City Council Meeting Agenda

Our Vision: A well-planned lakeside community of quality neighborhoods, distinctive amenities, diverse employment, and cultural charm. Rowlett: THE place to live, work and play.

Tuesday, August 4, 2026 **7:00 PM** **Municipal Building – 4000 Main**

Pursuant to Texas Government Code Section 551.127, on a regular, non-emergency basis, members may attend and participate in the meeting remotely by video conference. Should that occur, a quorum of the members, including the presiding officer, will be physically present at the location noted above on this Agenda.

As authorized by Section 551.071 of the Texas Government Code, this meeting may be convened into closed Executive Session for the purpose of seeking confidential legal advice from the City Attorney on any agenda item herein.

The City of Rowlett reserves the right to reconvene, recess or realign the Regular Session or called Executive Session or order of business at any time prior to adjournment.

Process for Public Input: If you are not able to attend in person, you may complete the Public Input Form on the City's website by 3:30 p.m. the day of the meeting. All forms will be forwarded to the City Council prior to the start of the meeting.

For in-person comments, request to speak forms/instructions are available inside the door of the City Council Chambers.

Invocation

Pledges of Allegiance

1. Call to Order

2. Presentations

2.A. Presentation of the Comprehensive Monthly Financial Report (CMFR) for the period ending June 30, 2026

2.B. Update from the City Council and Management: Financial Position, Major Projects, Operational Issues, Upcoming Dates of Interest and Items of Community Interest.

3. Citizens' Input

At this time, comments will be taken from the audience on any topic. No action can be taken by the Council during Citizens' Input.

4. Consent Agenda

The following may be acted upon in one motion. A City Councilmember or a citizen may request items be removed from the Consent Agenda for individual consideration.

4.A. Consider action approving the minutes.

Consider action to approve minutes from the following City Council meeting(s): July 15, 2026, City Council Special Meeting, July 17, 2026, City Council Special Meeting, July 20, 2026, City Council Work

Session, and July 21, 2026, City Council Meeting.

4.B. Consider action to receive the investment report.

Consider action to receive the third quarter investment report for June 30, 2026.

4.C. Consider action to approve the appointment of members to the Rowlett Youth Advisory Council.

Consider action to adopt a resolution appointing regular and alternate members to the Rowlett Youth Advisory Council.

4.D. Consider action approving a Memorandum of Understanding with Texas Department of Emergency Management (TDEM).

Consider action to adopt a resolution approving a Memorandum of Understanding between the Texas Division of Emergency Management (TDEM) and the City of Rowlett to provide and receive various levels of mutual aid support.

4.E. Consider action to vacate and abandon a 7.5-foot utility easement.

Consider action to adopt an ordinance abandoning a 7.5-foot utility easement at 214 Point Royal Drive in favor of Ray & Tiffany Grothaus.

4.F. Consider action to authorize the purchase of rehabilitation services for 23 sanitary sewer manholes.

Consider action to adopt a resolution authorizing the purchase of rehabilitation services for 23 sanitary sewer manholes, from Fuquay, Inc., through a BuyBoard cooperative purchasing contract, for a total price not to exceed $155,124.00; authorizing the Interim City Manager or his designee to execute all necessary documents to effectuate said purchase; and providing an effective date.

4.G. Consider action to approve adding Section 34-5 to the Code of Ordinances, Chapter 34 "Miscellaneous Offenses."

Consider action to adopt an ordinance amending the Code of Ordinances, Chapter 34 "Miscellaneous Offenses", Article I "In General", adding a new Section 34-5 "Urinating or Defecating in Public."

5. Individual Consideration

5.A. Continue the public hearing and consider action to adopt an ordinance amending the Rowlett Development Code, as previously amended, by amending Chapter 77 "Development Code," Chapter 77-500 "Development and Design Standards" by repealing and replacing in its entirety section 77-510 "Exterior Lighting"; Providing for a Savings Clause; Providing for a penalty of fine not to exceed the sum of Two Thousand ($2,000.00) dollars for each offense; and providing for an effective date.

5.B. Conduct a public hearing and consider action to adopt a resolution adopting the City’s 2026 Community Development Block Grant Annual Action Plan; and authorize the City Manager to execute and submit all documentation and certifications to the United States Department of Housing and Urban Development (HUD).

5.C. Consider action to adopt an ordinance amending the Code of Ordinances, Article XI "Short-Term Rentals" Chapter 10 “Businesses”, Article XI “Rental Housing”, Division 7 “Short Term Rentals” by adding Section 10.453 to add a definition of “Serious Incident;” by adding a new Section 10.458A “Density Regulations; Exceptions”, by amending Section 10–459 to require an exterior sign; by amending Section 10-460 “Proof of Insurance;” by amending Section 10-477 “Revocation of Permit;” providing a severability clause; providing a conflict clause; and providing an effective date.

5.D. Consider action to adopt an ordinance amending the Code of Ordinances, Article IV "Regulation of Sex Offender Residency" Ordinance Chapter 34 by amending Section 34.71 to provide for an additional offense prohibiting property owners from renting certain real property to registered sex offenders; providing a severability clause, providing for a fine not to exceed the sum of five hundred ($500) dollars for each offense; and providing an effective date.

5.E. Consider action to adopt an ordinance granting a variance to the City's alcoholic beverage distance requirements to allow the sale of wine and malt beverages for off-premises consumption at the retail sales establishment located within Waterview Plaza, situated at the intersection of Liberty Grove Road and Princeton Road.

5.F. Consider action to adopt a resolution authorizing the award of a contract for Bid No. 2026-77-B, Toler Business Park Phase 1 and Phase 2 Reconstruction, to DDM Construction Corporation, for a price not to exceed $7,570,289.10 (base bid price of $6,882,081.00 with a 10% contingency of $688,208.10); authorizing the Mayor or his designee to execute the contract and all necessary documents to effectuate said purchase; and providing an effective date.

Members of the City Council may request topics to be placed on an agenda for a subsequent meeting. Any deliberation or decision shall be limited to a proposal to place topic on the agenda for a subsequent meeting.

6. Adjournment

Deborah Sorensen

Deborah Sorensen, TRMC, MMC, City Secretary

I certify that the above notice of meeting was posted on the bulletin boards located inside and outside the doors of the Municipal Center, 4000 Main Street, Rowlett, Texas, as well as on the City's website on July 29, 2026, by 5:30 p.m.

City of Rowlett City Council meetings are available to all persons regardless of disability. If you require special assistance, contact the City Secretary at 972-412-6109 or write 4000 Main St., Rowlett, Texas, 75088, at least 48 hours in advance of meeting.

City of Rowlett ~ 4000 Main Street, Rowlett TX 75088 ~ www.rowlett.com

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 2.A.

Title
Presentation of the Comprehensive Monthly Financial Report (CMFR) for the period ending June 30, 2026

Staff Representative
Vaughn Morgan, Budget Analyst
Wendy Badgett, Director of Finance

Executive Summary

As part of an overall strategic priority to govern transparently and inclusively, the City Council has adopted a goal to provide accurate and timely information to policy makers and the public. The Comprehensive Monthly Financial Report (CMFR) is a summary of the City's overall financial performance through the reported period. The report also provides a general economic snapshot, as well as individual fund summaries that provide financial activity for the report period, as well as cumulative totals for the fiscal year to date.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
Govern Transparently & Inclusivity	1.8 Provide accurate and timely information to policy makers and the public.

Background Information
The City of Rowlett's fiscal year begins on October 1 and ends on September 30 each year. The CMFR is prepared each month throughout the fiscal year and is made available on the City's website at https://www.ci.rowlett.tx.us/724/Financial-Reports. City staff presents the CMFR on a quarterly basis during a City Council meeting to provide policy makers and the public with important information about the City's financial position and operations.

Discussion

The Comprehensive Monthly Financial Report for the period ending June 30, 2026, is

provided as Attachment 1. Nine months of FY2026, or 75% of the fiscal year is complete.

The report format includes the revised revenue and expense budgets for all the reported funds. The adjusted revised budget reflects administrative reallocations as well as funds for encumbrances on items ordered but not received by the previous year-end, as stated in the City's Financial Policies. The forecasts included in the report are also based on the adjusted revised budget.

Revenues: Overall, the City has earned or received $136.4 million for FY2026. This amount is 87.7% of the revised operating budget of $155.6 million and is 6.7% higher than forecast through the month of June.

- General Fund revenues are $6.1 million or 9.7% higher than expected.
- Utility Fund revenues are $417 thousand or 1.5% lower than expected.

Expenses: Expenses totaled $112.8 million year-to-date for FY2026. This amount is 72.4% of the revised operating budget of $155.8 million and is 1.6% lower than forecast through the month of June.

- General Fund expenses are $1.5 million or 2.9% lower than expected.
- Utility Fund expenses are $585 thousand or 1.9% higher than expected.

Surplus: The net surplus from operations through June is $23.6 million, which is $10.4 million higher than expected. The revised operating budget for the fiscal year anticipated a total surplus of $263 thousand.

Financial/Budget Implications
N/A

Recommended Action
No action. For presentation purposes only.

Attachments
1. Attachment 1 - June 2026 Monthly Financial Report

Rowlett
TEXAS

Comprehensive Monthly Financial Report

June 2026

Totals may include immaterial rounding variances

MONTHLY FINANCIAL REPORT

PERFORMANCE AT A GLANCE	June 2026	
	YEAR TO DATE	REFERENCE
ALL FUNDS SUMMARY	POSITIVE	Page 4
GENERAL FUND REV VS EXP	POSITIVE	Page 5
PROPERTY TAXES	POSITIVE	Page 5
SALES TAXES	POSITIVE	Page 6
FRANCHISE FEES	POSITIVE	Page 6
UTILITY FUND REV VS EXP	WARNING	Page 7
SEWER REVENUES	POSITIVE	Page 7
WATER REVENUES	WARNING	Page 8
WATER USAGE	NEGATIVE	Page 8
REFUSE FUND REV VS EXP	POSITIVE	Page 9
DRAINAGE FUND REV VS EXP	POSITIVE	Page 9
DEBT SERVICE FUND REV VS EXP	POSITIVE	Page 10
EMPLOYEE BENEFITS REV VS EXP	POSITIVE	Page 10

PERFORMANCE INDICATORS

POSITIVE	= Positive variance or negative variance < 1% compared to seasonal trends.
WARNING	= Negative variance of 1-5% compared to seasonal trends
NEGATIVE	= Negative variance of >5% compared to seasonal trends.

ECONOMIC INDICATORS

ECONOMY

National GDP:

Real gross domestic product (GDP) increased at an annual rate of 2.1 percent in the first quarter of 2026 (January, February, and March), according to the third estimate released today by the U.S. Bureau of Economic Analysis. In the fourth quarter of 2025, real GDP increased 0.5 percent.

Real GDP was revised up 0.5 percentage point from the second estimate, primarily reflecting a downward revision to imports, which are a subtraction in the calculation of GDP, that was partly offset by a downward revision to consumer spending.

Texas Leading Index:

The Texas Leading Index is a single summary statistic that sheds light on the future of the state's economy. The index is a composite of eight leading indicators—those that tend to change direction before the overall economy. The index increased 0.25% from May to June.

UNEMPLOYMENT

National Unemployment:

The national unemployment rate decreased from May to June from 4.3% to 4.2%.

State-Wide:

The Texas unemployment rate increased from May to June from 4.3% to 4.4%. Note – state-wide unemployment rates are not seasonally adjusted.

Rowlett:

The City of Rowlett unemployment rate increased from May to June from 4.0% to 4.7%. Note – city unemployment rates are not seasonally adjusted.

June 30, 2026 – NEWS FOR YOU

Attached is the Comprehensive Monthly Financial report for June 2026. Nine months of FY2026, or 75% of the fiscal year is complete.

Revenues: Overall, the City has earned or received $136.4 million for FY2026. This amount is 87.7% of the revised operating budget of $155.6 million and is 6.7% above forecast through the month of June.

- General Fund revenues are $6.1 million or 9.7% higher than expected.
- Utility Fund revenues are $417 thousand or 1.5% lower than expected.

Expenses: Expenses totaled $112.8 million year-to-date for FY2026. This amount is 72.4% of the revised operating budget of $155.8 million and is 1.6% lower than forecast through the month of June.

- General Fund expenses are $1.5 million or 2.9% lower than expected.
- Utility Fund expenses are $585 thousand or 1.9% higher than expected.

Surplus: The net surplus from operations through June is $23.6 million, which is $10.4 million higher than expected. The revised operating budget for the fiscal year anticipated a total shortfall of $267 thousand.

NOTEWORTHY

FISCAL YEAR 2026 BUDGET ADOPTED

The FY2026 Budget was adopted at the special City Council meeting held on Wednesday, September 17. Having spent many months discussing the current needs of the City, the City Council determined keeping pace with city growth, employee retention and attraction, and utility rates continue to be the key strategic challenges for this budget.

As a result of increased costs for water delivery and wastewater treatment, the average household will see an increase of about $11.51 in their utility bill.

Due to contractual adjustments with Republic Services, refuse rates for the average residential customer with one polycart will increase about $2.04.

To keep pace with city growth and to support city services and outstanding debt obligations, the property tax rate was increased from $0.769691 to $0.807891.

For the average home value of just around $380,000, the cost per day for all city services in the General Fund is $8.41 per day.

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

BUDGET SUMMARY OF ALL FUNDS FY2026

	2026 Adopted Budget	2026 Revised Budget	2026 Forecast	2026 Year-to-Date	Variance
Beginning Reserves	**$ 60,669,919**	**$ 70,533,322**	**$ 70,533,322**	**$ 70,533,322**	**0.0%**
Revenues:					
General	70,719,630	70,719,630	62,670,964	68,764,174	9.7%
Water & Sewer	42,461,395	42,461,395	28,626,711	28,210,128	-1.5%
Debt service	21,083,274	21,083,274	20,814,374	22,923,549	10.1%
Drainage	1,877,768	1,877,768	1,408,326	1,482,736	5.3%
Refuse	8,368,300	8,368,300	6,276,225	6,592,565	5.0%
Employee Health Benefits	9,587,404	9,587,404	7,207,678	7,279,282	1.0%
Police Seizure	140,000	140,000	105,000	383,982	265.7%
Economic Development	22,000	22,000	16,500	28,653	73.7%
Hotel/Motel Tax	189,000	189,000	96,750	153,868	59.0%
P.E.G.	71,000	71,000	38,000	44,611	17.4%
Juvenile Diversion	35,000	35,000	25,645	36,825	43.6%
Court Technology	-	-	-	-	0.0%
Court Security & Technology	197,091	197,091	42,498	58,237	37.0%
Golf Course	258,572	258,572	131,036	135,022	3.0%
Child Safety Fee Fund	75,990	75,990	46,159	56,117	21.6%
Commercial Vehicle Enforcement	498,034	498,034	373,526	275,718	-26.2%
Total Revenues	$ 155,584,458	$ 155,584,458	$ 127,879,393	$ 136,425,467	6.7%
Expenses:					
General	70,391,497	70,775,222	51,154,719	49,696,345	-2.9%
Water & Sewer	41,768,050	41,947,929	30,985,289	31,569,847	1.9%
Debt service	20,932,100	20,932,100	16,591,587	16,597,760	0.0%
Drainage	1,877,768	1,894,860	1,487,706	1,473,839	-0.9%
Refuse	8,347,570	8,351,163	6,261,053	6,479,666	3.5%
Employee Health Benefits	9,756,085	9,756,085	6,847,361	5,680,168	-17.0%
Police Seizure	166,250	372,034	321,882	296,002	-8.0%
Economic Development	60,800	60,800	60,800	60,800	0.0%
Hotel/Motel Tax	436,838	436,838	97,931	184,480	88.4%
P.E.G.	92,533	92,533	80,775	73,042	-9.6%
Juvenile Diversion	37,053	37,053	26,555	31,216	17.6%
Court Technology	26,670	33,742	29,474	15,839	-46.3%
Court Security & Technology	170,091	170,091	121,467	86,009	-29.2%
Golf Course	308,572	308,572	170,832	174,695	2.3%
Child Safety Fee Fund	102,681	102,681	73,175	66,051	-9.7%
Commercial Vehicle Enforcement	442,267	575,977	361,612	331,878	-8.2%
Total Expenses	$ 154,916,825	$ 155,847,678	$ 114,672,218	$ 112,817,638	-1.6%
Current Year Surplus/(Shortfall)	**$ 667,633**	**$ (263,220)**	**$ 13,207,175**	**$ 23,607,829**	78.8%
Ending Reserves	**$ 61,337,552**	**$ 70,270,102**	**$ 83,740,497**	**$ 94,141,151**	**12.4%**

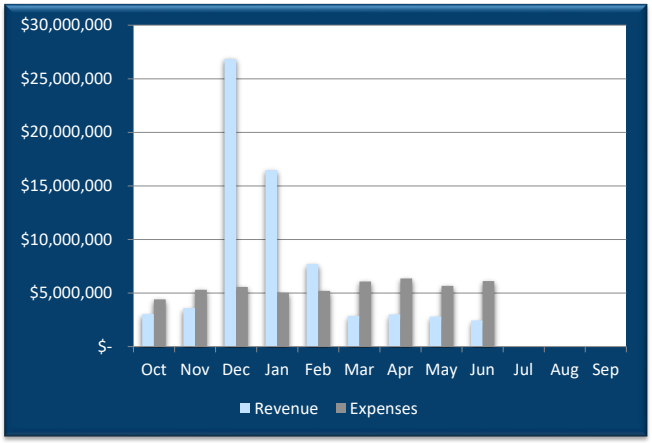
Positive	Positive variance or negative variance <1% compared to forecast
Warning	Negative variance between 1%-5% compared to forecast
Negative	Negative variance >5% compared to forecast

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

OVERALL FUND PERFORMANCE

GENERAL FUND REVENUES VS EXPENSES FY2026

Month	2026 Revenue	2026 Expenses	Monthly Variance
Oct	$ 3,049,687	$ 4,397,463	$ (1,347,776)
Nov	3,590,708	5,290,532	(1,699,824)
Dec	26,843,901	5,568,278	21,275,624
Jan	16,485,895	5,019,827	11,466,069
Feb	7,709,931	5,207,948	2,501,984
Mar	2,860,639	6,075,586	(3,214,947)
Apr	2,995,874	6,350,706	(3,354,832)
May	2,793,403	5,671,949	(2,878,546)
Jun	2,434,135	6,114,057	(3,679,922)
Jul			
Aug			
Sep			
Total	$ 68,764,174	$ 49,696,345	$ 19,067,829
Cumulative Forecast	*$ 62,670,964*	*$ 51,154,719*	*$ 11,516,245*
Actual to Forecast $	*$ 6,093,210*	*$ (1,458,374)*	*$ 7,551,584*
Actual to Forecast %	*9.7%*	*-2.9%*	



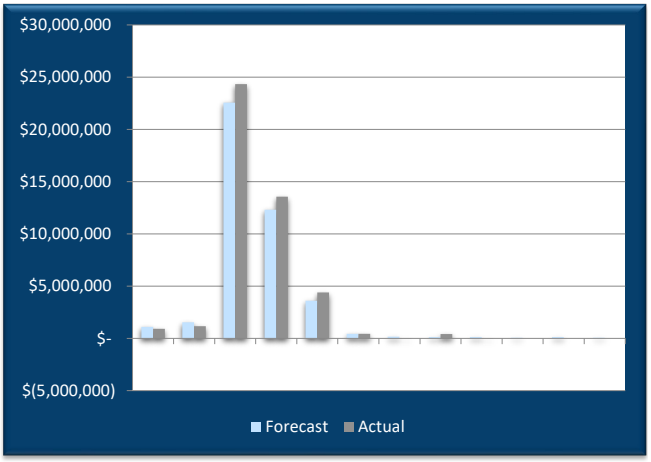
Positive

Cumulatively, General Fund is above the forecast for this time of the year, with revenues above forecast by 9.7% and expenses below forecast by 2.9%.

REVENUE ANALYSIS

PROPERTY TAXES FY2026

Month	2026 Forecast	2026 Actual	Monthly Variance
Oct	$ 1,104,607	$ 908,727	$ (195,881)
Nov	1,544,308	1,166,632	(377,676)
Dec	22,565,886	24,325,026	1,759,140
Jan	12,318,960	13,568,832	1,249,872
Feb	3,596,533	4,389,279	792,746
Mar	444,140	441,114	(3,026)
Apr	163,161	(13,823)	(176,984)
May	113,142	410,879	297,737
Jun	129,057	(1,526)	(130,582)
Jul	67,610		
Aug	114,333		
Sep	56,463		
Total	$ 42,218,200	$ 45,195,140	$ 3,215,346
Actual to Forecast			*7.7%*



Positive

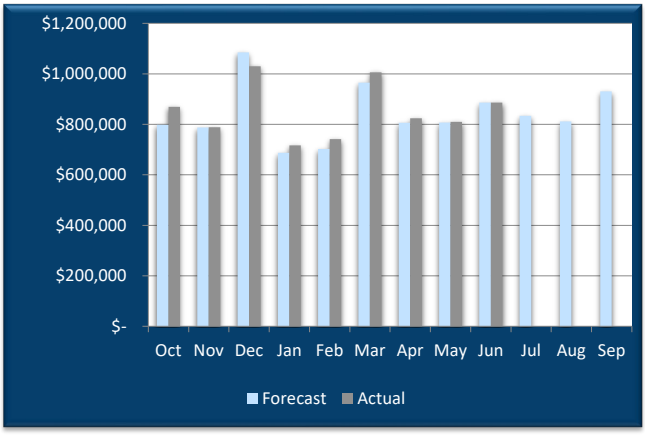
Property taxes represent over 50% of the total General Fund revenue budget and serve as the primary funding source for the general government. They are generally collected in December and January of each year. Cumulatively overall, property tax revenue is 7.7% above forecast.

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

REVENUE ANALYSIS

SALES TAXES FY2026

Month	2026 Forecast	2026 Actual	Monthly Variance
Oct	$ 797,957	$ 869,144	$ 71,186
Nov	787,854	788,759	904
Dec	1,084,751	1,029,907	(54,845)
Jan	687,069	716,608	29,539
Feb	702,004	741,642	39,638
Mar	965,287	1,005,825	40,538
Apr	806,126	824,293	18,167
May	807,215	809,817	2,603
Jun	886,446	886,446	-
Jul	833,342		
Aug	811,905		
Sep	930,043		
Total	$ 10,100,000	$ 7,672,441	$ 147,731
Actual to Forecast			*2.0%*



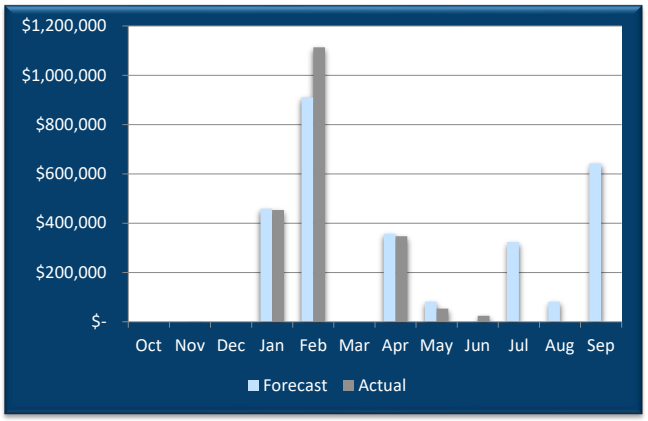
Positive

Sales tax is an important indicator of financial health for the Rowlett community. Sales taxes are collected by the State Comptroller and are recorded two months later. Overall, sales tax revenues are 2.0% above forecast at this time of year. June has not been reported by the state and is shown as an estimate.

REVENUE ANALYSIS

FRANCHISE FEES FY2026

Month	2026 Forecast	2026 Actual	Monthly Variance
Oct	$ -	-	$ -
Nov	-	113	113
Dec	-	-	-
Jan	459,000	453,518	(5,482)
Feb	910,500	1,113,517	203,017
Mar	-	-	-
Apr	357,000	346,877	(10,123)
May	81,500	53,227	(28,273)
Jun	-	23,945	23,945
Jul	323,000		
Aug	81,500		
Sep	642,500		
Total	$ 2,855,000	$ 1,991,196	$ 183,196
Actual to Forecast			*10.1%*



Positive

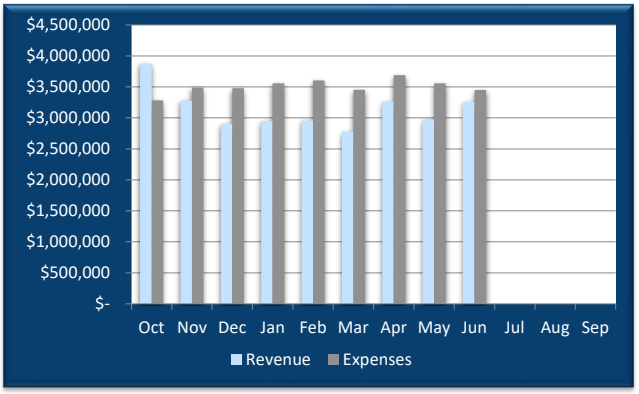
Franchise fees represent over 5% of the total General Fund budget and include electric, gas, cable and telecommunications. Most fees are paid quarterly with natural gas being paid yearly in January or February. Overall, franchise fees are above forecast by 10.1% at this time of year.

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

OVERALL FUND PERFORMANCE

UTILITY FUND REVENUES VS EXPENSES FY2026

Month	2026 Revenue	2026 Expenses	Monthly Variance
Oct	$ 3,871,395	$ 3,282,107	$ 589,288
Nov	3,277,786	3,491,304	(213,517)
Dec	2,900,081	3,480,646	(580,565)
Jan	2,946,781	3,559,465	(612,685)
Feb	2,953,782	3,604,472	(650,690)
Mar	2,775,265	3,454,363	(679,097)
Apr	3,259,042	3,689,682	(430,640)
May	2,973,027	3,557,444	(584,417)
Jun	3,252,968	3,450,364	(197,396)
Jul			-
Aug			-
Sep			-
Total	$ 28,210,128	$ 31,569,847	$ (3,359,719)
Cumulative Forecast	*$ 28,626,711*	*$ 30,985,289*	*$ (2,358,578)*
Actual to Forecast $	*$ (416,584)*	*$ 584,558*	*$ (1,001,141)*
Actual to Forecast	*-1.5%*	*1.9%*	



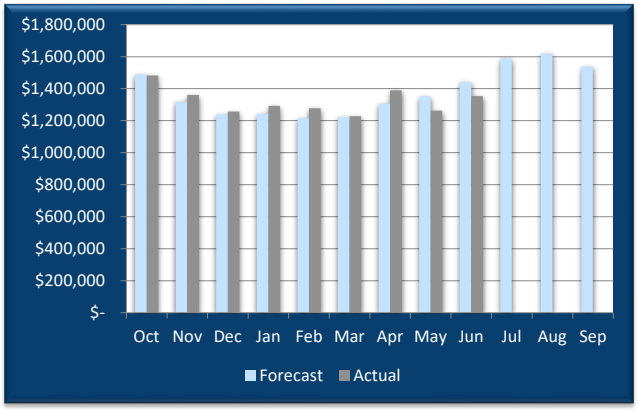
Warning

Cumulatively, the Utility Fund is above forecast for this time of the year, with revenues 1.5% below forecast and expenses 1.9% above forecast.

REVENUE ANALYSIS

SEWER REVENUES FY2026

Month	2026 Forecast	2026 Actual	Monthly Variance
Oct	$ 1,488,308	$ 1,482,009	$ (6,299)
Nov	1,318,011	1,360,202	42,191
Dec	1,239,719	1,257,399	17,680
Jan	1,243,814	1,293,462	49,648
Feb	1,214,111	1,277,893	63,781
Mar	1,222,086	1,227,755	5,669
Apr	1,306,650	1,388,938	82,288
May	1,350,663	1,261,994	(88,669)
Jun	1,441,688	1,353,298	(88,390)
Jul	1,588,233		
Aug	1,618,320		
Sep	1,537,110		
Total	$ 16,568,713	$ 11,902,950	$ 77,899
Actual to Forecast			*0.7%*



Positive

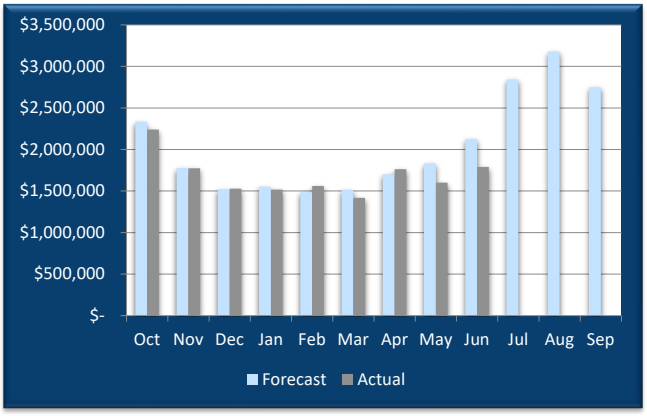
Sewer sales represent approximately 40% of the Utility Fund budget and cover the cost of sewer treatment paid to City of Garland. Cumulatively, sewer revenues are 0.7% above forecast.

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

REVENUE ANALYSIS

WATER REVENUES FY2026

Month	2026 Forecast	2026 Actual	Monthly Variance
Oct	$ 2,333,359	$ 2,239,708	$ (93,651)
Nov	1,776,988	1,774,316	(2,672)
Dec	1,521,293	1,527,323	6,029
Jan	1,551,904	1,516,151	(35,754)
Feb	1,485,649	1,559,713	74,065
Mar	1,513,231	1,418,433	(94,798)
Apr	1,701,254	1,762,389	61,135
May	1,832,294	1,599,983	(232,311)
Jun	2,126,159	1,788,844	(337,315)
Jul	2,840,663		
Aug	3,177,120		
Sep	2,747,362		
Total	$ 24,607,275	$ 15,186,860	$ (655,271)
Actual to Forecast			*-4.1%*



Warning

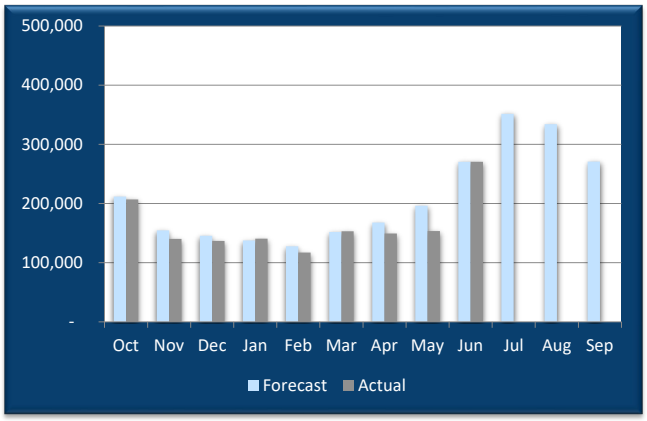
Water sales represent almost 60% of the total Utility Fund budget and cover the cost of water acquisition from the North Texas Municipal Water District. Cumulatively, water revenues are 4.1% below forecast for this time of year.

REVENUE ANALYSIS

WATER USAGE FY2026

Month	2026 Forecast	2026 Actual	Monthly Variance
Oct	211,760	206,938	(4,822)
Nov	154,557	140,215	(14,342)
Dec	145,493	136,829	(8,664)
Jan	137,584	140,401	2,817
Feb	127,683	117,059	(10,625)
Mar	152,102	153,199	1,097
Apr	167,766	149,274	(18,492)
May	196,164	153,551	(42,613)
Jun	270,454	270,454	-
Jul	351,375		
Aug	334,301		
Sep	270,895		
Total	2,520,134	1,467,918	(95,644)
Actual to Forecast			*-6.1%*

(IN THOUSAND GALLONS)



Negative

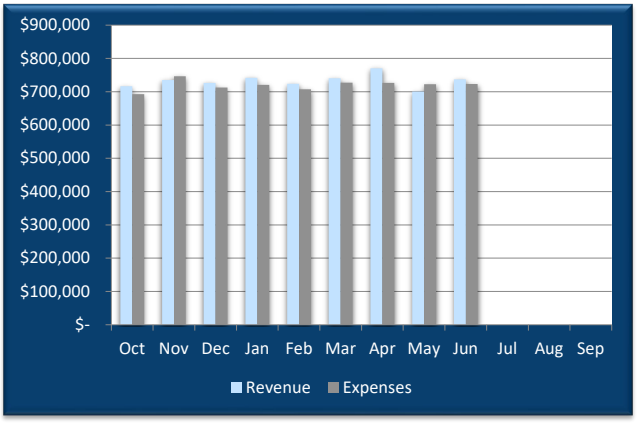
The City purchases its water from the North Texas Municipal Water District. The contract with NTMWD requires the City to pay for a minimum of 3.2 billion gallons of water per year. Water usage is 6.1% below forecast. The amount shown for June is an estimate, as data is not yet available.

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

OVERALL FUND PERFORMANCE

REFUSE FUND REVENUES VS EXPENSES FY2026

Month	2026 Revenue	2026 Expenses	Monthly Variance
Oct	$ 716,708	$ 692,733	$ 23,975
Nov	734,953	746,730	(11,777)
Dec	726,431	712,547	13,884
Jan	741,807	720,565	21,242
Feb	724,154	707,486	16,668
Mar	740,726	726,997	13,729
Apr	770,278	726,659	43,619
May	700,497	722,558	(22,061)
Jun	737,011	723,391	13,620
Jul			
Aug			
Sep			
Total	$ 6,592,565	$ 6,479,666	$ 112,899
Cumulative Forecast	*$ 6,276,225*	*$ 6,261,053*	*$ 15,172*
Actual to Forecast $	*$ 316,340*	*$ 218,612*	*$ 97,728*
Actual to Forecast	*5.0%*	*3.5%*	



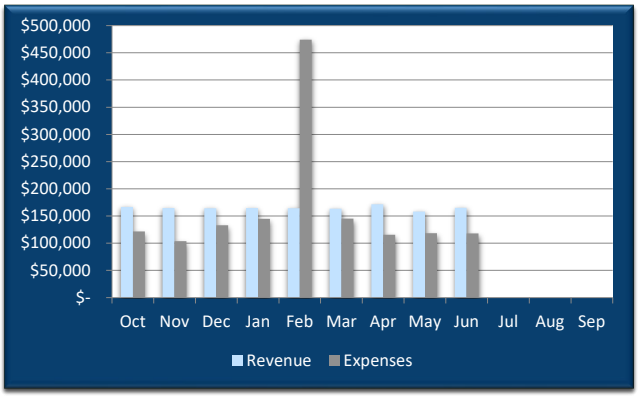
Positive

The Refuse Fund accounts for monies collected from customers on their utility bills and remitted to our solid waste provider. Revenues are 5.0% above forecast, and expenses are 3.5% above forecast.

OVERALL FUND PERFORMANCE

DRAINAGE FUND REVENUES VS EXPENSES FY2026

Month	2026 Revenue	2026 Expenses	Monthly Variance
Oct	$ 166,749	$ 121,595	$ 45,154
Nov	164,509	103,670	60,839
Dec	164,101	132,902	31,199
Jan	164,650	144,847	19,803
Feb	164,061	473,981	(309,920)
Mar	163,617	145,190	18,427
Apr	171,727	115,341	56,385
May	158,054	118,272	39,783
Jun	165,269	118,041	47,227
Jul			
Aug			
Sep			
Total	$ 1,482,736	$ 1,473,839	$ 8,897
Cumulative Forecast	*$ 1,408,326*	*$ 1,487,706*	*$ (79,380)*
Actual to Forecast $	*$ 74,410*	*$ (13,867)*	*$ 88,277*
Actual to Forecast	*5.3%*	*-0.9%*	



Positive

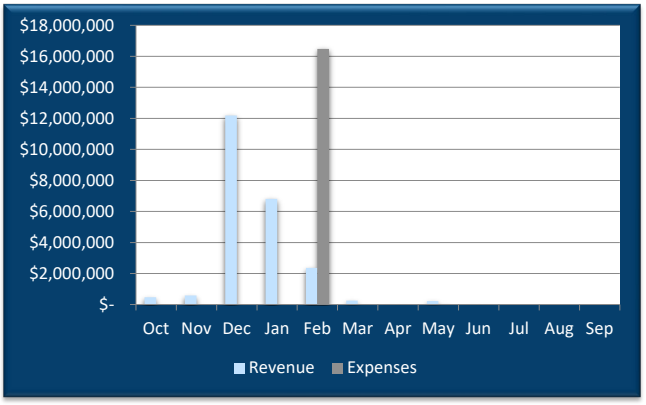
The Drainage Fund accounts for monies collected from customers on their utility bills for the municipal drainage system. Cumulatively, revenues are 5.3% above forecast, and expenses are 0.9% below forecast.

CITY OF ROWLETT, TEXAS
FINANCIAL STATUS DASHBOARD
June 30, 2026

OVERALL FUND PERFORMANCE

DEBT SERVICE FUND REVENUES VS EXPENSES FY2026

Month	2026 Revenue	2026 Expenses	Monthly Variance
Oct	$ 461,068	$ 22,014	$ 439,054
Nov	588,958	24,875	564,083
Dec	12,183,959	14,331	12,169,628
Jan	6,816,681	15,867	6,800,814
Feb	2,366,214	16,475,869	(14,109,655)
Mar	244,761	9,405	235,356
Apr	15,312	815	14,497
May	223,769	33,433	190,336
Jun	22,827	1,150	21,677
Jul			
Aug			
Sep			
Total	$ 22,923,549	$ 16,597,760	$ 6,325,790
Cumulative Forecast	*$ 20,814,374*	*$ 16,591,587*	*$ 4,222,786*
Actual to Forecast $	*$ 2,109,176*	*$ 6,172*	*$ 2,103,003*
Actual to Forecast	*10.1%*	*0.0%*	



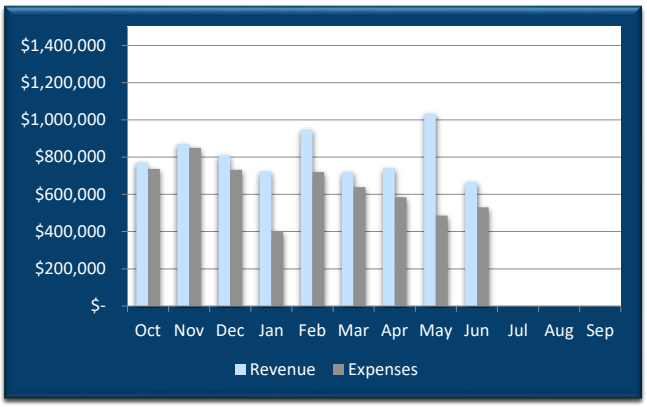
Positive

General Debt Service Fund is used to pay principal and interest on tax-supported debt. Currently, the revenues are 10.1% above forecast and expenses are at forecast. The fund makes semi-annual debt payments in February and August.

OVERALL FUND PERFORMANCE

EMPLOYEE HEALTH BENEFITS FUND REVENUES VS EXPENSES FY2026

Month	2026 Revenue	2026 Expenses	Monthly Variance
Oct	$ 770,937	$ 735,955	$ 34,982
Nov	869,911	849,568	20,343
Dec	809,655	731,688	77,968
Jan	722,892	403,089	319,803
Feb	947,561	719,515	228,046
Mar	719,586	638,878	80,709
Apr	740,949	585,060	155,889
May	1,031,513	485,765	545,748
Jun	666,277	530,650	135,627
Jul			
Aug			
Sep			
Total	$ 7,279,282	$ 5,680,168	$ 1,599,114
Cumulative Forecast	*$ 7,207,678*	*$ 6,847,361*	*$ 360,317*
Actual to Forecast $	*$ 71,604*	*$ (1,167,193)*	*$ 1,238,797*
Actual to Forecast	*1.0%*	*-17.0%*	



Positive

Employee Health Benefits Fund accounts for all health related claims paid from the City's partial self-insured medical benefit plan. Overall, revenues are 1.0% above forecast with expenses 17.0% below forecast.

Comprehensive Monthly Financial Report

June 2026
Supplement

Totals may include immaterial rounding variances

CITY OF ROWLETT
GENERAL FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	**$ 34,324,218**	**$ 42,401,663**	**$ 42,401,663**	**$ 42,401,663**	
REVENUES					
External Revenues:					
Taxes	$ 52,434,200	$ 52,434,200	$ 49,581,838	$ 52,941,336	6.8%
Franchise fees	2,855,000	2,855,000	1,808,000	1,991,196	10.1%
Licenses & permits	1,447,200	1,447,200	1,136,980	1,576,870	38.7%
Charges for service	4,717,600	4,717,600	3,280,947	3,829,286	16.7%
Fines & forfeitures	765,400	765,400	546,210	776,183	42.1%
Interest earnings	880,200	880,200	638,770	1,654,798	159.1%
Other	1,418,500	1,418,500	1,015,000	1,331,284	31.2%
Total External Revenues	64,518,100	64,518,100	58,007,744	64,100,954	10.5%
Internal Revenues:					
Transfers from other funds	6,201,530	6,201,530	4,663,220	4,663,220	0.0%
Total Revenues	**$ 70,719,630**	**$ 70,719,630**	**$ 62,670,964**	**$ 68,764,174**	**9.7%**
EXPENSES					
Expenses:					
Personnel costs	$ 53,716,109	$ 53,192,894	$ 38,021,369	$ 37,681,609	-0.9%
Supplies	2,863,004	2,959,135	2,219,351	1,894,955	-14.6%
Legal and professional	2,148,317	2,675,562	2,006,672	1,905,735	-5.0%
Utilities	1,711,308	1,711,308	1,283,481	1,278,594	-0.4%
Purchase services	8,489,076	8,880,316	6,733,041	6,044,646	-10.2%
Capital equipment	411,632	303,955	206,085	206,085	0.0%
Total expenses	69,339,446	69,723,171	50,469,999	49,011,625	-2.9%
Internal expenses:					
Transfers to other funds	1,052,051	1,052,051	684,720	684,720	0.0%
Total Expenses	**$ 70,391,497**	**$ 70,775,222**	**$ 51,154,719**	**$ 49,696,345**	**-2.9%**
Current Year Surplus/(Shortfall)	**$ 328,133**	**$ (55,592)**	**$ 11,516,245**	**$ 19,067,829**	
Ending Reserves	**$ 34,652,351**	**$ 42,346,071**	**$ 53,917,908**	**$ 61,469,492**	

CITY OF ROWLETT
WATER & SEWER FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	**$ 16,642,228**	**$ 16,308,196**	**$ 16,308,196**	**$ 16,308,196**	
REVENUES					
External Revenues:					
Water sales	$ 24,607,275	$ 24,607,275	$ 15,842,131	$ 15,186,860	-4.1%
Wastewater sales	16,568,713	16,568,713	11,825,050	11,902,950	0.7%
Other fees & charges	905,000	905,000	674,225	725,623	7.6%
Interest earnings	287,000	287,000	215,250	324,640	50.8%
Total External Revenues	42,367,988	42,367,988	28,556,656	28,140,072	-1.5%
Internal Revenues:					
Transfers from other funds	93,407	93,407	70,055	70,056	0.0%
Total Revenues	**$ 42,461,395**	**$ 42,461,395**	**$ 28,626,711**	**$ 28,210,128**	**-1.5%**
EXPENSES					
Expenses:					
Personnel costs	$ 4,163,803	$ 4,163,803	$ 2,885,989	$ 2,588,891	-10.3%
Supplies	740,421	774,176	580,632	533,996	-8.0%
Water purchases	13,319,643	13,319,643	10,102,232	9,976,999	-1.2%
Wastewater treatment	7,638,691	7,638,691	5,451,715	6,746,930	23.8%
Purchase services	1,898,581	2,044,704	1,533,528	1,291,838	-15.8%
Capital outlay	3,617	3,617	-	-	0.0%
Capital improvements	3,594,080	3,594,080	2,695,560	2,695,560	0.0%
Debt service	5,277,321	5,277,321	3,886,712	3,886,712	0.0%
Total expenses	36,636,157	36,816,036	27,136,369	27,720,927	2.2%
Internal expenses:					
Transfers to other funds	5,131,893	5,131,893	3,848,920	3,848,920	0.0%
Total Expenses	**$ 41,768,050**	**$ 41,947,929**	**$ 30,985,289**	**$ 31,569,847**	**1.9%**
Current Year Surplus/(Shortfall)	**$ 693,345**	**$ 513,466**	**$ (2,358,578)**	**$ (3,359,719)**	
Ending Reserves	**$ 17,335,573**	**$ 16,821,662**	**$ 13,949,618**	**$ 12,948,477**	

CITY OF ROWLETT
DEBT SERVICE FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	**$ 2,466,164**	**$ 2,621,456**	**$ 2,621,456**	**$ 2,621,456**	
REVENUES					
External Revenues:					
Taxes	$ 20,729,484	$ 20,729,484	$ 20,612,425	$ 22,552,029	9.4%
Interest earnings	111,000	111,000	80,554	250,125	210.5%
Other	-	-	-	-	0.0%
Total External Revenues	20,840,484	20,840,484	20,692,979	22,802,154	10.2%
Internal Revenues:					
Transfers from other funds	242,790	242,790	121,395	121,395	0.0%
Total Revenues	**$ 21,083,274**	**$ 21,083,274**	**$ 20,814,374**	**$ 22,923,549**	**10.1%**
EXPENSES					
Expenses:					
Debt service	$ 20,744,000	$ 20,744,000	$ 16,439,155	$ 16,439,155	0.0%
Legal and professional	188,100	188,100	152,432	158,604	4.0%
Total Expenses	**$ 20,932,100**	**$ 20,932,100**	**$ 16,591,587**	**$ 16,597,760**	**0.0%**
Current Year Surplus/(Shortfall)	**$ 151,174**	**$ 151,174**	**$ 4,222,786**	**$ 6,325,790**	
Ending Reserves	**$ 2,617,338**	**$ 2,772,630**	**$ 6,844,242**	**$ 8,947,246**	

CITY OF ROWLETT
DRAINAGE FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	**$ 896,942**	**$ 1,177,970**	**$ 1,177,970**	**$ 1,177,970**	
REVENUES					
External Revenues:					
Charges for service	$ 1,862,768	$ 1,862,768	$ 1,397,076	$ 1,459,715	4.5%
Interest earnings	15,000	15,000	11,250	23,021	104.6%
Total Revenues	**$ 1,877,768**	**$ 1,877,768**	**$ 1,408,326**	**$ 1,482,736**	**5.3%**
EXPENSES					
Expenses:					
Personnel costs	$ 146,610	$ 146,610	$ 104,481	$ 76,387	-26.9%
Supplies	53,329	70,421	52,815	82,387	56.0%
Purchase services	65,842	65,842	49,382	34,036	-31.1%
Capital improvements	1,213,205	1,213,205	901,471	901,471	0.0%
Debt service	348,500	348,500	341,846	341,846	0.0%
Total expenses	1,827,486	1,844,578	1,449,995	1,436,128	-1.0%
Internal expenses:					
Transfers to other funds	50,282	50,282	37,712	37,712	0.0%
Total Expenses	**$ 1,877,768**	**$ 1,894,860**	**$ 1,487,706**	**$ 1,473,839**	**-0.9%**
Current Year Surplus/(Shortfall)	**$ -**	**$ (17,092)**	**$ (79,380)**	**$ 8,897**	
Ending Reserves	**$ 896,942**	**$ 1,160,879**	**$ 1,098,590**	**$ 1,186,867**	

CITY OF ROWLETT
REFUSE FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	**$ 442,555**	**$ 538,725**	**$ 538,725**	**$ 538,725**	
REVENUES					
External Revenues:					
Charges for service	$ 8,358,800	$ 8,358,800	$ 6,269,100	$ 6,580,162	5.0%
Interest earnings	7,000	7,000	5,250	7,642	45.6%
Other	2,500	2,500	1,875	4,760	153.9%
Total Revenues	**$ 8,368,300**	**$ 8,368,300**	**$ 6,276,225**	**$ 6,592,565**	**5.0%**
EXPENSES					
Expenses:					
Personnel	$ 62,063	$ 62,063	$ 44,229	$ 27,145	-38.6%
Solid waste collection	7,356,400	7,356,400	5,517,300	5,754,530	4.3%
Supplies	-	-	-	-	0.0%
Purchase services	85,000	88,593	66,444	64,910	-2.3%
Capital improvements	-	-	-	-	0.0%
Total expenses	7,503,463	7,507,056	5,627,973	5,846,586	3.9%
Internal expenses:					
Transfers to other funds	844,107	844,107	633,080	633,080	0.0%
	844,107	844,107	633,080	633,080	0.0%
Total Expenses	**$ 8,347,570**	**$ 8,351,163**	**$ 6,261,053**	**$ 6,479,666**	**3.5%**
Current Year Surplus/(Shortfall)	**$ 20,730**	**$ 17,137**	**$ 15,172**	**$ 112,899**	
Ending Reserves	**$ 463,285**	**$ 555,862**	**$ 553,897**	**$ 651,624**	

CITY OF ROWLETT
EMPLOYEE HEALTH BENEFITS FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	**$ 3,002,355**	**$ 3,674,296**	**$ 3,674,296**	**$ 3,674,296**	
REVENUES					
External Revenues:					
Employee Contributions	$ 1,207,022	$ 1,207,022	$ 905,267	$ 948,591	4.8%
City Contributions	7,131,243	7,131,243	5,348,432	5,453,529	2.0%
Retiree Contributions	30,000	30,000	22,500	25,498	13.3%
City HRA Contributions	68,500	68,500	68,500	60,612	-11.5%
Other	1,150,639	1,150,639	862,979	791,053	-8.3%
Total Revenues	**$ 9,587,404**	**$ 9,587,404**	**$ 7,207,678**	**$ 7,279,282**	**1.0%**
EXPENSES					
Expenses:					
Benefit Administration	$ 423,484	$ 423,484	$ 317,613	$ 331,816	4.5%
Individual Stop Loss	1,815,098	1,815,098	1,361,324	1,301,022	-4.4%
Benefit Payments	6,730,396	6,730,396	4,533,297	3,394,463	-25.1%
OPEB Distributions	320,000	320,000	320,000	347,145	8.5%
Wellness	120,000	120,000	59,532	50,127	-15.8%
Personnel	126,742	126,742	90,322	90,322	0.0%
Transfers to Other Funds	220,365	220,365	165,274	165,274	0.0%
Total Expenses	**$ 9,756,085**	**$ 9,756,085**	**$ 6,847,361**	**$ 5,680,168**	**-17.0%**
Current Year Surplus/(Shortfall)	**$ (168,681)**	**$ (168,681)**	**$ 360,317**	**$ 1,599,114**	
Ending Reserves	**$ 2,833,674**	**$ 3,505,615**	**$ 4,034,613**	**$ 5,273,410**	

CITY OF ROWLETT
ECONOMIC DEVELOPMENT FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 1,180,671	$ 1,174,523	$ 1,174,523	$ 1,174,523	
Total Revenues	$ 22,000	$ 22,000	$ 16,500	$ 28,653	73.7%
Total Expenses	$ 60,800	$ 60,800	$ 60,800	$ 60,800	0.0%
Current Year Surplus/(Shortfall)	$ (38,800)	$ (38,800)	$ (44,300)	$ (32,147)	
Ending Reserves	$ 1,141,871	$ 1,135,723	$ 1,130,223	$ 1,142,376	

CITY OF ROWLETT
P.E.G. FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 578,336	$ 618,734	$ 618,734	$ 618,734	
Total Revenues	$ 71,000	$ 71,000	$ 38,000	$ 44,611	17.4%
Total Expenses	$ 92,533	$ 92,533	$ 80,775	$ 73,042	-9.6%
Current Year Surplus/(Shortfall)	$ (21,533)	$ (21,533)	$ (42,775)	$ (28,432)	
Ending Reserves	$ 556,803	$ 597,201	$ 575,960	$ 590,302	

CITY OF ROWLETT
POLICE SEIZURE FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 320,499	$ 617,752	$ 617,752	$ 617,752	
Total Revenues	$ 140,000	$ 140,000	$ 105,000	$ 383,982	265.7%
Total Expenses	$ 166,250	$ 372,034	$ 321,882	$ 296,002	-8.0%
Current Year Surplus/(Shortfall)	$ (26,250)	$ (232,034)	$ (216,882)	$ 87,980	
Ending Reserves	$ 294,249	$ 385,718	$ 400,870	$ 705,732	

CITY OF ROWLETT
GOLF FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 347,495	$ 356,288	$ 356,288	$ 356,288	
Total Revenues	$ 258,572	$ 258,572	$ 131,036	$ 135,022	3.0%
Total Expenses	$ 308,572	$ 308,572	$ 170,832	$ 174,695	2.3%
Current Year Surplus/(Shortfall)	$ (50,000)	$ (50,000)	$ (39,796)	$ (39,673)	
Ending Reserves	$ 297,495	$ 306,288	$ 316,493	$ 316,615	

CITY OF ROWLETT
HOTEL/MOTEL FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 247,838	$ 525,326	$ 525,326	$ 525,326	
Total Revenues	$ 189,000	$ 189,000	$ 96,750	$ 153,868	59.0%
Total Expenses	$ 436,838	$ 436,838	$ 97,931	$ 184,480	88.4%
Current Year Surplus/(Shortfall)	$ (247,838)	$ (247,838)	$ (1,181)	$ (30,612)	
Ending Reserves	$ -	$ 277,488	$ 524,146	$ 494,714	

CITY OF ROWLETT
JUVENILE DIVERSION FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 156,555	$ 163,087	$ 163,087	$ 163,087	
Total Revenues	$ 35,000	$ 35,000	$ 25,645	$ 36,825	43.6%
Total Expenses	$ 37,053	$ 37,053	$ 26,555	$ 31,216	17.6%
Current Year Surplus/(Shortfall)	$ (2,053)	$ (2,053)	$ (910)	$ 5,609	
Ending Reserves	$ 154,502	$ 161,034	$ 162,177	$ 168,696	

CITY OF ROWLETT
COURT TECHNOLOGY FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 80,574	$ 98,260	$ 98,260	$ 98,260	
Total Revenues	$ -	$ -	$ -	$ -	0.0%
Total Expenses	$ 26,670	$ 33,742	$ 29,474	$ 15,839	-46.3%
Current Year Surplus/(Shortfall)	$ (26,670)	$ (33,742)	$ (29,474)	$ (15,839)	
Ending Reserves	$ 53,904	$ 64,518	$ 68,786	$ 82,421	

CITY OF ROWLETT
COURT SECURITY & TECHNOLOGY
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 12,565	$ -	$ -	$ -	
Total Revenues	$ 197,091	$ 197,091	$ 42,498	$ 58,237	37.0%
Total Expenses	$ 170,091	$ 170,091	$ 121,467	$ 86,009	-29.2%
Current Year Surplus/(Shortfall)	$ 27,000	$ 27,000	$ (78,969)	$ (27,772)	
Ending Reserves	$ 39,565	$ 27,000	$ (78,969)	$ (27,772)	

CITY OF ROWLETT
CHILD SAFETY FEE FUND
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ 26,691	$ 62,330	$ 62,330	$ 62,330	
Total Revenues	$ 75,990	$ 75,990	$ 46,159	$ 56,117	21.6%
Total Expenses	$ 102,681	$ 102,681	$ 73,175	$ 66,051	-9.7%
Current Year Surplus/(Shortfall)	$ (26,691)	$ (26,691)	$ (27,016)	$ (9,935)	
Ending Reserves	$ -	$ 35,639	$ 35,314	$ 52,395	

CITY OF ROWLETT
COMMERCIAL VEHICLE ENFORCEMENT
FY 2025 - 2026
June 30, 2026

	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR-TO-DATE	Variance
Beginning Reserves	$ (55,767)	$ 194,716	$ 194,716	$ 194,716	
Total Revenues	$ 498,034	$ 498,034	$ 373,526	$ 275,718	-26.2%
Total Expenses	$ 442,267	$ 575,977	$ 361,612	$ 331,878	-8.2%
Current Year Surplus/(Shortfall)	$ 55,767	$ (77,943)	$ 11,913	$ (56,161)	
Ending Reserves	$ -	$ 116,773	$ 206,629	$ 138,555	

CITY OF ROWLETT, TEXAS
GENERAL FUND DASHBOARD
June 30, 2026

BUDGET SUMMARY OF GENERAL FUND FY2026

Revenue Summary

Revenues	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR TO DATE	VARIANCE
Tax Revenues:					
Property taxes	$ 42,218,200	$ 42,218,200	$ 41,979,794	$ 45,195,140	7.7%
City sales tax	10,100,000	10,100,000	7,524,710	7,672,441	2.0%
Mixed drink tax	116,000	116,000	77,333	73,755	-4.6%
Total	$ 52,434,200	$ 52,434,200	$ 49,581,838	$ 52,941,336	6.8%
Franchise Fees:					
Electric	$ 1,700,000	$ 1,700,000	$ 816,000	$ 800,127	-1.9%
Telephone	19,000	19,000	9,500	8,489	-10.6%
Gas	829,000	829,000	829,000	1,032,736	24.6%
Cable	307,000	307,000	153,500	149,845	-2.4%
Total	$ 2,855,000	$ 2,855,000	$ 1,808,000	$ 1,991,196	10.1%
Licenses and Permits:					
Other	$ 1,447,200	$ 1,447,200	$ 1,136,980	$ 1,576,870	38.7%
Total	$ 1,447,200	$ 1,447,200	$ 1,136,980	$ 1,576,870	38.7%
Charges for Service:					
GISD resource officer	$ 910,000	$ 910,000	$ 606,667	$ 588,530	-3.0%
Ambulance fees	1,575,000	1,575,000	1,151,630	1,394,534	21.1%
911 Emergency	453,000	453,000	305,725	307,984	0.7%
Mowing fees	65,000	65,000	38,637	84,072	117.6%
Other fees & charges	1,714,600	1,714,600	1,178,288	1,454,166	23.4%
Total	$ 4,717,600	$ 4,717,600	$ 3,280,947	$ 3,829,286	16.7%
		#			
Fines and Forfeitures:					
Municipal court fines	$ 764,000	$ 764,000	$ 545,160	$ 774,908	42.1%
Library Fines	1,400	1,400	1,050	1,275	21.4%
Total	$ 765,400	$ 765,400	$ 546,210	$ 776,183	42.1%
Other:					
Interest earnings	$ 880,200	$ 880,200	$ 638,770	$ 1,654,798	159.1%
Miscellaneous	1,418,500	1,418,500	1,015,000	1,331,284	31.2%
Total	$ 2,298,700	$ 2,298,700	$ 1,653,770	$ 2,986,083	80.6%
Internal Transfers:					
Transfers	$ 6,201,530	$ 6,201,530	$ 4,663,220	$ 4,663,220	0.0%
Total	$ 6,201,530	$ 6,201,530	$ 4,663,220	$ 4,663,220	0.0%
Total Revenues	$ 70,719,630	$ 70,719,630	$ 62,670,964	$ 68,764,174	9.7%

CITY OF ROWLETT, TEXAS
GENERAL FUND DASHBOARD
June 30, 2026

BUDGET SUMMARY OF GENERAL FUND FY2026

Expense Summary

Expenses	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR TO DATE	VARIANCE
Personnel Services	$ 53,716,109	$ 53,192,894	$ 38,021,369	$ 37,681,609	-0.9%
Supplies	2,863,004	2,959,135	2,219,351	1,894,955	-14.6%
Purchase Services	12,348,701	13,267,187	10,023,194	9,228,976	-7.9%
Capital Outlay	411,632	303,955	206,085	206,085	0.0%
Transfers Out	1,052,051	1,052,051	684,720	684,720	0.0%
Total	$ 70,391,497	$ 70,775,222	$ 51,154,719	$ 49,696,345	-2.9%

By Division	2026 ADOPTED BUDGET	2026 REVISED BUDGET	2026 FORECAST	2026 YEAR TO DATE	VARIANCE
City Council	$ 251,258	$ 241,660	$ 191,739	$ 139,212	-27.4%
City Manager	1,218,789	1,223,064	867,513	1,220,072	40.6%
City Secretary	665,288	665,429	482,983	463,717	-4.0%
Community Development	3,552,836	3,233,896	2,294,632	2,019,304	-12.0%
Community Engagement	1,039,065	912,519	653,385	691,576	5.8%
Economic Development	355,507	321,605	234,538	174,586	-25.6%
Finance	2,075,681	2,051,799	1,469,967	1,445,194	-1.7%
Fire	18,365,642	18,396,978	13,493,227	13,536,125	0.3%
Human Resources	867,550	946,184	686,299	682,127	-0.6%
Information Technology	3,073,691	3,095,893	2,265,639	2,149,507	-5.1%
Judicial Services	1,022,998	1,011,537	731,069	681,052	-6.8%
Library	1,707,973	1,707,973	1,238,896	1,214,328	-2.0%
Non-Departmental	2,996,281	4,556,752	3,321,584	2,621,668	-21.1%
Parks and Recreation	1,992,807	5,387,181	3,801,812	3,501,337	-7.9%
Police	21,286,157	21,013,663	15,007,724	14,805,682	-1.3%
Public Works	9,919,974	6,009,089	4,413,713	4,350,859	-1.4%
Total	$ 70,391,497	$ 70,775,222	$ 51,154,719	$ 49,696,345	-2.9%

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.A.

Title
Consider action approving the minutes.

Consider action to approve minutes from the following City Council meeting(s): July 15, 2026, City Council Special Meeting, July 17, 2026, City Council Special Meeting, July 20, 2026, City Council Work Session, and July 21, 2026, City Council Meeting.

Staff Representative
Deborah Sorensen, City Secretary

Executive Summary
Section 551.021 of the Government Code provides as follows:

(a) A governmental body shall prepare and keep minutes or make a tape recording of each open meeting of the body.

(b) The minutes must:
(1) state the subject of each deliberation; and
(2) indicate each vote, order, decisions or other action taken.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
GOVERN TRANSPARENTLY & INCLUSIVELY	1.8 Provide accurate and timely information to policy-makers and the public.

Background Information
N/A

Discussion
In compliance with State Law and to provide access to citizens of the business conducted by the City, minutes are generated for each public meeting of the City Council. Once approved, these minutes are then published to the website, the City's electronic document storage system and kept on permanent file in the Office of the City Secretary.

Financial/Budget Implications

N/A

Recommended Action
Move to approve minutes from the following City Council meeting(s): July 15, 2026, City Council Special Meeting, July 17, 2026 City Council Special Meeting, July 20, 2026, City Council Work Session, and July 21, 2026, City Council Meeting.

Attachments
1. 07.15.26 City Council Special Meeting Minutes
2. 07.17.26 City Council Special Meeting Minutes
3. 07.20.26 WS Minutes
4. 07.21.26 City Council Meeting Minutes

CITY COUNCIL MEETING MINUTES

Our Vision: A well-planned lakeside community of quality neighborhoods, distinctive amenities, diverse employment, and cultural charm. Rowlett: THE place to live, work and play.

Wednesday, July 15, 2026 **3:00 PM** **Fire Station #2 – 8602 Schrade Road**

Present: Mayor Jeff Winget, Mayor Pro Tem Mike Britton, Deputy Mayor Pro Tem John Bowers III, Councilmember Chris Kizziar, Councilmember Marvin Gibbs, Councilmember Byron Fassett, Councilmember Carter Holston.

1. CALL TO ORDER

Mayor Winget called the meeting to order at 3:00 pm.

2. Citizens' Input

1. Mark Taschek, Rowlett – Spoke regarding city wages for City Manager, should consider the lighting ordinance, and need to amend the boating ordinance regarding parking in driveway.
2. Dave Holl, Rowlett – Spoke regarding the wrought iron fence place between the park and the railroad. By doing so, it has eliminated about 80% of calls for service. There are young people trespassing on his property to get to the railroad tracks. It is not safe up there. Need to get Paddle Point Park under control.

3. Presentation and discussion of Salary Survey.

Kristoff Bauer, Interim City Manager, stated that today is decision day. City Council is to look at wants and resources. There will be a follow up meeting on July 17, 2026, regarding utility rates. The information you have is up to date with the exception of the final certified values. We should have those by July 25, 2026, from Dallas CAD. We have already received Rockwall CAD certified values.

A salary survey was completed this year. This was not a compensation study, where you go through job descriptions and do job evaluations to make sure their job duties match up with their job description. Small changes were made to fire and police pay plans. The direction staff is looking for is funding for merit raises.

The pay structures have been reclassified based on this salary survey. Prior to the market study, Rowlett's open range compensation plan contained highly variable increments between pay grades, creating systemic inconsistencies. The previous state reflected 4% to 11% variance between mid-points. The FY27 Standardized Plan reflects a stable, uniform 7% structure between all mid-points.

Employees were meticulously placed into the new pay grades to maintain their relative position, honoring their specific experience and tenure. To transition employees into the new market-average pay plan, all salaries were passed through four strict operational rules. The classification baseline; moved to appropriate classification based on pay set above the minimum of the revised tier. The historical consistency; every employee receives at least 1% increase. The ratio protection; Compa-ratios were protected to the fullest extent possible. The fiscal cap; no individual receives more than a 10% total increase. All planned funding for standard open range pay adjustments has been exhausted to fund this structural transition. There will be no separate funding for anniversary merit increases in FY27.

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Market data was actively sought and applied for Fire personnel during the survey process. The survey confirmed Rowlett's step plan remains highly competitive, with one exception requiring intervention. The step plan for Captains will be increased by 1.5% to align with market realities.

For Police personnel, the past revisions to reduce the total number of steps created significant compression, leaving officers with 1 to 5 years of experience clustered heavily at Step 1. The solution is a targeted two-year decompression strategy for officers with at least 3 years of experience by October 1, 2026. They would move to Step 2.5 then to Step 4.

The total financial impact to the FY27 budget is approximately $1,555,000. Should a FY27 merit increase be funded? Option A is at 1%, Option B is at 2%, and Option C is at 3%. City Council's direction was requested to finalize budget allocations. Councilmember Kizziar asked about cost-of-living based. He hasn't heard that used yet. It was explained that the market adjustment is cost-of-living. Councilmember Gibbs stated that when we don't account for inflation or market adjustment, we are chasing our tail and never catch up. Mr. Bauer stated that we are always looking back a year. Councilmember Gibbs would like to know whether with the cities we compared ours to, did they already have their market increase or are they working on it. Rick DeOrdio, Human Resources Director, stated that the market survey was done in June 2026. Some cities have budget constraints so they will do something on October 1 and then something on April 1, so that they have a half year of cushion. Everyone is waiting until after the 25th, when the certified values come out, to make final decisions. Based on the data that has been collected, cities are increasing salaries from 2.5% to 5%. More of them are hitting the 4% range because they have not done anything in the past couple of years and are falling way behind. In our data, some of our positions are way behind, not all of them. He looked at mid-point to justify the new pay grades. Mr. Bauer stated that if City Council wants to invest more money in salaries, then they will do it. Staff is trying to match the resources available to determine market adjustment and merit increases. Councilmember Fassett stated that this is a starting point to get more level. Mr. DeOrdio stated that some cities that are giving 4% & 5% increases are not giving merit raises anymore, just market adjustments. Mayor Pro Tem Britton stated that he does not want to move away from merit increases. He would love to see us do more, but where does the money come from? It was confirmed that we are competitive. There was discussion regarding police pay. Staff will look at police and fire markets pay next year.

Mayor Winget confirmed that employees in the open range plan will receive at least 1% and could be a much as 10% market adjustment based on their new pay grade. He also confirmed that public safety will move up a step and have no market adjustment, except for the 1.5% increase for Fire Captains. Councilmember Gibbs asked about the health insurance benefits. Mr. Bauer stated on the health insurance side, there are 3 plans. The HRA plan is not paying for itself and will receive an increase to this plan. There will be a small increase to the PPO plan. The HSA plan is a better performance. Councilmember Holston looks at this through the lens of the employee. He sees large turnover in all areas. The focus should have started with a goal of what we must do to attract and retain talent at certain levels. Where do we fit in attracting and retaining. We have not done a good job of retaining and he suspects some of that is salaries. City Council have to look at it from a budgetary standpoint because we only have so much money. We also have to look at it from the cost of turnover. Councilmember Gibbs stated that we can have no new employees and fix the salaries. Councilmember Holston confirmed that the open positions right now will be hired. Councilmember Gibbs stated that he means no new employees from supplemental requests.

Mayor Winget stated that in 2023 we went to a 4-day work week when very few cities were doing it. Now a lot of cities have a 4-day work week. We need to build a culture for the employees. Councilmember Holston is looking at it from a value driven proposition. We have to look at it from the lenses of the employees. If I do a good job and work hard, I get a raise. Mr. Bauer stated the had statistics regarding the market adjustment. 205 employees will receive 1% increase, 105 employees will receive 1% to 10% increase, and 32 employees will receive 10% increase. Deputy Mayor Pro Tem Bowers III confirmed that the 32 employees receiving a 10% increase is due to their salaries being way below the market. Councilmember Holston stated that this needs to be a work session. Mr. Bauer stated that the goal is to have a new employee move up to mid-point by 5

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years. Councilmember Kizziar asked what is being used to recruit and retain or incentivize employees. Mr. Bauer stated that this would apply more towards professional level. This is the area that we have not been as successful as we hoped. Rowlett does not have a good reputation right now or stability. That will change once a city manager is hired.

Mayor Winget recessed the meeting for a break at 4:35 pm.

Mayor Winget reconvened the meeting at 4:48 pm.

4. Presentation and discussion of General Fund resource estimates.

Wendy Badget, Finance Director, presented this item. The City Manager's Budget will be presented August 10, 2026. The finance department maintains a 5-year model. They estimate revenues very conservatively. The General Fund summary of revenues and expenses for proposed FY27 was reviewed. Excluding the current property taxes, which will be discussed later, all other combined revenue sources are proposed to increase by $1.5 million or 5%. Property tax revenue remains the largest general fund revenue source. The FY27 proposed $44,271,000 is based on no change to the tax rate. Protested values have not been included in these projections. Because the CADs are experiencing higher historic protest values over the past 3-4 years, 25% of last year's protested values were included in these projections.

Sales tax is the second largest revenue source. The sales tax revenue has remained relatively stable over the past few years. The 1% growth estimate provides a realistic expectation. The Mix Beverage Tax represents a relatively small portion of the general fund but has continued to provide a stable revenue source over the last several years. The estimates remain the same for FY27. The Franchise Fees revenues include payments from electric, gas, telecommunications, and cable providers for use of public right-of-way. These revenues tend to be relatively stable. The estimates remain the same for FY27. The License & Permits revenue includes building, contractor, alarm, food, and other miscellaneous permit revenues. Revenue is closely tied to development activity though the city. The estimate is a slight increase for FY27.

