



**NOTICE OF A REGULAR MEETING
THE BRENHAM CITY COUNCIL
THURSDAY, SEPTEMBER 1, 2022 AT 01:00 PM
SECOND FLOOR CITY HALL
COUNCIL CHAMBERS
200 W. VULCAN STREET
BRENHAM, TEXAS**

- 1. Call Meeting to Order**
- 2. Invocation and Pledges to the US and Texas Flags - Councilmember Adonna Saunders**
- 3. Service Recognitions**
 - ♦ Dane Rau, Public Works Department - 20 Years**
- 4. Proclamations**
 - ♦ Washington County READ**
- 5. Citizens Comments**

CONSENT AGENDA

- 6. Statutory Consent Agenda**

The Statutory Consent Agenda includes non-controversial and routine items that Council may act on with one single vote. A councilmember may pull any item from the Consent Agenda in order that the Council discuss and act upon it individually as part of the Regular Agenda.

 - 6-a. Approve the Minutes from the July 26, 2022 Workshop Meeting and the August 4, 2022 and August 18, 2022 Regular City Council Meetings**
 - 6-b. Approve Ordinance No. O-22-017 on Its Second Reading Amending the FY2021-22 Adopted Budget**
 - 6-c. Approve a Payment to Brazos River Authority in the Amount of \$437,712.00 for the City of Brenham's Raw Water Supply and Authorize the Mayor to Execute Any Necessary Documentation**

WORK SESSION - DEPARTMENT UPDATES

- 7. Discussion and Update on the City of Brenham's Street Improvement Projects for 2022**

REGULAR SESSION

- 8. Submission of, Discussion, and Possible Action Regarding the No-New Revenue Tax Rate, Voter-Approval Tax Rate, and Proposed Tax Rate of \$0.4737 per \$100 Valuation for the 2022 Tax Year, and Take Record Vote on Proposed Tax Rate and Meeting Dates for Final Adoption of Tax Rate**
- 9. Discuss and Possibly Act Upon an Ordinance on Its First Reading to Grant a Non-Exclusive Franchise to Skoot-N-Hauler, LLC to Operate a Roll-Off Container Service for Residents, Businesses and Industries Inside Brenham City Limits**
- 10. Discuss and Possibly Act Upon Resolution No. R-22-027 Authorizing Participation in the Texas Department of Transportation Highway Bridge Project Related to the Federal Funding of Off-System Bridge Projects for Improvements to the Pecan Street Bridge Over Hog Branch**
- 11. Discuss and Possibly Act Upon Payment to the Brenham Heritage Museum, Inc. Related to Parking Lot Repairs and Improvements and Authorize the Mayor to Execute Any Necessary Documentation**
- 12. Discuss and Possibly Act Upon an Ordinance on Its First Reading Amending the Rate Tariff Schedule for the City of Brenham Sanitation Rates**
- 13. Discuss and Possibly Act Upon an Ordinance on Its First Reading Amending the Rate Tariff Schedule for the City of Brenham Water Rates**
- 14. Discuss and Possibly Act Upon a Ground Space Lease Agreement Between the City of Brenham and BrightStar Aviation Management, LLC for Hangar Space at the Brenham Municipal Airport and Authorize the Mayor to Execute Any Necessary Documentation**
- 15. Discuss and Possibly Act Upon an Ordinance on Its First Reading Adopting a City of Brenham Public Infrastructure Design Manual**
- 16. Discuss and Possibly Act Upon the Renewal with Texas Municipal League Intergovernmental Risk Pool for General Liability, Law Enforcement Liability, Public Officials Liability, Mobile Equipment, Airport Liability, Property, Auto Liability and Physical Damage, Crime, and Workers' Compensation Coverage for the City of Brenham for Fiscal Year 2022-23 and Authorize the Mayor to Execute Any Necessary Documentation**

17. **Discuss and Possibly Act Upon an Engagement Letter for Legal Services Between the City of Brenham and Bovey & Cochran, PLLC Related to City Attorney, General Counseling and Municipal Court Prosecution Services and Authorize the Mayor to Execute Any Necessary Documentation**

18. **Administrative/Elected Officials Report**

Administrative/Elected Officials Reports: Reports from City Officials or City staff regarding items of community interest, including expression of thanks, congratulations or condolences; information regarding holiday schedules; honorary or salutary recognitions of public officials, public employees or other citizens; reminders about upcoming events organized or sponsored by the City; information regarding social, ceremonial, or community events organized or sponsored by a non-City entity that is scheduled to be attended by City officials or employees; and announcements involving imminent threats to the public health and safety of people in the City that have arisen after the posting of the agenda.

EXECUTIVE SESSION

19. **Section 551.086 - Texas Government Code - Utility Competitive Matters - City of Brenham Gas Utility System - Gas Supply and Transportation Arrangements and Agreements, and Associated Matters**

RE-OPEN REGULAR SESSION

Adjourn

Executive Sessions: The City Council for the City of Brenham reserves the right to convene into executive session at any time during the course of this meeting to discuss any of the matters listed, as authorized by Texas Government Code, Chapter 551, including but not limited to §551.071 - Consultation with Attorney, §551.072 - Real Property, §551.073 - Prospective Gifts, §551.074 - Personnel Matters, §551.076 - Security Devices, §551.086 - Utility Competitive Matters, and §551.087 - Economic Development Negotiation

CERTIFICATION

I certify that a copy of the September 01, 2022 agenda of items to be considered by the City of Brenham City Council was posted to the City Hall bulletin board at 200 W. Vulcan St., Brenham, TX on Monday, August 29, 2022 at 11:00 a.m.

Jeana Bellinger, TRMC, CMC
City Secretary

Disability Access Statement: This meeting is wheelchair accessible. The accessible entrance is located at the Vulcan Street entrance to the City Administration Building. Accessible parking spaces are located adjoining the entrance. Auxiliary aids and services are available upon request (interpreters for the deaf must be requested twenty-four (24) hours before the meeting) by calling (979) 337-7567 for assistance.

I certify that the attached notice and agenda of items to be considered by the City Council was removed by me from the City Hall bulletin board on the _____ day of _____, 2022 at _____ AM PM.

Signature

Title

PROCLAMATION

WHEREAS, A community read program encourages reading by having all involved read the same book; and

WHEREAS, Lifetime Learning, a group of volunteers who have been bringing outstanding speakers and classes to the Washington County area since 2002, has proposed a fourteenth annual Washington County READ; and

WHEREAS, During the Washington County READ, all residents of Washington County are encouraged to read *West With Giraffes* by Lynda Rutledge, an historical novel inspired by a true story about a pair of hurricane surviving giraffes who were trucked cross country in little more than a tricked out truck during the Great Depression, turning heads, capturing hearts, and making 500+ headlines along the way; and

WHEREAS, This endeavor has the support of Unity Theatre, The Book Nook, Nancy Carol Roberts Memorial Library, Washington County Chamber of Commerce, City of Brenham, and many individuals and businesses in the community; and

WHEREAS, It is right and just for the City Council and the residents of Brenham to join together to applaud the Lifetime Learning volunteers for their dedication to service and their commitment to encourage reading;

NOW, THEREFORE, I, Milton Y. Tate Jr., Mayor of the City of Brenham, do hereby proclaim September 1, 2022 through October 31, 2022, as the official period for

The Washington County READ

In Witness, Whereof, I have set my hand and affixed the Seal of Brenham.



Milton Y. Tate, Jr.
Milton Y. Tate, Jr.
Mayor

Brenham City Council Minutes

A workshop meeting of the Brenham City Council was held on Tuesday, July 26, 2022 beginning at 2:00 p.m. in the Morriss Hall, The Historic Simon Theater, at 111 W. Main Street, Brenham, Texas.

Members Present:

Mayor Milton Y. Tate, Jr.
Mayor Pro Tem Clint Kolby
Councilmember Shannan Canales
Councilmember Leah Cook
Councilmember Atwood Kenjura
Councilmember Adonna Saunders
Councilmember Albert Wright

Members Absent:

None

City of Brenham Staff present:

City Manager Carolyn Miller, City Secretary Jeana Bellinger, General Manager of Public Utilities Debbie Gaffey, Director of Water and Wastewater Bobby Keene, Director of Finance Stacy Hardy, Human Resources Director Susan Nienstedt, Tourism and Marketing Director Jennifer Eckermann, Fire Chief Roger Williams, Police Chief Ron Parker, Director of Public Works Dane Rau, Strategic Budget Officer Tim McRoberts, Director of Development Services Stephanie Doland, Jennifer Hill

Citizens/Others Present:

None.

Media Present:

Mark Whitehead, KWHI

1. Call Meeting to Order

2. FY2022-23 Proposed Budget Interview and Related Discussions

Strategic Budget Officer Tim McRoberts presented the following FY2022-23 budget information to the City Council:

- Changes to FY22-23 Proposed Budget
 - Certified values from Washington County Appraisal District
 - Final value at \$1,778,413,618
 - Net increase to the General Fund of \$417,712
 - Net increase to the TIRZ Fund of \$294,603
- Fund Balance
- General Fund Expenditures
 - 10-Year History of General Fund Revenues vs. Expenditures
- Projected Personnel Impact of Fire Department Staffing of Station No. 2
- Total Fire Department Calls by Incident Type

After further discussion by City Council, it was recommended that a special meeting be scheduled for late August to discuss Fire Department staffing, if there is a need for a second station, and the impact of these to the FY2022-23 budget.

The meeting was adjourned.

Milton Y. Tate, Jr.
Mayor

Jeana Bellinger, TRMC, CMC
City Secretary

Brenham City Council Minutes

A regular meeting of the Brenham City Council was held on Thursday, August 4, 2022 beginning at 1:00 p.m. in the Brenham City Hall, City Council Chambers, at 200 W. Vulcan Street, Brenham, Texas.

Members Present:

Mayor Milton Y. Tate, Jr.
Mayor Pro Tem Clint Kolby
Councilmember Leah Cook
Councilmember Atwood Kenjura
Councilmember Adonna Saunders
Councilmember Albert Wright

Members Absent:

Councilmember Shannan Canales

City of Brenham Staff present:

City Manager Carolyn Miller, City Attorney Cary Bovey, General Manager of Public Utilities Debbie Gaffey, Deputy General Manager of Public Utilities Alton Sommerfield, Director of Water and Wastewater Bobby Keene, Gas Superintendent Ande Bostain, Director of Finance Stacy Hardy, Strategic Budget Officer Tim McRoberts, Fire Chief Roger Williams, Police Chief Ron Parker, Director of Public Works Dane Rau, Director of Development Services Stephanie Doland, Director of Economic Development Susan Cates, Alex Dill, Shawn Bolenbarr, Cynthia Longhofer, Jennifer Hill, Lloyd Powell, Christi Korth, Terrance Johnson, Shauna Laauwe, Debora Pinto, Gary Marburger, Cynthia Timpa, and Nancy Stafford

Citizens/Others Present:

Savannah Gutierrez, Angie Wheeler, Randy Hodge and Randy Wells

Media Present:

Jason May, Brenham Banner-Press; and Josh Blaschke, KWHI

- 1. Call Meeting to Order**
- 2. Invocation and Pledges to the US and Texas Flags – City Attorney Cary Bovey**

3. **Proclamations**
 - **Rev. Johnnie Williams – 60 Years of Pastoral Service at Mt. Zion Missionary Baptist Church**
4. **Service Recognitions**
 - **Christopher Bugai, Gas Department – 15 Years**
 - **William “Bubba” Herrin, Street Department – 20 Years**
 - **Lloyd C. Powell, Police Department – 25 Years**
5. **Special Recognition**
 - **Award of Meritorious Service Medal to Captain Lloyd C. Powell**
6. **Citizen Comments**

No citizen comments were heard.

CONSENT AGENDA

7. **Statutory Consent Agenda**
 - 7-a. **Approve the Minutes from the July 7, 2022 Regular City Council Meeting and the July 11, 2022 and July 12, 2022 Special City Council Meetings**
 - 7-b. **Approve Ordinance No. O-22-013 on Its Second Reading for the Abandonment of the Undeveloped Portion of Live Oak Street Bounded to the South by Sycamore Street and Being Generally Located 177 Feet to the East of the Northeast Intersection of N. Chappell Hill Street and Sycamore Street**
 - 7-c. **Approve an Audit Engagement Letter for Seidel Schroeder to Perform an Audit for the Fiscal Year Ending September 30, 2022 and Authorize the Mayor to Execute Any Necessary Documentation**
 - 7-d. **Approve the Appointment of Charles Keese to Fill a Vacancy on the Historic Preservation Board, for an Unexpired Term to Expire on December 31, 2024 and Authorize the Mayor to Execute Any Necessary Documentation**
 - 7-e. **Approve a Multi-Year Contract Between the City of Brenham and Pitney Bowes Global Financial Services, LLC Related to the Lease of Mail Meter Equipment and Associated Software, In the Amount of \$2,792.79, at the Brenham Police Department and Authorize the Mayor to Execute Any Necessary Documentation**

A motion was made by Councilmember Wright and seconded by Councilmember Kenjura to approve the Statutory Consent Agenda Items 7-a. thru 7-e. as presented.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

PUBLIC HEARING AND ASSOCIATED ACTION ITEM

8. Public Hearing, Discussion and Possible Action on an Ordinance on Its First Reading Amending Appendix A - 'Zoning' of the Code of Ordinances of the City of Brenham Granting a Specific Use Permit on Property Currently Addressed as 1200 S. Austin Street to Allow for a Daycare in the B-1, Local Business Residential Mixed Use Zoning District and Further Described as Lot 1A, Block 11 of the W. G. Wilkins Addition in Brenham, Washington County, Texas (Case No. P-22-017)

City Planner Shauna Laauwe presented this item. Laauwe stated that Angie Wheeler (applicant) is requesting approval of a Specific Use Permit for a licensed kindergarten/nursery school (daycare) on approximately 0.62 acres of land generally located on the west side of S. Austin Street, south of W. Fifth Street and north of Charles Lewis Street and addressed as 1200 S. Austin Street. Laauwe explained that the subject site is an existing commercial property most recently utilized as the former Design II restaurant and catering kitchen that has been out of business for several years. The property is zoned B-1, Local Business Residential Mixed Use zoning district and the current B-1 zoning designation allows for a mixture of retail, office, and residential uses by-right. The B-1 zone also allows licensed kindergartens/nursery schools (Daycares) to be permitted with approval of a Specific Use Permit (SUP).

Laauwe advised that on Monday, July 25, 2022, after conducting a Public Hearing, the Planning and Zoning Commission voted unanimously to recommend approval of the SUP.

A motion was made by Mayor Pro Tem Kolby and seconded by Councilmember Saunders to approve an Ordinance on its first reading amending Appendix A - 'Zoning' of the Code of Ordinances of the City of Brenham granting a Specific Use Permit on property currently addressed as 1200 S. Austin Street to allow for a Daycare in the B-1, Local Business Residential Mixed Use Zoning District and further described as Lot 1A, Block 11 of the W. G. Wilkins Addition in Brenham, Washington County, Texas (Case No. P-22-017).

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

9. Public Hearing, Discussion and Possibly Act Upon an Ordinance on Its First Reading Amending the Official Zoning Map of the City of Brenham to Change the Zoning District from a Single-Family Residential Use District (R-1) and/or a Mixed Residential Use District (R-2) to a Local Business/Residential Mixed-Use District (B-1) on the Following (Case No. P-22-016):

- a. A Tract of Land Being Approximately 8.97 Acres of Land Addressed as 1301 S. Market Street, Being Further Described as Keys 2nd, Block E, Lot 1, 2, and North Part of 3 and 4, Community Education Campus in Brenham, Washington County, Texas (R23658);**
- b. A Tract of Land Being Approximately 6.92 Acres of Land Addressed as 507 E. Sixth Street, Being Further Described as Keys 2nd, Block C, Lot PT 3D, 3E, 4B, All of Lots 5, 6 and 7 in Brenham, Washington County, Texas (R23650);**
- c. A Tract of Land Being Approximately 0.4180 Acres of Land Addressed as 504 E. Sixth Street, Being Further Described as Keys 2nd, Block F, Lot PT 4 in Brenham, Washington County, Texas (R23660); and**
- d. A Tract of Land Being Approximately 0.2215 Acre of Land Addressed as 506 E. Sixth Street, Being Further Described as Keys 2nd, Block F, Lot PT 4 in Brenham, Washington County, Texas (R23661)**

City Planner Shauna Laauwe presented this item. Laauwe stated that the subject area is comprised of four (4) parcels on seven (7) lots and approximately 16.766 acres of land generally bisected north/south by E. Sixth Street with the subject area north of E. Sixth Street being bounded by S. Market Street to the west, E. Germania Street to the north and Huettig Street, to the east, and the subject area south of E. Sixth Street being bounded by S. Market Street to the west, Lee Street to the east, and E. Tom Green to the south. The subject area is currently zoned Mixed Residential Use District (R-2) to the north of E. Sixth Street and Single-Family Residential District (R-1) to the south of E. Sixth Street.

Laauwe explained that the proposed zoning change would allow for the existing commercial uses and institutional uses to make improvements within the B-1 specifications that include bufferyard and landscaping requirements and for neighborhood commercial uses to potentially develop on E. Sixth Street. If the rezoning is approved, any proposed development of the properties will undergo a planning permit process to ensure that all zoning, building, and fire codes are met.

Laauwe advised that on Monday, July 25, 2022, after conducting a Public Hearing, the Planning and Zoning Commission voted unanimously to recommend approval of the rezoning request.

A motion was made by Councilmember Kenjura and seconded by Councilmember Saunders to approve an Ordinance on its first reading amending the Official Zoning Map of the City of Brenham to Change the Zoning District from a Single-Family Residential Use District (R-1) and/or a Mixed Residential Use District (R-2) to a Local Business/Residential Mixed-Use District (B-1) on the following (Case No. P-22-016):

- a. A tract of land being approximately 8.97 acres of land addressed as 1301 S. Market Street, being further described as Keys 2nd, Block E, Lot 1, 2, and North Part of 3 and 4, Community Education Campus in Brenham, Washington County, Texas (R23658);
- b. A tract of land being approximately 6.92 acres of land addressed as 507 E. Sixth Street, being further described as Keys 2nd, Block C, Lot PT 3D, 3E, 4B, all of Lots 5, 6 and 7 in Brenham, Washington County, Texas (R23650);
- c. A tract of land being approximately 0.4180 acres of land addressed as 504 E. Sixth Street, being further described as Keys 2nd, Block F, Lot PT 4 in Brenham, Washington County, Texas (R23660); and
- d. A tract of land being approximately 0.2215 acre of land addressed as 506 E. Sixth Street, being further described as Keys 2nd, Block F, Lot PT 4 in Brenham, Washington County, Texas (R23661)

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

10. Public Hearing, Discussion and Possibly Act Upon an Ordinance on Its First Reading Amending Division 16, Effective Date, of Ordinance No. O-21-005 Related to Industrial Wastewater Discharge Standards and Pretreatment for the City of Brenham, Texas

Director of Water and Wastewater Bobby Keene presented this item. Keene explained that between November 29-December 3, 2021, the City's Wastewater Department underwent a TCEQ audit. After review of Ordinance No. 0-21-005, TCEQ requested Ordinance No. 0-21-005 be amended to delete the phrase "and is incorporated into the City's TPDES permit". Staff recommends approval of the amendment to Division 16 of Ordinance No. 0-21-005 as requested by the TCEQ.

A motion was made by Mayor Pro Tem Kolby and seconded by Councilmember Cook to approve an Ordinance on its first reading amending Division 16, Effective Date, of Ordinance No. O-21-005 related to Industrial Wastewater Discharge Standards and Pretreatment for the City of Brenham, Texas.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

REGULAR SESSION

11. Submission of, Discussion, and Possible Action Regarding the No- New Revenue Tax Rate, Voter-Approval Tax Rate, and Proposed Tax Rate of \$0.4940 per \$100 Valuation for the 2022 Tax Year, and Take Record Vote on Proposed Tax Rate and Meeting Dates for Final Adoption of Tax Rate

Strategic Budget Officer Tim McRoberts presented this item. McRoberts stated that developing an annual budget and adopting a property tax rate to support that budget must be accomplished in compliance with the property tax code, the local government code, and the City Charter.

McRoberts explained that during the month of July, a Council Budget Workshop was held to review and discuss the proposed FY2022-23 budget. Based on the priorities presented at these workshops, we discussed maintaining the current property tax rate of \$0.4940 per \$100 valuation. The maintenance & operations (M&O) property tax rate will remain \$0.3500 per \$100 valuation; and the interest and sinking (I&S) rate will remain \$0.1440 per \$100 valuation.

McRoberts advised that the City is proposing to adopt a total tax rate (M&O and I&S) of \$0.4940 for FY2022-23. The proposed rate is less than the Voter-Approval rate, adjusted for unused increment rate, of \$0.5416, so no election will be necessary. However, the proposed rate is higher than the No-New-Revenue Rate of \$0.3966 which requires us to hold a public hearing before the tax rate is adopted.

A motion was made by Councilmember Wright and seconded by Mayor Pro Tem Kolby that a property tax rate of \$0.4940 per \$100 valuation be considered by the governing body on the agendas of the September 1, 2022 and September 15, 2022 Brenham City Council Meetings.

Mayor Tate called for a record vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

12. Discuss and Possibly Act Upon Resolution No. R-22-025 to Select Engineering Service Provider(s) to Complete Project Implementation for the American Rescue Plan Act (ARP Act) Funding by the U. S. Department of the Treasury, or other Federal or State Agency

General Manager of Public Utilities Debbie Gaffey presented this item. Gaffey explained that in July, under the direction of our grant administrator, GrantWorks, the City issued a Request for Qualification (RFQ) seeking qualified engineering, architectural, and/or surveying firms to prepare preliminary and final design plans and specifications for various water and wastewater projects eligible for funding under the American Rescue Plan Act (ARPA). The City received RFQs from Gunda Corporation, Strand Associates and TLC Engineering.

As required by the grant, a 5-member selection committee (Councilmember Kenjura, Jeana Bellinger, Debbie Gaffey, Alton Sommerfield, and Shawn Bolenbarr) reviewed each RFQ and scored them on experience, performance and capacity. The RFQ receiving the highest score was Strand Associates, Inc.; therefore, staff is requesting that the City Council award the RFQ for engineering, architectural and/or surveying services for the ARPA projects to Strand.

A motion was made by Councilmember Saunders and seconded by Councilmember Wright to approve Resolution No. R-22-025 to select Strand Associates, Inc as the engineering service provider(s) to complete project implementation for the American Rescue Plan Act (ARP Act) funding by the U. S. Department of the Treasury, or other Federal or State Agency.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

13. Discuss and Possibly Act Upon an Interlocal Agreement Between the City of Brenham and Brenham Independent School District Related to School Resource Officers and Authorize the Mayor to Execute Any Necessary Documentation

Police Chief Ron Parker presented this item. Parker advised that the City and Brenham Independent School District (BISD) agreed on increasing the staffing levels at BISD with another designated school resource officer (SRO). This updated ILA will bring the total number of SROs provided for BISD to five (5) and BISD will reimburse the City for all expenses related to the SRO program.

A motion was made by Councilmember Saunders and seconded by Mayor Pro Tem Kolby to approve an Interlocal Agreement between the City of Brenham and Brenham Independent School District related to School Resource Officers and authorize the Mayor to execute any necessary documentation.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

14. Administrative/Elected Officials Report

City Manager Carolyn Miller updated the City Council on the following:

- Meet and greet for new Main Street Manager at 4:00 p.m. today
- Fireman's Fiesta is Saturday, August 20th
- Special Workshop on Monday, August 22nd at 1:00 p.m.

Council adjourned into Executive Session at 2:06 p.m.

EXECUTIVE SESSION

15. Section 551.071 Texas Government Code - Consultation with Attorney - Consultation with City Attorney Regarding Aviators Plus, LLC v. City of Brenham, Texas; Cause No. 37896; 21st Judicial District Court, Washington County, Texas

Executive Session adjourned at 3:20 p.m.

RE-OPEN REGULAR SESSION

16. Discuss and Possibly Act Upon Matters Related to Aviators Plus, LLC v. City of Brenham, Texas; Cause No. 37896; 21st Judicial District Court; Washington County, Texas and Associated Issues, Including But Not Limited to Retaining Litigation Counsel, and Authorize the Mayor to Execute Any Necessary Documentation

A motion was made by Mayor Pro Tem Clint Kolby and seconded by Councilmember Saunders to hire and retain William G. Harger & Associates, PLLC to prepare a response to and represent the City in the Aviators Plus litigation against the City of Brenham, and authorize the Mayor to execute any necessary documentation.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Absent
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Yes
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

The meeting was adjourned.

Milton Y. Tate, Jr.
Mayor

Approved As To Form:

Carolyn Miller
City Manager

Cary L. Bovey
City Attorney

Brenham City Council Minutes

A regular meeting of the Brenham City Council was held on Thursday, August 18, 2022 beginning at 1:00 p.m. in the Brenham City Hall, City Council Chambers, at 200 W. Vulcan Street, Brenham, Texas.

Members Present:

Mayor Milton Y. Tate, Jr.
Mayor Pro Tem Clint Kolby
Councilmember Shannan Canales
Councilmember Leah Cook
Councilmember Adonna Saunders
Councilmember Albert Wright

Members Absent:

Councilmember Atwood Kenjura

City of Brenham Staff present:

City Manager Carolyn Miller, City Attorney Cary Bovey, City Secretary Jeana Bellinger, General Manager of Public Utilities Debbie Gaffey, Deputy General Manager of Public Utilities Alton Sommerfield, Director of Finance Stacy Hardy, Director of Public Works Dane Rau, Human Resources Director Susan Nienstedt, Director of Development Services Stephanie Doland, Director of Economic Development Susan Cates, Police Chief Ron Parker, Fire Chief Roger Williams, Strategic Budget Officer Tim McRoberts, Shawn Bolenbarr, Lloyd Powell, Curtiss Schoen, Pam Ruemke, Todd Ashorn, and Shauna Laauwe

Citizens/Others Present:

Amanda Klehm, Tinley Klehm, and Angie Wheeler

Media Present:

Josh Blaschke, KWHI

- 1. Call Meeting to Order**
- 2. Invocation and Pledges to the US and Texas Flags –**

3. Special Recognitions

➤ Chief's Commendation

- o Sgt. Seth Klehm
- o Cpl. Sierra Randle
- o Cpl. David Duddenhoffer
- o Pam Ruemke

4. Citizens Comments

No citizen comments were heard.

CONSENT AGENDA

5. Statutory Consent Agenda

5-a. Approve the Minutes from the July 21, 2022 Regular City Council Meeting

5-b. Approve Ordinance No. O-22-014 on Its Second Reading Amending Appendix A - 'Zoning' of the Code of Ordinances of the City of Brenham Granting a Specific Use Permit on Property Currently Addressed as 1200 S. Austin Street to Allow for a Daycare in the B-1, Local Business Residential Mixed Use Zoning District and Further Described as Lot 1A, Block 11 of the W. G. Wilkins Addition in Brenham, Washington County, Texas (Case No. P-22-017)

5-c. Approve Ordinance No. O-22-015 on Its Second Reading Amending the Official Zoning Map of the City of Brenham to Change the Zoning District from a Single-Family Residential Use District (R-1) and/or a Mixed Residential Use District (R-2) to a Local Business/Residential Mixed-Use District (B-1) on the Following (Case No. P-22-016):

a. A Tract of Land Being Approximately 8.97 Acres of Land Addressed as 1301 S. Market Street, Being Further Described as Keys 2nd, Block E, Lot 1, 2, and North Part of 3 and 4, Community Education Campus in Brenham, Washington County, Texas (R23658);

b. A Tract of Land Being Approximately 6.92 Acres of Land Addressed as 507 E. Sixth Street, Being Further Described as Keys 2nd, Block C, Lot PT 3D, 3E, 4B, All of Lots 5, 6 and 7 in Brenham, Washington County, Texas (R23650);

c. A Tract of Land Being Approximately 0.4180 Acres of Land Addressed as 504 E. Sixth Street, Being Further Described as Keys 2nd, Block F, Lot PT 4 in Brenham, Washington County, Texas (R23660); and

d. A Tract of Land Being Approximately 0.2215 Acre of Land Addressed as 506 E. Sixth Street, Being Further Described as Keys 2nd, Block F, Lot PT 4 in Brenham, Washington County, Texas (R23661)

5-d. Approve Ordinance No. O-22-016 on Its Second Reading Amending Division 16, Effective Date, of Ordinance No. O-21-005 Related to Industrial Wastewater Discharge Standards and Pretreatment for the City of Brenham, Texas

5-e. Approve Resolution No. R-22-026 Amending the Authorized Representatives for TexPool Local Government Investment Pool

A motion was made by Councilmember Wright and seconded by Councilmember Cook to approve the Statutory Consent Agenda Items 5-a. thru 5-e. as presented.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Yes
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Absent
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

WORK SESSION

6. Presentation of Police Department Update

Police Chief Ron Parker gave the City Council and update on Police Department staffing shortages and the challenges the department faces with retaining current officers and recruiting new ones. Parker explained that every police department within the state are experiencing the same issues so Brenham has had to improve our recruiting tools which will include a new public recruitment campaign coming out soon.

7. Discuss and Review the FY2021-22 Third Quarter Financial Report

Strategic Budget Officer Tim McRoberts presented this item. McRoberts explained that this item provides an update on the City's financial performance for the third quarter ending June 30, 2022. McRoberts advised that the General Fund, the Electric Fund, the Gas Fund, the Wastewater Fund, and the Sanitation Fund all experienced favorable actual to budget comparisons for the third quarter; however, the Water Fund and the Drainage Fund ended the quarter with unfavorable results. McRoberts provided a brief update on each fund as follows:

- General Fund: Third quarter revenues exceeded budget projections by \$468,577 while operating expenditures were lower than budget by \$818,034.
- Electric Fund: Posted an actual net third quarter net income of \$291,007 which was \$249,376 favorable to the budgeted third quarter net income of \$43,631.
- Gas Fund: Posted actual net revenues of \$172,792, which was favorable by \$146,980 to budgeted net income of \$25,811.
- Water Fund: Posted third quarter net loss of (\$118,108) which was unfavorable to projected net income of \$53,305 by (\$171,413).

- Wastewater Fund: Third quarter net revenues were \$441,870.
- Sanitation Fund: Posted actual third quarter net increase of (\$67,555), compared to budget net loss of (\$108,063); a favorable variance of \$175,618.
- Drainage Fund: Posted actual third quarter net income of \$218,678 which was unfavorable to budget net income of \$293,678.

McRoberts advised Council that for the third quarter of FY21-22, the City experienced favorable performance in five of seven funds relative to budget. The Water Fund was unfavorable due to increased cost of chemicals and the Drainage Fund was unfavorable due to capital costs expended that will be reimbursed by grant matching funds.

8. Discussion and Presentation on the City of Brenham's Infrastructure Design Manual

Director of Development Services Stephanie Doland presented this item. Doland explained that on February 21, 2022 during the Council retreat at Morriss Hall a presentation was given about a new Public Infrastructure Design Manual. Doland explained that the Public Infrastructure Design Manual (PIDM) is adopted to enforce the quality of professional design standards and materials used for the construction of public infrastructure, such as the water utility and road network, within the City. The goal of the PIDM is ensure that construction within the City, whether by a private developer or in-house City crews is consistent, cost-effective, efficient, maintainable, and protects public safety.

Doland explained that the City's existing Design and Construction Standards manual was adopted in June of 1996 and since that time four amendments to the Standards have been discussed by former City Engineers with the most recent amendment to the standards was presented to Council for approval by former City Engineer Lori Sanguedolce to require concrete streets by developers and by the City of Brenham streets department on future road improvement projects. Doland advised that over the past 26 years the City has upgraded its policies and procedures in terms of requirements for public infrastructure and the Development Services Department has had difficulty enforcing engineering best practices with an outdated manual.

Doland stated that in 2021 the City entered into an agreement with LSPS Solutions, LLC to complete the re-write of the City's PIDM and during the FY21 budget year the first phase of the project was completed to include the following chapters:

- Right of Way Use
- Water Distribution
- Sanitary Sewer Systems
- Stormwater System Design Requirements
- Paving
- Traffic Signs, Marking and Street Lighting

The next phase of the manual will be completed in FY22 and will include chapters on electrical and gas systems, traffic impact and construction safety standards.

Doland explained that if Council does not have any changes to the PIDM, she will bring it back to Council at the next meeting for formal adoption by Ordinance. The Council was in favor of the PIDM and agreed to consider it for formal adoption, by ordinance, at the September 1, 2022 City Council meeting.

REGULAR SESSION

9. Discuss and Possibly Act Upon an Ordinance on Its First Reading Amending the FY2021-22 Adopted Budget

Strategic Budget Officer Tim McRoberts presented this item. McRoberts explained that the following amendments need to be made to the FY2021-22 adopted budget:

- Add an expense for a new HVAC unit (\$252,502) at the Police Department and remove Council Chambers audio/visual upgrades (\$140,000).
- Close out FEMA Fund (227) and transfer the remaining balance of \$559,767 to the General Fund.
- Adjust the Water Fund contingency line to account for the refund of FEMA grant money in the amount of \$883,575.
- Dissolve Communications Department (050) and allocate the expenses to Police, Fire and Maintenance.
- Amend Airport restaurant revenue and offset with purchase of office furniture and personnel for a net of \$0.

A motion was made by Councilmember Canales and seconded by Councilmember Saunders to approve an Ordinance on its first reading amending the FY2021-22 adopted budget.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Yes
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Absent
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

Council adjourned into Executive Session at 1:42 p.m.

EXECUTIVE SESSION

10. Section 551.071 and Section 551.072, Texas Government Code – Consultation with City Attorney and Deliberation Regarding Real Property – Discussion and Deliberation, and Consultation with City Attorney, Regarding the Lease Between the City of Brenham and Washington County Concerning the Real Property Located at 301 N. Baylor Street, Brenham, Texas and Associated Issues

Executive Session adjourned at 2:11 p.m.

RE-OPEN REGULAR SESSION

11. Discuss and Possibly Act Upon a Second Extension of the Lease Agreement Between the City of Brenham and Washington County for the Communications Facility, Being the Real Property Located at 301 N. Baylor Street, Brenham, Texas and Authorize the Mayor to Execute Any Necessary Documentation

A motion was made by Councilmember Canales and seconded by Councilmember Wright to approve a second extension of the Lease Agreement between the City of Brenham and Washington County for the communications facility, being the real property located at 301 N. Baylor Street, Brenham, Texas for the period of October 1, 2021 through September 30, 2022, and authorize the Mayor to execute any necessary documentation.

Mayor Tate called for a vote. The motion passed with Council voting as follows:

Mayor Milton Y. Tate, Jr.	Yes
Mayor Pro Tem Clint Kolby	Yes
Councilmember Shannan Canales	Yes
Councilmember Leah Cook	Yes
Councilmember Atwood Kenjura	Absent
Councilmember Adonna Saunders	Yes
Councilmember Albert Wright	Yes

12. Administrative/Elected Officials Report

City Manager Carolyn Miller updated the City Council on the following:

- Special Council Meeting on Monday, August 22nd at 11:00 a.m.
- Community Prayer and Praise Night at Grace Community Church on Wednesday, August 24th.
- Washington County Chamber of Commerce Tailgate on Thursday, August 25th at Silverwings.

The meeting was adjourned.

Milton Y. Tate, Jr.
Mayor

Jeana Bellinger, TRMC, CMC
City Secretary

ORDINANCE NO. O-22-017

AN ORDINANCE OF THE CITY OF BRENHAM, TEXAS AMENDING THE FY2021-22 ADOPTED BUDGET; AND DECLARING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Brenham, Texas has previously approved a budget for the fiscal year ending September 30, 2022, after having filed the same with the City Secretary and after holding public hearings on same, all after due notice as required by statute; and

WHEREAS, due to unforeseen circumstances and/or conditions, the City Council finds it is necessary to amend the FY2021-22 Budget for municipal purposes;

NOW THEREFORE, BE IT ORDAINED by the City Council of the City of Brenham, Texas:

SECTION 1.

That the City Council of the City of Brenham, Texas, does hereby amend the budget for the City of Brenham, Texas for the fiscal year ending September 30, 2022, as shown on Exhibit A.

SECTION II.

This Ordinance shall take effect as provided by State Law and the Charter of the City of Brenham, Texas.

PASSED and APPROVED on its first reading this the 18th day of August 2022.

PASSED and APPROVED on its second reading this the 1st day of September 2022.

Milton Y. Tate, Jr.
Mayor

ATTEST:

Jeana Bellinger, TRMC, CMC
City Secretary

**CITY OF BRENHAM
FY2021-22 ADOPTED BUDGET
BUDGET AMENDMENT #2
EXHIBIT A**

FUND	AMENDMENT PAGE #	REVENUES (INC)/DEC	GRANT	ILA REVENUE (INC)/DEC	TRANSFERS-IN (INC)/DEC	OPERATING	DEBT PAYMENTS INC/(DEC)	GRANT/BOND	TRANSFERS-OUT INC/(DEC)	NET CHANGE
			REVENUES (INC)/DEC			EXPENDITURES INC/(DEC)		CAP PROJ INC/(DEC)		TO FUND (INC)/DEC
101 GENERAL FUND	1	(5,000)	-	-	(559,767)	5,000	-	-	(140,000)	(699,767)
227 FEMA-DISASTER RELIEF	1	-	-	-	-	-	-	-	559,767	559,767
104 WATER FUND	1	-	-	-	-	883,575	-	-	-	883,575
236 EQUIPMENT FUND-GENERAL	1	-	-	-	(112,502)	112,502	-	-	-	-
TOTAL		(5,000)	-	-	(672,269)	1,001,077	-	-	419,767	743,575

FUND 236 - EQUIPMENT FUND-GENERAL**REVERSE COUNCIL AV UPGRADE**

BUD	GL#	ACCOUNT NAME	ACCOUNT TYPE	AMENDMENT ACTION	CURRENT BUDGET	AMENDMENT	AMENDED BUDGET	REASON
1.	236-5-100-812.21	OFFICE FURNITURE/EQUIPMENT EXPENDITURE		INC/(DEC)	140,000	(140,000)	-	1. THIS AMENDMENT IS TO REVERSE A PRIOR AMENDMENT FOR THE AV UPGRADE OF COUNCIL CHAMBERS. FINANCE COMMITTEE RECOMMENDED HOLD DUE TO HVAC PRIORITIES.
1.	236-6-000-601.00	INTERFUND TRNSF-GENERAL FUI TRANSFER		(INC)/DEC	(573,379)	140,000	(433,379)	
1.	101-6-000-662.00	INTERFUND TRNSF-EQUIPMENT TRANSFER		INC/(DEC)	573,379	(140,000)	433,379	

FUND 101 - GENERAL FUND
Department 050 Dissolution

BUD	GL#	ACCOUNT NAME	ACCOUNT TYPE	AMENDMENT ACTION	CURRENT BUDGET	AMENDMENT	AMENDED BUDGET	REASON
2.	101-5-050-101.00	SALARIES & WAGES	EXPENDITURE	INC/(DEC)	326,221	(326,221)	-	2. THIS AMENDMENT IS TO DISSOLVE DEPARTMENT 050 COMMUNICATIONS/PUBLIC SAFETY ADMINISTRATION. DEPARTMENT 050 ALLOCATION TO DEPARTMENT 151 POLICE, DEPARTMENT 152 FIRE, AND DEPARTMENT 131 MAINTENANCE.
2.	101-5-151-101.00	SALARIES & WAGES	EXPENDITURE	INC/(DEC)	2,537,745	283,559	2,821,304	
2.	101-5-152-101.00	SALARIES & WAGES	EXPENDITURE	INC/(DEC)	1,291,622	42,662	1,334,284	
2.	101-5-050-103.00	OASDI/MEDICARE	EXPENDITURE	INC/(DEC)	25,200	(25,200)	-	
2.	101-5-151-103.00	OASDI/MEDICARE	EXPENDITURE	INC/(DEC)	208,926	21,923	230,849	
2.	101-5-152-103.00	OASDI/MEDICARE	EXPENDITURE	INC/(DEC)	102,422	3,277	105,699	
2.	101-5-050-103.02	MATCHING RETIREMENT	EXPENDITURE	INC/(DEC)	50,896	(50,896)	-	
2.	101-5-151-103.02	MATCHING RETIREMENT	EXPENDITURE	INC/(DEC)	418,564	44,225	462,789	
2.	101-5-152-103.02	MATCHING RETIREMENT	EXPENDITURE	INC/(DEC)	204,983	6,671	211,654	
2.	101-5-050-105.00	LONGEVITY PAY	EXPENDITURE	INC/(DEC)	2,128	(2,128)	-	
2.	101-5-151-105.00	LONGEVITY PAY	EXPENDITURE	INC/(DEC)	3,225	2,128	5,353	
2.	101-5-050-106.00	MEDICAL INSURANCE	EXPENDITURE	INC/(DEC)	79,262	(79,262)	-	
2.	101-5-151-106.00	MEDICAL INSURANCE	EXPENDITURE	INC/(DEC)	373,795	59,012	432,807	
2.	101-5-152-106.00	MEDICAL INSURANCE	EXPENDITURE	INC/(DEC)	145,043	20,250	165,293	
2.	101-5-050-106.01	LIFE INSURANCE	EXPENDITURE	INC/(DEC)	1,243	(1,243)	-	
2.	101-5-151-106.01	LIFE INSURANCE	EXPENDITURE	INC/(DEC)	9,566	1,002	10,568	
2.	101-5-152-106.01	LIFE INSURANCE	EXPENDITURE	INC/(DEC)	4,483	241	4,724	
2.	101-5-050-106.02	LONG TERM DISABILITY	EXPENDITURE	INC/(DEC)	685	(685)	-	
2.	101-5-151-106.02	LONG TERM DISABILITY	EXPENDITURE	INC/(DEC)	5,271	551	5,822	
2.	101-5-152-106.02	LONG TERM DISABILITY	EXPENDITURE	INC/(DEC)	2,480	134	2,614	
2.	101-5-050-107.00	WORKERS' COMPENSATION	EXPENDITURE	INC/(DEC)	569	(569)	-	
2.	101-5-151-107.00	WORKERS' COMPENSATION	EXPENDITURE	INC/(DEC)	36,377	449	36,826	
2.	101-5-152-107.00	WORKERS' COMPENSATION	EXPENDITURE	INC/(DEC)	19,068	120	19,188	
2.	101-5-050-116.00	SALARIES/WAGES CONTINGENC	EXPENDITURE	INC/(DEC)	8,008	(8,008)	-	
2.	101-5-151-101.00	SALARIES & WAGES	EXPENDITURE	INC/(DEC)	2,537,745	5,615	2,543,360	
2.	101-5-151-103.00	OASDI/MEDICARE	EXPENDITURE	INC/(DEC)	208,926	430	209,356	
2.	101-5-151-103.02	MATCHING RETIREMENT	EXPENDITURE	INC/(DEC)	418,564	913	419,477	
2.	101-5-152-101.00	SALARIES & WAGES	EXPENDITURE	INC/(DEC)	1,291,622	847	1,292,469	
2.	101-5-152-103.00	OASDI/MEDICARE	EXPENDITURE	INC/(DEC)	102,422	65	102,487	
2.	101-5-152-103.02	MATCHING RETIREMENT	EXPENDITURE	INC/(DEC)	204,983	138	205,121	
2.	101-5-050-202.00	FUEL	EXPENDITURE	INC/(DEC)	75	(75)	-	
2.	101-5-152-202.00	FUEL	EXPENDITURE	INC/(DEC)	17,000	75	17,075	
2.	101-5-050-212.00	COMPUTER SUPPLIES	EXPENDITURE	INC/(DEC)	200	(200)	-	
2.	101-5-152-212.00	COMPUTER SUPPLIES	EXPENDITURE	INC/(DEC)	7,700	200	7,900	
2.	101-5-050-250.00	OTHER SUPPLIES	EXPENDITURE	INC/(DEC)	250	(250)	-	
2.	101-5-152-250.00	OTHER SUPPLIES	EXPENDITURE	INC/(DEC)	4,000	250	4,250	
2.	101-5-050-304.00	MACHINERY/EQUIPMENT	EXPENDITURE	INC/(DEC)	2,000	(2,000)	-	
2.	101-5-152-304.00	MACHINERY/EQUIPMENT	EXPENDITURE	INC/(DEC)	30,000	2,000	32,000	
2.	101-5-050-312.00	BUILDINGS/APPLIANCES	EXPENDITURE	INC/(DEC)	2,000	(2,000)	-	
2.	101-5-131-312.00	BUILDINGS/APPLIANCES	EXPENDITURE	INC/(DEC)	58,000	2,000	60,000	
2.	101-5-050-401.00	ELECTRICAL	EXPENDITURE	INC/(DEC)	3,600	(3,600)	-	
2.	101-5-152-401.00	ELECTRICAL	EXPENDITURE	INC/(DEC)	44,026	3,600	47,626	
2.	101-5-050-424.00	SERVICE CONTRACTS	EXPENDITURE	INC/(DEC)	84,809	(84,809)	-	
2.	101-5-151-424.00	SERVICE CONTRACTS	EXPENDITURE	INC/(DEC)	47,120	58,416	105,536	
2.	101-5-152-424.00	SERVICE CONTRACTS	EXPENDITURE	INC/(DEC)	62,000	25,553	87,553	
2.	101-5-131-424.00	SERVICE CONTRACTS	EXPENDITURE	INC/(DEC)	33,114	840	33,954	
2.	101-5-050-424.05	BVWACS	EXPENDITURE	INC/(DEC)	53,306	(53,306)	-	
2.	101-5-152-424.05	BVWACS	EXPENDITURE	INC/(DEC)	-	53,306	53,306	
2.	101-5-050-901.00	LIAB/CASUALTY INSURANCE	EXPENDITURE	INC/(DEC)	1,750	(1,750)	-	
2.	101-5-152-901.00	LIAB/CASUALTY INSURANCE	EXPENDITURE	INC/(DEC)	16,550	350	16,900	
2.	101-5-131-901.00	LIAB/CASUALTY INSURANCE	EXPENDITURE	INC/(DEC)	5,300	1,400	6,700	
2.	101-5-050-908.00	SEMINARS/MEMBERSHIP/TRAVE	EXPENDITURE	INC/(DEC)	1,250	(1,250)	-	
2.	101-5-151-908.00	SEMINARS/MEMBERSHIP/TRAVE	EXPENDITURE	INC/(DEC)	35,000	1,250	36,250	

FUND 236 - EQUIPMENT FUND-GENERAL

BUD	GL#	ACCOUNT NAME	ACCOUNT TYPE	AMENDMENT ACTION	CURRENT BUDGET	AMENDMENT	AMENDED BUDGET	REASON
3.	236-5-100-802.51	BUILDING/BLDG IMPROV-POLICE	EXPENDITURE	INC/(DEC)	-	252,502	252,502	3. THIS AMENDMENT IS FOR RECEIPT OF LOAN PROCEEDS FOR PURCHASE OF POLICE DEPARTMENT HVAC.
3.	236-6-000-685.00	INTERFUND TRNSF-GENERAL FUND	TRANSFER	(INC)/DEC	-	(252,502)	(252,502)	

FUND 101 - GENERAL FUND***Airport***

GL#	ACCOUNT NAME	ACCOUNT TYPE	AMENDMENT ACTION	CURRENT BUDGET	AMENDMENT	AMENDED BUDGET	REASON
4. 101-4-529.00	AIRPORT REVENUES	REVENUE	(INC)/DEC	(106,301)	(5,000)	(111,301)	4. THIS AMENDMENT IS TO ACCOUNT FOR AN INCREASE IN AIRPORT RESTAURANT RENT REVENUE, DECEMBER THROUGH SEPTEMBER. REVENUE WILL OFFSET PURCHASE OF OFFICE FURNITURE/JANITORIAL SERVICES.
4. 101-5-148-712.00	OFFICE FURNITURE/EQUIPMENT	EXPENDITURE	INC/(DEC)	1,400	1,100	2,500	
4. 101-5-148-415.00	JANITORIAL SERVICES	EXPENDITURE	INC/(DEC)	-	3,100	3,100	
4. 101-5-148-250.00	OTHER SUPPLIES	EXPENDITURE	INC/(DEC)	2,300	800	3,100	

FUND 227 - FEMA-DISASTER RELIEF FUND***Transfer Unreserved Fund Balance***

GL#	ACCOUNT NAME	ACCOUNT TYPE	AMENDMENT ACTION	CURRENT BUDGET	AMENDMENT	AMENDED BUDGET	REASON
5. 227-6-000-601.00	INTERFUND TRNSF-GENERAL FUND	TRANSFER	(INC)/DEC	-	559,767	559,767	5. THIS AMENDMENT IS TO DISSOLVE THE FEMA-DISASTER RELIEF FUND 227, AND TRANSFER REMAINING BALANCE TO THE GENERAL FUND 101
5. 101-6-000-602.27	INTERFUND TRNSF-FEMA RELIEF FD	TRANSFER	(INC)/DEC	-	(559,767)	(559,767)	

FUND 104 - WATER FUND***Non-Dept Misc Expend***

GL#	ACCOUNT NAME	ACCOUNT TYPE	AMENDMENT ACTION	CURRENT BUDGET	AMENDMENT	AMENDED BUDGET	REASON
6. 104-5-110-924.00	CONTINGENCY	EXPENDITURE	INC/(DEC)	-	883,575	883,575	6. THIS AMENDMENT IS TO ACCOUNT FOR FEMA REFUND



Regular City Council
AGENDA ITEM 6-C.

Agenda Item: Approve a Payment to Brazos River Authority in the Amount of \$437,712.00 for the City of Brenham's Raw Water Supply and Authorize the Mayor to Execute Any Necessary Documentation

Meeting Type: Regular Meeting-September 01, 2022

Department: Finance

Staff Contact: Stacy Hardy

SUMMARY STATEMENT:

The City has a long standing agreement with Brazos River Authority that allows for the purchase of 4,200 acre-feet of water per year.

In 2019, the City entered into another water availability agreement, also for municipal use, with BRA for an additional 774 acre-fee of raw water.

Brazos River Authority notifies the city each year of the proposed System Rate, established annually by the Board of Directors of Brazos River Authority. The System Rate is calculated by utilizing a Budgeted Cost of Service basis, considering all reasonable economic requirements to develop, operate, maintain, protect and/or expand the System..

Each year, the City is invoiced by BRA for these two agreements. Based on this year's water rate of \$88.00 per acre foot, the invoice amount is \$437,712.00.

ATTACHMENTS:

(1) May 18, 2022, Letter from Brazos River Authority

RECOMMENDED ACTION:

Approve a payment to Brazos River Authority in the amount of \$437,712.00 for the City of Brenham's raw water supply and authorize the Mayor to execute any necessary documentation.



Brazos River Authority

QUALITY • CONSERVATION • SERVICE

May 18, 2022

Ms. Carolyn Miller
City Manager
City of Brenham
Attn: Accounts Payable
P.O. Box 1059
Brenham, Texas 77834-1059

Dear Ms. Miller:

The Brazos River Authority (BRA) would like to invite you and your guests to attend our annual water customer meeting. We are returning to “in person” meetings this year and will host three of these at different locations within the basin.

Customer meetings are an opportunity for you to learn more about the programs and services offered by the BRA, our strategic priorities, our proposed fiscal year (FY) 2023 annual budget, the proposed system water rate of \$88.00, and the proposed agricultural water rate of \$61.60. More importantly, we would like to receive your input on our services and provide you an opportunity to ask questions prior to our Board of Directors meeting on July 25, 2022, in our Waco office, where directors are set to finalize the annual budget and adopt the water rates for FY 2023.

Upper Basin:	10:30 a.m. – Tuesday, June 21, 2022 – Cleburne Conference Center
Central Basin:	10:30 a.m. – Wednesday, June 22, 2022 – City of Round Rock’s Bob Bennett Building
Lower Basin:	10:30 a.m. – Thursday, June 23, 2022 – Brenham Fire Department Training Center

The budget and water rate information provided at each meeting will be identical, and we will highlight the most relevant initiatives and projects to each meeting location. You may attend any of the three meetings that you choose. Directions to each location are enclosed for your convenience.

Please complete and return the enclosed reply slip via fax (254/400-2180), e-mail (Kathy.Dickson@brazos.org), or mail by June 10. If you have any questions, please feel free to call the point of contact listed for the basin on the reply slip. We appreciate your business and look forward to seeing you at our customer meetings.

Sincerely,

DAVID COLLINSWORTH
General Manager/CEO

DC:kld
Enclosures



Regular City Council
AGENDA ITEM 7.

Agenda Item: Discussion and Update on the City of Brenham's Street Improvement Projects for 2022

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Works

Staff Contact: Dane Rau

SUMMARY STATEMENT:

Staff will give an update on the Street Improvement Projects for 2022 along with recapping the budget for these streets. Staff will also discuss new methods to prolong the life of "Good" and "Satisfactory" streets to get longer life rather than reconstruction only. See attachments in packet.

ATTACHMENTS:

- (1) Street Improvement Projects 2022
- (2) Street Projects Map
- (3) Pictures of Reconstruction Process

RECOMMENDED ACTION:

No action, presentation only.

I. STREET IMPROVEMENT PROJECTS FY-22:

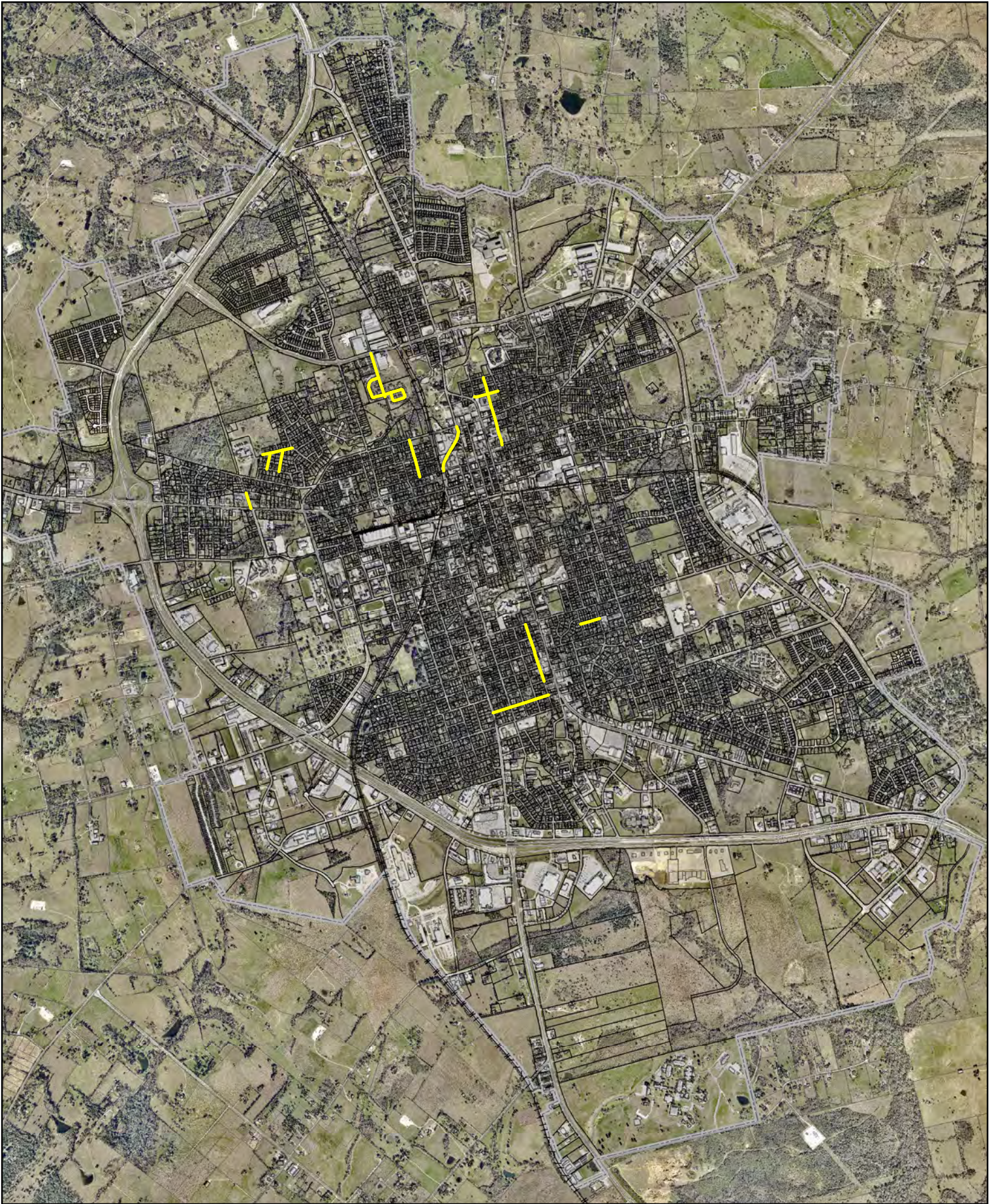
1. Street Improvement Projects:	Miles	Total Costs
a. N. Austin St (Vulcan to MLK)	.17	\$36,222
b. Baber St (Vulcan to MLK)	.16	\$35,410
c. Shepard St (Robinhood to End)	.08	\$27,729
d. Carolyn St (LJ to Shepard)	.07	\$23,084
e. Janet St (LJ to Shepard)	.08	\$27,821
f. S. Baylor (W. Tom Green to Lubbock)	.26	\$56,807
g. Cottonwood St (Sycamore to Riggs)	.29	\$71,547
h. Liberty (Old N. Market to Hosea)	.10	\$28,327
i. Bryan St (Day to S. Baylor)	.24	\$62,138
j. Jersey (Marie to Harrison)	.08	\$25,685
k. N. Saeger (W. Main to Mid-Block)	.07	\$15,681
l. Rink St (FM 577 to End)	.19	\$62,000 est.
m. Clayton (Rink to Rink)	.20	\$49,000 est.
n. Glenn Dr (Rink to Rink)	.16	\$61,000 est
	2.15 miles	<u>\$582,451</u>

Total allocated amount \$620,000.

Left off due to inflation costs but will be done this fall are Bob St, Cambell St, and Matilda.

Total City Street 102 miles maintained by City Street Dept.

Onyx Sealing will occur in September on Spinn, Tison, LJ, Hillside, Clearspring and Robinhood. This consist of 1.7 miles to prolong these streets and extend life at a value of \$230,263.



Street Projects

1 inch = 2,917 feet















Regular City Council
AGENDA ITEM 8.

Agenda Item: Submission of, Discussion, and Possible Action Regarding the No-New Revenue Tax Rate, Voter-Approval Tax Rate, and Proposed Tax Rate of \$0.4737 per \$100 Valuation for the 2022 Tax Year, and Take Record Vote on Proposed Tax Rate and Meeting Dates for Final Adoption of Tax Rate

Meeting Type: Regular Meeting-September 01, 2022

Department: Finance

Staff Contact: Tim McRoberts

SUMMARY STATEMENT:

See attached memo.

ATTACHMENTS:

(1) Tax Rate Memo

RECOMMENDED ACTION:

I move that the action taken by record vote of the City Council on the proposed tax rate and associated meeting dates as described in Item 9 of the Agenda for the Regular Meeting of the City Council held on August 4, 2022 be repealed and rescinded; and I further move that a property tax rate of \$0.4737 per \$100 valuation be considered by the governing body on the agendas of the September 12, 2022 and September 15, 2022 Brenham City Council Meetings.



MEMORANDUM

To: Mayor, Council and City Manager

From: Tim McRoberts
Strategic Budget Officer

Subject: Proposed Property Tax Rate for FY2022-23

Date: September 1, 2022

The City began the process to adopt its FY 2022-23 tax rate on August 4, 2022, by proposing a maximum tax rate of \$0.4940. Recently an anomaly in the tax rate calculation for a prior year “unused increment” portion of the tax rate was discovered. Due to the unforeseen changes this caused to the current year voter-approval tax rate, the City felt it best to restart our tax rate process and propose a new, lower tax rate.

Revised City of Brenham Proposed Tax Rate for FY2022-23

The maintenance & operations (M&O) property tax rate will be lowered to \$0.3297 per \$100 valuation; and the interest and sinking (I&S) rate will remain \$0.1440 per \$100 valuation.

The City is proposing to adopt a total tax rate (M&O and I&S) of \$0.4737 for FY2022-23. The proposed rate is less than the Voter-Approval rate, adjusted for unused increment rate, of \$0.4738, so no election will be necessary. However, the proposed rate is higher than the No-New-Revenue Rate of \$0.3966 which requires us to hold a public hearing before the tax rate is adopted.

Proposed Property Tax Rate

	<u>M&O</u>	<u>I&S</u>	<u>Total</u>
Current FY21-22	\$ 0.3500	\$ 0.1440	\$ 0.4940
Proposed Tax Rate FY22-23	\$ 0.3297	\$ 0.1440	\$ 0.4737
Proposed Increase/(Decrease)	\$ (0.0203)	\$ -	\$ (0.0203)

Senate Bill 2 Comparison

Proposed Tax Rate FY22-23	\$ 0.3297	\$ 0.1440	\$ 0.4737
No-New-Revenue Rate			\$ 0.3966
Voter-Approval Rate			\$ 0.4738

Tax Freeze for Residential Homestead Property Owners Over 65 and Disabled Persons

In June of 2019, Council approved an Ordinance providing for a tax freeze for persons over 65 years of age and disabled persons. For FY2022-23, the number of homesteads with this freeze is noted below:

- Over 65 – 1,380 accounts with an appraised value of \$263,261,973
- Disabled Persons – 40 accounts with an appraised value of \$5,136,618

These accounts will have their “tax bill” frozen from this point forward, or until the property is sold. The appraised value continues to increase (or decrease), but the amount due for property taxes cannot increase but can decrease.

We have prepared a comparison chart showing the average homestead taxable value for 2021 versus 2022, and the total change in taxes.

Comparison Table	Tax Year		Change	
	2022	2023	Dollar	Percent
Total Tax Rate (per \$100 of value)	\$ 0.4940	\$ 0.4737	\$ (0.0203)	-4.11%
Average Homestead Taxable Value	\$ 192,510	\$ 215,591	\$ 23,081	11.99%
Tax on Average Homestead	\$ 951.00	\$ 1,021.25	\$ 70.26	7.39%
Total Tax Levy on all Properties	\$ 7,965,034	\$ 9,545,969	\$ 1,580,935	19.85%

Council Action

Although not required by Tax Code, we recommend that Council take a RECORD vote to place an item to adopt the proposed property tax rate on agendas of future meetings. The motion for the vote should be made as follows:

“I move that the action taken by record vote of the City Council on the proposed tax rate and associated meeting dates as described in Item 9 of the Agenda for the Regular Meeting of the City Council held on August 4, 2022 be repealed and rescinded; and I further move that a property tax rate of \$0.4737 per \$100 valuation be considered by the governing body on the agendas of the September 12, 2022 and September 15, 2022 Brenham City Council Meetings.”



Regular City Council
AGENDA ITEM 9.

Agenda Item: Discuss and Possibly Act Upon an Ordinance on Its First Reading to Grant a Non-Exclusive Franchise to Skoot-N-Hauler, LLC to Operate a Roll-Off Container Service for Residents, Businesses and Industries Inside Brenham City Limits

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Works

Staff Contact: Karen Stack

SUMMARY STATEMENT:

Roll-off dumpster service is the delivery and removal of large (10-40 cubic yard) dumpsters for temporary use on private property. Per Section 11-70 of the Code of Ordinances, providers of roll-off service in the City limits must obtain a franchise agreement from the City. The City currently has franchise agreements with eleven (11) businesses for the provision of roll-off dumpster services within the City limits. Residents and contractors can contact Public Utilities and obtain a list of these franchisees. Having multiple franchisees allows citizens to request multiple quotes and obtain competitive pricing.

The City was recently contacted by a local company, Skoot-N-Hauler, with a request for a franchise. The owner, Peter Nicklas III, recently moved here from the Dallas area. The Ordinance being presented for your consideration grants Skoot-N-Hauler a non-exclusive franchise. This ordinance provides Skoot-N-Hauler the authority to collect demolition/construction debris and/or solid waste from commercial, residential, and industrial sites using roll-off containers and/or commercial containers. A non-exclusive franchise fee of 5% gross revenue will be paid to the City of Brenham monthly.

The initial term of this agreement is from execution to September 30, 2023. Thereafter, it will automatically renew every year for a one-year term beginning October 1st.

ATTACHMENTS:

- (1) Franchise Request
- (2) Ordinance on Its First Reading

RECOMMENDED ACTION:

Approve an Ordinance on its first reading granting a non-exclusive franchise to Skoot-N-Hauler, LLC to operate a roll-off container service for residents, businesses, and industries inside Brenham City limits.

Skoot-N-Hauler LLC

Peter L. Nicklas III

Owner/Manager

1200 Choctaw Ln
Brenham Tx, 77833
469-964-8278
Nicklasp0@gmail.com

Brenham City Council Members

200 W. Vulcan St
Brenham Tx 77833
(979)-337-7200

8/23/2022

Dear Brenham City Council Members ,

Howdy! My name is Peter L. Nicklas III and I am requesting a sanitation franchise from the city of Brenham. I have just recently moved to Brenham from the Dallas area bringing my trash business with me and would very much like the opportunity to deploy my dumpsters within the Brenham city limits.

I have read the sanitation franchise ordinance provided by Karen Stack and will have no problem complying to the conditions and regulations. My accountant and dispatcher will have no problem complying with any city personnel they might be required to work parallelly with.

My equipment and dumpsters are well maintained for the safety of not only my employees but those in the communities we serve. I look forward to using local businesses of Brenham to keep my business rolling and looking professional, (tire shop, welding & fabrication, auto repair shop) and the list goes on as I will be dependent on many trades.

My wife and I intend to start our life together here and eventually a family. Cara will be starting her career as a veterinary technician at the Brenham Veterinary Hospital in December, and I plan to continue my work in the trash industry.

My heart's desire to keep Brenham beautiful, and I wish to put my talent and experience to work doing just that. Thank you all for your time and for considering my request.

Respectfully yours,

Peter L. Nicklas III

ORDINANCE NO. O-_____

AN ORDINANCE GRANTING SKOOT N HAULER, LLC, ITS SUCCESSORS AND ASSIGNS, A FRANCHISE FOR THE PRIVILEGE AND USE OF PUBLIC STREETS, ALLEYS, AND PUBLIC WAYS WITHIN THE CORPORATE LIMITS OF THE CITY OF BRENHAM FOR THE PURPOSE OF ENGAGING IN THE BUSINESS OF COLLECTING SOLID WASTE FROM COMMERCIAL, RESIDENTIAL AND INDUSTRIAL SITES USING ROLL-OFF CONTAINERS AND/OR COMMERCIAL COMPACTORS; PRESCRIBING THE TERMS, CONDITIONS, OBLIGATIONS, AND LIMITATIONS UNDER WHICH SAID FRANCHISE SHALL BE EXERCISED; PROVIDING FOR THE CONSIDERATION; FOR PERIOD OF GRANT; FOR ASSIGNMENT; FOR METHOD OF ACCEPTANCE; FOR REPEAL OF CONFLICTING ORDINANCES AND FOR PARTIAL INVALIDITY.

WHEREAS, the City of Brenham, by ordinance, provides exclusively all solid waste collection and disposal services for solid waste generated from within the corporate limits of the City of Brenham; and

WHEREAS, the City of Brenham may, by ordinance and charter, grant franchises to other entities for the use of public streets, alleys and thoroughfares within the corporate limits of the City and for the collection and disposal of solid waste generated from within the corporate limits of the City of Brenham; and

WHEREAS, the City of Brenham desires to exercise the authority provided to it by ordinance and charter to grant a franchise for the collection and disposal of certain solid waste generated from within the corporate limits of the City of Brenham; and

WHEREAS, the City of Brenham hereinafter referred to as “CITY” desires to grant this franchise to Skoot-N-Hauler hereinafter referred to as “PROVIDER”, under the terms of this Agreement as set out below.

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

SECTION 1. DEFINITIONS

Agreement. This contract between the City of Brenham and for the provision of certain roll-off container and/or commercial compactor service within the corporate limits of the City of Brenham under certain terms and conditions set out herein.

City of Brenham. Also referred to as "CITY" in this Agreement.

City Council. Also referred to as "COUNCIL" denoting the governing body of the City of Brenham.

Customers. Those industrial, residential, and/or commercial premises located within the CITY that generates solid waste requiring collection using roll-off containers and/or commercial compactors.

Solid Waste. All putrescible and nonputrescible solid, semi-solid, and liquid wastes, including residential, industrial, commercial and municipal garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, discarded home and industrial appliances, vegetable or animal solid and semi-solid wastes, and other discarded solid and semi-solid wastes.

Roll-Off Containers. A type of solid waste industry container that is loaded by a winch truck. Also referred to as "container".

Commercial Compactor. A type of solid waste industry container that is loaded by a winch truck and compacts solid waste. Also referred to as "compactor".

Skoot-N-Hauler, LLC. Hereinafter referred to as "PROVIDER". The party contracting with the CITY for roll-off container and/or commercial compactor service, which contains demolition/construction debris or solid waste.

SECTION 2. GENERAL DESCRIPTION OF SERVICES TO BE PROVIDED

For and in consideration of the compliance by PROVIDER with the covenants and conditions herein set forth, and the Charter, Ordinances and Regulations of the City governing the collection and disposal of solid waste, CITY hereby grants to PROVIDER a non-exclusive franchise for use of designated public streets, alleys and thoroughfares within the corporate limits of City for the sole purpose of engaging in the business of collecting solid waste using roll-off containers and/or commercial compactors from commercial, residential and industrial sites within the jurisdictional limits of CITY, as approved by the City Manager or his designee.

SECTION 3.
AUTHORITY FOR TO PROVIDE SERVICE

CITY hereby grants to PROVIDER the privilege to collect from commercial, residential, and industrial customers within the City limits solid waste using roll-off containers and/or commercial compactors only.

SECTION 4.
DISPOSAL SITE TO BE USED

Unless approved otherwise in writing by the CITY, PROVIDER shall utilize any Type I permitted landfill that PROVIDER deems appropriate and is authorized for disposal of all solid waste, which is collected by PROVIDER from within the corporate limits of the CITY.

SECTION 5.
RATES TO BE CHARGED

A written Schedule of Rates that PROVIDER shall charge for the aforementioned services shall be provided to each customer, and such Schedule of Rates may be revised periodically as agreed by PROVIDER and its customers. PROVIDER shall immediately provide the CITY with copies of any and all revised Schedule of Rates documents.

SECTION 6.
PAYMENTS TO CITY

For and in consideration of the use of designated streets, alleys, and thoroughfares as well as in consideration of the covenants and agreements contained herein, PROVIDER agrees and shall pay to CITY upon acceptance of this Agreement and thereafter during the term hereof, a sum equivalent to five percent (5%) of PROVIDER's monthly gross revenues generated from PROVIDER's provision of solid waste roll-off container collection services within the CITY excluding actual landfill tipping charges.

Any revenue received by PROVIDER in excess of the actual landfill tipping charges will be subject to the franchise fee and shall be computed into PROVIDER's monthly gross revenue. Said payment shall be paid monthly to the City of Brenham Attn: City Secretary and must be received by the CITY no later than the twenty-fifth (25th) day of the month following the end of the previous month. If the payment due date falls on a Saturday, Sunday or other holiday designated by the CITY, the payment must be received by the CITY on the next regular business day.

Payments received by the CITY after the due date shall be assessed a ten percent (10%) penalty on the outstanding franchise fee amount owed under this Section.

Failure by PROVIDER to pay amounts due under this Agreement, after written notice by CITY, shall constitute Failure to Perform under this Agreement and CITY may invoke the provisions of Section 15 of this Agreement (FAILURE TO PERFORM), and/or any other remedy available to the CITY in law or equity.

SECTION 7. ACCESS TO RECORDS & REPORTING

CITY shall have access to PROVIDER's records, billing records of those customers served by PROVIDER and all papers relating to this Agreement and the operation of solid waste roll-off container collection and disposal services within the CITY. Access by CITY to PROVIDER's records shall be provided to CITY within ten (10) business days, after written notice to PROVIDER during normal business hours.

The following records and reports shall be filed quarterly with the City Secretary or his/her designee:

- A. Reports of all complaints, investigations, and actions taken by PROVIDER with regard to services provided pursuant to this Agreement.
- B. A listing of all PROVIDER's accounts served and monthly revenue derived from roll-off containers placed in the CITY under the terms of this Agreement. The reports should include: a unique customer identification or account number, frequency of pick-up, size of container and monthly charges.

The CITY is subject to the Texas Public Information Act ("Act"). Generally, the Act requires the release of requested information by the CITY, but there are exceptions. If the requested information meets the criteria outlined in the exceptions, the CITY may decline to release the information for the purpose of requesting a decision from the Texas Attorney General's Office. The Act excepts from public disclosure trade secrets and certain commercial or financial information. The Act states the CITY may withhold:

- A. A trade secret obtained from a person and privileged or confidential by statute or judicial decision; or
- B. Commercial or financial information for which it is determined based on specific factual evidence that disclosure would cause substantial competitive harm to the person from whom the information was obtained.

Pursuant to Section 552.305 of the Act, the CITY is obligated to make a good faith attempt to contact third parties who have a trade secret interest or a commercial financial interest in the information that's been requested so that the third party has an opportunity to submit reasons to the Texas Attorney General's Office why the information should be withheld or released.

The CITY will comply with Section 552.305 of the Act with regard to any requests for records concerning PROVIDER that invoke Section 552.305.

SECTION 8. PLACEMENT OF CONTAINERS

All roll-off containers and/or compactors placed for service within CITY shall be located in such a manner so as not to be a safety or traffic hazard. Under no circumstances shall PROVIDER place containers on public streets, alleys and/or thorough fares without the prior written approval of the CITY. CITY reserves the right to specify to PROVIDER the exact location and time period allowed for placement of any roll-off container(s) it places for service in CITY.

PROVIDER agrees and acknowledges that it shall be liable for any and all damages it causes to any public street, alley and/or thorough fare, and associated improvements and PROVIDER will pay CITY's entire construction costs and other expenses associated with repairing and/or replacing the damaged public street, alley and/or through fare, and associated improvements.

SECTION 9. CONTAINER MAINTENANCE

PROVIDER agrees to properly maintain as necessary, including but not limited to cleaning and painting, all roll-off containers placed for service within CITY.

SECTION 10.
COMPLAINTS REGARDING SERVICE/SPILLAGE

PROVIDER shall receive and directly respond to any complaints pertaining to service from their roll-off containers and/or compactor customers located within CITY. However, any such complaints received by CITY shall be forwarded to PROVIDER within twenty-four (24) hours of their receipt by CITY. PROVIDER shall respond to all complaints within twenty-four (24) hours of receiving notice of such complaint from CITY and shall report to CITY as to the action taken. Failure by PROVIDER to respond and report to CITY on action taken within this twenty-four (24) hour period may subject PROVIDER to a \$25.00 per incident charge from CITY payable with the next payment due to CITY under Section 6 of this Agreement.

PROVIDER agrees that during transport all vehicles used by PROVIDER in the removal of solid waste shall be properly covered to prevent spillage, blowing, or scattering of refuse onto public streets or properties adjacent thereto. All equipment necessary for the performance of this Agreement shall be in good condition and repair. A standby vehicle shall always be available. PROVIDER's vehicles shall at all times be clearly marked with PROVIDER's name in letters not less than three (3) inches in height.

SECTION 11.
OBEISANCE OF LAWS

PROVIDER agrees that it shall comply with all laws, policies, rules and regulations of the United States, State of Texas, and CITY. All collections made hereunder shall be made by PROVIDER without unnecessary noise, disturbance, or commotion.

SECTION 12.
UNDERSTANDINGS PERTAINING TO NON-EXCLUSIVITY

It is understood by and between the parties that this Agreement executed by and between the parties on the 15th day of September, 2022, constitutes the only agreement between the parties. It is further understood and agreed that there are no other agreements between these parties with regard to the disposal of commercial, industrial or residential solid waste in the CITY using roll-off containers/compactors and that this Agreement does not authorize PROVIDER to utilize the streets, alleys or public ways to dispose of commercial, industrial, or residential solid waste other than demolition and construction debris. Both parties agree and understand that nothing in this Agreement conveys to PROVIDER an exclusive franchise for the services described in this Agreement and that this Agreement is non-exclusive.

SECTION 13.
OWNERSHIP OF MATERIALS COLLECTED

Nothing herein shall create or be construed to convey any title to CITY of any solid waste

collected pursuant to the provisions of this agreement.

SECTION 14. INTERRUPTION OF SERVICE OR DEFAULT

A. Termination of Service. In the event that PROVIDER terminates service to any customer with the CITY limits for cause, PROVIDER must notify the CITY through certified mail within forty-eight (48) hours of termination and state the cause of such termination.

B. Excessive Interruption in Service. If the interruption in service continues for a period of seventy-two (72) hours or more, then it may constitute Failure to Perform under this Agreement and CITY may invoke the provisions of Section 15 of this Agreement (FAILURE TO PERFORM).

