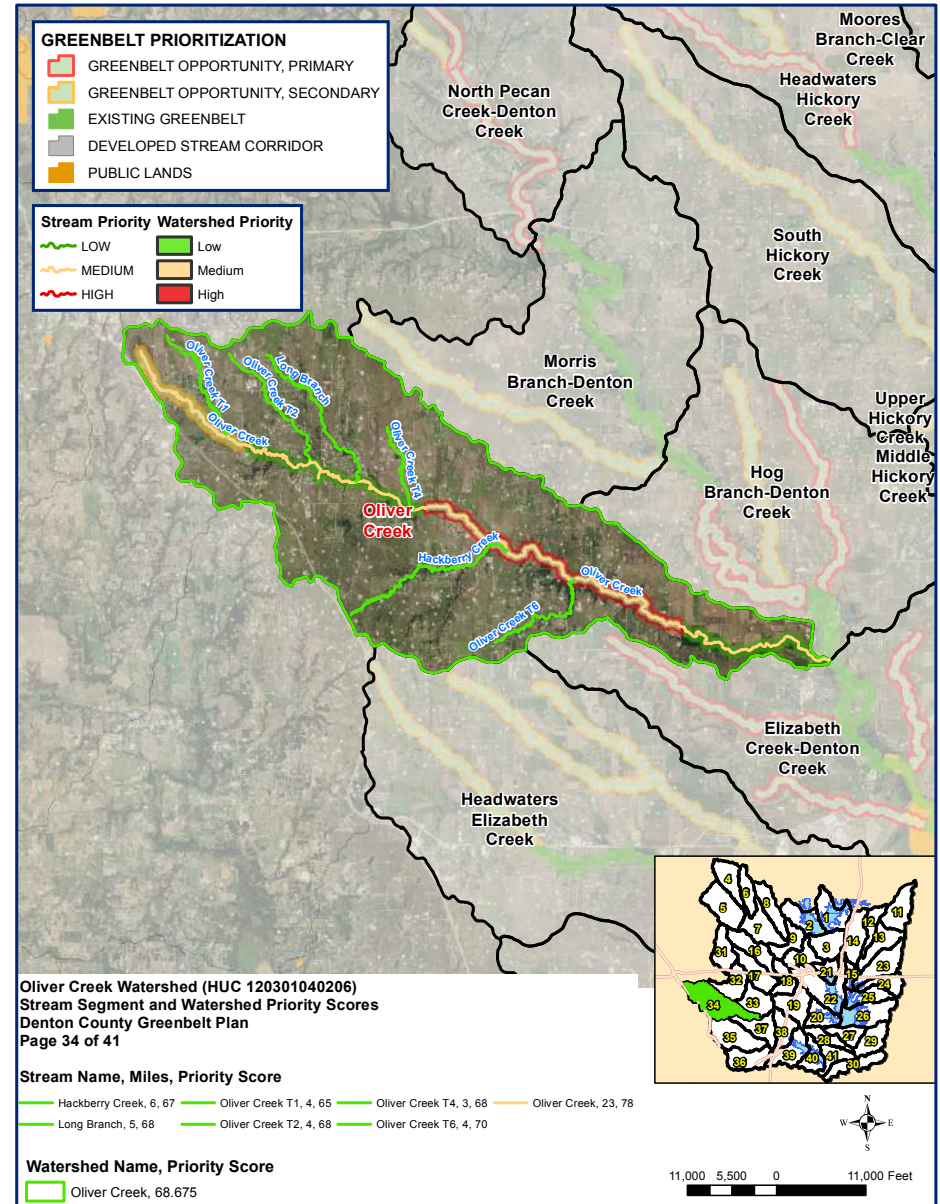
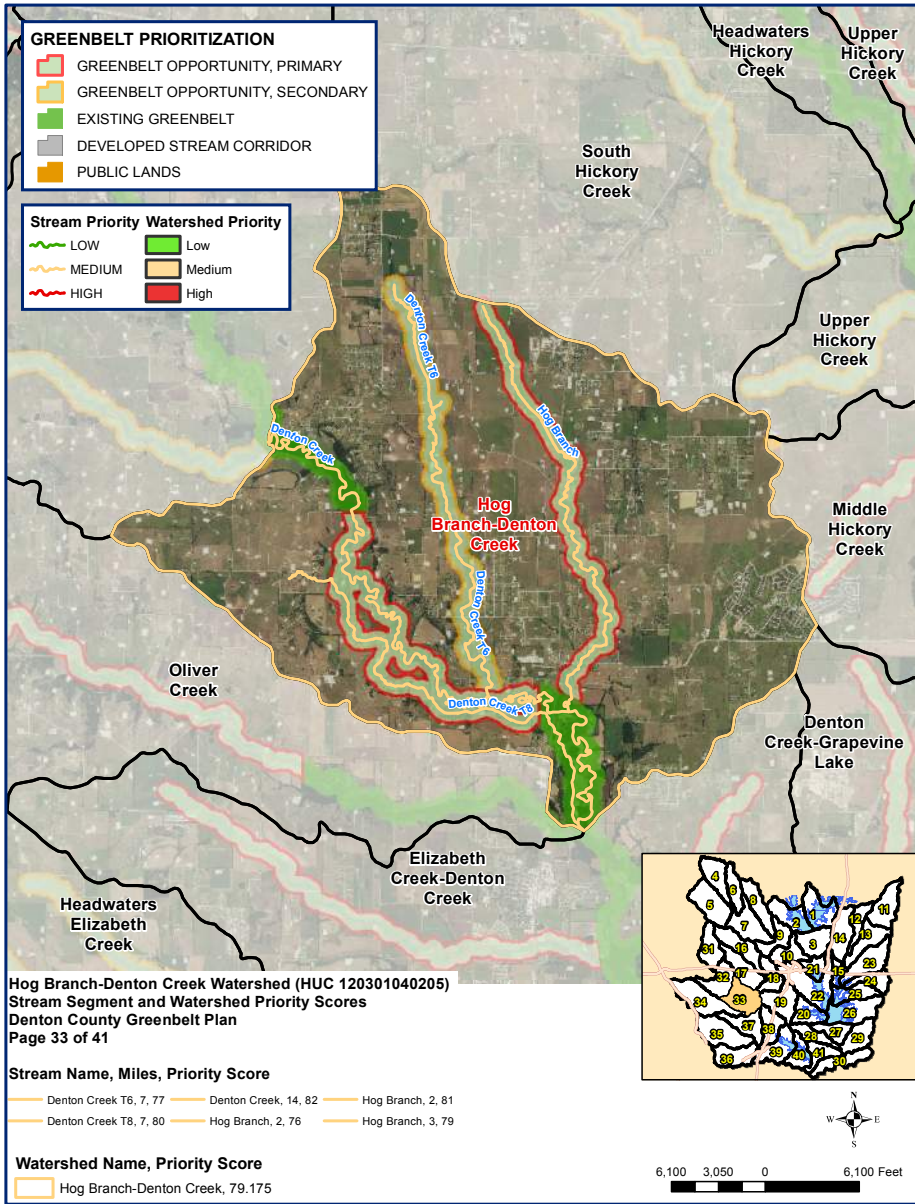


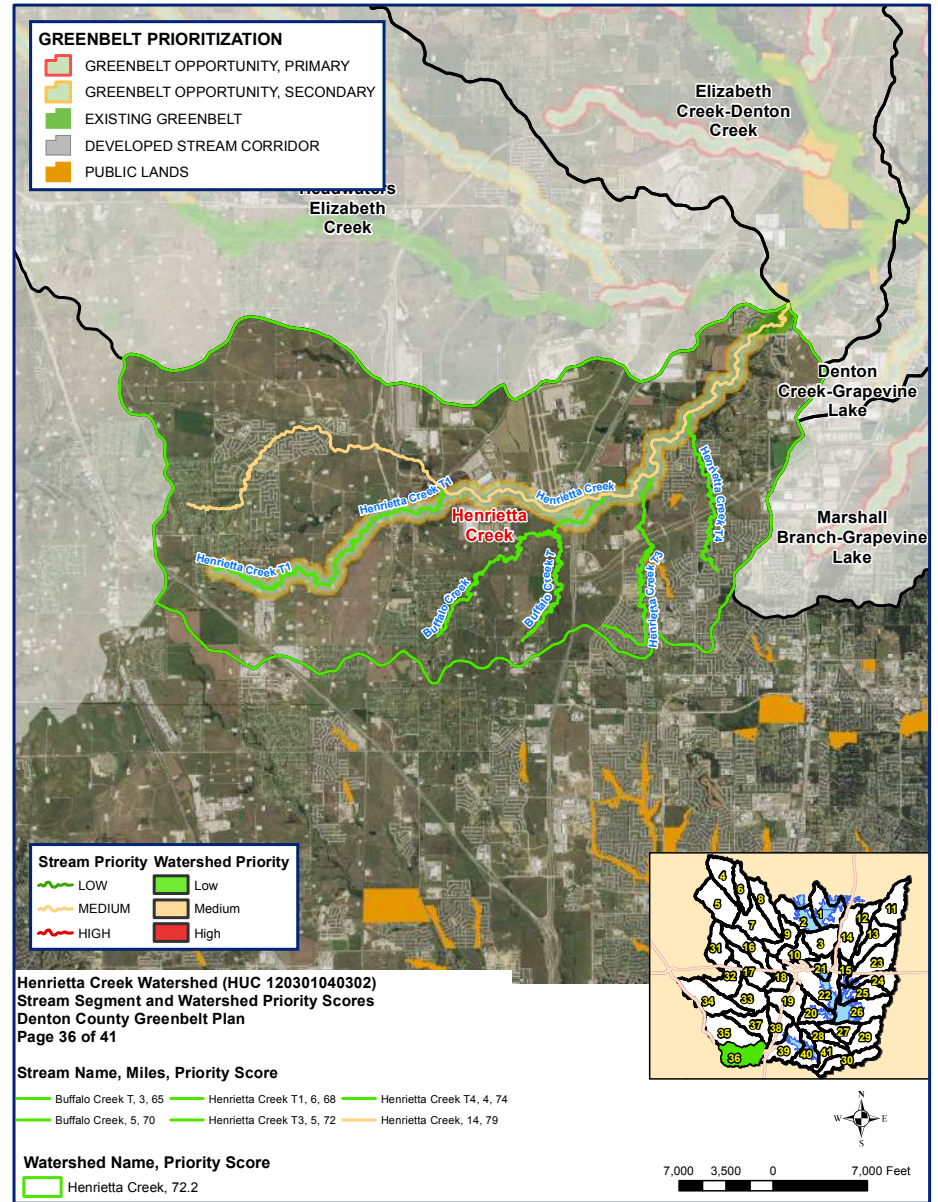
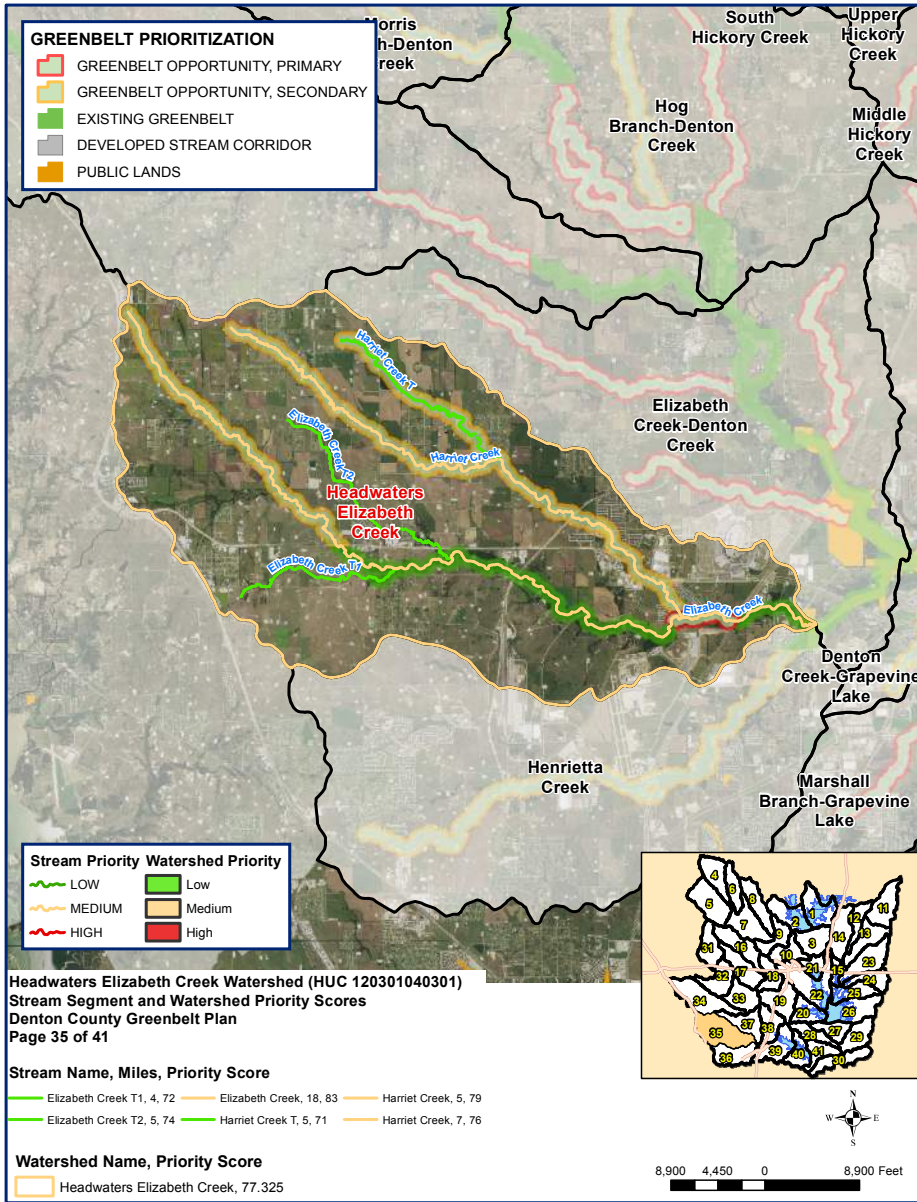


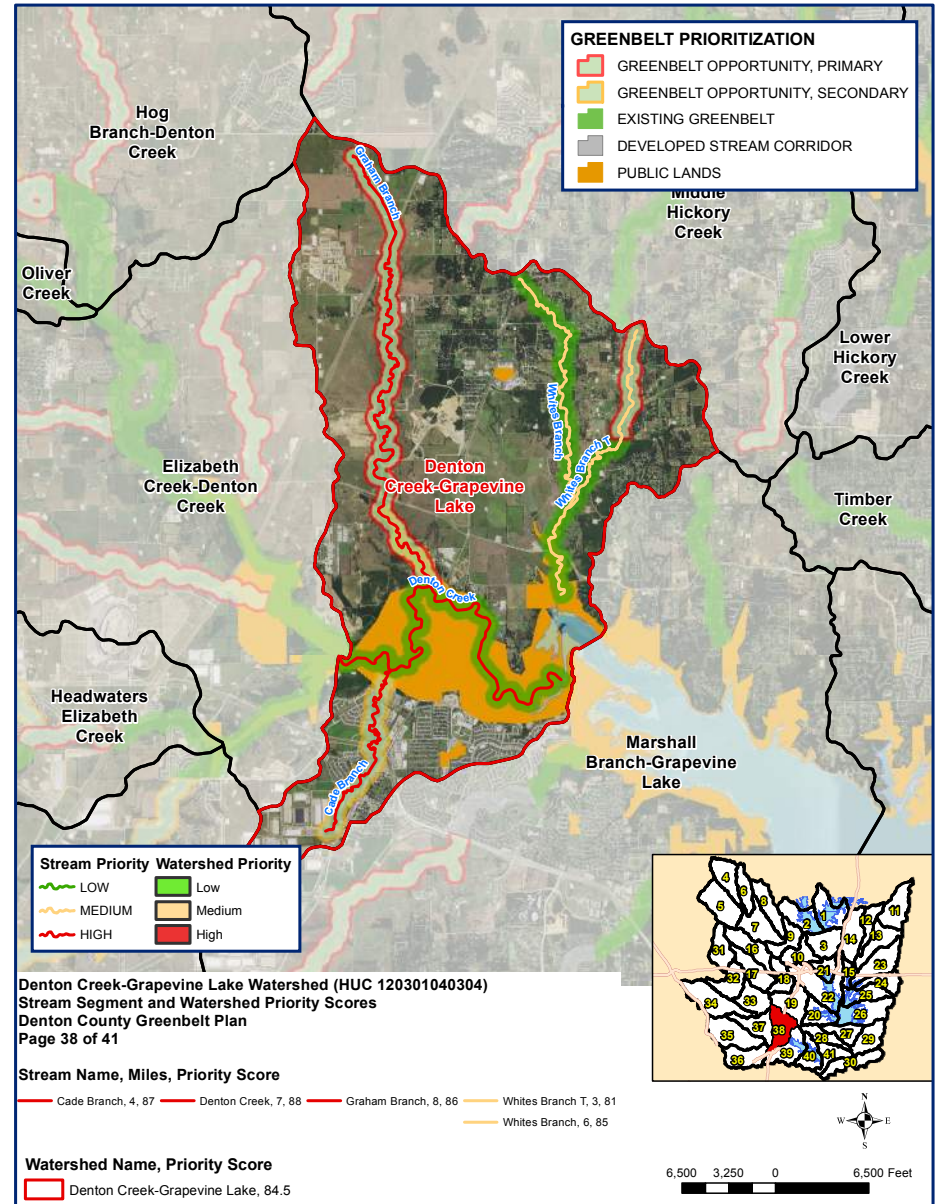
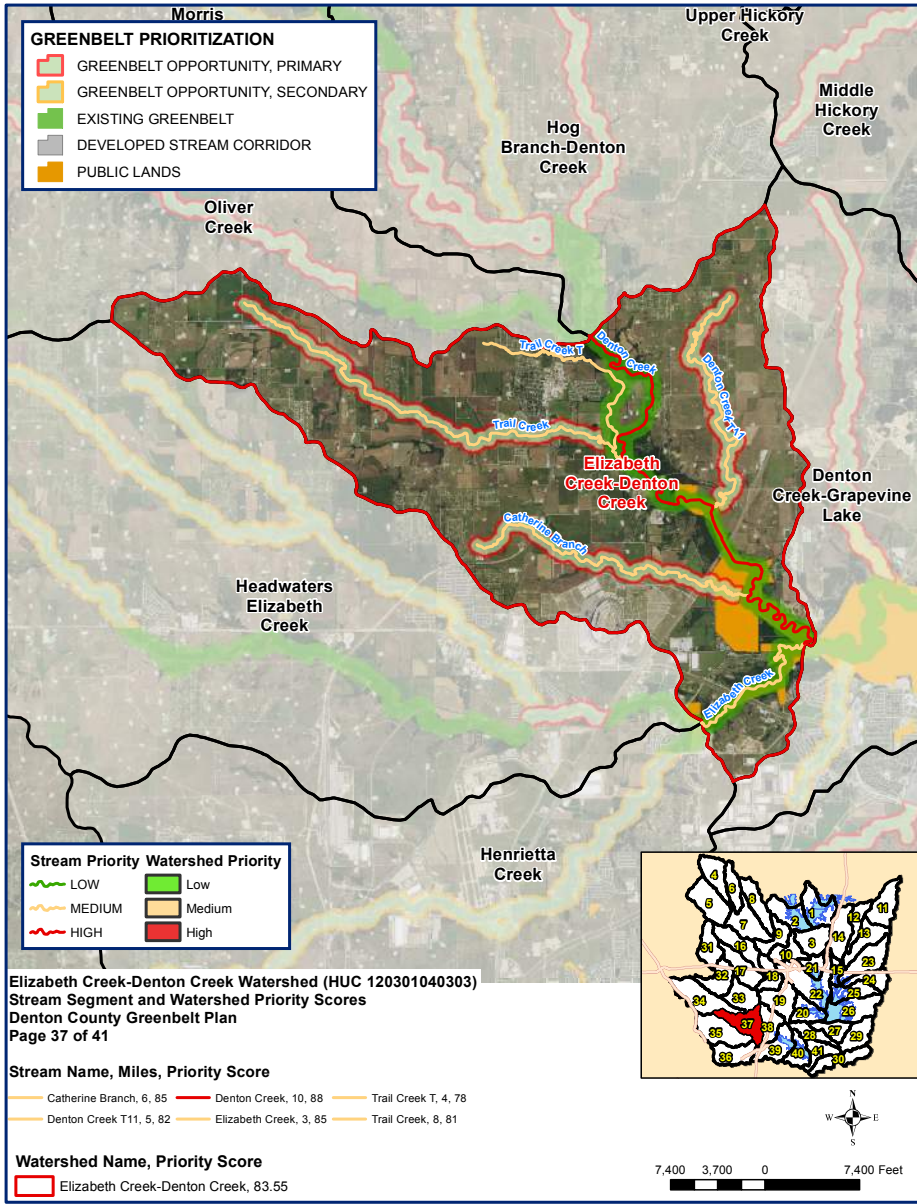


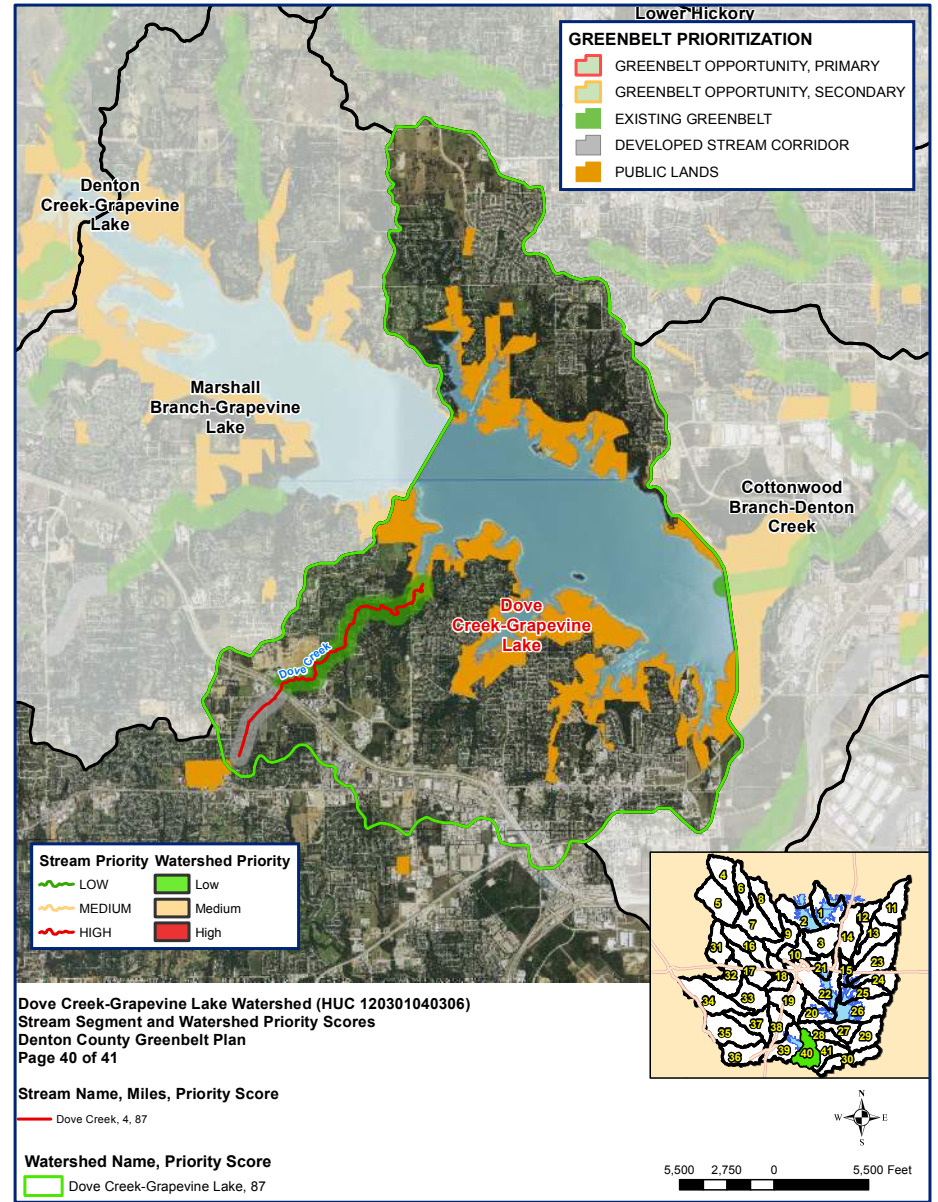
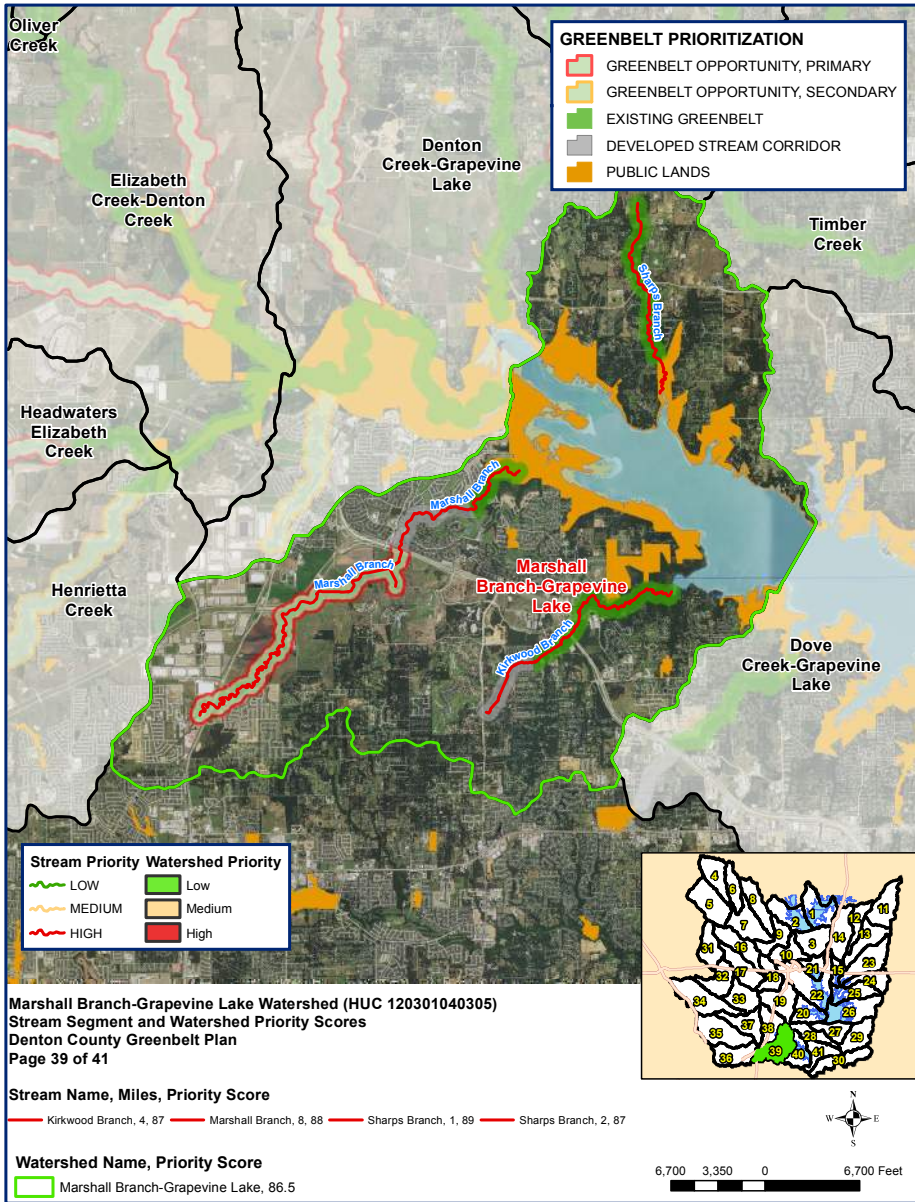


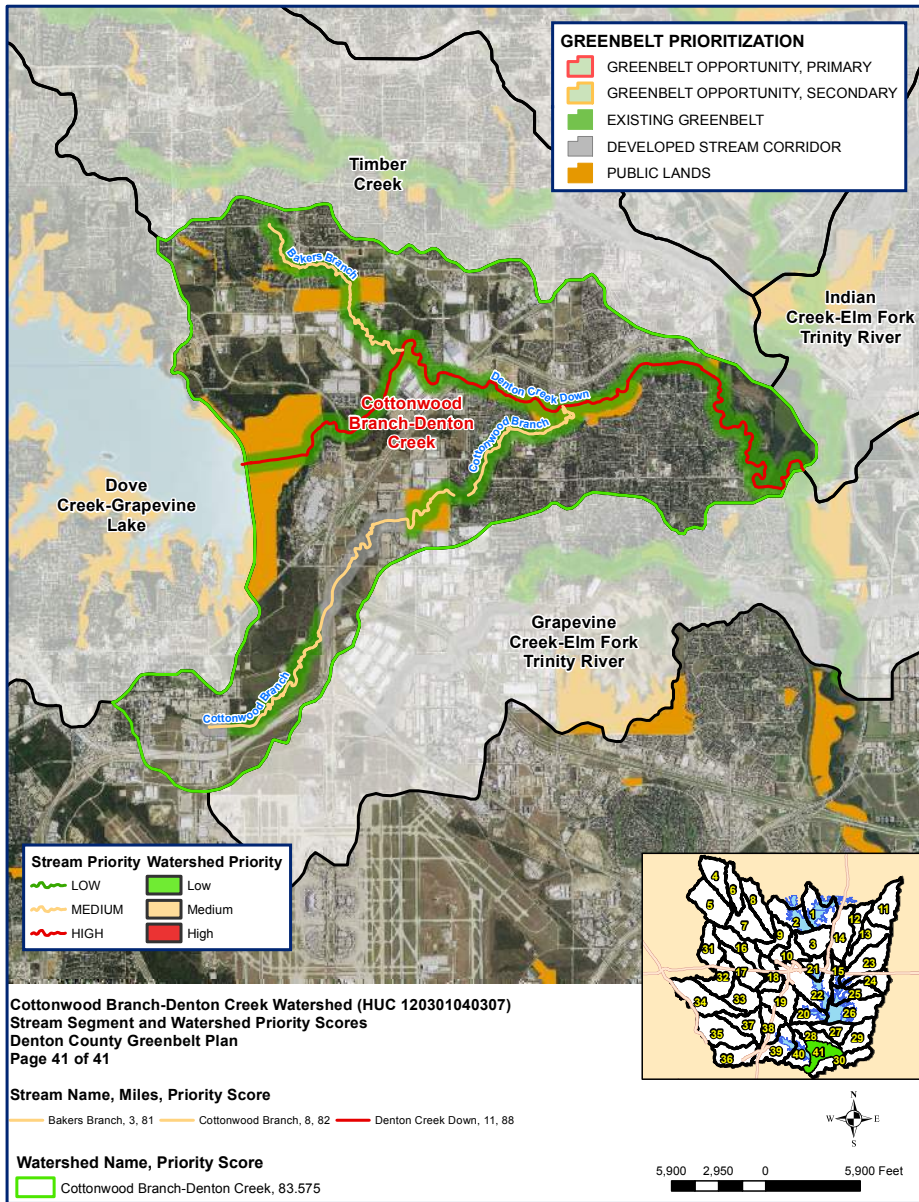




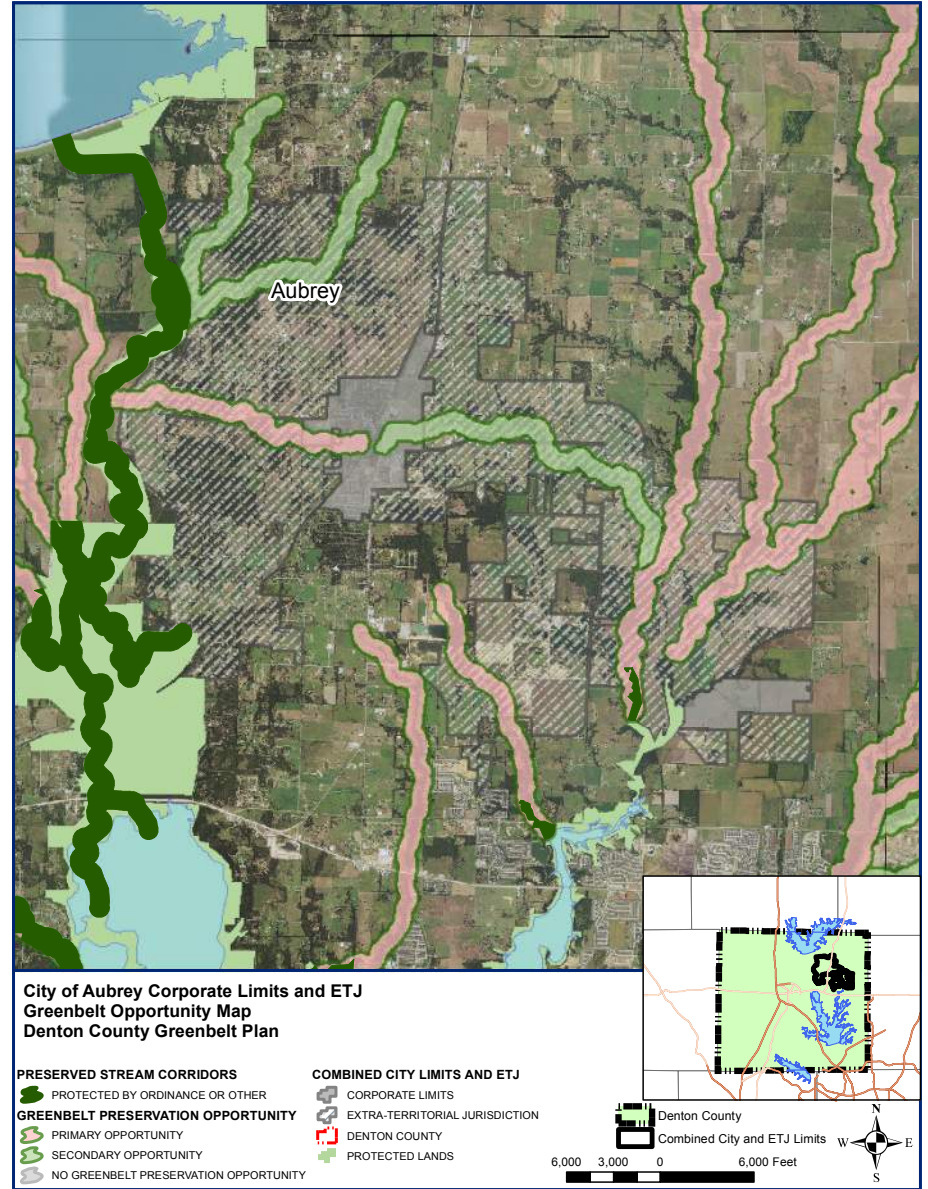
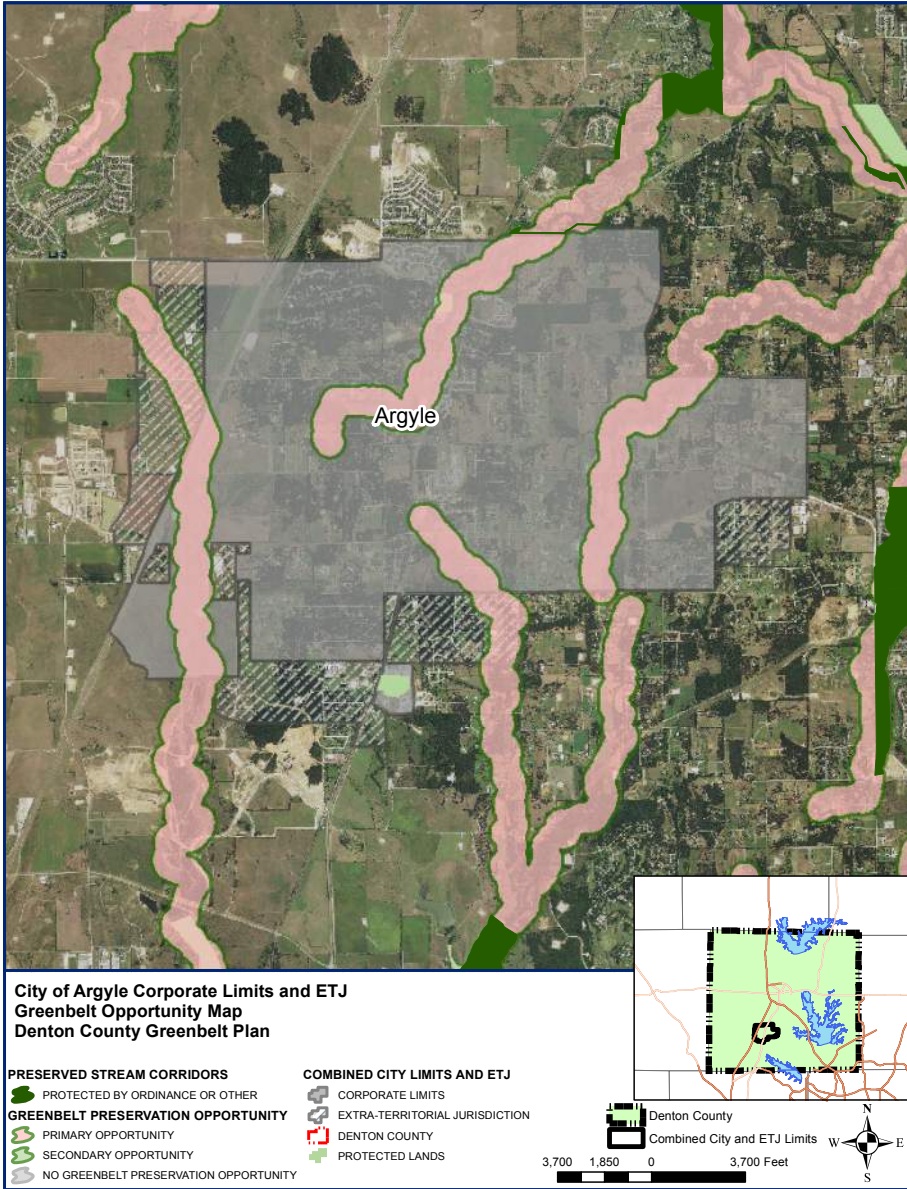


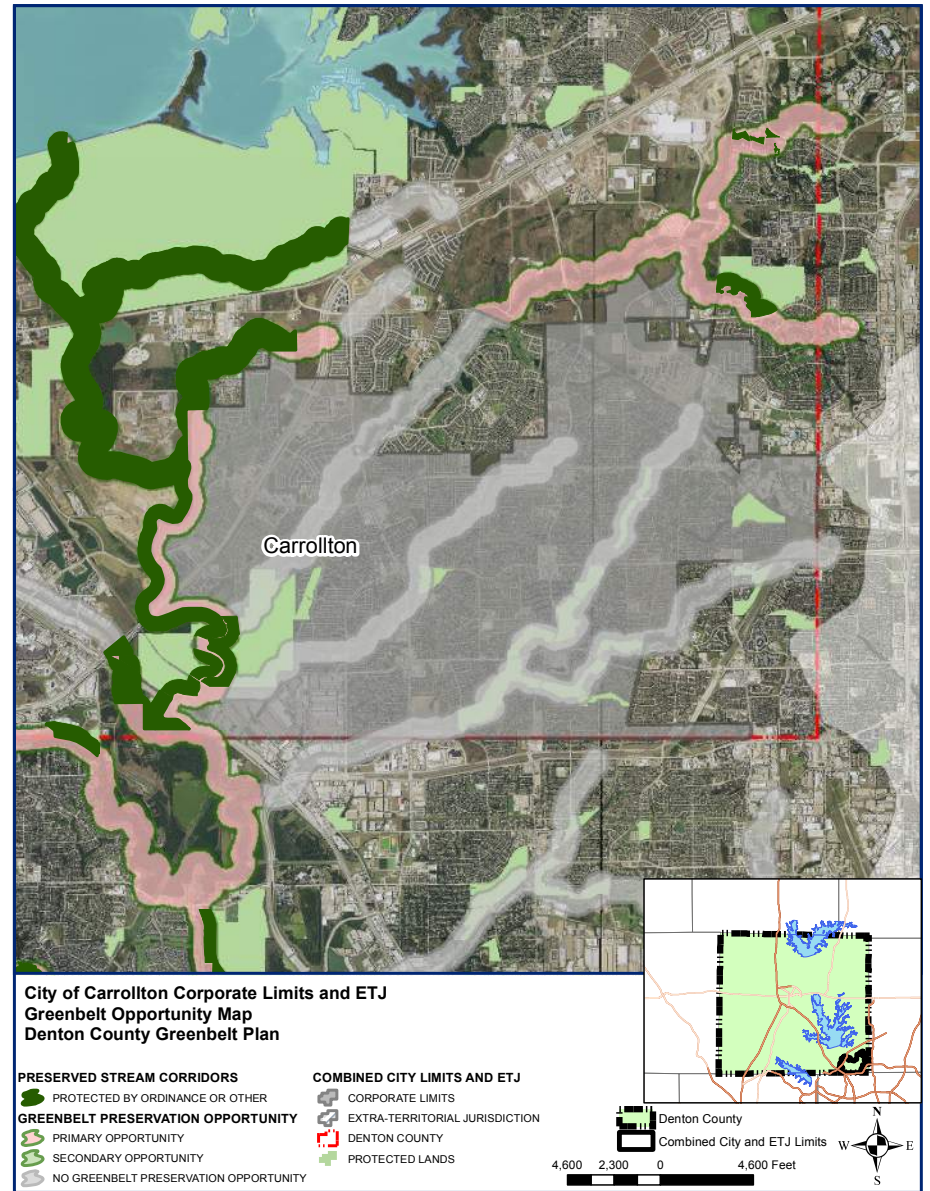
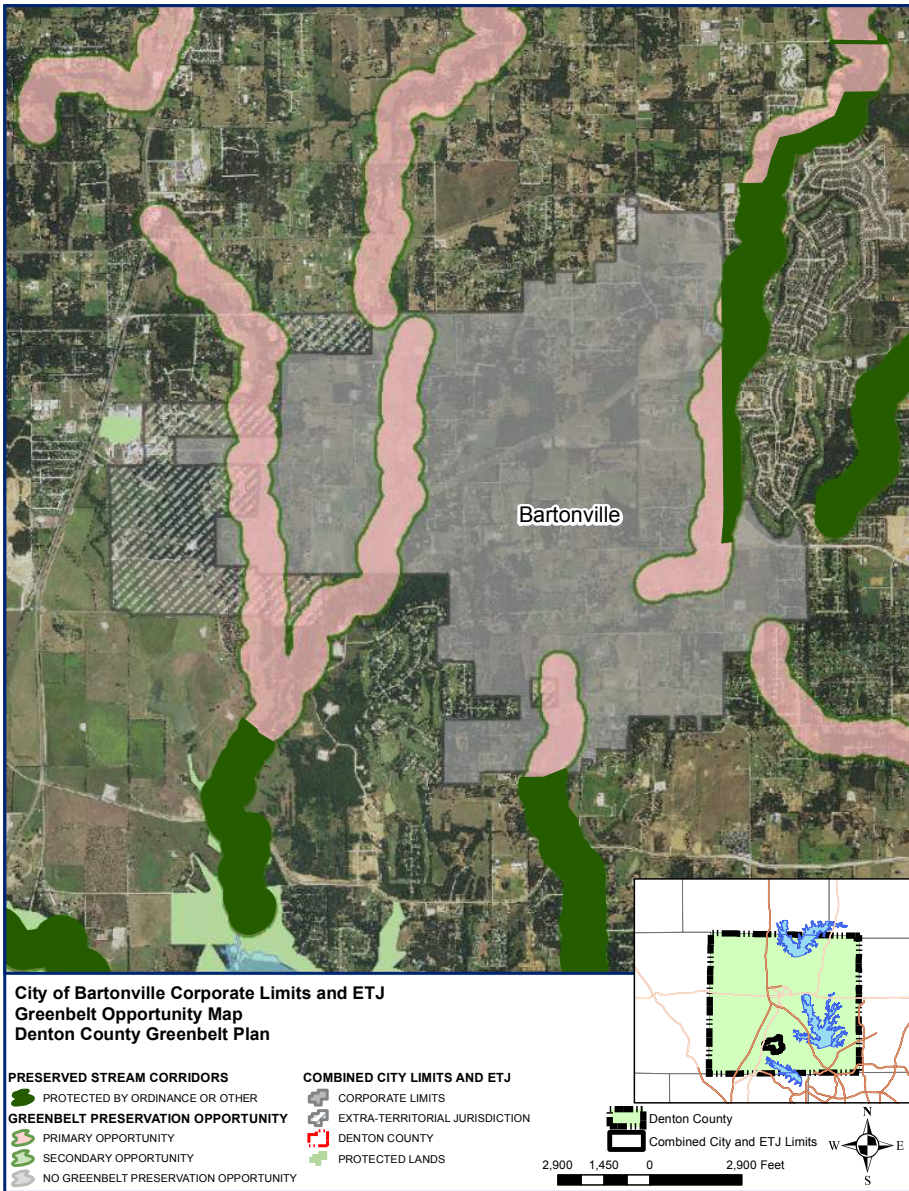