Charges for Service revenue represents a wide variety of fees collected through the organization. These include inspection fees, mowing fees, ambulance fees, animal services fees, recreation fees, Wet Zone fees, and other fees. There is a slight increase in this revenue due to the larger volume of ambulance fees. The ambulance rate has not increased; it is due to the volume of ambulance calls. Fines & Forfeitures revenue include court fines. Activity can fluctuate and the increase reflects the actual trends.

Other revenues include interest income, payments from insurance, payments in lieu of taxes (PILOT), rebates, cell tower leases, marina leases, contributions and donations, along with other miscellaneous revenue. The last three years of market conditions have produced a very large increase in interest income. Additionally, the PILOT payments came online in FY25, adding about $500,000 per year in revenue. The final revenue category is Transfers In and these represent planned transfers from other city funds that support general fund operations in accordance with our financial policies and budget strategies. Overall, the staff believes that all these revenue estimates provide a solid and reasonably conservative financial foundation for FY27 proposed budget.

Every department was asked to evaluate their operational needs, identify deficiencies where possible, and submit supplemental requests based on their operational needs. Some supplemental requests have been included in the proposed expenses at the City Manager's discretion and others will be considered later in this meeting. The FY26 adopted expenses were compared to the FY27 proposed expenses. The FY27 proposed expenses by department were reviewed.

The largest expense is personnel. This includes salaries, wages, overtime, retirement contributions, health insurance, payroll taxes, and other employee benefits. The FY27 proposal includes public safety steps, the compensation initiative for the enhances fire communications pay, police lateral adjustments, and the open range salary study previously discussed. Anticipated benefits costs adjustments and approved reclassifications are also included. Continuing to invest

in our workforce is critical to maintaining service levels and remaining competitive in our workforce labor today. Like other municipalities across the metroplex, we continue to experience recruiting and retention challenges in several positions. Maintaining competitive compensation helps reduce our turnover, helps retain our institutional knowledge and avoids the higher costs associated with vacancies and repeated recruitment efforts.

Supplies represent a relatively small portion of the budget. It includes items that are necessary for departments to perform their daily operations. The examples include office supplies, uniforms, vehicle supplies, maintenance materials, recreation supplies, and other operational consumables. Budget trends have remained relatively consistent for this category over the last several years.

Purchase Services include professional services, contractual agreements, software subscriptions, maintenance contracts, utilities, and other services provided through outside vendors. Many of these costs are contractual or inflationary in nature and represent ongoing operational needs. This budget category is proposed to increase by $883,000. This is primarily driven by increases in utilities, TML insurance premiums, legal services, Flock Camera subscriptions cost, and CAD appraisal fees.

Capital Outlay typically includes equipment and other capital purchases that are either not included in the debt plan due to capacity or they do not qualify for our debt plan but are necessary to support city operations. These investments generally have a useful life extended beyond one year and help departments replace aging equipment, improve operational efficiencies, and maintain our service reliability.

Historically, Transfers Out have primarily consisted of a cash transfer to the CIP Program, for roadway, parks, and other infrastructure and asset improvements. The Council initiative to transfer the funding of these improvements through the I&S rate, millions of dollars in operational capacity for services has been recognized over the past 2 years.

Departments submitted supplemental requests to address emerging needs, operational improvements, and our strategic initiatives. Boards and commissions, community partnerships, and City Council also submitted supplemental requests. The departmental supplementals requests from IT, Library, Public Works, Parks & Recreation, and the Police Department, the Interim City Manager has included in FY27 proposed budget.

Ms. Badget reviewed the FY27 departments supplementals requests, Council requests, and other supplemental requests. The FY27 proposed major initiatives were reviewed, along with the resource estimates.

Rowlett is one of the eight cities in Dallas County to offer a Senior Tax Freeze. Rowlett has provided over $33.8 million of tax relief to Seniors since FY10. FY27's subsidy is estimated at approximately $7.9 million. Rowlett has 3 separate Tax Increment Reinvestment Zones (TIRZ). Since 2018, Rowlett has placed $12.3 million into its TIRZ Funds; $5.3 million is estimated for FY27. The FY27 estimated Total Taxable Assessed Value is over $9.6 billion (3.9% increase). The prior 10-year average annual growth rate equaled 9.9% (2017-2026). The City's tax rate is comprised of the Maintenance & Operations (M&O) portion and Interest & Sinking (I&S) (debt repayment). The FY26 tax rate equaled 0.81%; M&O rate of 0.54% and I&S rate of 0.27%. The various tax rate scenarios were reviewed. There was a consensus to keep the current tax rate.

Mayor Winget recessed the meeting for dinner at 6:04 pm.

Mayor Winget reconvened the meeting at 6:38 pm.

5. City Council Priorities

Agenda Items 5A, 5B, and 5C were discussed as one item.

5A. Discussion of Executive Team prioritization.

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5B. Discussion of City Council initiatives.
5C. Discussion of City Council funding decisions.

There was discussion regarding merit increases for open-range employees. There was a consensus to move forward with a 2% merit increase. The FY27 department supplement requests were considered. Mr. Bauer stated that he would not recommend the Golf Advisory Board to spend $25,000 on another fountain. He recommended using that money to repair the cart path. It would be $30,000 for cart path repair and $20,000 for GPS of carts. Councilmember Holston recommended the same. Next discussion was partnership funding. Mayor Winget suggested having a matching grant for the Sensory Tent Pals. Myranda Congi, Sensory Tent Pals, stated that they are in year 4 of being non-profit. They now qualify to apply for grants. They have applied for grants and anything else they can find. They don't have a full-time grant writer. They have received in-kind donations of about $8,000. Some grants require that you have a scholarship program, which they do not have right now. Mayor Pro Tem Britton stated he would suggest not funding the Sensory Tent Pals due to finances. There was a consensus to keep the partnership funding agreements as presented; $25,000 to Friends of Rescue Animals (FRAS) and $40,000 to Keep Rowlett Beautiful.

City Council Initiatives were discussed. Mayor Winget asked if there was an interest in funding the Internal Auditor. Councilmember Fassett would like to see option 2 and use as needed. Mayor Winget stated that he is of the opinion that this is not a priority right now. He is all for transparency and there is value in having an Internal Auditor, there are just too many other needs right now. Mayor Pro Tem Britton and Deputy Mayor Pro Tem Bowers III agreed with Mayor Winget. Councilmember Holston is of the mindset that everything we can do to restore confidence we need to do. He is fine with spending between $50,000 to $75,000. Councilmember Gibbs stated that he is not for it right now, maybe next year but right now we have other needs. Councilmember Kizziar is not against the idea but leaning towards not right now. Councilmember Fassett disagrees. We need to have an Internal Auditor. This position will not be added.

Regarding the Economic Development Fund, the Fund will be depleted this year. The options to fund it were reviewed. Councilmember Kizziar stated that economic development has been deprived substantially over the past few years. He is all for the Liquor Tax going toward the Economic Development Fund. He is not in favor of raising taxes. All were in agreeance to move $1.3 million from the General Fund and move back to the Economic Development Fund.

There was discussion about increasing the funding to the Chamber of Commerce from $48,500 to $100,000. Mayor Winget asked Councilmember Kizziar if he knows how much other cities fund the Chamber of Commerce. Councilmember Kizziar stated he tried to research it and found that a lot of Chambers do not like to disclose how much they get from the cities. Rockwall gives $250,000 a year to their Chamber, but they are very commerce driven. Their population is much smaller than ours. He called the Chambers for Allen, Richardson, Mesquite, and Garland trying to get an answer and didn't receive any answers. Mayor Winget stated that he is in favor of an increase but not that large of an increase. Councilmember Holston asked about a compromise of a performance-based model. If you do this, then we will pay you this, based on performance measures. He is looking for a compromise. Mayor Winget stated that he is ok with $65,000 or $75,000, he struggles with $100,000. Councilmember Gibbs asked how much the total amount was the City of Rowlett has invested in the Chamber. Mr. Bauer stated that currently they get $48,500 from the city, they lease their building from the city for $1 a year and they receive use of the RCC for free and use of the Golf Course for their events for free. Mayor Winget stated that it is about $125,000 - $130,000 in benefits to the Chamber from the City.

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Mayor Pro Tem Britton suggested giving $75,000 and review at mid-year for another $25,000. Mayor Winget, Councilmember Holston, and Councilmember Gibbs agreed, and Councilmember Kizziar and Councilmember Fassett wants it to be $100,000. Mr. Bauer stated that you can move money from the Economic Development Fund to the General Fund for the difference. All were in agreeance to increase the funding to $100,000 for the Chamber of Commerce.

Mayor Winget recessed the meeting for a break at 8:18 pm.

Mayor Winget reconvened the meeting at 8:37 pm.

After discussion regarding FY27 department supplement request considerations, the following was added to the budget:

- Kennel Tech for Animal Services – Community Development
- Assistant Director of Parks & Recreation – Parks & Recreation
- Facilities Crew Leader (Reclass) & 1500 Pickup truck with a Tommy Lift – Public Works
- Records Clerk – City Secretary
- ESInet – Police
- Quartermaster (Convert to FT from PT) – Police
- (3 PT) Recreations Leader I – Parks & Recreation
- Founders Day Event ($75,000) – Community Engagement

The HR Specialist Recruiter is not needed right now. Currently this position is funded to the end of FY26. Mayor Pro Tem Britton stated that it can be reviewed at mid-year. It was decided to extend the funding for this position to end of March 2027. It was decided not to fund the monthly newsletter utility bill insert at this time. Not everyone receives a utility bill.

There was discussion regarding merit increases. Councilmember Gibbs wants to give the 3% merit increase. There was discussion of funding Economic Development employees out of the Economic Development Fund. That will be reviewed next fiscal year.

Mayor Winget recessed the meeting for a break at 9:40 pm.

Mayor Winget reconvened the meeting at 9:52 pm.

Councilmember Holston stated that he is in favor of a 2% merit increase. There is nowhere else to cut the budget to get the 3% merit increase. He appreciates the staff for coming in with what he considers a fair budget. After further discussion it was determined there is enough to fund a 2% merit increase. There was a consensus to approve the 2% merit increase.

6. Adjournment

Mayor Winget adjourned the meeting at 10:06 pm.

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CITY COUNCIL MEETING MINUTES

Our Vision: A well-planned lakeside community of quality neighborhoods, distinctive amenities, diverse employment, and cultural charm. Rowlett: THE place to live, work and play.

Friday, July 17, 2026 **10:00 AM** **Municipal Building – 4000 Main**

Present: Mayor Jeff Winget, Mayor Pro Tem Mike Britton (arrived at 10:10 a.m.), Deputy Mayor Pro Tem John Bowers III, Councilmember Chris Kizziar, Councilmember Marvin Gibbs, Councilmember Byron Fassett, and Councilmember Carter Holston

1. CALL TO ORDER

Mayor Winget called the meeting to order at 10:01 a.m.

2. Citizens' Input

No one spoke during Citizens' Input.

3. Presentation and Discussion of Utility Rate Study and Action to Select FY27 Utility Rates Option.

Jason Gray, Vice President, Public Financial Services, spoke regarding four additional rate scenarios (Scenarios 3–6) developed after the City Council requested further analysis during a previous work session. The goal was to identify a rate structure that maintains the City's financial stability while minimizing impacts to residential customers and protecting the City's bond rating. Mr. Gray explained that the new scenarios were built using Scenario 3 as the baseline because it maintains a minimum Debt Service Coverage Ratio (DSCR) of 1.14, providing a buffer above the minimum acceptable level and reducing risk to the City's bond rating.

A summary of the rate scenarios was provided:

Scenario 1

- 100% of excess inflow and infiltration (I&I) costs recovered through wastewater rates.
- Largest residential rate increase.

Scenario 2

- 50% of excess I&I costs funded through rates and 50% through fund balance.
- Lowest residential increase.
- DSCR falls to 1.06, below Council's desired minimum.

Scenario 3 (Baseline)

- Maintains a minimum 1.14 DSCR.
- Uses fund balance for costs above that level.
- Assumes the I&I problem is resolved beginning in FY2028.

Scenario 4

- Maintains the 1.14 DSCR.
- Same as Scenario 3 except assumes the I&I problem continues beyond FY2027.
- No difference from Scenario 3 in FY2027; differences begin in FY2028.

Scenario 5

- Maintains the 1.14 DSCR.
- Removes the planned $7 million debt issuance from FY2027.
- Produces very little savings to customers.
- Changes become most evident in FY2028 and beyond.

Scenario 6

- Maintains the 1.14 DSCR.
- Introduces wastewater base charges based on water meter size for commercial customers, similar to the City's water rate structure.
- Creates significantly larger increases for larger commercial accounts while minimizing impacts on most small businesses.

Mr. Gray spoke concerning the residential rate impacts. The differences between Scenarios 3–6 are relatively small during FY2027. Scenario 4 becomes noticeably more expensive beginning in FY2028 if I&I issues persist, and if I&I is not corrected, residential customers could pay approximately $5–$8 more per month beginning in FY2028–FY2029.

Concerning the commercial rate impacts, Mr. Gray stated most commercial accounts have the smallest meter size (¾-inch) and would experience much smaller increases; approximately 300 commercial accounts with larger meters (1½-inches and larger) would experience the most significant increases.

Kristoff Bauer, Interim City Manager, provided an update on the efforts to reduce wastewater costs. He stated the City continues actively repairing known infiltration sources. One major section of pipe has already been replaced, and additional manhole inspections are underway. Progress has been difficult to measure because significant rainfall is needed to evaluate improvements. He further explained the newly identified challenge of Total Suspended Solids (TSS). The City of Garland calculates treatment costs using two measurements: wastewater volume and wastewater strength (density). As infiltration water is removed, the total wastewater volume decreases; however, the wastewater becomes more concentrated. The treatment costs based on wastewater strength may increase. Additionally, odor-control chemicals currently used increase TSS; therefore, higher TSS also increases treatment costs. He noted that solving I&I alone may not fully solve wastewater cost increases because the City must also balance odor control with reducing wastewater strength.

Further discussion focused on whether more wastewater costs should be shifted to commercial users. It was explained that approximately a 9% increase in commercial rates only produces about a 1% reduction in residential rate increases. Council spoke concerning the fairness to residential taxpayers, potential impacts on small businesses, and the effects on multifamily housing.

Consensus was reached by Council to approved using Scenario 6 for the preferred model.

The City Council requested a future presentation to include commercial impacts broken down by meter size; for staff to schedule discussions with the City of Garland leadership regarding the wastewater costs; and for staff to develop clear public communication explaining the reasons for the wastewater rate increases, the I&I challenges, and the efforts being made to reduce future costs.

4. Adjournment

Mayor Winget adjourned the meeting at 11:13 a.m.

CITY COUNCIL
WORK SESSION MINUTES

Our Vision: A well-planned lakeside community of quality neighborhoods, distinctive amenities, diverse employment, and cultural charm. Rowlett: THE place to live, work and play.

Monday, July 20, 2026 **6:00 P.M.** **Municipal Building – 4000 Main**

Present: Mayor Jeff Winget, Mayor Pro Tem Mike Britton, Deputy Mayor Pro Tem John Bowers III, Councilmember Chris Kizziar, Councilmember Marvin Gibbs, Councilmember Byron Fassett, and Councilmember Carter Holston

1. CALL TO ORDER

Mayor Winget called the meeting to order at 6:00 p.m.

2. CITIZENS INPUT

1. Dave Holl, Rowlett – Spoke regarding Capital Budget regarding Park review.
2. Shelby Coleman, Rowlett – Spoke regarding proposed downtown pavilion and requested City Council get community input.

3. WORK SESSION

3A. Conduct interview of applicants to fill a vacancy for an unexpired term on the Rowlett Housing Finance Corporation (HFC) Board of Directors.

Each applicant was introduced to City Council and spent approximately 15 minutes in the interview process. The following applicants were interviewed for an appointment with the Rowlett HFC Board of Directors: Christina Lee and Valencia Akanji. Brandalyn Rodgers was scheduled for an interview, however, was unable to attend.

This agenda item was continued after 3E.

3B. Receive a presentation and discuss an ordinance amending Chapter 77 ("Development Code") and Chapter 66 ("Traffic and Vehicles") of the Code of Ordinances to Establish Electric Vehicle (EV) Parking and Charging Infrastructure Requirements for Commercial Development.

Deputy Mayor Pro Tem Bowers III presented this item. Commercial developments in Rowlett with 250+ off-street parking spaces will be required to install electric vehicle (EV) charging infrastructure both EV-ready conduit capacity and operational chargers. This ordinance amends the City's Zoning Code and Traffic Code to establish clear, enforceable standards. The key requirements for the required parking spaces are 5% must include conduit, panel capacity and space allocation for future equipment, 2% must be fully operational charging stations open to all members of the public, and the parking space dimensions are to be minimum width 132 inches (11 feet) and 20 feet in length for each EV space. The maximum time any EV may occupy a charging space while charging is four (4) hours. The accessibility and design standards were discussed.

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There are four (4) enforceable restrictions to keep EV charging spaces available; no non-electric vehicle may stop, stand or park in a space marked “Electric Vehicle Charging Only”; any EV parked in a charging space that is not connected and actively drawing power is in violation; parking in an EV charging space is limited to a maximum of four (4) hours, even while charging; and violations are subject to a fine not to exceed $200 per offense and each day a violation continues is a separate offense. Deputy Mayor Pro Tem Bowers III asked the Council to consider and provide consensus on adopting the proposed ordinance amending Sec. 77-506 and adding Sec. 66-105 to establish EV charging infrastructure requirements for commercial developments and create enforceable EV parking restrictions.

Mayor Pro Tem Britton stated that if a business wants to do it on their own, that is fine, but he is not in favor of a mandate. Councilmember Fassett can get online with this if it is for multifamily and very large offices. Deputy Mayor Pro Tem Bowers III stated that he amended his original 20+ parking spaces to 250+ parking spaces. Councilmember Gibbs stated that the government tried to push this and quit. He was looking to see if any cities had this mandate and he couldn’t find any. Deputy Mayor Pro Tem Bowers III stated that Plano, Frisco, and Allen to some extent have an ordinance similar to this proposed ordinance. Councilmember Gibbs stated that right now, he cannot support this. He would like more information. Councilmember Kizziar stated he struggles to mandate a business to provide the EV charging stations. He is not in favor of a mandate. Deputy Mayor Pro Tem Bowers III stated that this would not affect the small business, only the businesses that require 250+ parking spaces. Councilmember Kizziar stated that the businesses should have a choice. Mayor Winget stated that office he works in has EV charging stations. He can’t find where other cities had mandated it. Mayor Winget confirmed with City Council that there is not enough support to move forward with this ordinance.

3C. Receive a presentation and discuss an ordinance prohibiting urinating and defecating in public.

Chief Mike Denning, Police Chief, presented this item. The purpose is to address the need for clear standards in public spaces. This will address the current enforcement gap regarding specific public nuisances not adequately covered by state law. Establish a narrowly tailored ordinance to create clear, enforceable standards for clean public spaces. This ordinance will protect public health, enhance community enjoyment, and support a thriving local environment. There have been 53 total incident calls from January 2024 to present regarding public sanitation. Of those 53 calls, 8 calls occurred within the dense Downtown footprint.

Currently, the City enforces this under the Texas Penal Code Section 42.01 Disorderly Conduct. The primary challenge lies in the burden of statutory intent. Proving that an individual intentionally or knowingly exposed themselves when another was present who could be offended or alarmed is a subjective legal threshold for this specific behavior. This ordinance is establishing a direct municipal offense that allows enforcement based strictly on objective reality, the occurrence of the act in a public space. This ordinance does not expand arrest authority; it establishes a clearly defined offense for greater consistency. This ordinance would amend Chapter 34 of the Code of Ordinances by adding Sec. 34-5 – “Urinating or Defecating in Public”. The core premise is a person commits an offense if he urinates or defecates in a public place or in public view.

The goal of this ordinance is to maintain clean, safe, and welcoming public spaces for all residents and visitors. The tool is a narrowly tailored municipal offense that creates a clear local standard for conduct that may not fit within existing state laws. The result is effective enforcement that protects public health and enhances the quality of life in Rowlett.

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Mayor Winget stated that he asked for this a couple of weeks ago due to an incident that happened in the downtown area. He likes the “any location that is in direct public view, regardless of the underlying property type.” Mayor Pro Tem Britton stated that he fully supports this. Councilmember Fassett commended the Chief for being proactive. He is in support of this. Councilmember Kizziar is in support of this ordinance. Councilmember Holston thanked the Chief for bringing this forward. There is a consensus to move forward with this ordinance.

3D. Receive a presentation and discuss the concept drawings of the Downtown Pavilion — DART grant funding.

Kristoff Bauer, Interim City Manager, presented this item. This is to start the public process of the Downtown Pavilion. The Pavilion Concept Design draft is open air, flexible space, with sports, seating, and recreation. The pavilion structure is designed without enclosing walls, keeping the space naturally ventilated and connected to the surrounding site. The 140’x110’ footprint accommodates a multipurpose court that converts between three pickleball courts and one full basketball court, with the ability to transform further for farmers markets and pop-up community events. Protective materials when pickleball is active can be removed and stored in the storage rooms near the restrooms. The court area is paired with an adjacent open seating zone, along with restrooms and storage, creating a complete recreational hub for players and spectators alike. The four different renderings were viewed. These are just an artist’s rendering.

Mayor Pro Tem Britton would like to have the new Downtown Advisory Board and Chamber look at this. Councilmember Fassett asked what the message is or the look that we are going for? He doesn’t want to have athletic activities here. He feels that it will take away from the parks. Councilmember Gibbs stated that the pickleball players want more courts and asked for this. Mr. Bauer stated that the communication he is receiving from the pickleball community is that they are wanting more courts and to have covered courts. Councilmember Fassett said to build more courts at Herfurth Park. Mayor Pro Tem Britton stated that we aren’t building a sports complex, we are building a multi-purpose, multi-functional complex. Mr. Bauer stated that having a farmers market would draw people downtown. Need to have something that would bring people downtown all week. Councilmember Fassett said to ask the public what they want. Mayor Pro Tem Britton asked what the timeframe for this pavilion is. Mr. Bauer stated it was end of FY27. Mayor Winget stated that he wants to hear from the public and the Downtown Advisory Board, once it is formed. Mayor Winget stated that he disagrees with Councilmember Fassett not having any athletics there. People should use it daily. Councilmember Gibbs stated that he envisioned a multi-use facility, pickleball courts, farmers market, cornhole tournaments, and ice skating during the winter. Mayor Winget stated do we want this and who are the stakeholders, etc. Mayor Pro Tem Britton stated that we need to set an end date, so we don’t run out of time. Mr. Bauer stated he is looking for acceptability. Councilmember Gibbs agree with the covering of this area for whatever events. Mayor Pro Tem Britton stated he agrees with the concept. Councilmember Holston stated he always looks at what we have done in downtown that has been successful. When he thinks about the Friday concert, you have to have a stage, a generator etc. This may be something that we can put a stage at the end of sometimes for different events. He wants to engage the downtown retailers to see what we can do to make things better. We get one shot to do it right. Councilmember Kizziar stated that one thing to think about when designing this is who is going to get it out and who is going to put it up. Would this require more employees to hire etc.? He agrees that it is a great idea but to think about manpower.

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Mayor Winget asked how we move forward from here and what the initial design process looks like. Mr. Bauer stated that we take what we have as a concept and share that with the public and get feedback. Just looking at the concept, not the design. If positive, then we bring in designers to design this. Mayor Winget wants to ask whether you would be supportive of the City putting up a pavilion downtown, what sort of amenities you would like to see, and what are some design options for the facility (wood, metal, etc.). Let's condense this down-to-one survey, get the community buy-in and go from there. We need to be sure of the amenities to ask for like restrooms, farmers market, sports, seating, food truck spaces, should it be lit, or a music venue. Put a hard deadline on the survey.

3E. Receive an update regarding the Municipal Complex and Animal Shelter site selection process.

Gary Enna, Interim Public Works Director, and Lynette Lawyer, Project Manager, presented this item. In the 2023 Bond Election, Proposition A – Public Safety Facility was passed in the amount of $63,928,980 and Proposition B – Animal Shelter was passed in the amount of $8,400,000. On June 2, 2026, Council approved Hoefer Welker's Proposal to perform a Site Suitability Assessment Study for the new Municipal Complex: City Hall, Public Safety, and Animal Shelter. Their proposal is to include the following process over the course of approximately 5 months; Tier 0: Preliminary Prescreening & Market Scan (maximum 300 parcels), Tier 1: Technical Site Suitability Assessment (Short List from Tier 0), Tier 2: Technical Suitability Evaluation, Tier 3: Comparative Analysis & Grading, three (3) Council Workshops (Q3/26 - Q4/26), and four (4) Public Design Charettes (Q4/26). On June 2, 2026, Council gave direction for a third-party real estate consultant to assist with the review and acquisition of potential future sites for the new Municipal Complex. On July 7, 2026, a Statement of Qualifications (SOQ) request was issued to five (5) real estate consultants for the review and acquisition of potential sites. The SOQs are due July 22, 2026. The selected consultant will have 45 to 60 days to review and validate the shortlisted sites with Hoefer Welker. The total projected timeline for this Site Selection is approximately seven (7) months.

On July 6, 2026, Hoefer Welker presented the Tier 0 findings of the Site Suitability Assessment and Selection Process. The Tier 0 Report included: 150 sites identified and evaluated, 16 properties recommended moving forward to Tier 1, 9 properties for Public Safety and City Hall and 7 properties for Animal Shelter, and 134 sites eliminated.

Mayor Pro Tem Britton confirmed that this will take another five (5) months. Mayor Winget asked what happens with Tier 1. Mr. Bauer stated that we have to acquire the real estate consultant Council requested from Tier 1. The SOQ is due July 22, 2026, and then will be scored. If the contract is above his authority, then have to bring it to City Council for approval. Mayor Pro Tem Britton asked if there were any properties that moved to Tier 1 that the City owns. Yes, there are some that have to do with the Animal Services over off of Industrial that we own. There are two (2) sites that are big enough for the Animal Shelter but not the Public Safety Building. The current location for City Hall now was looked at but it is not big enough for City Hall and a Public Safety building. It would be a five (5) year plan. Mayor Pro Tem Britton asked if Herfurth Park was considered. Mr. Bauer stated only as a baseline. We can't build at Herfurth Park.

On June 2, 2026, Council made the decision to have Hoefer Welker move forward and talked about the real estate professional. Mayor Winget asked Mr. Bauer why he waited until July 7 to issue the SOQ. Mr. Bauer stated that they were focused on Hoefer Welker work and did not do in parallel. Mayor Winget stated that he is not a fan of anything that draws this out any longer than we have already drawn it out. Some of the feedback received has not been particularly helpful. We are at a

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list of Public Safety nine (9) properties and the Animal Shelter seven (7) properties and there are zero (0) properties that incorporate all three (3). Ms. Lawyer stated that there are a couple of properties that could house all three (3) but those are limited. Mayor Winget asked if were to forego the real estate professional's involvement, what would that timeline look like. Ms. Lawyer stated that Hoefer Welker still has about four and a half (4½) months because after they turned in the properties on July 6th, which was the first few weeks of the five (5) month contract, we told them we had to get back with them because we were looking at a third-party consultant. That gives them four and a half (4½) months to determine suitability of the number of the 16 sites. They would then go more in depth with the Tier 1 review where they find more information, the more technical aspects of those and narrow down again to a smaller group where we feel like the sites are more focused. At that point, we will start getting into the Council Work Sessions and the Public Charettes and looking at the properties and making sure all is well. Then you would start comparative analysis and really get in depth before you do any type of report like geotechnical reports.

Mayor Winget asked about the different layers of what makes a site suitable. Hoefer Welker has determined what site is big enough and already properly graded? Ms. Lawyer stated that for the Public Safety building and the City Hall, they try to look at those together. It requires a larger site, so it needs more contiguous acreage. That could either be one (1) individual location or several sites that could be combined to get that acreage necessary. The layout of those properties had to function well. Whereas the Animal Shelter is more flexible with the layout. The larger requirements are for the Public Safety building and connectivity to thoroughfares within the city. For the Animal Shelter, they looked for smaller parcels because the constraints are smaller. Lower cost parcels that have more natural noise buffers because they want to keep the animals away from the high-traffic areas or areas where the noise from the animal services could be disruptive to the residents. That is primarily what they are looking for. Mayor Winget stated that what he just heard was that Hoefer Welker was looking at the size of the lot, the orientation, ingress and egress connectivity and for the Animal Shelter sound buffers. Now we are moving on to the next step, which is engaging real estate professional. What criteria is he going to apply to this, is he going to look at purchase ability? It will be our ability to acquire real estate, some idea about value or cost in the process would be the key elements. If you want to move on to Tier 1 and Tier 2 while we continue to move forward with trying to acquire the services of the real estate professional, we can engage them when we have a more focused set of sites. Mayor Winget stated so for the next step that Hoefer Welker is going to do, are they going to charge us per site that they access. Their scope is fixed. They will access all 16 sites, but the question is when do we bring in the real estate perspective as part of that process. Mayor Winget stated he does not understand why it takes 60 days to bring in the real estate person. Why on the Gant Chart does everything stop to find a real estate professional? Mayor Winget asked Councilmember Holston to weigh in since the real estate professional was his idea. Councilmember Holston stated that in his mind, he did not see a stop on the Gant Chart. He doesn't see a need for a stop; he sees a need for something to help us negotiate and run concurrently with Hoefer Welker. Mr. Bauer stated that he will get Hoefer Welker to move to Tier 2, analysis on these properties, while looking for a real estate professional at the same time. Mayor Pro Tem Britton stated that he was hoping that he would do this parallel with it all working together. Mayor Winget stated that Tiers 1, 2, & 3 should be done together. The Charettes is with several sites as options. Mr. Bauer confirmed that he is to release Hoefer Welker to work through step 3 and continue to work on identifying and engaging a real estate professional to assist us before we move past, finalize step three and begin the public process. It will take about four (4) months for those steps. Mayor Winget asked how long it takes from when the SOQ are submitted to selecting and appointing a real estate professional. Mr. Bauer stated that there are two steps,

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selection and contract negotiations. That is usually somewhere between 20 and 45 days. That will be approximately September 1st and it will take Hoefer Welker to probably September or October time frame.

Councilmember Holston stated that he has a problem with the Animal Shelter to be near or around a commercial development. It could go just about anywhere; it is not required to be on the same complex as the municipal complex. Mr. Bauer stated that its accessibility to the public is still of significant interest because you want your animal shelter to be some place where people go and adopt animals. There's certainly a balance between having a location where it's sensitive to the animals and neighbors and open and accessible and visible to the public, so it is challenging. Councilmember Holston stated he would love to deliver the Animal Shelter sooner rather than later. You still have to get public input. Mr. Bauer stated that he will move forward with getting Hoefer Welker authorization to get back to work on Tiers 1, 2, & 3 and ask them to do everything to move forward with the Animal Shelter as quickly as possible. If they can make that happen in parallel without impacting the project of the municipal complex.

Mayor Winget adjourned the meeting for a break at 8:27 pm.

Mayor Winget reconvened the meeting at 8:39 pm.

Agenda Item 3A was continued after 3E.

3A. Conduct interview of applicants to fill a vacancy for an unexpired term on the Rowlett Housing Finance Corporation (HFC) Board of Directors.

Councilmembers discussed the vacancy and the applicants they interviewed. Mayor Winget stated that Valencia Akanji was his choice to be on the HFC Board of Directors. All others concurred. Ms. Akanji will be appointed at the City Council meeting tomorrow night.

4. EXECUTIVE SESSION

4A. The City Council shall convene into closed, executive session pursuant to Texas Government Code, §551.074 (Personnel Matters) to deliberate the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee, to wit: Interim City Manager.

Mayor Winget adjourned the meeting into Executive Session at 8:44 pm.

5. RECONVENE INTO OPEN SESSION AND TAKE ANY NECESSARY OR APPROPRIATE ACTION ON CLOSED/EXECUTIVE SESSION MATTERS

Mayor Winget reconvened the meeting at 9:48 pm.

Mayor Winget stated the City Council has concluded its executive session with no action taken.

6. DISCUSS CONSENT AGENDA ITEMS FOR JULY 21, 2026, CITY COUNCIL MEETING

Mayor Pro Tem Britton asked to have agenda items 4D and 4E be considered individually. Councilmember Holston asked to have agenda item 4C be considered individually as well.

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7. ADJOURNMENT

Mayor Winget adjourned the meeting at 9:48 pm.

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CITY COUNCIL MEETING MINUTES

Our Vision: A well-planned lakeside community of quality neighborhoods, distinctive amenities, diverse employment, and cultural charm. Rowlett: THE place to live, work and play.

Tuesday, July 21, 2026 **7:00 P.M.** **Municipal Building – 4000 Main**

Present: Mayor Jeff Winget, Mayor Pro Tem Mike Britton, Deputy Mayor Pro Tem John Bowers III, Councilmember Chris Kizziar, Councilmember Marvin Gibbs, Councilmember Byron Fassett, and Councilmember Carter Holston

INVOCATION

The invocation was led by Pastor P.C. Jacob, Philadelphia Church of God.

PLEDGES OF ALLEGIANCE

The Pledges of Allegiance were led by the City Council.

1. CALL TO ORDER

Mayor Winget called the meeting to order at 7:03 p.m.

2. PRESENTATIONS

2A. Update from the City Council and Management: Financial Position, Major Projects, Operational Issues, Upcoming Dates of Interest and Items of Community Interest.

Councilmember Gibbs, provided the following announcements:

CITY SECRETARY'S OFFICE – Applications are now open for the newly created Downtown Advisory Board. Property owners, business owners and residents are encouraged to apply and help shape the future of Downtown Rowlett. Go to www.rowlett.com for more information.

COMMUNICATIONS AND COMMUNITY ENGAGEMENT – This morning, the City of Rowlett held a Blessing and Unveiling Ceremony at Fire Station No. 1 for its new Safe Haven Baby Box, becoming the first city in Dallas County and the 22nd community in Texas to offer this safe, legal, and anonymous surrender option for newborns in crisis. The City extends its gratitude to Sarah McDermott, whose leadership and fundraising made this project possible, and to all community partners who contributed, including the Rowlett Firefighters Association, the Rowlett Police Officers Association, Providence Church of Texas, Michael McDermott, Roofs by Shiloh, Nathan Dunham, and a generous anonymous donor. The Safe Haven Baby Box is monitored 24 hours a day and alerts emergency personnel immediately when accessed.

Thank you to everyone who attended the recent community meeting to share input on the search for Rowlett's next City Manager. For those unable to attend, the City is continuing to gather resident feedback on the qualities you'd like to see in the next City Manager and the direction you'd like

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Rowlett to take in the years ahead. Feedback may be submitted by 5 p.m. on Wednesday, July 29, through a survey available on the City's website. Resident input is an important part of this search process, and the City encourages everyone to participate.

LIBRARY - Things are coming down to the wire for the Library's Summer Reading Program, but there's still time to sign up and turn in your reading logs. Every completed reading log earns you entries into the grand prize drawing. For more information and a complete list of grand prizes, visit Rowlett.com/SummerReading.

The Arts & Humanities Commission has 2 contests in August – The Photography Contest and Rowlett Sings. Photo Contest entries will be accepted on August 7 and 8 at the Library and Rowlett Sings audition entries are due on August 8. Additional details and entry forms for both contests can be found at Rowlett.com/Arts.

POLICE - Join the Rowlett Police Department at The Village Coffee by Altara located at 4113 Main Street for Brew with the Blue. The event will be on Saturday July 25th 8:30am to 9:30am. Meet your local officers, ask questions, share ideas and help strengthen the connection between our department and the community. We hope to see you there!

Councilmember Fassett introduced the Featured Pet, Ozark, this sweet gentleman is full of endless paws-ibiliites! He is a handsome Catahoula mix with striking eyes and an even bigger heart. This sweet boy is always ready to make a new friend and absolutely loves soaking up all the attention from anyone willing to give him a few pets. Ozark is dog-friendly, enjoys spending time with other pups, and has a gentle, affectionate personality that makes him a joy to be around. Ozark is waiting for someone who will give him some TLC and in return pay you with endless love and cuddles. To meet Ozark or one of his companions, please contact Animal Services at 972-412-6219 or come by the Shelter at 4402 Industrial St. from 10 am to 5 pm, Tuesday through Saturday. Happy Tails Update – Capone has found his forever family and is happy to call a place home! You too can make a difference, even if adoption isn't an option, fostering is a powerful way to help a shelter dog in need.

Mayor Pro Tem Britton introduced two of his grandsons, Sam and Caleb Britton, that are in attendance. Caleb is going into his final stages of earning his Eagle Scout. One of his merit badges that he has to do involves sitting in something like a City Council meeting to observe and take notes.

3. CITIZENS INPUT

1. Dave Holl, Rowlett – Spoke regarding not having lifeguards are Paddle Point Park and making Wet Zone free since they have lifeguards.
2. Dan Houpt, Rowlett – Thanked City Council for the repair of the new stone to the monument sign at Merritt and George Bush. He also thanked City Council for the decisions made at last night's City Council Work Session. He likes the idea of separating the Animal Shelter from the Public Safety building.
3. Denise Eljoohi, Rowlett – Spoke regarding Ordinance ORD-10-25.
4. Hasan Eljoohi, Rowlett – Spoke regarding water damage to his property caused by neighbor.
5. Beth Crockett, Rowlett – Spoke against CO Bonds and the July 15, 2026, audio/video not working on the website.
6. Veronica Meyerowitz, Rowlett – Spoke against the Flock Cameras.

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7. Michelle Nouvel, Rowlett – Spoke against pickleball courts in downtown.

4. CONSENT AGENDA

Agenda items 4C, 4D, and 4E were removed from the Consent Agenda to be considered individually.

4A. Consider action approving the minutes.

Consider action to approve minutes from the following City Council meeting(s): June 29, 2026, City Council Special Meeting, July 6, 2026, City Council Work Session, July 7, 2026, City Council Meeting, and July 9, 2026, City Council Special Meeting.

This item was approved on the Consent Agenda.

4B. Consider action to designate the City's Official Newspaper.

Consider action to adopt a resolution Designating The Dallas Morning News as the Official Newspaper of the City; providing for a repealing clause; and providing for an effective date.

This item was approved on the Consent Agenda as RES-26-07-59R.

4C. Consider action to authorize the purchase of nine (9) Chevrolet 1500 pickup trucks and one (1) Chevrolet Equinox from Lake Country Chevrolet.

Consider action to adopt a resolution authorizing the purchase of nine (9) Chevrolet 1500 pickup trucks and one (1) Chevrolet Equinox to replace Enterprise vehicles, from Lake Country Chevrolet, through a TIPS cooperative purchasing contract, for a total price not to exceed $445,155.77; authorizing the Interim City Manager or his designee to execute all necessary documents to effectuate said purchase; and providing an effective date.

Mike Lasby, Manager of Assets/Fleet, presented this item. Staff is requesting authorization to purchase nine (9) Chevrolet 1500 pickup trucks and one (1) Chevrolet Equinox from Lake Country Chevrolet, through a TIPS cooperative purchasing contract, to replace Enterprise vehicles. The purchase of these vehicles is part of the strategic plan to replace Enterprise-leased vehicles with city-owned vehicles. The purpose of this item is to authorize the purchase from Lake Country Chevrolet in the amount of **$448,155.77**. On February 2, 2021, the City Council approved an agreement with Enterprise Fleet Management to lease a significant portion of the City's fleet. This strategic direction has recently been evaluated, and a decision has been made to return to city-owned vehicles. This purchase supports that decision by replacing ten (10) Enterprise-owned vehicles. The Equinox will support Police Department operations. Of the nine (9) trucks, three (3) will support utility operations, three (3) will support park maintenance activities, and three (3) will support street maintenance operations.

Councilmember Holston asked if we have a purchasing policy. Mr. Lasby confirmed that we do. Councilmember Holston asked if there is a policy on how long we keep the vehicles. It is a 10-year replacement plan. Councilmember Holston asked how do his justified the need to replace the vehicles. The plan is to replace 92 vehicles in four (4) years, as the leases expire, we are replacing

the vehicles. Questions were raised about take-home vehicles. Very few are take-home vehicles, it is for employees that are on-call and have a specific amount of time to respond. Victoria Thomas, City Attorney stated that the motion needs to amend the incorrect amount on the agenda.

A motion was made by Councilmember Gibbs, seconded by Deputy Mayor Pro Tem Bowers III, to adopt a resolution authorizing the purchase of nine (9) Chevrolet 1500 pickup trucks and one (1) Chevrolet Equinox to replace Enterprise vehicles, from Lake Country Chevrolet, through a TIPS cooperative purchasing contract, for a total price not to exceed the amended price of **$448,155.77**; authorizing the Interim City Manager or his designee to execute all necessary documents to effectuate said purchase; and providing an effective date. **Motion passed 7-0.**

This item was approved as RES-26-07-60R.

4D. Consider action to authorize the award of a contract for Country Aire Estates Phase 2 Reconstruction.

Consider action to adopt a resolution authorizing the award of a contract for Bid No. 2026-43-B, Country Aire Estates Phase 2 Reconstruction, to DDM Construction Corporation, for an amount not to exceed $2,779,067.50 ($2,526,425.00 plus a ten percent (10%) contingency of $252,642.50); authorizing the Mayor or his designee to execute the contract and all necessary documents to effectuate said purchase; and providing an effective date.

Gary Enna, Interim Public Works Director, presented this item. The scope of work is for roadway rehabilitation which consists of 7,800 sq. yds. of concrete pavement, 500 linear feet of drainage pipe, 2,500 linear feet of water pipe, 2,300 linear feet of wastewater pipe, and 2,300 linear feet of illuminated conduit. Mayor Pro Tem Britton stated that he requested this item be an individual consideration because he wanted the highlight of what was being done. Councilmember Gibbs confirmed with Mr. Enna that the construction will help with Salzburg Drive water flooding area.

A motion was made by Mayor Pro Tem Britton, seconded by Councilmember Gibbs to adopt a resolution authorizing the award of a contract for Bid No. 2026-43-B, Country Aire Estates Phase 2 Reconstruction, to DDM Construction Corporation, for an amount not to exceed $2,779,067.50 ($2,526,425.00 plus a ten percent (10%) contingency of $252,642.50); authorizing the Mayor or his designee to execute the contract. **Motion passed 7-0.**

This item was approved as RES-26-07-61R.

4E. Consider action to authorize Change Order No. 1 to the Construction Contract for Country Aire Estates Phase 2 Reconstruction.

Consider action to adopt a resolution authorizing Change Order No. 1 to the Construction Contract with DDM Construction Corporation related to Bid No. 2026-43-B Country Aire Estates Phase 2 Reconstruction, in an amount not to exceed $165,000.00 ($150,000.00 plus a ten percent (10%) contingency of $15,000); authorizing the Mayor or his designee to execute the Change Order and all necessary documents to effectuate said purchase; and providing an effective date.

A motion was made by Councilmember Gibbs, seconded by Mayor Pro Tem Britton, to approve as read. **Motion passed 7-0.**

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This item was approved as RES-26-07-62R.

4F. Consider action to authorize the use of eminent domain on two properties for the acquisition of Right of Way (ROW) and Easements for the Chiesa Road Widening (Dalrock Road to Miller Road) Project.

Consider action to adopt a resolution authorizing initiation of condemnation proceedings for the acquisition of Right-of-Way (ROW) and Easements on properties along the Chiesa Road Widening Project in the City of Rowlett, Dallas County, Texas.

This item was approved on the Consent Agenda as RES-26-07-63R.

A motion was made by Mayor Pro Tem Britton, seconded by Councilmember Gibbs, to approve the Consent Agenda as read. Motion passed 7-0.

5. INDIVIDUAL CONSIDERATION

5A. Consider action to adopt parameter ordinances authorizing the issuance of General Obligation Bonds, Certificates of Obligation, Tax Notes, and Water and Sewer Revenue Bonds with the final terms to be approved by the City's pricing officers on any date until expiration of the delegated authority.

Michael Kuhn, Treasury & Debt Manager, presented these items. The financing timeline was reviewed. If the issuance of the GO, CO, Tax Notes, and W&S Bonds are authorized, pricing will be August 12-18, 2026. Before September 10, 2026, the closing and delivery of funds to the City will occur. The General Obligation (GO) Bond is an issuance of up to $14.6 million in GO Bonds recommended. The supported investments are road construction and reconstruction, Community Park Maintenance Facility, and Parks projects. The Certificates of Obligation (CO) Bond is an issuance of up to $5.2 million in CO Debt is recommended. The supported investments are road construction and reconstruction, and Parks projects. The Tax Notes is an issuance of up to $5.6 million in Tax Notes is recommended. The supported investments are Fire equipment and apparatus, Police equipment and vehicle replacement, IT equipment and CIP Software, Other Department vehicles replacement, and facilities improvements. The Water & Sewer (W&S) Bonds is an issuance of up to $7.4 million in W&S Bonds is recommended. The supported investments are water and sewer system improvements. The parameter sale allows for maximum flexibility to price bonds on any day. City Council delegates authority to select City staff to approve a sale if certain parameters are met. The pricing officers will be the Interim City Manager and Finance Director.

Councilmember Kizziar asked about the list of items in the Tax Notes. Mr. Kuhn read the list of items which is also in the staff report. Deputy Mayor Pro Tem Bowers III stated he appreciates putting this together and detailing the purchases. Councilmember Holston confirmed with Mr. Kuhn that this is a more efficient method and is saving taxpayers' money doing it this way.

City Council action on the GO Bonds is to consider all matters incident and related to the issuance and sale of "City of Rowlett, Texas, General Obligation Bonds, Series 2026", including the

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adoption of an ordinance authorizing the issuance of such obligations and establishing procedures and delegating authority for the sale and delivery of such bonds.

A motion was made by Mayor Pro Tem Britton, seconded by Councilmember Fassett, to adopt an ordinance authorizing the issuance and sale of "City of Rowlett, Texas, General Obligation Bonds, Series 2026" and approving all other matters related thereto. Motion passed 7-0.

This item was approved as ORD-26-07-22.

City Council action on the Certificates of Obligation (CO) Bonds is to consider all matters incident and related to the issuance and sale of "City of Rowlett, Texas, Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2026", including the adoption of an ordinance authorizing the issuance of such obligations and establishing procedures and delegating authority for the sale and delivery of such obligations.

A motion was made by Councilmember Fassett, seconded by Councilmember Gibbs, to adopt an ordinance authorizing the issuance and sale of "City of Rowlett, Texas, Combination Tax and Limited Surplus Revenue Certificates of Obligation, Series 2026" and approving all other matters related thereto. Motion passed 7-0.

This item was approved as ORD-26-07-23.

City Council action on the Tax Notes is to consider all matters incident and related to the issuance and sale of "City of Rowlett, Texas, Tax Notes, Series 2026", including the adoption of an ordinance authorizing the issuance of such obligations and establishing procedures and delegating authority for the sale and delivery of such tax notes.

A motion was made by Councilmember Holston, seconded by Deputy Mayor Pro Tem Bowers III, to adopt an ordinance authorizing the issuance and sale of "City of Rowlett, Texas, Tax Notes, Series 2026" and approving all other matters related thereto. Motion passed 7-0.

This item was approved as ORD-26-07-24.

City Council action on the Water & Sewer (W&S) Bonds is to consider all matters incident and related to the issuance and sale of City of Rowlett, Texas, Waterworks and Sewer System Revenue Bonds in one or more series, including the adoption of an ordinance authorizing the issuance of such obligations and establishing procedures and delegating authority for the sale and delivery of such bonds.

A motion was made by Councilmember Fassett, seconded by Deputy Mayor Pro Tem Bowers III, to adopt an ordinance authorizing the issuance and sale of City of Rowlett, Texas, Waterworks and Sewer System Revenue Bonds in one or more series and approving all other matters related thereto. Motion passed 7-0.

This item was approved as ORD-26-07-25.

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5B. Consider action to adopt a resolution approving a Development Agreement between the City of Rowlett and Trail Creek Partners, Ltd. regarding approximately 14.87 acres of land located at 13805 Troy Road, situated in the Madison Price Survey, Abstract No. 257, Rockwall County, Texas.

Munal Mauladad, Interim Assistant City Manager, presented this item. The purpose is to consider a Development Agreement for approximately 14.87 acres located at 13805 Troy Road. The developer intends to voluntarily annex into the City of Rowlett. This development will consist of 70 single-family residential lots. The Development Agreement establishes infrastructure obligations, utility service arrangements, annexation commitments, and development standards. The proposed development is intended to be consistent with the existing Trails at Cottonwood Creek development. The Development Agreement provides vested rights and development certainty for the property. It establishes development standards prior to annexation and defines responsibilities for public infrastructure construction and utility service. It serves as the framework for annexation and future zoning actions. This agreement is separate from the Trails at Cottonwood Creek but intended to follow the same development standards and development pattern.

The development is approximately 70 single-family residential lots with a minimum lot size of 4,400 sq. ft. and minimum lot width of 40 feet. The internal streets extend the existing Phase E street network. The utilities and infrastructure extend from the existing development. This development functions as a seamless expansion of the existing Trails at Cottonwood Creek neighborhood. The developer previously funded construction of off-site sanitary sewer improvements necessary to serve the property via a Facilities Agreement. Agreement provides reimbursement through sewer impact fee credits. The credit amount is $1,189 per lot and reimbursement occurs with the issuance of each residential building permit (not to exceed $83,230). The benefit to the City is that infrastructure has already been constructed. It expands wastewater service capacity. Reimbursement is limited and tied directly to development activity. The concept plan was reviewed.

The developer is responsible for all internal public infrastructure required to serve the development. The agreement does not require a traffic impact analysis or improvements to Troy Road. Internal streets and related infrastructure are constructed at developer's expense. The developer will be required to design the site to ensure water flows into a contained system to prevent an adverse impact on future development. This requirement will be memorialized in the Planned Development conditions. The voluntary annexation process was discussed, as well as the proposed schedule. The initial zoning will be a Planned Development (PD) district. The PD standards will be consistent with the Development Agreement. The PD ordinance will mirror the approved development standards, which provide continuity with existing Trails at Cottonwood Creek development. It supports annexation and future platting activities. Staff recommend approval of the proposed Development Agreement as it is a logical extension of the land use development pattern. Staff also recommend approval of the sanitary sewer impact fee credit as the developer has already installed infrastructure and lift station improvements to accommodate current and future development. Councilmember Holston confirmed that all the waster is to be served by the SUD.

A motion was made by Councilmember Holston, seconded by Deputy Mayor Pro Tem Bowers III, to approve the Development Agreement as stated. **Motion passed 7-0.**

This item was approved as RES-26-07-64R.

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5C. Consider action to adopt a resolution appointing a board member to the Rowlett Housing Finance Corporation (HFC) for an unexpired term.

Mayor Winget stated City Council interviewed two applicants at the Work Session. At the Work Session, there was a consensus to appoint Valencia Akanji to the HFC Board. The third applicant did send an email to the mayor apologizing for not making the interview, she had a death in the family over the weekend.

A motion was made by Councilmember Holston, seconded by Councilmember Gibbs, to appoint Valencia Akanji to the HFC Board of Directors. **Motion passed 7-0.**

This item was approved as RES-26-07-65R.

5D. Consider action to adopt a resolution Establishing the Rowlett 75th Anniversary Task Force as an Ad Hoc Committee, Providing for its Purpose, Membership, Duties, Organization, Meetings, Staff Support, Reporting, and Sunset, and providing an effective date.

Deputy Mayor Pro Tem Bowers III presented this item. This presentation leads City Council to authorize a citizen volunteer 75th Anniversary Task Force to plan and execute a year-long celebration. The Task Force will be seated by September 2026 to allow a full year of lead time. It will consist of two (2) Council Liaisons as ex-officio, a Staff Liaison, and 10 to 13 At-Large Citizen Members, consisting of residents, business owners, long-time residents, school representatives, and civic/non-profit organizations.

A motion was made by Mayor Pro Tem Britton, and seconded by Deputy Mayor Pro Tem Bowers III, to adopt a resolution Establishing the Rowlett 75th Anniversary Task Force as an Ad Hoc Committee. **Motion passed 7-0.**

This item was approved as RES-26-07-66R.

5E. Consider action to adopt a resolution authorizing the purchase of pavement rehabilitation and resurfacing services for Chiesa Road, from Texas Materials Group, Inc., dba TexasBit, through an Ellis County cooperative contract for a price not to exceed $647,868.12; authorizing the Mayor or his designee to execute the Construction Agreement and all necessary documents to effectuate said purchase; and providing an effective date.

Gary Enna, Interim Public Works Director, presented this item. Chiesa Road is part of the Major Thoroughfare Plan adopted in 2001 and amended in 2015. The project limits are Hwy 66 and Miller Road. Chiesa Road serves as a major north-south arterial. The average daily traffic volume is 7,684 vehicles. During peak traffic, Monday – Friday, the am peak is 715 vehicles per hour and the pm peak is 738 vehicles per hour. Texas Materials is the contractor procured through an ILA with Ellis County. The project scope is to mill 1.2 miles of asphalt from Miller Road to Hwy 66, remove the excess material, cement stabilized base 24 lbs./SY, with 2” HMAC overlay in twenty-five (25) working days. Option A, which is to repave Chiesa Road a proposed or Option B, which is to restripe Chiesa Road and do a concrete design in October of 2027. Option A is anticipated to last five (5) years.

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A motion was made by Deputy Mayor Pro Tem Bowers III, seconded by Mayor Pro Tem Britton, to approve as presented. **Motion passed 7-0.**

This item was approved as RES-26-07-67R.

MEMBERS OF THE CITY COUNCIL MAY REQUEST TOPICS TO BE PLACED ON AN AGENDA FOR A SUBSEQUENT MEETING. ANY DELIBERATION OR DECISION SHALL BE LIMITED TO A PROPOSAL TO PLACE TOPIC ON THE AGENDA FOR A SUBSEQUENT MEETING.

Mayor Winget stated that he will have the Charter Review Commission to be reviewed at the next Work Session and appointments at the following meeting.

6. ADJOURNMENT

Mayor Winget adjourned the meeting at 8:36 pm.

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City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.B.

Title
Consider action to receive the investment report.

Consider action to receive the third quarter investment report for June 30, 2026.

Staff Representative
Michael Kuhn, Treasury & Debt Manager

Executive Summary
In order for the City of Rowlett to comply with the State of Texas Public Funds Investment Act (PFIA), it has adopted an official Investment Policy. A requirement of this Policy is a quarterly report of the City's investment activity. Finance is pleased to report that the City continues to maintain its reporting compliance with the requirements of the PFIA and the City's Investment Policy and that the City's pooled funds and long-term pooled fund portfolios are of high credit quality and invested in TexPool, TexStar, Texas Range, U.S. Treasury and high-quality commercial paper securities.

The quarterly report is prepared by the City's financial advisor, PFM Asset Management (PFM). Please note that their references are to calendar year; therefore, their second quarter is defined as April 1, 2026, through June 30, 2026, but represents the City's third quarter of fiscal year 2026 (see Attachment 1).

Strategic Priority and Goal(s)

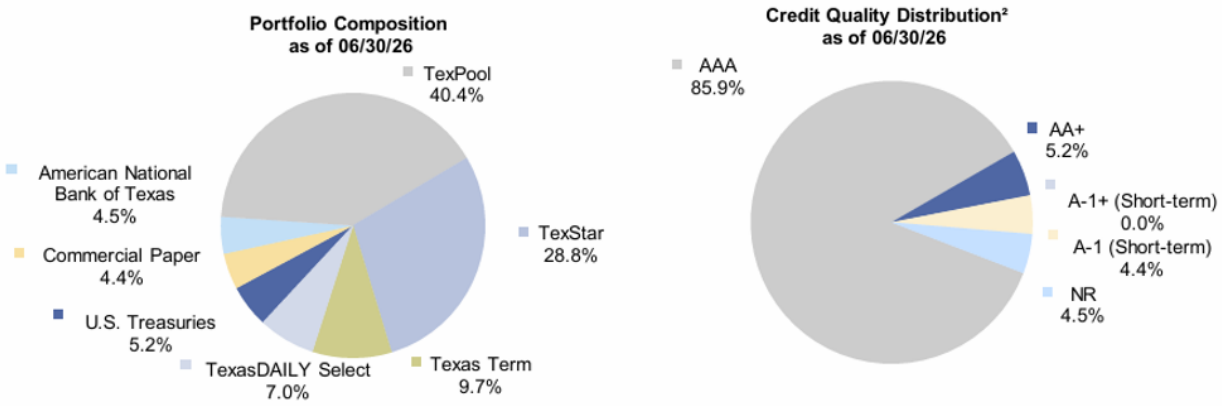
Strategic Priority	Strategic Goal
GOVERN TRANSPARENTLY & INCLUSIVELY	1.8 Provide accurate and timely information to policy makers and the public.

Background Information
Effective September 1, 1995, the Public Funds Investment Act, Chapter 2256 of the Texas Government Code, outlined authorized investments and fund management criteria for governmental entities. Among other criteria, an annual authorization and approval of the City's Investment Policy is required by December 31 of each year for

compliance with the State of Texas PFIA. The City Council authorized and approved the last revision of the City's Investment Policy on October 21, 2025. The City's Investment Policy and Section 2256.023 of the Code require that in conjunction with the Investment Officer(s), the City's Investment Advisor(s) shall provide quarterly investment reports on the City's short-term and long-term core investments to City Council. This agenda item fulfills the requirements of the PFIA and the City's Financial Investment Policies for the Quarter ending June 30, 2026.

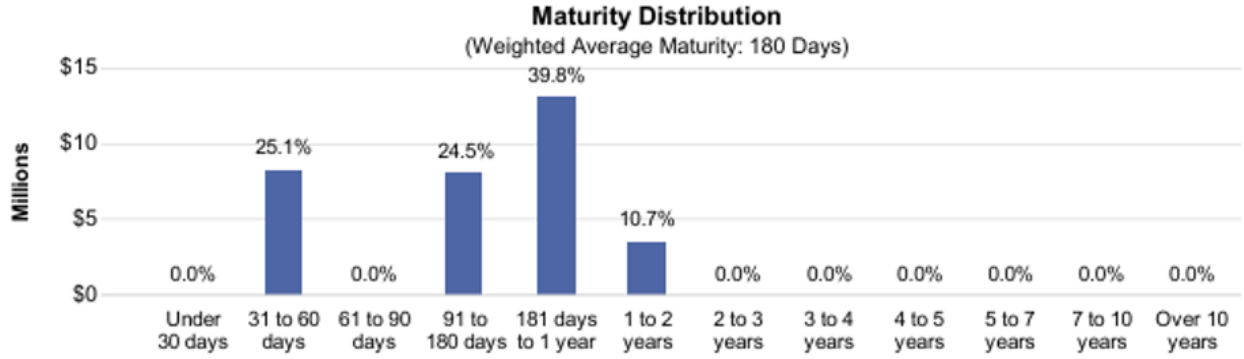
Discussion

As of June 30, 2026, the City's monies consisted of U.S. Treasury and Commercial Paper securities; additionally, monies were held in local government investment pools and local bank operating accounts:



Note: Credit rating of securities held in portfolio and also inclusive of money market fund, bank or LGIP. S&P Global is the source of the credit ratings.

The Pooled Funds and Long-Term Pooled Funds portfolios maintain an adequate level of liquidity and comprise high quality credits. The portfolios maintain an aggregate weighted average maturity of less than one year – in line with the Investment Policy.



Note: Represents maturities for Pooled Funds and Long-Term Pooled Funds portfolios.

The Long-Term Fund Portfolio's quarterly total return performance of 0.85%

outperformed the benchmark performance of 0.61% by 0.24%. For the last 12 months, the Portfolio's total return performance of 3.95% outperformed the benchmark performance of 3.37% by 0.58%.

Conditions during the quarter were characterized by: i) resilient U.S. growth as AI-driven investment offset a moderating consumer, ii) a labor market in balance, though real wage growth remained modest, and iii) headline inflation at or near its peak as the energy shock faded, though flare-ups in the Middle East conflict and potential delayed passthroughs to core inflation remain key risks.

Inflation remained above the Fed's target throughout the quarter with headline inflation accelerating, driven primarily by higher energy prices. Core measures remained elevated as services inflation showed limited signs of improvement. Importantly, long-run inflation expectations stayed relatively well anchored despite higher headline readings. Headline inflation may be at or near its peak as energy prices retreat, but persistently elevated core inflation remains a concern for the Fed as it determines the near-term path of policy rates.

The quarter marked a significant transition at the Federal Reserve. The Fed held interest rates steady, leaving the federal funds target range unchanged at 3.50% to 3.75% at Kevin Warsh's first meeting as Fed Chair. As expected, the Fed removed all forward guidance, signaling a more data-dependent approach. The June "dot plot" also shifted more hawkish, with nine policymakers projecting at least one rate hike in 2026.

U.S. Treasury yields rose across the curve during the quarter as markets repriced the Fed's policy path amid energy-driven inflation concerns and a more hawkish outlook. The move was led by shorter maturities, particularly the 2-year Treasury, as markets reduced expectations for policy easing and increased the probability of additional rate hikes. The 3-month U.S. Treasury ended the quarter at 3.81%, 14 bps higher. The 2-, 5- and 10-year U.S. Treasuries ended the quarter at 4.17%, 4.23%, and 4.47%, representing increases of +38 bps, +28 bps, and +15 bps, respectively.

Labor market conditions normalized as payroll growth slowed and wage gains moderated, particularly among lower-income households. The unemployment rate was 4.2% in June and initial jobless claims remained low and stable. Despite this cooling, job openings remained elevated and layoffs historically low, reinforcing the persistence of a "low-hire, low-fire" environment. While conditions are softening, the labor market is normalizing rather than deteriorating.

Financial/Budget Implications
N/A

Recommended Action
Move to approve receipt of the third quarter investment report for June 30, 2026.

Attachments

1. Attachment 1 – Quarterly Investment Report for June 30, 2026

pfm asset management

City of Rowlett

Investment Performance Review
For the Quarter Ended June 30, 2026

Client Management Team

Nathan Smith, Director
Robert Cheddar, CFA, Managing Director – Senior Fixed

PFM Asset Management
A division of U.S. Bancorp Asset Management, Inc

180 State Street, Suite 225
Southlake, TX 79092
1-512-781-9887

213 Market Street
Harrisburg, PA 17101-2141
717-232-2723

NOT FDIC INSURED : NO BANK GUARANTEE : MAY LOSE VALUE

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Investment Officer's Certification

This report is prepared for City of Rowlett (the "City") in accordance with Chapter 2256 of the Public Funds Investment Act ("PFIA"). Section 2256.023(a) of the PFIA states that "Not less than quarterly, the investment officer shall prepare and submit to the governing body of the entity a written report of the investment transactions for all funds covered by this chapter for the preceding reporting period." This report which covers the month ended June 30, 2026, is signed by the City's investment officers and includes the disclosures required in the PFIA.

The investment portfolio complied with the PFIA and the City's approved Investment Policy and Strategy throughout the month. All investment transactions made in the City's portfolio during this month were made on behalf of the City and were made in full compliance with the PFIA and the City's approved Investment Policy.

Wendy Badgett, Director of Financial Services

Current Market Themes

- U.S. growth remains resilient as AI-driven investment offsets a moderating consumer
  - Headline inflation may be at or near its peak as the energy shock fades, though flare-ups in the Middle East conflict and potential delayed passthroughs to core inflation remain key risks
  - The labor market is in balance, though real wage growth remains modest
  - AI investment continues to drive growth while fueling inflation in tech-related categories

- The Federal Reserve (Fed) left policy rates unchanged at 3.50-3.75%
  - New Fed Chair Kevin Warsh stressed restoring price stability
  - Forward guidance was removed to refocus markets on economic fundamentals and incoming data rather than the Fed's policy response
  - Nine participants projected a 2026 rate hike though Warsh did not submit projections

- Treasury yields moved higher on a more hawkish Fed
  - Given current pricing of Fed rate hikes, we continue to find value in the front end
  - Longer-term rates face two-sided risks from inflation and growth dynamics
  - Credit spreads remain tight as resilient growth, stable labor conditions, and strong demand outweigh valuation concerns

Source: Details on market themes and economic indicators provided throughout the body of the presentation. Bloomberg Finance L.P., as of June 30, 2026.

Factors Shaping Our Economic Outlook

Negative

- Geopolitical uncertainty and supply chain disruptions
- Savings rate near record low
- Increasing retail credit card balances

Neutral

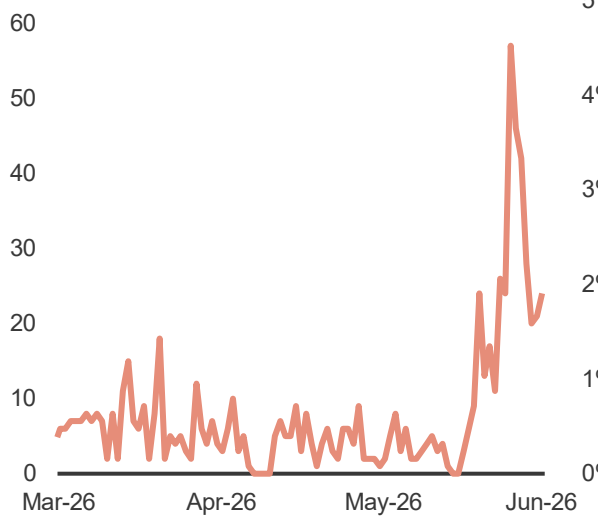
- Fed policy uncertainty
- Core inflation passthrough from energy shock modest thus far
- U.S. growth near trend but led by AI investment

Positive

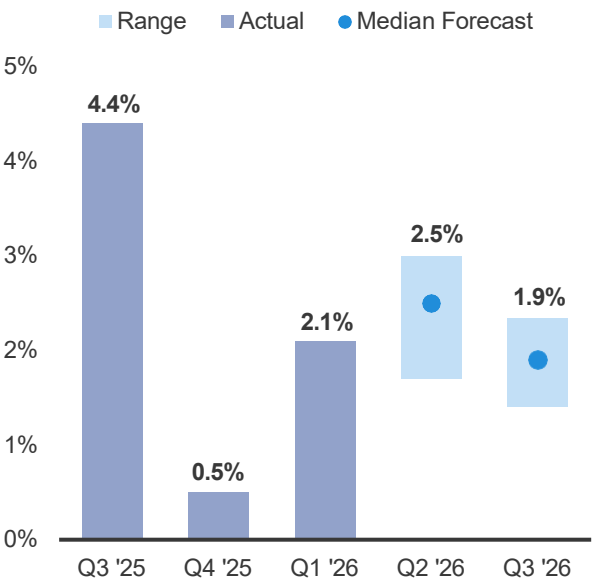
- Low layoffs and stable unemployment rate
- Corporate fundamentals
- Supportive fiscal policy

Hormuz Ship Traffic

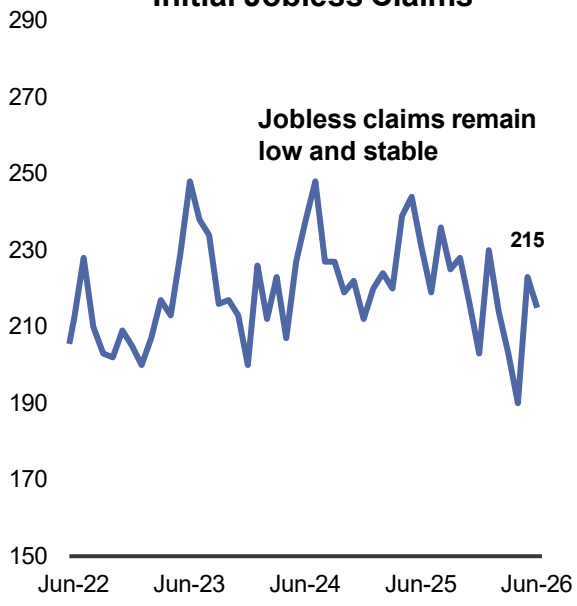
Daily Volume



U.S. GDP Forecasts



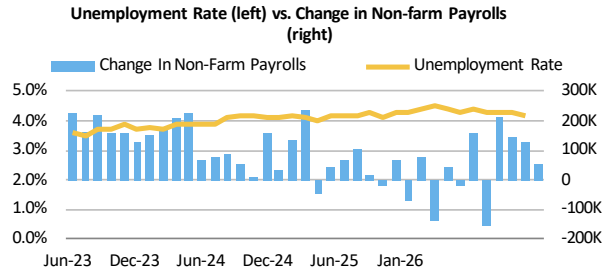
Initial Jobless Claims



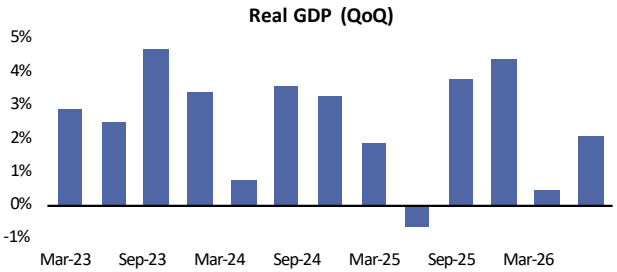
Sources: Bloomberg Finance L.P. as of June 30, 2026, Bureau of Economic Analysis as of March 31, 2026, and Department of Labor as of June 19, 2026. Survey responses after June 26, 2026, included in median and forecast range. Shading represents the central 80% of the forecasts.

Economic Snapshot

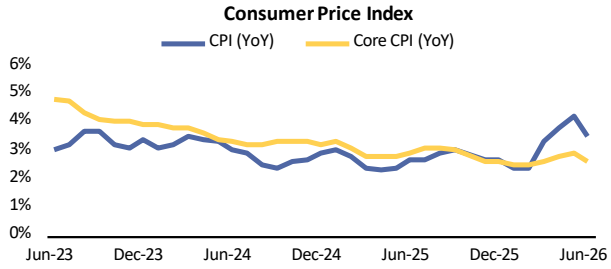
Labor Market	Latest		Mar-26	Jun-25
Unemployment Rate	Jun-26	4.2%	4.3%	4.1%
Change In Non-Farm Payrolls	Jun-26	57,000	214,000	-20,000
Average Hourly Earnings (YoY)	Jun-26	3.5%	3.4%	3.9%
Personal Income (YoY)	May-26	3.8%	3.3%	4.3%
Initial Jobless Claims (week)	7/4/26	215,000	203,000	231,000



Growth				
Real GDP (QoQ SAAR)	2026Q1	2.1%	0.5% [1]	-0.6% [2]
GDP Personal Consumption (QoQ SAAR)	2026Q1	0.5%	1.9% [1]	0.6% [2]
Retail Sales (YoY)	May-26	6.9%	4.2%	4.4%
ISM Manufacturing Survey (month)	Jun-26	53.3	52.7	49.0
Existing Home Sales SAAR (month)	Jun-26	4.09 mil.	4.01 mil.	3.98 mil.