SECTION 15. FAILURE TO PERFORM

It is expressly understood and agreed by the parties that if at any time PROVIDER shall fail to perform any of the terms, covenants, or conditions herein set forth, CITY may after a hearing as described herein, revoke and cancel the Agreement by and between the parties and said Agreement shall be null and void. Upon the determination by the staff of CITY that a hearing should be held before the City Council, CITY shall mail notice of the hearing to PROVIDER, at the address designated herein or at such address as may be designated from time to time, by registered or certified mail. The notice shall specify the time and place of the hearing and shall include the allegations being asserted for the revocation of this Agreement. The hearing shall be conducted in public before the City Council and PROVIDER shall be allowed to present evidence and given an opportunity to answer all reasons for the termination set forth in the notice. In the event that the Council determines that the allegations set forth are true as set forth in the notice it may by majority vote cancel this Agreement between the parties at no penalty to the CITY.

SECTION 16. INDEMNIFICATION

In the event CITY is damaged due to the act, omission, mistake, fault or default of PROVIDER, then PROVIDER shall indemnify and hold CITY harmless for such damage.

PROVIDER is to indemnify and hold CITY harmless for any disposal of any prohibited material whether intentional or inadvertent.

PROVIDER shall indemnify and hold CITY harmless from any and all injuries to or claims of adjacent property owners caused by PROVIDER, its agents, employees, and representatives.

PROVIDER agrees to and shall indemnify and hold harmless CITY, its officers, agents and employees, from and against any and all claims, losses, damages, causes of action, suits, and liability of every kind, including all expenses of litigation, court costs, and attorney's fees, for injury to or death of any person, or for damage to any property, arising out of or in connection with the work done by PROVIDER under this Agreement, regardless of whether such injuries, death or damages are caused in whole or in part by the negligence, including but not limited to the contractual comparative negligence, concurrent negligence or gross negligence, of CITY.

SECTION 17. INSURANCE

PROVIDER shall procure and maintain at its sole cost and expense for the duration of the Agreement insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by PROVIDER, its agents, representatives, volunteers, employees or subcontractors.

PROVIDER insurance coverage shall be primary insurance with respect to the CITY, its officials, employees and volunteers. Any insurance or self-insurance maintained by the CITY, its officials, employees or volunteers shall be considered in excess of the PROVIDER insurance and shall not contribute to it.

PROVIDER shall include all subcontractors as additional insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage's for subcontractors shall be subject to all of the requirements stated herein.

Certificates of Insurance and endorsements shall be furnished to CITY and approved by CITY before work commences.

A. STANDARD INSURANCE POLICIES REQUIRED

1. Commercial General Liability Policy
2. Automobile Liability Policy
3. Worker's Compensation Policy

B. GENERAL REQUIREMENTS APPLICABLE TO ALL POLICIES

1. General Liability and Automobile Liability insurance shall be written by a carrier with a better rating in accordance with the current Best Key Rating Guide.
2. Only Insurance Carriers licensed and admitted to do business in the State of Texas will be accepted.
3. Deductibles shall be listed on the Certificate of Insurance and are acceptable only on a per occurrence basis for property damage only.
4. Claims Made Policies will not be accepted.
5. The CITY, its officials, employees and volunteers are to be added as "Additional Insured" to the General Liability and the Automobile Liability policies. The coverage shall contain no special limitations on the scope of protection afforded to the CITY, its officials, employees or volunteers.
6. A Waiver of Subrogation in favor of the CITY with respect to the General Liability, Automobile Liability, and Workers' Compensation insurance must be included.
7. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the CITY.
8. Upon request, certified copies of all insurance policies shall be furnished to the CITY.

C. COMMERCIAL GENERAL LIABILITY

1. Minimum Combined Single Limit of \$1,000,000 per occurrence for Bodily Injury and Property Damage.
2. No coverage shall be deleted from the standard policy without notification of individual exclusions being attached for review and acceptance.

D. AUTOMOBILE LIABILITY

1. Minimum Combined Single Limit of \$1,000,000 per occurrence for Bodily Injury and Property Damage.

E. WORKERS' COMPENSATION

1. Employer's Liability limits of \$500,000/\$500,000/ \$500,000 are required.

F. CERTIFICATES OF INSURANCE

1. Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agent, and shall contain provisions representing and warranting the following:
 - a. The company is licensed and admitted to do business in the State of Texas.
 - b. The insurance set forth by the insurance company are underwritten on forms which have been approved by the Texas Department of Insurance or ISO.
 - c. Sets forth all endorsements as required above and insurance coverage's as previously set forth herein.
 - d. Shall specifically set forth the notice of cancellation, termination, or change in coverage provisions to the CITY.
 - e. Original endorsements affecting coverage required by this section shall be furnished with the certificates of insurance.

SECTION 18. ASSIGNMENT

This Agreement and the rights and obligations contained herein may not be assigned by PROVIDER without the specific prior written approval of the City Council. Any assignment by PROVIDER without prior written approval of the City Council shall be null and void.

SECTION 19. SAFETY

PROVIDER shall perform the collection in accordance with applicable laws, codes, ordinances and regulations of the United States, State of Texas, Washington County, and CITY and in compliance with OSHA and other laws as they apply to its employees. It is the intent of the parties that the safety precautions are a part of the collection techniques for which PROVIDER is solely responsible. In the carrying on of the work herein provided for, PROVIDER shall use all proper skill and care, and PROVIDER shall exercise all due and proper precautions to prevent injury to any property, person or persons. PROVIDER assumes responsibility and liability and hereby agrees to indemnify the CITY from any liability caused by PROVIDER's failure to comply with applicable federal, state or local laws and regulations, touching upon the maintenance of a safe and protected working environment, and the safe use and operation of machinery and equipment in that working environment.

**SECTION 20.
AD VALOREM TAXES**

PROVIDER agrees to render all personal property utilized in its solid waste operation services to Washington County Appraisal District so that said personal property will be the subject of ad valorem taxation for the benefit of CITY.

**SECTION 21.
NOTICES**

All notices required under the terms of this Agreement to be given by either party to the other shall be in writing, and unless otherwise specified in writing by the respective parties, shall be sent to the parties at the addresses following:

City of Brenham
P.O. Box 1059
Brenham, Texas 77834
ATTN: City Secretary

Skoot-N-Hauler, LLC
1200 Choctaw Lane
Brenham, Texas 77833
ATTN: Peter L. Nicklas, III, Owner

All notices shall be deemed to have been properly served only if sent by certified mail, to the person(s) at the address designated as above provided, or to any other person at the address which either party may hereinafter designate by written notice to the other party.

**SECTION 22.
AMENDMENTS**

It is hereby understood and agreed by the parties to this Agreement that no alternation or variation to the terms of this Agreement shall be made unless made in writing, approved by both parties, and attached to this Agreement to become a part hereof.

**SECTION 23.
SEVERABILITY**

If any section, sentence, clause or paragraph of this Agreement is for any reason held to be invalid or illegal, such invalidity shall not affect the remaining portions of the Agreement.

SECTION 24.
TERM OF AGREEMENT

The term of this Agreement shall be effective beginning on the ____ day of _____, 2022, being the date of acceptance by PROVIDER and shall terminate on September 30th, 2023.

Thereafter, this Agreement shall automatically renew annually for a subsequent one (1) year terms beginning on October 1 and terminating on the following September 30 unless either party gives written notice of non-renewal by certified mail no later than sixty (60) days prior to the then current termination date. Further, either party may terminate this Agreement without cause at any time by providing the other party with sixty (60) days written notice of termination by certified mail. This section is not intended, nor shall this section be construed, to limit or prohibit a party's ability to terminate this Agreement as otherwise provided in this Agreement.

SECTION 25.
ACCEPTANCE OF AGREEMENT

That PROVIDER shall have sixty (60) days from and after the final passage and approval of this Ordinance to file its written acceptance thereof with the City Secretary, and upon such acceptance being filed, this Ordinance shall take effect and be in force from and after the date of its acceptance and shall effectuate and make binding the agreement provided by the terms hereof.

SECTION 26.
AUTHORIZATION TO EXECUTE

The parties signing this Agreement shall provide adequate proof of their authority to execute this Agreement. This Agreement shall inure to the benefit and is binding upon the parties hereto and their respective successors or assigns but shall not be assignable by either party without the written consent of the other party.

SECTION 27.
PUBLIC MEETING

It is hereby found and determined that the meeting(s) at which this Ordinance was considered were open to the public, as required by Chapter 551, Texas Government Code, and that advance public notice of time, place, and purpose of said meetings was given in accordance with law.

PASSED and APPROVED on its first reading this ____ day of _____, 2022.

PASSED and APPROVED on its second reading this ____ day of _____, 2022.

Milton Y. Tate, Jr.
Mayor

ATTEST:

Jeana Bellinger, TRMC, CMC
City Secretary



Regular City Council
AGENDA ITEM 10.

Agenda Item: Discuss and Possibly Act Upon Resolution No. R-22-027 Authorizing Participation in the Texas Department of Transportation Highway Bridge Project Related to the Federal Funding of Off-System Bridge Projects for Improvements to the Pecan Street Bridge Over Hog Branch

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Works

Staff Contact: Dane Rau

SUMMARY STATEMENT:

In February of 2022 we were notified by TxDOT that the crossing on Pecan St at Hog Branch was part of the Highway Bridge Project list and eligible for federal funding. Every four years, TxDOT selects certain off-system bridges through this program and works with the local entity to bring these bridges and crosses up to standards. We are very fortunate to be given this opportunity and based on the program parameters our portion of the partnership would be a 10% match. This is even more important because this bridge structure was also identified in our General Land Office grant package in which we had 11 sites identified and funded. Due to inflation costs since receiving the grant, we were actually looking at some relief or cutting projects in order to stay within our allocated amount. With this partnership by TxDOT we are now able to remove this project from the GLO grant list and use that money on the other projects and still get this project completed in the same timeframe.

Our portion of the partnership is 10% which is estimated at \$49,000. By adopting this resolution, it will authorize the city to issue a check to TxDOT in 2023-2024 in the amount of \$49,000 and all engineering, construction, and inspections will be responsibility of TxDOT. Those funds will come from the Drainage Fund and will be earmarked in the 2023-2024 budget. The total project cost will be right at \$500,000 and construction should begin in the Fall of 2024.

We ask that Council approve the resolution which will be inserted in the future Advanced Funding Agreement as an Exhibit. By authorizing this agreement, we will be committed to \$49,000 and can continue with the partnership of this project with TxDOT.

ATTACHMENTS:

- (1) Resolution No. R-22-027
- (2) Pictures of Pecan @ Hog Branch Crossing

RECOMMENDED ACTION:

Approve Resolution No. R-22-027 authorizing participation in the Texas Department of Transportation Highway Bridge Project related to the Federal Funding of Off-System Bridge Projects for Improvements to the Pecan Street Bridge over Hog Branch.

RESOLUTION NO. R-22-027

The State of Texas
City of Brenham

WHEREAS, the federal off-system bridge program is administered by the Texas Department of Transportation (the State) to replace or rehabilitate structurally deficient and functionally obsolete (collectively referred to as deficient) bridges located on public roads and streets off the designated state highway system; and

WHEREAS, **Brenham (City)**, hereinafter referred to as the Local Government owns bridges:

- Located at **PECAN ST AT HOG BRANCH**, National Bridge Inventory (NBI) Structure Number **172390LD1213001**, State Control-Section-Job (CSJ) Number **0917-19-056**; and

WHEREAS, a project to remedy the bridge is included in the currently approved program of projects as authorized by Texas Transportation Commission Minute Order Number **116073**. Dated, **August 31, 2021**; and

WHEREAS, the usual fund participation ratio for projects on such program is 80 percent federal, 10 percent state and 10 percent Local Government, unless reduced by participation in the Economically Disadvantaged County Program; and

WHEREAS, the estimated local match fund participation requirement on the approved federal off-system bridge project is **\$49,000**; and

WHEREAS, the estimated local match fund participation requirement will be paid by the Local Government; and

THEREFORE, BE IT RESOLVED that the Local Government approves the execution of an Advance Funding Agreement with the State. The **Mayor** is authorized to execute the agreement on behalf of the Local Government.

Approved this the 1st day of September 2022.

Approved: _____

Milton Y. Tate, Jr.

Mayor





Regular City Council
AGENDA ITEM 11.

Agenda Item: Discuss and Possibly Act Upon Payment to the Brenham Heritage Museum, Inc. Related to Parking Lot Repairs and Improvements and Authorize the Mayor to Execute Any Necessary Documentation

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Works

Staff Contact: Dane Rau

SUMMARY STATEMENT:

In 2018 when the Brenham Heritage Museum began working on contract negotiations along with refurbishment of the Heritage Museum, the City of Brenham was approached about partnering to help reduce risks associated with the Museum for the future. This Museum Building and property is owned by the City, in which we have an agreement with the Federal Registrar to operate it as a Heritage Museum. In return the City has a contract with the Brenham Heritage Museum that explains the partnership and responsibilities of each entity. The City of Brenham has this facility under our TML insurance coverage.

In the past this building has seen dramatic issues that came from flooding in 2016 and 2017. In order to assist with the revitalization and correct drainage and ADA issues at the site the City of Brenham committed dollars to assist with the parking lot, the accessibility ramp and drainage around the site. This was committed by our sub-committee in 2018 and was decided that when the large refurbishment began that this work would be done at the same time and under the umbrella of Upchurch Architects, Bullock Construction and the Site Management Team. At the time of Phase I completion the City would make a payment as long as the work was built into Phase I Improvements.

Originally, expected costs to for the parking lot, correcting drainage issues from entering the at grade windows along with the stairway was estimated at \$57,000. ADA ramps, tying into the corner at S. Market St were later agreed on and were estimated between \$8,000-\$10,000. The work has now been completed in Phase I and we have received all invoices for completed work. The total costs came in at \$79,068.47. After looking back at past emails from past City Manager James Fisher and BHM President, Joanne Wolfe our expected costs were around the \$67,000 mark.

Based on the spreadsheet and discussion with Elizabeth Price from Upchurch Architects we are prepared to pay for our portion of the project covering items 1-3. These total \$65,255.19. These prices have changed due to an extended period of time, inflation, and commodity increases. We are recommending that we honor the past commitment by the Facility Sub-Committee and past City Manager and make payment to the Brenham Heritage Museum so that this building is protected, and damage does not occur in which we are ultimately responsible for through insurance.

In 2019, a new agreement was established with BHM that is for a term of 50 yrs., commencing on 1/1/2020. In this lease it is agreed upon that the same intent applies as the City will be responsible for the roof, foundation, driveway and parking areas.

We respectfully ask that Council approve a payment for \$65,255.19 to Brenham Heritage Museum. These funds will be dispersed from savings in the 2021-22 General Fund Budget particularly Public Works and Street Dept.

ATTACHMENTS:

- | |
|--|
| (1) Cost Breakdown
(2) Pictures of Improvements |
|--|

RECOMMENDED ACTION:

Approve payment to the Brenham Heritage Museum, Inc., in the amount of \$65,255.19, related to parking lot repairs and improvements and authorize the Mayor to execute any necessary documentation.

Table 1

[illegible]







Regular City Council
AGENDA ITEM 12.

Agenda Item: Discuss and Possibly Act Upon an Ordinance on Its First Reading Amending the Rate Tariff Schedule for the City of Brenham Sanitation Rates

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Works

Staff Contact: Dane Rau

SUMMARY STATEMENT:

As early as April of 2022, Brannon Industrial Group, aka *BVR Waste and Recycling* notified the City of Brenham about proposed rate increases that would be targeted for October per contract guidelines. We informed the Council during prior workshop discussions that sanitation rates would be increasing and that we would work with *BVR Waste and Recycling* to bring these to Council in September for consideration.

In July we received another update from BVR, and they asked for consideration of council to approve an overall 15% increase across the board on many areas within the Sanitation Rate Tariffs. We sat down with BVR Waste and Recycling along with our Utility Sub-Committee to assess the options that BVR presented. We understand the need for increases as many items such as commodity prices (trucks, containers, carts) have gone up 40%-65% over the last year. Labor rates have increased in order to fill CDL positions and landfill tipping fees will rise \$2.00 per ton beginning October 1, 2022. Diesel prices have risen from \$2.31/gallon in 2020 to \$4.60/gallon on average in 2022. These are all stated and seen in the attached letter by *BVR Waste and Recycling*.

Although no one wants to raise rates or pay higher rates we feel that in order to operate effectively and to maintain a partnership between BVR Waste and Recycling, City of Brenham and the customers we all serve, it is important at this time. We have compared rates to other cities that operate within the same guidelines, and these are very comparable and in many instances under the rates offered by other providers that contract out.

City staff has worked with BVR on the specific rates and even recommended lower rates in some areas such as the Collection Station and Residential Collection Services. Overall, this is a 15% increase, but these rates are averaged throughout the rate classes as seen on the attached rate sheet.

We respectfully ask Council to approve the rate tariffs as presented on its first reading.

ATTACHMENTS:

-
- (1) BVR Letter
 - (2) BVR Proposed Rate Adjustments
 - (3) Rate Tariff-Redlined Copy
 - (4) Ordinance for First Reading
 - (5) Exhibit "A"

RECOMMENDED ACTION:

Approve Ordinance on its first reading amending the rate tariff schedule for the City of Brenham Sanitation Rates.
--



August 16, 2022

Mr. Dane Rau
City of Brenham
200 W Vulcan St.
Brenham, TX 77833

Dear Mr. Rau,

Brannon Industrial Group (BIG) is writing this letter to request a price adjustment in respect to the collection, disposal, and recycling services BIG provides to the City of Brenham. While BIG is extremely sensitive to the present economic challenges that the residents and businesses face, unfortunately, the extraordinary rise in operating cost has prompted the request. Below are some of the more notable factors:

Fuel

The average diesel price for 2022 (though June) is \$4.60 compared to \$2.31 in 2020. With a consumption of over 7,000 gallons a month for the Brenham sanitation operations, BIG's truck fuel expense has increased by over \$15,000 a month since the contract has commenced. The price increase is also felt on dyed diesel consumption used in transfer station equipment.

Disposal

BIG's primary disposal site, Twin Oaks Landfill, notified BIG that their disposal rates will increase by \$2 a ton on October 1, 2022. BIG collects over 1,300 tons a month of trash from Brenham residents and business. Most of the tires collected at the transfer station are recycled at Liberty Tire. Their new fee structure and freight has resulted in cost exceeding the posted rates at the transfer station. BIG is actively exploring alternative, responsible disposal methods for tires.

Other operating cost

Other operating cost such as labor, maintenance and equipment cost have also risen sharply. The price of trash carts and commercial dumpsters have increased by 40% and 65%, respectively, since the inception of the program.

As BIG looks more closely as to what has transpired since 2020 and no anticipation of a rapid correction, BIG proposes an overall effective rate increase of 15% on collection services. Additionally, BIG proposes increased rates on selected transfer station services. Please see enclosed table of proposed rate adjustments.



Brannon Industrial Group sincerely appreciates the opportunity to serve the Brenham community and look forward to the continued partnership. If you have any questions or would like further information on the increased cost of operations, please let me know. Thank you for your consideration.

Sincerely,



Blake Brannon
President





Proposed Rate Adjustment - 8/16/2022

COLLECTION SERVICES

DESCRIPTION	Current Rate	Proposed Rate	Change
RESIDENTIAL	\$ 15.00	\$ 17.00	13%
SENIOR CITIZEN	\$ 12.00	\$ 12.50	4%
EXTRA CART	\$ 8.00	\$ 9.00	13%
BRUSH COLLECTION	\$ 15.00	\$ 17.00	13%
COMMERCIAL RECYCLING	\$ 40.00	\$ 46.00	15%

TRANSFER STATION

DESCRIPTION	Current Rate	Proposed Rate	Change
Tires 15" or less	\$ 3.00	\$ 6.00	100%
Tires 16" or more	\$ 7.50	\$ 15.00	100%
Tractor tires	\$ 45.00	\$ 65.00	44%
Brush- Commercial*	\$ 32.00	\$ 40.00	25%
Brush- Public*	\$ 22.50	\$ 30.00	33%
Brush- Public (Minimum)	\$ 2.00	\$ 5.00	150%

*Per ton

COMMERCIAL

Size (Yds)	Freq / Wk	Current Rate	Proposed Rate	Change
2	1	\$ 70.01	\$ 82.32	17.6%
2	2	\$ 126.69	\$ 148.97	17.6%
2	3	\$ 183.36	\$ 215.61	17.6%
2	4	\$ 241.15	\$ 283.57	17.6%
2	5	\$ 297.82	\$ 350.21	17.6%
2	6	\$ 305.60	\$ 359.36	17.6%
4	1	\$ 87.79	\$ 103.23	17.6%
4	2	\$ 162.24	\$ 190.78	17.6%
4	3	\$ 236.71	\$ 278.35	17.6%
4	4	\$ 312.27	\$ 367.20	17.6%
4	5	\$ 386.72	\$ 454.74	17.6%
4	6	\$ 462.29	\$ 543.61	17.6%
6	1	\$ 96.30	\$ 113.24	17.6%
6	2	\$ 177.62	\$ 208.86	17.6%
6	3	\$ 262.15	\$ 308.26	17.6%
6	4	\$ 334.91	\$ 393.82	17.6%
6	5	\$ 415.16	\$ 488.19	17.6%
6	6	\$ 498.62	\$ 586.33	17.6%
8	1	\$ 114.96	\$ 135.18	17.6%
8	2	\$ 206.69	\$ 243.05	17.6%
8	3	\$ 300.05	\$ 352.83	17.6%
8	4	\$ 383.39	\$ 450.83	17.6%
8	5	\$ 475.63	\$ 559.29	17.6%
8	6	\$ 568.97	\$ 669.05	17.6%
1 cart	1	\$ 20.00	\$ 23.52	17.6%
2 carts	1	\$ 33.33	\$ 39.19	17.6%
3 carts	1	\$ 46.67	\$ 54.88	17.6%
4 carts	1	\$ 66.58	\$ 78.29	17.6%
5 carts	1	\$ 77.04	\$ 90.59	17.6%
6 carts	1	\$ 93.21	\$ 109.61	17.6%

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES

800

810

TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	MAY 7, 2020 <u>OCTOBER 1, 2022</u>	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective ~~January 1, 2016~~ May 7, 2020)

RATE SCHEDULE - RESIDENTIAL

Residential Collection:

Curbside Solid Waste Collection and Recycling Services
One Time Per Week Solid Waste Collection
Bi-Weekly Recycling Collection
~~\$15.00~~ \$17.00 per month/per household

Residential Collection: Senior/Disabled Persons (Age 65 or older):

Curbside Solid Waste Collection and Recycling Services
One Time Per Week Solid Waste Collection
Bi-Weekly Recycling Collection
~~\$12.00~~ \$12.50 per month/per household (application required for discounted rate)

Additional Container: ~~\$8.00~~ \$9.00 per month, per container (sanitation customers only).

Curbside Brush Pick-up: Upon request only. ~~\$15.00~~ \$17.00 per request.

- Curbside brush pick-up is limited to 12 bags per household.
- All limbs must be bundled and tied together. Each bundle shall be no larger than four (4) foot in length and six (6) inches in diameter.

RATE SCHEDULE - COMMERCIAL

Commercial Collection – Front Load Dumpster:

Size	Number of Pick-Ups Per Week						
	1X	2X	3X	4X	5X	6X	Extra
2 YD	70.04 <u>82.32</u>	126.69 <u>148.97</u>	183.36 <u>215.61</u>	241.15 <u>283.57</u>	297.82 <u>350.21</u>	305.60 <u>359.36</u>	25.00
4 YD	87.79 <u>103.23</u>	162.24 <u>190.78</u>	236.71 <u>278.35</u>	312.27 <u>367.20</u>	386.72 <u>454.74</u>	462.29 <u>543.61</u>	35.00
6YD	96.30 <u>113.24</u>	177.62 <u>208.86</u>	262.15 <u>308.26</u>	334.91 <u>393.82</u>	415.16 <u>488.19</u>	498.62 <u>586.33</u>	40.00
8 YD	114.46 <u>135.18</u>	206.69 <u>243.05</u>	300.05 <u>352.83</u>	383.39 <u>450.83</u>	475.63 <u>559.29</u>	568.97 <u>669.05</u>	45.00

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES

800

811

TARIFF
RESIDENTIAL AND COMMERCIAL SOLID
WASTE COLLECTION, DISPOSAL AND
RECYCLING SERVICES AND COLLECTION
AND TRANSFER STATION RATE SCHEDULE

SECTION NO.

SHEET NO.

~~MAY 7, 2020~~ OCTOBER 1, 2022

SECTION TITLE

EFFECTIVE DATE

(Supersedes Rate Change effective — ~~January 1, 2016~~ May 7, 2020)

Commercial Collection – 96 Gallon Cart:

No. Of Carts	Monthly Fee
1	\$ 20.00 <u>\$23.52</u>
2	33.33 <u>39.19</u>
3	46.67 <u>54.88</u>
4	66.58 <u>78.29</u>
5	77.04 <u>90.59</u>
6	93.21 <u>109.61</u>

Commercial Recycling:

Choice of 2, 4, 6 or 8-Yard Dumpster
One Time Per Week Collection
~~\$ 40.00~~ \$46.00 per month, per dumpster
\$ 40.00 per additional pick-up

Any location where dumpster and/or cart is blocked and collection vehicle must return to provide service shall be an additional \$15.00, per occurrence.

Lock bar installed on sanitation dumpster shall be an additional \$45.00 per dumpster.

RATE SCHEDULE – COLLECTION/TRANSFER STATION

Transfer Station Services – Compactible Waste:

Receiving, hauling, packing and transporting to a Type 1 Landfill
In-City rate
\$ 48.00 per ton

Receiving, hauling, packing and transporting to a Type 1 Landfill
Out-of-City rate
Price shall be negotiable between exclusive franchise holder and transfer company
disposing of waste from outside the city limits.

CITY OF BRENHAM
 200 WEST VULCAN STREET P. O. BOX 1059
 BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES

800

812

TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	MAY 7, 2020 <u>OCTOBER 1, 2022</u>	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective — ~~January 1, 2016~~ May 7, 2020)

Transfer Station Services – Non-Compactable Waste:

Receiving, hauling, packing and transporting to a Type 1 Landfill
 \$ 90.00 per ton

Receiving, hauling, packing and transporting to a Type 1 Landfill
 City of Brenham Departments only
 \$ 45.00 per ton

Collection Station Services – Brush

Residential Brush, Per Pound	\$0.0125 (\$20.00 minimum)
Residential Brush, Per Ton	\$22.50 <u>\$30.00</u> (\$2.00 <u>\$5.00</u> minimum)
Commercial Brush, Per Pound	\$0.01625 (\$32.50 minimum)
Commercial Brush, Per Ton	\$32.50 <u>\$40.00</u> (\$32.50 <u>\$40.00</u> minimum)
Residential Brush Collected by City of Brenham Departments	\$22.50 per ton

Collection Station Services – Tires

15" or less	\$3.00 <u>\$6.00</u> per tire
16" or greater	\$7.00 <u>\$15.00</u> per tire
Tractor tires	\$45.00 <u>\$65.00</u> per tire
Tire with rim	\$1.00 extra

Collection Station Services – Mulch

Double ground	\$22.50 per ton
Single ground	\$10.00 per ton
50 tons or more within 30 days	\$17.50 per ton
2 cu.ft. bag	\$2.50 per bag

Residential Garbage

\$2.00 per bag

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES

800

813

TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	MAY 7, 2020 <u>OCTOBER 1, 2022</u>	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective ~~January 1, 2016~~ May 7, 2020)

Collection Station Services – Rake-Off Fees

Brush	\$5.00 per occurrence
Debris	\$10.00 per occurrence
Shingles and other roofing materials	\$15.00 per occurrence

Collection Station Services – Recycling, Unlimited Drop-Offs

City of Brenham Resident	No Charge
Washington County (non-City resident)	\$45.00 per year
City of Brenham Commercial Business	\$45.00 per year*

*If the Commercial Business is participating in monthly recycling services, there will be no additional charge.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	800	814
TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	MAY 7, 2020 <u>OCTOBER 1, 2022</u>	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective ~~January 1, 2016~~ May 7, 2020)

**POLICIES FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING
SERVICES – RESIDENTIAL AND COMMERCIAL**

1. A new customer or a change in service requires Form 7, Application of Service, be filled out at the Public Utilities Office. The form must be signed by the applicant. Copies will be disbursed to the following departments: Public Works and Utility Billing Department.
2. Any changes to the rates contained herein must be approved by the City Council and shall be effective on the date determined by the City Council. Utility Billing Department will adjust customer bills accordingly.
3. Any customer requesting to be included in any special sanitation program must complete the necessary paperwork.
4. Any customer who has residential utility service with the City shall be subject to charges for solid waste collection, disposal and recycling services and shall comply with all City health ordinances regarding the disposal of solid waste.
5. Residential solid waste service shall be collected once per week on a regularly scheduled day. Residential recycling service shall be collected bi-weekly on a regularly scheduled day.
6. Services are available outside the city limits to residential customers presently residing on a current residential truck route that is adjacent to the city limits.
7. Solid waste and recycling containers must be at the curb by 8:00 A.M. on collection day and removed from the curb by 8:00 p.m. on collection day. Containers shall not be placed at the curb for collection prior to 8:00 p.m. the day prior to the scheduled collection day.
8. All solid waste and recycling containers must be placed within three feet of the curb or edge of pavement if there is no curb.
9. Residential collection trucks will not pick up tires, grass clippings, leaves, tree trimming, batteries, carpet, construction materials, furniture and heavy metal objects.
10. Disposal of hazardous waste, explosives, ammunition, used oil and filters, flammable liquids, radioactive waste and/or lead-acid batteries at the Collection/Transfer Station is strictly prohibited. Vehicle tires shall not be placed for curb-side collection, but will be accepted for disposal at the Collection/Transfer Station

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY OF BRENHAM, TEXAS AMENDING THE RATE TARIFF SCHEDULES FOR RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES, AND THE CITY'S COLLECTION AND TRANSFER STATION; AND PROVIDING FOR AN EFFECTIVE DATE OF THIS ORDINANCE.

WHEREAS, the City Council of the City of Brenham, Texas deems it necessary to change the rates for all residential and commercial solid waste collection, disposal and recycling services and the services that are provided at the City of Brenham's Collection and Transfer Station;

NOW, THEREFORE BE IT ORDAINED by the City Council of the City of Brenham, Texas:

SECTION 1.

The City Council of the City of Brenham, Texas, does hereby adopt the Residential and Commercial Solid Waste Collection, Disposal and Recycling Services Rate Schedule and the Collection and Transfer Station Rate Schedule for brush & waste that is disposed of at the City of Brenham's Collection and Transfer Station as set forth in the attached Exhibit "A", which is made a part hereof for all purposes pertinent, to be effective with utility billing occurring on or after October 1, 2022.

SECTION 2.

This Ordinance shall take effect as provided by the Charter of the City of Brenham, Texas. The implementation of rates as set forth herein and on the attached Exhibit "A" shall be effective with utility billing occurring on and after October 1, 2022.

PASSED and APPROVED on its first reading this the 1st day of September 2022.

PASSED and APPROVED on its second reading this the 15th day of September 2022.

Milton Y. Tate, Jr.
Mayor

ATTEST:

Jeana Bellinger, TRMC, CMC
City Secretary

“EXHIBIT A”

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BREHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	800	810
TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective – May 7, 2020)

RATE SCHEDULE - RESIDENTIAL

Residential Collection:

Curbside Solid Waste Collection and Recycling Services
One Time Per Week Solid Waste Collection
Bi-Weekly Recycling Collection
\$17.00 per month/per household

Residential Collection: Senior/Disabled Persons (Age 65 or older):

Curbside Solid Waste Collection and Recycling Services
One Time Per Week Solid Waste Collection
Bi-Weekly Recycling Collection
\$12.50 per month/per household (application required for discounted rate)

Additional Container: \$9.00 per month, per container (sanitation customers only).

Curbside Brush Pick-up: Upon request only. \$17.00 per request.

- Curbside brush pick-up is limited to 12 bags per household.
- All limbs must be bundled and tied together. Each bundle shall be no larger than four (4) foot in length and six (6) inches in diameter.

RATE SCHEDULE - COMMERCIAL

Commercial Collection – Front Load Dumpster:

Size	Number of Pick-Ups Per Week						
	1X	2X	3X	4X	5X	6X	Extra
2 YD	82.32	148.97	215.61	283.57	350.21	359.36	25.00
4 YD	103.23	190.78	278.35	367.20	454.74	543.61	35.00
6 YD	113.24	208.86	308.26	393.82	488.19	586.33	40.00
8 YD	135.18	243.05	352.83	450.83	559.29	669.05	45.00

“EXHIBIT A”

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059
ALL SERVICES 800 811

TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective – May 7, 2020)

Commercial Collection – 96 Gallon Cart:

No. Of Carts	Monthly Fee
1	\$ 23.52
2	39.19
3	54.88
4	78.29
5	90.59
6	109.61

Commercial Recycling:

Choice of 2, 4, 6 or 8-Yard Dumpster
One Time Per Week Collection
\$46.00 per month, per dumpster
\$ 40.00 per additional pick-up

Any location where dumpster and/or cart is blocked and collection vehicle must return to provide service shall be an additional \$15.00, per occurrence.

Lock bar installed on sanitation dumpster shall be an additional \$45.00 per dumpster.

RATE SCHEDULE – COLLECTION/TRANSFER STATION

Transfer Station Services – Compactible Waste:

Receiving, hauling, packing and transporting to a Type 1 Landfill
In-City rate
\$ 48.00 per ton

Receiving, hauling, packing and transporting to a Type 1 Landfill
Out-of-City rate
Price shall be negotiable between exclusive franchise holder and transfer company
disposing of waste from outside the city limits.

“EXHIBIT A”

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	800	812
TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective – May 7, 2020)

Transfer Station Services – Non-Compactible Waste:

Receiving, hauling, packing and transporting to a Type 1 Landfill
\$ 90.00 per ton

Receiving, hauling, packing and transporting to a Type 1 Landfill
City of Brenham Departments only
\$ 45.00 per ton

Collection Station Services – Brush

Residential Brush, Per Pound	\$0.0125 (\$20.00 minimum)
Residential Brush, Per Ton	\$30.00 (\$5.00 minimum)
Commercial Brush, Per Pound	\$0.01625 (\$32.50 minimum)
Commercial Brush, Per Ton	\$40.00 (\$40.00 minimum)
Residential Brush Collected by City of Brenham Departments	\$22.50 per ton

Collection Station Services – Tires

15” or less	\$6.00 per tire
16” or greater	\$15.00 per tire
Tractor tires	\$65.00 per tire
Tire with rim	\$1.00 extra

Collection Station Services – Mulch

Double ground	\$22.50 per ton
Single ground	\$10.00 per ton
50 tons or more within 30 days	\$17.50 per ton
2 cu.ft. bag	\$2.50 per bag

Residential Garbage

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“EXHIBIT A”

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	800	813
TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective – May 7, 2020)

Collection Station Services – Rake-Off Fees

Brush	\$5.00 per occurrence
Debris	\$10.00 per occurrence
Shingles and other roofing materials	\$15.00 per occurrence

Collection Station Services – Recycling, Unlimited Drop-Offs

City of Brenham Resident	No Charge
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“EXHIBIT A”

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENNHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	800	814
TARIFF	SECTION NO.	SHEET NO.
RESIDENTIAL AND COMMERCIAL SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES AND COLLECTION AND TRANSFER STATION RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective – May 7, 2020)

**POLICIES FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING
SERVICES – RESIDENTIAL AND COMMERCIAL**

1. A new customer or a change in service requires Form 7, Application of Service, be filled out at the Public Utilities Office. The form must be signed by the applicant. Copies will be disbursed to the following departments: Public Works and Utility Billing Department.
2. Any changes to the rates contained herein must be approved by the City Council and shall be effective on the date determined by the City Council. Utility Billing Department will adjust customer bills accordingly.
3. Any customer requesting to be included in any special sanitation program must complete the necessary paperwork.
4. Any customer who has residential utility service with the City shall be subject to charges for solid waste collection, disposal and recycling services and shall comply with all City health ordinances regarding the disposal of solid waste.
5. Residential solid waste service shall be collected once per week on a regularly scheduled day. Residential recycling service shall be collected bi-weekly on a regularly scheduled day.
6. Services are available outside the city limits to residential customers presently residing on a current residential truck route that is adjacent to the city limits.
7. Solid waste and recycling containers must be at the curb by 8:00 A.M. on collection day and removed from the curb by 8:00 p.m. on collection day. Containers shall not be placed at the curb for collection prior to 8:00 p.m. the day prior to the scheduled collection day.
8. All solid waste and recycling containers must be placed within three feet of the curb or edge of pavement if there is no curb.
9. Residential collection trucks will not pick up tires, grass clippings, leaves, tree trimming, batteries, carpet, construction materials, furniture and heavy metal objects.
10. Disposal of hazardous waste, explosives, ammunition, used oil and filters, flammable liquids, radioactive waste and/or lead-acid batteries at the Collection/Transfer Station is strictly prohibited. Vehicle tires shall not be placed for curb-side collection, but will be accepted for disposal at the Collection/Transfer Station



Regular City Council
AGENDA ITEM 13.

Agenda Item: Discuss and Possibly Act Upon an Ordinance on Its First Reading Amending the Rate Tariff Schedule for the City of Brenham Water Rates

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Utilities

Staff Contact: Debbie Gaffey

SUMMARY STATEMENT:

For FY23, a 5.5 percent increase in water rates is required due to increases in supply costs, most significantly for water treatment chemicals. Water treatment chemicals, which account for 16 percent of the \$3.8 million Water Fund operating budget, have increased 40 percent on a budget-to-budget basis. Cost drivers include supply chain shortages, particularly on chemical ingredients sourced in Russia and higher shipping costs. The City purchases surface water from Brazos River Authority (BRA). BRA has increased purchase water rates over 5.5 percent and plans on raising future rates 5 to 6 percent annually. For these reasons, a water rate increase is needed to sustain the financial viability of the Water Fund.

Monthly impact on water users is as follows:

	5,000 Gal	10,000 Gal	50,000 Gal	200,000 Gal
Residential - Current	\$29.85	\$52.60		
Residential - Proposed	\$31.49	\$55.49		
Residential - Increase	\$1.64	\$2.89		
TML Avg Pop 15 to 20K	\$31.71	\$52.48		
Commercial - Current			\$222.88	\$875.38
Commercial - Proposed			\$235.09	\$923.59
Commercial - Increase			\$12.21	\$48.21
TML Avg Pop 15 to 20K			\$283.20	\$1,036.53

In addition, we are proposing changes to the Water Service Fees tariff (Rate Schedule W-N). Changes include:

- Removal of 3" service tap, service line, and meter fee (City does not do 3")
- Changing 4" service tap, service line, and meter fee from \$3,000.00 to At Cost
- Correcting language on fee for taps on existing mains for the connection of new mains
- Downsizing a 3" and larger meter from a fee of \$300.00 to At Cost

Finally, we are removing Reclaimed Wholesale Water (Rate Schedule W-R) from the Water Tariffs because the revenue is recognized in the Wastewater Fund and a tariff for it exists in the Wastewater Tariffs.

ATTACHMENTS:

- (1) Water Rate Increase Summary Sheet
- (2) Redline of Water Rate Tariff Changes
- (3) Ordinance for First Reading
- (4) Exhibit A - Water Rate Tariff Changes Final for Website

RECOMMENDED ACTION:

Approve an Ordinance on its first reading amending the rate tariff schedule for the City of Brenham Water Rates.

WATER RATE INCREASE - TARIFF SUMMARY SHEET

RATE INCREASE OCT 1, 2022

5.50%

			CURRENT	PROPOSED	% CHG
WA	Residential - Urban	1st 3000 gallons or less	\$20.75	\$21.89	5.50%
		3,001-10,000 gallons	\$4.55	\$4.80	5.50%
		10,001-25,000 gallons	\$5.70	\$6.01	5.50%
		25,001 and above	\$7.12	\$7.51	5.50%
WB	Residential - Rural	1st 3000 gallons or less	\$23.86	\$25.17	5.50%
		3,001-10,000 gallons	\$5.23	\$5.52	5.50%
		10,001-25,000 gallons	\$6.56	\$6.92	5.50%
		25,001 and above	\$8.19	\$8.64	5.50%
WD	Temporary Construction	1st 3000 gallons or less	\$20.23	\$21.34	5.50%
		3,001-10,000 gallons	\$5.56	\$5.87	5.50%
		10,001-25,000 gallons	\$6.96	\$7.34	5.50%
		25,001 and above	\$8.70	\$9.18	5.50%
WE	Residential - Urban Irrigation	0-10,000 gallons	\$4.92	\$5.19	5.50%
		10,001-25,000 gallons	\$6.15	\$6.49	5.50%
		25,001 and above	\$7.70	\$8.12	5.50%
WF	Commercial, Industrial - Urban	1st 3000 gallons or less	\$20.23	\$21.34	5.50%
		3,001-10,000 gallons	\$2.78	\$2.93	5.50%
		10,001-25,000 gallons	\$3.48	\$3.67	5.50%
		25,001 and above	\$4.35	\$4.59	5.50%
WG	Commercial, Industrial - Rural	1st 3000 gallons or less	\$23.26	\$24.54	5.50%
		3,001-10,000 gallons	\$3.20	\$3.38	5.50%
		10,001-25,000 gallons	\$4.00	\$4.22	5.50%
		25,001 and above	\$5.00	\$5.28	5.50%
WH	Residential, commercial, and industrial - Rural Irrigation	0-10,000 gallons	\$5.66	\$5.97	5.50%
		10,001-25,000 gallons	\$7.07	\$7.46	5.50%
		25,001 and above	\$8.86	\$9.35	5.50%
WI	Commercial, Industrial - Urban Irrigation	0-10,000 gallons	\$4.92	\$5.19	5.50%
		10,001-25,000 gallons	\$6.15	\$6.49	5.50%
		25,001 and above	\$7.70	\$8.12	5.50%

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	610
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

GENERAL SERVICE - URBAN

RATE SCHEDULE - W-A

APPLICABILITY

This rate is applicable to all residential customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 21.89 \$ 20.75
3,001 – 10,000 gallons	\$ 4.80 \$ 4.55 /1,000 gallons
10,001 – 25,000 gallons	\$ 6.01 \$ 5.70 /1,000 gallons
25,001 and above	\$ 7.51 \$ 7.12 /1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 21.89 ~~\$ 20.75~~.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	611
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The homeowner will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

600

620

ALL SERVICES	SECTION NO.	SHEET NO.
TARIFF		
WATER RATE SCHEDULE	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective 10/01/~~19~~) 21

GENERAL SERVICE - RURAL

RATE SCHEDULE W-B

APPLICABILITY

This rate is applicable to all residential customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located outside the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 25.17 \$ 23.86
3,001 – 10,000 gallons	\$5.52 \$ 5.23 /1,000 gallons
10,001 – 25,000 gallons	\$6.92 \$ 6.56 /1,000 gallons
25,001 and above	\$ 8.64 \$ 8.19 /1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 25.17 ~~\$ 23.86~~.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	621
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	630
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/20 19) 21	

TEMPORARY CONSTRUCTION SERVICE

RATE SCHEDULE W-D

APPLICABILITY

This rate is applicable to all customers that receive water delivered into a tank truck, tank trailer, portable sprayer, portable mixer, or other similar container from a temporary meter set on a fire hydrant.

AVAILABILITY

This rate and service is only applicable to those who pay the required deposit and the fee for meter placement, and who are approved by the General Manager of Public Utilities prior to usage.

RATES

First 3,000 gallons or less	\$ 21.34 \$ 20.23
3,001 – 10,000 gallons	\$ 5.87 \$ 5.56 /1,000 gallons
10,001 – 25,000 gallons	\$ 7.34 \$ 6.96 /1,000 gallons
25,001 and above	\$ 9.18 \$ 8.70 /1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 21.34 ~~\$ 20.23~~.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, the customer will forfeit the entire deposit and the City may, at its sole option, remove the fire hydrant meter and terminate service to the customer.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	631
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. The customer will pay an initial deposit of three hundred dollars (\$300.00) in cash or check to the City of Brenham.
2. In addition, where service is rendered from a fire hydrant, the customer will be required to pay a non-refundable fee of two hundred dollars (\$200.00) to cover the City's cost of setting up and removing a temporary meter on a fire hydrant. The superintendent of the Water Distribution Department has the authority to refuse service from any fire hydrant where, in his opinion, the rendering of such service would have an adverse effect on the pressure or flow to other customers in the surrounding area.
3. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
4. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	640
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

YARD SPRINKLER SYSTEM SERVICE – URBAN

RATE SCHEDULE W-E

APPLICABILITY

This rate is applicable to all residential customers receiving water service through a permanent meter installation, which serves which serves only a yard sprinkler system.

AVAILABILITY

This rate is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

0 – 10,000 gallons	\$ 5.19 \$ 4.92 /1,000 gallons
10,001 – 25,000 gallons	\$ 6.49 \$ 6.15 /1,000 gallons
25,001 and above	\$ 8.12 \$ 7.70 /1,000 gallons

MINIMUM CHARGES

No minimum monthly bill

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	641
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	642
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

YARD SPRINKLER SYSTEM SERVICE – URBAN

RATE SCHEDULE W-I

APPLICABILITY

This rate is applicable to all commercial and industrial customers receiving water service through a permanent meter installation, which serves only a yard sprinkler system.

AVAILABILITY

This rate is available to all customers located inside the corporate limits of the City of Brenham, Texas.

RATES

0 – 10,000 gallons	\$ 5.19 \$ 4.92 /1,000 gallons
10,001 – 25,000 gallons	\$ 6.49 \$ 6.15 /1,000 gallons
25,001 and above	\$ 8.12 \$ 7.70 /1,000 gallons

MINIMUM CHARGES

No minimum monthly bill

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	643
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	650
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

GENERAL SERVICE - URBAN

RATE SCHEDULE W-F

APPLICABILITY

This rate is applicable to all commercial and industrial customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 21.34 \$ 20.23
3,001 – 10,000 gallons	\$ 2.93 \$ 2.78 /1,000 gallons
10,001 – 25,000 gallons	\$ 3.67 \$ 3.48 /1,000 gallons
25,001 and above	\$ 4.59 \$ 4.35 /1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$21.34 ~~\$ 20.23~~.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	651
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The homeowner will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600	660
SECTION NO.	SHEET NO.	
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

GENERAL SERVICE - RURAL

RATE SCHEDULE W-G

APPLICABILITY

This rate is applicable to all commercial and industrial customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located outside the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 24.54 \$ 23.26
3,001 – 10,000 gallons	\$ 3.38 \$ 3.20 /1,000 gallons
10,001 – 25,000 gallons	\$ 4.22 \$ 4.00 /1,000 gallons
25,001 and above	\$ 5.28 \$ 5.00 /1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 24.54 ~~\$ 23.26~~.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	661
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	Supersedes Rate Change effective 10/01/ 19 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	670
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

YARD SPRINKLER SYSTEM - RURAL

RATE SCHEDULE W-H

APPLICABILITY

This rate is applicable to all residential, commercial and industrial service through a permanent meter installation, which serves only a yard sprinkler system.

AVAILABILITY

This rate is available to all customers located outside the corporate limits of the City of Brenham, Texas

RATES

0 – 10,000 gallons	\$ 5.97 \$ 5.66 /1,000 gallons
10,001 – 25,000 gallons	\$ 7.46 \$ 7.07 /1,000 gallons
25,001 and above	\$ 9.35 \$ 8.86 /1,000 gallons

MINIMUM CHARGES

No minimum monthly charge

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	671
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/ 19) 21	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	680A
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

FIRE LINE SERVICE - URBAN

RATE SCHEDULE 20, 21, 22, 23, and 24

APPLICABILITY

This rate is applicable to all residential, commercial, and industrial customers receiving unmetered standby water service for the sole purpose of feeding an automatic fire sprinkler system or similar apparatus.

AVAILABILITY

This rate schedule is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

Size of Service Line	Flat Monthly Rate
4 inch (Rate Schedule 20)	\$ 21.38
6 inch (Rate Schedule 21)	62.11
8 inch (Rate Schedule 22)	132.36
10 inch (Rate Schedule 23)	238.02
12 inch (Rate Schedule 24)	384.48

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	681A
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and service line is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. Service rendered under this schedule is for standby service only. Connection of fixtures or facilities used on a regular basis is specifically prohibited.
6. The City does not guarantee minimum pressure or rates of flow for service provided under this schedule.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	680B
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

FIRE LINE SERVICE - RURAL

RATE SCHEDULE 30, 31, 32, 33, AND 34

APPLICABILITY

This rate is applicable to all residential, commercial, and industrial customers receiving unmetered standby water service for the sole purpose of feeding an automatic fire sprinkler system or similar apparatus.

AVAILABILITY

This rate schedule is available to all customers located outside the corporate limits of the City of Brenham, Texas.

RATES

Size of Service Line	Flat Monthly Rate
4 inch (Rate Schedule 30)	\$ 24.59
6 inch (Rate Schedule 31)	71.43
8 inch (Rate Schedule 32)	152.21
10 inch (Rate Schedule 33)	273.73
12 inch (Rate Schedule 34)	442.15

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	681B
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and service line is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. Service rendered under this schedule is for standby service only. Connection of fixtures or facilities used on a regular basis is specifically prohibited.
6. The City does not guarantee minimum pressure or rates of flow for service provided under this schedule.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600 SECTION NO.	690 SHEET NO.
WATER RATE SCHEDULES SECTION TITLE	OCTOBER 1, 20 21 22 EFFECTIVE DATE	

(Supersedes Rate Change effective ~~3/19/1998~~) 10/01/21

WATER SERVICE FEES

RATE SCHEDULE W-N

APPLICABILITY

This rate schedule is applicable to the installation of service taps, service lines, water meters, and other miscellaneous water service-related items, for residential, commercial, and/or industrial customers.

AVAILABILITY

These rates are available to all customers or prospective customers of the City's water system.

- I. The actual tapping of a water main, by City staff, to provide service to an adjoining lot. The fee for connecting a meter to a line that has not been pre-stubbed, or has been pre-stubbed by the City, shall be based on meter size: A pre-stubbed water service is defined as a water service that has already been tapped at the main and has had the water service line extended to the property line. These fees are as follows:

1 Inch service tap, service line, and meter	\$1,030.00
1-1/2 Inch service tap, service line, and meter	\$1,530.00
2 Inch service tap, service line, and meter	\$1,715.00
*3 Inch service tap, service line, and meter	\$2,260.00
*4 Inch service tap, service line, and meter	At Cost \$3,000.00

* Turbine meters only

Note: The fees established herein do not include cost for boring and casing, if required. Costs for boring and casing will be added to these fees based on actual cost.

Note: A water service installation that requires removal of pavement in a TxDOT right-of-way will be charged at the actual cost of work performed or incurred by the City. An owner may choose to hire a contractor to install the service at their own cost and the City will inspect the work to determine if the water service installation complies with the City's specifications. If an owner chooses to hire a contractor to install the service, the work must be completed in compliance with the City's specifications (or approved alternatives), as determined by the City, in its sole discretion, after inspection of the work. The final pavement repair must be performed immediately upon completion of the water service installation.

The fees for the installation of an irrigation meter commonly referred to as a split service are set forth below.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600 SECTION NO.	691 SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective ~~3/19/1998~~) 10/01/21

If a split service meter is installed at the same time as the installation of a new service connection, the fee is as follows:

1 Inch Split Service off a 1 Inch Service	\$265.00
1 Inch Split Service off a 1 ½ Inch Service	\$275.00
1 Inch Split Service off a 2 Inch Service	\$290.00

If a split service meter is installed after the installation of a new service connection, the fee is as follows:

1 Inch Split Service off a 1 Inch Service	\$375.00
1 Inch Split Service off a 1 ½ Inch Service	\$385.00
1 Inch Split Service off a 2 Inch Service	\$400.00

- II. The fees for connecting a meter to a line that has been pre-stubbed at no expense to the City shall be based on meter size, and are as follows:

1 Inch	\$ 260.00
1-1/2 Inch	\$ 645.00
2 Inch	\$ 710.00
4 Inch or larger	\$1,300.00

- III. The fee for ~~the installation, by the City, of taps on existing water mains for the~~ connection, by others, to existing taps on City installed water mains to connect new water mains are as follows:

Existing Main Size (inches)	New Main Size (inches)	Connection Fee
6	4	\$ 840.00
6	6	\$ 935.00
8	4	\$ 870.00
8	6	\$ 920.00
8	8	\$1,105.00
10	4	\$ 835.00
10	6	\$ 945.00
10	8	\$1,085.00
10	10	\$1,440.00
12	4	\$ 970.00
12	6	\$1,050.00
12	8	\$1,170.00
12	10	\$1,465.00
12	12	\$1,725.00

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600 SECTION NO.	692 SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 20 21 22	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective ~~3/19/1998~~) 10/01/21

Note: The fees established herein do not include cost for boring and casing, if required. Costs for boring and casing will be added to these fees based on actual cost.

Note: A water service installation that requires removal of pavement in a TxDOT right-of-way will be charged at the actual cost of work performed or incurred by the City. An owner may choose to hire a contractor to install the service at their own cost and the City will inspect the work to determine if the water service installation complies with the City's specifications. If an owner chooses to hire a contractor to install the service, the work must be completed in compliance with the City's specifications (or approved) alternatives, as determined by the City, in its sole discretion, after inspection of the work. The final pavement repair must be performed immediately upon completion of the water service installation.

IV. Miscellaneous Water Service Fees:

The fee for installation of one or more fire hydrants shall be based on actual cost.

The fee for replacing a 1" curb stop damaged by other than City personnel - \$95.00. Replacement of curb stops larger than 1" will be charged at actual cost.

The fee for moving meter at customer's request shall be as follows:

Meter Size	Moving Meter up to Fifteen (15) Feet	Moving Meter between Fifteen (15) and Thirty (30) Feet
1 Inch	\$225.00	\$365.00
1 1/2 Inch	\$285.00	\$430.00
2 Inch	\$315.00	\$460.00

Note: Moving meters larger than 2" will be charged at actual cost.

The fee for raising or adjusting a meter at customer's request shall be as follows:

Meter Size	Fee
1 Inch	\$ 70.00
1 1/2 Inch	\$210.00
2 Inch	\$270.00

Note: Raising or adjusting meters larger than 2" will be charged at actual cost.

The fee for installing or extending a water mainline from an existing tap to the property line shall be based on actual cost.

The fee for changing meter size shall be based on the following:

Downsizing a 2", 1 1/2" and 1" meter - \$50.00

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600 SECTION NO.	693 SHEET NO.
WATER RATE SCHEDULES SECTION TITLE	OCTOBER 1, 20 21 22 EFFECTIVE DATE	

(Supersedes Rate Change effective ~~3/19/98~~) 10/01/21

Downsizing a 3" and larger meter - ~~\$300.00~~ At Cost

Note: When an existing meter is changed to a larger size and a new tap and service line are required, the fee shall be the same as for a new connection of the same size.

The fee for setting a fire hydrant meter shall be \$200.00 and requires a \$300.00 deposit.

The fee for turning water service off/on for repairs at customer request shall be \$50.00 plus \$25.00 additional if done after regular business hours (regular business hours are 8:00 a.m. to 5:00 p.m., Monday – Friday, excluding holidays).

The fees for services not specifically addressed in this tariff will be charged in the amount of the actual cost of performing the service.

- V. Replacement of water taps due to deterioration. Water tap deterioration will be determined by the City based on standards set by the Texas Commission on Environmental Quality, or its successor agency and the edition of the International Plumbing Code, as amended, in effect at the time of the determination, for minimum residual pressure and flow.

All Taps	No Charge
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CHARACTER OF SERVICE

Facilities provided under this rate will consist of the installation of an appropriate size corporation stop or tapping saddle, installation of an appropriate size angle meter stop or gate valve, installation of an appropriate size meter, installation of a meter box, and the installation of a sufficient amount of an appropriate size service line to allow the placement of the meter at or near the customer's property line.

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations as may be amended from time to time.
2. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
3. In the event a customer desires to increase the size of an existing service, the cost of such enlargement will be equal to the cost of the installation of the new size of service.

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	694
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	APRIL 1, 2012	
SECTION TITLE	EFFECTIVE DATE	
(Supersedes Rate Change effective 3/19/98)		

RECLAIMED WHOLESALE WATER

RATE SCHEDULE W-R

APPLICABILITY

~~This rate is applicable to all customers that receive Type 1 Reclaimed Water to be used for industrial and manufacturing processing, residential irrigation, irrigation for urban or rural uses, food crops, municipality-owned right-of-way, fire protection, maintenance of off-channel impoundments, toilet flush water, dust control, road construction, construction activities and process water.~~

AVAILABILITY

~~This rate is available to all customers who enter into a Reclaimed Water Use Agreement, pay the applicable deposit, and receive Type 1 Reclaimed Water at the Reclaimed Water Station located at 2005 Old Chappell Hill Rd.~~

RATES

~~\$4.00 per 1,000 gallons~~

MINIMUM CHARGES

~~No minimum charge.~~

TERMS OF PAYMENT

~~All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, the customer's deposit will be forfeited and the City may, at its sole option, terminate services and the Reclaimed Water Use Agreement, according to its terms.~~

CHARACTER OF SERVICE

~~Reclaimed water supplied under this rate schedule is Type 1 Reclaimed Water produced at the Brenham Wastewater Treatment Plant that is authorized and approved for re-sale by the Texas Commission on Environmental Quality. (Authorization # R10388001)~~

CITY OF BRENHAM
200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	695
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	APRIL 1, 2012	
SECTION TITLE	EFFECTIVE DATE	

~~(Supersedes Rate Change effective 3/19/98)~~

SPECIAL CONDITIONS OF SERVICE

- ~~1. Where service is rendered from the Reclaimed Bulk Water Station, the customer will be required to pay an initial deposit of three hundred dollars (\$300.00). The customer will also be required to sign a Reclaimed Water Use Agreement prior to usage of the station. The station will have 24-hour access and will be controlled through individual pin codes per account that are distributed upon compliance with the above requirements.~~
- ~~2. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.~~
- ~~3. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.~~

ORDINANCE NO. _____

AN ORDINANCE AMENDING THE WATER RATE TARIFF SCHEDULES FOR WATER SERVICES FOR THE CITY OF BRENHAM, TEXAS; AND PROVIDING FOR AN EFFECTIVE DATE OF THIS ORDINANCE:

WHEREAS, the City Council for the City of Brenham, Texas ("City Council") deems it necessary to change the rates charged for water services to its customers in order to provide for conditions of utility service which promote health, safety, and welfare of the citizens of Brenham, Texas.

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

SECTION I

The City Council of the City of Brenham, Texas does hereby adopt the Water Rate Schedules for water services set forth in the attached Exhibit "A", which is made a part hereof for all purposes pertinent, to be effective with utility billing occurring on or after October 1, 2022.

SECTION II

This Ordinance shall take effect as provided by the Charter of the City of Brenham, Texas. The implementation of rates as forth herein and on the attached Exhibit "A" shall be effective with utility billing occurring on and after October 1, 2022.

PASSED AND APPROVED, on its first reading this the 1st day of September 2022.

PASSED AND APPROVED, on its second reading this the 15th day of September 2022.

Milton Y. Tate, Jr.
Mayor

ATTEST:

Jeana Bellinger, TRMC, CMC
City Secretary

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	610
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

GENERAL SERVICE - URBAN

RATE SCHEDULE - W-A

APPLICABILITY

This rate is applicable to all residential customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 21.89
3,001 – 10,000 gallons	\$ 4.80/1,000 gallons
10,001 – 25,000 gallons	\$ 6.01/1,000 gallons
25,001 and above	\$ 7.51/1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 21.89.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	611
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The homeowner will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

600

620

ALL SERVICES		
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective 10/01/21)

GENERAL SERVICE - RURAL

RATE SCHEDULE W-B

APPLICABILITY

This rate is applicable to all residential customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located outside the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 25.17
3,001 – 10,000 gallons	\$5.52/1,000 gallons
10,001 – 25,000 gallons	\$6.92/1,000 gallons
25,001 and above	\$ 8.64/1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 25.17.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	621
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULE	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective 10/01/21)

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	630
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective 10/01/2021)

TEMPORARY CONSTRUCTION SERVICE

RATE SCHEDULE W-D

APPLICABILITY

This rate is applicable to all customers that receive water delivered into a tank truck, tank trailer, portable sprayer, portable mixer, or other similar container from a temporary meter set on a fire hydrant.

AVAILABILITY

This rate and service is only applicable to those who pay the required deposit and the fee for meter placement, and who are approved by the General Manager of Public Utilities prior to usage.

RATES

First 3,000 gallons or less	\$ 21.34
3,001 – 10,000 gallons	\$ 5.87/1,000 gallons
10,001 – 25,000 gallons	\$ 7.34/1,000 gallons
25,001 and above	\$ 9.18/1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 21.34.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, the customer will forfeit the entire deposit and the City may, at its sole option, remove the fire hydrant meter and terminate service to the customer.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	631
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	

(Supersedes Rate Change effective 10/01/21)

SPECIAL CONDITIONS OF SERVICE

1. The customer will pay an initial deposit of three hundred dollars (\$300.00) in cash or check to the City of Brenham.
2. In addition, where service is rendered from a fire hydrant, the customer will be required to pay a non-refundable fee of two hundred dollars (\$200.00) to cover the City's cost of setting up and removing a temporary meter on a fire hydrant. The superintendent of the Water Distribution Department has the authority to refuse service from any fire hydrant where, in his opinion, the rendering of such service would have an adverse effect on the pressure or flow to other customers in the surrounding area.
3. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
4. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	640
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

YARD SPRINKLER SYSTEM SERVICE – URBAN

RATE SCHEDULE W-E

APPLICABILITY

This rate is applicable to all residential customers receiving water service through a permanent meter installation, which serves which serves only a yard sprinkler system.

AVAILABILITY

This rate is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

0 – 10,000 gallons	\$ 5.19/1,000 gallons
10,001 – 25,000 gallons	\$ 6.49/1,000 gallons
25,001 and above	\$ 8.12/1,000 gallons

MINIMUM CHARGES

No minimum monthly bill

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	641
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	642
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

YARD SPRINKLER SYSTEM SERVICE – URBAN

RATE SCHEDULE W-I

APPLICABILITY

This rate is applicable to all commercial and industrial customers receiving water service through a permanent meter installation, which serves only a yard sprinkler system.

AVAILABILITY

This rate is available to all customers located inside the corporate limits of the City of Brenham, Texas.

RATES

0 – 10,000 gallons	\$ 5.19/1,000 gallons
10,001 – 25,000 gallons	\$ 6.49/1,000 gallons
25,001 and above	\$ 8.12/1,000 gallons

MINIMUM CHARGES

No minimum monthly bill

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	643
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	650
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

GENERAL SERVICE - URBAN

RATE SCHEDULE W-F

APPLICABILITY

This rate is applicable to all commercial and industrial customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 21.34
3,001 – 10,000 gallons	\$ 2.93/1,000 gallons
10,001 – 25,000 gallons	\$ 3.67/1,000 gallons
25,001 and above	\$ 4.59/1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$21.34.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	651
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The homeowner will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600	660
SECTION NO.	SHEET NO.	
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

GENERAL SERVICE - RURAL

RATE SCHEDULE W-G

APPLICABILITY

This rate is applicable to all commercial and industrial customers receiving water service through a permanent meter installation.

AVAILABILITY

This rate is available to all customers located outside the corporate limits of the City of Brenham, Texas.

RATES

First 3,000 gallons or less	\$ 24.54
3,001 – 10,000 gallons	\$ 3.38/1,000 gallons
10,001 – 25,000 gallons	\$ 4.22/1,000 gallons
25,001 and above	\$ 5.28/1,000 gallons

MINIMUM CHARGES

The minimum monthly bill shall be \$ 24.54.

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	661
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	Supersedes Rate Change effective 10/01/21)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	670
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

YARD SPRINKLER SYSTEM - RURAL

RATE SCHEDULE W-H

APPLICABILITY

This rate is applicable to all residential, commercial and industrial service through a permanent meter installation, which serves only a yard sprinkler system.

AVAILABILITY

This rate is available to all customers located outside the corporate limits of the City of Brenham, Texas

RATES

0 – 10,000 gallons	\$ 5.97/1,000 gallons
10,001 – 25,000 gallons	\$ 7.46/1,000 gallons
25,001 and above	\$ 9.35/1,000 gallons

MINIMUM CHARGES

No minimum monthly charge

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	671
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2022	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 10/01/21)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and meter is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. The customer will be billed for metered water when City personnel find the water meter on.
6. Abnormally high water bills caused when a customer has a water leak (break in line, leaking commode, etc) will be adjusted a maximum of \$150 for a maximum of two billing periods. A customer whose current water bill is abnormally high because of a water leak must bring or mail a receipt to the Utility Billing Department showing that the problem has been fixed or a written and signed statement from the customer if the customer repaired the problem himself. Utility Billing will require the completion of one additional full billing cycle in order to be certain that the problem has been fixed. If the customer's water bill returns to normal, they will be credited for one-half of the water that leaked for a total maximum adjustment of \$150. If necessary, this adjustment/credit may be made for a maximum of two billing periods if the customer experienced an abnormally high water bill for more than one billing period.
7. Minimum water bills will be assessed based on the number of electric meters. Apartments will be billed one minimum for each rental unit on the premises.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	680A
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

FIRE LINE SERVICE - URBAN

RATE SCHEDULE 20, 21, 22, 23, and 24

APPLICABILITY

This rate is applicable to all residential, commercial, and industrial customers receiving unmetered standby water service for the sole purpose of feeding an automatic fire sprinkler system or similar apparatus.

AVAILABILITY

This rate schedule is available to all customers located within the corporate limits of the City of Brenham, Texas.

RATES

Size of Service Line	Flat Monthly Rate
4 inch (Rate Schedule 20)	\$ 21.38
6 inch (Rate Schedule 21)	62.11
8 inch (Rate Schedule 22)	132.36
10 inch (Rate Schedule 23)	238.02
12 inch (Rate Schedule 24)	384.48

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	681A
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and service line is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. Service rendered under this schedule is for standby service only. Connection of fixtures or facilities used on a regular basis is specifically prohibited.
6. The City does not guarantee minimum pressure or rates of flow for service provided under this schedule.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	680B
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

FIRE LINE SERVICE - RURAL

RATE SCHEDULE 30, 31, 32, 33, AND 34

APPLICABILITY

This rate is applicable to all residential, commercial, and industrial customers receiving unmetered standby water service for the sole purpose of feeding an automatic fire sprinkler system or similar apparatus.

AVAILABILITY

This rate schedule is available to all customers located outside the corporate limits of the City of Brenham, Texas.

RATES

Size of Service Line	Flat Monthly Rate
4 inch (Rate Schedule 30)	\$ 24.59
6 inch (Rate Schedule 31)	71.43
8 inch (Rate Schedule 32)	152.21
10 inch (Rate Schedule 33)	273.73
12 inch (Rate Schedule 34)	442.15

TERMS OF PAYMENT

All rates specified herein are net, and the gross rates for delinquent payments are ten percent (10%) higher. Each bill for service is due within fifteen (15) days after issuance unless such day falls on a holiday or weekend, in which case payment is due on the next workday. If full payment is not received at the City's offices or other approved payment location on or before the due date, all of the customer's utility services will be considered delinquent and subject to disconnection.

CHARACTER OF SERVICE

Water supplied under this rate schedule is normally treated surface water approved for public water supply by the Texas Commission on Environmental Quality.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES	600	681B
TARIFF	SECTION NO.	SHEET NO.
WATER RATE SCHEDULES	OCTOBER 1, 2019	
SECTION TITLE	EFFECTIVE DATE	
	(Supersedes Rate Change effective 1/22/06)	

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations in effect from time to time.
2. Bills will be adjusted by the proportionate part of any tax or charge levied or assessed against the City or upon its water business as a result of any new or amended laws becoming effective after the effective date of this rate schedule.
3. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
4. If the installation of a service tap and service line is necessary to provide the customer with service, the cost of such installation is the responsibility of the customer.
5. Service rendered under this schedule is for standby service only. Connection of fixtures or facilities used on a regular basis is specifically prohibited.
6. The City does not guarantee minimum pressure or rates of flow for service provided under this schedule.

EXHIBIT "A"

CITY OF BRENHAM

200 WEST VULCAN STREET P. O. BOX 1059
BRENHAM, WASHINGTON COUNTY, TEXAS 77834-1059

ALL SERVICES TARIFF	600 SECTION NO.	690 SHEET NO.
WATER RATE SCHEDULES SECTION TITLE	OCTOBER 1, 2022 EFFECTIVE DATE	

(Supersedes Rate Change effective 10/01/2021)

WATER SERVICE FEES

RATE SCHEDULE W-N

APPLICABILITY

This rate schedule is applicable to the installation of service taps, service lines, water meters, and other miscellaneous water service-related items, for residential, commercial, and/or industrial customers.

AVAILABILITY

These rates are available to all customers or prospective customers of the City's water system.

- I. The actual tapping of a water main, by City staff, to provide service to an adjoining lot. The fee for connecting a meter to a line that has not been pre-stubbed, or has been pre-stubbed by the City, shall be based on meter size: A pre-stubbed water service is defined as a water service that has already been tapped at the main and has had the water service line extended to the property line. These fees are as follows:

1 Inch service tap, service line, and meter	\$1,030.00
1-1/2 Inch service tap, service line, and meter	\$1,530.00
2 Inch service tap, service line, and meter	\$1,715.00
*4 Inch service tap, service line, and meter	At Cost

* Turbine meters only

Note: The fees established herein do not include cost for boring and casing, if required. Costs for boring and casing will be added to these fees based on actual cost.

Note: A water service installation that requires removal of pavement in a TxDOT right-of-way will be charged at the actual cost of work performed or incurred by the City. An owner may choose to hire a contractor to install the service at their own cost and the City will inspect the work to determine if the water service installation complies with the City's specifications. If an owner chooses to hire a contractor to install the service, the work must be completed in compliance with the City's specifications (or approved alternatives), as determined by the City, in its sole discretion, after inspection of the work. The final pavement repair must be performed immediately upon completion of the water service installation.

The fees for the installation of an irrigation meter commonly referred to as a split service are set forth below.

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If a split service meter is installed at the same time as the installation of a new service connection, the fee is as follows:

1 Inch Split Service off a 1 Inch Service	\$265.00
1 Inch Split Service off a 1 ½ Inch Service	\$275.00
1 Inch Split Service off a 2 Inch Service	\$290.00

If a split service meter is installed after the installation of a new service connection, the fee is as follows:

1 Inch Split Service off a 1 Inch Service	\$375.00
1 Inch Split Service off a 1 ½ Inch Service	\$385.00
1 Inch Split Service off a 2 Inch Service	\$400.00

- II. The fees for connecting a meter to a line that has been pre-stubbed at no expense to the City shall be based on meter size, and are as follows:

1 Inch	\$ 260.00
1-1/2 Inch	\$ 645.00
2 Inch	\$ 710.00
4 Inch or larger	\$1,300.00

- III. The fee for connection, by others, to existing taps on City installed water mains to connect new water mains are as follows:

Existing Main Size (inches)	New Main Size (inches)	Connection Fee
6	4	\$ 840.00
6	6	\$ 935.00
8	4	\$ 870.00
8	6	\$ 920.00
8	8	\$1,105.00
10	4	\$ 835.00
10	6	\$ 945.00
10	8	\$1,085.00
10	10	\$1,440.00
12	4	\$ 970.00
12	6	\$1,050.00
12	8	\$1,170.00
12	10	\$1,465.00
12	12	\$1,725.00

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(Supersedes Rate Change effective 10/01/1921)

Note: The fees established herein do not include cost for boring and casing, if required. Costs for boring and casing will be added to these fees based on actual cost.

Note: A water service installation that requires removal of pavement in a TxDOT right-of-way will be charged at the actual cost of work performed or incurred by the City. An owner may choose to hire a contractor to install the service at their own cost and the City will inspect the work to determine if the water service installation complies with the City's specifications. If an owner chooses to hire a contractor to install the service, the work must be completed in compliance with the City's specifications (or approved) alternatives, as determined by the City, in its sole discretion, after inspection of the work. The final pavement repair must be performed immediately upon completion of the water service installation.

IV. Miscellaneous Water Service Fees:

The fee for installation of one or more fire hydrants shall be based on actual cost.

The fee for replacing a 1" curb stop damaged by other than City personnel - \$95.00. Replacement of curb stops larger than 1" will be charged at actual cost.

The fee for moving meter at customer's request shall be as follows:

Meter Size	Moving Meter up to Fifteen (15) Feet	Moving Meter between Fifteen (15) and Thirty (30) Feet
1 Inch	\$225.00	\$365.00
1 1/2 Inch	\$285.00	\$430.00
2 Inch	\$315.00	\$460.00

Note: Moving meters larger than 2" will be charged at actual cost.

The fee for raising or adjusting a meter at customer's request shall be as follows:

Meter Size	Fee
1 Inch	\$ 70.00
1 1/2 Inch	\$210.00
2 Inch	\$270.00

Note: Raising or adjusting meters larger than 2" will be charged at actual cost.

The fee for installing or extending a water mainline from an existing tap to the property line shall be based on actual cost.

The fee for changing meter size shall be based on the following:

Downsizing a 2", 1 1/2" and 1" meter - \$50.00

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	(Supersedes Rate Change effective 10/01/21)	

Downsizing a 3" and larger meter – At Cost

Note: When an existing meter is changed to a larger size and a new tap and service line are required, the fee shall be the same as for a new connection of the same size.

The fee for setting a fire hydrant meter shall be \$200.00 and requires a \$300.00 deposit.

The fee for turning water service off/on for repairs at customer request shall be \$50.00 plus \$25.00 additional if done after regular business hours (regular business hours are 8:00 a.m. to 5:00 p.m., Monday – Friday, excluding holidays).

The fees for services not specifically addressed in this tariff will be charged in the amount of the actual cost of performing the service.

- V. Replacement of water taps due to deterioration. Water tap deterioration will be determined by the City based on standards set by the Texas Commission on Environmental Quality, or its successor agency and the edition of the International Plumbing Code, as amended, in effect at the time of the determination, for minimum residual pressure and flow.

All Taps	No Charge
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CHARACTER OF SERVICE

Facilities provided under this rate will consist of the installation of an appropriate size corporation stop or tapping saddle, installation of an appropriate size angle meter stop or gate valve, installation of an appropriate size meter, installation of a meter box, and the installation of a sufficient amount of an appropriate size service line to allow the placement of the meter at or near the customer's property line.

SPECIAL CONDITIONS OF SERVICE

1. Service rendered under this schedule is subject to the City's Rules and Regulations as may be amended from time to time.
2. Service will be rendered under this schedule when the City has facilities immediately adjacent to the customer's premises. If a main line extension is required to provide service to the customer, the customer's cost of the line extension will be determined in accordance with the City's extension policy in effect at the time of the extension.
3. In the event a customer desires to increase the size of an existing service, the cost of such enlargement will be equal to the cost of the installation of the new size of service.



Regular City Council
AGENDA ITEM 14.

Agenda Item: Discuss and Possibly Act Upon a Ground Space Lease Agreement Between the City of Brenham and BrightStar Aviation Management, LLC for Hangar Space at the Brenham Municipal Airport and Authorize the Mayor to Execute Any Necessary Documentation

Meeting Type: Regular Meeting-September 01, 2022

Department: Airport

Staff Contact: Stephanie Doland / Kim Hodde

SUMMARY STATEMENT:

Patrick and Deanna Murray sold their 3,600 square feet (60'x60') box hangar at 3311 Aviation Way; therefore, a new ground space lease agreement needs to be executed with BrightStar Aviation Management, LLC (Michele Bright). Execution of this new lease agreement will terminate the previous lease agreement with Patrick and Deanna Murray. Dr. Bright's total lease space will be 8,8000 square feet. The lease agreement is the City's standard ground-space lease for \$0.10 cents per square foot and the lease rate may increase up to \$0.02 per square foot in a five-year period as the prevailing rates change. The initial annual rental rate will be \$880.

The proposed lease agreement was prepared on the City's standard lease agreement form. However, Staff has identified necessary changes to the standard lease agreement and recommends the following changes to the ground space lease with Dr. Bright as well as all subsequent ground space lease agreements:

1. Add to Article 2 – Obligations of Lessee the following subsection:

M. ASSIGNMENT, TRANSFER, AND SUBLETTING

Lessee shall not sell, assign, sublet, or transfer any rights or privileges granted by this Agreement without the prior written approval of the Lessor. The Lessor shall have the exclusive option to grant or refuse such approval. The parking of an aircraft not owned or leased by Lessee within the Premises shall constitute a sublease. Any such sublease, assignment, sale, or transfer without the prior written approval of the Lessor shall be grounds, at the option of the Lessor, for the Lessor to immediately terminate this Agreement.

2. Remove the following words "and as may be adopted by the Airport Advisory Committee of the City of Brenham, Texas" from Article 3, Section 4.