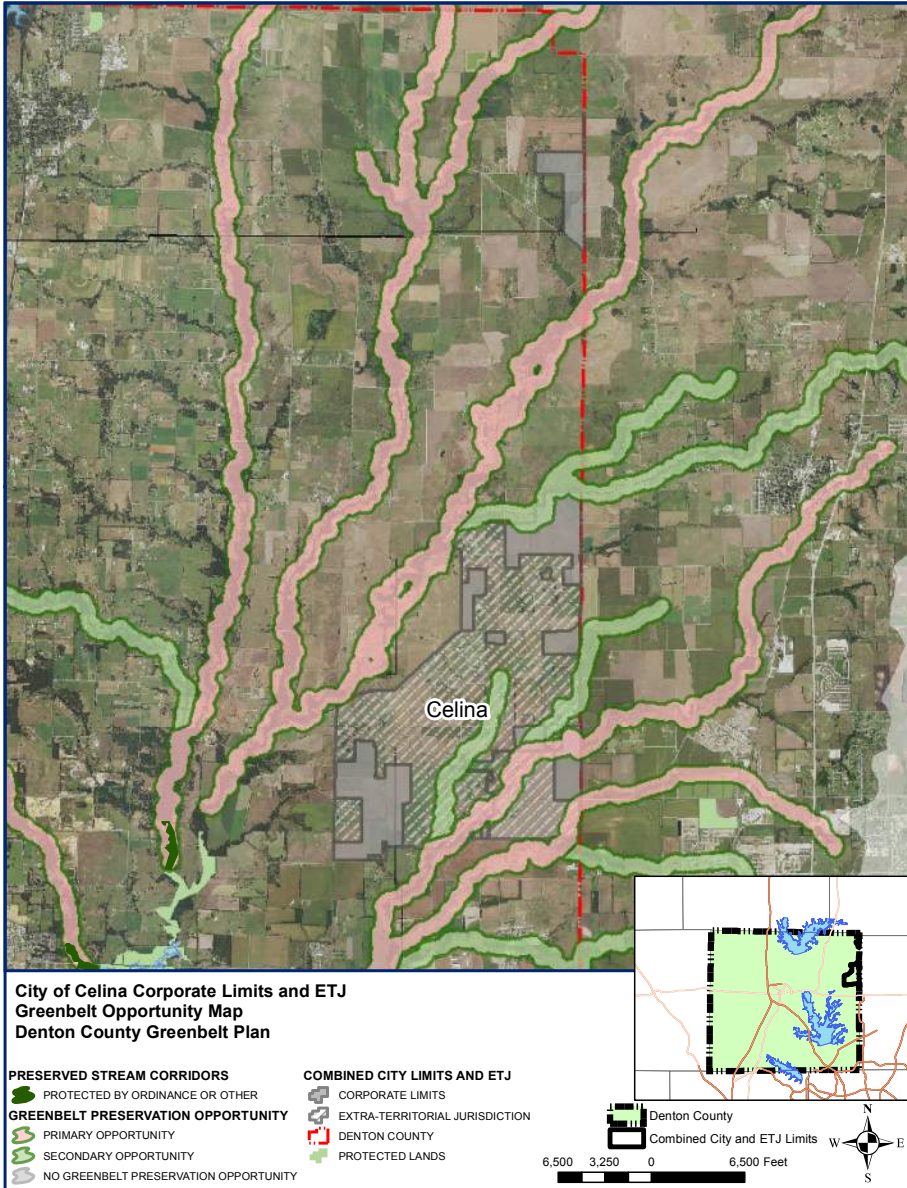


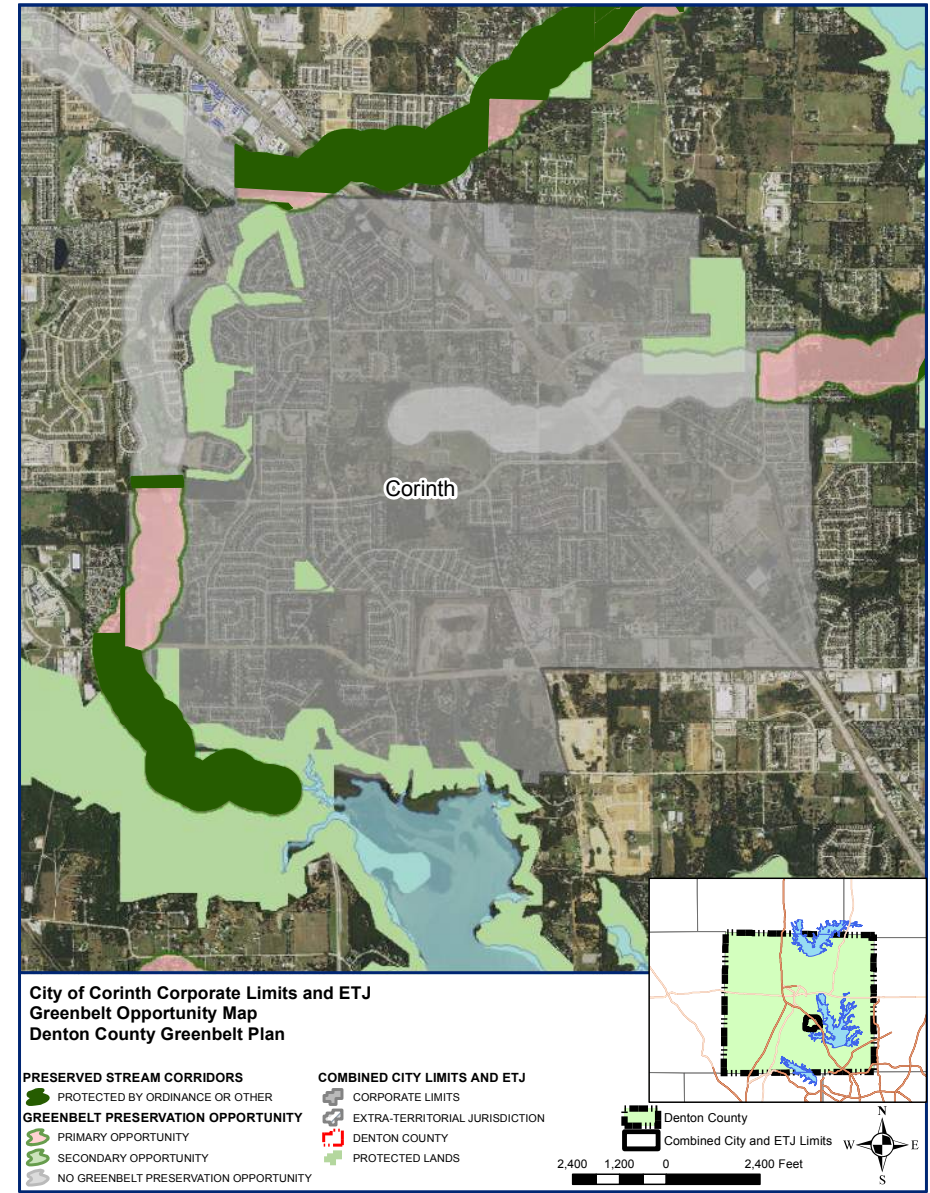
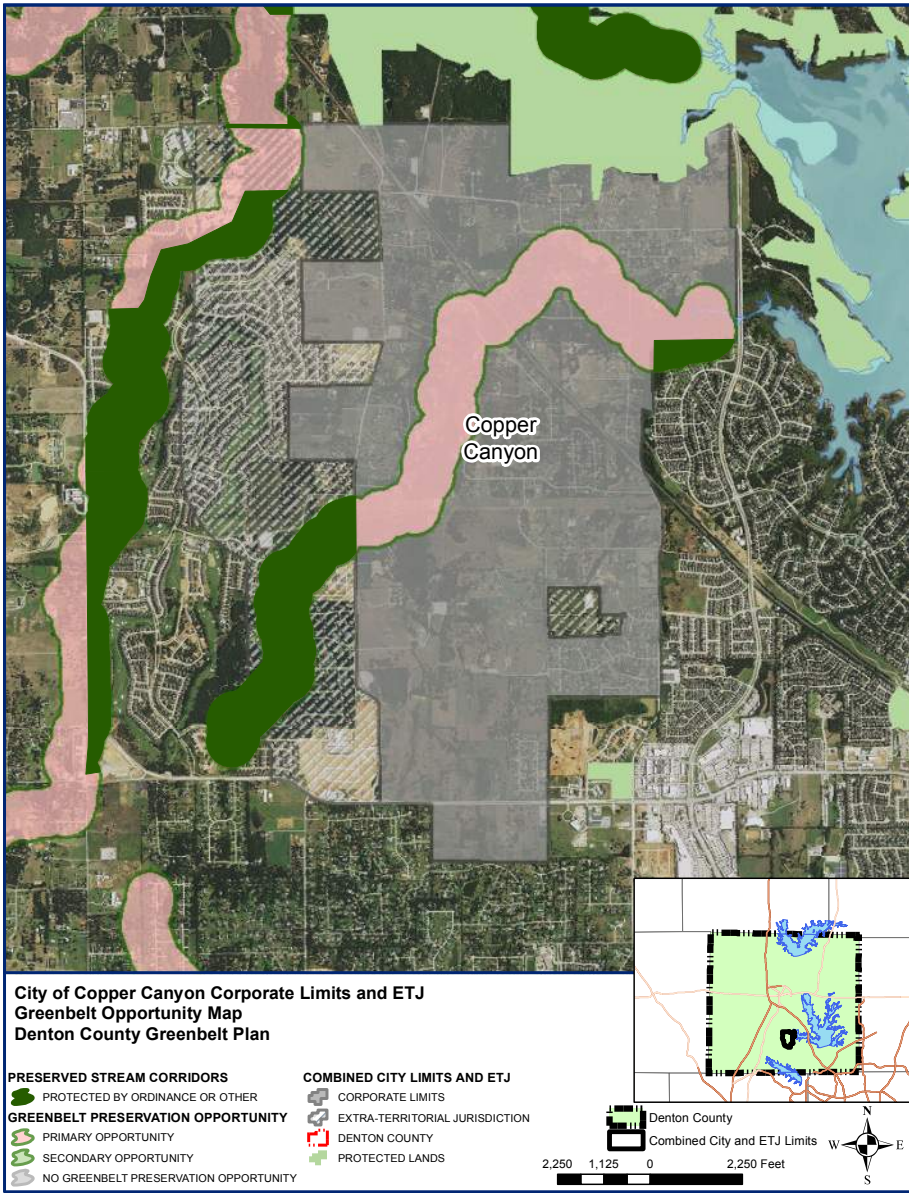


APPENDIX C - GREENBELT OPPORTUNITY WITH JURISDICTIONAL OVERLAY





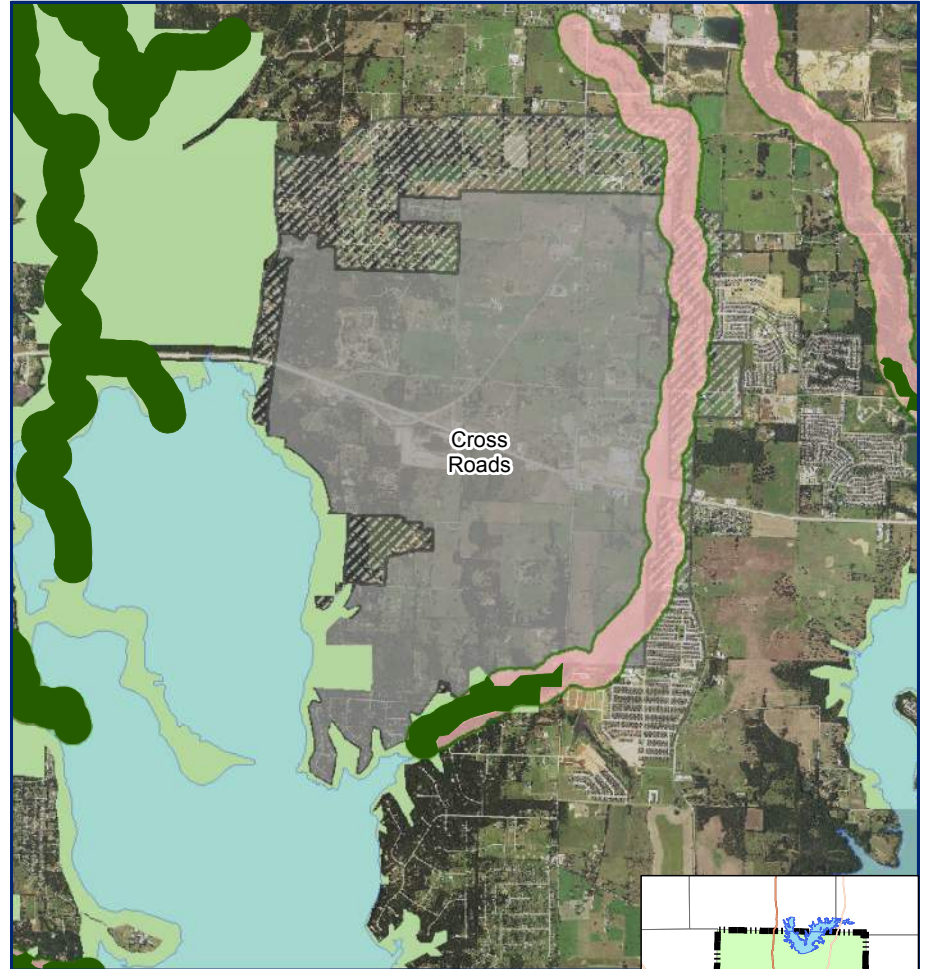
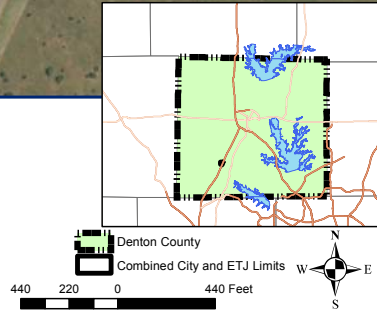






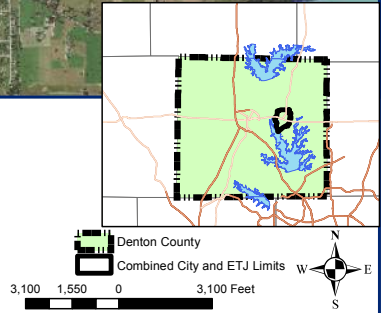
**City of Corral City Corporate Limits and ETJ
Greenbelt Opportunity Map
Denton County Greenbelt Plan**

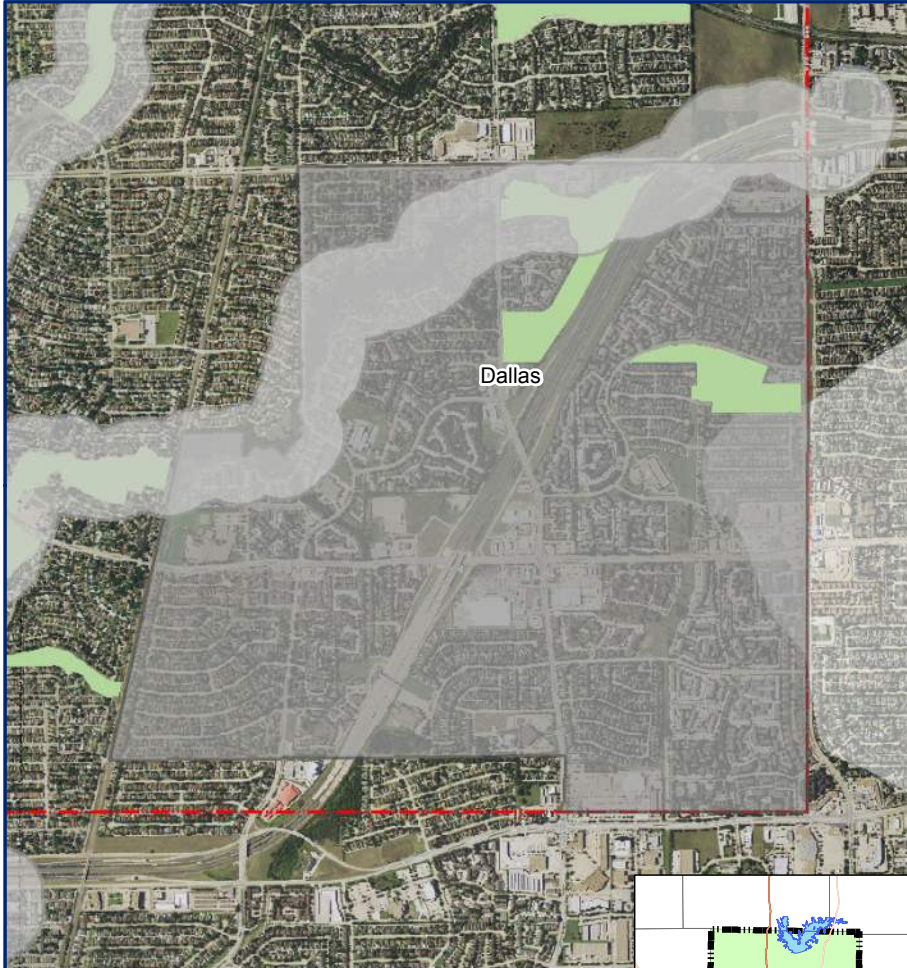
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| PROTECTED BY ORDINANCE OR OTHER | CORPORATE LIMITS |
| GREENBELT PRESERVATION OPPORTUNITY | EXTRA-TERRITORIAL JURISDICTION |
| PRIMARY OPPORTUNITY | DENTON COUNTY |
| SECONDARY OPPORTUNITY | PROTECTED LANDS |
| NO GREENBELT PRESERVATION OPPORTUNITY | |



**City of Cross Roads Corporate Limits and ETJ
Greenbelt Opportunity Map
Denton County Greenbelt Plan**

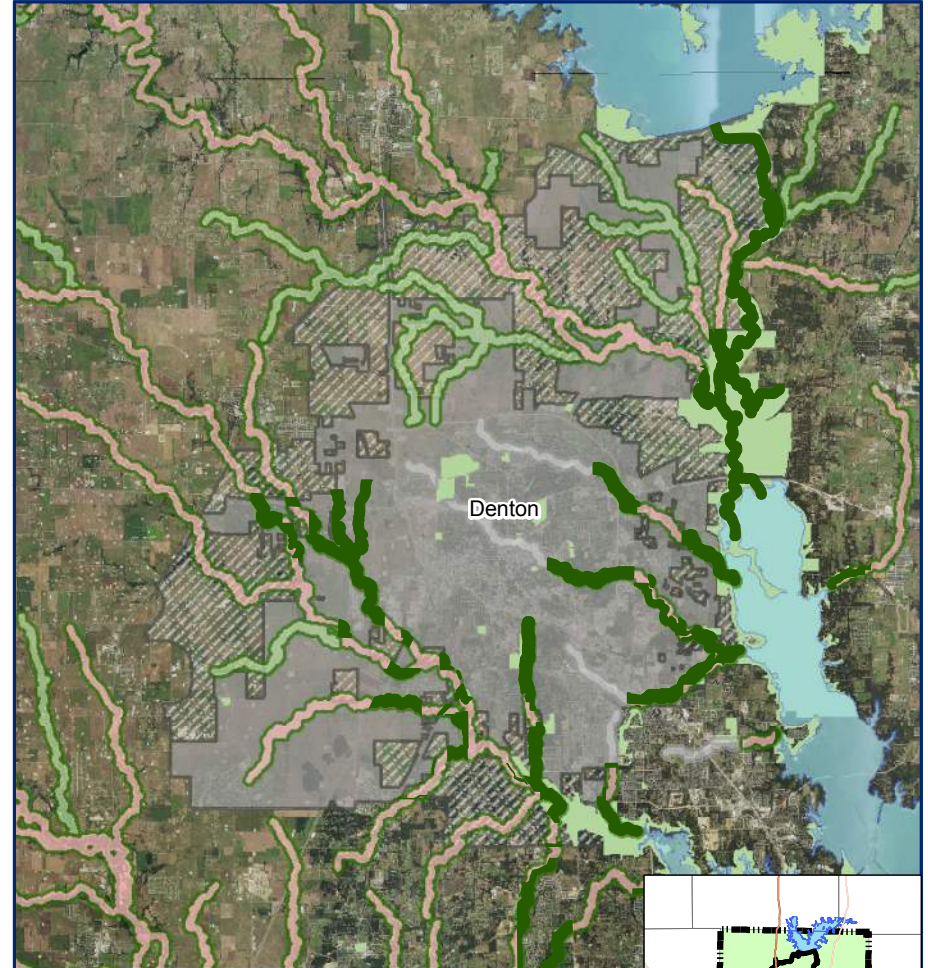
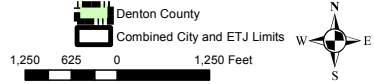
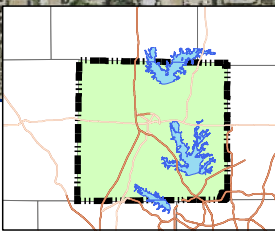
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| PRESERVED STREAM CORRIDORS | COMBINED CITY LIMITS AND ETJ |
| PROTECTED BY ORDINANCE OR OTHER | CORPORATE LIMITS |
| GREENBELT PRESERVATION OPPORTUNITY | EXTRA-TERRITORIAL JURISDICTION |
| PRIMARY OPPORTUNITY | DENTON COUNTY |
| SECONDARY OPPORTUNITY | PROTECTED LANDS |
| NO GREENBELT PRESERVATION OPPORTUNITY | |





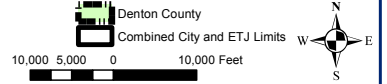
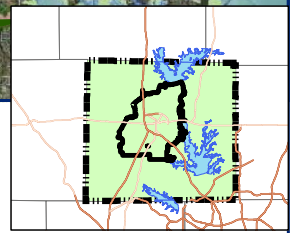
**City of Dallas Corporate Limits and ETJ
Greenbelt Opportunity Map
Denton County Greenbelt Plan**

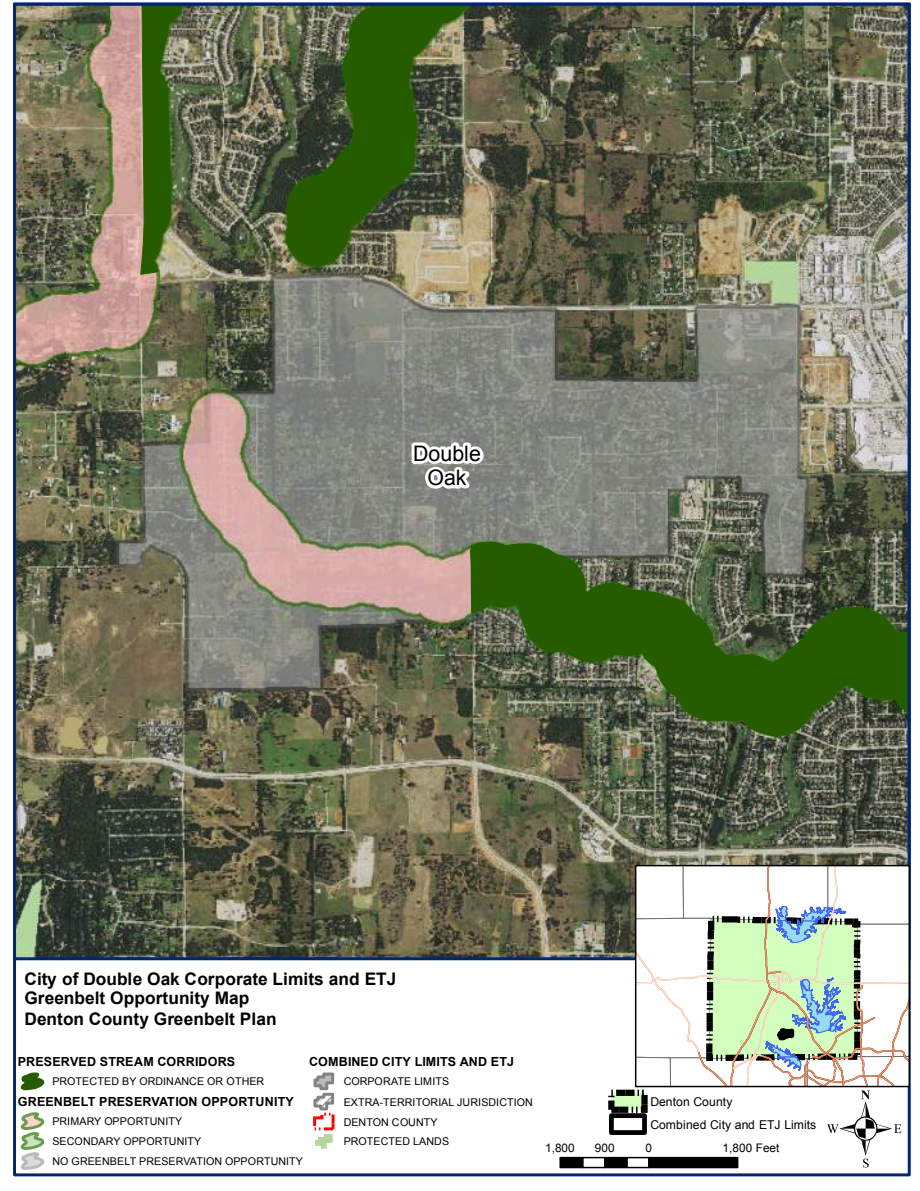
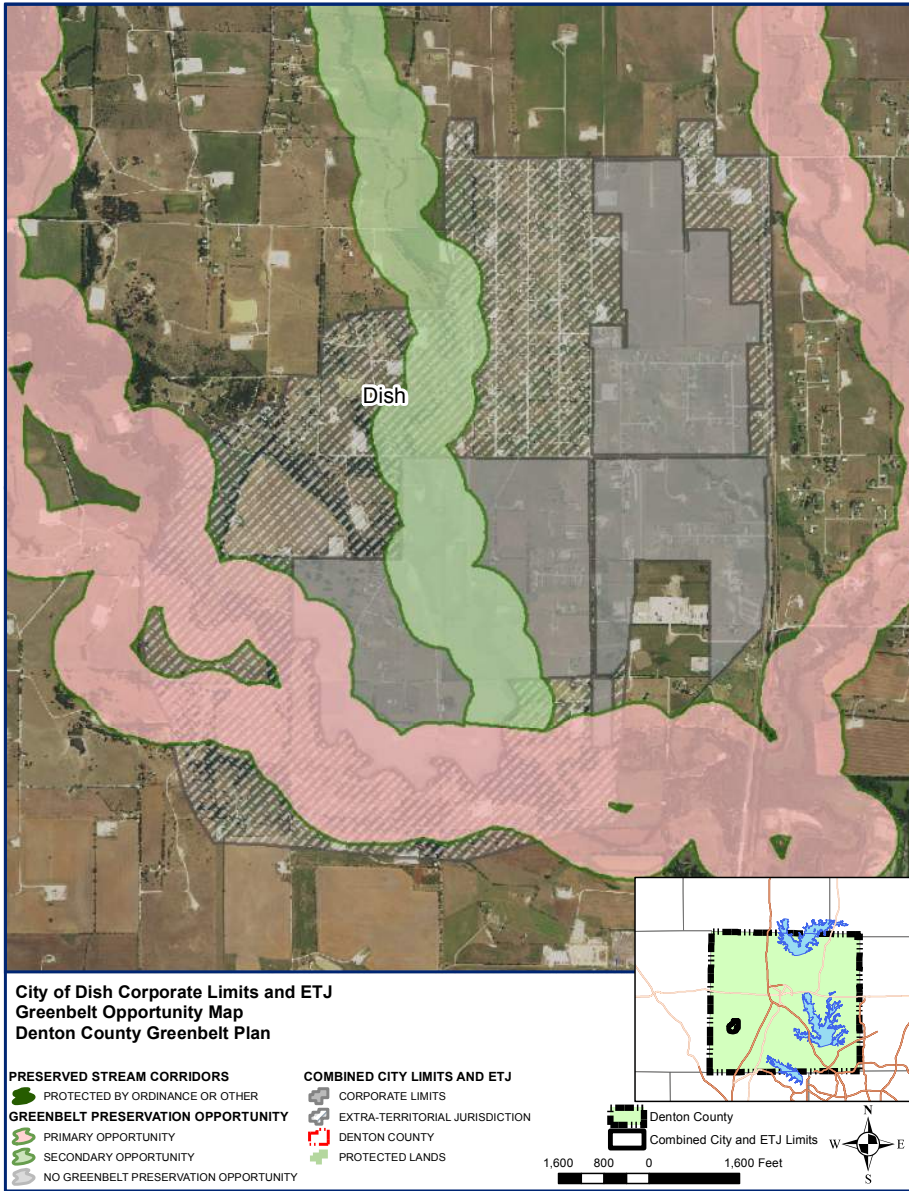
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| PRESERVED STREAM CORRIDORS | COMBINED CITY LIMITS AND ETJ |
| PROTECTED BY ORDINANCE OR OTHER | CORPORATE LIMITS |
| GREENBELT PRESERVATION OPPORTUNITY | EXTRA-TERRITORIAL JURISDICTION |
| PRIMARY OPPORTUNITY | DENTON COUNTY |
| SECONDARY OPPORTUNITY | PROTECTED LANDS |
| NO GREENBELT PRESERVATION OPPORTUNITY | |

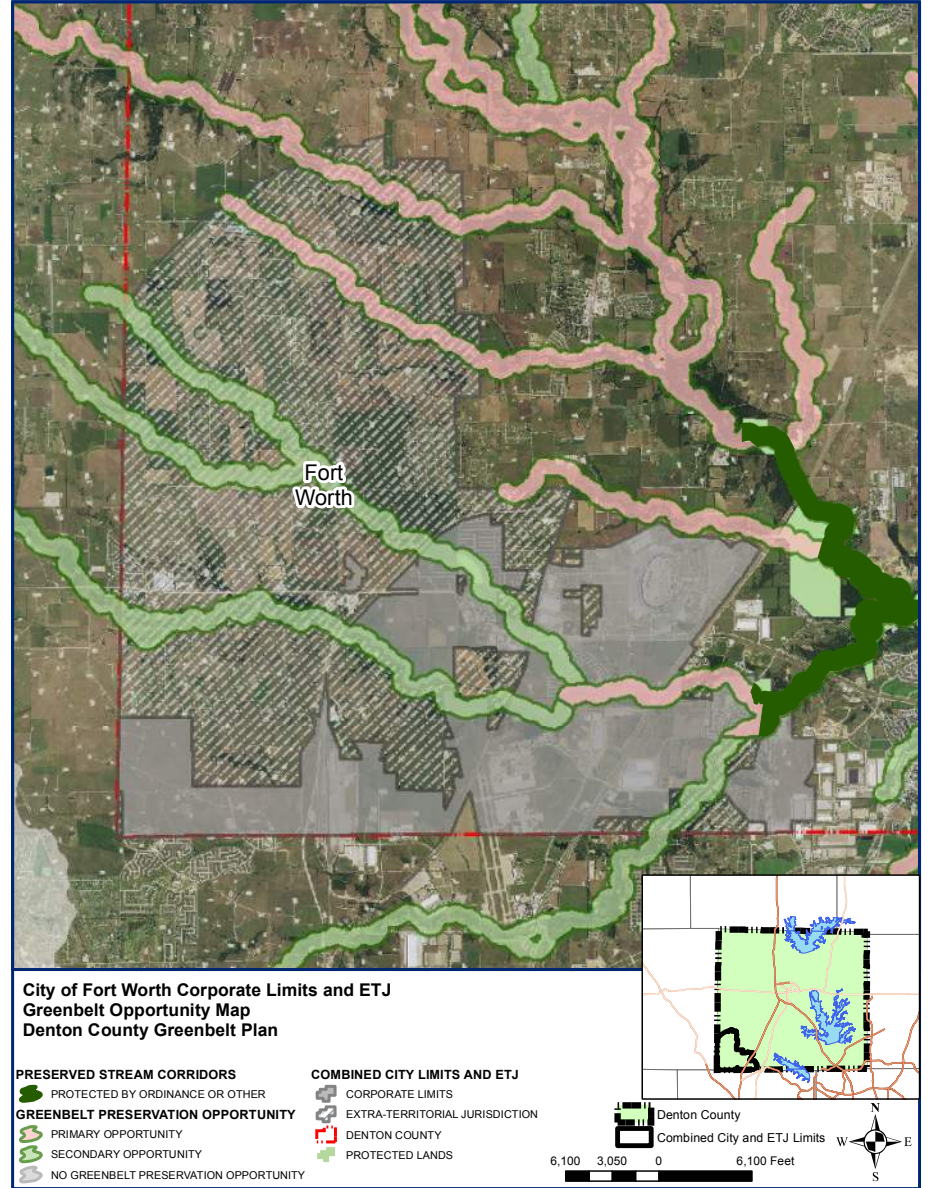
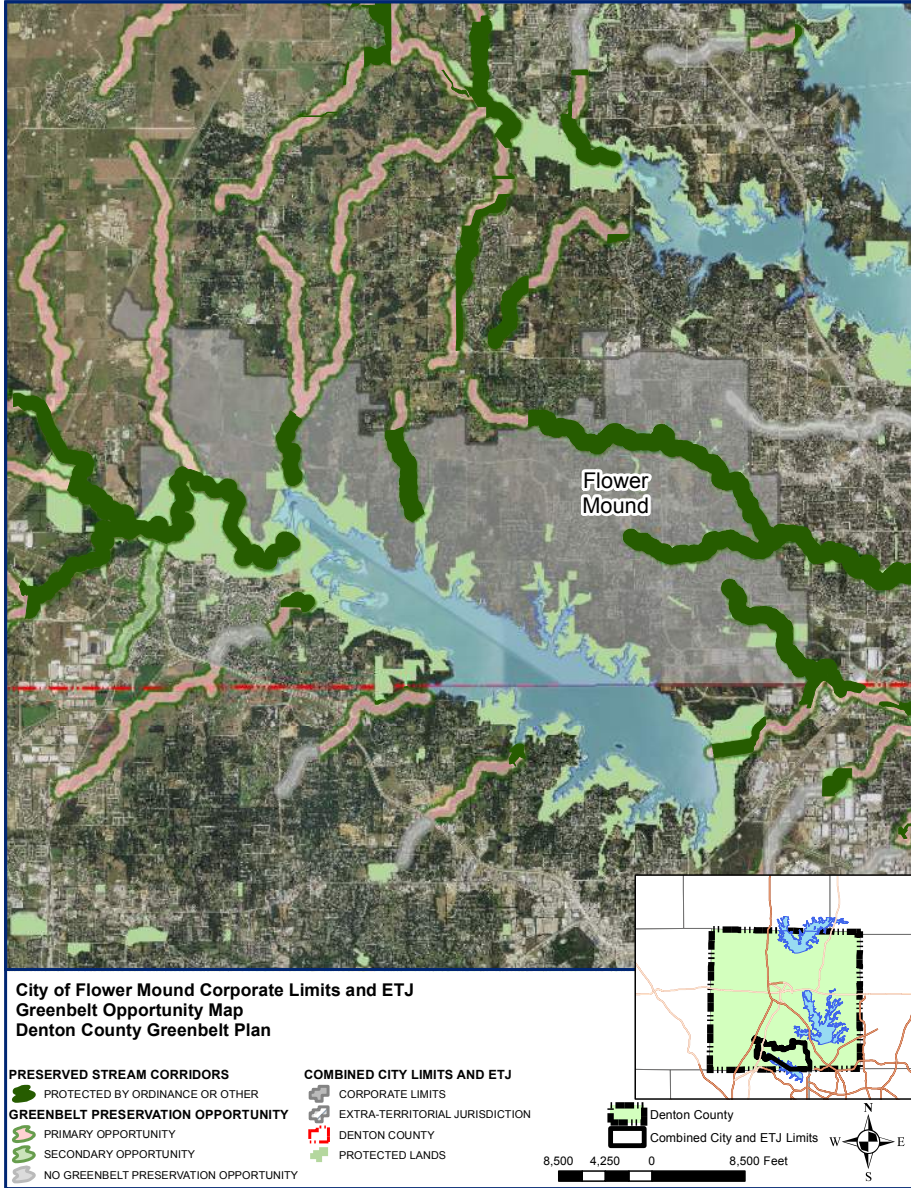


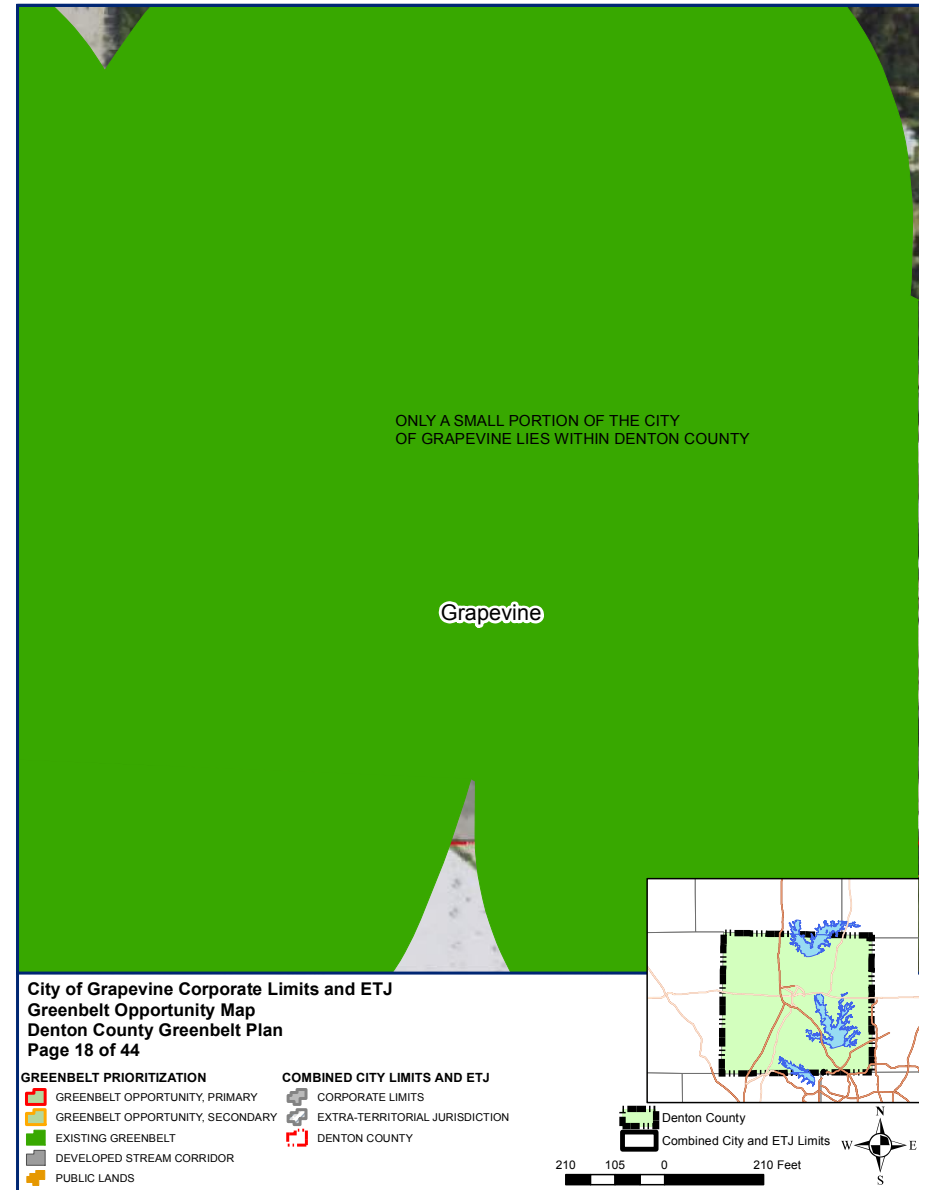
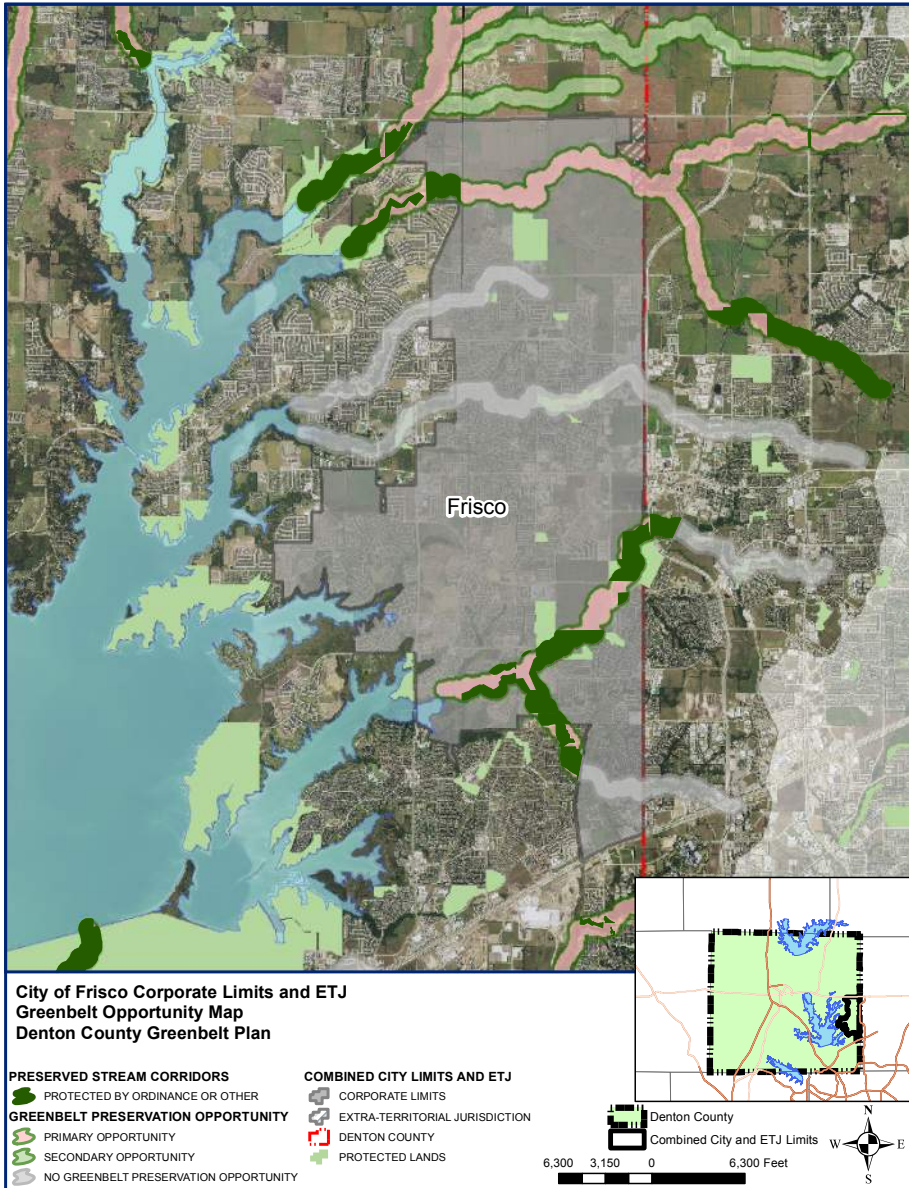
**City of Denton Corporate Limits and ETJ
Greenbelt Opportunity Map
Denton County Greenbelt Plan**