Inflation/Prices				
Personal Consumption Expenditures (YoY)	May-26	4.1%	3.5%	2.6%
Consumer Price Index (YoY)	Jun-26	3.5%	3.3%	2.7%
Consumer Price Index Core (YoY)	Jun-26	2.6%	2.6%	2.9%
Crude Oil Futures (WTI, per barrel)	Jun 30	$69.50	$101.38	$65.11
Gold Futures (oz.)	Jun 30	$4,039	$4,648	$3,308



1. Data as of Fourth Quarter 2025.
2. Data as of First Quarter 2025.
Note: YoY = year-over-year, QoQ = quarter-over-quarter, SAAR = seasonally adjusted annual rate, WTI = West Texas Intermediate crude oil.
Source: Bloomberg Finance L.P.

Account Statement - Transaction Summary

For the Month Ending **June 30, 2026**

City of Rowlett - General Account - 1319-00

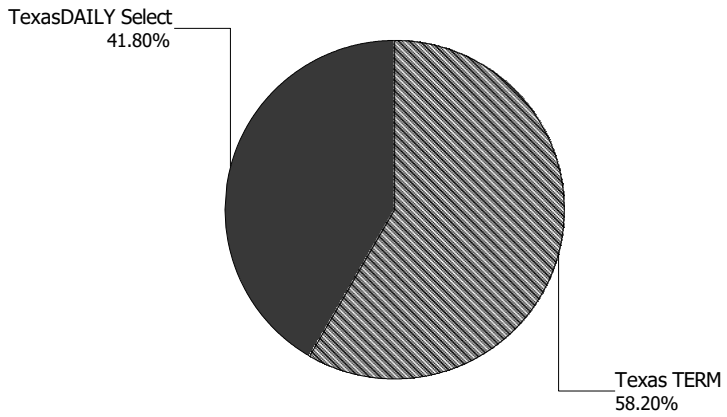
Texas TERM	
Opening Market Value	36,000,000.00
Purchases	0.00
Redemptions	(3,000,000.00)
Unsettled Trades	0.00
Change in Value	0.00
Closing Market Value	**$33,000,000.00**
Cash Dividends and Income	55,427.67

TexasDAILY Select	
Opening Market Value	20,575,982.35
Purchases	3,127,400.19
Redemptions	0.00
Unsettled Trades	0.00
Change in Value	0.00
Closing Market Value	**$23,703,382.54**
Cash Dividends and Income	71,972.52

Asset Summary

	June 30, 2026	May 31, 2026
Texas TERM	33,000,000.00	36,000,000.00
TexasDAILY Select	23,703,382.54	20,575,982.35
Total	**$56,703,382.54**	**$56,575,982.35**

Asset Allocation



Investment Holdings

For the Month Ending **June 30, 2026**

City of Rowlett - General Account - 1319-00

Trade Date	Settlement Date	Security Description	Maturity Date	Rate	Investment Amount	Estimated Earnings	Est. Value at Maturity
Texas TERM							
12/09/25	12/10/25	TERM - Texas Term Dec 26	09/04/26	3.7900	5,000,000.00	105,393.15	5,139,139.73
01/06/26	01/07/26	TERM - Texas Term Dec 26	12/04/26	3.6900	10,000,000.00	176,917.81	10,334,627.40
03/06/26	03/09/26	TERM - Texas Term Dec 26	12/07/26	3.8200	8,000,000.00	95,447.67	8,228,572.05
05/21/26	05/22/26	TERM - Texas Term Dec 27	05/17/27	4.0100	10,000,000.00	43,945.21	10,395,506.85
Total					**$33,000,000.00**	**$421,703.84**	**$34,097,846.03**

Account Statement

For the Month Ending **June 30, 2026**

City of Rowlett - General Account - 1319-00

Trade Date	Settlement Date	Transaction Description	Share or Unit Price	Dollar Amount of Transaction	Total Shares Owned
TexasDAILY Select					
Opening Balance					**20,575,982.35**
06/05/26	06/05/26	Purchase - TERM Maturity	1.00	3,055,427.67	23,631,410.02
06/30/26	07/01/26	Accrual Income Div Reinvestment - Distributions	1.00	71,972.52	23,703,382.54
Closing Balance					**23,703,382.54**

	Month of June	Fiscal YTD October-June
Opening Balance	20,575,982.35	0.00
Purchases	3,127,400.19	59,703,382.54
Redemptions (Excl. Checks)	0.00	(36,000,000.00)
Check Disbursements	0.00	0.00
Closing Balance	**23,703,382.54**	**23,703,382.54**
Cash Dividends and Income	71,972.52	647,953.87

Closing Balance	23,703,382.54
Average Monthly Balance	23,226,418.75
Monthly Distribution Yield	3.77%

Trade Date	Settlement Date	Transaction Description	Maturity Date	Stated Yield	Dollar Amount of Transaction
Texas TERM					
06/05/26	06/05/26	Redemption - TERM Maturity			(3,055,427.67)

Summary Portfolio Statistics

Account Name	Amortized Cost[1,2,3] June 30, 2026	Amortized Cost[1,2,3] March 31, 2026	Market Value[1,2,3] June 30, 2026	Market Value[1,2,3] March 31, 2026	Duration (Years) June 30, 2026
Pooled Fund	$21,270,537	$19,419,727	$21,262,752	$19,409,097	0.407
Long Term Pooled Fund	$11,515,323	$13,962,845	$11,521,773	$13,987,088	0.606
TexPool	$137,552,021	$150,103,003	$137,552,021	$150,103,003	0.003
American National Bank of Texas	$15,321,843	$13,585,098	$15,321,843	$13,585,098	0.003
TexStar	$98,015,460	$97,133,834	$98,015,460	$97,133,834	0.003
Texas Term	$33,000,000	$26,000,000	$33,000,000	$26,000,000	0.531
TexasDAILY Select	$23,703,383	$30,394,471	$23,703,383	$30,394,471	0.003
Total	$340,378,565	$350,598,977	$340,377,231	$350,612,590	0.100

Account Name	Yield to Maturity at Cost[4] June 30, 2026	Yield to Maturity at Cost[4] March 31, 2026	Yield to Maturity at Market June 30, 2026	Yield to Maturity at Market March 31, 2026	Duration (Years) March 31, 2026
Pooled Fund	3.81%	3.68%	4.00%	3.73%	0.346
Long Term Pooled Fund	4.08%	4.14%	3.89%	3.73%	0.483
TexPool[5]	3.65%	3.67%	3.65%	3.67%	0.003
American National Bank of Texas	0.00%	0.00%	0.00%	0.00%	0.003
TexStar	3.63%	3.65%	3.63%	3.65%	0.003
Texas Term	3.84%	3.78%	3.84%	3.78%	0.577
TexasDAILY Select	3.77%	3.79%	3.77%	3.79%	0.003
Weighted Average YTM	3.53%	3.56%	3.54%	3.55%	0.084

Monthly Earnings YTD[6]			
October 2025	$1,075,473	**April 2026**	$836,732
November 2025	$973,791	**May 2026**	$829,006
December 2025	$897,634	**June 2026**	$797,593
January 2026	$912,017	**July 2026**	
February 2026	$830,793	**August 2026**	
March 2026	$843,282	**September 2026**	
		Fiscal YTD Earnings	**$7,996,321**

Benchmarks[7]	June 30, 2026	March 31, 2026
ICE BofA 3-Month Treasury Bill Index (Rolling)	4.14%	4.33%
S&P GIP All 30 Day Gross Yield Index	3.80%	3.81%
ICE BofA 1-Year Treasury Note Index	4.11%	3.74%

Notes:

1. On a trade-date basis, including accrued interest.
2. In order to comply with GASB accrual accounting reporting requirements; forward settling trades are included in the monthly balances.
3. Excludes any money market fund/cash balances held in custodian account.
4. Past performance is not indicative of future results.
5. TexPool yield is obtained from www.texpool.com.
6. Earnings are calculated on a cash basis and are subject to the receipt of coupon payments, maturities within the portfolio, and money market fund balances. Earnings include Pooled Fund, Long Term Pooled Fund, TexPool and TexStar.
7. Source: Bloomberg Finance L.P. ICE BofA 3-Month Treasury Bill Index is an equally weighted 3-month rolling yield of the index.

Account Summary

CITY OF ROWLETT POOLED FUNDS

Portfolio Values	June 30, 2026
PFMAM Managed Account	$21,200,166
Amortized Cost	$21,207,951
Market Value	$21,200,166
Accrued Interest	$62,586
Cash	$0

Analytics[1]	June 30, 2026
Yield at Market	4.00%
Yield on Cost	3.81%
Portfolio Duration	0.41

CITY OF ROWLETT LONG TERM POOLED FUND

Portfolio Values	June 30, 2026
PFMAM Managed Account	$11,437,836
Amortized Cost	$11,431,385
Market Value	$11,437,836
Accrued Interest	$83,938
Cash	$0

Analytics[1]	June 30, 2026
Yield at Market	3.89%
Yield on Cost	4.08%
Portfolio Duration	0.61

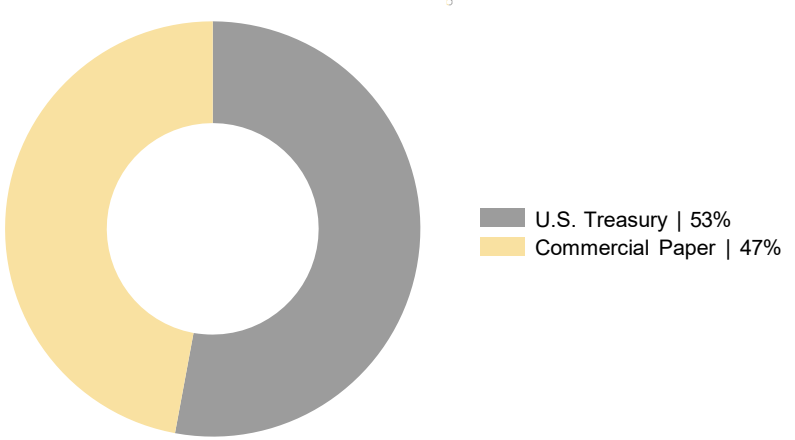
1. Yield at market, yield on cost, and portfolio duration only include investments held within the separately managed account(s), excludes balances invested in overnight funds.

Portfolio Snapshot - CITY OF ROWLETT POOLED FUNDS[1]

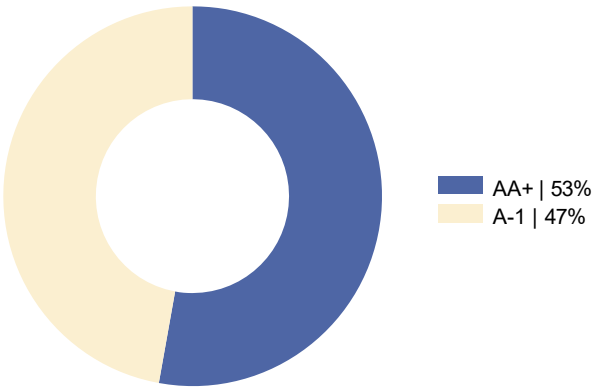
Portfolio Statistics

Total Market Value	$21,262,752.09
Securities Sub-Total	*$21,200,166.06*
Accrued Interest	*$62,586.03*
Cash	*$0.00*
Portfolio Effective Duration	0.41 years
Benchmark Effective Duration	N/A
Yield At Cost	3.81%
Yield At Market	4.00%
Portfolio Credit Quality	AA

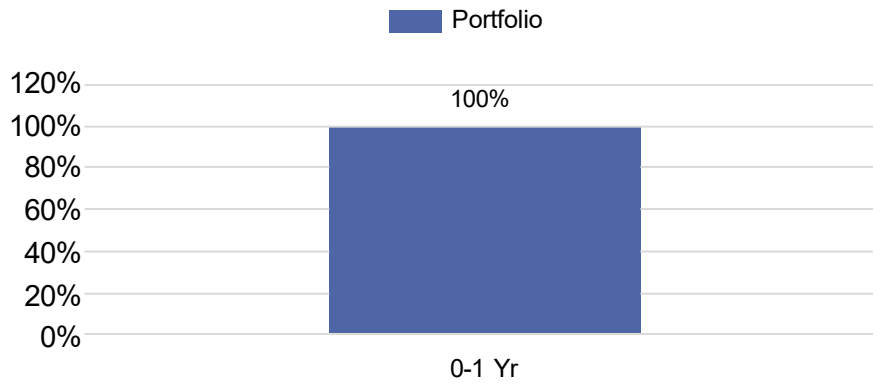
Sector Allocation



Credit Quality - S&P



Duration Distribution



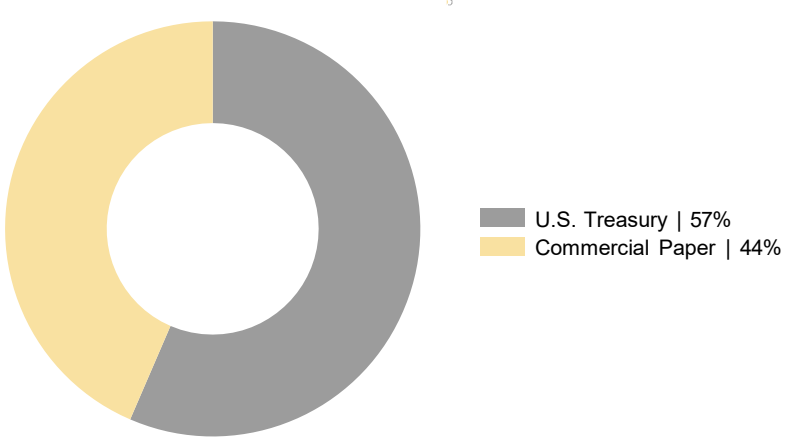
1. *Yield and duration calculations exclude cash and cash equivalents. Sector allocation includes market values and accrued interest.*
   Source: Bloomberg Financial LP.
   An average of each security's credit rating was assigned a numeric value and adjusted for its relative weighting in the portfolio.

Portfolio Snapshot - CITY OF ROWLETT LONG TERM POOLED FUND[1]

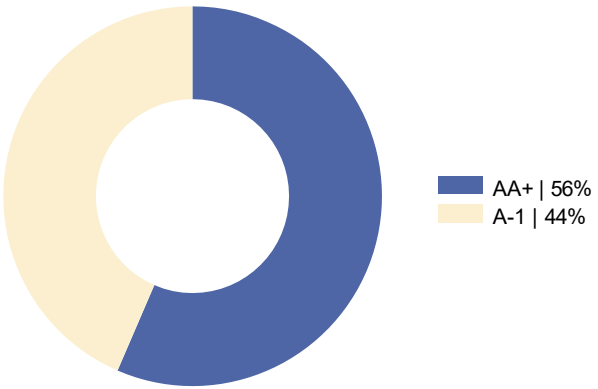
Portfolio Statistics

Total Market Value	$11,521,773.35
Securities Sub-Total	*$11,437,835.82*
Accrued Interest	*$83,937.53*
Cash	*$0.00*
Portfolio Effective Duration	0.61 years
Benchmark Effective Duration	0.89 years
Yield At Cost	4.08%
Yield At Market	3.89%
Portfolio Credit Quality	AA

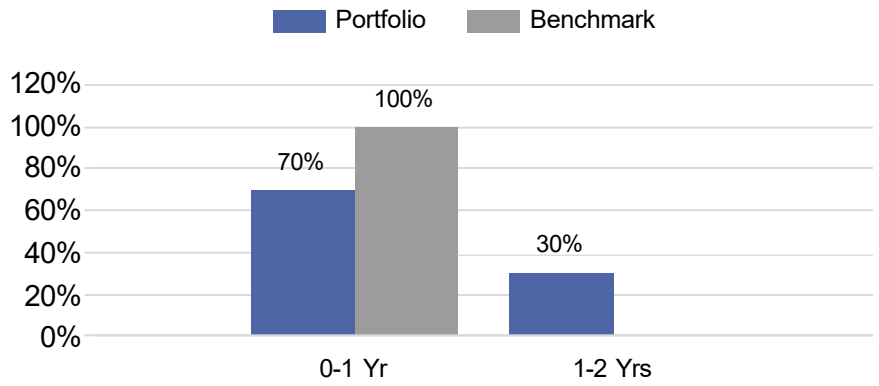
Sector Allocation



Credit Quality - S&P

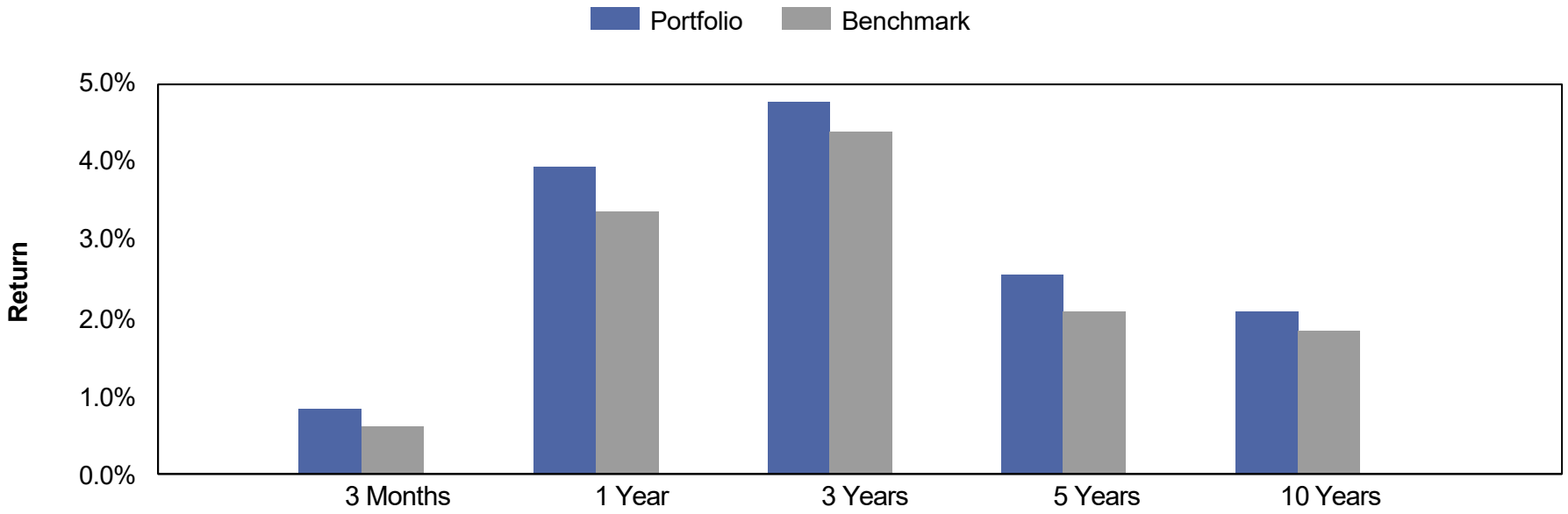


Duration Distribution



1. *Yield and duration calculations exclude cash and cash equivalents. Sector allocation includes market values and accrued interest. The portfolio's benchmark is Currently the GC03 ICE BofA 1 Year U.S. Treasury Index. Source: Bloomberg Financial LP. An average of each security's credit rating was assigned a numeric value and adjusted for its relative weighting in the portfolio.*

Portfolio Performance



Market Value Basis Earnings	3 Months	1 Year	3 Years	5 Years	10 Years
Interest Earned[2]	$43,762	$260,086	$1,636,173	$1,963,022	$3,502,070
Change in Market Value	$39,018	$496,797	$2,354,787	$1,458,276	$1,743,400
Total Dollar Return	**$82,780**	**$756,883**	**$3,990,960**	**$3,421,298**	**$5,245,470**
Total Return[3]					
Portfolio	0.85%	3.95%	4.77%	2.55%	2.08%
Benchmark[4]	0.61%	3.37%	4.38%	2.09%	1.84%

1. The lesser of 10 years or since inception is shown. Since inception returns for periods one year or less are not shown. Performance inception date is June 30, 2006.
2. Interest earned calculated as the ending accrued interest less beginning accrued interest, plus net interest activity.
3. Returns for periods one year or less are presented on a periodic basis. Returns for periods greater than one year are presented on an annualized basis.
4. The portfolio's benchmark is Currently the GC03 ICE BofA 1 Year U.S. Treasury Index. Source: Bloomberg Financial LP.

Important Disclosures

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It is not possible to invest directly in an index. The index returns shown throughout this material do not represent the results of actual trading of investor assets. Third-party providers maintain the indices shown and calculate the index levels and performance shown or discussed. Index returns do not reflect payment of any sales charges or fees an investor would pay to purchase the securities they represent. The imposition of these fees and charges would cause investment performance to be lower than the performance shown.

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- In accordance with generally accepted accounting principles, information is presented on a trade date basis; forward settling purchases are included in the monthly balances, and forward settling sales are excluded.
- Performance is presented in accordance with the CFA Institute's Global Investment Performance Standards (GIPS). Unless otherwise noted, performance is shown gross of fees. Quarterly returns are presented on an unannualized basis. Returns for periods greater than one year are presented on an annualized basis. **Past performance is not indicative of future returns.**
- ICE Bank of America Indices provided by Bloomberg Financial Markets.
- Money market fund/cash balances are included in performance and duration computations.
- Standard & Poor's is the source of the credit ratings. Distribution of credit rating is exclusive of money market fund/LGIP holdings.
- Callable securities in the portfolio are included in the maturity distribution analysis to their stated maturity date, although, they may be called prior to maturity.
- MBS maturities are represented by expected average life.

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.C.

Title
Consider action to approve the appointment of members to the Rowlett Youth Advisory Council.

Consider action to adopt a resolution appointing regular and alternate members to the Rowlett Youth Advisory Council.

Staff Representative
Ryan Mullins, Director of Parks & Rec

Executive Summary
The purpose of this item is to appoint the Regular and Alternate members to the Rowlett Youth Advisory Council (RYAC).

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
GOVERN TRANSPARENTLY & INCLUSIVELY	1.6 Actively educate, engage, and communicate with the community through a variety of channels.

Background Information
The City Council makes appointments to the RYAC annually. Both the Council liaison and staff liaison interviewed the applicants.

The RYAC was created to provide participation by local youth in municipal government and to routinely report thereon to the City Council. The RYAC is advisory in nature only. Charged with evaluating relevant issues, and submitting recommendations to the City Council.

Discussion
This board provides the opportunity for young citizens to engage with the city government. Their contributions involve serving on this board to offer insight and make suggestions to the City Council concerning the needs and desires of Rowlett's youth. Their function is essential to the City's efforts, acting as communicators and aiding the City Council in connecting with the youth of Rowlett, as well as volunteering for local city events. Consequently, it is the responsibility of the City Council members to identify qualified individuals to participate as volunteer members of this board. Unless stated otherwise, members are appointed for a one-year term, running from August to July of

the subsequent academic year.

Recommended appointments are:

Regular Members:

- Alex Gragg
- Aniyah Young
- Jeremy John
- Prudence Ndudi
- Hamid Mossa
- Heaven Willis
- Caitlin Dulac

Alternate Members:

- GeAnna Chelule
- David Horn
- Preston Price
- Alexa Chaco
- Harper Thompson

Financial/Budget Implications
N/A

Recommended Action
Move to adopt a resolution appointing regular and alternate members to the Rowlett Youth Advisory Council for FY2027.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS APPOINTING REGULAR AND ALTERNATE MEMBERS TO THE ROWLETT YOUTH ADVISORY COUNCIL; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council has established the Rowlett Youth Advisory Council consisting of seven (7) regular members and a number of alternates, to serve terms from August to June of the following academic year; and

WHEREAS, the City Council of the City of Rowlett, Texas, finds it to be in the public interest to appoint the members of the Rowlett Youth Advisory Council for the period commencing August 1, 2026 and ending June 1, 2027;

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

SECTION 1. The following are hereby appointed to the Rowlett Youth Advisory Council with terms beginning on August 1, 2026 and ending June 1, 2027:

Name	Position
Alex Gragg	Regular member
Aniyah Young	Regular member
Jeremy John	Regular member
Prudence Ndudi	Regular member
Hamid Mossa	Regular member
Heaven Willis	Regular member
Caitlin Dulac	Regular member
GeAnna Chelule	Alternate member
David Horn	Alternate member
Preston Price	Alternate member
Alexa Chaco	Alternate member
Harper Thompson	Alternate member

SECTION 2. This Resolution shall take effect immediately upon passage.

Attachments

None

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.D.

Title
Consider action approving a Memorandum of Understanding with Texas Department of Emergency Management (TDEM).

Consider action to adopt a resolution approving a Memorandum of Understanding between the Texas Division of Emergency Management (TDEM) and the City of Rowlett to provide and receive various levels of mutual aid support.

Staff Representative
Mitchell Randles, Interim Fire Chief

Executive Summary

Consider adopting a resolution authorizing a Memorandum of Understanding between The Texas Division of Emergency Management, a member of the Texas A&M University System and an agency of the State of Texas, and the City of Rowlett regarding the participation of City of Rowlett personnel on Texas Emergency Management Assistance Teams.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
Ensure a Safe Environment	2.3 Deliver exceptional first-responder coverage and response times. 2.5 Strengthen public safety, public outreach, education, and communication.

Background Information

This agreement is to facilitate a relationship between the Texas Division of

Emergency Management (TDEM), a member of The Texas A&M University System and an agency of the State of Texas and the City of Rowlett as a participating member of the Texas Emergency Management Assistance Teams (TEMAT). The teams or programs included in this agreement are Incident Support Task Force (ISTF), Public Works Response Team (PWRT), Texas Incident Management Team (IMT), Texas Intrastate Fire Mutual Aid System (TIFMAS) and all three Texas A&M Task Force teams

(TX-TF). In the past, to participate with any of these teams or programs, an individual agreement was required between the team or group and the City. To streamline the process and make participation easier to manage, TDEM has created this single master agreement.

Discussion

The City of Rowlett will provide personnel for both training and deployments to major events and other disaster situations to conduct operations in assistance of local jurisdictions at the request of the State and/or the Federal government. The City of Rowlett benefits from having members who participate with TEMAT by being able to bring back training and techniques learned in training or response environments and pass those lessons to the remainder of the City staff. This helps to assure that our City staff members are highly skilled in areas of response, incident management and recovery when the need occurs locally.

During any period in which any TEMAT is activated by the state, or during any team sponsored training or team sanctioned training event, the City of Rowlett is reimbursed for the salaries and benefits which the crew member accrues, as well as reimbursement for the cost of necessary shift coverage. Additionally, the employee is protected by the State of Texas liability and workers compensation coverage either directly or the City will be reimbursed by the state for all related costs.

If approved, the agreement will be in full effect until either five (5) years from the date of execution or if terminated by either party upon a 30-day notice. Staff is also requesting that City Council authorize the City Manager to execute any and all required documents for this agreement.

Financial/Budget Implications

There is no obligation for the City of Rowlett to provide funding under this agreement. Any personnel, equipment, or other costs associated with this item will be reimbursed by the Texas Division of Emergency Management.

Recommended Action

Move to adopt a resolution authorizing a Memorandum of Understanding between The Texas Division of Emergency Management and the City of Rowlett regarding the participation of City of Rowlett personnel on Texas Emergency Management Assistance Teams.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS, APPROVING AND AUTHORIZING THE INTERIM CITY MANAGER TO EXECUTE A MEMORANDUM OF

UNDERSTANDING WITH THE TEXAS DIVISION OF EMERGENCY MANAGEMENT (TDEM) FOR PARTICIPATION IN THE STATEWIDE TEXAS EMERGENCY MANAGEMENT ASSISTANCE TEAMS (TEMAT) PROGRAM; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Texas Government Code Chapter 418 establishes the statewide framework for emergency management, including mutual aid, coordination, and resource support during disasters; and

WHEREAS, Texas Government Code Section 418.115 requires approval and consent of the presiding officer of the governing body of the City or their designee to approve the provision of mutual aid; and

WHEREAS, the Texas Division of Emergency Management (TDEM) administers the Texas Emergency Management Assistance Teams (TEMAT), including the Incident Support Task Force (ISTF), Texas Intrastate Fire Mutual Aid System (TIFMAS), Texas A&M Task Force 1, Public Works Response Team (PWRT), and the State of Texas Incident Management Team (IMT); and

WHEREAS, the Statewide TEMAT Memorandum of Understanding ("TEMAT MOU") defines operational expectations, responsibilities, training requirements, deployment procedures, liability protections, and reimbursement provisions associated with participation in these state-managed response and recovery programs; and

WHEREAS, participation in TEMAT enhances the capabilities of the City of Rowlett to provide qualified personnel in support of statewide disaster response missions while ensuring that deployed employees remain covered for wages, benefits, workers' compensation, and all eligible reimbursements as provided by the State of Texas; and

WHEREAS, the City of Rowlett desires to formally participate in select TEMAT programs and to allow designated staff to serve as Members under the conditions set forth in the TEMAT MOU; and

WHEREAS, the City Council finds that entering into this Memorandum of Understanding is in the best interest of the City and will strengthen regional and statewide emergency management coordination;

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

SECTION 1. The City Council hereby approves and authorizes the Interim City Manager to execute the Statewide Texas Emergency Management Assistance Teams Memorandum of Understanding (TEMAT MOU), in substantially the form of that attached hereto and incorporated herein by this reference as **Exhibit "A."**

SECTION 2. The City Council hereby names the Interim City Manager or his designee as the City's designee for purposes of mutual aid under Texas Government Code Section 418.115 and authorizes the Interim City Manager or his designee to periodically review the TEMAT MOU, negotiate non-substantive revisions, and take all actions necessary to implement and

administer the agreement.

SECTION 3. The Interim City Manager or his designee is further authorized to designate City personnel as TEMAT Members and approve their participation in TEMAT programs, including, but not limited to: Incident Support Task Force (ISTF), State of Texas Incident Management Team (IMT), Texas Intrastate Fire Mutual Aid System (TIFMAS), Public Works Response Team (PWRT), and Texas A&M Task Force 1, as each may be applicable and consistent with operational needs and program qualifications.

SECTION 4. This resolution shall take effect immediately upon its passage.

Attachments

1. Exhibit A - MOU with TDEM

Memorandum of Understanding
Between
Texas Division of Emergency Management
and Texas Emergency Management Assistance Teams Participating Jurisdiction/Employer

This memorandum of understanding ("TEMAT MOU") becomes effective as of the date of final signature, by and between the Texas Division of Emergency Management ("TDEM"), a member of The Texas A&M University System ("A&M System") and an agency of the State of Texas, and the Texas Emergency Management Assistance Teams ("TEMAT") participating jurisdiction/employer _____ ("Jurisdiction").

I. PURPOSE

In accordance with Texas Government Code Chapter 418, Subchapter E-1 Texas Statewide Mutual Aid System, and the State of Texas Emergency Management Plan, this TEMAT MOU delineates responsibilities and procedures for TEMAT activities. TDEM's authority is provided through the State of Texas to activate state resources for the purposes of TEMAT Programs.

TEMAT Programs include and are administered by the state agencies listed below:

TEMAT Program	State Agency Program Administrator	Program Summary
Incident Support Task Force (ISTF)	Texas Division of Emergency Management (TDEM)	Provides support through multiple areas of expertise throughout response and recovery initiatives
Public Works Response Team (PWRT)	Texas A&M Engineering Extension Service (TEEX)	Provides support for critical infrastructure systems
Texas A&M Task Force 1 (TX-TF1)	Texas A&M Engineering Extension Service (TEEX)	Provides search and rescue support through Texas A&M Task Force 1, Texas Task Force 2, and Texas A&M Task Force 3
State of Texas Incident Management Team (IMT)	Texas Division of Emergency Management (TDEM)	Provides position specific personnel to assist in emergency operations
Texas Intrastate Fire Mutual Aid System (TIFMAS)	Texas A&M Forest Service (TFS)	Provides wildland and fire department support

II. SCOPE

The provisions of this memorandum of understanding apply to TEMAT activities performed at the request of TDEM at the option of the participating Jurisdiction. These activities may be in conjunction with, or in preparation of, a local, state or federal declaration of disaster. The scope of this TEMAT MOU also includes training activities sponsored by the state, TDEM, the Jurisdiction, and the Program Administrators to maintain TEMAT operational readiness.

III. PERIOD OF PERFORMANCE

This TEMAT MOU commences on the date of the last signature and continues for a period of five (5) years unless terminated earlier in accordance with the terms of this TEMAT MOU.

IV. DEFINITIONS

A. Affiliated Member: A TEMAT Member that is associated with a Jurisdiction or participating agency for purposes of this agreement.

B. Backfill: The assignment of personnel by a participating Jurisdiction to meet their minimum level of staffing to replace a deployed TEMAT Member.

C. Incident Support Task Force: The division of TDEM is responsible for maintaining all TEMAT program information to include but not limited to this TEMAT MOU and the ISTF Program Guide.

D. Jurisdiction: A TEMAT Member's employer, which, by the execution of this TEMAT MOU, has provided official approval of their employee's membership involvement with TEMAT.

E. Member: An employee of a Jurisdiction who has been formally accepted into a TEMAT Program and is in compliance with all program requirements (for both TEMAT overall and specific requirements for the program(s) for which they are a Member). For clarification, the lower-case use of "member" within this agreement, refers to a A&M System member.

F. PIV-I: Personal Identification Verification Interoperability card should be issued to all first responders.

G. Program: One of the TEMAT Programs listed in the above table and administered by a Texas state agency to provide assistance during an emergency event or disaster.

H. Program Administrator: Designated State agency representative participating in the program or administering the program on behalf of the state.

I. Red Card: A National Wildfire Coordinating Group (NWCG) "Red Card" is a credential issued to wildland firefighters that verifies their qualifications and training for specific wildland fire positions.

J. State Mutual Aid Reimbursement Guide: A living document explaining how TDEM will reimburse local responding entities, state agencies, and other entities for accepting and responding to state-assigned mutual aid missions.

K. TEMAT: Any response team administered by a state Jurisdiction of Texas to provide response assistance to local Jurisdictions or the state of Texas.

L. TEMAT Training and Exercises – Jurisdiction Sponsored: Training and/or exercises performed at the direction, control, expense, and funding of a participating Jurisdiction in order to develop and maintain capabilities of the Member and TEMAT.

M. TEMAT Training and Exercises – State or Administrator Sponsored: Training and/or exercises performed at the direction, control, expense, and funding of the state or Program Administrator.

N. Unaffiliated Member: An approved Member of the Incident Support Task Force that is not currently employed by a government entity.

V. RESPONSIBILITIES

A. TDEM shall be responsible for the following:

1. Provide and maintain administrative and personnel management guidelines and procedures related to TEMAT and this TEMAT MOU.

2. Maintain, in coordination with Program Administrators, programmatic guidance to provide standard operating procedures that are current and readily available to Program Administrators, Jurisdictions, and Members.

3. Provide training to Members. Training shall be consistent with the objectives of the TEMAT Program overall to include but not limited to State Operations Center functions, financial reimbursement, and other training.

4. Work with Program Administrators to ensure all administrative, fiscal, and personnel management guidelines are consistent across all TEMAT Programs.

5. Provide coordination between Program Administrators, other relevant governmental and private entities, Jurisdiction, and Member.

6. Maintain overall TEMAT contact list for all Jurisdictions and Members.

B. The TDEM shall ensure that the Program Administrator(s) will do the following:

1. Recruit and manage Members for their specific program according to guidelines outlined in the program-specific guidance manual.

2. Produce related portion of the program-specific guidance manual to provide standard operating procedures that are current and readily available to Members.

3. Provide and maintain qualifications, training, and operational guidelines and procedures related to the TEMAT Program they administer.

4. Provide upon approval of membership and then collect upon separation from the program equipment, uniforms, and identification issued on behalf of TEMAT.

5. Provide training for Members. Training must be consistent with the objectives of developing, increasing, and maintaining individual skills necessary to maintain operational readiness related to emergency management response.

6. Develop, implement, and exercise an internal notification and call-out system for Members.

7. Provide coordination between the state, other governmental and private entities, participating agency/employer, and Member, notify Jurisdictions or program Members of the need for activation.

8. Maintain and submit, annually, a primary contact list for their respective program, for all Jurisdictions and Members, to the state.

9. Maintain personnel files on all Members of administered programs for the purpose of documenting training records, qualifications, emergency notification, and other documentation as required by the state and Program Administrators.

10. Ensure the issuance of PIV-I to each Member through coordination with TDEM. If removed from team, then the PIV-I should be retrieved and revoked immediately. Program Administrator(s) should retrieve the PIV-I and notify TDEM for immediate revocation.

11. Program Administrator, TEEX, will reimburse Jurisdiction for Urban Search and Rescue (US&R), Public Works Response and sponsored training activities related to this TEMAT MOU under the authority of the State of Texas Emergency Management Plan, the Robert T. Stafford Disaster Relief and Emergency Act, Public law 93-288, as amended 42 U.S.C. 5121, et seq., and Title 44 CFR Part 208 – National Urban Search and Rescue Response System.

12. All reimbursement requests pursuant to this section shall follow program specific guidelines included in the TEEX Deployment Reimbursement Manual and the State Mutual Aid Reimbursement Guide.

C. The Jurisdiction shall:

1. Determine which TEMAT Programs the Jurisdiction will support by providing Members and being able to respond as requested by TDEM and Program Administrators.

2. Upon signature, the Jurisdiction will submit a roster within fourteen (14) calendar days of final signature to TDEM and Program Administrators. Maintain a roster of all its personnel participating in TEMAT activities and submit an update annually. The roster shall include all current Red Card qualifications for each Member when applicable.

3. Provide a primary point of contact to TDEM and Program Administrators for the purpose of notification of TEMAT activities and for administrative activities.

4. Provide administrative support to employee Members of TEMAT, e.g., time off when fiscally reasonable to do so for TEMAT activities such as training, meetings, and actual deployments.

5. Ensure all reimbursement claims meet the requirements of the State Mutual Aid Reimbursement Guide.

6. Upon notification by TDEM, the Jurisdiction will determine which Members within Jurisdiction are qualified and available for deployment. Jurisdiction determines which qualified Members deploy.

D. The Jurisdiction shall ensure the Member(s):

1. Perform duties, as required by their membership in a TEMAT program, when requested and deployed by TEMAT.

2. Maintain knowledge, skills, and abilities necessary to operate safely and effectively in the assigned position and conduct themselves in accordance with the program-specific guidance manual.

3. Advise the Program Administrator of any change in the notification process, i.e., address, change of employment, or phone number changes.

4. Update their membership profile through their Program Administrator or their online portal with any updated qualifications, rate of pay change, or position change as they occur and verify accuracy annually.

5. Maintain, for deployment, all equipment issued by the TEMAT program and advise Program Administrator of any lost, stolen, or damaged items assigned to Member.

6. Keep the Jurisdiction advised of TEMAT activities that may require time off from work.

7. Be prepared to operate in a disaster environment, which may include living and working in austere conditions.

8. During any period in which TEMAT is activated by TDEM or during any TEMAT sponsored or sanctioned training, Member shall be acting as a representative of the State of Texas.

9. Ensure that staff approved for membership by Jurisdiction meet the program requirements and experience level with his/her position on each TEMAT program in accordance with the program-specific guidance manual.

VI. QUALIFICATIONS, TRAINING, AND EXERCISES

A. TEMAT Training and Exercises – Jurisdiction Sponsored:

Periodically, Members will be requested and/or invited to attend local TEMAT-sponsored training or exercises. Local Jurisdiction-sponsored training or exercises shall be performed at the direction, control, expense, and funding of the local Jurisdiction in order to develop the technical skills of Members.

TEMAT Training and Exercises – State or Program Administrator Sponsored:

Periodically, Members will be invited to attend state TEMAT training and/or exercises, and when these training and/or exercises are required, Jurisdiction shall ensure Member attends such. These trainings and exercises shall be performed at the direction, control, expense, and funding of the state which may include being administered through a Program Administrator in order to develop and maintain the incident support capabilities of the TEMAT. For state or Program Administrator sponsored training or exercises, the Jurisdiction shall coordinate with TDEM and/or Program Administrators, prior to the event, to receive written authorization prior to such an event.

B. Minimum Qualification and Training Requirements

Jurisdiction should allow Members appropriate time to maintain the qualifications required for each position Member fills in the TEMAT Program.

Jurisdiction should ensure Members can attend available TEMAT training and exercise opportunities provided for the assigned TEMAT position to ensure the maintenance of position qualifications. Jurisdiction understands that failure for

Jurisdiction to ensure Members attend or maintain qualifications may result in dismissal from the TEMAT Program when qualifications are no longer valid.

VII. ADMINISTRATIVE, FINANCIAL, AND PERSONNEL MANAGEMENT

A. Reimbursement of Administrators/Jurisdiction

1. All guidelines and procedures for requesting reimbursement shall be pursuant to the State Mutual Aid Reimbursement Guide.

2. All financial commitments herein are made subject to the availability of funds from the State of Texas.

VIII. Liability and Workers' Compensation for State Activation/And Training

A. During any period in which a program under TEMAT is activated by the State of Texas, or during any TEMAT sanctioned training, Members who are not employees of A&M System or another agency of the State of Texas will be considered to be in the course and scope of the Member's (employee's) regular employment with the Jurisdiction (employer) and the Member shall be entitled to full benefits, including workers' compensation and liability coverage, as an employee of their employer.

B. For a Member who becomes injured during any period in which a program under TEMAT is activated by the State of Texas, or during any TEMAT sanctioned training, the Jurisdiction shall immediately notify the Program Administrator and TDEM of the injury in writing, and TDEM shall reimburse the Jurisdiction the costs and expenses paid by the Jurisdiction to Member, including but not limited to, all related medical expenses, compensation, wages, pension contributions, and any benefits provided by the Jurisdiction. Pursuant to Texas Government Code Section 418.118(b), the Jurisdiction may seek reimbursement for all eligible costs and expenses as provided in this section by providing TDEM or the Program Administrator, whichever is applicable, adequate supporting documentation for the costs/expenses claimed, to include proof of pay provided by the Jurisdiction to the Member. Said reimbursement shall continue, in accordance with Texas Labor Code Section 408, until such time that the injured Member is medically cleared for return to work or in the event of permanent disability or death, until all obligations for payment to the Member or Member's beneficiaries are satisfied.

IX. CONDITIONS, AMENDMENTS, AND TERMINATION

A. This TEMAT MOU may be modified or amended only by the written agreement of all the parties.

B. This TEMAT MOU may be terminated by any signing party, upon thirty (30) days written notice to the other party.

C. The state complies with the provisions of the Department of Labor Executive Order 11246 of September 24, 1965, as amended and with the rules, regulations, and relevant orders of the Secretary of Labor. To that end, the state shall not discriminate against any Member on the grounds of race, color, religion, sex, or national origin. In addition, the use of state or federal facilities, services, and supplies will be in compliance with regulations prohibiting duplication of benefits and guaranteeing nondiscrimination. Distribution of supplies, processing of applications, provisions of technical assistance, and other relief assistance activities shall be accomplished in an equitable and impartial manner, without discrimination on the grounds of race, color, religion, nationality, sex, age, or economic status.

D. This TEMAT MOU is governed by the laws of the State of Texas (but not its conflict of laws statutes and principles). Pursuant to Section 85.18 (b), Texas Education Code, venue for a state court suit filed against any member of A&M System, or any officer or employee of A&M System is in the county in which the primary office of the chief executive officer of the system or member, as applicable, is located.

E. The parties expressly acknowledge that the Program Administrators are agencies of the State of Texas and nothing in this TEMAT MOU will be construed as a waiver or relinquishment by any state agency administrator of its right to claim such exemptions, privileges, and immunities as may be provided by law.

F. By executing this TEMAT MOU, all parties and each person signing on behalf of each party certifies, and in the case of a sole proprietorship, partnership or corporation, each party thereto certifies as to its own organization, that to the best of their knowledge and belief, no member of A&M System or A&M System Board of Regents, nor any employee, or person, whose salary is payable in whole or in part by A&M System, has direct or indirect financial interest in the award of this TEMAT MOU, or in the services to which this TEMAT MOU relates, or in any of the profits, real or potential, thereof.

G. Each party is responsible to ensure that employees participating in work for any member of A&M System have not been designated by a member of A&M System as Not Eligible for Rehire (NEFR) as defined in System policy 32.02, Section 4. Non-conformance to this requirement may be grounds for termination of this agreement. In event a system member becomes aware that a contracting party has any employees that are designated as NEFR under this TEMAT MOU, the nonconforming employee is immediately required to be removed from all performance duties upon demand by a system member.

X. JURISDICTION DECLARATION OF PARTICIPATION IN TEMAT

Jurisdiction agrees to abide by the terms and conditions of this TEMAT MOU and the program-specific guidance manual. Jurisdiction agrees to allow employees to serve as TEMAT Members for the approved TEMAT Programs checked below:

TEMAT Program	Check for Participation	Jurisdiction Point of Contact Initials
Incident Support Task Force (ISTF)	☐	
Public Works Response Team (PWRT)	☐	
Texas A&M Task Force 1	☐	
State of Texas Incident Management Team (IMT)	☐	
Texas Intrastate Fire Mutual Aid System (TIFMAS)	☐	

XI. POINTS OF CONTACT

	TDEM	**TEMAT Coordinator**
Name:	Chief Nim Kidd	Kharley Smith
Title:	Chair – Texas Emergency Management Council	ISTF Division Chief
Address Line 1:	313 E Anderson Ln	313 E Anderson Ln
Address Line 2:	Building 3	Building 3
City, State, Zip:	Austin, TX 78752	Austin, TX 78752
Phone Number:	512-424-2436	512-424-2436
Email:	Nim.kidd@tdem.texas.gov	kharley.smith@tdem.texas.gov

	Jurisdiction
Name:	_____
Title:	_____
Address Line 1:	_____
Address Line 2:	_____
City, State, Zip:	_____
Phone Number:	_____
Email:	_____

XII. GENERAL PROVISIONS

A. This TEMAT MOU, with the rights and privileges it creates, is assignable only with the written consent of the parties.

B. Pursuant to Texas Government Code Section 321.013, acceptance of funds under this TEMAT MOU constitutes acceptance of the authority of the State of Texas, the Texas State Auditor's Office, or any successor agency (collectively, "Auditor"), to conduct an audit or investigation in connection with those funds under Texas Education Code Section 51.9335(c). Jurisdiction shall cooperate with the Auditor in the conduct of the audit or investigation, including without limitation, providing all records requested.

C. Pursuant to Texas Government Code Sections 2107.008 and 2252.903, any payments owing to Jurisdiction under this TEMAT MOU may be applied directly toward certain debts or delinquencies that Jurisdiction owes the State of Texas or any agency of the State of Texas regardless of when they arise until such debts or delinquencies are paid in full.

D. To the extent applicable, Jurisdiction shall use the dispute resolution process provided in Chapter 2260, Texas Government Code, and the related rules adopted by the Texas Attorney General to attempt to resolve any claim for breach of contract made by Jurisdiction that cannot be resolved in the ordinary course of business. Jurisdiction shall submit written notice of a claim of breach of contract under this Chapter to TDEM's designated official, who will examine the claim and any counterclaim and negotiate in an effort to resolve the claim.

XIII. ENTIRE AGREEMENT

This TEMAT MOU terminates and supersedes any prior TEMAT MOU amongst TDEM, TEMAT Program Administrators, a TEMAT Employee Member, and Participating Jurisdiction. This TEMAT MOU, in addition to the related program-specific guidance manuals and State Mutual Aid Reimbursement Guidelines, reflects the entire agreement between the parties.

TDEM and Jurisdiction hereby acknowledge that they have read and understand this entire TEMAT MOU. All oral or written agreements between the parties hereto relating to the subject matter of this TEMAT MOU that was made prior to the execution of this TEMAT MOU have been reduced to writing and are contained herein. TDEM and Jurisdiction agree to abide by all terms and conditions specified herein and certify that the information provided to the state is true and correct in all respects to the best of their knowledge and belief.

This TEMAT MOU is entered into by and between the following parties:

TEXAS DIVISION OF EMERGENCY MANAGEMENT

Signature: _____
Name: W. Nim Kidd
Title: Chief, Texas Division of Emergency Management
Date: _____

JURISDICTION

Signature: _____
Name: _____
Title: _____
Date: _____

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.E.

Title
Consider action to vacate and abandon a 7.5-foot utility easement.

Consider action to adopt an ordinance abandoning a 7.5-foot utility easement at 214 Point Royal Drive in favor of Ray & Tiffany Grothaus.

Staff Representative
Gary Enna, Senior CIP Manager
Joshua McCallum

Executive Summary
The purpose of this item is to consider an action to vacate and abandon a 7.5 foot utility easement on Point Royal Drive within the Point Royal Estates subdivision. The easement does not and will not serve a public utility purpose because no City utilities are currently located, planned, or envisioned within the easement.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
STRENGTHEN NEIGHBORHOOD LIVABILITY	3.4 Support efficient development patterns and communicate clear policy guidance.

Background Information

In June of 1967, the Replat of First Addition of Point Royal Estates was recorded which included 214 Point Royal Drive as shown in Attachment 1. The property was purchased in December 2015. However, the property owners realized a 7.5-foot utility easement is shown to be located under the garage and patio. The easement does not contain City infrastructure.

Discussion
The applicant has requested that the City abandon the 7.5-foot utility easement, which currently traverses a portion of the existing garage and concrete patio. The 7.5 foot utility easement is no longer needed or necessary for public purposes. City of Rowlett

Staff and Franchise Utility companies have indicated no existing infrastructure is located within the utility easement and no objection to the City abandoning the public utility easement as shown in Attachment 3.

Figure 1: Map of the project location

All requisite documentation to begin the process of easement abandonment has been provided by the property owner. The limits of abandonment can be found in Attachment 2.

Financial/Budget Implications

N/A

Recommended Action

Move to adopt an ordinance to abandon the City's interest in the described public utility easement to and in favor of Ray & Tiffany Grothaus, the underlying property owners.

AN ORDINANCE OF THE CITY OF ROWLETT, TEXAS, VACATING AND ABANDONING A 7.5 FEET UTILITY EASEMENT, COMPRISING APPROXIMATELY 0.02 ACRES, TO AND IN FAVOR OF RAY AND TIFFANY GROTHAUS, THE OWNERS OF THE UNDERLYING PROPERTY, WHICH EASEMENT IS LOCATED ON PROPERTY COMMONLY KNOWN AS 214 POINT ROYAL DRIVE IN THE CITY OF ROWLETT, DALLAS COUNTY, TEXAS, AS MORE PARTICULARLY DESCRIBED IN EXHIBIT "A" ATTACHED HERETO; PROVIDING FOR THE FURNISHING OF A CERTIFIED COPY OF THIS ORDINANCE FOR RECORDING IN THE REAL PROPERTY RECORDS OF DALLAS COUNTY, TEXAS, AS A DEED; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Replat of First Addition Point Royal Estates in June 1967, conveyed a 7.5 feet public and private utility easement over property commonly known as 214 Point Royal Drive in the City of Rowlett, Texas, said easement being more particularly described in **Exhibit "A"** attached hereto; and

WHEREAS, the City Council has determined that the City of Rowlett's interest in the easement described herein should be abandoned, released and quitclaimed to the owners of the underlying property, Ray and Tiffany Grothaus, and their successors and assigns, said abandonment and release being found to be in the interest of the public health, safety, and general welfare.

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

SECTION 1. The hereinafter-described easement is no longer needed or necessary for City of Rowlett's public purposes and the City of Rowlett's interest therein should be abandoned to and in favor of Ray and Tiffany Grothaus, the owners of the underlying property, and their successors and assigns. The easement being abandoned by the City of Rowlett herein is generally described as a 7.5 feet public and private utility easement comprising approximately 0.02 acres on property commonly known as 214 Point Royal Drive in the City of Rowlett, said easement being more particularly described in Exhibit "A" attached hereto and incorporated herein by this reference. **While the City of Rowlett has been advised that multiple private utilities have stated no objection to the City's abandonment of the public utility easement, the City of Rowlett is legally unable to abandon the easement on behalf of the private utility companies and, therefore, this ordinance abandons only the rights provided to the City of Rowlett for a public utility easement**. All references herein to the "Easement" or the "Property" shall refer to the Easement and Property described in **Exhibit A** insofar as the right, title and interest of the City of Rowlett, Texas to such Property and Easement are concerned.

SECTION 2. The Easement shall be and is hereby abandoned, vacated and closed insofar as the right, title and interest of the City of Rowlett, Texas to such Property and Easement are concerned and the City of Rowlett's interest therein is hereby conveyed to Ray and Tiffany Grothaus, the underlying property owners, and their successors and assigns (collectively, "Grantee"), to have and to hold the Property, together with, all and singular, the rights and appurtenances thereto in anywise belonging to Grantee and Grantee's heirs, executors, administrators, legal representatives, successors, and assigns forever.

SECTION 3. The abandonment provided for herein shall extend only to the public right, title and interest which the City of Rowlett, Texas, may have in and to said Easement, and shall be construed to extend only to such interest that the City Council of said City may legally and lawfully abandon. This ordinance and the abandonment of the easement described herein shall be and is hereby subject to all existing easement rights of others, if any, whether apparent or non-apparent, aerial, surface, underground or otherwise.

SECTION 4. This ordinance shall constitute a quitclaim deed in favor of Grantee and a certified copy hereof may be filed in the Deed Records of Dallas County, Texas, to indicate and establish such abandonment.

SECTION 5. Should any section, sentence, clause, or phrase of this ordinance for any reason be held to be unconstitutional or otherwise invalid or unenforceable by a court of competent jurisdiction, such decision shall not affect the validity of the remaining sections, sentences, clauses, or phases of this ordinance as an entirety, it being the legislative intent that the provisions of this ordinance are severable and that the ordinance shall continue in effect notwithstanding the invalidity of such section, sentence, clause or phrase.

SECTION 6. That this ordinance shall take effect immediately from and after its passage.

Attachments

1. EXHIBIT A Legal Description
2. Attachments 1-3

EXHIBIT "A"
EASEMENT ABANDONMENT
PART OF LOT 11, BLOCK A
POINT ESTATES FIRST ADDITION
ROCKWALL COUNTY, TEXAS

Being a 1,008 square foot (0.02 acres) tract of land situated in the W.G. Deweese Survey, Abstract No. 70, Rockwall County, Texas, said being a part of a 7.5 foot utility easement located in Lot 11, Block A of Point Royal Estates First Addition, Revised, an Addition to the City of Rockwall County, Texas, according to the map recorded in Cabinet A, Slide 62, Plat Records, Rockwall County, Texas, and being part of a tract conveyed to Edith Nelson by General Warranty Deed with Vendor's Lien recorded in Instrument No. 20250000022494, Official Public Records, Rockwall County, Texas, and being more particularly described by metes and bounds as follows:

COMMENCING at a 1/2 inch iron rod found at the North corner of Lot 10, Block A of said Point Royal Estates First Addition, Revised, said point being on the Southeast right-of-way line of Point Royal Drive (50 foot right-of-way);

THENCE South 45 degrees 01 minute 15 seconds East, along the Northeast corner of said Lot 10, Block A, a distance of 154.65 feet to a point for corner and the POINT OF BEGINNING;

THENCE leaving said Northeast line of Lot 10, Block A and traversing through said Lot 11, Block A as follows:

North 56 degrees 02 minutes 39 seconds East, a distance of 30.49 feet to a point for corner;

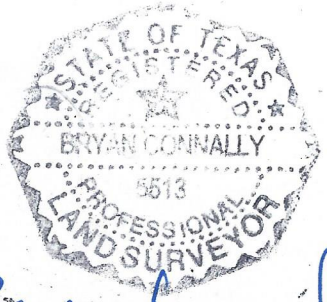
North 24 degrees 47 minutes 39 seconds East, a distance of 103.08 feet to a point for corner on the Southwest line of Lot 12, Block A of said Point Royal Estates First Addition, Revised;

THENCE South 56 degrees 28 minutes 48 seconds East, along said Southwest line of Lot 12, Block A, a distance of 7.59 feet to an "X" found at the South corner of said Lot 12, Block A, said point being on the Northwest line of Lake Ray Hubbard;

THENCE South 24 degrees 47 minutes 39 seconds West, along said Northwest line of Lake Ray Hubbard, a distance of 104.03 feet to a 3/8 inch iron rod found for corner;

THENCE South 56 degrees 02 minutes 39 seconds West, continuing along said Northwest line of Lake Ray Hubbard, a distance of 31.13 feet to a 1/2 inch iron rod found at the East corner of the aforementioned Lot 10, Block A;

THENCE North 45 degrees 01 minute 15 seconds West, along the Northeast line of said Lot 10, Block A, a distance of 7.64 feet to the POINT OF BEGINNING and containing 1,008 square fee or 0.02 of an acre of land.



BRYAN CONNALLY
R.P.L.S. NO. 5513

GENERAL NOTES:

BEARINGS BASED ON TEXAS PLANE COORDINATES, NORTH CENTRAL ZONE, NAD83 (2011).

CBG SURVEYING TEXAS LLC
PROFESSIONAL LAND SURVEYORS

CBG Surveying Texas, LLC.
PLANNING SURVEYING
1413 E-130 Suite 7 Garland, Texas 75043
P 214.349.9485 F 214.349.2216
Firm No. 10168800
www.cbgtxllc.com

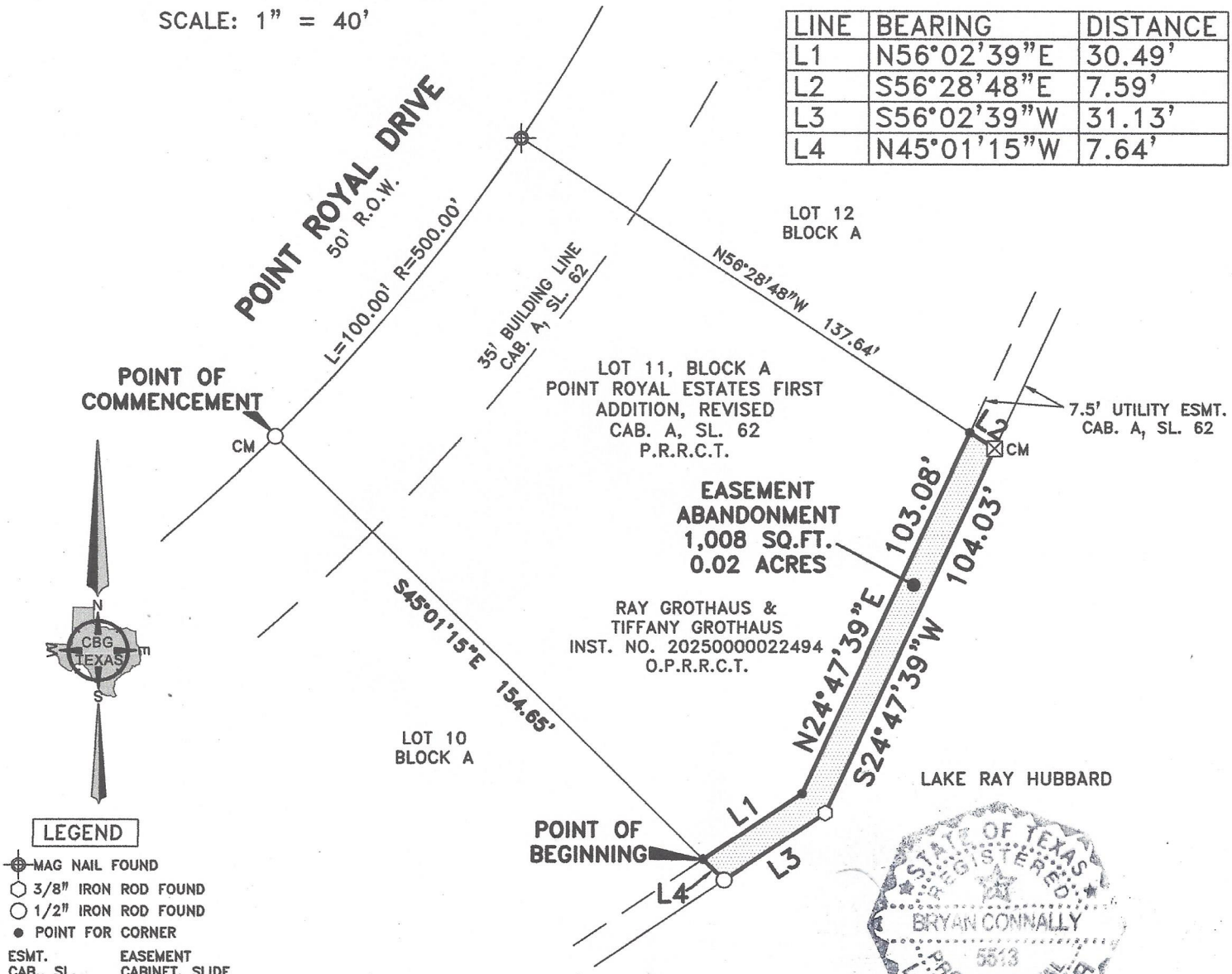
SHEET 1 OF 2
JOB NO. 25398
DRAWN BY: MC
DATE: 07/07/2026

EXHIBIT "A"
EASEMENT ABANDONMENT
PART OF LOT 11, BLOCK A
POINT ESTATES FIRST ADDITION
ROCKWALL COUNTY, TEXAS

40' 20' 0 40' 80'

SCALE: 1" = 40'

LINE	BEARING	DISTANCE
L1	N56°02'39"E	30.49'
L2	S56°28'48"E	7.59'
L3	S56°02'39"W	31.13'
L4	N45°01'15"W	7.64'



LEGEND

- MAG NAIL FOUND
- 3/8" IRON ROD FOUND
- 1/2" IRON ROD FOUND
- POINT FOR CORNER

ESMT.	EASEMENT
CAB., SL.	CABINET, SLIDE
R.O.W.	RIGHT-OF-WAY
D.R.D.R.T.	PLAT RECORDS, ROCKWALL COUNTY, TEXAS
O.P.R.R.C.T.	OFFICIAL PUBLIC RECORDS ROCKWALL COUNTY, TEXAS

GENERAL NOTES:

BEARINGS BASED ON TEXAS PLANE COORDINATES, NORTH CENTRAL ZONE, NAD83 (2011).

STATE OF TEXAS
REGISTERED
BRYAN CONNALLY
5513
PROFESSIONAL
LAND SURVEYOR

BRYAN CONNALLY
R.P.L.S. NO. 5513

CBG SURVEYING TEXAS LLC
PROFESSIONAL LAND SURVEYORS

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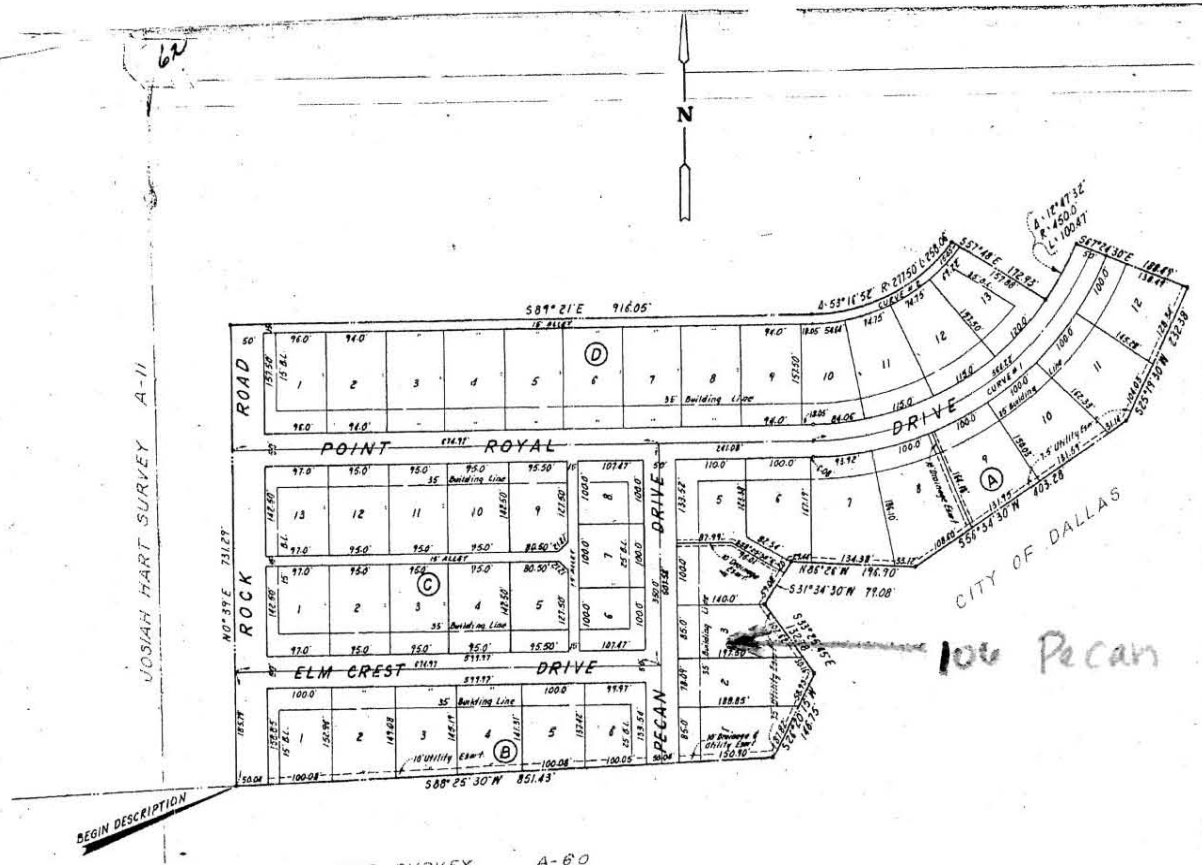
SHEET 2 OF 2
JOB NO. 25398
DRAWN BY: MC
DATE: 07/07/2026



N°	D	INNER	C	OUTER
	A	68°03'30"	68°03'30"	68°03'30"
	R	650.00	475.00	500.00
1	D	12.732400°	17.062274°	11.459160°
	T	503.36'	370.74'	533.6'±
	L	534.53'	564.28'	575.9'±
	C	503.65'	431.68'	559.61'
	A	53°16'52"	53°22'05"	53°36'49"
	R	277.50	285.00	296.50
2	D	20.647135°	20.103789°	19.588308°
	T	139.21	143.11'	147.38'
	L	258.0'±	265.71'	272.3'±
	C	248.84'	256.19'	262.58'

NOTES:
No direct vehicular access to Rock Road.
No Structures to front on Rock Road.
15' Utility Esmt retained along Rock Road and a 5' Utility Esmt along all Interior Streets.
All lots in Block "B" shall be graded to drain South.
All lot lines are perpendicular to street lines
Iron stakes at all corners

REPLAT OF
FIRST ADDITION
POINT ROYAL ESTATES
W. G. DEWEESE SURVEY ABSTRACT 70
ROCKWALL COUNTY, TEXAS

POINT ROYAL, INC. DEVELOPERS
HEFNER ASSOCIATES ENGINEERS
DALLAS TEXAS

SCALE 1"=100' MAY 1967

44 Lots

COUNTY OF DALLAS }

WHEREAS, we, Point Royal Incorporated are the own tract of land situated in the W.G. Deweese Survey, Abstract No. 70 in Rockwall , Texas and being a part of that certain tract or tracts conveyed by M.L.a. Atherton to J. W. Lease by Deeds recorded at Volume 10 Page 348 and Volume 16 Page 564 of the Rockwall County Deed Records, and more particularly described as follows:

BEGINNING on an iron stake in a Public Road at the Southwest Corner of said Deweese Survey and the Southeast Corner of the Josiah Hart Survey Abstract No. 11, and on the North line of the Whitaker Crabtree Survey, Abstract No. 60;

THENCE with the common line of the Deweese and Hart Surveys, N 0° 39' E 731.29 feet to an iron stake in the Public Road for Corner;

THENCE on a line perpendicular to the common line of the Deweese and Hart Surveys, S 89° 21' E 916.05 feet to an Iron Stake at the beginning of a curve to the left having a radius of 277.50 feet;

THENCE along said curve a distance of 258.06 feet (Chord bears N 64° 00' 34" E 248.86 feet) to an iron stake at the end of said curve;

THENCE S 37° 48' E 172.93 feet to an Iron Stake on A curve;

THENCE with said curve as it bears Northeasterly, a distance of 100.47 feet (Chord bears N 28° 19' 16" E 100.26 feet) to an iron stake at the end of said curve;

THENCE S 67° 24' 30" E 188.48 feet to an Iron Stake on the City of Dallas Rockwall-Forney Lake Line;

THENCE with the City of Dallas line as follows: S 23° 19' 30" W 232.38 feet to a brass cap in concrete marked "W20-4", S 36° 34' 30" W 403.28 feet to a brass cap in concrete marked "W20-3", N 84° 26' W 196.90 feet to a brass cap in concrete marked "W20-2", S 31° 34' 30" W 79.08 feet to a brass cap in concrete marked "W20-1", S 13° 25' 45" E 138.78 feet to a brass cap in concrete marked "W20-11", and S 26° 20' 15" W 146.75 feet to a brass cap in concrete marked "W20-1" on the South line of the Deweese Survey and the North line of the Crabtree Survey;

THENCE with the common line of the Deweese and Crabtree Surveys, S 88° 25' 30" W 851.43 feet to the place of beginning, containing 19.27 acres.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS:

That we do hereby adopt this Plat designating the hereinabove described property as Point Royal Estates - First Addition, an addition to the County of Rockwall, Texas, and do hereby dedicate to the public use forever the streets and alleys shown thereon and do hereby reserve the easement strips shown and/or noted on this Plat for the mutual use and accommodation of Public and Private Utilities desiring to use or using same for the benefit of the owners of the property shown. Such Utilities shall have the right to remove and keep removed all or part of any buildings, fences, trees, shrubs, or other improvements or growths which in any way endanger or interfere with the construction, maintenance, or efficiency of its respective system on any of these easement strips and any such Utility shall at all times have the right of ingress and egress to and from and upon the said easement strips for the purpose of constructing, reconstructing, inspecting, patrolling, maintaining, and adding to or removing all or part of its respective systems without the necessity at any time of procuring the permission of anyone. This Plat approved subject to all platting rules, regulations and restrictions of the County of Rockwall, Texas.

WITNESS OUR HANDS AT DALLAS, TEXAS THIS THE 19th DAY OF June ,1967.

Point Royal Incorporated

J.R. Newman, Secretary — Bert Newman, Pres.

STATE OF TEXAS
COUNTY OF Rockwall

Before me, the undersigned authority, a Notary Public in and for said County and State on this day personally appeared Bert Newman, President of Point Royal Incorporated, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same in the capacity therein stated.

Given under my hand and seal of office, this the 19th day of June , 1967

Notary Public in and for Rockwall County, Texas

ENGINEER'S CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS:

That I, Joe C. Hefner, do hereby certify that I prepared this Plat from an actual and accurate survey of the land and that the Corner Monuments were properly placed under my personal supervision.