Staff recommends approval of the proposed lease agreement with BrightStar Aviation Management, LLC with the condition that the abovementioned modifications be made to the lease agreement prior to the lease agreement being executed.

ATTACHMENTS:

(1) Ground space lease agreement - 3311 Aviation Way

RECOMMENDED ACTION:

Approve a Ground Space Lease Agreement between the City of Brenham and BrightStar Aviation Management, LLC (Michele Bright), with the modifications as presented by staff for hangar space at the Brenham Municipal Airport and authorize the Mayor to execute any necessary documentation.

LEASE AGREEMENT: CITY OF BRENHAM, TEXAS TO AND WITH BRIGHT STAR AVIATION, PLLC

THE STATE OF TEXAS
COUNTY OF WASHINGTON

This Lease Agreement made and entered into by and between CITY OF BRENHAM, a Texas Municipal Corporation, hereinafter called "Lessor" and BRIGHT STAR AVIATION, PLLC, hereinafter called "Lessee":

WITNESSETH:

Lessor, in consideration of the premises and the covenants and agreements herein undertaken to be kept and performed by Lessee does lease unto said Lessee the following described property situated in Washington County, Texas, to have and to hold all and singular the said premises and improvements thereon, together with the rights, privileges and appurtenances thereunto belonging unto said Lessee under the following terms and provisions:

ARTICLE I – PREMISES AND PRIVILEGES

A. DESCRIPTION OF PREMISES.

For and in consideration of the terms, conditions and covenants of this Lease to be performed by Lessee, all of which Lessee accepts, City hereby leases to Lessee the premises being an area located on the City of Brenham Municipal Airport, north of the CITY OF BRENHAM, TEXAS and being a space of land located as shown on the attached "EXHIBIT A".

Lessee accepts the premises in their present condition subject to and including all defects and Lessee will, without expense to City, repair and maintain any installations thereon and remove, or cause to be removed, any debris, buildings or improvements to the extent required for Lessee's use thereof.

B. TERM.

The term of said lease is for a period of thirty (30) years commencing January 1, 2022 and terminating January 1, 2052. The rent for the first year shall be ten (\$.10) cents per square foot per year for 8,800 square feet, payable annually on the anniversary hereof. Any rental fee not paid by the tenth of the month is subject to a late fee of five (\$5) dollars. The Lessee acknowledges and agrees that the City reserves the right to adjust the Lease rental rate in an amount not to exceed an increase of two (\$.02) cents per square foot in a five (5) year period.

C. ACCESS.

Upon paying the rental hereunder and performing the requirements of this Lease, Lessee shall have the right of access to and from said premises over such roadway(s), as may be designed for that purpose and the right of access to and from the landing area for airplanes over taxiways and aircraft parking ramps as provided by City at its sole discretion. Said roadway(s), aircraft parking ramps and taxiways shall be used jointly with other airport tenants, but not for the conduct of business of another Lessee's premises and Lessee shall not interfere with the rights and privileges of other persons or firms using said facilities and shall be subject to such weight and type use restrictions as the City Council deems necessary.

D. OBJECTS AND PURPOSES OF LEASE.

Lessee is hereby granted the right and privilege to use the leased area for aviation related activities, being those provided by a Corporate Hangar Operator. Lessee shall have the uses and rights to build a private, corporate hangar to house its own privately-owned aircraft, all of which shall be subject to the terms set forth:

Lessee shall not use the premises for any purposes other than those authorized herein, without the prior written consent of City. Specifically, Lessee will not store fuel, nor do any aircraft maintenance on aircraft other than the aircraft owned or contracted by Lessee.

It is understood and agreed that nothing herein shall be construed to grant or authorize the granting of an exclusive right within the meaning of Section 308(a) of the Federal Aviation Act of 1958, [49 USCA Chapter 471 or successor statute].

E. CITY'S RESERVED RIGHTS.

1. Development. City, at its sole discretion, reserves the right to further develop or improve the aircraft operating area of the airport as it sees fit and to take action it considers necessary to protect the aerial approaches of the Airport against obstructions, together with the right to prevent Lessee from erecting or permitting to be erected, any building or other structure on the Airport which, in the opinion of the City, would limit the usefulness of the Airport or constitute a hazard to aircraft.
2. Oil, Gas, Mineral Interests. It is understood and agreed that this Lease is made subject and subordinate to the terms of any oil, gas, and other mineral interest; leases; or right-of-way easements of any nature that may have been executed heretofore.

City agrees that (1) if it should, as a mineral owner under the premises, develop all or part of the Airport for oil, gas or other mineral purposes, no well will be drilled or other operations conducted on the leased premises, and (2) in the event it should hereafter execute an oil, gas or other mineral lease in favor of a third party covering the Airport area, or a portion thereof, it will cause such lease to contain a provision that the Lessee therein will not conduct any of its drilling or other operations on the land covered by this Lease, or in a manner which would unreasonably interfere with Lessee's use and enjoyment of the premises.

3. Other Contracts. This lease shall be subordinate to the provisions of any existing or future agreement between the City and the United States, relative to the operation or maintenance of the airport, the terms and execution of which have been or may be required as a condition precedent to the expenditure or reimbursement to City of federal funds for the development of the Airport
4. Other Leases. Nothing herein contained shall limit City with respect to granting of leases to other aviation tenants under other terms as herein set forth or to granting of leases for non-commercial aviation or non-aviation purposes at terms different from those set forth herein.

F. PROHIBITED USES.

Lessee shall not use or permit the use of any part of the premises in any other manner than set out in Section D of this Lease. Some specific activities prohibited are as follows:

1. Auto rental service.
2. Food sales (except the sale of confections and refreshments prepared and packaged off the leased premises through either coin-operated vending machines or over-the-counter or in the waiting area, and other foods prepared and packaged off the leased premises for food trays for private or charter flights) at the leased premises.
3. Sales of alcoholic beverages at the leased premises, except with City approval.
4. Sales, advertisement, or storage of non-aviation products.
5. Storage, transfer, or sale of fuel.
6. Any sublease which allows further sublease by Lessee's tenant
7. Any use prohibited by law.

G. EXPIRATION.

Upon the expiration of this Lease,

1. The City may purchase building and improvements on the lease area at a fair market value as determined by an Independent Appraiser mutually agreeable to the City and the Lessee, all fees for such appraisal services to be paid by the Lessee, or
2. The City may enter into a new lease agreement for the lease area.

H. DEFAULT.

Any of the following events constitutes default:

1. An act of the Lessee which is in variation with the site plan and is not corrected after 30 days' notice by Lessor to Lessee of said default,
2. The nonperformance by Lessee of any other covenant or condition of this lease which is not cured within thirty (30) days after written notice thereof from Lessor, or
3. The subjection of any of Lessee's property to any levy, seizure, assignment, application, or sale for or by any creditor or governmental agency.

I. LESSOR'S RIGHTS UPON DEFAULT.

On the occurrence of any of the events defined as constituting "default", Lessor may without notice to or demand on Lessee, take possession of the leased property and lease the same or any portion thereof, for such period and such rental, and to such persons, as Lessor shall elect.

J. MORTGAGE OF LEASEHOLD INTEREST.

Lessee shall have the right subject to City Manager approval to place a first mortgage lien upon its leasehold. Any approved lender shall notify City of all action taken by it in the event payments on such loans shall become delinquent.

ARTICLE II – OBLIGATIONS OF LESSEE

A. NET LEASE: MAINTENANCE AND OPERATION.

The use and occupancy of the leased premises by Lessee will be without cost or expense to City. It shall be the sole responsibility of Lessee to construct, maintain, repair and operate the entirety of the leased premises and any improvements and facilities constructed thereon at Lessee's sole cost and expense except as specifically set forth in this article.

Lessee shall maintain the leased premises at all times in a safe, neat, and attractive condition and shall not permit the accumulation of any trash or debris on the premises. Lessee shall repair all damages to said premises caused by its employees, patrons, or its operation thereon; shall maintain and repair all buildings, pavements, equipment, and improvements; and shall repaint the buildings, as necessary. Lessee shall pay all taxes against the property and indemnify City from any tax lien.

City reserves the right to make periodic inspection of leased premises and improvements and equipment therein during normal business hours.

City, in its reasonable discretion, shall be the sole judge of the quality of maintenance that shall uniformly apply to all airport tenants. Upon written notice by City to Lessee, Lessee shall be required to perform whatever reasonable maintenance City deems necessary. If said maintenance is not undertaken by Lessee within ten (10) days after receipt of written notice, City shall have the right to enter upon the leased premises and perform the necessary maintenance, the cost of which shall be borne by Lessee.

B. ALTERATIONS TO AND CONDITIONS OF PREMISES.

Any change in exterior paint colors shall be subject to the prior written approval of the City of Brenham. Lessee agrees not to construct, install, remove and/or materially modify any of the buildings or premises leased hereunder without prior written approval of the City of Brenham subject to the conditions considered by City to be necessary.

Lessee shall not remove or demolish, in whole or in part, any improvements upon the premises without the prior written consent of City, which may, at its discretion, condition such consent upon the obligation of Lessee to replace the same by an improvement specified in such consent.

C. TRASH, GARBAGE, LANDSCAPING.

Lessee shall provide a complete and proper arrangement of the adequate sanitary handling and disposal, away from the Airport, of all trash, garbage, and other refuse caused as a result of the operation of its business. Lessee shall provide and use approved receptacles for all such garbage, trash, and other refuse. Piling of boxes, cartons, barrels, or other similar items in an unattractive or unsafe manner, on or about the leased premises, is prohibited.

Lessee shall be responsible for maintaining suitably attractive yard-appearance, as follows: Lessee shall be responsible for groundskeeping and shall screen any outside storage or work areas by the use of an opaque fence or other suitable opaque barrier so that such storage or work areas shall be hidden from public view from the street.

Lessee is specifically responsible for mowing (and to ensure that weed or grass growth is never allowed in excess of that allowed by City weed ordinance requirements) and removal of weeds from around fences and buildings for the area within ten feet of the property shown on the attached Exhibit "A". Lessee is encouraged to provide additional landscaping beyond the minimum required by City to assist in enhancing Airport appearance.

D. SIGNS.

Lessee may not install identifying signs on the leased premises except with the written permission of City Manager.

E. UTILITIES.

Lessee shall assume and pay for all costs or charges for utility services furnished to Lessee during the term hereof; provided, however, that Lessee shall have the right to connect to any and all storm and sanitary sewers and water and utility outlets at its own cost and expense; and Lessee shall pay for any and all service charges incurred therefor.

F. FIELD USE CHARGES.

Nothing herein shall be deemed to relieve Lessee and its tenants, sublessees, patrons, invitees, and others from field landing fees, nor its guests from fuel flowage fees, as are levied by City or the Fixed Base Operator.

G. PAYMENTS DUE.

Lessee agrees that no payments owed by Lessee of any nature whatsoever to City, including payment in advance for service charges, such as garbage collection, or any other sums of any character whatsoever, shall become delinquent or in arrears.

H. COMPLIANCE WITH RULES.

Lessee will comply with any and all federal or state laws, rules and regulations, and all regulations made by the City of Brenham and approved by the City Council.

I. NONDISCRIMINATION/FEDERALLY REQUIRED ASSURANCES.

Lessee, for itself, its personal representatives, successors in interest, and assigns, as part of the consideration hereof, does hereby agree that “as a covenant running with the land” (1) no person on the grounds of race, color, sex, creed, national origin, or handicapped status shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, or in the construction of any improvements on, or under such land, or the furnishing of services thereof, and (2) that Lessee shall use the premises in compliance with and conduct its operations in accordance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, or Section 504 of the Rehabilitation of 1973 (23 USC 794) and 49 CFR Part 27 and as said regulations may be amended, and that Lessee will comply with such enforcement procedures as the United States might demand that City take.

J. FAA AND OTHER APPROVAL OF USE.

Lessee agrees to secure approval from the Federal Aviation Administration concerning the height and location of all buildings or improvements or modifications thereof which may be constructed or installed on the leased premises and to satisfy any applicable environment or other requirements of federal, state, and local authorities as to noise, smoke, fumes emissions, storm water, or other hazards or potential hazards or other offensive uses, if any, which may occur as a result of Lessee’s operations on the premises.

K. NON-INTERFERENCE WITH OPERATION OF AIRPORT/EASEMENTS.

1. Lessee, by accepting this Lease, expressly agrees for itself, its successors and assigns that it will not make use of the premises in any manner which might interfere with the landing and taking off of aircraft at Airport or otherwise constitute a hazard. If Lessee violates this, City reserves the right to enter upon the premises and remove the interference at the expense of the Lessee.
2. City shall maintain and keep in good repair the landing area of the Airport and shall have the right to direct and control all activities of the Lessee in this regard.
3. City shall retain an easement over, above and on the premises in relation to aircraft noise and the utilization of the air space for the purposes of the operation of said Airport.

L. LESSEE AUTHORITY.

The officers of the Lessee which execute this lease represent and promise that they are duly authorized by corporate resolution or other appropriate authorization to execute the same on behalf of Lessee.

ARTICLE III – OTHER CONDITIONS

1. Lessee agrees to pay all public utility charges that may be assessed, including charges for gas, electric, water and any other utility charge.
2. Any holding over by Lessee or his successors, at the expiration or termination of this lease, in whatever manner its termination may be brought about, shall not operate as a renewal of this lease, but during the period of such holding over Lessee shall be a tenant at the will of Lessor.
3. Lessee shall maintain property and casualty insurance in amounts satisfactory with Lessor and shall provide for public liability insurance in the amount of ONE MILLION AND NO/100 (\$1,000,000.00) DOLLARS in order to protect Lessor against claims arising because of the operation of Lessee. Lessee shall give evidence of insurability. CITY OF BRENHAM, TEXAS shall always be shown as an addition insured. Provided, however, if CITY OF BRENHAM, TEXAS so elects, it may take out said insurance and then prorate said costs to Lessee and any Sublessees on an equitable basis, as determined by CITY OF BRENHAM, TEXAS. The CITY OF BRENHAM reserves the right to require that the amount of any and all types of insurance may be increased upon the CITY OF BRENHAM giving thirty (30) days notice to Lessee or any sublessee.
4. The CITY OF BRENHAM requires that Lessee and users of Lessee's premises shall agree to be bound by all of the regular rules and regulations as may be set out by the F.A.A. as to pilots and their conduct and that they agree to abide by any and all local rules that may be approved by the City Council of the CITY OF BRENHAM, TEXAS, for pilots at the CITY OF BRENHAM MUNICIPAL AIRPORT and as may be adopted by the AIRPORT ADVISORY COMMITTEE of the CITY OF BRENHAM, TEXAS. Lessee shall agree that in the event he is found not to have abided by the rules or does not correct a situation required to be corrected by the City of Brenham, then and in that event, he may lose his privilege to occupy the Hangar that is located on property being leased by the CITY OF BRENHAM, TEXAS.
5. This Lease is governed by the laws of the State of Texas and performable in Washington County, Texas.
6. If any provision herein is held to be invalid in a court of law, the invalidity of such provision shall in no way affect the validity of any other provision.
7. Any notice required herein shall be effective upon mailing to the address described herein by depositing said notice in the mail, certified mail – return receipt requested.

APPROVED this the ____ day of _____, 2022

CITY OF BRENHAM (LESSOR)

Milton Y. Tate, Jr., Mayor
 City of Brenham
 P. O. Box 1059
 Brenham, TX 77834-1059

ATTEST:

Jeana Bellinger, City Secretary

BRIGHT STAR AVIATION, PLLC (LESSEE)

Bright Star Aviation, PLLC (Michele Bright)
2628 State Highway 36 S #303
Brenham, Texas 77833
713-907-1893
michelebdds@earthlink.net

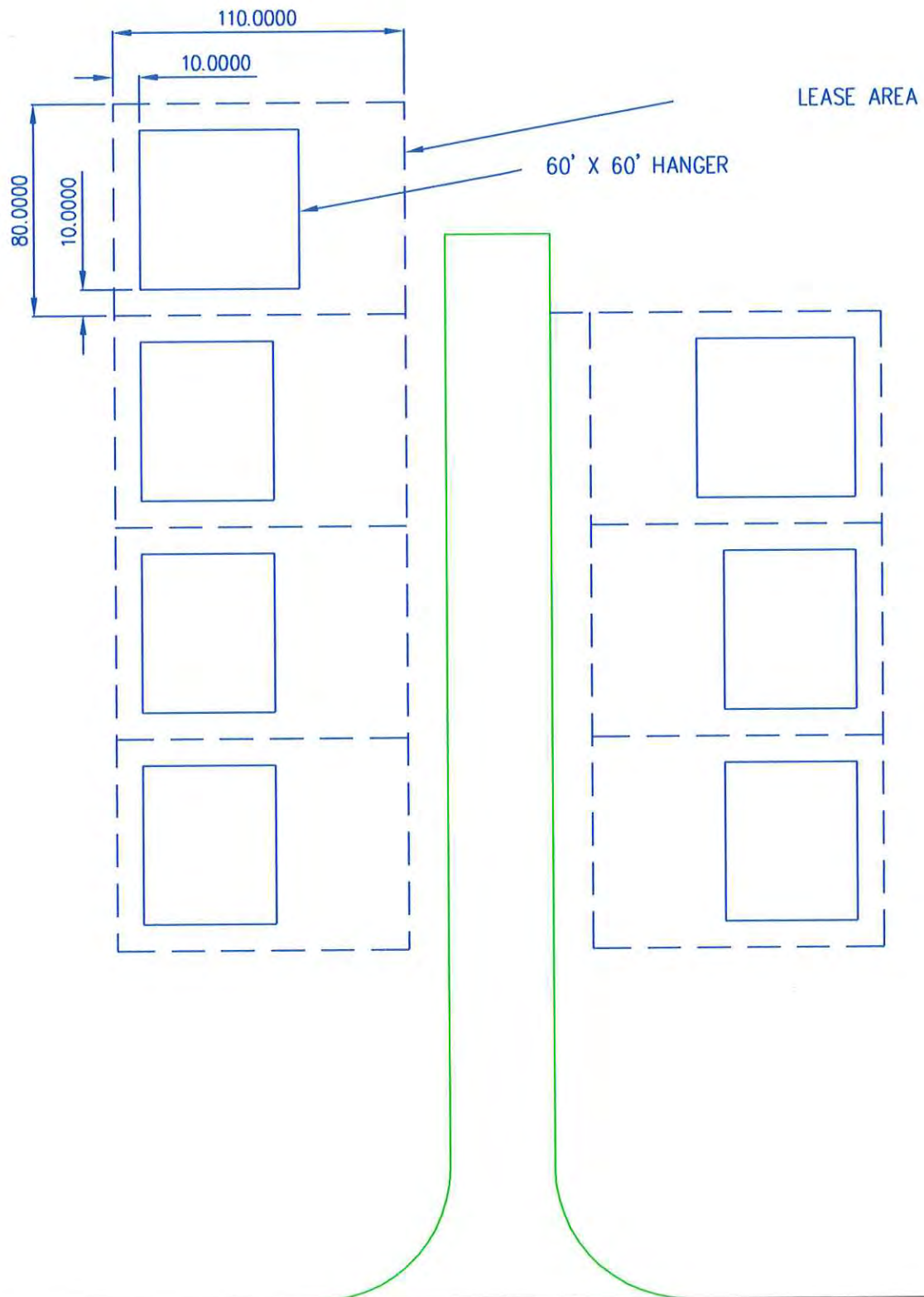


EXHIBIT "A"



Regular City Council
AGENDA ITEM 15.

Agenda Item: Discuss and Possibly Act Upon an Ordinance on Its First Reading Adopting a City of Brenham Public Infrastructure Design Manual

Meeting Type: Regular Meeting-September 01, 2022

Department: Development Services

Staff Contact: Stephanie Doland

SUMMARY STATEMENT:

In 2021 the City of Brenham entered into an agreement with LSPS Solutions, LLC to complete the re-write of the City's Public Infrastructure Design Manual. On February 21, 2022 during the Council retreat at Morris Hall a presentation was given concerning adoption of a new Public Infrastructure Design Manual. The Public Infrastructure Design Manual (PIDM) is adopted to enforce the quality of professional design standards and materials used for the construction of public infrastructure, such as the water utility and road network, within the City of Brenham. The goal of the PIDM is ensure that construction within the City of Brenham, whether by a private developer or in-house City crews is consistent, cost-effective, efficient, maintainable, and protects public safety.

On August 18, 2022 a second work session was conducted to provide a summary of the proposed PIDM and changes to the manual since the work session in February. Since the meeting staff has received no citizen comments concerning the proposed PIDM.

Attached for review and approval by Council is an Ordinance adopting the PIDM as Appendix – F of the Code of Ordinances of the City of Brenham. If approved, the PIDM will be codified into the City of Brenham Code of Ordinances and easily accessible by developers, property owners and members of the public for the design and construction of streets, water, sanitary sewer, storm sewer and paving within the City of Brenham.

Staff recommends approval of the proposed Public Infrastructure Design Manual.

ATTACHMENTS:

- (1) Ordinance for First Reading
- (2) Public Infrastructure Design Manual

RECOMMENDED ACTION:

Approve an Ordinance on its first reading adopting a City of Brenham Public Infrastructure Design Manual.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BRENHAM, TEXAS, ADOPTING THE PUBLIC INFRASTRUCTURE DESIGN MANUAL AS APPENDIX “F” OF THE CODE OF ORDINANCES OF THE CITY OF BRENHAM, TEXAS; REPEALING ALL ORDINANCES IN CONFLICT HERewith; PROVIDING FOR A SEVERABILITY AND SAVINGS CLAUSE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the existing City of Brenham Design and Construction Standards were developed in June 1996 and since that time construction standards, materials and best engineering practices have significantly improved; and

WHEREAS, the City Council recognizes the Public Infrastructure Design Manual, attached hereto as Exhibit “A” and incorporated herein for all pertinent purposes, will allow for greater consistency, clarity and ease of use and administration of public infrastructure; and

WHEREAS, the City Council first considered a draft of the Public Infrastructure Design Manual during a workshop meeting on February 21, 2022 and a subsequent workshop session on August 18, 2022 to consider repealing the existing Design and Construction Standards and adopting the Public Infrastructure Design Manual; and

WHEREAS, the City Council finds that there is a public necessity for the adoption of a new Design Manual and that the Public Infrastructure Design Manual does not unreasonably impede the rights of those who bought or improved property with reference to the classification and development standards which existed at the time the investment was made; and

WHEREAS, the City Council finds that the adoption of the Public Infrastructure Design Manual promotes the health, safety, and general welfare of the community through engineering best practices; and

WHEREAS, the City Council finds that the adoption of the Public Infrastructure Design Manual facilitates the adequate provision of transportation, water, sewer, stormwater, paving and other public improvement requirements.

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

SECTION 1.

The Public Infrastructure Design Manual is hereby adopted as set forth in **Exhibit “A”** attached hereto and incorporated herein as Appendix F of the Code of Ordinances of the City of Brenham by reference for all purposes.

SECTION 2.

The Director of Development Services or designee shall cause the Public Infrastructure Design Manual to be reviewed from time to time and shall recommend such revisions as are necessary to account for changing conditions, updated technical standards for the development of public infrastructure, and administration of the Public Infrastructure Design Manual.

SECTION 3.

If any provision of this Ordinance is illegal, invalid, or unenforceable under present or future laws, the remainder of this Ordinance will not be affected and, in lieu of each illegal, invalid, or unenforceable provision, a provision as similar in terms to the illegal, invalid, or unenforceable provision as is possible and is legal, valid, and enforceable will be added to this Ordinance.

SECTION 4.

Any project for which a complete development application has been accepted and permitted by the City before the effective date of this Ordinance may proceed pursuant to the 1996 Design and Construction Standards. Any project which has not been started by the City on or after the effective date of this Ordinance shall adhere to the standards set forth in this Ordinance.

SECTION 5.

Any provision of any prior Ordinance of the City, whether codified or uncoded, which are in conflict with any provision of this Ordinance, are hereby repealed to the extent of the conflict, but all other provisions of the Ordinances of the City, whether codified or uncoded, which are not in conflict with the provisions of this Ordinance, shall remain in full force and effect. The Public Infrastructure Design Manual adopted by this Ordinance expressly repeals, supersedes and replaces the City of Brenham 1996 Design and Construction Standards in its entirety.

SECTION 6.

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

SECTION 7.

Notice of the time and place, where and when said Ordinance would be considered by the City Council at any and all public meetings was given in accordance with applicable law, prior to the time designated for meeting.

SECTION 8.

This Ordinance shall take effect upon its adoption by the City Council and publication as required by law.

PASSED and APPROVED on its first reading this the ____ day of September 2022.

PASSED and APPROVED on its second reading this the ____ day of September 2022.

Milton Y. Tate, Jr.
Mayor

ATTEST:

Jeana Bellinger, TRMC, CMC
City Secretary



Exhibit A

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200 W. Vulcan, Brenham, Texas 77834



PUBLIC INFRASTRUCTURE DESIGN MANUAL



PURPOSE

This Public Infrastructure Design Manual is intended to set a standard of design for public infrastructure in the City of Brenham and the City of Brenham's extraterritorial jurisdiction that is consistent, cost-effective, efficient, maintainable, and protects public safety. These standards are a guide for design, but not a substitute for good engineering. It is the obligation of the designer to use these standards responsibly and professionally to produce designs conforming to commonly accepted engineering practices. It may at times be desirable or necessary to vary from the standards in this manual to produce a product in accordance with these goals. When the need arises, please refer to the section on exceptions.

Any reference by this manual to any law, regulation, rule, publication, or any other source shall refer to the most recently adopted, promulgated, or otherwise effective version applicable as such may be amended from time to time.

ADOPTION

(Insert language from Ordinance approval adopting these standards here)



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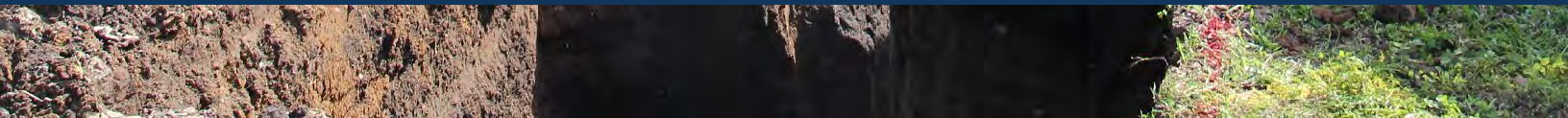


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PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 1 - GENERAL





CHAPTER 1 GENERAL

1.01 GENERAL

- A. This chapter describes the general requirements of the construction process, the preparation of construction drawings, the supporting documents required within the City limits, and the extraterritorial jurisdiction of the City of Brenham (City). This chapter also describes procedural requirements for the construction process.
- B. The City of Brenham Development Services Department shall approve construction drawings for public improvements within the City limits or applicable properties in the extraterritorial jurisdiction. Applicable properties located in the extraterritorial jurisdiction shall mean properties receiving City services including but not limited to water, sanitary sewer, gas, electric and/or discharging into the public storm sewer system.
- C. Construction drawings for private improvements within public right-of-way and public easements that connect to or affect the public infrastructure shall be approved by the City subject to the requirements of this Design Manual (Manual) and are subject to review and approval using the process defined in this manual.
- D. City staff and or their designee will be available for preliminary meetings to discuss a proposed project with the Project Engineer.
- E. Materials and manufactured items used in construction of an infrastructure project shall be approved by the City before installation. Water, wastewater, and drainage system appurtenances shall be subject to the approved items as listed in the Approved Products List, (which is included in Appendix A of this manual). Items not appearing on the approved list shall not be used for construction of public infrastructure in the City.
- F. It may at times be desirable or necessary to vary from the standards in this manual to produce a product in accordance with these goals. Exceptions to these standards are authorized only if approved in writing by the City. Exception request must be submitted at the time of the original construction drawing submittal. Persons seeking an exception to these standards shall submit to the Development Services Department a request explaining what exception is being requested, why the exception is being requested, and an explanation of how or why the resulting product will be equivalent or superior to the product that would result from constructing the improvement in strict accordance with these standards.
- G. Upon receipt of an exception request, the City shall approve or disapprove such request within 30 business days. Construction work related to the request should not begin before approval. Any construction work related to the request that proceeds without approval shall be subject to removal and replacement at the cost of the party who performs such construction work.

1.02 References

All projects that are required to conform to these standards shall also be in compliance with all applicable City ordinances. All construction drawings and supporting documentation shall conform to the requirements of these standards and all applicable regulations of all federal, state, county, and local entities having jurisdiction.

Relevant related laws and regulations include, but are not limited to, the following:

A. City of Brenham

1. Utilities, Chapter 26 of the City Code.
2. Flood Damage Prevention, Chapter 8 1/2 of the City Code.
3. Subdivisions, Chapter 23 of the City Code.
4. Zoning, Appendix A of the City Code.
5. Building and Structure, Chapter 6 of the City Code.
6. Fire Protection and Prevention, Chapter 8 of the City Code.

B. State of Texas

1. Texas Accessibility Standards (TAS), pursuant and subject to the Texas Government Code, Chapter 469, and the Texas Administrative Code, Title 16, Chapter 68.
2. Rules and Regulations published by the Texas Commission on Environmental Quality (TCEQ):
 - a. Rules and Regulations for Public Water Systems, Texas Administrative Code, Title 30, Chapter 290, Subchapter D.
 - b. Design Criteria for Domestic Wastewater Systems, Texas Administrative Code, Title 30, Chapter 217.
 - c. TCEQ storm water pollution prevention protection standards.
3. State of Texas Engineering Practice Act, Texas Occupational Code, Chapter 1001.
4. Professional Land Surveying Practices Act, Texas Occupational Code, Chapter 1071.
5. Texas Manual on Uniform Traffic Control Devices.

C. National

1. Americans with Disabilities Act, 42 U.S.C § 12101 et seq and regulations, 28 CFR Part 36.
2. American Association of Highway and Transportation Officials, A policy on Geometric Design of Highways and Streets.
3. Institute of Transportation Engineers, Traffic Engineering Handbook.
4. Highway Capacity Manual, National Research Council, Transportation Research Board.

1.03 Definitions

For the purpose of this Manual, the following words and phrases shall have the meanings respectively ascribed to them by this section.

Approved Products List – List of approved products that can be used for construction in the City. This list is included in Appendix A of this manual and may be updated periodically.

City Code – The code or ordinances of the City of Brenham, Texas.

Collector Streets – Street routes that have short travel distances and collect traffic from intra-city streets and funnel it into major thoroughfares or other collector streets.

Commercial Driveway Approach – The portion of a driveway within the public right-of-way that provides access to property on which an office, retail commercial center, or a building having more than three dwelling units is located or any driveway approach that accesses property primarily used for nonresidential purpose.

County – The applicable political subdivision of the State of Texas in which a subject tract is located in; Brenham, Texas city limits and its extraterritorial jurisdiction is within Washington County.

Design Analysis – Narrative and calculation necessary to support design of a project.

Director of Public Works – The Director of Public Works or his designee.

Drawings – Plan, profile, detail and other graphic sheets to be used in a construction contract, which define character and scope of the project.

Driveway – Entrance to and exit from premises where it is possible to park completely off the street, and which is not open for vehicular traffic except by permission of the owner of said private property.

Driveway Approach – A way or place including paving and curb returns between the street travel lanes and private property that provides vehicular access between the roadway and said private property.

Dwelling Unit – A building or portion thereof designed exclusively for residential occupancy.

Highway, Street, or Roadway – A general term denoting a public or private way for the purpose of vehicular travel.

Infrastructure – Any facility or structure proposed to be constructed, reconstructed, repaired, or regraded wholly or partially within right-of-way public easements or connecting to right-of-way, including, but not limited to, streets, driveways, sidewalks, curbs, gutters, culverts, open ditches, storm drains, and irrigation facilities owned or maintained by a public entity.

Intersection – The area embraced within the prolongation or connection of the lateral curb lines, or, if none, then the lateral boundary lines of two or more roadways. This includes public street, private street, commercial driveway, residential driveway, driveway approach, alley or combination thereof that join one another at, or approximately at, right angles, or the area within which vehicles traveling upon different roadways joining at any other angle may come into conflict.

Major Thoroughfare – Highways, streets, and roadways devoted to moving large volumes of traffic over long distances. Major thoroughfares shall be set forth in the Major Thoroughfare Plan adopted by the City Council and may be amended, periodically.

Professional Engineer – An engineer currently licensed by, and in good standing with the Texas Board of Professional Engineers.

Professional Land Surveying – A surveyor currently registered with and in good standing with the State of Texas Board of Professional Land Surveying.

Project Engineer Representative – A representative of the design engineer who possesses the knowledge, skills and abilities to carry out inspection duties to insure compliance with the approved drawings and specifications.

Private Projects or Private Improvements – All projects involving construction, reconstruction, modification or maintenance of privately owned or maintained facilities including, but not limited to, buildings, parking lots, utility systems, private shared-access drives, and any facility supporting functions within private property boundaries.

Public Improvements, or Public Projects – All projects involving construction, reconstruction, modification or maintenance of public infrastructure, including, but not limited to, streets, drainage facilities, water and wastewater systems, construction in public right-of-way or easements. Any project that will be accepted for permanent maintenance by a public agency or political subdivisions of the State of Texas. Any project subject to review and approval by the terms of Section 1.01 of this chapter.

Residential Developments – Residential developments shall mean all areas identified as residential under the Brenham Zoning Ordinances or otherwise zoned or devoted primarily to residential use.

Residential Driveway Approach – The portion of a driveway within the public right-of-way that provides access to property on which a single-family residence, duplex, or multi-family building containing three or fewer dwelling units is located.

Residential Streets – Street routes that provide access to local property owners and which connect property to major thoroughfares or collector street networks.

Residential Structure – A single-family home, apartment house, townhouse, condominium or any other type of dwelling unit.

Revegetation – Restoration of existing ground cover for all areas disturbed by construction activities. Revegetation may include applying hydro-mulch or sod to the disturbed area. In accordance with TCEQ Stormwater Control requirements, vegetative cover must be restored to 70% of its original condition prior to removal of erosion or sediment controls (ESC's).

Review Authorities – The authorized representatives of City departments, divisions, or sections responsible for reviewing and approving calculations and drawings for privately funded projects, and for design and construction contracts with the City.

Right-of-way – Property that is publicly owned or upon which a governmental entity has an express or implied property interest (e.g., fee title and easements) held for a public purpose. Examples of such public purpose include by way of example and not limitation, highways, streets, sidewalks, drainage facilities, sewerage and water facilities.

Sidewalk – The section of pavement between the curb lines of a roadway and the adjacent property lines or located within an easement intended for the use of pedestrians.

Specification – City of Brenham Standard Specification plus project-specific narrative descriptions of procedures, requirements, and materials for particular project.

Standard Construction Details – This is a separate document that contains the City construction details and may be updated periodically.

Standards – The requirements of this Manual.

Subdivision Ordinance – Chapter 23 of the City code as it may be amended from time to time.

Traffic Impact Analysis – A study performed by engineers with expertise in traffic engineering principles and practice that reviews development of a specific property and how it integrates into the existing City Street network. The analysis uses data and conclusions developed in previous studies and identifies improvements needed to mitigate the impact of traffic generated by a development on the street network system.

1.04 CONSTRUCTION DRAWING REVIEW PROCESS

- A. A recorded plat shall be on file with the Washington County Clerk prior to final approval of the construction plans. A copy of the final, recorded plat is required in all plan sets, before approval for permitting or as permitted in accordance with Chapter 23 – Subdivision of the Code of Ordinances. All separate or special easements that may be required for construction shall be recorded in Washington County Official Records prior to final approval of the construction drawings.
- B. The applicant shall submit complete drawings for each review phase in accordance with the Development Services Application Procedures and Standard Forms. A project number will be assigned to all projects and this number will be stated on the returned plan review. Please reference the number in all correspondence relating to that project. Drawings will be reviewed, and typed comments will be returned to the submitting design professional in a timely manner.
- C. If a project has begun the review process but becomes inactive for a period of 12 months from the date of the last correspondence, the project will be considered stopped. Projects reactivated after 12 months of inactivity will be treated as new submittals, subject to all current requirements and changes in codes or ordinances.
- D. Submit an indexed listing of all expectation or deviations from the requirements of the Manual or the Standard Construction Details with the original drawing submittal.



- E. Signature of the Director of Development Services or his/her designee on approved construction drawings for utilities that are intended to remain private, does not infer acceptance of the City for ownership or maintenance or operation of facilities indicated on the drawings.

1.05 QUALITY ASSURANCE

- A. Surveying and platting shall be accomplished under direction of a Professional Land Surveyor. Recording documents shall be sealed, signed, and dated by a Professional Land Surveyor.
- B. Engineering calculations shall be prepared by or under direct supervision of a Professional Engineer trained and licensed in disciplines required by the project scope and sealed by the Professional Engineer. Final engineering design drawings shall be sealed, signed, and dated by the Professional Engineer responsible for development of the drawings.
- C. Final architect design drawings shall be sealed, signed, and dated by the licensed Architect responsible for development of the drawings.
- D. Final irrigation design drawings shall be sealed, signed, and dated by either a Texas Professional Engineer, a licensed irrigator, or a licensed Landscape Architect.

1.06 CAPACITY ALLOCATIONS

- A. Construction drawing approval shall not infer that capacity is committed for service to the property. A capacity allocation for service to the development and approval of the connection design shall be secured separately prior to connection to water and wastewater facilities.
- B. Prior to beginning construction on a project, a current commitment of drainage capacity for the proposed development, including the status of any drainage fees that may be due or have been paid, will be required. The commitment shall be issued by the relevant agencies such as Washington County or the City, as applicable.

1.07 CONSTRUCTION PROCEDURE REQUIREMENTS

- A. Construction on Public Projects and within public rights-of-way and easements shall not begin until construction drawings are approved by the City, and a Construction Permit has been issued. A schedule of fees is on file in the Development Services Department. Construction shall not begin within an existing easement of right-of-way until all permits, or any right-of-way use agreements are negotiated between the affected parties.
- B. Schedule a preconstruction meeting with the City at least 48 hours prior to the desired start of construction for the project.
- C. The City will make periodic inspections. The City shall be notified at least 24 hours prior to each time concrete is placed on the project. The City shall be notified at least 24 hours prior to all pipe inspection tests and other tests that may be required. All Saturday construction shall be scheduled with the City at least 48 hours in advance. There will be no construction or inspections made on Sundays except in the event of an emergency. Request for Sunday or holiday construction or inspections shall be made in writing and submitted to the City for approval not later than 72 hours prior to the intent. All Saturday, Sunday, or holiday inspections will be on fee basis paid directly to the City prior to final approval of the project. A schedule of fees is on file in the Development Services Department.



- D. Notify the City staff at least 48 hours prior to a final inspection. The City staff and representative of all entities having jurisdiction shall be present during all final inspections (i.e., TCEQ, TxDOT, etc.).
- E. For all projects, upon request, all delivery tickets for material (e.g., concrete, cement stabilized sand) shall be submitted to the Development Services Department. These delivery tickets shall be maintained by the Engineer of Record for a minimum of one year from the completion of the project.
- F. Significant changes from approved construction drawings shall be approved by the Development Services Department prior to construction. The Project Engineer will submit revised plans to the Development Services Department for re-approval. The Development Services Department will respond in writing within ten working days.
- G. Competent, full-time resident inspection by the Project Engineer's representative shall be provided at all critical points of construction and as deemed necessary by the City. Critical points of construction include, but are not limited to, operations involving inspection of bedding and pipe prior to backfilling, placing and compaction of backfill, placement of structural concrete and paving, sidewalk placement, and all on-site testing activities.
- H. A certified testing laboratory shall be on site to perform applicable test required so that construction practices and material conform to drawing and specification requirements.
- I. All disturbed areas must be properly revegetated prior to demobilization and acceptance of project.

1.08 APPROVAL AND ACCEPTANCE

- A. Public projects shall have the final approval of the Development Services Department prior to placing the facilities in service.
- B. Infrastructure projects within the City and extraterritorial jurisdiction will be subject to a one-year maintenance period. An inspection before the end of the maintenance period of an infrastructure project shall be conducted by the Public Projects staff and all other entities having jurisdiction and a punch list of items to correct shall be issued. If the punch list items are not corrected and accepted by the City within 30 days from the generation of the punch list, the project shall be subject to re-inspection and the generation of a new punch list.
- C. The Engineer of Record or Developer shall contact the City to schedule the one-year maintenance inspections. Maintenance bonds are required to be in force until final acceptance by the City. Before final acceptance by the City, Owner shall be responsible for all maintenance. All facilities, including street lighting and electricity in lift stations, shall be operational and in good condition before final acceptance of a project.
- D. Acceptance into the one-year maintenance period shall be granted by the City when the items listed in Section 23-31 of the City of Brenham Code of Ordinances are complete.



- E. The project can be considered complete when the project closeout documents listed in Section 23-31 of the City of Brenham Code of Ordinances are properly submitted and accepted by resolution by the City of Brenham City Council.
- F. Until such time as the project is complete, in accordance with 1.08E above, all infrastructure shall remain the property of the developer and the sole responsibility for any and all line marking, maintenance, and/or repair shall remain that of the developer.

END OF CHAPTER



PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 2 - RIGHT-OF-WAY USE

CHAPTER 2 RIGHT-OF-WAY USE

2.01 GENERAL

- A. These standards describe the general requirements for the use of public rights-of-way and public easements and the supporting documents required for permit approval by the City. These standards also address the location requirements for franchise utilities.
- B. The City Development Services Department shall approve and permit all activity within the public rights-of-way and public easements within the City.
- C. Construction drawings for private improvements within public rights-of-way and public easements, or that connect to or affect the public infrastructure, shall be approved by the City subject to the requirements of this Manual and are subject to review and approval using the process defined in this Manual.
- D. Permit fees shall be assessed in accordance with the latest Fee Schedule adopted by the City Council and applicable state and federal law.
- E. In exercising its police powers as necessary to protect the health, safety, and welfare of the public, the City has first priority over all other uses of the public right-of-way and public utility easements. The City reserves the right to, among other things, lay water, sewer, drainage, and other pipelines, cables, or conduits; complete underground and overhead work; add improvements such as attachments, restructuring, or changes in street facilities across, along, over, or under a public street, alley or right-of-way occupied by an agency or right-of-way user; and to change the curb, sidewalks, or the grade of streets.
- F. All transmission, distribution, and collection structures, lines, equipment, trees, and other facilities erected by a right-of-way user within the City shall be so located as to cause minimum interference with the proper use of the right-of-way, and to cause minimum interference with the rights and reasonable convenience of property owners who join any of said streets. The City reserves the right (in permit or otherwise) to restrict or determine the route (pathway) or spatial location, whether horizontal, vertical, or depth, of any facility or structure or improvement in the public right-of-way or public utility easements. The City reserves the right to reserve space for future utilities.
- G. The right-of-way user shall be responsible for stormwater management, erosion control, and excavation safety measures that comply with City, state, and federal guidelines. Requirements shall include, but not limited to, construction fencing around any excavation that will be left overnight, silt fencing in erosion areas until reasonable vegetation is established, and barricade fencing around open holes.
- H. The City shall take reasonable precautions, but is under no obligation, to protect non-City-owned facilities during the course of roadway maintenance and improvements. The City will make reasonable efforts to notify known users within 2 feet of back-of-curb of planned roadway maintenance or improvements that may impact their facilities. It is the responsibility of the installer or owner of the facilities to protect their facilities and to remove or adjust the location of their facilities as appropriate.

2.02 DEFINITIONS

For the purpose of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section.

Emergency Operations – Those operations and repairs necessary to prevent damage or injury, maintain the health or safety of the public or any person, and the work necessary to address or prevent an immediate service interruption. Upgrading of facilities, new service installation, and neighborhood improvement project are not emergency operations.

Excavation – Any activity that removes or otherwise disturbs soil, pavement, driveways, curbs, or sidewalks in the right-of-way.

Facilities – The equipment and property including, but not limited to, lines, poles, mains, pipes, conduits, ducts, cables, valves, manholes, handholes, and wires located under, on, or above the surface of the ground within the right-of-way, and related facilities and equipment used or useful for the provision of utility services.

Pavement – Refers to the surface of streets containing Portland cement or asphalt that covers the underlying subgrade and base.

Permit – A permit issued by the City authorizing work in the right-of-way.

Permittee – Any person or right-of-way user to whom a permit is issued to excavate a right-of-way.

Repair – The temporary or permanent construction work necessary to make the right-of-way useable.

Repair area – The area around an excavation where the pavement and subgrade are impacted by the excavation.

Restoration – The process by which an excavation right-of-way and surrounding area, including, but not limited to, pavement and foundation structures, ground cover, landscaping, and monuments are returned to the same condition, or better than that which existed before the commencement of the work.

Right-Of-Way or Public Right-of-Way (ROW) – The area on, below, adjacent to, or above a public roadway, street, public sidewalk, alley, waterway, or utility easement in which the municipality has an interest, and shall include, but not limited to, all easements now held, or hereafter held, by the City, but shall specifically exclude private property.

ROW User – A person, its successors, and assigns, that uses the ROW for purpose of work, excavation, provision of services, or installing constructing, maintaining, or repairing facilities thereon including, but not limited to, landowner and service providers.

Routine Service Operation – A work activity that makes no material change to the facilities and does not disrupt traffic.

Street – The paved portion of the ROW that has been constructed or resurfaced with concrete asphalt, or some other surface.

TMUTCD – The Texas Manual on Uniform Traffic Control Devices, latest edition.

Utility – Any private or publicly owned entity that uses ROW to furnish the public any general public service including (without limitations) sanitary sewer, gas, electricity, water, telephone, petroleum products, telegraph, heat, steam, or chilled water, together with the equipment, structures, and appurtenances belonging to such entity and located within and near the ROW.

2.03 ROW PERMITS

- A. Any disturbance within the roads, streets, and easements of the City requires a ROW use permit. Such disturbances include digging or excavating anywhere within the ROW, installation, replacement, or repair of lines, conduits, and franchise utilities, erection of utility poles, installation of lights, transformers, switches, and other appurtenances, installing, removing, or repairing curbs, gutters, sidewalks, driveway aprons, irrigation systems, planting trees, or other improvements. Excavations for telecommunication service drops that are completed within 48 hours are excluded from the need to obtain a ROW use permit.
- B. A ROW use permit is not required for street construction projects undertaken by the City pursuant to a contract between the City and its Contractor for projects permitted under other City permits or for those uses that the Public Projects staff finds to be minor in nature.
- C. A ROW use permit is not required for routine maintenance of existing utilities within the ROW that does not require a lane closure in excess of two hours and will be completed in the same calendar day. However, maintenance activity that involves an excavation or boring within the ROW or a lane closure in excess of two hours does require a ROW permit describing the type and location of work to the City.
- D. In the event of an emergency that demands immediate action to protect the public health, safety, or welfare, when a permit cannot be reasonably or practically obtained beforehand, emergency actions may proceed provided that notification be provided to the public utilities dispatcher at (979) 337-7400.
- E. Before the issuance of a ROW use permit the applicant, his agent, or Contractor shall:
 - 1. Furnish evidence of insurance or self-insurance or public liability and property damage issued by an insurance company, authorized to transact business in the State of Texas. If a valid certificate is on file with the City, subsequent applications may reference the certificate on file.
 - 2. Issue a statement holding the City harmless and free of liability, to the extent allowed in Chapter 283 of Texas Local Government Code, from work performed under the authority of the permit. If a valid certificate is on file with the City, subsequent applications may reference the certificate on file.
 - 3. Post an assurance bond or other method of guarantee acceptance to the City to ensure that the work covered by the permit will be completed in accordance with the latest edition of this Manual.

4. Submit a Traffic Control Plan for review if the work involves a lane closure of more than four hours; however, all lane closures require traffic control in accordance with the TMUTCD.
 5. Prepare drawings and specifications for the proposed work to be performed. If required, these drawings should show the subject area and adjacent areas, the existing conditions, the proposed work, and any changes to the existing conditions.
 6. Adhere to the State of Texas, Underground Facility Damage Prevention, and Safety Act. Before any excavation work, the Dig Safely guidelines shall be followed, including calling a notification center in advance of excavation (Call-Before-You-Dig (800) 545-6005).
- F. The applicant for the permit, his agent, or the Contractor shall protect from damage, utility conduits, sewer conduits, water conduits, lawns, shrubbery, trees, fences, structures, or other property encountered in its work. The applicant shall not trespass upon private property. It is the applicant's responsibility to determine the boundary between public ROW and private property. Prior to entering upon private property, the applicant shall secure written permission from the property owner or owners affected.
- G. The applicant, his agent, or the Contractor shall, at all times, ensure the safety of the traveling public. It shall provide, install, and maintain traffic control devices as described by the TMUTCD and, when required, will also take such other measures of precaution as directed by the City. The City has the authority to stop work if the traffic control does not conform to the requirements of the TMUTCD.
- H. The City shall inspect all work within the ROW of dedicated streets, dedicated drainage ways, or public easements. The City shall have the authority to revoke the permit whenever it is clear that the drawings, details, and specifications are not being followed. All work and materials used shall be in accordance with the requirements of the manual and the City Standard Construction Details.
- I. All lane closures require 24-hour notification of the police and fire department before closing.
- J. Permittee shall dispose of all material removed from the ROW and any waste created by permittee in compliance with all state, federal, and local laws and requirements.
- K. Except in the case of an emergency, whenever excavation is required in the ROW adjacent to an occupied property, the ROW user shall notify the property owner of the activity through use of a door hanger, which shall include the following information:
1. Permit number.
 2. Identity of the Contractor and the ROW user, including a 24-hour emergency contact name and phone number, and a phone number to obtain more information regarding the project.
 3. The anticipated duration of the construction work.
- L. Every permittee and ROW user shall prosecute its work diligently and in a good, safe, and workmanlike manner, and shall safeguard and protect the public, using the street or ROW where the work is being performed, from accidents or damage by placing barriers, lights, and other sufficient safeguards around all cuts, openings, an excavation. All material, implements, and tools stored upon the premises and used in connection with the excavation shall be stored in a safe and nonhazardous manner.

- M. The City reserves its right, as provided herein, to revoke or suspend any permit, without refund of the permit fee, in the event of a breach by the permittee of the terms or conditions of the permit, this Manual or any other City ordinance. A breach of the terms of the permit shall include, but not be limited to, any of the following:
1. The violation of any provision of the permit.
 2. The failure to meet insurance, surety bond, or indemnification requirements.
 3. The failure to complete the work as specified in the permit.
 4. The failure to correct a condition indicated on an order issued pursuant to City ordinances.
 5. Repeated traffic control violation.
 6. Failure to protect facilities or repair facilities damaged in the ROW.
 7. Any safety violation or other action that threatens the health, welfare, or safety of the public as solely determined by the City.
- N. A permit shall only be valid for the area of the ROW specified within the permit. No permittee may cause any work to be done outside the area specified in the permit, except as provided herein. Any permittee who determines that an area is greater than that which is specified in the permit must apply for and receive a new ROW permit.
- O. No work shall commence until erosion control measures (e.g., silt fence) and advance warning signs, marker, cones, and barricades are in place.
- P. Any request for a permit to excavate street pavement shall include a description of the proposed restoration of the area, as well as a statement of clear and convincing evidence as to why alternate procedures cannot or should not be used in lieu of excavating a street. All pavement cuts and repairs shall be performed by a contractor with experience in street repair work and performed in accordance with the City Repair Details and City specifications or, if unusual conditions are encountered, the City may require new standards for compaction, backfill, and pavement restoration. Any damage to pavement outside the removal area shall also be repaired subject to approval of the City staff.
- Q. A permittee or ROW user shall maintain its repairs in the ROW for one year from the completion date of any repair. In the case the pavement or the surface of the street, alley, or ROW in, over, or near any excavation should become depressed, cracked, or broken at any time (or fails in any way at any time after the excavation has been made and during the one-year warranty) the ROW user shall be responsible for repair of the failure.
- R. Open trenches may be temporarily backfilled for the convenience of the permittee of public safety. Traffic-bearing plates can be used temporarily for pavement areas. Such temporarily measures will only be allowed for a maximum duration of 48 hours.

- S. All excess water and mud shall be removed from the trench before backfilling. Any backfill placed during a rainy period or at other times, where excess water cannot be prevented from entering the trench, will be considered temporary and shall be removed as soon as weather permits. All disturbed base material or any base that has been undermined shall be removed and discarded. All backfill within the right-of-way shall be installed and tested in accordance with the applicable section of the standards provided in this manual.
- T. All earth, materials, sidewalks, pavement, utilities, conduits, crossing, irrigation, landscaping, monuments, manhole covers, valve covers, meter box lids, or improvements or any kind owned or possessed by the City, and damaged, disturbed, or removed by a ROW user shall be fully repaired promptly by the ROW user, at its sole expense, to the reasonable satisfaction of the City.
- U. After any excavation, the ROW user shall, at its expense, restore the ROW, trench envelope, pavement structure, and the surrounding area to at least the same condition it was prior to the excavation. The restoration shall be made in accordance with specifications set forth herein, and the repair shall endure without failure for one year from the completion date of any repair.
- V. In the event the ROW user fails to restore the ROW in the manner and to the condition required herein, or fails to satisfactorily or timely complete all restoration, the City may, at its option, serve written notice upon the ROW user that, unless within 5 business days after serving of such notice a satisfactory arrangement can be made for the proper restoration of the ROW by the ROW user, the City may take over the work and prosecute same to completion, by contract or otherwise, at the sole expense of the ROW user. The ROW user, and its surety, shall be liable to the City for any and all cost incurred by the City by reason of such prosecution and completion. Nothing contained herein shall limit any other remedies available to the City.
- W. The ROW user is required to comply with the Storm Water Pollution Protection Plan (SWPPP) developed for the development and for the implementation and maintenance of the Best Management Practices (BMP). Once the project is complete and the final BMPs are installed, ROW user shall maintain the BMPs until revegetation is established to prevent sediment transport and erosion. The ROW user is responsible for the removal of BMPs once the revegetation is established. These BMPs shall be removed within 30 days once the revegetation has been reestablished.
- X. If any excavation cannot be backfilled immediately, the ROW user shall securely and adequately cover the excavation and maintain proper barricades, safety fencing or lights as required, from the time of the opening of the excavation until the excavation is surfaced and opened for travel.
- Y. No trench shall be open in any paved area of the ROW for the purpose of laying pipes, conduits, or ducts more than 200 feet in advance of the pipe, conduit, or ducts being placed in the trench, other than with the prior written consent of the City. No trench shall be opened in any nonpaved ROW for the purpose of laying pipes, conduits, or ducts more than 500 feet in advance of the pipe, conduit, or ducts being placed in the trench, other than with prior written consent of the City. In all areas of the ROW, all trenches shall be closed prior to the end of the business day.
- Z. Before a permit shall be issued, the applicant shall execute and deliver to the City (to be kept on file with the City) a good and sufficient bond of performance or assurance in accordance with the requirements of Section 12.04.

- AA. Utility and other street crossings under pavement shall not be installed within 2 feet of the bottom of the subgrade.
- BB. The permittee of ROW use shall maintain its equipment or facilities once installed, in perpetuity. Above ground facilities shall be maintained in a neat, organized, and workmanlike appearance in the opinion of the City. This may require that the permittee or ROW holder be required to repair or replace the surface facilities with new equipment or equipment with decorative features. Should the surface area equipment not be maintained in a workmanlike appearance, refer to Section 12.03.V for resolution. Additionally, failure to maintain upkeep of existing facilities may cause future permits to be delayed or revoked until such items are addressed.
- CC. The permittee or ROW user facilities that are to be abandoned, and after all facilities are removed and properly abandoned, shall remove all surface features and the surface shall be restored to match the surrounding area. Should the surface area not be restored refer to Section 12.03.V for resolution. Additionally, failure to restore the area may cause future permits to be delayed or revoked until such items are addressed.

2.04 INSURANCE AND BONDING REQUIREMENTS

- A. A ROW user shall obtain and maintain insurance in the amounts reasonably prescribed by the City with an insurance company licensed to do business in the State of Texas. A person shall furnish the City with proof of insurance at the time of request for permits. The City reserves the right to review the insurance requirements and to reasonably adjust insurance coverage and limits when the City Manager determines that changes to statutory law, court decisions, or the claims history of the industry or the person require adjustment of the coverage.
- B. For purpose of this section, the City will accept certificates of self-insurance issued by the State of Texas or letters written by the person in those instances where the state does not issue such letter, which provide the same coverage as required herein. However, for the City to accept such letters the ROW user must demonstrate by written information that it has adequate financial resources to be self-insured entity as reasonably determined by the City, based on financial information requested by and furnished to the City.
- C. The City's current insurance requirements are described in the following. If a certificate of insurance is on file from a previous application and has not expired, the valid certificate may be referenced on subsequent applications.
- D. The ROW user shall furnish, at no cost to the City, copies of certificates of insurance evidencing the coverage required by this chapter to the City. A ROW user shall immediately advise the City Attorney of actual or potential litigation that may develop or may affect an existing carrier's obligation to defend and indemnify.

1. The ROW User shall procure and maintain at its sole cost and expense for the duration of the permit, insurance coverage for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the ROW User, its agents, representatives, volunteers, employees, or subcontractor. The ROW User's insurance coverage shall be primary insurance with respect to the City, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officials, employees, or volunteers shall be considered in excess of the ROW User's insurance and shall not contribute to it. Further, the ROW User shall include the City as an additional insured under its policy. All coverage for subcontractor shall be subject to all of the requirements stated herein. Certificates of insurance and endorsements shall be furnished to the City and approved by the City before work commences.
2. Standard insurance Policies Required:
 - a. Commercial General Liability Policy
 - b. Automobile Liability Policy
 - c. Workers' Compensation Policy
3. General Requirements Applicable to all Policies:
 - a. General Liability and Automobile Liability insurance shall be written by a carrier with an A: VIII or better rating in accordance with the current Best Key Rating Guide.
 - b. Only Insurance Carriers licensed and admitted to do business in the State of Texas will be accepted.
 - c. Deductibles shall be listed on the Certificate of Insurance and are acceptable only a per occurrence basis for property damage only.
 - d. "Claims Made" policies will not be accepted.
 - e. The City of Brenham, its officials, employees, and volunteers, are to be added as "Additional Insure" to the General Liability policy. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees, or volunteers.
 - f. A Waiver of Subrogation in favor of the City with respect to Workers' Compensation Insurance must be included.
 - g. Each insurance policy shall be endorsed to state that coverage shall not be suspended, voided, canceled, reduced in coverage or in limits except after thirty (30) days prior to written notice has been given to the City of Brenham.
 - h. Upon request, certified copies of all insurance policies shall be furnished to the City of Brenham.
4. Commercial General Liability

- a. Minimum Combined Single Limit of \$100,000 per occurrence for bodily injury and property damage.
 - b. No coverage shall be deleted from the standard policy without notification of individual exclusions being attached for review and acceptance.
5. Automobile Liability
 - a. Minimum Combined Single Limit of \$100,000 per occurrence for bodily injury and property damage.
6. Worker's Compensation
 - a. Employer's Liability limits of \$100,000 for each accident is required.
7. Certificates of Insurance shall be prepared and executed by the insurance company or its authorized agents. And shall contain the following provisions and warranties:
 - a. The company is licensed and admitted to do business in the State of Texas.
 - b. The insurance policies provided by the insurance company are underwritten on forms that have been provided by the Texas Board of Insurance.
 - c. All endorsements and insurance coverage according to requirements and instructions contained herein.
 - d. The form of the notice of cancellation, termination, or change in coverage provisions to the City of Brenham.
 - e. Original endorsements affecting coverage required by this section shall be furnished with the certificates of insurance.
- E. Before a permit shall be issued, the applicant shall execute and deliver to the City (to be kept on file with the City) a good sufficient bond of performance or assurance. Said bond should be approved by the City and conditioned that the person making the application shall promptly adjust, pay, and settle all legitimate claims for damages that may result by reason of carelessness or negligence in the manner of performing such work or by reason of any defects therein caused or arising from careless, negligent, or imperfect construction thereof. This also includes holding the City, its council member, officers, employees, volunteers, agents and representative, free and harmless from liability on all such claims for damages to the performance or assurance bond that shall cover the cost of repairs in or upon the street, sidewalk, or other public place where the work is to be done that may become necessary by reason of such cut or excavation having been made. The bond shall be maintained until the City accepts the work after expiration of the one-year maintenance period. With respect to the ROW user's obligation to comply with the requirements for a performance or assurance bond, the City may allow the ROW user to self-insure such obligation upon production of evidence that is satisfactory to the City.
- F. The amount of the required performance or assurance bond shall be as follows:



1. Work requiring street, sidewalk, or pavement excavation, or excavation within 5 feet of pavement – 120 percent of the original construction cost.
2. Residential driveways, street tree planting, or other work - \$2,000.00.

2.05 PUBLIC AND PRIVATE LOCATIONS

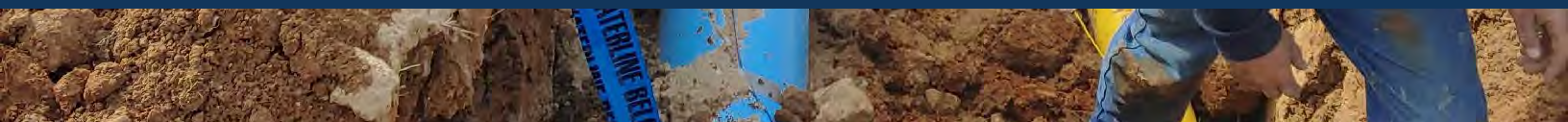
- A. New installations of public and private utilities (i.e., community antenna television (CATV) telephone, or gas) within the ROW shall be located in accordance with the alignments shown in Detail ROW-1 that is included in Appendix B of this manual.
- B. The minimum horizontal and vertical separation between private utilities and any public utility shall be 18 inches.
- C. The location of jack and bore pits shall be shown on permit applications. Jack and bore pits shall be at least 5 feet from the back-of-curb or edge of pavement.
- D. Public and private utility depths within the public ROW shall not be less than the utility depths requirements of the Typical Easement Installation Details shown in the following:
- E. Public and private utilities along open ditch roadways shall be installed in utility easements adjacent to the public ROW when the easements are available. Franchise utilities along open ditch roadways shall not be less than 2 feet below the flowline of any ditch under any circumstance and, wherever possible, shall be installed between the outside bank of the ditch and the ROW line.
- F. Public and private utilities crossing under street pavement shall not be installed within 2 feet from the bottom of the subgrade.

END OF CHAPTER



PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 3 - WATER SYSTEMS DISTRIBUTION



CHAPTER 3

WATER DISTRIBUTION SYSTEMS

3.01 GENERAL

- A. This chapter includes the design requirements for public water distribution systems within the city limits and the extra-territorial jurisdiction of the City.
- B. The City's staff shall approve water distribution drawings for all public improvements within the City limits or extraterritorial jurisdiction. Construction shall conform to the City's Standard Construction Details.
- C. Construction drawings for private improvements, within public rights-of-way and public easements, that connect to or affect the public infrastructure shall be approved by the City. These improvements are subject to the requirements of this Manual and are subject to review and approval using the process defined in this Manual.
- D. Construction and sizing of all water mains and appurtenances shall meet or exceed the requirements of the Texas Commission on Environmental Quality (TCEQ).
- E. The Public Water System shall not extend beyond the water meter. All construction to the meter shall conform to the requirements of this Manual. All construction beyond the meter is considered private and shall conform to the requirements of the City's adopted Plumbing Code.
- F. All proposed water distribution systems and interconnects between separate systems or utility districts, shall be approved by the City staff.
- G. No interconnect between the City's public water supply system and any separate system, utility district, or private water source will be permitted without the prior written consent and approval by the City.

3.02 DESIGN REQUIREMENTS

- A. Public water distribution systems shall be designed to handle the necessary water flow based upon complete development. The necessary water flow shall include applicable residential and nonresidential uses and fire protection flows.
- B. The City may require oversizing of proposed infrastructure to serve future development or extension of main lines. If City chooses to require such oversizing, City will participate in the cost of the oversize and will negotiate an oversize agreement with the developer to establish the terms of the participation effort.
- C. The water system shall be designed to deliver peak-hour demand flows. The fire flow must be available above the peak-hour demand of the system and for a duration and at the residual pressure as specified by the Fire Marshall.

- D. One hard copy and one electronic copy in Adobe Acrobat (.pdf) format of the system hydraulic calculation, sealed by a Texas Registered Professional Engineer, shall be provided with all water distribution system drawings. These calculations shall show how the water flow rates were computed, design assumptions, and how fire flow requirements are met. If the proposed water distribution system is connecting to an existing system, verification of the flow rates and pressure in the existing system (both before and after inclusion of the new system) shall be provided by the design engineer and approved by the City.
- E. Fire flow requirements are based upon International Fire Code, as amended in the Code of Ordinances, latest adopted edition.
- F. The overall water system shall be designed to maintain adequate pressure throughout the system. In all cases, specific water pressure and flow analysis and study shall be required. The layout of the water mains should provide maximum circulation of water to prevent future problems of odor, taste, or color as a result of stagnant water.
- G. Permanent dead-end mains will not be allowed if looping alternatives are available. This may require extending the water mains beyond the limits of the project.
- H. In unavoidable permanent dead-end situations, lines shall be 6" or longer and not exceed 600 feet in length and shall be equipped with a 2" automatic flushing device.
- I. The length of a dead-end water main shall be measured from the intersection with a multiple feed (looped) main to the end of the main.
- J. Where a water main is stubbed out for future extensions, place a valve to isolate the dead-end and extend a 20' section of pipe with a cap on the end on the downstream side of the isolation valve. Restrain the water main to prevent line separation. Thrust blocking will not be allowed. No customer services shall be located on the dead-end until it is extended. Provide a 2" automatic flushing device at the end of the dead-end line in advance of the isolation valve.

3.03 SYSTEM LAYOUT AND PLACEMENT

- A. Water system layout and placement requirements are established based on land uses, as established in this section. These layouts and placement requirements are intended to be minimum requirements; larger mains, shorter runs, or additional looping may be required based upon fire flow calculations. If a property is not covered within the development types listed, the City staff shall designate the type of development.
 - 1. Type A (Residential) Development shall include all properties and rights-of-way within zoning district R-1 through R-3 and any planned development districts that allows any R-1 through R-3 use developed in accordance with the intent and requirements of these districts and developments similar in density and use.
 - 2. Type B (Commercial) Development shall include all properties and rights-of-way within zoning districts B-1, B-2, B-3, B-4, I, and PD use developed in accordance with the intent and requirements of these districts and developments similar in density and use.
- B. Water mains in Type A (Residential) Development shall have a minimum size as follows:

1. Two-inch water mains may serve a maximum of two domestic, residential service connections. Two-inch mains shall not exceed 200 feet in length and shall be installed with a 2" automatic flushing device at the end of the line. All 2-inch water mains shall be specifically approved by the City staff.
 2. All 4-inch water mains shall be specifically approved by the City Staff.
 3. Six-inch water mains shall be maximum of 1,500 feet long when supported on both ends by 8-inch mains or larger. Six-inch water mains shall have no more than two fire hydrants. Dead-end 6-inch mains shall not be more than 600 feet in length and shall be equipped with a 2" automatic flushing device.
 4. Eight-inch water mains are required for mains over 1,500 feet long, or when three or more intermediate fire hydrants are required. Eight-inch water mains shall not be dead-end, except as provided in Section 3.02.
 5. Twelve-inch and larger water mains will be required at locations established by the City or as determined by the design calculations.
- C. Water mains in Type B (Commercial) Developments shall have a minimum sizing as follows:
1. Minimum size of water mains shall be 8-inch. Maximum length of a dead-end 8-inch main shall be 600 feet. A dead-end main shall be terminated with a 2" automatic flushing device.
 2. Twelve-inch and larger water mains will be required at locations established by the City staff or as determined by the design calculations.
- D. Water main and appurtenances are not allowed in the following sizes: 3-inch, 10-inch, and 14-inch.

3.04 FIRE HYDRANTS (Flushing Valves)

- A. Fire hydrants shall have a three-way nozzle arrangement, a 5 and 1/4-inch compression type main valve, a mechanical joint (MJ) boot, and conform to the requirements of American Water Works Association (AWWA) C502. Hydrants shall be factory painted red with yellow pumper caps and silver streamer caps. Bonnet shall be painted in accordance with the table shown in 3.04F. Field painting of the hydrants after installation is not allowed, other than as specified in 3.04F or for minor touch-up. Approved fire hydrants shall be listed on the Approved Product List.
- B. Fire hydrant spacing shall be measured along the length of the main. Fire hydrants shall be spaced along all mains 6 inches and larger as follows:
1. Type A (Residential) Development – Four hundred feet minimum to 500 feet maximum spacing, or as designated by the Fire Marshal.
 2. Type B (Commercial) Development – Two hundred and fifty feet minimum to 300-feet maximum spacing and at all street intersections, or as designated by the Fire Marshal.

3. If applicable, fire hydrant spacing measurements shall begin from the nearest existing fire hydrant to the new development so as to avoid spacing that exceeds these standards.
- C. Location – Fire hydrants or flushing valves shall be located as follows:
1. Fire hydrants shall be located a minimum of 2 feet behind the back of the curb, or projected future curb, and be set at the point of curvature (PC) of the intersection curb radius. To the maximum extend practical, fire hydrants shall be located on lot lines.
 2. On all open-ditch roadways, set the fire hydrants or flushing valves within 3 feet of the right-of-way. Fire hydrants shall not be located between the edge-of-pavement and the open ditch.
 3. Fire hydrants located between right-of-way intersections should be set at a lot line. However, this location may be adjusted 5 feet either way to miss driveways or other obstructions, in which case the fire hydrants should not be closer than 3 feet from curbed driveways or 5 feet from non-curbed driveways.
- D. The depth of bury for all fire hydrants shall be established such that the manufacture's bury line on the fire hydrant is installed at the ground line at each location or at the finished ground after pavement construction.
- E. Fire hydrants shall be installed in accordance with all applicable TCEQ rules and regulations.
- F. The bonnet of the fire hydrant shall be factory painted white and then shall be field painted in accordance with the table below. Fire hydrants shall be color coded on the fire hydrants bonnet based upon fire flow test administered prior to final walk through. The paint used shall be a polyurethane enamel or approved equal and applied in accordance with the manufacturer's instructions. The color code shall be as follows:

Flow Rate (GPM)	Paint Color
< 500	Red
500-999	Orange
1000-1499	Green
1500+	Light Blue

- G. All fire hydrants shall be installed so that the streamer connection will face the fire lane or street, or as directed by the Fire Marshal.
- H. Fire hydrants, when placed at intersections or access drives to parking lots, when practical, shall be placed so that no part of the fire truck will block the intersection or parking lot access when connections to the fire hydrant are made.
- I. A Blue Stimsonite, Fire-Lite reflector model 88-SSA (or approved equal) shall be placed 12 inches from the centerline of the street, offset toward the fire hydrant. At intersections, reflectors shall be placed on both roadways opposite the fire hydrant.

- J. Fire hydrants that are to be designated as private shall have a factory coated body color of red. The caps and bonnets shall be color coded in accordance with Section 3.04F. These fire hydrants will be owned and maintained by the property owner/entity. The valve for the fire hydrant line shall be located at the public water main.
- K. All fire hydrants shall be set on a foundation consisting of either a pre-cast concrete block or a 90-pound sack of premix concrete.
- L. All fire hydrants shall have a 3'L x 2'W x 4" thick unreinforced concrete splash pad installed directly in front of the pumper nozzle to reduce or eliminate erosion that might result from flushing the hydrant.
- M. All fire hydrants must be equipped with an isolation valve located adjacent to the water main.

3.05 WATER DISTRIBUTIONS SYSTEM MATERIALS

- A. All materials used in the construction of public water distribution systems must be in conformance with AWWA and NSF International guidelines.
- B. PVC Pressure Pipe, 2-inch through 12-inch, shall conform to the requirements of ANSI/AWWA C900, current revision, Class 150 DR 18. Pipe shall be designed and constructed in conformance with the minimum requirements of the "Manual of Water Supply Practices", AWWA Manual No. M23. PVC pipe with the use of ductile iron fittings is the preferred material for water line construction. The use of DIP is allowed, as necessary.
- C. Ductile Iron Pipe, 4-inch through 54-inch, shall conform to the requirements of "Ductile-Iron Pipe, Centrifugally Cast in Metal Molds for Sand-Lined Molds, for Water and Other Liquids," AWWA C151, (ANSI A21.51), current revision. Pipe thickness shall be the minimum specified in C151. Under special conditions, the City may require thickness design in conformance with the minimum requirements of "Thickness Design for Ductile Iron Pipe," AWWA C150 (ANSI A21.51), current revision. Pipe shall be installed in conformance with the minimum requirements of AWWA C600, "Installation of Gray and Ductile Cast-Iron Water Mains and Appurtenances." DIP shall be furnished with epoxy or cement mortar lining, AWWA C104 (ANSI A21.4). Polyethylene tube encasement shall be provided as required.
- D. Bedding and backfill shall conform to Section 3.09 of this Manual and as shown in the City's Standard Construction Details.

3.06 LOCATION OF WATER MAINS AND EASEMENT REQUIREMENTS

- A. All public mains shall be installed within a public utility easement, or right-of-way. A minimum of 4 feet of cover shall be maintained at all times, except as allowed by section 3.08.
- B. Water mains shall be placed along a uniform alignment with the right-of-way. When necessary, the water main may be deflected at a fire hydrant location to accommodate proper installation of the fire hydrant. At all locations where a water main changes alignment, the location of the water main shall be clearly shown on the construction drawings. A minimum distance of 2 feet shall be maintained from the right-of-way line to the nearest outside edge of the water line.

- C. For new construction, any water main, except at a fire hydrant, and located less than 5 feet from the dedicated right-of-way line, and within the right-of-way shall have a public utility easement adjoining the right-of-way. Public utility easements adjoining a right-of-way shall be sufficient width to provide a minimum of 12.5 feet of clearance on each side of the centerline of the pipe.
- D. Water mains shall be located within the right-of-way as shown in Standard Detail ROW-1.
- E. Water mains not within the public right of way shall be centered in a public utility easement the width of which will be determined by City staff.

3.07 CLEARANCE OF WATER LINES FROM OTHER UTILITIES

- A. Water mains shall be designed and located to conform to regulations of the TCEQ.
- B. For water mains crossing an existing or proposed sanitary sewer or force main, the minimum clearances between the utilities shall comply with the latest edition of "Rules and regulations for Public Water Systems," of the TCEQ.

3.08 DEPTH OF COVER

- A. Minimum depth of cover for water mains shall be as follows:
 - 1. Twelve-inch and smaller mains shall have a minimum cover of 4 feet from the top of curb. At utility conflicts the water main cover may be reduced to 3 feet with the approval of the City. For open ditch roadway section, 12-inch and smaller mains shall be installed at least 3 feet below the ultimate flow line of ditch or 6 feet below natural ground at the right-of-way line. Whichever is deeper.
 - 2. Sixteen-inch and larger mains shall have a minimum cover of 5 feet from the top of curb. For open ditch roadway sections, 16-inch and larger mains shall be installed at least 3 feet below the flow line of ditch or 7 feet below natural ground at the right-of-way line, whichever is deeper.
 - 3. Water mains shall be located in a manner that minimizes the impact on adjacent facilities or infrastructure and allows for ease of maintenance of the water line.
- B. Changes in grade to clear other utilities or underground features may be made by deflecting pipe joints. The maximum designed deflection shall be no more than the manufacturers allowable deflection. The vertical realignments shall be restrained in each direction in accordance with restraint requirements and be constructed with MJ fitting and restraints. Any bell joints located in the vertical realignment shall also be restrained.

3.09 TRENCHING, BEDDING, AND BACKFILL REQUIREMENTS

- A. The minimum trench width shall be equivalent to the outside diameter of the pipe plus 12".
- B. The maximum trench width shall be equivalent to the outside diameter of the pipe plus 36".
- C. The minimum trench depth shall be equivalent to the desired bury depth of the pipe plus the outside pipe diameter plus 6".