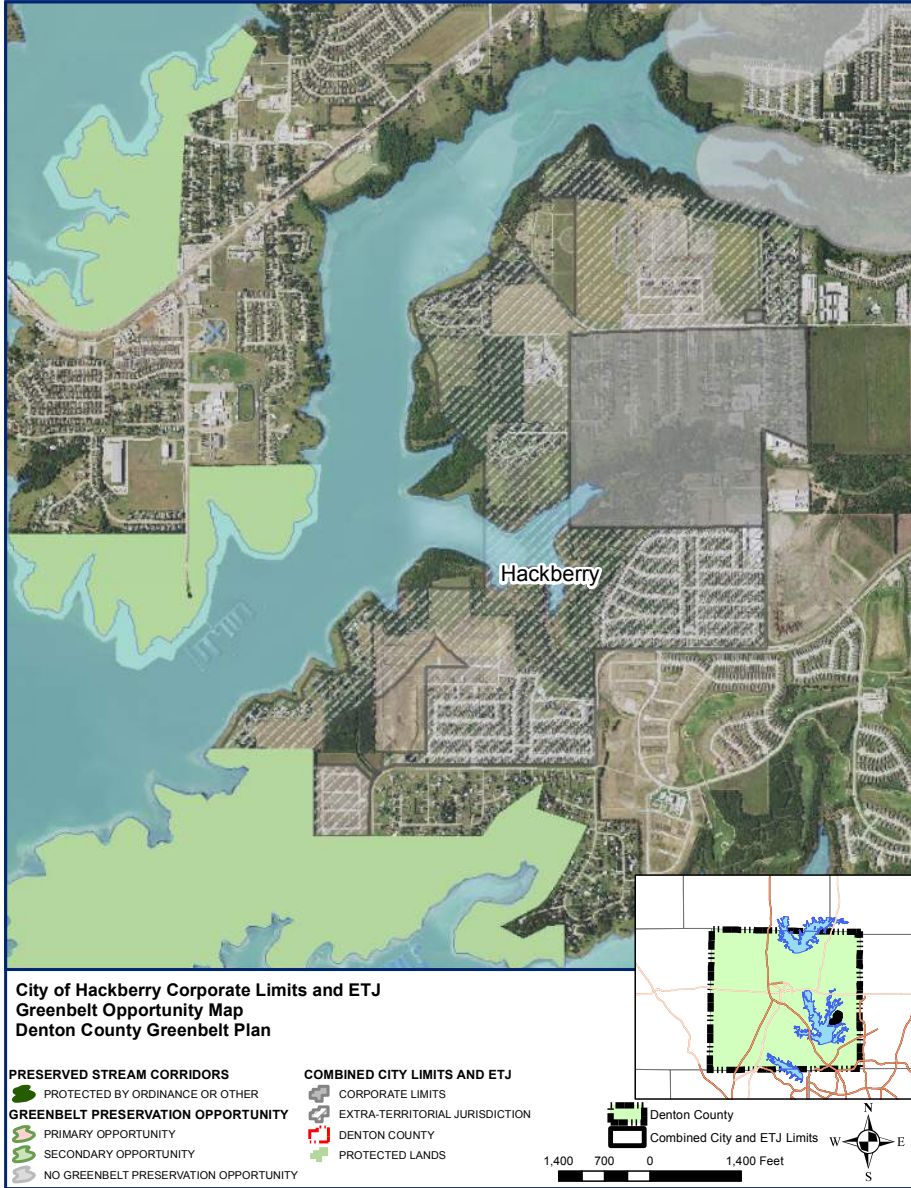
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|---|-------------------------------------|
| PRESERVED STREAM CORRIDORS | COMBINED CITY LIMITS AND ETJ |
| PROTECTED BY ORDINANCE OR OTHER | CORPORATE LIMITS |
| GREENBELT PRESERVATION OPPORTUNITY | EXTRA-TERRITORIAL JURISDICTION |
| PRIMARY OPPORTUNITY | DENTON COUNTY |
| SECONDARY OPPORTUNITY | PROTECTED LANDS |
| NO GREENBELT PRESERVATION OPPORTUNITY | |

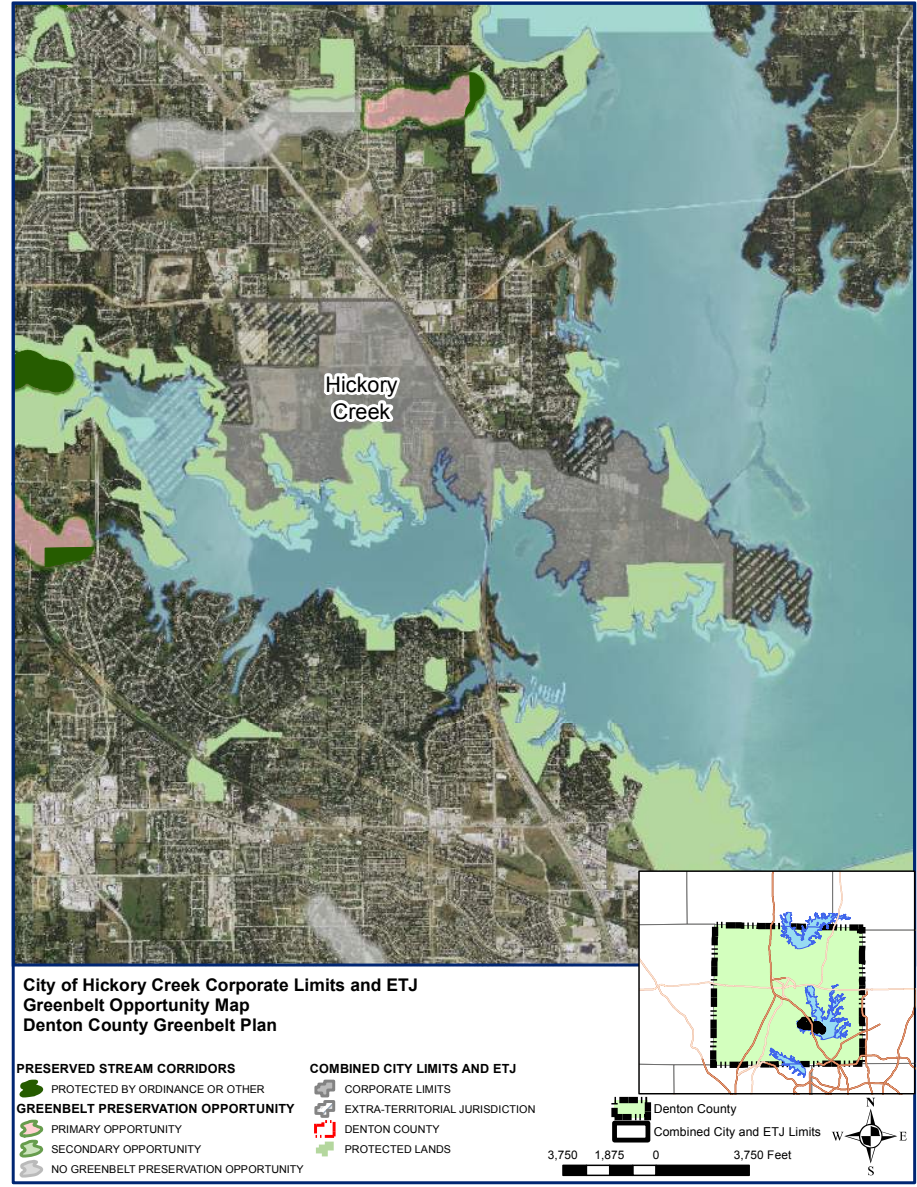
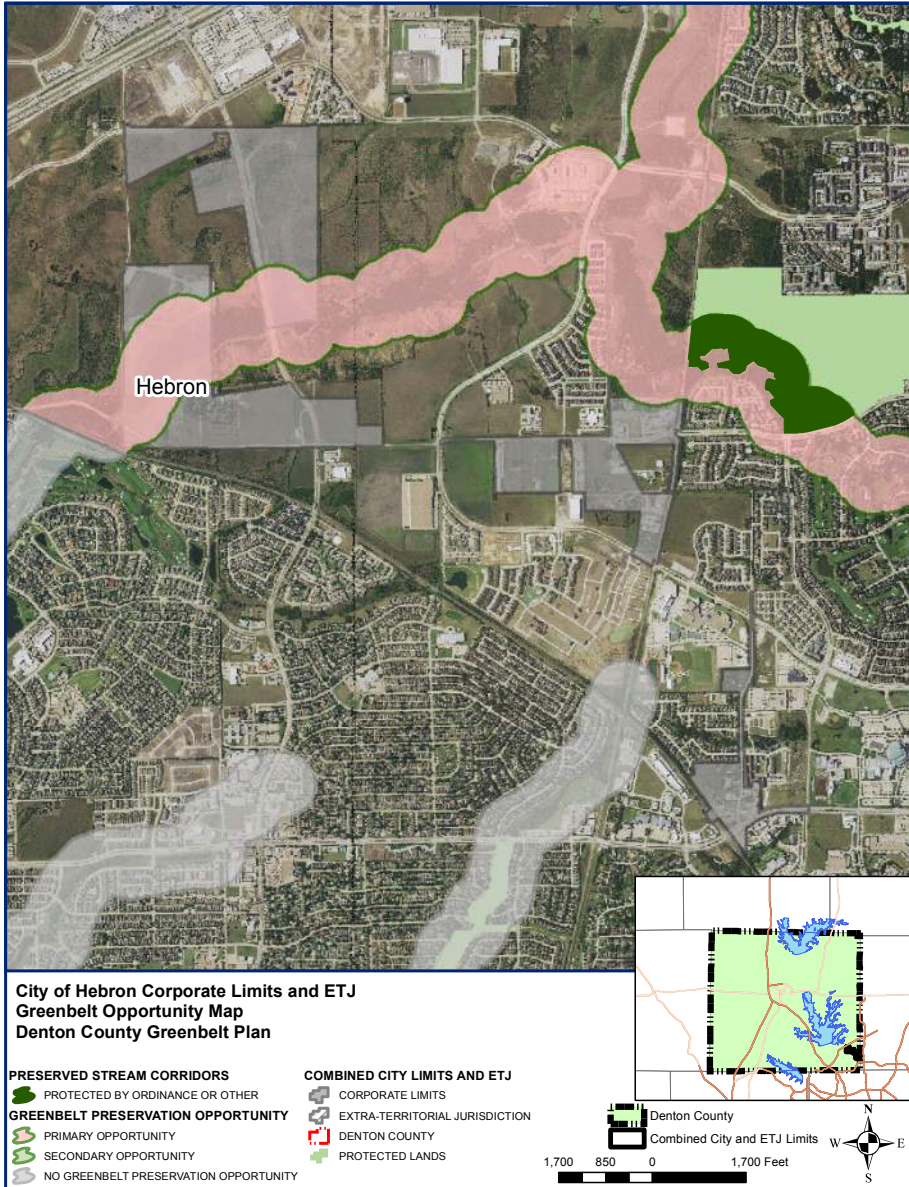


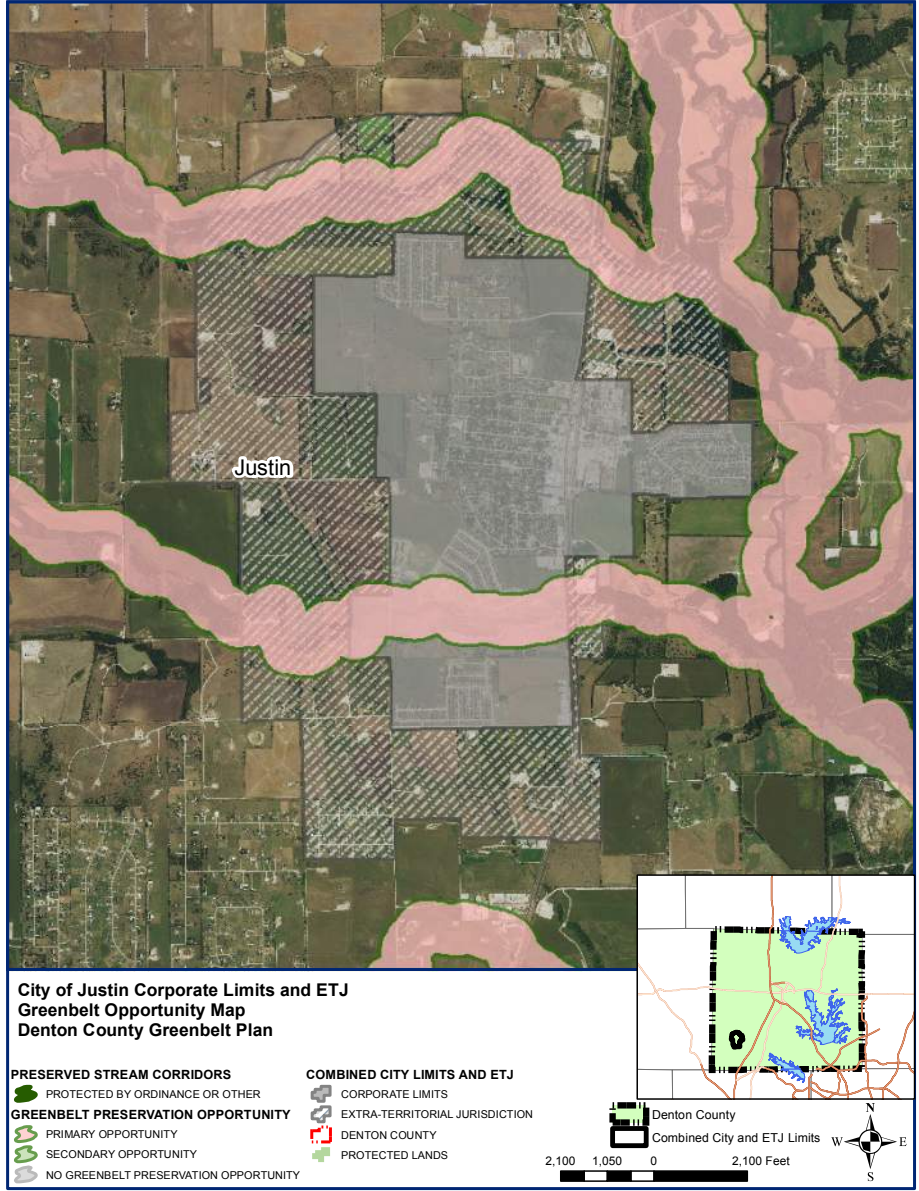
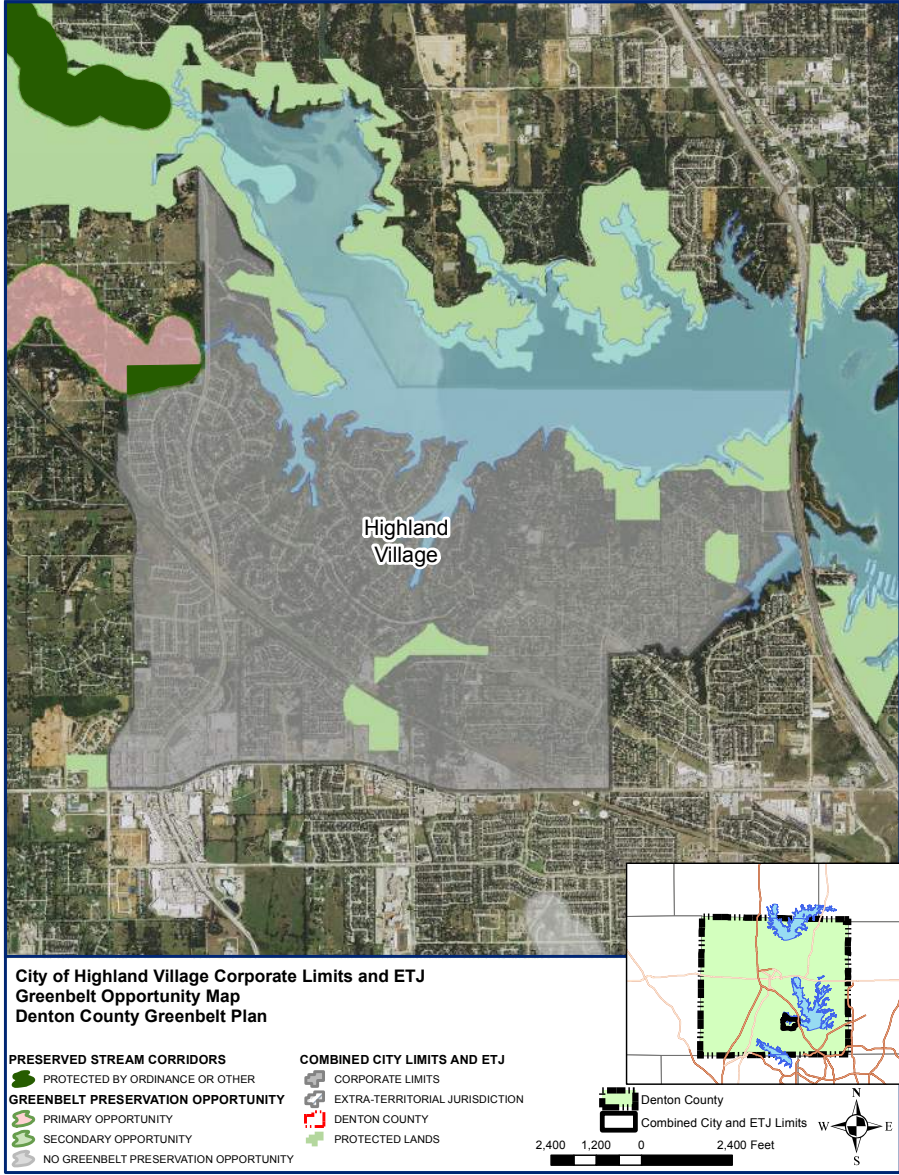


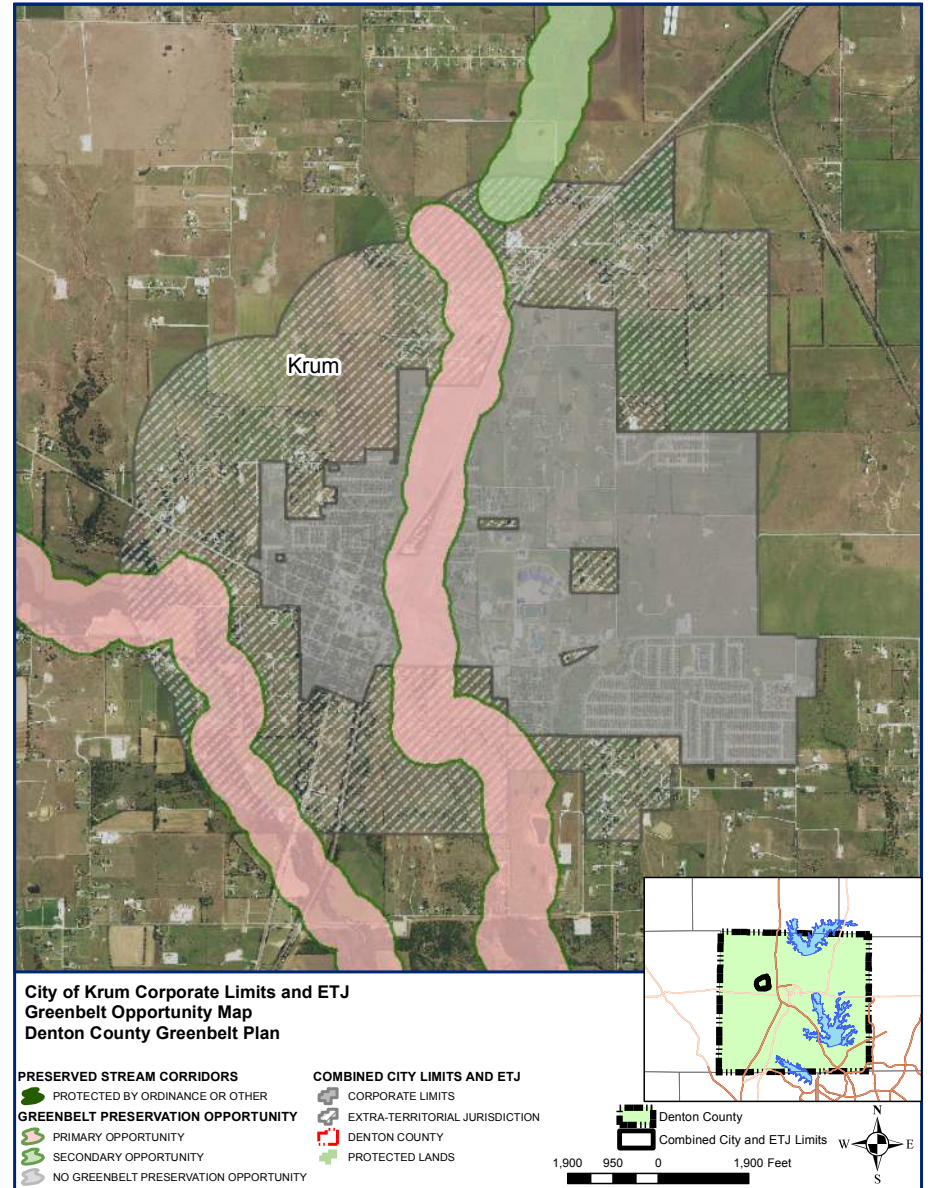
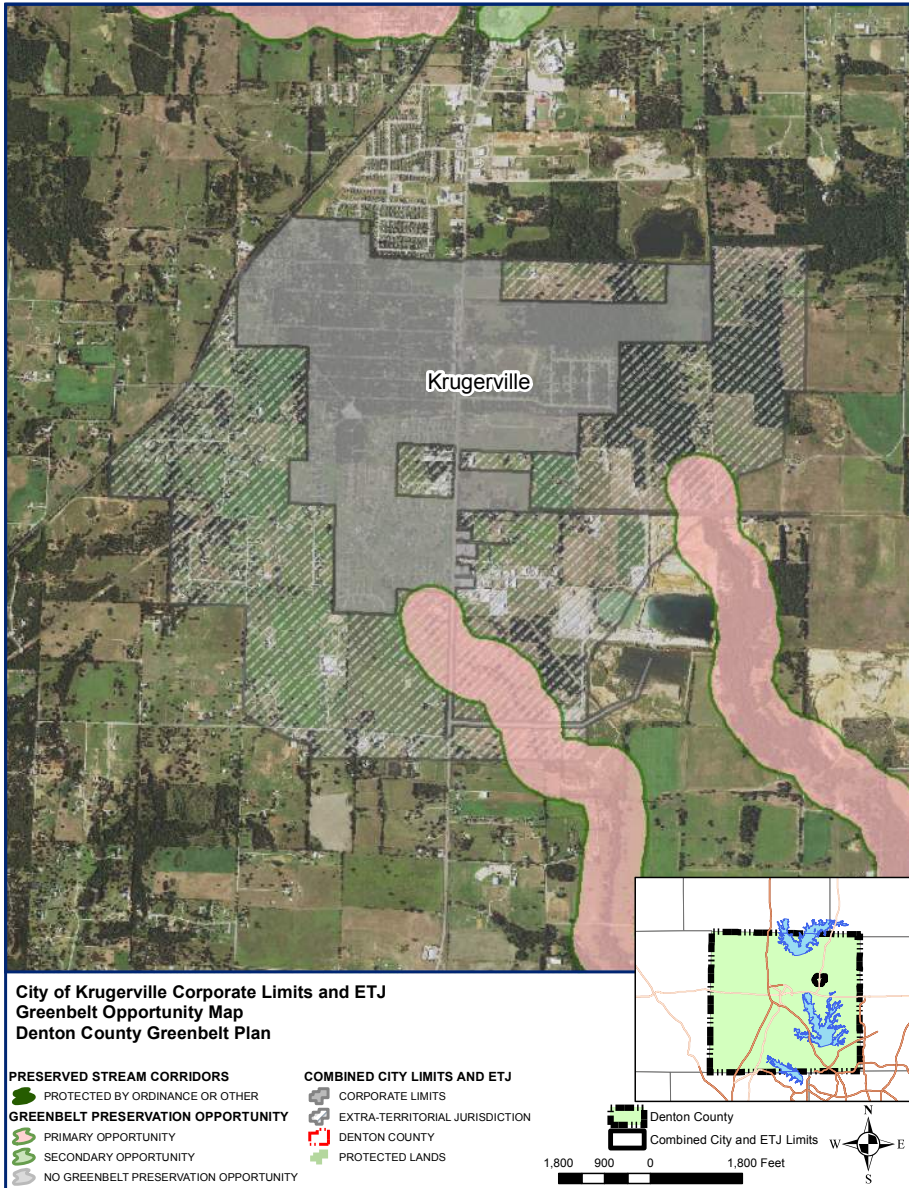


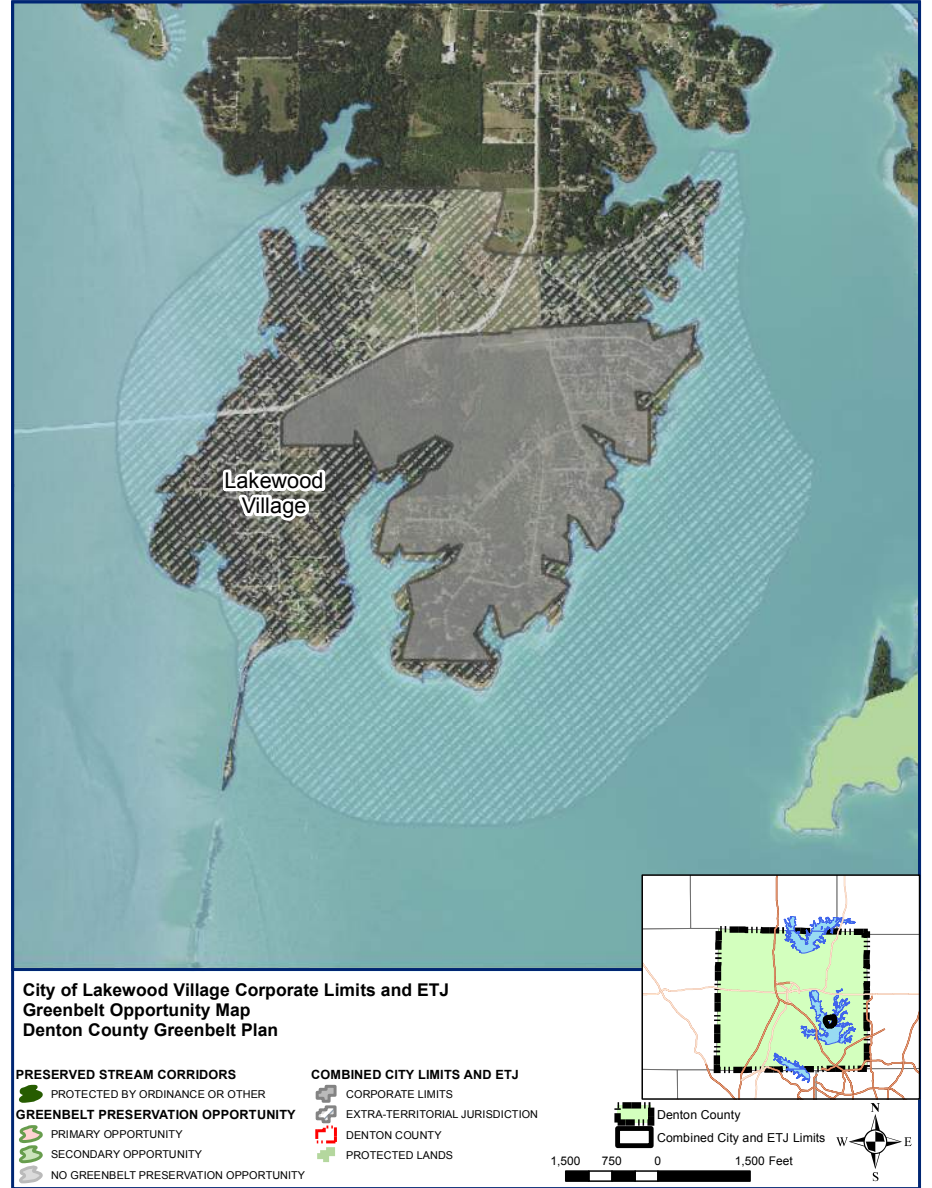
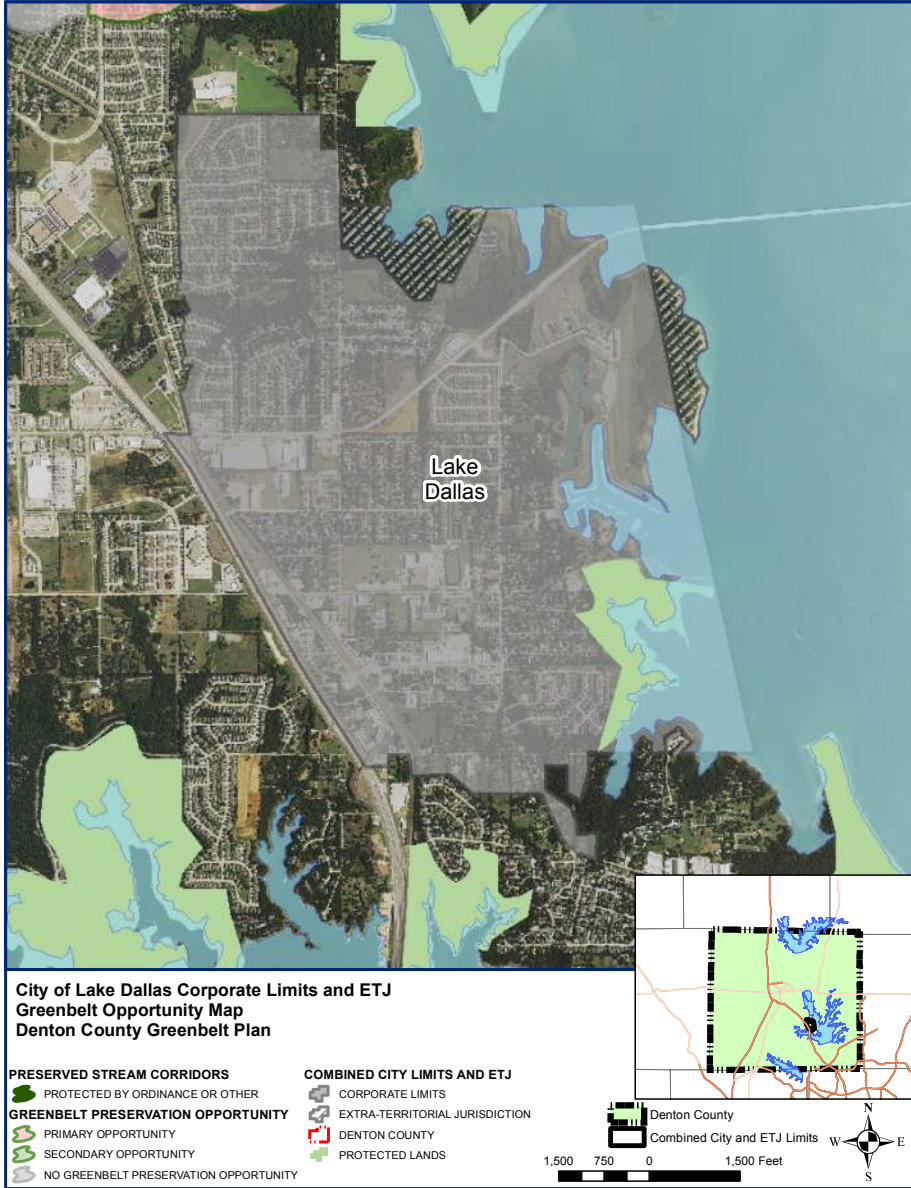


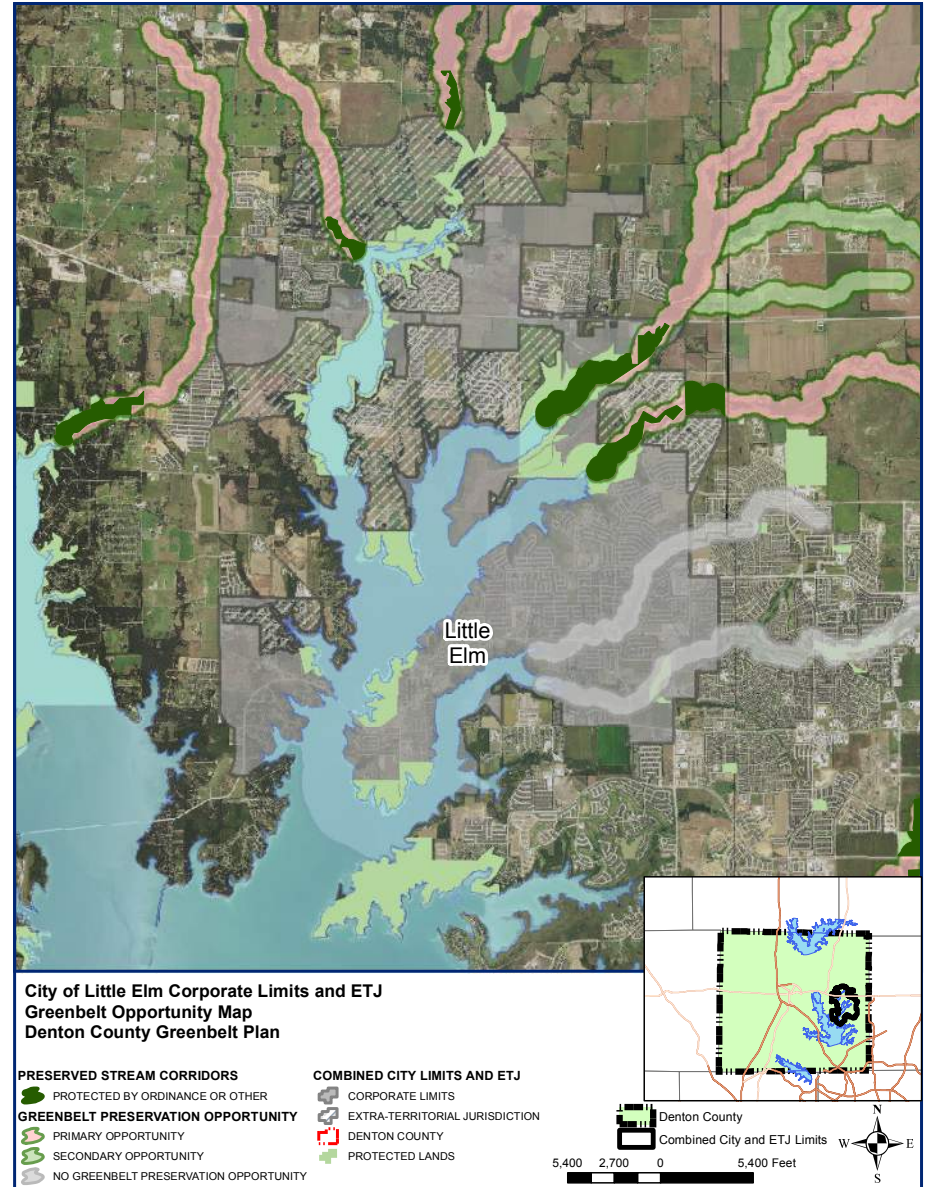
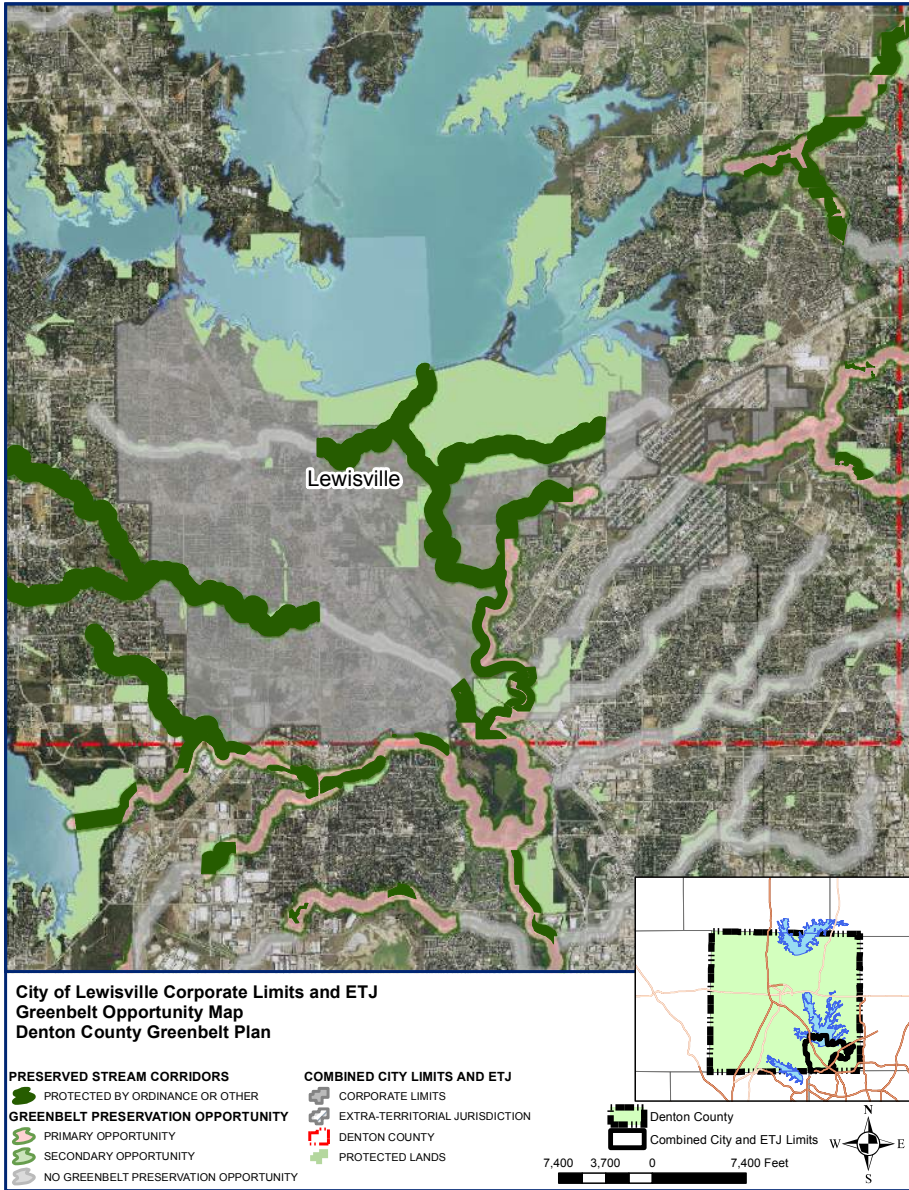