Joe C. Hefner, Registered Professional Engineer

STATE OF TEXAS
COUNTY OF Rockwall

Before me, the undersigned authority, a Notary Public in and for said County and State on this day personally appeared Joe C. Hefner, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purpose stated.

Given under my hand and seal of office, the the 19th day of June , 1967

Notary Public in and for Rockwall County, Texas

FILED
21 day of June 19 67
@ 9:30 A.M.
Elmer A. Payne, Clerk of County Court, Rockwall County, Texas
By: Deputy

APPROVED FOR FILING:
This the 21 Day of June , 1967.

COMMISSIONERS:
(1) B. W. Phelps
(2) W. A. Lindsey Jr.
(3) Hardy Ellis
(4) A. R. Dickson
(5)

ROCKWALL COUNTY JUDGE

ATTEST: County Clerk, Rockwall County

A 62

EXHIBIT "A"
EASEMENT ABANDONMENT
PART OF LOT 11, BLOCK A
POINT ESTATES FIRST ADDITION
ROCKWALL COUNTY, TEXAS

Being a 1,008 square foot (0.02 acres) tract of land situated in the W.G. Deweese Survey, Abstract No. 70, Rockwall County, Texas, said being a part of a 7.5 foot utility easement located in Lot 11, Block A of Point Royal Estates First Addition, Revised, an Addition to the City of Rockwall County, Texas, according to the map recorded in Cabinet A, Slide 62, Plat Records, Rockwall County, Texas, and being part of a tract conveyed to Edith Nelson by General Warranty Deed with Vendor's Lien recorded in Instrument No. 20250000022494, Official Public Records, Rockwall County, Texas, and being more particularly described by metes and bounds as follows:

COMMENCING at a 1/2 inch iron rod found at the North corner of Lot 10, Block A of said Point Royal Estates First Addition, Revised, said point being on the Southeast right-of-way line of Point Royal Drive (50 foot right-of-way);

THENCE South 45 degrees 01 minute 15 seconds East, along the Northeast corner of said Lot 10, Block A, a distance of 154.65 feet to a point for corner and the POINT OF BEGINNING;

THENCE leaving said Northeast line of Lot 10, Block A and traversing through said Lot 11, Block A as follows:

North 56 degrees 02 minutes 39 seconds East, a distance of 30.49 feet to a point for corner;

North 24 degrees 47 minutes 39 seconds East, a distance of 103.08 feet to a point for corner on the Southwest line of Lot 12, Block A of said Point Royal Estates First Addition, Revised;

THENCE South 56 degrees 28 minutes 48 seconds East, along said Southwest line of Lot 12, Block A, a distance of 7.59 feet to an "X" found at the South corner of said Lot 12, Block A, said point being on the Northwest line of Lake Ray Hubbard;

THENCE South 24 degrees 47 minutes 39 seconds West, along said Northwest line of Lake Ray Hubbard, a distance of 104.03 feet to a 3/8 inch iron rod found for corner;

THENCE South 56 degrees 02 minutes 39 seconds West, continuing along said Northwest line of Lake Ray Hubbard, a distance of 31.13 feet to a 1/2 inch iron rod found at the East corner of the aforementioned Lot 10, Block A;

THENCE North 45 degrees 01 minute 15 seconds West, along the Northeast line of said Lot 10, Block A, a distance of 7.64 feet to the POINT OF BEGINNING and containing 1,008 square fee or 0.02 of an acre of land.

STATE OF TEXAS
REGISTERED
BRYAN CONNALLY
5513
PROFESSIONAL
LAND SURVEYOR

BRYAN CONNALLY
R.P.L.S. NO. 5513

GENERAL NOTES:

BEARINGS BASED ON TEXAS PLANE COORDINATES, NORTH CENTRAL ZONE, NAD83 (2011).

CBG SURVEYING TEXAS LLC
PROFESSIONAL LAND SURVEYORS

CBG Surveying Texas, LLC.
PLANNING SURVEYING
1413 E-130 Suite 7 Garland, Texas 75043
P 214.349.9485 F 214.349.2216
Firm No. 10168800
www.cbgtxllc.com

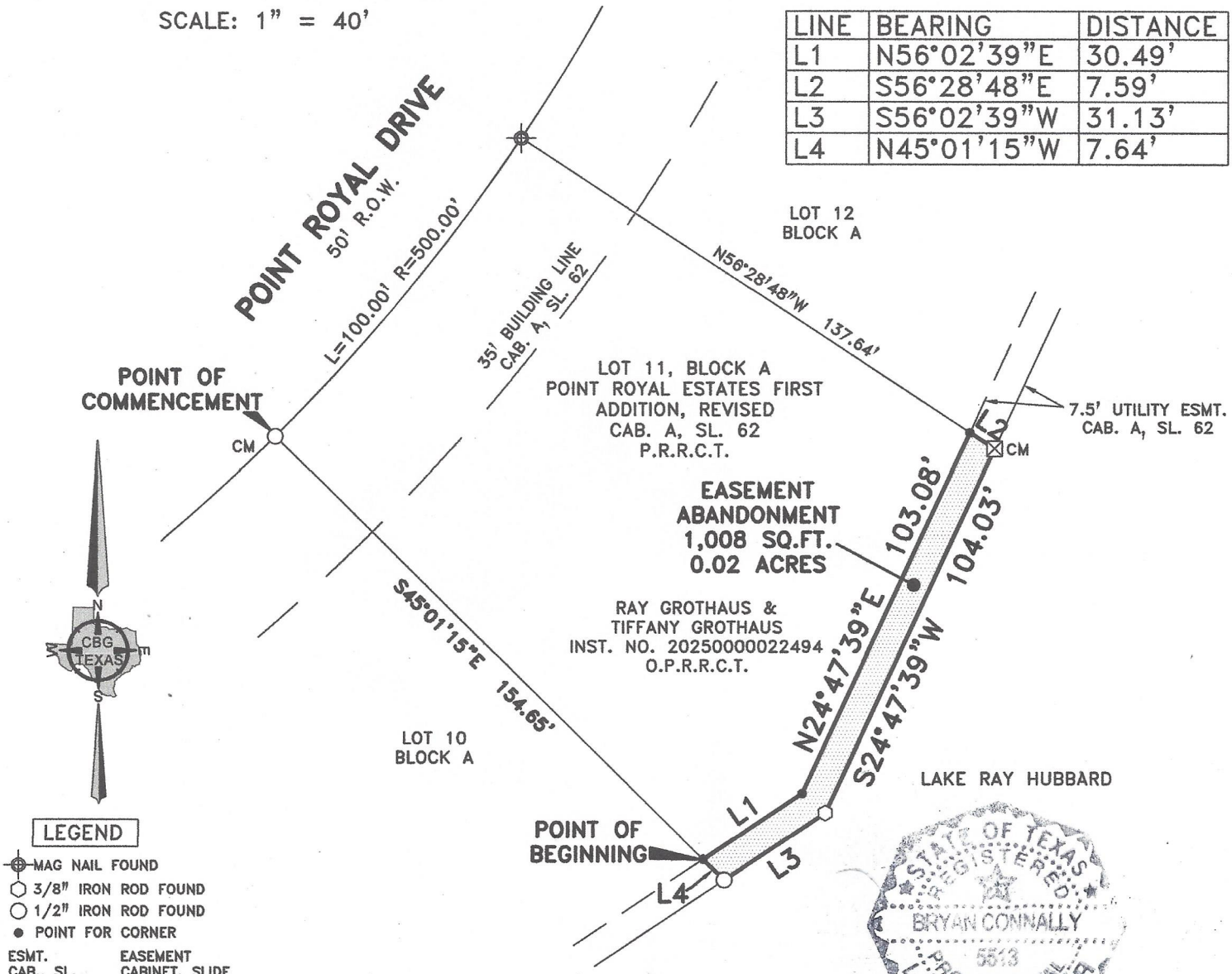
SHEET 1 OF 2
JOB NO. 25398
DRAWN BY: MC
DATE: 07/07/2026

EXHIBIT "A"
EASEMENT ABANDONMENT
PART OF LOT 11, BLOCK A
POINT ESTATES FIRST ADDITION
ROCKWALL COUNTY, TEXAS

40' 20' 0 40' 80'

SCALE: 1" = 40'

LINE	BEARING	DISTANCE
L1	N56°02'39"E	30.49'
L2	S56°28'48"E	7.59'
L3	S56°02'39"W	31.13'
L4	N45°01'15"W	7.64'



LEGEND

- MAG NAIL FOUND
- 3/8" IRON ROD FOUND
- 1/2" IRON ROD FOUND
- POINT FOR CORNER

ESMT.	EASEMENT
CAB., SL.	CABINET, SLIDE
R.O.W.	RIGHT-OF-WAY
D.R.D.R.T.	PLAT RECORDS, ROCKWALL COUNTY, TEXAS
O.P.R.R.C.T.	OFFICIAL PUBLIC RECORDS ROCKWALL COUNTY, TEXAS

GENERAL NOTES:

BEARINGS BASED ON TEXAS PLANE COORDINATES, NORTH CENTRAL ZONE, NAD83 (2011).

STATE OF TEXAS
REGISTERED
BRYAN CONNALLY
5513
PROFESSIONAL
LAND SURVEYOR

BRYAN CONNALLY
R.P.L.S. NO. 5513

CBG SURVEYING TEXAS LLC
PROFESSIONAL LAND SURVEYORS

CBG Surveying Texas, LLC.
PLANNING SURVEYING
12025 Shiloh Road Suite 240 Dallas, Texas 75228
P 214.349.9485 F 214.349.2216
Firm No. 10168800
www.cbgtxllc.com

SHEET 2 OF 2
JOB NO. 25398
DRAWN BY: MC
DATE: 07/07/2026

April 21, 2026

RE: Rockwall County – 214 Point Royal Drive, Rockwall
Point Royal Estates First Addition, Revised
Lot 11, Block A
7.5-ft Utility Easement Request for abandonment

In response to the request for the abandonment of the 7.5-ft Utility Easement located at the southwest side of the property, Southwestern Bell Telephone Company, d/b/a AT&T Texas, has no objections to the requested abandonment for replat as shown on the attached Exhibit A.

Plat showing easement found in Rockwall County Clerk File Recorded in Cabinet A, Slide 62.

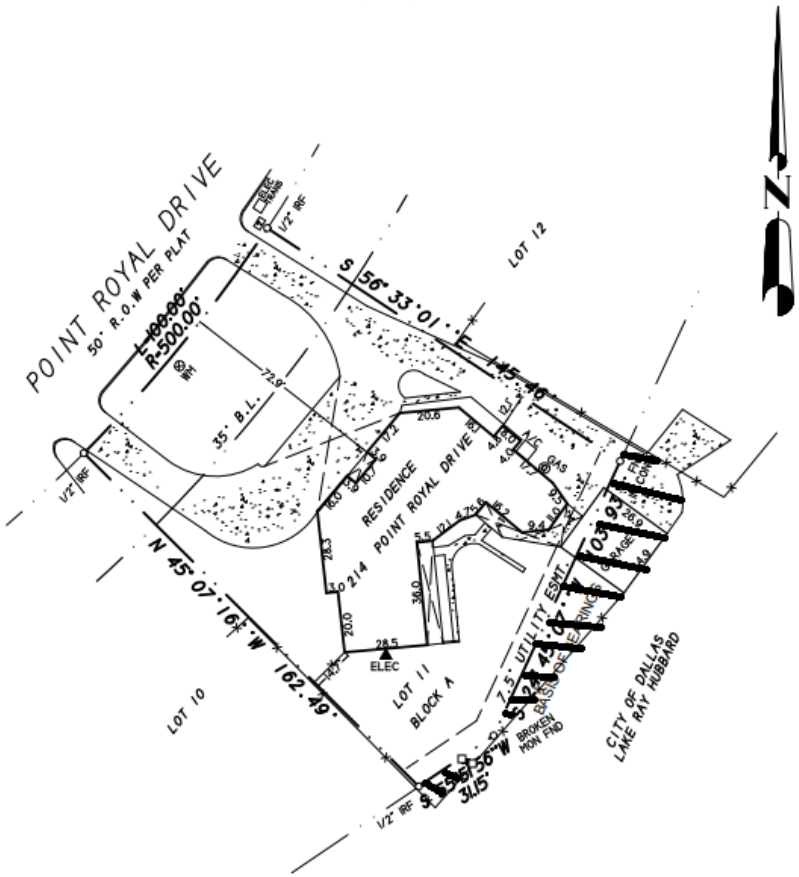
Please let me know if you have any questions.

Sincerely,

Melissa McElyea

Melissa McElyea
AT&T – Manager Engineering – Right-of-Way
817-718-4055
ms2841@att.com

PLAT OF SURVEY



SURVEY ACCEPTED BY:

_____ DATE _____

_____ DATE _____

DESCRIPTION

Lot 11, Block A, of POINT ROYAL ESTATES FIRST ADDITION, REVISED, an Addition in Rockwall County, Texas, according to the Revised Plat thereof recorded in Cabinet A, Slide 62, Plat Records, Rockwall County, Texas

NOTES

1) According to F.E.M.A. Flood Insurance Rate Map. Community Panel No. 48397C0020 L dated Sept. 26, 2008, this property lies in Zone X. This property does not appear to lie within a 100-year flood plain.

2) BEARING SOURCE: RECORDED PLAT.

3) ALL 1/2" IRS ARE CAPPED WITH YELLOW PLASTIC CAPS "RPLS 5034."

SURVEYOR'S CERTIFICATE

I, Harold D. Fetty, III, Registered Professional Land Surveyor No. 5034, do hereby certify that the above plat of the property surveyed for Allegiance Title Company, Cadence Bank, Raymond Grothus and Tiffany Grothus at 214 Point Royal Drive, Rowlett, Rockwall County, Texas, is the result of a careful collection of the best evidence available to me and my opinion is based on the facts as found at the time of survey. This survey meets the requirements of the Minimum Standards of Practice as approved and published by the Texas Board of Professional Land Surveying, effective September 1, 1992 and subsequent revisions, and the same was surveyed under my supervision on the ground this the 9th day of September, 2025.

Harold D. Fetty III, R.P.L.S. No. 5034

STATE OF TEXAS REGISTERED HAROLD D. FETTY III 5034 PROFESSIONAL LAND SURVEYOR

SYMBOL LEGEND

SURVEY DATE SEPTEMBER 9, 2025
SCALE 1" = 40' FILE # 20250104
CLIENT GROTHUS GF #3016402500532

H.D. Fetty Land Surveyor, LLC
Firm Registration no. 10150900
6770 FM 1565 ROYSE CITY, TX 75189 972-635-2255 PHONE tracy@hdfetty.com

ATTACHMENT 3

Oncor Electric Delivery
Aleeah Brown
ROW Property Management Analyst
777 Main Street Ste. 707
Fort Worth, TX 76102
Cell: 843-814-2441

ATTACHMENT 3

Date: May 5, 2026

Physical Address: 214 Point Royal Drive
City / State / Zip: Rockwall, TX 75087

Re: PM26-0136– POINT ROYAL, BLOCK A, LOT 11

To Whom It May Concern,

Oncor Electric Delivery Company, LLC does not maintain any facilities within the designated 7.5 utility easement, and we have no objection to the abandonment within the 7.5 utility easement.

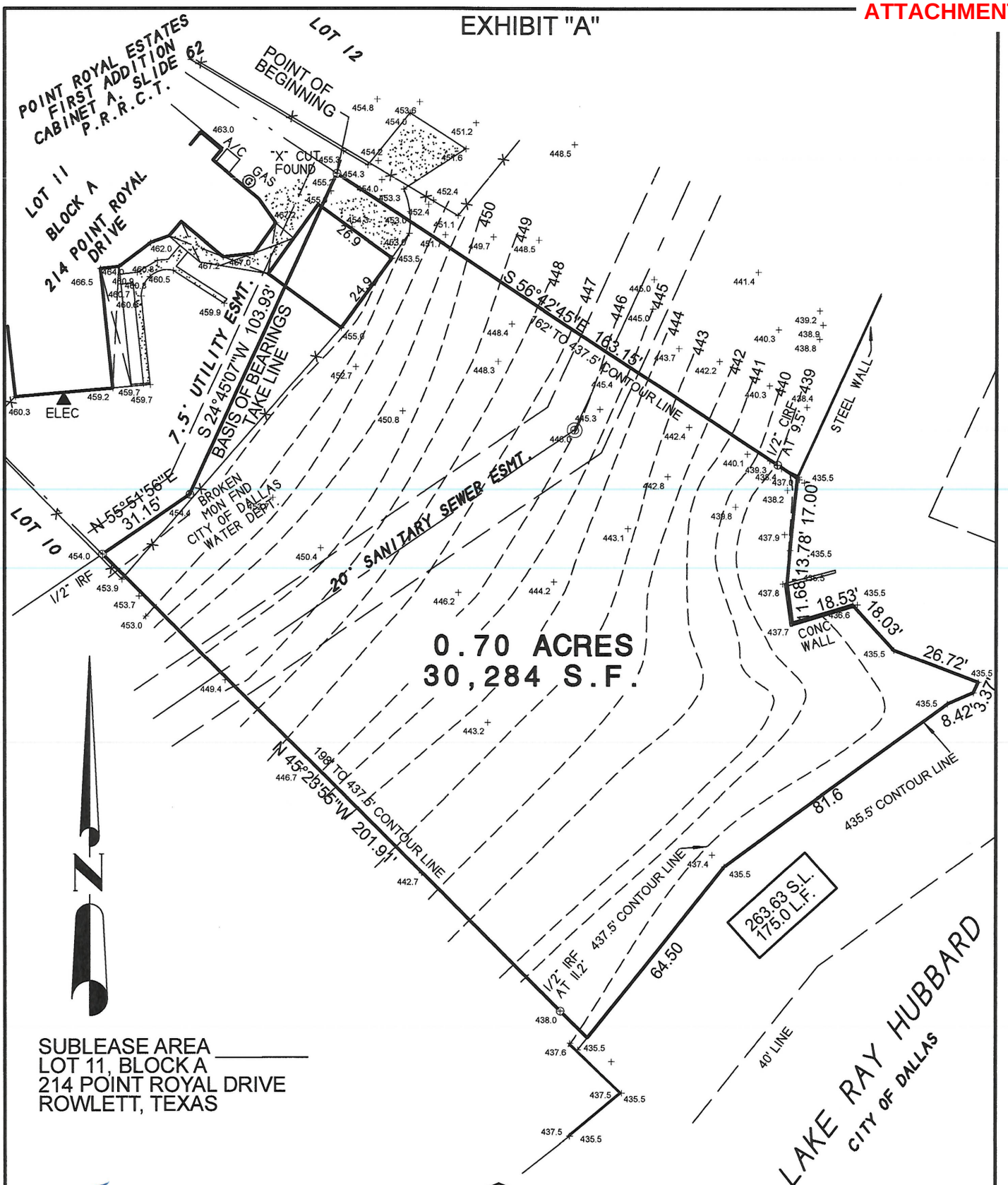
The abandonment being more particularly described by the attached **"EXHIBIT A &B".**

Sincerely,

Aleeah Brown
ROW Property Management Analyst

ATTACHMENT 3

EXHIBIT "A"



SUBLEASE AREA _____
LOT 11, BLOCK A
214 POINT ROYAL DRIVE
ROWLETT, TEXAS

Harold D. Fetty III, R.P.L.S. No. 5034

STATE OF TEXAS
REGISTERED
HAROLD D. FETTY III
5034
PROFESSIONAL
LAND SURVEYOR

SYMBOL LEGEND

TV TELEVISION CABLE RISER	GAS GAS METER	TEL PHONE RISER	FH FIRE HYDRANT	PP POWER POLE
ELEC ELECTRIC METER	ELEC BOX SUBSURFACE JUNCTION BOX	WM WATER METER	LP LIGHT POLE	1/2" IRF IRON ROD FOUND (CORNER)
FENCE	EASEMENT LINE / PROPERTY LINES		A/C AIR COND. UNIT	PROP PROPANE TANK

SURVEY DATE SEPTEMBER 9, 2025
SCALE 1" = 40' FILE # 20250104-SL
CLIENT GROTHUS

H.D. Fetty Land Surveyor, LLC
Firm Registration no. 101509-00
6770 FM 1565 ROYSE CITY, TX 75189 972-635-2255 PHONE tracy@hdfetty.com

EXHIBIT "B"

SUBLEASE AREA DESCRIPTION
214 POINT ROYAL DRIVE
ROWLETT, TEXAS

STATE OF TEXAS
COUNTY OF ROCKWALL

BEING a tract of land situated in the City of Dallas, and being a portion of the Take Area Lease to the City of Rowlett, Texas, as defined in the City Ordinance No. 3-19-02D and being more particularly described as follows:

BEGINNING at An "x" found for corner in the City of Dallas Take line for Lake Ray Hubbard, and being at the east corner of Lot 11, Block A, of POINT ROYAL ESTATES FIRST ADDITION, an Addition to the City of ROWLETT, ROCKWALL County, Texas, according to the Plat thereof recorded in Cabinet A, Slide 62, Plat Records, ROCKWALL County, Texas.;

THENCE S. 56 deg. 42 min. 45 sec. E. leaving said take line, at 153.65 feet pass a ½" iron rod found for witness and continuing for a total distance of 163.15 feet to a point for corner in the 435.5 contour line;

THENCE in a southerly direction along said 435.5 contour line for a distance of 263.63 feet;

THENCE N. 45 deg. 23 min. 55 sec. W., at 11.2 feet pass a ½" iron rod found for witness and continuing for a total distance of 201.91 feet to a ½" iron rod found for corner at the south corner of Lot 11, Block A;

THENCE N. 55 deg. 51 min. 56 sec. E. along said take line and southeast boundary of Lot 11, Block A, a distance of 31.15 feet to a broken City of Dallas Water Department monument found for corner;

THENCE N. 24 deg. 45 min. 07 sec. E. along said take line and the southeast boundary of Lot 11, Block A, a distance of 103.93 feet to the POINT OF BEGINNING and containing 30,284 square feet or 0.70 acres of land.

Spectrum

April 24, 2026

Ray Grothaus
325-370-3341

RE: Abandonment of Easement
Location: 214 Point Royal Dr, Rockwall, TX 75087

I have reviewed your request for the Utility Easement reference above and Spectrum Communications hereby grants permission for abandonment of the easement.

Spectrum Communications retains the right to access any remaining partial or full utility easements on the property for the purpose of future construction or maintenance of existing facilities.
If applicable, please contact the Texas Excavation Safety System (Texas811) to have facilities marked & located within affected easements before any excavations are started.

Sincerely,

Spectrum
John Janusik | Business Development Specialist
1776 N Greenville Ave | Richardson, TX 75081
email: john.janusik@spectrum.com
office: (214) 319-4904
mobile: (214) 724-5815

**Please send all utility coordination, abandonments, encroachments, plat signatures, or serviceability requests, or notices of relocation to DL-NTX-External-Requests@charter.com Please share this information with whoever needs these services.*

NO OBJECTION TO ABANDONMENT OF UTILITY EASEMENT

Date: __4/27/2026_____

City of Rowlett
Attn: Development Services / Engineering Department
4004 Main Street
Rowlett, Texas 75088

Re: No Objection to Abandonment of Utility Easement
Property Address: 214 Point Royal Drive, Rockwall, Texas 75087
Subdivision: Point Royal Estates First Addition, Revised
Legal Description: Lot 11, Block A

To Whom It May Concern:

This letter is provided at the request of the property owner regarding a request to abandon a portion of a utility easement located on the above-referenced property.

[Frontier Communications, a Verizon Company] has reviewed the request and the accompanying survey prepared by H.D. Fetty Land Surveyor, LLC, dated September 9, 2025, which depicts a 7.5-foot utility easement located along the rear of the property.

Based upon our records and review, [Frontier Communications, a Verizon Company] confirms that:
1. We do not own facilities within the referenced 7.5-foot rear utility easement; and
2. We have no current or planned use of this portion of the easement for utility facilities.

Accordingly, [Frontier Communications, a Verizon Company] has no objection to the abandonment of the referenced utility easement as requested by the property owner, subject to final approval by the City of Rowlett and any applicable statutory or regulatory requirements.

This letter is provided for municipal review purposes only and does not constitute a transfer of property rights.

If you have any questions, please contact the undersigned.

Sincerely,

Chris Branch

Title: __Supervisor Network Engineering__
Phone: _469-668-1912_____
Email: _christopher.branch@verizon.com_

FRONTIER
A Verizon Company

NO OBJECTION TO ABANDONMENT OF UTILITY EASEMENT

Date: May 15, 2026

City of Rowlett
Attn: Development Services / Engineering Department
4004 Main Street
Rowlett, Texas 75088

Re: No Objection to Abandonment of Utility Easement
Property Address: 214 Point Royal Drive, Rockwall, Texas 75087
Subdivision: Point Royal Estates First Addition, Revised
Legal Description: Lot 11, Block A

To Whom It May Concern:

This letter is provided at the request of the property owner regarding a request to abandon a portion of a utility easement located on the above-referenced property.

Atmos Energy has reviewed the request and the accompanying survey prepared by H.D. Fetty Land Surveyor, LLC, dated September 9, 2025, which depicts a 7.5-foot utility easement located along the rear of the property.

Based upon our records and review, Atmos Energy confirms that:
1. We do not own facilities within the referenced 7.5-foot rear utility easement; and
2. We have no current or planned use of this portion of the easement for utility facilities.

Accordingly, Atmos Energy has no objection to the abandonment of the referenced utility easement as requested by the property owner, subject to final approval by the City of Rowlett and any applicable statutory or regulatory requirements.

This letter is provided for municipal review purposes only and does not constitute a transfer of property rights.

If you have any questions, please contact the undersigned.

Sincerely,

Authorized Representative
Atmos Energy
Title: Engineer 2
Phone: 469-750-4298
Email: Eva.Enriquez@atmosenergy.com

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.F.

Title
Consider action to authorize the purchase of rehabilitation services for 23 sanitary sewer manholes.

Consider action to adopt a resolution authorizing the purchase of rehabilitation services for 23 sanitary sewer manholes, from Fuquay, Inc., through a BuyBoard cooperative purchasing contract, for a total price not to exceed $155,124.00; authorizing the Interim City Manager or his designee to execute all necessary documents to effectuate said purchase; and providing an effective date.

Staff Representative
Gary Enna, Senior CIP Manager

Executive Summary
The City has prioritized investment in transportation and infrastructure to provide high-quality, sustainable utility systems. Providing a high-quality wastewater collection system is one way to promote that priority. Systematically rehabilitating substandard sanitary sewer manholes helps achieve that goal. The purpose of this item is to authorize the purchase of sanitary sewer manhole rehabilitation services.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
Invest in Transportation & Infrastructure	6.8 Provide a high-quality wastewater collection system.

Background Information

The City of Rowlett contracted RJN to conduct a Sanitary Sewer Evaluation Study (SSES) in FY2021 (completed in FY2023) to survey the condition of the City's sanitary sewer system. The study revealed deficiencies, from severe to moderate, with manholes throughout the City. As a result, City staff are launching a multi-phase manhole rehabilitation program in FY2026.

Additionally, subsequent to the installation of a new flow meter at the Garland processing plant, a significant amount of Inflow and Infiltration (I&I) has been identified

in the sanitary sewer system. The sewer manholes identified in the most recent SSES are significant contributors to the I&I.

Discussion

Routine manhole rehabilitation is one of the most effective methods of reducing inflow and infiltration (I&I) of storm/groundwater into the sanitary sewer system, which adds to the City's wastewater treatment costs. The action items and cost required to rehabilitate each manhole vary depending on its size, depth, and condition. Common action items include:

- Full or partial structural rehabilitation
- Application of protective coatings or chemical grouting
- Repairing or replacing connections between the frame and chimney
- Installing, replacing, or realigning watertight ring and covers
- Raising buried manholes to grade
- Repairing, replacing or upsizing pipe (cured-in-place or solid polyurethane)
- Installing inflow protectors

Fuquay, Inc. is an industry leader in infrastructure rehabilitation, underground utility construction, and trenchless technology. Its crews possess the experience and specialized training that manhole rehabilitation requires. Fuquay, Inc. is a registered vendor with the BuyBoard Local Government Purchasing Cooperative. City staff secured a quote for 23 of the Sanitary Sewer Manhole Rehabilitation Project from Fuquay, Inc., which is attached as Exhibit A. All BuyBoard contracts comply with state purchasing requirements and satisfy City purchasing policies.

Financial/Budget Implications

Operational Budget Financial Table

Account Number	Account Title	Budget Amount	Available Amount	Proposed Amount
SS2128	Sanitary Sewer Manhole Rehabilitation	$ 680,568.97	$155,124.00	$525,444.97
TOTAL		$ 680,568.97	$155,124.00	$525,444.97

Recommended Action

Move to adopt a resolution authorizing the purchase of rehabilitation services for 23 sanitary sewer manholes, from Fuquay, Inc., through a BuyBoard cooperative purchasing contract, for a total price not to exceed $155,124.00; authorizing the Interim City Manager or his designee to execute all necessary documents to effectuate said purchase; and provide an effective date.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS APPROVING THE PURCHASE, FROM FUQUAY, INC., UTILIZING BUYBOARD CONTRACT #731-24, OF REHABILITATION SERVICES FOR 23 SANITARY SEWER MANHOLES FOR A PURCHASE PRICE OF $155,124.00; AUTHORIZING AND RATIFYING THE INTERIM CITY MANAGER'S EXECUTION OF ALL NECESSARY AND RELATED DOCUMENTS; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City's most recent Sanitary Sewer Evaluation Study revealed deficiencies with manholes in the City; and

WHEREAS, the City has prioritized infrastructure to provide high-quality, sustainable utility systems and systematically rehabilitating sanitary sewer manholes helps achieve this goal; and

WHEREAS, Fuquay, Inc., an industry leader in infrastructure rehabilitation, is a registered vendor with BuyBoard Local Government Purchasing Cooperative and has provided a quote for rehabilitation services for 23 of the sanitary sewer manholes for a total price not to exceed $155,124.00; and

WHEREAS, the City Council finds it to be in the best interests of the citizens of the City of Rowlett to approve the purchase of the sanitary sewer manhole rehabilitation services;

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

SECTION 1: The City Council of the City of Rowlett approves the purchase, from Fuquay, Inc., utilizing BuyBoard Contract #731-24, of rehabilitation services for 23 sanitary sewer manholes, in accordance with the proposal attached hereto and incorporated herein by this reference as **Exhibit "A,"** for a purchase price not to exceed $155,124.00.

SECTION 2: The execution of all necessary and related documents by the Interim City Manager is hereby approved and ratified.

SECTION 3: This resolution shall become effective immediately upon its passage.

Attachments

1. Exhibit A - Fuquay Manhole Rehabilitation 2026 - BuyBoard Quote

FUQUAY, INC.

4861 Old Hwy 81, New Braunfels, TX 78132

Phone (830) 606-1882 Fax (830) 606-1885

PROPOSAL

DATE: July 7, 2026
PROJECT: CITY OF ROWLETT MH REHAB 2026

Cured In Place Pipe CIPP for Pipeline Rehabilitation #731-24

Structure (Manhole) Rehabilitation and Corrosion Protection and Related Items

23 MANHOLES

					LIST PRICING		MEMBER PRICING			PROJECT SPECIFIC DISCOUNTED PRICING	
Section I Item 3	22103	Condition Standards and Repair Methods -- Condition 3 **(1" CEMENTITIOUS AND 250 MIL SPRAYWALL)**	SQFT	2961	$54.00	$159,894.00	-$3.78	$50.22	$148,701.42	**$46.00**	**$136,206.00**
Section I Item 3	22104	Inflow & Infiltration Repair -- Injection of Chemical Grout Material****MHs - 11 AND 15****AS NEEDED****	GAL	2	$321.00	$642.00	-$22.47	$298.53	$597.06	**$245.00**	**$490.00**
Section I Item 3	22105	Inflow & Infiltration Repair -- Injection of Chemical Grout Material-Labor & Equipment****MHs - 11 AND 15****AS NEEDED****	HR	2	$244.00	$488.00	-$17.08	$226.92	$453.84	**$210.00**	**$420.00**
Section I Item 3	22106	Manhole Bench and Invert Repair 4' Diameter Base****MHs - 5, 30, 33 AND 36****	EA	4	$802.50	$3,210.00	-$56.18	$746.33	$2,985.30	**$725.00**	**$2,900.00**
Section I Item 3	22121	Remove and/or Abrade Existing Coatings within Manhole or Structure****MHs 4,7,17,19 AND 33****	SQFT	884	$15.50	$13,702.00	-$1.09	$14.42	$12,742.86	**$12.00**	**$10,608.00**
Section I Item 3	22122	Remove existing steps within manhole (per manhole)****MHs - 3,23,29,30,36 AND MH0340008****	EA	6	$1,284.00	$7,704.00	-$89.88	$1,194.12	$7,164.72	**$75.00**	**$450.00**
Section I Item 3	22135	Travel and Mobilization- Manhole Rehabilitation Crew from New Braunfels, TX	MILE	270	$25.50	$6,885.00	-$1.79	$23.72	$6,403.05	**$15.00**	**$4,050.00**
										TOTAL =	**$155,124.00**

ALL MATERIAL IS GUARANTEED TO BE AS SPECIFIED, AND THE WORK TO BE PERFORMED IN ACCORDANCE WITH THE DRAWING AND SPECIFICATIONS SUBMITTED FOR THE ABOVE WORK AND COMPLETED IN A SUBSTANTIAL WORKMANLIKE MANNER. ANY ALTERATION OR DEVIATION FROM SPECIFICATIONS AND DRAWINGS INVOLVING EXTRA COSTS WILL BE EXECUTED ONLY UPON WRITTEN ORDERS AND WILL BECOME AN EXTRA CHARGE OVER AND ABOVE THE QUOTATION. WORKER'S COMPENSATION AND PUBLIC LIABILITY INSURANCE ON ABOVE WORK TO BE FURNISHED BY FUQUAY, INC. **THERE MAY BE AN ADDITIONAL CHARGE FOR PROVIDING A WAIVER OF SUBROGATION AND/OR BEING LISTED AS AN ADDITIONAL INSURED ON FUQUAY'S INSURANCE. THE CHARGE SHALL BE EQUAL TO THE AMOUNT CHARGED TO FUQUAY FOR SAID SERVICE.**

EXCLUSIONS:

BOND, SALES TAX, AND OCP
PERMITS, BURDENS, FEES
WASTE HAUL-OFF
SURVEYING

BARRICADES, SIGNS, TRAFFIC HANDLING
SITE CLEARING
DEWATERING
ALL BYPASS PUMPING AND PIPE PLUGGING
PROVIDING AND/OR PERFORMING ANY TESTING

TERMS:

PAYMENT FOR SERVICES SHALL BE DUE AND PAYABLE WITHIN THIRTY DAYS OF THE DATE/MONTH THE WORK IS PERFORMED. THIS PROPOSAL MAY BE WITHDRAWN BY US IF NOT ACCEPTED WITHIN THIRTY DAYS.

RESPECTFULLY SUBMITTED,

FUQUAY, INC.

ACCEPTED BY: _____

COMPANY: _____

NAME: _____

TITLE: _____

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 4.G.

Title
Consider action to approve adding Section 34-5 to the Code of Ordinances, Chapter 34 "Miscellaneous Offenses."

Consider action to adopt an ordinance amending the Code of Ordinances, Chapter 34 "Miscellaneous Offenses", Article I "In General", adding a new Section 34-5 "Urinating or Defecating in Public."

Staff Representative
Mike Denning, Police Chief

Executive Summary

This item is for consideration of adoption of a proposed City ordinance prohibiting public urination and defecation. The purpose of the ordinance is to establish a clearly defined municipal offense that addresses conduct negatively impacting public health, sanitation, and the quality of life within the community. The proposed ordinance would complement existing state law by providing a more direct enforcement option in situations where the conduct may not meet the statutory elements of Disorderly Conduct under the Texas Penal Code.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
Ensure a Safe Environment	2.5 Strengthen public safety, public outreach, education, and communication.

Background Information

The City has experienced isolated incidents of individuals urinating or defecating in public places, including parks, public rights-of-way, and areas surrounding local businesses. Although these incidents are relatively infrequent, they can negatively impact public health, sanitation, the use and enjoyment of public spaces, and the overall quality of life within the community.

The proposed ordinance is intended to address this conduct by establishing a specific municipal offense prohibiting public urination and defecation in public places. While state law, such as Texas Penal Code §42.01, Disorderly Conduct, may apply in certain circumstances, it does not always provide an offense that directly addresses this type of behavior. In this case, Disorderly Conduct has limits on what an officer can enforce and does not directly address urinating or defecating in a public place.

A local ordinance would establish a clear standard of conduct, provide an appropriate enforcement mechanism, and reinforce the City's commitment to maintaining clean, safe, and welcoming public spaces for residents and visitors alike.

Discussion

The proposed ordinance is intended to address incidents of public urination and defecation occurring within the City. While these incidents are relatively infrequent, they negatively impact public spaces, businesses, parks, and the overall quality of life for residents and visitors. The ordinance would establish a specific municipal offense prohibiting these acts in public places, providing a clear standard of conduct and reinforcing the City's commitment to maintaining clean, safe, and welcoming public spaces.

From a law enforcement perspective, the primary benefit of the ordinance is not the expansion of arrest authority, but the creation of a clearly defined offense that more directly addresses this specific conduct. The ordinance would allow violations to be investigated and prosecuted based on an officer's observations, witness statements, or video evidence without relying on broader criminal statutes that were not specifically designed to address these circumstances. This provides greater clarity and consistency for officers, prosecutors, and the municipal court.

Currently, officers may consider the offense of Disorderly Conduct under Texas Penal Code §42.01 in certain circumstances. However, that statute requires proof that the conduct occurred in a public place and was intended to alarm or disturb others, or that the conduct otherwise meets one of the specific statutory elements. As a result, not every incident of public urination or defecation will satisfy the requirements of the Penal Code. A municipal ordinance would address this gap by establishing a narrowly tailored offense focused specifically on the prohibited conduct.

Ultimately, this ordinance provides the City with an additional enforcement tool for addressing conduct that may not be adequately covered by existing state law.

Financial/Budget Implications

There is no financial impact.

Recommended Action

To adopt this ordinance.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 34 "MISCELLANEOUS OFFENSES," ARTICLE I "IN GENERAL" BY ADDING A NEW SECTION 34-5 "URINATING OR DEFECATING IN PUBLIC;" PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY OF A FINE NOT TO EXCEED $500.00 PER VIOLATION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council for the City of Rowlett finds that it serves the general welfare and is in the best interest of the citizens of the City of Rowlett to amend Chapter 34 "Miscellaneous Offenses," Article I "In General" to add provisions making it an offense to urinate or defecate in public;

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

Section 1. The Code of Ordinances of the City of Rowlett, Texas is amended by amending Chapter 34 "Miscellaneous Offenses," Article I "In General," by adding a new section 34-5 "Urinating or Defecating in Public" to read in its entirety as follows:

"CHAPTER 34 MISCELLANEOUS OFFENSES

. . .

ARTICLE I. – IN GENERAL

. . .

Sec. 34-5. – Urinating or Defecating In Public.

1. A person commits an offense if he urinates or defecates:
    1. in or on a public street, alley, sidewalk, yard, park, building, structure, plaza, public or utility right-of-way, or other public place; or
    2. in public view.
2. It is a defense to prosecution under this section if the person was in a restroom.
3. Any person, firm, corporation or business entity violating this article shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined a sum not exceeding $500.00. Each continuing day's violation under this article shall constitute a separate offense. The penal provisions imposed under this article shall not preclude the city from filing suit to enjoin the violation. The City retains all legal rights and remedies available to it pursuant to local, state and federal law.**"**

Section 2. All provisions of the ordinances of the City of Rowlett in conflict with the provisions of this ordinance be, and the same are hereby, repealed, and all other provisions of the ordinances of the City of Rowlett not in conflict with the provisions of this ordinance shall remain in full force and effect.

SECTION 3. Should any sentence, paragraph, subdivision, clause, phrase or section of this ordinance be adjudged or held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this ordinance as a whole, or any part or provision thereof other than the part so decided to be invalid, illegal or unconstitutional, and shall not affect the validity of the Code of Ordinances as a whole.

SECTION 4. Any person, firm or corporation violating any of the provisions or terms of this Ordinance shall be punished by a fine not to exceed the sum of Five Hundred Dollars ($500.00) for each offense; and each and every day such violation shall continue shall be deemed to constitute a separate offense.

SECTION 5. This Ordinance shall take effect immediately from and after its passage and the publication of the caption, as the law and charter in such cases provide.

Attachments

1. Ordinance - Adding Section 34-5 to the Code of Ordinances

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 34 "MISCELLANEOUS OFFENSES," ARTICLE I "IN GENERAL," BY ADDING A NEW SECTION 34-5 "URINATING OR DEFECATING IN PUBLIC"; PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY OF A FINE NOT TO EXCEED $500.00 PER VIOLATION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council for the City of Rowlett finds that it is serves the general welfare and is in the best interest of the citizens of the City of Rowlett to amend Chapter 34 "Miscellaneous Offenses," Article I "In General" to add provisions making it an offense to urinate or defecate in public;

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

SECTION 1. The Code of Ordinances of the City of Rowlett, Texas is amended by amending Chapter 34 "Miscellaneous Offenses," Article I "In General," by adding a new section 34-5 "Urinating or Defecation in Public" to read in its entirety as follows:

"CHAPTER 34 MISCELLANEOUS OFFENSES

. . .

ARTICLE I. – IN GENERAL

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(a) A person commits an offense if he urinates or defecates:
  (1) in or on a public street, alley, sidewalk, yard, park, building, structure, plaza, public or utility right-of-way, or other public place; or
  (2) in public view.

(b) It is a defense to prosecution under this section if the person was in a restroom.

(c) Any person, firm, corporation or business entity violating this article shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined a sum not exceeding $500.00. Each continuing day's violation under this article shall constitute a separate offense. The penal provisions imposed under this article shall not preclude the city from filing suit to enjoin the violation. The City retains all legal rights and remedies available to it pursuant to local, state and federal law.**"**

SECTION 2. All provisions of the ordinances of the City of Rowlett in conflict with the provisions of this ordinance be, and the same are hereby, repealed, and all other provisions of the ordinances of the City of Rowlett not in conflict with the provisions of this ordinance shall remain in full force and effect.

SECTION 3. Should any sentence, paragraph, subdivision, clause, phrase or section of this ordinance be adjudged or held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this ordinance as a whole, or any part or provision thereof other than the part so

decided to be invalid, illegal or unconstitutional, and shall not affect the validity of the Code of Ordinances as a whole.

SECTION 4. Any person, firm or corporation violating any of the provisions or terms of this Ordinance shall be punished by a fine not to exceed the sum of Five Hundred Dollars ($500.00) for each offense; and each and every day such violation shall continue shall be deemed to constitute a separate offense.

SECTION 5. This Ordinance shall take effect immediately from and after its passage and the publication of the caption, as the law and charter in such cases provide.

4919-3300-6262, v. 1

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 5.A.

Title
Continue the public hearing and consider action to adopt an ordinance amending the Rowlett Development Code, as previously amended, by amending Chapter 77 "Development Code," Chapter 77-500 "Development and Design Standards" by repealing and replacing in its entirety section 77-510 "Exterior Lighting"; Providing for a Savings Clause; Providing for a penalty of fine not to exceed the sum of Two Thousand ($2,000.00) dollars for each offense; and providing for an effective date.

Staff Representative
Allisen Ducay, Planning Manager

Executive Summary
At the request of Council, staff presented an item regarding residential lighting standards at January 5, 2026, City Council Work Session. Council recommended changing the ordinance to include residential illumination and shielding standards. Staff reviewed lighting and glare regulations for surrounding cities and is proposing a revision of the existing ordinance that includes both non-residential and residential regulations, along with clarity in determining compliance with the lighting and glare regulations.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
STRENGTHEN NEIGHBORHOOD LIVABILITY	3.1 Value existing neighborhoods. 3.4 Support efficient development patterns and communicate clear policy guidance.

Background Information
At the request of Council, staff presented during January 5, 2026, City Council Work Session for residential uses. Staff presented an explanation of the lighting ordinance and how it excludes residential lighting standards. The City Council recommended changing the ordinance to include a standard of 0.25-footcandles at the property line for residential uses and ensure that all lighting is shielded and angled away from adjacent property owners in such a manner that does not result in impacts to neighbors (See attached City Council Work Session Minutes from 1/5/2026). Staff presented during April 14, 2026, Planning & Zoning Commission Work Session for residential uses. The Commission asked for further

information regarding seasonal lighting, security / motion lighting, flashing/ color, exemptions, and non-conforming uses. Staff presented during May 12, 2026, Planning & Zoning Commission Work Session on seasonal lighting, security / motion lighting, flashing/ color, exemptions, and non-conforming uses. At the conclusion of the work session, the commission and staff agreed to work collaboratively on the ordinance language prior to the next work session and hearing. Staff presented during June 9, 2026, Planning & Zoning Commission Work Session to finalize the ordinance language. During the June 9, 2026, Planning and Zoning Commission meeting, the Commission voted 6-1 to recommend approval of the text amendment to City Council. During the June 16, 2026, City Council meeting, the item was tabled to allow further study by Council.

Discussion

At the May 12, 2026, work session, the Commission received a presentation regarding glare and illumination requirements. The Commission requested a final work session to review the text amendment prior to the hearing.

Contained within RDC Section 77-510, entitled Exterior Lighting, the intent of the code section requires outdoor lighting that is adequate for safety and convenience; in scale with the activities to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment.

Specific to residential lighting standards in Section 77-510 B 1 (b), the RDC states the following lighting standards are exempt for compliance: Soffit or wall-mounted luminaries that are permanently attached to single-family residential dwellings, not to exceed the height of the eave, and that do not produce glare onto adjacent properties or public streets.

Specific to non-residential design standards, Section 77-510 B 1 (d) (4) of the RDC states “In no case shall exterior lighting add more than one footcandle to illumination levels at any point off-site.” This is commonly referred to as a ‘light trespass’ standard. A footcandle (fc) is a measure of illuminance that equals one lumen per square foot or approximately 10.76 lux. A higher number of lumens are indicative of a brighter, more intense light, whereas a lower number of lumens represent dimmer, more subdued lighting. A calibrated digital light meter or lux meter is used to determine the intensity of light at one point. Outdoor and safety lighting is measured at ground level and may be measured at specific points or the average of several points in an area. According to the US National Park Service and Occupational Safety and Health Administration (OSHA), it is considered generally appropriate to light outdoor walking paths at a level of 2-5 fc with average levels of between 0.5 – 1 fc in residential areas.

Staff reviewed the lighting and glare regulations of Garland, Mesquite, and Plano (Attachment 1). After careful study, staff found it would be difficult to keep the existing lighting ordinance language (Attachment 2) while adding amended residential regulations. Staff is proposing a revision of Section 77-510 that incorporates the intent of the current RDC, while adding residential standards, and clarifying the compliance standards overall. Staff is seeking additional input from the Planning and Zoning Commission before bringing forth recommendations to the Lighting Ordinance Text Amendment. The proposed code

amendment (Attachment 3) has been tracked for ease of review related to the changes.

STAFF RECOMMENDATION
After discussion and input from the Commission, staff would like to bring forth a recommendation from the Commission to Council to propose a revision of the existing ordinance that includes both non-residential and residential regulations, along with providing clarity in determining compliance with the lighting and glare regulations. It is the staff recommendation that the proposed revisions to Section 77-510 will add value to new and existing neighborhoods, while providing clarity for enforcement of existing regulations.

RECOMMENDED ACTION
Seek Commission recommendation regarding the proposed amendments.
The proposed amendments are summarized in the table below.

Ordinance Section	**Proposed Language**
77-510. A. Purpose	*No changes. Keep existing purpose statement.*
77-510. B. Applicability	1. *General.* This article applies to: 1. New construction in commercial, industrial, and residential areas beginning on the date of the adoption by the City Council of the City of Rowlett. (b) Existing light fixtures that exceed the limitations in section D.
77-510. C. Definitions	*Definitions.* The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning: *Approving authority* means City of Rowlett or its duly authorized deputy, agent or representative. *Candela* means the unit of luminous intensity in a given direction. *Class I lighting* means lighting used outdoors where color rendition is important, including, but not limited to, in areas for sales, recreation, assembly, eating, repair, advertising displays, billboards, and other signs. *Class II lighting* means lighting used outdoors where color rendition is not important, including, but not limited to, illumination for walkways, roadways, equipment yards, parking areas, and outdoor security. *Cutoff fixture* means a fixture that provides a shielding of the light emitted.

Diffusing luminaire means a luminaire that scatters light substantially in all directions as contrasted with a directional luminaire which confines its light principally in an angle of less than one hundred eighty (180) degrees.

Floodlight means a luminaire designed to project its light in a well-defined area and is directional in character.

Floodlight beam means the angular spread of light between two (2) rectangular planes each of which equal ten (10) percent of the maximum candelas within the beam.

Footcandle means the amount of illumination provided by one (1) lumen uniformly distributed on one (1) square foot of surface.

Fixture means the assembly that holds the lamp in a lighting system. It includes the elements designed to give light output control, such as a reflector (mirror) or defractor (lens), the ballast, housing and the attachment parts.

Fluorescent lamp means a usually tubular electric lamp having a coating of fluorescent material on its inner surface and containing mercury vapor whose bombardment by electrons from the cathode provides ultraviolet light which causes the material to emit visible light.

Fully shielded means light fixtures that are constructed so all light rays emitted by the fixture are projected below the horizontal plane passing through the lowest point on the fixture from which light is emitted, nearly one hundred (100) percent cut-off type, as evidenced by the manufacturers photometric data.

Glare means direct lighting emitted from a luminaire that causes reduced vision or temporary blindness.

High pressure sodium (HPS) means a high intensity discharge lamp where radiation is produced from sodium vapor at relatively high partial pressures (above one (1) atm).

Horizontal plane means a line horizontal to the lowest point on the fixture from which light is emitted.

Illumination means the density of the luminous flux (lumens) incident on a surface. It is the quotient of the luminous flux divided by the area of the surface, expressed in footcandles and often referred to as ‘brightness’.

Incandescent lamp means any lamp that produces light by heating a

filament through use of an electric current.

Installed means attached or fixed in place, whether or not connected to a power source or any outdoor light fixture.

Lamp means the source of electric light. To be distinguished from the whole assembly, lamp is used to denote the bulb and its housing.

Light emitting diode (LED) means a semiconductor diode that emits light when a voltage is applied to it and that is used especially in electronic devices (as for an indicator light).

Light nuisance means light that is likely to cause unreasonable discomfort or distress to a reasonable person or to unreasonably interfere with the use or enjoyment of property.

Light source means a device (such as a lamp) which produces visible energy as distinguished from devices or bodies which reflect or transmit light such as a luminaire.

Light trespass means light falling outside the boundary of property for which it was originally intended or needed. Also referred to as spillover light or obtrusive light.

Low pressure sodium (LPS) means a discharge lamp where the light is produced by radiation from sodium vapor at a relatively low partial pressure (below 1 atm). LPS is a "tube source" monochromatic light.

Lumen means the quantity of luminous flux intercepted by a surface of one (1) square foot, all points of which are one (1) foot from a uniform source of one (1) candela. A one-candela source provides 12.57 lumens.

Luminaire means a device or fixture containing a light source and means for directing and controlling the distribution of light from the source.

Luminance means the luminous intensity per unit projected area of a given surface viewed from a given direction for purposes of this article expressed in candelas divided by distance squared.

Mercury lamp means a high intensity discharge lamp where light is produced by radiation from mercury vapor.

Metal halide lamp means a high intensity discharge lamp where light is produced by radiation from metal halide vapor.

Neon, krypton or argon discharge tubes means family of artificial light

	sources that generate light by sending an electric discharge through an ionized gas, a plasma. *Outdoor lighting fixture* means an outdoor artificial illumination device, whether permanent or portable, used for illumination outdoors, including, but not limited to, devices used for search, spot, or flood lighting and area lighting for buildings, structures, recreational facilities, parking, landscape, advertising displays, billboards, signs, public and private streets, and walkways. *Partially shielded* means shielding so that the lower edge of the shield is at or below the centerline of the light source or lamp so as to minimize light transmission above the horizontal plane, or at least ninety (90) percent of the emitted light projects below the horizontal plane as evidenced by the manufacturer's photometric data. *Photometric* means quantitative measurements of light levels and distribution. *Shielding* means a physical structure intended to restrict emitted light. *Watt* means the standard unit of power in the International System of Units (SI), equivalent to one (1) joule per second and equal to the power in a circuit in which a current of one (1) ampere flows across a potential difference of one (1) volt; 1000 watts is equal to one (1) kilowatt.
77-510. D. Presumptions	Presumptions. (a) Light is presumed to be unreasonable and declared a light nuisance if the illumination or luminance is in excess of the limitations, or if the luminaire is improperly shielded, as provided in the tables below:
77-510. D. Table 1.	(below)

Table 1: Illumination Limits

Zoning Category	Footcandles	
	Horizontal	Vertical
Single-family and two-family residential districts	0.25	0.25
Multiple-family residential districts	0.5	0.5
Nonresidential districts	3.0	3.0
Light industrial districts	5.0	5.0
(A) The limit of illumination on neighboring property from one (1) establishment shall be based on the zoning category of the neighboring property. (B) Maximum computed or measured footcandles at the neighboring property line shall not exceed the limits found in this table.		

77-510. D. Table 2.	(below)

Table 2: Calculated Luminance Limits

Zoning Category	Limit
Single-family and two-family residential districts	0.02 footcandles
Multiple-family residential districts	0.05 footcandles
Nonresidential districts	0.30 footcandles
Light industrial districts	0.50 footcandles
(A) The permitted luminance on neighboring property from one (1) establishment shall be calculated based on the zoning of the neighboring property. (B) The luminance as calculated in Section 77-510 H. (b) shall not exceed the value based on zoning category.	

77-510. D. Table 3.	(below)

Table 3: Shielding Requirements

Lamp Type	Class I Lighting-Color Rendition Important	Class II Lighting-Color Rendition Not Important
Low pressure sodium (LPS)	Fully shielded	Fully shielded
High pressure sodium (HPS)	Fully shielded	Fully shielded
Metal halide	Fully shielded	Fully shielded
Mercury vapor	Prohibited	Prohibited
Fluorescent	Partially or fully shielded	Fully shielded
Incandescent (over 150 watts/fixture)	Partially or fully shielded	Prohibited
Incandescent (under 150 watts/fixture)	Partially or fully shielded	Partially or fully shielded
Any light source 50 watts and under	Unshielded permitted	Unshielded permitted
Low intensity Neon, Krypton or Argon discharge tubes	Unshielded permitted	Unshielded permitted
Light emitting diode (LED)	Fully shielded	Fully shielded
(A) Shielding requirements apply to all outdoor lighting installations as specified in this table.		

77-510. E. Affirmative defenses	*Affirmative defenses.* (a) It shall be an affirmative defense to prosecution under this article that: (1) The lighting is installed by a governmental agency for public benefit on public rights-of-way, parks, and public recreation areas; (2) The lighting is emergency lighting by police, fire, and/or

	municipal, state, or federal government authorities; (3) Temporary decorative seasonal lighting may be illuminated no more than 45 days before the holiday and shall not be illuminated 30 days after the holiday, provided holiday lights can be lit from 4pm to 11pm each day; (4) The lighting is for public or private school outdoor recreational uses, including, but not limited to ball diamonds, playing fields, and tennis courts, if shielded to minimize light and glare from spilling over onto a residential zoned property. To constitute an affirmative defense, the maximum permitted illumination at the residential property line may not exceed two (2) foot-candles; (5) Illumination at interior property lines on contiguous lots in a multi-tenant, non-residential development exceeds the limitations in subsection 77-510 D. when the approving authority determines it necessary to provide adequate and constant lighting levels of adjoining parking areas, fire lanes and interior access roadways.
77-510. F. Exemptions	*Exemptions.* (a) Permanent exemptions. (1) Navigation and airport lighting required by the FAA for operation of aircraft are exempt from this article. (2) Emergency lighting by police, fire and/or other municipal, state or federal government authorities and hospitals are exempt from this article. (3) Seasonal decorative street lighting is exempt from this article. (4) Public street and right-of-way lighting. (5) Temporary decorative seasonal lighting provided that individual lamps have a light output of 200 lumens or less. (6) Temporary lighting for emergency or nighttime work and construction. (7) Temporary lighting for theatrical, television, and performance areas, or for authorized special events. (8) Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.

(9) Lighting for civic outdoor recreational uses such as ball diamonds, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:

i. Maximum permitted light post height: 80 feet.

ii. Maximum permitted illumination at the property line: two footcandles.

iii. Limits on hours of illumination: Exterior lighting shall be extinguished no later than 11:00 p.m. A waiver or deviation from this requirement may be granted by Special Use Permit. A temporary waiver or deviation may be granted by the City Manager or designee for up to three (3) days.

(b) Temporary exemptions.

(1) The approving authority may approve temporary exemptions from the requirements of this article provided the duration of the approval is not more than fourteen (14) days from the date of approval. Temporary exemptions may be granted for two (2), two-week periods each calendar year per legal business. A two-week period will commence on the day the exemption is approved. The two (2), two-week periods shall not occur in the same or consecutive months. A legal business shall include any commercial, industrial, or institutional use for which a certificate of occupancy is issued.

(2) Any person may submit a written request, on a form prepared by the city, to the approving authority for a temporary exemption request. The request shall contain the following information:

a. Specific exemption(s) requested.

b. Type/use of outdoor lighting fixture involved.

c. Duration of time requested.

d. Type of lamp and calculated footcandles.

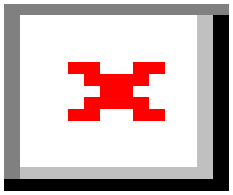
e. Total wattage of lamp(s).

f. Proposed location of fixtures.

g. Previous temporary exemption requests.

h. Physical side of fixtures and type of shielding to be provided.

	i. Such other data or information as may be required by the approving authority. j. The approving authority shall have five (5) working days from the date of the submission request to act, in writing, on the request. (3) Requests for renewal of exemptions shall be processed in the same way as the original request. Each renewal shall be valid for not more than fourteen (14) days. (4) Approval of temporary exemptions will be based on the effect of location and use of outdoor lighting fixtures.
77-510. G. Illumination computation.	*Illumination computation.* Illumination at a point may be computed in lieu of measurement. Computation methods shall consist of a generally accepted Illuminating Engineering Society method, using certified photometric data furnished by the fixture manufacturer, lamp manufacturer, photometric laboratory, or other reliable authority satisfactory to the city. Computations shall be based on new, properly seasoned lamps, new and clean fixtures, and at rated voltage and wattage, with ballasts, lenses, shields, diffusers, and other appurtenances in place, and with proper regard taken for mounting height, relative elevation, natural and man made objects.
77-510. H. Luminance calculation.	*Luminance calculation.* (a) Calculations generally. If illumination measurements are not practical and no other means of measuring fixture luminance is immediately available, a computational method as defined in section 77-510 H. (b) for measuring luminance may be used to determine compliance with this article. (b) Luminance calculations using luminaire photometric data. For the purpose of this article, the luminance shall be computed by the formula: $$L = \;;hg;\; \frac{I}{(d^2 + h^2)}$$ Where I is the fixture candelas in the direction of the point from which the calculations are to be made, d is the shortest distance in feet measured horizontally from the property line to a point directly under the luminaire, and h is the height of the luminaire above the eye level as explained in figure A below.

	
77-510. I. General Requirements.	*[*New text *(carryover text)]* *General requirements.* 1. Hours of operation shall be complied with in all installations, except as specified in subsection (h). 2. Outdoor advertising, displays, and signs not exclusively illuminated internally, may only utilize illuminating devices mounted on the top and pointing downward on the advertising display structure. All such installations shall comply with all other provisions of this article. 100. Exterior outdoor lights shall be constructed and installed in a manner consistent with this article and shall be located so as not to produce direct illumination across the building property line. (d) Sky glow external outdoor lights shall be constructed and installed in a manner so as to conform with the requirements in subsection 77-510 D.(a)(1). (e) Light trespass from external outdoor lights shall be constructed and installed in a manner so as to conform with requirements of this article. (f) Luminaires which are directed toward a viewer shall be aimed in such a manner that the viewer's eye, at least five (5) feet above grade at or beyond the property line, shall not be exposed to fixture luminance within the floodlight beam of the luminaire. (g) Outdoor advertising signs constructed of translucent materials and wholly illuminated from within do not require shielding. (h) Class I lighting used for illumination of: (1) Outdoor sales and eating areas, on-site advertising, assembly areas, repair areas and businesses may be operated during the hours that the facility is open to the public.

(2) Off-site advertising displays and billboards or signs may be operated from dusk to 11:00 p.m. only, unless fully shielded and pointing downwards from the horizontal plane.

(3) (i) Recreational and sporting areas may operate from dusk to 10:00 p.m. except to conclude a specific recreational or sporting event, tournament or similar activity which was in progress prior to 10:00 p.m. for no more than one (1) day in any seven (7) day period, lasting no later than 11:00 p.m.

(ii) For facilities owned, leased or otherwise controlled by the city, light usage may be extended to allow activities to conclude after 11:00 p.m. with approval of the parks and recreation director. For approval, the activity must be part of a league, season or tournament which has an immediate completion deadline.

(i) Permitted class II lighting may be operated anytime (walkways, roadways, equipment yards, parking areas and outdoor security).

(j) The maximum outdoor initial computed or measured illuminance level on an establishment property shall not exceed twenty-five (25) footcandles at any point, except that lighting under canopies (such as service stations) shall not exceed forty (40) footcandles.

(k) Laser source and strobe lights, in addition to other high intensity light sources for advertising or entertainment, shall not be projected above the horizontal plane, unless a permit is obtained for specific events and timeframes.

(l) Searchlights are prohibited unless required in an emergency as declared by the city, or permitted as a part of a permitted special event in which the operating hours are from dusk to 9 p.m.

(m) *General review standard.* If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design and height standards set forth in (n) and (o) below shall be deemed to not adversely affect adjacent properties or the community.

(n) *Design standards.* Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:

1. Light sources shall be concealed or shielded with shielding, skirts, or cut-offs with an angle not exceeding 90 degrees to minimize the potential for glare and unnecessary diffusion on adjacent property. For purposes of this provision, "cutoff angle"

is defined as the angle formed by a line drawn from the direction of light rays at the light source or reflector, and a line perpendicular to the ground from the light source above from which no light is emitted.

2. Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize local lighting that defines the space without glare. Floodlights shall not be utilized to light all or any portion of a building facade after normal business hours, except that if the seating area of a restaurant is closed and a drive-through remains open, the business shall be determined as open.

3. The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.

4. All outdoor lights that are not necessary for security purposes shall be reduced, controlled by photosensors or timers, activated by motion sensor detectors, or turned off during non-operating hours.

5. Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.

6. For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roof line.

7. No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.

(o) Height standards for lighting.

1. In MU-DT, MU-TR, and MU-TS Districts—Downtown. All exterior lighting luminaires shall be mounted no higher than 15 feet.

2. In C-3 District—President George Bush Turnpike Corridor south. All exterior lighting luminaires shall be mounted no higher than 25 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 35 feet, and exterior lighting luminaires within residential developments shall be mounted no higher than

	15 feet. 3. In MU-WF District—Waterfront Area. All exterior lighting luminaires shall be mounted no higher than 15 feet. 4. In other zoning districts and existing residential dwellings. All exterior lighting luminaires shall be mounted no higher than 15 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 25 feet.
77-510. J. Plan submittal and appeal.	*Plan submittal and appeal.* (a) The applicant for any permit required by any provision of the laws of this city in connection with the proposed work involving outdoor lighting fixtures shall submit (as part of the application for a building permit) evidence that the proposed work will comply with this article. In order to determine compliance, the submission shall, at a minimum, contain the following information: 1. Plans indicating the location on the premises, and the type of illuminating devices, fixtures, lamps, supports, reflectors and other devices; 2. Description of the illuminating devices, fixtures, lamps, supports, reflectors, automatic controls and other devices may include, but is not limited to, catalog cuts by manufacturers and drawings (including sections where required); and 3. Photometric data, such as that furnished by manufacturers, or similar data showing the angle of cutoff fixtures or light emissions. (b) Lighting plan requirement for new developments. All new developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan or subdivision application. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights. (c) The above required plans, description and data shall be sufficiently complete to enable the plans examiner to readily determine whether the proposed lighting complies with the requirements of this article. If such plans, descriptions and data cannot enable this ready determination, by reason of the nature of configuration of the devices, fixtures or lamps proposed, the applicant shall additionally provide reports of tests submitted a plan review and verified by an

	engineer in the field. (d) If any subdivision proposes to have installed street or other common public area outdoor lighting, the site plan shall contain a statement certifying that the applicable provisions of this article, the City of Rowlett Outdoor Lighting Code, will be adhered to. (e) Should an applicant wish to change any outdoor light fixture or the type of light after the permit has been issued, the applicant shall submit a change request, together with adequate information to assure compliance with this article, to the approving authority for approval. No substitution is permitted until the change request is granted by the approving authority. (f) Appeal of any decision made by the approving authority under this article will be heard by the Planning & Zoning Commission.
77-510. K. Offenses.	*Offenses.* (a) It shall be an offense for any person to intentionally, knowingly, or recklessly emit or cause to be emitted a light nuisance: 1. In a public place; or 2. On private property that the person has no right to occupy. (b) It shall be an offense for a person to intentionally, knowingly, or recklessly make, cause to be made, or allow a light nuisance on property owned by them or subject to their care, custody or control. (c) The issuance of a certificate of occupancy, land occupancy permit, or other permit issued by City of Rowlett shall not be a defense to prosecution under this article unless otherwise expressly provided in this article.
77-510. L. Enforcement.	*Enforcement.* The city manager or the manager's designee shall have authority to enforce this article if: 1. *A complaint is filed,* 2. *The nuisance is obvious, or* 3. *Significant new lighting is installed.*
77-510. M. Penalty.	*Penalty.* (a) It shall be an offense to intentionally or knowingly fail to comply with

	any provision of this article. Any person intentionally or knowingly violating a provision of this article shall be punished by a fine not to exceed two-thousand dollars ($2,000.00). Each day a violation occurs shall constitute a separate offense. (b) Repeat and habitual offenders. 1. If it is shown on the trial of an offense under this article that the defendant has previously been finally convicted of an offense under this article, on conviction the person shall be punished by a fine of not less than five hundred dollars ($500.00). 2. If it is shown on the trial of an offense under this article that the defendant has previously been finally convicted of two (2) or more offenses under this article, on conviction the person shall be punished by a fine of not less than one thousand dollars ($1,000.00). 3. This subsection for repeat and habitual offenders applies only to a person finally convicted of a second or subsequent offense within three (3) years of the date on which the most recent preceding offense was committed.

Financial/Budget Implications
N/A

Recommended Action
Continue the public hearing and consider adoption of the ordinance. Council may approve, approve with conditions, or deny the proposed ordinance.
See attached Ordinance.

Attachments
1. Current Ordinance - Exterior lighting.
2. Proposed Ordinance - Exterior Lighting

Sec. 77-510. Exterior lighting.

A. *Purpose.* The general purpose of this section is to require outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment. Additional specific purposes are to:

1. Provide safety and personal security as well as convenience and utility in areas of public use or traverse, for uses where there is outdoor public activity during hours of darkness;
2. Control glare and excessive brightness to improve visual performance, allow better visibility with relatively less light, and protect residents from nuisance and discomfort;
3. Control trespass light onto neighboring properties to protect inhabitants from the consequences of stray light shining in inhabitants' eyes or onto neighboring properties;
4. Result in cost and energy savings to establishments by carefully directing light at the surface area or activity to be illuminated, using only the amount of light necessary; and
5. Control light pollution to minimize the negative effects of misdirected light and recapture views to the night sky.

B. *Applicability.*

1. *General.* All exterior lighting for any type of residential or nonresidential development shall comply with the standards of this section, unless exempted in below.

(a) *Lighting plan requirement.* All nonresidential developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan or subdivision application. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.

(b) *Exempt lighting.* The following types of lighting are exempt from the requirements of this section.

(1) Soffit or wall-mounted luminaries that are permanently attached to single-family residential dwellings, not to exceed the height of the eave, and that do not produce glare onto adjacent properties or public streets.

(2) Public street and right-of-way lighting.

(3) Temporary decorative seasonal lighting provided that individual lamps have a light output of 200 lumens or less.

(4) Temporary lighting for emergency or nighttime work and construction.

(5) Temporary lighting for theatrical, television, and performance areas, or for authorized special events.

(6) Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.

(7) Lighting required and regulated by the Federal Aviation Administration.

(8) Internally illuminated signs.

(9) Lighting for outdoor recreational uses such as ball diamonds, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:

i. Maximum permitted light post height: 80 feet.

ii. Maximum permitted illumination at the property line: two footcandles.

iii. Limits on hours of illumination: Exterior lighting shall be extinguished no later than 11:00 p.m. A waiver or deviation from this requirement may be granted by the city council.

(c) *General review standard.* If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design and height standards set forth in (d) and (e) below shall be deemed to not adversely affect adjacent properties or the community.

(d) *Design standards.* Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:

(1) Light sources shall be concealed or shielded with luminaries with shielding, skirts, or cut-offs with an angle not exceeding 90 degrees to minimize the potential for glare and unnecessary diffusion on adjacent property. For purposes of this provision, "cutoff angle" is defined as the angle formed by a line drawn from the direction of light rays at the light source or reflector, and a line perpendicular to the ground from the light source above from which no light is emitted. [Illustration needed.]

(2) Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize local lighting that defines the space without glare. Floodlights shall not be utilized to light all or any portion of a building facade after normal business hours, except that if the seating area of a restaurant is closed and a drive-through remains open, the business shall be determined as open.

(3) The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.

(4) In no case shall exterior lighting add more than one footcandle to illumination levels at any point off-site. [Illustration needed.]

(5) All outdoor light not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.

(6) Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.

(7) For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roof line.

(8) No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.

(e) *Height standards for lighting.*

(1) *In MU-DT, MU-TR, and MU-TS Districts—Downtown.* All exterior lighting luminaries shall be mounted no higher than 15 feet.

(2) *In C-2 District—Lakeview Parkway Corridor.* All exterior lighting luminaries shall be mounted no higher than 15 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 25 feet.

(3) *In C-3 District—President George Bush Turnpike Corridor south.* All exterior lighting luminaries shall be mounted no higher than 25 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 35 feet, and exterior lighting luminaries within residential developments shall be mounted no higher than 15 feet.

(4) *In MU-WF District—Waterfront Area.* All exterior lighting luminaries shall be mounted no higher than 15 feet.