- D. Pipes should be bedded with bank sand.
- E. Sand bedding shall fill the entire width of the trench and shall extend from a depth of 6" below the pipe to 6" above the pipe.
- F. Bedding shall be installed in maximum 9" loose lifts and be compacted by vibratory equipment to a 90% standard proctor (ASTM D698).
- G. Backfill in non-paved areas and under concrete paved roadways shall consist of select backfill from the excavation.
- H. All backfill within public rights-of-way and public easements shall be installed in maximum 9" loose lifts and be compacted to a minimum of 95 percent of Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78), without additional moisture control, cured and tested in accordance with ASTM C31.
- I. In non-paved areas the backfill shall fill the entire trench width of the trench and shall extend from the top of the sand bedding to a depth of 6" below the elevation of the finished surface.
- J. In non-paved areas, the uppermost 6" of backfill shall consist of topsoil. If the trench extends through an existing vegetated landscape, any excavated or disturbed area adjacent to the trench shall be re-sodded with grass that is similar to the exiting landscaping.
- K. Under concrete roadways, the backfill shall fill the entire width of the trench and shall extend from the top of the sand bedding to the elevation of the bottom of the concrete paving. All water lines located underneath and within 1 foot of any asphalt paving be backfilled with cement stabilized sand.
- L. Under asphalt paving, the cement stabilized sand shall fill the entire trench width and shall extend from the top of the sand bedding to the elevation of the bottom of the base section.
- M. The cement stabilized sand shall be in accordance with the following requirements.
 - 1. The cement shall be Portland Cement, Type I, ASTM C150.
 - 2. The sand shall be clean, durable sand, with less than 0.5 percent clay clumps, ASTM C142; with less than 0.5 percent lightweight pieces, ASTM C123; with organic impurities, ASTM C40, not showing a color darker than standard color, and a plasticity index of less than 6 when tested in accordance with ASTM D423 and ASTM D424.
 - 3. Compact to 95 percent Standard Proctor Density (ASTM D2922-78 and ASMT D3017-78) in maximum loose lifts of 8-inches thick. Actual testing shall be required as specified in Section 3.13 of this Manual.
 - 4. The cement-sand mixture shall consist of at least 2.5 bags of cement per cubic yard of mixture. The cement-sand mixture shall have a minimum unconfined compressive strength of 100 pounds per square inch (psi) in 48 hours, when compacted to a minimum of 95 percent of Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78), without additional moisture control, cured and tested in accordance with ASTM C31.

5. Cement stabilized sand shall be placed and compacted within 3 hours of batching.

3.10 PIPE LOCATION MARKING

- A. Adequate markings on site as specified below and accurate as-built locations shall be provided so that the water lines and services can be easily located by the City in the future.
- B. A continuous tracer wire, such as a solid 14-gauge copper clad wire with blue shielding or approved equal, shall be affixed to the top of the new water main prior to bury and shall have a snake pit tracer station installed at a maximum of 500 feet. The tracer station shall have a 2' x 2' concrete pad around it and shall be shown on the plans. Tracer wire shall be connected to all water meter angle stops, fire hydrants, and valve box risers. Wire splices shall be completed using approved, underground connector. Soldered connections are not permitted. A continuity test shall be completed prior to acceptance.
- C. The location of water services shall be marked on the curb by etching or casting a "W" into the face of the curb directly over the water service location

3.11 INSTALLATION BY BORE AND JACK

- A. Bore and jack sections shall be specifically approved by the City and clearly shown on the drawings by location and footage.
- B. The following criteria are generally used as a basis for setting bore and jack sections.
 1. Bore pits shall be at least 3 feet from the back of curb and 5 feet from back of curb on a major thoroughfare. Bore pits in highways, county roads, or railroad right-of-way shall conform to these requirements and to the requirements of the crossing permit or use agreement. All bore pits shall be shored in accordance with Occupational Safety and Health Administration (OSHA) requirements. Bore pits or receiving pits to be located in street or driveway paving, shall be shown on drawings.
 2. All existing developed areas shall be restored to original condition after construction.

3.12 VALVES

- A. All water systems valves shall conform with AWWA standards and shall be designed as follows:
 1. Four-inch through 18-inch valves shall be resilient seated gate valves, AWWA C509, counterclockwise opening with MJ fittings. Valves shall have a complete epoxy coating on all iron parts in the valve interior to eliminate corrosion.
 2. Twenty-inch and larger valves may be resilient gate valves, AWWA C509 or butterfly valves, AWWA G504, with complete epoxy coating to avoid corrosion of all iron parts, as approved by the City. All valves shall be counterclockwise opening. All valves shall be direct-bury type.
 3. Cast-iron valve boxes are required on all valves.
 4. All valves shall be sized equal to the size of the main upon which it is located.
 5. Valves shall be approved by the City and shall be listed on the Approved Product List.

B. Valves shall be set at a maximum distance of 1,000 feet along the main.

1. The total number of valves at any water line intersection shall equal the total number of main lines extending out from the intersection, i.e., three (3) for a tee and four (4) for a cross.
2. All valves shall be equipped with a Snake Pit tracer wire station installed adjacent to the valve in a 2' x 2' concrete pad that is located around the valve box.

C. Valves shall be located as follows:

1. All mains shall be valved within the street right-of-way. Valves shall not be placed within 4 feet of ultimate pavement, except as specifically approved by the City.
2. Valves are normally located on the projection of intersection street right-of-way lines or at the curb return adjoining a paved street across the main. Tapping sleeves and valves are excluded from this requirement.
3. All fire hydrants shall be isolated from the service main with a valve located on the fitting at the main line.
4. Intermediate valves not located on the projection of intersection street right-of-way lines may be located at a lot line projection or 5 feet from the fire hydrant.
5. Valves shall be placed at the end of all mains that are to be extended in the future and extend the main a minimum of 20 feet past the valve. Valve and piping shall be restrained using MJ fittings, restraints, and pipe joint restraints. Thrust blocks are not allowed.

3.13 FITTINGS AND APPURTENANCES

- A. Fittings shall be Ductile-Iron Compact Fittings 4-inch to 12-inch, AWWA C153/A21.53.84, conforming to the minimum requirements of "Gray-Iron and Ductile-Iron Fittings, 12-inch through 48-inch, for Water and Other Liquids", AWWA C153 (ANSI 21.10), current revision. Fittings shall be furnished with epoxy or cement mortar lined, AWWA C104 (ANSI A21.4).
- B. All fittings shall be identified and described on the construction drawings.
- C. Water main fittings shall be MJ fittings.
- D. Polyethylene tube encasement shall conform with the minimum requirements of "Polyethylene Encasement for Gray and Ductile Cast-Iron Piping for Water and Other Liquids," ANSI/AWWA C105, current revision. Soils within the project shall be tested in accordance with Appendix A of ANSI/AWWA C105 to adequately determine the requirements for encasement.
- E. Concrete thrust blocking or mechanical restraints shall be required on all bends, tees, plugs, and combinations thereof. Refer to the City's Standard Construction Details for specifications.
- F. The maximum allowable size of a tapping sleeve and valve on an existing pipe is equal to the pipe diameter of the main to be tapped.



3.14 DUCTILE IRON WATER PIPE

- A. All transitions from DIP to approved water main materials shall be constructed using MJ fittings.
- B. All DIP shall be constructed of materials as specified in Section 3.05.

3.15 TESTING

- A. It is the responsibility of the contractor to deliver a finished product in compliance with the contract documents and applicable federal, state, and local requirements. An independent testing laboratory shall be used to verify contract document compliance.
- B. The contractor is responsible for notification of the City and the independent testing laboratory in accordance with the City's notification requirements. In the event construction activity occurs without proper notification to the City, the work in question is subject to removal and replacement in accordance with the standards at the discretion of the City.
- C. Water lines shall be tested in accordance with the following:
 - 1. A hydrostatic exfiltration test shall be performed on all water lines in accordance with the requirements of the TCEQ and AWWA C600-10 (DIP) or C605-13 (PVC pipe) prior to being placed in service.
 - 2. New water lines shall be thoroughly disinfected in accordance with AWWA Standard C651 and TCEQ requirements, and then flushed and sampled prior to being placed in service.
 - 3. Copies of all test results shall be given to the City.
- D. Cement Stabilized Sand Testing
 - 1. A minimum of two random samples for compressive strength shall be taken each week. For smaller projects, one sample may suffice with City approval. The City reserves the right to require additional tests, at the Contractor's expense, if it is deemed necessary.
 - 2. In the event of a change in supplier, samples shall be drawn on the first day of delivery from the new supplier, regardless of previous samples taken.
 - 3. Cement stabilized sand samples shall be taken at the point of placement of the cement stabilized sand and identified as to the location of the sample.
 - 4. Cement stabilized sand densities shall be taken a minimum of every 150 linear feet of trench, with a minimum of two test (one per direction of travel) at each road crossings. When used as subgrade on roadway repairs, density test shall be taken every 100 square feet of subgrade, with a minimum of one test per repair.
- E. Bedding, Backfill, Testing
 - 1. Bedding and density test shall be performed a minimum of every 300 linear feet of trench in each lift. Density test shall be offset on altering lifts and test locations shall be identified by station number.

3.16 EXISTING FACILITY CROSSINGS

- A. Installation of water main across a proposed or existing public street, driveway, sidewalk, railroad, pipeline, or drainage way shall conform to the requirements of this section.
1. Public Street – All existing public streets are to be bored and jack regardless of surface. Bore and jack length shall be computed as roadway width at proposed bore plus 5 feet to either side.
 2. Driveways – Concrete and asphalt driveways in good condition shall be bored and jacked. Bore and jack length shall be computed as driveway width at bore plus 5 feet to either side. Where driveways cross culvert pipe sections along open ditch streets and the proposed water main is in proximity and parallel to the culvert pipe, the length of bore shall be the same as the length of culvert pipe.
 3. Sidewalks – When the water line crossed under a sidewalk in good condition, the sidewalk shall either be bored and jacked or removed and replaced to the City criteria, whichever is most cost-effective. Bore and jack length shall be at least the width of the sidewalk. The proposed type of construction shall be noted on the drawings.
 4. Railroad Crossings – All railroad crossings require a pipeline crossing permit to be issued by the corresponding railroad company and shall be bored and jacked in accordance with the requirement of that permit and the standards provided in this Manual.
 5. Drainage Way – When a water line cross under an existing drainage way, the water conveying portion of the drainage way shall be bored and jacked in accordance with the standards provided in this Manual.
 6. Trees – When saving trees is a consideration, all trees 6 inches or larger in diameter and within 10 feet of the centerline of the water main must be noted on all drawings. The water main shall be bored and jacked within the drip line of any tree larger than 6 inches in diameter.

3.17 BARRICADING AND SIGNAGE

- A. Proper barricading and signage, conforming to the Texas Manual of Uniform Traffic Control Devices' latest edition, shall be required on all projects.
- B. Adequate signage for vehicular and pedestrian traffic shall be installed.
- C. A traffic control plan shall be submitted to the City and approved by the City for all streets open to travel by the public.

3.18 WATER SERVICES

- A. Water services 2" and smaller must be single lot connections.
- B. The minimum size for a single lot service shall be 1".
- C. Water services shall be located within the public utility easement as close to the lot line as possible.

D. Single lot services shall consist of the following components:

1. An epoxy coated double strap tapping saddle with stainless steel straps at the main line.
2. A brass ball-type corporation stop with cc threads.
3. Polyethylene service line.
4. A brass, angle, ball-type lockable curb stop with 360-degree operating T-head.
5. A concrete meter box with a cast iron or concrete lid having a 2" plug in it.

E. Water services 4" and larger shall be installed using pipe and fittings that comply with the applicable sections of these design standards and shall be located in vaults.

F. The City of Brenham to supply the water meter in all instances upon payment of the applicable service connection fee.

G. Water service in Type A (Residential) Development

1. Water services from the main to the meter curb stop shall be installed using materials from the Approved Products List.
2. Water services lines shall be placed at a minimum depth of 36 inches below final paving elevation.
3. Meter boxes shall be located just outside the public right-of-way in a public utility easement along the projection of a lot line. Location of meters on open ditch streets shall be specifically approved by the City.
4. Public system maintenance shall end at the water meter. The water meter box or vault shall be constructed to meet the City's requirements and will be maintained by the City.

H. Water Service in Type B (Commercial) Developments

1. Backflow prevention (i.e., detector check valves) shall be required on all fire lines.
2. The location of the service line tee, valve, valve box, and temporary plug shall be designated on the construction drawings in the appropriate location to serve the "future meter".
3. Location of water distribution appliances necessary for the fire protection (i.e., vault, "PIE", post indicator valves, and "FDC" fire department connections) shall be determined by the Fire Marshal.

3.19 AIR RELEASE VALVES

- A. Two-inch (2") air release valves shall be installed at all high points in the proposed distribution system piping.
- B. A high point in the distribution system is defined as a point having an elevation change of 20' or more.



- C. Air release valve assemblies shall be constructed from materials on the City's Approved Product List and shall be installed in accordance with the City's Standard Details.

END OF CHAPTER



PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 4 - SANITARY SEWER SYSTEMS



CHAPTER 4 SANITARY SEWER SYSTEMS

4.01 GENERAL

- A. This chapter includes the design requirements for sanitary sewer collection systems within the City limits and the extraterritorial jurisdiction of the City.
- B. The City's staff shall approve sanitary sewer collection drawings for all public improvements within the City limits or extraterritorial jurisdiction. Construction shall conform to the City Standard Construction Details.
- C. Construction drawings for private improvements, within public rights-of-way and public easements, that connect to or affect the public infrastructure shall be approved by the City subject to the requirements of this Manual and are subject to review and approval using the process defined in this Manual.
- D. Construction and sizing of all sanitary sewer mains and appurtenances shall meet or exceed the requirements of the TCEQ.
- E. The public sanitary sewer system shall be defined as all sewers, and services leads located in public easements or street rights-of-way and that are installed in accordance with these standards. The public sanitary sewer system shall not extend beyond the service connection. All public construction shall conform to the requirements of this Manual. All private construction beyond the service connection shall conform to the requirements of the City's adopted Plumbing Code.
- F. No Interconnects between the City's sanitary sewer system and any separate system, utility district, or private sanitary sewer collection system will be permitted without the prior written consent and approval by the City.
- G. Sanitary sewer service shall be extended to all building sites prior to development. Septic systems are not allowed, except as specifically approved by the City.

4.02 DESIGN REQUIREMENTS

- A. Sanitary sewer systems shall be designed to handle the necessary flow based upon complete development. The necessary flow shall include applicable residential and non-residential average daily flows and shall include a minimum peak design flow of four times the average daily flows.
- B. The average daily flow for the design of sanitary sewers shall be based on a minimum set by the TCEQ in gallons per day per single-family connection for residential areas. Commercial, industrial and office areas shall be designed for an average day flow that can be anticipated from the contributing area.

- C. One copy of the system hydraulic calculations, sealed by a Texas Registered Professional Engineer, shall be provided electronically (PDF format) with all sanitary sewer system drawings. These calculations shall show how the sanitary flow rates were computed, design assumptions, and that TCEQ requirements are met. If the proposed sanitary sewer system is connecting to an existing system, verification of the availability of capacity in the existing system, after inclusion of the new system, shall be provided by the design engineer and approved by the City.
- D. All gravity sewers will be designed to accommodate the peak flow from the contributing service area. The peak flow will be computed using a peaking factor of four multiplied by the average daily flow for the contributing area. For non-residential areas, the peak flow should include consideration of flow characteristics from the anticipated development.
- E. Additional consideration of peak flow shall be given for design of pumping stations. The impact of pumping stations on the upstream and downstream sanitary sewer system shall be evaluated. The peak flow for design of a pumping station shall be based on the actual flow into the station.
- F. The minimum size allowable public sanitary sewer main shall be six inches. Public sanitary sewers are not allowed in back lot or rear yard easements.
- G. The minimum size residential double sanitary sewer service lead shall be six inches and shall not serve more than two residential services.
- H. Commercial sewer service leads shall be six-inch pipe or larger and shall not serve more than one commercial connection.
- I. All elevations shall be shown to the nearest 0.01 of a foot.
- J. All mains to be installed under an existing roadway should be installed by bore unless otherwise approved by the City.

4.03 SYSTEM LAYOUT AND PLACEMENT

- A. All sanitary sewer systems shall be designed in conformance with the requirements of the TCEQ and other applicable standards.
- B. All stationing shall be based on centerline of street right-of-way stations.
- C. The minimum depth of a sewer main along a curb and gutter street shall be four feet below finished grade or top of curb to the top of pipe, whichever is lower. Sanitary sewers laid along open ditch streets shall have a minimum cover of six feet from the average ground line at the adjacent street right-of-way or two feet below the flow line of the open ditch to the top of the pipe, whichever is lower. In situations where sewer main must be shallower than the depths reference above, the shallower sewer main must be constructed of C900 PVC pressure rated pipe.
- D. The maximum allowed depth for sanitary sewer collection lines is 16 feet from top of curb to invert of pipe. Sanitary sewers greater than 10 feet in depth to invert of pipe require public utility easements as stated in Section 4.06.

- E. Sanitary sewers shall be laid in a straight alignment, manhole-to-manhole. No curvilinear bends in excess of the pipe manufacturer's recommended pipe deflection amounts are allowed.
- F. Vertical Alignment should avoid high or low points between connections.
- G. Sanitary sewer hydraulic requirements include:
 - 1. Design velocity in a gravity sewer flowing full shall be a minimum of 2.0 feet per second (fps) and a maximum of 10 fps. In both cases, the Manning Formula has been used with an n coefficient of 0.013. The use of different pipe materials will not alter the use of n=0.013 for the purposes of design.
 - 2. Minimum acceptable slopes in sewers shall be as follows:

Size of Pipe (inches)	Minimum Slope (%)	Maximum Slope (%)
6	0.50	12.35
8	0.335	8.40
10	0.25	6.23
12	0.20	4.88
15	0.15	3.62
18	0.115	2.83
21	0.095	2.30
24	0.08	1.93
27	0.07	1.65
30	0.06	1.43
33	0.055	1.26
36	0.045	1.12
39	0.04	1.01
>39	*	*
*For pipes larger than 29 inches in diameter, the slope shall be determined by Manning's formula to maintain a velocity greater than 2.0 feet per second and less than 10.0 feet per second when flowing full.		

- H. Unequal size sewers shall be designed so that the inverts of the pipes are matched at manholes. When this is not possible, the upstream sewer may be designed so that the flow line of the upstream sewer is higher than the flow line of the downstream sewer. When the flow line of the upstream sewer is raised more than 24-inches above the flow line of the downstream sewer, a drop manhole connection is required, except as specifically approved by the City.
- I. Sanitary sewer service leads shall be laid at a minimum of 0.50 percent slope.

4.04 MANHOLES

A. Manhole requirements include:

1. Manholes shall be placed at points of changes in alignment, grade, or size of sewers, at all four-way and three-way connections, and at the end of all sewers. Cleanout boots will, however, be allowed on the dead end of a sanitary sewer line that is less than 150 feet long with specific approval from the City.
 - a. Manholes placed at the end of a collection system pipe that may be extended in the future must include pipe stub-outs with plugs.
 - b. Manholes in a straight-run pipe shall be spaced at a maximum distance of 500 feet apart.
 - c. The maximum allowable manhole spacing for collection systems with horizontal curvature is 300 feet. In such cases, a manhole must be at the point of curvature and the point of termination of a curve.
 - d. Manholes shall have a traffic bearing frame and cover. Manholes shall have a design strength of 4,500 pounds per square inch (psi) and be in compliance with ASTM C478 reinforcement.
 - e. Sewers laid in easements shall have a manhole at each side of a street crossing.
 - f. Manholes should be located to eliminate the inflow of stormwater into the sanitary sewer. The top of the manhole rim elevation shall be shown on the drawings for all sanitary manholes. Manholes shall not be located within the street pavement. Manholes shall have inflow protection inserts, a minimum thickness of 1/8-inch, made of high-density polyethylene (HDPE) meeting ASTM D 1248 Class A, Category 5, Type 111. Insert shall include a lift strap and vent hole with a vent disk. Manholes may be sealed with gaskets and bolts when specifically approved by the City. Where gasketed manhole covers are required for more than three manholes in sequence, an alternate means of venting shall be provided at less than 1,500-foot intervals.
 - g. Manholes shall be constructed in accordance with the City Standard Construction Details. The diameter of a manhole constructed over the center of a sewer shall vary with the size of the sewer, as follows:

Sewer Size	Manhole Diameter
8- through 12-inch	4-foot minimum
15- through 27-inch	5-foot minimum
30-inch	6-foot minimum
36-inch	6-foot minimum

- ##### B. Manholes deeper than 12 feet shall be a minimum of 5-foot diameter, depending on pipe size. If a drop structure is required, the manhole shall be a minimum of 5-foot in diameter.

1. A drop manhole is required for pipes that have a change in elevation of greater than 24 inches. The manhole will be a minimum of 5 feet in diameter. The use of an interior drop is required.
2. Steps in manholes will not be permitted.
3. Manhole covers shall be 32 inches in diameter or larger, cast-iron, shall include a traffic bearing type ring and cover with the words "Sanitary Sewer," and the City logo cast into the cover. All manhole covers shall be made impermeable to surface drainage by providing a solid cover in accordance with City Standard Construction Details. Whenever a manhole is placed in a low-lying area, an additional impermeable lining shall be provided underneath the cover to present flow.
4. All manhole adjustments shall be made with 3-inch precast concrete rings or traffic-related HDPE adjustment rings. A maximum of five adjustment rings are permitted.
5. Manhole cones shall be concentric cast.
6. All new manholes shall have an interior surface coated with an approved epoxy coating a minimum of 100 millimeters thick. If the project requires a rehabilitation of an existing manhole, the epoxy coating thickness shall be 125 millimeters thick.
7. Bituminous coatings are not allowed.
8. Coatings shall be tested with a Holiday tester.
9. Testing shall be in accordance with latest edition of the National Association of Corrosion Engineers (NACE) "Standard Recommended Practice Discontinuity Testing of Protective Coatings."
10. All holidays shall be marked, repaired, and retested. All joints shall be grounded smooth prior to installation of the interior coating. Should the manhole be pre-coated at the place of manufacturing, the joint shall be grouted smooth, and the grouted area shall be coated in accordance with this section.
11. Interior coating is not required, however, if polymer concrete, corrosion-resistant manholes are used that are manufactured using the additive XYPEX.
12. Fiberglass manholes are not allowed as part of public sanitary sewer systems. All manholes within public rights-of-way and public easements shall be pre-cast or cast-in-place manholes.
13. Where unequal size pipes enter a manhole, inverts of pipes are required to be at the same elevation, unless due to an elevation drop connection.

4.05 SANITARY SEWER SYSTEM MATERIALS

- A. All materials used in the construction of sanitary sewer systems shall be in conformance with the City's Approved Products List and the requirements of the TCEQ. Sewers shall be designed to meet or exceed the pipe manufacturer's recommendations for depth.

- B. Solvent welded sanitary sewer joints are not an acceptable joining method for PVC piping materials. Use of rubber gasketed bell and spigot sanitary sewer joints shall be mandatory.
- C. Sanitary sewers 15 inches or less in diameter and installed at depths of 16 feet or less to invert shall be constructed conforming to ASTM specification D 3034 SDR-26 (115 psi). The color shall be green and shall meet ASTM specifications D 3212 for pipe joined with rubber gaskets conforming to ASTM F477. Bell (female) ends of pipe shall be installed on the upstream side with spigot (male) ends oriented downstream.
- D. All sanitary sewers greater than 18 inches in diameter and less than 27 inches in diameter and installed at depths of 18 feet or less to invert shall be constructed conforming to ASTM specification F679 SDR-26 (115psi). The color shall be green and shall meet ASTM specifications D 3212 for pipe joined with rubber gaskets conforming to ASTM F477. Bell (female) ends of pipe shall be installed on upstream side with spigot (male) ends oriented downstream.
- E. Sanitary sewers exceeding 27 inches in diameter shall be constructed of PVC pipe approved by the City. Bell (female) ends of pipe shall be installed on the upstream side with spigot (male) ends oriented downstream.
- F. A 2-inch wide green marker tape with the words "Sanitary Sewer" shall be installed 12 inches above the top of pipe during installation. All sanitary sewer mains shall be equipped with a 14-gauge, copper clad tracer wire and shall have a snake pit tracer station installed at a maximum of 500 feet. These should be shown on plans.
- G. All force mains 12 inches or less in diameter shall be constructed of PVC and shall be AWWA specification C 900, Class 150, DR 18. The color shall be green and shall meet ASTM specifications D 3139 for pipe joined with rubber gaskets conforming to ASTM F 477, or DIP shall conform to the requirements of "Ductile-Iron Pipe, Centrifugally Cast in Metal Molds for Sand-Lined Molds, for Water and Other Liquids," AWWA C151, (ANSI A21.51), current revision. Pipe shall be lined with Protecto 401 ceramic epoxy lining or approved equal. Pipe thickness shall be the minimum specified in C151. Bell (female) ends of pipe shall be installed on upstream side with spigot (male) ends oriented downstream. All ductile iron fittings shall be MJ and restrained with Ebba "Meg-a-lugs," or approved equal. The fittings shall be lined with Protecto 401 ceramic epoxy lining or approved equal. A 2-inch wide green marker tape with the words "Sanitary Sewer Forcemain" shall be installed 12 inches above the top of pipe during installation. Force mains shall be equipped with a 14-gauge, copper clad tracer wire and shall have a snake pit tracer station installed at a maximum of 500 feet. These should be shown on plans.
- H. All force mains greater than 12 inches shall be AWWA specification C 905, Class 235, DR 18. The color shall be green and shall meet ASTM specifications D 3139 for pipe joined with rubber gaskets conforming to ASTM F 477, or DIP shall conform to the requirements of "Ductile-Iron Pipe, Centrifugally Cast in Metal Molds for Sand-Lined Molds, for Water and Other Liquids," AWWA C151, (ANSI A21.51), current revision. Pipe shall be lined with Protecto 401 ceramic epoxy lining or approved equal. Pipe thickness shall be the minimum specified in C151. Bell (female) ends of pipe shall be installed on upstream side with spigot (male) ends oriented downstream. All ductile iron fittings shall be Ductile-Iron Compact Fittings AWWA C153/A21.53.84 MJ and restrained with Ebba "Meg-a-lugs" or approved equal. The fittings shall be lined with Protecto 401 ceramic epoxy lining or approved equal. A 2-inch- wide green marker tape with the words "Sanitary Sewer Forcemain" shall be installed 12 inches above the top of pipe during installation. Force mains shall be equipped with a 14-gauge, copper clad tracer wire and shall have a snake pit tracer station installed at a maximum of 500 feet.

These should be shown on plans. Bedding and backfill shall conform to Section 6.04 and to the City's Standard Construction Details.

4.06 LOCATION OF SANITARY SEWERS AND EASEMENT REQUIREMENTS

- A. Sanitary sewers shall be designed and located to conform to regulations of the TCEQ.
- B. Sanitary sewers shall be placed within the right-of-way at least 4 feet from the back of curb. Sanitary sewers shall be placed along a uniform alignment within the right-of-way.
- C. Where required, additional easements shall be provided adjoining the right-of-way to provide required clearances. A public utility easement adjoining a public right-of-way shall be of sufficient width to provide a minimum of 12.5 feet of clearance on each side of the centerline of the pipe.
- D. The minimum width of a public utility easement not located adjacent to a public right-of-way shall be 20 feet.
- E. Where sanitary sewers or force mains are installed in easements separated from public rights-of-way by other private or utility company easements, the sanitary sewer easement should be extended along or across the private utility company easement to provide access for maintenance of the sewer or force main.

4.07 CLEARANCE OF WATER LINES FROM SANITARY SEWER LINES

- A. Sanitary sewers shall be designed and located to conform to regulations of the TCEQ. The latest edition of "Rules and Regulations for Public Water Systems," of the TCEQ, shall be followed for minimum criteria and instructions for water line crossings.

4.08 TRENCHING, BEDDING, AND BACKFILL REQUIREMENTS

- A. All bedding and backfill shall be in accordance with the City Standard Construction Details. All backfill within public rights-of-way and public easements shall be compacted to a minimum of 95 percent of Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78), without additional moisture control, cured and tested in accordance with ASTM C31.
- B. The minimum trench width shall be equivalent to the outside diameter of the pipe plus 12".
- C. The maximum trench width shall be equivalent to the outside diameter of the pipe plus 36".
- D. The minimum trench depth shall be equivalent to the desired bury depth of the pipe plus the outside pipe diameter plus 6".
- E. Pipes shall be bedded with bank sand.
- F. Sand bedding shall fill the entire width of the trench and shall extend from a depth of 6" below the pipe to 6" above the pipe.

- G. Bedding shall be installed in maximum 9" loose lifts and be compacted by vibratory equipment.
- H. In water bearing sand, washed shell, or other approved, granular material will be required with geo-textile fabric wrap as shown in the City Standard Construction Details. When water-bearing sands are encountered, the City shall be notified immediately.
- I. Backfill in non-paved areas and under concrete paved roadways shall consist of select backfill from the excavation.
- J. In non-paved areas the backfill shall fill the entire trench width of the trench and shall extend from the top of the sand bedding to a depth of 6" below the elevation of the finished surface.
- K. In non-paved areas, the uppermost 6" of backfill shall consist of topsoil. If the trench extends through an existing vegetated landscape, any excavated or disturbed area adjacent to the trench shall be re-sodded with grass that is similar to the existing landscaping.
- L. All sanitary sewer lines located underneath and within 1 foot of any asphalt paving shall be bedded in cement stabilized sand in accordance with the Standard Construction Details. The cement stabilized sand shall be in accordance with the following requirements.
 - 1. The cement shall be Portland Cement, Type I, ASTM C150.
 - 2. The sand shall be clean, durable sand, with less than 0.5 percent clay lumps, ASTM C142; with less than 0.5 percent lightweight pieces, ASTM C123; with organic impurities, ASTM C40, not showing a color darker than standard color, and a plasticity index of less than six when tested in accordance with ASTM D423 and ASTM D424.
 - 3. Compact to 95 percent Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78) in maximum loose lifts of 8 inches thick. Actual testing shall be required as deemed necessary by the City.
 - 4. The cement-sand mixture shall consist of at least 1.5 sacks of cement per ton of sand. The cement-sand mixture shall have a minimum unconfined compressive strength of 100 psi in 48 hours, when compacted to a minimum of 95 percent of Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78), without additional moisture control, cured and tested in accordance with ASTM C31.
 - 5. Under asphalt paving, the cement stabilized sand shall fill the entire trench width and shall extend from the top of the sand bedding to the elevation of the bottom of the base section.
- M. Under concrete roadways, the backfill shall fill the entire width of the trench and shall extend from the top of the sand bedding to the elevation of the bottom of the concrete paving.

4.09 PIPE LOCATION MARKING

- A. Adequate markings on site as specified below and accurate as-built locations shall be provided so that the wastewater lines and services can be easily located by the City in the future.

- B. A continuous tracer wire, such as a solid 14-gauge copper clad wire with blue shielding or approved equal, shall be affixed to the top of the new wastewater main prior to bury and shall have a snake pit tracer station installed at a maximum of 500 feet. The tracer station shall have a 2' x 2' concrete pad around it and shall be shown on the plans. Wire splices shall be completed using approved, underground connectors. Soldered connections are not permitted. A continuity test shall be completed prior to acceptance.
- C. The location of sanitary sewer services shall be marked on the curb by etching or casting a "Y" into the face of the curb directly over the sanitary sewer service location.

4.10 INSTALLATION BY BORE AND JACK

- A. Bore and jack sections shall be specifically approved by the City and clearly shown on the drawings by location and footage.
- B. The following criteria are generally used as a basis for setting bore and jack sections.
 - 1. Bore pits shall be at least 3 feet from the back of curb and 5 feet from back of curb on a major thoroughfare. Bore pits in highways, county roads, or railroad rights-of-way shall conform to these requirements and to the requirements of the crossing permit or use agreement. All bore pits shall be shored in accordance with Occupational Safety and Health Administration (OSHA) requirements. Bore pits or receiving pits to be located in street or driveway paving, shall be shown on drawings.
 - 2. All existing developed areas shall be restored to original condition after construction.

4.11 TESTING OF INSTALLED PIPE AND MANHOLES

- A. It is the responsibility of the contractor to deliver a finished product in compliance with the contract documents and applicable federal, state, and local requirements. An independent testing laboratory shall be used to verify contract document compliance.
- B. The Contractor is responsible for notification of the City and the independent testing laboratory in accordance with the City's notification requirements. In the event construction activity occurs without proper notification to the City, the work in question is subject to removal and replacement in accordance with the standards at the discretion of the City.
- C. For a collection system pipe that will transport wastewater by gravity, the following TCEQ testing methods are required:

§217.57 Testing Requirements for Installation of Gravity Collection System Pipes:

- (a) For a collection system pipe that will transport wastewater by gravity flow, the design must specify an infiltration and exfiltration test or a low-pressure air test. The test must conform to the following requirements:

(1) Low Pressure Air Test.

- (A) A low pressure air test must follow the procedures described in American Society for Testing and Materials (ASTM) C 828, ASTM C 924, or ASTM F 1417 or other procedure approved in writing by the executive director. The testing times listed in Table C.4. in Figure: 30 TAC §217.57(a)(1)(B)(ii) must

be used, regardless of the testing procedure.

(B) For sections of collection system pipe with an average inside diameter less than 36 inches, the following procedure applies, unless a pipe is to be tested as required by paragraph (2) of this subsection.

(i) A pipe must be pressurized to 3.5 pounds per square inch (psi) gauge. If groundwater is present, then a pipe must be pressurized to 3.5 psi gauge greater than the pressure exerted by groundwater above the pipe.

(ii) Once the pressure is stabilized, the minimum time allowable for the pressure to drop from 3.5 psi gauge to 2.5 psi gauge is computed from the following equation:

Figure: 30 TAC §217.57(a)(1)(B)(ii)

Equation C.3.

$$T = \frac{(0.085 \times D \times K)}{Q}$$

Where:

T = time for pressure to drop 1.0 pound per square inch gauge in seconds

K = 0.000419×D×L, but not less than 1.0

D = average inside pipe diameter in inches

L = length of pipe line, in feet

Q = rate of loss, 0.0015 cubic feet per minute per square foot internal surface

(C) Since a K value of less than 1.0 may not be used, the minimum testing time for each pipe diameter is shown in the following table:

Figure: 30 TAC §217.57(a)(1)(C)

Table C.4. - Minimum Testing Times for Low-Pressure Air Test

Pipe Diameter (inches)	Minimum Time (seconds)	Maximum Length for Minimum Time (feet)	Time for Longer Length (seconds/foot)
6	340	398	0.855
8	454	298	1.520
10	567	239	2.374
12	680	199	3.419
15	850	159	5.342
18	1,020	133	7.693
21	1,190	114	10.471
24	1,360	100	13.676
27	1,530	88	17.309
30	1,700	80	21.369
33	1,870	72	25.856

- (D) An owner may stop a test if no pressure loss has occurred during the first 25% of the calculated testing time.
- (E) If any pressure loss or leakage has occurred during the first 25% of a testing period, then the test must continue for the entire test duration as outlined above or until failure of the test.
- (F) Collection system pipes with a 27 inch or larger average inside diameter may be air tested at each joint instead of following the procedure outlined in this section.
- (G) A testing procedure for a pipe with an inside diameter greater than 33 inches must be approved in writing by the executive director.

(2) Infiltration/Exfiltration Test.

- (A) The total exfiltration, as determined by a hydrostatic head test, must not exceed 10 gallons per inch of diameter per mile of pipe per 24 hours at a minimum test head of 2.0 feet above the crown of a pipe at an upstream manhole, or at least two feet above the existing groundwater level, whichever is greater.
- (B) An owner shall use an infiltration test in lieu of an exfiltration test when pipes are installed below the groundwater level.
- (C) If the quantity of infiltration or exfiltration exceeds the maximum quantity specified, an owner shall take remedial action in order to reduce the infiltration or exfiltration to an amount within the limits specified by Equation C.3. in Figure: 30 TAC §217.57(a)(1)(B)(ii) before putting the system into service. An owner shall retest a pipe following a remedial action according to the requirements of this chapter.

Deflection testing of gravity sewer lines shall be conducted after completion of final backfill and grading for piping installed in areas that will not be paved. In areas where gravity sewer piping is installed beneath paving, deflection testing shall be conducted after subgrade preparation is completed. Such initial testing shall be conducted 30 days or longer after piping has been inspected and backfilled. In the event of a failed test, the line will be repaired and retested 30 days after the backfill has been replaced. No pipe shall exceed a deflection of 5 percent. The deflection test shall be conducted using a rigid ball or mandrel having an inside diameter equal to 95 percent of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices and shall be in accordance with the requirements of the TCEQ.

D. The following TCEQ testing methods are required for sanitary sewer force mains:

§217.68 Force Main Testing:

- (a) The final plans and specifications must include the pressure testing procedures.
- (b) A pressure test must use 50 pounds per square inch above the normal operating pressure of a force main.

- (c) A temporary valve for pressure testing may be installed near the discharge point of a force main and must be removed after a test is successfully completed.
- (d) A pump isolation valve may be used as an opposite termination point.
- (e) A test must involve filling a force main with water.
- (f) A pipe must hold the designated test pressure for a minimum of 4.0 hours.
- (g) The leakage rate must not exceed 10.0 gallons per inch of diameter per mile of pipe per day. The following equation must be used to calculate the acceptable leakage rate in gallons per hour per 1,000 feet of pipe.

Figure: 30 TAC §217.68(g)

Equation C.5.

$$L = \frac{SD\sqrt{P}}{155,400}$$

Where:

L = Acceptable leakage rate (gallons/hour/1,000 feet of pipe, based on a leakage rate of 10.0 gallons per inch of diameter per mile of pipe per day)

S = Length of pipe (feet)

D = Nominal diameter of pipe (inches)

P = Average test pressure (pounds/square inch)

E. The following TCEQ testing methods are required for sanitary sewer manholes:

§217.58 Testing Requirements for Manholes:

- (a) All manholes must pass a leakage test.
- (b) An owner shall test each manhole, after assembly and before backfilling, for leakage using hydrostatic exfiltration testing, vacuum testing, or any other method approved in writing by the executive director. A manhole must be tested separately and independently from the collection system pipes.
 - (1) Hydrostatic Testing.
 - (A) The maximum leakage rate for hydrostatic testing or any alternative test methods is 0.025 gallons per foot diameter per foot of manhole depth per hour.
 - (B) To perform a hydrostatic test, an owner shall seal all wastewater pipes coming into the manhole with an internal pipe plug, fill the manhole with water, and maintain the test for at least one hour.
 - (C) A test for concrete manholes may use a 24-hour wetting period before testing to allow saturation of the concrete.
 - (2) Vacuum Testing. An owner must perform vacuum testing according to either subparagraph (A) or (B) of this paragraph. If a manhole fails the vacuum test, the

owner must apply grout to the exterior of the excavated manhole before retesting the manhole.

(A) Texas Test.

- (i) To perform a vacuum test, an owner shall plug all lift holes and exterior joints with a non-shrink grout and plug all pipes entering a manhole.
- (ii) Grout may not be placed in horizontal joints before testing.
- (iii) Stub-outs, manhole boots, and pipe plugs must be secured to prevent movement while a vacuum is drawn.
- (iv) An owner shall use a minimum 60 inch/lb torque wrench to tighten the external clamps that secure a test cover to the top of a manhole.
- (v) A test head must be placed at the inside of the top of a cone section, and the seal must be inflated in accordance with the manufacturer's recommendations.
- (vi) There must be a vacuum of 10 inches of mercury inside a manhole to perform a valid test.
- (vii) A test does not begin until after the vacuum pump is off.
- (viii) A manhole passes the test if after 2.0 minutes and with all valves closed, the vacuum is at least 9.0 inches of mercury.

(B) American Society for Testing and Materials (ASTM) Test. The owner may require manhole testing that meets the requirements of ASTM D1244-11.

F. In addition to deflection and pressure testing, the City may require that certain sewer installations be videoed after completion of construction, if necessary, to ensure that City requirements are met.

G. Cement Stabilized Sand Testing:

- 1. A minimum of two random samples for compressive strength shall be taken each week. For smaller projects, one sample may suffice with City approval. The City reserves the right to require additional tests, at the Contractor's expense, if it is deemed necessary. In the event of a change in supplier, samples shall be drawn on the first day of delivery from the new supplier, regardless of previous samples taken.
- 2. Cement stabilized sand samples shall be taken at the point of placement of the cement stabilized sand and identified as to the location of the sample.
- 3. Cement stabilized sand densities shall be taken a minimum of every 150 linear feet of trench, with a minimum of two tests (one per direction of travel) at each road crossing. When used as subgrade on roadway repairs, density tests shall be taken every 100 square feet of subgrade, with a minimum of one test per repair.

H. Bedding, Backfill, Testing:

1. Bedding and density tests shall be performed a minimum of every 300 linear feet of trench in each lift. Density tests shall be offset on alternating lifts and test locations shall be identified by station number.

- I. Copies of all test results shall be given to the City with the project closeout documents.

4.12 EXISTING FACILITY CROSSINGS

- A. Installation of a sanitary sewer main across a proposed or existing public street, driveway, sidewalk, railroad, pipeline, or drainage way shall conform to the requirements of this section.
 1. Public Streets - All existing public streets are to be bored and jacked regardless of surface. Bore and jack length shall be computed as roadway width at proposed bore plus 5 feet to either side.
 2. Driveways – Concrete and asphalt driveways in good condition shall be bored and jacked. Bore and jack length shall be computed as driveway width at bore plus 5 foot to either side. Where driveways cross culvert pipe sections along open ditch streets and the proposed wastewater main is in close proximity and parallel to the culvert pipe, the length of bore shall be the same as the length of culvert pipe.
 3. Sidewalks – When the wastewater line crosses under a sidewalk in good condition, the sidewalk shall either be bored and jacked or removed and replaced to the City's criteria, whichever is most cost-effective. Bore and jack length shall be at least the width of the sidewalk. The proposed type of construction shall be noted on the drawings.
 4. Railroad Crossings – All railroad crossings require a pipeline crossing permit to be issued by the corresponding railroad company and shall be bored and jacked in accordance with the requirements of that permit and the standards provided in this manual.
 5. Drainage Way – When a wastewater line crosses under an existing drainage way, the water conveying portion of the drainage way shall be bored and jacked in accordance with the standards provided in this manual.
- B. Trees – When saving trees is a consideration, all trees 6 inches or larger in diameter and within 10 feet of the centerline of the water main must be noted on the drawings. The wastewater main shall be bored and jacked within the drip line of any tree larger than 6 inches in diameter.

4.13 BARRICADING AND SIGNAGE

- A. Proper barricading and signage, conforming to the Texas Manual of Uniform Traffic Control Devices' latest edition, shall be required on all projects.
- B. Adequate signage for vehicular and pedestrian traffic shall be installed.
- C. A traffic control plan shall be submitted to the City and approved by the City for all streets open to travel by the public.

4.14 SANITARY SEWER SERVICES

- A. Two-way cleanouts shall be installed at the end of each service and be terminated 6 inches below grade with a threaded cap and a concrete box. The downstream cleanout shall have a



section of pipe stubbed out and capped to facilitate connection. Services shall be terminated within the public utility easement as close to the lot line as possible.

- B. Sewer service leads shall not exceed 125 feet in length, unless approved by the City. Near-side double sewer service leads shall not exceed 20 feet in length and may extend across a public right-of-way or easement. All leads shall not be deeper than 8 feet.
- C. For Single-Family Residential Lots:
 - 1. Far-side service connections shall be installed at the time of construction of the sewer. Double sewer service leads shall be located within a public right-of-way or easement.
 - 2. Service connections shall be constructed of materials on the City's approved Product List.
 - 3. Service connections should be installed at a manhole, when possible.
- D. For Multi-Family Residential, Commercial, and Office Development.
 - 1. Service connections shall be made at a manhole. Long service connections should be installed at the time of construction of the sewer.
 - 2. Service connections shall be constructed of materials on the City's approved Product List and in accordance with 6.03 I above.
- E. General requirements for service connections at manholes include the following:
 - 1. Service connections shall be made at manholes whenever possible. When a service connection stub-out is not provided, an opening shall be cored out of the manhole at the required elevation. The service connection shall be extended into the manhole and the opening secured and grouted, and the manhole coating shall be repaired in accordance with the coating manufacturer's recommendations.
 - 2. A service connection at a concrete manhole shall have a rubber boot that is cast into the manhole, or the service location shall be cored. The rubber boot shall be secured and then grouted. The manhole interior coating shall be repaired in accordance with the manufacturer's recommendations. When a hole for a service connection in an existing brick manhole exceeds 8 inches, the manhole shall be replaced.
 - 3. Service connections entering a manhole 24 inches or more above the flow line of the manhole shall include an internal drop pipe with fittings. The cored opening for the pipe shall be secured and grouted, and the manhole coating shall be repaired in accordance with the coating manufacturer's recommendations.
- F. The location of sewer services shall be marked on the curb by etching or casting a "Y" into the face of the curb directly over the sewer service location.
- G. Service connections that are installed after initial construction of a sewer shall be constructed using a PVC saddle with gasket and stainless-steel straps as included on the City's Approved Product List.

4.15 LIFT STATIONS AND FORCE MAINS

- A. Lift stations shall be designed in conformance with the "TCEQ Design Criteria for Sewerage Systems" (latest edition). Lift stations should be considered only when a gravity system cannot be achieved. All lift stations shall be specifically approved by the City. The Design Engineer shall provide design requirements and pertinent data with construction drawings for review. A preliminary design meeting with the City staff is recommended. Lift stations shall be designed as follows:
1. The lift station site shall be conveyed in fee to the City. The site may be part of a larger site that includes a public wastewater treatment facility or other facility. The site shall have a minimum size of 50 feet by 50 feet.
 2. Site access shall be provided by a 15-foot-wide public right-of-way with an approved, all-weather access road of a minimum of 12 feet in width. Wet well structures shall be a minimum of 12 feet from the outside walls of the structure to the site boundary fencing. Fencing shall be in conformance with the City Zoning Ordinance.
 3. Use drainage swales, sidewalls and driveways, culverts, storm sewers, or a combination thereof for internal site drainage. Site drainage may sheet flow to a public right-of-way. Storm sewer systems, if provided, shall be sized in accordance with applicable design guidelines.
 4. The top of the wet well and all electrical controls shall be located 3-feet above the 100-year floodplain. Entry to the site must be accessible during a 25-year flood.
 5. Locate the wet well, and specifically, the pumps in the wet well such that a crane truck can back up to (or beside) the hatch to facilitate removal of the pumps without leaving the pavement. Provide sufficient room for construction access as well as on-going maintenance.
 6. Include an on-site manhole no farther than 80' upstream of the lift station wet well. Ideally, the on-site manhole shall be located within the fenced in area and shall be located so as not to block vehicle access to the facilities and shall be located in an area that does not receive vehicle traffic.
 7. The design of the lift station shall include a potable water connection in accordance with the design standards for water services. In addition to the service connection requirements specified in the design standards for water connections, the potable water connection must include a $\frac{3}{4}$ " Reduced Pressure Zone Backflow Device (RPZ) conforming to AWWA's Manual M14, a hose bibb (self-draining and freeze resistant, installed 12" above the 100-year flood plain), hose-bibb vacuum breaker, and freeze protection.
 8. All gravity sanitary sewers discharging to the wet well shall be located where the invert elevation is at or above the liquid level of the pump's "ON" setting to achieve the firm pumping capacity. Valves and check valves shall not be located in the wet well but may be located in a valve vault or on a concrete slab. Piping shall be spaced to maintain the pump manufacturer's minimum clearances between pumps.
 9. Size the diameter of the wet well, hatches, and hatch spacing to accommodate the selected pumping equipment. Consideration should be given to the dimensions of the ultimate pump in a multi-phased lift station to ensure adequate clearances. Provide a minimum of 18 inches of clearance from the inside wet well wall to all flanges to enable removal of all bolts. Pre-cast concrete wet wells may be used in any diameter provided calculations demonstrate that wet well thickness and material weight will resist imposed up-lift pressure. Provide hatch

safety nets with aluminum sliding rails or Flygt Safe-hatch access cover.

10. The wet well volume shall be based on the minimum cycle time of the largest pump planned for the lift station plus additional depth to prevent motor overheating and vortexing. Wet well working volume should be sized to allow for the recommended pump cycle for each pump.

The cycle time shall not be less than those listed in the following:

Motor Horsepower	Cycle Time (Minutes)
<50	6
50-100	10
>100	15

11. The "OFF" elevation of the submersible pumps shall be deep enough to prevent vortexing and motor overheating. The Design Engineer shall verify with all pump manufacturers on the City's Approved Product List that each pump is capable of operating continuously at the "OFF" elevation shown on the drawings.
12. The wet well floors shall have a minimum of 10 percent slope to the pump intakes and have a smooth finish. There shall be no wet well projections, which will allow deposition of solids under normal operating conditions. The inlet structure shall be designed to minimize turbulence.
13. The wet well shall have a vent sized such that the maximum velocity of air through the vent is 600 feet per minute at the firm pumping capacity. Vents shall have a stainless-steel insect screen that is easily replaceable and will prevent the entrance of rainwater. Vent pipes shall be corrosion resistant.
14. Access shall be provided to underground valve vaults. Stairways shall have corrosion-resistant, non-slip steps and conform to OSHA regulations with respect to rise and run. Where ladders are utilized in lieu of stairways, ladders shall conform to OSHA requirements.
15. Floor drains from valve vaults to wet wells shall be designed to prevent gas and raw sewer water from entering the valve vault. Such designs shall include "P" traps and floating ball type backwater valves.
16. All walls shall be a minimum of 18 inches from the outermost edge of all flanges to enable removal of all bolts. Pipes shall have a minimum spacing greater than that required by the pump manufacturer for minimum pump spacing. Swing check valves shall be positioned such that the shafts may be removed without removing the valve body.
17. Design shall follow the latest version of ACI 350 with the exception that the minimum concrete cover over steel reinforcing shall be at least 4 inches where in contact with raw sanitary sewer.
18. Wet wells shall be designed to resist the effects of buoyancy assuming full saturation of the surrounding soils to the finished grade or the 100-year floodplain, whichever is greater. Surface friction shall not be included in the design unless a friction factor is provided in a geotechnical report signed and sealed by a licensed professional engineer. A safety factor of 1.1 shall be used for buoyancy resistance. Wet well walls shall be designed to withstand

lateral earth pressures and static water levels at finished grade as outlined in ACI 350. At a minimum, 3,500 psi concrete shall be used. Top slabs shall be designed for a uniform loading of 100 pounds per square foot and a point load equal to the weight of the largest pump planned for the lift station at any location.

19. Hatches shall be constructed entirely of aluminum and designed for a minimum of 150-pound-per-square-foot load. The underside of the hatch shall have the following stenciled in red paint: "Warning! Confined Space Entry." Where individual hatches are incorporated into the top slab, the separation distance from inside face to inside face shall be a minimum of 12 inches.
20. Where riser pipes pass through the top slab, offsets or two 45-degree bends shall be used to provide clearance between the outside diameter of the pipe and the inside face of the hatches. The amount of clearance will be determined by the diameter of the slab reinforcing and the maximum aggregate diameter.
21. Use of vault-type or aboveground valves and piping is permitted. Valves shall be mounted in a concrete vault, or on an aboveground concrete foundation. Isolation and check valves shall not be located in the wet well.
22. If a valve vault is not used, the valves must be a minimum of 18" above ground with pipe supports every 5 feet. A minimum 6-inch-thick concrete slab must be placed below the piping gallery and valves. The slab must extend 3-feet beyond all valves and piping to allow for access to and maintenance of the piping and valves.
23. Pumps shall be Flygt, non-clog, submersible pumps capable of passing a 3-inch diameter or greater incompressible sphere and shall have suction and discharge openings a minimum of 4 inches in diameter. Pump seals shall be silicon carbide or tungsten carbide.
24. Pumps shall be sized to operate at optimum efficiency. Minimum acceptable efficiency at the operating point shall be 60 percent, unless specifically approved by the City. Leak detection sensors shall be provided in the motor housing of submersible pumps. Pumps shall be securely supported, in accordance with manufacturer recommendations, so as to prevent movement or vibration during operation. Rail-type pump support systems shall be provided for submersible pump installations so that pump removal and installation can be performed without requiring dewatering of or entry into the wet well. Rails, lifting chains, and hardware shall be constructed of Series 300 stainless steel.
25. Electric motors shall be sized so as to operate at a maximum design load without use of the service factor. Electric motors shall be 120-volt single-phase, 240-volt single-phase, 240-volt three-phase, or 480-volt three-phase. Motor service factor shall be a minimum of 1.15. Thermal protection shall be provided in the motor housing.
26. The following electrical power sources shall be considered for serving lift stations:
 - a. For stations where total pump motor sizes do not exceed 30 horsepower (hp), and where any individual pump motor size does not exceed 20 hp, 120/240-volt, three-phase service is recommended.
 - b. For stations where individual pump motor sizes do not exceed 5 hp and motor ratings are available as single-phase, and where three-phase service is not available, 120/240-volt, single-phase service may be used.

- c. For stations where total pump motor sizes exceed 30 hp and where individual motor sizes exceed 20 hp, 480/277-volt, three-phase service is recommended.
- 27. Emergency power connections shall require a manual transfer switch and a 200-amp, 3 pole, 4 wire generator receptacle equivalent to a Hubbell HBL4200RS2W the pump controller shall include magnetic starters utilizing melting alloy overloads, and be equipped with a pump alternator, an ultrasonic level controller, backup floats, alarm contacts, and a power supply. The use of variable frequency drive is acceptable. Lightning and surge protection shall be installed on the main power bus.
- 28. All panels and controls shall be covered by a constructed overhang to shield the equipment from sun and rain.
- 29. Panel area shall be lit by an outside, overhead light fixture.
- 30. The following controls and indicators shall be provided:
 - a. Pump HOA Selector Switch (for each pump).
 - b. Alarm Reset Switch.
 - c. Seal-Fail and Over-Temp Reset Switch (for each pump protection module supplied by pump manufacturer).
 - d. Phase-Fail Light.
 - e. Pump Run Light (for each pump).
 - f. Control Power Light On.
 - g. Pump Seal-Fail Light (for each pump protection module - supplied by pump manufacturer).
 - h. Pump Over-Temp Light (for each pump protection module - supplied by pump manufacturer).
 - i. High Level Alarm Indicator.
 - j. Alarm Rotating Beacon Light.
 - k. Pump Run Elapse Time Meter (for each pump).
- 31. The following motor protection devices shall be provided:
 - a. Motor Circuit Protectors (MCPs) or circuit breakers.
 - b. Motor Overload Current Trip Devices or C.T.'s with Relays (for each motor).
 - c. Motor Over-Temp and Seal Fail Relays (for each motor - furnished by pump motor manufacturers).
 - d. Phase Fail Relay.
- 32. Level Controls
 - a. Primary: Ultrasonic level controller, rated for wastewater application.
 - b. Back-up: PVC ball type float with mercury switch - high and low level.
 - c. In the event of fail signal from Ultrasonic level device, controller automatically switches to floats.

33. Alarm Signals:

- a. Alarms activate local indicator lights and send signals to the City's SCADA system. Communication method shall be approved by the City.

34. Pump Cable Terminal Boxes:

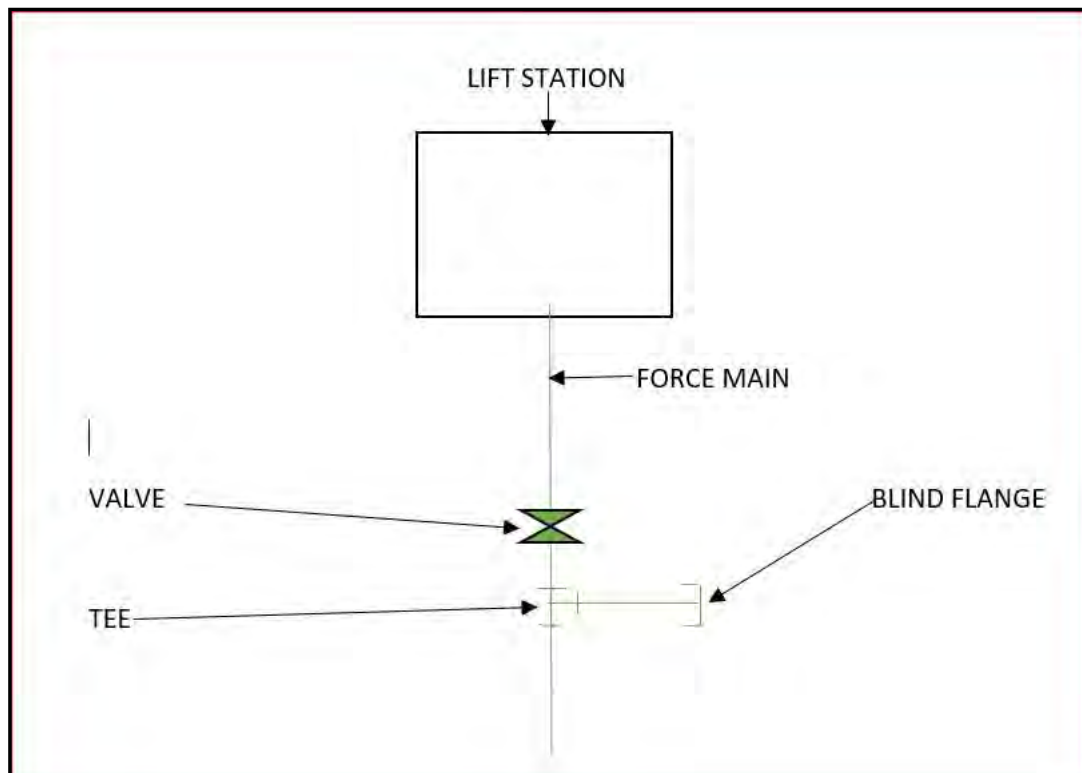
- a. NEMA 4X stainless steel boxes are to be mounted near the pump access hatch for termination of pump power and control cables, and for termination of transducer and float cables.

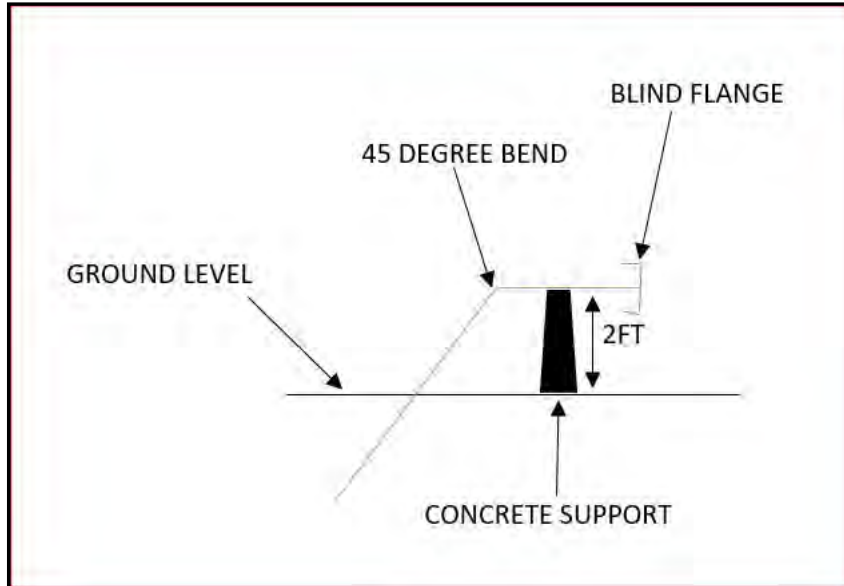
35. Control Panel Enclosure:

- a. NEMA 4X stainless steel enclosure on factor stainless steel stands with inside swing door, back plate, quick release latches, and hooking clasp.

36. Emergency operations shall be considered.

- a. Provide fittings and a blind flange that will be readily accessible for emergency bypass pumping in accordance with the schematics below:





- b. Provide external hook-up for an emergency generator as specified in 27 above.
37. Force mains shall be a minimum of 4 inches in diameter, unless used in conjunction with grinder pumps. Pump stations with two pumps shall have force main velocities of a minimum of 3 fps with one pump in operation. For pump stations with three or more pumps, the force main velocity shall not be less than 2 fps with the smallest pump only in operation. Force main velocities shall not exceed 6 fps without the engineer performing an analysis for possible high and low negative surge pressures in the event of sudden pump failure.
38. Isolation valves shall be provided on the discharge side of pumps for submersible pumps, positioned such that the pump or check valve can be isolated for removal. Plug valves shall be used. Check valves shall be swing type with an external lever and shall be installed in a horizontal position. Use of butterfly valves, tilting disc check valves, or other valves using a tilting disc in the pipe flow is not permitted.
39. Surge relief valves, air release, or combination air and vacuum valves shall be provided, as required.
40. Lift station piping shall have flanged, grooved (Victaulic) or flexible connections to allow for removal of pipe and check valves without interruption of the lift station operation.
41. Lift stations shall be designed to discharge the peak design flow at the system head required and to operate efficiently during any initial, interim, or ultimate design phase.
42. Firm pumping capacity shall be provided, and is defined as total station, maximum pumping capacity, with the largest pumping unit out of service.
43. Pump selection shall be based on the analysis of the system head and pump capacity curves for the determination of pumping capacities. System losses shall be calculated in accordance with the Hydraulic Institute standards. The selected C coefficient value for use in the calculation of friction head losses per the Hazen-Williams Formula shall be based on the selected pipe material for new and aged (20-year) conditions.

44. Force main velocities shall be included on the system curve.
45. Design considerations shall include corrosion control and protection of concrete and metallic surfaces located within the wet well or valve vault, or within the immediate vicinity from the effect of hydrogen sulfide (H₂S) gas in the wastewater. The effects of H₂S gas should be minimized by reducing the production or release of H₂S gas from the wastewater discharging to or being contained in the lift station. Design and control methods shall include the following.
 - a. Protecting the exposed concrete and steel surfaces with an epoxy lining, refer to the Approved Products List for a list of materials. Exposed piping shall be protected with a 100 percent solids novolac epoxy or approved equal.
 - b. The use of Series 300 stainless steel for equipment, piping, or devices exposed to corrosive gases.
 - c. Design wet wells that lack interior corners, projections, or areas that can result in the accumulation of solids. Design interior surfaces with smooth finishes that facilitate cleaning.
 - d. Provide wash-down water at site when possible.
46. Corrosion protection shall be provided by coating interior concrete surface of the wet well, structural steel, piping and hangers, air systems, electrical, mechanical, and other components subject to a corrosive environment. All metal components subject to a corrosive environment shall be stainless steel or aluminum unless otherwise approved by the City. Surfaces to be protected include the following.
 - a. Interior of the wet well: The interior of the wet well shall be coated with an approved epoxy coating. Refer to Approved Products List for the list of materials.
 - b. Piping located within the wet well: Exposed piping shall be protected within a 100 percent solids novolac epoxy or approved equal.
 - c. Guide rails, lifting chains, hardware, and miscellaneous metal shapes located within the wet well shall be constructed or manufactured of Series 300 stainless steel.
47. Lift station construction drawings shall include drawings that provide the following information:
 - a. Site layout.
 - b. Plan and profile of pump station and associated site piping.
 - c. Profile view of pump operational and control valves and settings.
 - d. Hydraulic system curve.
 - e. Electrical wiring and control system schematics.
 - f. Structural details.



- g. Developer shall provide the City with a complete set of Operations and Maintenance manuals on all equipment to be installed.

END OF CHAPTER



PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 5 - STORMWATER SYSTEMS





CHAPTER 5

STORMWATER SYSTEM DESIGN REQUIREMENTS

5.01 GENERAL

- A. This chapter includes the minimum design requirements for public and private stormwater systems within the City limits of the City.
- B. The City's staff shall approve stormwater system drawings for all public improvements within the City limits. Construction shall conform to the City Standard Construction Details.
- C. Construction drawings for private improvements, within public rights-of-way and public easements, or that connect to or affect the public infrastructure shall be approved by the City subject to the requirements of this Manual and are subject to review and approval using the process defined in this Manual.
- D. Design, construction, and sizing of all stormwater systems shall meet or exceed the requirements of the City.
- E. All roadway drainage systems that are to become a maintenance responsibility of the City shall be enclosed storm sewers, except as specifically approved by the City.
- F. Public storm sewers are defined as sewers and appurtenances that provide drainage for a public right-of-way, or more than one private tract, are located in public rights-of-way or easements and have been accepted by the City. Private storm sewers provide internal drainage for reserves or tracts within the private development. Private storm sewer connections to public storm sewers shall occur at a junction box or at the back of an inlet as approved by the City. All private storm sewers within the public right-of-way shall be constructed in conformance with these standards.
- G. All calculations and design drawings shall be prepared under the supervision of a Professional Engineer trained and licensed under the disciplines required by the project scope. The final design drawings and all design calculations must be sealed, signed, and dated by the Professional Engineer responsible for the development of the drawings.
- H. All construction drawings shall contain minimum slab elevation, with reference to the most current vertical datum from the most current FEMA flood maps.

5.02 DEFINITIONS

Conduit – Any open or closed device for conveying flowing water.

Drainage Area Map – Area map of watershed that is subdivided to show each area serve by each subsystem.

Hydraulic Grade Line – A line representing the pressure head available at any given point within the drainage system.

Redevelopment – A change in land use that alters the impervious cover from one type of development to either the same type or another type and takes advantage of the existing infrastructure in place as a drainage outlet.



In-fill Development – Development of open tracts of land in areas where the storm drainage infrastructure is already in place and takes advantage of the existing infrastructure as a drainage outlet.

Rational Method – A method for calculating the peak run-off for a storm drain system using the following equation $Q=CiA$ for run-off, typically used for drainage areas of less than 200 acres.

Design Storm Event – Rainfall intensity upon which the drainage facility will be sized.

Positive Overflow Pathway – The surface flow, through designated route, of the collective sheet flow of stormwater that results when the minor drainage system has reached capacity.

Rainfall Frequency – Probability of a rainfall event of defined characteristics occurring in any given year. The National Oceanic and Atmospheric Administration (NOAA) publishes information on rainfall frequency (NOAA Atlas 14 Point Precipitation Frequency Estimates).

For the purpose of storm drainage design, the following frequencies are applicable:

1. 2-year frequency – a rainfall intensity having a 50 percent probability of occurrence in any given year, or nominally likely to occur once every 2 years.
2. 5-year frequency – a rainfall intensity having a 20 percent probability of occurrence in any given year, or nominally likely to occur once every 5 years.
3. 10-year frequency – a rainfall intensity having a 10 percent probability of occurrence in any given year, or nominally likely to occur once every 10 years.
4. 25-year frequency – a rainfall intensity having a 4 percent probability of occurrence in any given year, or nominally likely to occur once every 25 years.
5. 100-year frequency – a rainfall intensity having a 1 percent probability of occurrence in any given year, or nominally likely to occur once every 100 years.

Sheet Flow – Overland storm run-off that is not conveyed in a defined conduit and is typically in excess of the capacity of the conduit.

Manning's Equation: $V = (K_{in}) R^{2/3} S$, V .

1. Where: $K = 1.49$ for English units or 1.0 for metric units
2. V = velocity (feet per second).
3. R = hydraulic radius (feet) (area per wetted perimeter).
4. S = friction slope (headless per length).
5. $n = 0.013$ for concrete pipes.
6. $n = 0.024$ for CMP pipes.

Continuity Equation: $Q = VA$



1. Where: Q = discharge (cubic feet per second).
2. V = velocity (feet per second).
3. A = cross sectional area of conduit (square feet).

FEMA – Federal Emergency Management Agency.

5.03 DESIGN REQUIREMENTS

- A. **Stormwater Goals:** The goal of all drainage design within the City limits of Brenham is the prevention of structure flooding and the maintenance of one lane passable in each direction on major thoroughfares during a 100-year storm event. This is accomplished through application of various drainage enhancements, such as storm sewers, open channels, detention, and overland (sheet) run-off. The combined system is intended to prevent structural flooding from extreme events up to a 100-year storm. Recognizing that each site has unique differences that can enhance the opportunity to provide proper drainage, the intent of these criteria is to specify minimum requirements that can be modified provided that the objective for drainage standards is maintained. Street ponding of short duration is anticipated and designed to contribute to the overall drainage capability of the system. Storm sewers are designed as a balance of capacity and economics. These conduits are designed to convey less intense, more frequent rainfalls with the intent of allowing for traffic movement during these events. When rainfall events exceed the capacity of the storm sewer system, the additional run-off shall be stored or conveyed overland in a manner that reduces the threat of flooding to structures and maintains mobility on major thoroughfares.
- B. Drawing sets shall include a drainage area map, which will contain calculations of flow by the rational method or other approved drainage calculation method.
- C. Drainage systems for curb-and-gutter pavements shall be underground closed conduits; individual residential lot drainage is exempt.
- D. The system hydraulic calculations for the storm sewer design and the 100-year storm, including design storm hydraulic grade line calculations, sealed by a Texas Registered Professional Engineer, shall be provided with all stormwater system drawings. An electronic spreadsheet shall be submitted showing pipe sizes, material, design criteria, and calculations for each section (manhole-to-manhole) of the stormwater system.
- E. Private stormwater systems along private streets shall be designed to the standards of public stormwater systems.
- F. The lowest chord of all bridges shall be a minimum of 12 inches above the 100-year water surface elevation, or, at or above the level of natural ground, or in accordance with the FEMA regulations latest revisions, whichever is greater.
- G. All storm sewer designs and drainage drawings for new developments shall include protection from the 100-year storm event through the use of positive overflow pathways. All positive overflow pathways for extreme events shall be contained within exclusive reserves and shall not be part of a residential lot unless the 100-year event is contained within a below grade conduit. If the 100-year event is contained within a below grade conduit, then the conduit shall be within the right-of-way or an exclusive storm sewer easement.



H. Design Frequency

1. Newly Developed Areas: The minimum design storm event for sizing storm sewers in newly developing areas will be a five (5) year storm for local streets and a ten (10) year storm for arterials and collectors.
 2. Redevelopment, New Development, or In-fill Development: For developments on properties one (1) acre in size or greater, the existing storm drain will be evaluated by conducting a drainage impact study or analysis.
 3. If the proposed redevelopment has a lower or equal impervious cover, no modifications to the existing storm drain are required.
 4. If the hydraulic gradient of the existing storm drain is one (1) foot below the elevation of the adjacent street gutter, no improvements to the existing storm drain are required.
 5. If the hydraulic gradient indicates that structures are threatened by flooding, the applicant has the option of either making improvements to the existing storm drain or providing on-site detention.
- I. Storm sewers shall have a minimum vertical clearance of six (6) inches and a minimum horizontal clearance of three (3) feet from all other utilities. The clearance shall be measured from the outside wall of the pipe.
- J. Minimum depth of a storm sewer (measured to the top of pipe) shall be 24 inches below top of curb or finished grade, whichever is lower.
- K. Minimum size storm sewer for main and inlet lead shall be 24-inch.

L. Pipe Material Considerations

1. Storm sewer and culvert pipe shall be precast reinforced concrete pipe or High-Density Polyethylene (HDPE) with watertight joints, unless specifically approved by the City.
2. Concrete pipe shall be manufactured in conformance with the requirements of ASTM C 76, "Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe," current revision. Reinforced concrete pipe shall be Class III or stronger. The design engineer shall provide for increased pipe strength when conditions of the proposed installation exceed the allowable load for Class III pipe. All concrete pipe shall have rubber gasket joints meeting the requirements of ANSI/ASTM C 443, "Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets," current revision. When specifically approved by the City, reinforced concrete arch and elliptical pipe conforming to ASTM C506 and C507, respectively, current revision, may be installed in lieu of circular pipe. Reinforced concrete box culverts shall meet the minimum requirements of ASTM C1433, "Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers," current revision. Box culvert joints may be sealed with rubber gaskets meeting the requirement of ASTM C 1677 "Joints for concrete box culverts using rubber gaskets" or the joint may be sealed with RAM-nek. Pipe joints for arch and elliptical pipe shall be sealed using RAM-nek or approved equal.



3. Reinforced concrete pipe, as described above shall meet or exceed the following minimum requirements:

Pipe Class	Maximum Cover (Ft)
III	10
IV	20

4. Reinforced concrete pipe shall be designed in accordance with the American Concrete Pipe Association, "Concrete Pipe Design Manual." Maximum cover on the pipe shall be measured from the top of pipe to the ultimate finished grade or natural ground, whichever is greater.
5. HDPE pipe shall be manufactured in conformance with the requirements of ASTM F2306, "Standard Specifications for 12" to 60" Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications. HDPE pipe shall be installed, bedded, and backfilled in accordance with the requirements specified in the Bedding and Backfill section of this Chapter.
6. Storm sewer outfalls shall have slope protection to prevent erosion. Slope protection may be constructed of slope paving. Slope paving shall be 5-inch thick, five sack concrete with 1/2-inch steel rebar on 24-inch centers, each way. Slope protection texturing shall be required where public access is likely.
7. Private storm sewer systems shall be reinforced concrete pipe, high-density polyethylene pipe (HDPE) with water-tight joints meeting ASTM D3212, PVC pipe of minimum SDR 26 rating or A-2000 PVC pipe. Reinforced concrete pipe or HDPE with watertight joints is required within the public right-of-way and public easements.

M. Velocity Considerations

1. Minimum velocities shall not be less than 3 feet per second (fps) with the pipe flowing full, under the design conditions.
2. Maximum velocities shall not exceed 8 fps.



3. Appropriate energy dissipation measures shall be provided at all outfalls. Minimum acceptable slopes in storm sewers shall be:

Size of Pipe	Fall in Feet
(Inches)	(Per 100 Feet of Sewer)
12	0.38
18	0.24
24	0.18
30	0.13
36	0.10
42	0.08
48	0.07
54	0.06
60	0.05
66	0.045
72	0.040
18	0.036
84	0.033
90	0.030
96	0.028

N. Pipe Sizes and Placement

1. Use storm sewer and inlet leads with at least 12-inch inside diameter or equivalent cross section within the public right-of-way or along private streets.
2. Box culverts shall be at least 2 feet by 2 feet. Closed conduits (circular, elliptical, or box) shall be selected based on hydraulic principals and economy of size and shape.
3. Larger pipes upstream should not flow into smaller pipes downstream unless construction constraints prohibit the use of a larger pipe downstream, or the improvements are outfalling into an existing system, or the upstream system is intended for use in detention.
4. Match crowns of pipe at any size change unless depth constraints or other conditions justify matching flow lines.
5. Locate storm sewers in public street rights-of-way or in approved easements.
6. All storm sewers and inlet leads shall be laid in a straight line. Changes of alignment shall be accomplished at junction boxes only.

O. Consideration of Overland Flow

1. All storm sewer designs shall include provisions for an overland positive overflow pathway to accommodate stormwater that exceeds the capacity of the storm sewer system.



2. Design Frequency: Design frequency for consideration of overland sheet flow shall consider extreme storm events that exceed the capacity of the underground storm sewer system resulting in ponding and overland sheet flow through the development to the primary outlet. The minimum design frequency for overland sheet flow shall be the 100-year design storm.
3. Relationship of structures to street or parking lot ponding: All structures shall be a minimum of 2 feet higher than the highest level of ponding anticipated resulting from the extreme event analysis.
4. Calculation of Flow
 - a. Streets shall be designed so that consecutive high points in the street will provide for a gravity flow of drainage to the ultimate outlet.
 - b. For non-major thoroughfare streets, the maximum depth of ponding at any point on the gutter line shall be a maximum of 12 inches above the gutter line.
 - c. Sheet flow between lots can be provided only through a defined drainage easement. All positive overflow pathways for extreme events shall be contained within exclusive reserves and shall not be part of a residential lot unless the 100-year event is contained within a below grade conduit. If the 100-year event is contained within a below grade conduit, then the conduit shall be within the right-of-way and/or an exclusive storm sewer easement.
 - d. A map shall be provided to delineate extreme event flow direction through a proposed development and how this flow is discharged to the primary drainage outlet.
 - e. In areas where ponding occurs and no positive overflow pathway exists, a calculation shall be provided showing that run-off from the 100-year event can be conveyed and remain in compliance with all requirements of this section.

P. Consideration of Street Ponding

1. The storm sewer system must convey flows from a 100-year storm event without ponding water in the street at levels that exceed the maximum allowable level. Street ponding elevations shall be shown on the drainage area map and/or the plan and profile sheets in all construction drawings.
2. The maximum allowable ponding level for a minor or collector street is the lowest of the following: (1) one foot above natural ground; (2) twelve inches above the gutter line; or (3) one foot below the lowest slab elevation for a 100-year storm event.
3. The maximum amount of ponding allowed on a major thoroughfare is twelve inches above the outside (non-median) gutter line. For a major thoroughfare, the minimum median top of curb elevation shall be at or above the 100-year flood plain elevation.
4. Drainage calculations, along with water surface or hydraulic grade line profiles shall be submitted to the City for approval.

Q. Starting Water Surface and Hydraulic Gradient



1. The hydraulic gradient shall be calculated assuming the greater of the top of the outfall pipe or the 25-year design stormwater surface elevation as the starting water surface.
2. For the Design Storm, the hydraulic gradient, at all times, shall be one foot below the elevation of the adjacent street gutter.

R. Junction Boxes

1. Junction Boxes shall be installed at the following locations:
 - a. Size or cross-section changes of storm sewers.
 - b. Inlet lead and storm sewer intersections.
 - c. Changes in pipe grade or alignment.
 - d. Street intersections.
 - e. A maximum spacing of 500 feet measured along the conduit run.
2. Junction boxes shall be placed on lot lines to the maximum extent practical. Do not place junction boxes in driveways or in the street in front of, or immediately adjacent to, a driveway.
3. Manhole covers on junction boxes shall be cast iron, traffic bearing, type ring and cover with the words "Storm Sewer" cast into the cover with the City's emblem in the center (see City Standard Construction Details).
4. Cast-in-place junction boxes shall use 4000 psi minimum concrete with #5 bars @ 12" centers each way.
5. Junction boxes shall be equipped with a 30" opening, cast iron frame and lid with pick holes designed to withstand H20 loading and shall be marked "Storm Sewer".
6. The top of the frame and lid shall be set flush with the finished surface of the area where the junction box is located.
7. Adjustment rings used to adjust a lid and frame to grade must be constructed of concrete, high density polyethylene and be designed to withstand the anticipated live and static loads.
8. Concrete collars having a minimum width of six inches (6") shall be installed at the intersection of the storm sewer main and the junction box.