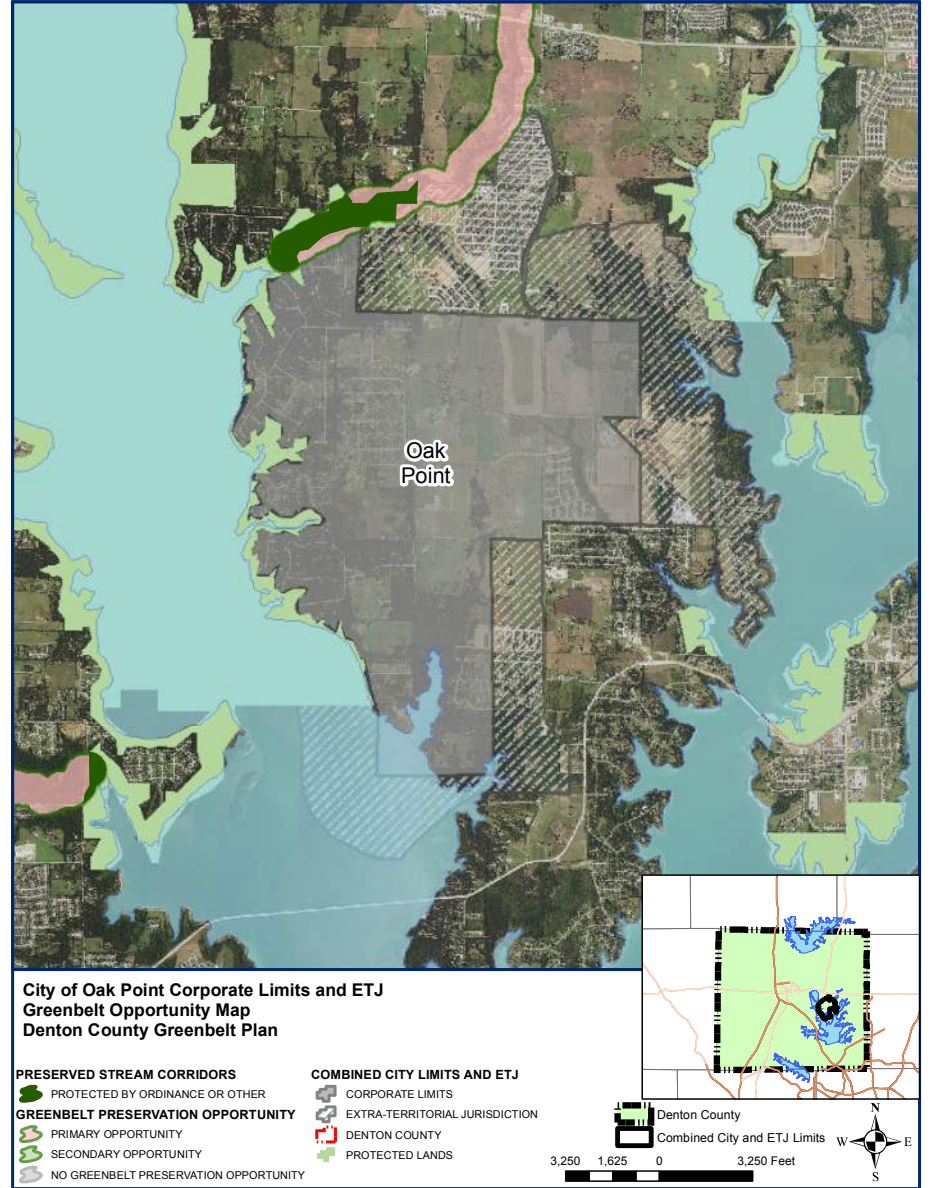
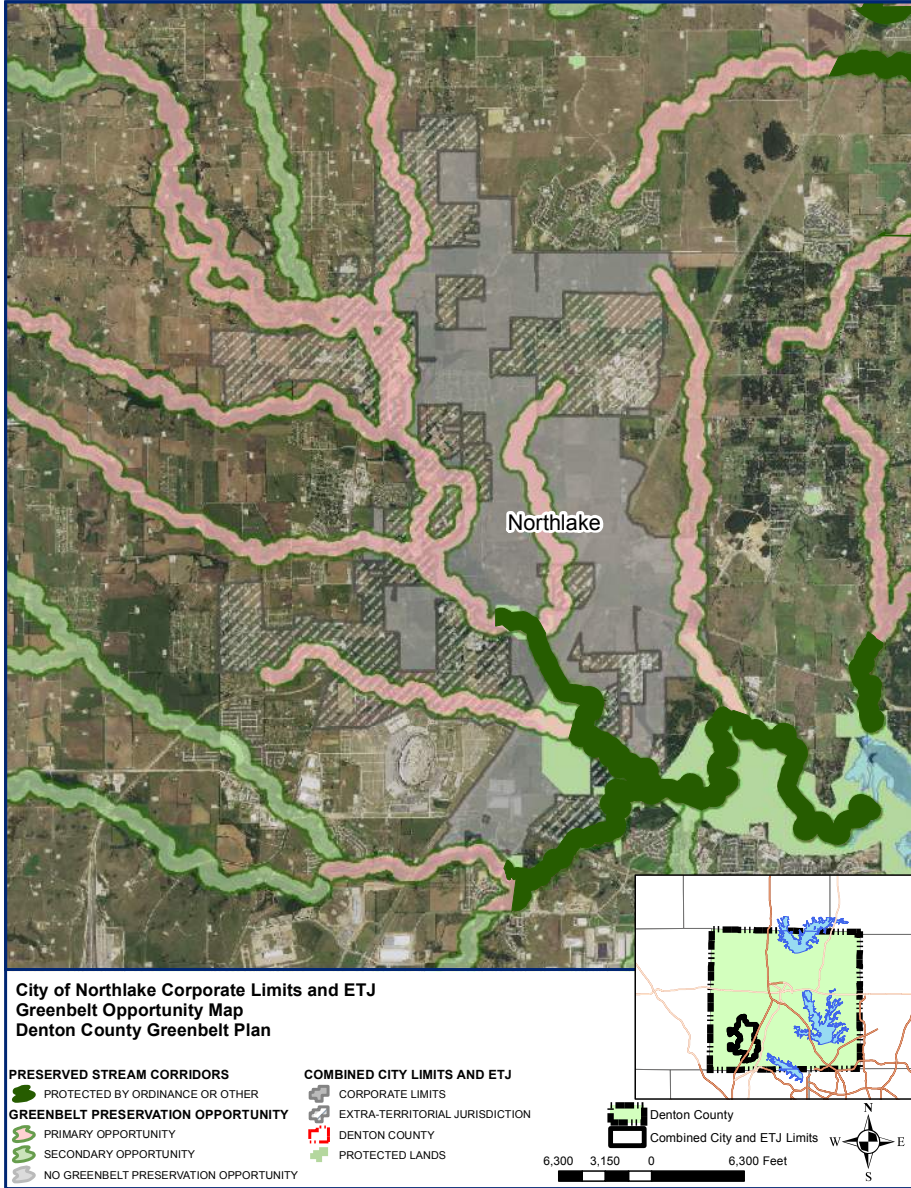


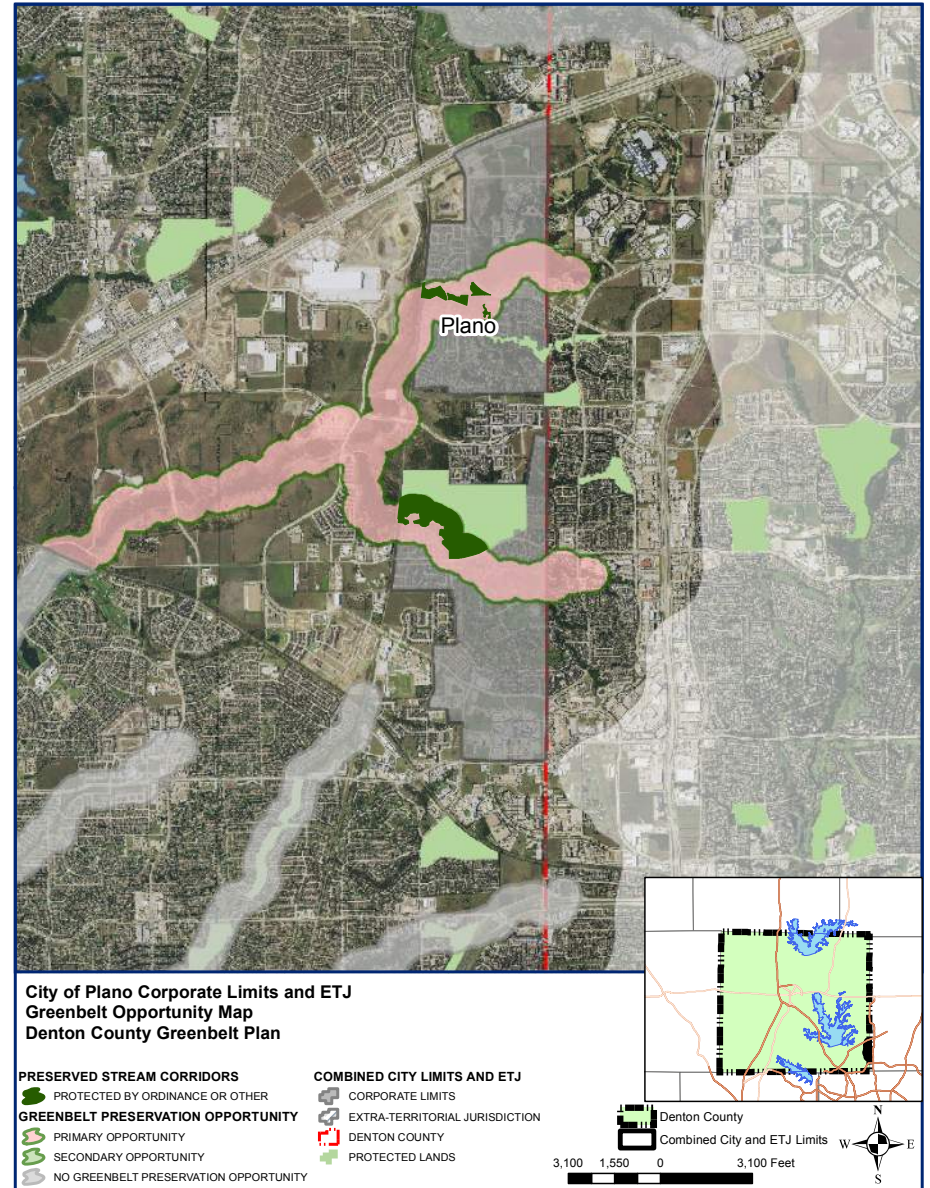
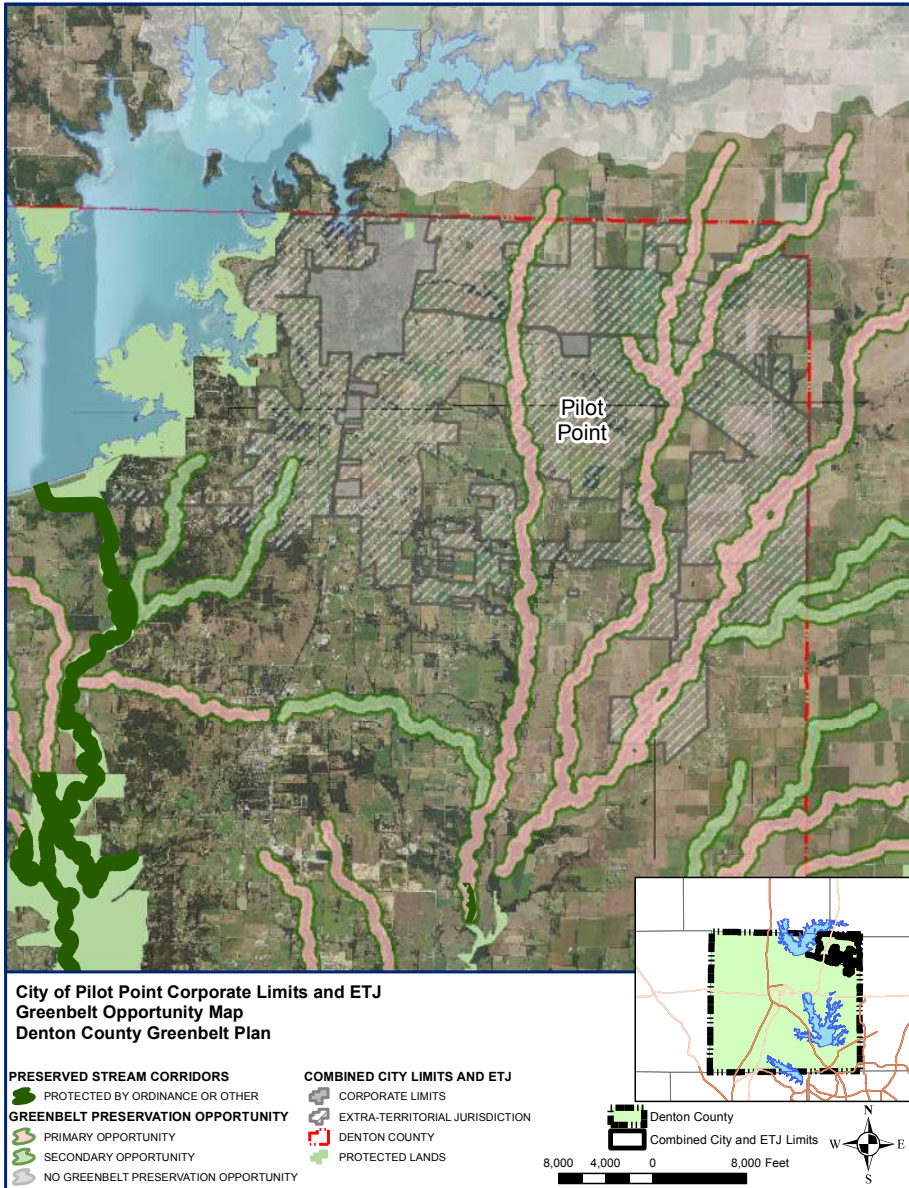


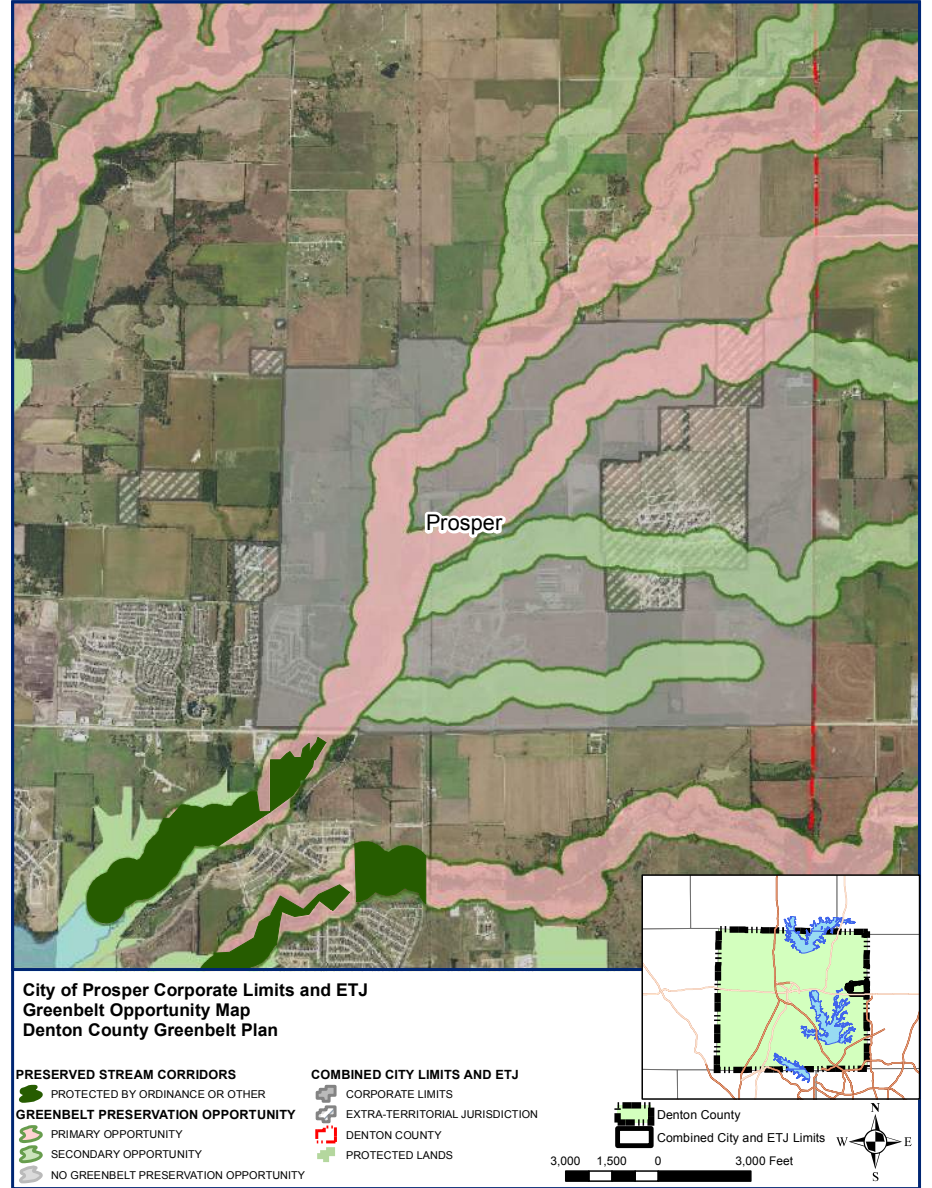
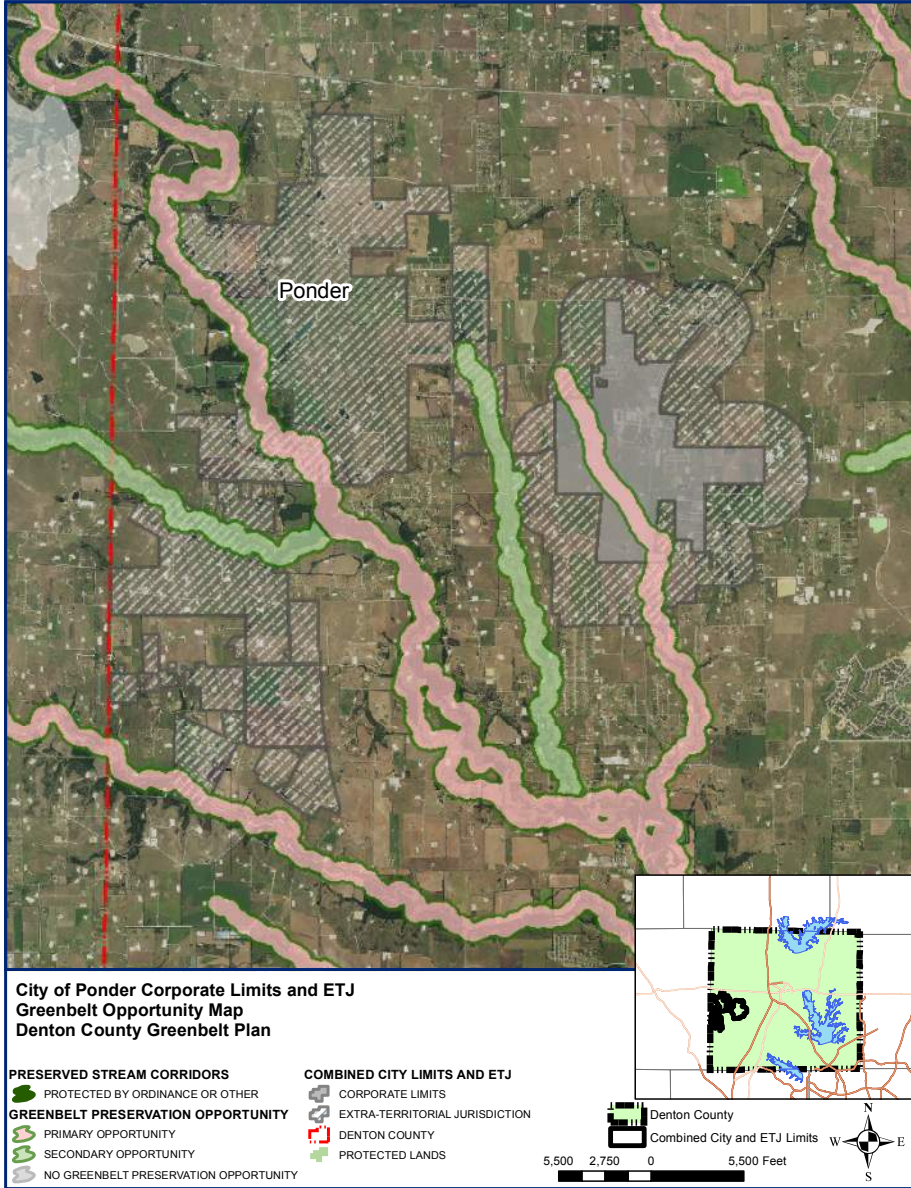


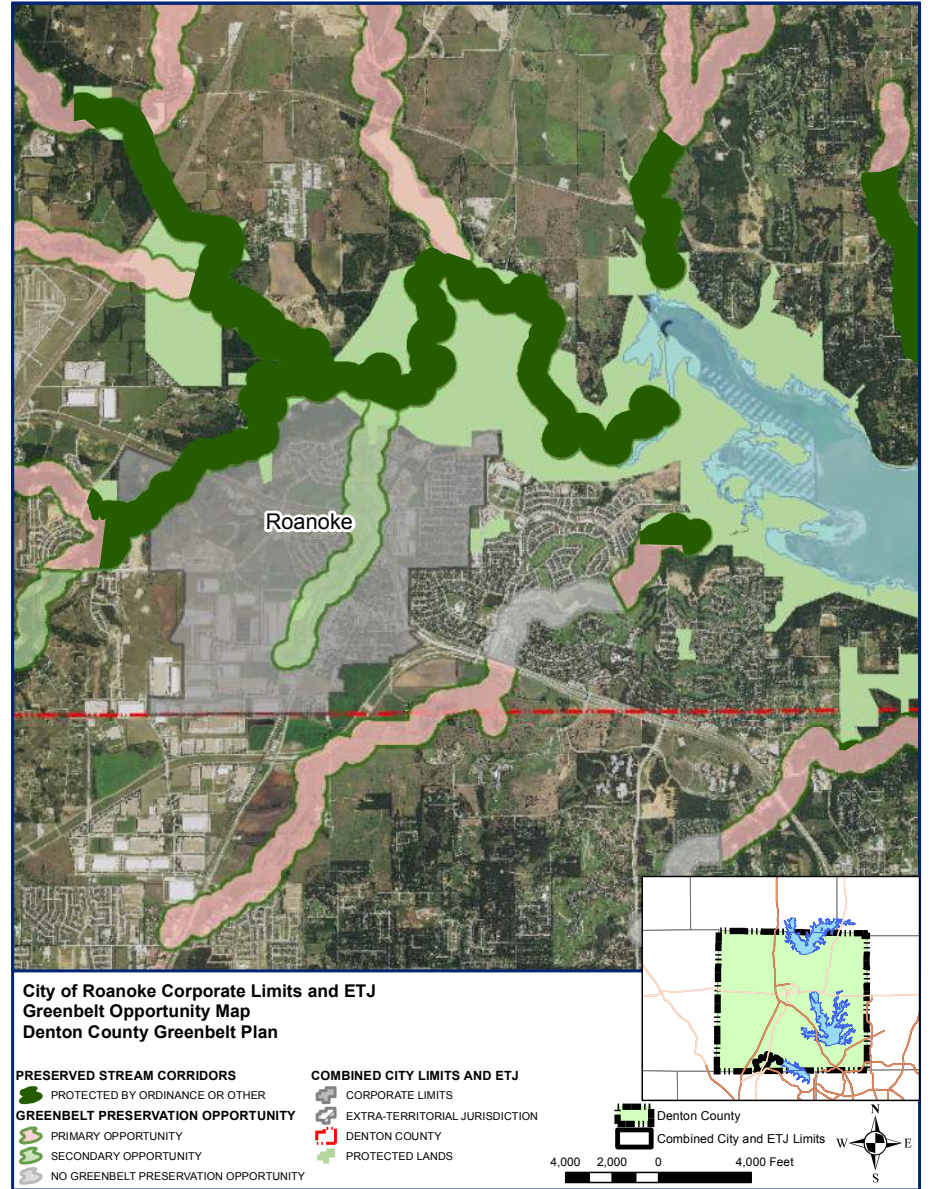
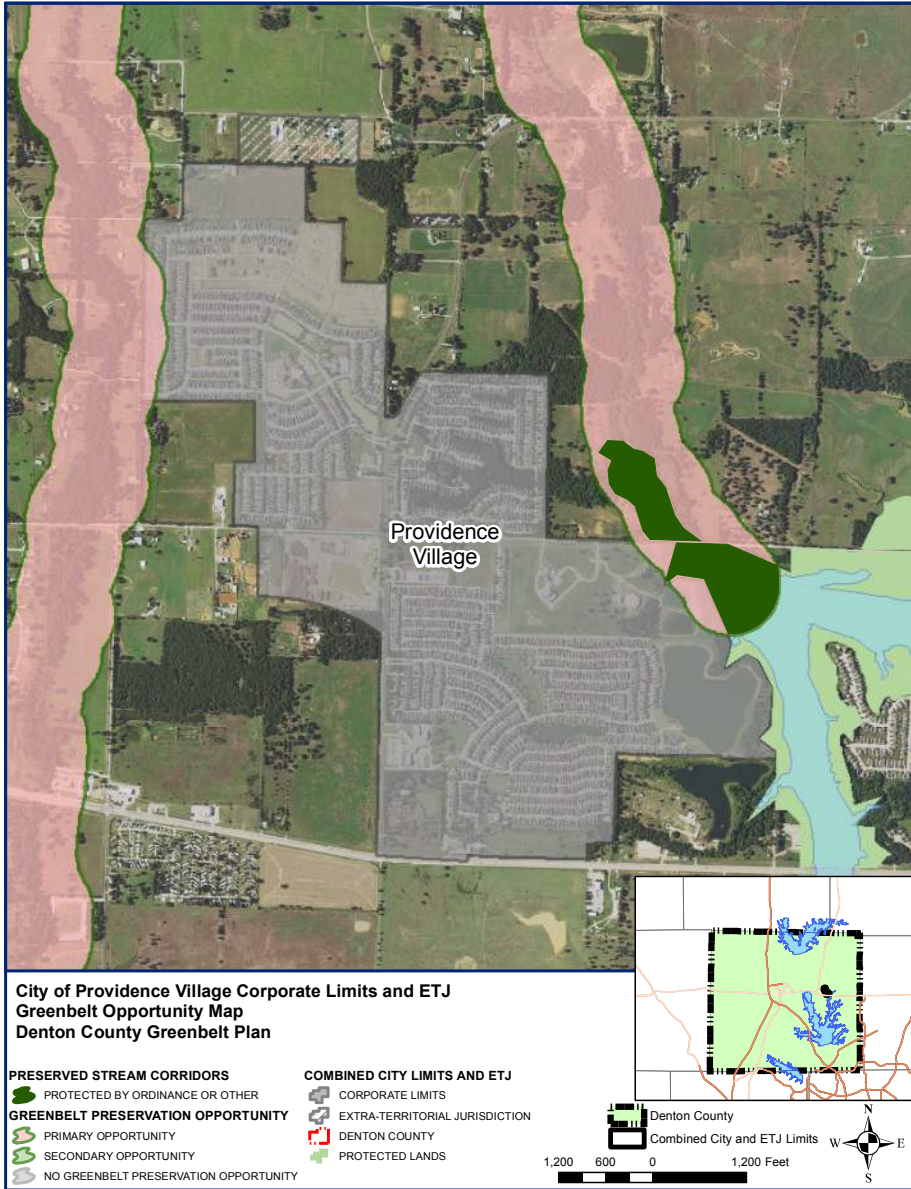


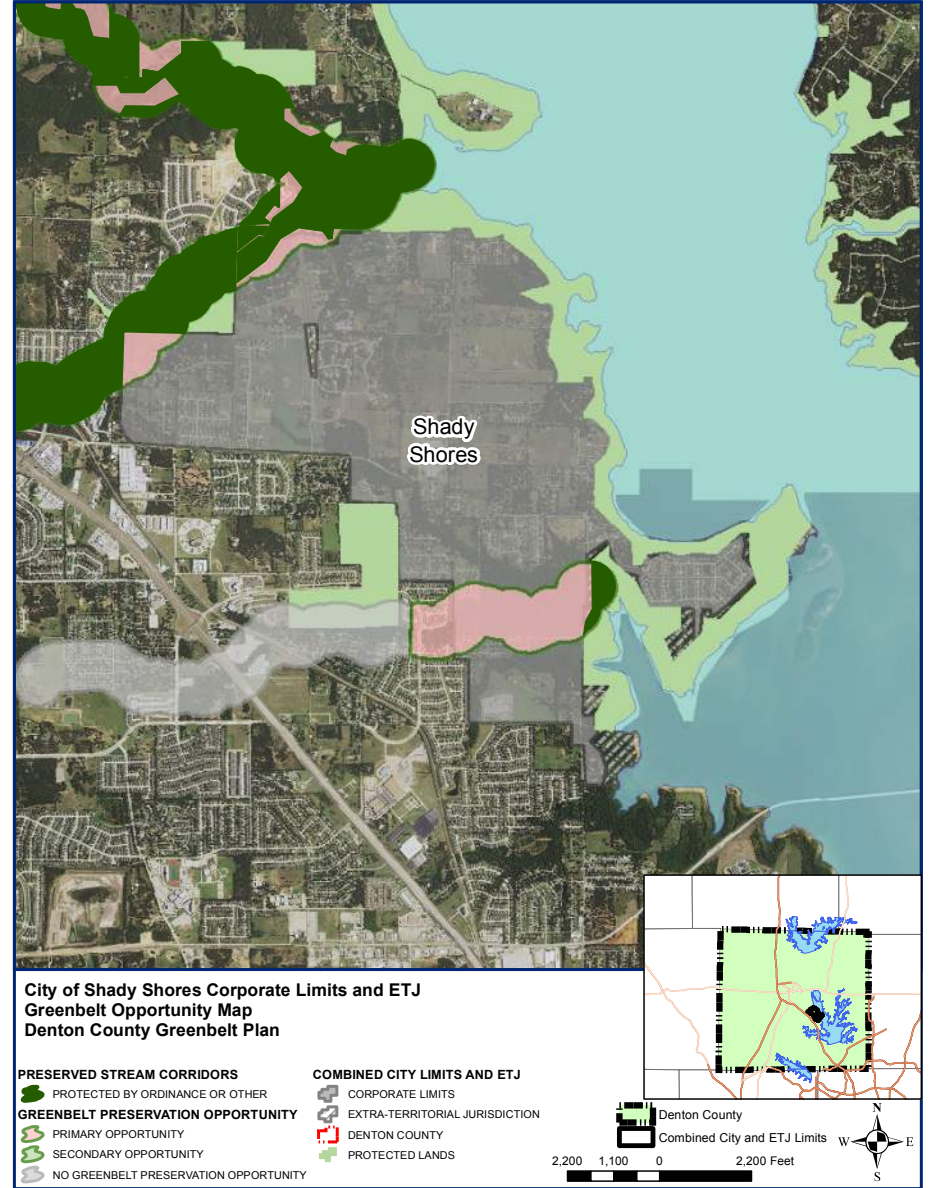
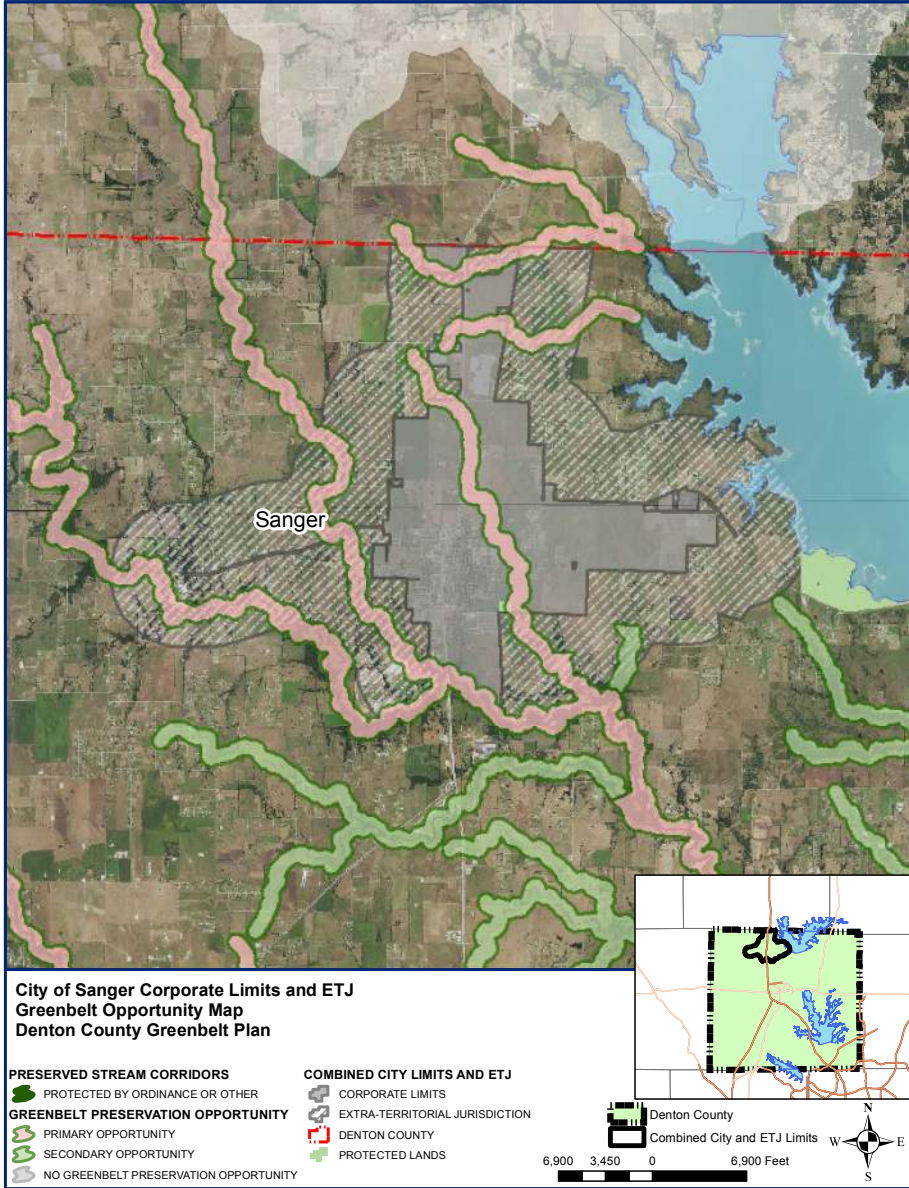


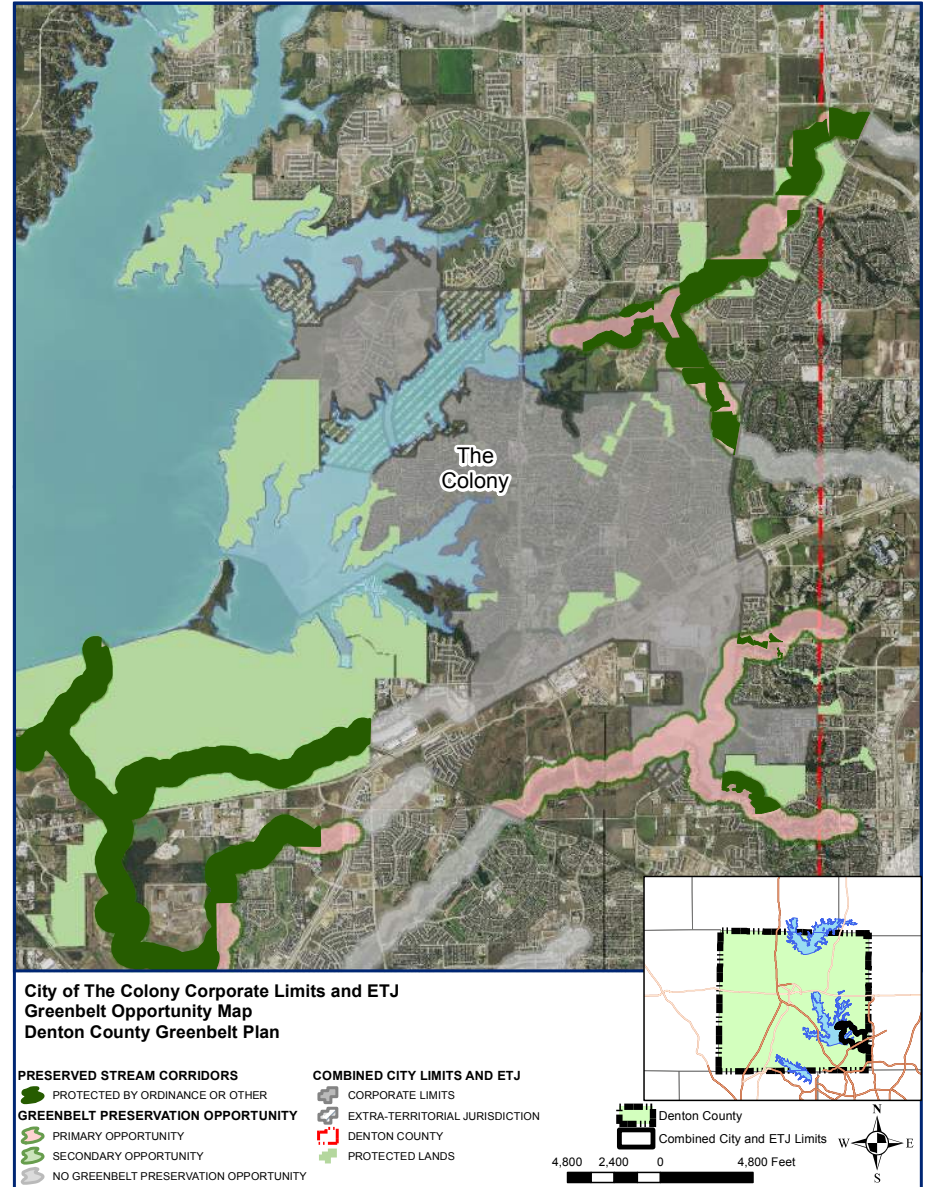
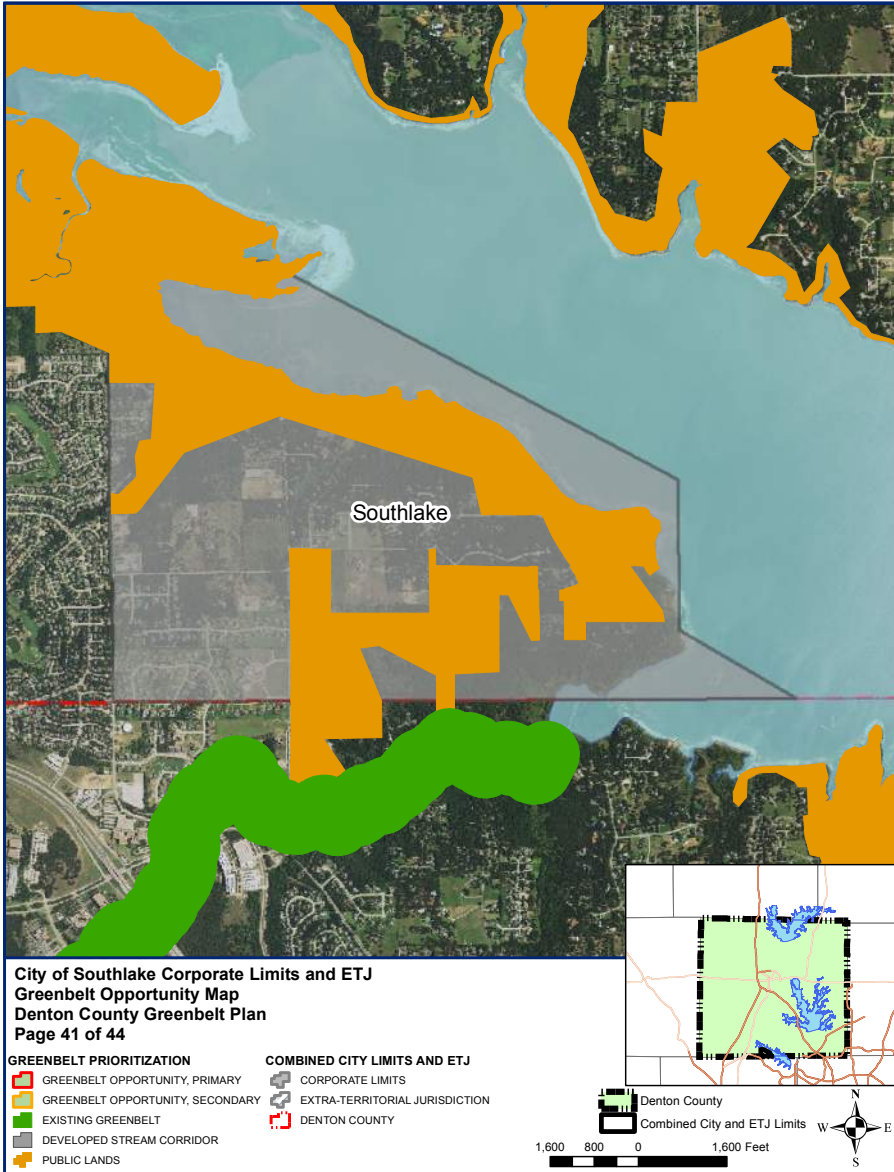


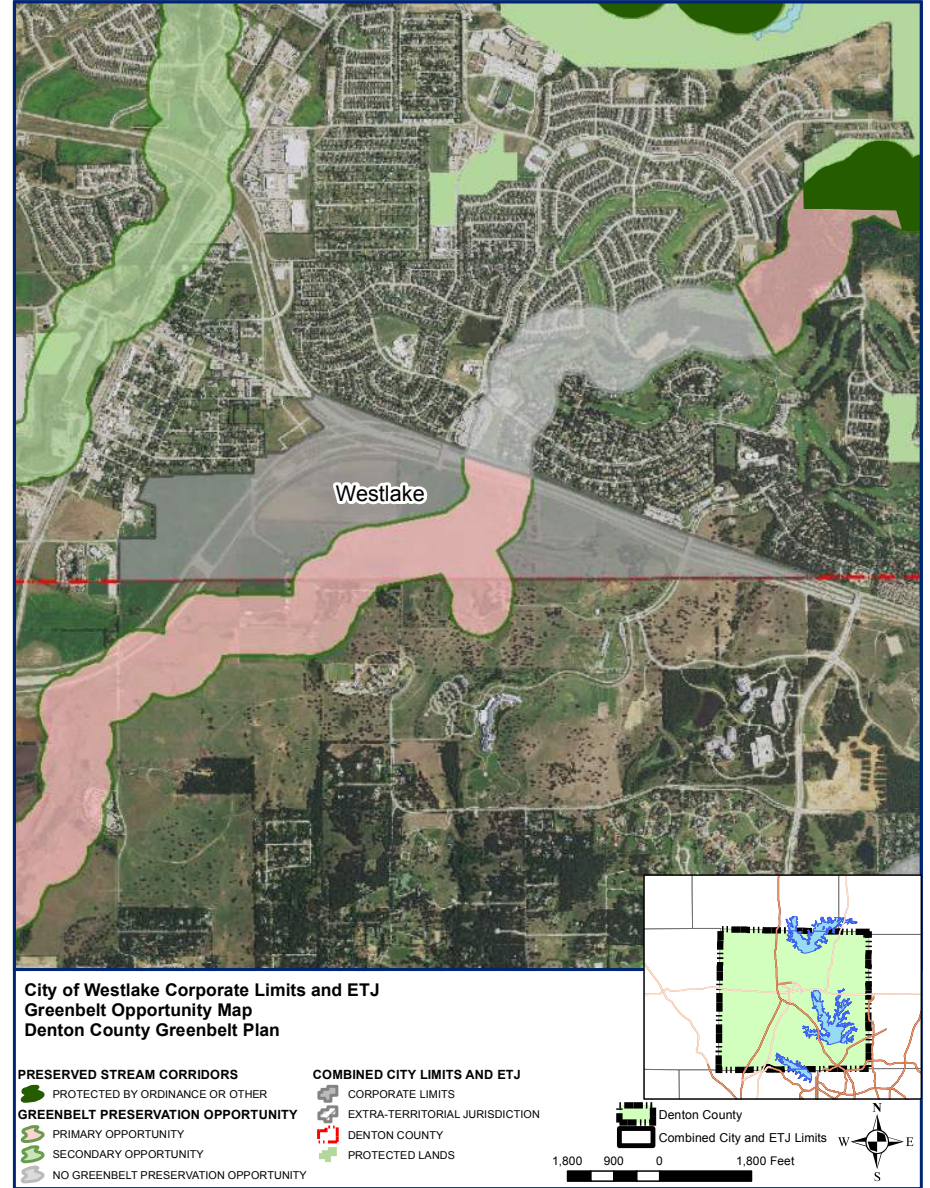
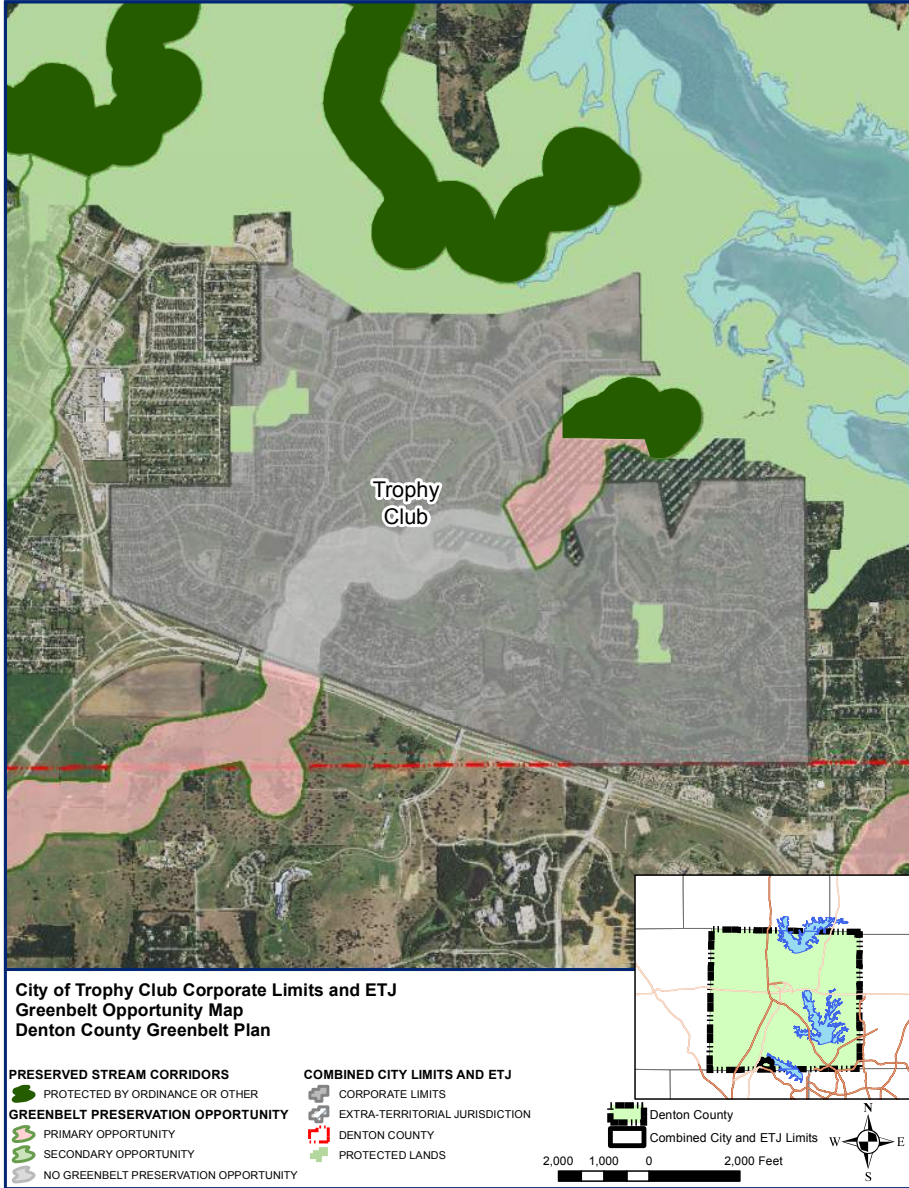












APPENDIX D - GREENBELT TOOLBOX OF IMPLEMENTATION STRATEGIES

This toolbox has been prepared to assist Denton County, its municipalities, citizens, and developers with a quick reference of Greenbelt preservation strategies. The tools outlined herein may be used in combination or separately to generate interest in Greenbelts and eventually preserve Greenbelts throughout the County. This toolbox is divided into the following sections: Interest in Greenbelts, protection measures for Greenbelts, water quality protection for private landowners, and funding and acquisition strategies.