(5) *In other zone districts.* All exterior lighting luminaries shall be mounted no higher than 15 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 25 feet.

(Ord. No. 025-06, § 1(Exh. A), 6-6-2006; Ord. No. 016-09, § 21, 6-2-2009; Ord. No. 022-14, § 7, 6-3-2014)

AN ORDINANCE OF THE CITY OF ROWLETT, TEXAS, AMENDING THE COMPREHENSIVE ZONING ORDINANCE OF THE CITY OF ROWLETT, AS HERETOFORE AMENDED, BY AMENDING CHAPTER 77 "DEVELOPMENT CODE," CHAPTER 77-500 "DEVELOPMENT AND DESIGN STANDARDS," BY REPEALING AND REPLACING IN ITS ENTIRETY SECTION 77-510 "EXTERIOR LIGHTING;" PROVIDING FOR A SAVINGS CLAUSE; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF TWO THOUSAND ($2,000.00) DOLLARS FOR EACH OFFENSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Planning and Zoning Commission of the City of Rowlett, Texas and the governing body of the City of Rowlett in compliance with the laws of the State of Texas and the Ordinances of the City of Rowlett, have given requisite notice by publication and otherwise, and after holding due hearings and affording a full and fair hearing to all property owners generally and to all persons interested and situated in the affected area and in the vicinity thereof, and in the exercise of its legislative discretion, the City Council has concluded that the Comprehensive Zoning Ordinance should be amended.

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

SECTION 1. The Comprehensive Zoning Ordinance of the City of Rowlett, Texas, as heretofore amended, is hereby further amended at Chapter 77 "Development Code," Chapter 77-500, "Development and Design Standards" by repealing and replacing in its entirety section 77-510 "Exterior lighting" to read in its entirety as follows:

"Sec. 77-510. Exterior Lighting

A. *Purpose.* The general purpose of this section is to require outdoor lighting that is adequate for safety and convenience; in scale with the activity to be illuminated and its surroundings; directed to the surface or activity to be illuminated; and designed to clearly render people and objects and contribute to a pleasant nighttime environment. Additional specific purposes are to:

1. Provide safety and personal security as well as convenience and utility in areas of public use or traverse, for uses where there is outdoor public activity during hours of darkness;

2. Control glare and excessive brightness to improve visual performance, allow better visibility with relatively less light, and protect residents from nuisance and discomfort;

3. Control trespass light onto neighboring properties to protect inhabitants from the consequences of stray light shining in inhabitants' eyes or onto neighboring properties;

4. Result in cost and energy savings to establishments by carefully directing light at the surface area or activity to be illuminated, using only the amount of light necessary; and

5. Control light pollution to minimize the negative effects of misdirected light and recapture views to the night sky.

B. *Applicability.*

1. *General.* This article applies to:

(a) New construction in commercial, industrial, and residential areas beginning on the date of the adoption by the City Council of the City Of Rowlett.

(b) Existing Light fixtures that exceed the limitations in section D.

C. *Definitions.*

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Approving authority means City of Rowlett or its duly authorized deputy, agent or representative.

Candela means the unit of luminous intensity in a given direction.

Class I lighting means lighting used outdoors where color rendition is important, including, but not limited to, in areas for sales, recreation, assembly, eating, repair, advertising displays, billboards, and other signs.

Class II lighting means lighting used outdoors where color rendition is not important, including, but not limited to, illumination for walkways, roadways, equipment yards, parking areas, and outdoor security.

Cutoff fixture means a fixture that provides a shielding of the light emitted.

Diffusing luminaire means a luminaire that scatters light substantially in all directions as contrasted with a directional luminaire which confines its light principally in an angle of less than one hundred eighty (180) degrees.

Floodlight means a luminaire designed to project its light in a well-defined area and is directional in character.

Floodlight beam means the angular spread of light between two (2) rectangular planes each of which equal ten (10) percent of the maximum candelas within the beam.

Footcandle means the amount of illumination provided by one (1) lumen uniformly distributed on one (1) square foot of surface.

Fixture means the assembly that holds the lamp in a lighting system. It includes the elements designed to give light output control, such as a reflector (mirror) or defractor (lens), the ballast, housing and the attachment parts.

Fluorescent lamp means a usually tubular electric lamp having a coating of fluorescent material on its inner surface and containing mercury vapor whose bombardment by electrons from the cathode provides ultraviolet light which causes the material to emit visible light.

Fully shielded means light fixtures that are constructed so all light rays emitted by the fixture are projected below the horizontal plane passing through the lowest point on the fixture from which light is emitted, nearly one-hundred (100) percent cut-off type, as evidenced by the manufacturers photometric data.

Glare means direct lighting emitted from a luminary that causes reduced vision or temporary blindness.

High pressure sodium (HPS) means a high intensity discharge lamp where radiation is produced from sodium vapor at relatively high partial pressures (above one (1) atm).

Horizontal plane means a line horizontal to the lowest point on the fixture from which light is emitted.

Illumination means the density of the luminous flux (lumens) incident on a surface. It is the quotient of the luminous flux divided by the area of the surface, expressed in footcandles and often referred to as ‘brightness’.

Incandescent lamp means any lamp that produces light by heating a filament through use of an electric current.

Installed means attached or fixed in place, whether or not connected to a power source or any outdoor light fixture.

Lamp means the source of electric light. To be distinguished from the whole assembly, lamp is used to denote the bulb and its housing.

Light emitting diode (LED) means a semiconductor diode that emits light when a voltage is applied to it and that is used especially in electronic devices (as for an indicator light).

Light nuisance means light that is likely to cause unreasonable discomfort or distress to a reasonable person or to unreasonably interfere with the use or enjoyment of property.

Light source means a device (such as a lamp) which produces visible energy as distinguished from devices or bodies which reflect or transmit light such as a luminaire.

Light trespass means light falling outside the boundary of property for which it was originally intended or needed. Also referred to as spillover light or obtrusive light.

Low pressure sodium (LPS) means a discharge lamp where the light is produced by radiation from sodium vapor at a relatively low partial pressure (below 1 atm). LPS is a "tube source" monochromatic light.

Lumen means the quantity of luminous flux intercepted by a surface of one (1) square foot, all points of which are one (1) foot from a uniform source of one (1) candela. A one-candela source provides 12.57 lumens.

Luminaire means a device or fixture containing a light source and means for directing and controlling the distribution of light from the source.

Luminance means the luminous intensity per unit projected area of a given surface viewed from a given direction for purposes of this article expressed in candelas divided by distance squared.

Mercury lamp means a high intensity discharge lamp where light is produced by radiation from mercury vapor.

Metal halide lamp means a high intensity discharge lamp where light is produced by radiation from metal halide vapor.

Neon, krypton or argon discharge tubes means family of artificial light sources that generate light by sending an electric discharge through an ionized gas, a plasma.

Outdoor lighting fixture means an outdoor artificial illumination device, whether permanent or portable, used for illumination outdoors, including, but not limited to, devices used for search, spot, or flood lighting and area lighting for buildings, structures, recreational facilities, parking, landscape, advertising displays, billboards, signs, public and private streets, and walkways.

Partially shielded means shielding so that the lower edge of the shield is at or below the centerline of the light source or lamp so as to minimize light transmission above the horizontal plane, or at least ninety (90) percent of the emitted light projects below the horizontal plane as evidenced by the manufacturer's photometric data.

Photometric means quantitative measurements of light levels and distribution.

Shielding means a physical structure intended to restrict emitted light.

Watt means the standard unit of power in the International System of Units (SI), equivalent to one (1) joule per second and equal to the power in a circuit in which a current of one (1) ampere flows across a potential difference of one (1) volt; 1000 watts is equal to one (1) kilowatt.

D. *Presumptions.*

(a) Light is presumed to be unreasonable and declared a light nuisance if the illumination or luminance is in excess of the limitations, or if the luminaire is improperly shielded, as provided in the tables below:

Table 1: Illumination Limits

Zoning Category	Footcandles	
	Horizontal	Vertical
Single-family and two-family residential districts	0.25	0.25
Multiple-family residential districts	0.5	0.5
Nonresidential districts	3.0	3.0
Light industrial districts	5.0	5.0
(A) The limit of illumination on neighboring property from one (1) establishment shall be based on the zoning category of the neighboring property. (B) Maximum computed or measured footcandles at the neighboring property line shall not exceed the limits found in this table.		

Table 2: Calculated Luminance Limits

Zoning Category	Limit
Single-family and two-family residential districts	0.02 footcandles
Multiple-family residential districts	0.05 footcandles
Nonresidential districts	0.30 footcandles
Light industrial districts	0.50 footcandles
(A) The permitted luminance on neighboring property from one (1) establishment shall be calculated based on the zoning of the neighboring property. (B) The luminance as calculated in Section 77-510 H. (b) shall not exceed the value based on zoning category.	

Table 3: Shielding Requirements

Lamp Type	Class I Lighting-Color Rendition Important	Class II Lighting-Color Rendition Not Important
Low pressure sodium (LPS)	Fully shielded	Fully shielded
High pressure sodium (HPS)	Fully shielded	Fully shielded
Metal halide	Fully shielded	Fully shielded
Mercury vapor	Prohibited	Prohibited
Fluorescent	Partially or fully shielded	Fully shielded
Incandescent (over 150 watts/fixture)	Partially or fully shielded	Prohibited
Incandescent (under 150 watts/fixture)	Partially or fully shielded	Partially or fully shielded
Any light source 50 watts and under	Unshielded permitted	Unshielded permitted
Low intensity Neon, Krypton or Argon discharge tubes	Unshielded permitted	Unshielded permitted
Light emitting diode (LED)	Fully shielded	Fully shielded
(A) Shielding requirements apply to all outdoor lighting installations as specified in this table.		

E. *Affirmative defenses.*

(a) It shall be an affirmative defense to prosecution under this article that:

(1) The lighting is installed by a governmental agency for public benefit on public rights-of-way, parks, and public recreation areas;

(2) The lighting is emergency lighting by police, fire, and/or municipal, state, or federal government authorities;

(3) Temporary decorative seasonal lighting may be illuminated no more than 45 days before the holiday and shall not be illuminated 30 days after the holiday, provided holiday lights can be lit from 4pm to 11pm each day;

(4) The lighting is for public or private school outdoor recreational uses, including, but not limited to ball diamonds, playing fields, and tennis courts, if shielded to minimize light and glare from spilling over onto a residential zoned property. To constitute an affirmative defense, the maximum permitted illumination at the residential property line may not exceed two (2) foot-candles;

(5) Illumination at interior property lines on contiguous lots in a multi-tenant, non-residential development exceeds the limitations in subsection 77-510 D. when the approving authority determines it necessary to provide adequate and constant lighting levels of adjoining parking areas, fire lanes and interior access roadways.

F. *Exemptions.*

(a) Permanent exemptions.

(1) Navigation and airport lighting required by the FAA for operation of aircraft are exempt from this article.

(2) Emergency lighting by police, fire and/or other municipal, state or federal government authorities and hospitals are exempt from this article.

(3) Seasonal decorative street lighting is exempt from this article.

(4) Public street and right-of-way lighting.

(5) Temporary decorative seasonal lighting provided that individual lamps have a light output of 200 lumens or less.

(6) Temporary lighting for emergency or nighttime work and construction.

(7) Temporary lighting for theatrical, television, and performance areas, or for authorized special events.

(8) Lighting for a special district, street, or building that, according to an adopted municipal plan or ordinance, is determined to require special lighting aesthetics as part of its physical character.

(9) Lighting for outdoor recreational uses such as ball diamonds, playing fields, tennis courts, and similar uses, provided that such uses comply with the following standards:

i. Maximum permitted light post height: 80 feet.

ii. Maximum permitted illumination at the property line: two footcandles.

iii. Limits on hours of illumination: Exterior lighting shall be extinguished no later than 11:00 p.m. A waiver or deviation from this requirement may be granted by Special Use Permit. A temporary waiver or deviation may be granted by the City Manager or designee for up to three (3) days.

(b) Temporary exemptions.

(1) The approving authority may approve temporary exemptions from the requirements of this article provided the duration of the approval is not more than fourteen (14) days from the date of approval. Temporary exemptions may be granted for two (2), two-week periods each calendar year per legal business having a valid certificate of occupancy. A two-week period will commence on the day the exemption is approved. The two (2),

two-week periods shall not occur in the same or consecutive months. A legal business shall include any commercial, industrial, or institutional use for which a certificate of occupancy is issued.

(2) Any person may submit a written request, on a form prepared by the city, to the approving authority for a temporary exemption request. The request shall contain the following information:

a. Specific exemption(s) requested.

b. Type/use of outdoor lighting fixture involved.

c. Duration of time requested.

d. Type of lamp and calculated footcandles.

e. Total wattage of lamp(s).

f. Proposed location of fixtures.

g. Previous temporary exemption requests.

h. Physical side of fixtures and type of shielding to be provided.

i. Such other data or information as may be required by the approving authority.

j. The approving authority shall have five (5) working days from the date of the submission request to act, in writing, on the request.

(3) Requests for renewal of exemptions shall be processed in the same way as the original request. Each renewal shall be valid for not more than fourteen (14) days.

(4) Approval of temporary exemptions will be based on the effect of location and use of outdoor lighting fixtures.

G. *Illumination computation.*

Illumination at a point may be computed in lieu of measurement. Computation methods shall consist of a generally accepted Illuminating Engineering Society method, using certified photometric data furnished by the fixture manufacturer, lamp manufacturer, photometric laboratory, or other reliable authority satisfactory to the city. Computations shall be based on new, properly seasoned lamps, new and clean fixtures, and at rated voltage and wattage, with ballasts, lenses, shields, diffusers, and other appurtenances in place, and with proper regard taken for mounting height, relative elevation, natural and manmade objects.

H. *Luminance calculation.*

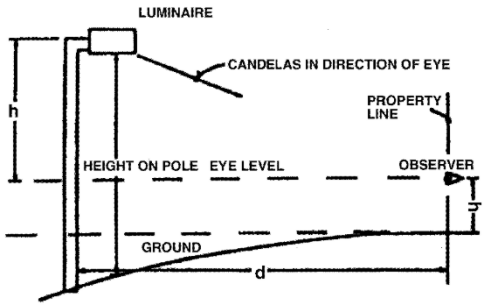
(a) Calculations generally. If illumination measurements are not practical and no other means of measuring fixture luminance is immediately available, a computational method as defined in section 77-510 H. (b) for measuring luminance may be used to determine compliance with this article.

(b) Luminance calculations using luminaire photometric data. For the purpose of this article, the luminance shall be computed by the formula:

$$L = \frac{I}{(d^2 + h^2)}$$

Where I is the fixture candelas in the direction of the point from which the calculations are to be made, d is the shortest distance in feet measured horizontally from the property line to a point directly under the luminaire, and h is the height of the luminaire above the eye level as explained in figure A below.

Figure A: Factors for Luminance Determination



I. *General requirements.*

(a) Hours of operation shall be complied with in all installations, except as specified in subsection (h).

(b) Outdoor advertising, displays, and signs not exclusively illuminated internally, may only utilize illuminating devices mounted on the top and pointing downward on the advertising display structure. All such installations shall comply with all other provisions of this article.

(c) Exterior outdoor lights shall be constructed and installed in a manner consistent with this article and shall be located so as not to produce direct illumination across the building property line.

(d) Sky glow external outdoor lights shall be constructed and installed in a manner so as to conform with the requirements in subsection 77-510 D.(a)(1).

(e) Light trespass from external outdoor lights shall be constructed and installed in a manner so as to conform with requirements of this article.

(f) Luminaires which are directed toward a viewer shall be aimed in such a manner that the viewer's eye, at least five (5) feet above grade at or beyond the property line, shall not be exposed to fixture luminance within the floodlight beam of the luminaire.

(g) Outdoor advertising signs constructed of translucent materials and wholly illuminated from within do not require shielding.

(h) Class I lighting used for illumination of:

(1) Outdoor sales and eating areas, on-site advertising, assembly areas, repair areas and businesses may be operated during the hours that the facility is open to the public.

(2) Off-site advertising displays and billboards or signs may be operated from dusk to 11:00 p.m. only, unless fully shielded and pointing downwards from the horizontal plane.

(3) (i) Recreational and sporting areas may operate from dusk to 10:00 p.m. except to conclude a specific recreational or sporting event, tournament or similar activity which was in progress prior to 10:00 p.m for no more than one (1) day in any seven (7) day period, lasting no later than 11:00 p.m.

(ii) For facilities owned, leased or otherwise controlled by the city, light usage may be extended to allow activities to conclude after 11:00 p.m. with approval of the parks and recreation department. For approval, the activity must be part of a league, season or tournament which has an immediate completion deadline.

(i) Permitted class II lighting may be operated anytime (walkways, roadways, equipment yards, parking areas and outdoor security).

(j) The maximum outdoor initial computed or measured illuminance level on an establishment property shall not exceed twenty-five (25) footcandles at any point, except that lighting under canopies (such as service stations) shall not exceed forty (40) footcandles.

(k) Laser source and strobe lights, in addition to other high intensity light sources for advertising or entertainment, shall not be projected above the horizontal plane, unless a permit is obtained for specific events and timeframes.

(l) Searchlights are prohibited unless required in an emergency as declared by the city, or permitted as a part of a permitted special event in which the operating hours are from dusk to 9 p.m.

(m) *General review standard.* If installed, all exterior lighting shall meet the functional security needs of the proposed land use without adversely affecting adjacent properties or the community. For purposes of this section, properties that comply with the design and height standards set forth in (d) and (e) below shall be deemed to not adversely affect adjacent properties or the community.

(n) *Design standards.* Exterior lighting is not required except for purposes of public safety. However, if installed, all exterior lighting shall meet the following design standards:

(1) Light sources shall be concealed or shielded with luminaries with shielding, skirts, or cut-offs with an angle not exceeding 90 degrees to minimize the potential for glare and unnecessary diffusion on adjacent property. For purposes of this provision, "cutoff angle" is defined as the angle formed by a line drawn from the direction of light rays at the light source or reflector, and a line perpendicular to the ground from the light source above from which no light is emitted.

(2) Parking lots and other background spaces shall be illuminated as unobtrusively as possible while meeting the functional needs of safe circulation and protection of people and property. Foreground spaces, such as building entrances and outside seating areas, shall utilize local lighting that defines the space without glare. Floodlights shall not be utilized to light all or any portion of a building facade after normal business hours, except that if the seating area of a restaurant is closed and a drive-through remains open, the business shall be determined as open.

(3) The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site.

(4) All outdoor lights that are not necessary for security purposes shall be reduced, activated by motion sensor detectors, or turned off during non-operating hours.

(5) Light fixtures used to illuminate flags, statues, or any other objects mounted on a pole, pedestal, or platform shall use a narrow cone beam of light that will not extend beyond the illuminated object.

(6) For upward-directed architectural, landscape, and decorative lighting, direct light emissions shall not be visible above the building roof line.
(7) No flickering or flashing lights shall be permitted, except for temporary decorative seasonal lighting.

(o) *Height standards for lighting.*

(1) *In MU-DT, MU-TR, and MU-TS Districts—Downtown.* All exterior lighting luminaries shall be mounted no higher than 15 feet.
(2) *In C-3 District—President George Bush Turnpike Corridor south.* All exterior lighting luminaries shall be mounted no higher than 25 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 35 feet, and exterior lighting luminaries within residential developments shall be mounted no higher than 15 feet.
(3) *In MU-WF District—Waterfront Area.* All exterior lighting luminaries shall be mounted no higher than 15 feet.
(4) *In other zone districts.* All exterior lighting luminaries shall be mounted no higher than 15 feet, except that lighting in parking lots containing more than 100 spaces shall have a maximum height of 25 feet.

J. *Plan submittal and appeal.*

(a) The applicant for any permit required by any provision of the laws of this city in connection with the proposed work involving outdoor lighting fixtures shall submit (as part of the application for a building permit) evidence that the proposed work will comply with this article. In order to determine compliance, the submission shall, at a minimum, contain the following information:

(1) Plans indicating the location on the premises, and the type of illuminating devices, fixtures, lamps, supports, reflectors and other devices;

(2) Description of the illuminating devices, fixtures, lamps, supports, reflectors, automatic controls and other devices may include, but is not limited to, catalog cuts by manufacturers and drawings (including sections where required); and

(3) Photometric data, such as that furnished by manufacturers, or similar data showing the angle of cutoff fixtures or light emissions.

(b) *Lighting plan requirement for new developments.* All new developments shall submit a proposed exterior lighting plan. The plan must be submitted concurrently with the site plan or subdivision application. The exterior lighting plan shall include plans and specifications for streetlights, parking lot lights, and exterior building lights. The specifications shall include details of the pole, fixture height and design, lamp type, wattage, and spacing of lights.

(c) The above required plans, description and data shall be sufficiently complete to enable the plans examiner to readily determine whether the proposed lighting complies with the requirements of this article. If such plans, descriptions and data cannot enable this ready determination, by reason of the nature of configuration of the devices, fixtures or lamps proposed, the applicant shall additionally provide reports of tests submitted a plan review and verified by an engineer in the field.

(d) If any subdivision proposes to have installed street or other common public area outdoor lighting, the site plan shall contain a statement certifying that the applicable provisions of this article, the City of Rowlett Outdoor Lighting Code, will be adhered to.

(e) Should an applicant wish to change any outdoor light fixture or the type of light after the permit has been issued, the applicant shall submit a change request, together with adequate information to assure compliance with this article, to the approving authority for approval. No substitution is permitted until the change request is granted by the approving authority.

(f) Appeal of any decision made by the approving authority under this article will be heard by the Planning & Zoning Commission.

K. *Offenses.*

(a) It shall be an offense for any person to intentionally, knowingly, or recklessly emit or cause to be emitted a light nuisance:

(1) In a public place; or

(2) On private property that the person has no right to occupy.

(b) It shall be an offense for a person to intentionally, knowingly, or recklessly make, cause to be made, or allow a light nuisance on property owned by them or subject to their care, custody or control.

(c) The issuance of a certificate of occupancy, land occupancy permit, or other permit issued by City of Rowlett shall not be a defense to prosecution under this article unless otherwise expressly provided in this article.

L. Administrative Guidance

The city is authorized to promulgate one or more interpretive documents to aid in the administration of, and compliance with, this Section. Such interpretive documents shall be educational only and shall not constitute regulations, amendments, or exceptions.

M. *Enforcement.*

The city manager or the manager's designee shall have authority to enforce this article.

N. *Penalty.*

(a) It shall be an offense to intentionally or knowingly fail to comply with any provision of this article. Any person intentionally or knowingly violating a provision of this article shall be punished by a fine not to exceed two-thousand dollars ($2,000.00). Each day a violation occurs shall constitute a separate offense.

(b) Repeat and habitual offenders.

(1) If it is shown on the trial of an offense under this article that the defendant has previously been finally convicted of an offense under this article, on conviction the person shall be punished by a fine of not less than five hundred dollars ($500.00).

(2) If it is shown on the trial of an offense under this article that the defendant has previously been finally convicted of two (2) or more offenses under this article, on conviction the person shall be punished by a fine of not less than one thousand dollars ($1,000.00).

(3) This subsection for repeat and habitual offenders applies only to a person finally convicted of a second or subsequent offense within three (3) years of the date on which the most recent preceding offense was committed."

SECTION 2. In the event of an irreconcilable conflict between the provisions of another previously adopted ordinance of the City of Rowlett and the provisions of this Ordinance, the provisions of this Ordinance shall be controlling.

SECTION 3. Should any word, sentence, paragraph, subdivision, clause, phrase or section of this ordinance, as amended hereby, be adjudged or held to be void or unconstitutional, the same shall not affect the validity of the remaining portions of said ordinance, or the Rowlett Code of Ordinances, as amended hereby, which shall remain in full force and effect.

SECTION 4. An offense committed before the effective date of this Ordinance is governed by prior law and the provisions of the Rowlett Code of Ordinances, as amended, in effect when the offense was committed, and the former law is continued in effect for this purpose.

SECTION 5. This ordinance shall take effect immediately from and after its passage.

4923-3200-2996, v. 1

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 5.B.

Title
Conduct a public hearing and consider action to adopt a resolution adopting the City's 2026 Community Development Block Grant Annual Action Plan; and authorize the City Manager to execute and submit all documentation and certifications to the United States Department of Housing and Urban Development (HUD).

Staff Representative
Munal Mauldadad, Interim Asst City Manager
Susan Nix, Sr. Administrative Assistant - CIP

Executive Summary
HUD has allocated $316,079 in Community Development Block Grant (CDBG) funds to the City for the 2026 Plan Year (October 1, 2026 - September 30, 2027). The purpose of this agenda item is to conduct a public hearing as required by HUD and provide authorization to the City Manager to transmit the 2026 Annual Action Plan to HUD. The Annual Action Plan contains the allocation of funds by activity for the 2026 Plan year as required by HUD.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
GOVERN TRANSPARENTLY & INCLUSIVELY	1.8 Provide accurate and timely information to policy-makers and the public.

Background Information
The City has been receiving CDBG funds since 2006. These funds are required to be expended in a manner that meets one of the three national objectives listed below:

1. Directly assist low-income persons
2. Eliminate slum and blight
3. Urgent community need (disaster relief).

At their August 5, 2025, meeting, the City Council approved Resolution RES-091-25 adopting the 2026-2030 CDBG 5-year Consolidated Plan. The Consolidated Plan assists local jurisdictions in assessing their affordable housing and community development needs. The plan is implemented through Annual Action Plans, which summarize the actions, activities, and federal resources used each year to address the priorities and needs detailed in the Consolidated Plan.

At their June 1st Work Session, the City Council received a presentation regarding the Annual Plan and proposed funding allocations. There was consensus to proceed with the Annual Plan as presented. HUD requires that a public hearing be held and the City Council take action on a resolution authorizing the transmittal of the 2026 Annual Plan to HUD. This plan is required to be submitted to HUD no later than August 16, 2026.

Discussion

The City has been granted $316,079 from HUD for the CDBG program for the 2026 plan year (October 1, 2026 – September 30, 2027). As required by HUD and in preparation of this year's Annual Action Plan, two public meetings were held on May 19, 2026, at 10:00AM and 6:00PM. The purpose of these meetings was to present to the community a list of allowable CDBG eligible activities and proposed funding amounts to be budgeted for those activities. These meetings are intended to solicit public comments. No comments were received.

As required by Federal regulations, CDBG funds may be used to support projects that assist low- and moderate-income citizens, remove slum and blight, or for urgent needs (disaster relief).

Eligible activities include:

Public services (limited to 15%)

- Employment services (e.g., job training);
- Crime prevention and public safety;
- Child care;
- Health services;
- Substance abuse services (e.g., counseling and treatment);
- Fair housing counseling;
- Education programs;
- Energy conservation;
- Services for senior citizens;
- Services for homeless persons;
- Welfare services (excluding income payments);
- Down payment assistance; and
- Recreational services.

Public Facilities (minimum 65%)

- Improvements to public facilities (parks, streets, alleys, sidewalks, community centers)
- Affordable housing projects (housing rehabilitation, homebuyer assistance, acquisition)
- Code enforcement
- Demolition

Funding Allocation Caps:

- Administration is capped at 20%
- Public Services is capped at 15%
- The remaining 65% of funds is available for Public Facility/Infrastructure projects.

As presented, at the June 1st work session, there was City Council consensus to proceed with the following allocations.

1. Public Service: Of $47,412 the maximum permitted $32,412 is proposed to be allocated to the Salvation Army to provide mortgage and rental assistance and $15,000 to continue the Police Department Crime Prevention Program. The Salvation Army has a proven track record in supporting low- and moderate-income households for mortgage, rental, and utility assistance. The crime prevention program is designed to improve interactive positive community policing.
2. Public Facilities: The minimum permitted amount of $205,451 is proposed to be allocated to the alley located behind Randi Road. This 949 linear foot alley needs to be rehabilitated because it has a PCI rating of 27/25 (failed). The estimated reconstruction cost of this alley is $390,000, which exceeds the allocated amount of $205,451. The unexpended grant funds from prior years can be used to bridge the fund gap. The plan may be amended if other infrastructure improvements are needed.
3. Administration: The maximum permitted amount of $63,216 will be allocated to grant management.

Activities funded by the Community Development Block Grant (CDBG) program are

designed to benefit low- and moderate-income (LMI) persons. That benefit may take the form of housing, jobs, and services. Additionally, activities may qualify for CDBG assistance if the activity benefits all the residents of a primarily residential area where at least 51% of the residents are low- and moderate-income persons. Such area-benefit activities include things such as parks, neighborhoods, facilities, community centers and streets.

CDBG authorizes an exception for communities, like the City of Rowlett, that have no or very few areas in which 51% of the residents are low- and moderate-income. For these areas, HUD authorizes a 2026 exception allowing activities if 38.2% of residents meet the current year's Area Median Income (AMI).

In summation, the proposed budget for the 2026 Plan Year will be transmitted as follows;

Project Description	Percentage	Amount
Public Facilities	65%	**$205,451**
– Lake Crest III & IV Addition (Randi Rd)		*$205,451*
Public Services	15%	**$47,412**
- Crime Prevention Program		*$15,000*
- Salvation Army Rental/Mortgage Assistance		*$32,412*
Administration	20%	**$63,216**
2026 Grant Total		**$316,079**

Figure 1: Randi Rd Alley

Financial/Budget Implications

The program grant funds pay for the direct costs, including administration of the program.

Recommended Action

Move to adopt a resolution adopting the City's 2026 Community Development Block Grant Annual Action Plan; and authorize the City Manager to execute and submit all documentation and certifications to the United States Department of Housing and Urban Development.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS ADOPTING THE CITY'S 2026 COMMUNITY DEVELOPMENT BLOCK GRANT ANNUAL ACTION PLAN; AUTHORIZING THE CITY MANAGER TO EXECUTE AND SUBMIT ALL NECESSARY AND RELATED DOCUMENTATION AND CERTIFICATIONS TO THE UNITED STATES DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD) IN ORDER TO RECEIVE FUNDING THROUGH THE PROGRAM; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Rowlett has the goal of providing a safe, healthy, and quality environment for all residents in the City; and

WHEREAS, the City of Rowlett has been designated as an entitlement community by the United States Department of Housing and Urban Development (HUD) and receives annual allocations of Community Development Block Grant (CDBG) funds to be used to further the achievement of goals, delivery of services, and increase opportunities for residents with low-income or special needs in the City of Rowlett; and

WHEREAS, the City of Rowlett is required to prepare and, after public hearing, to adopt a 2026 Annual Action Plan which outlines programs and funding levels consistent with HUD National Objectives of benefiting low and moderate-income (LMI) persons, aiding in the prevention or elimination of slums or blight; and meeting a need of particular urgency; and

WHEREAS, the City of Rowlett is required to execute and submit related documentation to the U.S. Department of Housing and Urban Development to receive the federal CDBG Program funds; and

WHEREAS, the City Manager has designated the Director of Community Development to oversee environmental compliance and the Director of Human Resources to oversee labor compliance consistent with HUD regulations to administer the CDBG program.

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

Section 1: The recitals above are found to be true and correct and are incorporated herein by this reference.

Section 2: The City Council of the City of Rowlett hereby adopts the 2026 Annual Action Plan for the Community Development Block Grant Program allocation, a copy of which is attached hereto and incorporated herein by this reference as collective **Exhibit A.**

Section 3: The City Council of the City of Rowlett hereby grants, designates and delegates to the City Manager the authority to execute and submit all documentation and certifications necessary to the United States Department of Housing and Urban Development (HUD) in order to receive Community Development Block Grant (CDBG) Program funding to provide and facilitate eligible services and programs for low-income and special need residents in the City.

Section 4: This resolution shall become effective immediately upon its passage.

Attachments

1. Exhibit A - 2026 CDBG Annual Action Plan

CITY OF ROWLETT

2026 ANNUAL ACTION PLAN

For the Purpose of

HUD Community Development Block Grant (CDBG) Funds

Period of Performance:

October 1, 2026 through September 30, 2027

CONTACT:

City of Rowlett Texas
Community Development Department
5702 Rowlett Road
Rowlett, TX 75089

CITY OF ROWLETT
2026 ANNUAL ACTION PLAN

Executive Summary

AP-05 Executive Summary - 24 CFR 91.200(c), 91.220(b)

1. Introduction

The City of Rowlett is located approximately 20 miles northeast of downtown Dallas, north of Interstate 30, in northeastern Dallas County and western Rockwall County. Rowlett Creek and the City of Garland form the western boundary, while more than 30 miles of shoreline along Lake Ray Hubbard define the city's eastern and southern borders. Incorporated in 1952 with a population of approximately 250 residents and only 10 businesses, Rowlett was originally an agricultural community where cotton was the primary industry. Today, Rowlett is a thriving suburban community within the Dallas-Fort Worth-Arlington Metropolitan Statistical Area (Metroplex), one of the nation's largest and fastest-growing metropolitan regions.

According to the U.S. Census Bureau, the City encompasses approximately 22 square miles. Population growth accelerated following the completion of Lake Ray Hubbard in 1971, transforming Rowlett from a small rural town into a vibrant suburban city. The population increased from 1,015 in 1960 to 44,503 in 2000, 56,199 in 2010, and 62,535 in the 2020 Census. The U.S. Census Bureau estimated the population at **68,123** as of July 1, 2024. The most recent Census Bureau estimate (July 1, 2025) places Rowlett's population at **67,890**, reflecting continued long-term growth of approximately **8.5%** since the 2020 Census.

Over the past decade, Rowlett has earned numerous state and national recognitions for its quality of life, economic development, transparency, public safety, and community planning. Recent awards include:

- **2025** – Certified Scenic City **(Platinum Level)** by Scenic Texas; recognized as a **Transparency Trailblazer** by the Texas Comptroller, one of only a limited number of Texas local governments to earn every available Transparency Star.
- **2024** – Fastest-Growing City in Dallas County (Dallas Business Journal).
- **2023** – Economic Excellence Recognition Award (Texas Economic Development Council); designated a Film Friendly Texas Community and a GO TEXAN Community.
- **2022** – #8 Places with the Best Public Schools in Dallas County; #66 Most Diverse Suburbs in Texas; Top 10% Best Places to Buy a House in America.
- **2021** – #44 Best Small City to Start a Business.
- **2020** – Designated an AARP Age-Friendly Community.
- **2019** – Recognized among the nation's fastest-growing cities by the U.S. Census Bureau; Certified Scenic City (Gold Level); ranked #6 among "10 Great Small Towns to Retire" by WTOP News.
- **2018** – #9 Safest City in Texas (SafeHome.org); #41 Safest Cities in Texas (National Council for Home Safety and Security).
- **2017** – #9 Safest City in Texas (SafeHome.org).
- **2016** – #3 Safest Place in Texas (population over 50,000) by ValuePenguin.
- **2015** – #33 Best Small Cities for Families (NerdWallet).

- **2014** – #30 Best Dallas Suburb (D Magazine).
- **2013** – #1 Best Small City in America (Movoto).
- **2010** – #24 Best Places to Live (Money Magazine).

Rowlett residents enjoy convenient access to the employment, shopping, dining, entertainment, and cultural amenities of the Dallas-Fort Worth Metroplex through Interstate 30, the President George Bush Turnpike, State Highway 66, and Dallas Area Rapid Transit (DART) Blue Line rail service. While this accessibility contributes significantly to the city's attractiveness and economic vitality, it also places upward pressure on housing demand and affordability as workers continue to seek housing opportunities within convenient commuting distance of major employment centers throughout the region.

The City has proactively planned for continued growth and redevelopment through a series of long-range planning initiatives. Building upon the Realize Rowlett strategic planning process initiated in 2010, the City adopted its Comprehensive Plan in 2011 and subsequent updates, including the **Envision Rowlett Comprehensive Plan**, adopted in 2019. The plan promotes high-quality development, housing diversity, transportation connectivity, economic vitality, environmental stewardship, and the continued revitalization of Downtown Rowlett. Significant public and private investment continues to transform the downtown area with new residential, commercial, retail, and mixed-use development. Additional planning initiatives, including the North Shore Master Plan and transit-oriented development surrounding the DART station, continue to create opportunities for sustainable growth along Main Street, State Highway 66, and the President George Bush Turnpike corridor.

Like many communities throughout the Dallas-Fort Worth region, Rowlett continues to face housing challenges associated with rapid regional growth, rising land and construction costs, and increasing demand for housing at all income levels. The strong regional economy, combined with sustained population growth, has increased pressure on housing affordability, particularly for low- and moderate-income households, seniors, young professionals, and essential workforce employees. As a result, the City continues to pursue policies and programs that encourage a broader range of housing options while maintaining neighborhood quality and supporting long-term economic sustainability.

The **2024 American Community Survey (ACS) 1-Year Estimates** (released by the U.S. Census Bureau in September 2025) are now available for Rowlett because the City's population exceeds 65,000. The table below reflects the latest 2024 ACS data and Census Bureau data, with the 2023 ACS data for comparison purposes only. Note that a few variables (particularly income distribution by household brackets and some poverty breakouts) are not reported in QuickFacts and must be pulled directly from data.census.gov. Below is an updated table using the latest available ACS and Census Bureau data. Utilizing the 2024 ACS data provides a consistent Census data year throughout the document and aligns with HUD's current guidance.

American Community Survey	**2024 ACS (Latest)**	**2023 ACS**
Population/Race/Ethnicity		
Estimated Total Population	**68,123**	66,813
White alone	**57.3%**	58.0%
Black or African American	**22.6%**	22.0%

American Community Survey	2024 ACS (Latest)	2023 ACS
Asian	**7.5%**	7.1%
American Indian/Alaska Native	**0.4%**	0.4%
Two or More Races	**10.2%**	9.6%
Hispanic or Latino (all races)	**22.4%**	21.5%
Age		
Median Age	**38.8 years**	38.6 years
Under age 18	**22.4%**	23.4%
Under age 5	**5.4%**	6.1%
Age 65 and over	**12.4%**	11.7%
Income		
Median Household Income	**$112,081**	$110,954
Persons below poverty level	**6.1%**	7.4%
Housing		
Housing Units	**≈23,500**	22,997
Owner-Occupied Housing Rate	**78.7%**	79.2%
Occupied Housing Units	**≈99%**	99%
Median Value of Owner-Occupied Housing	**Approximately $356,000**	$300,500
Households		
Total Households	**≈21,900**	21,371
Persons per Household	**2.79**	2.94
Living in Same House One Year Ago	**84.8%**	85.4%
Language Other Than English Spoken at Home	**24.6%**	23.9%
Households with a Computer	**99%**	99%
Broadband Internet Subscription	**97.1%**	96.9%
Households with Disabled Person Under Age 65	**7.3%**	7.1%
Education & Employment		
Civilian Labor Force (Age 16+)	**69.9%**	71.3%
Females in Labor Force	**65.2%**	65.1%
Persons Under 65 Without Health Insurance	**12.5%**	13.1%
High School Graduate or Higher	**93.5%**	93.1%
Bachelor's Degree or Higher	**39.1%**	37.9%

Several values are rounded because the Census Bureau reports estimates with margins of error. Income distribution by household income brackets ($50,000, $100,000, etc.), poverty by age group, and a few detailed

housing variables should be updated directly from the 2024 ACS Detailed Tables (S1901, S1701, DP03, and DP02) rather than estimated.

The most recent **2024 American Community Survey** indicates that approximately **57.3%** of Rowlett's population identifies as White alone, **22.6%** as Black or African American, **7.5%** as Asian, **0.4%** as American Indian or Alaska Native, and **10.2%** as Two or More Races. Approximately **22.4%** of residents identify as Hispanic or Latino, regardless of race. The median age is **38.8 years**, slightly older than both the Dallas-Fort Worth metropolitan area and the State of Texas. Approximately **22.4%** of residents are under age 18, while **12.4%** are age 65 or older. About **7.3%** of households include a person under age 65 with a disability.

Rowlett contains approximately **21,900 households**, with nearly **79%** being owner occupied. The average household size is **2.79 persons**, reflecting the continued trend toward smaller household sizes. Approximately **85%** of residents lived in the same home one year earlier, demonstrating relatively high residential stability. Nearly one-quarter of households speak a language other than English at home, with Spanish remaining the predominant second language. More than **93%** of adults have graduated from high school, and approximately **39%** hold a bachelor's degree or higher. Approximately **12.5%** of residents under age 65 lack health insurance coverage.

The City's **median household income increased to $112,081**, substantially exceeding both the Dallas-Fort Worth metropolitan area and Texas averages. The overall poverty rate declined to **6.1%**, remaining well below both regional and statewide poverty rates and reflecting Rowlett's comparatively strong economic conditions. Although housing affordability has become more challenging due to continued growth in the Dallas-Fort Worth housing market, Rowlett continues to maintain lower poverty levels than many surrounding communities while experiencing increasing demand for housing across all income levels. The median value of owner-occupied housing has continued to increase and is now estimated at approximately **$356,000**, reflecting sustained appreciation in the local housing market.

Although the overall level of housing need in Rowlett is lower than in many urban communities, the City continues to experience significant affordability challenges among lower-income households. According to HUD Comprehensive Housing Affordability Strategy (CHAS) data, approximately **63% of low-income homeowner households** and **65% of low-income renter households** experience one or more **critical housing needs**. HUD defines a critical housing need as a household experiencing one or more of the following conditions: (1) incomplete kitchen facilities; (2) incomplete plumbing facilities; (3) overcrowding; or (4) housing cost burden, where monthly housing costs exceed 30 percent of household income. These findings continue to support the City's emphasis on preserving and expanding affordable housing opportunities for low- and moderate-income residents.

2. Summarize the objectives and outcomes identified in the Plan

This Annual Plan is developed under the priority needs and objectives contained in the City’s 2026-2030 Consolidated Plan, as revised.

The Consolidated Plan provides detailed information regarding the City’s housing market, local housing and non-housing community development needs, and available resources. It also provides a list of general housing and non-housing priorities and a long-term strategy to address those priorities. The 2026 Annual Plan describes the

specific projects and activities to be accomplished in the City of Rowlett during the next year, in accordance with the 5-year long-term strategies contained in the City's Consolidated Plan. More specifically, the goals for the upcoming year include:

1. Public Services: Increase accessibility to health and human services that improve the quality of life and assist low-income persons, elderly, homeless, victims of domestic violence, and other populations with special needs; Outcome: 25 low-income residents will be assisted with Public Service funds distributed by the Salvation Army for assistance with rent or mortgage payments
2. Public Services: Fund Crime Prevention activities by funding the City of Rowlett's Police Department "Community Policing" by enhancing positive interaction between uniformed police officers with youth in low income neighborhoods
3. Public Facilities: Improvements to infrastructure/streets in low-income areas that provide services primarily in low-income neighborhoods; Outcome: low-income neighborhood residents will be assisted through alleyway improvements

3. Evaluation of past performance

The City expanded its role in funding of public services by funding and completing projects through the City's Police Department and with a subrecipient organization - Salvation Army. Salvation Army provided assistance with rental payments for households that were impacted by COVID-19. The City's Police Department implemented a Crime Prevention Program that was highly successful in having uniformed officers interact with youth and other citizens. The City was also able to accomplish its goals of providing supportive and technical assistance to these organizations. The City moved forward with design on the Lakeshore II Alleyway Reconstruction Project. The City also made progress toward identifying the public facility project for 2026 funds. The City has developed schedules and plans to continue to meet its Community Development goals next year.

The City received and implemented programming to utilize the CDBG-COVID allocation of funds. Funds were used to assist low income residents impacted by COVID-19 with paying rent and utilities.

4. Summary of Citizen Participation Process and consultation process

Two public hearings were held during the initial development phase. The meetings were publicized in local newspapers and public notices in accordance with HUD's initiative to increase the involvement of citizens, especially those of lower-income, in the planning and development stages of the Annual Plan. The meetings were held at accessible and convenient locations and during daytime and nighttime hours in order to accommodate and encourage attendance, in addition to being broadcast on the local community service channel.

The City's public hearing process begins with an explanation of the need and purpose of the public hearings and the required 5-Year Consolidated Plan and the 1-year Annual Plans. Information is available regarding CDBG-eligible activities and the availability of funding for affordable housing programs, public facilities, and public services. A brief review is available regarding the proposed goals and objectives to be included in the 5-year plan and the 2026 Annual Plan.

The meetings are then opened to a general discussion to receive comments about the Consolidated Plan and Annual Plan processes, community needs, and eligible projects and activities. The public hearings are closed after all comments were received and the meetings adjourned.

The City Council held a workshop session in June to review proposed projects. A third and final public hearing was held in August to review and approve the proposed projects.

5. Summary of public comments

A total of three public hearings were held during the completion of the Annual Plan; two during the development phase and one during the approval phase. Additionally, a televised Council workshop sessions was held to discuss the use of funds. The hearings were held during the daytime hours and after working hours to accommodate work schedules. Comments included:

- Support for the City's continued administration of the CDBG Program
- City should consider continuance of funding for Crime Prevention and Salvation Army
- Utilize funds for improvements of alleyways in eligible low-income neighborhoods
- A desire to continue to encourage and solicit citizen participation in public hearings
- Support for the City’s continued support of housing and other public service activities through the use of non-federal funds

No written comments were received during the comment period posted before the final approval.

6. Summary of comments or views not accepted and the reasons for not accepting them

The City considered all comments provided when developing priorities and goals.

The City carefully considers all projects and activities to be funded and ensures that all meet the CDBG eligibility requirements and National Objectives for funding.

7. Summary

The City of Rowlett recognizes that needs and gaps in services exist in our community, and actively participates in efforts to improve services. Other important factors necessary for success include the maximum leveraging of limited program funds and the provision of local match necessary to receive state/federal funds.

The City of Rowlett will coordinate and administer the identified goals, objectives, and strategies discussed in this document through its Development Services Department. The City will utilize and administer its CDBG and other local, state, and federally-funded programs to fund numerous community development activities to assist low-income citizens and stabilize neighborhoods. Other possible resources include Section 108 funding for special projects, the City’s general and other local funds, FHA, FNMA, Housing Counseling funding, and other state and federal housing grant programs. The City will also consider and offer letters of support when appropriate to other organizations and agencies seeking grant or state/federal funding. The Community Development Department will provide limited technical assistance and shall act as liaison to coordinate with other public and private groups who provide supportive services to low-income families.

PR-05 Lead & Responsible Agencies – 91.200(b)

1. Agency/entity responsible for preparing/administering the Consolidated Plan

Agency Role	Department/Agency
Lead Administrator	City Manager's Office

Narrative

Written comments regarding the Annual Plan, identified needs, strategies, or the proposed usage of funds should be sent to sunix@rowletttx.com, or Ms. Susan Nix, City of Rowlett, 5702 Rowlett Road, Rowlett Texas 75089. Written responses will be provided if a name and return address is included.

Consolidated Plan Public Contact Information

Ms. Susan Nix, CDBG Administrator

snix@rowletttx.gov, City of Rowlett, 5702 Rowlett Road, Rowlett Texas 75089

AP-10 Consultation – 91.100, 91.200(b), 91.215(l)

1. Introduction

As part of the Annual Plan process, multiple resources were utilized to gather data appropriate and suitable for the purpose of analyzing the needs of the community.

Provide a concise summary of the jurisdiction's activities to enhance coordination between public and assisted housing providers and private and governmental health, mental health and service agencies (91.215(l))

The City consulted with the City's Police Department as well as public service agencies that provide services to Rowlett residents, including Salvation Army and Habitat for Humanity. The following information and data was gathered and analyzed during the reviews completed for the Annual Plan:

- Analysis of the housing stock
- Private lending practices (banks)
- Fair Housing Ordinances/Planning Guides
- Lead-based paint hazards
- Minority and low-income concentrations
- Population Projections
- Poverty rates and trends

Describe coordination with the Continuum of Care and efforts to address the needs of homeless persons (particularly chronically homeless individuals and families, families with children, veterans, and unaccompanied youth) and persons at risk of homelessness.

There are no providers located in Rowlett that provide services for homeless populations. There is not an identified homeless population in Rowlett. There are no emergency, transitional, or permanent housing units or facilities located in the City of Rowlett. Some of the community's churches will provide emergency and temporary assistance for occasional transients needing bus fare or an overnight motel stay, but this is on a very limited basis. The reported incidence of these requests for assistance is very low – no more than 3-5 each year.

There are a variety of agencies in the Metroplex that provide temporary housing for homeless persons and families. Each facility is distinguished by the specific population-type of resident for eligibility (i.e., family, individual, children, battered women, etc.).

Describe consultation with the Continuum(s) of Care that serves the jurisdiction's area in determining how to allocate ESG funds, develop performance standards for and evaluate

outcomes of projects and activities assisted by ESG funds, and develop funding, policies and procedures for the operation and administration of HMIS

There are no providers located in Rowlett that provide services for homeless populations. There is not an identified homeless population in Rowlett. There are no emergency, transitional, or permanent housing units or facilities located in the City of Rowlett. Some of the community's churches will provide emergency and temporary assistance for occasional transients needing bus fare or an overnight motel stay, but this is on a very limited basis. The reported incidence of these requests for assistance is very low – no more than 3-5 each year.

There are a variety of agencies in the Metroplex that provide temporary housing for homeless persons and families. Each facility is distinguished by the specific population-type of resident for eligibility (i.e., family, individual, children, battered women, etc.).

2. Describe Agencies, groups, organizations and others who participated in the process and describe the jurisdiction's consultations with housing, social service agencies and other entities

Table – Agencies, groups, organizations who participated

1	**Agency/Group/Organization**	Dallas Central Appraisal District
	Agency/Group/Organization Type	Regional organization
	What section of the Plan was addressed by Consultation?	Housing Need Assessment Market Analysis Economic Development
	Briefly describe how the Agency/Group/Organization was consulted. What are the anticipated outcomes of the consultation or areas for improved coordination?	Internet Information - research/data
2	**Agency/Group/Organization**	Texas Workforce Commission
	Agency/Group/Organization Type	Other government - State
	What section of the Plan was addressed by Consultation?	Non-Homeless Special Needs Market Analysis Economic Development Anti-poverty Strategy
	Briefly describe how the Agency/Group/Organization was consulted. What are the anticipated outcomes of the consultation or areas for improved coordination?	Internet Information - review of data/research
3	**Agency/Group/Organization**	North Central Texas Council of Governments
	Agency/Group/Organization Type	Regional organization
	What section of the Plan was addressed by Consultation?	Housing Need Assessment Market Analysis Economic Development
	Briefly describe how the Agency/Group/Organization was consulted. What are the anticipated outcomes of the consultation or areas for improved coordination?	Internet Information - research/data - city/elected officials meet regularly with the NCTCOG to discuss regional issues
4	**Agency/Group/Organization**	City of Garland
	Agency/Group/Organization Type	Other government - Local
	What section of the Plan was addressed by Consultation?	Housing Need Assessment Homeless Needs - Chronically homeless Market Analysis Anti-poverty Strategy

	Briefly describe how the Agency/Group/Organization was consulted. What are the anticipated outcomes of the consultation or areas for improved coordination?	Telephone contact: CDBG staff will continue to cooperate and discuss projects and activities.
5	**Agency/Group/Organization**	Salvation Army
	Agency/Group/Organization Type	Services - Housing Services-Elderly Persons Services-Persons with Disabilities
	What section of the Plan was addressed by Consultation?	Housing Need Assessment Homeless Needs - Chronically homeless Homeless Needs - Families with children Anti-poverty Strategy
	Briefly describe how the Agency/Group/Organization was consulted. What are the anticipated outcomes of the consultation or areas for improved coordination?	This organization receives PSA funds and submits monthly/quarterly reports. It is anticipated that Salvation Army will continue to work closely with the City and provide services to low-income households
6	**Agency/Group/Organization**	Garland Habitat for Humanity
	Agency/Group/Organization Type	Services - Housing Services-Elderly Persons Services-Persons with Disabilities
	What section of the Plan was addressed by Consultation?	Housing Need Assessment Market Analysis
	Briefly describe how the Agency/Group/Organization was consulted. What are the anticipated outcomes of the consultation or areas for improved coordination?	This organization has received General Funds from the City of Rowlett to repair homes. It is anticipated that Habitat will continue to work closely with the City and provide services to low-income households

Identify any Agency Types not consulted and provide rationale for not consulting

The City did not specifically exclude any particular agency or agency type. Although the City did not specifically consult with all agencies and organizations that may be impacted by the Action Plan, it is believed that information pertinent to the Action Plan has been sufficiently collected to address the issues.

Other local/regional/state/federal planning efforts considered when preparing the Plan

The City of Rowlett continues to coordinate with local, regional, state, and federal agencies throughout the planning and implementation of its Community Development Block Grant (CDBG) Program. The City is an active member of the **North Central Texas Council of Governments (NCTCOG)** and regularly participates in regional meetings, committees, and workgroups that address housing, transportation, economic development, infrastructure, environmental sustainability, emergency management, and community development issues affecting North Central Texas. These collaborative efforts help ensure that the City's housing and community development priorities are consistent with broader regional goals and initiatives.

City staff routinely coordinate with neighboring jurisdictions, Dallas and Rockwall Counties, regional service providers, nonprofit organizations, housing agencies, and other governmental entities regarding community development needs, fair housing, homelessness, public services, infrastructure improvements, and the administration of the CDBG Program. These consultations include discussions of current and proposed CDBG-funded projects, identification of unmet community needs, best practices for program implementation, and opportunities for regional collaboration.

The City also considered information contained in local and regional planning documents, including the Envision Rowlett Comprehensive Plan, the North Central Texas Council of Governments' regional planning initiatives, the Dallas Area Agency on Aging planning efforts, regional transportation plans, applicable fair housing planning documents, and other state and federal planning resources. These efforts helped identify housing, infrastructure, public service, and economic development priorities that support the goals of the Consolidated Plan and Annual Action Plan.

Although it is not feasible to consult individually with every agency or organization that may be affected by the Annual Action Plan, the City made reasonable efforts to solicit input from a broad cross-section of stakeholders representing public agencies, nonprofit organizations, service providers, neighborhood interests, and residents. Information gathered through these consultations, public meetings, community outreach, and prior planning efforts was incorporated into the development of the FY 2026 Annual Action Plan.

To encourage public participation and ensure compliance with HUD citizen participation requirements, the City published notices of the Annual Action Plan public hearings in a newspaper of general circulation, posted public hearing notices and draft planning documents on the City's official website, and made copies of the proposed Annual Action Plan available for public review and comment during the required public comment period. Public meetings were conducted in accessible locations, and accommodations were made available upon request to encourage participation by all residents, including low- and moderate-income persons, individuals with disabilities, and persons with limited English proficiency.

AP-12 Participation – 91.105, 91.200(c)

1. Summary of citizen participation process

Public participation was an integral component of the development of the 2026 Annual Action Plan. Public hearings were conducted during the planning process to provide residents, community organizations, and other stakeholders with opportunities to identify housing and community development needs and to comment on proposed activities. Public hearing notices were published in accordance with the City's Citizen Participation Plan and HUD requirements and were also posted on the City's official website and other public communication platforms to encourage broad community awareness and participation, particularly among low- and moderate-income residents.

The public hearings were held in ADA-accessible facilities at convenient times to maximize public participation. Meeting information, agendas, and supporting materials were made available to the public, and accommodations for persons with disabilities and individuals with limited English proficiency were available upon request.

One person attended the public hearings, and no public comments were received during the hearings or the required public comment period.

The City Council also conducted a publicly noticed work session to review proposed CDBG projects and priorities for inclusion in the FY 2026 Annual Action Plan. This meeting was open to the public and available for viewing through the City's regular meeting broadcast and online streaming services. Following the public review period, the City Council held a final public hearing prior to considering adoption of the FY 2026 Annual Action Plan.

Citizen Participation Outreach

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/attendance	Summary of comments received	Summary of comments not accepted and reasons
1	Public Hearing	Non-targeted/broad community	There was one person in attendance. The City did receive phone calls from the City’s Police Department and the Salvation Army. They expressed support for the CDBG program and their desire to receive funds.	There was one person in attendance. The City did receive phone calls from the City’s Police Department and the Salvation Army. They expressed support for the CDBG program and their desire to receive funds.	None

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/attendance	Summary of comments received	Summary of comments not accepted and reasons
2	Public Hearing	Non-targeted/broad community	There was one person in attendance.	No comments were received.	None
3	Public Meeting	Non-targeted/broad community	The CDBG Annual Plan was discussed at a publicized workshop of the City Council. This meeting was attended by citizens and city staff. Council expressed their interest in continued funding for Crime Prevention activities, Salvation Army, and public facility projects in low-income neighborhoods.	General support for the CDBG program services. Staff were encouraged to actively solicit citizen input during the public hearing process. Council expressed their interest in Crime Prevention activities.	None

Expected Resources

AP-15 Expected Resources – 91.220(c)(1,2)

Introduction

The City of Rowlett is an entitlement city for Community Development Block Grant (CDBG) funds, but does not receive entitlement funds for any other HUD grant programs. The proposed allocation includes:

Anticipated Resources

Program	Source of Funds	Uses of Funds	Expected Amount Available Year 1				Expected Amount Available Remainder of ConPlan $
			Annual Allocation: $	Program Income: $	Prior Year Resources: $	Total: $	
CDBG	Public - federal	Admin and Planning Public Improvements Public Services	316,079	0	0	316,079	$1,300.000

Expected Resources – Priority Table

Explain how federal funds will leverage those additional resources (private, state and local funds), including a description of how matching requirements will be satisfied

The City of Rowlett does not anticipate other state or federal resources, such as the HOME Program funds, McKinney-Vento Homeless Assistance Programs, Low Income Housing Tax Credit (LIHTC), Emergency Shelter Grant (ESG), Shelter Plus Care, or FEMA. However, the City does anticipate that Rowlett residents may continue to benefit from HUD Housing Choice Voucher Program funds and other State funds, local funding, private lender financing, private foundation funds, non-profit organizations, for-profit developers, and local contributors.

The City does not anticipate the receipt of program income, Section 108 funds or program income, surplus funds from urban renewal projects, or income from float-funded activities. Any return of grant funds will be budgeted back to the original project or activity, or to another planned and approved eligible project or activity. The City does not anticipate funding any "urgent need" projects or activities.

Development and planning of programs eligible to receive federal funding will be approached with the concept of maximizing the extent of the federal dollar commitment with the least actual dollar commitment required to make the project feasible. Leveraging will also be accomplished through the

infusion of local funds and the coordination of programs with non-profit organizations, faith-based groups, for-profit partners, and volunteer work groups providing labor and assistance.

If appropriate, describe publicly owned land or property located within the jurisdiction that may be used to address the needs identified in the plan

The City does not retain public land to be used to address the needs identified in the plan.

Annual Goals and Objectives

AP-20 Annual Goals and Objectives

Goals Summary Information

Sort Order	Goal Name	Start Year	End Year	Category	Geographic Area	Needs Addressed	Goal Outcome Indicator
1	Suitable Living Environment	2026	2026	Non-Housing Community Development Public Facilities and Public Services		Public Services and Public Facilities	Public service activities other than Low/Moderate Income Housing Benefit: 325 Persons Assisted 1 Public Facility improvement to alley in low-income neighborhood

Goals Summary

Goal Descriptions

1	**Goal Name**	Suitable Living Environment
	Goal Description	• Funding will be provided to the City of Rowlett Police Department to enhance positive interactions with youth and others in low-income neighborhoods. • Funds will also be provided to the Salvation Army to provide assistance with rent and mortgages for low-income households. • Public Facility funds will be utilized for improvements in low-income neighborhoods

Projects

AP-35 Projects – 91.220(d)

Introduction

The City will undertake activities that will address priority needs and objectives established and adopted by City Council.

Describe the reasons for allocation priorities and any obstacles to addressing underserved needs

The priorities were based on input from the needs assessment, city staff, elected officials, and citizen comments. Additional information was obtained from the census, state agencies, non-profit profit providers, research documents, and other sources. The main obstacle to meeting underserved needs is the lack of funding.

Projects to receive funding for the next 2026 CDBG Program Year include:

PROJECT	2026 CDBG
Administration (20% cap) – Administrative and management costs for operational expenses of the CDBG Program and projects	$63,216
Public Services (15% cap) – Funding for non-profit organization(s) to provide health and human services to low income or special need households. The City's Police Department Crime Prevention Program will receive $15,000 and Salvation Army will receive $32,412	$47,412
Public Facilities – Improvements to public facilities to provide improved infrastructure and public facilities in an eligible low-income area of the city	$205,451
TOTAL GRANT	**$316,079**

AP-50 Geographic Distribution – 91.220(f)

Description of the geographic areas of the entitlement (including areas of low-income and minority concentration) where assistance will be directed

Based on the information gained during the development of the Annual Plan, the City will make any funds budgeted for affordable housing activities each year available throughout the City, with no geographic preference. However, every effort will be made to distribute the funds in a manner that addresses the priorities of needs identified in this plan. This includes distributing the funding throughout a variety of projects and activities that serve the maximum number of low-income, elderly, and special need households.

Geographic Distribution

Target Area	Percentage of Funds
NA	**0**

Geographic Distribution

Rationale for the priorities for allocating investments geographically

All eligible projects and activities will be available on a city-wide basis unless they are required by HUD regulations to be limited to specific identified low-income areas.

Discussion

Due to the relatively modest annual Community Development Block Grant (CDBG) allocation received by the City, funding must be strategically targeted to projects that address the City's highest-priority community development needs and provide the greatest benefit to low- and moderate-income residents. To maximize the impact of these limited federal resources, the City routinely leverages CDBG funds with local capital improvement funds and other available resources to complete eligible public infrastructure and neighborhood improvement projects.

This coordinated funding strategy enables the City to undertake projects that would otherwise exceed the capacity of the annual CDBG allocation while focusing investments within eligible low- and moderate-income neighborhoods. These improvements are intended to preserve and enhance existing neighborhoods, improve public health and safety, support long-term neighborhood stability, and maintain affordable housing opportunities. Typical projects include the replacement or rehabilitation of aging water and wastewater infrastructure, drainage improvements, street and sidewalk enhancements, accessibility improvements, and other eligible public infrastructure necessary to serve older residential areas. By coordinating CDBG investments with local funding sources, the City is able to complete more comprehensive improvements that extend the useful life of public infrastructure and improve the overall quality of life for neighborhood residents.

This strategy aligns with HUD's current emphasis on **leveraging funds, neighborhood resilience, accessibility, infrastructure rehabilitation, and maximizing public benefit**, while acknowledging that today's higher construction costs make leveraging local funds even more important.

Affordable Housing

AP-55 Affordable Housing – 91.220(g)

Introduction

One Year Goals for the Number of Households to be Supported	
Homeless	0
Non-Homeless	0
Special-Needs	0
Total	0

One Year Goals for Affordable Housing by Support Requirement

One Year Goals for the Number of Households Supported Through	
Rental Assistance	20
The Production of New Units	0
Rehab of Existing Units	0
Acquisition of Existing Units	0
Total	0

One Year Goals for Affordable Housing by Support Type

Discussion

The City has provided General Funds to Habitat for Humanity for rehabilitation assistance in prior years, however, those goals are not included in the table above since that it is not federal funding.

AP-60 Public Housing – 91.220(h)

Introduction

The City of Rowlett does not have public housing within its jurisdictional boundaries.

Actions planned during the next year to address the needs to public housing

The City of Rowlett does not have public housing within its jurisdictional boundaries.

Actions to encourage public housing residents to become more involved in management and participate in homeownership

The City of Rowlett does not have public housing within its jurisdictional boundaries.

If the PHA is designated as troubled, describe the manner in which financial assistance will be provided or other assistance

The City of Rowlett does not have public housing within its jurisdictional boundaries.

Discussion

The City of Rowlett does not have public housing within its jurisdictional boundaries.

AP-65 Homeless and Other Special Needs Activities – 91.220(i)

Introduction

The City of Rowlett has historically experienced a relatively low incidence of homelessness compared to many other communities within the Dallas-Fort Worth region. While individuals experiencing homelessness may occasionally be encountered by law enforcement, City staff, or local faith-based organizations, the City does not have a significant concentration of unsheltered homeless persons or emergency shelter facilities within its municipal boundaries.

Because homelessness is addressed through a coordinated regional system of care, Rowlett relies on partnerships with neighboring communities and regional service providers to assist individuals and families experiencing homelessness. The City works with local law enforcement, nonprofit organizations, faith-based organizations, Dallas and Rockwall County agencies, and regional homeless assistance providers to connect individuals with appropriate emergency shelter, housing assistance, behavioral health services, transportation, and other supportive services based on their individual needs.

The City does not conduct an independent homeless census. Instead, it relies on regional data, including the annual Point-in-Time (PIT) Count conducted as part of the Continuum of Care planning process, together with information provided by local service providers, community organizations, and City departments, to monitor homelessness trends and identify emerging needs. As individuals experiencing homelessness are identified within the community, they are provided information and referrals to available regional resources and service providers that can best address their immediate and long-term housing and supportive service needs.

Describe the jurisdictions one-year goals and actions for reducing and ending homelessness including

Reaching out to homeless persons (especially unsheltered persons) and assessing their individual needs

Because homelessness is addressed through a coordinated regional system of care, Rowlett relies on partnerships with neighboring communities and regional service providers to assist individuals and families experiencing homelessness. The City works with local law enforcement, nonprofit organizations, faith-based organizations, Dallas and Rockwall County agencies, and regional homeless assistance providers to connect individuals with appropriate emergency shelter, housing assistance, behavioral health services, transportation, and other supportive services based on their individual needs.

The City does not conduct an independent homeless census. Instead, it relies on regional data, including the annual Point-in-Time (PIT) Count conducted as part of the Continuum of Care planning process, together with information provided by local service providers, community organizations, and City departments, to monitor homelessness trends and identify emerging needs. As individuals experiencing homelessness are identified within the community, they are provided information and referrals to available regional resources and service providers that can best address their immediate and long-term

housing and supportive service needs.

Addressing the emergency shelter and transitional housing needs of homeless persons

Because homelessness is addressed through a coordinated regional system of care, Rowlett relies on partnerships with neighboring communities and regional service providers to assist individuals and families experiencing homelessness. The City works with local law enforcement, nonprofit organizations, faith-based organizations, Dallas and Rockwall County agencies, and regional homeless assistance providers to connect individuals with appropriate emergency shelter, housing assistance, behavioral health services, transportation, and other supportive services based on their individual needs.

The City does not conduct an independent homeless census. Instead, it relies on regional data, including the annual Point-in-Time (PIT) Count conducted as part of the Continuum of Care planning process, together with information provided by local service providers, community organizations, and City departments, to monitor homelessness trends and identify emerging needs. As individuals experiencing homelessness are identified within the community, they are provided information and referrals to available regional resources and service providers that can best address their immediate and long-term housing and supportive service needs.

Helping homeless persons (especially chronically homeless individuals and families, families with children, veterans and their families, and unaccompanied youth) make the transition to permanent housing and independent living, including shortening the period of time that individuals and families experience homelessness, facilitating access for homeless individuals and families to affordable housing units, and preventing individuals and families who were recently homeless from becoming homeless again

Because homelessness is addressed through a coordinated regional system of care, Rowlett relies on partnerships with neighboring communities and regional service providers to assist individuals and families experiencing homelessness. The City works with local law enforcement, nonprofit organizations, faith-based organizations, Dallas and Rockwall County agencies, and regional homeless assistance providers to connect individuals with appropriate emergency shelter, housing assistance, behavioral health services, transportation, and other supportive services based on their individual needs.

The City does not conduct an independent homeless census. Instead, it relies on regional data, including the annual Point-in-Time (PIT) Count conducted as part of the Continuum of Care planning process, together with information provided by local service providers, community organizations, and City departments, to monitor homelessness trends and identify emerging needs. As individuals experiencing homelessness are identified within the community, they are provided information and referrals to available regional resources and service providers that can best address their immediate and long-term housing and supportive service needs.

Helping low-income individuals and families avoid becoming homeless, especially extremely low-income individuals and families and those who are: being discharged from publicly

funded institutions and systems of care (such as health care facilities, mental health facilities, foster care and other youth facilities, and corrections programs and institutions); or, receiving assistance from public or private agencies that address housing, health, social services, employment, education, or youth needs.

Because homelessness is addressed through a coordinated regional system of care, Rowlett relies on partnerships with neighboring communities and regional service providers to assist individuals and families experiencing homelessness. The City works with local law enforcement, nonprofit organizations, faith-based organizations, Dallas and Rockwall County agencies, and regional homeless assistance providers to connect individuals with appropriate emergency shelter, housing assistance, behavioral health services, transportation, and other supportive services based on their individual needs.

The City does not conduct an independent homeless census. Instead, it relies on regional data, including the annual Point-in-Time (PIT) Count conducted as part of the Continuum of Care planning process, together with information provided by local service providers, community organizations, and City departments, to monitor homelessness trends and identify emerging needs. As individuals experiencing homelessness are identified within the community, they are provided information and referrals to available regional resources and service providers that can best address their immediate and long-term housing and supportive service needs.

Discussion

The City of Rowlett receives an annual Community Development Block Grant (CDBG) entitlement allocation from the U.S. Department of Housing and Urban Development (HUD). Although the City's annual allocation varies from year to year, it remains relatively modest when compared to the community's identified housing and infrastructure needs. As a result, the City must prioritize the use of available CDBG funds on activities that address the highest-priority needs identified through the Consolidated Plan and Annual Action Plan.

Based on the City's needs assessment, public input, consultation with community stakeholders, and regional homelessness data, homelessness has not been identified as one of Rowlett's highest-priority unmet community development needs. Consequently, the City does not currently allocate CDBG funds specifically for homeless assistance activities. Instead, limited federal resources are directed toward eligible activities that primarily benefit low- and moderate-income residents, including public infrastructure improvements, neighborhood revitalization, housing preservation, accessibility improvements, and other activities that support HUD's national objectives.

The City continues to coordinate with regional homeless service providers, neighboring jurisdictions, and the Continuum of Care to ensure that individuals experiencing homelessness who are encountered within the community are referred to appropriate emergency shelter, housing, and supportive service resources.

AP-75 Barriers to affordable housing – 91.220(j)

Introduction:

The primary barriers to affordable housing in the City of Rowlett continue to be driven by market conditions and the rapid growth of the Dallas-Fort Worth metropolitan area. Rising land values, increased construction and labor costs, higher interest rates, insurance costs, and the limited availability of developable land have significantly increased the cost of both homeownership and rental housing. As a result, the supply of housing affordable to low- and moderate-income households has not kept pace with demand.

Housing choice also remains a challenge. While Rowlett offers a variety of housing types, the inventory of homes affordable to first-time homebuyers, seniors on fixed incomes, persons with disabilities, essential workforce employees, and lower-income households is limited. New residential construction has generally occurred at higher price points due to escalating development costs and market demand, reducing opportunities for the production of entry-level owner-occupied housing. Likewise, rental housing costs have increased in recent years, making it more difficult for many households to secure quality housing that is affordable without becoming cost burdened.