S. Inlets

1. Curb inlets shall be spaced and sized to intercept the calculated runoff for the design storm. The water surface elevation at the inlet shall be less than or equal to the gutter line for the design storm flow.
2. Do not locate inlets adjacent to esplanade openings without prior approval.



3. Place inlets on side streets intersecting major streets, unless justification based on special conditions can be provided.
 4. For all new construction, convey public or private alleyway drainage to an inlet prior to entering the public street drainage system.
 5. Locate inlets at low points in the gutter.
 6. Valley gutters across intersections are not permitted.
 7. Maximum travel distance of water in the street to a curb inlet shall be 300 feet on a major thoroughfare and in a commercial area. The maximum travel distance of water in the street permitted in a single-family residential area shall be 600 feet.
 8. Backslope swale interceptors shall be required at locations where sheet drainage enters detention basin or open channels. Backfill around inlets with 1.5 sacks per ton of cement stabilized sand to the bottom of the pavement subgrade.
 9. Curb inlets shall have a minimum opening width of five (5) feet.
 10. Curb inlets shall be made of either pre-cast concrete or cast-in-place concrete designed to withstand the anticipated live and static loads.
 11. Curb inlets shall be equipped with a 30" opening, cast iron frame and lid with pick holes designed to withstand H2O loading and shall be marked "Storm Sewer".
 12. The top of the frame and lid shall be set flush with the finished surface of the area where the junction box is located.
 13. Adjustment rings used to adjust a lid and frame to grade must be constructed of concrete, high density polyethylene and be designed to withstand the anticipated live and static loads.
 14. Concrete collars having a minimum width of six inches (6") shall be installed at the intersection of the storm sewer main and the inlet.
- T. Public storm sewers shall be located within a public street right-of-way or a public utility easement, dedicated to the public and adjoining a public street right-of-way. Public storm sewers shall not be allowed in back lot easements.
- U. Storm sewer alignment within a public street right-of-way.
1. Where required, additional easements shall be provided adjoining the right-of-way to provide required clearances. A public utility easement adjoining a public right-of-way shall be of sufficient width to provide a minimum of 12.5 feet of clearance on each side of the centerline of the pipe.
 2. Usable right-of-way is defined as the area located from 2 feet behind curb to the usable right-of-way line.
 3. The minimum width of a public utility easement not located adjacent to a public right-of-way shall be 20 feet.



4. The outside edge of pipe shall be no closer than 2 feet to the edge of right-of-way.
5. Where storm sewers are installed in easements separated from public rights-of-way by other private or utility company easements, the storm sewer easement should be extended along or across the private utility company easement to provide access for maintenance of the sewer or force main.

5.04 TRENCHING, BEDDING AND BACKFILL REQUIREMENTS

- A. All bedding and backfill shall be in accordance with the City Standard Construction Details. All backfill within public rights-of-way and public easements shall be compacted to a minimum of 95 percent of Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78), without additional moisture control, cured and tested in accordance with ASTM C31.
- B. The minimum trench width shall be equivalent to the outside diameter of the pipe plus 18".
- C. The maximum trench width shall be equivalent to the outside diameter of the pipe plus 24".
- D. The minimum trench depth shall be equivalent to the desired bury depth of the pipe plus the outside pipe diameter plus 6".
- E. Bedding shall fill the entire width of the trench and shall extend from a depth of 6" below the pipe to bottom of the pipe.
- F. Initial backfill shall extend from the bottom of the pipe to 6" above the top of the pipe.
- G. Final backfill shall extend from the top of the initial backfill to either the finished subgrade for unpaved areas or the pavement subgrade.
- H. All Bedding and backfill shall be installed in maximum 6" loose lifts and be compacted by vibratory equipment.
- I. In non-paved areas, the uppermost 6" of backfill shall consist of topsoil. If the trench extends through an existing vegetated landscape, any excavated or disturbed area adjacent to the trench shall be re-sodded with grass that is similar to the existing landscaping.
- J. All storm sewer lines located underneath and/or within 1 horizontal foot of any asphalt paving shall be bedded in cement stabilized sand in accordance with the Standard Construction Details. The cement stabilized sand shall be in accordance with the following requirements.
- K. The cement shall be Portland Cement, Type I, ASTM C150.
- L. The sand shall be clean, durable sand, with less than 0.5 percent clay lumps, ASTM C142; with less than 0.5 percent lightweight pieces, ASTM C123; with organic impurities, ASTM C40, not showing a color darker than standard color, and a plasticity index of less than six when tested in accordance with ASTM D423 and ASTM D424.



- M. Compact to 95 percent Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78) in maximum loose lifts of 6 inches thick. Actual testing shall be required as deemed necessary by the City.
- N. The cement-sand mixture shall consist of at least 1.5 sacks of cement per ton of sand. The cement-sand mixture shall have a minimum unconfined compressive strength of 100 psi in 48 hours, when compacted to a minimum of 95 percent of Standard Proctor Density (ASTM D2922-78 and ASTM D3017-78), without additional moisture control, cured and tested in accordance with ASTM C31.
- O. For Reinforced Concrete Pipe (RCP):
 - 1. RCP Pipes shall be bedded with bank sand.
 - 2. Initial Backfill for RCP Pipe shall consist of select backfill from the excavation.
 - 3. Final backfill for RCP Pipe shall be select backfill from the excavation.
- P. For High-Density Polyethylene (HDPE) Pipe:
 - 1. Pipe shall be bedded with Cement Stabilized Sand.
 - 2. Initial Backfill for HDPE Pipe shall consist of Cement Stabilized Sand.
 - 3. Final backfill for HDPE Pipe in concrete paved areas shall be Cement Stabilized Sand.
 - 4. Final Backfill for HDPE Pipe in unpaved areas shall be Select Backfill from the excavation.

5.05 INSTALLATION BY BORE AND JACK

- A. Bore and jack sections shall be specifically approved by the City and clearly shown on the drawings by location and footage.
- B. The following criteria are generally used as a basis for setting bore and jack sections.
 - 1. Bore pits shall be at least 3 feet from the back of curb and 5 feet from back of curb on a major thoroughfare. Bore pits in highways, county roads, or railroad rights-of-way shall conform to these requirements and to the requirements of the crossing permit or use agreement.
 - 2. All bore pits shall be shored in accordance with Occupational Safety and Health Administration (OSHA) requirements. Bore pits or receiving pits to be located in street or driveway paving, shall be shown on drawings.
 - 3. All existing developed areas shall be restored to original condition after construction.



5.06 TESTING OF INSTALLED PIPE AND MANHOLES

- A. It is the responsibility of the contractor to deliver a finished product in compliance with the contract documents and applicable federal, state, and local requirements. An independent testing laboratory shall be used to verify contract document compliance.
- B. The Contractor is responsible for scheduling tests with the City and the independent testing laboratory and for notifying the City of all test results. In the event construction activity occurs without proper notification to the City, the work in question is subject to removal and replacement in accordance with the standards at the discretion of the City.
- C. Cement Stabilized Sand Testing:
 - 1. A minimum of two random samples for compressive strength shall be taken each week. For Smaller projects, one sample may suffice with City approval. The City reserves the right to require additional tests, at the Contractor's expense, if it is deemed necessary. In the event of a change in supplier, samples shall be drawn on the first day of delivery from the new supplier, regardless of previous samples taken.
 - 2. Cement stabilized sand samples shall be taken at the point of placement of the cement stabilized sand and identified as to the location of the sample.
 - 3. Cement stabilized sand densities shall be taken a minimum of every 150 linear feet of trench, with a minimum of two tests (one per direction of travel) at each road crossing. When used as subgrade on roadway repairs, density tests shall be taken every 100 square feet of subgrade, with a minimum of one test per repair.
- D. Bedding, Backfill, Testing:
 - 1. Bedding and density tests shall be performed a minimum of every 300 linear feet of trench in each lift. Density tests shall be offset on alternating lifts and test locations shall be identified by station number.
- E. Copies of all test results shall be given to the City with the project closeout documents.

5.07 EXISTING FACILITY CROSSINGS

- A. Installation of a storm sewer main across a proposed or existing public street, driveway, sidewalk, railroad, pipeline, or drainage way shall conform to the requirements of this section.
 - 1. Public Streets - All existing public streets are to be bored and jacked regardless of surface. Bore and jack length shall be computed as roadway width at proposed bore plus 5 feet to either side.
 - 2. Driveways – Concrete and asphalt driveways in good condition shall be bored and jacked. Bore and jack length shall be computed as driveway width at bore plus 5 feet to either side.



3. Sidewalks – When the storm sewer line crosses under a sidewalk in good condition, the sidewalk shall either be bored and jacked or removed and replaced to the City's criteria, whichever is most cost-effective. Bore and jack length shall be at least the width of the sidewalk. The proposed type of construction shall be noted on the drawings.
 4. Railroad Crossings – All railroad crossings require a pipeline crossing permit to be issued by the corresponding railroad company and shall be bored and jacked in accordance with the requirements of that permit and the standards provided in this manual.
 5. Drainage Way – When a storm sewer line crosses under an existing drainage way, the water conveying portion of the drainage way shall be bored and jacked in accordance with the standards provided in this manual.
- B. Trees – When saving trees is a consideration, all trees 6 inches or larger in diameter and within 10 feet of the centerline of the water main must be noted on the drawings. The storm sewer main shall be bored and jacked within the drip line of any tree larger than 6 inches in diameter.

5.08 BARRICADING AND SIGNAGE

- A. Proper barricading and signage, conforming to the Texas Manual of Uniform Traffic Control Devices' latest edition, shall be required on all projects.
- B. Adequate signage for vehicular and pedestrian traffic shall be installed.
- C. A traffic control plan shall be submitted to the City and approved by the City for all streets open to travel by the public.

5.09 STORMWATER DETENTION REQUIREMENTS

- A. The intention of stormwater detention is to mitigate the effect of the new development on an existing drainage system.
- B. Application of Detention
 1. All development/redevelopment must be designed in a way that mitigates the effects of the development on other properties. In other words, post-development peak runoff for the design storm(s) event must be less than or equal to pre-development peak runoff. This shall be accomplished through the use of on-site stormwater detention facilities designed to mitigate storms up to and including the 100-year (1 percent) event.
 2. In some watersheds where mitigation is performed on a regional basis, individual detention sites may not be required. It is the responsibility of the project owner to coordinate with City staff to determine whether regional detention or individual mitigation facilities are necessary for the development.
 3. For developments on properties one (1) acre in size or greater, the existing storm drain will be evaluated by conducting a drainage impact study or analysis.
 4. The use of on-site detention is required during the following:



- a. When the drainage impact analysis requires on-site detention to remedy the effects of the proposed development.
 - b. When reported incidence of structural flooding exists.
 - c. When in-fill or redevelopment will result in a potential threat to existing structures unless the current infrastructure is improved.
 - d. When post-development flows result in street ponding levels which exceed City requirements.
 - e. If, in the opinion of the City, post-development flows will have an adverse impact on adjacent properties.
5. When development occurs within the 100-year floodplain, compensatory storage within the detention pond is required to offset the amount of fill placed within the regulatory floodplain.
6. Detention may not be required if redevelopment occurs without increasing the overall impervious character of the site, then no detention will be required by the City unless the application of detention will prevent existing structure flooding.
- C. Detention volume for redevelopment areas is calculated on the basis of the amount of area of the redeveloped impervious cover.
- D. Private parking areas, private streets, and private storm sewers may be used for detention with prior approval of the City.
- E. Calculation of Outlet Size.
1. Detention pond discharge pipe into an existing storm sewer line or existing City or other public entity facility:
 - a. Maximum pool elevation at or below the design hydraulic grade at the outfall – The discharge line shall be sized for the Design Storm with the outfall pipe flowing full. The pond will float on the drainage system to provide maximum benefit.
 - b. Maximum pool elevation at or above the hydraulic grade at the outfall. Provide a reducer or restrictor pipe to be constructed inside the discharge line. The discharge line shall be sized for the Design Storm with the outfall pipe flowing full.
 - c. Reducer or Restrictor Pipes shall be sized as follows:
 - (1) The reducer or restrictor will be sized for undeveloped rate of discharge at no greater than 0.5 cubic fps per acre unless capacity for a greater flow rate is verified in the receiving system and approved by the City.
 - (2) Use the following equations to calculate the required outflow orifice:

$$Q = CA (2g)^{1/2} (h)^{1/2}$$
$$D = 0^{1/2} / (2.25 h)^{1/4}$$



Where:

Q = outflow discharge (cfs)

$C=0.8$

A = orifice area (square feet)

g = gravitational factor (32.2)

h = head, water surface differential (feet)

D = orifice diameter (feet)

- (3) Restrictor shall be either of the required diameter or of the equivalent cross-sectional area. The orifice diameter D shall be a minimum of 0.5 feet.
- d. In addition to a pipe outlet, the detention basin shall be provided with a gravity spillway that will protect structures from flooding should the detention basin be overtopped.
- e. Detention ponds shall maintain a minimum freeboard of 1 foot between the top of bank and the 100-year water surface elevation. Trash rack is required at the pond outfall.
- f. Pond outfall pipe to an existing roadside ditch system shall be tied to the nearest driveway culvert. No direct outfall to a City-maintained ditch is allowed. All outfall pipe configuration must conform to the slope of the receiving ditch.
- g. Side slopes of the proposed detention basin shall not exceed a 4:1 (horizontal to vertical) ratio.

F. Detention Facility Ownership and Easements.

1. Private Facilities:

- a. Responsibility for maintenance of the detention facility must be indicated on recorded plat and a maintenance plan shall be submitted to the City for review.
- b. All private properties being served have drainage access to the pond. Dedicated easements may be required.
- c. No public properties may drain into the detention area.
- d. A maintenance agreement shall be provided when multiple tracts are being served.
- e. A maintenance work area of 30-foot width surrounding the extent of the detention area shall be provided. Public rights-of-way, drainage reserves or permanent access easements may be included as a portion of this 30-foot width.

G. Proper dedication of public access to the detention pond must be shown on the plat.

5.10 CONSTRUCTION DRAWING REQUIREMENTS

A. Minimum construction drawing submittals include the following.

1. A drainage area map shall be included in the construction drawings. The drainage area map shall include the following:



- a. Drainage areas, including areas draining from off-site onto or adjoining the project.
 - b. Design storm runoff.
 - c. 100-year storm runoff.
 - d. Route of overland flow including the overflow to a drainage way sized to accommodate the 100-year flow.
 - e. Elevations for the 25- and 100-year storms in the outfall channel.
 - f. Flow per inlet.
 - g. Maximum 100-year ponding elevation.
 - h. Street ponding elevations for the 100-year event.
 - i. Geotechnical and Soils Testing Report that substantiates design.
 - j. Supporting calculations.
2. Copies of any documents that show approval of exceptions to the City design criteria.
 3. Design calculations for storm line sizes and grades, and for detention facilities, if any.
 4. Design calculations for the hydraulic grade line of each line or ditch, and for detention facilities, if any.
 5. Existing contour maps and final grading drawings of the project.
 6. Plan and profile sheets showing stormwater design.
 7. Projects located within a floodplain boundary or within a floodplain management area shall show the floodplain boundary or floodplain area, as appropriate, on the drainage area map.
 8. Stormwater detention maintenance agreement letters.
- B. All drainage calculations shall be submitted in an electronic spreadsheet.
- C. Upon request, the supporting stormwater model input and output files shall be provided for review.

END OF CHAPTER



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PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 6 - PAVING



CHAPTER 6 PAVING

6.01 GENERAL

- A. This chapter provides design standards for the construction of streets, paving, sidewalks, and driveway access within the City of Brenham.
- B. The standards provided here are primarily for the design of local streets and collector streets. Additional design standards as specified by AASHTO and/or TXDOT shall apply for arterial streets and freeway sections.
- C. The City shall approve construction drawings for streets, paving, sidewalks, and driveway access within the City limits. All construction shall conform to the standards referenced in this manual and as shown in the City Standard Construction Details.
- D. Construction drawings for private improvements, within public rights-of-way and public easements that connect to or affect the public infrastructure, shall be approved by the City, are subject to the requirements of this Manual, and are subject to review and approval using the process defined in this Manual.
- E. Street design should conform to all applicable planning tools, such as the City Subdivision Ordinance, the City Major Thoroughfare Plan, the City bike or pedestrian and parks or trail master plans, the *Texas Manual on Uniform Traffic Control Devices (TMUTCD)*, the AASHTO Policy on Geometric Design of Highways and Streets, and approved master drawings. Other considerations for design should include street function, street capacity, service levels, traffic safety, driver expectancy, pedestrian safety, and utility locations. These additional considerations may affect the minimum requirements set forth herein.
- F. A traffic impact study may be required as a part of the approval process for driveways and other roadway access. A traffic impact analysis (TIA), when required, shall be prepared by an individual, group, firm, or corporation having demonstrated professional emphasis and experience in transportation planning, engineering, and in the preparation of similar analyses. The TIA document shall bear the seal and signature of a Texas Registered Professional Engineer.
- G. All driveways shall be constructed in accordance with the City Standard Construction Details.

6.02 DEFINITIONS

For the purposes of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section.

Collector Streets – Street routes that have short travel distances and collect traffic from intracity streets and funnel it into major thoroughfares or other collector streets.

Development – Identified as the new construction of any building, structure, or improvement, or the enlargement of any exterior dimension of any building, structure, or improvement.



Commercial Driveway Approach – The portion of a driveway within the public right-of-way that provides access to property on which an office, retail, or commercial center is located to a building having more than five dwelling units or to any driveway approach which accesses property that is primarily used for a nonresidential purpose.

Driveway – Entrance to and exit from premises where it is possible to park completely off the street, and which is not open for vehicular traffic except by permission of the owner of such private property.

Driveway Approach – A way or place including paving and curb returns between the street travel lanes and private property that provides vehicular access between the roadway and said private property.

Driveway Approach Width – As the term is used here, the width of a driveway approach refers to the width of driveway pavement at the point where the property line intersects the driveway pavement.

Intersection – The area embraced within the prolongation or connection of the lateral curb lines, or, if none, then the lateral boundary lines of two or more roadways, including public street, private street, commercial driveway, residential driveway, driveway approach, alley, or combination thereof which join one another at, or approximately at, right angles, or the area within which vehicles traveling upon different roadways joining at any other angle may come into conflict.

Lot – Identified as an undivided tract or parcel of land having frontage on a public or private street, contained within a block, and designated on a subdivision plat by numerical or letter identification.

Major Thoroughfare – Street routes that are identified as major thoroughfares as set forth in the Major Thoroughfare Plan adopted by City Council and as may from time to time be amended.

Multi-family Dwelling – Identified as a structure containing more than two separate units for single-family occupancy.

Nonresidential Driveway Approach – A driveway which provides access to property on which an office, retail, commercial, or industrial center is located, a building having more than five dwelling units is located, or any driveway approach which accesses property that is primarily used for a nonresidential purpose.

Residential Driveway – Identified as a driveway intended to provide access from a public or private street to a single adjacent, detached residential unit or a group of single residential units numbering less than five (5).

Right-of-Way – Property that is publicly owned or upon which a governmental entity has an express or implied property interest (e.g., fee title or easement) held for a public purpose. Examples of such public purpose include by way of example and not limitation, a highway, a street, sidewalks, drainage facilities, sewerage, and water facilities.

Street, Private – Identified as a private roadway, not dedicated to public use, which provides vehicular access from a public street to more than two residential dwelling units, or two or more commercial or industrial buildings or parking areas.

Street, Public – Identified as any public roadway or right-of-way, dedicated for public use, which provides vehicular access to adjacent land.



Streets

6.03 GENERAL ROADWAY DESIGN

Public Roadways – The standard for public roadways within the City limits is concrete, curb-and-gutter construction, and served by underground storm sewers.

Roadway Classifications – The City recognizes four basic classifications of public roadways that include freeways, arterials, collectors, and local streets. Each class provides a certain degree of continuity, capacity, and accessibility to adjacent land uses. While differentiated by function, there is also a variance in geometric design. Table 6.1 summarizes the general design criteria of roadways within the City.

Roadway Geometries – Geometries of City streets may be defined as the geometry of the pavement and curb areas that govern the movement of traffic within the confines of the rights-of-way. Included in the geometries are pavement width, degree of curvature, width of traffic lanes, median nose radii, curb radii at street intersections, cross fall, crown height, pavement thickness, and geometric shapes of islands separating traffic movements and other features.

Design Speed – The design speed is a primary factor in the horizontal and vertical alignment of roadways. Design features such as curvature, superelevation, turning movement radii, and sight distance affects roadway lane width, pavement width, pavement cross-slope, pavement crown, and clearances. Refer to Table 11.1.

Grades – Roadway grades shall be a minimum of 0.3 percent in order to ensure proper flow of surface drainage toward inlets and a maximum of 6 percent. Steeper grades may be permitted on local residential streets and where required by topographical features, and as approved by the City.

Roadway Centerline – Roadways shall be placed in the center of the right-of-way but may be shifted slightly, with prior City approval, to avoid groupings of trees. The centerline of curves shall be tangent to the centerline of street at each end of curve.

Cross Slope or Crown Height – Thoroughfares shall have a minimum cross-slope of 1/4-inch per foot and a maximum cross-slope of 3/8-inch per foot. Collectors and local streets shall have 6-inch crowns.

Pavement Strength – All concrete pavement and curbs shall be a minimum 3,500 psi.

Sight Distance – All intersections shall be evaluated for adequate sight distances in accordance with AASHTO guidelines. Sight distance triangles shall be shown on the plan view of construction drawings.

Channelization – Channelization shall conform to AASHTO "A Policy on Geometric Design of Highways and Streets," latest edition.

Private Streets – Private streets are streets that are not owned by the City, State of Texas, or the County and are not dedicated for public use. All private streets shall be constructed to the same standards as public streets.

Requirements for Arterials.

1. The full right-of-way for thoroughfares shown on the adopted City of Brenham Thoroughfare Plan shall be dedicated at the time of platting of the development.
2. When the full section of an arterial is located within the City limits and is dedicated on a final plat, the esplanade and all lanes shall be constructed at the time of development of the adjacent subdivision.
3. In some cases, if approved by the City, one-half of a planned major thoroughfare that is being built as a boulevard section may be constructed at the time of initial construction of the adjacent development.
4. Permanent barricades, conforming to the requirements of the Texas Manual of Uniform Traffic Control Devices, shall be constructed at the termination of lanes on partially constructed thoroughfares.
5. For roadway turnouts placed at an existing cross-street intersection, the turnout should be designed to fit the ultimate pavement width of the intersecting cross street and then transitioned to the existing roadway.
6. Residential driveways shall not access arterial or collector streets without written approval from the City. Subdivision layouts shall be designed to avoid homes requiring collector street access.

TABLE 6.1 – City of Brenham Roadway Requirements

Criteria	Roadway Class				
Classification	Freeway	Arterial	Major Collector	Minor Collector	Local
Purpose	Designed to move large volumes of traffic through urban areas and provide direct access to local freeways, while also providing controlled access to adjacent businesses.	Designed to provide support and relief to the SH and FM roadways by providing additional routes to accommodate high traffic volumes	Designed to collect traffic from local areas and distribute to the arterial network. Typically accommodates 2 lanes of traffic with turning lanes or median and with limited to no on-street parking.	Designed to collect traffic from local areas and distribute to the arterial network. Typically accommodates 2 lanes of traffic with on-street parallel parking on both sides.	Designed to provide access to abutting property and to collect traffic between parcels of land and collector and arterial streets. Local streets include all other streets that are not included in the higher classifications.

Right-of-Way	120 feet	100 feet	80 feet	70 feet	55 feet
Typical Pavement Width (back-to-back)	Varies	61 feet	41 feet or 43 feet	39 feet	31 feet
Traffic Lanes	4 - 6	5	2	2	2
Lane Configuration	2-3 Travel Lanes each direction divided	2 Travel Lanes in each direction and 1 Left Turn Lane	2 Travel Lanes and 2 Parking Lanes Or 2 Travel Lanes, One Left Turn Lane, and 1 Parking Lane	2 Travel Lanes and 2 Parking Lanes	2 Travel Lanes and 1 Parking Lane
Minimum Left-turn Lane	11 feet	12 feet	11 feet	---	---
Minimum Right-turn	11 feet	11 feet	11 feet	---	---
Minimum Median Width	24 feet	14 feet	14 feet	---	---
Minimum Travel Lane	12 feet	12 feet	12 feet	11 feet	11 feet
Parking Lane Width	---	---	8 feet	8 feet	8 feet
Minimum Pavement Thickness	8-inch	8-inch	7-inch	6-inch	6-inch
Minimum Grade	0.3 percent	0.3 percent	0.3 percent	0.3 percent	0.3 percent
Maximum Grade	6 percent	6 percent	8 percent	8 percent	10 percent
Minimum Horizontal	2,000 feet	1,000 feet	800 feet	800 feet	300
Minimum Tangent Between	300 feet	300 feet	200 feet	200 feet	100 feet
Vertical Clearance	16 feet	16 feet	16 feet	16 feet	16 feet
Parking	None	None	Permitted	Permitted	Permitted
Typical Volume Range	30,000 to 45,000	7,000 to 30,000	5,000 to 10,000	2,000 – 5,000	500-2,000

6.04 GRADES

- A. The minimum longitudinal grade shall be 0.25%.
- B. The desired longitudinal grade shall be 0.50%.
- C. The minimum cross slope shall be 1%.



- D. The minimum grade for curb returns and cul-de-sacs shall be 0.50% and the design shall show flow lines and/or top of curb grades at all PC and PT of curves.
- E. Inverted crown drainage is not allowed.
- F. At intersections, the grades of the intersecting streets shall be no more than 2% for the first 25 feet of the intersecting curb line to provide a safe approach sight distance and accessible routes in accordance with the Texas Accessibility Standards.

6.05 GENERAL INTERSECTION REQUIREMENTS

- A. Street intersections should be designed at right angles with tangent centerlines whenever possible.
- B. Intersections shall have adjacent visibility triangles free of obstacles such as vegetation, entry signage, buildings, structures, and fences. Public use facilities, such as fire hydrants, traffic control signs, and utility structures are exempted.
- C. Curb radii, measured from the face of curb, shall be 25-foot minimum on local residential and minor collector streets, and 35-foot minimum on major collectors and arterials. The minimum curb radii shall be 50 feet or more, depending on an evaluation of vehicular types and volumes, in commercial or industrial areas. Minimums shall be increased at skewed intersections.
- D. Intersections of major thoroughfares shall maintain a maximum slope of 2 percent along both major thoroughfares for a minimum distance of 200 feet upstream and downstream of the intersection.
- E. Intersections of collector streets with major thoroughfares shall maintain a maximum slope of 2 percent along the collector street for a minimum distance of 100 feet upstream and downstream of the intersection.
- F. Streets and traffic lanes shall be properly aligned across an intersection. Proposed streets shall be aligned with existing streets.
- G. When turnouts are provided at an existing street, the ultimate cross section is required to the end of the curb return. If necessary, a pavement transition is required to reduce the pavement width to the existing cross section.
- H. Intersections shall be designed as a high point in the drainage system, whenever possible. Gutter lines shall not extend across traffic lanes.
- I. Streets intersecting major thoroughfares shall maintain a minimum of 350 feet of separation from another public street. Separation is defined as the distance from pavement face of curb to pavement face of curb. Streets intersecting collector streets shall maintain a minimum of 250 feet of separation. Local streets shall maintain a minimum separation of 200 feet.
- J. Metropolitan joint intersections are not allowed.
- K. Pavement width transitions shall meet or exceed requirements of the Texas Manual of Uniform Traffic Control Devices and AASHTO.

6.06 INTERSECTION RIGHT-OF-WAY REQUIREMENTS

- A. Right-of-way width for a 4-lane thoroughfare that intersects a 4-lane thoroughfare shall be 120 feet for a distance of 200 feet and then taper to the standard right-of-way width.
- B. Right-of-way width for a collector street that intersects a 4-lane thoroughfare shall be 90 feet for a distance of 200 feet and then taper to the standard right-of-way width, as required in Section 11.05.H, with a 150-foot minimum taper. See Figure 11.5.

6.07 MEDIAN, LEFT-TURN LANE, RIGHT-TURN LANE, DECELERATION LANE, AND ISLAND DESIGN

- A. Minimum bay storage lengths may need to be calculated in accordance with a traffic analysis. The referenced standards are minimum requirements. Middle-block left turns may be permitted when specifically approved by the City.
- B. Median openings on major thoroughfares, when areas adjoining the right-of-way are not planned for immediate development, may be spaced 1,000 feet apart, measured nose-to-nose, when specifically approved by the City.
- C. Required Median Openings and Left-Turn Lanes:
 - 1. Median openings on divided thoroughfares shall be required at all street intersections. Median openings may be constructed to serve nonresidential driveways provided that the minimum spacing requirements listed are met. Left-turn lanes shall be provided at all median openings where a street intersects the divided thoroughfare. Left-turn lanes may be required at nonresidential driveways if warranted by a traffic study.
 - 2. Median openings for street intersections and non-residential driveways may be moved, closed, or modified at the discretion of the City to facilitate traffic flow.
- D. Left-Turn Storage
 - 1. All left-turn storage bays on divided thoroughfares shall be a minimum of 11 feet in width.
 - 2. Left-turn lanes will be delineated as shown in the City Standard Construction Details and as approved by the City.
 - 3. Solid stamped, colored concrete pavement shall be used in the median when the median width measured from back-of-curb to back-of-curb is a distance of 4 feet or less.
- E. Medians on Public Street Entrances to Developments:
 - 1. Medians installed on undivided roadway entrances to subdivisions for aesthetic or any other purpose shall be a minimum of 13 feet wide and 80 feet long.
 - 2. In areas where a divided subdivision entry is constructed, the transition to the normal residential street width shall begin a minimum of 50 feet upstream or downstream of the first street intersection.



F. Minimum Right-Turn Storage and Transition Length:

1. Right-Turn Lane Storage:

- a. Right-turn lanes shall be provided at the intersection of a divided thoroughfare with another divided thoroughfare. Right-turn lanes may be required at the intersection of collector streets with divided thoroughfares if traffic conditions warrant.
- b. All right-turn storage areas shall be 11-foot wide.
- c. An additional 10 feet of right-of-way shall be provided with right-turn lanes unless adequate right-of-way to construct and maintain the right-turn lane and adjacent improvements in the right-of-way (i.e., sidewalks) exists.
- d. Right-turn lanes shall be delineated in accordance with City Standard Details and this Manual.

6.08 ALLEY AND SERVICE ROAD DESIGN

- A. Public alleys are prohibited.

6.09 GATED DEVELOPMENT ENTRANCE REQUIREMENTS

- A. Gated developments shall have a median divided street that will allow for a vehicular U-turn prior to the gate in the event that access is denied. The turn-around shall be a minimum of 18 feet in width.
- B. Entry gates shall be set back from the right-of-way a minimum of 60 feet to provide stacking. There shall be a minimum of 40 feet to the entry keypad, or first stop, to allow room for the longest queue of vehicles expected to access the gate. Length of queue shall be determined by the development TIA, address the turning movements into and out of the development, and determine if mitigation will be required. Impacts that could cause backups onto the existing roadways because of the gated entrance are not allowed.
- C. The hinge point of the gate shall be a minimum of 18 inches behind back of the curb.
- D. Gates shall be equipped with a Knox box for emergency access.
- E. Vehicular gates shall not encroach on public sidewalks.

6.10 PUBLIC RIGHT-OF-WAY VISIBILITY REQUIREMENTS

- A. Adequate sight distance at the intersection of all streets shall be assured. This sight distance is provided through the use of a Corner Visibility Triangle or a Sight Line Triangle. Construction drawings for roadways shall show both the Corner Visibility Triangle and the Sight Line Triangle on the plan view of proposed streets.
- B. Landscaping and Obstruction Requirements for Corner Visibility and Site Line Triangles:



1. No fence, wall, screen, sign, structure, foliage, hedge, tree, brush, shrub, berm, driveway planting, parking, or any other item, either man-made or natural shall be erected, planted, or maintained in a position that will obstruct or interfere with a driver's clear line of sight within both the corner visibility and sight line triangle (i.e., VAM's).
2. Vision at all intersections shall be clear from obstructions at elevations between 30 inches and 10 feet above the average gutter elevation within each sight line triangle. Existing trees shall have a clear trunk of 8 feet above average gutter elevation within each sight triangle. Traffic control devices shall remain visible at all times in accordance with the requirements of the TMUTCD.

C. Landscape Drawing Requirements:

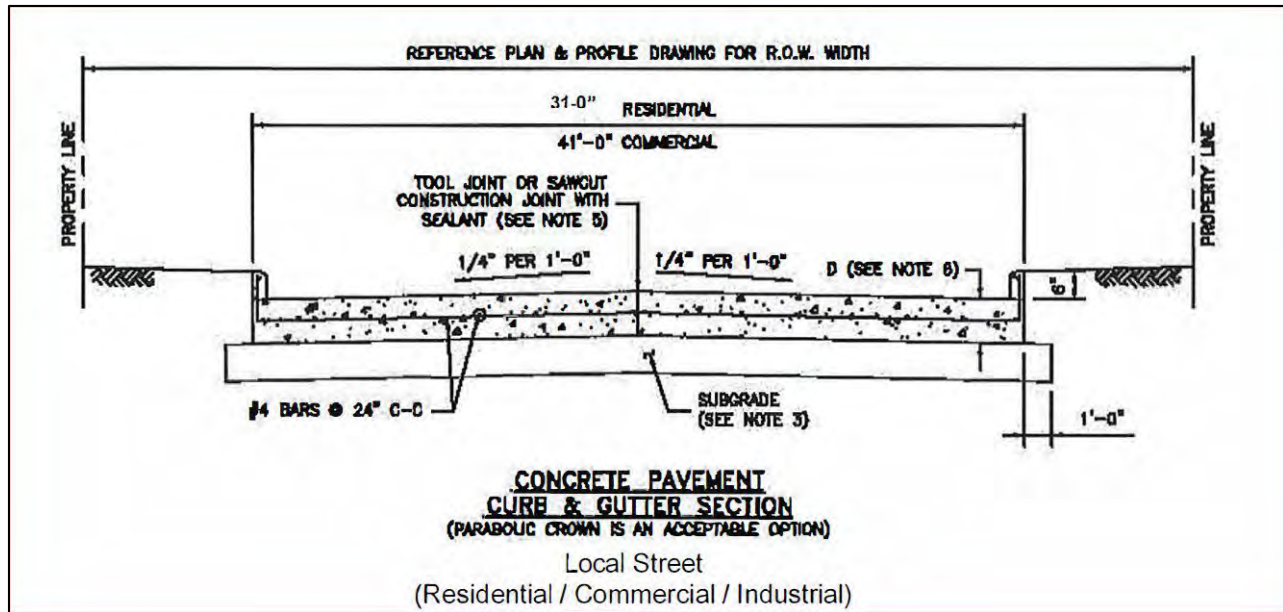
1. A sitework or landscape drawing is required that shows the plan of the street on both sides, and the median where necessary, of each proposed driveway or street to the proposed development with the grades, curb elevations, proposed street or drive locations, and all items (both natural and man-made) within both the corner visibility and sight line triangles.
2. This sitework or landscape drawing shall show no horizontal or vertical restrictions (either existing or future) within the corner visibility and sight line triangles.

6.11 PAVEMENT STRUCTURE REQUIREMENTS

- A. Local residential streets (55-foot right-of-way) and minor collector streets (60-foot right-of-way) shall have a minimum thickness of 6 inches with #4 reinforcing bars spaced at 24 inches measured center to center of the rebar. All transverse paving headers shall be spaced at a maximum of 60 feet. Lap splices will be staggered in adjacent bars. Minimum overlap shall be 10 inches.
- B. Major collector streets (70-foot right-of-way) and all streets in multi-family residential, commercial or industrial areas shall have a minimum thickness of 7 inches with #4 reinforcing bars spaced at 24 inches measured center to center of the rebar. All transverse paving headers shall be spaced at a maximum of 60 feet. Lap splices will be staggered in adjacent bars. Minimum overlap shall be 10 inches.
- C. Major thoroughfares (greater than 70-foot right-of-way) shall have a minimum thickness of 8 inches with #4 reinforcing bars spaced at 24 inches measured center to center of the rebar. All transverse paving headers shall be spaced at a maximum of 60 feet. Lap splices will be staggered in adjacent bars. Minimum overlap shall be 10 inches.
- D. The design engineer is responsible to ensure that the pavement structure is designed to withstand the anticipated loads that are expected on the roadway.
- E. Hot mix asphaltic concrete pavement is not permitted for roadways.



- F. Lime determination shall be made using a soil proctor from the site. Subgrade shall be stabilized to a minimum 6 inches thick to reduce Plasticity Index (PI) to fifteen as determined by lime series. If a PI of 15 or less cannot be obtained, then the lime treated soils must obtain a pH of 12.4, subgrade must be increased to 8 inches thick and compacted to 95 percent standard proctor density. Add 1 percent for field variation. Subgrade shall be compacted to 95 percent standard proctor density. Alternative subgrade stabilization may be substituted when the geotechnical engineer for the project makes specific recommendations and when specifically approved by the City; however, the stabilization requirement shall not be waived.
- G. Lime shall be applied in accordance with TXDOT 260. Subgrade stabilization and compaction shall extend a minimum of 2 feet beyond the back-of-curb or edge of pavement.
- H. Concrete pavement thickness design is required for all pavement within industrial and commercial areas and on major thoroughfares to identify roadways where the minimum pavement thickness may need to be increased. Concrete pavement thickness design shall be based on AASHTO design procedures for rigid pavements.
- I. Horizontal dowels or saw cutting full depth are required when making a connection of a proposed street to an existing concrete street. When the existing concrete street has no exposed steel or has been saw cut full depth, the dowels shall be #4 bars, 24 inches long, embedded 12 inches, and epoxied. Dowels shall be 12 inches center-to-center, unless otherwise specified.
- J. Dead-end streets or ends of concrete slabs designed to be extended in the future shall have paving headers and 15 inches of reinforcing steel exposed beyond the pavement, coated with asphalt, and wrapped with burlap or paving headers, and dowel type expansion joint for future pavement tie.
- K. Pavement extensions shall connect to the existing pavement with a pavement undercut and a minimum steel overlap of 12 inches. Refer to City Standard Construction Details.
- L. All concrete to be removed shall be removed either to an existing joint or a sawed joint. Saw cuts shall be the full depth of the pavement.
- M. All concrete pavement should be finished to a light broom finish.
- N. Local streets shall be designed and constructed in accordance with the following diagram:



6.12 REINFORCED CONCRETE PAVEMENT MATERIALS

- A. Concrete – All concrete shall be a minimum of 5 1/2 sacks of cement per cubic yard of concrete and achieve an unconfined compressive strength of 3,500 psi at 28 days.
- A. Reinforcing Steel – Grade 60, ASTM A615, current.
- B. Aggregate – Limestone shall be used wherever possible. Granite is permitted only with prior approval by the City. River rock or similar "hard" aggregates are not permitted.
- C. All materials and workmanship shall conform to the TxDOT Standard Specifications, 2004, and the *Texas Manual on Uniform Traffic Control Devices, 2011*, and any revisions thereto.

6.13 GRADING AND LAYOUT REQUIREMENTS

- A. Minimum gradient on gutter shall be 0.30 percent.
- B. Inlet spacing shall be as defined in Chapter 5.
- C. Maximum cut measured from finished grade at the right-of-way line to top of curb shall be 1.75 feet. The maximum slope for all driveways shall be 7 percent.
- D. Minimum grade shall be 1 percent fall around intersection turnout for a minimum radius of 25 feet. Grade for larger radius shall be determined on an individual basis.

- E. All major collector and major thoroughfare streets and collectors shall have a 6-inch-high barrier concrete curb as shown in the City Standard Construction Details. Local streets may be constructed with a 4-inch by 12-inch lay-down curb as shown in the City Standard Construction Details. All streets within 50 feet of a permanent waterbody must have standard 6-inch curb installed. All streets within 30 feet from curb to the high bank must include a guard rail analysis. At the intersection of a 6-inch barrier curb and a 4-inch by 12-inch lay-down curb, the 6-inch curb shall be continued around the curb return of the lesser street.
- F. Minimum slope for the gutter of a cul-de-sac shall be 0.60 percent.
- G. The amount of cross slope over the pavement section should be shown on the drawings. The usual cross slope is 3/8-inch per foot from the curb line to quarter point, 1/4-inch per foot from quarter point to centerline, and 1/8-inch per foot for left-turn lanes.
- H. When connecting to an existing curbed street, the gutter lines for the proposed and existing streets shall be matched and elevations called out.
- I. Proposed top of curb elevations should be designed to match the top of the curb at an existing inlet.
- J. Top of curb and bottom of curb elevations shall be shown on the construction drawings.
- K. Gutter elevations are required for vertical curves where a railroad track is being crossed.
- L. Where railroad crossings are not at right angles to the pavement slab, vertical curves should be calculated for each curb line and should be posted at 10-foot intervals in the profile.
- M. When meeting an existing curb-and-gutter street, top-of-curb elevations shall be designed to meet an elevation 6 inches above the existing gutter. At existing inlets, top-of-curb elevations shall be designed to match existing top-of-curb elevations.
- N. Adjust existing manhole frames and covers within the limits of the proposed pavement to meet the proposed top-of-slab elevation.
- O. Adjust existing manhole frames and covers outside the limits of the pavement to conform to the final grading plan.

6.14 CUL-DE-SAC PAVEMENT

- A. Public streets shall not dead-end without a cul-de-sac.
- B. Cul-de-sacs are to have a minimum right-of-way radius of fifty (50) feet for a single-family and two-family use and sixty (60) feet for other uses.
- C. The minimum right-of-way radius shall be 10 feet greater than the minimum pavement radius. The right-of-way radius shall be clear of permanent obstructions. See Figure 11.19 for minimum cul-de-sac requirements.



- D. The distance from the face of curb of a cul-de-sac to the right-of-way line shall be a minimum of 10 feet.
- E. Curb radii at the transition to the cul-de-sac shall have a minimum radius of 25 feet in single-family residential areas and 35 feet in commercial areas, measured at the face of curb.
- F. The length of a cul-de-sac is defined as the distance from the centerline of the intersecting pavement to the center of the cul-de-sac bulb measured along the centerline of the street right-of-way. The maximum length of a dead-end street with a permanent turnaround shall be 600 feet, except in conditions of unusual topography or in the event said street accommodates rural lots in the extraterritorial jurisdiction, in which case the maximum length shall be 800 feet.
- G. The minimum grade line around a cul-de-sac shall be 0.60 percent.

6.15 Pavement Testing Requirements

- A. It is the responsibility of the contractor to deliver a finished product in compliance with the contract documents and applicable federal, state, and local requirements. An independent testing laboratory shall be used to verify contract document compliance.
- B. The Contractor is responsible for notification of the City and the independent testing laboratory in accordance with the City's notification requirements. In the event construction activity occurs without proper notification to the City, the work in question is subject to removal and replacement in accordance with the standards at the discretion of the City.
- C. The Contractor is responsible for any and all fees and costs associated with the testing requirements.

PAVEMENT SUBGRADE

- A. Pavement subgrade shall be a minimum of 6 inches thick, shall be within 0.2 inches of final lines and grade, and shall vary uniformly between points. Subgrade stabilization and compaction shall extend a minimum of 2 feet beyond the back-of-curb or edge of pavement. All subgrade shall be compacted to a minimum of 95 percent of the maximum dry density of the material as determined by Standard Proctor Compaction Test ASTM D-698. Moisture content on all density tests shall be within plus or minus 2 percent of optimum moisture to achieve a passing test.
- B. Subgrade density tests are required at a longitudinal spacing of every 150 linear feet, staggered across both lanes of traffic, and on pavement cast full width on undivided roadways. Density tests shall include the entire cross section of the subgrade, including the area 2 feet outside of the form boards. For pavement cast half-width, density tests are required every 300 linear feet for each half of the roadway, with the tests offset from tests in the adjacent half of pavement by 150 linear feet. Regardless of any other requirement, all cul-de-sacs shall have a minimum of one density test within the cul-de-sac.
- C. Lime depth checks are required for all pavement subgrades at the same spacing and frequency requirement as density tests.



- D. Lime determination shall be made using a soil proctor from the site. Subgrade shall be stabilized to a minimum 6 inches thick to reduce PI to 15 as determined by lime series. If a PI of 15 or less cannot be obtained, then the lime-treated soils must obtain a pH of 12.4, must be increased to 8 inches thick; and be compacted to 95 percent standard proctor density (add 1 percent for field variation). Lime subgrade shall be mixed evenly and allowed 72 hours between mixing to cure. Remixed lime shall have 100 percent of the representative sample passing a 1 3/4-inch sieve and 85 percent of the sample passing a 3/4-inch sieve and 60 percent passing the #4 sieve.
- E. Lime operations shall not occur if the ambient temperature is 40 degrees Fahrenheit and falling. Lime operations may occur if the ambient temperature is 35 degrees Fahrenheit and rising.
- F. Subgrade densities shall be retaken in the event of a 1/2 inch or greater rainfall or in the event the ambient air temperature falls below 32 degrees Fahrenheit for greater than three hours.
- G. Subgrade density testing shall occur after the subgrade has been cut to final lines and grade. No subgrade/earthen material may be placed on the subgrade after passing density tests have been achieved.
- H. Prior to the application of lime slurry, the roadbed shall be excavated to subgrade, shaped to conform to the typical sections, lines, and grades as shown on drawings. The material, before lime is added, shall be scarified to the secondary grade (proposed bottom of the lime stabilized subgrade). A "proof roll" shall be performed prior to the application of lime slurry to identify any wet or unstable materials. Any wet or unstable materials below the secondary grade shall be corrected by scarifying, adding lime, and compacting until it is of uniform quality. The results of the proof roll and any correcting action shall be documented by the testing laboratory.

CONCRETE PAVEMENT

- A. All concrete mix designs shall be approved by both the independent testing laboratory and the City prior to the placement of concrete on any project.
- B. Concrete operations shall not occur if the ambient temperature is 40 degrees Fahrenheit and falling. Concrete operations may occur if the ambient temperature is 35 degrees Fahrenheit and rising.
- C. Concrete shall be tested every 150 cubic yards or less of concrete that is placed each day. Test shall be conducted for the following criteria:
 - 1. Entrained air – Not to exceed 5 percent.
 - 2. Slump – Between 2 1/2 and 5 inches.
 - 3. Concrete Temperature – Not to exceed 95 degrees Fahrenheit (without appropriate admixtures)
 - 4. Cylinders – A minimum of one set of four cylinders to be tested for compressive strength.
- D. Concrete cylinders, taken at the time of placement, shall be the standard for testing for compressive strength. In limited, unique circumstances, concrete cores of the finished pavement may be tested for compressive strength, with prior approval by the City.



- E. In the event concrete cores are approved for testing, the pavement shall meet the required compressive strength without consideration of an allowance for cut cores or any other reduction in strength allowance.
- F. Pavement shall meet both the minimum compressive strength and the minimum thickness requirements before acceptance by the City. Pavement that fails to meet both requirements shall be removed and replaced prior to acceptance by the City.
- G. In the event pavement thickness requirements are not met, the limits of the short pavement shall be identified through the use of additional cores at 10-foot spacing on each side of the deficient pavement until the minimum thickness requirement is met.
- H. In the event a variance for deficient pavement thickness is considered by the City, the City shall consider the extent of the thickness deficiency in area and thickness, the concrete compressive strength, the thickness of the subgrade, the performance of the remainder of the pavement on the project, and the performance history of the contractor on the project when reviewing the variance. In addition, the impact of the deficient pavement on the City's long-term maintenance costs shall be considered.
 - 1. Accepted pavement deficient in thickness between 0.00 and 0.1 inches shall be considered without a maintenance fund payment based upon the recommendation of the design engineer, the extent and location of the deficient pavement, verification of subgrade, and other relevant specifications being met and other relevant factors.
 - 2. Pavement deficient in thickness between 0.11 and 0.20 inches shall require a maintenance fund payment to the City of 25 percent of the contract unit price times the area of deficient thickness pavement.
 - 3. Pavement deficient in thickness between 0.21 and 0.25 inches shall require a maintenance fund payment to the City of 50 percent of the contract unit price times the area of deficient thickness pavement.
 - 4. Pavement deficient in thickness greater than 0.25 inches shall not be considered for acceptance.
- I. Finished pavement shall have either a burlap-drag or a tight (less than 12 inches between centerlines) belt finish. Pavements that are excessively smooth or rough shall be subject to removal and replacement.
- J. Finished streets shall positively drain and be free from areas of standing water (birdbaths) within 12 hours after water has ceased to flow by gravity. Street subject to acceptance by the City for City maintenance shall be flooded with sufficient water along the gutter line to identify potential birdbaths prior to acceptance into the one-year maintenance period. Pavement scarifying or grinding is not allowed to remediate birdbaths on newly constructed pavement.
- K. All concrete placed shall be uniformly sprayed with a membrane curing compound as described in Item 526 in the TxDOT standard specification for construction. Improper application will result in rejection of the concrete.

6.16 TRAFFIC CALMING GUIDELINES

- A. The City encourages the implementation of traffic calming philosophy in the design and retrofitting of subdivisions. The ITE "Guidelines on Traffic Calming" and the Texas Manual on Uniform Traffic Control Devices shall be considered in the design of new subdivisions. The City may require traffic calming implementation in new subdivision design. It is the responsibility of the land planner to document consideration of traffic calming techniques in the initial design and plat process (i.e., concept plan stage).
- B. Approved traffic calming devices shall not include the installation of speed bumps in either new or existing subdivisions. Other physical modifications to the standard street cross section may be considered as a last resort. Nonstandard street geometries shall require a clearly identified, actual problem of the nature that may be resolved by the proposed physical modification. All physical modifications require prior written approval by the City.

Sidewalks

6.17 SIDEWALK DESIGN

- A. Definition of Sidewalk – A sidewalk is defined as that paved area in a street right-of-way or adjacent easement that is between the curb lines or the edge of pavement of the roadway and the adjacent property or easement lines that is designed for the use of pedestrians.
- B. The maximum grade of the sidewalk shall be 1/2-inch per foot. The maximum cross-fall of the sidewalk shall be 1/4-inch per foot. Sidewalks shall conform to the latest Americans with Disabilities Act (ADA) and Texas Department of Licensing and Regulation (TDLR) requirements and to the following standards.
- C. Residential and Nonresidential Areas – When constructed, shall be a concrete sidewalk, 5 feet in width and located within the street right-of-way. Sidewalks and parkways (curb to right-of-way) shall be graded at 1/4-inch per foot above the top of the street curb.
- D. If other materials are placed in the right-of-way between the sidewalk and curb, the material shall meet City specifications, and be of a color and texture distinctly different from the sidewalk and specified on the site plan.
- E. Meandering Sidewalks – Meandering sidewalks may be located in a common area if sufficient width does not exist in the ROW.
- F. Sidewalks on Bridges – All street bridges on major thoroughfares and major collectors shall have a sidewalk constructed on each side of the bridge. Pedestrian access or routing shall be provided on all bridges on all streets. The sidewalk shall be a minimum of 6 feet wide with a parapet wall or traffic rail, provided a minimum of 2 feet behind the back-of-curb of the roadway. A standard pedestrian bridge rail protecting the sidewalk shall be provided on the outside edge of the bridge.



- G. Sidewalks on Box Culvert Crossings – All box culvert crossings shall have a sidewalk constructed on each side of the culvert. The sidewalk shall be a minimum of 5 feet wide with a standard pedestrian handrail as shown in Figure 11.13, provided on the outside edge of the culvert unless the drop off is greater than 10 feet from the outside edge of the sidewalk.
- H. Sidewalk wheelchair ramps shall be required at all intersections. They shall be installed in accordance with ADA and TDLR requirements. The intersections of cul-de-sacs that do not have a defined straight section of cul-de-sac and a cul-de-sac bulb do not have to install wheelchair ramps at the intersection. Wheelchair ramps shall be located in front of any stop or yield signs or stop bars.
- I. All wheelchair ramps shall have raised detectable warning surfaces (truncated domes) in accordance with accessibility requirements.
- J. Sidewalk construction across an esplanade: When required, raised esplanades shall be cut to allow for the continuation of crosswalks at grade. At-grade sidewalks across esplanades shall be a minimum of 6 feet wide. Patterned concrete or brick may be used with specific approval of the City.

Driveways

6.18 DRIVEWAY DESIGN REQUIREMENTS

A. Design Philosophy

Large speed differentials among motor vehicles traveling the same or connecting roadways creates unsafe driving conditions. Minimizing speed differentials through the proper design of driveway approaches promotes driver and pedestrian safety.

It is the City's policy to require a driveway design that creates no more than a 20 mph (miles per hour) maximum speed differential on roadways. The goal of the City policy is to create a balance between optimal access and safety.

Generally, as the widths of streets and vehicular speeds increase, the number of driveway approaches should decrease. Driveway approaches accessing major thoroughfares should be situated in a manner that minimizes the number of potential conflict points. A single piece of property served by multiple driveways may increase speed differentials and is generally considered undesirable. For commercial development, shared commercial driveways shall be a requirement. Regulated access, removing turning vehicles from the traffic stream and channelization of traffic should be determined on a site-specific basis, taking into consideration the policies and requirements of the City and other regulating entities, and following generally-accepted traffic engineering principles.

City policy is to require turn bays and acceleration/deceleration lanes on major thoroughfares or to use equally effective traffic-controlling methods that will minimize speed differential and increase overall safety.

- B. A sight distance analysis is required for all driveways located within a horizontal or vertical curve of the frontage roadway.
- C. Driveways shall not be located within the functional areas of intersections.
- D. Driveway grades shall be minimized. The maximum algebraic change in grade of driveways allowed on all streets is 7 percent.



- E. Driveway approaches shall be built with a circular curb radius connecting the raised curb of the roadway to the driveway approach in accordance with the City Standard Construction Details. In order that the definition of the location of the edge of pavement for the roadway may be maintained, driveway approach radii shall always be designed to become tangent to the street curb line.
- F. Driveway approaches, driveways and required parking spaces shall be all-weather, dustless surfaces in accordance with Appendix A – Zoning of the Code of Ordinances.
- G. Driveway curb returns shall terminate within the boundaries of the lot served by the driveway. Driveway widths shall be measured between the edges of pavement or the face of curbs, as applicable, at the property or right-of-way line. Driveway approaches within the public right-of-way shall be constructed of concrete.
- H. All driveways shall be designed to intersect the adjacent street at a 90-degree angle unless specifically approved by the City.
- I. Driveways shall not be permitted in the transition area of any right-turn, acceleration or deceleration lane.
- J. Driveways that intersect at a mid-block median shall have the driveway centerline intersect with the midpoint of a median opening (measured nose-to-nose).

6.19 SINGLE-FAMILY RESIDENTIAL DRIVEWAY REQUIREMENTS

- A. No direct access to a major thoroughfare or major collector from a residential driveway approach is allowed. Access to a minor collector or local street is allowed.
- B. No lot may have more than two driveways accessing the adjacent street or streets. Side lot access is not allowed within the first 120 feet of a street serving as the entrance to a subdivision.
- C. Driveways shall be located a minimum of 30 feet away from the intersection of streets, measured from the curb return of the street to the curb return of the portion of the driveway closest to the street.
- D. Circular driveways are allowed on residential lots with a local street frontage of 75 feet or greater. A maximum of two driveways are allowed on the street on which the 75-foot street frontage is located, provided that the driveways meet all other requirements of this chapter.
- E. Residential driveways shall have a minimum curb radius of 5 feet. The driveway curb returns shall terminate within the boundaries of the lot served by the driveway.
- F. Residential driveway approaches shall have a minimum width of 12 feet and a maximum width of 30 feet. On-site residential driveways shall be a minimum of 12 feet.
- G. Driveway approaches within the public right-of-way shall be constructed of concrete.
- H. All special, non-standard materials, such as exposed aggregate, dyed concrete, or concrete pavers, and special signage, that are installed by a developer, homebuilder, or homeowner shall be specifically approved by the City and shall be maintained by the installer, owner, or his assigns. Any maintenance of non-standard items by the City will be done using standard materials and methods.

6.20 MULTI-FAMILY RESIDENTIAL REQUIREMENTS

- A. Multi-family residential developments shall meet the same driveway standards as nonresidential developments.

6.21 NONRESIDENTIAL DRIVEWAY REQUIREMENTS

- A. Adequate distance between cross street intersections and access drives shall be provided to ensure intersection or driveway conflict areas are minimized.
- B. Along either side of any corner commercial or industrial property only one driveway will be allowed, and the driveway approaches shall be located so as to maintain a minimum distance from the corner of the intersecting roadways equal to 65 feet if the street is an arterial or 55 if the street is a collector or local street. Driveways on corner lots are subject to all the requirements of this chapter, including spacing and cross-access requirements.
- C. Nonresidential driveways shall be shared among different property owners or users when necessary to maintain minimum spacing requirements. Joint-access drives shall include full drive width and access pavement and be built at the same time as the first development.
- D. Interconnectivity of multiple properties shall be maintained in the frontage of the lot adjacent to the road.
- E. Nonresidential driveways shall match existing openings in medians, whenever possible. No cuts through the left-turn reservoir of a median shall be permitted.
- F. Undivided nonresidential driveway approaches shall have a minimum width of 25 feet and a maximum width of 40 feet. Divided nonresidential approaches shall have a minimum width of 32 feet and a maximum width of 58 feet. Travel lanes of divided driveways shall be a minimum of 12-foot wide and shall be divided by a raised median a minimum of 8-foot wide.
- G. Nonresidential driveway approach curb radii shall be a minimum of 25 feet. Curb radii of signalized driveway approaches shall be a minimum of 35 feet. Selection of the appropriate driveway curb radii shall consider the roadway speed limit, pedestrian activity, the existence of turn lanes, roadway geometries, intersection signalization, and other appropriate criteria.
- H. Nonresidential driveways which serve service fixtures such as drive-through windows, mailboxes, gasoline pumps, and other similar fixtures shall allow traffic to utilize the fixture without interfering or impeding the movement of driveway or roadway traffic.
- I. Nonresidential driveway spacing shall meet the spacing requirements for driveways located along major thoroughfares and collectors, unless specifically approved by the City.
- J. The spacing and location requirements for driveways shall be applied to both existing driveways and those shown on proposed development drawings and plats. Driveway locations and requirements shall be considered at the earliest possible stage of development of a tract.

6.22 DRIVEWAYS ALONG MAJOR THOROUGHFARES AND COLLECTORS

- A. The following requirements shall apply with respect to driveway approach spacing and location along major thoroughfares and collector streets. Spacing between driveways should be measured along the property line from the edge of one driveway to the closest edge of the next driveway, and not from centerline to centerline.
1. The minimum required spacing between driveway approaches and intersections for driveways along collector streets and major thoroughfares is as follows.

Table 6.2 – City of Brenham Minimum Driveway Spacing

Posted Speed	Minimum Spacing
(mph)	(feet)
25	150
30	230
35	300
40	350
45	400
50	450
>50	TIA required

2. Driveway approaches accessing major thoroughfares and collectors shall be aligned with opposing driveway approaches, if any, or should be offset by 200 feet or more to provide adequate left turn storage capacity in advance of each driveway approach and to avoid the overlap of left-turn lanes.
 3. The spacing and location of driveways shall be related to both existing adjacent driveways and those shown on approved development drawings.
 4. Driveways shall be spaced at distances sufficient to ensure that conflicting movements at adjacent driveways do not overlap.
- B. Entrances to nonresidential driveway approaches shall be designed so as to provide adequate sight distance required for safe travel. A sight distance analysis, sealed by a professional engineer, shall be provided on all construction drawings. The sight distance analysis will show the available sight triangles with all proposed and existing improvements in place.
- C. Turn bays shall meet the minimum requirements of the Institute of Transportation Engineers (ITE) and the American Association of State Highway and Transportation Officials' (AASHTO) "A Policy on Geometric Design of Highways and Streets."
- D. Notwithstanding any other requirements set forth herein, signalized driveway entrances shall be required of driveway approaches whose TIA recommends the installation of a signal and shall conform to ITE and AASHTO traffic signal spacing guidelines.
- E. Deceleration lanes for right-turns into driveways shall be required in accordance with the TIA to minimize driveway or roadway conflicts.
1. No driveway shall be permitted within the transition area of a right-turn or deceleration lane, unless otherwise approved by the City.



2. The applicant shall be responsible for the design, right-of-way adjustment of utilities, and construction costs of any required auxiliary and deceleration lane.

6.23 Construction Standards

Table 6.3 – City of Brenham Driveway Construction Standards

	Residential	Commercial	Industrial
Minimum Concrete Thickness	5" in ROW	6" in ROW	8" in ROW
Rebar Spacing	#3's @ 12" centers	#4's @ 12" centers	#5's @ 12" centers
* Slope in accordance with Texas Accessibility Standards			

6.24 Driveways on Existing Strip Paved, Open Ditch Section Roadways

- A. All driveways along existing strip paved, open ditch section roadways shall have culvert pipes installed below them in accordance with Detail STM-5, which is included in the Appendix B of this document.

END OF CHAPTER



PUBLIC INFRASTRUCTURE DESIGN MANUAL

CHAPTER 7 - TRAFFIC SIGNS, MARKINGS, AND STREET LIGHTING



CHAPTER 7

TRAFFIC SIGNS, MARKINGS, AND STREET LIGHTING

7.01 GENERAL

- A. These standards describe the general requirements for the design and construction or the modification of traffic signs and markings within the City limits.
- B. All traffic signs and markings to be installed in accordance with the Texas Manual of Uniform Traffic Control Devices (MUTCD).
- C. Developer shall purchase and install all traffic control signs and markings and all required street signs.
- D. This guideline serves as a reference standard and does not supersede any design standards set forth by the MUTCD, Texas Accessibility Standards (TAS) of the Architectural Barriers Act, or any other federal, state, or local law or regulation. The intent is to provide a standard reference to promote the highest quality and latest engineering practices available.
- E. Traffic signs, markings shall be prepared by an individual, group, firm, or corporation having demonstrated professional emphasis and experience in transportation planning, engineering, and in the preparation of similar analyses. The construction documents shall bear the seal and signature of a Texas Registered Professional Engineer.
- F. Street layouts shall be designed to avoid the use of multi-way stop signs in new developments to the maximum extent practicable.

7.02 TRAFFIC SIGNS

- A. Traffic and street signage locations shall be shown on the paving plan in the construction drawings. Traffic signs shall conform to the requirements of the Texas Manual of Uniform Traffic Control Devices as adopted by the City. Prior to final approval of a construction project, all signage shall be installed in accordance with the approved construction drawings.
- B. Standard signage shall be flat blank aluminum, covered with high-intensity prismatic sheeting or higher-grade sheeting. Traffic control signage shall meet the requirements of the Texas Manual for Uniform Traffic Control Devices. Refer to the City Standard Construction Details.
- C. All traffic signs shall be installed on approved steel posts with a Texas Universal Triangular Slipbase System per TxDOT SHT. SMD (Slip-1) - 02 or a Universal Anchor System.
- D. Posts shall be installed to a depth of approximately 33" below grade in a 12" diameter x 30" deep concrete foundation.
- E. Traffic Signs shall be installed so that the lowest part of the lowest sign is 7' above grade.
- F. Traffic signs shall be installed a minimum of 2' from the back of the nearest curb.



7.03 Street Name Signs

- A. Each intersection on an arterial street shall have a minimum of four street name signs (two for each intersecting street) installed on the same post and above the proposed traffic control signs for that intersection.
- B. Each intersection on local or collector streets shall have a minimum of two street name signs (one for each intersecting street) installed on the same post and above the proposed traffic control signs for that intersection on opposite corners of the intersection.
- C. Street name signs shall have a green (color) hi intensity grade reflective background and shall have 4.5" white lettering and upper-case characters.
- D. The block numbers and suffixes are to be 2.5" white lettering.
- E. Street signs shall be 6" in height and 30" long.

7.04 Striping and Pavement Markings

- A. Developer shall apply striping to arterial and collector street segments only.
- B. Developer to apply appropriate pavement markings to all classes of streets.
- C. Striping and pavement markings shall meet TxDOT standards.
- D. Pavement markings shall be shown on the approved construction drawings for all projects.
- E. Gorilla Hi-Performance Acrylic Zone Marking Paint or approved alternate shall be used on all streets.

7.05 Street Lighting

- A. Developers will be required to install streetlights on galvanized metal poles, according to the following standards on public streets in subdivisions within the city limits and furnish necessary easements or rights-of-way.
- B. Streetlights shall be located and spaced to ensure adequate illumination for both vehicular and pedestrian safety in accordance with City Code – Subdivision Ordinance Section 23-16(21). Streetlights shall be installed at all street intersections and intervals of not more than 300 feet along streets, except that they may be spaced at an average of 600 feet between intersections on low-density residential streets.
- C. The recommended location and minimum number of streetlights shall be approved by the local electrical utility company and be marked on the final approved copy of the subdivision plat.
- D. Streetlights shall be located so as to be of general benefit to the surrounding neighborhood.
- E. Streetlights shall be installed a minimum of 2' from the back of the nearest curb.
- F. Streetlights shall be mast arm mounted, and the mast arm shall be mounted 30' above grade.



- G. Streetlights shall incorporate an 8' mast arm constructed of hot-dipped galvanized metal.
- H. Luminaire shall be an arm mounted, cobra head type, 120/277-volt, 110-watt, static LED luminaire with photo control receptacle on top.
- I. The developer of the subdivision shall be responsible for the total expense of furnishing and installing the streetlight luminaire, complete with photoelectric controls, standard, with an underground electric supply circuit of proper size; and the developer shall be responsible for all trenching and backfill for installing the underground circuit.
- J. The specification of all equipment and materials to be used shall have prior approval of the City before installation.

7.06 CONSTRUCTION DRAWING REQUIREMENTS

- A. This section defines the minimum elements that are required on the construction sheets.
 - 1. Title Sheet
 - a. Include intersection(s) and street name(s), Engineer, and City Logo.
 - b. Date when plans are completed.
 - c. Vicinity map and key map location.
 - d. Project title including project scope and proper road names.
 - e. Funding for construction.
 - f. Site map with north arrow.
 - g. Signature block, including a block for private utility signoffs.
 - 2. Index Sheet.
 - 3. The City Construction Notes.
 - 4. TxDOT specification note and barricade note, when applicable.
 - 5. Private Utility Notes (utility notes for all known utilities).
 - 6. Project-specific traffic signal notes.
 - 7. Basis of Estimate or Summary of Traffic Signal Quantities Sheet
 - a. This sheet includes all wires or cables, conduits, ground boxes, and span wires providing quantities.
 - b. Detailed estimated quantities per location or per specific system.



- c. Provide all detailed items with TxDOT reference item and numbers.
- d. Bid items will be discussed under bid documents.
- e. Identify materials to be furnished by City or others (when applicable).
- f. Quantities are for estimate purposes only.

8. Existing Conditions Layout

- a. Show all existing signing, (including speed limits, all approaches), joints in pavement, type of pavement, condition of pavement (for loops if applicable), and overhead power lines.
- b. Show scale.
- c. Existing pavement markings and signing.
- d. Existing geometries.
- e. Existing utility locations.
- f. Any existing signal equipment.
- g. North arrow up or to the right.
- h. Right-of-way and easements.

9. Paving Plan (when applicable)

- a. Provide a proposed design showing required wheelchair ramps and landings to access pedestrian push buttons. These paving improvements must comply with the current TAS of the Architectural Barriers Act.
- b. Provide applicable construction notes or paving details.
- c. Provide various notes to contractor.
- d. Provide ramp and landing dimensions as required.

10. Pavement Marking and Signing Layout

- a. This base shall show all proposed paving improvements as existing and include all existing signing and striping.
- b. Provide proposed design of all applicable pavement markings.
- c. "Signal Ahead" signs are typically provided on approaches in accordance with MUTCD requirements.



d. Show on drawings:

- (1) Right-of-way and easements.
- (2) Roadway geometries.
- (3) Utilities.
- (4) Existing Pavement Markings and Sign details (complete).
- (5) Proposed Pavement Markings and Sign details (complete, including removal of existing pavement markings and signing as needed).
- (6) Construction signing.
- (7) Stop bars.
- (8) Crosswalks, if required.
- (9) Wheelchair ramps, if required.
- (10) North arrow up or to the right.
- (11) Legend.
- (12) Scale.
- (13) Special notes.

11. Pedestrian Walkway Details

- a. Current pedestrian walkway details with the following plan layout details.
- b. Existing intersection condition.
- c. Proposed pole locations and identified.
- d. Proposed pedestrian walkway design layout.

12. Notes for Plan Layout

- a. Callouts for all signals and sign types.
- b. Callouts for all signs and all sign types.
- c. Notes to reference specific sheet(s).
- d. Any note pertaining to signal design shall be included.



- e. Special VIVDS specification if required.
- f. Special equipment descriptions.
- g. Maintenance of existing traffic signals and operation parameters.

13. Standard Detail Sheets

- a. Any details pertaining to the proposed signal design shall be included.
- b. The details shall be the latest available from the City and TxDOT.
- c. Any necessary quantities, such as pole and foundation details, shall be filled out.
- d. All detail sheets to be sealed.

END OF CHAPTER



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PUBLIC INFRASTRUCTURE DESIGN MANUAL

APPENDIX A - APPROVED PRODUCTS LIST



City of Brenham Approved Products List

Component	Type	Preferred Manufacturer
PVC Fittings	Gasketed SDR 26 Heavy Wall Fitting	Plastic Trends OR Equivalent
Cleanout Adapter	SDR 35	Plastic Trends
Treaded Cleanout Plug	SDR 35	Plastic Trends
Sanitary Sewer Cleanout Boot		Sigma
Gravity Pipe	SDR 26	JM Eagle
Force Main Pipe	C-900 Green	
Meter Box	Christy #B09	Old Castle
Meter Box Lid for Sewer	Christy #BX09D Marked Sewer	Old Castle
Tracer Wire	#12 Solid, Insulated Tracer Wire OR #14 Solid, Copper Clad Insulated Tracer Wire	
Retainer	CamLock Style 120	Smith-Blair
Gate Valve	Ductile Iron	American Flow Control
Ductile Iron Fittings		Sigma OR Equivalent
32" Cast Iron Manhole Ring		East Jordan Iron Works
32" Manhole Sewer Lid	City of Brenham Logo	East Jordan Iron Works
Concrete Risers		MDN
Fiberglass Manhole Patch		Containment Solutions
Valve Box	19-22" 461-S	Tyler Union
Valve Box Top	19-22" 461-S	Tyler Union
Valve Box Lid	CI 5 1/4" Drop Marked Water	Tyler Union
Valve Box	22-37" 562-S	Tyler Union OR Sigma
Valve Box Top	22-37" 562-S	Tyler Union OR Sigma

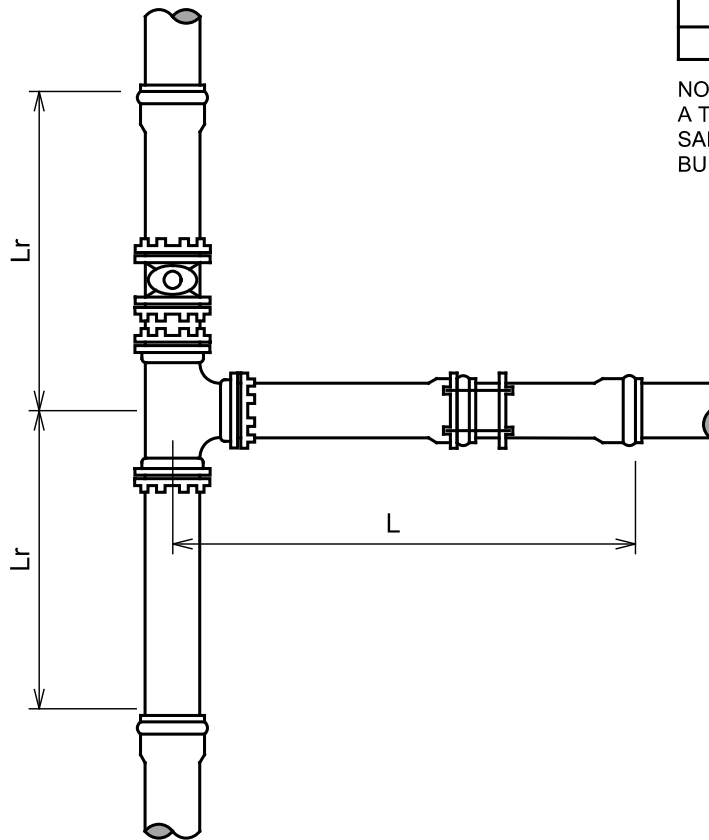


GENERAL NOTES

1. THE VALUES IN THE TABLE WERE ESTABLISHED FOR DISTANCE 'Lr' EQUAL TO 'L'. OTHER VALUES OF 'L' MAY BE CALCULATED FOR VARYING DISTANCES OF 'Lr'.
2. ALL JOINTS WITHIN DISTANCE 'L' OF A TEE SHALL BE RESTRAINED USING AN APPROVED MECHANICAL RESTRAINT SYSTEM.
3. NO JOINTS, OTHER THAN RESTRAINED VALVES LOCATED ADJACENT TO THE TEE, ARE ALLOWED WITHIN DISTANCE 'Lr' OF A TEE.

TEES		
MAIN SIZE	BRANCH SIZE	'L' AND 'Lr'
6"	4"	4'
6"	6"	7'
8"	4"	3'
8"	6"	6'
8"	8"	10'
10"	6"	5'
10"	8"	8'
10"	10"	11'
12"	6"	4'
12"	8"	7'
12"	10"	10'
12"	12"	13'
16"	6"	3'
16"	8"	5'
16"	10"	8'
16"	12"	10'
16"	16"	17'

NOTE: CALCULATIONS BASED ON A TEST PRESSURE OF 150 PSI, A SAFETY FACTOR OF 1.5 AND A BURY DEPTH OF 3.5'



THRUST RESTRAINT
(TEES)

STANDARD CONSTRUCTION DETAILS

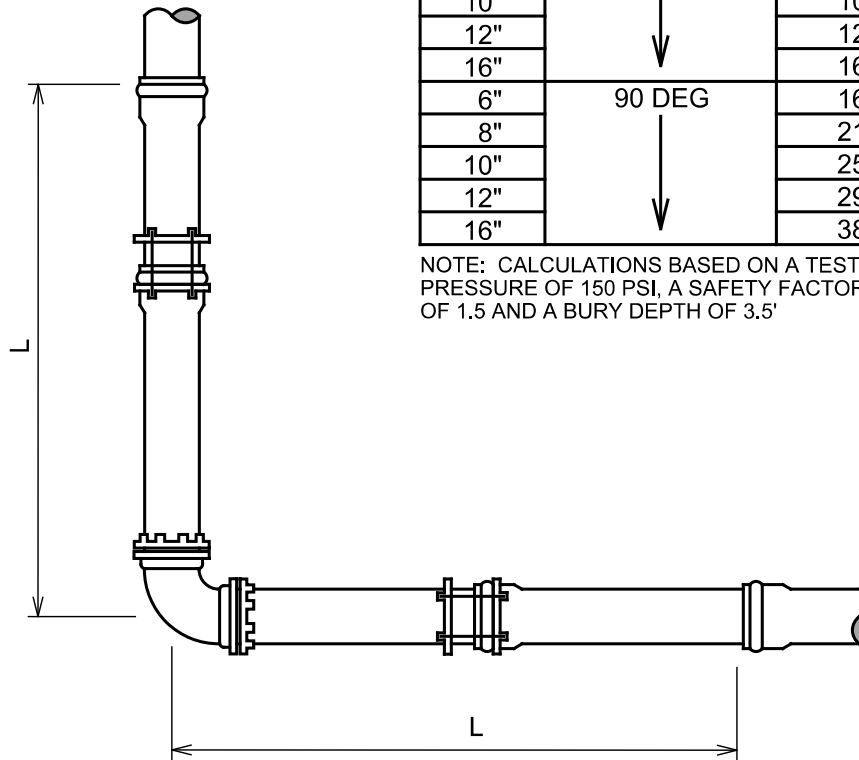
DATE: 07/12/21

REVISED
DATE: 07/12/21

WTR - 1

GENERAL NOTES

1. ALL JOINTS WITHIN DISTANCE 'L' OF A HORIZONTAL BEND SHALL BE RESTRAINED USING AN APPROVED MECHANICAL RESTRAINT SYSTEM.