This table shows which implementation strategies could be implemented by or assist the implementation of for each stakeholder group.

Implementation Strategy	Local Governments	Developers	Landowners	Non-profits/Citizens	Agencies
Logo & Tag Line	X	X		X	X
Brochures	X			X	X
Public Awareness Campaigns	X			X	X
Water Bill Inserts	X				
Ambassador Program	X			X	X
Public Speaking Engagements	X			X	X
Greenspace Advisory Committee	X			X	
Recognition Programs	X	X		X	
Outings	X			X	
Comment Letters				X	
School Education Curricula	X			X	X
Training Programs	X			X	X
Ordinances	X				
Property Tax Valuation	X				
Greenbelt Districts	X				
Purchase of Development Rights	X	X	X	X	
Conservation Development	X	X			

Implementation Strategy	Local Governments	Developers	Landowners	Non-profits/Citizens	Agencies
Conservation Easements	X	X	X	X	
Mitigation Banking		X	X	X	
In-Lieu Fee Programs		X	X	X	
Grazing Management			X	X	X
Cropland Management			X	X	X
Greenbelt and Stream Corridor Stewardship			X	X	X
Invasive Species Management	X		X		X
General Obligation Bonds	X				
Community Development Block Grants	X				
Development Dedications	X	X			
TPWD Recreation Grants	X			X	
FHA Recreational Trails Program	X				
Clean Water Act 319 Grants	X			X	X
Farm and Ranch Lands Conservation Program			X	X	
Private-Public Partnerships	X				X
Greenbelt Maintenance	X	X			

INTEREST IN GREENBELTS

Information dissemination is paramount for future Greenbelt preservation efforts in Denton County. An informed constituency will generate interest in Greenbelts and interest would in turn command demand for Greenbelts. The following are concepts to generate awareness, interest, and consequently demand for Greenbelts within Denton County.

Description of Strategy	Benefits	Drawbacks
<p>Logo and Tagline: This is the brand for Greenbelt Preservation in Denton County. This brand should be included on any advertisement or product development on behalf of the Denton County Greenbelt Preservation effort.</p>	<p>Brand recognition is vital to developing interest in Greenbelt preservation. Using the brand universally lets the public and people working within Denton County know that the entire County is in support of the Greenbelt preservation effort.</p>	<p>Voluntary. May be difficult to gain full support and utilization of the Brand universally throughout Denton County, the municipalities within Denton, and the various conservation groups within Denton County.</p>
<p>Brochures: Simple, creative, and informative brochures have been produced to support the Greenbelt Preservation effort in Denton County.</p>	<p>These brochures are low-cost, mini-advertisements promoting Greenbelt preservation in Denton County. The brochures can be easily located in a variety of public spaces: economic development offices, County and municipal buildings, libraries, schools, and any other applicable venue. They can also be used as Water Bill Inserts for the various municipalities in Denton County.</p>	<p>Distribution and maintaining distribution may be a challenge. May require high administration overhead to manage the project.</p>
<p>Public Awareness Campaigns: This strategy leverages the various media outlets to spread the word about Greenbelts. Information dissemination through the media could include magazine and newspaper advertisements, billboard media, radio and televisions spots, dedicated websites, and any other applicable media outlet.</p>	<p>Public awareness campaigns reach the public masses. They are designed to inundate the public with information to generate interest. Much like the water conservation efforts in North Texas, the Greenbelt preservation effort should realize similar returns on investment using the various media outlets.</p>	<p>Expensive program. May require consultants – graphic design and media consultants. One campaign should be used at the onset, such as billboards, to monitor the return on investment for the public awareness campaign rather than a full- scale media blitz.</p>
<p>Ambassadors for Greenbelts Programs: These are educational programs designed to educate and inform the general public on all aspects of Greenbelts.</p>	<p>These programs, akin to the Master Naturalist or Master Gardener programs, teach the general public about the benefits afforded by Greenbelts. They are designed for general advocates, grassroots advocates and Greenbelt preservation. Grassroots advocates are the foundation for Greenbelt preservation in Denton County.</p>	<p>This program would require a curricula be established, a board to govern the program’s activities, and a strong group of volunteers to support the program. The program would also require development from the ground up. It may also carry a high administrative overhead at the onset to manage the program.</p>
<p>Greenbelt Advisory Committee: A group of appointed individuals to serve on a board or committee to function as experts on Greenbelts and Greenbelt Preservation.</p>	<p>This board or committee, dedicated to Greenbelt preservation and conservation efforts, would help provide a unified voice for Greenbelt Preservation in Denton County. These positions could be on the County level appointed by the County commissioner or judge, on the municipal level to support Greenbelt preservation within a City’s corporate limits, or in combination. These members would serve as a council on the benefits of Greenbelts, suitable locations of Greenbelts, and planning and acquisition of lands suitable for Greenbelts.</p>	<p>This program would require informed constituents to serve on the committee or board, therefore a limited number of qualified individuals may be available at the onset of the program. Purpose and would need to be established for the committee or board, including development of a charter for the organization.</p>

Description of Strategy	Benefits	Drawbacks
<p>Recognition Programs: This program would endorse projects or land management practices that promote Greenbelt Preservation.</p>	<p>For the development community, this program would develop the criteria for the endorsement of development projects that promote Greenbelt preservation. Developers could then use the endorsement materials in their promotional materials for the development.</p> <p>For landowners, this program would develop the criteria to recognize landowners in Denton County who are performing outstanding watershed protection management measures on their property.</p>	<p>Voluntary participation. This program would require a champion to administer the program, such as the Upper Trinity Conservation Trust. It may carry a high administrative overhead to administer the program.</p>
<p>Events, Outings, Functions, and Festivals: This program would provide the information and support to assist Denton County, municipalities, organizations, and other user groups to host and sponsor events in support of Greenbelt Preservation efforts.</p>	<p>The best way to foster Greenbelt preservation is to get out and enjoy Greenbelts. This program would support entities within Denton County with the organizational support to host outings, functions, festivals, and events in support of Greenbelt preservation.</p>	<p>This program would carry a high administrative overhead to administer the program. It would likely require professional staff assigned to the program (event planner or similar).</p>
<p>Comment Letters: These are draft sample letters for the promotion of Greenbelt preservation.</p>	<p>These are low cost form letters written specifically to target city council members, city managers, mayors, county commissioners, and state representatives with the intent to support Greenbelt preservation efforts. The intent of this program is for the general populace to speak with a unified and informed voice on Greenbelt preservation concerns.</p>	<p>Form letters lack personal appeal. Greenbelt preservation efforts vary across the County and may require numerous sample letters.</p>
<p>School Education Curricula: This is a grassroots education program that targets school-aged children with the intent to educate children on the benefits of Greenbelts and why they deserve preservation.</p>	<p>This program, like many other school-aged programs, targets kids so that learning may permeate throughout the entire family unit. This program would be designed to teach children about natural resource literacy, the benefits of clean watersheds, and about where our drinking water is derived.</p>	<p>Voluntary participation. Adoption and incorporation into Independent School District education criteria may be challenging. May carry a high administrative overhead to administer the program.</p>
<p>Training Programs: A program designed to train government staff, landowners, and others involved in managing natural resources.</p>	<p>Programs are already in place that supports the management of Natural Resources. The Texas Water Resources Institute and the Texas Agri-Life Extension Service are two sources for training in riparian and stream ecosystems, ranchland and livestock management for the benefit of natural resources, and others.</p>	<p>Voluntary participation.</p>

PROTECTION MEASURES FOR GREENBELTS

The following are a listing of protection measures for the preservation of Greenbelts in Denton County. The list is not all inclusive. Other mechanisms may be available to protect Greenbelts for the foreseeable future. The listing includes regulatory and non-regulatory mechanisms to consider. One of the primary purposes for the Greenbelt Plan was to facilitate the preservation of greenbelts on a voluntary basis. Regulations normally apply when the land development process begins. The adverse impacts of land clearing and other pre-development activities often result in resource loss, essentially making Greenbelt Protection through regulation an after the fact exercise. Therefore, the Denton County Greenbelt Plan advocates the voluntary preservation of Greenbelts through the various mechanisms outlined herein.

Description of Strategy	Benefits	Drawbacks
State and Federal Regulations: Clean Water Act, Clean Air Act, Endangered Species Act, National Pollutant Discharge Elimination System Program, Flood Control Act, National Flood Insurance Program, and others	Regulations designed to support the natural system functions of water quality, clean air, species preservation, flood protections, and others. All must comply with state and federal regulations.	These regulations do not provide protections to the vegetation associated with the natural resource. Greenbelts are not necessarily protected by state and federal regulations. Greenbelt protections are an adjunct of these programs.
Ordinances: Legislation enacted by local governments designed to provide certain prohibitions within municipal or county jurisdictions.	Ordinances can be developed to deter or prevent development within identified areas. Numerous municipalities within Denton County have ordinances in place that preclude or deter development within stream corridors, watersheds, floodplains, and/or environmentally sensitive areas.	Added bureaucracy. May face opposition on the local government level. May give the appearance that a particular municipality is anti- development.
Greenbelt Districts: Identification of preferred or desirable natural assets and providing development restrictions within those districts.	This program would identify Greenbelts within a municipality and encourage sensitive site design to protect the resource. Helps maintain the Greenbelt, its ecological functions, and integrity of the Greenbelt.	May not cross corporate limit boundaries. Therefore, the resource protections stop at a municipal boundary.
Property Tax Exemptions: In exchange for property tax exemptions, voluntarily entered into open space easements between Denton County and the landowner for the purpose of preserving their land as open space or for wildlife.	Denton County allows for an Open Space Agricultural Valuation for Wildlife Management.	Would require coordination with the Denton County Appraisal District and Denton County. According to Comptrollers' rule 9.2005, the minimum number of acres required to qualify for an agricultural appraisal based on wildlife management within Denton County is 14.25 acres.
Purchase or Transfer of Development Rights (PDR): The owner's rights to develop a parcel of land are sold to the local government or to a land trust (Upper Trinity Conservation Trust). Most PDR programs are voluntary and offer a viable financial option to interested landowners.	A proven technique for local governments with strong support to acquire lands for preservation. Owners who sell development rights receive an income and continue to use their land while retaining all other rights. Property taxes should also be reduced.	An expensive program. Rarely protects enough land to relieve development pressure on resource land. Funding may not meet demand for easement purchases. Voluntary program means some resource areas may be lost.

Description of Strategy	Benefits	Drawbacks
Purchase of Rights or Other Easements: In combination with PDR, other rights, such as the right to timber or extract minerals, could also be purchased. Other customized easements could be developed to protect Greenbelts.	Protects specific target resources, such as the riparian corridors associated with Greenbelts. Less expensive than PDR. Provides income to landowner while keeping the targeted resource intact.	This tool is limited to specific uses.
Mandatory Dedication of Greenspace: Developers are required to dedicate a portion of subdivided property (1/35 acre per dwelling unit for example) or pay a fee for greenspace (such as for Greenbelt Preservation).	Greenspace is protected and recreation lands are acquired at little cost to the public.	Only applies to residential subdivision. Limited effectiveness in preserving large tracts and corridors.
Conservation Overlay Zoning: Stricter development standards and criteria are established to protect particular features within the conservation zone: historic districts, landscape features such as Greenbelts, scenic views, agricultural areas, or watersheds are examples.	Standards and criteria are developed to meet the needs of a specific resource within the conservation zone. Effective mechanism for protecting specific resources from development pressures.	Standards must be defined clearly to ensure that, in this case, Greenbelts can be protected. Zoning regulations can be changed. Does not address resource protection outside the zoning district.
Cluster Development: This program allows land developers to develop in a compact form at higher densities. This preserves greenspace within the same tract that would not be developed.	Allows for flexibility in design to protect natural resource areas located on the parcel. Construction and infrastructure costs for land developers are reduced. The Town of Flower Mound’s SmartGrowth initiative advocates Cluster Development.	If not implemented correctly, protected lands are often scattered and not contiguous. Clustering may not be a preferred option for developers. Management of the common greenspace may become problematic.
Conservation Easements: A legal agreement between a landowner and a qualified conservation organization, such as the Upper Trinity Conservation Trust, or government agency to voluntarily restrict the use and development of the property. Easement grantee (i.e. local government) would hold a partial interest or some specified right in the protected parcel. Conservation easements are designed to protect a specific sensitive natural, historic, or cultural resource. An easement may be in effect for a specified period of time but is usually perpetual.	Can be effective in preserving Greenbelts if it meets mutual goals of landowner and agency. Easement provisions are tailored to meet landowner’s needs and site preservation goals. Landowner retains ownership and use of the land. Easements run with the land, despite changes in ownership. Reduces costs for site protection when easements are acquired at less than fair market value for the protected area.	Baseline survey required to identify the extent of natural, historic, or cultural resources within the easement. Less protection than outright acquisition. Easement purchases may be costly. Terms must be carefully and clearly outlined. Management intensive: easement must be monitored and enforced; grantee agency must work closely with landowners. Easement grantee must possess technical expertise and financial wherewithal to monitor and enforce easement restrictions. Easement restrictions may limit property resale opportunities. Tax benefits may not be sufficient motivation for landowner to donate or sell easement.
Mitigation Banking: Mitigation banking is an enterprise where a wetland, stream, or other aquatic resource area is restored, established, enhanced, or in certain circumstances, preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under Section 404 of the Clean Water Act. A Mitigation Bank (or land area that encompasses the restored wetlands, streams or other aquatic resources) may be created when a government agency, corporation, non-profit organization, or other entity undertakes the restoration activities following a formal agreement with the regulatory agency that administers the program.	Mitigation banks are excellent opportunities for landowners or private for-profit companies to restore, enhance, and preserve natural resources within their lands while providing a potentially high return revenue stream for those preservation efforts. Mitigation banks are excellent tools to restore aquatic resource assets, especially on previously impacted or degraded lands. Even established mitigation banks can be conveyed to another party. Certain land uses can be carved out of a parcel being considered for a mitigation bank (areas such as pastureland for grazing, or oil and gas exploration).	Upfront costs are expensive. Only certain properties are fit for mitigation banking opportunities – usually the properties that have been in agricultural production for a considerable time frame where aquatic resources have been augmented or degraded. Time consuming to acquire authorization. Area of the mitigation bank needs to be in a growth mode. Financial assurances for the long term success of the bank are required.
In-Lieu Fee Programs: In-lieu Fee programs are monies paid to a governmental or non-profit natural resources management entity, such as the Upper Trinity Conservation Trust, to satisfy compensatory mitigation requirements associated with Department of the Army permits (specifically Section 404 of the Clean Water Act permits). From the monies received, the governmental agency or non-profit uses those funds for restoration, establishment, enhancement, and/or preservation of aquatic resources.	In-Lieu Fee programs are excellent opportunities for a government or non-profit entity to restore lands within their operational or jurisdictional area with the funds for the restoration efforts provided by the permittee (developer) seeking a Section 404 of the Clean Water Act permit. This program, as well as the mitigation banking program, would allow for the development monies that would be spent to provide compensation for impacts to aquatic resources associated with projects within Denton County to stay within Denton County. Further, those monies would go towards preserving and enhancing the aquatic resources within Denton County.	Similar to mitigation banks, upfront costs to establish the in-lieu fee program would be expensive. Further, it would be advantageous to pre-restore a degraded property prior to the in-lieu fee authorization as a show of good faith from the organization, which would generate some risk to the organization. Program would require overhead cost to administer day to day activities.

WATER QUALITY PROTECTION MEASURES FOR PRIVATE LANDOWNERS

Private landowners have a responsibility to manage their land to ensure that the County's waterways are not negatively impacted by their agricultural land practices. The following land management practices provide mechanisms for private landowners to promote water quality on their lands. Further, numerous state and federal programs are available to assist landowners with various land management concerns. These entities include the Natural Resources Conservation Service, the Soil Conservation Service, the Texas AgriLife Extension Service, the Texas Forests Service, the Denton County Soil and Water Conservation District and a variety of others.

Description of Strategy	Benefits	Drawbacks
<p>Grazing Management: Livestock grazing represents the largest agricultural activity in Texas. Accordingly, it is incumbent upon the landowner to ensure land stewardship for the protection of water quality entering area streams, creeks, and rivers.</p>	<p>Proper grazing techniques, such as proper stocking rates and rotational grazing, may improve productivity and sustainability of the cattle operation. Riparian areas should be treated with extra care, mainly by restricting the amount of time that livestock have access to the riparian area and creek bank. Creating a separate riparian pasture or fencing off the riparian area completely can help accomplish this. See the following links for further information: http://lshs.tamu.edu/ http://www.blm.gov/or/programs/nrst/grazing.php</p>	<p>Voluntary program. Restricts landowner's usage of entire property.</p>
<p>Crop Management: The production of crops is a predominant agricultural pursuit in Denton County. Crops such as cotton, corn, grains, and forage are the predominant crops in production.</p>	<p>To ensure water quality protection, it is imperative that riparian buffer areas are maintained and farm management practices are incorporated to reduce runoff and subsequent erosion in the field. Employing buffers and other farm management practices to reduce field runoff and erosion is critical to ensure the integrity of the area's creeks, which will in turn protect water quality. Reducing runoff and erosion from the field is also important since pollutants such as fertilizer, herbicide and pesticide that are commonly used in farming practices attach to soil that can harm water quality once it reaches the creek. See the following link for further information: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health/</p>	<p>Voluntary program. Suggests that farmers adjust their farming practices to include cover crops, which require the purchase of additional seed and material costs for the planting efforts.</p>
<p>Riparian Corridor Restoration: Private landowners have a significant responsibility to carefully manage their associated riparian areas that cross their land to ensure the integrity of the water quality and water supply entering area creeks, streams, and rivers.</p>	<p>Numerous publications and literature is available that discusses the benefits of maintaining riparian corridors (Greenbelts) on properties. Some of the publications include the following: AgriLife Bookstore http://www.remarkableriparian.org/ Texas Riparian Association website Botanical Research Institute of Texas website</p>	<p>Voluntary program. Requires adjustments to land use practices on a property. May include a cost to restore riparian corridor vegetation. May also exclude livestock from riparian areas, which may be the only source of water for livestock.</p>
<p>Invasive Species Management: Invasive species, those that do not occur naturally in Texas, can be plants or animals that can cause serious damage to native wildlife and vegetation. These plants and animals can also harm water quality.</p>	<p>Removing invasive species protects landowner property. The most recognizable invasive animal is the feral hog. Feral hogs damage crops and pasturelands, harm livestock and wildlife, and negatively affect water quality as they spend a majority of their time near water. Information on invasive species management is available at the AgriLife Bookstore.</p>	<p>Voluntary program. Costly program to eradicate invasive species. Requires ongoing management in perpetuity.</p>

FUNDING AND ACQUISITION STRATEGIES

Funding mechanisms for the preservation of greenspace areas are fiscally challenging. The following are a listing of general funding opportunities for municipalities or Denton County to consider. This list of funding opportunities is not all inclusive. It is solely guidance on funding options and strategies to consider. It should be noted that the Trust for Public Land employs a conservation finance team. The Trust for Public Land is the nation’s leading source for research, education, and policy information for conservation funding. Entities should be encouraged to engage the Trust for Public Land to identify and secure public financing.

Description of Strategy	Benefits	Drawbacks
General Obligation Bonds General obligation bonds are debt instruments issued by local governments to raise funds for public projects including the purchase of properties for natural resource protection.	Provides the funding necessary to purchase identified natural resources within a municipal jurisdiction.	Bonds require voter approval. Limited to the City’s corporate limits and occasionally its extra-territorial jurisdiction.
Community Development Block Grants This is a federal program administered by the U.S. Department of Housing and Urban Development that provides communities with the resources to address a wide range of community development needs.	Provides a funding source to benefit low- and moderate-income persons, and is used to address community development needs.	Not necessarily used to acquire greenspace and public facilities specifically. Cannot be applied to site specific locations – other factors have to be satisfied.
Development Dedications Parkland dedication is a local government requirement imposed on subdivision and site plan applications that mandates the dedication of land for a park and/or the payment of a fee to be used by the governmental entity to acquire land and/or develop park facilities.	Resources acquired at a very low cost to community. Greenbelts are typically within floodplains and not necessarily allow for development, which would aid the developer in satisfying this criterion.	Restricted to residential development. Greenbelts may not be available for the development dedication on a particular tract.
Texas Parks and Wildlife Department Recreation Grants The Texas Parks and Wildlife Department administers the recreation grants program for the State of Texas.	This program assists communities across Texas with their outdoor recreation needs. These grants help build new parks, conserve natural resources, provide access to waterways, and develop education programs for Texas’ youth. Excellent funding mechanism to purchase park and recreational facilities.	Program usually requires matching – either funds, lands, services, or similar.

Description of Strategy	Benefits	Drawbacks
<p>Federal Highway Administration Recreational Trails Program: The U.S. Department of Transportation’s Federal Highway Administration administers a program that funds pedestrian and bicycling projects and transportation trails. The Texas Department of Transportation is the agency that considers funding opportunities for pedestrian and bicycling projects and facilities.</p>	<p>Provides funding to states to develop and maintain recreational trails and trail-related facilities for both motorized and non-motorized recreational trail uses. This program allows for the purchase of easements for the construction of trails, which do apply to Greenbelt corridors.</p>	<p>Application and ranking process. Limited funding available.</p>
<p>Clean Water Act Section 319 Grants: Clean Water Act Section 319(h) Grants are available to communities with impaired water resources.</p>	<p>These grants are designed to help communities with non-point source pollution issues. The U.S. EPA administers the program and distributes funds to states for allocation purposes.</p>	<p>Application process and limited funding. Applies to impaired waters.</p>
<p>Farm and Ranchlands Conservation Program The Texas Parks and Wildlife Department administers the Texas Farm and Ranch Lands Conservation Program (TFRLCP). The mission of this program is to conserve natural resources by protecting working lands from fragmentation and development.</p>	<p>The program maintains and enhances the ecological and agricultural productivity of farm and ranch lands through agricultural conservation easements. The program uses state and federal dollars to purchase these conservation easements on working lands. Higher priority is given to working lands at risk for development.</p>	<p>Land is encumbered by an easement.</p>
<p>Public Private Partnerships: This is a strategy used by public agencies and private organizations to accomplish projects serving mutual goals.</p>	<p>Partners share benefits, responsibilities, and costs of acquisition and management. Creates a coalition of support for protecting diverse resources. Brings diverse sources of knowledge and expertise to solve resource protection issues.</p>	<p>More complicated property management and decision making. Conflicts in acquisition criteria and funding priorities must be resolved.</p>
<p>Donations: Numerous donation mechanisms are available: outright donation, donation via bequest, donation with reserved life estate – owner either in life or death donates land to the conservation agency.</p>	<p>Resources acquired at a very low cost to the conservation agency. Agency may receive endowment for long-term land stewardship. Donor may qualify for income tax deductions, estate tax relief, and property tax breaks. In some instances, owners may stay on the property and continue using the property during their lifetime.</p>	<p>Landowner loses potential income from the sale of the land. Receiving agency must accept responsibility and long-term costs of land management. Stewardship endowments may make donations cost prohibitive for landowner. No income tax deduction for donations of land through a will. May delay the transfer of title to the conservation agency for a prolonged period of time.</p>
<p>Land Exchange: Land may be exchanged for another parcel that is more desirable for resource protection.</p>	<p>Lower acquisition costs. Scattered properties can be exchanged for a single, larger property.</p>	<p>Complicated process. Property owners must be willing to participate and properties must be of equal value.</p>
<p>Management Agreement This is an agreement between landowner and conservation agency, such as the Upper Trinity Conservation Trust, to manage the property to achieve resource conservation goals.</p>	<p>Owner may be eligible for direct payments, cost-share assistance, or other technical assistance from the conservation agency. Management plan is developed based on owner’s preservation goals.</p>	<p>Mutual agreement is more easily terminated than a lease. Agreements are not permanent.</p>

PLANT PALLETE FOR GREENBELTS

The following is a list of plants indigenous to Denton County Riparian Zones.

Table 1. Indicator categories for plant species and the percentage of time they occur in wetlands.

Indicator	Wetland Occurrence
Obligate (OBL)	>99%
Facultative Wetland (FACW)	66-99%
Facultative (FAC)	33-66%
Facultative Upland (FACU)	1-33%
Upland (UPL)	<1%

Table 2. Attributes for recommended species for riparian restoration. 'X' indicates the species has that attribute. Obligate (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Upland (UPL)

Shrubs	Bank Stabilization	Livestock Forage	Wildlife (food and/or cover)	Timber	Pollinator Value	Wetland Indicator
Buttonbush	x ¹		x ³		x ³	OBL
False Indigo Bush	x ¹				x ³	OBL
American Beautyberry		x ³	x ³		x ³	FACU
Flowering Dogwood	x ¹		x ³		X	FAC
Rusty Blackhaw	x ¹		x ⁴		X	FACU



Grasses	Bank Stabilization	Livestock Forage	Wildlife (food and/or cover)	Timber	Pollinator Value	Wetland Indicator
Indiangrass	x ¹	x ²	x ²			FACU
Switchgrass	x ¹	x ²	x ²			FAC
Eastern Gamagrass	x ¹	x ²	x ²			FAC
Big Bluestem	x ¹	x ²	x ²			FAC
Bushy Bluestem	x ¹					FACW
Little Bluestem		x ²	x ²			FACU
Texas Wintergrass		x ²	x ²			UPL
Side-Oats Grama	x ³	x ²	x ²			
Broomsedge Bluestem		x ³	x ²			FAC
Virginia Wildrye	x ¹	x ²	x ²			FAC
Barnyardgrass	x ¹	x ²	x ²			FACW
Silver Bluestem		x ²	x ²			UPL
Florida Paspalum		x ²	x ²			FACW
Broad-Leaf Woodoats	x ¹	x ³	x ²			FAC
Southwestern Bristlegrass	x ¹		x ²			UPL

Forbs	Bank Stabilization	Livestock Forage	Wildlife (food and/or cover)	Timber	Pollinator Value	Wetland Indicator
Illinois Bundleflower		X	x ³		x ³	FACU
Maximilian Sunflower	x ¹	x ³	x ³		x ³	FACU
Purple Prairie Clover		X	x ³		x ³	UPL
Western Ragweed			X			UPL
Spiny Aster	x ¹					FACW
Goldenrod	x ¹				x ³	FACU
Engelmann's Daisy	x ³	x ³	x ³		x ³	UPL

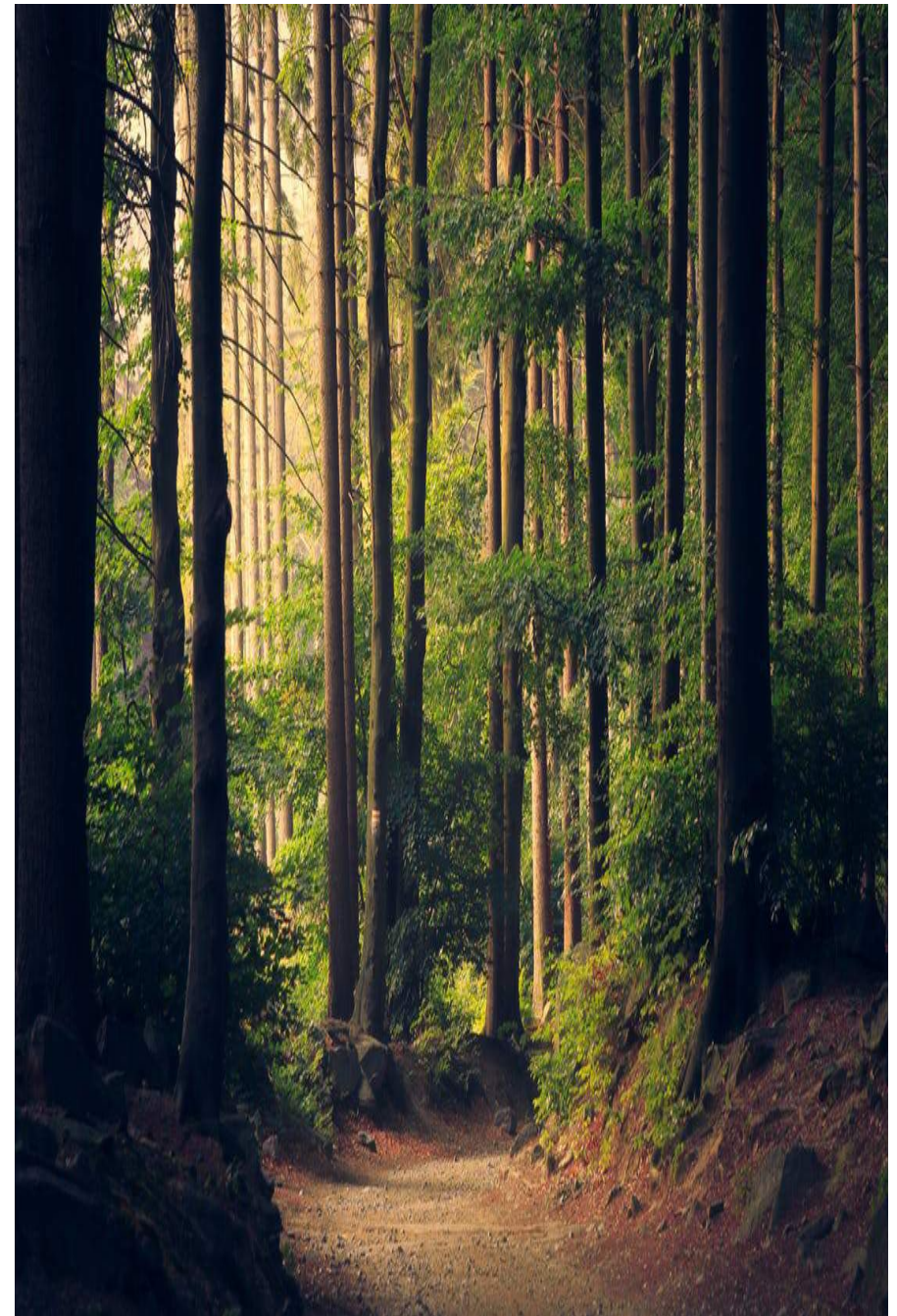
Trees	Bank Stabilization	Livestock Forage	Wildlife (food and/or cover)	Timber	Pollinator Value	Wetland Indicator
Southern Red Oak	x ¹			x ³		FACU
Water Oak	x ¹			x ³		FAC
Live Oak	x ¹		x ³			FACU
Bur Oak	x ^{1,3}		x ³	x ³		FAC
Overcup Oak	x ¹		x ³			OBL
Sycamore	x ¹			x ³		FAC
Pecan	x ¹		x ³	x ³		FAC
Black Willow	x ¹		x ³	x ³		FACW
Sugarberry	x ⁴	X	x ^{3,4}	x ³		FAC
Cedar Elm	x ¹	X	X	x ³		FAC
American Elm	x ¹	X	x ⁴	x ⁴		FAC
Winged Elm	x ¹	X	x ⁴	x ³		FACU
Sweet Gum	x ¹		x ³	x ³		FAC
Box Elder	x ¹		x ³			FACW
Black Walnut	x ¹		x ⁴	x ⁴		FACU
Eastern Cottonwood	x ¹		x ^{3,4}	x ⁴		FAC
Possumhaw Holly	x ¹		x ⁴			FACW
Green Ash	x ¹		x ⁴	x ⁴		FACW

¹ Linex, R. Common Plants of Riparian Areas – North Central Texas. U.S. Dept of Agriculture-Natural Resources Conservation Service.

² Shaw, R. 2012. Guide to Texas Grasses. Texas A&M University Press, College Station, Texas.

³ U.S. Dept of Agriculture-Natural Resources Conservation Service. 2014. The PLANTS Database. Accessed 04/23/2014. <http://plants.usda.gov/iava/>

⁴ Cox, P.W., and P. Leslie. Texas Trees: A Friendly Guide. Corona Publishing Company, San Antonio, Texas.





APPENDIX E - LAND TRUST ALLIANCE TAX INCENTIVE BROCHURE



USING THE CONSERVATION TAX INCENTIVE

In December of 2015 Congress made permanent a federal tax incentive for conservation easement donations that can help thousands of landowners conserve their land.

If you own land with important natural or historic resources, donating a voluntary conservation easement (also called conservation agreement) can be one of the smartest ways to conserve the land you love, while maintaining your private property rights and possibly realizing significant federal tax benefits.

This brochure summarizes the conservation easement tax incentive and provides answers to some frequently asked questions. The incentive:

- Raises the deduction a donor can take for donating a conservation easement from 30 percent of his or her income in any year to 50 percent;
- Allows qualifying farmers and ranchers to deduct up to 100 percent of their income; and
- Extends the carry-forward period for a donor to take tax deductions for a voluntary conservation agreement from 5 to 15 years.

This is a powerful tool for allowing modest-income donors to receive greater credit for donating a very valuable conservation easement on property they own. For land trusts, this translates to the possibility of protecting much more land through the use of conservation easements.

The changes apply to donations made at any time in 2015 and to all donations made after that.

For the latest information, visit www.lta.org/tax-incentives.



FREQUENTLY ASKED QUESTIONS

A. WHAT IS A CONSERVATION EASEMENT?

A conservation easement is a legal agreement between a landowner and a land trust or government agency, that permanently limits uses of the land in order to protect its conservation values. It allows landowners to continue to own and use their land, and they can also sell it or pass it on to heirs.

When you donate a conservation easement to a land trust, you give up some of the rights associated with the land. For example, you might give up the right to build additional structures, while retaining the right to grow crops. Future owners will also be bound by the easement's terms. The land trust is responsible for making sure the easement's terms are followed.

Conservation easements offer great flexibility. An easement on property containing rare wildlife habitat might prohibit any development, for example, while an easement on a farm might allow continued farming and the addition of agricultural structures. An easement may apply to all or a portion of the property, and need not require public access.

Qualifying For A Tax Deduction

A landowner sometimes sells a conservation easement, but often easements are donated to a land trust. If the donation benefits the public by permanently protecting important conservation resources, and meets other federal tax code requirements, it can qualify as a tax-deductible charitable donation. Easement values vary greatly; in general, the highest easement values result from tracts of developable open space under intense development pressure. In some jurisdictions, placing an easement on your property may also result in property tax savings. To find a land trust near you to discuss your options, please visit www.findalandtrust.org.

B. HOW DOES THE EXPANDED TAX INCENTIVE WORK?

1. Can you give me an example of the difference the tax incentive makes?

Under the previous rules, a landowner earning \$50,000 a year who donated a \$1 million conservation easement could take a \$15,000 deduction for the year of the donation and for an additional 5 years—a total of \$90,000 in tax deductions.

The 2015 rules allow that landowner to deduct \$25,000 for the year of the donation and then for an additional 15 years. That's a total of \$400,000 in deductions. If the landowner qualifies as a farmer or rancher, he or she could take a maximum of \$800,000 in deductions for the million dollar gift.

2. Can anyone deduct more than the value of his or her gift?

One can never deduct more than the fair market value of the gift. This change simply allows landowners who previously could not deduct the full value of their gift to deduct more of that value.

3. Who qualifies as a farmer or rancher?

The 2015 law defines a farmer or rancher as someone who receives more than 50 percent of his or her gross income from "the trade or business of farming." The law references Internal Revenue Code (IRC) 2032A(e)(5) to define activities that count as farming. Specifically, those activities include:

- cultivating the soil or raising or harvesting any agricultural or horticultural commodity (including the raising, shearing, feeding, caring for, training, and management of animals) on a farm;
- handling, drying, packing, grading, or storing on a farm any agricultural or horticultural commodity in its unmanufactured state, but only if the owner, tenant, or operator of the farm regularly produces more than one-half of the commodity so treated; and
- the planting, cultivating, caring for, or cutting of trees, or the preparation (other than milling) of trees for market.

For an easement to qualify for this special treatment, it must contain a restriction requiring that the land remain "available for agriculture." The qualified farmer or rancher provision also applies to farmers who are organized as C corporations. Additionally, Alaska Native Corporations are eligible under the same terms as farmers or ranchers.

IRS guidance on these parts of the law is available at www.lta.org/tax-incentives.

4. Do these changes apply to gifts of land?

This expanded incentive does not apply to gifts of land in fee; it only applies to gifts that qualify under IRC 170(h)(2).



such as conservation easements. A landowner considering donating their land should consult with an attorney to determine whether they should consider changing the structure of their gift to take advantage of this 2015 incentive.

7. Does this incentive only apply to conservation easements?

The expanded incentive applies to all donations covered in IRC section 170(h)(2), which includes donations of the entire interest of the donor other than a qualified mineral interest; a remainder interest; or a permanent conservation or historic preservation easement.

6. What is the timeline for this expanded incentive?

The incentive applies to all easements donated after December 31, 2014.