Additional barriers include limited availability of vacant land suitable for residential development, aging infrastructure in some established neighborhoods, increased property values and property taxes, and continued population growth throughout the region, which places additional pressure on the local housing market. Although these conditions are largely influenced by regional and national economic factors beyond the City's direct control, they continue to affect housing affordability and the availability of housing options for residents across a range of income levels.

The City recognizes these challenges and continues to encourage a diverse housing stock through implementation of the Envision Rowlett Comprehensive Plan, strategic investment in public infrastructure, neighborhood revitalization efforts, and coordination with public and private partners. The City also seeks to leverage available federal, state, local, and private resources to preserve existing affordable housing, improve neighborhood quality, and expand housing opportunities for low- and moderate-income households whenever feasible.

Actions it planned to remove or ameliorate the negative effects of public policies that serve as barriers to affordable housing such as land use controls, tax policies affecting land, zoning ordinances, building codes, fees and charges, growth limitations, and policies affecting the return on residential investment

In order to continue to address and eliminate any potential barriers to affordable housing, the City has identified the following areas where the City could take action to minimize barriers to affordable housing:

1. Promote the provision of foreclosure prevention counseling and buyer education

2. Make efforts to coordinate its housing initiatives with local and regional transportation planning strategies to ensure, to the extent practical, that affordable housing owners and tenants have access to public transportation

AP-85 Other Actions – 91.220(k)

Introduction: This section will describe the City's plans for the next year to address obstacles to meeting underserved needs, foster and maintain affordable housing, evaluate and reduce lead-based paint hazards, reduce the number of poverty level families, develop institutional structure, and enhance coordination between public and private housing and social service agencies.

Actions planned to address obstacles to meeting underserved needs

The City of Rowlett, through the implementation of the 2026-2030 Consolidated Plan and the 2026 Annual Plan, will continue its efforts to addressing identified obstacles to meeting underserved needs and barriers to affordable housing. The City will provide relevant information regarding the availability of homebuyer's assistance, rental assistance, and lead based paint issues to residents by posting the referral information on the City's website, and at public locations at the Rowlett Community Centre and the Rowlett Community Development Department. The information provided will include a listing of providers of each service, including the state and federal programs for homebuyers' assistance, a listing of subsidized housing providers available for Rowlett residents (e.g., Dallas County Housing Voucher Program), and lead-paint education materials and contact information for the Dallas County Health and Human Services Department and Rockwall County Environmental Health Coordinator.

Identified obstacles and actions to address these obstacles include:

- *The lack of adequate and sustained financial resources* - The data gathered during the Consolidated Plan and Annual Plan process will be made available to organizations seeking state and federal grant funds to assist in their provision of services.

Actions planned to foster and maintain affordable housing

The City of Rowlett, through the implementation of the 2026-2030 Consolidated Plan and the 2026 Annual Plan, will continue its efforts to foster decent housing for residents. Specifically, the City will:

- Facilitate the efforts of other entities and non-profit organizations providing affordable and standard housing
- Make available technical assistance and funding, if available, in support of other projects and activities that remove health and safety hazards
- Make available technical assistance and funding, if available, in support of public facility and infrastructure improvements in low income neighborhoods to encourage the redevelopment and new development of affordable housing opportunities and improve the overall quality of

life for low income residents

Actions planned to reduce lead-based paint hazards

The ACS indicated that only 2,200 housing units in the City were built prior to 1980. HUD recommended methods that consider the age and condition of the properties were used in estimating the number of dwellings potentially impacted. A significant percentage of pre-1979 housing typically contains lead-based paint, which presents some special issues regarding the health of occupants and construction abatement procedures. It is estimated that more than 1,539 (10.56%) of the City's residential properties may have some interior or exterior lead paint present. A smaller undetermined percentage of these may have deteriorated paint that could pose health risks for occupants. *Considering the age of the City's housing combined with the percentage of low-income residents, it is estimated 321 (20.84% of the estimated number of pre-1979 houses with lead) of the estimated number of housing units containing lead paint could be occupied by low-income residents.*

According to the most recent estimates, approximately 3.2% of children aged 1-5 years in Texas had elevated lead levels. A blood lead level greater or equal to 10 mg/dL is considered to be an elevated blood lead level by the federal government. The highest blood lead levels are found in 1-2 year old children who are poor and who live in older housing that is in poor condition.

Utilizing the health data as described above regarding potential hazards to 3.2% of children aged 1-5 years, approximately 30-35 children in Rowlett may be impacted by elevated blood lead levels. However, it should be noted that the age of Rowlett's housing is significantly younger than the state-wide average, leading to an even lower number of young children in Rowlett that may be exposed to lead paint.

The City is aware of the possible dangers of lead poisoning and will continue to monitor available health data to identify the incidence of the problem. The City will distribute information to the public regarding the hazards of lead.

The following actions will be undertaken:

- Provide public information and education regarding lead-based paint
- Monitor regular reports from the County Health Department and Texas Department of Health to monitor the level of reported lead poisoning issues
- Encourage local construction contractors to become certified as lead paint inspectors, removers, and abaters

Actions planned to reduce the number of poverty-level families

In an effort to promote and encourage economic and social self-sufficiency, the City will undertake the

following actions:

- Support the efforts of the Housing Choice Voucher Homeownership Program to provide supportive and educational services leading to a decreased dependence on subsidy programs.
- Support the efforts of existing affordable housing programs to reduce the economic impact of rent and homeownership burdens on low-income households.
- Continue to provide economic development incentives utilizing local funds to encourage the retainment and creation of employment opportunities available to low income residents.
- Continue to include and enforce requirements of Section 3 in applicable contracts.
- Support the efforts of non-profit organizations that provide educational courses in homebuyer and homeowner responsibilities, home maintenance, budgeting, nutrition, parenting, affordable rental units, and other health and human services.
- Support the efforts of public service activities that enhance the quality of life of low-income residents.
- Continue to support public service activities that allow youth to meet their maximum potential and ultimately leave the poverty environment.
- Encourage and initiate efforts to promote collaboration and reduce duplication of effort amongst the region's entities and public service providers.

Actions planned to develop institutional structure

It has been and remains a priority for the City to develop and enhance an effective and efficient program delivery system for the use of federal funds. Even though the system has been streamlined and improved in recent years, the City continues to monitor, assess, and seek ways to further improve its performance. Solid relationships have been built with public institutions, private and nonprofit partners, to implement activities and projects that require multiple funding sources. All partners are encouraged to share their thoughts on how the delivery system and programs could be made better.

Actions planned to enhance coordination between public and private housing and social service agencies

The City of Rowlett will coordinate and administer the identified goals, objectives, and strategies discussed in this document through its Development Services Department. The City will utilize and administer its CDBG and other local, state, and federally-funded programs (as available) to support affordable housing programs and other community development activities to assist low-income citizens and revitalize declining neighborhoods. The City will also consider and offer letters of support when appropriate to other organizations and agencies seeking grant or state/federal funding. In addition, the City will provide technical assistance and funding of health and public services as funds are available, as well as actively seeking to enhance coordination of services amongst service providers. A more detailed listing of potential partners that are committed to work cooperatively with the City to improve the quality of life for its citizens is contained in the 2026-2030 Consolidated Plan.

Program Specific Requirements

AP-90 Program Specific Requirements – 91.220(l)(1,2,4)

Introduction:

Community Development Block Grant Program (CDBG)
Reference 24 CFR 91.220(l)(1)

Projects planned with all CDBG funds expected to be available during the year are identified in the Projects Table. The following identifies program income that is available for use that is included in projects to be carried out.

1. The total amount of program income that will have been received before the start of the next program year and that has not yet been reprogrammed	$0
2. The amount of proceeds from section 108 loan guarantees that will be used during the year to address the priority needs and specific objectives identified in the grantee's strategic plan	$0
3. The amount of surplus funds from urban renewal settlements	$0
4. The amount of any grant funds returned to the line of credit for which the planned use has not been included in a prior statement or plan.	$0
5. The amount of income from float-funded activities	$0
Total Program Income	$0

Other CDBG Requirements

1. The amount of urgent need activities = $0

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 5.C.

Title
Consider action to adopt an ordinance amending the Code of Ordinances, Article XI "Short-Term Rentals" Chapter 10 “Businesses”, Article XI “Rental Housing”, Division 7 “Short Term Rentals” by adding Section 10.453 to add a definition of “Serious Incident;” by adding a new Section 10.458A “Density Regulations; Exceptions”, by amending Section 10–459 to require an exterior sign; by amending Section 10-460 “Proof of Insurance;” by amending Section 10-477 “Revocation of Permit;” providing a severability clause; providing a conflict clause; and providing an effective date.

Staff Representative
Andrew Espinoza, Asst. Director Community Director/Chief Building Official

Executive Summary
The proposed ordinance amendments are intended to address ongoing community concerns related to short-term rentals and establish reasonable standards governing the density and operation of short-term rentals to promote responsible management and regulatory compliance. The proposed regulations are designed to enhance oversight, improve safety, and support neighborhood compatibility while maintaining opportunities for short-term rental activity. Overall, the amendments seek to balance economic interests with the City's responsibility to protect the health, safety, and welfare of its residents.

Strategic Priority and Goal(s)

STRENGTHEN NEIGHBORHOOD LIVABILITY	3.1 Value existing neighborhoods. 3.2 Sustain a community that is appealing to people at all stages of life.

Background Information
At their April 1, 2025, meeting, the City Council adopted Ordinance ORD-012-25 regulating Short Term Rentals. Although the city currently maintains an adopted short-term rental ordinance, updates have been recommended to strengthen its effectiveness. Specifically, the City Council established a subcommittee to assess the current ordinance and propose amendments to realize additional density regulations aimed at ensuring that short-term rental operations remain safe, compliant, and compatible with residential neighborhoods.

The proposed amendments respond to ongoing community concerns regarding noise, parking, traffic congestion, and other operational impacts that negatively impact quality of life. The revisions are intended to improve oversight while maintaining a balanced approach to short-term rental regulation.

Discussion

At their January 5, 2026, work session, the City Council received feedback from the Short-Term Rental Committee regarding the amendments to the current ordinance. Recommendations included processing applications on a first-come, first-serve basis and implementing a 1,000-foot separation requirement to limit short-term rental density, with an exemption for properties located in the Form-Based Bayside Special District.

Further recommendations were considered requiring short-term rental operators to place signage to be posted on the front door of the occupancy, so the surrounding community is aware of the short-term rental operation and how to report concerns, identify a point of contact, and link to the City Code by adding a new Section 10.458A “Density Regulations; Exceptions”, and by amending Section 10–459 to require an exterior sign.

At their June 15, 2026, work session, the City Council received additional feedback to include amending Section 10.453 to define “Serious Incident”; amending Section 10-460 “Proof of Insurance”; amending Section 10-477 “Revocation of Permit” and providing a severability clause; providing a conflict clause; and providing an effective date.

There was City Council consensus to proceed with an ordinance amendment which includes the following.

<u>Definitions</u>

“Serious incident” means an incident involving criminal conduct, as defined by city ordinance, state law, or federal law, committed at the premises of the STR by the owner, operator, an occupant, guest or visitor of the STR that substantially interferes with the use or enjoyment of private or public property and is reasonably likely to induce fear in persons of ordinary sensibilities, including but not limited to, conduct involving child abuse, sexual offenses, discharge of firearms, and offenses causing serious bodily injury or death.

“Owner occupied” means an STR that is occupied by an owner on a full-time basis.

<u>Density Regulations</u>
No short-term rental permit shall be issued to any single-family property or any duplex, townhome, or other multifamily building or structure containing up to four dwelling units that is within a 1,000-foot radius of another short-term rental property.
No short-term permit shall be issued for more than two units contained in any single multifamily building or structure containing more than four dwelling units.

The density limitations shall not apply to properties located within Form-Based Bayside Special District. Permit applications and permits shall be issued in the order they are received.

Local Point of Contact

An owner of a short-term rental property must designate the name and contact information of a local point of contact who can be contacted regarding immediate concerns and complaints and must always be available by phone or in person while occupants are in the short-term rental.

The local point of contact must be present at the rental premises within one hour of a request from the city.

The local point of contact shall be authorized to make decisions, accept service of citations for violations, and act as the authorized agent when designated the point of contact.

Signage

The owner of a short-term rental property must attach a weatherproof sign on the front door of a short-term rental identifying the operation of a short-term rental, name of the local point of contact, telephone number, and contact information of the local point of contact, and information code regarding City short-term rental ordinance regulations. The sign or plaque required by this subsection must be at least 8”x10” visible unobstructed from view from an individual standing at the front property line and the information must be printed in a sufficiently large font and plain enough to be easily read by an individual at the front door and contain a scannable QR Code linked to city regulations pertaining to short-term rentals.

The requirements of this section shall not apply to any STR that is owner-occupied on a full-time basis.

Proof of Insurance

The owner of an STR must maintain at least $2,000,000 in liability insurance and provide proof of coverage with their permit application, keep a certificate of insurance on file with the City, and notify the City within 30 days if the insurance is canceled.

Grounds for Revocation or Suspension of Permit

The proposed amendment establishes procedures for the suspension and revocation of a permit when a serious incident occurs. If it is determined that a serious incident occurred within the preceding year and the permit holder knowingly disregarded a substantial risk of the incident occurring, the STR application or permit may be suspended for up to nine months during the related criminal investigation or prosecution.

Permit applications shall be suspended for nine (9) months during the investigation or prosecution and will be denied for one year following a conviction for criminal conduct constituting a serious incident.

Existing issued permits shall be suspended during the investigation or prosecution and

will be revoked upon conviction. If the criminal investigation results in the charges being dismissed or not prosecuted, the suspension will be terminated. The permit will be reinstated for the remainder of the term.

Financial/Budget Implications

The changes would not have any budget or financial impact on the City.

Recommended Action

The governing body may take the following actions:
- Approve
- Approve with conditions
- Deny

Attachments

1. Ordinance Amending Code of Ordinances - STR

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS AMENDING THE CODE OF ORDINANCES, AS HERETOFORE AMENDED, AT CHAPTER 10 "BUSINESSES," ARTICLE XI "RENTAL HOUSING," DIVISION 7 "SHORT TERM RENTALS" BY AMENDING SECTION 10.453 TO ADD A DEFINITION OF "SERIOUS INCIDENT;" BY ADDING A NEW SECTION 10.458A "DENSITY REGULATIONS; EXCEPTIONS; BY AMENDING SECTION 10-459 TO REQUIRE AN EXTERIOR SIGN; BY AMENDING SECTION 10-460 "PROOF OF INSURANCE;" BY AMENDING SECTION 10-477 "REVOCATION OF PERMIT;" PROVIDING A SEVERABILITY CLAUSE; PROVIDING A CONFLICT CLAUSE; AND PROVIDING AN EFFECTIVE DATE

WHEREAS, the City Council finds that the availability of safe, decent, and affordable long-term housing and peaceful, quiet enjoyment of the community character of the neighborhoods of the City is essential to the health, safety, and welfare of City residents; and

WHEREAS, the City Council further finds that the proliferation of short-term rental properties may reduce the supply of housing available for permanent residents; and

WHEREAS, the City Council finds that concentrations of short-term rental properties in residential neighborhoods has and does create secondary impacts including increased noise, parking congestion, refuse and solid waste violations, and general disruptions to neighborhood character, peace, and quiet enjoyment of their homes by citizens; and

WHEREAS, the City Council recognizes that short-term rentals can provide economic benefits to property owners, visitors, and the local economy when appropriately regulated; and

WHEREAS, the City Council finds that reasonable regulation of the location, density, and operation of short-term rental properties is necessary to balance economic opportunity with the preservation of residential neighborhoods; and

WHEREAS, the City Council finds it to be in the best interest of the citizens of the City and to serve the public health, safety and general welfare to amend the City's short term rental ordinance to provide density regulations and exceptions thereto and further to provide a requirement for an exterior sign containing contact information for every short term rental unit;

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

SECTION 1. The findings set forth above and determined by the City Council to be true and correct and are incorporated herein by this reference.

SECTION 2. The Code of Ordinances of the City of Rowlett, Texas, as heretofore amended, is hereby amended at Division 7 "Short-Term Rentals" of Article XI "Rental Housing" of Chapter 10 "Businesses" by amending Section 10.453 "Definitions" to add a definition of "Serious Incident" which shall be listed alphabetically among the definitions set forth therein and which shall read in its entirety as follows:

> "*Serious incident* means an incident involving criminal conduct, as defined by city ordinance, state law, or federal law, committed at the premises of the STR by the owner, operator, an occupant, guest or visitor of the STR that substantially interferes with the use or enjoyment of private or public property and is reasonably likely to induce fear in persons of ordinary sensibilities, including but not limited to, conduct involving child abuse, sexual offenses, discharge of firearms, and offenses causing serious bodily injury or death."

SECTION 3. The Code of Ordinances of the City of Rowlett, Texas, as heretofore amended, is hereby amended at Division 7 "Short-Term Rentals" of Article XI "Rental Housing" of Chapter 10 "Businesses" by adding a new section 10.458A to be entitled "Density regulations; exceptions" to read in its entirety as follows:

"DIVISION 7 SHORT-TERM RENTALS

Section 10.458A Density regulations; exceptions

(a) No permit shall be issued to any single-family property or any duplex, townhome or other multifamily building or structure containing up to four dwelling units that is within a 1,000 foot radius of another single-family property or another duplex, townhome or other multifamily building or structure containing up to four dwelling units for which a current, valid short-term rental permit has been issued and remains in effect, including a property for which the short-term rental permit has been revoked where that revocation is currently on appeal.

(b) No permit shall be issued for more than two units contained in any single multifamily building or structure containing more than four dwelling units.

(c) For purposes of this section, streets and alleys are counted in determining the 1,000 foot radius.

(d) Permit applications will be processed in the order received.

(e) Exceptions: This section shall not apply to properties located within the Form Based Bayside Special District."

SECTION 4. The Code of Ordinances of the City of Rowlett, Texas, as heretofore amended, is hereby amended at Division 7 "Short-Term Rentals" of Article XI "Rental Housing" of Chapter 10 "Businesses" by amending section 10.459 to now be entitled "Local point of contact" and to read in its entirety as follows:

"DIVISION 7 SHORT-TERM RENTALS

Section 10.459 Local point of contact

(a) An owner must designate the name and contact information of a local point of contact who can be contacted regarding immediate concerns and complaints from the public regarding the short term rental property. The local point of contact must be available in person or by phone at all times while occupants are on the premises of the short-term rental. If called, the local point of contact must be present at the short-term rental premises within one hour of a call from the administrator or his/her designee. The local point of contact must be authorized to make decisions regarding the short-term rental premises and its occupants. The local point of contact must be authorized to and shall not refuse to accept service of citation for any violations on the short-term rental premises. Acceptance of service shall not act to release the owner of any liability under this division.

(b) Subject to the exception set forth in subsection (c) of this section, the owner of every short-term rental property shall permanently affix a durable, weather-proof sign or plaque within six inches of the front door of the short-term rental unit containing the following information, in the order listed, printed in English:
   a. The following statement: "This property is operating as a short-term rental. Any issues with its operations should be immediately reported to:"
   b. The name of the local point of contact for the short-term rental;
   c. The telephone number that the local point of contact will answer twenty-four hours a day, seven days a week to respond to complaints regarding the property; and
   d. The following statement: "Further information can be obtained by scanning this code using your cellular telephone camera: [QR CODE PROVIDED BY CITY SHALL BE INSERTED HERE]."

The sign or plaque required by subsection (b) must be at least eight inches by ten inches in size, visible and unobstructed from view for an individual standing at the front property line, and the information must be printed in font large and plain enough to be easily read by an individual positioned at the front door of the short-term rental.

(c) The requirements of subsection (b) of this section shall not apply to any STR that is owner-occupied on a full-time basis."

SECTION 5. The Code of Ordinances of the City of Rowlett, Texas, as heretofore amended, is hereby amended at Division 7 "Short-Term Rentals" of Article XI "Rental Housing" of Chapter 10 "Businesses" by amending section 10.460 "Proof of insurance required" to read in its entirety as follows:

> "It shall be unlawful for the owner of premises operated as a short-term rental to operate without host protection or other comparable liability insurance providing similar coverages for the operations of the short-term rental that provides coverage of $2,000,000.00 per occurrence. A certificate of insurance must be on file with the administrator. Proof of insurance shall be required at the time of application and notice of cancellation of insurance must be made to the administrator within 30 days."

SECTION 6. The Code of Ordinances of the City of Rowlett, Texas, as heretofore amended, is hereby amended at Division 7 "Short-Term Rentals" of Article XI "Rental Housing" of Chapter 10 "Businesses" by amending section 10.477 to now be entitled "Revocation or suspension of Permit" and to read in its entirety as follows:

"(a) *Grounds for revocation or denial of permit.* In addition to grounds related to the permit application set forth herein and subject to the provisions of subsection (b) hereinbelow, any permit application shall be denied and/or any permit issued hereunder shall be revoked by the administrator if the permit holder has:

(1) Received, within the preceding 12-month time period, more than two citations for a violation of this division or any other provision of this Code of Ordinances or state or federal law that does not constitute a serious incident;
(2) Failed or refused to comply with an express condition of the permit and remains in noncompliance ten days after being notified in writing of such noncompliance;
(3) Knowingly made a false statement in the application; or
(4) Otherwise become disqualified for the issuance or holding of a permit under the terms of this ordinance.

(b) *Suspension or revocation based on serious incident.* If the administrator determines by a preponderance of the evidence, that at least one serious incident occurred at the STR premises within one (1) year preceding the date of the administrator's written determination and the director determines that the permit holder was aware of but consciously disregarded a substantial risk of the serious incident occurring, then:

(1) in the case of an application for registration, permit, the application shall be suspended for up to nine months during investigation and/or prosecution related to the serious incident and, on or after the date of conviction for the criminal conduct constituting the serious incident, the application shall be deemed denied until one year after

the date of the last serious incident. In the event that the investigation and/or prosecution leads to the criminal charges being dismissed and/or not prosecuted, the suspension shall be terminated, and the application date shall be the date the suspension was terminated; and

(2) in the case of a permit already issued, the permit shall be suspended for up to nine months during investigation and/or prosecution related to the serious incident and, on or after the date of conviction for the criminal conduct constituting the serious incident, any permit previously issued shall be revoked. In the event that the investigation and/or prosecution leads to the criminal charges being dismissed or not prosecuted, the suspension shall be terminated and the permit reinstated for the remainder of its term, if any.

(c) For purposes of this subsection (b) of this section:

(1) the administrator may meet the preponderance of the evidence standard for showing that at least one serious incident occurred by evidence which may include, but shall not be limited to: evidence of criminal enforcement action, criminal investigative action, issuance of a criminal citation, and/or criminal prosecution for the serious incident; and

(2) the administrator may meet the preponderance of the evidence standard for showing conviction of at least one serious incident by evidence which may include, but shall not be limited to: evidence of a conviction which shall include an adjudication of guilt, a plea of no contest, or a plea of guilty.

(d) *Notice.* Notice of the suspension, denial, or revocation shall be given to the permit holder in writing, with the reasons therefor specified in the notice, served either by personal service or by certified United States mail to their last known address. The suspension, denial, or revocation shall become effective the day following the personal service or, if mailed, three days from the date of mailing.

(e) *Appeal; hearing.* The permit holder shall have ten days from the date of such suspension, denial, or revocation in which to file notice with the administrator of appeal from the order suspending, denying, or revoking the permit. The administrator shall provide for a hearing on the appeal in accordance with the provisions of this division.

(f) *One-year waiting period.* In the event a permit holder's short-term rental permit for a premises is revoked by the administrator, no second or additional permit shall be issued for a short-term rental to that owner or for that premises during the following permit year, said permit year to commence on January 31 immediately following the date of permit revocation."

SECTION 7. Should any sentence, paragraph, subdivision, clause, phrase, or section of this Ordinance be adjudged or held to be unconstitutional, illegal, or invalid, the same shall not affect the validity of this Ordinance as a whole, or any part or provisions thereof other than the part so decided to be invalid, illegal or unconstitutional, and shall not affect the validity of the Code of Ordinances as a whole.

SECTION 8. All provisions of the ordinances of the City of Rowlett in conflict with the provisions of this Ordinance are hereby repealed and all other provisions of the ordinances of the City of Rowlett not in conflict with the provisions of this Ordinance shall remain in full force and effect.

SECTION 9. This Ordinance shall take effect immediately from and after its passage and publication as the law and charter in such cases provide.

4929-1789-6377, v. 1

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 5.D.

Title
Consider action to adopt an ordinance amending the Code of Ordinances, Article IV "Regulation of Sex Offender Residency" Ordinance Chapter 34 by amending Section 34.71 to provide for an additional offense prohibiting property owners from renting certain real property to registered sex offenders; providing a severability clause, providing for a fine not to exceed the sum of five hundred ($500) dollars for each offense; and providing an effective date.

Staff Representative
Andrew Espinoza, Asst. Director Community Director/Chief Building Official

Executive Summary
The City currently enforces a prohibition that restricts certain registered sex offenders from residing within 1,000 feet of locations where children commonly gather. These locations include, but are not limited to schools, parks, arcades, recreational facilities, daycares, and similar uses. The purpose is to enhance public safety by reducing the chances that repeat sexual offenders can harm others, especially children. This amendment aims to partner with property owner, deter future crimes, and protect vulnerable individuals by increasing awareness and oversight.

Strategic Priority and Goal(s)

STRENGTHEN NEIGHBORHOOD LIVABILITY	3.1 Value existing neighborhoods. 3.2 Sustain a community that is appealing to people at all stages of life.

Background Information
The City currently maintains adopted short-term and long-term rental ordinances; however, updates have been recommended to strengthen their effectiveness regarding public safety. Specifically, the proposed amendments introduce requirements for short-term and long-term rental properties that would prohibit property owners from leasing residential property located within 1,000 feet of areas where children commonly gather to a registered sex offender. The intent of this amendment is to further protect the health, safety, and general welfare of the public. The City is seeking to strengthen these provisions by addressing rental housing situations.

Discussion

The proposed amendment would update Article IV, “Regulation of Sex Offender Residency” of Chapter 34 “Miscellaneous Offenses”, Section 34–71 and would prohibit property owners from leasing, subleasing, or renting residential property to registered sex offenders when the property is located within 1,000 feet of areas where children commonly gather. This additional measure is intended to reinforce existing regulations, close potential gaps in enforcement, and enhance protections for vulnerable populations within the community.

Offenses

It is unlawful to let, sublet, or rent any place, structure, or part thereof, manufactured home trailer, or any other conveyance, with a knowledge that it will be used as a permanent or temporary residence by any person prohibited from establishing such permanent residence or temporary residence pursuant to the terms of this chapter if such place is located within 1,000 feet from a premise where children commonly gather.

Enforcement

An offense committed before the effective date of this ordinance is governed by the prior law and the provisions of the code of ordinances. Any person, firm, or corporation violating any provision of this ordinance shall be deemed guilty of a misdemeanor and, upon conviction, shall be punished by a fine not to exceed five hundred dollars ($500.00) for each offense.

This ordinance shall take effect immediately upon the passage and adoption.

Financial/Budget Implications

The changes would not have any budget or financial impact on the City.

Recommended Action

The governing body may take the following actions:

- Approve
- Approve with conditions
- Deny

AN ORDINANCE OF THE CITY OF ROWLETT, TEXAS, AMENDING THE CODE OF ORDINANCES, CITY OF ROWLETT, TEXAS, AT ARTICLE IV (“REGULATION OF SEX OFFENDER RESIDENCY”) OF CHAPTER 34 (“MISCELLANEOUS OFFENSES”) BY AMENDING SECTION 34-71 TO PROVIDE FOR AN ADDITIONAL OFFENSE PROHIBITING PROPERTY OWNERS FROM RENTING CERTAIN REAL PROPERTY TO REGISTERED SEX OFFENDERS; PROVIDING A REPEALING CLAUSE; PROVIDING A SAVINGS CLAUSE; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY OF FINE NOT TO EXCEED THE SUM OF FIVE HUNDRED ($500.00) DOLLARS FOR EACH

OFFENSE; AND, PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Rowlett has heretofore adopted prohibitions pertaining to registered sex offenders, prohibiting certain registered sex offenders from residing within 1,000 feet of places where children commonly gather; and

WHEREAS, the City Council finds that it will serve the public health, safety and general welfare to prohibit property owners from renting real property that is located within 1,000 feet of premises where children commonly gather to registered sex offenders;

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

SECTION 1: Chapter 34, "Miscellaneous Offenses," of the Code of Ordinances, City of Rowlett, Texas, be and is hereby amended at Article IV, "Regulation of Sex Offender Residency," by amending section 34-71 to add a new subsection (c), to read in its entirety as follows:

"**CHAPTER 34**
MISCELLANEOUS OFFENSES

. . .

ARTICLE IV. REGULATION OF SEX OFFENDER RESIDENCY

. . .

Sec. 34-71. - Offenses.

(a) **. . .**

(b) **. . .**

(c) It is unlawful to let, sublet, or rent any place, structure, or part thereof, manufactured home, trailer, or any other conveyance, with the knowledge that it will be used as a permanent residence or temporary residence by any person prohibited from establishing such permanent residence or temporary residence pursuant to the terms of this chapter, if such place, structure, or part thereof, manufactured home, trailer, or other conveyance is located within one thousand (1,000) feet, as defined in section 34-72, from a premises where children commonly gather, as defined in section 34-70."

SECTION 2. All ordinances of the City of Rowlett, Texas, in conflict with the provisions of this ordinance be and the same are hereby repealed and all other ordinances of the City not in conflict with the provisions of the ordinance shall remain in full force and effect.

SECTION 3. An offense committed before the effective date of this ordinance is governed by the prior law and the provisions of the Code of Ordinances and ordinances of the City, as amended, in effect when the offense was committed, and the former law is continued in effect for this purpose.

SECTION 4. Should any section, paragraph, sentence, subdivision, clause, phrase or provision of this ordinance be adjudged or held to be unconstitutional, illegal, or invalid, the same shall not affect the validity of this ordinance as a whole or any part or provision hereof

other than the part so decided to be unconstitutional, illegal, or invalid and shall not affect the validity of the remainder of this ordinance or any other provision of the Code of Ordinances of the City.

SECTION 5. Any person, firm or corporation violating any of the provisions or terms of this ordinance or the codes adopted hereby, as same may be amended, shall be deemed guilty of a misdemeanor and subject to a penalty as provided for in this ordinance, and upon conviction shall be punished by fine not to exceed the sum of Five Hundred Dollars ($500.00) for each offense.

SECTION 6. This ordinance shall take effect immediately upon its passage and adoption and the publication of the caption as the law and charter in such cases provide.

Attachments
None

City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 5.E.

Title
Consider action to adopt an ordinance granting a variance to the City's alcoholic beverage distance requirements to allow the sale of wine and malt beverages for off-premises consumption at the retail sales establishment located within Waterview Plaza, situated at the intersection of Liberty Grove Road and Princeton Road.

Staff Representative
Deborah Sorensen, City Secretary

Executive Summary
The City of Rowlett adopted the Texas Alcoholic Beverage Commission (TABC) distance requirements for businesses selling alcoholic beverages for off-premise consumption. These requirements relate to the minimum distance such businesses may locate from a school, church, or hospital. In January 2013, City Council amended the Code of Ordinances to allow for a variance process should a business wish to locate within the minimum distance. This item is to consider such a request.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
GOVERN TRANSPARENTLY & INCLUSIVELY	1.8 Provide accurate and timely information to policy-makers and the public.

Background Information
In 2004, Rowlett voters approved beer and wine sales for off-premise consumption and the guidelines regulating those businesses. The Texas Alcoholic Beverage Code §109.33 outlines a 300-foot distance requirement from schools, churches, or hospitals. This section of the Code also allows the governing body of a municipality to grant variances. This process was approved by City Council in January 2013, by adoption of Ordinance 001-13, which states the following:

> **Sec. 10-33. Variances.**
> (a) Upon application, the city council may hear and determine whether and to the extent that a variance from the distance requirements imposed by section 10-32(a) of this article should be granted.
> (b) The council may grant a variance to section 10-32(a) if it determines that

enforcement of the regulation in a particular instance is not in the best interest of the public, constitutes waste or inefficient use of land or other resources, creates an undue hardship on an applicant for a license or permit, does not serve its intended purpose, is not effective or necessary, or for any other reason the council, after consideration of the health, safety, and welfare of the public and the equities of the situation, determines is in the best interest of the community.

Discussion

Waterview Plaza is located at the intersection of Liberty Grove Road and Princeton Road and consists of approximately two acres, legally described as **Lot 1, Block A, Waterview Plaza Addition, City of Rowlett, Dallas County, Texas**. There is a church located on the adjacent lot. However, the measurement guidelines differ for churches and therefore, do not affect this location. Due to the location of the shopping center and its proximity to a school, the retail sales establishment would be ineligible for wine and malt beverage sales according to the TABC guidelines. For this reason, the applicant is requesting a variance from the distance requirement.

The retail sales establishment at this location has continuously operated since 2014. On **May 6, 2014**, the Rowlett City Council approved a variance from the City's alcoholic beverage distance requirements, allowing the business to sell alcoholic beverages (wine and malt beverages).

The business has recently changed ownership. Because the previously approved variance does not automatically transfer to a new owner for licensing purposes, the new owner is required to obtain City Council approval of a new variance before the Texas Alcoholic Beverage Commission (TABC) can issue a BQ Permit authorizing the sale of malt beverages and wine for off-premise consumption.

The request is administrative in nature and is necessitated solely by the change in ownership. The location, use of the property, and the type of alcoholic beverages proposed for sale remain unchanged.

Financial/Budget Implications

N/A

Recommended Action

Adopt an ordinance granting a request for a variance to the City's alcoholic beverage distance requirements to allow the sale of wine and malt beverages for off-premises consumption at the retail sales establishment located within Waterview Plaza, situated at the intersection of Liberty Grove Road and Princeton Road.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS, GRANTING A VARIANCE FROM THE CITY'S DISTANCE REQUIREMENT FOR A RETAIL SALES ESTABLISHMENT KNOWN AS ROWLETT COUNTRY MART BEER AND WINE LOCATED IN SUITE 800, 8701 LIBERTY GROVE ROAD, IN WATERVIEW PLAZA LOCATED AT THE INTERSECTION OF LIBERTY GROVE

ROAD AND PRINCETON ROAD TO ALLOW THE SALE OF WINE AND MALT BEVERAGES FOR OFF-PREMISE CONSUMPTION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Rowlett, Texas has prescribed a process by which it may grant a variance from the City's distance requirements as set forth in Section 10-32 of the Code of Ordinances, City of Rowlett, Texas, regarding the proximity of alcoholic beverage sales to a school, church, or hospital; and

WHEREAS, the City Council of the City of Rowlett, Texas, after review and deliberation, has determined that enforcement of the regulation in this particular instance is not in the best interest of the public for one or all of the following reasons: 1) constitutes waste or inefficient use of land or other resources, 2) creates an undue hardship on an applicant for a license or permit, 3) does not serve its intended purpose, and/or 4) is not effective or necessary; and

WHEREAS, the City Council of the City of Rowlett, Texas has determined that granting a variance is in the best interest of the community.

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

Section 1: The City Council of the City of Rowlett, Texas does hereby grant a variance from the distance requirement for the sale of alcoholic beverages, specifically wine and malt beverages for off-premises consumption, in proximity to a church located on the adjacent lot, at a retail sales establishment known as Rowlett Country Mart Beer and Wine, said establishment being located in Suite 800, 8701 Liberty Grove Road, in Waterview Plaza located at the intersection of Liberty Grove Road and Princeton Road, further described as Lot 1, Block A of the Waterview Plaza Addition to the City of Rowlett, Dallas County, Texas.

Section 2: This ordinance shall become effective immediately upon its passage.

Attachments

1. Attachment 1 - Alcoholic Beverage Distance Variance Application Packet

Part 1: Rowlett Alcoholic Beverage Distance Variance Application

I. PROPERTY & APPLICANT INFORMATION

- **Project/Business Name:** Rowlett Country Mart Beer and Wine
- **Property Address:** 8701 Liberty Grove Rd STE 800, Rowlett, TX 75089
- **County of Location:** [✓] Dallas County [ ] Rockwall County *(Rowlett spans both)*
- **Legal Description:** Lot: _____ Block: _____ Subdivision: _____
- **Current Zoning District:** Commercial (e.g., General Commercial, Urban Village)
- **Applicant Name / Company:** Kaku Fortune LLC
- **Mailing Address:** 8701 Liberty Grove Rd STE 800, Rowlett, TX 75089
- **Phone & Email:** 917-678-8724 / rohin.enterprise@gmail.com
- **Property Owner Name/Company, if different from Applicant:** _____
  _____
- **Property Owner Mailing Address:** _____
- **Property Owner Phone & Email:** _____

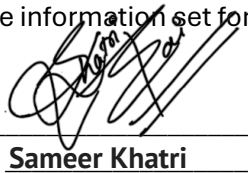
II. VARIANCE REQUEST DETAILS

- **Name of Target Protected Use:** convenience store
- **Target Protected Use Address:** 8701 Liberty Grove Rd STE 800, Rowlett, TX 75089
- **Required Distance:** 300 Feet
- **Actual Measured Distance:** 235.4 Feet *(Measured from your main public entrance to the school's property line)*
- **Proposed TABC License Type:** BQ (e.g., BG - Wine and Malt Beverage Retailer's Permit)

III. SUBMISSION CHECKLIST

- Completed application submitted.
- Application filing fee – N/A
- Scaled Site Plan showing property lines, building footprints, and site boundaries.
- Certified Survey Map detailing the precise TABC measurement line(s).
- List of all property owners within 300 feet of the subject property.
- Formal, signed Letter of Intent / Justification Statement identifying reason for seeking variance and assessing impact on public safety and welfare of attendees of target protected use.

I certify that the information set forth above and in all submission checklist materials is true and correct.

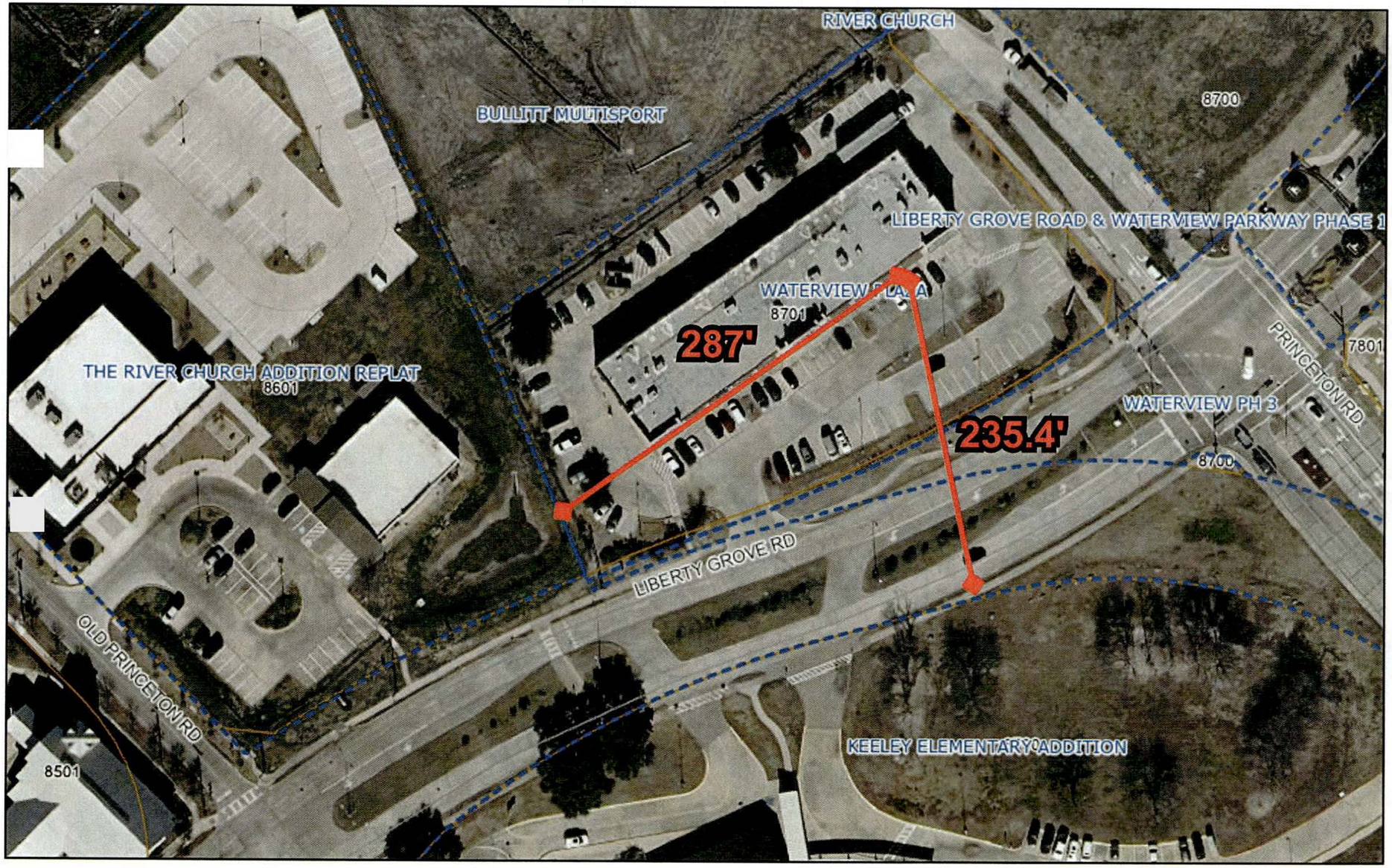


_____

Printed Name: Sameer Khatri

DCAD Account No.	Property Name	Owner's Name	Address	City	State	Zip
99241010570000000	E AND G SALON AND DAY SPA	E AND G SALON AND DAY SPA	STE 300 8701 LIBERTY GROVE RD	Rowlett	TX	75089
441236100A0010000	WATERVIEW PLAZA	WATERVIEW PLAZA LLC	8701 LIBERTY GROVE RD	Rowlett	TX	75089
99211014860000000	ROWLETT MARTIAL ARTS CENTER	ROWLETT MARTIAL ARTS CENTER	STE 400 8701 LIBERTY GROVE RD	Rowlett	TX	75089
99241010490000000	LIBERTY FAMILY CARE AND WELLNESS	LIBERTY FAMILY CARE AND WELLNESS	STE 100 8701 LIBERTY GROVE RD	Rowlett	TX	75089
99210318900000000	V & P ONE COMPANY	V & P ONE COMPANY	STE 25 8701 LIBERTY GROVE RD	Rowlett	TX	75089
99241010590000000	H AND M NAILS AND SPA	H AND M NAILS AND SPA	STE 500 8701 LIBERTY GROVE RD	Rowlett	TX	75089
99161103490000000	MARCOS PIZZA	MARCOS PIZZA	STE 900 8701 LIBERTY GROVE RD	Rowlett	TX	75089
99150727199000000	BAKER DOZEN DONUTS	BAKER DOZEN DONUTS	STE 600 8701 LIBERTY GROVE RD	Rowlett	TX	75089
440007800B0010000	BULLITT MULTISPORT	BULLITT TRAINING FIELDS LLC	8901 PRINCETON RD	Rowlett	TX	75089
440007800B0010000	JERRY BULLITT TRAINING CENTER	BULLITT TRAINING FIELDS LLC	8900 PRINCETON RD	Rowlett	TX	75089
99241010640000000	ACACIA COLLECTIVE	ACACIA COLLECTIVE	STE C 8601 LIBERTY GROVE RD	Rowlett	TX	75089
99260323400000000	LITTLE EINSTEINS LEARNING CENTER LLC	LITTLE EINSTEINS LEARNING CENTER	STE A 8601 LIBERTY GROVE RD	Rowlett	TX	75089
440169000A0IR0000	RIVER CHURCH	LLC LAKE CITIES COMMUNITY CHURCH	8601 LIBERTY GROVE RD	Rowlett	TX	75089
44004000010010000	KEELEY ELEMENTARY	GARLAND ISD	8700 LIBERTY GROVE RD	Rowlett	TX	75089
44023560LL09R0000	WATERVIEW COMMUNITY ASSOC	WATERVIEW COMMUNITY ASSOC	7801 KINGS CT	Rowlett	TX	75089
65054456010300100	JAMES M HAMILTON ABST 544 PG 560	WATERVIEW PLAZA LLC	8700 LIBERTY GROVE RD	Rowlett	TX	75089

Rowlett Country Mart



July 8, 2026

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.03 0.06 km

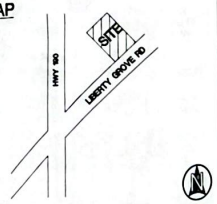
GIS
City of Rowlett

STOP & SHOP

8701 LIBERTY GROVE RD. #800, ROWLETT, TX 75089

BEAR DESIGN BUILD
2905 VILLA CREEK DR. #110
DALLAS, TEXAS 75234
TEL) 469-682-7038
FAX) 972-247-4477

VICINITY MAP



CODE INFORMATION SUMMARY

SQUARE FOOTAGES:
LEASE SPACE= 2800 SF

JURISDICTIONS:
CITY OF ROWLETT BULDING DEPARTMENT

CODES - IBC 2012
- IPC 2012
- IMC 2012
- NEC 2011
- IFC 2012
- IECC 2009

REGULATIONS - TDLR - TEXAS ACCESSIBILITY STANDARDS
BUILDING OCCUPANCY TYPE =M
CONSTRUCTION TYPE - II-B (FULLY SPRINKLERED FACILITY)

OCCUPANT LOAD CALCULATION:

1. CUSTOMER AREA: 1200 SF (1200/30= 40 O.C.C.)
2. STORAGE: 1014 SF (1014/300= 4 O.C.C.)
3. OFFICE: 80 SF (80/100= 1 O.C.C.)
4. RESTROOM & SERVICE: 140 SF (0 O.C.C.)

TOTAL OCCUPANT LOAD= 28 O.C.C.

NUMBER OF RESTROOM REQ'D= 1 (LESS THAN 50)
NUMBER OF RESTROOM PROV'D= 1

BUILDING EGRESS -
MAX. TRAVEL DISTANCE= 66'-11"
NUMBER OF EXITS REQ'D: 1
NUMBER OF EXITS PROVIDED: 2
EGRESS WIDTH REQ'D: 4.2"
EGRESS WIDTH PROV'D: 6'

GENERAL NOTES:

1. THE GENERAL CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS ON THE JOB SITE AND REPORT ANY DISCREPANCIES AND/OR UNUSUAL CONDITIONS TO THE ARCHITECT PRIOR TO FINALIZING CONTRACT AND COMMENCEMENT OF CONSTRUCTION.
2. CONTRACTOR SHALL PROVIDE PUBLIC PROTECTION AS NECESSARY AND REQUIRED BY THE LOCAL CITY REQUIREMENTS.
3. WHILE THE DRAWINGS HAVE BEEN SEGMENTED INTO STANDARD DIVISIONS GENERALLY REFLECTING THE SCOPE OF WORK OF DIFFERENT TRADES, WORK REQUIRED OF ANY TRADE MAY BE SHOWN ANYWHERE IN THE DRAWINGS. CONTRACTOR IS THEREFORE CAUTIONED TO BASE CONTRACT ON THE ENTIRE INTEGRATED CONSTRUCTION DOCUMENTS; NO CLAIM FOR AN EXTRA WILL BE CONSIDERED FOR FAILURE TO DO SO.
4. IN THE EVENT OF DISCREPANCIES BETWEEN VARIOUS DRAWINGS, REPORT CONDITIONS TO ARCHITECT IN TIMELY MANNER TO ALLOW REVIEW AND RESPONSE.
5. UNLESS OTHERWISE INDICATED ON THESE DRAWINGS AS BEING N.I.C. OR EXISTING, ALL ITEMS, MATERIALS ETC. AND INSTALLATION OF SAME ARE A PART OF THE CONTRACT DEFINED BY THESE DRAWINGS
6. COLORS SHALL BE PROVIDED BY ARCHITECT, UNLESS OTHERWISE NOTED, UPON COMPLETION OF APPROVED COLOR SELECTION BOARD
7. UNLESS OTHERWISE NOTED, EXTERIOR AND INTERIOR EXPOSED METAL TRIM, TRELLAGE RAILING, MOLDING, FRAMES, CASTINGS, ETC. WORK ETC. SHALL BE PAINTED.
8. GENERAL CONTRACTOR TO KEEP SITE CLEAN AT ALL TIMES.
9. GAPS BETWEEN DIFFERENT MATERIALS OR AT CORNERS SHALL BE THOROUGHLY SEALED.
10. ROOF PENETRATIONS FOR NEW MECHANICAL EQUIPMENT SHALL CONFORM W/ EXISTING ROOFING MANUFACTURERS, WARRANTY DETAILS, SO AS TO MAINTAIN WARRANTY COVERAGE.

    ALL ROOF CUTS AND CURB FLASHINGS BY LL'S ROOFER AT TENANT'S EXPENSE.
11. GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE W/ STRUCTURE ENGINEER FOR ALL STRUCTURAL ISSUES FOR THIS SPECIFIC PROJECT.

NO	AREA	FLOOR							BASE						WALLS										CEILINGS					
		EXPOSED CONCRETE STAINED W/ EPOXY COAT	QUARRY TILE	CERAMIC	WOOD FLOOR	CARPET	TILE	VINYL	CARPET	COVED TILE	TILE - UNDER COUNTER (BACK SIDE OF FRONT COUNTER)	FRP (4' A.F.F.) W/ 6YP	FRP UP TO CEILING	STAINLESS STEEL SHEET @ VENT HOOD ONLY	6YP. BD. W/ PAINT	CERAMIC (4' A.F.F.) WITH WALL PAPER ABOVE	ACT (2'X4')	ACT (2'X2')	OPEN TO STRUCTURE	ACT (2'X4')- VINYL FACE	6YP. BD. CEILING	ACT (2'X2')- VINYL FACE								
101	SALES		•					•											•											
102	SERVICE		•					•											•											
103	OPEN STORAGE		•					•											•											
104	OFFICE		•					•											•											
105	RESTROOM		•						•			•								•										
106	HALLWAY		•					•					•							•										
107	STORAGE		•					•												•										

03 ROOM SCHEDULE N.T.S.

NO	DOOR SIZE	THK.	MATERIAL	FRAME
1	3'-0" x 7'-0"	1 3/4"	NEW STOREFRONT DOOR	ALUM.
4	3'-0" x 7'-0"	1 3/4"	SOLID CORE WOOD DOOR W/ PRE- FINISH	HM
5	3'-0" x 7'-0"	1 3/4"	SOLID CORE WOOD DOOR W/ PRE- FINISH	HM
6	3'-0" x 7'-0"	1 3/4"	EXISTING HOLLOW METAL DOOR	HM
7	3'-0" x 7'-0"	1 3/4"	SOLID CORE WOOD DOOR W/ PRE- FINISH	HM

DOOR HARDWARE

1. ALL HARDWARE TO BE SCHLAGE LEVER HANDLE HARDWARE WITH 626 FINISH, PROVIDE SILENCERS, HINGES AND LATCH SETS FOR EACH DOOR AS REQUIRED.
2. PROVIDE CLOSURES (LCN689-OR APPROVED ALUM. EQUAL) ON TOILET DOORS
3. IF NOT PRESENT (FOR REAR DOOR ONLY)- CONTRACTOR TO PROVIDE PANIC HARDWARE WITH ALARM. " ALARM WILL SOUND WITH OPENING " ON REAR DOOR- WEATHER SEAL AND SECURITY VIEWER AT 60" A.F.F. AT EXISTING REAR DOOR.
4. FRONT AND BACK DOOR: SCHLAGE LEVEL HANDLE KEYED ENTRACE, WITH PUSH BUTTON INSIDE.

02 DOOR SCHEDULE N.T.S.

REVIEWED

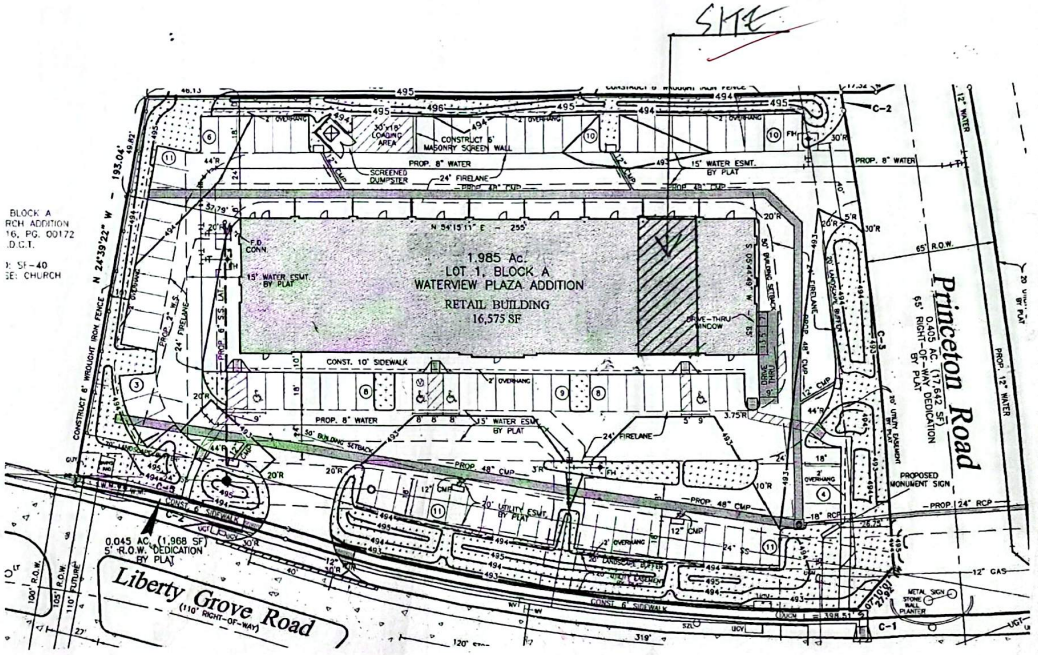
THE ISSUANCE OR GRANTING OF A PERMIT OR REVIEW OF PLANS OR SPECIFICATIONS SHALL NOT BE CONSTRUED TO BE A PERMIT FOR, OR AN APPROVAL OF, ANY VIOLATION OF ANY APPLICABLE CODES OR ORDINANCES. THE BUILDING OFFICIAL MAY REQUIRE AT ANY TIME, CORRECTIONS OF ERRORS IN PLANS OR WORK WHEN IN VIOLATION OF ANY APPLICABLE CODES OR ORDINANCES OF THE CITY OF ROWLETT.

5-29-14 — DATE
CITY ENGINEER
BUILDING INSPECTOR

COMMERCIAL BUILDING PLAN REVIEW

Reviewed By:	OK to release	Needs further review	Note:
Blake Scott			
Keith Bickham	5/29/2014		SEE ATTACHED SHEET #
Joe Tiger			See attached Note (1)

ADDITIONAL PERMITS NEEDED
- Certificate of Occupancy
- Fire Alarm
- Fire Sprinkler
- Food Services
- Irrigation
- Screening Wall
- Signage



SUBJECT TO FIELD INSPECTOR'S APPROVAL

01 SITE PLAN N.T.S.

MA International
2601 Perth Street
Dallas, TX75220
johnma2@yahoo.com
ENGINEER

ARCHITECT SEAL

ENGINEER SEAL
MA INTERNATIONAL

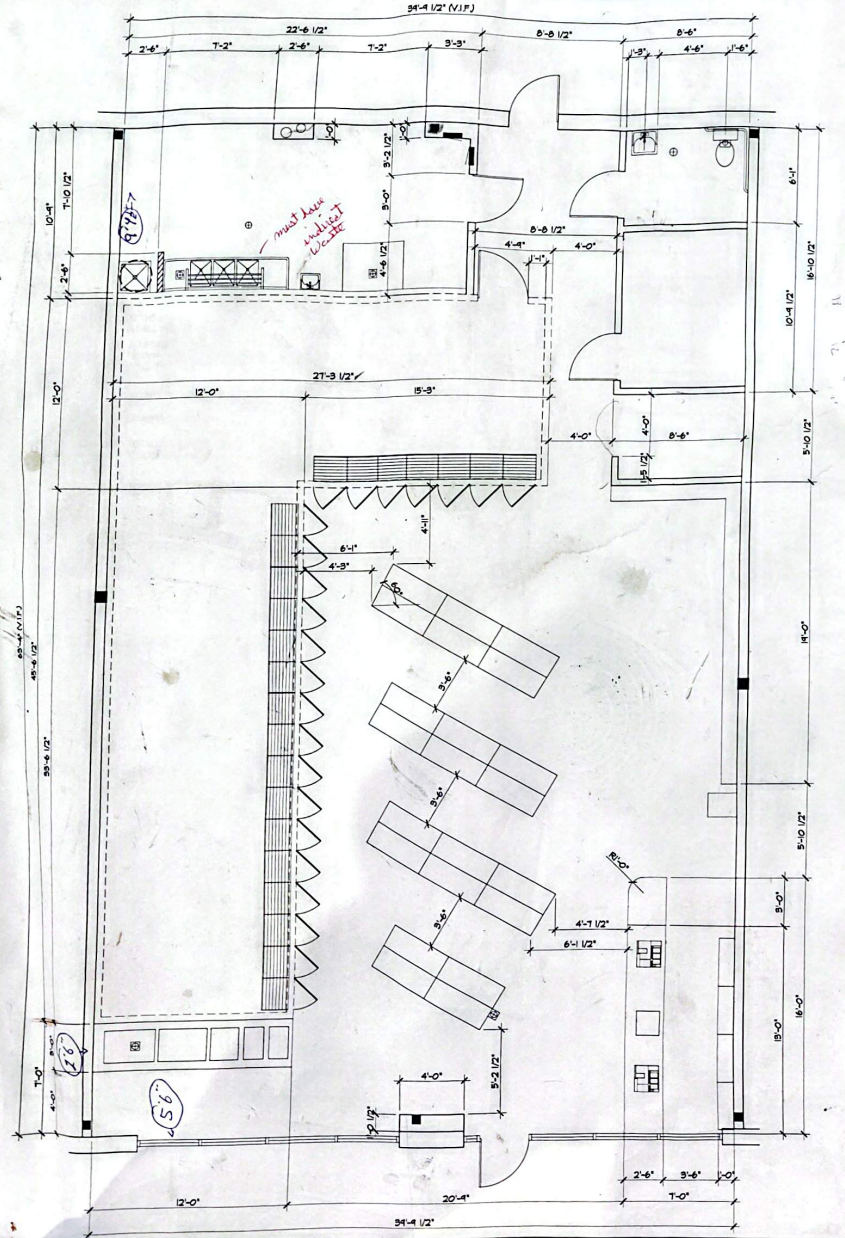
#	DATE	SUBMISSION
—	05.23.14	CONSTRUCTION DOCUMENT
1	-	-

STOP & SHOP
ROWLETT, TX

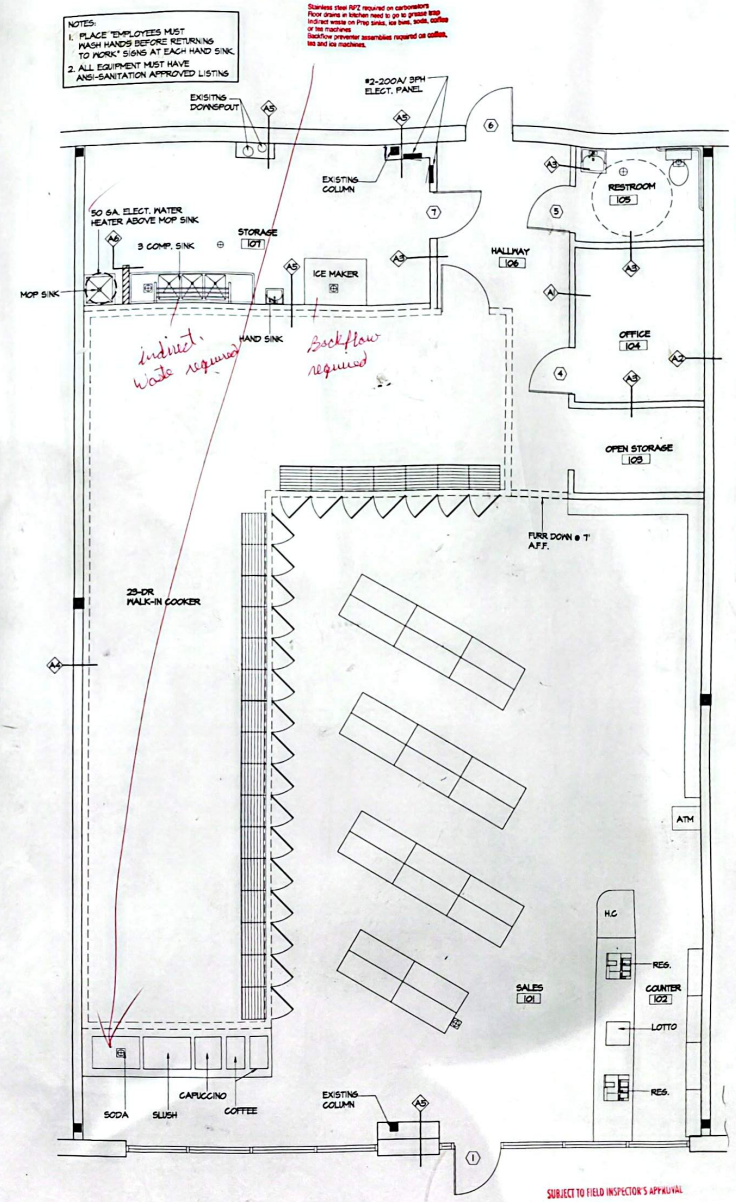
SITE PLAN

21405-15 JOB NO.
A1.01 SHEET

TYPE	PARTITION	GA.	HEIGHT	GYP. BD. TYPE	INSULATION
A1		25	10'	5/8" GYP. BD. ON 3 5/8" MTL. STUDS @24" O.C. ON BOTH SIDES	NO BATT INSULATION
A2		20	B.O.DECK	5/8" GYP. BD. ON 6" MTL. STUDS @24" O.C. ON BOTH SIDES	BATT INSULATION (R-19)
A3		25	10'	5/8" MR. GYP. BD. ON 3 5/8" MTL. STUDS @24" O.C. ON BOTH SIDES	BATT INSULATION (R-13) @ RESTROOM
A4	EXISTING			GYP. BD. ON EXISTING EXTERIOR FRAME	BATT INSULATION (R-19)
A5		25	10'	5/8" GYP. BD. ON 3 5/8" MTL. STUDS @24" O.C. ON ONE SIDE	NO BATT INSULATION
A6		25	4'	5/8" MR. GYP. BD. ON 3 5/8" MTL. STUDS @24" O.C. ON BOTH SIDES	NO BATT INSULATION



DIMENSION CONTROL PLAN 1/4"=1'-0"



01 FIXTURE PLAN 1/4"=1'-0"

BEAR DESIGN BUILD
2695 VILLA CREEK DR. #110
DALLAS, TEXAS 75234
TEL) 469-862-7038
FAX) 972-247-4477

MA International
2601 Perth Street
Dallas, TX75220
johnma2@yahoo.com
ENGINEER

ARCHITECT SEAL

ENGINEER SEAL
MA INTERNATIONAL

#	DATE	SUBMISSION
—	09.22.14	CONSTRUCTION DOCUMENT
1	—	—

STOP & SHOP
ROWLETT, TX

FLOOR PLAN

21405-15 JOB NO.

A2.01 SHEET

Updated Letter of Intent and Justification Statement

Date: July 7, 2026

To:

City of Rowlett
Planning and Zoning Commission / City Council
4000 Main Street
Rowlett, TX 75088

Applicant: Kaku Fortune LLC

DBA: Rowlett Country Mart Beer and Wine

Property Location: 8701 Liberty Grove Rd., Suite 800, Rowlett, TX 75089

Permit Type: Wine and Malt Beverage Retailer's Off-Premises Permit (BQ)

Subject: Formal Letter of Intent and Justification Statement for a Distance Variance Request – Transfer of Existing/Historical Use Location to New Ownership.

I. Executive Summary & Purpose of Request

Kaku Fortune LLC respectfully submits this application for a distance variance from the standard separation requirements of the City of Rowlett. The applicant recently acquired the existing neighborhood convenience store, Rowlett Country Mart Beer and Wine, located at 8701 Liberty Grove Road, Suite 800.

The purpose of this request is to secure the necessary local variance to obtain our new Wine and Malt Beverage Retailer's Off-Premises Permit (BQ). This location has a long-standing history of operating as a compliant retail establishment with a valid alcohol sales permit under the previous ownership. Because the permit cannot be directly transferred to a new legal entity under state law, the change in ownership requires a new application, triggering the standard distance review. This statement demonstrates that our application represents a continuation of an established, historical use rather than the introduction of a new alcohol retailer to the area.

II. Specific Justification and Hardship Statement

A literal enforcement of the standard distance ordinance creates an unnecessary and unique hardship for this property due to the following structural and operational realities:

Continuation of Existing, Permitted Use: This establishment has operated safely at this exact location with active beer and wine permits under the prior ownership. The neighborhood has already adjusted to and accepted this commercial use without issue.

No Expansion or Change of Scope: Kaku Fortune LLC is maintaining the exact same 2,600 sq ft retail footprint. We are making no structural expansions, no exterior alterations, and no changes to the primary business model.

Arbitrary Economic Stranded Asset: Denying a variance to a new owner for an identical, pre-existing business use would strip the commercial property of its established operational model. This would impose an unfair and destructive financial hardship on a veteran-owned small business based strictly on a corporate ownership transition.

III. Public Safety and Welfare Impact Assessment

Because this location has a proven track record of safe operation adjacent to the target protected use, the transition to new management will cause zero negative impact on public safety or the welfare of attendees. The applicant is enhancing on-site protocols to ensure continued compliance.

1. Nature of Operations

Off-Premises Consumption Only: The store strictly sells packaged, sealed beverages for off-premise consumption. On-site consumption, open containers, and loitering in the parking lot remain strictly prohibited.

Ancillary Sales: Alcohol sales serve as a standard component of a neighborhood convenience market that offers daily grocery essentials, snacks, and non-alcoholic beverages to local residents.

2. Enhanced Security and Surveillance

Upgraded Monitoring: The new management maintains a continuous, high-definition digital surveillance system covering all interior registers, entryways, and the immediate storefront exterior perimeter.

Visible Environment: The property features professional exterior lighting across all walkways and parking fields to maintain high visibility and deter loitering during evening hours.

3. Strict Compliance and Staff Training

Mandatory TABC Certification: All employees must complete Texas Alcoholic Beverage Commission (TABC) seller training and maintain active certification.

Electronic Age Verification: Cashiers must physically scan state-issued identification cards through electronic age-verification scanners for all age-restricted transactions before a sale can proceed.

Zero-Tolerance Policies: Management enforces strict zero-tolerance policies regarding underage sales, proxy purchasing, and loitering near the storefront.

4. Physical Separation

Established Traffic Patterns: The storefront faces away from the protected use, utilizing long-standing commercial driveways. Normal business traffic does not cross paths with or disrupt the attendees of the protected facility.

IV. Conclusion

The granting of this distance variance does not introduce a new use to the neighborhood. It simply allows a pre-existing, historically compliant local business to continue operating under responsible new ownership. We respectfully request your approval of this variance application to finalize our licensing process.

Sincerely,

Sameer Khatri
Manager/Co-Owner, Kaku Fortune LLC
Rowlett Country Mart Beer and Wine

Shishir Dhungana
Co-Owner, Kaku Fortune LLC
Rowlett Country Mart Beer and Wine

ASSET PURCHASE AGREEMENT

THIS ASSET PURCHASE AGREEMENT (this "Agreement") is made and entered into as of this 15th day of June, 2026, by and between:

- **SELLER:** Golden Blessings Inc, a Texas For-Profit Corporation, acting by and through its authorized representative, Karim Moosani Jr, with a principal place of business at 8701 Liberty Grove Rd #800, Rowlett, TX 75089 ("Seller").
- **BUYER:** Kaku Fortune LLC, a limited liability company, a Texas limited liability company, acting by and through its authorized representatives Shishir Dhungana and Sameer Khatri ("Buyer").

RECITALS

WHEREAS, Seller owns and operates an independent convenience store known as "Rowlett Country Mart Beer and Wine" located at 8701 Liberty Grove Rd #800, Rowlett, TX 75089 (the "Business"); and

WHEREAS, Seller desires to sell, and Buyer desires to purchase, substantially all of the tangible and intangible assets of the Business, upon the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the mutual covenants, representations, warranties, and agreements contained herein, the parties agree as follows:

ARTICLE I: PURCHASE AND SALE OF ASSETS

1.1 Acquired Assets

On the Closing Date, Seller shall sell, assign, transfer, convey, and deliver to Buyer, and Buyer shall purchase from Seller, free and clear of all liens, claims, encumbrances, and security interests, all right, title, and interest in the following assets (collectively, the "Acquired Assets"):

- **(a) Tangible Personal Property:** All furniture, fixtures, equipment, display racks, shelving, walk-in coolers, refrigeration units, counter spaces, security systems, and point-of-sale (POS) hardware currently utilized in the Store.
- **(b) Inventory:** All saleable merchandise, including packaged foods, non-alcoholic beverages, tobacco products, and household goods located at the Store as of the Inventory Count.
- **(c) Intangible Assets and Goodwill:** The exclusive rights to the trade name "Rowlett Country Mart Beer and Wine" within the State of Texas, along with all associated logos, trademarks, slogans, supplier records, customer lists, telephone numbers, and administrative rights to the Google Business Profile, Yelp listings, and social media channels, as applicable.
- **(d) Assumed Contracts:** All rights under third-party vendor and utility agreements assigned to and assumed by Buyer, including but not limited to, ATM revenue contracts or coin-operated machine agreements, subject to landlord and vendor approval.

1.2 Excluded Assets

The following assets are expressly excluded from this transaction: all cash on hand or in bank accounts prior to the close of business on the night before closing; all corporate organizational records of Seller; and any personal effects of Seller not used in daily store operations.

1.3 Alternative Corporate Stock Sale Contingency

If Buyer is unable to obtain a Texas Alcoholic Beverage Commission (TABC) license for the business within one hundred and twenty (120) days from the Closing Date through no fault of Buyer, Seller shall sell, transfer, and convey one hundred (100%) of the issued and outstanding corporate stock of Golden Blessings Inc to Buyer for a total purchase price of $1.00.
If necessary, upon the execution of this stock transfer, all Acquired Assets detailed in Section 1.1 shall remain the property of Golden Blessings Inc for the benefit of Buyer. Seller will to its best knowledge ensure that Golden Blessings Inc holds no undisclosed debts, liabilities, tax liens, or pending legal claims, and Seller agrees to fully indemnify Buyer against any corporate liabilities with respect to Golden Blessings Inc arising prior to the stock transfer to Buyer.