HORIZONTAL BENDS			
PIPE SIZE	BEND	'L' PVC PIPE	'L' D.I. PIPE W/ POLY
6"	11-1/4 DEG ↓	2'	2'
8"		2'	2'
10"		3'	3'
12"		3'	3'
16"		4'	4'
6"	22-1/2 DEG ↓	3'	3'
8"		4'	5'
10"		5'	6'
12"		6'	7'
16"		8'	9'
6"	45 DEG ↓	6'	7'
8"		9'	10'
10"		10'	12'
12"		12'	14'
16"		16'	18'
6"	90 DEG ↓	16'	18'
8"		21'	23'
10"		25'	28'
12"		29'	33'
16"		38'	43'

NOTE: CALCULATIONS BASED ON A TEST PRESSURE OF 150 PSI, A SAFETY FACTOR OF 1.5 AND A BURY DEPTH OF 3.5'



THRUST RESTRAINT
(HORIZONTAL BENDS)

STANDARD CONSTRUCTION DETAILS

DATE: 07/12/21

REVISED
DATE: 07/12/21

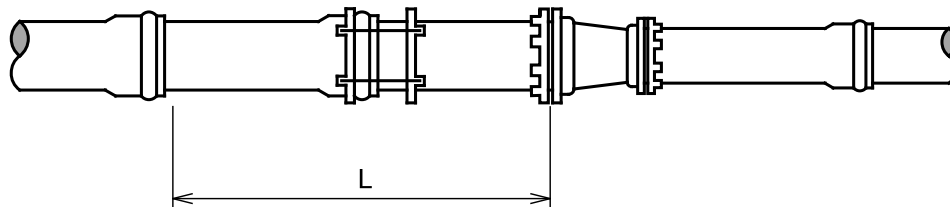
WTR - 2

GENERAL NOTES

1. ALL JOINTS WITHIN DISTANCE 'L' ON THE LARGE PIPE SIDE OF A REDUCER SHALL BE RESTRAINED USING AN APPROVED MECHANICAL RESTRAINT SYSTEM.

REDUCERS			
LARGE PIPE SIZE	SMALL PIPE SIZE	'L' PVC PIPE	'L' D.I. PIPE W/ POLY
6"	4"	26'	40'
8"	6"	27'	42'
10"	8"	26'	41'
12"	10"	46'	70'
16"	12"	51'	78'

NOTE: CALCULATIONS BASED ON A TEST PRESSURE OF 150 PSI, A SAFETY FACTOR OF 1.5 AND A BURY DEPTH OF 3.5'



THRUST RESTRAINT
(REDUCERS)

STANDARD CONSTRUCTION DETAILS

DATE: 07/12/21

REVISED
DATE: 07/12/21

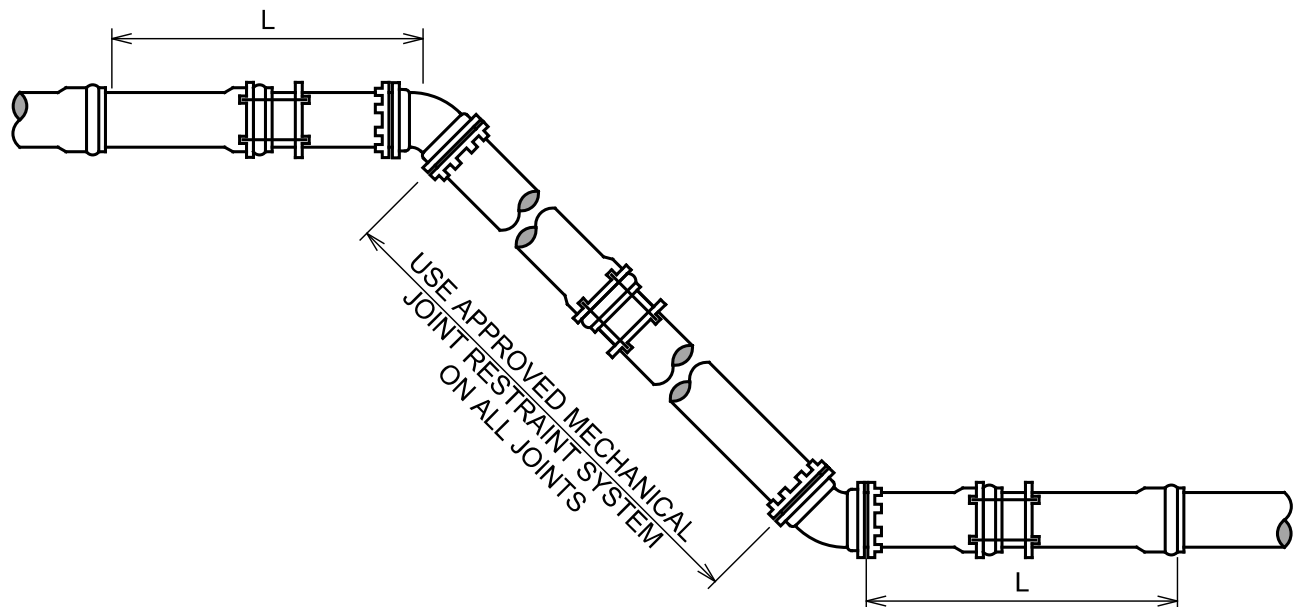
WTR - 3

GENERAL NOTES

1. ALL JOINTS WITHIN DISTANCE 'L' OF A VERTICAL BEND SHALL BE RESTRAINED USING AN APPROVED MECHANICAL RESTRAINT SYSTEM.

VERTICAL BENDS			
PIPE SIZE	BEND	'L' PVC PIPE	'L' D.I. PIPE W/ POLY
6"	45 DEG ↓	6'	7'
8"		9'	10'
10"		10'	12'
12"		12'	14'
16"		16'	18'
6"	90 DEG ↓	16'	18'
8"		21'	23'
10"		25'	28'
12"		29'	33'
16"		38'	43'

NOTE: CALCULATIONS BASED ON A TEST PRESSURE OF 150 PSI, A SAFETY FACTOR OF 1.5 AND A BURY DEPTH OF 3.5'



THRUST RESTRAINT
(VERTICAL OFFSETS)

STANDARD CONSTRUCTION DETAILS

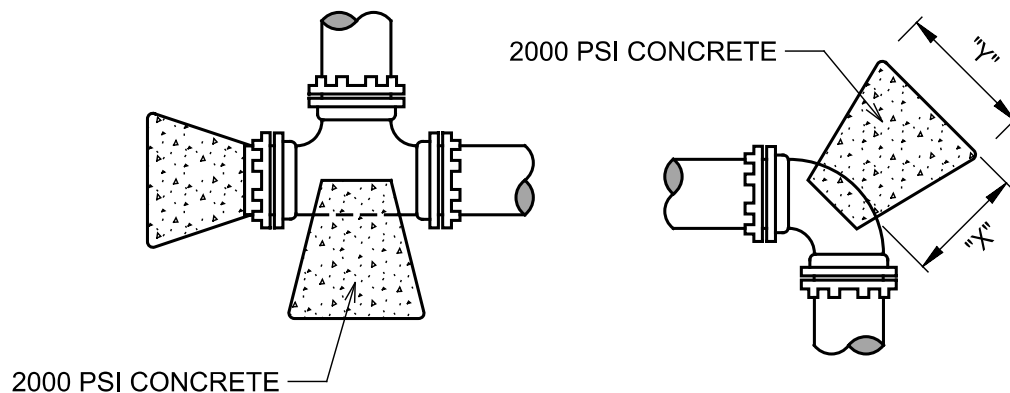
DATE: 07/12/21

REVISED
DATE: 07/12/21

WTR - 4

GENERAL NOTES

1. FITTINGS SHALL BE DUCTILE-IRON COMPACT FITTINGS 4-INCH TO 12-INCH, AWWA C153/A21. 53.84, CONFORMING TO THE MINIMUM REQUIREMENTS OF "GRAY-IRON AND DUCTILE IRON FITTINGS, 12-INCH THROUGH 48-INCH, FOR WATER AND OTHER LIQUIDS", AWWA C153 (ANSI 21.10), CURRENT REVISION. FITTINGS SHALL BE FURNISHED WITH EPOXY OR CEMENT MORTAR LINED, AWWA C104 (ANSI A21.4).
2. POLYETHYLENE ENCASEMENT SHALL CONFORM WITH THE MINIMUM REQUIREMENTS OF "POLYETHYLENE ENCASEMENT FOR GRAY AND DUCTILE CAST-IRON PIPING FOR WATER AND OTHER LIQUIDS, "ANSI/AWWA C105, CURRENT REVISION. SOILS WITHIN THE PROJECT SHALL BE TESTED IN ACCORDANCE WITH APPENDIX A OF ANSI/AWWA C105 TO ADEQUATELY DETERMINE THE REQUIREMENTS FOR ENCASEMENT.
2. IN ADDITION TO JOINT RESTRAINTS, CONCRETE THRUST BLOCK MAY ALSO BE UTILIZED TO PROPERLY RESTRAIN JOINTS.



PIPE DIAMETER	DIMENSION "Y"				DIMENSION "X"
	PLUGS & TEES	90° BENDS	45° BENDS	22 1/2° BENDS	
4" and 6"	1' - 0"	1' - 2"	----	----	TO BE A MINIMUM OF 1' - 0" OR AS REQ'D.
8"	1' - 3"	1' - 6"	1' - 3"	1' - 0"	
10"	1' - 9"	2' - 0"	1' - 6"	1' - 0"	
12"	2' - 0"	2' - 3"	1' - 9"	1' - 3"	
16"	2' - 7"	3' - 0"	2' - 3"	1' - 8"	
20"	3' - 3"	3' - 3"	2' - 9"	2' - 0"	



CONCRETE THRUST
BLOCK DETAIL

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

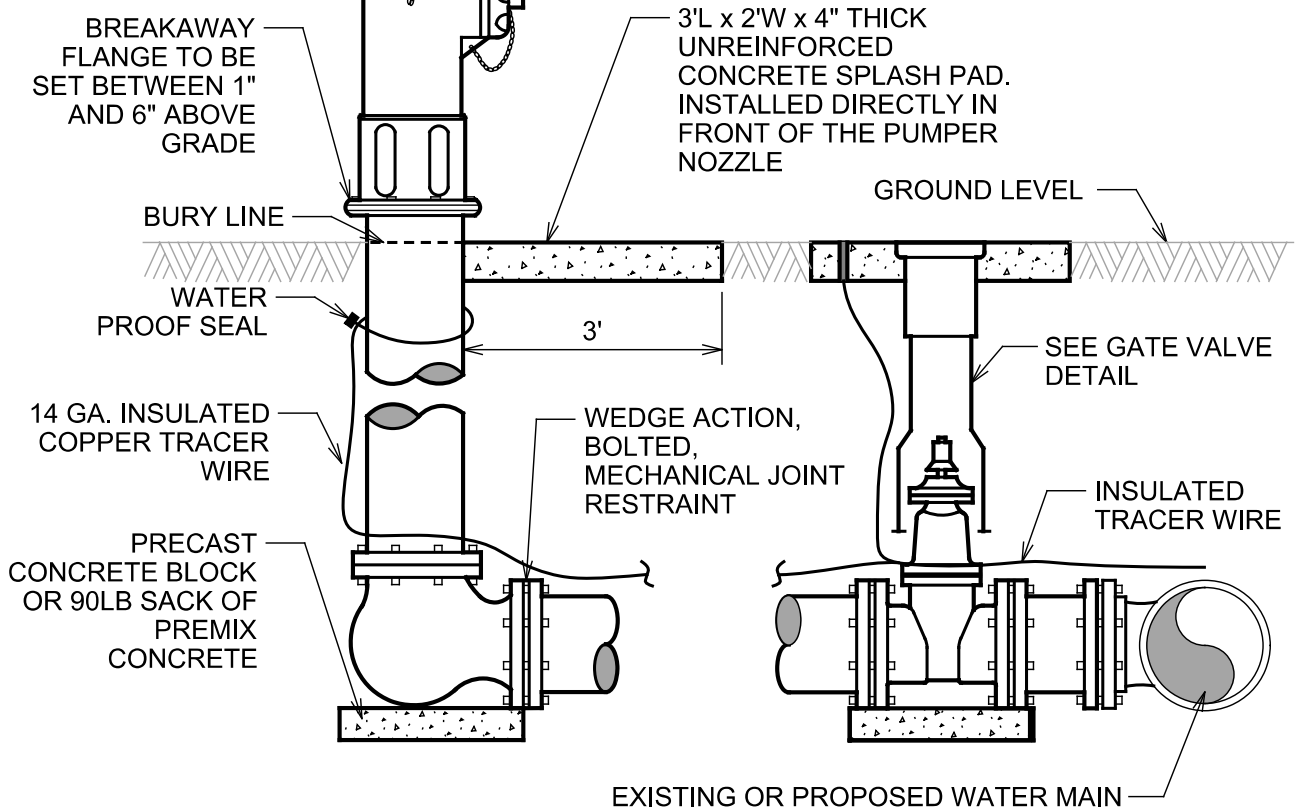
REVISED
DATE: 07/20/21

WTR - 5

GENERAL NOTES

1. FIRE HYDRANT SHALL BE MANUFACTURED BY MUELLER, OR AMERICAN DARLING.
2. FIRE HYDRANTS SHALL HAVE A THREE-WAY NOZZLE ARRANGEMENT, A 5-1/4 INCH COMPRESSION TYPE MAIN VALVE, A MECHANICAL JOINT (MJ) BOOT, AND CONFORM TO THE REQUIREMENTS OF AMERICAN WATER WORKS ASSOCIATION (AWWA) C502.
3. FIRE HYDRANT COLOR SHALL BE RED WITH YELLOW PUMPER CAPS AND SILVER STEAMER CAPS.
4. THE BONNET OF THE FIRE HYDRANT SHALL BE FACTORY PAINTED WHITE.
5. INSTALL WEDGE ACTION, BOLTED MECHANICAL JOINT RESTRAINT ON ALL PIPE JOINTS BETWEEN MAIN & HYDRANT.
6. CONTRACTOR SHALL INSTALL A BLUE REFLECTIVE PAVEMENT MARKER AT THE CENTERLINE OF EACH STREET IN LINE WITH THE HYDRANT.
7. HYDRANT WEEP HOLES SHALL BE WRAPPED WITH CONSTRUCTION GRADE PLASTIC.

FIRE HYDRANT AWWA C 502 WITH 5 1/4 " MAIN VALVE OPENING
(2) - 2 1/2 " HOSE NOZZLES NATIONAL STANDARD NUT



FIRE HYDRANT

STANDARD CONSTRUCTION DETAILS

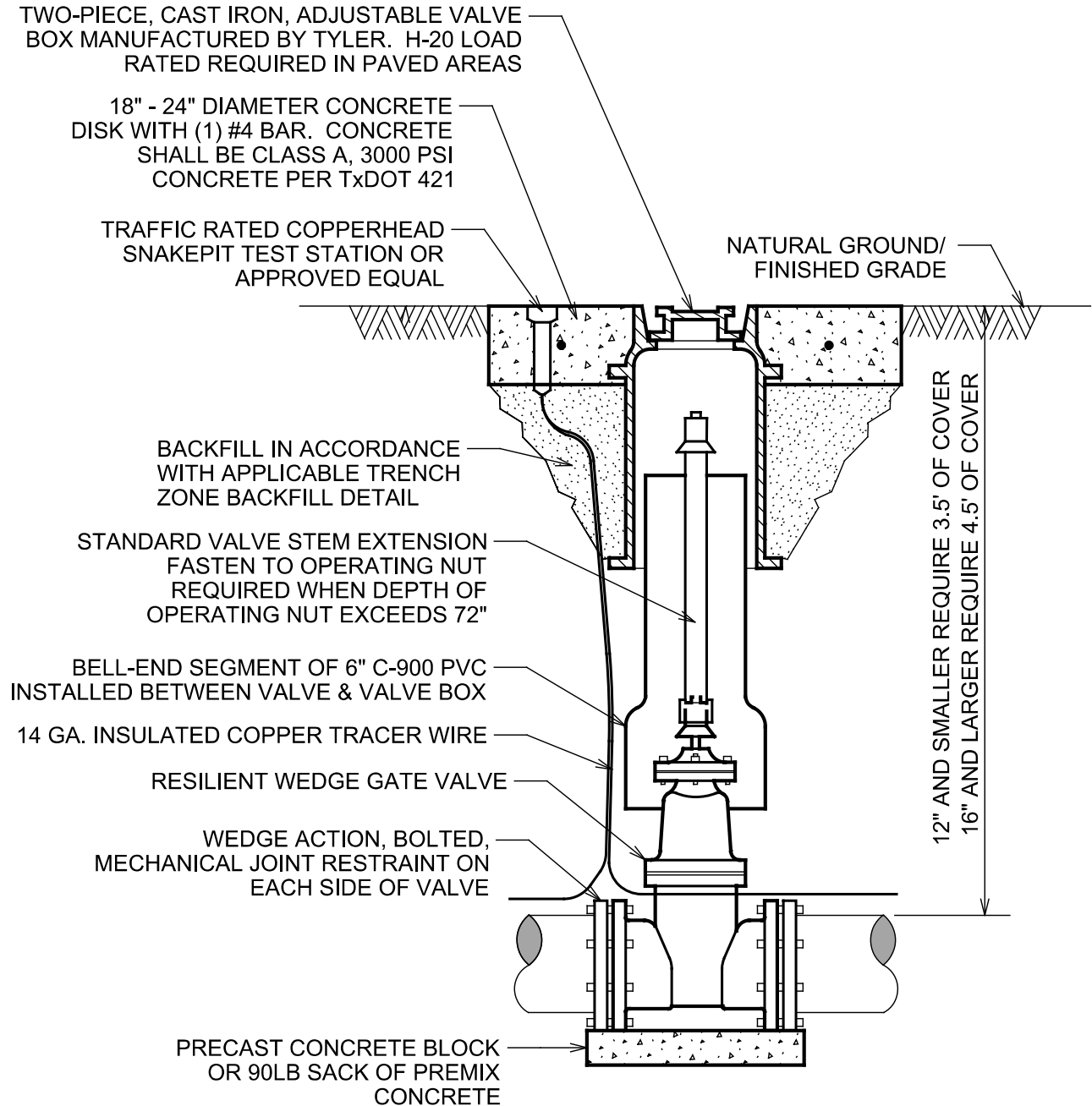
DATE: 07/20/21

REVISED
DATE: 07/20/21

WTR - 6

GENERAL NOTES

1. ALL MAIN LINE VALVE 18" IN DIAMETER & SMALLER SHALL BE RESILIENT WEDGE GATE VALVES.
2. MAIN LINE VALVE WITH DIAMETERS GREATER THAN 18" MAY BE EITHER RESILIENT WEDGE GATE VALVES OR BUTTERFLY VALVES.
3. RESILIENT WEDGE GATE VALVES SHALL BE AMERICAN FLOW CONTROL.
4. TRACER WIRE SHALL BE CONNECTED TO ALL WATER METER ANGLE STOPS, FIRE HYDRANTS, AND VALVE BOX RISERS.



GATE VALVE

STANDARD CONSTRUCTION DETAILS

DATE: 07/12/21

REVISED
DATE: 07/12/21

WTR - 7

GENERAL NOTES

1. MAIN LINE VALVES WITH DIAMETERS GREATER THAN 18" MAY BE EITHER RESILIENT WEDGE GATE VALVES OR BUTTERFLY VALVES.
2. BUTTERFLY VALVES SHALL BE PRATT OR APPROVED EQUAL.
3. TRACER WIRE SHALL BE CONNECTED TO ALL WATER METER ANGLE STOPS, FIRE HYDRANTS, AND VALVE BOX RISERS.

TWO-PIECE, CAST IRON, ADJUSTABLE VALVE BOX MANUFACTURED TYLER. H-20 LOAD RATED REQUIRED IN PAVED AREAS

18" - 24" DIAMETER CONCRETE DISK WITH (1) #4 BAR. CONCRETE SHALL BE CLASS A, 3000 PSI CONCRETE PER TxDOT 421

TRAFFIC RATED COPPERHEAD SNAKEPIT TEST STATION OR APPROVED EQUAL

NATURAL GROUND/
FINISHED GRADE

BACKFILL IN ACCORDANCE WITH APPLICABLE TRENCH ZONE BACKFILL DETAIL

STANDARD VALVE STEM EXTENSION FASTEN TO OPERATING NUT REQUIRED WHEN DEPTH OF OPERATING NUT EXCEEDS 72"

14 GA. INSULATED COPPER TRACER WIRE

BELL-END SEGMENT OF 6" C-900 PVC INSTALLED BETWEEN VALVE & VALVE BOX

PRECAST CONCRETE BLOCK OR 90LB SACK OF PREMIX CONCRETE

54" COVER (MIN)



BUTTERFLY VALVE

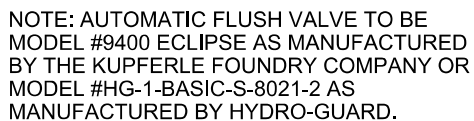
STANDARD CONSTRUCTION DETAILS

DATE: 07/12/21

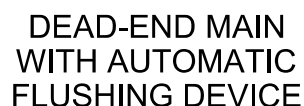
REVISED
DATE: 07/12/21

WTR - 8

1. PERMANENT DEAD-END MAIN WILL NOT BE ALLOWED IF LOOPING ALTERNATIVES ARE AVAILABLE. THIS MAY REQUIRE EXTENDING THE WATER MAINS BEYOND THE LIMITS OF THE PROJECT.
2. IN UNAVOIDABLE PERMANENT DEAD-MAIN SITUATIONS, LINES SHALL BE 6" OR LARGER AND NOT EXCEED 600 FEET IN LENGTH AND SHALL BE EQUIPPED WITH A 2" AUTOMATIC FLUSHING DEVICE.
3. THE LENGTH OF A DEAD-MAIN WATER MAIN SHALL BE MEASURED FROM THE INTERSECTION WITH A MULTIPLE FEED (LOOPED) MAIN TO THE END OF THE MAIN.
4. WHERE A WATER MAIN IS STUBBED OUT FOR FUTURE EXTENSION, PLACE A VALVE TO ISOLATE THE DEAD-MAIN AND EXTEND A 20' SECTION OF PIPE WITH A CAP ON THE END ON THE DOWNSTREAM SIDE OF THE ISOLATION VALVE. RESTRAIN THE WATER MAIN TO PREVENT LINE SEPARATION. THRUST BLOCKING WILL NO BE ALLOWED. NO CUSTOMER SERVICES SHALL BE LOCATED ON THE DEAD-END UNTIL IT IS EXTENDED. PROVIDE A 2" AUTOMATIC FLUSHING DEVICE AT THE END OF THE DEAD-END LINE IN ADVANCE OF THE ISOLATED VALVE.



NOTE: VALVE PRICE INCLUDES VALVE, VALVE BOX, CONCRETE COLLAR.

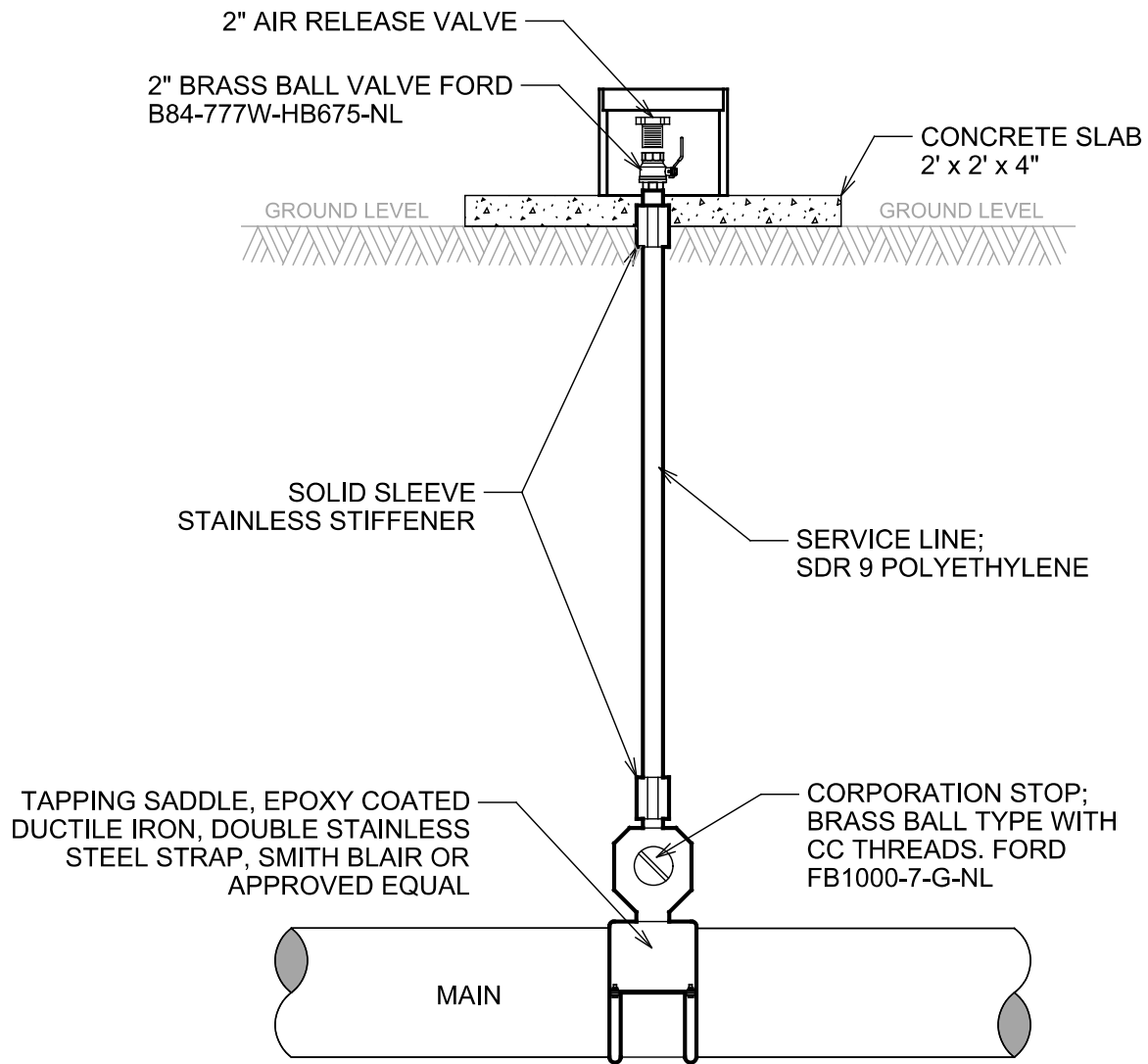


REVISED
DATE: 07/20/21

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GENERAL NOTES

1. A.R.I D040 AIR RELEASE WITH AN ENCLOSURE MADE BY PIPELINE PRODUCTS VCAS-1424-14"x24" POLYETHYLENE ENCLOSURE.
2. TAP TO COME OFF OF TOP OF MAIN TO ALLOW AIR TO ESCAPE.



2" AIR RELEASE VALVE DETAIL

STANDARD CONSTRUCTION DETAILS

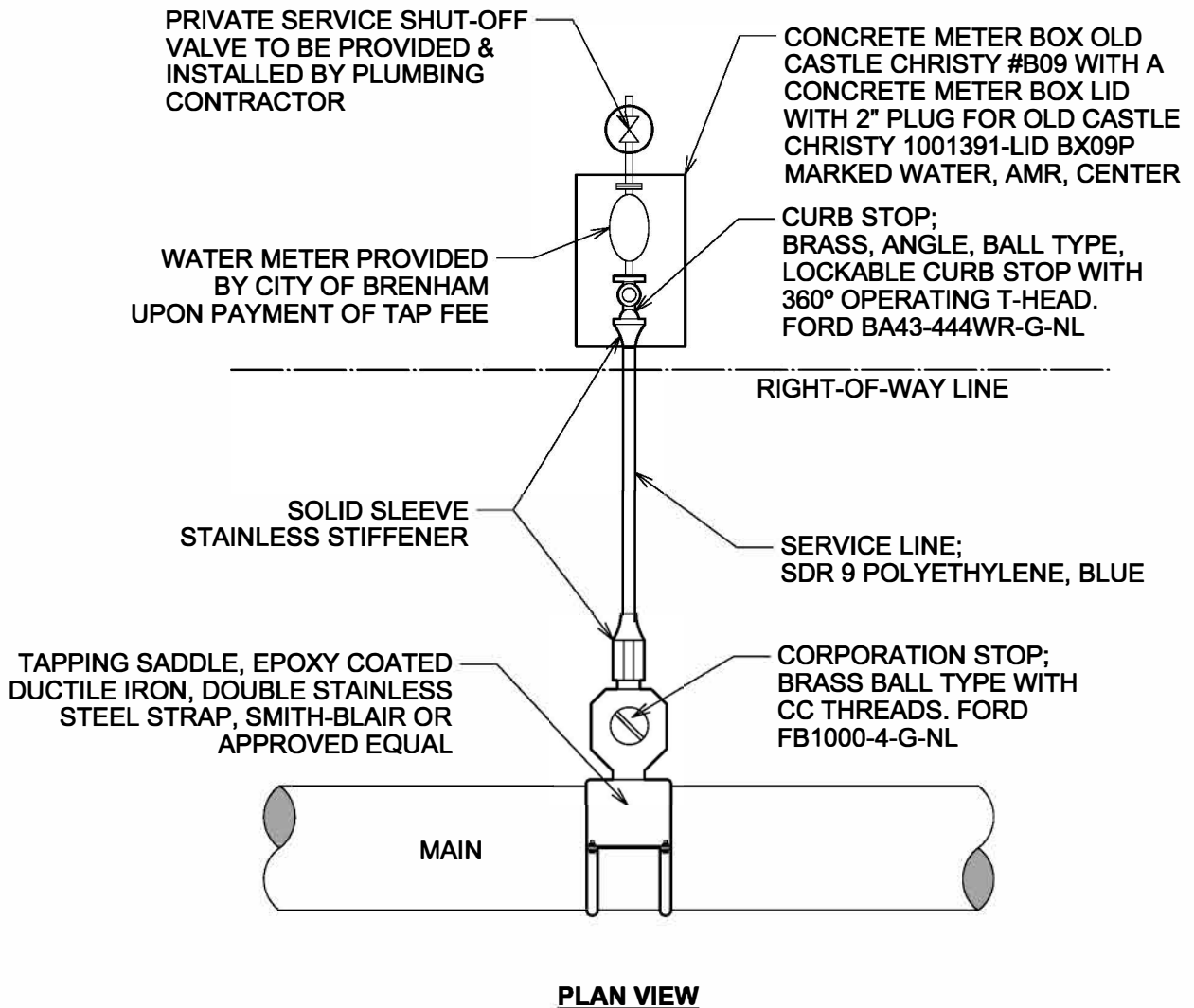
DATE: 07/20/21

REVISED
DATE: 07/20/21

WTR - 10

GENERAL NOTES

1. WATER SERVICES 2" AND SMALLER MUST BE SINGLE LOT CONNECTIONS.
2. MINIMUM SIZE SERVICE FOR SINGLE LOT CONNECTION SHALL BE 1".
3. WATER SERVICE SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY AS CLOSE TO THE LOT LINE AS POSSIBLE.
4. CITY OF BRENHAM TO SUPPLY WATER METER UPON PAYMENT OF TAP FEE BY DEVELOPER OR DEVELOPER'S CONTRACTOR.
5. INSTALL TRACER WIRE ALONG SERVICE LINE. CONNECT WITH WATER TIGHT UNDERGROUND CONNECTORS TO THE TRACER WIRE THAT RUNS ALONG THE MAIN WATER LINE. TERMINATE BY LEAVING A 3' SPOOL OF TRACER WIRE INSIDE OF METER BOX.



1" WATER SERVICE DETAIL (SINGLE SERVICE)

STANDARD CONSTRUCTION DETAILS

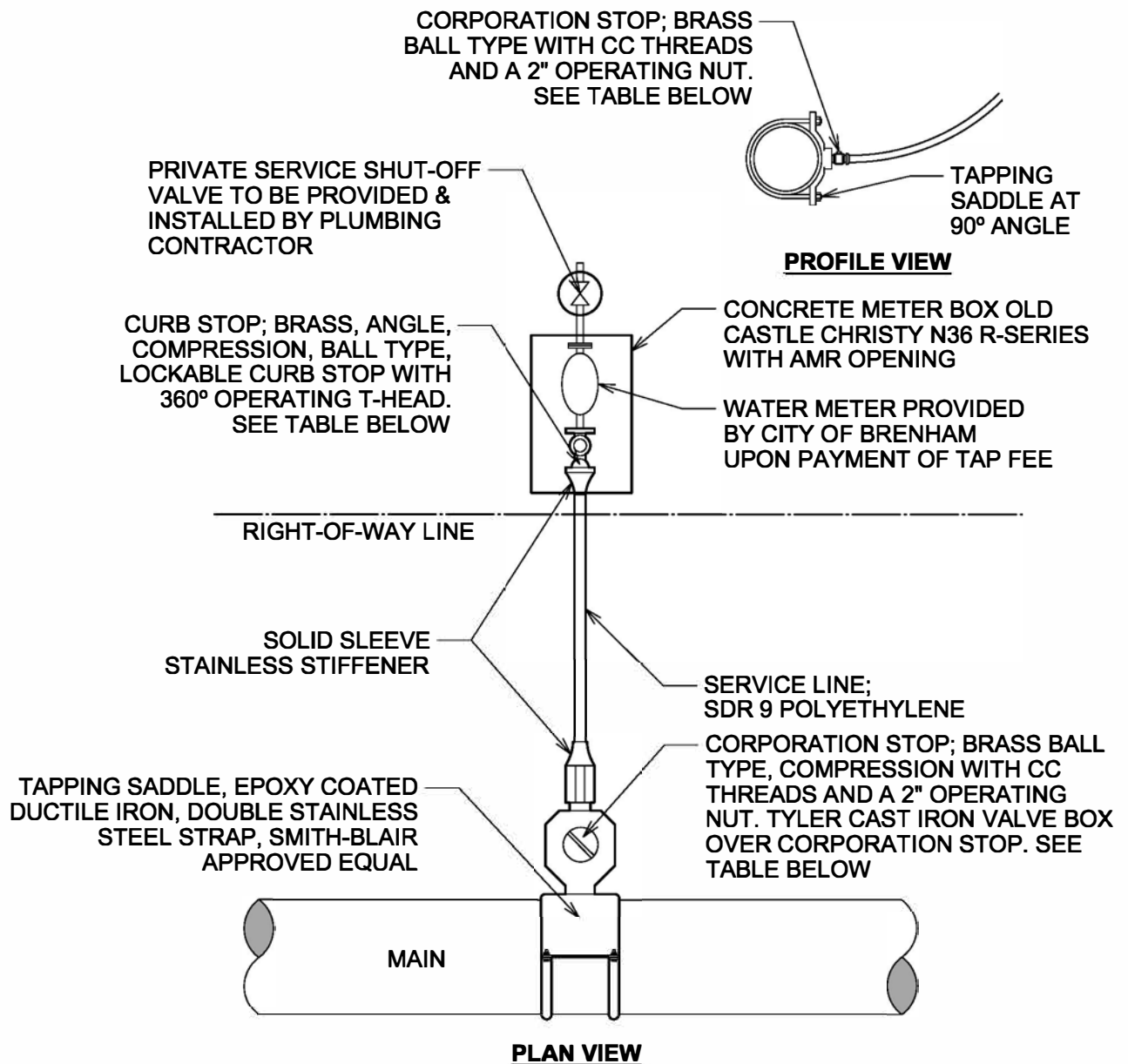
DATE: 07/20/21

REVISED
DATE: 07/20/21

WTR - 11

GENERAL NOTES

1. WATER SERVICES 2" AND SMALLER MUST BE SINGLE LOT CONNECTIONS.
2. WATER SERVICE SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY AS CLOSE TO THE LOT LINE AS POSSIBLE.
3. CITY OF BRENHAM TO SUPPLY WATER METER UPON PAYMENT OF TAP FEE BY DEVELOPER OR DEVELOPER'S CONTRACTOR.



METER SIZE	CORPORATION STOP	CURB STOP
1-1/2"	FORD FB1000-6-TA-QT67-NL	FORD BFA43-666-WR-G-NL
2"	FORD FB1000-7-TA-QT67-NL	FORD BFA43-777-WR-G-NL



1 1/2" AND 2" WATER SERVICE DETAIL (SINGLE SERVICE)

STANDARD CONSTRUCTION DETAILS

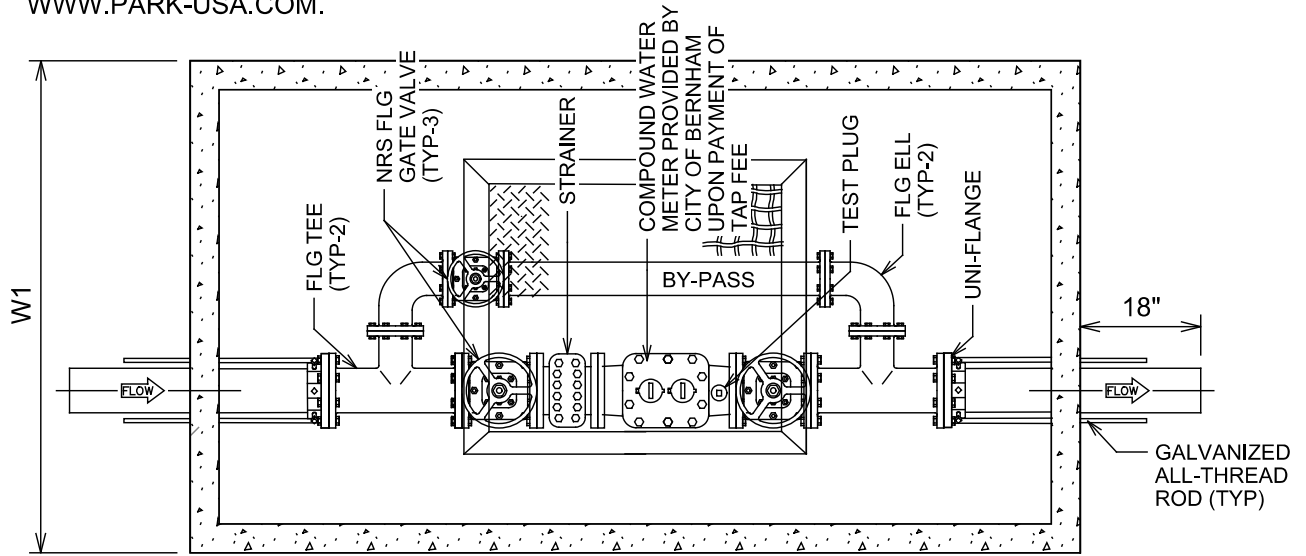
DATE: 07/20/21

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DATE: 07/20/21

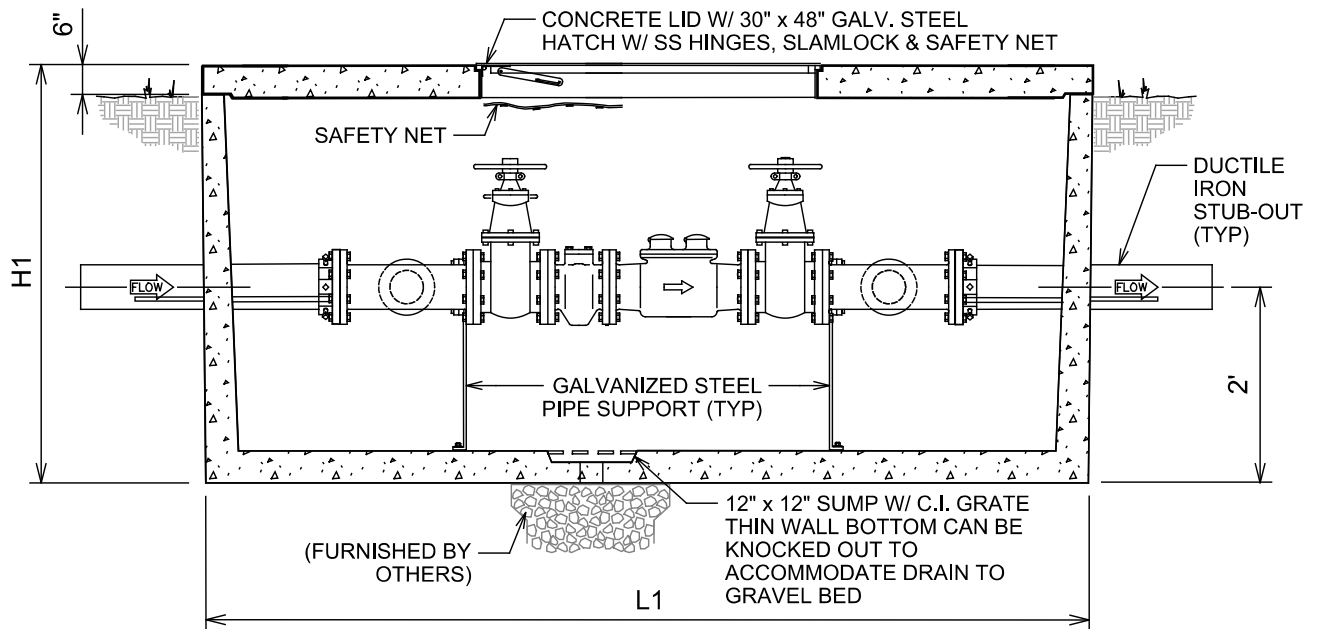
WTR - 12

GENERAL NOTES

- DOMESTIC COMPOUND WATER METER ASSEMBLY SHALL BE PARK USA MODEL DMC-BYPASS OR APPROVED EQUAL. MANUFACTURER CONTACT INFORMATION: ParkUSA, 888-611-7275, WWW.PARK-USA.COM.



PLAN VIEW



ELEVATION VIEW

MODEL No.	METER SIZE	BY-PASS	L1	W1	H1
DMC-04	4"	2"	8' - 8"	5' - 0"	4' - 6"
DMC-06	6"	4"	8' - 8"	5' - 0"	4' - 6"

CITY OF BRENHAM USES C-2 SENSUS WATER METERS



4" AND LARGER METER
SERVICE DETAIL

STANDARD CONSTRUCTION DETAILS

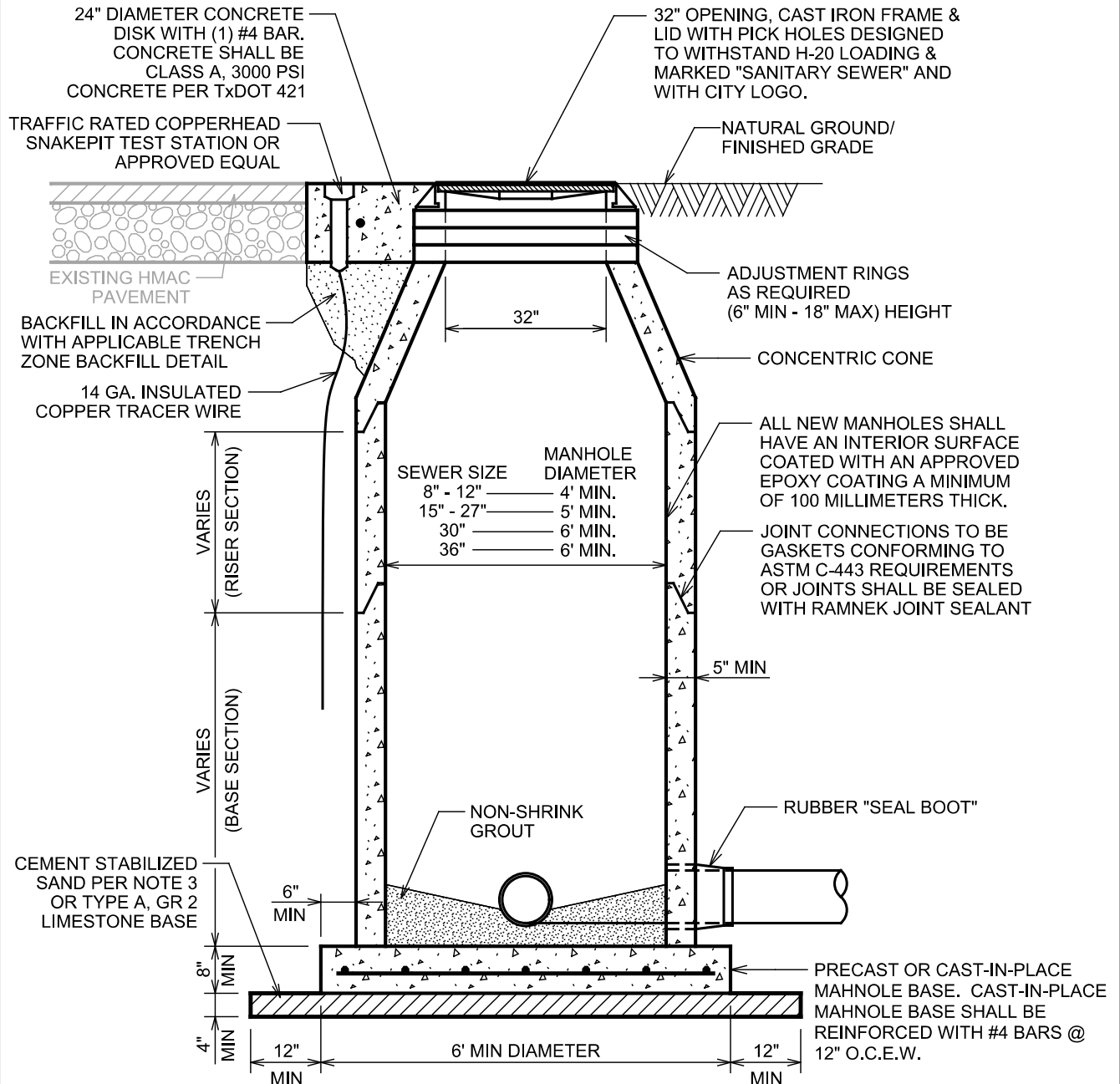
DATE: 07/20/21

REVISED
DATE: 07/20/21

WTR - 13

GENERAL NOTES

1. INSTALLATION OF PRECAST STRUCTURES SHALL BE PER MANUFACTURERS INSTRUCTIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRE-CAST STRUCTURES TO ENGINEER PRIOR TO ORDERING MATERIALS.
2. PRECAST STRUCTURE, RING, AND COVER SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
3. CEMENT STABILIZED SAND SHALL CONTAIN A MINIMUM OF 1.5 SACKS OF CEMENT PER CUBIC YARD. SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487) AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PI <7; LL <25.
4. TRACER STATION TO BE INCLUDED AT ALL MANHOLES AT THE INTERSECTIONS AND AT 500' MAXIMUM SPACING.



SANITARY SEWER MANHOLE (PRE-CAST CONCRETE MANHOLE)

STANDARD CONSTRUCTION DETAILS

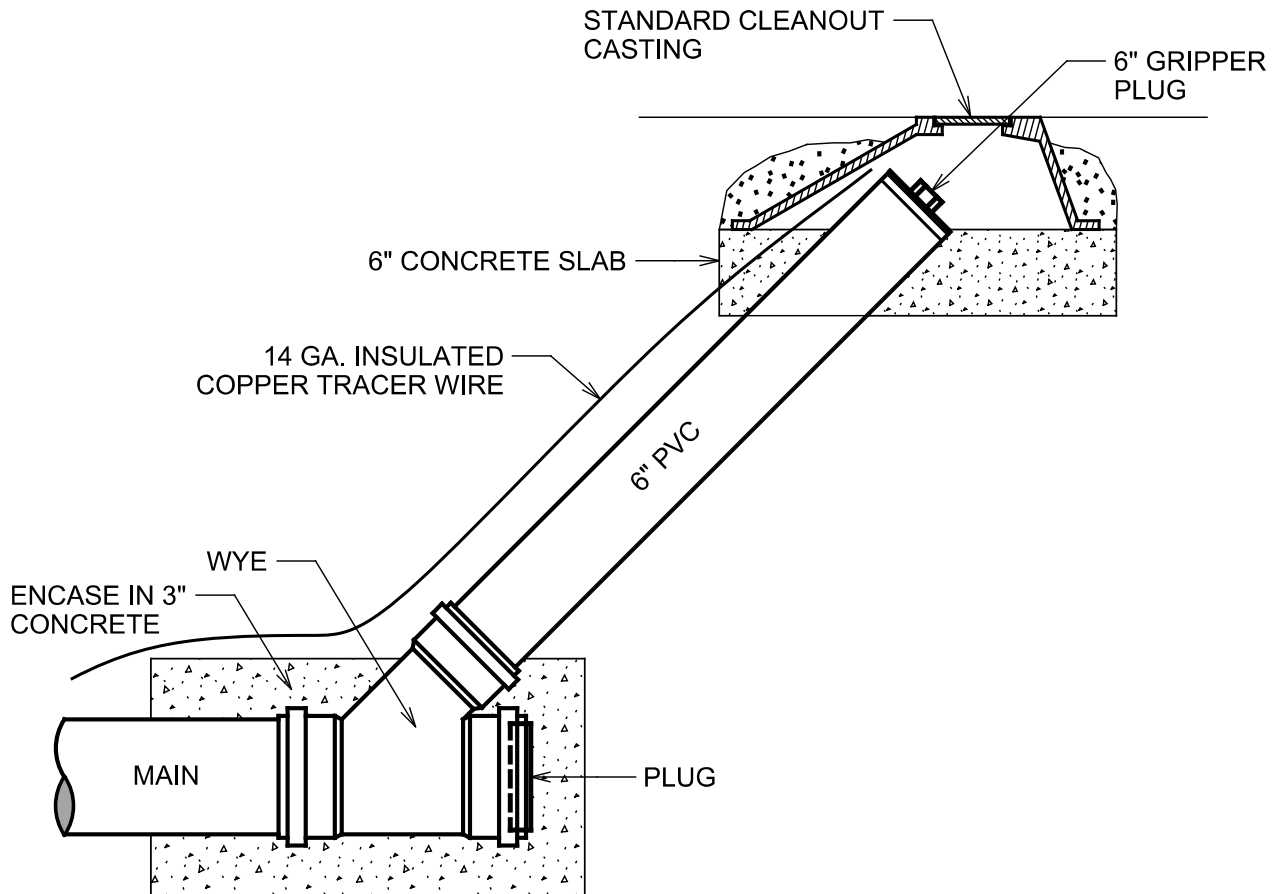
DATE: 07/16/21

REVISED
DATE: 07/16/21

SAN - 1

GENERAL NOTES

1. CLEANOUT BOOTS WILL ONLY BE ALLOWED ON A DEAD END OF A SANITARY SEWER LINE THAT IS LESS THAN 150 FEET LONG WITH SPECIFIC APPROVAL FROM THE CITY.



SANITARY SEWER CLEANOUT

STANDARD CONSTRUCTION DETAILS

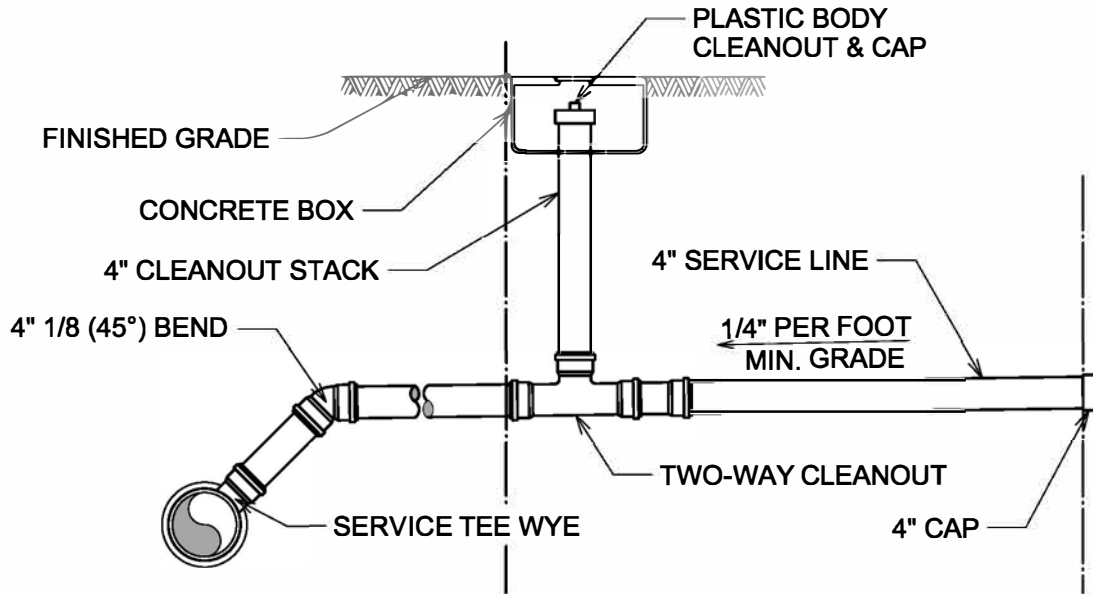
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DATE: 07/16/21

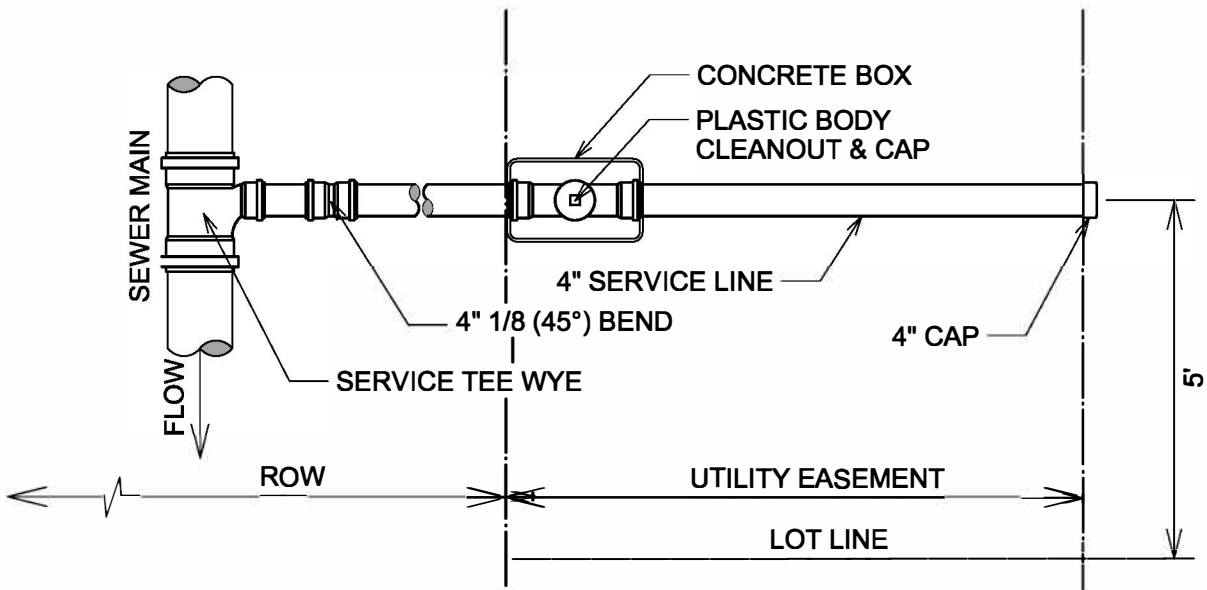
SAN - 2

GENERAL NOTES

1. SANITARY SEWER SERVICE LATERAL AND FITTINGS SHALL BE PVC - SDR 35.
2. SEWER SERVICE LEADS SHALL NOT EXCEED 125' IN LENGTH.
3. SINGLE-FAMILY RESIDENTIAL SERVICES SHOULD BE INSTALLED AT A MANHOLE WHEN POSSIBLE
4. MULTI-FAMILY RESIDENTIAL, COMMERCIAL AND OFFICE DEVELOPMENT SERVICES SHALL BE MADE AT A MANHOLE.
5. "Y" ETCHED MARK ON CURB AT SERVICE LOCATION.



ELEVATION VIEW



PLAN VIEW



**SANITARY SEWER
SERVICE DETAIL
(SINGLE)**

STANDARD CONSTRUCTION DETAILS

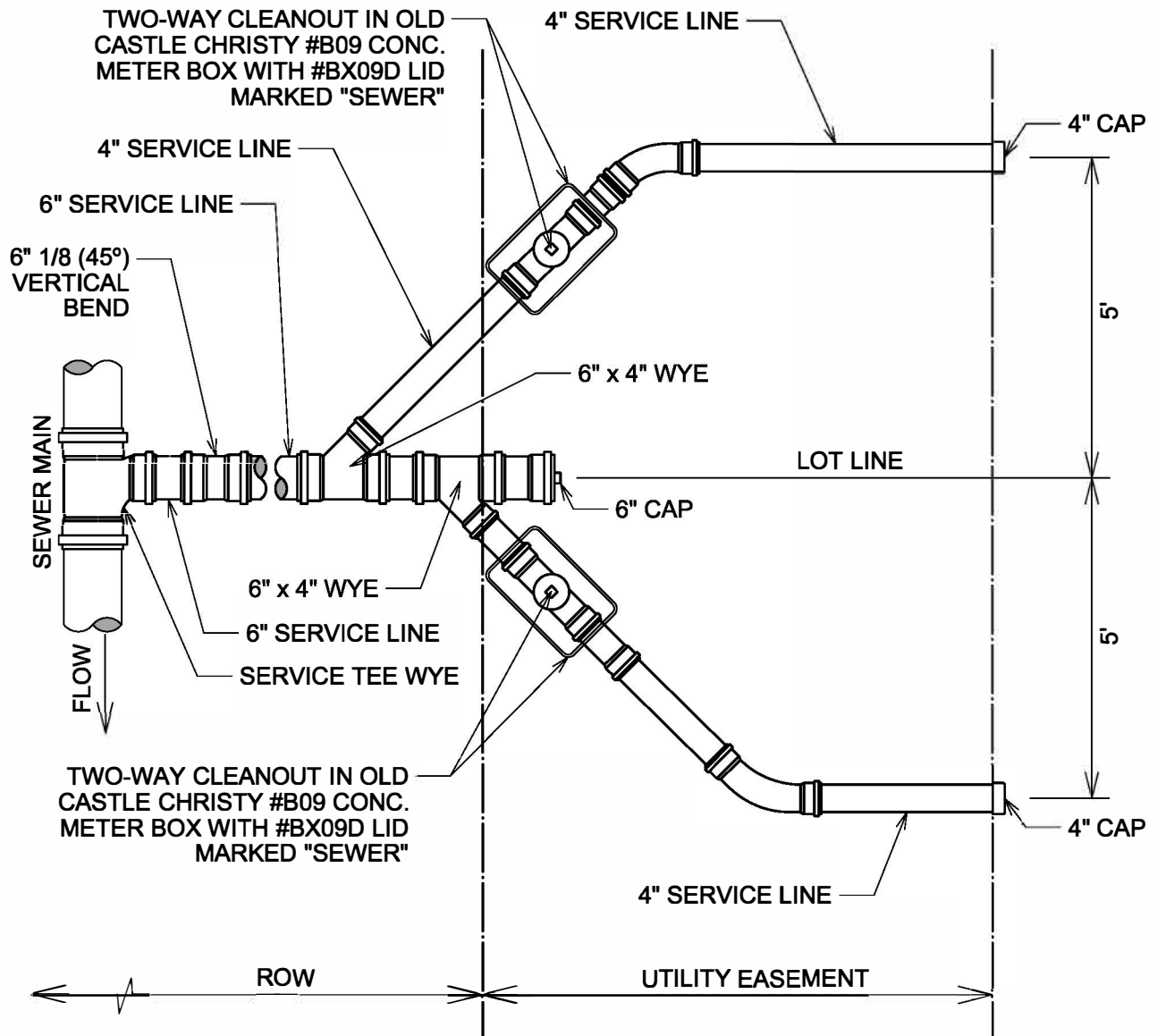
DATE: 07/20/21

REVISED
DATE: 10/05/21

SAN - 3

GENERAL NOTES

1. SANITARY SEWER SERVICE LATERAL AND FITTINGS SHALL BE PVC - SDR 35.
2. SEWER SERVICE LEADS SHALL NOT EXCEED 125' IN LENGTH.
3. SINGLE-FAMILY RESIDENTIAL SERVICES SHOULD BE INSTALLED AT A MANHOLE WHEN POSSIBLE.
4. MULTI-FAMILY RESIDENTIAL, COMMERCIAL AND OFFICE DEVELOPMENT SERVICES SHALL BE MADE AT A MANHOLE.
5. "Y" ETCHED MARK ON CURB AT SERVICE LOCATION.



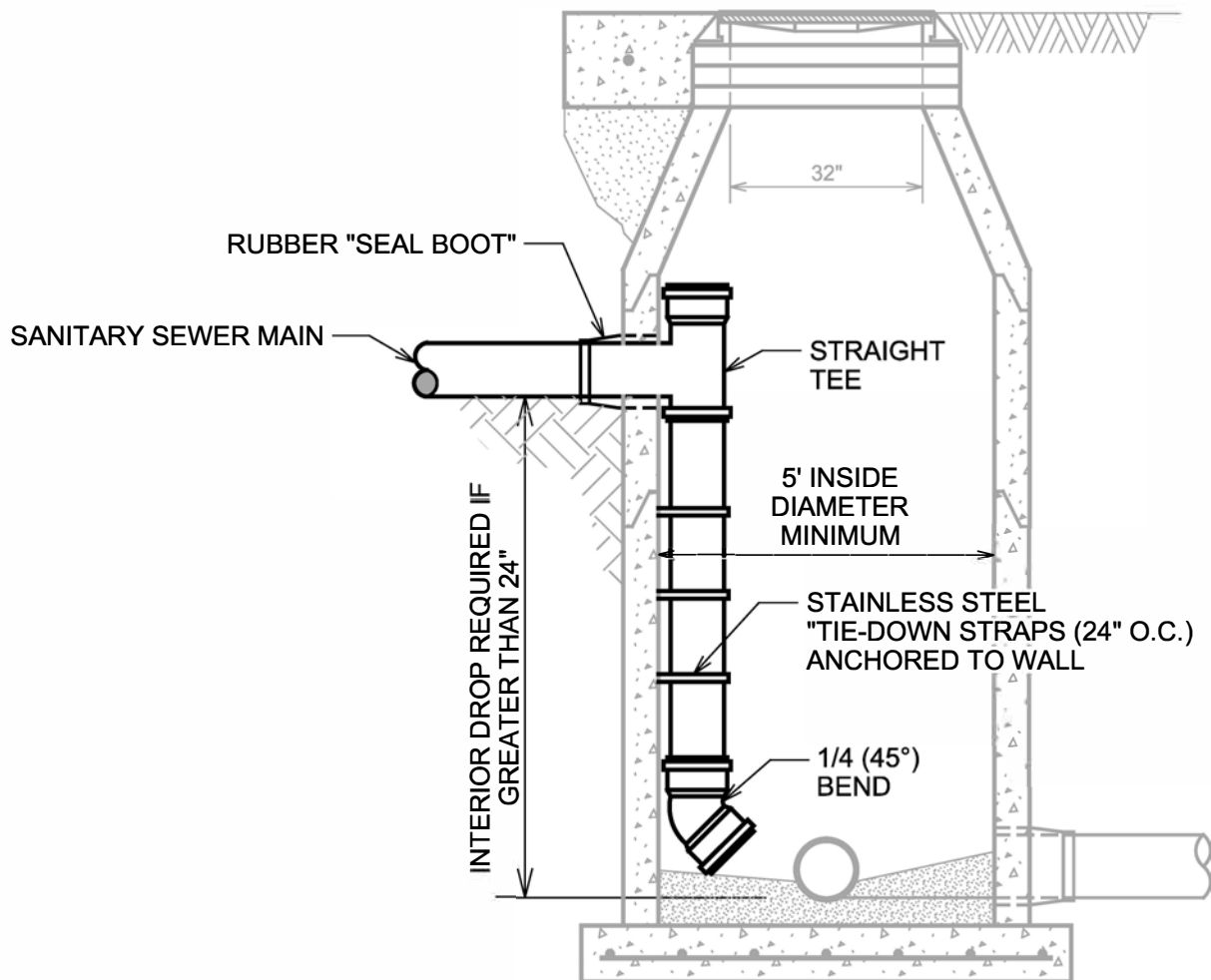
SANITARY SEWER SERVICE DETAIL (DOUBLE)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 10/05/21

SAN - 4



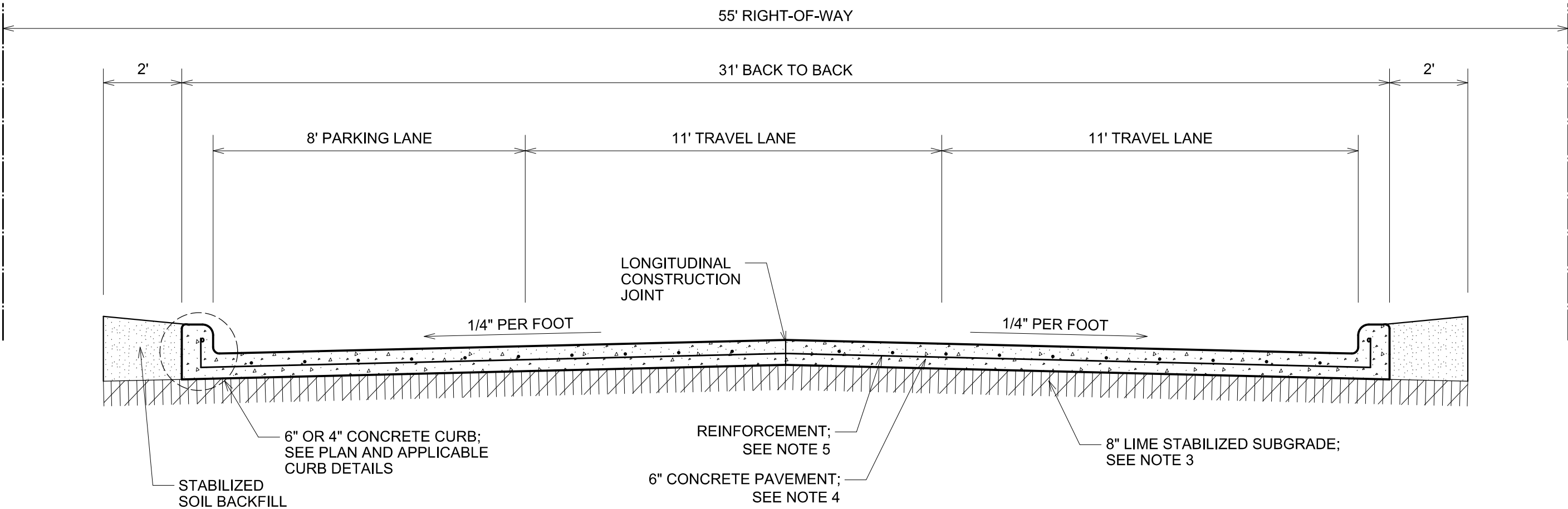
GENERAL NOTES

1. STRIP AND REMOVE ALL VEGETATION, LOOSE TOPSOIL, TREES AND ROOTS WITHIN THE CONSTRUCTION AREA.

2. SUBGRADE FILL: IMPORTED FILL MATERIALS, WHEN REQUIRED TO ACHIEVE FINAL SUBGRADE ELEVATION, SHALL BE CHOSEN THAT EXHIBIT SIMILAR CLASSIFICATION AND PHYSICAL PROPERTIES AS THE ON SITE SOILS. SAMPLES OF THE FILL MATERIAL SHALL BE MADE AVAILABLE TO THE OWNER'S TESTING LABORATORY 7 DAYS PRIOR TO PLACEMENT. SUBGRADE FILL, WHETHER IMPORTED OR EXCAVATED ON-SITE, SHALL BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR (ASTM D698) AT A MOISTURE CONTENT WITHIN BETWEEN -1% DRY & +3% WET OF OPTIMUM.

3. STABILIZED SUBGRADE: SUBGRADE STABILIZATION SHALL CONSIST OF A MINIMUM OF 8" LIME TREATED SUBGRADE. THE DEVELOPER IS REQUIRED TO HIRE A TESTING LABORATORY TO ESTABLISH PROPER SUBGRADE STABILIZATION SPECIFICATIONS. SPECIFICATIONS SHALL BE SUBMITTED TO THE DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO COMPLETION OF PAVEMENT DESIGN. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 2' BEHIND THE CURB.
4. CONCRETE SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 421 - HYDRAULIC CEMENT CONCRETE, CLASS P PER TXDOT ITEM 421, TABLE 8. WITH THE FOLLOWING MODIFICATIONS: MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI; TXDOT ITEM 421, TABLE 9 REQUIRES FORMED CONCRETE PAVEMENT TO HAVE SLUMP FROM 4INCHES TO 5.5 INCHES AT THE POINT OF PLACEMENT.

5. REINFORCING STEEL SHALL BE #4 BARS @ 18" O.C. TRANSVERSE AND LONGITUDINALLY. GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.



TYPICAL CONCRETE PAVEMENT SECTION
(LOCAL STREET)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 1

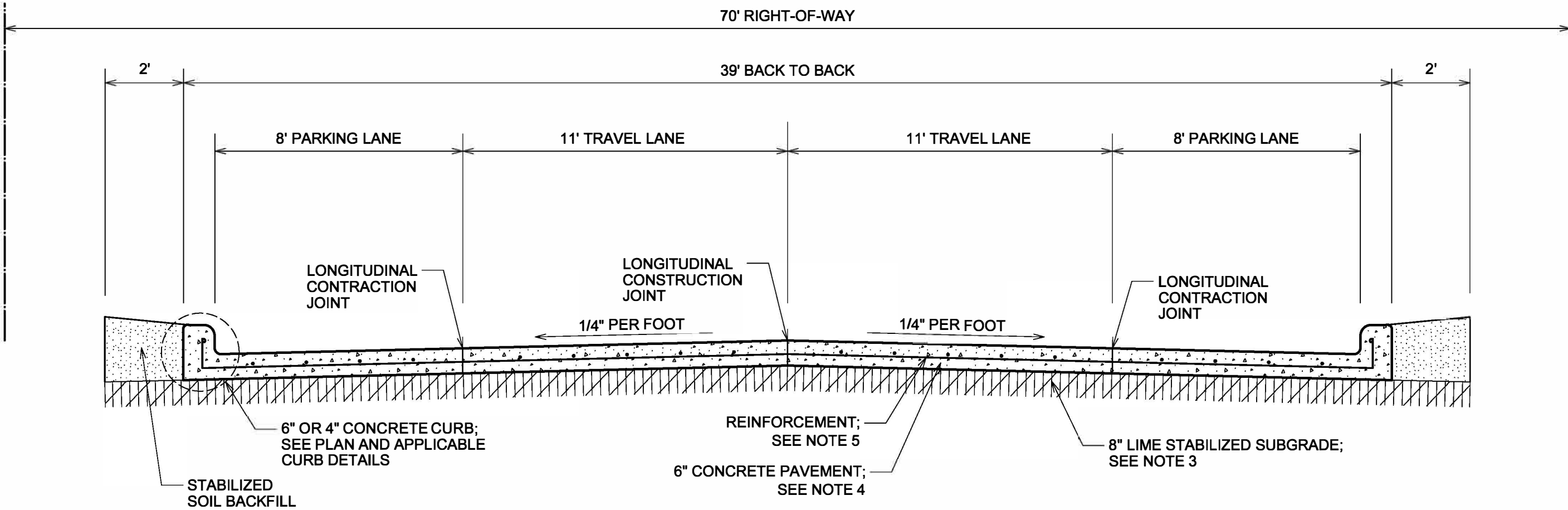
GENERAL NOTES

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3. STABILIZED SUBGRADE: SUBGRADE STABILIZATION SHALL CONSIST OF A MINIMUM OF 8" LIME TREATED SUBGRADE. THE DEVELOPER IS REQUIRED TO HIRE A TESTING LABORATORY TO ESTABLISH PROPER SUBGRADE STABILIZATION SPECIFICATIONS. SPECIFICATIONS SHALL BE SUBMITTED TO THE DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO COMPLETION OF PAVEMENT DESIGN. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 2' BEHIND THE CURB.
4. CONCRETE SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 421 - HYDRAULIC CEMENT CONCRETE, CLASS P PER TXDOT ITEM 421, TABLE 8. WITH THE FOLLOWING MODIFICATIONS: MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI; TXDOT ITEM 421, TABLE 9 REQUIRES FORMED CONCRETE PAVEMENT TO HAVE SLUMP FROM 4INCHES TO 5.5 INCHES AT THE POINT OF PLACEMENT.

5. REINFORCING STEEL SHALL BE #4 BARS @ 18" O.C. TRANSVERSE AND LONGITUDINALLY. GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.



TYPICAL CONCRETE PAVEMENT SECTION
(MINOR COLLECTOR)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 2

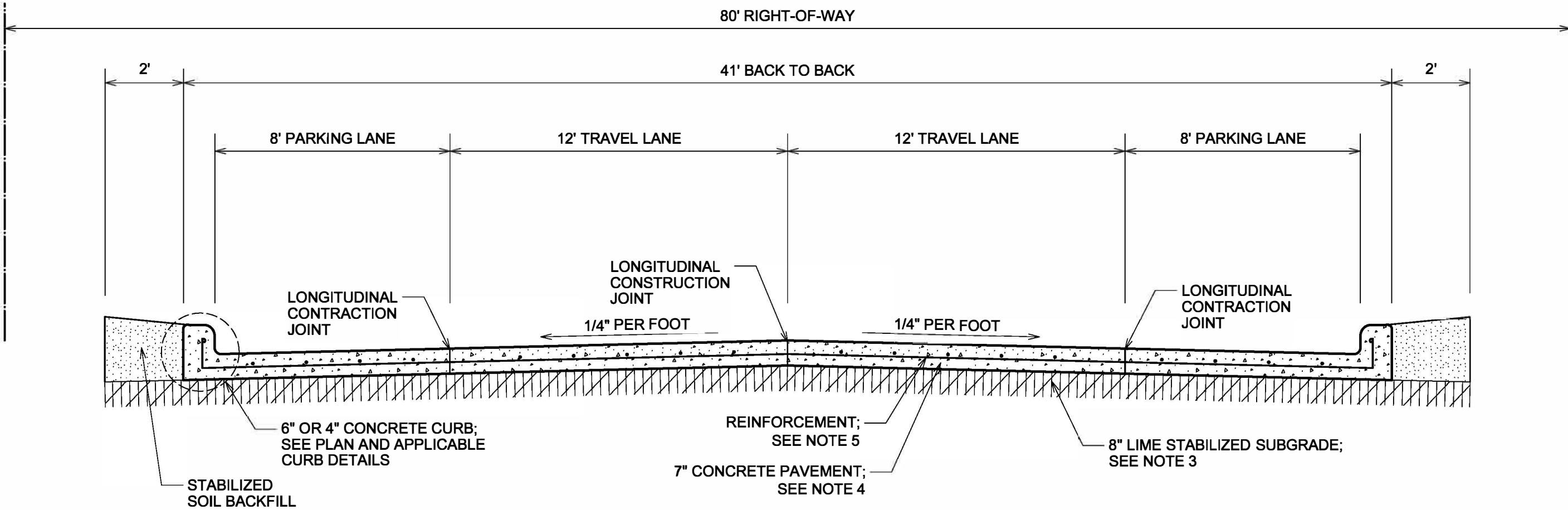
GENERAL NOTES

1. STRIP AND REMOVE ALL VEGETATION, LOOSE TOPSOIL, TREES AND ROOTS WITHIN THE CONSTRUCTION AREA.

2. SUBGRADE FILL: IMPORTED FILL MATERIALS, WHEN REQUIRED TO ACHIEVE FINAL SUBGRADE ELEVATION, SHALL BE CHOSEN THAT EXHIBIT SIMILAR CLASSIFICATION AND PHYSICAL PROPERTIES AS THE ON SITE SOILS. SAMPLES OF THE FILL MATERIAL SHALL BE MADE AVAILABLE TO THE OWNER'S TESTING LABORATORY 7 DAYS PRIOR TO PLACEMENT. SUBGRADE FILL, WHETHER IMPORTED OR EXCAVATED ON-SITE, SHALL BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR (ASTM D698) AT A MOISTURE CONTENT WITHIN BETWEEN -1% DRY & +3% WET OF OPTIMUM.

3. STABILIZED SUBGRADE: SUBGRADE STABILIZATION SHALL CONSIST OF A MINIMUM OF 8" LIME TREATED SUBGRADE. THE DEVELOPER IS REQUIRED TO HIRE A TESTING LABORATORY TO ESTABLISH PROPER SUBGRADE STABILIZATION SPECIFICATIONS. SPECIFICATIONS SHALL BE SUBMITTED TO THE DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO COMPLETION OF PAVEMENT DESIGN. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 2' BEHIND THE CURB.
4. CONCRETE SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 421 - HYDRAULIC CEMENT CONCRETE, CLASS P PER TXDOT ITEM 421, TABLE 8. WITH THE FOLLOWING MODIFICATIONS: MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI; TXDOT ITEM 421, TABLE 9 REQUIRES FORMED CONCRETE PAVEMENT TO HAVE SLUMP FROM 4 INCHES TO 5.5 INCHES AT THE POINT OF PLACEMENT.