7. What other restrictions apply?

Conservation easement donations are subject to the same restrictions as they were before. For example, easements must meet the "conservation purposes" test defined in the existing law; they cannot be donated as part of a "quid pro quo" agreement where the easement was given in exchange for something else, such as a building permit; and they must be donated to a qualified organization—a governmental unit or a publicly supported charity that has "a commitment to protect the conservation purposes of the donation, and...the resources to enforce the restrictions."

See www.lta.org/tax-incentives for the Treasury Regulations on conservation easement donations.

8. Will donors who use this provision be audited?

Taking advantage of this 2015 law will not necessarily affect one's likelihood of being audited. All donors should note, however, that the IRS does pay attention to high value donations of property—including donations of conservation easements.

That makes it particularly important for donors and their advisors to know and follow the law; to utilize a reputable professional appraiser who has experience in the

appraisal of conservation easements; and to donate to a well-established, reputable land trust that has adopted and implemented *Land Trust Standards and Practices*.

C. OTHER RULES AFFECTING EASEMENT DONORS

A 2006 law (PL109-280) redefines who is a "qualified appraiser," so appraisers need to show donors that they are qualified under the law, which states that a qualified appraiser must "demonstrate verifiable education and experience in valuing the type of property subject to the appraisal."

The 2006 law also tightened the rules for easements on "certified historic structures." If you are protecting a property that includes such a structure, a filing fee and specific appraisal requirements may apply to you.

D. WHAT IS THE LAND TRUST'S ROLE?

Potential easement donors should know that donating a permanent conservation easement is a big commitment requiring careful consideration and independent legal advice.

Donating a conservation easement requires a working partnership with a land trust—and time for careful drafting of documents and maps, baseline documentation and a professional appraisal. Landowners should understand that a land trust may decline to accept a donation that does not meet both the legal requirements and the land trust's own specific charitable mission and strategic plan. In addition, land trusts will want to see the appraisal before accepting your gift.



ACKNOWLEDGEMENTS

There are so many people to thank who were involved in this conservation tax incentive victory: One grand thank you from the Alliance goes out to all of you. We could not have done it without you.

The Alliance has been leading a team effort to achieve this since 2000, when we convened land trust leaders from across the country to build a consensus on what tax policies would best address the need to expand our conservation work.

This legislation would not have happened without the leadership of Senators Debbie Stabenow (MI) and Dean Heller (NV) and Representatives Mike Kelly (PA) and Mike Thompson (CA) and many of their colleagues. Land trusts worked hard to show these leaders that the conservation work of land trusts was important to their communities and broadly supported by their constituents. That work provided the foundation for this conservation tool.

For the latest information visit www.lta.org/policy.

The content in this document is for informational purposes only and should not be construed as legal advice.

ABOUT THE ALLIANCE

Founded in 1982, the Land Trust Alliance is a national conservation organization representing over 1,100 land trusts, and works to save the places people need and love by strengthening land conservation throughout America. Please visit our website at www.landtrustalliance.org for more information on:

- Finding a local or regional land trust
- The latest federal tax laws concerning conservation easement donations
- Examples of how private landowners work with land trusts to protect their land
- Publications and resources for landowners

Cover photo: Harlen Persinger, photographer; page three, from left: Scott Bauer, USDA/ARS, Keith Weller, USDA/ARS; page four, from left: Teresa McCaffrey, courtesy of Montana Land Reliance; Tim McCabe, USDA/NRCS.



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APPENDIX F - GREENBELT TRAIL STANDARDS

PURPOSE OF THE GREENBELT TRAIL DEVELOPMENT CRITERIA AND STANDARDS

The following development criteria and standards are meant to be basic guidelines for the design of recreational facilities, including Greenbelt parks, trails, and water access. Development and design standards allow for a unified common vision while maintaining consistency with existing trails and Greenbelt corridors within Denton County. Standards allow Greenbelt users to become familiar with specific aspects of the Greenbelt’s recreational opportunities and features, what types of facilities to anticipate, and where to locate informational kiosks or signage.

GENERAL GREENBELT DESIGN AND DEVELOPMENT PRINCIPLES

Realizing that the identified Greenbelt corridors span multiple jurisdictions within Denton County, each Greenbelt segment may have distinguishing features specific to the municipality where it falls on the map. Each city may have specific requirements for what is placed within its parks and recreation areas. However, there are some design standards that apply universally to these Greenbelt areas. The overarching design principals that should be incorporated into these Greenbelt corridors should include the following:



- **Simplicity:** Create a Greenbelt network that is simple in design, implementation, maintenance, and use.
- **Consistency:** The Greenbelt system should be consistent throughout the County. Individual municipalities are encouraged to incorporate their own unique feel for their specific Greenbelt segment.
- **Connectivity:** The Greenbelt project is a way to connect cities within Denton County and provide alternative options for transportation between cities, as well as the enjoyment of nature and recreation.
- **Easy Access:** Greenbelts must be easily accessible for pedestrians, cyclists, and equestrians. There should be entry points and parking areas along Greenbelt corridors and trail systems. Kayak/canoe put-in and take-out locations should also be located along corridors with water trails. Trails should be Americans with Disabilities Act (ADA) compliant, where applicable, to provide the same opportunities for everyone.
- **Visible Educational/Informational Signage and Markings:** Designated Greenbelts and their paved, unpaved, and water trails should be clearly and simply marked.
- **Easy Maintenance:** The Greenbelt should not be a burden on the County or municipality to maintain. Trails, parking areas, and water access points should be designed with low maintenance as a priority.
- **Tree Cover:** Texas can be extremely warm during the summer months. Greenbelt alignments should include canopy cover to the extent practicable.
- **Destinations:** Greenbelts should include “destinations” such as vistas, overlooks, lake and creek edge viewpoints, exercise opportunities or interpretive stations with information about the areas. Give the users a purpose for visiting the Greenbelt.

The following will discuss specific trail elements and types, informational and educational signage, and maintenance concerns. For this planning effort, the trails are divided by their respective use: single-purpose trails, multi-purpose trails, equestrian trails, and water trails.

GENERAL GREENBELT TRAIL DESIGN PRINCIPLES

TRAILS AND TRAILHEADS

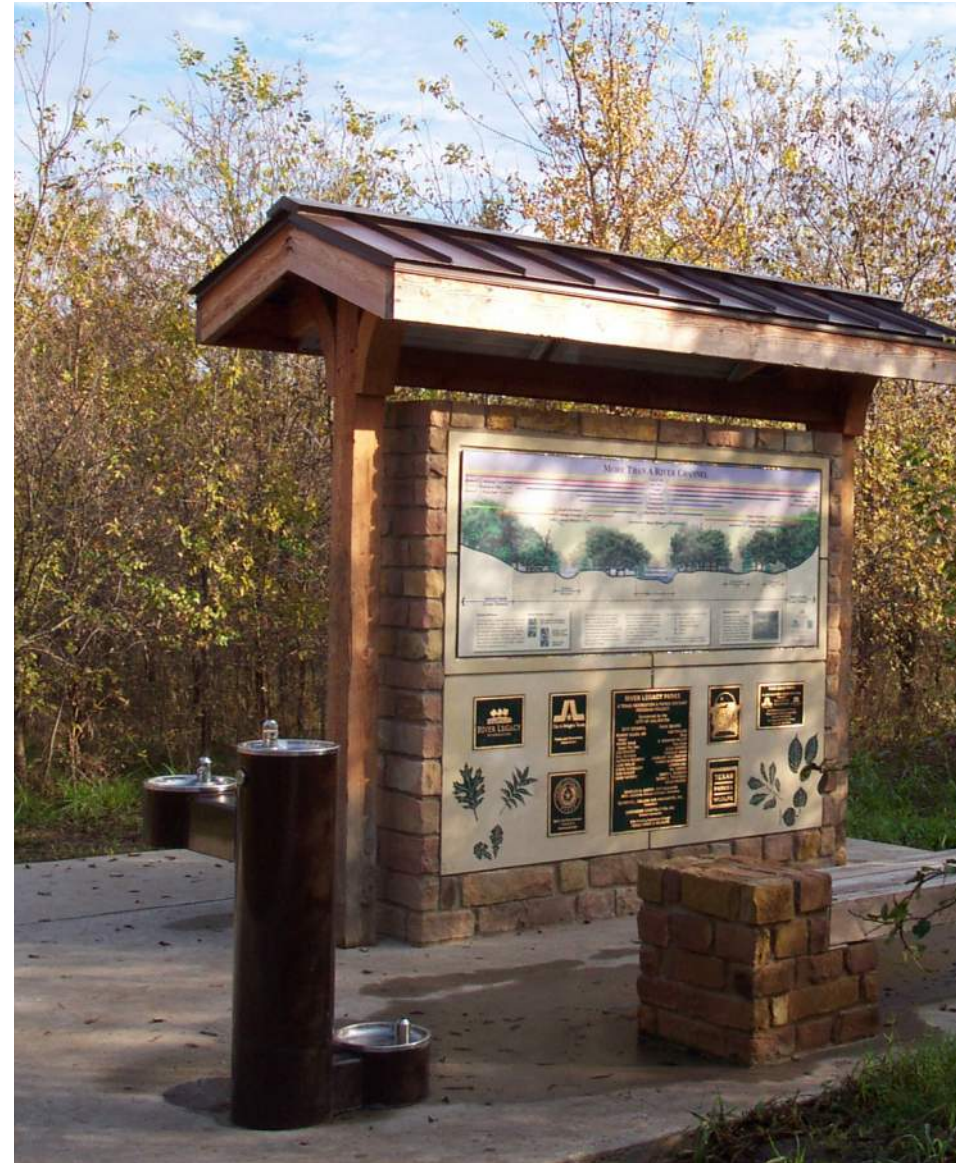
Trailheads serve as access points, staging areas, and information stations for trail users. Requirements vary, depending on uses for individual trail segments, and their character. At a minimum, trailheads should have Americans with Disabilities Act (ADA) accessible parking stalls, adequate parking and way finding signage. Dependent on budget and land availability, trailheads can also include trail maps, interpretive signage, seating, shade, picnic tables, landscaping, lighting, bike racks, drinking fountains and rest room facilities.

Trailhead signage should inform potential trail users of the length and complexity of the trail. Surface materials, accessible routes, points of interest and trail features should be identified on maps and signage.

Connections between trail and trailhead should be clear and obvious. Trailhead signs should be readily observable and clearly identify the start of the trail.

When designing Greenbelt Trails special consideration should be given to drainage features:

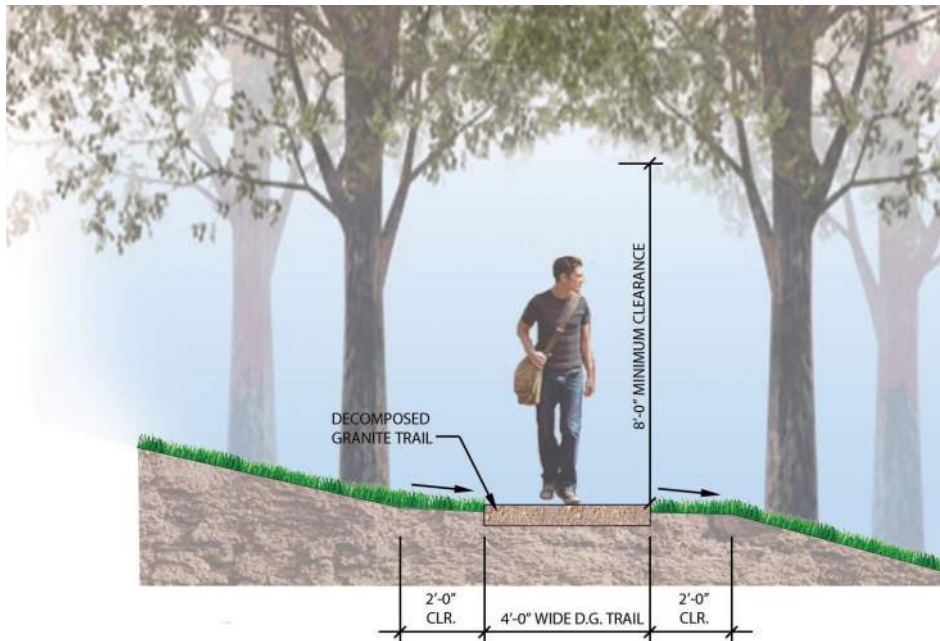
- Do not put trails in backslope drainage areas.
- Maintains conveyance in the backslope swale if the trail crosses a backslope swale.
- Design Trail such that water does not pond adjacent to the trail from local runoff.
- Design slope of trail such that runoff from the trail system drains away from the adjacent river, stream, creek or other aquatic features.



SINGLE-PURPOSE TRAILS AND TRAILHEADS

Single-purpose trails are typically utilized by nature observers and walkers. Single-purpose trails can also be designated for a specific specialty use such as off-road cycling trails. These types of trails may not necessarily be defined or marked trails. Where the trail system is defined, the surface is typically natural and comprised of native soils, mulches, or stone. In higher volume single-purpose trails, asphalt surfaces may be used that transition to natural trail materials further from the trailhead. These trails are typically no wider than four to six feet, as illustrated in Figure 18. In planning a single-purpose trail, it is recommended that a portion of the trail be ADA accessible. Single-purpose trails allow great opportunities to bring users into natural areas with minimized construction impacts to native vegetation.

Single-purpose trailheads should have parking for cars and trucks. Informational signage should be included to define the start of the trail and inform trail users to the width, surface, and accessibility of the trail.



Single-Use Trail Typical Section

Typical Single-Use Path:

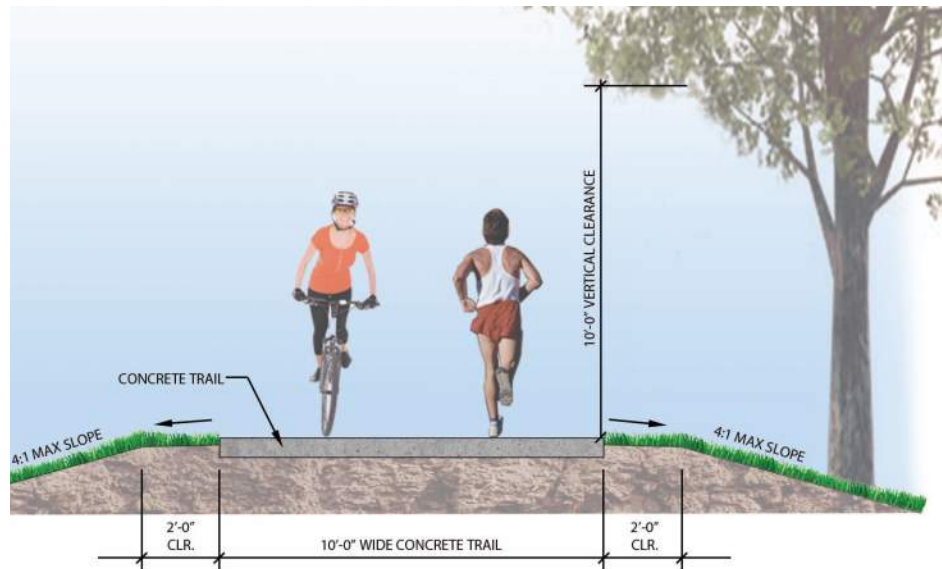
- 4 - 6' Wide
- Natural Surface Material
- Brings users into natural areas with minimized construction impacts.
- ADA Accessible Portions

Can Include User Amenities:

- Benches
- Viewing Areas
- Interpretive Signage
- Picnic Tables

MULTI-PURPOSE TRAILS AND TRAILHEADS

Multi-purpose trails tend to be high use trails that deserve special design attention. It is recommended, when possible, that trails be designed in accordance with the most current American Association of State Highway Transportation Officials (AASHTO) Guide for Development of Bicycle Facilities. Trail safety and directional signage should be universal and therefore should conform to AASHTO's most current Manual on Uniform Traffic Control Devices (MUTCD) Regulatory Signage and Way finding. Multi-purpose trails should be hard, smooth, and durable so that they can be utilized by walkers, cyclists, in-line skaters, baby strollers, dog walkers, handicapped, and a multitude of other users. Therefore, multi-purpose trail surfaces typically include concrete or asphalt surfaces. High volume trail segments will also require a center stripe to keep traffic flow in one direction on both sides. Listed to the right is a compilation of recommendations used in developing the trail alignment and Figure 19 illustrates a typical cross section. The following page includes a detailed summary of multi-use trail design guidelines.



Multi-Use Trail Typical Section



Typical Multi-Use Path

- Accommodates a Multitude of Users & Trail Related Activities
- Minimum 10' Wide
- Hard Surface - Typically Concrete
- ADA Accessible
- Centerline Striping

Can Include User Amenities:

- Benches
- Viewing Areas
- Interpretive Signage
- Picnic Tables

Trail use Etiquette

- Travel on the Right.
- Pass on the Left.
- Use Audible Instructions as Passing
- Integrate MUTCD Signage
- Provide courtesy trail etiquette reminders at trailheads

Trail Width

- Average Use Trails – AASHTO urban minimum width for two-directional shared use path is 10' with a minimum level 2' shoulder area of recovery.
- Heavy Use Trails – AASHTO urban preferred width for a two-directional shared use path is 12'-14' with a minimum level 2' shoulder area of recovery.
- Heavy Use Trails are defined as more than 300 total users per peak hour.
- AASHTO suggest a 5' minimum level shoulder adjacent to parallel water and steep slopes greater than 3:1. Where this is not feasible, a 42" tall safety railing is recommended.
- Multi-Use Trail width must accommodate emergency and maintenance

Surface

- A hard all-weather surface, preferably concrete.
- Trail surface thickness must be designed to accommodate emergency and maintenance vehicles.
- Can connect to soft surface accessory paths.
- Bridge decks must have non-slip surface expansion joints that will not cause a hazard to users.
- ADA requires the cross slope of accessible pedestrian routes to not exceed 2%. Due to highly expansive soils in the County, a 1.5% maximum cross slope is recommended.

Sight Distance

- Centerline striping must be used for heavy volume or limited site distance constrains.
- AASHTO requires, based on a maximum grade of 5% and a design speed of 20 mph, the minimum ascending stopping sight distance to be 120' and 140' when descending.

Vertical Clearance

- AASHTO desirable above trail vertical clearance is 10' and the minimum above trail vertical is 8'. This references anything that is over the trail such as bridges, signage and tree limbs.

Lean Angle

- AASHTO desirable minimum radius for paved shared-use paths, based on a 15% lean angle and 20 mph design speed is 100' the allowable minimum radius is 90'. To fit trails in with existing topography and preserve native vegetation the design speed can be reduced if the project is not funded by a federal source such as TXDOT.
- AASHTO recommends increasing the path width and utilizing centerline striping on the path if the 20% lean angle is utilized.
- AASHTO recommends that MUTCD standard curve warning signs and supplemental pavements markings should be installed when site conditions require a smaller radius.

Safety

- AASHTO recommends MUTCD signage at trail / roadway crossings, which include stop signs and stop bars.
- Curb ramps shall be the width of the trail.
- A 4" wide line down the center of the path shall be used to divide the 2 lanes.
- Lighting along trails for nighttime use and in tunnels / underpasses.
- Use a 42" tall safety railing where the grade different adjacent to the trail is 30" or greater or where a 5' shoulder adjacent to parallel hazards and water bodies is not achievable.
- AASHTO recommends a 6" rub rail located 36" above the trail surface.
- UBC requires that a 4" sphere cannot be passed between safety railing openings.

Design Speed

- Design speed is related to the site and dependent upon condition, location, grade and number of users along the path.
- Current AASHTO guidelines recommend for a design speed of 20 MPH.
- TXDOT has a policy that, where federal funds are utilized for trail construction, a minimum design speed of 20 mph is required.
- Where grades of 4% or greater exist, a 30 mph design speed is recommended by AASHTO.
- AASHTO requires the minimum path radius be used to determine the design speed.

EQUESTRIAN TRAIL AND TRAILHEADS

Equestrian trails are intended to accommodate equestrians and their horses. They are always unpaved, soft trail surfaces. Although they can serve as an alternative path for pedestrians, it is preferred that multi-use paths that accommodate cyclists be separate from equestrian trails. Desired facilities at equestrian trailheads include loading/unloading platforms, ramps, tie-up areas, access to fresh water, and corrals, if necessary. Signage should clearly indicate trailheads that accommodate equestrian use. Where applicable, equestrian trails should maintain a large separation (150 feet) from multi-purpose trails to avoid conflicts with other trail users.

Special considerations should be paid to underpasses and bridges. Any trail encountering an underpass or bridge should be a minimum of 12 feet below the underpass or bridge. This would allow for a rider on horseback to pass through the area without dismounting. In areas where a bridge or underpass is encountered and the trail is less than 12 feet below the structure, mounting/dismounting blocks should be included to provide a safe place to disembark.

Similar to the multi-purpose trailhead, equestrian trailheads require parking in close proximity to the trailhead. Pull through parking is preferred to accommodate trucks and horse trailers.



WATER TRAILHEADS AND PORTAGES

Water trailheads also have similar requirements to multi-purpose trailheads, with the additional need for parking in close proximity to well-designed put-ins and take-outs. Parking lots at water trailheads should be large enough to facilitate the ease of launching a specific type of watercraft, but will be limited by the site constraints at individual locations.

Portages are a combination of put-ins and take-outs that allow water trail users to safely avoid hazards in waterways (such as in-channel dams) by allowing the user to exit the water upstream of the hazard and re-enter the water downstream of the hazard.

According to the *National Park Service's Logical Lasting Launches: Design Guidance for Canoe and Kayak Launches*,³⁴ effective portages should include but are not limited to the following:

³⁴ <http://www.nps.gov/ncrc/programs/rtca/helpfultools/launchguide.pdf> accessed December 3, 2015.

- Well marked signage to allow sufficient time for paddlers to reach shore;
- A path at least 2 to 4 feet around the hazard with a slope no steeper than 1:3 (ADA accessible portages cannot have slopes exceeding 1:12);
- At least 8 feet of overhead clearance on the path and at least 4 to 8 feet of clearance on either side;
- A route that minimizes the distance water users must carry their watercraft;
- Portage locations on quiescent water; and
- An escape portage exit location in case the water user misses the preferred take-out location.

“Texas law supports the principle that when a person floating a navigable stream encounters an obstruction like a log jam or a dam, or some other potential safety hazard, the navigator has a limited privilege to go onto adjoining private land to scout and if necessary make a safe, reasonable portage.”



TRAIL ENTRY BARRIERS

Motorized vehicles of any kind should not be allowed on any trail with the exception of authorized maintenance vehicles. Gates and special barriers (such as bollards) may be required at trailheads to prevent unauthorized motorized vehicles from entering the trail.

TRAIL ACCESS POINTS

Trail access points provide small-scale local access to selected Greenbelt corridors. Usually, these trail access points are located within residential neighborhoods, mixed use areas, or commercial or industrial locations. Facilities at trail access points are simple, basic, and usually only include access via a path, sidewalk, or ramp. At times, an entry barrier may be required to prevent unauthorized motorized vehicles from accessing the trail. Signage should be included at trail access points to identify preferred access locations.

BRIDGES

Bridges are utilized to provide trail users passage above streams, creeks and significant topographic grade differences. Bridges should be designed to withstand flooding and support the weight of emergency access and maintenance vehicles.



GREENBELT CORRIDOR AMENITIES LIGHTING

Improperly designed and unnecessary lighting contributes to light pollution, creates undesirable impacts to wildlife, and detracts from the natural quality of the Greenbelt corridor. Thus, lighting of any Greenbelt corridor should be limited to urban areas, developed parks and recreation facilities, at trailheads where applicable, along underpasses, and along high-volume trails.

SITE FURNISHINGS

The Greenbelt corridors span multiple municipalities and unincorporated areas of Denton County, traversing a broad spectrum of terrain. Areas identified for Greenbelt preservation may be urbanized or urbanizing, whereas other areas may be rural. Site furnishings located within certain Greenbelt segments should fit with the immediate surroundings. In urban locations or where Greenbelts encounter existing parks, site furnishings such as benches, lighting, and trash receptacles may be more formal, composed of high quality materials. Established municipalities have furnishing standards that they incorporate into their park and recreational areas. It is dependent upon each municipality to determine which furnishings are included within its Greenbelt corridors and the frequency of those furnishings.

REST AREAS AND VIEWING SITES

Rest areas should be located in shaded locations or in areas that offer special beauty or unique viewing opportunities. Furnishings located within rest and viewing areas should be composed of materials applicable to the surroundings.

SIGNAGE

Signage falls into two categories: Safety and Wayfinding. To establish unified safety visual cues within Denton County, safety signage should conform to the Manual on Uniform Traffic Control Device Standards (MUTCD). Wayfinding signage should have a cohesive design palette that identifies the span of Greenbelt it serves. Wayfinding Signage along a Greenbelt could include the following types of signs:

Typical Types of Wayfinding Signs

Informational / Interpretive Sign

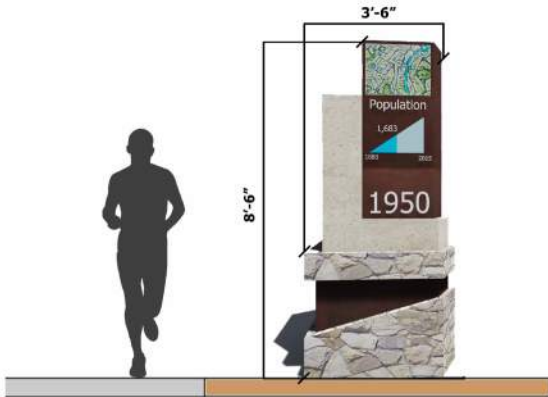
Vehicular Location Sign

Pedestrian Location Sign

Mile Marker Sign

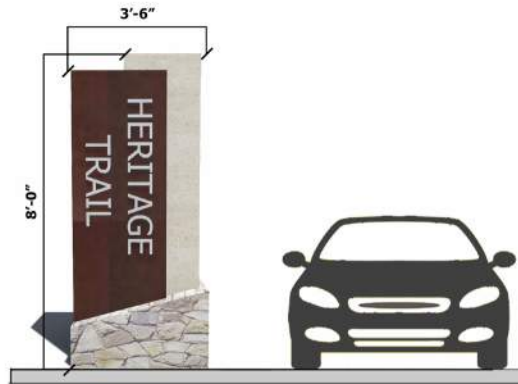
Directional Sign

INFORMATIONAL / INTERPRETIVE SIGN

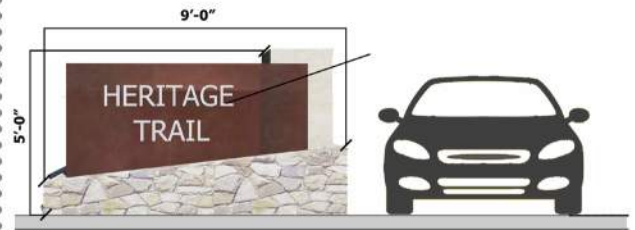


SECTION/ELEVATION

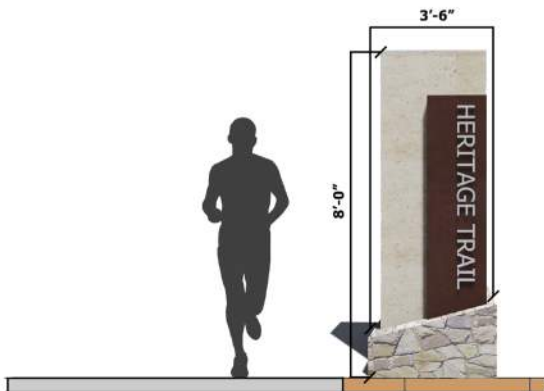
VERTICAL AUTOMOBILE LOCATION SIGN



HORIZONTAL AUTOMOBILE LOCATION SIGN

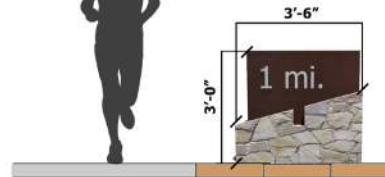


PEDESTRIAN GATEWAY

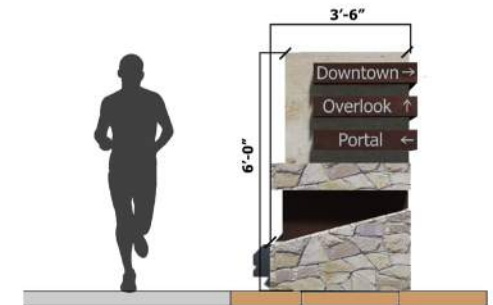


SECTION/ELEVATION

MILE MARKER



DIRECTIONAL SIGNAGE



Example of Typical Greenbelt Wayfinding. Signage should be cohesive for the section of Greenbelt it pertains to.

MAINTENANCE

For successful trail assets, proper trail maintenance must be provided or the functionality of the facility is negatively impacted. Maintenance can be as simple as keeping trash bags emptied and dog waste station bags refilled to intensive maintenance with mowing and vegetation management. Maintenance is typically the responsibility of each jurisdiction along the trail corridor. In trails that cross multiple jurisdictions, opportunities may exist for partnerships to perform the necessary maintenance functions.

VEGETATION MOWING

Mowing of a two-foot wide strip along the edge of a multi-use trail is recommended. This maintenance edge helps eliminate vegetation and debris from covering the trail surface and improves trail safety. Nature paths do not require regular mowing but periodic maintenance should be done to keep paths clear.

VANDALISM

Vandalism negatively impacts the user's experience along Greenbelts. Any vandalism or graffiti should be repaired or removed from the trail system or park assets. The responsibility for maintenance of vandalism is the jurisdiction where the asset is located.

TRAIL SURFACING AND REPAIR

Over time, trail surfaces will require repair. Trail surfaces and repairs are the responsibility of the jurisdiction where the trail asset is located.

TRASH AND DEBRIS REMOVAL

Trash and debris are not only unsightly and distract from the enjoyment of an important natural and recreational resource, often create conditions that are unsafe for patrons of Greenbelts and the wildlife that live in the greenspace. Trail signs should encourage "keep the trails litter free."

While each jurisdiction is responsible for trash and debris removal, available resources for removal are often taxed or non-existent. In cases where maintenance budgets are inadequate, opportunities to

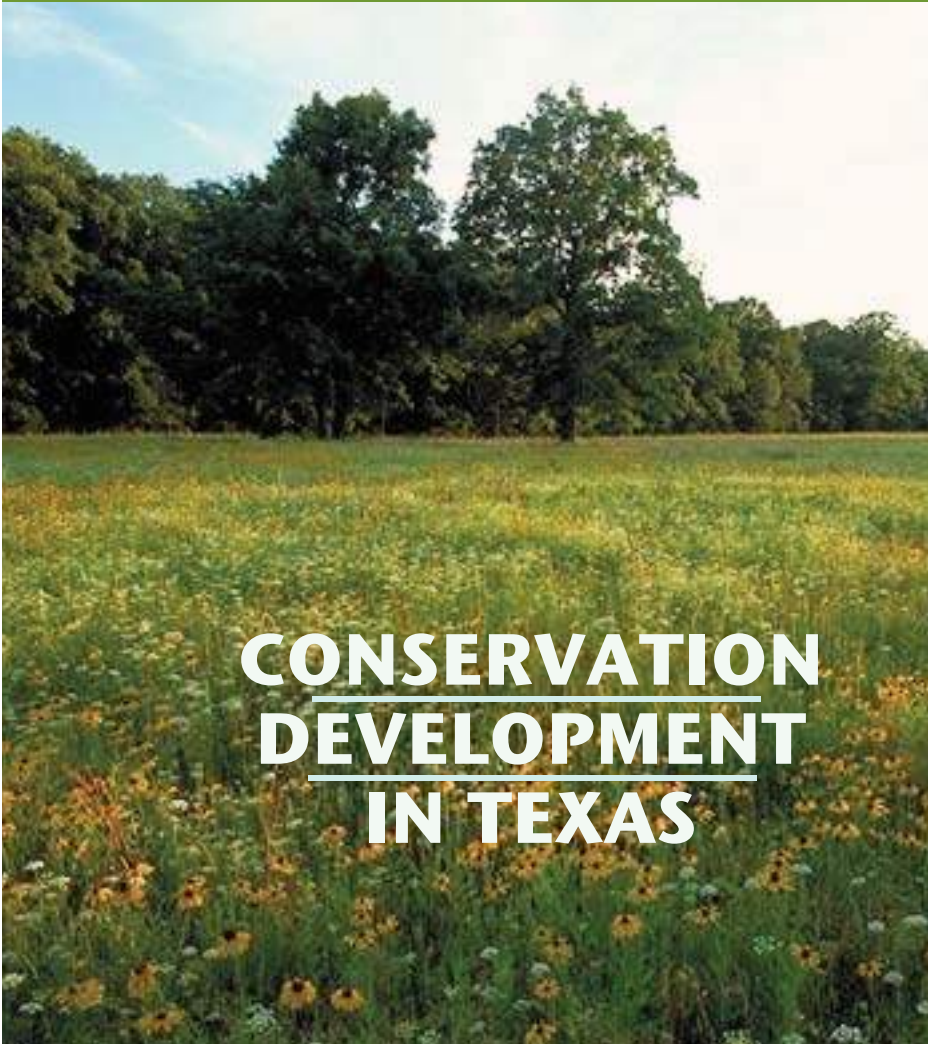
cooperate with local organizations, such as Keep Lewisville Beautiful, or service groups, such as Adopt-a-Stream, are viable and useful ways to provide periodic and consistent clean-ups, and at the same time build relationships and provide positive community interaction.

At a minimum, these groups could provide bi-annual volunteer clean-ups. These clean-ups could span multiple jurisdictions for the longer stream segments identified in the plan.



APPENDIX G - CONSERVATION DEVELOPMENT AND STRATEGIES

Conservation development, or cluster development, is a method of developing land for housing in a way that preserves open space in perpetuity. This type of development involves building homes in groups with smaller lot sizes while protecting natural features and open space for use by residents. Conservation developments typically have economic benefits to the homeowner, developer, and the local government. Homes in these types of developments are likely to sell for a higher price, and a lower cost to develop infrastructure and provide community services. Examples of conservation developments can be found in the western areas of the Town of Flower Mound as part of the Cross Timbers Conservation Development District. More information can be found in the booklet [Conservation Development in Texas](#), produced by the Lady Bird Johnson Wildflower Center which is included in this Appendix.



CONSERVATION DEVELOPMENT IN TEXAS

Credits

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Produced by The Lady Bird Johnson Wildflower Center, 2006

The Lady Bird Johnson Wildflower Center is committed to protecting and restoring healthy regional landscapes. Our mission is to increase the sustainable use and conservation of native wildflowers, plants and landscapes. With population growth threatening wildlife and water resources, Texas has much to gain from the increased use of the conservation development concept.

Conservation subdivisions are a way to protect the rural heritage of Texas while expanding land development practices to incorporate the principles of regional identity, land conservation and land stewardship. As our founder, Lady Bird Johnson, said, "I like it when the land speaks its own language in its own regional accent." We hope to encourage further discussion about how conservation development principles can be applied to benefit both people and our environment.



Above: The Woodson Place / Photo by Gary McCoy (www.garymccoy.com)

Cover photos: top - Jackson Meadow / Photo by Peter Bastianelli Kerze; bottom - The Woodson Place / Photo by Gary McCoy (www.garymccoy.com)



Jackson Meadow

Photo by Peter Bastianelli Kerze

What is conservation development?

Conservation development is a method of developing land for housing in a way that preserves open space for future generations. Typically, it involves building homes in groups with smaller lot sizes, protecting natural features and open space for use by all the residents. *The Lady Bird Johnson Wildflower Center* defines conservation development as a development that seeks to reduce its ecological footprint by preserving significant, contiguous open spaces amid groups of clustered homes and supporting the sustainable use of invaluable resources.

Why is it important?

Urban sprawl is a fact of life for most Texas cities. The wide open spaces are fast disappearing to development, most of it for residential housing. The American Farmland Trust reported in 2002 that the United States was losing two acres of mostly prime farmland every minute to development. The same report estimated a loss of 6 million acres of farmland between 1992 and 1997 due to sprawl. In Texas, the loss during that period was approximately 332,800 acres of quality farmland -- a 42 percent increase in rate of loss over the previous five years and more than any other state during that period. Most of those losses occurred in the Texas Blackland Prairie around Austin, Waco and Dallas-Fort Worth and in the Lower Rio Grande Plain.

**Conservation development—
a way to show
that humans
can work
with the rest
of nature**

1

Development on the urban fringe is the conventional response to population growth and the migration from country to cities that has been underway for the past century. Unfortunately, it destroys habitat for wildlife, threatens water quality, strains water resources and, too often, does not produce the quality of life that homeowners expect.

Conservation development offers a wonderful opportunity to celebrate the land's regional character. Whether hill country, prairie or coastal plain, this approach to land development is appropriate because it preserves the unique local flora and fauna. Conservation development is a way to show that humans can work with the rest of nature to achieve their own goals without compromising a healthy ecology.



Prairie Crossing

Courtesy of Prairie Crossing

Conservation development balances the demands of a growing population with the need to conserve natural resources. In addition, the adjacent open space increases the value of the homes and the tax revenue from the property. The heritage of rural Texas and its unique regional identity is preserved along with critical water resources and habitat.

The economics of open space

Open space has a value to the homeowner, to the real estate developer and to local governments that rely on property tax revenue. Studies have shown that prospective buyers are willing to pay a premium for homes near open space -- one of the benefits of conservation subdivisions. The land value of property near open space is likely to appreciate more than conventional subdivisions, helping ensure a growing tax base for local governments.

For decades we have assumed that residential development is the highest and best use of land because of the higher tax revenue that results. That

2

assumption is disputed by Texas A&M Professor John L. Crompton's analysis of parkland value in 2000. Crompton tested the proximate principle which holds that parkland increases the land value of nearby homes, generating additional tax revenue. He determined that, in general, there is a positive impact of 20 percent on property values adjacent to parks. A similar 2004 study of housing values in two Georgia counties near Atlanta also found that values were higher near pine forests and large pastures. Other studies show the value of open space. See www.wildflower.org.

The bottom line for developers

In the highly competitive world of real estate development, there is a constant quest for the amenities that will entice buyers into paying more for their homes. One of those tried and true benefits is open space, whether it is unimproved parkland or hike and bike trails. Homes in conservation developments come with built-in sales points -- scenery, open space, recreation as well as the appeal to a sense of environmental responsibility. Small wonder these homes sell faster.

Conservation development allows the builder to construct higher priced homes while paying less for infrastructure. Since the homes are grouped together, there is less cost to building the necessary streets and laying pipelines and conduits for water, wastewater and electricity. Central Texas developer Terry Mitchell estimates that infrastructure costs for one project with significant open space and clustered housing will be up to 30 percent less than for a conventional subdivision.

Another important sales point is the way such homes appreciate over time. The University of Massachusetts looked at two subdivisions near Amherst built in the 1960s with similar style homes and selling prices. One subdivision used conservation design principles and preserved woodlands, meadows and recreation facilities; the other, conventional. In 1968, the homes in the conservation subdivision sold for \$600 more but by 1989, they sold for an average of \$17,000 more. Similarly, a conservation subdivision near Concord called Meriam's Close was built in 1989 with 86

Buyers are willing to spend more for homes near open space.

3



Courtesy of Prairie Crossing

percent of its acreage set aside for recreation and natural areas. In an analysis of sales between 1980 and 1988, the Meriam's Close homes appreciated at an average annual rate of 21.4 percent compared to 18.4 percent for other homes in the area. **They sold for a premium of \$115,000 in 1988, even though their lots were only one-fifth the size of other homes in Concord.**

The bottom line for local government

From the point of view of local elected officials, residential development can cost more than it returns in tax dollars. Cost of community services (COCS) studies look at the cost of providing services such as roads, schools and police and fire protection to various types of land uses -- residential, commercial/industrial and farm/forest/open space. A recent COCS study in Hays County, Texas, revealed that residential development cost the county \$1.26 for each \$1 collected in tax revenue.

Similar studies of 71 municipalities across the United States showed that the average cost of service per dollar of tax revenue was \$1.22 for residential areas, but only 38 cents for farm/forest and open space.

Conservation developments are less expensive to serve than conventional residential developments because homes and infrastructure are clustered. There are other savings resulting from trails and open space, according to a 1995 study by the National Park Service:

- When sensitive areas like steep hillsides are protected from development, damage from flooding and landslides and the resulting expense to local governments is much less.

4

- Wetlands and open space are natural water filtration systems, often preventing or lessening the severity of costly floods.
- Trees and plants control air pollution by absorbing air pollutants and releasing oxygen.
- Trails and green belts provide healthy recreation opportunities that keep people fit and combat obesity. The Center for Disease Control estimates that health care costs attributable to obesity were more than \$78 billion in 1998.

Even better, developers using conservation design principles provide open space at no public cost, lessening the pressure on elected officials to buy and maintain public parks.

The value of a healthy ecology

Increasingly, people recognize the importance of clean air, clean water and a healthy environment and are willing to pay for it. As more land is paved for development, stormwater runoff with all the accompanying pollutants can contaminate streams and underground water supplies. That is why the cities of San Antonio and Austin have spent more than \$243 million on land acquisition in recent years to protect the quality and quantity of their drinking water.

Both cities depend on the Edwards Aquifer for drinking water, and the aquifer is particularly sensitive to contamination from roads and parking lots because runoff may drain directly into the aquifer. Between 2000 and 2005, voters in San Antonio approved \$155 million in land purchase bonds while Austin voters endorsed \$88 million for the same purpose.

Not surprisingly, pollution diminishes property values. A University of Maryland study of the value of Chesapeake Bay waterfront homes determined that homeowners were willing to pay for improved water quality. The study estimated that if the fecal coliform bacteria count in the bay were lower by 100 counts per 100 milliliters, it would raise the value of the homes by 2 percent.

The average cost of services per dollar of taxes was \$1.22 for residential but only 38 cents for open space.

5

What are the risks?

For developers, profitability lies in building enough houses to recover the substantial fixed costs necessary to buy the land, bring in utilities and construct roads and other amenities as well as the cost of building each house. To achieve this, a conservation development will often have the same number of houses (density neutral) as a conventional subdivision, but they will be arranged in higher-density groups, leaving other parts of the land entirely open.

For environmentalists and critics of urban sprawl, conservation development does not solve all of the problems created by growth. It may even encourage long commutes not only to work but also to shops, schools and restaurants since conservation subdivisions do not typically include mixed-use development -- most are not large enough to support it. Proponents of



Courtesy of the Lady Bird Johnson Wildflower Center

affordable housing argue that the premium prices of homes in conservation developments make them too costly for lower-income people. They argue that close in, high-density, mixed-use neighborhoods are a better alternative. For these

reasons, conservation development may not be the right solution in every case. But, for many rural and suburban areas quickly developing into bedroom communities for nearby cities, this is an exciting and innovative approach to land and community development, one that is economically and environmentally viable for developers, local governments and homeowners.