1.4 No Assumed Liabilities

Buyer is purchasing assets only and all assumed/assigned third party agreements beginning on the Closing Date and onward for which Buyer shall be solely responsible. Buyer does not assume, and shall not be responsible for, any liabilities, debts, obligations, or contracts of Seller, whether known or unknown, historical, fixed, or contingent, arising out of the operation of the Business prior to the Closing Date. Seller retains sole responsibility for all pre-closing debts, supplier accounts payable, and employee wage claims.

ARTICLE II: PURCHASE PRICE AND ALLOCATION

2.1 Purchase Price

The total purchase price for the Acquired Assets shall be $65,000.00 (the "Purchase Price"), plus the value of the Inventory as determined pursuant to Section 2.2, subject to the adjustments and holdbacks set forth herein.

2.2 Tax Allocation

Buyer and Seller agree to allocate the total consideration among the Acquired Assets in accordance with Section 1060 of the Internal Revenue Code and **IRS Form 8594**. Both parties shall file identical asset allocation forms with their respective tax returns.

ARTICLE III: CLOSING AND CONDITIONS PRECEDENT

3.1 Closing Date

The closing of the transaction contemplated by this Agreement (the "Closing") shall take place via electronic escrow or at a mutually agreed location on June 15, 2026 (the "Closing Date").

3.2 Conditions to Buyer's Obligation to Close

The obligation of Buyer to consummate the Closing is strictly contingent upon the satisfaction or written waiver of each of the following conditions:

(a) Landlord Consent and Lease Assignment: The landlord of the premises must execute a written Lease Assignment and Assumption Agreement, consenting to the transfer of the current commercial lease to Buyer's LLC on terms acceptable to Buyer

(b) Tax Liability: Seller shall remain responsible for any taxes, penalties, and interest finally

determined by the Texas Comptroller of Public Accounts to be due from Seller for periods ending on or before the Closing Date, except to the extent such amounts arise from Buyer's operation of the business or Acquired Assets after Closing. Seller shall indemnify Buyer only for such finally determined pre-Closing amounts, provided that Buyer gives Seller prompt written notice of the claim, permits Seller to control the defense or resolution of the matter, and does not settle or compromise the matter with Seller's prior written consent.

(c) Lottery Liability: During the transition period until Buyer obtains its own lottery license for the business, on a weekly basis, the parties shall settle the weekly lottery settlement report by Buyer reimbursing Seller for all lottery purchases and liabilities, less Buyer's lottery sales commission. Futhermore the parties agree that during this period, should the business sell a winning jackpot ticket, the jackpot bonus shall be split equally by the parties.

ARTICLE IV: REPRESENTATIONS AND WARRANTIES OF SELLER

Seller represents and warrants to Buyer that:

- **(a) Authority and Title:** Seller has full power and authority to enter into this Agreement. Seller is the sole and lawful owner of all Acquired Assets and has the absolute right to sell them free and clear of all liens, mortgages, pledges, or security encumbrances.
- **(b) Compliance with Law:** To the best of Seller's knowledge, the Business has been operated in compliance with all applicable local, state, and federal laws, including TABC rules, Texas Comptroller tax requirements, and health department regulations.
- **(c) Financial Statements:** All financial records, sales logs, and tax returns provided by Seller to Buyer for due diligence are accurate, complete, and fairly represent the financial condition and sales volumes of the Store.

ARTICLE V: POST-CLOSING COVENANTS

5.1 Non-Competition and Non-Solicitation

For a period of 3 (three) years following the Closing Date, Seller shall not, directly or indirectly, own, manage, operate, control, or invest in any convenience store, bodega, or grocery market selling beer, wine, or tobacco within a 5 (five) mile radius of the Store. Furthermore, Seller shall not solicit or hire away any store employees working at the Store as of the Closing Date for a period of twenty-four (24) months.

5.2 Transition and Operational Support

Seller agrees to remain available for the Store for a transition period of one (1) week post-Closing at no additional cost to Buyer. Seller shall provide training on POS management, daily reconciliation, and formally introduce Buyer to product distributors (tobacco, snack, and beverage wholesalers).

5.3 Temporary Management Coordination

Simultaneously with the execution of this Agreement, the parties shall execute the **Temporary Management Agreement**. In the event that the processing of Buyer's independent permits is delayed by the TABC, Seller covenants to cooperate fully and execute all necessary extensions to maintain its existing permits in active status so Buyer can operate the Store without a loss of business at the Buyer's sole expense.

During the transition period beginning on the Closing Date in which the Buyer is operating the business under the Seller's existing permits, should there be any misuse of such permits, Buyer shall be solely and exclusively responsible, including but not limited to all financial liabilities and penalties, legal expenses, etc. until such claims are fully resolved and shall indemnify the Seller from all such liabilities.

Furthermore, Buyer shall obtain business liability insurance effective on the Closing Date at its sole expense.

ARTICLE VI: MISCELLANEOUS

6.1 Governing Law and Venue

This Agreement shall be construed, interpreted, and governed by the laws of the **State of Texas**. Any dispute, litigation, or legal action arising out of this Agreement shall be brought exclusively in the state courts located in the county where the Store resides.

6.2 Entire Agreement

This Agreement, along with the Bill of Sale and Temporary Management Agreement executed concurrently, constitutes the entire contract between the parties and supersedes all prior discussions, understandings, or Letters of Intent. This Agreement may only be amended in a writing signed by both parties.

SIGNATURE BLOCKS

OWNER / SELLER: Golden Blessings Inc

Name: Karim Moosani Jr

Signature: _____ Date: 6-15-26

OPERATOR / BUYER: Kaku Fortune LLC

Name: Shishir Dhungana

Signature: _____ Date: 6/15/26

Name: Sameer Khatri

Signature: _____ Date: 06/15/2026

NOTARY

State of Texas County of Denton

On this 15th day of June, 2026, before me personally appeared the above-named parties.

Notary Public Signature: _____ My Commission Expires: 6/17/2026

JENNIFER KIM
Notary ID #133818680
My Commission Expires
June 17, 2026

BUSINESS BILL OF SALE (CONVENIENCE STORE)

Effective Date: 06/15/2026

Location: 8701 Liberty Grove Rd #800, Rowlett, TX 75089

1. PARTIES

This Business Bill of Sale ("Agreement") is entered into on the date above by and between:

Seller: Golden Blessings Inc, a Texas For-Profit Corporation, doing business as **Rowlett Country Mart Beer and Wine**, acting by and through its authorized representative Karim Moosani Jr ("Seller");

and

Buyer: Kaku Fortune LLC, a limited liability company, acting by and through its authorized representatives Shishir Dhungana and Sameer Khatri (collectively, "Buyer").

2. SALE OF BUSINESS ASSETS

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Seller hereby sells, transfers, assigns, and conveys to Buyer all of Seller's right, title, and interest in and to the convenience store business known as **Rowlett Country Mart Beer and Wine** (the "Business"), including the following assets (collectively, the "Assets"):

- All inventory (food, beverages, tobacco products, and merchandise);
- All furniture, fixtures, and equipment (including coolers, shelves, displays, POS system); and
- All goodwill of the Business and the right to use the name **Rowlett Country Mart Beer and Wine**.

3. PURCHASE PRICE AND ALLOCATION

The total purchase price (the "Purchase Price") for the business is $65,000.00 inclusive of goodwill and inventory. The parties agree that this allocation shall be used for all tax reporting purposes. Payment terms:

☒ Full payment at closing ☐ Installments: _____

4. CLOSING AND POSSESSION

The closing of this transaction ("Closing") shall occur on June 15, 2026.

Possession of the Business and Assets shall transfer to Buyer upon full payment of the Purchase Price, unless otherwise agreed in writing.

5. REPRESENTATIONS AND WARRANTIES

Seller Represents:

- All assets are transferred to Buyer **free and clear of all liens, claims, encumbrances, security interests, or chattel mortgages**.
- Seller will defend the title to these assets against any and all lawful claims and demands made by any third party.
- All tangible equipment and fixtures are transferred in **"as-is" condition and working order** as of the time of closing, with no other implied warranties of merchantability or fitness for a particular purpose.

Buyer Acknowledges:

- Buyer has inspected the Business and accepts it as-is.
- Buyer is relying on its own due diligence.
- Buyer will be responsible for reimbursing the Seller for Sales Taxes paid on behalf of Buyer from June 15, 2026 through June 30, 2026.
- Buyer and Seller shall equally split the cost of all utilities for the month of June.

6. "AS IS" SALE

THE ASSETS ARE SOLD **"AS IS, WHERE IS,"** WITHOUT ANY WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

7. LIABILITIES

- Seller is responsible for all liabilities before Closing.
- Buyer is responsible for all liabilities after Closing.

8. INDEMNIFICATION

Seller agrees to indemnify and hold Buyer harmless from any claims arising before Closing.

Buyer agrees to indemnify and hold Seller harmless from any claims arising after Closing.

9. GOVERNING LAW

This Agreement shall be governed by the laws of the State of Texas.

10. ENTIRE AGREEMENT

This Agreement contains the entire understanding between the parties and supersedes all prior agreements.

Any changes must be in writing and signed by both parties.

11. SIGNATURES

SELLER: Golden Blessings Inc

Name: Karim Moosani Jr

Signature: _____ Date: 06/15/2026

BUYER: Kaku Fortune LLC

Name: Shishir Dhungana

Signature: _____ Date: 06/15/2026

Name: Sameer Khatri

Signature: _____ Date: 06/15/2026

12. NOTARY

State of Texas County of Denton

On this 15th day of June, 2026, before me personally appeared the above-named parties.

Notary Public Signature: _____ My Commission Expires: 6/17/2026

JENNIFER KIM
Notary ID #133818680
My Commission Expires
June 17, 2026

TEMPORARY MANAGEMENT AGREEMENT

Effective Date: June 15, 2026

Location: 8701 Liberty Grove Rd #800, Rowlett, TX 75089

1. PARTIES

This Temporary Management Agreement ("Agreement") is entered into on June 15, 2026, by and between:

Owner/Seller: Golden Blessings Inc, a Texas For-Profit Corporation, doing business as **Rowlett Country Mart Beer and Wine**, acting by and through its authorized representatives Karim Moosani Jr ("Owner");

and

Operator/Buyer: Kaku Fortune LLC, a limited liability company, acting by and through its authorized representatives Shishir Dhungana and Sameer Khatri ("Operator").

2. PURPOSE

This Agreement is entered into in connection with the sale of the business known as **Rowlett Country Mart Beer and Wine**, and to provide a temporary transition period during which Operator shall manage and operate the business while obtaining its own licenses and permits.

3. TERM

This Agreement shall commence on **June 15, 2026,** and shall terminate automatically upon the earlier of: (a) the date all applicable authorities and governing bodies issue the final Required Permits to Operator's LLC, or (b) **one hundred twenty (120)** days from the Effective Date (the "Term").

4. MANAGEMENT AND OPERATION

During the Term:

- Operator shall be responsible for the day-to-day management and operation of the business.
- Operator shall operate the business under the name **Rowlett Country Mart Beer and Wine.**
- Owner authorizes Operator to manage the business for transition purposes only.

5. USE OF LICENSES AND PERMITS

During the Term, Operator is permitted to operate the business under Owner's existing licenses and permits, including but not limited to:

- Sales and Use Tax Permit *(for product sell only);*
- Tobacco Permit *(for product sell only);*
- E-Cigarette Permit *(for product sell only);*
- Lottery Authorization, as provided in the Asset Purchase Agreement;
- TABC Permit, as provided in the Asset Purchase Agreement; and/or
- Any other applicable permits.

Conditions:

- Use is strictly temporary for transition purposes.
- Owner remains the legal holder of all licenses and permits.
- Operator must comply with all laws and regulations.
- Operator shall apply for its own licenses promptly.

6. PERMIT DELAY EXTENSIONS

- In the event that the processing of Operator's Required Permits is delayed by the TABC or any other governing agencies through no fault of Operator, Owner explicitly agrees to cooperate fully, execute all necessary documents, and assist Operator in extending, renewing, or maintaining Owner's current permits and licenses at the Operator's sole expense.

- Owner shall take all commercially reasonable steps requested by Operator to ensure the business continues to operate and sell beer, wine, and tobacco products without any loss of business or interruption of sales.

7. FINANCIAL RESPONSIBILITY

- Operator shall be responsible for all revenues and expenses during the Term.
- Operator shall be responsible for all taxes, filings, and compliance obligations during the Term.
- Operator shall be fully liable for any and all claims to incur during the Term,
- Owner shall not be responsible for any operational liabilities incurred during the Term.

8. RENT RESPONSIBILITY

Seller shall be responsible for all rent and lease obligations of the business premises up to **June 30, 2026** ("Effective Date"). Beginning on **July 1, 2026**, Operator shall be solely responsible for payment of rent and all lease-related obligations. Operator agrees to timely pay all rent, utilities, and related occupancy costs from **July 1, 2026** forward, notwithstanding splitting the cost of utilities equally amongst the parties for the month of June.

9. INDEMNIFICATION

Operator agrees to indemnify, defend, and hold harmless Owner from any claims, damages, liabilities, penalties, or expenses arising out of:

- Operation of the business during the Term;
- Use of Owner's licenses and permits; and

- Any violation of applicable laws.

Owner agrees to indemnify Operator for liabilities arising prior to the Effective Date.

10. NO TRANSFER OF LICENSES

Nothing in this Agreement shall be construed as a transfer or assignment of any license or permit. All licenses remain the sole property and responsibility of Owner.

11. TERMINATION

This Agreement shall terminate upon the earliest of:

- Operator obtaining all required licenses;
- Expiration of the 120-day Term; or
- Mutual written agreement of the parties.

12. GOVERNING LAW

This Agreement shall be governed by the laws of the State of Texas.

13. ENTIRE AGREEMENT

This Agreement constitutes the entire agreement between the parties and supersedes all prior agreements.

Any amendments must be in writing and signed by both parties.

14. SIGNATURES

OWNER / SELLER: Golden Blessings Inc

Name: Karim Moosani Jr

Signature: _____ Date: 6-15-26

OPERATOR / BUYER: Kaku Fortune LLC

Name: Shishir Dhungana

Signature: _____ Date: 6/15/26

Name: Sameer Khatri

Signature: _____ Date: 06/15/2026

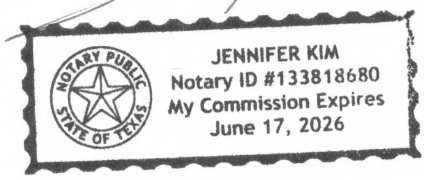
14. NOTARY

State of Texas County of Denton

On this 15th day of June, 2026, before me personally appeared the above-named parties.

_____

Notary Public Signature: _____ My Commission Expires: June 17th, 2026



City of Rowlett
City Council Agenda Item

Meeting Date: 8/4/2026 **Agenda Item:** 5.F.

Title

Consider action to adopt a resolution authorizing the award of a contract for Bid No. 2026-77-B, Toler Business Park Phase 1 and Phase 2 Reconstruction, to DDM Construction Corporation, for a price not to exceed $7,570,289.10 (base bid price of $6,882,081.00 with a 10% contingency of $688,208.10); authorizing the Mayor or his designee to execute the contract and all necessary documents to effectuate said purchase; and providing an effective date.

Staff Representative

Beena Jacob, CIP Manager
Deepa Modi, Senior CIP Manager

Executive Summary

As part of the City's strategic priority to invest in transportation and infrastructure, the City Council continues to improve the safety, reliability, and long-term sustainability of Rowlett's transportation network and public infrastructure. The Toler Business Park Phase 1 and Phase 2 Improvements Project support this priority by reconstructing aging roadway, drainage, and utility infrastructure within the City's industrial corridor.

The purpose of this item is to award a construction contract to DDM Construction Corporation for the Toler Business Park Phase 1 and Phase 2 Improvements Project as the lowest responsive and responsible bidder to complete the project in accordance with the approved plans and specifications.

Strategic Priority and Goal(s)

Strategic Priority	Strategic Goal
Invest in Transportation & Infrastructure	6.1 Systematically manage the Capital Improvement Program. 6.2 Upgrade residential streets, alleys, drainage ways, and utility systems. 6.7 Provide a high-quality water supply and distribution system. 6.8 Provide a high-quality wastewater collection system.

Background Information

On September 7, 2021, the City Council approved a Task Authorization with Neel-Schaffer, Inc. (Neel-Schaffer) to provide engineering design services for the Toler Business Park Phase 1 and Phase 2 Reconstruction Project. The project includes the reconstruction of roadway, drainage, sidewalk, water, and sanitary sewer infrastructure within the Toler Business Park. Upon completion of the design, Neel-Schaffer prepared an Engineer's Opinion of Probable Construction Cost (EOPC) totaling $7,179,039.90 for the project.

Discussion

Notice to Bidders was published in the Dallas Morning News on June 16 and June 23, 2026. A non-mandatory pre-bid meeting was held on June 24, 2026. However, due to the complexity of the project, requests from prospective bidders, and the July 4th holiday, the bid opening date was extended from July 1, 2026, to July 15, 2026.

Four (4) sealed bids were received and publicly opened in accordance with the Texas Local Government Code. Bid amounts ranged from $6,882,081.00 to $8,606,724.35, as presented in Attachment A. DDM Construction Corporation submitted the lowest responsive and responsible bid in the amount of $6,882,081.00, which is $296,958.90 (4.1%) below the Engineer's Opinion of Probable Construction Cost.

The project includes approximately 3,345 linear feet of roadway, sidewalk, drainage, and utility improvements along Century Drive, Vaughan Drive, portions of Lawing Lane, and Singleton Street. Major improvements include roadway reconstruction with new concrete pavement, storm sewer, waterline, and sanitary sewer replacements, and replacement of the existing box culverts beneath Century Drive to increase drainage capacity and help address existing flooding concerns in the area.

The City evaluated DDM Construction Corporation's bid and determined that it is responsive to the solicitation requirements and that the firm possesses the qualifications, experience, available resources, and financial capacity to successfully complete the project. DDM Construction Corporation is registered to do business in the State of Texas and is not listed on the Texas debarred vendor list or the federal exclusion list. The City's design consultant, Neel-Schaffer, Inc., also reviewed the bids and recommended awarding of the construction contract to DDM Construction Corporation (Attachment 2).

The Contractor will be required to commence construction within 10 calendar days after issuance of the Notice to Proceed, achieve Substantial Completion within 335 calendar days, and achieve Final Completion within 30 calendar days thereafter.

Financial/Budget Implications

Budget Account Number and/or Project Code	Account or Project Title	Available Budget	Proposed Amount	Remaining Balance
ST2146	Toler Business Park Phase 1 and Phase 2 Reconstruction	$6,673,586.40	$6,423,586.40	$250,000.00
CO2113	Water & Sewer Toler Business Park Phase 1 and Phase 2 Reconstruction	$1,150,000.00	$1,146,702.70	$3,297.30
	Total	**$7,823,586.40**	**$7,570,289.10**	**$253,297.30**

Recommended Action

Move to adopt a resolution authorizing the award of a contract for Bid No. 2026-77-B Toler Business Park Phase 1 and Phase 2 Reconstruction, to DDM Construction Corporation, for a price not to exceed $7,570,289.10 (base bid price of $6,882,081.00 with a 10% contingency of $688,208.10); authorize the Mayor or his designee to execute the contract and all necessary and related documents; and provide an effective date.

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS AWARDING THE CONTRACT FOR REQUEST FOR BID NO. 2026-77-B ("BID NO. 2026-77-B") FOR TOLER BUSINESS PARK PHASE 1 AND 2 RECONSTRUCTION TO DDM CONSTRUCTION CORPORATION FOR A TOTAL PRICE NOT TO EXCEED $7,570,289.10 ($6,882,081.00 PLUS A TEN PERCENT CONTINGENCY OF $688,208.10); AUTHORIZING THE MAYOR OR HIS DESIGNEE TO EXECUTE THE CONTRACT AND ALL RELATED AND NECESSARY DOCUMENTS; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, a notice to bidders was published in the Dallas Morning News and on the City's website on June 16, 2026 and June 23, 2026 for Bid No. 2026-77-B regarding Toler Business Park Phase 1 and 2 Reconstruction Project; and

WHEREAS, the lowest responsive and responsible bidder was DDM Construction Corporation with a bid of $6,882,081.00; and

WHEREAS, the City Council finds it to serve the health, safety and general welfare to approve and award the contract for Bid No. 2026-77-B to DDM Construction Corporation for a total bid price of $7,570,289.10, which includes a ten percent contingency of $688,208.10;

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

SECTION 1. The contract for Bid No. 2026-77-B, attached hereto as **Exhibit "A,"** is hereby approved and awarded to DDM Construction Corporation for a total contract price not to exceed $7,570,289.10 comprised of a base bid of $6,882,081.00 and a contingency of 688,208.10.

SECTION 2. The Mayor or his designee is hereby authorized to execute the contract in substantially the form of **Exhibit "A"** attached hereto and incorporated herein by this reference, and any other necessary and related documents.

SECTION 3. This resolution shall take effect immediately upon its passage.

Attachments

1. Attachment 1 Bid Results
2. Attachment 2 Location Map
3. Attachment 3 Recommendation Letter
4. Exhibit A 2026-77-B Construction Contract

ATTACHMENT 1

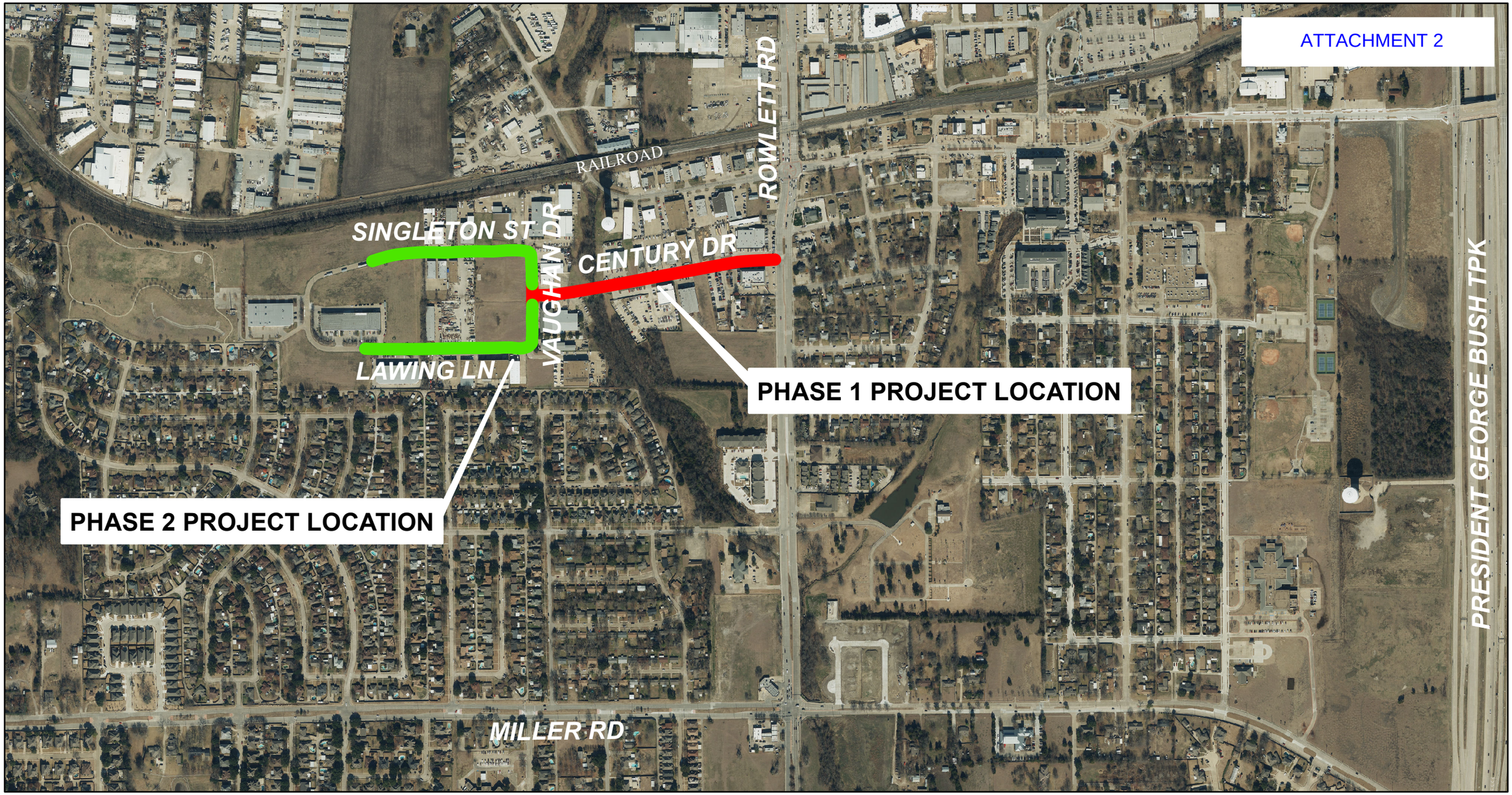
CITY OF ROWLETT	
BID TABULATION SUMMARY	
Solicitation No.	**2026-77-B**
Solicitation Title	**Toler Business Park Phase 1 and Phase 2**
Solicitation Due Date:	**7/15/2026 at 2:00pm**

Responding Contractor	Total Base Bid
DDM Construction Corporation	$ 6,882,081.00
McMahon Contracting, LP	$ 7,428,595.06
Grey Sky Construction, LLC	$ 7,867,369.00
Axis Contracting, Inc.	$ 8,606,724.35

All responses submitted for the designated project are reflected on this tabulation sheet. However, the listing of a response on this tabulation sheet shall not be construed as a comment on the responsiveness or as any indication that the City of Rowlett accepts such submission as being responsive. The City of Rowlett will make a determination as to the responsiveness of the vendor submission based upon compliance with all applicable laws, purchasing guidelines and project documents, including but not limited to the project specifications and contract documents. Upon award of the contract, in accordance with the law, all responses received will be available for inspection at that time.

Certified by:	January Calhoun, CPPO, CPPB, Purchasing Manager
Date:	July 15, 2026

ATTACHMENT 2



Rowlett TEXAS

Toler Business Park Reconstruction Project – Phase 1 & Phase 2

N W E S

NEEL-SCHAFFER
Solutions you can build upon

July 21, 2026

Ms. Beena Jacob
CIP Manager
5702 Rowlett Road
Rowlett, TX 75089

Subject: Bid No. 2026-77-B Toler Business Park Phase 1 and Phase 2

Dear Ms. Jacob,

On Wednesday, July 15th , 2026, at 2:30 PM, four sealed bids were received and opened for the above-mentioned project. The Neel Schaffer, Inc. opinion of probable construction cost for this project was base bid $7,179,039.90. The table below summarizes the bids.

Bidder/Contractor	Base Bid Total
DDM Construction Corp	$6,882,081.00
McMahon Contracting LP	$7,428,595.06
Grey Sky Construction, LLC	$7,867,369.00
Axis Contracting, Inc.	$8,606,724.35

Neel-Schaffer, Inc. carefully reviewed the bid tabulation completed by the City for correctness. All bids were determined to be response by purchasing, and DDM Construction Corp was the low bidder.

Neel-Schaffer has not previously worked with DDM Construction Corporation. After speaking with 4 of their 5 listed references, it appears they have a great reputation with past and current clients including the City of Lewisville, Denton County, and the City of Garland. The projects completed for these other municipalities are very similar in services and complexity to the subject project and range in construction cost from $4.5M to $17M.

According to the City review, their financials meet the necessary requirements for the award of the contract for the 2026-77-B Toler Business Park Phase 1 and Phase 2.

If you have any questions, please do not hesitate to call.

Sincerely,

Tommy J. Foster P.E.

Tommy Foster, P.E.
Neel Schaffer, Inc.
Project Manager

CONTRACT DOCUMENTS AND SPECIFICATIONS FOR

TOLER BUSINESS PARK PHASE 1 AND PHASE 2

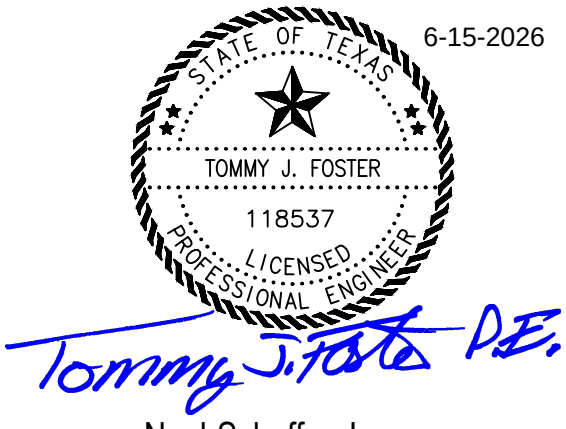
BID NO. 2026-77-B

CIP No. ST2146 & ST2162

Prepared by:

NEEL-SCHAFFER

TBPELS firm No. F-2697



Neel-Schaffer, Inc.
2501 Ave J, Suite 120
Arlington, TX 76006

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SECTION 1 ADVERTISEMENT

Legal Advertisement

City of Rowlett
Notice to Bidders

The City of Rowlett is accepting sealed bids for **BID NO. 2026-77-B TOLER BUSINESS PARK PHASE 1 AND PHASE 2**. Bids will be accepted online through bidnetdirect.com or delivered in hard copy to the Purchasing Office, c/o the City of Rowlett Action Center, 4000 Main St., Rowlett, TX 75088, or mailed to PO Box 99, Rowlett, TX 75030-0099, before **2:00pm (CT) on July 1, 2026**. Bids will be publicly opened online and read in compliance with statutory requirements at 2:30pm on the day bids are due via a Microsoft Teams meeting as follows:

Meeting ID: 245 273 863 230 364
Passcode: jG2Ca3Ar
Link: https://teams.microsoft.com/meet/245273863230364?p=PsEAsb1iuBk1a4pQLo

A non-mandatory pre-bid meeting will be held online on June 24, 2026, at 10:00am (CT) as follows:

Meeting ID: 249 892 328 757 090
Passcode: b23Ni9eg
Link: https://teams.microsoft.com/meet/249892328757090?p=HWTkwEETRYTsnDfknl

Bid documents are available for download at https://www.bidnetdirect.com/texas/cityofrowlett. For questions regarding this project, please email jcalhoun@rowlett.com.

Publish dates: 6/16/2026 and 6/23/2026
Bid Number 2026-77-B

SECTION 2 NOTICE TO BIDDERS

NOTICE TO BIDDERS

The City of Rowlett ("City") is accepting competitive sealed bids for **BID NO. 2026-77-B TOLER BUSINESS PARK PHASE 1 AND PHASE 2.** Bids will be accepted online through bidnetdirect.com or delivered in hard to the Purchasing Office, c/o the City of Rowlett Action Center, 4000 Main St., Rowlett, TX 75088, or mailed to PO Box 99, Rowlett, TX 75030-0099 until **2:00pm (CT) on Wednesday, July 1, 2026.** Any bids received after this time will not be accepted and will be returned unopened. **Bids will be publicly opened and read in compliance with statutory requirements at 2:30pm on the day bids are due.** To participate in the public bid opening, please use the following:

Meeting ID:	245 273 863 230 364
Passcode:	jG2Ca3Ar
Link:	https://teams.microsoft.com/meet/245273863230364?p=PsEAsb1iuBk1a4pQLo

The Project consists of furnishing all labor, equipment and materials (except as otherwise specified), and performing all work necessary for the reconstruction of Century Drive from Rowlett Rd to Vaughan Dr.; Vaughan Dr; Singleton St.; and Lawing Ln (total of approximately 13,100 SY). Drainage upgrades include replacement of the storm sewers and inlets along all four roadways and replacement of the 3-10'x8' concrete box culverts with 5-11'x8' concrete box culverts under Century Dr. Culvert replacement also includes channel improvements both upstream and downstream. Project also includes approximately 2,690 LF of WL replacement and approximately 3,200 LF of Sanitary Sewer Line replacement.

The successful bidder will begin construction within 10 calendar days after the issuance of the Notice to Proceed. Substantial completion of the work will be achieved within 335 calendar days of the date indicated on the Notice to Proceed and final completion will be achieved within 30 calendar days after substantial completion.

Each bid submitted shall be accompanied by a cashier's check in the amount of 5% of the maximum amount bid, payable without recourse to the City of Rowlett, or a Bid Bond in the same amount from a reliable surety company as a guarantee that, if awarded the contract, the successful Contractor will execute a Construction Agreement with the City, including all required bonds and other documents.

The successful Contractor shall furnish a Performance Bond in the amount of 115% of the contract amount, and a Payment Bond in the amount of 100% of the contract amount, as well as evidence of all required insurance coverage within ten (10) calendar days of notice of award. The successful Contractor shall also furnish a Maintenance Bond in the amount of 100% of the contract amount covering defects of material and workmanship for two calendar years following the City's approval and acceptance of the construction. An approved surety company, licensed in the State of Texas, shall issue all bonds in accordance with Texas law.

Copies of Plans, Specifications, and Contract Documents may be downloaded free of charge from Current Bidding Opportunities by completing the no-cost vendor registration at the following link: https://www.bidnetdirect.com/texas/cityofrowlett.

Questions and requests for clarifications in regards to this bid should be submitted in writing through bidnetdirect.com or via email directly to January Calhoun, Purchasing Manager, at jcalhoun@rowlett.com. The deadline for receipt of questions and requests for clarifications is **12:00pm on Thursday, June 25, 2026.** After that day and time, no further questions or requests for clarifications will be accepted or answered by the Engineer or City.

SECTION 3 INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

1. Instructions: These instructions apply to all bids and become a part of the terms and conditions of any bid submitted unless bidder takes exception in writing when submitting bid.

2. Submittal Deadline: The City of Rowlett (City) is accepting bids until **2:00pm on Wednesday, July 1, 2026.**

3. Submittal Location: Bids will be accepted online through bidnetdirect.com or delivered in hard copy to the Purchasing Office, c/o the City of Rowlett Action Center, 4000 Main St., Rowlett, TX 75088, or mailed to PO Box 99, Rowlett, TX 75030-0099.

4. If submitting a hard copy bid, Bidder shall submit one (1) original and one (1) electronic copy of their bid on a thumb drive in a **sealed envelope clearly marked with their name and BID NO. 2026-77-B TOLER BUSINESS PARK PHASE 1 AND PHASE 2**. Bidder shall complete all requested information and submit all required documents.

5. The City may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may, at its sole option and within its sole discretion, waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. No bidder may withdraw a bid within 90 days after actual date of the opening thereof.

6. Bid Opening: **The bid opening will be conducted online on Wednesday, July 1, 2026 @ 2:30pm.** To participate in the bid opening, please use the following:

Meeting ID:	245 273 863 230 364
Passcode:	jG2Ca3Ar
Link:	https://teams.microsoft.com/meet/245273863230364?p=PsEAsb1iuBk1a4pQLo

7. Bid Documents: Copies of Plans, Specifications, and Contract Documents may be downloaded from Current Bidding Opportunities by completing the no-cost vendor registration at the following link: https://www.bidnetdirect.com/texas/cityofrowlett.

8. Questions and Requests for Clarification: Questions and requests for clarifications in regards to this bid should be submitted in writing through bidnetdirect.com or via email directly to January Calhoun, Purchasing Manager at jcalhoun@rowlett.com. The deadline for receipt of questions and requests for clarifications is **12:00pm on Thursday, June 25, 2026**. After that day and time, no further questions or requests for clarifications will be accepted or answered by the Engineer or City.

9. Addenda: If it becomes necessary to provide additional information to potential Bidders, the City of Rowlett Purchasing Office will issue an addendum containing the necessary information.

10. Pre-Bid Meeting: A pre-bid meeting will be held for this project **online** at **10:00am, Wednesday, June 24, 2026.** Attendance is optional. To participate in the pre-bid meeting, please use the following:

Meeting ID:	249 892 328 757 090
Passcode:	b23Ni9eg
Link:	https://teams.microsoft.com/meet/249892328757090?p=HWTkwEETRYTsnDfknl

SECTION 4 STANDARD TERMS AND CONDITIONS FOR PROCUREMENTS

1. **APPLICABILITY**: These standard terms and conditions apply to all goods or services procured by the City of Rowlett, Texas ("City"), unless otherwise stated in the specifications. The instructions contained herein shall be incorporated into the request for bids/proposals or other procurement opportunity advertisement as well as any subsequent purchase order(s) issued for goods or services and shall be included as part of the specifications issued herewith.

2. **NOTIFICATION**: The City advertises formal procurement opportunities through www.rowletttx.gov, bidnet direct by SOVRA, and *The Dallas Morning News*. The City shall not be responsible for information distributed by sources other than those listed.

3. **ADDENDA**: Any revisions to the information contained herein or in the request for bids/proposals will be issued in the form of one or more addenda. The sole issuing authority shall be vested in the City of Rowlett Purchasing Office. If addenda containing material changes to the specifications or pricing form are issued, the vendor shall acknowledge receipt of such addenda in the designated section in the Bid/Proposal document. It is the responsibility of the bidder/proposer to obtain and acknowledge any and all addenda. Failure to acknowledge receipt of any addenda may be cause to deem such submission non-responsive.

4. **SILENCE OF SPECIFICATION**: The apparent silence of the provided specifications as to any detail or the apparent omission from these specifications of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of the specifications shall be made on the basis of this statement.

5. **MINOR DEFECT:** The City reserves the right to waive any minor defect, irregularity, or informality in any bid/proposal. Minor defects, irregularities or informalities will not affect the end product/performance intended by the specifications. The City also reserves the right to reject any or all bids/proposals with or without cause prior to award.

6. **ELECTRONIC SUBMISSIONS:** The City utilizes bidnet direct by SOVRA to advertise and receive bids and proposals electronically over the Internet. Electronic submissions through bidnet direct by SOVRA shall be electronically signed and dated by a duly designated representative or agent of the company submitting the bid/proposal and submitted prior to the stated deadline date and time. Vendors should clearly and concisely provide all requested information as stated in the bid/proposal document. Failure to provide the requested information may be reason to deem such submission non-responsive.

7. **PAPER SUBMISSIONS**: Paper submissions shall be submitted on the forms provided by the City and must be signed and dated by a duly designated representative or agent of the company submitting the bid/proposal. Vendors shall clearly and concisely provide all requested information as stated in the bid/proposal document. Failure to provide the requested information may be reason to deem such submission non-responsive.

8. **PRESENTATION OF BIDS/PROPOSALS**: Paper submissions shall be presented to City Action Center, 4000 Main Street, Rowlett, Texas 75088, prior to the stated deadline date and time. Paper submissions shall be presented in a sealed envelope with vendor's name and the bid/proposal number clearly identified on the outside of the envelope.

9. **LATE SUBMISSIONS**: The date/time stamp located in the City Action Center serves as the official time clock. Submissions received after the stated deadline **2:00pm on Wednesday, July 1, 2026** shall be

refused and returned unopened. The City is not responsible for issues encountered with methods of delivery.

10. **PRICING**: Prices offered shall be submitted for units of quantity as specified in the bid/proposal document, extended and totaled. In the case of a discrepancy in the extended price, the unit price shall govern and control. Any alteration, strike-through or erasure of a unit price or extended price made prior to bid/proposal opening shall be initialed by the signer of the bid/proposal, guaranteeing authenticity.

Prices offered **cannot** be altered or amended after the submission deadline. Bids may not be changed for the purpose of correcting an error in bid price after bid opening.

11. **PROPRIETARY INFORMATION**: All material submitted to the City is subject to public disclosure upon receipt, pursuant to the Texas Open Records Act. If vendor does not desire proprietary information in the bid to be disclosed, each page must be identified and marked proprietary at the time of submittal. The City will, to the extent allowed by law, endeavor to protect such information from disclosure. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General. Failure to identify proprietary information will result in all unmarked sections being deemed non-proprietary upon public request.

12. **TAXES:** The City is exempt from paying federal excise and transportation taxes and Texas State or local sales and use taxes. Tax shall not be included in prices offered. A Tax-Exempt Form will be provided by the City upon request. A request for a Tax-Exempt Form can be submitted in writing to purchasing@rowlett.com or by contacting the Purchasing Office at 972.412.6189.

13. **WITHDRAWAL OF OFFER**: Vendor agrees that an offer may not be withdrawn or cancelled for a period of ninety (90) days following the date and time designated for the receipt of the bid/proposal without written approval of the Purchasing Manager.

14. **F.O.B./DAMAGE**: Prices offered shall be F.O.B. Final Destination, Rowlett, Texas, and shall be all inclusive of shipping, handling and packaging costs. The City accepts and assumes no liability for goods delivered in damaged or unacceptable condition. The successful vendor shall be responsible for handling all claims with carriers, and in case of damaged or unacceptable goods, shall ship replacement goods immediately upon notification by the City.

15. **PREPARATION COST**: All costs associated with the preparation of an offer, bid, or proposal shall be borne by the vendor. The City will not be liable for any costs associated with the preparation, transmittal, or presentation of submissions, or with any materials submitted in response to the request for bid/proposal.

16. **TESTING**: At the City's discretion, testing may be required prior to award of the bid/proposal or prior to delivery of goods or services. Testing shall be performed without expense to the City.

17. **SAMPLES**: At the City's discretion, samples may be required prior to award of the bid/proposal or prior to delivery of goods or services. Samples shall be provided at no cost to the City. Samples should not be enclosed with submission unless specifically requested.

18. **QUALITY**: Any catalog, brand names, or manufacturer's reference in the bid/proposal packet is merely descriptive and **not** restrictive and is intended to indicate the type and minimum quality level desired for comparison purposes, unless otherwise stated herein to the contrary. All products and/or optional equipment offered shall be new and of current manufacture. No items of a demonstrator, leased, reconditioned, rebuilt, repossessed or used nature shall be considered, unless otherwise specifically stated herein.

19. **BID/PROPOSAL OPENINGS**: All bids/proposals will be read aloud at the City's scheduled opening for the designated bid/proposal. However, the reading of an offer shall not be construed as a comment on the responsiveness of such offer, or as any indication that the City accepts such offer as responsive. Neither shall such reading be construed as a comment on the responsibility of the bidder/proposer.

The City will make a determination regarding the responsiveness of offers submitted based upon compliance with all applicable laws and the City's purchasing guidelines and project documents including, but not necessarily limited to, the bid/proposal specifications and contract documents. The City will notify the successful vendor upon award of the contract; and, according to State law all offers received will be available for inspection after award.

For processes other than low bid or best value bid, only the names of vendors will be read aloud at the scheduled opening. Pricing information will not be released until after award of the contract.

20. **SUMMARY SHEET**: Bid/Proposal summary results are typically published within two (2) business days after the scheduled opening. Interested parties desiring a copy of a bid/proposal summary sheet may request the same by submitting a written request to purchasing@rowlett.com. **RESULTS WILL NOT BE RELAYED OVER THE TELEPHONE.**

21. **GRATUITIES**: Gratuities in the form of entertainment, gifts, or otherwise offered or given by the vendor, or any agent or representative of the vendor, to any officer or employee of the City with a view toward securing a contract or securing favorable treatment with respect to the awarding or amending or the making or any determinations with respect to the performing of such a contract, are not permissible. In the event this contract is cancelled by City pursuant to this provision, City shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount of the cost incurred by vendor in providing such gratuities.

22. **ANTI-COLLUSION**: In submitting an offer, vendor certifies that they have not participated in, nor have they been party to any collusion, price fixing or any other illegal or unethical agreements with any company, firm or person concerning the pricing offered.

23. **NO PROHIBITED INTEREST**: Vendor acknowledges awareness of the laws, City Charter, and City Code of Ethics regarding conflicts of interest. No officer, employee or agent of the City shall participate in the negotiation, selection, discussion, award or administration of a contract or procurement supported by public funds if: 1) that individual has a substantial interest in a person or entity, as defined by Section 2-463 of the City's Code of Ordinances and/or Chapter 171 of the Texas Local Government Code, that is the subject of the contract or procurement; or 2) a conflict of interest, either real or apparent, would be involved, as defined therein.

24. **CONFLICT OF INTEREST**: In accordance with Chapter 176, Local Government Code, a person who is a vendor and has a business relationship, as those terms are defined by Section 176.001(1-a), with the City and meets requirements under Section 176.006(a) is required to file a Conflict of Interest Questionnaire with the City Secretary not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code. A person commits an offense if the person knowingly violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

A complete copy of Chapter 176 of the Local Government Code may be found at https://statutes.capitol.texas.gov/Docs/LG/htm/LG.176.htm.

25. **NON-RESIDENT BIDDERS**: Texas Government Code, Chapter 2252: Non-Resident Bidders. Texas law prohibits city and governmental units from awarding contracts to a non-resident bidder/proposer unless the amount of such bid is lower than the lowest bid by a Texas resident by the amount a Texas resident would be required to underbid the non-resident bidder/proposer on a bid/proposal for goods and services in the non-resident bidder's state.

26. **DELINQUENT TAXES**: Any person, firm, or corporation that is in arrears to the City for delinquent taxes or otherwise, will not be recommended for award of any bid/proposal until the arrearage has been cleared in writing. If a contractor or vendor becomes delinquent while a contract is in force, payment for goods or services provided to the City under said contract or purchase order may be withheld until the arrearage has been cleared in writing.

27. **MINIMUM STANDARDS FOR RESPONSIBILITY**: A prospective vendor must affirmatively demonstrate responsibility. The City of Rowlett may request representation and other information sufficient to determine vendor's ability to meet the minimum standards including but not limited to:

A. Have adequate financial resources, or the ability to obtain such resources as required
B. Ability to comply with the required or proposed delivery schedule
C. Have a satisfactory record of performance
D. Have a satisfactory record of integrity and ethics
E. Be otherwise qualified and eligible to receive an award

28. **AWARD OF CONTRACT**: The City reserves the right to award single or multiple contracts for the goods or services as stated herein, or to reject any and all bids. Furthermore, the City reserves the right to take administration costs into consideration when awarding to multiple vendors.

The City may award bids/proposals to the lowest responsive responsible vendor(s), or to the vendor(s) who provides goods or services at the best value to the City. If using the best value method, the selection criteria will be clearly identified in the bid/proposal document. The best value method may take into consideration, in whole or in part, by way of illustration and not limitation, the following criteria:

A. The purchase price
B. The reputation of the vendor and of the vendor's goods or services
C. The quality of the vendor's goods or services
D. The extent to which the goods or services meet the City's needs
E. The vendor's past relationship with the City
F. The total long-term cost to the City to acquire the vendor's goods or services
G. Any relevant criteria specifically listed herein

29. **ACCEPTANCE:** Vendor agrees that acceptance of any or all items by the City within a reasonable period of time, not to exceed one hundred twenty (120) days following the date and time designated for the receipt of the bid/proposal, shall be binding upon vendor. Vendor shall thereafter execute all documents necessary to enter into a contract in a form acceptable to and properly executed by the City to provide such goods and services.

30. **FUNDING**: The City is a home-rule municipal corporation operated and funded on a fiscal year basis from October 1 to September 30. Accordingly, the City reserves the right to terminate at any time, without liability to the City, any contract for which funding is not available in a subsequent fiscal year.

31. **ASSIGNMENT**: The successful vendor shall not sell, assign, transfer or convey any contract, in whole or in part, to any other person or party without the prior written consent of the City obtained through the City's Purchasing Office.

32. **DELIVERY PROMISE – PENALTIES**: Where indicated, vendors must provide the number of calendar days required to deliver goods or services to the City after receipt of order (ARO). **Do not quote shipping dates**. When a delivery delay can be foreseen, the vendor shall provide advance notice to the Purchasing Manager, who shall have the right to extend the delivery date if the reasons for delay are acceptable. Default in promised delivery, without acceptable reason(s), or failure to meet specifications as contained herein or in the contract documents, authorizes the Purchasing Office to purchase goods or services from an alternate source. The defaulting vendor may be subject to re-procurement costs.

33. **DELIVERY TIMES**: Unless otherwise specified herein, deliveries will only be accepted during normal working hours at the designated City location(s).

34. **INSPECTION**: Upon receipt of goods or services, the same will be inspected for compliance with the specifications contained herein or in the contract documents. If the goods or services do not pass inspection, the vendor will be required to remedy the situation at the vendor's sole expense. The vendor will be required to retrieve the rejected goods at the delivery point and provide the necessary repairs of or replacement and return of the goods in new condition to the original point of delivery; or re-perform services in accordance with the terms and conditions of the contract and to the City's satisfaction.

35. **INVOICES**: Invoices shall be submitted to the attention of the ordering department, P.O. Box 99, Rowlett, Texas 75088, or electronically to the appropriate department representative.

36. **PAYMENT TERMS**: Payment terms are net 30 days, unless otherwise specified by the City in the bid/proposal document.

37. **AUDIT**: The City shall have access to, and the right to examine, monitor and audit all vendor's records, documents, conditions and activities related to contracts awarded by the City. It shall be the responsibility of the vendor to maintain records associated with this procurement for a period of three (3) years after completion of the contract, or in the event of litigation, a claim or audit, the records shall be retained until the resolution of such litigation, claim or audit.

38. **INSURANCE**: The City requires vendor(s) to carry the minimum insurance as required by the greater of the requirements contained in state laws or the insurance requirements contained in the contract documents.

39. **INDEMNITY**: **The bidder shall defend, indemnify and hold the City, its current, former and future officers, agents and employees harmless from any and all costs, expenses, suits, demands, claims, liabilities, liens, encumbrances or damages, including attorneys' fees and costs of suit, of any character, name and description, incurred or resulting from any injuries or damages received or sustained by any person, persons or property on account of any intentional wrongful conduct or negligent act, omission, or fault of the successful bidder, or of any agent, employee, subcontractor or supplier for which the successful bidder is responsible in the execution of, or performance under, any contract which may result from bid award and the bidder so agrees upon the submission of the bid. The bidder shall deliver, if so requested by the City, a written release of all liens or other proper evidence of same, to the satisfaction of the City prior to the issuance of final payment by the City.**

40. **INDEMNITY; PATENT RIGHTS**: **The bidder/proposer agrees to indemnify and hold harmless the City from any claim involving patent right infringement or copyright infringement on goods or services supplied to the City pursuant to the contract documents**.

41. **PROTESTS**: All protests regarding the solicitation process must be submitted in written form to the Purchasing Manager within five (5) working days following the opening of bids/proposals. This includes all protests relating to legal advertisements, deadlines, bid/proposal openings, and all other related procedures under the Local Government Code, as well as any protests relating to alleged improprieties or ambiguities in the specifications contained herein or in the contract documents.

Post-award protests must be submitted in written form to the Purchasing Manager within five (5) working days after award.

The protest must include, at a minimum, the name of the protester, bid/proposal number or description of goods or services, and a statement of the grounds for the protest. The Purchasing Manager, having authority to make the final determination, will respond within ten (10) working days to each substantive issue raised in the protest. Allowances for reconsiderations shall be made only if data becomes available that was not previously known, or if there has been an error of law or regulation.

42. **TERMINATION FOR DEFAULT**: The City reserves the right to enforce the performance of the contract in any manner prescribed by law and deemed to be in the best interest of the City in the event of breach or default of the contract. The City reserves the right to terminate the contract immediately in the event the contracted vendor fails to meet delivery schedules or otherwise perform in accordance with the specifications contained herein or in the contract documents. Breach of contract or default authorizes the City to award the contract to another vendor, or purchase from an alternate source, and charge the full increase in cost plus any additional administrative costs incurred by the City to the defaulting contracted vendor.

43. **REMEDIES**: The successful vendor and the City agree that each party may have rights, duties, and remedies available as stated in the Uniform Commercial Code and any other available remedy, whether in law or equity.

44. **VENUE**: The validity of the contract and of any of its terms or provisions, as well as the rights and duties thereunder or under the contract documents, shall be governed by and construed in accordance with the laws of the State of Texas. Exclusive venue for any legal action shall lie in the state courts of Dallas County, Texas.

45. **ENERGY BOYCOTT:** In accordance with Chapter 2274, Texas Government Code (Acts 2021, 87th Leg., S.B. 13), the City may not enter into a contract with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at $100,000 or more unless the contract contains a written verification from the company that the company: (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of the contract. The signatory executing the Contract on behalf of Seller verifies Seller does not boycott energy companies and will not boycott energy companies during the term of the Contract. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code, and does not apply if the City determines the requirements of Subsection 2274.002(b) are inconsistent with the City's constitutional or statutory duties related to the issuance, incurrence or management of debt obligations or the deposit, custody, management, borrowing or investment of funds.

46. **FIREARMS:** In accordance with Chapter 2274, Texas Government Code (Acts 2021, 87th Leg., S.B. 19) the City may not enter into a contract with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at $100,000 or more unless the contract contains a written verification from the company that the company: (1) does not have a practice, policy, guidance, or directive

that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of the contract against a firearm entity or firearm trade association. The signatory executing the Contract on behalf of Seller verifies Seller does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the contract against a firearm entity or firearm trade association. The foregoing verification is made solely to comply with Section 2274.002, Texas Government Code, and does not apply if the City contracts with a sole-source provider or if the City does not receive any bids, if applicable, from a company that is able to provide the required verification.

47. **CRITICAL INFRASTRUCTURE:** In accordance with Chapter 2274, Texas Government Code, the City may not enter into a contract or agreement with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at $100,000 or more (1) if the company would be granted direct or remote access to or control of critical infrastructure in Texas, excluding access specifically allowed by the City for product warranty and support purposes and (2) if the City knows the company is (A) owned by or the a majority of stock or other ownership interest of the company is held or controlled by (i) individuals who are citizens of China, Iran, North Korea, Russia, or a designated country or (ii) a company or other entity, including a governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of such countries, or (B) headquartered in such countries. The signatory executing the Contract on behalf of Seller represents that neither Seller nor any of its parent companies, wholly owned subsidiaries, majority-owned subsidiaries, and other affiliates is a company of which the City may not contract pursuant to Section 2274.0102, Texas Government Code. The foregoing verification is made solely to comply with Section 2274.0102, Texas Government Code.

48. **ANTI-BOYCOTT ISRAEL VERIFICATION:** In accordance with Chapter 2271, Texas Government Code, the City may not enter into a contract with a company, excluding a sole proprietorship, with 10 or more full-time employees for goods or services valued at $100,000 or more unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract. The signatory executing the Contract on behalf of Seller verifies that Seller and its parent company, wholly-owned subsidiaries, majority-owned subsidiaries, and other affiliates, if any, do not boycott Israel and, to the extent the Contract is a contract for goods or services, will not boycott Israel during the term of the Contract. As used in the foregoing verification, "boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. The signatory understands "affiliate" to mean an entity that controls, is controlled by, or is under common control with the signatory and exists to make a profit. This section does not apply to a Vendor which is a sole proprietorship and/or which has less than 10 full-time employees. This section does not apply to a contract valued at less than $100,000.

49. **IRAN, SUDAN, AND FOREIGN TERRORIST ORGANIZATIONS:** The signatory executing the Contract on behalf of Seller represents that neither Seller nor any of its parent company, wholly-owned subsidiaries, majority-owned subsidiaries, and other affiliates is a company identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 2252.153 or Section 2270.0201, Texas Government Code, and posted on any of the following pages of such officer's internet website:

https://comptroller.texas.gov/purchasing/docs/sudan-list.pdf,
https://comptroller.texas.gov/purchasing/docs/iran-list.pdf, or
https://comptroller.texas.gov/purchasing/docs/fto-list.pdf.

The foregoing representation is made solely to comply with Section 2252.152, Texas Government Code, and to the extent such Section does not contravene applicable Federal law and excludes the entity and

each of its parent company, wholly-owned subsidiaries, majority-owned subsidiaries, and other affiliates, if any, that the United States government has affirmatively declared to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization. The signatory understands “affiliate” to mean any entity that controls, is controlled by, or is under common control with the signatory and exists to make a profit.

SECTION 5 ADDITIONAL CONDITIONS FOR PUBLIC WORKS CONSTRUCTION CONTRACTS

ADDITIONAL CONDITIONS FOR PUBLIC WORKS CONSTRUCTION CONTRACTS

1. **APPLICATION:** The following additional conditions apply to projects for which a Public Works Construction Contract will be executed.

2. **QUALIFICATIONS OF BIDDER:** The City may make such investigations as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the City all such information and data for this purpose as the City may request. The City reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the City that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated herein. The following list is not exclusive:

   Five (5) Prior Projects: Bidder participants, whether general contractor, prime contractor, joint venture contractor or subcontractor, shall provide documented evidence of having completed at least five (5) projects for the installation and construction of facilities similar in nature to the project being bid and having 10 years experience. Bidder shall be required to submit references of previous projects to enable the City to verify references. This experience documentation shall be submitted prior to, and as a special requirement for, being considered for award of the contract for the subject project. Any bid may be rejected if the City determines that the Bidder has not provided documented evidence of having successfully and timely completed at least five (5) projects that are similar in nature, scope, and size as that contemplated herein. The city may make inquiry with the owners of any other projects. Conditional bids will not be accepted. This information should include at a minimum:

   Names and addresses of similar projects
   Owner's Name
   Owner's representative including telephone number and email address
   Architect or Engineer Name
   Architect or Engineer representative including telephone number and email address

   Financial Statements: A bid may be rejected if the City determines that the bidder lacks sufficient financial resources or soundness to commence, operate and complete the Project. Bidders shall, in addition to other documents required herein, provide recent financial statements covering the two immediately preceding calendar years. Financial statements should be marked or stamped "CONFIDENTIAL" by the Bidder and, to the fullest extent allowed by law, will be kept and maintained as confidential by the City. Financial statements must demonstrate sufficient assets, resources, and income, based on the nature, scope and size of the Project, to demonstrate to the City's sole satisfaction, that the Bidder has the financial capacity to fully perform the Project. The City's review and evaluation of the financial soundness of the Bidder is solely and exclusively within the City's sole discretion.

   Subcontractors: At least 51% of the work must be completed by the primary contractor and the City reserves the right to approve all sub-contractors. Sub-contractor information must be submitted with the bid for evaluation.

3. **BID SECURITY:** Each bid must be accompanied by a certified check of the bidder, or a bid bond, duly executed by the bidder as principal and having as surety thereon a surety company approved by the city, in the amount of 5% of the bid. Such checks will be returned thirty days after the award of the contract, or, if no award has been made within 90 days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid.

The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within 10 days after he has received notice of the acceptance of his bid, shall forfeit to the City the security deposited with his bid.

4. **TIME OF COMPLETION AND LIQUIDATED DAMAGES:** Bidders must agree to commence work on or before a date to be specified in a written "Notice to Proceed" of the City and to fully complete the project within the specified time as stated in the proposal.

   TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS PROJECT. THE CITY EMPLOYS A ZERO-TOLERANCE POLICY FOR TIME OF COMPLETION. FAILURE TO MEET THE CONTRACTUAL DEADLINE, OR A DELAY IN MEETING PROJECT SCHEDULES, MAY BE DEEMED A DEFAULT.

   Liquidated damages may be imposed per Section 3.4.1 of the Public Works Construction Contract due to work delay.

5. **SECURITY FOR FAITHFUL PERFORMANCE:** Simultaneously with his delivery of the executed contract, the Contractor shall furnish Performance Bond in the amount of one hundred fifteen percent (115%) and Payment Bond in the amount of one hundred percent (100%) of the total contract price as security for faithful performance of this contract and for the payment of all persons performing labor on the project under this contract and furnishing materials in connection with this contract, as specified in the Special Conditions included herein. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the City.

6. **LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT:** The successful bidder, upon his failure or refusal to execute and deliver the contract and bonds required within 10 days after he has received notice of the acceptance of his bid, shall forfeit to the City, as liquidated damages for such failure or refusal, the security deposited with his bid. This liquidated damage amount is not a penalty but is, instead, a reasonable forecast of actual damages that the City may sustain were the bidder to default.

7. **MAINTENANCE BOND:** A Maintenance Bond for two years from the formal date of final acceptance in the amount of 100% of the final contract price to cover defective workmanship of materials is required for all projects as discussed in the Special Conditions.

8. **POWER OF ATTORNEY:** Attorneys-in-fact who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

9. **CONDITIONS OF WORK:** Each bidder must inform himself fully of the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his contract. Insofar as possible, the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other contractor and will be responsible for coordination with utilities on site.

10. **ADDENDA AND INTERPRETATIONS:** Bidders are responsible for a thorough review of the contract documents, plans and specifications. Bidders shall assume all risk of any ambiguities. Thus, it is imperative that bidders be familiar with the contract documents as well as the job site. If there is any ambiguity in the plans and specifications that give rise to two or more different interpretations of the work called for, the bidder will be assumed to have bid the most expensive alternative.

    No interpretation of the meaning of plans, specifications, or other pre-bid documents will be made to any bidder orally. Every inquiry or request for such interpretation should be in writing addressed to the Purchasing Office at purchasing@rowlett.com and any architectural or engineering firm included in any special instructions. To be given consideration requests must be received at least three days prior to the date fixed

for the opening of bids. All such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be posted through the eProcurement at https://www.bidnetdirect.com. Bidders are expected to check the eProcurement system for all addenda not later than two days prior to the date fixed for opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

11. **NOTICE OF SPECIAL CONDITIONS:** Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

a. Inspection and testing of materials
b. Insurance requirements
c. Prevailing Wage rates
d. Stated allowances
e. 100% maintenance bond (Construction projects exceeding $50,000)
f. 100% payment bond (Construction projects exceeding $50,000)
g. 115% performance bond (Construction projects exceeding $100,000)

12. **LAWS AND REGULATIONS:** The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

13. **OBLIGATION OF BIDDERS:** At the time of the opening of bids each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the plans and contract documents (including all addenda). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve the bidder from any obligation in respect to his bid.

14. **WORK ORDER CHANGES:** It is understood that the quantities of work to be done at unit prices are approximate only and are intended principally to serve as a guide in evaluating bids. Any change order will be approved by the City prior to work being started on said change.

It is further agreed that the quantities of work to be done at unit prices and materials to be furnished may be increased or diminished as may be considered necessary, in the opinion of the Engineer, to complete the work fully as planned and contemplated and that all quantities of work, whether increased or decreased, are to be performed at the unit prices set forth except as provided for in the specifications. The City reserves the right to increase or decrease the amount of work to be done by any amount not to exceed twenty-five percent (25%) of the original contract amount except as noted in the Measurement and Payment Section. In the event the increase pertains to items not originally bid, the Contractor shall submit a bid in writing to the Engineer for approval.

It is further agreed that lump sum prices may be increased to cover additional work ordered by the Engineer but not shown on the plans or required by the specifications, in accordance with the provisions of the general conditions; similarly, they may be decreased to cover deletion of work so ordered.

The City reserves the right to reject the Contractor's bid on such extra work and secure such work to be done other than by said Contractor.

The time for performance set forth in the contract documents contemplates normal bad weather days and typical construction delays. Extensions in the time for performance may be given or allowed for if and only if the extension is approved by the City and the approval is evidenced by a written and signed Change Order.

15. **MINIMUM WAGE RATES:** Each bidder, contractor or subcontractor shall comply with the Texas Minimum Wage Act, Texas Labor Code regarding prevailing minimum wages.

16. **RETAINAGE:** Retainage will be withheld on this project according to Section 5.2.5 of the Public Works Construction contract.

17. **DIGITAL DATA SUBMISSION:** Any contract that requires a mapping submission must meet the standards stated per document "Digital Data Submissions Standards" provided on page 22.

18. **SALES TAX LAW:** Legislation has removed the sales tax exemption previously provided by Section 151.311 of the Tax Code covering tangible personal property purchased by a contractor for use in the performance of a contract for the improvement of City-owned realty.

    It is still possible, however, for a contractor to make tax-free purchases of tangible personal property which will be incorporated into and become a part of a City construction project through the use of a "separated contract" with the City. A "separated contract" is one which separates charges for materials from charges for labor. Under such a contract, the Contractor becomes a "seller" of those materials which are incorporated into the project, such as bricks, lumber, concrete, paint, etc. The Contractor issues a resale certificate in lieu of paying the sales tax at the time such items are purchased. The Contractor then receives an exemption certificate from the City for those materials. (This procedure may not be used, however, for materials which do not become a part of the finished product. For example, equipment rentals, form materials, etc. are not considered as becoming "incorporated" into the project.)

    Utilization of this "separated contract" approach eliminates the need for bidders to figure in sales tax for materials which are to be incorporated into the project. The bidder should therefore be certain, when completing the bid form, to separate the bid as provided on the bid form. The successful bidder, prior to award of a construction contract, shall furnish a complete bid form separating by each item taxable and non-taxable amounts of the amount bid.

19. **PREFERENCE FOR RECYCLED PRODUCT:** Per Texas Administrative Code, Title 30 Environmental Quality, Part 1 Texas Commission on Environmental Quality, Chapter 328, Subchapter k., Rule 328.203, the City of Rowlett is required to give preference in purchasing to products made of recycled materials if the products meet applicable specifications as to quantity and quality and the average price of the product is not more than 10% greater than the price of comparable nonrecycled products. Preferences will be applied in accordance with state procurement statutes and rules.

    The City relies on vendors to correctly represent the products offered in response to a solicitation and will not be responsible for incorrect information provided by an offeror/vendor. Categories of recycled products and recommended percentages of post-consumer materials and total recovered materials content can be found in the Environmental Protection Agency's Comprehensive Procurement Guidelines at Comprehensive Procurement Guideline (CPG) Program | US EPA.

20. **WORKING DAYS AND HOURS:** The contractor must commence work within ten (10) days of the notice to proceed or work order date. Working days will be charged Monday through Friday, excluding national holidays, regardless of weather conditions or material availability. No work is allowed on Sundays or official City holidays. The Contractor has the option of working on Saturdays at the City's discretion. Prior written authorization from the City is required.

    Requests for after-hours engineering inspections must be submitted in writing at least 48 hours in advance, with cancellations communicated by 4:00 P.M. the day before to avoid a two-hour minimum fee; same-day cancellations, except for weather-related issues, will incur the same charge. The after-hours inspection fee is $75 per hour, with a minimum of two hours, and project acceptance is contingent upon the full payment of

all inspection fees. Any work done without proper inspection is subject to removal and replacement as directed by the City.

Digital Data Submission Standards

The City of Rowlett has adopted geographic information system (GIS) technologies to store, manage, and maintain spatially related (geographic) data. The land development, civil engineering, and surveying communities have also embraced digital technologies in their respective professional communities. Because development plans are now created using computer aided design and drafting (CAD), it is the goal of City of Rowlett to leverage such advanced techniques to expedite the design and plan review processes within the city. For such an effort to succeed, standards must be implemented to allow CAD data to be integrated into the City's GIS while preserving the referential and positional accuracy of the original measurements. These standards will enhance file transfer abilities between the City of Rowlett, developers, and engineers as well as between departments of the City of Rowlett. The process will also improve efficiency in the form of data input time, cost, manpower, and services at the City of Rowlett.

Each submission must contain:

- One digital **CAD** file of the plan **.dwg** or **.dxf** or ESRI **.shp** file.
- One digital **PDF** of the plan.

Digital File Format:

- Autodesk Autocad **.dwg** format version 2000 – 2013 or a **.dxf** format.
- ESRI **.shp** format must also include associated **.dbf**, **.shx** files.
- No polylines or annotation shall be stored in blocks. Explode all blocks that do exist. (Block references migrate to GIS as a single point at the block's insertion point).
- No annotation shall be included in any feature layer and no feature shall be included in any annotation layer. Annotation for each layer shall be placed in annotation layers.
- Drawing features shall include layer names. Systems using numbered levels, such as Microstation, must include a conversion table in the .dxf file creation process that can be used to specify named layers.
- Closure is critical in converting CAD elements to GIS features. If appropriate (ie. parcel boundaries, subdivision boundary, buildings), all polygonal features shall be 'snapped' closed.