5. REINFORCING STEEL SHALL BE #4 BARS @ 18" O.C. TRANSVERSE AND LONGITUDINALLY. GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.



TYPICAL CONCRETE PAVEMENT SECTION
(MAJOR COLLECTOR)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 3

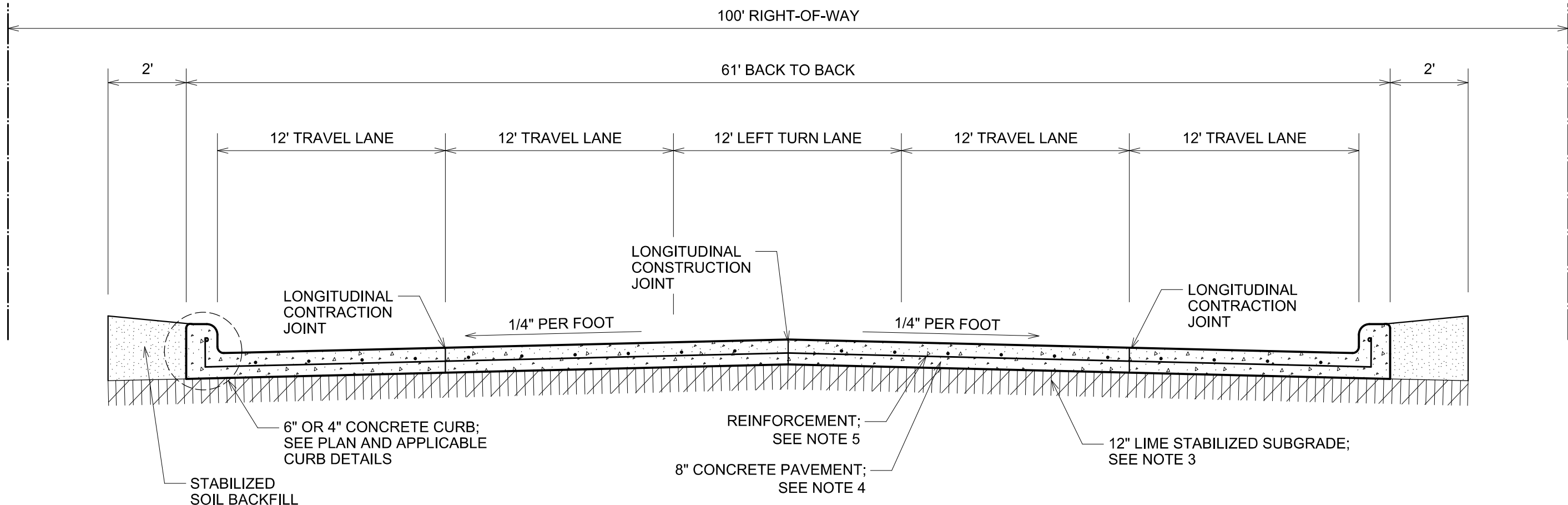
GENERAL NOTES

1. STRIP AND REMOVE ALL VEGETATION, LOOSE TOPSOIL, TREES AND ROOTS WITHIN THE CONSTRUCTION AREA.

2. SUBGRADE FILL: IMPORTED FILL MATERIALS, WHEN REQUIRED TO ACHIEVE FINAL SUBGRADE ELEVATION, SHALL BE CHOSEN THAT EXHIBIT SIMILAR CLASSIFICATION AND PHYSICAL PROPERTIES AS THE ON SITE SOILS. SAMPLES OF THE FILL MATERIAL SHALL BE MADE AVAILABLE TO THE OWNER'S TESTING LABORATORY 7 DAYS PRIOR TO PLACEMENT. SUBGRADE FILL, WHETHER IMPORTED OR EXCAVATED ON-SITE, SHALL BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 95% STANDARD PROCTOR (ASTM D698) AT A MOISTURE CONTENT WITHIN BETWEEN -1% DRY & +3% WET OF OPTIMUM.

3. STABILIZED SUBGRADE: SUBGRADE STABILIZATION SHALL CONSIST OF A MINIMUM OF 8" LIME TREATED SUBGRADE. THE DEVELOPER IS REQUIRED TO HIRE A TESTING LABORATORY TO ESTABLISH PROPER SUBGRADE STABILIZATION SPECIFICATIONS. SPECIFICATIONS SHALL BE SUBMITTED TO THE DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO COMPLETION OF PAVEMENT DESIGN. STABILIZED SUBGRADE SHALL EXTEND A MINIMUM OF 2' BEHIND THE CURB.
4. CONCRETE SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 421 - HYDRAULIC CEMENT CONCRETE, CLASS P PER TXDOT ITEM 421, TABLE 8. WITH THE FOLLOWING MODIFICATIONS: MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI; TXDOT ITEM 421, TABLE 9 REQUIRES FORMED CONCRETE PAVEMENT TO HAVE SLUMP FROM 4 TO 5-1/2 INCHES AT THE POINT OF PLACEMENT.

5. REINFORCING STEEL SHALL BE #5 BARS @ 24" O.C. TRANSVERSE AND #5 BARS @ 8" O.C. LONGITUDINAL. GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.



TYPICAL CONCRETE PAVEMENT SECTION
(ARTERIAL)

STANDARD CONSTRUCTION DETAILS

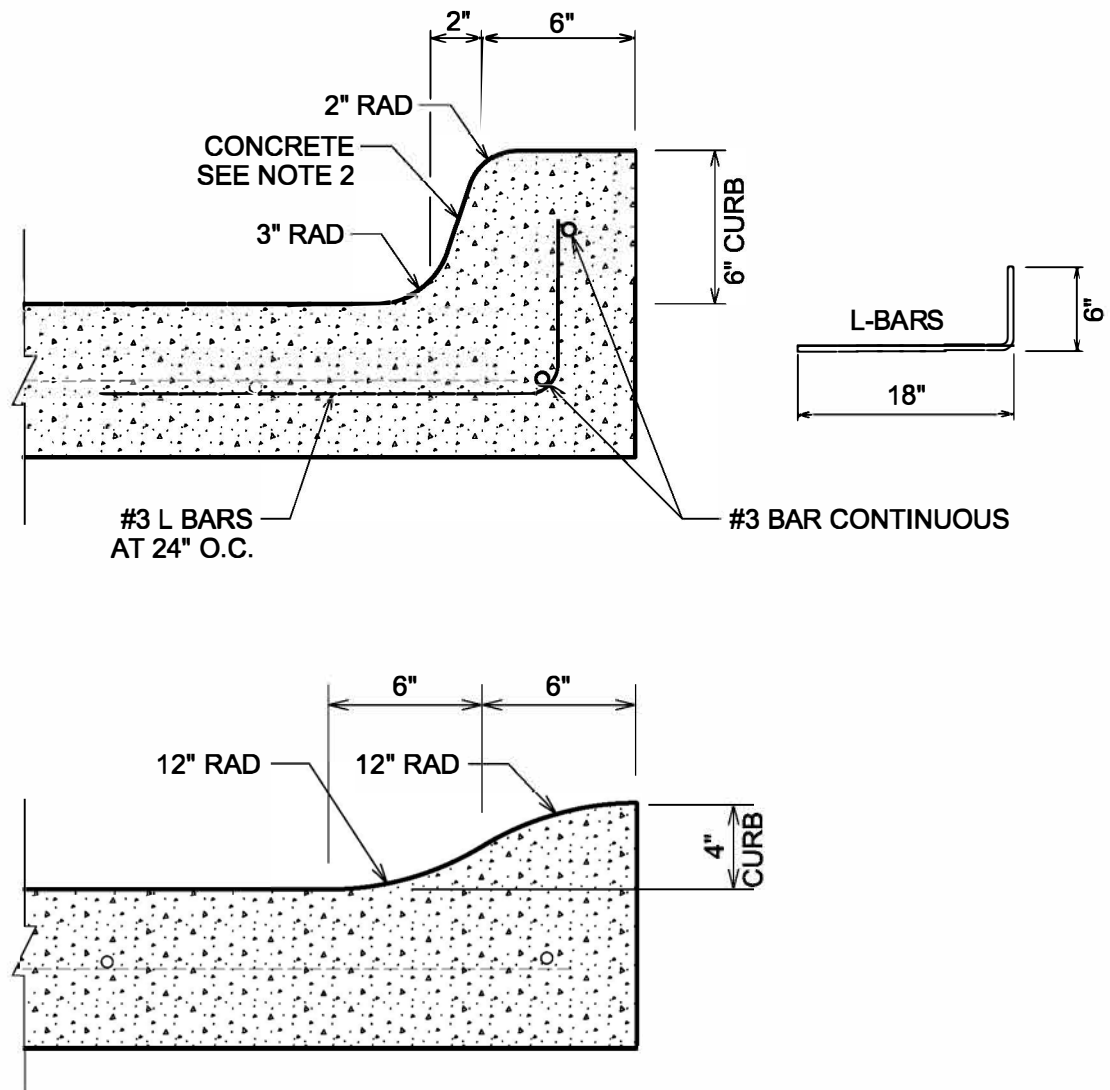
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 4

GENERAL NOTES

1. CURB SHALL BE PLACED MONOLITHICALLY WITH THE ADJACENT CONCRETE OR CONSTRUCTED AS CURB AND GUTTER.
2. CONCRETE SPECIFICATIONS SHALL BE THE SAME AS THOSE FOR THE PAVEMENT.
3. THE COMPLETED CONCRETE CURB SHALL NOT VARY FROM THE SHAPE, DIMENSION AND CONTOUR SHOWN ON THE DETAIL BY MORE THAN 1/2" AT ANY POINT ALONG THE CURB. NON-CONFORMING CURB SHALL BE REMOVED AND REPLACED BY A SAW CUTTING 6" IN FRONT OF THE DEFECTIVE CURB, THEN REMOVING AND REPLACING THE ENTIRE DEPTH OF CURB AND PAVEMENT IN THE DEFECTIVE AREA.
4. EXPANSION JOINTS IN THE PAVEMENT SHALL EXTEND THROUGH ADJACENT CURB WHEN PLACED MONOLITHICALLY WITH ADJACENT CONCRETE.



6" CONCRETE CURB
&
4" CONCRETE CURB

STANDARD CONSTRUCTION DETAILS

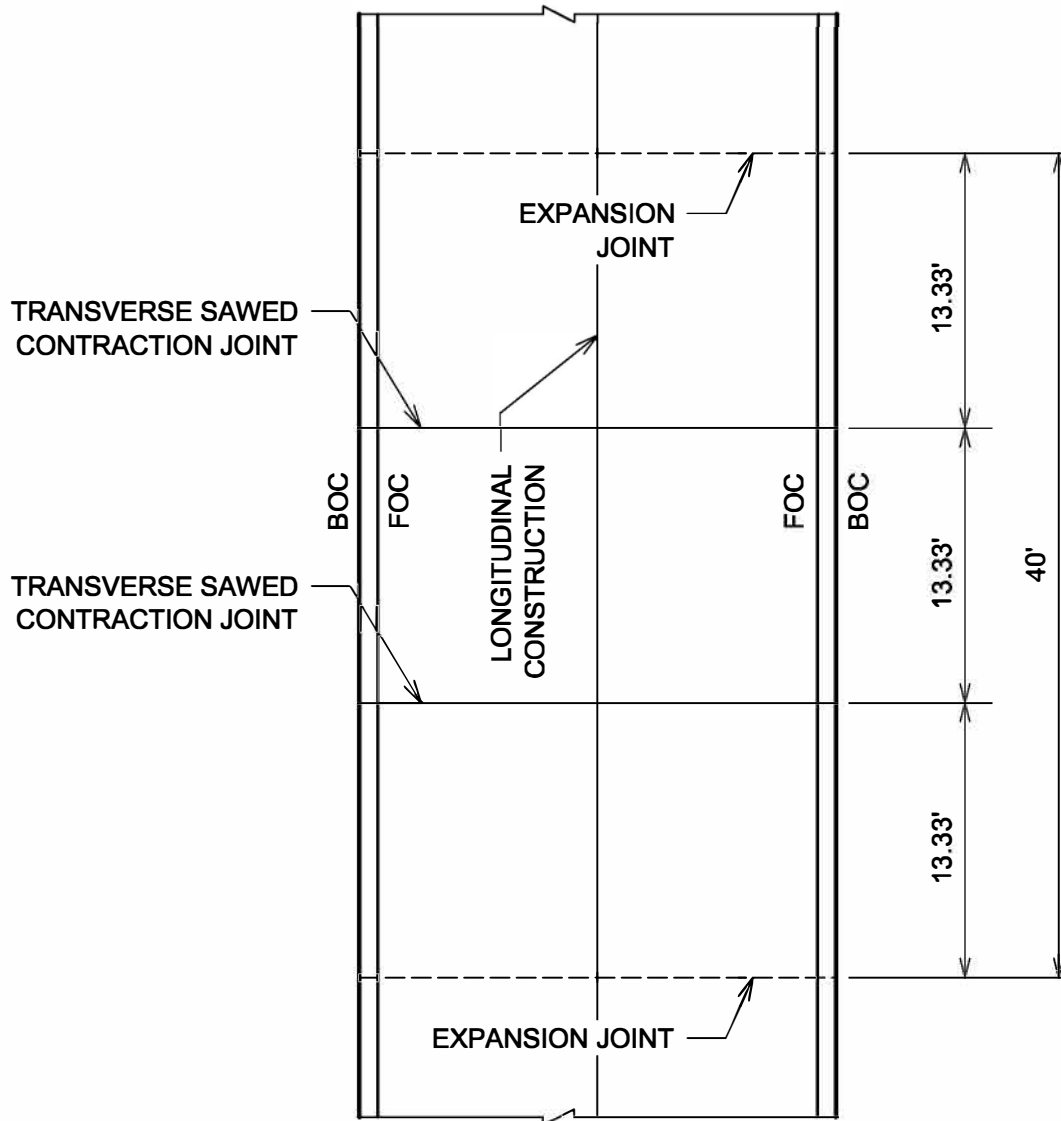
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 5

GENERAL NOTES

1. REINFORCING STEEL SHALL BE #4 BARS @ 18" O.C. TRANSVERSE AND LONGITUDINALLY.
GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.



ABBREVIATIONS:
FOC - FACE OF CURB
BOC - BACK OF CURB



CONCRETE JOINT
LAYOUT
(LOCAL STREET)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

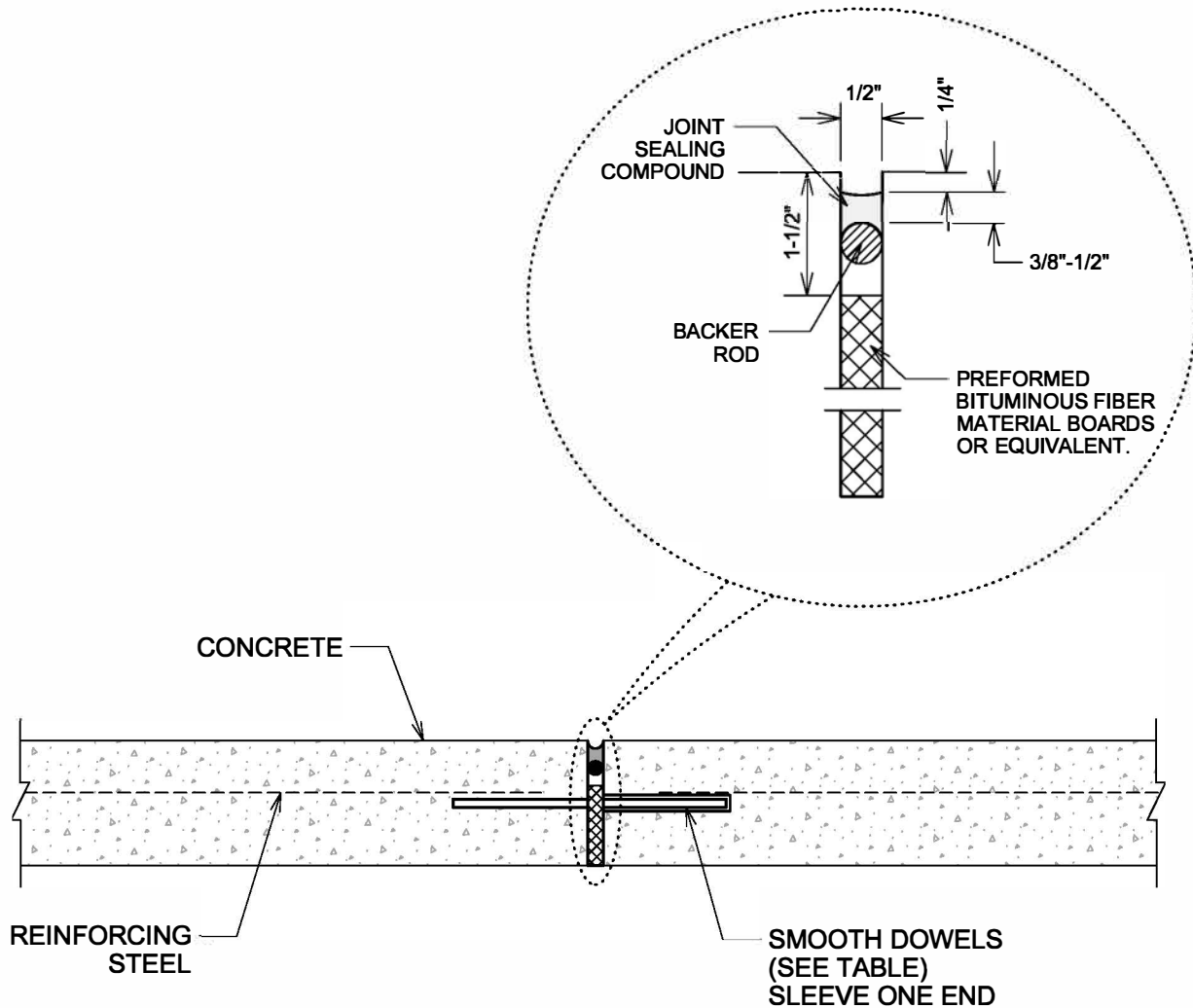
PAV - 6

GENERAL NOTES

1. PAVEMENT JOINTS SHALL BE CLEANED AND SEALED IN ACCORDANCE WITH TXDOT ITEM 438, CLEANING AND SEALING JOINTS.
2. JOINT SEALANT SHALL BE CLASS 8, SILICONE OR POLYURETHANE (ASTM D5893 TYPE SL)

DOWEL BAR TABLE

CONCRETE THICKNESS	DOWEL DIAMETER	DOWEL LENGTH	DOWEL SPACING
6"	3/4"	24"	12"
7"	7/8"	24"	12"
8"	1"	24"	12"



EXPANSION JOINT

STANDARD CONSTRUCTION DETAILS

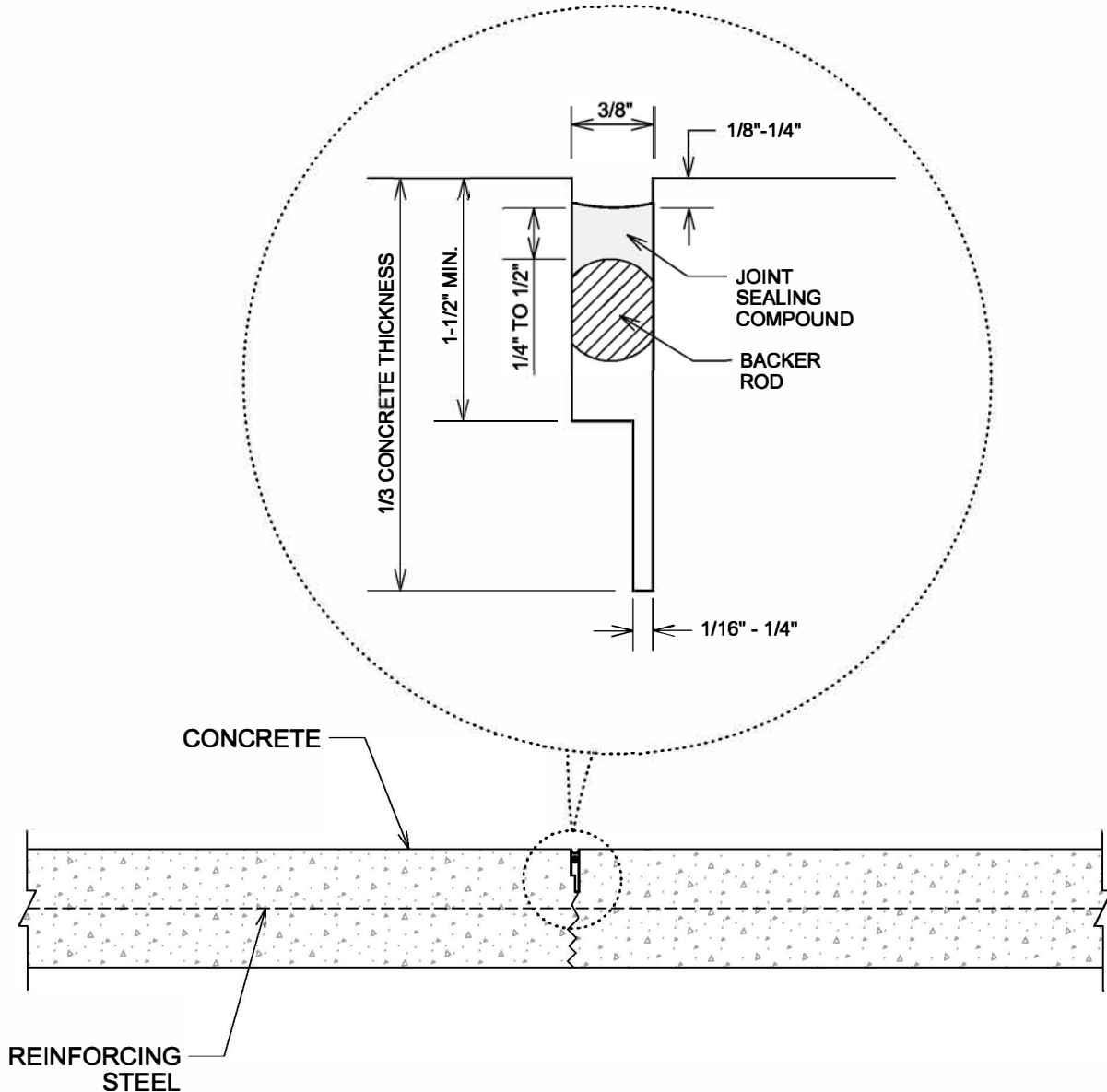
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 7

GENERAL NOTES

1. PAVEMENT JOINTS SHALL BE CLEANED AND SEALED IN ACCORDANCE WITH TXDOT ITEM 438, CLEANING AND SEALING JOINTS.
2. JOINT SEALANT SHALL BE CLASS 8, SILICONE OR POLYURETHANE (ASTM D5893 TYPE SL)



SAWED & SEALED CONTRACTION JOINT

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

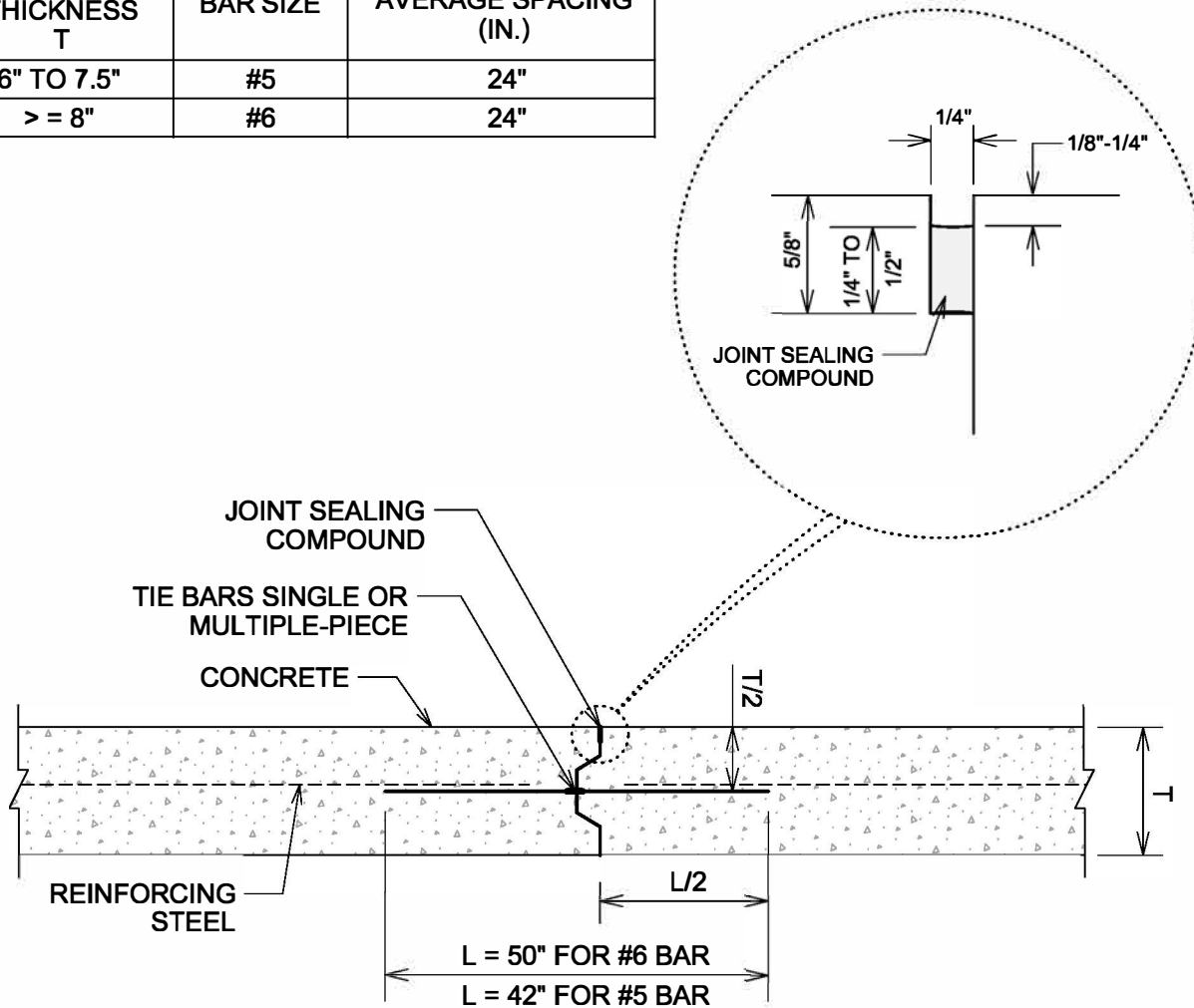
PAV - 8

GENERAL NOTES

1. PAVEMENT JOINTS SHALL BE CLEANED AND SEALED IN ACCORDANCE WITH TXDOT ITEM 438, CLEANING AND SEALING JOINTS.
2. JOINT SEALANT SHALL BE CLASS 8, SILICONE OR POLYURETHANE (ASTM D5893 TYPE SL)

TABLE TIE BARS (DEFORMED BARS)

CONCRETE THICKNESS T	BAR SIZE	AVERAGE SPACING (IN.)
6" TO 7.5"	#5	24"
> = 8"	#6	24"



METAL KEYWAY CONSTRUCTION JOINT

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

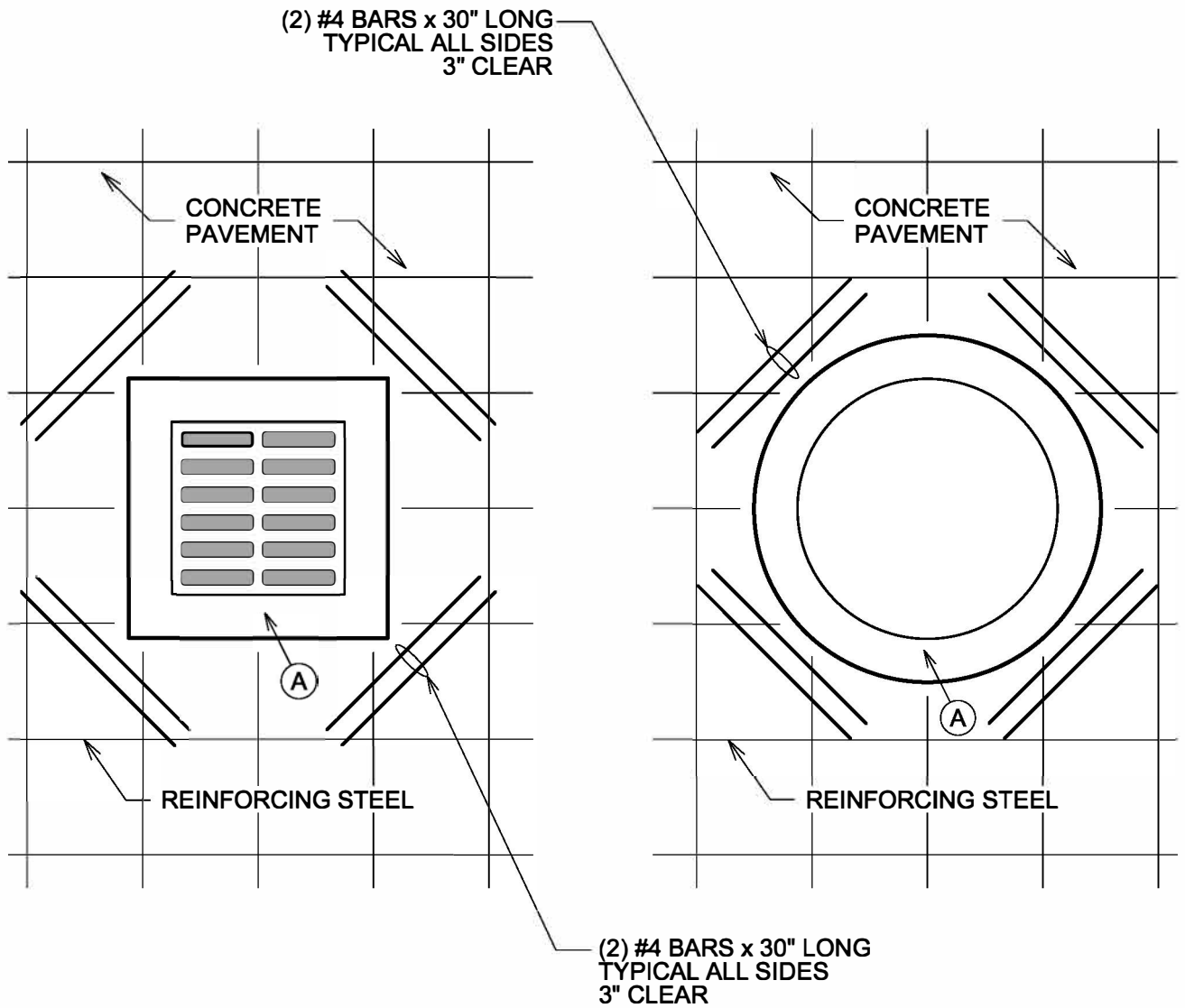
REVISED
DATE: 07/20/21

PAV - 9

GENERAL NOTES

1. REFER TO THE APPROPRIATE PAVEMENT OR SIDEWALK DETAIL FOR STRUCTURAL REQUIREMENTS.

- (A) FIXED STRUCTURE IN CONCRETE PAVEMENT INCLUDING MANHOLES, JUNCTION BOXES, VALVE BOXES, METER BOXES, CLEANOUTS, LIGHT POLES, ETC.



**FIXED STRUCTURE
REINFORCEMENT**

STANDARD CONSTRUCTION DETAILS

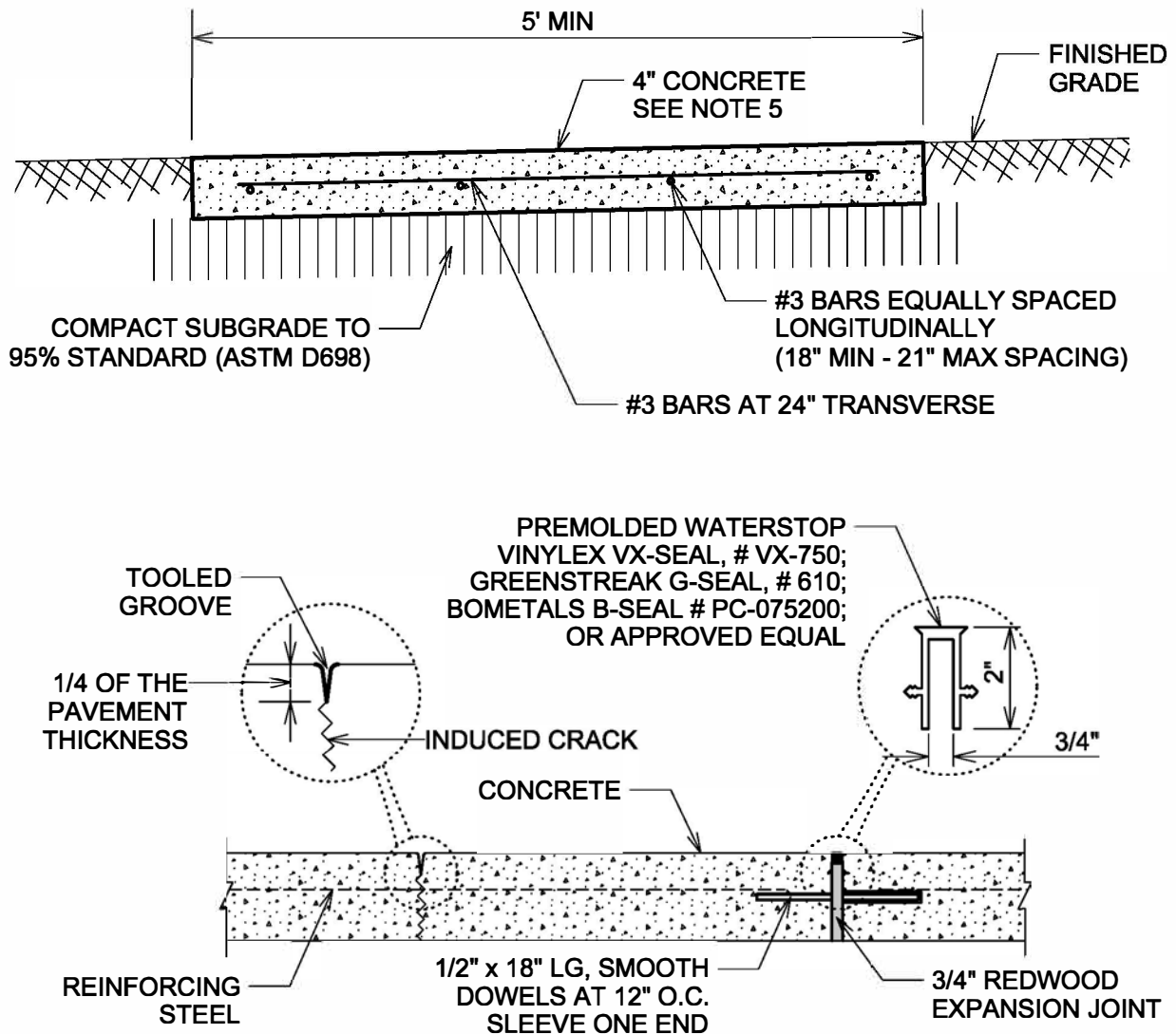
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 10

GENERAL NOTES

1. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.
2. EXPANSION JOINTS SHALL BE LOCATED AT DRIVEWAYS AND OTHER FIXED OBJECTS AND AT 40' MAXIMUM INTERVALS ALONG THE SIDEWALK.
3. TOOLED CONTRACTION JOINTS SHALL BE LOCATED AT REGULAR INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
4. CONCRETE SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 421 - HYDRAULIC CEMENT CONCRETE, CLASS A, 3,000 PSI.
5. SIDEWALKS SHALL BE SLOPED IN ACCORDANCE WITH TEXAS ACCESSIBILITY STANDARDS.
6. ALL REBAR TO BE SET ON BAR CHAIRS. PLASTIC OR METAL BAR CHAIRS ARE ACCEPTABLE; NO BRICKS, BROKEN CONCRETE, ROCKS, ETC.



CONCRETE SIDEWALK (DETACHED FROM CURB)

STANDARD CONSTRUCTION DETAILS

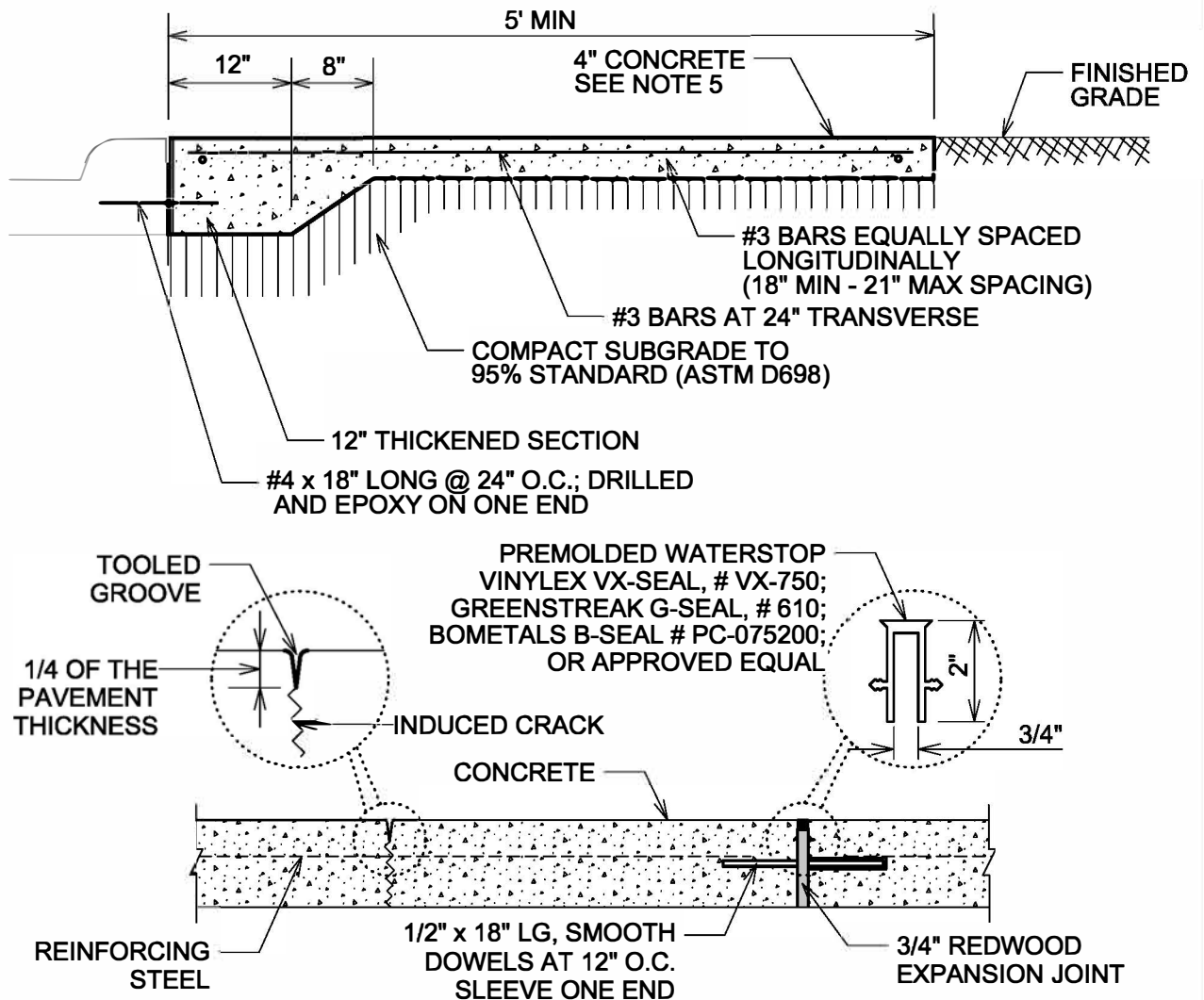
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 11

GENERAL NOTES

1. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.
2. EXPANSION JOINTS SHALL BE LOCATED AT DRIVEWAYS AND OTHER FIXED OBJECTS AND AT 40' MAXIMUM INTERVALS ALONG THE SIDEWALK.
3. TOOLED CONTRACTION JOINTS SHALL BE LOCATED AT REGULAR INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
4. CONCRETE SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 421 - HYDRAULIC CEMENT CONCRETE, CLASS A, 3,000 PSI.
5. SIDEWALKS SHALL BE SLOPED IN ACCORDANCE WITH TEXAS ACCESSIBILITY STANDARDS.
6. ALL REBAR TO BE SET ON BAR CHAIRS. PLASTIC OR METAL BAR CHAIRS ARE ACCEPTABLE; NO BRICKS, BROKEN CONCRETE, ROCKS, ETC.



CONCRETE SIDEWALK (ATTACHED TO CURB)

STANDARD CONSTRUCTION DETAILS

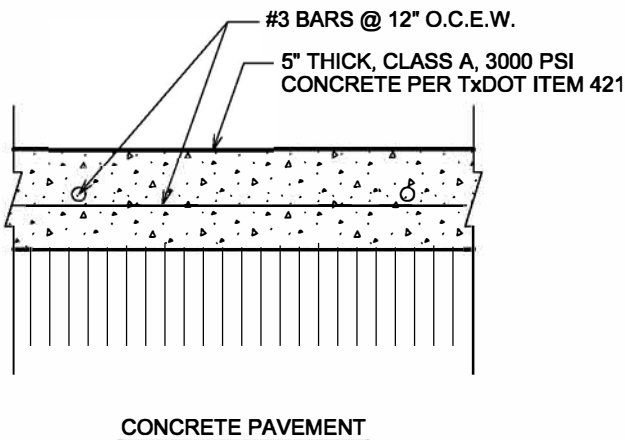
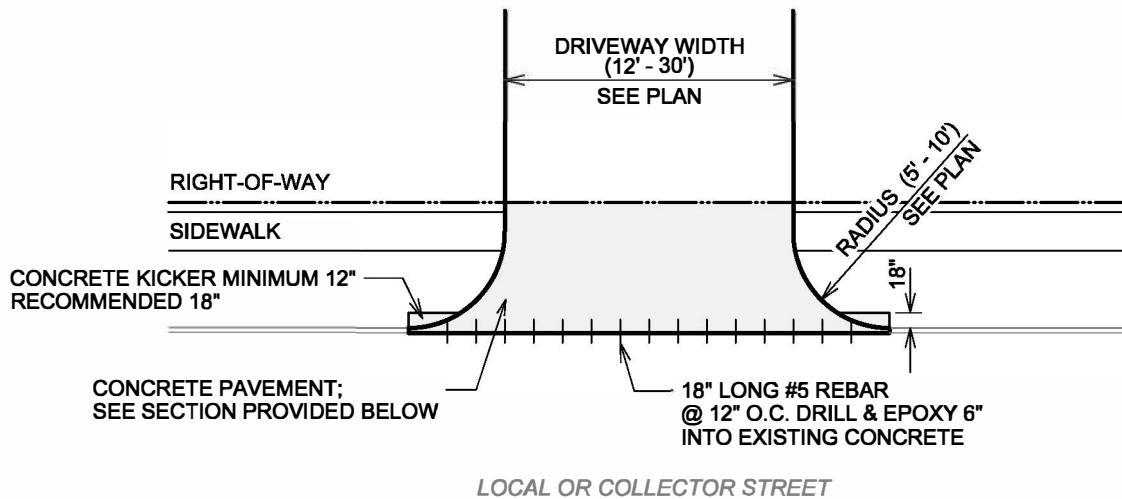
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 12

GENERAL NOTES

1. USE CONSTRUCTION JOINT DETAIL IF JOINING TO EXISTING CONCRETE DRIVEWAY.
USE EXPANSION JOINT DETAIL AT RIGHT-OF-WAY LINE.
2. GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.
3. ALL REBAR TO BE SET ON BAR CHAIRS. PLASTIC OR METAL BAR CHAIRS ARE ACCEPTABLE; NO BRICKS, BROKEN CONCRETE, ROCKS, ETC.
4. SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR.
5. SEE PAV - 15 FOR DRIVEWAY PROFILE REQUIREMENTS.



RESIDENTIAL DRIVEWAY (CONNECTING TO LOCAL OR COLLECTOR)

STANDARD CONSTRUCTION DETAILS

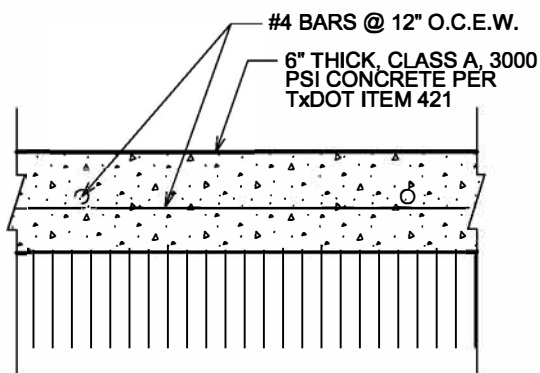
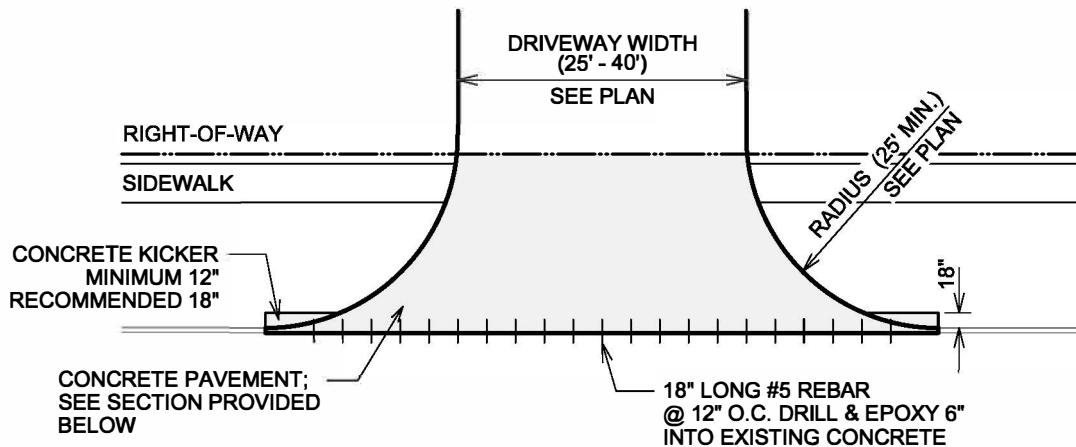
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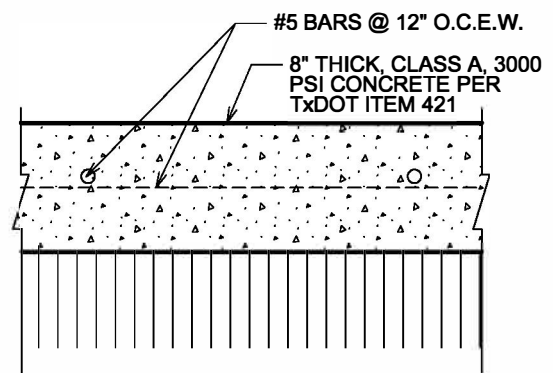
PAV - 13

GENERAL NOTES

1. USE CONSTRUCTION JOINT DETAIL IF JOINING TO EXISTING CONCRETE DRIVEWAY.
USE EXPANSION JOINT DETAIL AT RIGHT-OF-WAY LINE.
2. GRADE OF REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 IN ACCORDANCE WITH TxDOT ITEM 440.
3. ALL REBAR TO BE SET ON BAR CHAIRS. PLASTIC OR METAL BAR CHAIRS ARE ACCEPTABLE; NO BRICKS, BROKEN CONCRETE, ROCKS, ETC.
4. SUBGRADE SHALL BE COMPACTED TO 90% STANDARD PROCTOR.
5. SEE PAV - 15 FOR DRIVEWAY PROFILE REQUIREMENTS.



CONCRETE PAVEMENT FOR
MULTI-FAMILY RESIDENTIAL AND
COMMERCIAL



CONCRETE PAVEMENT FOR
INDUSTRIAL



MULTI-FAMILY
RESIDENTIAL AND
NON-RESIDENTIAL
DRIVEWAY

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

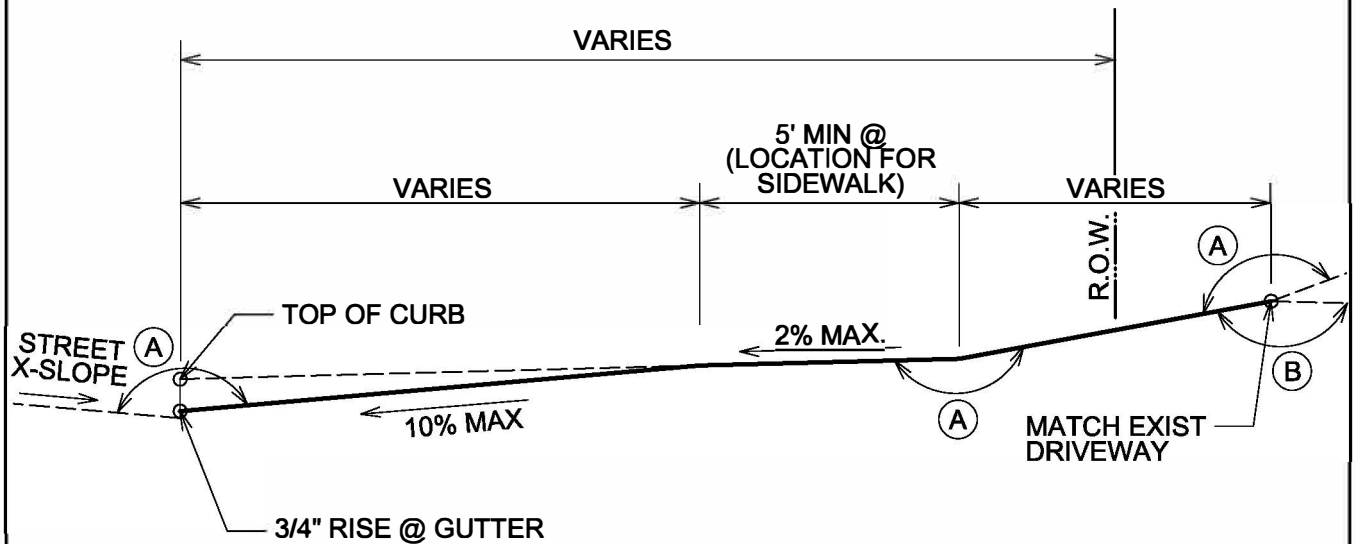
REVISED
DATE: 07/20/21

PAV - 14

GENERAL NOTES

1. DRIVEWAY GRADE MUST RISE TO TOP OF CURB ELEVATION TO CONTROL DRAINAGE IN STREET GUTTER.

- (A) 8% MAX CHANGE IN GRADE (SAG PI)
- (B) 12% MAX CHANGE IN GRADE (CREST PI)



ALLOWABLE DRIVEWAY
GRADE
(RESIDENTIAL OR
COMMERCIAL)

STANDARD CONSTRUCTION DETAILS

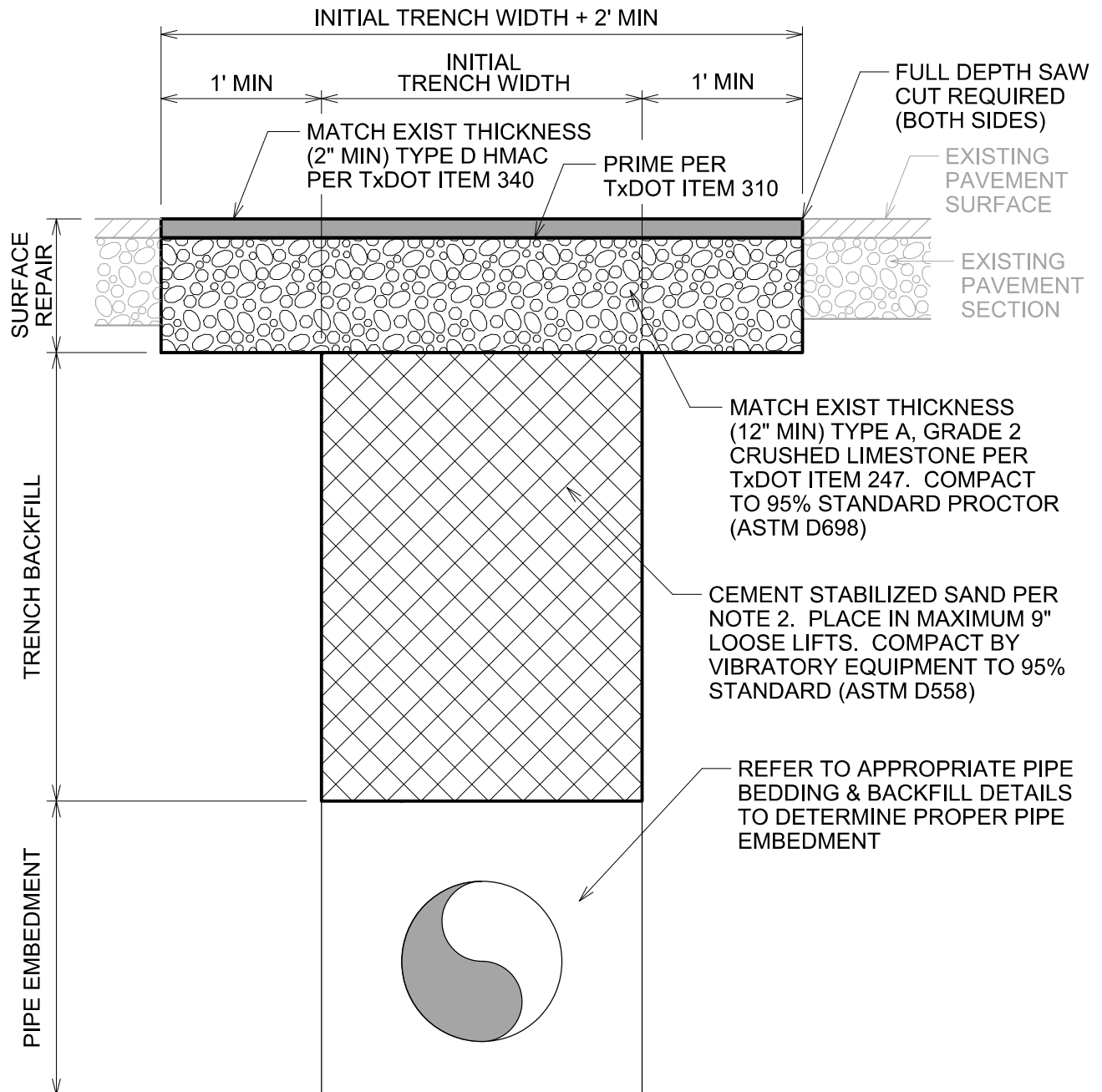
DATE: 07/20/21

REVISED
DATE: 07/20/21

PAV - 15

GENERAL NOTES

1. STANDARD DETAIL IS APPLICABLE FOR WATER, SANITARY SEWER AND STORM SEWER.
2. CEMENT STABILIZED SAND SHALL CONTAIN A MINIMUM OF 1.5 SACKS OF CEMENT PER CUBIC YARD. SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487) AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PI <7; LL <25.



PAVEMENT PATCH FOR
EXISTING ASPHALT
PAVED AREAS

STANDARD CONSTRUCTION DETAILS

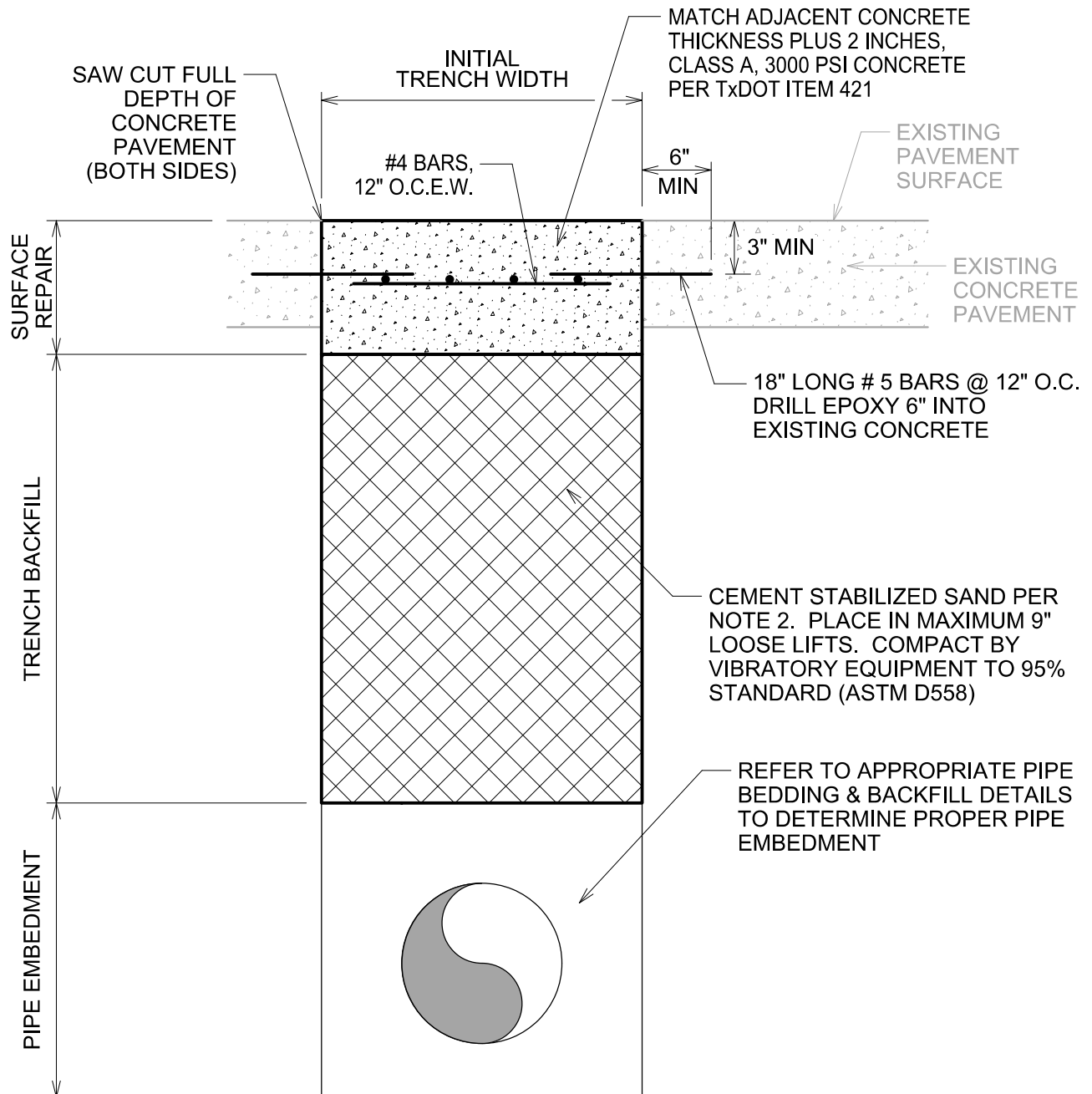
DATE: 10/08/21

REVISED
DATE: 10/08/21

PAV - 16

GENERAL NOTES

1. STANDARD DETAIL IS APPLICABLE FOR WATER, SANITARY SEWER AND STORM SEWER.
2. CEMENT STABILIZED SAND SHALL CONTAIN A MINIMUM OF 1.5 SACKS OF CEMENT PER CUBIC YARD. SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487) AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PI <7; LL <25.



PAVEMENT PATCH FOR EXISTING CONCRETE PAVED AREAS

STANDARD CONSTRUCTION DETAILS

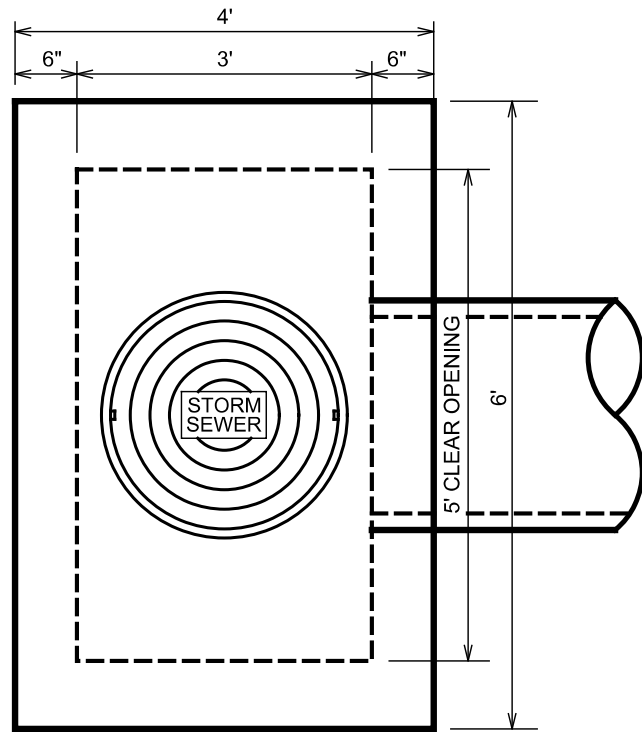
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DATE: 10/08/21

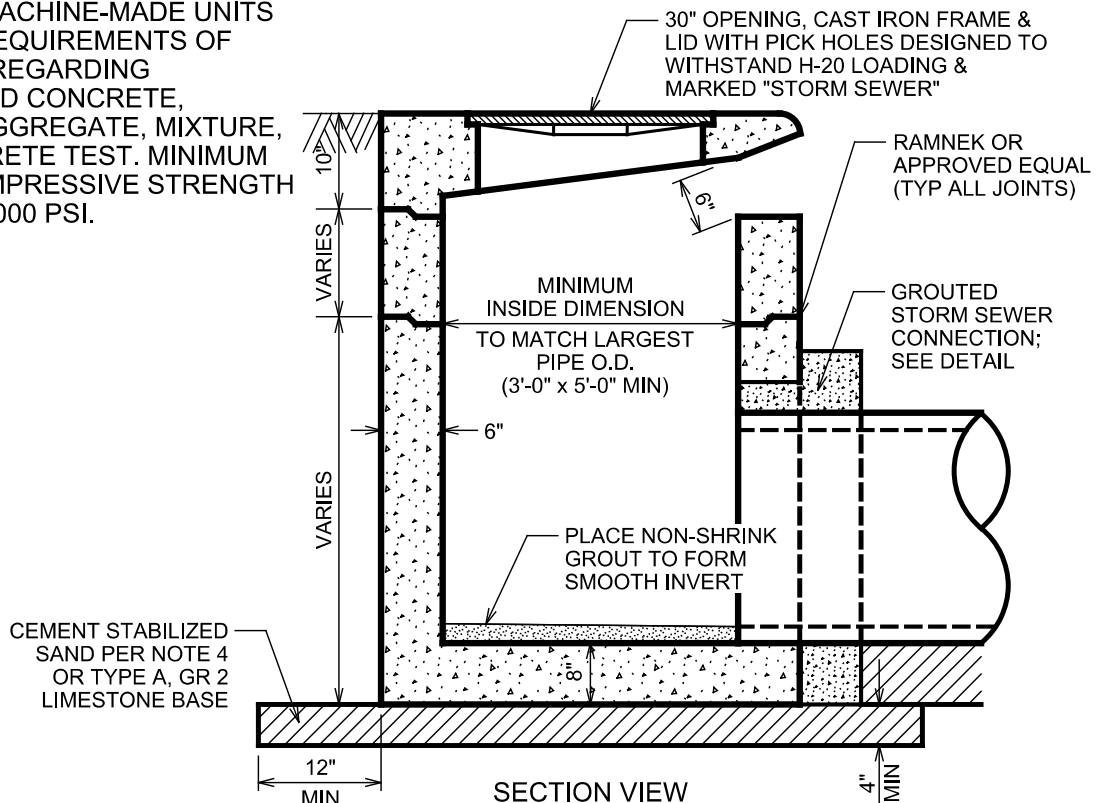
PAV - 17

GENERAL NOTES

1. INSTALLATION OF PRECAST STRUCTURES SHALL BE PER MANUFACTURERS INSTRUCTIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRECAST STRUCTURES TO ENGINEER PRIOR TO ORDERING MATERIALS.
2. PRECAST STRUCTURE, RING, AND COVER SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
3. PLACE RAMNEK OR EQUAL GASKET MATERIAL BETWEEN PRECAST STRUCTURE SECTIONS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
4. CEMENT STABILIZED SAND SHALL CONTAIN A MINIMUM OF 1.5 SACKS OF CEMENT PER CUBIC YARD. SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487) AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PI <7; LL <25.
5. PROVIDE CONCRETE FOR PRECAST MACHINE-MADE UNITS MEETING REQUIREMENTS OF ASTM C 76 REGARDING REINFORCED CONCRETE, CEMENT, AGGREGATE, MIXTURE, AND CONCRETE TEST. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 4000 PSI.



TOP VIEW



SECTION VIEW



5' CURB INLET

STANDARD CONSTRUCTION DETAILS

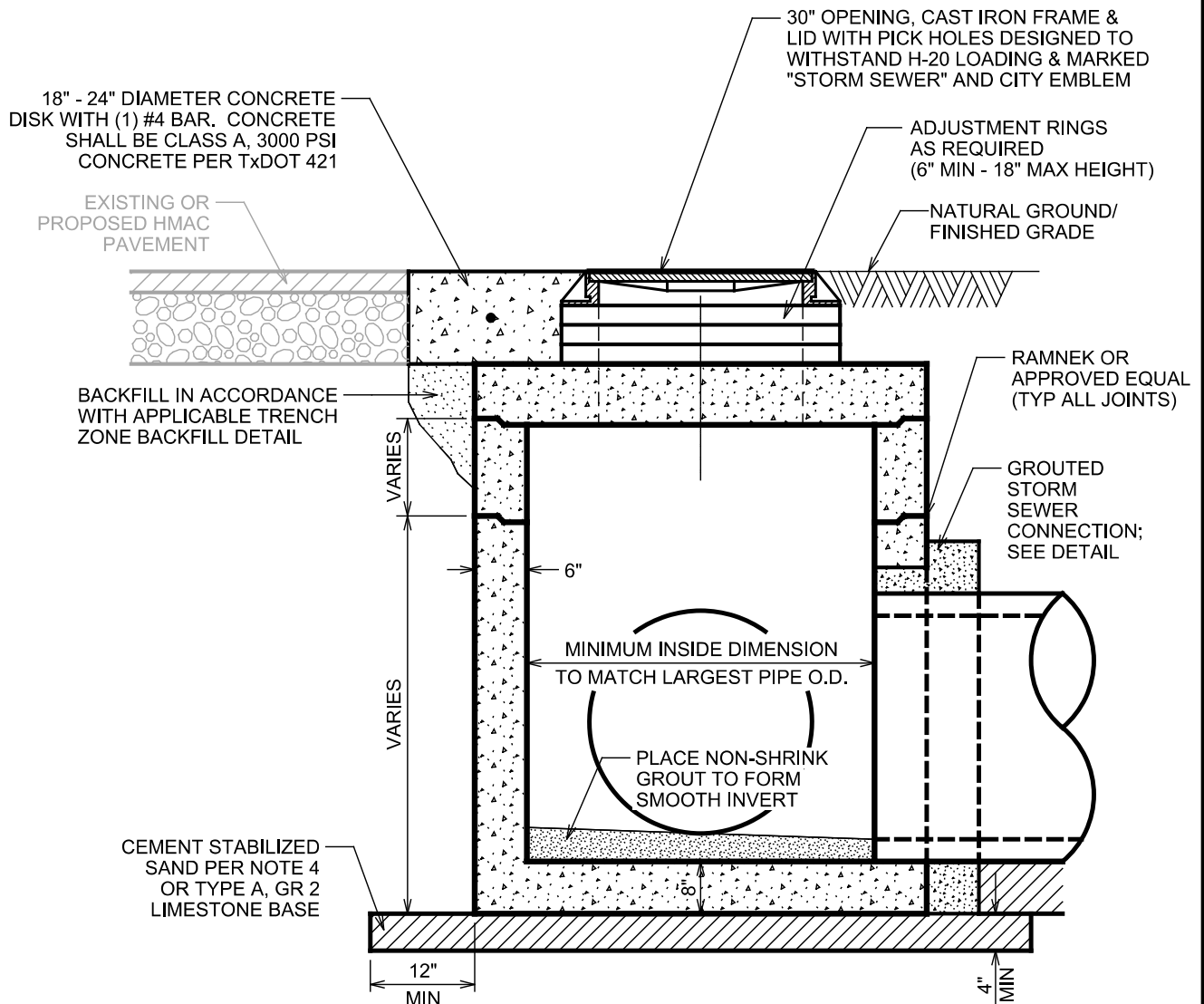
DATE: 07/20/21

REVISED
DATE: 07/20/21

STM - 1

GENERAL NOTES

1. INSTALLATION OF PRECAST STRUCTURES SHALL BE PER MANUFACTURERS INSTRUCTIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PRE-CAST STRUCTURES TO ENGINEER PRIOR TO ORDERING MATERIALS.
2. PRECAST STRUCTURE, RING, AND COVER SHALL BE DESIGNED FOR H-20 WHEEL LOADING.
3. PLACE RAMNEK OR EQUAL GASKET MATERIAL BETWEEN PRECAST STRUCTURE SECTIONS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
4. CEMENT STABILIZED SAND SHALL CONTAIN A MINIMUM OF 1.5 SACKS OF CEMENT PER CUBIC YARD. SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487) AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; $PI < 7$; $LL < 25$.
5. PROVIDE CONCRETE FOR PRECAST MACHINE-MADE UNITS MEETING REQUIREMENTS OF ASTM C 76 REGARDING REINFORCED CONCRETE, CEMENT, AGGREGATE, MIXTURE, AND CONCRETE TEST. MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 4000 PSI.



STORM SEWER
JUNCTION BOX

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

STM - 2

1. NEW PIPE TO BE SET FLUSH WITH INSIDE WALL OF STRUCTURE.



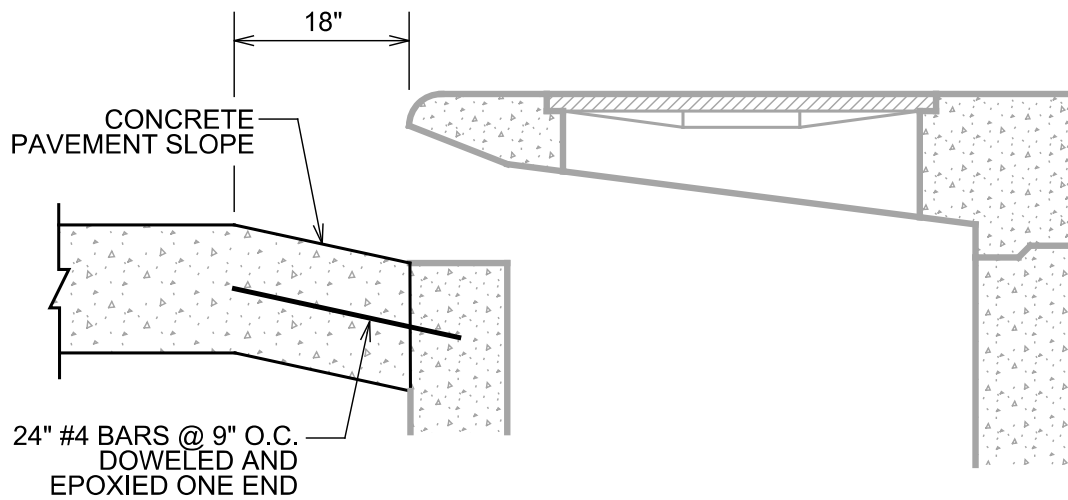
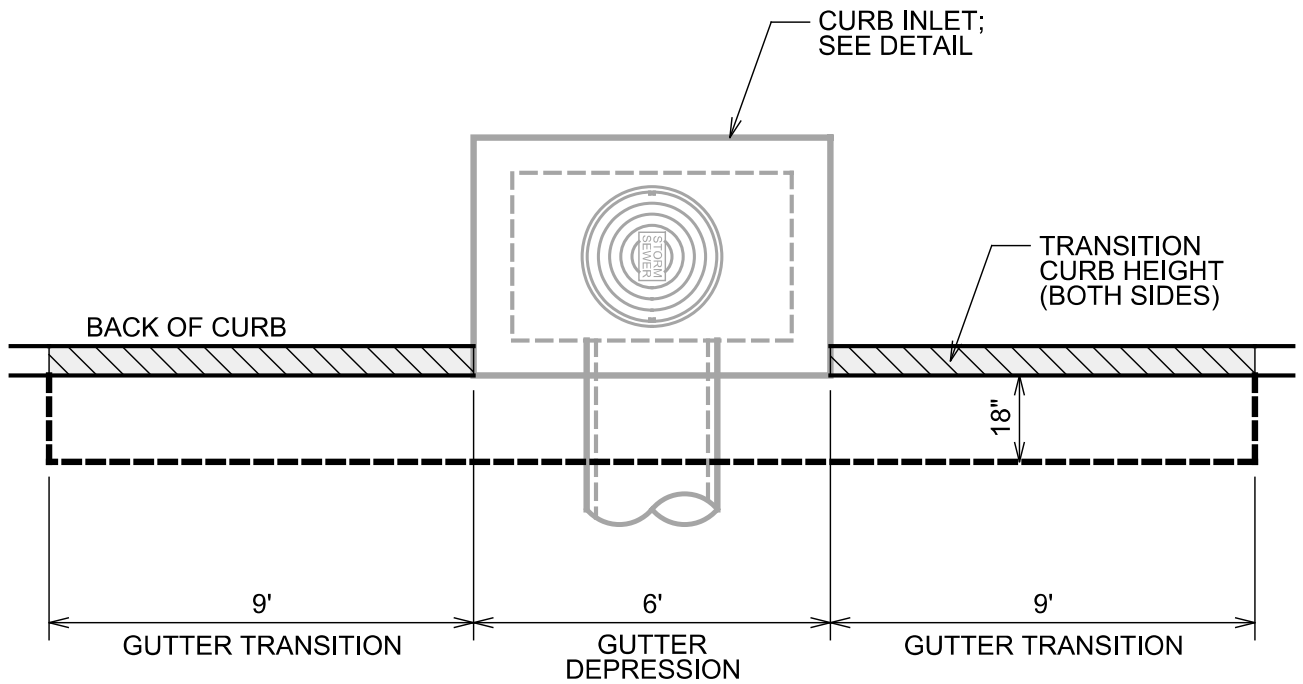
STANDARD CONSTRUCTION DETAILS

REVISED
DATE: 07/20/21

306

GENERAL NOTES

1. GUTTER DEPRESSION SHALL NOT BE LOCATED WITHIN THE AREA OF A CURB RAMP/LANDING OR DRIVEWAY.



GUTTER DEPRESSION AT CURB INLET

STANDARD CONSTRUCTION DETAILS

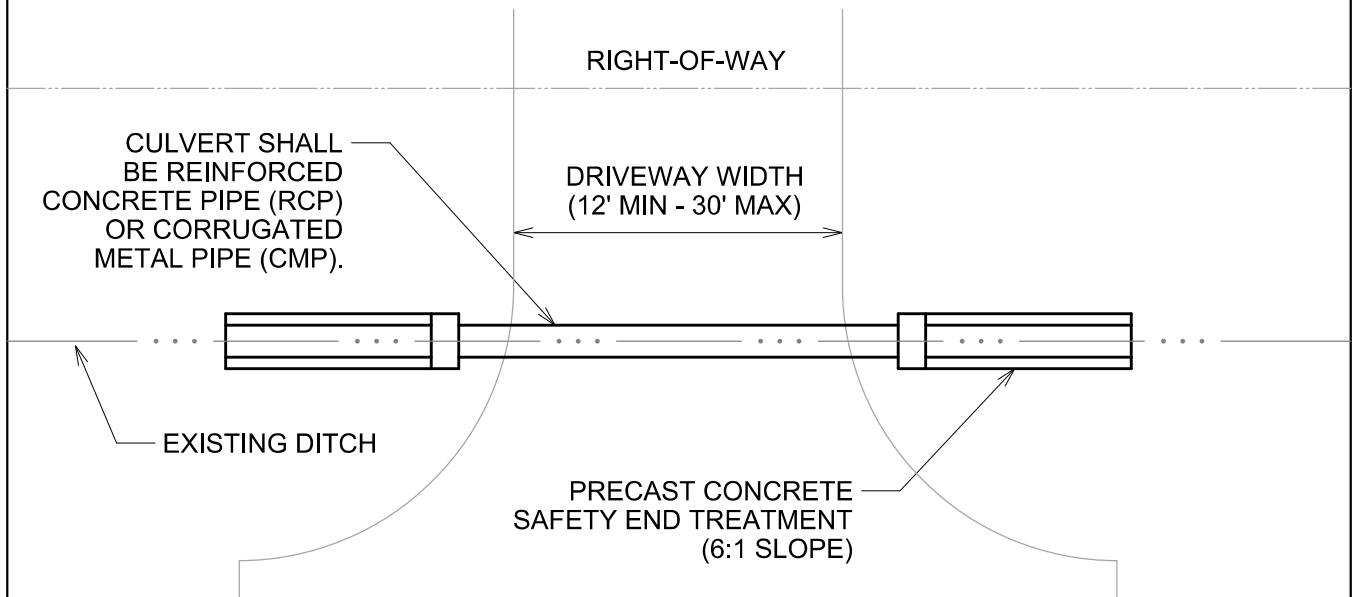
DATE: 07/20/21

REVISED
DATE: 07/20/21

STM - 4

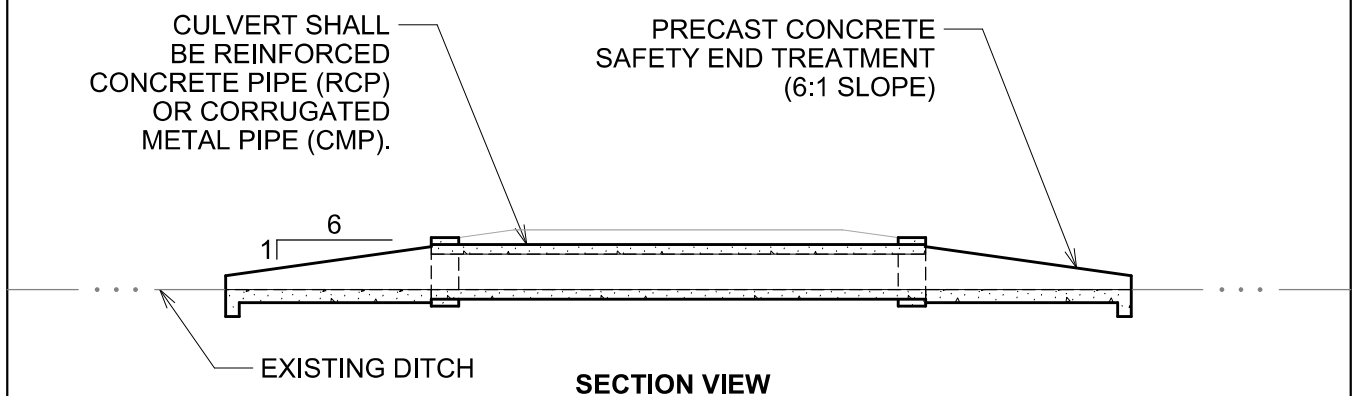
GENERAL NOTES

1. ADDITIONAL REQUIREMENTS APPLY FOR DRIVEWAYS ON TXDOT OWNED ROADWAYS.
2. BACKFILL WITH CEMENT STABILIZED SAND. CEMENT STABILIZED SAND SHALL CONTAIN A MINIMUM OF 1.5 SACKS OF CEMENT PER CUBIC YARD. SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487) AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PI <7; LL <25. COMPACT BY VIBRATORY EQUIPMENT TO 95% STANDARD (ASTM D558)
3. SET UPSTREAM AND DOWNSTREAM FLOW LINES TO MATCH EXISTING DITCH GRADE.
4. AFTER EXCAVATION AND PRIOR TO SETTING PIPE, CONTACT CITY TO INSPECT AND VERIFY FINAL ELEVATIONS.