6



Jackson Meadow

Photo by Peter Bastianelli Kerze

Do counties have authority to encourage conservation development?

In Texas, home-rule cities have comprehensive zoning authority and can regulate most aspects of development. However, most conservation development takes place beyond city limits because it requires the large tracts of undeveloped land usually located outside incorporated areas. Therefore, the key question is whether counties, with regulatory authority defined by state law, can enact the ordinances that permit and encourage conservation development. Many county officials believe they lack authority to regulate land use or development in any way. However, options do exist to encourage conservation subdivision development.

Senate Bill 873, enacted in 2001, gives 30 counties adjacent to major metropolitan areas and along the Mexico border authority to regulate such subdivision features as right-of-way, major thoroughfares, minimum lot frontages, reasonable setbacks and developer participating contracts as needed to promote health, safety, morals and the general welfare of the county. This important legislation gives these counties some parity with home-rule cities in regulating growth within their boundaries.

While there are limits on what counties can regulate -- zoning, height or bulk of buildings and density limitations are specifically prohibited -- those

Options exist to encourage conservation development in Texas.

7



Robert Engstrom (photographer and developer)

The Fields of St. Croix

30 counties now possess the ordinance making tools necessary to encourage conservation development.

At issue has been the different interpretations of the powers conferred by S.B. 873. Some counties have been fairly aggressive in interpreting it broadly. Travis County, for example, requires developers to dedicate a

certain portion of land for parks or pay fees to the county in lieu of establishing parkland as a condition of plat approvals. In addition, Travis County mandated that floodplains be left in their natural state.

One feature of conservation developments is roads that are narrower than those in conventional tracts, reducing runoff and requiring less infrastructure. This feature often runs afoul of street width requirements set by counties.

Conservation development frequently takes place under the guidance of local ordinances that set certain requirements -- generally the preservation of 40 to 60 percent of a parcel of land as open space. Travis County is now considering a conservation development ordinance that would create a voluntary option to conventional subdivisions, including a provision for narrower roads that would not require the developer of a conservation development ordinance to obtain a variance.

Aside from county ordinance-making authority, any county in Texas can enable a Planned Unit Development (PUD) provision or a development agreement between local governments and developers interested in conservation subdivisions. Given the economic benefits for developers, it is likely that many would take advantage of this alternative if it were available and the risk of regulatory delay was reduced.

8



Prairie Crossing

Courtesy of Prairie Crossing

What are the criteria for a conservation development?

Ecological analysis The first step in planning a conservation subdivision should be a thorough ecological assessment. This will provide the information needed about the features that should be preserved as open space. The assessment should identify such sensitive environmental features as wildlife habitat, sensitive and valuable ecosystems, waterways, steep slopes and viewsheds as well as other areas that have ecological and cultural value, such as prairies or agricultural land.

Open space The goal of conservation development regulations should be the preservation of open space. Between 40 and 60 percent of the parcel's gross area is a reasonable proportion of open space, with not more than half of the preserved lands being drawn from unbuildable land (primary conservation areas). Unbuildable lands include buffer zones around waters mandated by the Clean Water Act, slopes greater than 25 percent or 100-year flood plains. Open space should be contiguous and, if possible, linked to other protected lands to connect wildlife corridors, preserve water resources and provide opportunities for trail systems. Active recreation facilities within the open space, such as ball fields, should be limited to 25 percent of the total because of high water use, intensive use of non-native grasses and minimal ecological value.

The goal of conservation development regulations should be to preserve open space.

9

How do I do a conservation development?

Where do I begin?

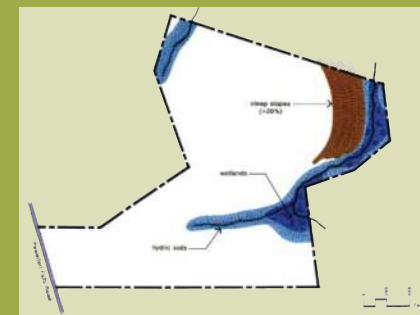
First, it is important to contact a local conservation organization such as the Texas Land Trust Council (www.texaslandtrusts.org) for information on conservation easements. Some environmental organizations can also recommend appropriate developers, builders, land planners and consultants. Next, contact your local city or county government for information on incentives and regulations.

What are the steps to designing a conservation development?

The concept of conservation development has been widely discussed for at least a decade. Randall Arendt, a land-use planner, author and lecturer, pioneered in bringing the benefits of conservation development to the attention of communities,



Site Before Development



Site Identifying Primary Conservation Areas

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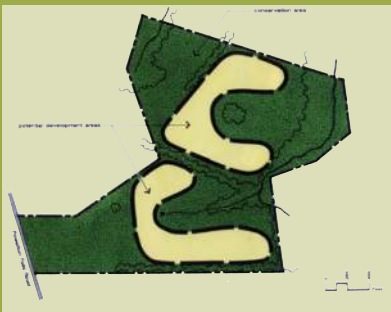
government officials and developers in the early 1990s. In his 1996 book, *Conservation Design For Subdivisions: A Practical Guide To Creating Open Space Networks*, Arendt lays out a four-step process for design and development of an actual site.

1. Identifying land that should be permanently protected

This consists of the Primary Conservation Areas (unbuildable wetlands, floodplains and steep slopes). Add these areas to the Secondary Conservation Areas



Site With Conventional Design



Site Identifying Potential Development Zone After Excluding Secondary Conservation Areas



Site With Conservation Design

that can include land that is most sensitive environmentally, most significant historically or culturally, most scenic or which possess unusual or rare attributes.

2. Locating the sites of individual houses

Maximize the number of 'view lots'. Locate home sites within convenient walking distance from open space and other houses in subdivision.

3. Designing street and trail alignments

Avoid crossing wetlands and minimize the length (and cost) of the access roads. Narrow streets with fewer long, straight segments will slow traffic and create a more rural feel. Connect streets and avoid dead-ends.

4. Drawing in lot lines

Different options for setbacks, lot width and depth are available depending on density levels, average street traffic, proximity to open space and other site attributes.

Drawings: Randall Arendt. *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks* (Island Press, 1996) far left - pages 59, 60, 62; this page - pages 63,64,68.

Viewshed and cultural resource protection Open space should provide protection for scenic views, which typically requires a ban on ridgeline construction and care in designing roads. The National Scenic Byways Program provides guidelines for preserving views. Conservation developments can preserve rural regional character by including working farms and ranches.

Native landscaping and land restoration Conservation subdivisions should be landscaped with native plants that are compatible with the ecology and regional character of the area. This will allow the open space to resemble as closely as possible the natural state of the land prior to European settlement and reduces the ecological risks caused by invasive species.

Conservation development must balance environmental needs with the need for profit.

Density and lot size In most areas of the country, maximum density depends on local zoning. Most conservation development ordinances allow smaller lot sizes than those in conventional developments so open space can be preserved without reducing the number of lots. In Texas, where counties have no zoning

authority, density and minimum lot size are constrained by the land's physical limitations or the area needed for septic systems and water wells. The number of lots may need to be limited to protect water and other resources, but, if density is too low, it becomes economically infeasible for a developer. To be successful, conservation development must balance environmental needs with the developer's need for profit.

Impervious cover Total impervious cover in a conservation subdivision should be limited to 15 to 25 percent of the gross site acreage because roads and structures prevent rainwater from recharging aquifers and can increase the risk of floods. A limitation on impervious cover reduces the overall human footprint on the environment. Texas counties may currently have the authority to regulate impervious cover based on state flood protection statutes.

Narrow roads Relatively narrow roadways are another important feature of conservation development. These subdivisions are typically built in more

rural areas with less traffic, so wide streets are often unnecessary. Narrower roads can slow traffic, increase safety, limit impervious cover, protect water resources and reduce infrastructure costs. Currently, Texas law requires minimum road widths in unincorporated areas that regulate subdivisions. These provisions can inhibit the development of conservation subdivisions, but there are alternatives:

1. Amend state law to give counties more flexibility in regulating road widths.
2. Allow counties affected by S.B. 873 to amend subdivision regulations to permit narrow roads, a process currently underway in Travis County.
3. Use flood protection statutes to adopt ordinances allowing narrow roads.

Green Building Standards Buildings within conservation subdivisions should use appropriate building materials and be constructed to operate with maximum possible efficiency. For example, Woodson Place in north Texas follows Austin's Green Building standards. Developers should look for local standards, or contact the U.S. Green Building Council. Following green building guidelines can serve as a marketing tool for prospective buyers interested in a home that conserves water, energy and other resources.

Courtesy of Prairie Crossing



Prairie Crossing

Utilities Conservation subdivisions take advantage of water conservation measures, such as rainwater harvesting, gray water re-use (water from bathroom sinks, showers and washing machines used for irrigation) and reduced-flow toilets.

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Long-term maintenance of open space Before construction, an agreement should be reached establishing the terms necessary to maintain the open space in perpetuity. Conservation easements are a time-tested, secure and frequently-used tool to protect land. Most conservation subdivision ordinances permit several options for ownership of open space, including a homeowners association, government agency, a non-profit conservation organization or a land trust. Land trusts are often the most appropriate entity to manage open space due to their experience in land stewardship and monitoring and their commitment to conservation. The agreement should also identify a funding source.

How can my community best support and promote the conservation development approach?

A voluntary alternative Conservation development should be established in local regulations as a by-right voluntary alternative to conventional subdivisions. This would allow conservation development to proceed without review by local elected officials and does not replace conventional development as a practice mandated by law.

Minimum parcel size In the absence of a county conservation plan, there should be a minimum parcel size of 25 acres for conservation subdivisions to realize the ecological benefits of open space. It is difficult on smaller parcels to preserve the land needed for habitat corridors and water resource protection. However, because topographical features vary, there may be critical environmental features on smaller sites that make a conservation subdivision



Courtesy of Prairie Crossing

Prairie Crossing

feasible. Also, sites smaller than 25 acres should be considered when the preserved land would be contiguous with open space on adjacent properties.

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Arendt's book, *Growing Greener: Putting Conservation into Local Plans and Ordinances*, provides a guide for municipalities to achieving successful conservation subdivisions. It is important to first conduct a community assessment of development trends to determine the long-term results of existing ordinance provisions. With that information, a map of potential conservation lands can be prepared to guide decisions that could preserve an interconnected open space network. A preferable approach is to adopt conservation development regulations as a voluntary choice for developers.

There is no universal approach to conservation development. Policy makers should consider legal, environmental and geographic conditions unique to their jurisdictions in creating a regulatory framework that encourages conservation development. The primary feature of existing ordinances is a requirement that some percentage of the parcel to be developed be preserved as open space. Most ordinances also regulate density, lot size and other factors, with one essential purpose being clustering homes to preserve open space.

Examples of conservation development ordinances

Model ordinances developed by state and regional planning agencies have helped guide many local government agencies. The tables on the Wildflower Center's Conservation Development webpage (www.wildflower.org) summarize six model ordinances and four ordinances actually adopted by local governments. These tables include the Open Space Development model ordinance developed by the U.S. Environmental Protection Agency (EPA), useful as a model for any community, as well as statewide models from Wisconsin, Minnesota and Georgia.

Key Issues in Drafting the Travis County Conservation Development Ordinance

(Joe L. Lessard, Consultant for Travis County)

1. Desirability of By-Right provisions
2. Application of ordinance to commercial development
3. Desirability of sustainable development provisions
4. Financial and process incentives and their application to potential land uses

15

Where is this happening?

Examples of developments using conservation design principles

Jackson Meadow
Marine on St. Croix, MN
www.jacksonmeadow.com

Sugar Creek Preserve
Walworth County, WI
www.sugarcreekpreserve.com

Hidden Creek at the Darby
Columbus, OH
www.hiddencreekdarby.com

The Fields of St. Croix
Lake Elmo, MN
www.engstromco.com/prev_fields

Prairie Crossing
Grayslake, IL
www.prairiecrossing.com

The Woodson Place
Rains County, TX
www.woodsonplace.com

Santa Lucia Preserve
Monterey County, CA
www.santaluciapreserve.com

Tryon Farm
Michigan City, IN
www.tryonfarm.com

Serenbe
Fulton County, GA
www.serenbecommunity.com

For more information on these subdivisions, please visit www.wildflower.org



Courtesy of the Lady Bird Johnson Wildflower Center

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Contact: Alan Glen (aglen@smith-robertson.com)

Smith Robertson provides services in the areas of environment and land use, real estate, business and litigation. We represent both private and governmental entities in implementing principles of conservation development.



Photo by Kathleen Day-Coen

Jackson Meadow



Lady Bird Johnson

Wildflowercenter

Lady Bird Johnson Wildflower Center

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4801 La Crosse Avenue, Austin TX 78739

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DENTON COUNTY
GREENBELT PLAN
For the Future

BUSINESS ITEM 3.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: FM 2499 Speed Limit Change
Submitted For: Helen-Eve Liebman, Director
Submitted By: Brett Cast, Engineering Services Coordinator
Finance Review: N/A **Legal Review:** Yes
City Manager Review: Approval: Bob Hart, City Manager

AGENDA ITEM

Consider and act on an increase of speed from 45 mph to 50 mph on 2499 from 2181 to the city's northern limit.

AGENDA ITEM SUMMARY/BACKGROUND

This speed increase is in response to a TXDOT Study affirming the change.

RECOMMENDATION

Staff recommends approval of speed limit increase.

Attachments

2499 Speed Limit Ordinance

ORDINANCE NO. [REDACTED]

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS ALTERING THE PRIMA FACIE SPEED LIMITS ESTABLISHED FOR VEHICLES UNDER THE TEXAS TRANSPORTATION CODE SECTION 545.356 UPON HIGHWAY FM 2499 WITHIN THE CORPORATE LIMITS OF THE CITY OF CORINTH; AMENDING CHAPTER 70, SECTION 70.01 "SPEED LIMITS," OF THE CITY OF CORINTH CODE OF ORDINANCES; PROVIDING A PENALTY OF \$200 FOR EACH VIOLATION; PROVIDING FOR SEVERABILITY; PROVIDING FOR REPEALER; PROVIDING FOR CONTINUATION OF PRIOR LAW; PROVIDING FOR PUBLICATION; PROVIDING AN EFFECTIVE DATE; AND FINDING AND DETERMINING THE MEETING AT WHICH THIS ORDINANCE IS ADOPTED TO BE OPEN TO THE PUBLIC AS REQUIRED BY LAW.

WHEREAS, the City of Corinth, Texas ("City") is a home rule city operating pursuant to the laws of its Charter and of the State and Texas, by and through its duly elected City Council ("Council") members;

WHEREAS, the Texas Department of Transportation ("TxDOT") has completed a speed zone study on FM 2499 (the "study") on the road designated as FM 2499 within the City limits showing speeds which are reasonable or safe under the conditions found to exist there;

WHEREAS, to proceed with changing the speed limits in conformance with the results of the TxDOT study, the City must prepare an ordinance matching the zones on the speed study;

WHEREAS, the Texas Transportation Code Section 545.356 provides that whenever the City's governing body determines on the basis of an engineering and traffic investigation that any prima facie speed therein set forth is greater or less than reasonable and safe under the conditions found to exist at on any part of a street or highway within the City, taking into consideration the width and condition of the pavement and other circumstances on such portion of said street or highway, as well as the usual traffic thereon, said governing body may then determine and declare a reasonable and safe prima facie speed limit by the passage of an ordinance effective when signs giving notice thereof are erected on the street or highway;

WHEREAS, the City previously adopted Ordinances No. 84-2-21-4 and Ord. 12-10-18-21 to regulate the speed limits on streets and highways within the City; and

WHEREAS, the City Council has determined that it is in the best interest of the health, safety, and welfare of the citizens of Corinth, Texas that the City's speed limit schedule be amended pursuant to the results of the TxDOT study.

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

SECTION 1: Findings Incorporated

That the findings above are incorporated herein in their entirety.

SECTION 2: Code of Ordinances Amended

Chapter 42, Article II, Division 2 is hereby amended by adding the following:

Section 70.01 - Speed Limits.

Street	Description	MPH	Ord No.	Date
FM 2499	From FM 2181 to the city's northern limits	50		9- X -18

The speed limit set by existing ordinance governing FM 2499 to the city's southern limits remains in full force and effect.

SECTION 3: Authorization to Erect Signs

The Mayor of Corinth is hereby authorized to cause to be erected appropriate signs indicating the amended speed zones, such signs to be furnished and installed by TxDOT.

SECTION 4: Penalty

Any person violating this as it exists or may be amended, shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined a sum not exceeding Two Hundred Dollars (\$200.00). Corinth retains all legal rights and remedies available to it pursuant to local, state and federal law.

SECTION 5: Severability

Should any section, subsection, sentence, clause or phrase of this Ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. Corinth declares that it would have passed this Ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional or invalid.

SECTION 6: Continuation

That nothing in this ordinance (or any code adopted herein) shall be construed to affect any suit or proceeding pending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed by this ordinance and such prior law is continued in effect for purposes of such pending matter.

SECTION 7: Savings/Repealing Clause

Provided that Corinth's Code of Ordinances, Chapter 70, shall remain in full force and effect, save and except as amended by this or any other Ordinance. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict; but such repeal shall not

abate any pending prosecution for violation of the repealed or amended ordinance, nor shall the repeal or amendment prevent a prosecution from being commenced for any violation if occurring prior to the repeal or amendment of the ordinance. Any remaining portions of said ordinances shall remain in full force and effect.

SECTION 8: Effective Date

This Ordinance shall take effect immediately upon and after its passage as provided by law.

DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS on this _____ day of September, 2018.

Bill Heidemann, Mayor

Attest:

Kimberly Pence, City Secretary

City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: Adopt the Annual Budget
Submitted For: Lee Ann Bunselmeyer, Director
Submitted By: Lee Ann Bunselmeyer, Director
Finance Review: N/A **Legal Review:** Yes
City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on an Ordinance adopting the 2018-2019 Annual Budget and appropriating resources for the budget year beginning October 1, 2018.

AGENDA ITEM SUMMARY/BACKGROUND

This item is to adopt and appropriate funds for the FY 2018-2019 budget. Prior to this meeting, the City followed Truth-in-Taxation public notice requirements, held two public hearings on the tax rate and one public hearing on the proposed budget. Interested taxpayers were given the opportunity to provide feedback on the tax rate and proposed budget.

The annual budget continues to provide the financial resources to support our community need and is developed based on the Strategic Plan and the following guiding principles:

- * Perform all budgetary functions in complete and open transparency
- * Reduce tax rate when possible while maintaining service levels
- * Be fiscally responsible while meeting city departmental needs
- * Maintain reserves in accordance with statutory requirements and financial policies.
- * Use fund balance only for one-time expenditures or for temporary budgetary stabilization in an economic downturn.

The total budget includes expenditures of \$41,899,090. Changes to City Manager proposed budget includes the following:

Fund	Description	Amount
General Fund	City Hall Lighting	\$100,000
Economic Development Fund	Parkridge Drive Development	\$1,900,000
Economic Development Fund	Tax Increment Financing District	\$100,000
Economic Development Fund	Parkridge/FM2181 Wastewater Improvement	\$1,000,000
Court Technology Fund	Ticket Writers	\$25,000
Capital Improvement	Fire House no. 3/Sally Port Epoxy Floor	\$129,000

RECOMMENDATION

I move to approve an ordinance adopting the Fiscal Year 2018-2019 Annual Budget and appropriating resources for the fiscal year beginning October 1, 2018 and ending September 30, 2019.

Attachments

Ordinance

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF CORINTH, ADOPTING A BUDGET AND THE FIRST YEAR OF THE CAPITAL IMPROVEMENT PLAN AND APPROPRIATING RESOURCES FOR THE BUDGET YEAR BEGINNING OCTOBER 1, 2018 AND ENDING SEPTEMBER 30, 2019, FOR THE CITY OF CORINTH, INCLUDING OPERATION OF GENERAL GOVERNMENT, THE WATER / WASTEWATER UTILITY FUND, THE STORM WATER UTILITY FUND, THE STREET MAINTENANCE SALES TAX FUND, THE DEBT SERVICE FUND, THE ECONOMIC DEVELOPMENT CORPORATION FUND, THE CRIME CONTROL AND PREVENTION DISTRICT FUNDS AND VARIOUS SPECIAL REVENUE FUNDS; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, pursuant to the laws of the State of Texas and the City Charter, the budget covering proposed expenditures for the fiscal year beginning October 1, 2018 and ending September 30, 2019 was filed with the City Secretary; and

WHEREAS, the City Council conducted budget workshops on the proposed budget on August 2nd, August 9th, August 16th, August 21st, and September 6th, 2018 and fully considered the proposed budget; and

WHEREAS, in accordance with the provisions of the City Charter and the Local Government Code, the City Council of the City of Corinth, Texas published notice of and conducted a public hearing on the budget on September 6th, 2018;

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

SECTION 1.

That the City Council adopts the budget for the City of Corinth, Texas, a copy of which is on file in the office of the City Secretary and incorporated herein by reference as if copied verbatim and which is hereinafter referred to as the “budget”, for the fiscal year beginning October 1, 2018 and ending September 30, 2019.

SECTION 2.

That the sum of Nineteen Million Six Hundred Sixty-One Thousand Four Hundred and Eighty One Dollars (\$19,661,481) is hereby appropriated out of the General Fund revenues for the payment of operating expenses of the City Government, as set forth in the budget.

SECTION 3.

That the sum of Two Million Two Hundred Twenty Thousand Three Hundred and Fifty Eight Dollars (\$2,220,358) is hereby appropriated out of the General Debt Service Fund revenues and reserve for the payment of the annual general debt service requirements, as set forth in the budget.

SECTION 4.

That the sum of Two Hundred Sixty Seven Thousand Three Hundred and Thirty Three Dollars (\$267,333) is hereby appropriated out of the Street Maintenance Sales Tax Fund revenues for the payment of street maintenance operating expenses, as set forth in the budget.

SECTION 5.

That the sum of Twelve Million Eight Hundred Fifty Nine Thousand and Thirty Seven Dollars (\$12,859,037) is hereby appropriated out of the Water/Wastewater Utility Fund revenues for the payment of operating expenses of the Water/Wastewater Utility Fund, as set forth in the budget.

SECTION 6.

That the sum of One Million Fifty Nine Thousand Eight Hundred and Seventeen Dollars (\$1,059,817) is hereby appropriated out of the Storm Water Utility Fund revenues for the payment of operating expenses of the Storm Water Utility Fund, as set forth in the budget.

SECTION 7.

That the sum of Three Million Six Hundred Ninety Seven Thousand Seven Hundred and Eighty One Dollars (\$3,697,781) is hereby appropriated out of the Economic Development Corporation revenues for the payment of operating expenses of the Economic Development Corporation, as set forth in the budget.

SECTION 8.

That the sum of Three Hundred Fifty Three Thousand Two Hundred and Eighty Four Dollars (\$353,284) is hereby appropriated out of the Crime Control & Prevention District revenues for the payment of operating expenses of the Crime Control & Prevention District, as set forth in the budget.

SECTION 9.

That the sum of Four Hundred Thousand Dollars (\$400,000) is hereby appropriated out of the Water Impact Fee Fund revenues for the payment of operating expenses of the Water Impact Fee Fund, as set forth in the budget.

SECTION 10.

That the sum of One Million Three Hundred Seventy Nine Thousand Nine Hundred and Ninety Nine Dollars (\$1,379,999) is hereby appropriated out of the following Special Revenue Funds for the payment of operating expenses, as set forth in the budget.

Hotel Occupancy Tax	\$60,132
Keep Corinth Beautiful	\$ 4,000
Child Safety Program	\$26,956
Police Confiscation – State	\$25,000
Police Confiscation – Federal	\$10,000
Municipal Court Security	\$7,500
Municipal Court Technology	\$38,238
Park Development	\$150,000
Tree Mitigation	\$50,000
Technology Replacement	\$111,740
Fire Department Vehicle Replacement	\$351,073
General Fund Vehicle Replacement	\$177,584
Utility Vehicle & Equipment Replacement	\$92,776
Utility Meter Replacement	\$275,000

SECTION 11.

That the City Council approves the first year of the Capital Improvement Program Budget, as set forth in the budget.

SECTION 12.

This Ordinance shall take effect from and after its adoption.

PASSED AND APPROVED BY A VOTE OF AT LEAST TWO-THIRDS OF THE CITY COUNCIL ON THE 20th DAY OF SEPTEMBER, 2018.

Bill Heidemann, Mayor

ATTEST:

Kimberly Pence, City Secretary

APPROVED AS TO FORM AND LEGALITY:

City Attorney

City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: Adopt Tax Rate
Submitted For: Lee Ann Bunselmeyer, Director
Submitted By: Lee Ann Bunselmeyer, Director
Finance Review: N/A
City Manager Review: Bob Hart, City Manager

Legal Review: Yes

AGENDA ITEM

Consider and act on an Ordinance levying and adopting the tax rate for the 2018-2019 Fiscal Year.

AGENDA ITEM SUMMARY/BACKGROUND

The proposed tax rate of \$0.53000 per \$100 valuation is used to balance the FY 2018-2019 Budget. The tax rate is above the estimated effective tax rate of \$0.50113. As required by Property Tax Code Section 26.05(d), the City held two public hearings on the proposed tax increase on August 21, 2018 and September 6, 2018. Additionally, the *Notice of 2018 Tax Year Proposed Property Tax Rate* for the City of Corinth was published in the Denton Record Chronicle on Tuesday, August 14, 2018.

The proposed property tax rate should generate \$11,444,191 in property tax revenue to support the general fund and the debt service fund. The distribution of the tax rate and property tax revenue is as follows:

Fund	Tax Rate	Tax Revenue
General Fund	\$0.42711	\$9,222,506
Debt Service Fund	\$0.10289	2,221,685
Total	\$0.53000	\$11,444,191

RECOMMENDATION

Proposed Motion:

I move to approve an ordinance that the property tax rate be increased by the adoption of a tax rate of \$0.53000 per \$100 assessed valuation, which is effectively a 9.17% increase in the tax rate.

Attachments

Ordinance

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF CORINTH, TEXAS LEVYING AD VALOREM TAXES AND A TAX RATE FOR THE OPERATION OF CITY GOVERNMENT FOR THE YEAR 2018-2019; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Corinth finds that a tax rate of \$.53000 per \$100 valuation for the year, hereinafter levied for current expenses of the City and general improvements of the City and its property, must be levied to provide the revenue requirements of the budget for the ensuing year; and

WHEREAS, all statutory and constitutional requirements for the levy and assessment of ad valorem taxes have been completed in due and correct time and all requirements of the Corinth City Charter have been met; **NOW, THEREFORE**,

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS:

Section 1.

The City Council does hereby levy a tax upon all taxable property in the City and adopt the tax rate on \$100 assessed valuation for the City for maintenance and operation of the City government for the tax year as follows:

.42711/\$100

Section 2.

The City Council does hereby levy and adopt the tax rate on \$100 assessed valuation for the City for debt service for City government for the tax year as follows:

.10289/\$100

Section 3.

As required by TEX. TAX CODE sec. 26.05, the following statements are included:

THIS TAX RATE WILL RAISE MORE TAXES FOR MAINTENANCE AND OPERATIONS THAN LAST YEAR'S TAX RATE.

THE TAX RATE WILL EFFECTIVELY BE RAISED BY 6.93 PERCENT AND WILL RAISE TAXES FOR MAINTENANCE AND OPERATIONS ON A \$100,000 HOME BY APPROXIMATELY \$27.68.

Section 4.

Provisions relative to penalties, interest and remedies for the collection of delinquent taxes, as set out in the Charter and the Code of the City of Corinth, Texas, as amended, and the laws of the State of Texas, shall be used in the collection of the taxes levied herein.

Section 5.

This Ordinance is effective upon its adoption.

PASSED AND APPROVED THIS THE 20th DAY OF SEPTEMBER, 2018.

Bill Heidemann, Mayor

ATTEST:

Kimberly Pence, City Secretary

APPROVED AS TO FORM AND LEGALITY:

City Attorney

City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: Approve Tax Rolls
Submitted For: Lee Ann Bunselmeyer, Director
Submitted By: Lee Ann Bunselmeyer, Director
Finance Review: N/A **Legal Review:** Yes
City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on an Ordinance approving the 2018 Tax Rolls and accepting the anticipated collection rate of 100 percent for the fiscal year beginning October 1, 2018 and ending September 30, 2019.

AGENDA ITEM SUMMARY/BACKGROUND

The Texas Property Tax Code, Section 26.09 (e) requires that the City Council approve the tax roll as submitted by the Assessor. The Roll is calculated by taking the 2018 Certified Appraisal Roll of \$2,159,281,283 and applying the 2018 adopted tax rate of \$.53000 per \$100 valuation.

Chapter 26 of the Property Tax Code requires municipalities to adopt an estimated collection rate to comply with truth-in-taxation laws in adopting their tax rates. The laws are designed to make tax payers aware of the tax rate proposal.

The anticipated collection rate used for the General Fund and the Debt Service Fund is 100% for the 2018-2019 fiscal year. The collection rate includes the current taxes, delinquent taxes, penalties, and interest.

RECOMMENDATION

Proposed Motion: I move to approve the Ordinance accepting the 2018 Tax roll and to accept the submission of the certified collection rate of 100 percent for the fiscal year beginning October 1, 2018 and ending September 30, 2019.

Attachments

Ordinance

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF CORINTH, TEXAS, APPROVING THE 2018 TAX ROLLS AND PROVIDING AN EFFECTIVE DATE.

THE COUNCIL OF THE CITY OF CORINTH HEREBY ORDAINS:

SECTION 1. The City Council hereby approves the 2018 tax rolls of the City of Corinth, Texas, as approved by the Appraisal Review Board of the Denton Central Appraisal District, which, with amounts of tax as approved by the governing body, will result in a tax levy in the amount of \$11,444,191 based on the Certified Appraisal Roll and raise more revenue from property taxes than in the previous year.

SECTION 2. This ordinance shall become effective immediately upon its passage and approval.

PASSED AND APPROVED this the _____ day of _____, 2018.

Bill Heidemann, Mayor

ATTEST:

Kimberly Pence, City Secretary

APPROVED AS TO FORM AND LEGALITY

City Attorney

BUSINESS ITEM 7.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: Vote to Ratify Tax Increase
Submitted For: Lee Ann Bunselmeyer, Director
Submitted By: Lee Ann Bunselmeyer, Director
Finance Review: N/A **Legal Review:** Yes
City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider vote to ratify the property tax increase reflected in the city’s annual budget for FY 2018-2019.

AGENDA ITEM SUMMARY/BACKGROUND

Section 107.003 (c) of the Texas Local Government Code states that adoption of a budget that will require raising more revenue from property taxes than in the previous year requires a separate vote of the governing body to ratify the property tax increase reflected in the budget. A vote under this section of the code must be separate from the vote to adopt the budget or a vote to set the tax rate.

RECOMMENDATION

Proposed Motion:

I move to ratify the property tax increase reflected in the city’s annual budget for FY 2018-2019.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018
Title: Interlocal with LCMUA
Submitted For: Lee Ann Bunselmeyer, Director
Submitted By: Shea Rodgers, Technology Services Manager
Finance Review: Yes **Legal Review:** Yes
City Manager Review: Approval: Bob Hart, City Manager

AGENDA ITEM

Consider and act on a proposed interlocal agreement with the Lake Cities Municipal Utility Authority to provide GIS services.

AGENDA ITEM SUMMARY/BACKGROUND

In April 2018, Corinth was approached by the Lake Cities Municipal Utility Authority (LCMUA) requesting assistance with their GIS services. Representatives from both organizations met in June to discuss the logistics of Corinth providing a complete GIS solution to LCMUA in exchange for compensation agreed to by both governing bodies.

Corinth authored the proposed interlocal agreement (attached: INTERLOCAL) setting out the scope of work to be provided. Corinth staff determined the value of these services to be \$46,637 annually, or the cost of 1/2 a GIS Analyst plus additional costs for impacts to Corinth's IT infrastructure, paid by LCMUA to Corinth.

This agreement is set to be voted on by the LCMUA Board of Directors in regular session on Monday, September 17. If approved by both parties, the agreement would go into effect on October 1, 2018 and continue for the remainder of that fiscal year. Unless explicitly terminated by either party, the agreement would automatically renew each October indefinitely.

RECOMMENDATION

It is the recommendation of Staff that the City Council approve the proposed interlocal agreement with the Lake Cities Municipal Utility Authority, providing them with GIS services, resulting in annual revenue of \$46,637 for Corinth for the duration of the agreement.

Attachments

INTERLOCAL

**INTERLOCAL AGREEMENT
BETWEEN THE CITY OF CORINTH AND
LAKE CITIES MUNICIPAL UTILITY AUTHORITY
FOR GEOGRAPHIC INFORMATION SYSTEMS (GIS) SERVICES**

This **Interlocal Agreement** (“Agreement”) by and between the **City of Corinth**, a Texas Home Rule Municipal Corporation, (hereinafter referred to as “**CORINTH**”) and **LAKE CITIES MUNICIPAL UTILITY AUTHORITY**, a governmental entity under Article XVI, Section 59 of the Texas Constitution (hereinafter referred to as “**LCMUA**”) each acting herein by and through its respective governing body.

WHEREAS, Chapter 791 of the **TEXAS GOVERNMENT CODE**, also known as the **INTERLOCAL COOPERATION ACT**, allows local governments to contract with each other to perform functions or services that each party to the contract is authorized to perform individually; and

WHEREAS, **CORINTH**, a home-rule municipality organized under the laws of the State of Texas, holds the certificate of convenience and necessity to provide water service in the territorial boundaries of the City of Corinth; and

WHEREAS, **LCMUA**, a governmental entity created under Section 59, Art. XVI of the Texas Constitution, holds the certificate of convenience and necessity to provide water service in the territorial boundaries of the Town of Hickory Creek, City of Lake Dallas, and Town of Shady Shores; and

WHEREAS, **CORINTH** has investigated and determined that it would be advantageous and beneficial to **CORINTH** and its citizens to provide Geographic Information System (“GIS”) services to **LCMUA**; and

WHEREAS, **LCMUA** has investigated and determined that it would be beneficial to **LCMUA** and its customers to employ **CORINTH** for the purpose of providing GIS services for **LCMUA**; and

WHEREAS, **LCMUA** has investigated and determined that **CORINTH** has adequate personnel and equipment to provide the necessary GIS services; and

WHEREAS, **LCMUA** has investigated and determined that obtaining GIS services from **CORINTH**, as set forth below, will be the most efficient use of funds for GIS services;

NOW, THEREFORE, in consideration of the covenants and conditions contained in this Agreement, **CORINTH** and **LCMUA** agree as follows:

1. **Obligations of LCMUA.** **LCMUA** will provide to **CORINTH** the materials included in the Statement of Work, attached hereto as Exhibit “A” and incorporated herein for all purposes, in accordance with the project schedule included in Exhibit “A”.

2. **Obligations of CORINTH.**

- A. **CORINTH** will provide GIS services to LCMUA as outlined in Exhibit “A.”
- B. The electronic data created by **CORINTH** as outlined in Exhibit “A” will be the property of **LCMUA** and **CORINTH** and shall be provided to **LCMUA** periodically upon written request and/or upon termination of this Agreement.

3. **Term/Termination.** The initial term of this Agreement shall commence on October 1, 2018 and shall continue in effect until September 30, 2019 (“Initial Term”). This Agreement shall automatically renew for one year periods thereafter (“Extension Term”) unless terminated by providing written notice to the other party at least ninety (90) days before the termination of the Initial Term or Extension Term, as applicable. In calculating the compensation for an Extension Term, the annual compensation amount LCMUA shall pay to CORINTH shall be half (1/2) of the annual wages and personnel costs of one (1) GIS Analyst.

4. **Compensation.** LCMUA shall pay to **CORINTH** \$46,637 as compensation for the Initial Term of this Agreement for the GIS services provided to **LCMUA** in accordance with this Agreement. The compensation shall be divided into four (4) quarterly equal payments. Compensation for an Extension Term shall be calculated in accordance with Section 3 of this Agreement.

5. **Notice.** Any notice required or permitted between the parties must be in writing, and shall be delivered in person, or by certified mail, return receipt requested, or via facsimile to the following:

CORINTH: CITY OF CORINTH
Attention: City Manager
3300 Corinth Parkway
Corinth, TX 76208
(f) 940.498.3266

LCMUA: LAKE CITIES MUNICIPAL UTILITY AUTHORITY
Attention: General Manager
501 N Shady Shores Dr
Lake Dallas, TX 75065
(f) 940.497.2926

6. **General Provisions.**

- A. **Assignment.** This Agreement is not assignable without the prior written consent of the Parties.
- B. **Entire Agreement.** This Agreement contains the entire agreement of the parties with respect to the matters contained herein and may not be modified or terminated except upon the provisions hereof or by the mutual written agreement of the parties hereto.

- C. **Venue.** This Agreement shall be construed in accordance with the laws of the State of Texas and shall be performable in Denton County, Texas.
- D. **Consideration.** This Agreement is executed by the parties hereto without coercion or duress and for substantial consideration, the sufficiency of which is forever confessed.
- E. **Counterparts.** This Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes.
- F. **Authority to Execute.** The individuals executing this Agreement on behalf of the respective parties below represent to each other and to others that all appropriate and necessary action has been taken to authorize the individual who is executing this Agreement to do so for and on behalf of the party for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do so, and such authorization is valid and effective on the date hereof.
- G. **Savings/Severability.** In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision thereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.
- H. **Representations.** Each signatory represents this Agreement has been read by the party for which this Agreement is executed and that such party has had an opportunity to confer with its counsel.
- I. **Miscellaneous Drafting Provisions.** This Agreement shall be deemed drafted equally by all parties hereto. The language of all parts of this Agreement shall be construed as a whole according to its fair meaning, and any presumption or principle that the language herein is to be construed against any party shall not apply. Headings in this Agreement are for the convenience of the parties and are not intended to be used in construing this document.
- J. **Pursuit of a Governmental Function.** Both **CORINTH** and **LCMUA** have determined by their execution of this Agreement that this Agreement and the obligations of the parties contained herein are in discharge of a governmental function as set forth in the Interlocal Cooperation, Chapter 791, Texas Government Code, and the participation by either party in the terms of this Agreement shall not make such party an agent or representative of the other party.

- K. **Sovereign Immunity.** The parties agree that neither **CORINTH** nor **LCMUA** has waived its sovereign immunity by entering into and performing their respective obligations under this Agreement.
- L. **Binding Agreement.** This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. No third party shall have any rights herein.

IN WITNESS WHEREOF, the parties have executed this Agreement and caused this Agreement to be effective on this the _____ day of _____, 2018.

CITY OF CORINTH

**LAKE CITIES MUNICIPAL
UTILITY AUTHORITY**

Bill Heidemann, Mayor

Cecil Carter, President

ATTEST:

ATTEST:

Kimberly Pence, City Secretary

_____, Secretary

EXHIBIT A

Statement of Work GIS Services for LCMUA City of Corinth, GIS FY18

This Statement of Work (SOW) sets forth requirements of LCMUA and CORINTH for implementation of work, including the maintenance of GIS Base Layers, maintenance of end user GIS software, and Mapping Services.

Maintain GIS Base Layers

LCMUA has requested the following data layers be maintained by the City of Corinth:

1. Parcel
2. Tax Roll
3. Water
4. Sewer
5. Roads
6. Addresses
7. Annexation
8. Subdivision
9. CCN Boundaries
10. ETJ
11. Public facilities
12. Parks
13. Hydrants

LCMUA shall submit a task order to CORINTH describing the proposed GIS project and will provide CORINTH documents in both PDF and AutoCAD formats, along with any GPS data collected, to be converted by CORINTH. CORINTH will enter these documents into the GIS base layer. LCMUA may provide CORINTH with legal descriptions for verification prior to LCMUA approval. LCMUA shall be responsible to review and accept all GIS work product provided by CORINTH.

Maintain End User GIS Software

LCMUA has requested the maintenance of the ArcReader or online solution including. CORINTH will provide support for the online mapping application for internal use only.

Mapping Services

LCMUA has requested ongoing custom mapping services. The terms, time, and resources to create the mapping service will be dependent on the requested project and must be approved by both parties prior to the commencement of the custom mapping service.

Additional Software

Any software (and associated costs) deemed to be mutually beneficial and agreed to by both parties may have its cost split evenly between the parties.

DRAFT

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Compensation Plan Resolution

Submitted For: Bob Hart, City Manager

Submitted By: Guadalupe Ruiz, Director

Finance Review: Yes

Legal Review: N/A

City Manager Review: Approval: Bob Hart, City Manager

AGENDA ITEM

Consider and act on a Resolution approving a compensation plan for employees, adopting pay schedules for General Government, Police, and Fire employees; and providing for an effective date.

AGENDA ITEM SUMMARY/BACKGROUND

When analyzing the City’s employees’ salary distribution in the pay range, most of the employees’ salaries are under the Mid of Corinth’s current pay ranges. Ideally, salaries should be at the Mid of the pay ranges. Additionally, Corinth’s current pay ranges, when compared to our target market, are below the median minimum (50th percentile – where half of the employers pay more, and half pay less). Therefore, the budget contains funding for a 5% adjustment to the General Government, Police and Fire Pay Schedules to narrow the market gap.

The total adjustments are \$199,109 for public safety employees, \$189,000 for general fund, \$60,330 for utility fund, \$5,086 for drainage fund, \$4,392 for crime control fund, \$5,238 for economic development and \$600 for the child safety fund.

Additionally, the FY 2018-19 Budget includes the continuation for a 3% step plan progression of \$119,465 for eligible police and fire employees in the general fund and \$2,635 in the Crime Control fund. The budget also includes 3% merit pay increases for general employees of \$113,246 in the general fund, \$36,198 in the utility fund, \$3,052 in the drainage fund, \$3,143 in the economic development, and \$360 in the child safety fund.

The adjustments, step plan progressions, and merit increases will be effective October 1, 2018.

Source of Funding: FY 2018-2019 Budget

RECOMMENDATION

Staff recommends adopting a Resolution approving a compensation plan for employees, adopting pay schedules for General Government, Police, and Fire employees; and providing for an effective date.