EXISTING ROAD

PLAN VIEW



SECTION VIEW



RESIDENTIAL DRIVEWAY CULVERT

STANDARD CONSTRUCTION DETAILS

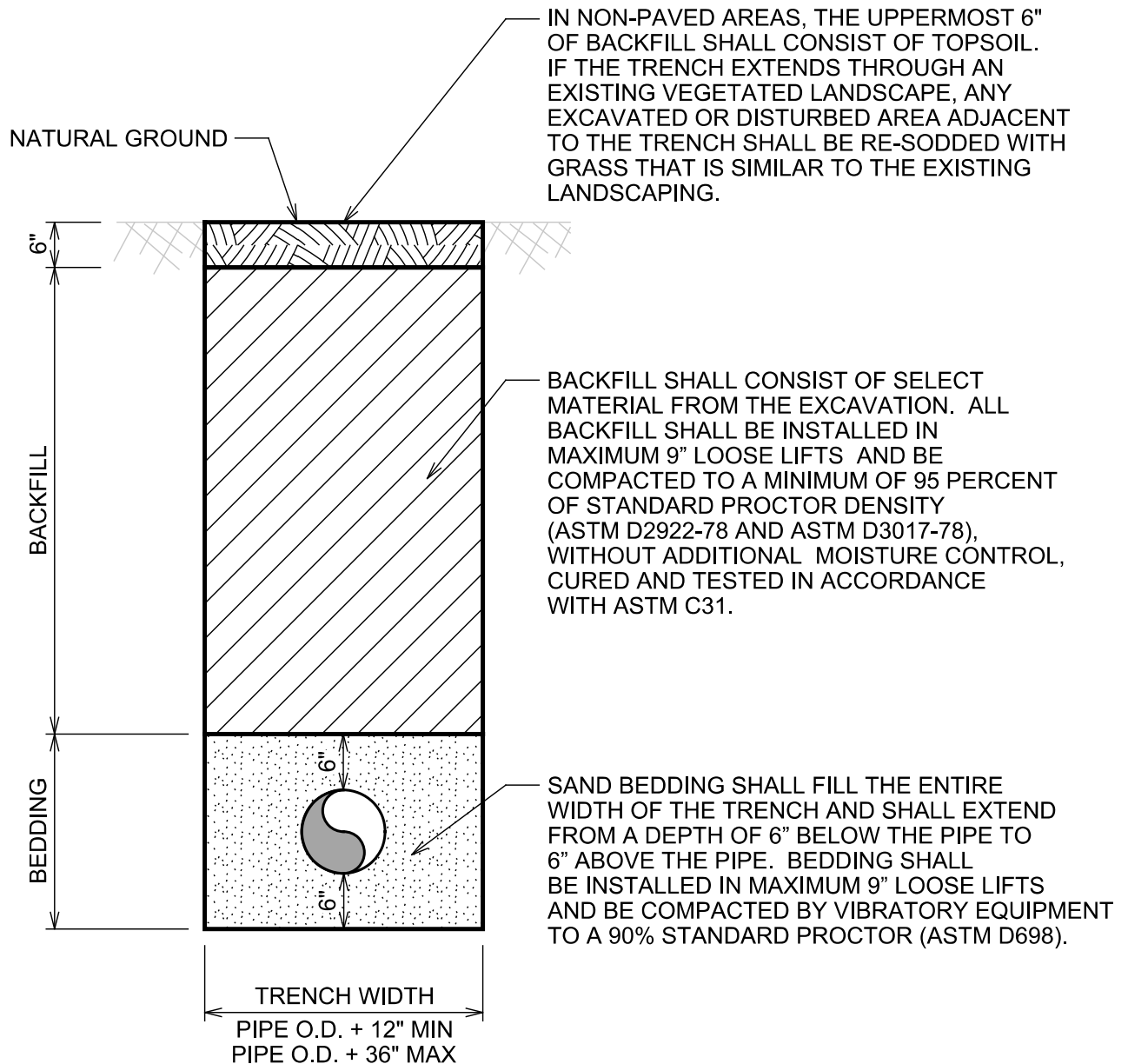
DATE: 07/20/21

REVISED
DATE: 10/07/21

STM - 5

GENERAL NOTES

1. BANK SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487 AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PLASTICITY INDEX LESS THAN 7; LIQUID LIMIT LESS THAN 25.



WATER & SANITARY SEWER
BEDDING & BACKFILL
(NON-PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

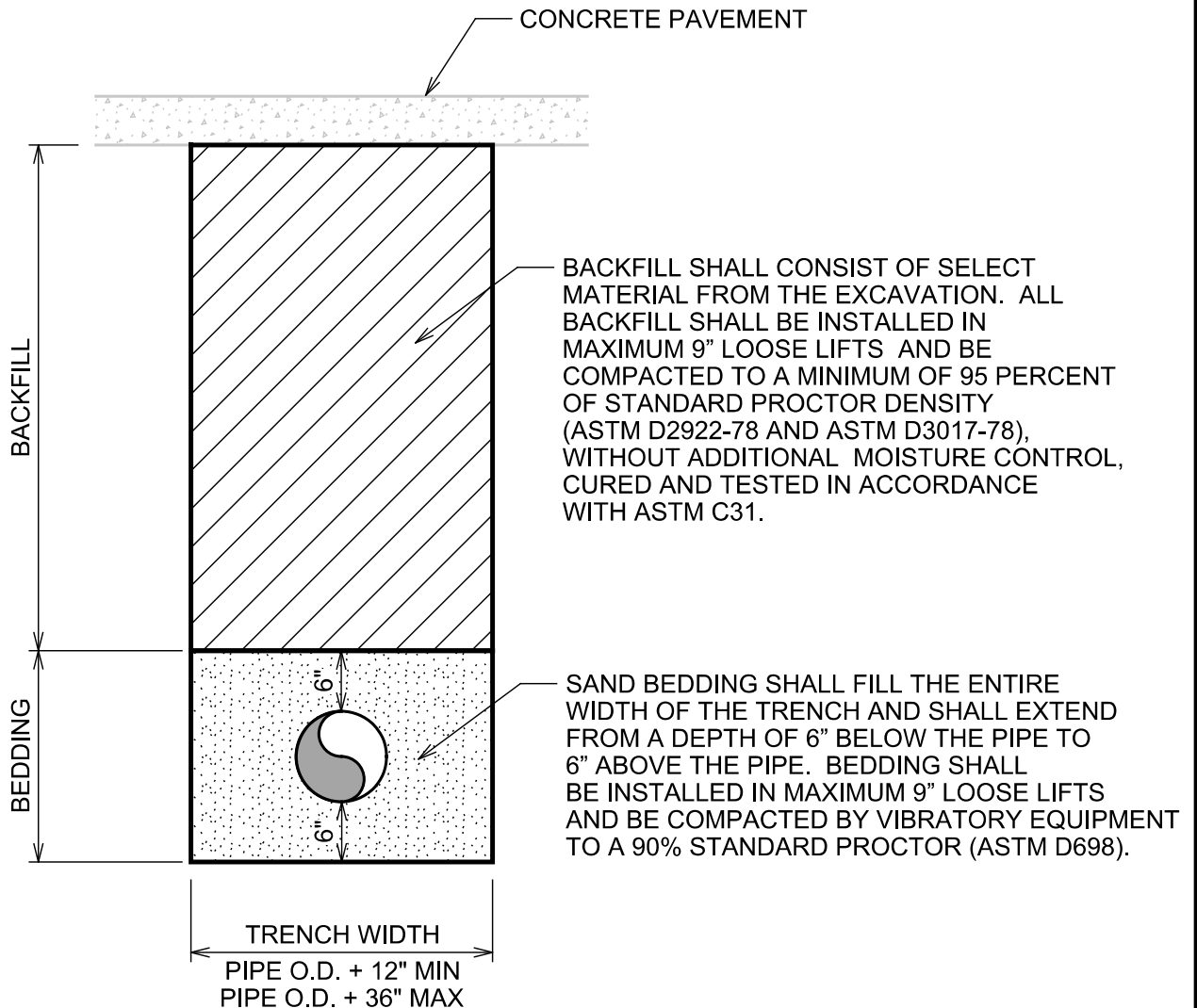
DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 1

GENERAL NOTES

1. BANK SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487 AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PLASTICITY INDEX LESS THAN 7; LIQUID LIMIT LESS THAN 25.



**WATER & SANITARY SEWER
BEDDING & BACKFILL
(CONCRETE PAVED AREAS)**

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 2

GENERAL NOTES

1. BANK SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487 AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PLASTICITY INDEX LESS THAN 7; LIQUID LIMIT LESS THAN 25.

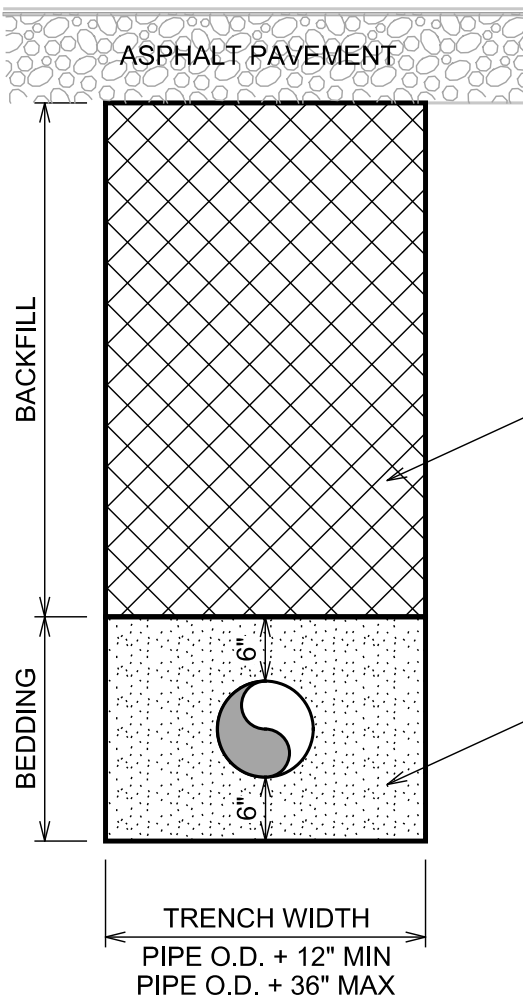
2. UNDER ASPHALT PAVING, BACKFILL SHALL BE CEMENT STABILIZED SAND AND SHALL EXTEND FROM THE TOP OF THE SAND BEDDING TO THE ELEVATION OF THE BOTTOM OF THE BASE SECTION. THE CEMENT STABILIZED SAND BACKFILL SHALL MEET THE FOLLOWING REQUIREMENTS:

A. THE CEMENT SHALL BE PORTLAND CEMENT, TYPE I, ASTM C150.

B. THE SAND SHALL BE CLEAN, DURABLE SAND; LESS THAN 0.5% CLAY CLUMPS, ASTM C142; LESS THAN 0.5% LIGHTWEIGHT PIECES, ASTM C123; ORGANIC IMPURITIES, ASTM C40; NOT SHOWING A COLOR DARKER THAN STANDARD COLOR; AND PLASTICITY INDEX OF LESS THAN 6, ASTM D423 & ASTM D424.

C. CEMENT-SAND MIXTURE SHALL CONSIST OF AT LEAST 1.5 SACKS OF CEMENT PER TON OF SAND. MINIMUM UNCONFINED COMPRESSIVE STRENGTH OF 100 PSI IN 48 HOURS, WHEN COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D2922-78 & ASTM D3017-78), WITHOUT ADDITIONAL MOISTURE CONTROL, CURED & TESTED IN ACCORDANCE WITH ASTM C31.

D. CEMENT STABILIZED SAND SHALL BE PLACED & COMPACTED WITHIN 3 HOURS OF BATCHING.



CEMENT STABILIZED SAND BACKFILL SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS AND BE COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY (ASTM D2922-78 & ASTM D3017-78).

SAND BEDDING SHALL FILL THE ENTIRE WIDTH OF THE TRENCH AND SHALL EXTEND FROM A DEPTH OF 6" BELOW THE PIPE TO 6" ABOVE THE PIPE. BEDDING SHALL BE INSTALLED IN MAXIMUM 9" LOOSE LIFTS AND BE COMPACTED BY VIBRATORY EQUIPMENT TO A 90% STANDARD PROCTOR (ASTM D698).



WATER & SANITARY SEWER
BEDDING & BACKFILL
(ASPHALT PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

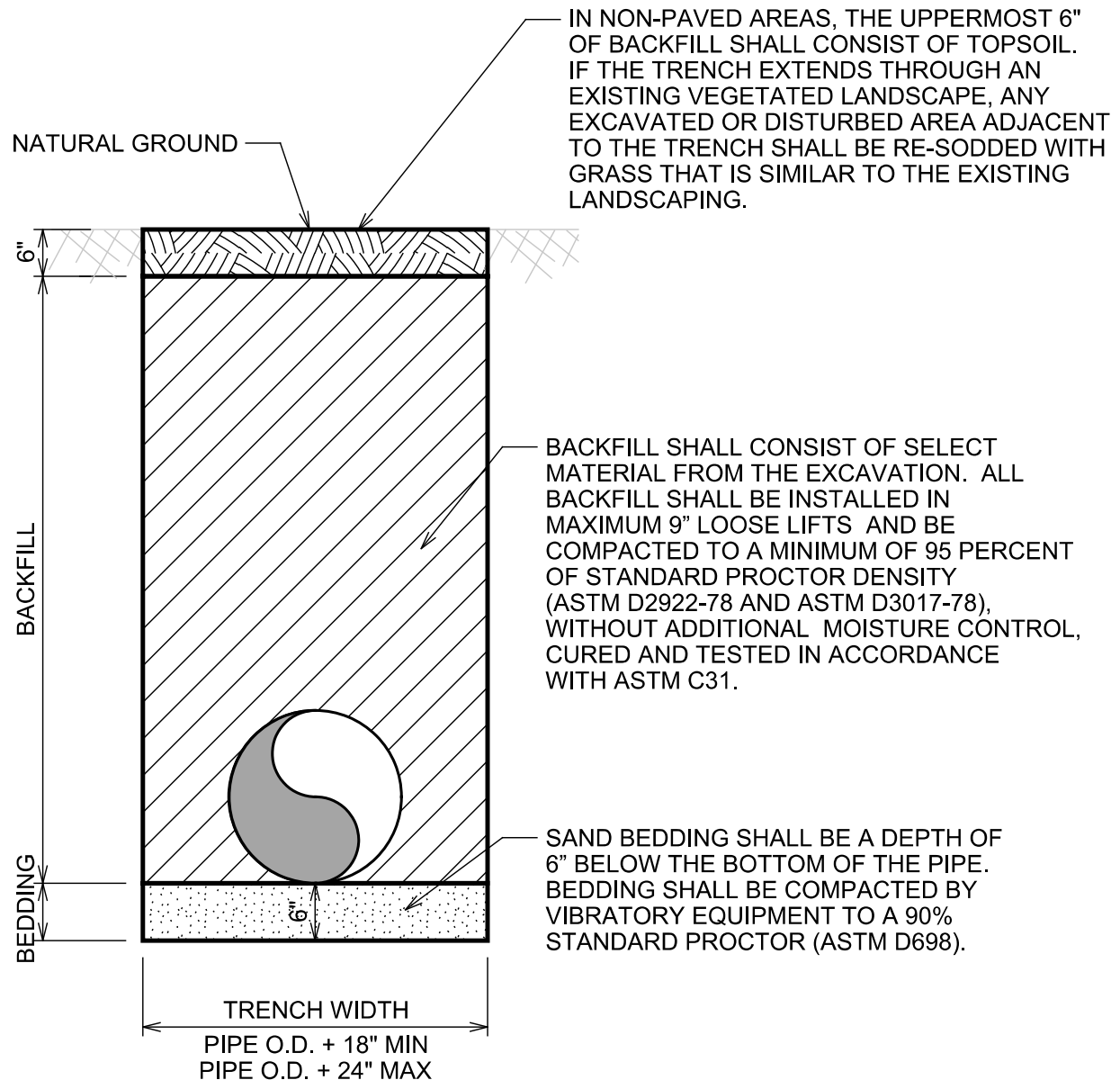
DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 3

GENERAL NOTES

1. BANK SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487 AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PLASTICITY INDEX LESS THAN 7; LIQUID LIMIT LESS THAN 25.



STORM SEWER
BEDDING & BACKFILL
FOR RCP PIPE
(NON-PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

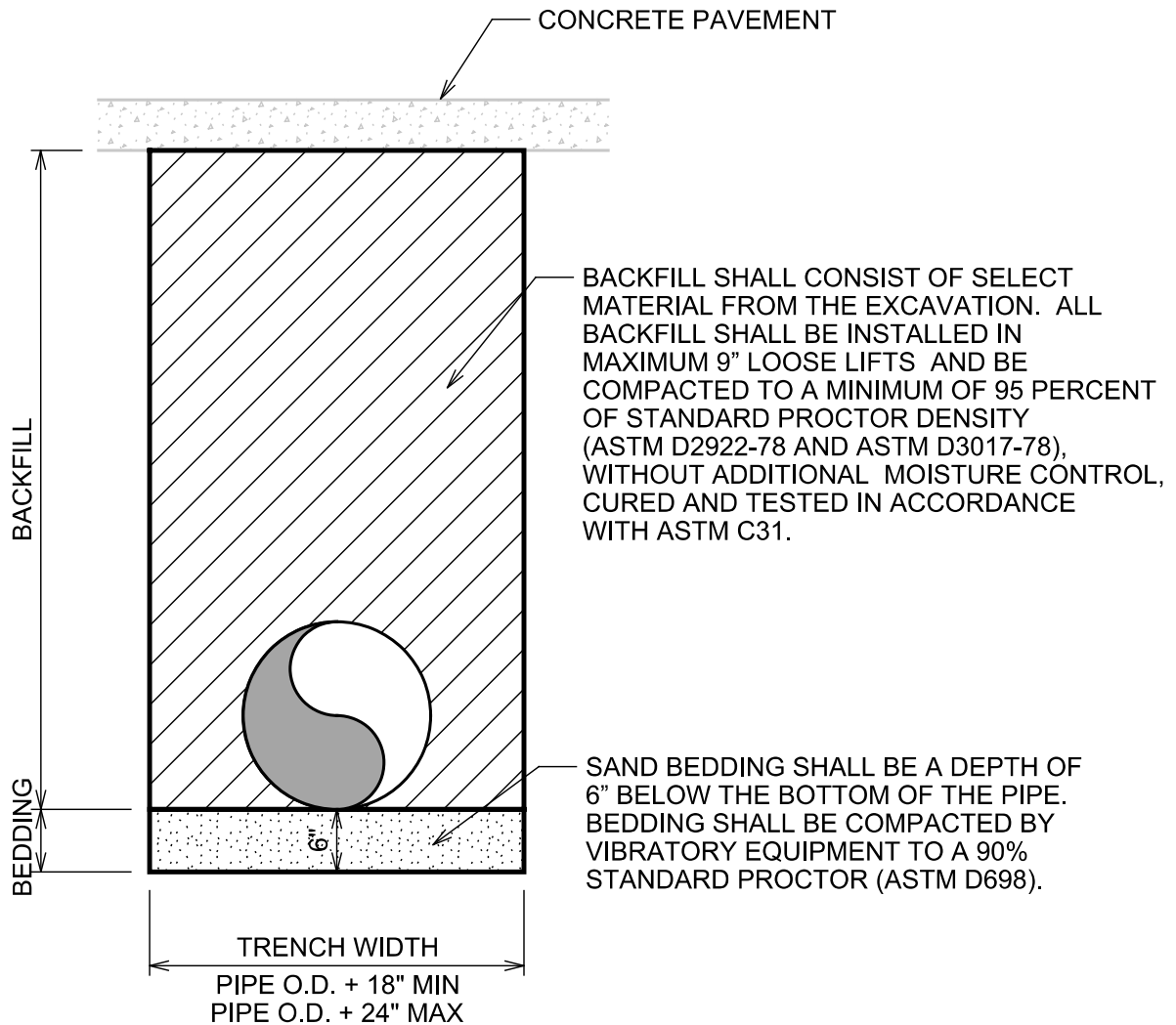
DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 4

GENERAL NOTES

1. BANK SAND SHALL BE SP, SW OR SM PER USC (ASTM D2487 AND SHALL HAVE THE FOLLOWING PROPERTIES: LESS THAN 15% PASSING #200 SIEVE; LESS THAN 2% CLAY LUMPS; PLASTICITY INDEX LESS THAN 7; LIQUID LIMIT LESS THAN 25.



STORM SEWER BEDDING & BACKFILL FOR RCP PIPE (CONCRETE PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 5

GENERAL NOTES

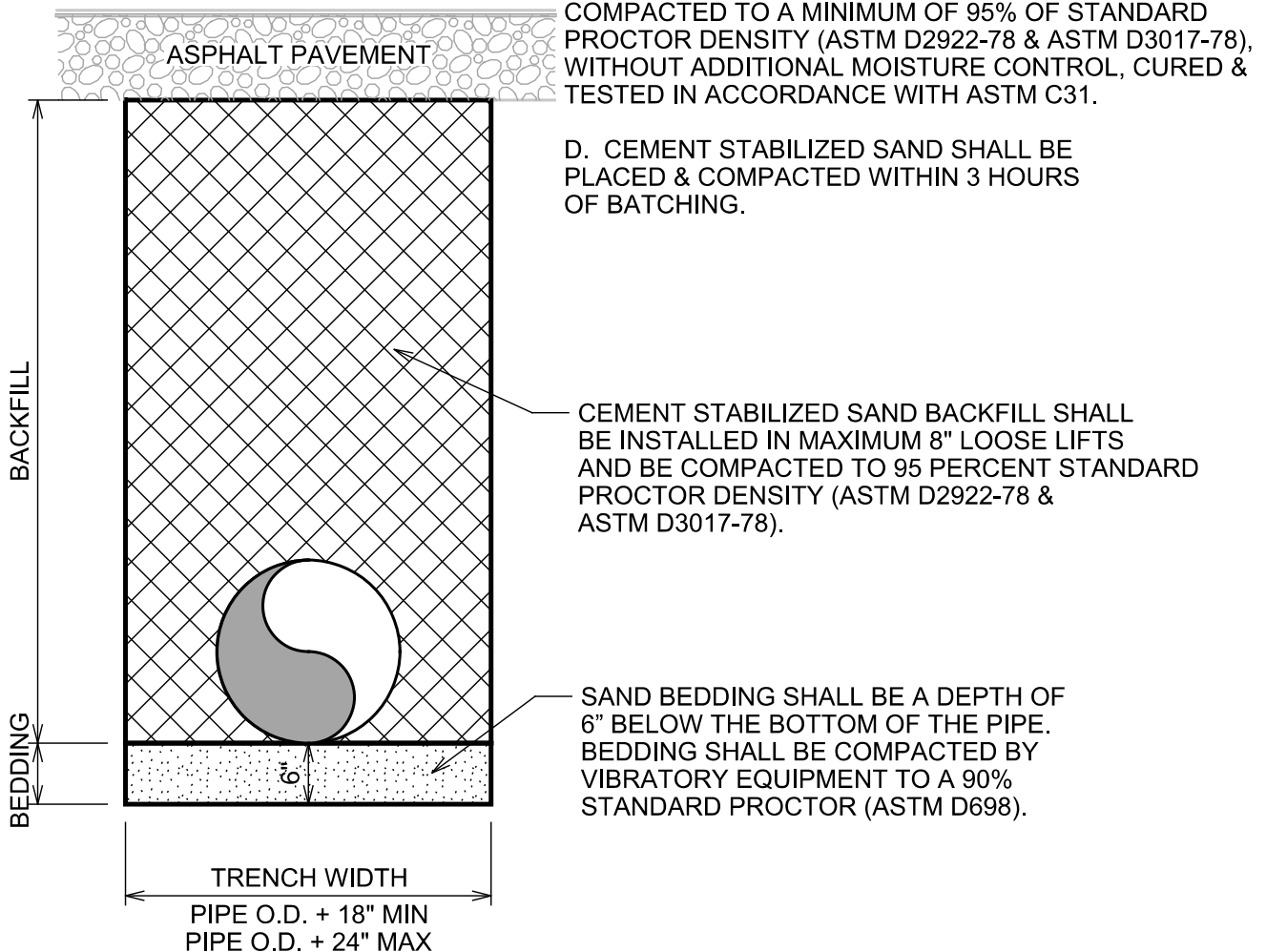
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2. UNDER ASPHALT PAVING, BACKFILL SHALL BE CEMENT STABILIZED SAND AND SHALL EXTEND FROM THE TOP OF THE SAND BEDDING TO THE ELEVATION OF THE BOTTOM OF THE BASE SECTION. THE CEMENT STABILIZED SAND BACKFILL SHALL MEET THE FOLLOWING REQUIREMENTS:

A. THE CEMENT SHALL BE PORTLAND CEMENT, TYPE I, ASTM C150.

B. THE SAND SHALL BE CLEAN, DURABLE SAND; LESS THAN 0.5% CLAY CLUMPS, ASTM C142; LESS THAN 0.5% LIGHTWEIGHT PIECES, ASTM C123; ORGANIC IMPURITIES, ASTM C40; NOT SHOWING A COLOR DARKER THAN STANDARD COLOR; AND PLASTICITY INDEX OF LESS THAN 6, ASTM D423 & ASTM D424.

C. CEMENT-SAND MIXTURE SHALL CONSIST OF AT LEAST 1.5 SACKS OF CEMENT PER TON OF SAND. MINIMUM UNCONFINED COMPRESSIVE STRENGTH OF 100 PSI IN 48 HOURS, WHEN COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D2922-78 & ASTM D3017-78), WITHOUT ADDITIONAL MOISTURE CONTROL, CURED & TESTED IN ACCORDANCE WITH ASTM C31.



STORM SEWER BEDDING & BACKFILL FOR RCP PIPE (ASPHALT PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 6

GENERAL NOTES

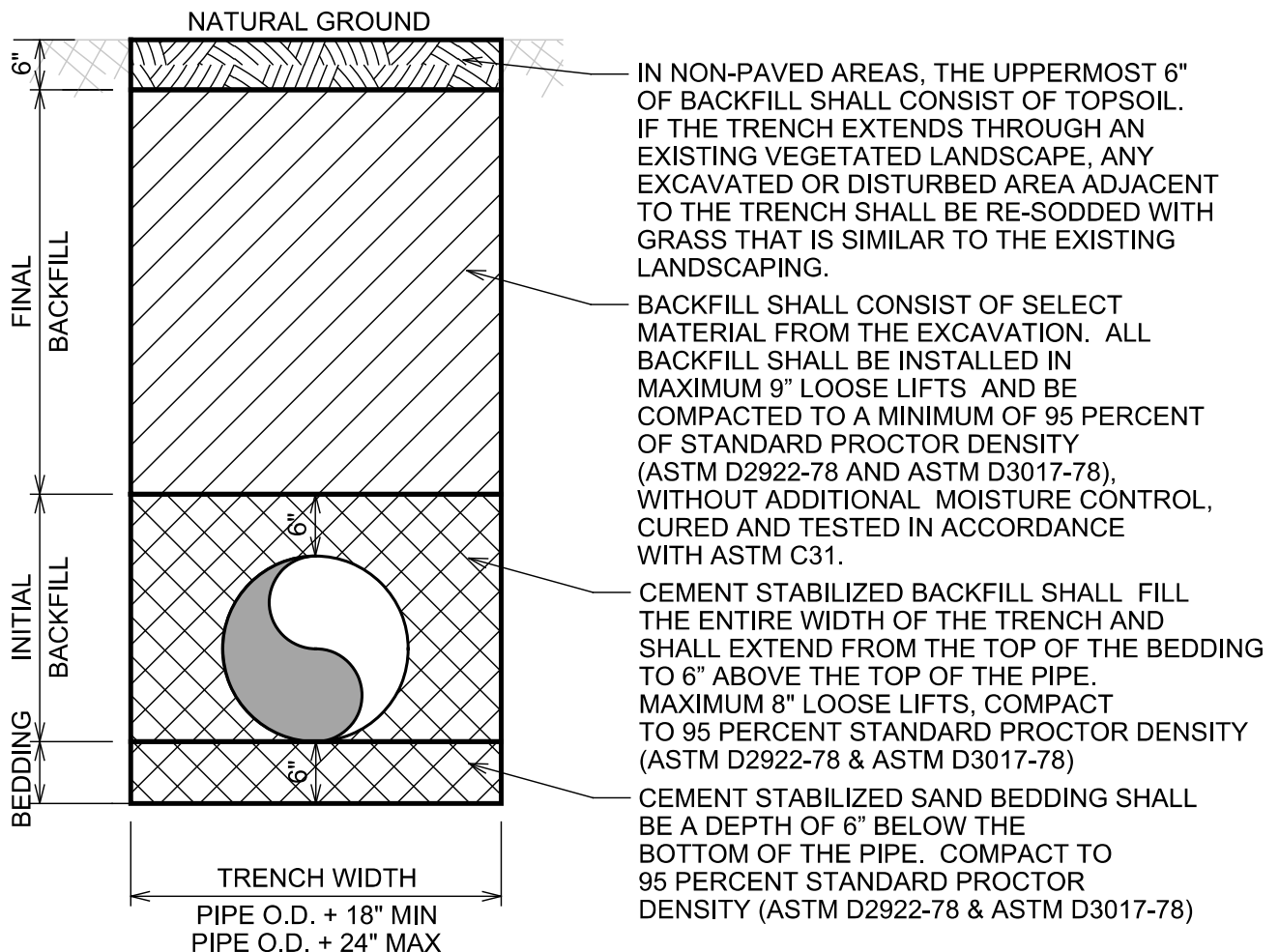
1. BEDDING AND INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND AND SHALL EXTEND FROM 6 INCHES BELOW THE PIPE TO 6 INCHES ABOVE THE PIPE. THE CEMENT STABILIZED SAND BACKFILL SHALL MEET THE FOLLOWING REQUIREMENTS:

A. THE CEMENT SHALL BE PORTLAND CEMENT, TYPE I, ASTM C150.

B. THE SAND SHALL BE CLEAN, DURABLE SAND; LESS THAN 0.5% CLAY CLUMPS, ASTM C142; LESS THAN 0.5% LIGHTWEIGHT PIECES, ASTM C123; ORGANIC IMPURITIES, ASTM C40; NOT SHOWING A COLOR DARKER THAN STANDARD COLOR; AND PLASTICITY INDEX OF LESS THAN 6, ASTM D423 & ASTM D424.

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D. CEMENT STABILIZED SAND SHALL BE PLACED & COMPACTED WITHIN 3 HOURS OF BATCHING.



STORM SEWER
BEDDING & BACKFILL
FOR HDPE PIPE
(NON-PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 7

GENERAL NOTES

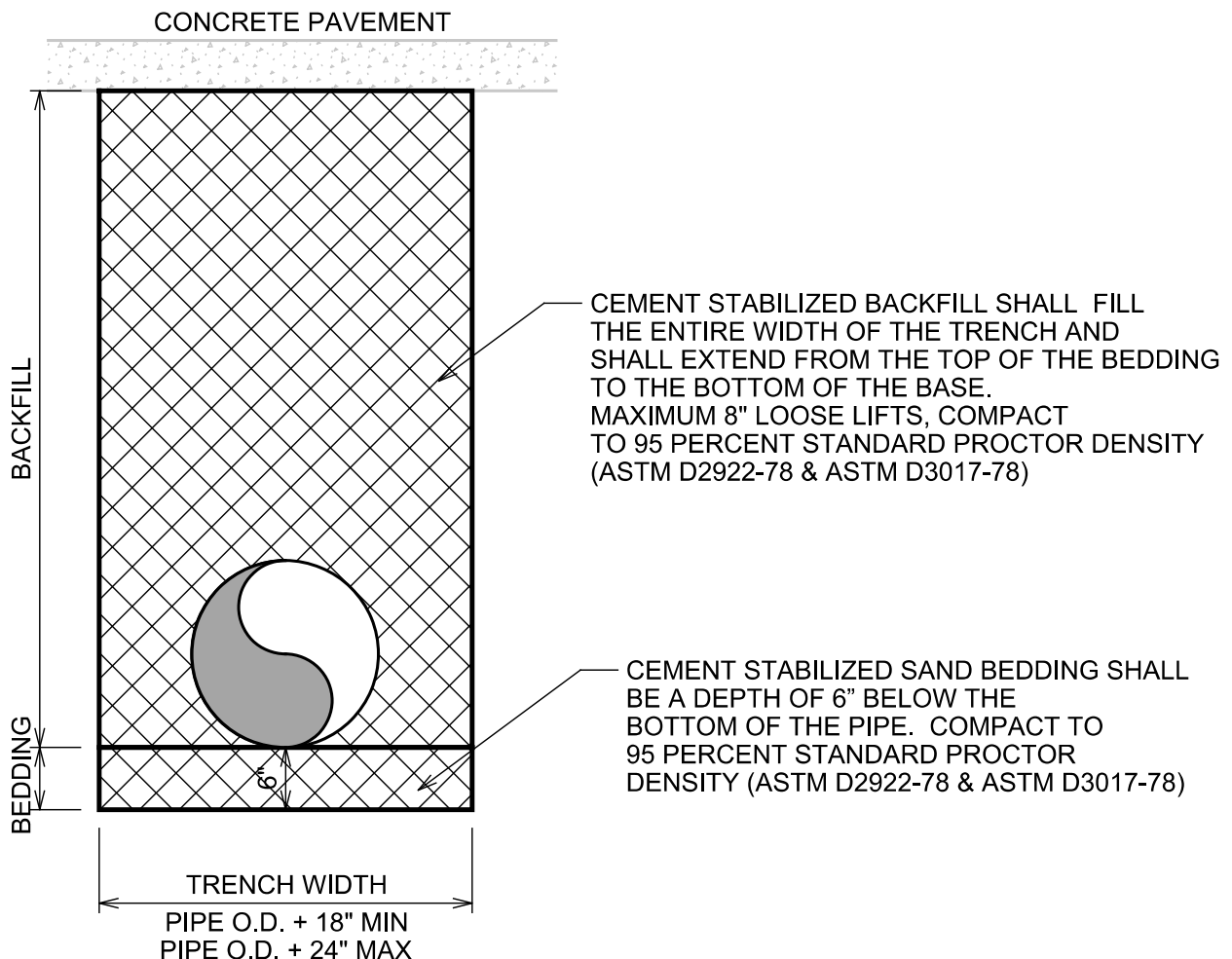
1. UNDER CONCRETE PAVING, BEDDING AND BACKFILL SHALL BE CEMENT STABILIZED SAND AND SHALL EXTEND FROM 6 INCHES BELOW THE PIPE TO THE BOTTOM OF THE BASE SECTION. THE CEMENT STABILIZED SAND BACKFILL SHALL MEET THE FOLLOWING REQUIREMENTS:

A. THE CEMENT SHALL BE PORTLAND CEMENT, TYPE I, ASTM C150.

B. THE SAND SHALL BE CLEAN, DURABLE SAND; LESS THAN 0.5% CLAY CLUMPS, ASTM C142; LESS THAN 0.5% LIGHTWEIGHT PIECES, ASTM C123; ORGANIC IMPURITIES, ASTM C40; NOT SHOWING A COLOR DARKER THAN STANDARD COLOR; AND PLASTICITY INDEX OF LESS THAN 6, ASTM D423 & ASTM D424.

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D. CEMENT STABILIZED SAND SHALL BE PLACED & COMPACTED WITHIN 3 HOURS OF BATCHING.



**STORM SEWER
BEDDING & BACKFILL
FOR HDPE PIPE
(CONCRETE PAVED AREAS)**

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 8

GENERAL NOTES

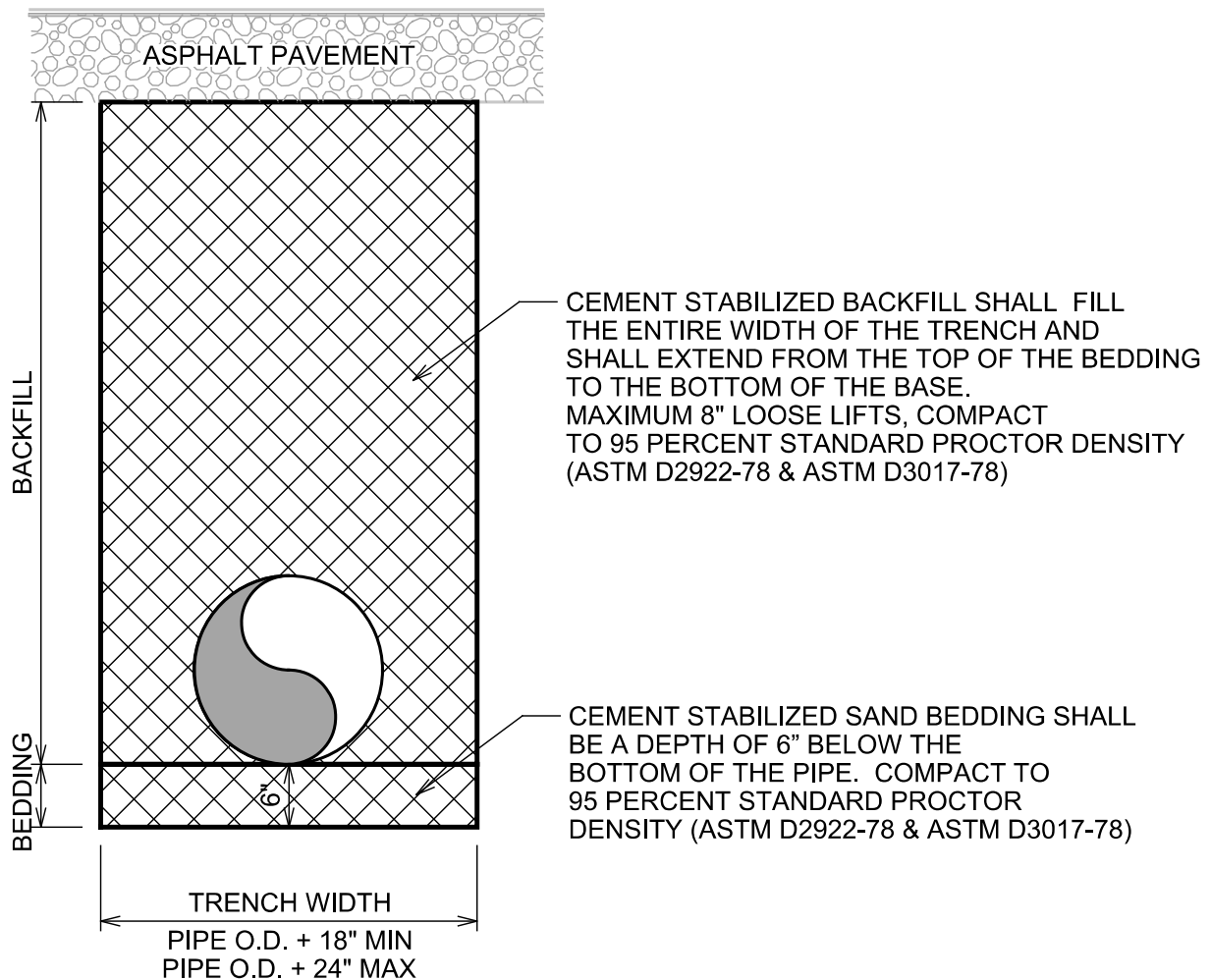
1. UNDER ASPHALT PAVING, BEDDING AND BACKFILL SHALL BE CEMENT STABILIZED SAND AND SHALL EXTEND FROM 6 INCHES BELOW THE PIPE TO THE BOTTOM OF THE BASE SECTION. THE CEMENT STABILIZED SAND BACKFILL SHALL MEET THE FOLLOWING REQUIREMENTS:

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D. CEMENT STABILIZED SAND SHALL BE PLACED & COMPACTED WITHIN 3 HOURS OF BATCHING.



STORM SEWER
BEDDING & BACKFILL
FOR HDPE PIPE
(ASPHALT PAVED AREAS)

STANDARD CONSTRUCTION DETAILS

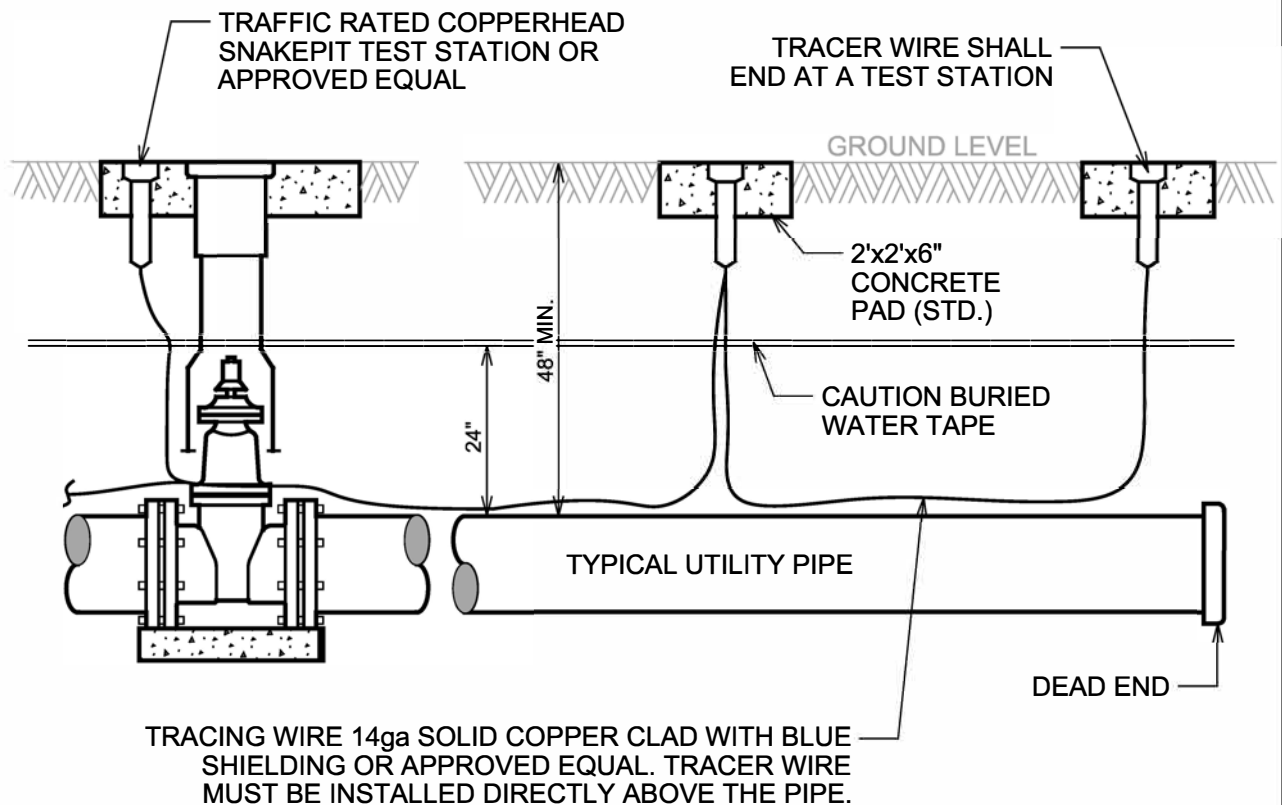
DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 9

GENERAL NOTES

1. A CONTINUOUS TRACER WIRE, SUCH AS A SOLID 14-GUAGE COPPER CLAD WIRE WITH BLUE SHIELDING OR APPROVED EQUAL, SHALL BE AFFIXED TO THE TOP OF THE NEW WASTEWATER MAIN PRIOR TO BURY AND SHALL HAVE A SNAKE PIT TRACER STATION INSTALLED AT A MAXIMUM OF 500 FEET.
2. THE TRACER STATION SHALL HAVE A 2' X 2' CONCRETE PAD AROUND IT AND SHALL BE SHOWN ON THE PLANS.
3. TRACER WIRE SHALL BE CONNECTED TO ALL WATER METER ANGLE STOPS, FIRE HYDRANTS, AND VALVE BOX RISERS. WIRE SPLICES SHALL BE COMPLETED USING APPROVED, UNDERGROUND CONNECTORS. SOLDERED CONNECTIONS ARE NOT PERMITTED. A CONTINUITY TEST SHALL BE COMPLETED PRIOR TO ACCEPTANCE.



PIPE LOCATION MARKING (ALL UTILITIES)

STANDARD CONSTRUCTION DETAILS

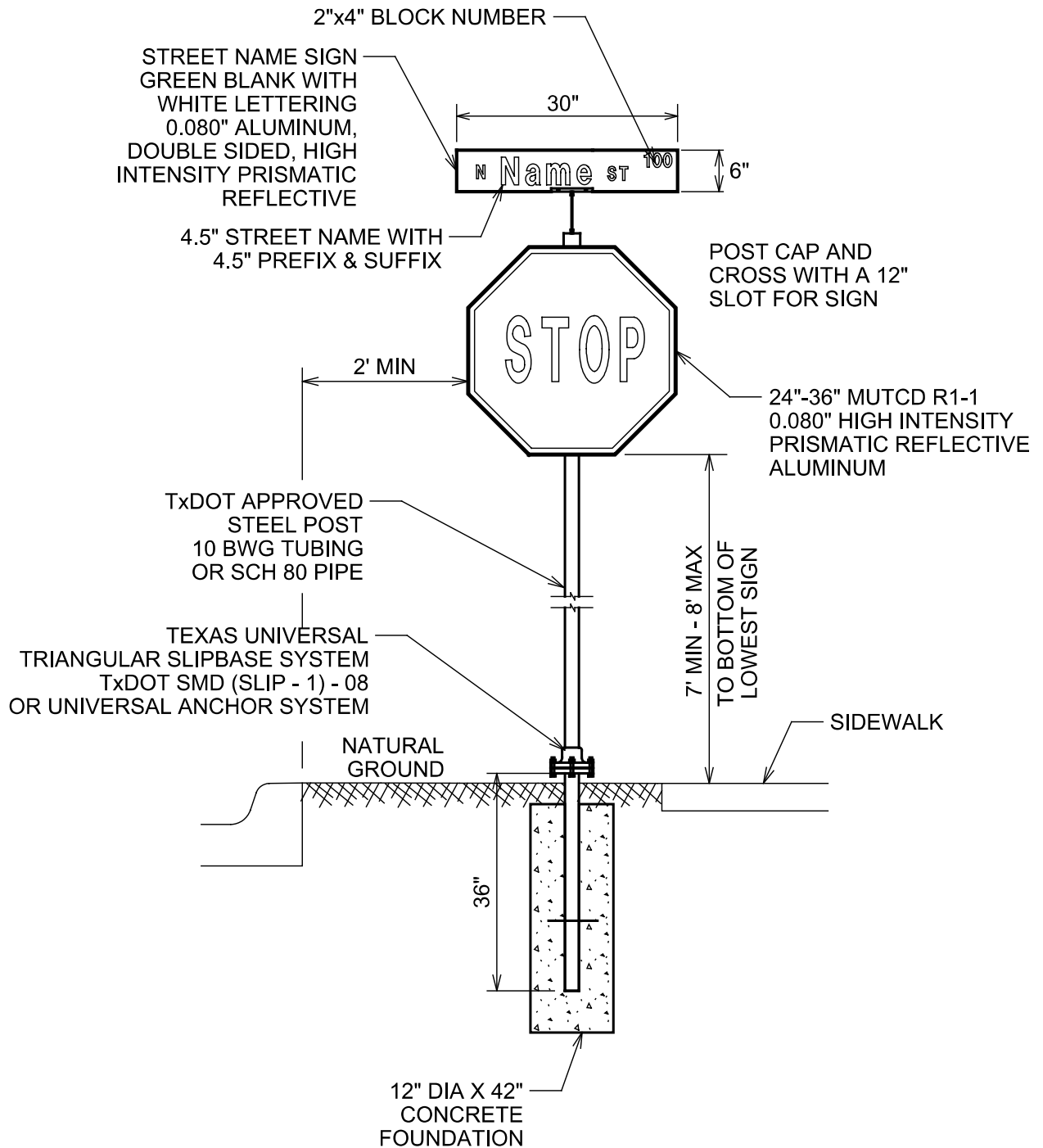
DATE: 07/20/21

REVISED
DATE: 07/20/21

BBF - 10

GENERAL NOTES

- SIGNS SHALL MEET MUTCD AND TxDOT STANDARDS.



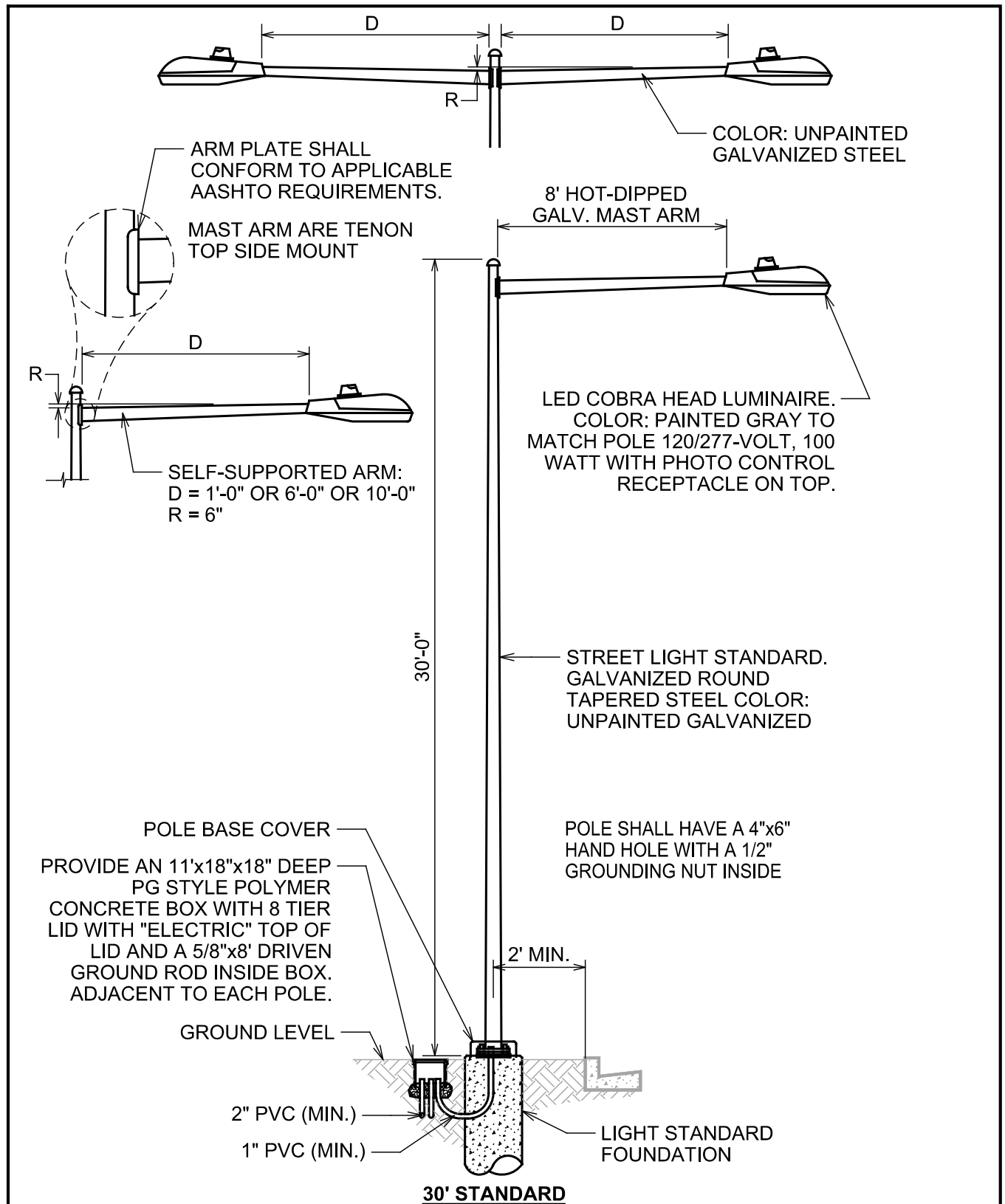
STREET
NAME/STOP SIGN

STANDARD CONSTRUCTION DETAILS

DATE: 07/20/21

REVISED
DATE: 07/20/21

SGN - 1



TYPICAL STREET LIGHT STANDARD DETAILS

STANDARD CONSTRUCTION DETAILS

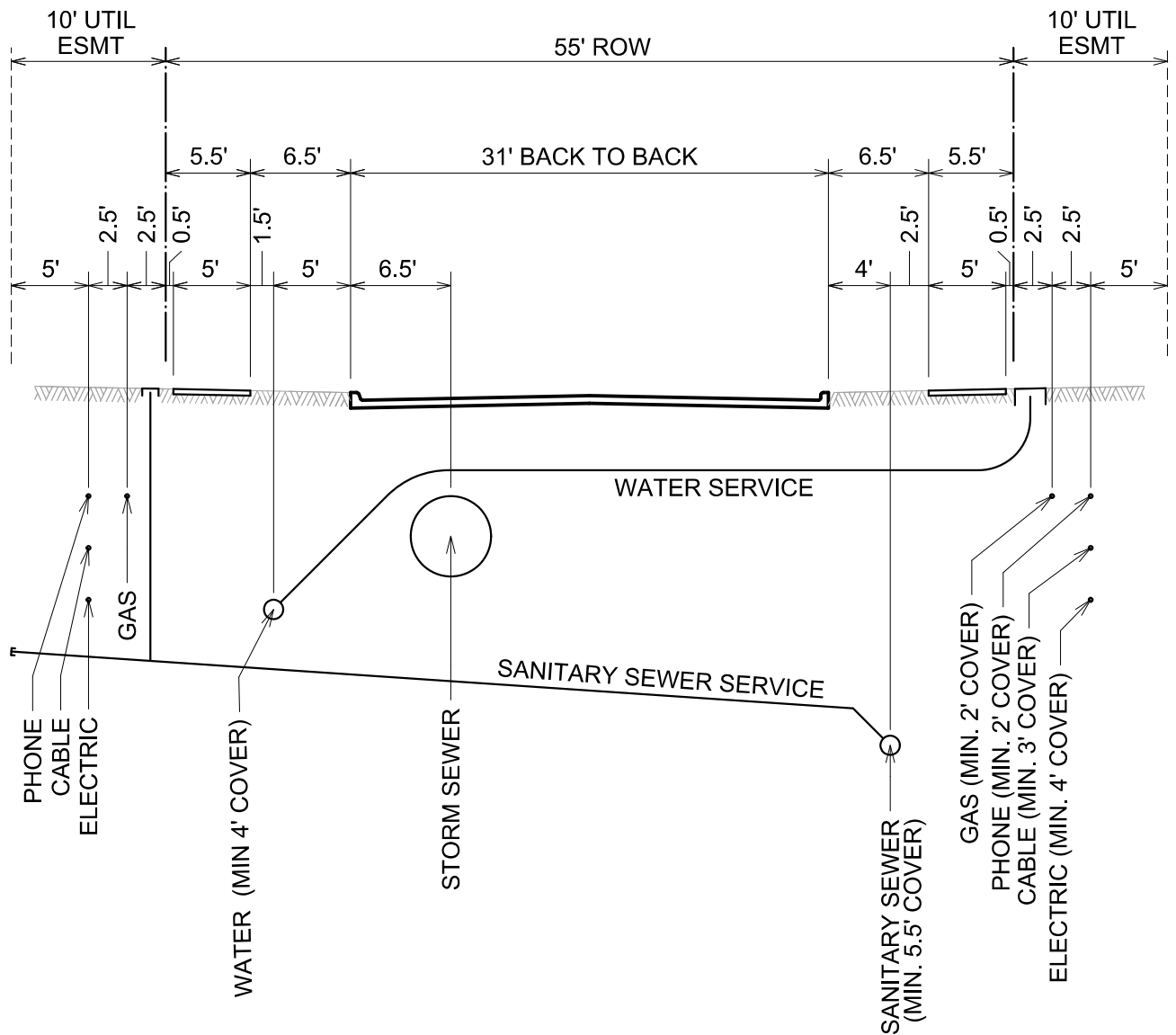
DATE: 07/20/21

REVISED
DATE: 07/20/21

SGN - 2

GENERAL NOTES

1. THIS DETAIL SERVES AS A GENERAL GUIDE ONLY. CITY ENGINEER AND UTILITY PROVIDERS WILL DETERMINE FINAL LOCATION.



TYPICAL UTILITY LAYOUT (LOCAL STREET)

STANDARD CONSTRUCTION DETAILS

DATE: 09/21/21

REVISED
DATE: 09/21/21

ROW - 1



Regular City Council
AGENDA ITEM 16.

Agenda Item: Discuss and Possibly Act Upon the Renewal with Texas Municipal League Intergovernmental Risk Pool for General Liability, Law Enforcement Liability, Public Officials Liability, Mobile Equipment, Airport Liability, Property, Auto Liability and Physical Damage, Crime, and Workers' Compensation Coverage for the City of Brenham for Fiscal Year 2022-23 and Authorize the Mayor to Execute Any Necessary Documentation

Meeting Type: Regular Meeting-September 01, 2022

Department: Human Resources and Risk Management

Staff Contact: Susan Nienstedt

SUMMARY STATEMENT:

See attached memo.

ATTACHMENTS:

(1) Memo from Susan Nienstedt

RECOMMENDED ACTION:

Approve the renewal with Texas Municipal League Intergovernmental Risk Pool for General Liability, Law Enforcement Liability, Public Officials Liability, Mobile Equipment, Airport Liability, Property, Auto Liability and Physical Damage, Crime, and Workers' Compensation Coverage for the City of Brenham for Fiscal Year 2022-23 and authorize the Mayor to execute any necessary documentation.



MEMORANDUM

To: Mayor, City Council and City Manager

From: Susan Nienstedt
Human Resources & Risk Management Director

Subject: Renewal of Property and Liability Coverage with TML Intergovernmental Risk Pool for FY2022-23

Date: August 22, 2022

As a member of the TML Intergovernmental Risk Pool (TMLIRP) we benefit from the mission statement of the Pool which is to provide stable source of risk financing and rates. In the past five years, we have encountered unprecedented events, such as hurricanes, winter storms, and the COVID-19 pandemic which continue to impact members. TMLIRP is able to use its financial strength to help moderate rate changes resulting from claims and cost pressures. The renewal rates from TMLIRP for FY2022-23 are shown on the table below with a comparison to the FY2021-22 coverage. The overall budget impact is an increase of \$54,042.

Our liability coverage includes general liability, law enforcement, errors and omissions, as well as automobile and aviation liability insurance. An overall increase in the liability coverage of approximately nine percent is due, in part, to the addition of city managed airport and fueling operations, an increase in our errors and omissions rate, and a slight increase our experience modifier from .71 to .76. Experience modifier calculations are based on a state adopted formula comparing expected losses to actual losses over the previous three years.

Property coverage includes real and personal property, mobile equipment, crime and cybersecurity liability coverage. The overall contribution for property liability will increase approximately fifteen percent. Increases are due to the application of an inflationary factor that is applied to all our scheduled building values and contents and mobile equipment. This will raise our scheduled values closer to actual replacement costs.

Workers' Compensation rates for each category of workers will remain the same except for the public safety categories of paid police and fire, which will increase approximately fifteen percent due to recent events and social conditions. The experience modifier for workers' compensation will increase slightly from the prior year from .30 to .31.

Coverage Description	2021-22 Contribution	2022-23 Contribution	Difference
General Liability	\$19,273	\$20,479	\$1,206
Law Enforcement Liability	\$29,090	\$30,254	\$1,164
Errors & Omissions Liability	\$41,484	\$46,538	\$5,054
Automobile Liability	\$33,582	\$35,805	\$2,223
Automobile Physical Damage	\$53,676	\$54,944	\$1,268
Aviation Liability	\$1,346	\$6,488	\$5,142
Subtotal Liability	\$178,451	\$194,508	\$16,057
Real & Personal Property	\$136,197	\$156,744	\$20,547
Mobile Equipment	\$21,593	\$23,597	\$2,004
Crime	\$2,937	\$2,992	\$55
Subtotal Property	\$160,727	\$183,333	\$22,606
Workers' Compensation	\$98,783	\$114,162	\$15,379
Total All Coverages	\$437,961	\$492,003	\$54,042

The TML Risk Pool provides excellent staff and services that are familiar with the challenges faced by local government officials and employees. One of the many benefits TMLIRP provides is a disaster recovery program which includes roofing assistance in the event of major damages to any of our facilities. A team of roofing experts will evaluate damages, secure the roof as needed, and oversee every step of the repair or replacement using either local bidding and contractors or cooperative purchasing programs. The best way a city can help control costs is to practice risk mitigation, and TMLIRP provides specialized services such as surveys of gas and electric utilities, and aquatic facilities to make safety recommendations and assessments. Specialized training designed for local government and public safety personnel is provided at no additional cost to reduce and prevent accidents and injuries. In 2022 the City of Brenham participated in TMLIRP's R.O.A.D Ready program specifically designed to mitigate roadway risks, as well as defensive driving for public entities and public safety. Training is available to employees via onsite instructor led training, 24/7 online training courses, webinars, and a vast library of training media.

The City will receive a 2% reduction in contributions for early payment of the annual costs if paid by October 31 which totals \$9,840.00.

Recommendation

We are recommending approval of the TMLIRP renewal rates for liability, property and workers' compensation effective October 1, 2022 at the rates shown on the above schedule.



Regular City Council
AGENDA ITEM 17.

Agenda Item: Discuss and Possibly Act Upon an Engagement Letter for Legal Services Between the City of Brenham and Bovey & Cochran, PLLC Related to City Attorney, General Counseling and Municipal Court Prosecution Services and Authorize the Mayor to Execute Any Necessary Documentation

Meeting Type: Regular Meeting-September 01, 2022

Department: Administration

Staff Contact: Carolyn Miller

SUMMARY STATEMENT:

In July, the City Attorney requested that the City consider an increase in his firm's, Bovey & Cochran, PLLC, hourly billing rate from \$145.00 to \$165.00. Currently Bovey & Cochran provide legal services for City Attorney, General Counseling, and Municipal Court Prosecution for the City. The current rate of \$145.00 per hour was approved by City Council in 2018. The engagement letter being presented for Council's consideration includes a new hourly rate of \$165.00 effective with the October 2022 invoice and a similar increase to \$185.00 per hour effective October 1, 2024.

Both Cary Bovey and Luke Cochran have provided the City with outstanding legal services and It is staff's recommendation that this new engagement agreement be approved.

ATTACHMENTS:

- (1) Hourly Rate Increase Request
- (2) Engagement Agreement

RECOMMENDED ACTION:

Approve an Engagement Letter for Legal Services between the City of Brenham and Bovey & Cochran, PLLC related to City Attorney, General Counseling and Municipal Court Prosecution services and authorize the Mayor to execute any necessary documentation.



July 10, 2022

Carolyn D. Miller, CPA, City Manager
City of Brenham
200 W. Vulcan
Brenham, TX 77833

Re: Request for Change in Hourly Rate

Dear Carolyn:

As you and I briefly discussed last Thursday, our law firm is respectfully requesting an increase in our hourly billing rate from \$145/hour to \$165/hour.

There have been significant inflationary pressures during the most recent couple of years, raising costs across nearly all industries and economic sectors. Increasing our hourly rate to \$165/hour would be a 13.8% increase. Based on the latest available data from the Bureau of Labor Statistics CPI calculator, what could be bought for \$1.00 in December 2018 now costs \$1.16 as of May 2022, a 16.0% increase, which is actually higher than the 13.8% increase from \$145/hour to \$165/hour that our law firm is requesting.

Additionally, according to our firm's research, the hourly rate charged by municipal law firms in Texas is typically \$200/hour or more; our office has obtained copies of multiple proposals submitted by law firms to Texas cities over the most recent 6 month period to verify this information. Our hourly rate is significantly lower than rates charged by similar municipal law firms.

We have been charging the City \$145/hour since December of 2018, nearly 4 years. Prior to December 2018, we charged the City \$135/hour beginning in 2013. Between 2005 and 2013, we charged \$125/hour. I would like to respectfully request that the City Council approve an increase in our hourly rate from \$145/hour to \$165/hour effective October 1, 2022, and a similar increase to \$185/hour effective October 1, 2024 in order to eventually more closely align our firm's hourly rate with the current market.

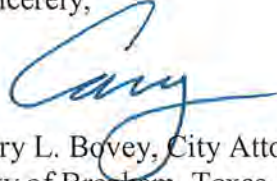
All new clients of Bovey & Cochran are billed at the rate of \$185/hour or more, and we also have a larger municipal client that we currently bill for specialized work at \$195/hour. For the approaching fiscal year, we will be requesting all clients that we currently bill at \$145/hour for an increase to \$165/hour, and a similar increase to \$185/hour effective October 1, 2024.

Luke and I thoroughly enjoy and are truly honored to provide legal services to the City of Brenham. I am glad to discuss my request with you, Mayor Tate and the City

Council at any time. I greatly appreciate your, Mayor Tate's and the City Council's consideration of our request.

Please let me know if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read "Cary", with a stylized flourish extending from the end.

Cary L. Bovey, City Attorney
City of Brenham, Texas

BOVEY & COCHRAN, PLLC

2251 Double Creek Dr., Suite 204, Brenham, Texas 78664
(512) 904-9441 Fax (512) 904-9445 cary@boveycochran.com

August 19, 2022

Hon. Milton Y. Tate, Jr., Mayor
Hon. City Councilmembers
City of Brenham
P.O. Box 1059
Brenham, Texas 77834-1059

**Re: Engagement Letter for Legal Services – City Attorney, General Counseling
and Municipal Court Prosecution**

Dear Mayor Tate and Councilmembers:

On behalf of Bovey & Cochran, PLLC, Luke and I want to thank you for the opportunity to continue to serve as City Attorney and to perform Municipal Court prosecution services for the City of Brenham.

The purpose of this letter and the enclosed Terms of Engagement is to memorialize our understanding with respect to the specific nature of our attorney-client relationship. Please review these documents carefully and contact me if you have any questions.

Identity of Client:

City of Brenham, Texas

Nature & Scope of Representation:

While in the future we may be directed to represent you on more specific matters, our present relationship can be described as follows:

Serve as City Attorney, provide general legal services, and perform Municipal Court prosecution services for the City of Brenham.

Financial Arrangements:

Beginning with the October 2022 invoice, the hourly rate for all attorneys at our firm who work on City of Brenham matters will be one hundred and sixty-five dollars (\$165.00) per hour, and a similar increase to one hundred and eighty-five dollars (\$185.00) per hour effective October 1, 2024 in order to more closely align our law firm's hourly rate with the current market. No retainer is necessary prior to our firm performing legal services. Our law firm bills in increments of a tenth of an hour. You will receive a detailed monthly accounting of services rendered by the firm.

Duration:

The terms established by this Letter of Engagement are perpetual, and shall continue until modified by mutual consent of the Client and the firm. Acceptance of these standard terms does not preclude the Client or our firm from proposing alternative arrangements at a later date.

Acceptance of Terms:

If this arrangement is acceptable to you, please sign this letter and return it to me at your earliest convenience. Luke and I are truly honored that you are willing to make our law firm part of your legal team. If you would like to contact me, please call (512) 904-9441, or e-mail me at cary@boveycochran.com.

Sincerely,

/s/ Cary L. Bovey

Cary L. Bovey

AGREED TO & ACCEPTED:

By:

Hon. Milton Y. Tate, Jr., Mayor
City of Brenham, Texas

Date: _____

Please mail/email one signed agreement to Cary.

TERMS OF ENGAGEMENT

This document establishes the terms of our engagement as your attorneys. Unless modified in writing by mutual consent, these terms will be an integral part of our relationship. Therefore, we ask that you carefully review this statement and contact us if you have any questions.

1. Scope of Work

As the client, it is imperative that you have a clear understanding of the legal services the Law Office of Cary L. Bovey, PLLC (“Law Firm”) will provide. Any questions that you have should be dealt with promptly. We will provide services related only to matters as to which we have been specifically engaged. The Law Firm will at all times act on your behalf to the best of our ability. Any expressions on our part concerning the outcome of your legal matters are expressions of our best professional judgment, but are not guarantees. Such opinions are necessarily limited by our knowledge of the facts and are based on the state of the law at the time they are expressed. We cannot guarantee the success of any given matter, but we will strive to represent your interests professionally and efficiently.

2. Fees for Legal Services

The charges for professional services provided by the Law Firm will typically be based upon the following: (1) the time devoted to the matter; (2) the novelty and difficulty of the questions presented; (3) the requisite experience, reputation and skill requested to deal with those questions; (4) time limitations imposed by the circumstances; (5) and the quality of the results obtained. Unless otherwise indicated in writing, our fees for legal services are determined on the basis of the hourly rates of the legal staff who perform the services. These rates may vary depending on the expertise and experience of the individual. We will notify you in writing if this fee structure is modified. Currently, as set forth in the standard billing rate sheet attached hereto and incorporated herein as Exhibit “A,” the standard billing rate for all attorneys is one hundred sixty-five dollars (\$165.00) per hour; the billing rate for paralegals, legal assistants and law clerks is seventy-five dollars (\$95.00) per hour; and the billing rate for administrative support personnel is fifty-five dollars (\$55.00) per hour (fees in U.S. Dollars). Effective October 1, 2024 the standard billing rate for all attorneys will be one hundred eighty-five dollars (\$185.00) per hour, with no change to the hourly rates for support staff. Thereafter, these rates may change in accordance with the standard billing rates in effect at the time the legal services are performed. In the event the Law Firm’s standard billing rates change, the Law Firm will provide you with written notice, no later than July 15, of the revised standard billing rate sheet to be effective on October 1 of that year.

3. Other Charges

All out-of-pocket expenses (such as long distance telephone charges, copying charges, travel expenses, messenger expenses, etc.) incurred by the Law Firm in connection with representing you will be billed to you as a separate item on your monthly statement.

4. Billing Procedures & Terms of Payment

Our billing period begins on the 27th day of the month and ends on the 26th day of the following month. We will render periodic statements to you for legal services and expenses. We usually mail these periodic statements toward the beginning of the month following the latest date covered in the statement. Each statement is payable within thirty (30) days of its stated date and must be paid in U.S. Dollars. If any statement is not paid within thirty (30) days after its stated date, interest at the rate of 1 percent per month (12 percent per annum) will accrue on the balance due. However, if at any time 12 percent per annum exceeds the highest interest rate permitted by applicable law, then the interest rate that will be applied to any overdue amounts will be reduced to the maximum rate permitted under applicable law. If you have any questions or concerns about any statement that we submit to you for payment, please contact me at your earliest convenience so that we can resolve any problems without delay. Typically, such issues can be resolved satisfactory with little inconvenience or formality.

5. Termination of Services

You have the *right to terminate our services at any time* upon providing written notice to us. Upon receipt of written notice will immediately cease to render additional services, as per your instructions. We reserve the right to discontinue work on pending matters or terminate our attorney-client relationship with you at any time that payment of your account becomes delinquent. We also reserve the right to withdraw when obligated by the Texas Rules of Disciplinary Conduct. Additionally, in the event that you fail to follow our advice and counsel, or otherwise fail to cooperate reasonably with us, we reserve the right to withdraw from representing you upon short notice, regardless of the then status of your matters. No termination shall relieve you of the obligation to pay fees and expenses incurred prior to such termination.

6. Retainer

No retainer shall be required for these matters.

7. Retention of Documents

Although we will attempt to retain for a reasonable time copies of most documents generated by this Law Firm, we cannot be held responsible in any way for failure to do so, and we hereby expressly disclaim any such responsibility or liability. You must retain all originals and among your own files.

8. Fee Estimates

We are often requested to estimate the amount of fees and costs likely to be incurred in connection with a particular matter. Our attorneys do their best to estimate fees and expenses for particular matters when asked to do so. However, an estimate is just that, and the fees and expenses required are ultimately a function of many conditions over which we have little or no control, especially in litigation or negotiation situations where the extent of necessary legal services may depend to a significant degree upon the tactics of the opposition. Unless otherwise agreed in writing with respect to a specific matter, all estimates made by us shall be subject to your agreement and understanding that such

estimates do not constitute maximum or fixed fee quotations and that the ultimate cost is frequently more or less than the amount estimated.

9. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, USA. Exclusive venue of any case or controversy arising under or pursuant to this Engagement Letter shall be in *Washington County, Texas*, USA.

10. Questions

If during the course of our representation you have any questions about any aspect of our arrangements, please feel entirely free to raise those questions. The Law Firm wants all of our clients to have a clear and satisfactory understanding about every aspect of our billing and payment policies. Accordingly, we encourage an open and frank discussion of any or all of the matters mentioned in this document.

EXHIBIT “A”

BOVEY & COCHRAN, PLLC

**STANDARD BILLING RATES
(EFFECTIVE OCTOBER 1, 2022)**

ATTORNEYS - \$165.00 PER HOUR

PARALEGALS, LEGAL ASSISTANTS AND LAW CLERKS - \$95.00 PER HOUR

ADMINISTRATIVE SUPPORT PERSONNEL - \$55.00 PER HOUR

**STANDARD BILLING RATES
(EFFECTIVE OCTOBER 1, 2024)**

ATTORNEYS - \$185.00 PER HOUR

PARALEGALS, LEGAL ASSISTANTS AND LAW CLERKS - \$95.00 PER HOUR

ADMINISTRATIVE SUPPORT PERSONNEL - \$55.00 PER HOUR



Regular City Council
AGENDA ITEM 19.

Agenda Item: **Section 551.086 - Texas Government Code - Utility Competitive Matters - City of Brenham Gas Utility System - Gas Supply and Transportation Arrangements and Agreements, and Associated Matters**

Meeting Type: Regular Meeting-September 01, 2022

Department: Public Utilities

Staff Contact: Debbie Gaffey

SUMMARY STATEMENT:

Executive Session item.

ATTACHMENTS:

None

RECOMMENDED ACTION:

No action - discussion only.