Attachments

Resolution

RESOLUTION NO. 18-09-20-10

A RESOLUTION APPROVING A COMPENSATION PLAN FOR EMPLOYEES, ADOPTING PAY SCHEDULES FOR GENERAL GOVERNMENT, POLICE, AND FIRE EMPLOYEES; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the 2018-19 Annual Program of Services contains funding for a 5% adjustment to the General Government, Police, and Fire pay schedules; with a continuation of a 3% step plan progression for employees on the Police and Fire pay schedules and a 3% merit pay increase for the general government employees; and

WHEREAS, the City Council desires to approve the recommendations of the City Staff, subject to certain conditions, as more particularly set forth hereinbelow;

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CORINTH, TEXAS:

SECTION 1.

That the Pay Schedule for certain employees of the Police Department, attached hereto as Exhibit A, and the Pay Schedule for certain employees of the Fire Department, attached hereto as Exhibit B, are adopted and approved,

SECTION 2.

That the Employees on the Police and Fire Pay Schedules will receive a salary adjustment that corresponds to the employee's current Pay Group and Step on the adopted 2018-19 pay schedules. This salary adjustment will be effective October 1, 2018.

SECTION 3.

That after placement on the 2018-19 pay schedules, the progression of eligible employees on the Police Pay Schedule within the Pay Group, and the progression of eligible employees on the Fire Pay Schedule within the Pay Group, is approved, subject to the following:

- A. Employees who receive a salary less than the maximum pay for the Pay Group assigned to their job classification, after placement on the 2018-19 pay schedules, will receive a salary adjustment to place them at one Step higher within their Pay Group of the Pay Schedule. This increase will be effective October 1, 2018 for those employees that have been in the position since or before April 1, 2018.

- 1. Employees hired after April 1, 2018 and before October 1, 2018 who receive a salary less than the maximum pay for the Pay Group assigned

to their job classification **will be eligible** for a Step increase on the date they complete six (6) months in their position.

- B. Those employees whose salary is at the maximum pay for the Pay Group assigned to their job classification after placement on the 2018-19 pay schedules **are not eligible** for a Step increase. Such employees will be eligible to receive the merit increase available for employees on the General Government Pay Schedule. Any increase is contingent upon and subject to the employee meeting the General Government Pay Schedule merit increase requirements for eligibility and the Chief of Department's decision. Any such increase will be based on the salary assigned as October 1, 2018 (Section 2) and will be provided as a lump sum on October 19, 2019.
- C. Employees with an overall performance rating of "Needs Improvement" shall not receive a Step increase or Lump Sum payment.

SECTION 4.

Placement of newly hired employees on the Police and Fire Pay Schedules will be determined by the Department's Chief based on experience and qualifications, contingent upon approval from the Human Resources Director and the City Manager.

SECTION 5.

Progression within the Pay Group in future fiscal years is contingent upon City Council approval of budget funds.

SECTION 6.

That the Pay Schedule for all other City employees on the General Government Pay Schedule, attached hereto as Exhibit C, is hereby adopted and approved, subject to the following:

- A. Effective October 1, 2018, employees will receive a salary adjustment to place them on the adopted 2018-19 pay schedule at the distance from the Range Minimum corresponding to the Pay Group they had as of September 30, 2018.
- B. Employees will be eligible for a merit increase contingent to the eligibility procedure established by the City Manager.

SECTION 8.

- A. The City Council authorizes the City Manager to administer the Classification and Compensation Plan, including the Merit Increase, Progression Plan for Maintenance Workers and Light Equipment Operators in the Public Works Department, and to establish procedures for the same. **Overall increases or decreases to the Pay Schedules are authorized only upon approval by the City Council.**

B. If, while the Pay Schedules are effective, the City Council approves a Cost of Living Adjustment (COLA) to raise employees' base pay, the COLA will not apply to the Pay Schedules unless adopted by the City Council. If a COLA is granted to an employee's base pay, the employee cannot receive an increase which would result in the employee receiving a higher level of pay than the maximum range paid for the employee's position. Where an employee's pay is close to the maximum range, the employee will receive a base pay increase to the maximum rate for the Pay Group for that job classification and any remaining COLA increase will be provided as a lump sum. If the City Council approves a COLA to the Pay Schedules, each pay rate on each Pay Schedule shall be adjusted by the percentage increase authorized by the City Council.

SECTION 8.

This Resolution shall become effective immediately upon passage and the Pay Schedules shall become effective October 1, 2018.

PASSED AND APPROVED THIS 20 DAY OF SEPTEMBER, 2018.

Bill Heidemann, Mayor

ATTEST:

Kim Pence, City Secretary

APPROVED AS TO FORM:

WM. Andrew Messer, City Attorney

2018 Police Pay Schedule

City of Corinth

FY 2018/2019 (Effective October 1, 2018)

PAY GROUP	PAY BASIS	Job Title	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10
PD1	A-2080 hours	Police Officer	\$ 55,328.00	\$ 56,971.20	\$ 58,676.80	\$ 60,424.00	\$ 62,233.60	\$ 64,084.80	\$ 65,998.40	\$ 67,974.40	\$ 70,012.80	\$ 72,092.80
	M		\$ 4,610.66	\$ 4,747.60	\$ 4,889.73	\$ 5,035.33	\$ 5,186.13	\$ 5,340.40	\$ 5,499.86	\$ 5,664.53	\$ 5,834.40	\$ 6,007.73
	B		\$ 2,128.00	\$ 2,191.20	\$ 2,256.80	\$ 2,324.00	\$ 2,393.60	\$ 2,464.80	\$ 2,538.40	\$ 2,614.40	\$ 2,692.80	\$ 2,772.80
	H		\$ 26.60	\$ 27.39	\$ 28.21	\$ 29.05	\$ 29.92	\$ 30.81	\$ 31.73	\$ 32.68	\$ 33.66	\$ 34.66
PD2	A-2080 hours	Police Corporal	\$ 59,904.00	\$ 61,692.80	\$ 63,523.20	\$ 65,416.00	\$ 67,371.20	\$ 69,388.80	\$ 71,468.80	\$ 73,611.20	\$ 75,816.00	\$ 78,083.20
	M		\$ 4,992.00	\$ 5,141.06	\$ 5,293.60	\$ 5,451.33	\$ 5,614.26	\$ 5,782.40	\$ 5,955.73	\$ 6,134.26	\$ 6,318.00	\$ 6,506.93
	B		\$ 2,304.00	\$ 2,372.80	\$ 2,443.20	\$ 2,516.00	\$ 2,591.20	\$ 2,668.80	\$ 2,748.80	\$ 2,831.20	\$ 2,916.00	\$ 3,003.20
	H		\$ 28.80	\$ 29.66	\$ 30.54	\$ 31.45	\$ 32.39	\$ 33.36	\$ 34.36	\$ 35.39	\$ 36.45	\$ 37.54
PD3	A-2080 hours	Police Sergeant	\$ 75,961.60	\$ 78,228.80	\$ 80,558.40	\$ 82,971.20	\$ 85,446.40					
	M		\$ 6,330.13	\$ 6,519.06	\$ 6,713.20	\$ 6,914.26	\$ 7,120.53					
	B		\$ 2,921.60	\$ 3,008.80	\$ 3,098.40	\$ 3,191.20	\$ 3,286.40					
	H		\$ 36.52	\$ 37.61	\$ 38.73	\$ 39.89	\$ 41.08					
PD4	A-2080 hours	Police Lieutenant	\$ 88,233.60	\$ 90,875.20	\$ 93,600.00	\$ 96,408.00						
	M		\$ 7,352.80	\$ 7,572.93	\$ 7,800.00	\$ 8,034.00						
	B		\$ 3,393.60	\$ 3,495.20	\$ 3,600.00	\$ 3,708.00						
	H		\$ 42.42	\$ 43.69	\$ 45.00	\$ 46.35						

Placements in Steps are based on the Resolution adopted by City Council on October 1, 2018. Progression within the Pay Group in future fiscal years is contingent upon budget funding approved by City Council.

A = Annual
M = Monthly
B = Biweekly
H = Hourly

2018 Fire Pay Schedule

City of Corinth

FY 2017/2018 (Effective October 1, 2018)

PAY GROUP	PAY BASIS	Job Title	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	
FD1R	A-2920 hours	Firefighter/EMT (Recruit)	\$50,224.00										
	M		\$4,185.33										
	B		\$1,931.69										
	H-Fire		\$17.20										
	H-2080		\$24.14										
FD1	A-2920 hours	Firefighter/EMT	\$50,224.00	\$51,713.20	\$53,260.80	\$54,837.60							
	M		\$4,185.33	\$4,309.43	\$4,438.40	\$4,569.80							
	B		\$1,931.69	\$1,988.97	\$2,048.49	\$2,109.14							
	H-Fire		\$17.20	\$17.71	\$18.24	\$18.78							
	H-2080		\$24.14	\$25.60	\$26.36								
FD2	A-2920 hours	Firefighter/Paramedic	\$55,246.40	\$56,881.60	\$58,575.20	\$60,327.20	\$62,108.40	\$63,948.00	\$65,846.00	\$67,802.40	\$69,817.20	\$71,890.40	
	M		\$4,603.87	\$4,740.13	\$4,881.27	\$5,027.27	\$5,175.70	\$5,329.00	\$5,487.17	\$5,650.20	\$5,818.10	\$5,990.87	
	B		\$2,124.86	\$2,187.75	\$2,252.89	\$2,320.28	\$2,388.78	\$2,459.54	\$2,532.54	\$2,607.78	\$2,685.28	\$2,765.02	
	H-Fire		\$18.92	\$19.48	\$20.06	\$20.66	\$21.27	\$21.90	\$22.55	\$23.22	\$23.91	\$24.62	
	H-2080		\$26.56	\$27.34	\$28.16	\$29.00	\$29.85	\$30.74	\$31.65	\$32.59	\$33.56		
FD3	A-2920 hours	Driver/Engineer	\$67,364.40	\$69,379.20	\$71,452.40	\$73,584.00	\$75,774.00						
	M		\$5,613.70	\$5,781.60	\$5,954.37	\$6,132.00	\$6,314.50						
	B		\$2,590.94	\$2,668.43	\$2,748.17	\$2,830.15	\$2,914.38						
	H-Fire		\$23.07	\$23.76	\$24.47	\$25.20	\$25.95						
	H-2080		\$32.38	\$33.35	\$34.35	\$35.37	\$36.42						
FD4 SO	A-2920 hours	Fire Captain	\$78,460.40	\$80,796.40	\$83,220.00	\$85,702.00							
	M		\$6,538.37	\$6,733.03	\$6,935.00	\$7,141.83							
	B		\$3,017.71	\$3,107.55	\$3,200.77	\$3,296.23							
	H-Fire		\$26.87	\$27.67	\$28.50	\$29.35							
	H-2080		\$37.72	\$38.84	\$40.00	\$41.20							

3 current Firefighter/EMTs as of Sept. 2018 are grandfathered into this pay schedule at \$19.96 per hour and are frozen unless or until they attain their Paramedic certification.

Placements in Steps are based on the Resolution adopted by City Council on October 1, 2018. Progression within the Pay Group in future fiscal years is contingent upon budget funding approved by City Council.

A = Annual
M = Monthly
B = Biweekly
H-Fire = Hourly rate for 24 on/48 off shifts
H-2080 = Hourly rate for 40-hr. wk.

EXHIBIT C

Pay Group	Pay Basis	Range Minimum	Range Midpoint	Range Maximum	Job Titles
5	A	20,508.80	24,606.40	28,704.00	
	M	1,709.07	2,050.53	2,392.00	
	B	788.80	946.40	1,104.00	
	H	9.86	11.83	13.80	
6	A	21,528.00	25,833.60	30,139.20	Seasonal Summer Camp Leader
	M	1,794.00	2,152.80	2,511.60	
	B	828.00	993.60	1,159.20	
	H	10.35	12.42	14.49	
7	A	22,588.80	27,102.40	31,616.00	
	M	1,882.40	2,258.53	2,634.67	
	B	868.80	1,042.40	1,216.00	
	H	10.86	13.03	15.20	
8	A	23,712.00	28,454.40	33,196.80	P/T Crossing Guard
	M	1,976.00	2,371.20	2,766.40	
	B	912.00	1,094.40	1,276.80	
	H	11.40	13.68	15.96	
9	A	24,897.60	29,868.80	34,840.00	Seasonal Summer Camp Coordinator
	M	2,074.80	2,489.07	2,903.33	
	B	957.60	1,148.80	1,340.00	
	H	11.97	14.36	16.75	
10	A	26,124.80	31,345.60	36,566.40	
	M	2,177.07	2,612.13	3,047.20	
	B	1,004.80	1,205.60	1,406.40	
	H	12.56	15.07	17.58	
11	A	27,414.40	32,884.80	38,376.00	
	M	2,284.53	2,740.40	3,198.00	
	B	1,054.40	1,264.80	1,476.00	
	H	13.18	15.81	18.45	
12	A	28,766.40	34,507.20	40,268.80	Maintenance Worker (Parks) Maintenance Worker (Streets & Drainage) Utility Maintenance Worker P/T Recreation Assistant
	M	2,397.20	2,875.60	3,355.73	
	B	1,106.40	1,327.20	1,548.80	
	H	13.83	16.59	19.36	
13	A	30,201.60	36,233.60	42,265.60	Meter Maintenance Worker Utility Services Worker
	M	2,516.80	3,019.47	3,522.13	
	B	1,161.60	1,393.60	1,625.60	
	H	14.52	17.42	20.32	
14	A	31,699.20	38,022.40	44,366.40	P/T Accounts Payable Technician Utility Billing Technician Utilities Systems Technician Light Equipment Operator
	M	2,641.60	3,168.53	3,697.20	
	B	1,219.20	1,462.40	1,706.40	
	H	15.24	18.28	21.33	
15	A	33,280.00	39,936.00	46,592.00	Support Services Assistant (Police) Deputy Court Clerk Permit Technician
	M	2,773.33	3,328.00	3,882.67	
	B	1,280.00	1,536.00	1,792.00	
	H	16.00	19.20	22.40	
16	A	34,944.00	41,932.80	48,921.60	Heavy Equipment Operator (Streets) Heavy Equipment Operator (W/WW) Animal Control Officer Senior Utility Billing Technician
	M	2,912.00	3,494.40	4,076.80	
	B	1,344.00	1,612.80	1,881.60	
	H	16.80	20.16	23.52	
17	A	36,691.20	44,012.80	51,355.20	
	M	3,057.60	3,667.73	4,279.60	
	B	1,411.20	1,692.80	1,975.20	
	H	17.64	21.16	24.69	
18	A	38,521.60	46,217.60	53,913.60	Administrative Assistant (City Administration) Administrative Assistant (Public Works)
	M	3,210.13	3,851.47	4,492.80	
	B	1,481.60	1,777.60	2,073.60	
	H	18.52	22.22	25.92	
19	A	40,435.20	48,505.60	56,596.80	Code Compliance Officer Crew Leader (Streets) Crew Leader (Drainage) Crew Leader (Parks) Crew Leader (W/WW)
	M	3,369.60	4,042.13	4,716.40	
	B	1,555.20	1,865.60	2,176.80	
	H	19.44	23.32	27.21	
20	A	42,452.80	50,939.20	59,425.60	Municipal Court Coordinator HR Analyst Senior Administrative Assistant (Police) Accountant Senior Administrative Assistant (Fire) Public Works Inspector
	M	3,537.73	4,244.93	4,952.13	
	B	1,632.80	1,959.20	2,285.60	
	H	20.41	24.49	28.57	
21	A	44,574.40	53,476.80	62,400.00	Combination Inspector
	M	3,714.53	4,456.40	5,200.00	
	B	1,714.40	2,056.80	2,400.00	
	H	21.43	25.71	30.00	

A = Annual
M = Monthly
B = Biweekly
H = Hourly

Pay Group	Pay Basis	Range Minimum	Range Midpoint	Range Maximum	Job Titles
22	A	46,800.00	56,160.00	65,520.00	Human Resources Generalist
	M	3,900.00	4,680.00	5,460.00	Technology Services Specialist
	B	1,800.00	2,160.00	2,520.00	Utility Billing Supervisor
	H	22.50	27.00	31.50	GIS Analyst
23	A	49,129.60	58,947.20	68,764.80	Engineering Services Coordinator
	M	4,094.13	4,912.27	5,730.40	Development Coordinator
	B	1,889.60	2,267.20	2,644.80	Purchasing Agent
	H	23.62	28.34	33.06	
24	A	51,584.00	61,900.80	72,217.60	Supervisor (W/WW)
	M	4,298.67	5,158.40	6,018.13	Technology Services Network Administrator
	B	1,984.00	2,380.80	2,777.60	Communications and Marketing Coordinator
	H	24.80	29.76	34.72	Recreation and Public Works Programs Manager
25	A	54,163.20	64,979.20	75,816.00	Municipal Court Administrator
	M	4,513.60	5,414.93	6,318.00	Senior Planner
	B	2,083.20	2,499.20	2,916.00	GIS Supervisor
	H	26.04	31.24	36.45	
26	A	56,867.20	68,224.00	79,601.60	
	M	4,738.93	5,685.33	6,633.47	
	B	2,187.20	2,624.00	3,061.60	
	H	27.34	32.80	38.27	
27	A	59,696.00	71,635.20	83,574.40	City Secretary
	M	4,974.67	5,969.60	6,964.53	
	B	2,296.00	2,755.20	3,214.40	
	H	28.70	34.44	40.18	
28	A	62,670.40	75,192.00	87,734.40	Technology Services Assistant Manager
	M	5,222.53	6,266.00	7,311.20	Comptroller
	B	2,410.40	2,892.00	3,374.40	Operations Manager (Parks, Recreation, Streets & Fleet)
	H	30.13	36.15	42.18	Operations Manager (W/WW & Drainage)
29	A	65,790.40	78,936.00	92,102.40	Planning and Development Manager
	M	5,482.53	6,578.00	7,675.20	Building Official
	B	2,530.40	3,036.00	3,542.40	
	H	31.63	37.95	44.28	
30	A	69,076.80	82,888.00	96,699.20	
	M	5,756.40	6,907.33	8,058.27	
	B	2,656.80	3,188.00	3,719.20	
	H	33.21	39.85	46.49	
31	A	72,529.60	87,027.20	101,524.80	Assistant Finance Director
	M	6,044.13	7,252.27	8,460.40	
	B	2,789.60	3,347.20	3,904.80	
	H	34.87	41.84	48.81	
32	A	76,148.80	91,374.40	106,600.00	Technology Services Manager
	M	6,345.73	7,614.53	8,883.33	
	B	2,928.80	3,514.40	4,100.00	
	H	36.61	43.93	51.25	
33	A	79,955.20	95,929.60	111,924.80	City Engineer
	M	6,662.93	7,994.13	9,327.07	
	B	3,075.20	3,689.60	4,304.80	
	H	38.44	46.12	53.81	
34	A	83,948.80	100,734.40	117,520.00	
	M	6,995.73	8,394.53	9,793.33	
	B	3,228.80	3,874.40	4,520.00	
	H	40.36	48.43	56.50	
35	A	88,129.60	105,747.20	123,364.80	Economic Development Director
	M	7,344.13	8,812.27	10,280.40	Director of Human Resources
	B	3,389.60	4,067.20	4,744.80	Deputy Chief (Fire)
	H	42.37	50.84	59.31	
36	A	92,518.40	111,009.60	129,521.60	
	M	7,709.87	9,250.80	10,793.47	
	B	3,558.40	4,269.60	4,981.60	
	H	44.48	53.37	62.27	
37	A	97,136.00	116,563.20	135,990.40	Assistant Police Chief
	M	8,094.67	9,713.60	11,332.53	Assistant Fire Chief
	B	3,736.00	4,483.20	5,230.40	Public Works Operations Director
	H	46.70	56.04	65.38	

A = Annual
M = Monthly
B = Biweekly
H = Hourly

Pay Group	Pay Basis	Range Minimum	Range Midpoint	Range Maximum	Job Titles
38	A	101,982.40	122,366.40	142,771.20	
	M	8,498.53	10,197.20	11,897.60	
	B	3,922.40	4,706.40	5,491.20	
	H	49.03	58.83	68.64	
39	A	107,078.40	128,481.60	149,905.60	
	M	8,923.20	10,706.80	12,492.13	
	B	4,118.40	4,941.60	5,765.60	
	H	51.48	61.77	72.07	
40	A	112,424.00	134,908.80	157,393.60	Director of Finance, Communications and Strategic Services
	M	9,368.67	11,242.40	13,116.13	Fire Chief
	B	4,324.00	5,188.80	6,053.60	Police Chief
	H	54.05	64.86	75.67	Director of Planning and Development
41	A	118,040.00	141,648.00	165,256.00	
	M	9,836.67	11,804.00	13,771.33	
	B	4,540.00	5,448.00	6,356.00	
	H	56.75	68.10	79.45	
42	A	123,926.40	148,699.20	173,492.80	
	M	10,327.20	12,391.60	14,457.73	
	B	4,766.40	5,719.20	6,672.80	
	H	59.58	71.49	83.41	
43	A	130,104.00	156,124.80	182,145.60	
	M	10,842.00	13,010.40	15,178.80	
	B	5,004.00	6,004.80	7,005.60	
	H	62.55	75.06	87.57	
44	A	136,593.60	163,904.00	191,214.40	
	M	11,382.80	13,658.67	15,934.53	
	B	5,253.60	6,304.00	7,354.40	
	H	65.67	78.80	91.93	
45	A	143,416.00	172,099.20	200,782.40	
	M	11,951.33	14,341.60	16,731.87	
	B	5,516.00	6,619.20	7,722.40	
	H	68.95	82.74	96.53	
46	A	150,571.20	180,668.80	210,787.20	
	M	12,547.60	15,055.73	17,565.60	
	B	5,791.20	6,948.80	8,107.20	
	H	72.39	86.86	101.34	
47	A	158,080.00	189,696.00	221,312.00	
	M	13,173.33	15,808.00	18,442.67	
	B	6,080.00	7,296.00	8,512.00	
	H	76.00	91.20	106.40	

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Keep Corinth Beautiful

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

Finance Review: N/A

Legal Review: N/A

City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on nominations, appointments, resignations and removal of members from Keep Corinth Beautiful Commission.

AGENDA ITEM SUMMARY/BACKGROUND

Keep Corinth Beautiful serves as an advisory committee to the Mayor and City Council regarding litter prevention, beautification and community improvement, and the minimization of solid waste. The Board presents its objectives to the City Council so all city activities might follow a common purpose. The Committee mission is to empower Texans, through education, to take responsibility for enhancing their community environment.

Duties / Responsibilities

- Develop citywide refuse and environmental policy plan(s);
 - Evaluate City actions in light of that policy;
 - Determine and recommend to the City Council management and program priorities on a citywide basis;
 - Recommend enforcement and additional program alternatives;
 - Monitor City performance from data collected he Keep America Beautiful, Inc. Affiliate System guidelines and make an annual report to the City Council; and
 - Carry out such other tasks as the City Council may designate.
- Composition / Tenure**

Members will be nominated by and approved by the City Council. The commission shall consist of representatives from business and industry, media, community organizations, education, and members at large.

The term of each member shall be two (2) years.

No new applicants

Keep Corinth Beautiful

Place 1	Vacant	September 30, 2018
Place 2	Jimmie Lance Hendrik, Chairman	September 30, 2019
Place 3	Amanda Scallon	September 30, 2019
Place 4	Kristin Fisher	September 30, 2019
Place 5	Cindy Taylor	September 30, 2019
Place 6	Brinkley Allen	September 30, 2019

RECOMMENDATION

Recommendation/Appointment is at Council’s discretion.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Planning and Zoning Commission

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

Finance Review: N/A

Legal Review: N/A

City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on nominations, appointments, resignations and removal of members from the Planning and Zoning Commission.

AGENDA ITEM SUMMARY/BACKGROUND

The purpose of the Planning and Zoning Commission (P&Z) is to act as an advisory board on all matters relating to zoning, city planning, and development applications. The Board's primary function is to prepare and keep updated the City's master plan to ensure orderly growth, and preserve the unique character of the community. A quorum is required to conduct business. A super-majority vote by the Council is required to overturn a majority recommendation by the P&Z Commission on zoning-related matters.

Duties / Responsibilities

- Initiate and conduct planning sessions to proactively address needed changes within the community relating to the master plan including but not limited to: thoroughfare plan, property zoning/rezoning, and future development
- Recommend boundaries for initial zoning districts and appropriate zoning regulations.
- Take a proactive role in drafting, reviewing and making recommendations to the City Council relating to new zoning ordinances, amendments to existing zoning ordinances, and thoroughfare planning.
- Make preliminary reports and hold public hearings prior to submitting proposals to the City Council as they relate to zoning and environmental quality issues.
- Receive, review and take appropriate action on all platting and subdivision proposals.

Qualifications / Composition / Tenure

Must be qualified voters of the City and shall remain eligible to vote during their tenure on the Commission.

Five regular members plus two alternates nominated by the Mayor and appointed by the City Council.

The Chairman and Vice-chairman are appointed by the City Council and shall serve one-year terms. They may serve no more than two (2) consecutive one-year term.

One two-year term with no term limits

Members serve at the pleasure of the City Council.

**Place 4, Dwayne Zinn does not wish to be reappointed.*

New applicants:

Jeffrey Taylor
Lindsey Baker

Planning and Zoning Commission

Place 2	Breien Velde, Commissioner	September 30, 2018
Place 3	Brian Rush, Chairman	September 30, 2019
Place 4	Vacant, Commissioner	September 30, 2018
Place 5	Marc Powell, Commissioner	September 30, 2018
Place 6	Chuck Mills, 1st Alternate	September 30, 2018
Place 7	Wade May, 2nd Alternate	September 30, 2019

RECOMMENDATION

Recommendation/Appointment is at Council's discretion.

BUSINESS ITEM 12.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Board of Construction Appeals

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

Finance Review: N/A

Legal Review: N/A

City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on nominations, appointments, resignations and removal of members from the Board of Construction Appeals.

AGENDA ITEM SUMMARY/BACKGROUND

The board serves as an appeals board to decide appeals to decisions of the Building Official concerning the model construction codes.

This board hears and decides appeals of order, decisions, or determinations made by the Building Official relative to the application and interpretation of the adopted codes. The board shall have no authority to waive requirements of the codes.

The board is accountable to the Mayor and City Council. The Mayor and City Council will determine if the committee is functioning properly and accomplishing defined duties/responsibilities.

The Board of Construction Appeals shall consist of five (5) regular members and two (2) alternates to be appointed by the Council to serve two year terms with no term limits.

In the event of a vacancy on the Board of Adjustment, The Council shall appoint a new member for the unexpired term.

A quorum of the Board of Adjustment shall consist of four (4) members. In the absence or disqualification of a regular member, an alternate shall act as a Board member.

New applicants:

Robert Pace

Board of Construction Appeals

Place 1	Keith Koeninger	September 30, 2019
Place 2	Korey Robertson	September 30, 2019
Place 3	Member Vacant	September 30, 2018
Place 4	David Payne	September 30, 2019
Place 5	John Horney	September 30, 2019
Place 6	Douglas Fernow, 1st Alternate	September 30, 2019
Place 7	2nd Alternate Vacant	September 30, 2018

RECOMMENDATION

Recommendation/Appointment is at Council’s discretion.



City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Finance Audit Committee

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

Finance Review: N/A

Legal Review: N/A

City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on nominations, appointments, resignations and removal of members from the Citizen Finance Audit Committee.

AGENDA ITEM SUMMARY/BACKGROUND

The purpose of the Committee is to assist the City Council in fulfilling its oversight responsibilities for the annual audit process, the development of financial policies and procedures, Investment transactions and reports, and the system of internal controls.

Duties / Responsibilities

- Advise the City Council and management on the selection of the independent auditor
- Serve as an independent and objective party to monitor the City's financial and compliance reporting process and internal control system.
- Review and appraise the audit efforts of the City's independent auditor
- Provide an avenue of communication among the independent auditor, financial and senior management, and the City Council.
- Review and provide recommendations on the City's financial, investment, and budgetary reports, policies and procedures.
- Determine general investment strategies and monitor results.
- Review investment economic outlook, portfolio diversification, maturity structure, potential risk to the City's funds, authorized brokers and dealers, and the target rate of return on the investment portfolio.
- Adopt the list of authorized brokers and dealers of government securities.

Qualifications / Composition / Tenure

Six members including the City Manager, the Director of Finance and Administrative Services, two members of the City Council, and two representatives from the community.

The Chairman and Vice-Chairman shall be elected by the committee and shall serve one-year terms.

The Representatives from the community must be qualified voters of the City and shall remain eligible to vote during their tenure on the Committee and to the extent possible, shall be a finance professional such as an accountant, Certified Public Accountant, auditor or shall have equivalent experience.

The term of each committee member is two (2) years. The Committee members from the community may serve no more than two (2) successive terms.

The City Councilmembers and the City Manager are the voting members of the Committee.

No new applicants

Place 1	Council Representative, Vice Chairman Vacant	September 30, 2018
Place 2	Lowell Johnson, Council Representative Chairman	September 30, 2018
Place 3	Mike Taylor, Citizen	September 30, 2018
Place 4	Dick Baker, Citizen	September 30, 2019
Place 5	Lee Ann Bunselmeyer, Director of Finance & Administrative Services	Permanent
Place 6	Bob Hart, City Manager	Permanent

RECOMMENDATION

Recommendation/Appointment is at Council's discretion.

BUSINESS ITEM 14.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: Ethics Committee

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

Finance Review: N/A

Legal Review: N/A

City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on nominations, appointments, resignations and removal of members from the Ethics Committee.

AGENDA ITEM SUMMARY/BACKGROUND

The City of Corinth adopted an Code of Ethics policy requiring that public officials and employees be independent, impartial, and responsible while representing the City in any capacity for which he/she was appointed or elected. The City of Corinth Ethics Commission will be accountable to the Mayor and City Council. The City Council shall have primary responsibility for the enforcement of this code.

Composition / Tenure Candidates for the advisory board will be named by the Mayor and will be approved by majority vote of the City Council.

The term of each member shall be two (2) years with no term limits.

Members of the advisory board may not hold an elected municipal office within the City of Corinth and may not serve on any other advisory board or commission within the City of Corinth.

New Applicant:

William Davis

Ethics Committee

Place 1	Tom Winterburn	September 30, 2019
Place 2	Dane Shillan	September 30, 2019
Place 3	Jennifer Carlton	September 30, 2019
Place 4	Damon Cottrell	September 30, 2019
Place 5	Eric Wiser	September 30, 2019

RECOMMENDATION

Recommendation/Appointment is at Council's discretion.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: EDC Appointments

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

Finance Review: N/A

Legal Review: N/A

City Manager Review: Bob Hart, City Manager

AGENDA ITEM

Consider and act on nominations, appointments, resignations and removal of members from Corinth Economic Development Corporation,

AGENDA ITEM SUMMARY/BACKGROUND

The Corinth Economic Development Corporation is a nonprofit corporation managed by a board of directors to promote economic development for the City of Corinth. It is organized exclusively on behalf of the City for the public purposes of the promotion and development of new and expanded business enterprises to provide and encourage employment in the furtherance of public welfare. The Corporation shall have and exercise all of the rights, powers, privileges, authority and functions given by the general laws of Texas to nonprofit corporations by the Texas Nonprofit Corporation Act, Tex. Civ. Stat. Ann. Art. 1396-1.01 et. seq., and the additional powers as provided in Section 4B of the Development Corporation Act of 1979.

CEDC Bylaws; (Article IV Board of Directors)

Section 04.01 Powers, Number and Term of Office provides as follows:

The property and affairs of the Corporation shall be managed and controlled by the Board of Directors and subject to the restrictions imposed by law, the Articles of Incorporation, and these Bylaws, The Board shall exercise all of the powers of the Corporation,

The Board shall consist of seven (7) Directors each of whom shall be appointed by the City Council of the City of Corinth, as provided in Article VII of the Corinth Economic Development Corporation Articles of Incorporation.

Each member of the Board of Directors shall serve a two (2) year term, or until his/her successor is appointed, unless sooner removed or resigned. Each Director shall be eligible for reappointment. No Director shall serve more than two (2) consecutive terms excluding the initial term, if less than two (2) years. Any vacancy occurring on the Board shall be filled by appointment of the City Council, to hold office until the expiration of the term of the vacating member. Unless otherwise provided, terms shall expire on September 30 and begin on October 1.

The City Council of the City of Corinth shall recommend to the Board the person to serve as President. All officers shall be elected by and subject to removal from office at the will of and at any time by a vote of a majority of the Board.

The Directors constituting the first Board shall be those Directors named in the Articles of Incorporation. The respective initial terms of the Board are set forth in the Articles of Incorporation. Thereafter, each successor member of the Board shall be appointed and serve for two (2) years or until his or her successor is appointed as hereafter provided.

Any Director may be removed from office by the City Council at any time.

Section 04.05 Attendance provides as follows:

Regular attendance is required at all meetings. Two (2) consecutive unexcused absences from regular scheduled meetings of the Board shall constitute cause for replacement of a Director. An unexcused absence is one not approved by the Chair.

Section 05.07 Election of Officers provides as follows:

The Chair, Vice Chair and Secretary shall be elected from among the members of the Board. The Treasurer may be an employee of the City, appointed by the Finance Director of the City of Corinth to oversee the finances of the Corporation.

New Applicants:

Eric Wiser
 Lee Ann Heath
 Lindsey Rayl
 Lawrence Sutton
 Chuck Mills
 Joan Mazza

Economic Development Corporation

Place 1	Don Glockel, Council Representative	September 30, 2018
Place 2	Bradley Hinson	September 30, 2019
Place 3	David Burnett	September 30, 2018
Place 4	Jerry Blazewicz	September 30, 2019
Place 5	Grady Ray	September 30, 2019
Place 6	Steve Holzwarth	September 30, 2019
Place 7	Tina, Henderson, President, Council Representative	September 30, 2018

RECOMMENDATION

Recommendation/Appointment is at Council’s discretion.

City Council Regular and Workshop Session

Meeting Date: 09/20/2018

Title: TML Intergovernmental Risk Pool Board of Trustees Election

Submitted For: Bob Hart, City Manager

Submitted By: Kim Pence, City Secretary

City Manager Review: Approval: Bob Hart, City Manager

AGENDA ITEM

Consider and act on the official ballot of the election of Places 11-14 of the Board of Trustees for the Texas Municipal League Intergovernmental Risk Pool.

AGENDA ITEM SUMMARY/BACKGROUND

This is the official ballot for the election of Places 11 — 14 of the Board of Trustees for the Texas Municipal League Intergovernmental Risk Pool. Each Member of the Pool is entitled to vote for Board of Trustee members. Please record your organization's choices by placing an "X" in the square beside the candidate's name or writing in the name of an eligible person in the space provided. You can only vote for one candidate for each place.

The officials listed on this ballot have been nominated to serve a six-year term on the TML Intergovernmental Risk Pool (Workers' Compensation, Property and Liability) Board of Trustees. The names of the candidates for each Place on the Board of Trustees are listed in alphabetical order on this ballot.

Ballots must reach the office of David Reagan, Secretary of the Board, no later than September 30, 2018. Ballots received after September 30, 2018, cannot be counted. The ballot must be properly signed and all pages of the ballot must be mailed to: Trustee Election, David Reagan, Secretary of the Board, P.O. Box 149194, Austin, Texas 78714-9194. If the ballot is not signed, it will not be counted.

PLACE 11

Dietrich von Biedenfeld, Alderman for the City of West Columbia (Region 14) since May 2012. Mr. Biedenfeld teaches at the Marilyn Davies College of Business at the University of Houston — Downtown and is a VA-accredited attorney. He serves as Chair of the Dispute Resolution Committee and past Chair of the Public Contract Law Committee for the American Bar Association Young Lawyer Division. He is also President of the Brazoria County Cities Association. Mr. Biedenfeld is a member of the International Association of Emergency Managers, Federal Bar Association, NIGP: The Institute for Public Procurement, and U.S. Green Building Council. He is also a member of the Columbia Historical and Brazoria County Heritage Museums.

Randy Criswell (Incumbent), City Manager for the City of Canyon (Region 2) since 2008. Mr. Criswell has served on the TML Risk Pool Board of Trustees since 2015 and currently serves as Chair of the Underwriting and Claims Committee. He has been in public service for 28 years, with nearly 24 years as an employee of the City of Canyon. Mr. Criswell has a Bachelor of Science degree from Texas Tech University, is an active member of TCMA, having served multiple terms on the Board of Directors and Committees. He has served as the TCMA Affiliate Representative on the TML Board of Directors, is a member of ICMA, and is a Certified Public Manager.

Rick A. Schroder, City Administrator for the City of Helotes (Region 7) since September 2008. Mr. Schroder also serves as the Executive Director for the Helotes Economic Development Corporation (EDC). Prior to his tenure as City Administrator, Rick was employed by the EDC as the Economic Development Specialist from 2006 to 2008. He graduated Magna Cum Laude from Trinity University in 2004 with a degree in Political Science, and he earned a Master of Public Service and Administration in 2006 from the George H.W. Bush School of Government and Public Service at Texas A&M University. During his coursework, he worked for a variety of public and private organizations, primarily focused on public service and government relations.

WRITE IN CANDIDATE:

PLACE 12

Bert Lumbreras, City Manager for the City of San Marcos, Texas (Region 10). BertLumbreras has 37 years of experience as a City Manager or an Assistant City Manager in seven Texas communities, including Austin and Waco. He currently serves as the International City/County Management Association Mountain Plains Vice President and previously served on the Board of Directors of the Texas City Management Association from 2010-2014, including President in 2012. He has a Bachelor's Degree in Political Science, with a concentration in Public Administration, and a minor in Geography and Urban Planning from Southwest Texas State University.

Kimberly Meisner, Executive Director of General Operations for the City of Kerrville (Region 7), overseeing Human Resources, Municipal Court, Public Library, and Public Information. Ms. Meisner has over 21 years of public service, which includes serving the Cities of Kerrville and La Porte. She earned a Master's degree in Public Administration from U.T.—Arlington and a Bachelor's degree in Human Resource Management from Columbia Southern University. She is a member of the TCMA, International Public Management Association for Human Resources (IPMA-HR), Society for Human Resource Management (SHRM), San Antonio Human Resource Management Association, and is a former President of the Bay Area Human Resource Management Association. She is an IPMA-HR Senior Certified Professional and a SHRM Certified Professional.

Jana Traxler, Human Resources Director and Risk Manager for the City of Murphy, Texas(Region 13). Jana Traxler is a municipal Human Resources Executive who is committed to being a strategic partner in municipal management, an employee advocate and a change agent. She has experience working in both local and state governments as well as experience working under a state funded contract with Hewlett Packard Enterprise Services. Prior to relocating to Murphy, Texas, she held the position of the Human Resources Labor Relations Officer for Shawnee County, Kansas. She is a graduate of the Villanova University Masters in Human Resource Development program and holds the Senior Professional in Human Resources designation.

Robert D. Wilson, Jr. Board of Directors of the Post Oak Savannah Ground Conservation District in Milano, Texas (Region 10) for the last four years. Robert Wilson has also served on the Board of Directors for the Southwest Milam Water Supply Corporation for the past 13 years, and currently is the President. Mr. Wilson graduated from the University of Minnesota, majoring in mathematics. He was a Captain in the US Army, 1964-1968, and served in Viet Nam. He spent over 40 years in Commercial Banking, with the last 15 as Branch President of Citizens National Bank in Rockdale, Texas. Mr. Wilson has served on numerous local boards and organizations, volunteering his time to assist and improve the quality of life in Rockdale over the past 15 years. He is active in his church as a Sunday School Teacher, Deacon, and Treasurer.

WRITE IN CANDIDATE:

PLACE 13

Byron Black, (Incumbent). Board Chair, Central Appraisal District of Johnson County (Region 8). He served as Mayor of Burleson from 1998-2004, previously serving as mayor pro tern and as a Councilmember. He currently serves as Chair of the Impact Fee Committee for the City of Burleson. Mr. Black is a past board member of the Area Metro Ambulance Authority Board. He was a member of the Burleson Independent School District Board for 12 years, nine as President, and served as president of TASB. Mr. Black has served as a Board member of the TML Intergovernmental Risk Pool since 2000, serving as Vice-Chair and Chair.

Mike Jones, Chief Appraiser/Chief Administrator of the Fannin Central Appraisal District in Bonham, Texas (Region 13). His service in the property tax profession began in February, 2006 after serving a 20-year career in the

United States Air Force. He holds a Bachelor of Science in Occupational Education from Wayland Baptist University. His professional credentials include the Registered Professional Appraiser and Registered Texas Assessor/Collector Designations, a Certified Tax Administrator from the Institute of Certified Tax Administrators and a Certified Chief Appraiser from the Texas Association of Appraisal Districts and the Texas Association of Assessing Officers.

WRITE IN CANDIDATE:

PLACE 14

Bert Echterling, Mayor for the City of Robinson (Region 9) since 2015. Mr. Echterling has served as a council member for Robinson since 2006. He serves on the McLennan County Park Committee and on the Robinson Campus Improvement Committee. He is a past Board Member for the Robinson Economic Development Committee and the Robinson Chamber of Commerce. He was born and raised in Robinson, graduated from Robinson High School, and attended McLennan Community College. In 1996, he joined the family business, Echterling Builders, which he has owned since.

David J. Harris, City Administrator for the City of Balcones Heights (Region 7) since 2014. Mr. Harris began his local government career in 1996 at Bexar County and has served 18 years in leadership of the cities of Hill Country Village (City Administrator), Schertz (Assistant City Manager), and Alamo Heights (Interim Director). He serves as Immediate Past President and on the Board of the Texas City Management Association, Secretary of TML Region 7, President of Alamo Heights Rotary Club. Mr. Harris received his BA in American Studies from Whitworth University and a MS in Urban Administration from Trinity University. He is an ICMA Credentialed Manager and a member of TCMA and ICMA.

David Rutledge, Mayor of Bridge City (Region 16) since 2016, re-elected to a second term this past May, previously served as council member from 2005-2010 (term-limited), again in 2015, and is a representative on the Southeast Texas Regional Planning Commission (COG). Active in TML, he has been recognized as a Certified Municipal Official (CMO) the previous three years, is Vice President of TML Region 16, and serves on the TML Municipal Advocacy Committee and the Municipal Policy Summit. A mechanical engineer by profession from Lamar University in Beaumont, he serves on that university's Mechanical Engineering Advisory Council.

WRITE IN CANDIDATE:

Certificate

I certify that the vote cast above has been cast in accordance with the will of the majority of the governing body of the public entity named below.

Witness my hand, this _____ day of _____, 2018.

Signature of Authorized Official

Title: _____

Printed Name of Authorized Official

Printed Name of Political Entity

RECOMMENDATION

The staff recommends voting for Randy Criswell (place 11); Bert Lumberas (palce 12); Bryon Black (palce 13); and David Harris (place 14)