Spatial Reference Information:

Digital data provided to or produced for the city must be **georeferenced**. Please tie all surveys to the **State Plane** coordinate system. The standard coordinate system for City:

Projected coordinate system name:	**NAD1983 State Plane Texas North Central FIPS 4202**
Geographic coordinate system name:	GCS North American 1983
Map Projection Name:	Lambert Conformal Conic
Planar Distance Units:	Survey Feet

Delivery:

Send an email with the CAD drawings along with the title of the drawing, type of drawing (e.g., As-built, Final Plat, etc). For any questions, please email gis@rowlett.com

SECTION 6 BID FORMS

BID FORM V7.01.26
BID NO. 2026-77-B
TOLER BUSINESS PARK PHASE 1 AND PHASE 2

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
1	1	LS	Mobilization **(Phases 1&2)** (5% Maximum)	$ 340,000.00	$ 340,000.00
2	1	LS	PREPARE SW3P **(PHASES 1 & 2)**	$ 10,000.00	$ 10,000.00
2A	40	LF	FURNISH AND INSTALL ROCK BERM IN CHANNEL **(PHASES 1 & 2)**	$ 70.00	$ 2,800.00
2B	4000	LF	FURNISH AND INSTALL TEMPORARY SEDIMENT CONTROL FENCE **(PHASES 1 & 2)**	$ 3.00	$ 12,000.00
2C	25	EA	FURNISH AND INSTALL INLET PROTECTION **(PHASES 1 & 2)**	$ 140.00	$ 3,500.00
3	12	MO	FURNISH AND INSTALL TRAFFIC CONTROL **(Phases 1 & 2)** (per latest TMUTCD)	$ 8,000.00	$ 96,000.00
4	41	STA	PREP ROW **(Phases 1 & 2)**	$ 1,750.00	$ 71,750.00
				TOTAL OVERALL ITEMS:	$ 536,050.00

PHASE 1 ITEMS

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
5	14537	CY	ROADWAY EXCAVATION	$ 15.00	$ 218,055.00
6	4235	CY	CHANNEL EXCAVATION	$ 25.00	$ 105,875.00
7	1400	SY	FURNISH AND INSTALL PERMAMENT SLOPE PROTECTION - FLEXAMAT STANDARD (OR APPROVED EQUAL)	$ 100.00	$ 140,000.00
8	5717	SY	FULL DEPTH SAW CUT AND REMOVE CONCRETE (APPROX. 8" THICK ROADWAY)	$ 9.00	$ 51,453.00
9	6351	SY	FURNISH AND INSTALL CONC PVMT (10”)	$ 100.00	$ 635,100.00
10	7176	SY	FURNISH AND INSTALL 2" HMAC TYPE "C"	$ 25.00	$ 179,400.00
11	7176	SY	FURNISH AND INSTALL 6" FLEXIBASE (TY A GR 1-2)	$ 18.00	$ 129,168.00

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
12	2990	LF	FURNISH AND INSTALL 6" INTEGRAL CONCRETE CURB	$ 7.00	$ 20,930.00
13	811	SY	REMOVE AND RECONSTRUCT CONCRETE DRIVEWAY (8" THICK)	$ 145.00	$ 117,595.00
14	2275	SF	REMOVE 4" CONCRETE SIDEWALK	$ 2.00	$ 4,550.00
15	595	SY	FURNISH AND INSTALL 4" CONCRETE SIDEWALK	$ 70.00	$ 41,650.00
16	6	EA	FURNISH AND INSTALL TY 1 PED RAMP	$ 1,800.00	$ 10,800.00
17	4	EA	FURNISH AND INSTALL TY 2 PED RAMP	$ 2,600.00	$ 10,400.00
18	100	LF	FURNISH AND INSTALL 12" - 18" SIDEWALK CURB	$ 60.00	$ 6,000.00
19	17	EA	REMOVE AND RELOCATE SMALL SIGN ASSEMBLY (ALL SIGN TYPES AND SIZES)	$ 650.00	$ 11,050.00
20	66	LF	FURNISH AND INSTALL 24" WHITE PAVEMENT MARKING (CROSS WALKS)	$ 34.00	$ 2,244.00
21	1	LS	MOVE POLICE SIGN & CONST NEW 0.7 CY CONC BASE (SHOP SUBMITTAL REQUIRED FOR BASE)	$ 3,500.00	$ 3,500.00
22	1	EA	REMOVE AND DISPOSAL OF SSMH	$ 1,500.00	$ 1,500.00
23	1	EA	REMOVE AND DISPOSAL OF SSCO	$ 270.00	$ 270.00
24	984	LF	FURNISH AND INSTALL SANITARY SEWER 8"	$ 75.00	$ 73,800.00
25	984	LF	FURNISH AND INSTALL TRENCH PROTECTION (SANITARY SEWER 8")	$ 2.00	$ 1,968.00
26	4	EA	FURNISH AND INSTALL SANITARY SEWER MH 5' DIA	$ 14,000.00	$ 56,000.00
27	80	LF	FURNISH AND INSTALL 8" SANITARY SEWER W/ 18" STEEL ENCASEMENT	$ 250.00	$ 20,000.00
28	1351	LF	SANITARY SEWER LINE REMOVAL	$ 2.00	$ 2,702.00
29	2	CY	SANITARY SEWER ABANDON & GROUT	$ 2,000.00	$ 4,000.00

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
30	614	LF	FURNISH AND INSTALL WATER LINE 8" (INCLUDING ALL FITTINGS, BENDS, & TEES)	$ 85.00	$ 52,190.00
31	6	LF	FURNISH AND INSTALL WATER LINE 16" ((INCLUDING ALL FITTINGS, BENDS, & TEES)	$ 4,500.00	$ 27,000.00
32	620	LF	FURNISH AND INSTALL TRENCH PROTECTION (WATER LINE 8"&16")	$ 1.50	$ 930.00
33	5	EA	FURNISH AND INSTALL 8" GATE VALVE WITH VALVE BOXES	$ 2,500.00	$ 12,500.00
34	1	EA	FURNISH AND INSTALL 16" GATE VALVE WITH VALVE BOXES	$ 17,000.00	$ 17,000.00
35	1	EA	FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY	$ 8,500.00	$ 8,500.00
36	5	LF	FURNISH AND INSTALL 6" DIA FIRE HYDRANT LEAD PIPE	$ 250.00	$ 1,250.00
37	5	EA	REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY	$ 8,500.00	$ 42,500.00
38	71	LF	FURNISH AND INSTALL WATER LINE 8" W/ CONC ENCASEMENT	$ 130.00	$ 9,230.00
39	11	EA	REMOVE AND DISPOSAL OF STORM SEWER INLETS (ALL SIZES)	$ 615.00	$ 6,765.00
40	648	LF	FURNISH AND INSTALL 24" CL III RCP	$ 120.00	$ 77,760.00
41	223	LF	FURNISH AND INSTALL 30" CL III RCP	$ 220.00	$ 49,060.00
42	339	LF	FURNISH AND INSTALL 48" CL III RCP	$ 340.00	$ 115,260.00
43	1286	LF	FURNISH AND INSTALL TRENCH PROTECTION (RCP)	$ 2.00	$ 2,572.00
44	2	EA	FURNISH AND INSTALL 60 DEG WYE	$ 200.00	$ 400.00
45	6	EA	FURNISH AND INSTALL 45 DEG WYE	$ 140.00	$ 840.00
46	2	EA	FURNISH AND INSTALL 22.25 DEG BEND	$ 200.00	$ 400.00

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
47	1	EA	FURNISH AND INSTALL Y INLET	$ 6,500.00	$ 6,500.00
48	4	EA	FURNISH AND INSTALL STORM DRAIN MH 5' DIA	$ 8,500.00	$ 34,000.00
49	1	EA	FURNISH AND INSTALL 5' X 5' JUNCTION BOX	$ 8,000.00	$ 8,000.00
50	5	EA	FURNISH AND INSTALL 10' STANDARD INLET	$ 12,500.00	$ 62,500.00
51	8	EA	FURNISH AND INSTALL 14' STANDARD INLET	$ 15,500.00	$ 124,000.00
52	35	LF	FURNISH AND INSTALL 2' X 2' CONC BOX CULVERT (LATERAL)	$ 270.00	$ 9,450.00
53	3	EA	REMOVE EXISTING 10' X 8' RBC (INCLUDING HEADWALLS)	$ 6,000.00	$ 18,000.00
54	250	LF	FURNISH AND INSTALL 5 - 11' X 8' MBC	$ 1,500.00	$ 375,000.00
55	4	EA	FURNISH AND INSTALL STRAIGHT WINGWALLS (INCLUDING CONCRETE APRON)	$ 80,000.00	$ 320,000.00
56	145	LF	FURNISH AND INSTALL PED RAIL TxDOT PR11 (ON TOP OF WINGALLS)	$ 210.00	$ 30,450.00
57	157	LF	FURNISH AND INSTALL COMBINATION RAIL TXDOT TYPE C221	$ 250.00	$ 39,250.00
58	7	EA	REMOVE TREE	$ 800.00	$ 5,600.00
59	1	LS	TREE TRIMMING & BRUSH REMOVAL (CHANNEL)	$ 14,000.00	$ 14,000.00
60	8	EA	REMOVE AND RELOCATE MAILBOXES (w/PRIOR COORDINATION WITH POSTMASTER)	$ 350.00	$ 2,800.00
61	580	LF	REMOVE WATERLINE (ALL SIZES)	$ 17.00	$ 9,860.00
62	1	LS	FURNISH AND INSTALL EMERGENCY ACCESS FLEXBASE INSTALLATION & MAINTENANCE	$ 7,500.00	$ 7,500.00
63	2237	SY	FURNISH AND INSTALL 4" TOPSOIL	$ 9.00	$ 20,133.00
64	2237	SY	FURNISH AND INSTALL SODDING	$ 9.00	$ 20,133.00
64A	2	EA	REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (SHORT)	$ 1,500.00	$ 3,000.00

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
64B	8	EA	REMOVE EXSITING AND INSTALL NEW SANITARY SEWER LINE SERVICES (SHORT)	$ 2,000.00	$ 16,000.00
64C	37	LF	FURNISH AND INSTALL 18" CL III RCP	$ 150.00	$ 5,550.00
64D	1	EA	FURNISH AND INSTALL 6" GATE VALVE WITH VALVE BOXES	$ 2,500.00	$ 2,500.00
64E	923	SY	FURNISH AND INSTALL 5" CONCRETE RIPRAP AND TOEWALL IN CHANNEL	$ 90.00	$ 83,070.00
64F	1500	SY	FURNISH AND INSTALL 10" HES CONC (HIGH EARLY STRENGTH CONCRETE) (ONLY ON CENTURY & ONLY WITH PRIOR AUTHORIZATION FROM CITY)	$ 115.00	$ 172,500.00
				TOTAL PHASE 1 ITEMS:	$ 3,661,963.00

PHASE 2 ITEMS

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
65	5965	SY	REMOVE CONCRETE (8" THICK ROADWAY)	$ 9.00	$ 53,685.00
66	1452	SY	REMOVE CONCRETE (DRIVEWAY APRON >= 5" THICK)	$ 12.00	$ 17,424.00
67	1387	CY	ROADWAY EXCAVATION	$ 30.00	$ 41,610.00
68	6750	SY	FURNISH AND INSTALL CONC PVMT (10")	$ 99.00	$ 668,250.00
69	7615	SY	FURNISH AND INSTALL 2" HMAC TYPE "C"	$ 25.00	$ 190,375.00
70	7615	SY	FURNISH AND INSTALL 6" FLEXBASE (TY A GR 1-2)	$ 18.00	$ 137,070.00
71	2789	LF	FURNISH AND INSTALL 6" INTEGRAL CONCRETE CURB	$ 7.00	$ 19,523.00
72	1214	SY	RECONSTRUCT CONCRETE DRIVEWAY (8" THICK)	$ 140.00	$ 169,960.00
73	2098	LF	FURNISH AND INSTALL SANITARY SEWER 8"	$ 75.00	$ 157,350.00
74	2098	LF	FURNISH AND INSTALL TRENCH PROTECTION (SANITARY SEWER 8")	$ 2.00	$ 4,196.00

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
75	45	LF	FURNISH AND INSTALL 18" STEEL ENCASEMENT BY OPEN CUT	$ 275.00	$ 12,375.00
76	9	EA	FURNISH AND INSTALL SANITARY SEWER MH 5' DIA	$ 14,000.00	$ 126,000.00
77	6	EA	REMOVE EXISTING SSMH	$ 1,000.00	$ 6,000.00
78	2098	LF	REMOVE EXISTING SS LINE (ALL SIZES, ALL TYPES, ALL DEPTHS)	$ 2.00	$ 4,196.00
79	2005	LF	FURNISH AND INSTALL WATER LINE 8"	$ 79.00	$ 158,395.00
80	2040	LF	FURNISH AND INSTALL TRENCH PROTECTION (WATER LINES)	$ 2.00	$ 4,080.00
81	2	EA	FURNISH AND INSTALL 8" GATE VALVE WITH VALVE BOXES	$ 3,000.00	$ 6,000.00
82	2000	LF	REMOVE EXISTING WATERLINES (ALL SIZES, ALL TYPES, ALL DEPTHS)	$ 3.00	$ 6,000.00
83	6	EA	FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY	$ 8,000.00	$ 48,000.00
84	35	LF	FURNISH AND INSTALL 6" DIA FIRE HYDRANT LEAD PIPE	$ 95.00	$ 3,325.00
85	143	LF	FURNISH AND INSTALL 18" CL III RCP	$ 110.00	$ 15,730.00
86	722	LF	FURNISH AND INSTALL 24" CL III RCP	$ 130.00	$ 93,860.00
87	681	LF	FURNISH AND INSTALL 30" CL III RCP	$ 160.00	$ 108,960.00
88	250	LF	FURNISH AND INSTALL 36" CL III RCP	$ 200.00	$ 50,000.00
89	38	LF	FURNISH AND INSTALL 48" CL III RCP	$ 330.00	$ 12,540.00
90	1282	LF	FURNISH AND INSTALL TRENCH PROTECTION (RCP)	$ 2.00	$ 2,564.00
91	5420	LF	FURNISH AND INSTALL TEMPORARY TRENCH REPAIR	$ 24.00	$ 130,080.00
92	7	EA	FURNISH AND INSTALL 45 DEG WYE	$ 150.00	$ 1,050.00
93	4	EA	FURNISH AND INSTALL 45 DEG BEND	$ 180.00	$ 720.00

Item No.	Quantity	Units	Description	Unit Price	Extended Amount
94	2	EA	FURNISH AND INSTALL STORM DRAIN MH 5' SQUARE	$ 11,000.00	$ 22,000.00
95	6	EA	FURNISH AND INSTALL 10' STANDARD INLET	$ 8,000.00	$ 48,000.00
96	3	EA	FURNISH AND INSTALL 14' STANDARD INLET	$ 13,000.00	$ 39,000.00
97	9	EA	REMOVE TREE	$ 1,200.00	$ 10,800.00
98	4	EA	REMOVE EXISTING INLET	$ 800.00	$ 3,200.00
99	2	EA	REMOVE HEADWALL, PLUG 24" OUTFALL, RE-GRADE & SEED (PER GENERAL NOTE ITEM 9)	$ 11,000.00	$ 22,000.00
100	21	EA	REMOVE AND RELOCATE MAILBOXES (w/PRIOR COORDINATION WITH POSTMASTER)	$ 350.00	$ 7,350.00
101	6	EA	REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY	$ 9,000.00	$ 54,000.00
102	107	LF	FURNISH AND INSTALL ADS XL DURASLOT TRENCH DRAIN SYSTEMS (OR APPROVED EQUAL)	$ 370.00	$ 39,590.00
103	9	EA	REMOVE AND RELOCATE SMALL SIGN ASSEMBLY (ALL SIGN TYPES AND SIZES)	$ 650.00	$ 5,850.00
104	2860	SY	FURNISH AND INSTALL 4" TOPSOIL	$ 8.00	$ 22,880.00
105	2860	SY	FURNISH AND INSTALL SODDING	$ 8.00	$ 22,880.00
106	18	EA	REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (SHORT)	$ 1,300.00	$ 23,400.00
107	13	EA	REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (LONG)	$ 2,000.00	$ 26,000.00
108	16	EA	REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (SHORT)	$ 1,400.00	$ 22,400.00
109	19	EA	REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (LONG)	$ 2,600.00	$ 49,400.00
110	1	EA	FURNISH AND INSTALL 20' CURB INLET	$ 16,000.00	$ 16,000.00
				TOTAL PHASE 2 ITEMS:	$ 2,684,068.00
				TOTAL BASE BID (OVERALL ITEMS + PHASE 1 ITEMS + PHASE 2 ITEMS):	$ 6,882,081.00

BID CERTIFICATION FORM
BID NO. 2026-77-B

The undersigned bidder having thoroughly examined the contract documents, including plans, specifications, the site of the project and understanding the amount of work to be done and the prevailing conditions, hereby proposes to do all the work, furnish all labor, equipment, and material, except as specified to be furnished by the City, which is necessary to fully complete all of the work as provided in the plans and contract documents and subject to the inspection and approval of the City of Rowlett, Texas, and binds himself upon acceptance and award of this bid to execute a contract and furnish all required insurance, sureties and bonds, as may be required by the contract documents for the performing and completing of said work. Contractor proposes to do the work within the time stated at the bid prices submitted on the Bid Form and agrees to abide by the terms and statutory requirements governing the solicitation process.

A. FIRM INFORMATION

Legal Name of Vendor: DDM Construction Corporation

Tax ID Number: 75-2597024 Telephone No: (940) 726-1121, Option 2

State of Formation: Texas Year of Formation: 1995

Address: 306 W Overly Drive

Lake Dallas, Tx 75065

Contact Name and Title: Zackery Markwardt, President & CEO

Contact Email Address: jae@ddmcc.net

B. ADDENDA

All addenda shall be issued in written form by the Purchasing Office. The City is not bound by any oral representations, clarifications, or changes made in connection to the bid by the City's employees, agents or consultants unless in the form of a properly issued Addendum.

Recognizing this responsibility, the bidder hereby acknowledges receipt of the following Addenda:

Addendum 1 Initial ZM Addendum _____ Initial _____

Addendum 2 Initial ZM Addendum _____ Initial _____

Addendum 3 Initial ZM Addendum _____ Initial _____

The failure of the bidder to contact the Owner to determine the issuance of any Addenda, or to acknowledge receipt of any and all of the Addenda issued in connection with this project, shall entitle the City, at its sole discretion, to (i) reject the bid as being non-responsive, or (ii) to accept the bid, in which event the bidder agrees to be bound by all of the terms and conditions of each unacknowledged Addendum.

C. CERTIFICATION

Within ten (10) days after acceptance of this Proposal, the undersigned will execute the formal contract and will deliver an approved Surety Bond and such other bonds as required by the Contract Documents, for the faithful performance of the Contract. The attached bid security in the amount of 5% is to become the property

of the Owner in the event the contract and bond or bonds are not executed and delivered within the time above set forth, as liquidated damages for the delay and additional work caused thereby.

The undersigned assures that its employees and applicants for employment and those of any labor organization, subcontractors, or employment agency in either furnishing or referring employee applicants to the undersigned are not discriminated against.

The bidder agrees to begin construction within 10 calendar days after the issuance of the Notice to Proceed with Construction (Work Order). **Substantial completion of the work will be achieved within 335 calendar days of the date indicated on the Notice to Proceed and final completion will be achieved within 30 calendar days after substantial completion.**

I certify that I have the legal authority to bind the bidder listed above, and I further certify that there are no objections to any of the terms and conditions listed in this bid document.

Signature of Authorized Representative: _____

Printed Name and Title of Authorized Representative: Zackery Markwardt, President & CEO

Date of Certification: July 15, 2026

SUBCONTRACTOR FORM

List of Major Subcontractors

The Bidder expressly agrees that:

1. If awarded a Contract as a result of this Bid, the major subcontractors used in the prosecution of the work will be those listed below, and

2. The following list includes all subcontractors who will perform work on this contract.

3. The Bidder represents that the subcontractors listed below are financially responsible and are qualified to perform the work required.

Category	Name of Subcontractor	Address	Meets Qualifications
Asphalt Paving	Paniolo Construction	2931 Ridge Rd, Ste 101, Rockwall, Tx 75032	Yes
Concrete Pumping	Brundage Bone	1409 W Shady Grove Rd, Grand Prairie, Tx 75050	Yes
Concrete Rail & Handrail	Bluebird Construction	10707 Justin Cemetery Rd. Justin, TX 76247	Yes
Concrete Rail	Green Scaping Co.	2401 Handley Ederville Rd. Ft. Worth, TX 76118	Yes
Erosion & SWPPP	ProTex Erosion Control, LLC	P.O. Box 15082 Fort Worth, TX 76119	Yes
Guardrail & Signs	Marcom's Mowing Service LLC	6350 New Hope Rd, Aubrey, Tx 76227	Yes
Storm Structure	IMT Construction LLC	306 W Overly Drive, Lake Dallas, Tx 75065	Yes
Landscaping	StreetScapes Inc	P.O. Box 460 Lake Dallas, Tx 75065	Yes
Pavement Marking	Site Barricades	4841 Freeman Drive, Fort Worth, Tx 76140	Yes
Tree Removal	Civil Tree Solutions	2353 Countryside Drive, Denton, TX 76208	Yes
Saw & Seal	Martinez Concrete Cutting & Removal	9137 Jesse Way , Crandall , Tx 75114	Yes
SS Testing & TV Inspection	Magnum Manhole and Underground Company	428 N. First St. Garland, Texas 75040	Yes
Traffic Control	Dallas Lite & Barricade	2727 N. Westmoreland Rd, Dallas, Tx 75212	Yes

BID BOND
BID NO. 2026-77-B

STATE OF TEXAS

COUNTY OF DALLAS

KNOW ALL MEN BY THESE PRESENTS: That we **DDM Construction Corporation** hereinafter referred to as "Principal", and **Continental Casualty Company**, a corporation organized and existing under the laws of the State of **Illinois**, with its principal office in the City of **Chicago** and fully licensed to transact business in the State of Texas, as Surety (herein referred to as "Surety"), are held and firmly bound unto the **CITY OF ROWLETT**, a home-rule municipal corporation organized and existing under the laws of the State of Texas, hereinafter referred to as "Owner", in the full and just sum of **Five Percent of Greatest Amount Bid** Dollars ($**5% GAB**) (five percent (5%) of the total bid price) in lawful money of the United States, to be paid in Dallas County, Texas, upon demand of the Owner, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted to the Owner, a Bid for furnishing all labor, materials, equipment and incidentals necessary to perform, as described in these Contract Documents; and

WHEREAS, the Contractor desires to file this bond in accordance with law, in lieu of a certified bidder's check otherwise required to accompany this bid.

NOW, THEREFORE, The conditions of this obligation are such that if the Bid is accepted, the Principal shall, within ten (10) days after the date of receipt of a written notice of award of contract, execute a contract in accordance with the Bid and upon the terms, conditions and price(s) set forth therein, of form and manner required by the Owner, and execute a sufficient and satisfactory contract Performance Bond in an amount of One Hundred Fifteen Percent (115%), and a Payment Bond and Maintenance Bond, in an amount of One Hundred Percent (100%) of the total Contract price, each payable to the Owner, in form and with security satisfactory to said City of Rowlett, then this obligation to be void; otherwise to be and remain in full force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid City of Rowlett, upon demand, the amount hereof in good and lawful money of the United States of America not as a penalty but as liquidated damages.

Surety companies executing Bonds must hold Certificates of Authority as Acceptable Sureties, must appear on the Treasury Department's most current list "A" Rating or better (Circular 570 as amended), and be authorized to transact business in the State of Texas.

PROVIDED FURTHER, that if any legal action were filed on this Bond, exclusive Venue shall lie in Dallas County, Texas.

[Signatures on the next page]

IN TESTIMONY THEREOF, The Principal and Surety have caused these presents to be duly signed and sealed this, the 15th day of July, 20 26.

ATTEST:

By: _____
Signature

Michelle Ruez
Printed Name

Controller
Title

306 W. Overly Dr.
Address

Lake Dallas, TX 75065
City, State, Zip Code

214-608-9413
Phone Number

PRINCIPAL:

DDM Construction Corporation
Company Name

By: _____
Signature

Zackery Markwardt
Printed Name

President & CEO
Title

306 W. Overly Dr.
Address

Lake Dallas, TX 75065
City, State, Zip Code

214-608-9413
Phone Number

ATTEST:

By: _____
Signature

Alyssa Beane
Printed Name

Witness
Title

941 West Ralph Hall Pkwy
Address

Rockwall, TX 75032
City, State, Zip Code

972-771-3861
Phone Number

SURETY:
Continental Casualty Company

By: _____
Signature

Cindy Rodriguez
Printed Name

Attorney-in-Fact
Title

151 N Franklin St
Address

Chicago, IL 60606-1821
City, State, Zip Code

877-633-5600
Phone Number

The Resident Agent of the Surety in Dallas County, Texas, for delivery of notice and service of the process is:

NAME: Brett Robinson
STREET ADDRESS: 8416 Forest Hills Blvd.
CITY, STATE, ZIP: Dallas, TX 75218

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company (herein called "the CNA Companies"), are duly organized and existing insurance companies having their principal offices in the City of Chicago, and State of Illinois, and that they do by virtue of the signatures and seals herein affixed hereby make, constitute and appoint

James W Leeker, William P Rutherford, Linda S Nichols, Cindy Rodriguez, Russell Jones, Individually

of Rockwall, TX, their true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on their behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of their insurance companies and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Laws and Resolutions, printed below, duly adopted, as indicated, by the Boards of Directors of the insurance companies.

In Witness Whereof, the CNA Companies have caused these presents to be signed by their Vice President and their corporate seals to be hereto affixed on this 24th day of February, 2026.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Larry Kasten — Vice President

State of South Dakota, County of Minnehaha, ss:

On this 24th day of February, 2026, before me personally came Larry Kasten to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company described in and which executed the above instrument; that he knows the seals of said insurance companies; that the seals affixed to the said instrument are such corporate seals; that they were so affixed pursuant to authority given by the Boards of Directors of said insurance companies and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance companies.

My commission expires

December 4, 2031

K. WALSH NOTARY PUBLIC SOUTH DAKOTA

K. Walsh — Notary Public

CERTIFICATE

I, Paula Kolsrud, Assistant Secretary of Continental Casualty Company, an Illinois insurance company, National Fire Insurance Company of Hartford, an Illinois insurance company, and American Casualty Company of Reading, Pennsylvania, a Pennsylvania insurance company do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Laws and Resolutions of the Board of Directors of the insurance companies printed below are still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance companies this **15th** day of **July**, **2026**.

Continental Casualty Company
National Fire Insurance Company of Hartford
American Casualty Company of Reading, Pennsylvania

Paula Kolsrud — Assistant Secretary

Authorizing By-Laws and Resolutions

ADOPTED BY THE BOARD OF DIRECTORS OF EACH OF CONTINENTAL CASUALTY COMPANY, NATIONAL FIRE INSURANCE COMPANY OF HARTFORD, and AMERICAN CASUALTY COMPANY OF READING, PENNSYLVANIA (as defined above, the "CNA Companies"):

This Power of Attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the Board of Directors of each of the above CNA Companies at a meeting held on May 12, 1995:

"RESOLVED: That any Senior or Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Senior or Group Vice President to the Secretary of the Company prior to such execution becoming effective."

This Power of Attorney is signed by Larry Kasten, Vice President, who has been authorized pursuant to the above resolution to execute power of attorneys on behalf of each of the CNA Companies.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of each of the above Companies by unanimous written consent dated the 25th day of April, 2012:

"Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the "Authorized Officers") to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and

Whereas, from time to time, the signature of the Authorized Officers, in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, "Electronic Signatures"); Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company."

This Power of Attorney may be signed by digital signature and sealed by a digital or otherwise electronic-formatted corporate seal under and by the authority of the following Resolution adopted by the Board of Directors of each of the above CNA Companies by unanimous written consent dated the 27th day of April, 2022:

"RESOLVED: That it is in the best interest of the Company to periodically ratify and confirm any corporate documents signed by digital signatures and to ratify and confirm the use of a digital or otherwise electronic-formatted corporate seal, each to be considered the act and deed of the Company."

Go to www.cnasurety.com > Owner / Obligee Services > Validate Bond Coverage, if you want to verify bond authenticity.

SECTION 7 INSURANCE REQUIREMENTS AND BOND FORMS

INSURANCE REQUIREMENTS
STANDARD INSURANCE REQUIREMENTS

Company shall procure and maintain for the duration of the contract, insurance coverages outlined herein which may arise from or be in connection with the performance of the work hereunder by the Company, his agents, representatives, employees or subcontractors. Any exceptions to the requirements or provisions herein shall be submitted in writing to the City's Risk Manager for consideration and approval. The decision of the City will be final. The cost of such insurance shall be borne by the Company.

1.0 GENERAL PROVISIONS

1.1 The Company shall obtain and maintain the minimum insurance coverage set forth in this section. By requiring such minimum insurance, the City of Rowlett shall not be deemed or construed to have assessed the risk that may or may not be applicable to the Company. The Company shall assess its own risks and if it deems appropriate and/or prudent, maintain higher limits and/or broader coverage. The Company is not relieved of any liability or other obligation assumed or pursuant to the Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration, or types. The insurance requirements listed below do not replace any warranty or surety (performance, payment, or maintenance) bonds if required by preceding or subsequent sections of this contract.

1.2 Company shall cause each subcontractor employed by Company to purchase and maintain insurance of the type specified herein or cover such subcontractor under its insurance coverage.

1.3 The Company agrees that the insurance requirements specified in this section do not reduce the liability Company has assumed in any indemnification/hold harmless section of this contract.

1.4 City reserves the right to approve the security of the insurance coverage provided pursuant to this section by insurers including terms, conditions and the Certificate of Insurance. Failure of the Company to fully comply with requirements of this section during the term of this contract will be considered a material breach of contract and will be cause for immediate termination of the contract at the option of City.

1.5 Insurance coverage required by this section shall:

1.5.1 Be on a primary basis, non-contributory with any other insurance coverage and/or self-insurance carried by City.

1.5.2 Be with an insurer possessing an A-VII A. M. Best Rating or equivalent.

2.0 MINIMUM INSURANCE COVERAGE & LIMITS

2.1 Commercial General Liability. Company shall maintain commercial general liability and, if necessary, commercial umbrella or excess liability (umbrella or excess liability should be provided on follow-form policy).

2.2 Commercial general liability insurance shall be written on an ISO occurrence form CG 00 01 (or a substitute form providing equivalent coverage) and shall cover liability arising from premises, operations, independent Company's, product-completed operations, personal and advertising injury and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).

2.3 City shall be included as an additional insured under the commercial general liability using ISO additional insured endorsement CG 20 10 07 04 and CG 20 37 07 04 or their equivalent, including coverage for City with respect to liability arising out of the completed operations of Company.

2.4 Limits of Insurance

Contracts between $0 and $1,000,000		
Type of Insurance	**Amount of Insurance**	**Provisions**
1. Commercial General (Public) Liability to include coverage for: a) Premises/Operations b) Products/Completed Operations c) Independent Contractors d) Personal Liability e) Contractual Liability	• $1,000,000 each occurrence • $2,000,000 general aggregate • $2,000,000 Umbrella/ Excess Liability (follow-form)	City to be listed as additional insured and provided 30-day notice of cancellation or material change in coverage City to be provided a waiver of Subrogation
2. Business Auto Liability	• $1,000,000 per occurrence • $1,000,000 aggregate or; • $1,000,000 combined single limits	City to be named as additional insured
3. Workers' Comp & Employers' Liability	• Statutory Limits • $1,000,000 each accident	City to be provided a waiver of subrogation
4. Builders Risk Policy	• 100% of construction total	If Applicable
5. Other Coverages a) Professional Liability b) E & O coverage c) Cyber Liability	• To be determined by the City's Risk Manager on a per project basis	If Applicable

Contracts between $1,000,000 and $8,000,000		
Type of Insurance	**Amount of Insurance**	**Provisions**
1. Broad Form Commercial General Liability to include coverage for: a) Premises/Operations b) Products/Completed Operations c) Independent Contractors d) Personal Liability e) Contractual Liability	• $2,000,000 each occurrence • $4,000,000 general aggregate • $4,000,000 Umbrella/ Excess Liability (follow-form)	City to be listed as additional insured and provided 30-day notice of cancellation or material change in coverage City to be provided a waiver of Subrogation
2. Business Auto Liability	• $1,000,000 per occurrence • $2,000,000 aggregate or;	City to be named as additional insured

	• $2,000,000 combined single limits	
3. Workers' Comp & Employers' Liability	• Statutory Limits • $1,000,000 each accident	City to be provided a waiver of subrogation
4. Builders Risk Policy	• 100% of construction total	If Applicable
5. Other Coverages a) Professional Liability b) E & O coverage c) Cyber Liability	• To be determined by the City's Risk Manager on a per project basis	If Applicable

2.4.1 If vendor is performing service-related work on City fleet, Garage Keeper Liability is required at a limit of not less than $1,000,000 per occurrence on a special form basis.

2.4.2 If contract has exposure for environmental hazards contact City's Risk Manager for specifications. (Including MCS-90).

2.4.3 Contracts for construction projects taking place in a high-risk flood zone area may require additional coverage requirements.

2.4.4 Insurance specifications for Contracts in excess of $8,000,000 will be determined by the City's Risk Manager.

2.5 Commercial Automobile Liability. Company shall maintain business automobile liability insurance and, if necessary, commercial umbrella liability insurance with a limit of not less than $1,000,000 per occurrence.

2.6 Such automobile liability insurance shall cover liability arising out of any auto (including owned, hired, and non-owned automobiles).

2.7 Commercial automobile coverage shall be written on ISO form CA 00 01, CA 00 05, CA 00 12, CA 00 20, or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to the amount provided in ISO form CA 00 01.

2.8 Company waives all rights against City and its agents, officers, directors and employees for recovery by the commercial automobile liability or commercial umbrella liability insurance obtained by Company pursuant to this section or under any applicable automobile physical damage coverage.

2.9 Workers' Compensation & Employer's Liability. Company shall maintain workers' compensation insurance with a limit of no less than $1,000,000 each incident. The employers' liability limit and, if necessary, commercial umbrella coverage, shall not be less than $1,000,000 each accident for bodily injury by accident or $1,000,000 each employee for bodily injury by disease.

2.10 Company waives all rights against City and its agents, officers, directors and employees for recovery of damages under Company's workers' compensation and employers' liability in connection with scope of contract and completed operations.

3.0 EVIDENCE OF INSURANCE

3.1 Prior to commencement of work, and thereafter upon renewal or replacement of coverage required by this section, Company shall furnish City a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with this section. Company shall furnish copies of all endorsements as required by each section.

3.2 Failure of City to demand such certificate(s) or other evidence of full compliance with these insurance requirements or failure of City to identify a deficiency from evidence that is provided shall not be construed as a waiver of Company's obligation to maintain such insurance.

3.3 City shall have the right, but not the obligation, of prohibiting Company or any subcontractor from entering the project site until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and approved by the City.

3.4 Failure to maintain required insurance may result in termination of this contract at sole option of the City.

3.5 **All Certificates of Insurance need to reference job or contract number in comments section.**

3.6 **Certificate Holder shall be listed as follows: City of Rowlett, 4000 Main St., Rowlett, TX 75088**

WORKERS' COMPENSATION INSURANCE COVERAGE

WC.1 **DEFINITIONS**

Certificate of coverage ("certificate"): A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC- 81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

Duration of the project: Includes the time from the beginning of the work on the project until the contractor's/persons work on the project has been completed and accepted by the governmental entity.

Persons providing services on the project ("subcontractor" in 1.03): Includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, CITY-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries and delivery of portable toilets.

WC.2 The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

WC.3 The contractor must provide a certificate of coverage to governmental entity prior to being awarded the contract.

WC.4 If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

WC.5 The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the

project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project, and,

(2) no later than seven (7) days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

WC.6 The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

WC.7 The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knows or should have known, or any change that materially affects the provision of coverage of any person providing services on the project.

WC.8 The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, information all persons providing services on the project that they are required to be offered, and stating how a person may verify coverage and report lack of coverage.

WC.9 The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the contractor:

(a) a certificate of coverage, prior to the other person beginning work on the project; and,

(b) a new certificate of coverage showing extension of

coverage, prior tot he end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one (1) year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within ten (10) days after the person knows or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and,

(7) contractually require each person with whom it contracts, to perform as required by paragraphs (1)-(7), with the certificates of coverage to be provided to the person for whom they are providing services.

WC.10 By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self- insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

WC.11 The contractor's failure to comply with any of these provision is a breach of contract by the contractor which entities the governmental entity to declare the contract void if the contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the governmental entity.

WC.12 The contractor shall indemnify the governmental entity and hold it harmless for any amounts sought against the governmental entity by any employee or independent sub- contractor. The contractor further agrees to assist City in the defense of any attempts to assert a worker's compensation subrogation lien by any medical insurer, including, but not limited to, the release and disclosure of all files and documents that would be relevant or pertinent to the City's defense.

PERFORMANCE BOND

STATE OF TEXAS

COUNTY OF DALLAS

KNOW ALL MEN BY THESE PRESENTS: That _____ whose address is _____, hereinafter referred to as "Principal", and _____, a corporation organized and existing under the laws of the State of _____, and fully licensed to transact business in the State of Texas, as Surety (herein referred to as "Surety"), are held and firmly bound unto the **CITY OF ROWLETT**, a home-rule municipal corporation organized and existing under the laws of the State of Texas, hereinafter referred to as "Owner", in the penal sum of _____ Dollars ($_____) (one hundred percent (115%) of the total bid price) in lawful money of the United States, to be paid in Dallas County, Texas, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. The penal sum of this Bond shall automatically be increased by the amount of any Change Order or Supplemental Agreement, which increases the Contract price, but in no event shall a Change Order or Supplemental Agreement, which reduces the Contract price, decrease the penal sum of this Bond.

THE OBLIGATION TO PAY SAME is conditioned as follows: Whereas, the Principal entered into a certain Contract with the City of Rowlett, the Owner, dated on or about the _____ day of _____, A.D. 20____, a copy of which is attached hereto and made a part hereof, to furnish all materials, equipment, labor, supervision, and other accessories necessary for the construction of:

BID NO. 2026-77-B

TOLER BUSINESS PARK PHASE 1 AND PHASE 2

in the City of Rowlett, Texas, as more particularly described and designated in the above-referenced contract such contract being incorporated herein and made a part hereof as fully and to the same extent as if written herein word for word.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform and fulfill all of the undertakings, covenants, terms, conditions and agreements of said Contract in accordance with the Plans, Specifications and Contract Documents during the original term thereof and any extension thereof which may be granted by the Owner, with or without notice to the Surety, and during the life of any guaranty or warranty required under this Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived; and, if the Principal shall repair and/or replace all defects due to faulty materials and workmanship that appear within a period of one (1) year from the date of final completion and final acceptance of the Work by Owner; and, if the Principal shall fully indemnify and save harmless the Beneficiary from and against all costs and damages which Owner may suffer by reason of failure to so perform herein and shall fully reimburse and repay Owner all outlay and expense which the Owner may incur in making good any default or deficiency, then this obligation shall be void; otherwise, it shall remain in full force and effect.

PROVIDED FURTHER, that if any legal action were filed on this Bond, exclusive Venue shall lie in Dallas County, Texas.

AND PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or the Plans, Specifications and Drawings, etc., accompanying the same shall in anywise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the Work or to the Specifications.

This Bond is given pursuant to the provisions of Chapter 2253 of the Texas Government Code, and any other applicable statutes of the State of Texas.

The undersigned and designated agent is hereby designated by the Surety herein as the Resident Agent in Dallas County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship, as provided by Article 7.19-1 of the Insurance Code, Vernon's Annotated Civil Statutes of the State of Texas.

IN WITNESS WHEREOF, this instrument is executed and shall be deemed an original, this, the _____ day of _____, 20____.

ATTEST:	**PRINCIPAL**:
	_____
	Company Name
By: _____	By: _____
Signature	Signature
_____	_____
Printed Name	Printed Name
_____	_____
Title	Title
_____	_____
Address	Address
_____	_____
City, State, Zip Code	City, State, Zip Code
_____	_____
Phone Number	Phone Number

[*Signatures continued on following page*]

ATTEST:

By: _____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
City, State, Zip Code

_____
Phone Number

SURETY:

By: _____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
City, State, Zip Code

_____
Phone Number

The Resident Agent of the Surety in Dallas County, Texas, for delivery of notice and service of the process is:

NAME: _____

STREET ADDRESS: _____

CITY, STATE, ZIP: _____

NOTE: Date on **Page 1** of Performance Bond must be **same date as Contract**. Date on **Page 2** of Performance Bond must be **after date of Contract**. If Resident Agent is not a corporation, give a person's name.

PAYMENT BOND

STATE OF TEXAS

COUNTY OF DALLAS

KNOW ALL MEN BY THESE PRESENTS: That _____ whose address is _____, hereinafter referred to as "Principal", and_____, a corporation organized and existing under the laws of the State of _____, and fully licensed to transact business in the State of Texas, as Surety (herein referred to as "Surety"), are held and firmly bound unto the **CITY OF ROWLETT**, a home-rule municipal corporation organized and existing under the laws of the State of Texas, hereinafter referred to as "Owner", and unto all persons, firms, and corporations who may furnish materials for, or perform labor upon the building or improvements hereinafter referred to in the penal sum of _____ _____DOLLARS ($_____) (one hundred percent (100%) of the total bid price) in lawful money of the United States, to be paid in Dallas County, Texas, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. The penal sum of this Bond shall automatically be increased by the amount of any Change Order or Supplemental Agreement, which increases the Contract price, but in no event shall a Change Order or Supplemental Agreement, which reduces the Contract price, decrease the penal sum of this Bond.

THE OBLIGATION TO PAY SAME is conditioned as follows: Whereas, the Principal entered into a certain Contract with the City of Rowlett, the Owner, dated on or about the _____ day of _____, A.D. 20___, a copy of which is attached hereto and made a part hereof, to furnish all materials, equipment, labor, supervision, and other accessories necessary for the construction of:

BID NO. 2026-77-B

TOLER BUSINESS PARK PHASE 1 AND PHASE 2

in the City of Rowlett, Texas, as more particularly described and designated in the above-referenced contract such contract being incorporated herein and made a part hereof as fully and to the same extent as if written herein word for word.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties and make prompt payment to all persons, firms, subcontractors, corporations and claimants supplying labor and/or material in the prosecution of the Work provided for in the above-referenced Contract and any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modification to the Surety is hereby expressly waived, then this obligation shall be void; otherwise it shall remain in full force and effect.

PROVIDED FURTHER, that if any legal action were filed on this Bond, exclusive Venue shall lie in Dallas County, Texas.

AND PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or the Plans, Specifications and Drawings, etc., accompanying the same shall in anywise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder.

This Bond is given pursuant to the provisions of Chapter 2253 of the Texas Government Code, and any other applicable statutes of the State of Texas.

The undersigned and designated agent is hereby designated by the Surety herein as the Resident Agent in Dallas County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship, as provided by Article 7.19-1 of the Insurance Code, Vernon's Annotated Civil Statutes of the State of Texas.

IN WITNESS WHEREOF, this instrument is executed and shall be deemed an original, this, the _____ day of _____, 20____.

ATTEST:	**PRINCIPAL**:
	_____
	Company Name
By: _____	By: _____
Signature	Signature
_____	_____
Printed Name	Printed Name
_____	_____
Title	Title
_____	_____
Address	Address
_____	_____
City, State, Zip Code	City, State, Zip Code
_____	_____
Phone Number	Phone Number

[*Signatures continued on following page*]

ATTEST:	**SURETY**:
By: _____ Signature	By: _____ Signature
_____ Printed Name	_____ Printed Name
_____ Title	_____ Title
_____ Address	_____ Address
_____ City, State, Zip Code	_____ City, State, Zip Code
_____ Phone Number	_____ Phone Number

The Resident Agent of the Surety in Dallas County, Texas, for delivery of notice and service of the process is:

NAME: _____

STREET ADDRESS: _____

CITY, STATE, ZIP: _____

NOTE: Date on **Page 1** of Payment Bond must be **same date as Contract**. Date on **Page 2** of Payment Bond must be **after date of Contract**. If Resident Agent is not a corporation, give a person's name.

MAINTENANCE BOND

STATE OF TEXAS

COUNTY OF DALLAS

KNOW ALL MEN BY THESE PRESENTS: That _____ whose address is _____, hereinafter called "Principal:, and_____, a corporation organized and existing under the laws of the State of _____, and fully licensed to transact business in the State of Texas, as Surety (herein referred to as "Surety"), are held and firmly bound unto the **CITY OF ROWLETT**, a home-rule municipal corporation organized and existing under the laws of the State of Texas, hereinafter called "Owner", and unto all persons, firms, and corporations who may furnish materials for, or perform labor upon the building or improvements hereinafter referred to in the penal sum of _____ _____ DOLLARS ($_____) (one hundred percent (100%) of the total bid price) in lawful money of the United States, to be paid in Dallas County, Texas, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. The penal sum of this Bond shall automatically be increased by the amount of any Change Order or Supplemental Agreement, which increases the Contract price, but in no event shall a Change Order or Supplemental Agreement, which reduces the Contract price, decrease the penal sum of this Bond.

WHEREAS, the Principal entered into a certain Contract with the City of Rowlett, the Owner, dated on or about the _____ day of _____, A.D. 20___, a copy of which is attached hereto and made a part hereof, to furnish all permits, licenses, bonds, insurance, products, materials, equipment, labor, supervision, and other accessories necessary for the construction of:

BID NO. 2026-77-B

TOLER BUSINESS PARK PHASE 1 AND PHASE 2

in the City of Rowlett, Texas, as more particularly described and designated in the above-referenced contract such contract being incorporated herein and made a part hereof as fully and to the same extent as if written herein word for word.

WHEREAS, in said Contract, the Principal binds itself to use first class materials and workmanship and of such kind and quality that for a period of two (2) years from the completion and final acceptance of the improvements by Owner the said improvements shall require no repairs, the necessity for which shall be occasioned by defects in workmanship or materials and during the period of two (2) years following the date of final acceptance of the Work by Owner, Principal binds itself to repair or reconstruct said improvements in whole or in part at any time within said period of time from the date of such notice as the City Manager or his designee shall determine to be necessary for the preservation of the public health, safety or welfare. If Principal does not repair or reconstruct the improvements within the time period designated, Owner shall be entitled to have said repairs made and charge Principal and/or Surety the cost of same under the terms of this Maintenance Bond.

NOW, THEREFORE, if Principal will maintain and keep in good repair the Work herein contracted to be done and performed for a period of two (2) years from the date of final acceptance and do and perform all necessary work and repair any defective condition (it being understood that the purpose of this section is to cover all defective conditions arising by reason of defective materials, work or labor performed by Principal) then this obligation shall be void;

otherwise it shall remain in full force and effect and Owner shall have and recover from Principal and its Surety damages in the premises as provided in the Plans and Specifications and Contract.

PROVIDED, however, that Principal hereby holds harmless and indemnifies Owner from and against any claim or liability for personal injury or property damage caused by and occurring during the performance of said maintenance and repair operation.

PROVIDED FURTHER, that if any legal action were filed on this Bond, exclusive Venue shall lie in Dallas County, Texas.

AND PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder or the Plans, Specifications and Drawings, etc., accompanying the same shall in anywise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder.

This Bond is given pursuant to the provisions of Chapter 2253 of the Texas Government Code, and any other applicable statutes of the State of Texas.

The undersigned and designated agent is hereby designated by the Surety herein as the Resident Agent in Dallas County to whom any requisite notices may be delivered and on whom service of process may be had in matters arising out of such suretyship, as provided by Article 7.19-1 of the Insurance Code, Vernon's Annotated Civil Statutes of the State of Texas.

IN WITNESS WHEREOF, this instrument is executed and shall be deemed an original, this, the _____ day of _____, 20____.

ATTEST:	**PRINCIPAL**:
	_____
	Company Name
By: _____	By: _____
Signature	Signature
_____	_____
Printed Name	Printed Name
_____	_____
Title	Title
_____	_____
Address	Address
_____	_____
City, State, Zip Code	City, State, Zip Code
_____	_____
Phone Number	Phone Number

[*Signatures continued on following page*]

ATTEST:

By: _____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
City, State, Zip Code

_____
Phone Number

SURETY:

By: _____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
City, State, Zip Code

_____
Phone Number

The Resident Agent of the Surety in Dallas County, Texas, for delivery of notice and service of the process is:

NAME: _____

STREET ADDRESS: _____

CITY, STATE, ZIP: _____

SECTION 8 PREVAILING WAGE RATES

Pertinent Information Regarding Wage Rate Determinations and Monitoring

1. The Prevailing Wage Rate Determination is defined as (1) the Prevailing Wage Rate Determination Information sheet (document number WR1001), (2) the Prevailing Wage Rate Determination for Building Construction Trades, and (3) the Department of Labor (DOL) Heavy Highway Determination. The DOL Heavy Highway rates are to be paid to workers engaged in site work determined to be five (5) feet beyond the building, extending to the property boundary.

2. The General Contractor shall post the applicable Prevailing Wage Rate Determination in a prominent, easily accessible place at the work site. It shall be the responsibility of the City to ensure compliance.

3. The City shall ensure that not less than the posted, specified rates are paid to all classifications of workmen, mechanics and laborers employed by the General Contractor and/or Subcontractors, in the execution of their contract with the City. Contractors and Subcontractors will be monitored to ensure they are paying prevailing wage rates.

   A contractor or subcontractor who violates this section shall pay to the City on whose behalf the contract is made, $60 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the contract.

   The City shall use any money collected under this section to offset the costs incurred in the administration of this task.

4. The City shall take cognizance of wage rate disputes and/or complaints of all violations of the provisions of Chapter 2258 Texas Government Code Title 10. Labor interviews will be conducted as required by the Davis-Bacon Act.

5. The City is not requiring that fringe benefits be paid on the project.

6. The rates specified in the bid documents are journeyman rates. The apprentice rate is commensurate with the experience and skill of the worker, but at a rate not less than 60% of the journeyman's wage. At no time shall a journeyman supervise more than one (1) apprentice.

   Note: The terms journeyman and apprentice apply to both union and independent workers, and are not intended to imply that these positions are union workers only.

Prevailing Wage Rate Determination Information

The following information is taken from Chapter 2258 Texas Government Code Title 10:

2258.021 Duty of Governmental Entity to Pay Prevailing Wage Rates

(a) The state or any political subdivision of the state shall pay a worker employed by it or on behalf of it;
(1) not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the work is performed; and
(2) not less than the general prevailing rate if per diem wages for legal holiday and overtime work.

(b) Subsection (a) does not apply to maintenance work.

(c) A worker is employed on a public work for the purposes of this section if the worker is employed by a contractor or subcontractor in the execution of a contract for the public work with the state, a political subdivision of the state, or any officer or public body of the state or a political subdivision of the state.

2258.023 Prevailing Wage Rates to be Paid by Contractor and Subcontractor; Penalty

(a) The contractor who is awarded a contract by a public body or a subcontractor of the contractor shall pay not less than the rates determined under Section 2258.22 to a worker employed by it in the execution of the contract.

(b) A contractor or subcontractor who violates this section shall pay to the state or a political subdivision of the state (City) on whose behalf the contract is made, $60 for each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the contract. A public body awarding a contract shall specify this penalty in the contract.

(c) A contractor or subcontractor does not violate this section if a public body awarding a contract does not determine the prevailing wage rates and specify the rates in the contract as provided by Section 2258.022.

(d) The public body shall use any money collected under this section to offset the costs incurred in the administration of this chapter.

(e) A municipality is entitled to collect a penalty under this section only if the municipality has a population of more than 10,000.

2258.051 Duty of Public Body to Hear Complaints and Withhold Payment

A public body awarding a contract, and an agent or officer of the public body, shall;

(1) take cognizance of complaints of all violations of this chapter committed in the execution of the contract; and

(2) withhold money forfeited or required to be withheld under this chapter from the payments to the contractor under the contract, except that the public body may not withhold money from other than the final payment without determination by the public body that there is good cause to believe that the contractor has violated this chapter.

Worker Classification Definition Sheet

Asbestos Worker: Worker who removes and disposes of asbestos materials.

Carpenter: Worker who builds wood structures, or structures of any material which has replace wood. Includes rough and finish carpentry, hardware and trim.

Carpet Layer/Floor Installer: Worker who installs carpet and/or floor coverings - vinyl tile.

Concrete Finisher: Worker who floats, trowels, and finishes concrete.

Data Communication-Telecom Installer: Worker who installs data/telephone and television cable and associated equipment and accessories.

Drywall Installer/Ceiling Installer: Worker who installs metal framed walls and ceilings, drywall coverings, ceiling grids and ceilings.

Electrician: Skilled craftsman who installs or repairs electrical wiring and devices. Includes fire alarm systems, and HVAC electrical controls.

Elevator Mechanic: Craftsman skilled in the installation and maintenance of elevators.

Fire Proofing Installer : Worker who sprays or applies fire proofing materials.

Glazier: Worker who installs glass, glazing and glass framing.

Heavy Equipment Operator: Includes but not limited to all cat tractors, all derrick-powered, all power operated cranes, back hoe, back filler, power operated shovel, winch truck, all trenching machines.

Insulator: Worker who applies, sprays, or install insulation.

Iron Worker: Skilled craftsman who erects structural steel framing and installs structural concrete rebar.

Laborer/Helper: Worker qualified for only unskilled or semi-skilled work. Lifting, carrying materials and tools, hauling, digging, clean-up.

Lather/Plasterer: Worker who installs metal framing and lath. Worker who applies plaster to lathing and installs associated accessories.

Light Equipment Operator: Includes but not limited to air compressors, truck crane driver, flex plane, building elevator, form grader, concrete mixer (less than 14 cf), conveyer.

Mason: Craftsman who works with masonry products, stone, brick, block, or any material substituting for those materials and accessories.

Metal Building Assembler: Worker who assembles pre-made metal buildings.

Millwright: Mechanic specializing in the installation of heavy machinery, conveyance, wrenches, dock levelers, hydraulic lifts and align pumps.

Painter/Wall Covering Installer : Worker who prepares wall surfaces and applies paint and/or wall

coverings, tape and bedding.

Pipefitter: Trained worker who installs piping systems, chilled water piping and hot water (boiler) piping, pneumatic tubing controls, chillers, boilers, and associated mechanical equipment.

Plumber: Skilled craftsman who installs domestic hot and cold water piping, waste piping, storm system piping, water closets, sinks, urinals and related work.

Roofer: Worker who installs roofing materials, Bitumen (asphalt and cold tar), felts, flashings, all types roofing membranes and associated products.

Sheet Metal Worker: Worker who installs sheet metal products. Roof metal, flashings, and curbs, ductwork, mechanical equipment, and associated metals.

Sprinkler Fitter: Worker who installs fore sprinkler systems and fire protection equipment.

Terrazzo Worker: Craftsman who places and finishes Terrazzo.

Tile Setter: Worker who prepares wall and/or floor surfaces and applies ceramic tiles to these surfaces.

Waterproofer/Caulker: Worker who applies water proofing material to buildings. Products include sealant, caulk, sheet membrane, liquid membranes, sprayed, rolled, or brushed on.

CURRENT PREVAILING WAGE RATES

The current prevailing wage rates can be found at the following link: https://alpha.sam.gov

SECTION 9 EQUAL OPPORTUNITY EMPLOYMENT PROVISIONS

SECTION EEO

EQUAL EMPLOYMENT OPPORTUNITY

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EEO.3	ON-THE-JOB TRAINING
EEO.4	REVIEW
EEO.5	DISSEMINATION
EEO.6	RECRUITMENT
EEO.7	INVENTORY
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EEO.11	ADHERENCE

SECTION EEO

EQUAL EMPLOYMENT OPPORTUNITY

EEO.1 DESCRIPTION

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The Contractor shall implement affirmative action steps at least as extensive as described herein.

EEO.2 WORKING ENVIRONMENT

Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two (2) or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

EEO.3 ON-THE-JOB TRAINING

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs.

EEO.4 REVIEW

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

EEO.5 DISSEMINATION

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

EEO.6 RECRUITMENT

Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one (1) month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

EEO.7 INVENTORY

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

EEO.8 MONITORING

Ensure that seniority practices, job classifications, work assignments, and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

EEO.9 FACILITIES

Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

EEO.10 RECORDS

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

EEO.11 ADHERENCE

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

SECTION 10 CONSTRUCTION CONTRACT

CITY OF ROWLETT, TEXAS

CONSTRUCTION CONTRACT

FOR

BID NO. 2026-77-B

TOLER BUSINESS PARK PHASE 1 AND PHASE 2

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City of Rowlett, Texas

This Contract is made by and between the **City of Rowlett, Texas**, a home-rule municipality (hereinafter referred to as the "City") and **DDM Construction Corporation**, a Texas Corporation, (hereinafter referred to as the "Contractor") for construction of **TOLER BUSINESS PARK PHASE 1 AND PHASE 2**, (hereinafter referred to as the "Project"). The City and the Contractor hereby agreeing as follows:

ARTICLE I

THE CONTRACT AND THE CONTRACT DOCUMENTS

1.1 THE CONTRACT

1.1.1 The Contract between the City and the Contractor, of which this Contract is a part, consists of the Contract Documents. It shall be effective on the date this Agreement is executed by the last party to execute it.

1.2. THE CONTRACT DOCUMENTS

1.2.1 The Contract Documents consist of this Contract, the Invitation to Bid/ Request for Proposal, the Specifications, Plans and Drawings, all Change Orders and Field Orders issued hereafter, any other amendments hereto executed by the parties hereafter, together with the following (if any):

- None

In the event of a conflict in terms among any of the Contract Documents, the provisions of this Contract will prevail. In order of priority in resolving conflicts outside of this Contract, the City's Invitation to Bid/ Request for Proposal, the Contractor's Bid or Best and Final Offer and the Specifications and Drawings shall, in that order, prevail. Irreconcilable conflicts that cannot be resolved by field order shall be resolved by written Change Orders. Documents not enumerated in this Paragraph 1.2.1 are not Contract Documents and do not form part of this Contract.

1.3 ENTIRE AGREEMENT

1.3.1 This Contract, together with the Contractor's performance and payment bonds for the Project, all General Conditions, Special Conditions, Plans and Specifications, and Addenda attached thereto, constitute the entire and exclusive agreement between the City and the Contractor regarding the Project. Specifically, but without limitation, this Contract supersedes any bid documents and all prior written or oral communications, representations and negotiations, if any, between the City and Contractor not expressly made a part hereof.

1.4 NO PRIVITY WITH OTHERS

1.4.1 Nothing contained in this Contract shall create, or be interpreted to create privity or any other contractual agreement between the City and any person or entity other than the Contractor.

1.5 INTENT AND INTERPRETATION

1.5.1 The intent of this Contract is to require complete, correct and timely execution of the Work. Any Work that may be required, implied or inferred by the Contract Documents, or any one or more of them, as necessary to produce the intended result shall be provided by the Contractor for the Contract Price.

1.5.2 This Contract is intended to be an integral whole and shall be interpreted as internally consistent. What is required by any one Contract Document shall be considered as required by the Contract.

1.5.3 When a word, term or phrase is used in this Contract, it shall be interpreted or construed, first, as defined herein; second, if not defined, per its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, per its common and customary usage.

1.5.4 The words "include", "includes", or "including", as used in this Contract, shall be deemed to be followed by the phrase, "without limitation".

1.5.5 The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of this Contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this Contract.

1.5.6 Words or terms used as nouns in this Contract shall be inclusive of their singular and plural forms, unless the context of their usage clearly requires a contrary meaning.

1.5.7 The Contractor shall have a continuing duty to read, carefully study and compare each of the Contract Documents, the Shop Drawings, the Product Data, and any Plans and Specifications, and shall give written notice to the City of any inconsistency, ambiguity, error or omission which the Contractor may discover with respect to these documents before proceeding with the affected Work. The issuance, or the express or implied approval by the City or the Engineer of the Contract Documents, Shop Drawings or Product Data shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. The City has requested the Engineer to only prepare documents for the Project, including the Drawings and Specifications for the Project, which are accurate, adequate, consistent, coordinated and sufficient for construction. HOWEVER, THE CITY MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO THE CONTRACTOR CONCERNING SUCH DOCUMENTS. By the execution hereof, the Contractor acknowledges and represents that it has received, reviewed and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that the Contractor has not, does not, and will not rely upon any representation or warranties by the City concerning such documents as no such representation or warranties have been or are hereby made. Further, the Contractor represents and warrants that it has had a sufficient opportunity to inspect the Project site and assumes all responsibility for inadequacies or ambiguities in the plans, drawings or specifications as well as for latent conditions of the site where the work is to be performed, subject to the terms and conditions of Subparagraph 8.3.3.

1.5.8 As between numbers and scaled measurements on the Drawings and in the Design, the numbers shall govern, as between larger scale and smaller scale drawings, the larger scale shall govern.

1.5.9 Neither the organization of any of the Contract Documents into divisions, sections, paragraphs, articles, (or other categories), nor the organization or arrangement of the Design, shall control the Contractor in dividing the Work or in establishing the extent or scope of the Work to be performed by Subcontractors.

1.6 OWNERSHIP OF CONTRACT DOCUMENTS

1.6.1 The Contract Documents, and each of them, shall remain the property of the City. The Contractor shall have the right to keep one record set of the Contract Documents upon completion of the Project; provided, however, that in no event shall Contractor use, or permit to be used, any or all such Contract Documents on other projects without the City's prior written authorization.

ARTICLE II

THE WORK

2.1 THE WORK

2.1.1 The Contractor shall perform all the Work required, implied or reasonably inferable from, this Contract.

2.2 WORK

2.2.1 The term "Work" shall mean whatever is done by or required of the Contractor to perform and complete its duties under this Contract, including the following: construction of the whole or a designated part of the Project; furnishing of any required surety bonds and insurance, and the provision or furnishing of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, permits and licenses required of the Contractor, fuel, heat, light, cooling and all other utilities as required by this Contract. The Work to be performed by the Contractor is generally described as:

Reconstruction of Century Drive from Rowlett Rd to Vaughan Dr.; Vaughan Dr; Singleton St.; and Lawing Ln (total of approximately 13,100 SY). Drainage upgrades include replacement of the storm sewers and inlets along all four roadways and replacement of the 3-10’x8’ concrete box culverts with 5-11’x8’ concrete box culverts under Century Dr. Culvert replacement also includes channel improvements both upstream and downstream. Project also includes approximately 2,690 LF of WL replacement and approximately 3,200 LF of Sanitary Sewer Line replacement.

A detailed scope of work to be performed, including bid specifications, scope of work, and Contractor’s bid response, is attached hereto and incorporated herein by this reference as Exhibit A.

2.2.2 The Contractor shall be responsible for paying for and procuring all materials and labor and furnishing all services necessary or appropriate for the full performance of the Work and the for the full

completion of the Project. All materials shall be new and materials and workmanship shall be of good quality. Upon request, the Contractor shall furnish satisfactory proof of the type, kind, and quality of materials.

ARTICLE III

CONTRACT TIME

3.1 TIME AND LIQUIDATED DAMAGES

3.1.1 The Contractor shall commence the Work within **10** days of receipt of a written Notice to Proceed and shall achieve Substantial Completion of the Work no later than **335** calendar days from the date specified in the Notice to Proceed. The parties acknowledge that time is of the essence in the performance of the terms of this Contract. The term "calendar days" shall mean all days of the week or month, no days being excepted. It is contemplated by the parties that the progress of the Work may be delayed by certain conditions beyond the control of the parties; these delays have been contemplated by the parties and considered in the time allotted for performance specified herein and includes, but is not limited to delays occasioned on account of adverse weather, temporary unavailability of materials, shipment delays, and the presence and potential interference of other contractors who may be performing work at the Project site unrelated to this Contract.

The number of calendar days from the date on which the Work is permitted to proceed, through the date set forth for Substantial Completion, shall constitute the "Contract Time".

3.1.2 The Contractor shall pay the City the sum of **$1,000** per day for each and every calendar day of unexcused delay in achieving Substantial Completion beyond the date set forth herein for Substantial Completion of the Work. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the City, estimated at or before the time of executing this Contract, and represent City's sole remedy for delay damages in the event of unexcused delay. When the City reasonably believes that Substantial Completion will be inexcusably delayed, the City shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the City to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving Substantial Completion, or any part thereof, for which the City has withheld payment, the City shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages.

3.1.3 No claim shall be made by the Contractor to the City, and no damages, costs or extra compensation shall be allowed or paid by the City to the Contractor for any delay or hindrance from any cause in the progress or completion of the Work or this Contract. The Contractor's sole remedy in the event of any delay or hindrance shall be to request time extensions by written change orders as provided for hereinafter. Should the Contractor be delayed by an act of the City, or should the City order a stoppage of the Work for sufficient cause, an extension of time and extended General Conditions shall be granted by the City by written authorization upon written application, which time extension and extended General Conditions shall not be unreasonably denied, to compensate for the delay.

3.1.4 The City shall have the authority to suspend the Work wholly or in part for such period or periods of time as it may deem appropriate due to unsuitable conditions considered unfavorable for the proper prosecution of the work.

3.1.5 Work or for the failure of the Contractor to carry out instructions from the City or City's representative. During any period in which the Work is stopped or during which any of the Work is not actively in progress for any reason, Contractor shall properly protect the site and the Work from damage, loss or harm.

3.2 SUBSTANTIAL COMPLETION

3.2.1 "Substantial Completion" shall mean that stage in the progression of the Work when the Work is sufficiently complete in accordance with this Contract that the City can enjoy beneficial use or occupancy of the Work and can utilize the Work for its intended purpose, even though minor miscellaneous work and/or adjustment may be required.

3.3 TIME IS OF THE ESSENCE

3.3.1 TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THE WORK AND THE COMPLETION OF THE PROJECT ON OR BEFORE THE SCHEDULED COMPLETION DATE. THE SCHEDULED COMPLETION DATE IS A DEADLINE. THE CITY EMPLOYS A ZERO-TOLERANCE POLICY REGARDING THE TIME FOR COMPLETION. The time for completion is an essential and material term of this Contract and the Contractor's failure to achieve substantial completion on the date stated herein, to comply with work schedules, or achieve milestones in approved construction schedules, shall be a material breach and

default of this Contract.

3.3.2 The City shall have the authority to suspend the Work wholly or in part for such period or periods of time as it may deem appropriate due to unsuitable conditions considered unfavorable for the proper prosecution of the Work or for the failure of the Contractor to carry out instructions from the City or City's representative. During any period in which the Work is stopped or during which any of the Work is not actively in progress for any reason, Contractor shall properly protect the site and the Work from damage, loss or harm. The Contractor shall not be compensated for periods of delay caused by a suspension of the work by the City. If work is suspended due to unsuitable conditions through no fault of the Contractor, an extension of time shall be granted by the City by Change Order upon written application, which extension shall not be unreasonably denied, to compensate for the delay.

3.3.3 The Contractor shall not have or assert any claim against the City for damages or back-charges of any kind for any reason, including but not limited to claims for Extra Work, damages, economic loss, additional costs, unknown latent site conditions, and refusals by the City to grant extensions of time, unless supported and authorized by a written Change Order or separate agreement signed by all parties. The Contractor, in entering into this Contract, hereby waives, releases, quitclaims, discharges and holds harmless the City from and against any and all claims, damages, liabilities and losses, save and except those arising under Paragraph 12.1 of this Contract.

ARTICLE IV

CONTRACT PRICE

4.1 THE CONTRACT PRICE

4.1.1 The City shall pay, and the Contractor shall accept, as full and complete payment for all the Work required herein, an amount in current funds equal to the sum of the established unit price for each separately identified item of unit price work times the quantity of that item set forth in the paragraph 4.1.1. Estimated quantities are not guaranteed and determinations of actual quantities and classifications are to be made by the Contractor and the City. The Contract Price is to be paid based upon actual quantities. If actual quantities exceed estimate, Owner may supplement Contract Price with additional moneys to complete original scope of Work. Work will entitle Contractor to change order for that work. City reserves the right to remove Work from Contractor's scope in the event the cost of the Work will exceed the Contract Price.

- SEE SECTION 6 BID FORM

ARTICLE V

PAYMENT OF THE CONTRACT PRICE

5.1 SCHEDULE OF VALUES

5.1.1 Within ten (10) calendar days of the effective date hereof, the Contractor shall submit to the City and to the Engineer a Schedule of Values allocating the Contract Price to the various portions of the Work. The Contractor's Schedule of Values shall be prepared in such form, with such detail, and supported by such data as the Engineer or the City may require to substantiate its accuracy. The Contractor shall not imbalance its Schedule of Values nor artificially inflate any element thereof. The violation of this provision by the Contractor shall constitute a material breach of this Contract. The Schedule of Values shall be used only as a basis for the Contractor's Applications for Payment and shall only constitute such basis after it has been acknowledged and accepted in writing by the Engineer and the City.

5.2 PAYMENT PROCEDURE

5.2.1 The City shall pay the Contract Price to the Contractor as provided below.

5.2.2 ***PROGRESS PAYMENTS*** **-** Based upon the Contractor's Applications for Payment submitted to the Engineer and upon Certificates for Payment subsequently issued to the City by the Engineer, the City shall make progress payments to the Contractor on account of the Contract Price.

5.2.3 APPLICATION FOR PAYMENT - On or before the 25th day of each month after commencement of the Work, the Contractor shall submit an Application for Payment for the period ending the 15th day of the month to the Engineer in such form and manner, and with such supporting data and content, as the City or the Engineer may require. The Contractor may request payment for that portion of the Contract Price properly allocable to Contract requirements properly provided and to labor, materials and equipment properly incorporated in the Work, less retainage and less the total amount of previous payments received from the City. Such Application for Payment shall be signed by the Contractor and shall constitute the Contractor's representation that the Work has progressed to the

level for which payment is requested in accordance with the Schedule

of Values, that the Work has been properly installed or performed in full compliance with this Contract, and that the Contractor knows of no reason why payment should not be made as requested. Thereafter, the Engineer will review the Application for Payment and may also review the Work at the Project site or elsewhere to determine whether the quantity and quality of the Work is as represented in the Application for Payment and is as required by this Contract. The Engineer shall determine and certify to the City the amount properly owing to the Contractor. The City shall make partial payments on account of the Contract Price to the Contractor within thirty (30) days following the Engineer's receipt and approval of each Application for Payment. The amount of each partial payment shall be the amount certified for payment by the Engineer less such amounts, if any, otherwise owing by the Contractor to the City or which the City shall have the right to withhold as authorized by this Contract. The Engineer's certification of the Contractor's Application for Payment shall not preclude the City from the exercise of any of its rights as set forth in Paragraph 5.3 hereinbelow.

5.2.4 STATEMENT OF DELAY - Each Application for Payment shall include a Statement of Delay showing the number of days lost due to inclement weather, conflicts with other City contractors, utilities, or design specifications, or other proper reasons. The failure to submit the Statement of Delay shall be a waiver of any claim for additional days or extensions of the scheduled completion date.

5.2.5 RETAINAGE – If the Contract Price set forth in Subparagraph 4.1.1 is between $50,000 and $1,000,000, the City shall withhold retainage of ten (10) percent; if between 1,000,001 and $2,000,000, the City shall withhold retainage of seven and one-half (7½) percent; if over $2,000,000, the City shall withhold retainage of five (5) percent. If a different percentage is set forth in the Invitation to Bid/Request for Proposal, then that percentage shall apply. Retainage shall be withheld from each progress payment to secure performance of the Contract. The City shall deposit in an interest-bearing account that portion of any retainage withheld that exceeds five (5) percent of the progress payment. Interest earned on retainages in excess of five (5) percent of progress payments shall be paid to the Contractor with the final payment.

5.2.6 Statement of Delay - Each Application for Payment shall include a Statement of Delay showing the number of days lost due to inclement weather, conflicts with other City contractors, utilities, or design specifications, or other proper reasons. The failure to submit the Statement of Delay shall be a waiver of any claim for additional days or extensions of the scheduled completion date.

5.2.7 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the City no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which payments have been received from the City shall be free and clear of liens, claims, security interest or other encumbrances in favor of the Contractor or any other person or entity whatsoever.

5.2.8 The Contractor shall promptly pay each Subcontractor out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which such Subcontractor is entitled. In the event the City becomes informed that the Contractor has not paid a Subcontractor as herein provided, the City shall provide written notice to the Contractor. If the Contractor fails to cure such payment issues within ten (10) days of receipt of City's notice, the City shall have the right, but not the duty, to issue future checks in payment to the Contractor of amounts otherwise due hereunder naming the Contractor and such Subcontractor as joint payees. Such joint check procedure, if employed by the City, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the City to repeat the procedure in the future.

5.2.9 No progress payment, nor any use or occupancy of the Project by the City, shall be interpreted to constitute an acceptance of any Work not in strict accordance with this Contract.

5.3 WITHHELD PAYMENT

5.3.1 The City may decline to make payment, may withhold funds, and, if necessary, may demand the return of some or all of the amounts previously paid to the Contractor, to protect the City from loss because of:

(a) defective Work not remedied by the Contractor nor, in the opinion of the City, likely to be remedied by the Contractor;

(b) claims of third parties against the City or the City's property;

(c) failure by the Contractor to pay Subcontractors or others in a prompt and proper fashion, subject to Contractor's

right to cure;

(d) evidence that the balance of the Work cannot be completed in accordance with the Contract for the unpaid balance of the Contract Price;

(e) evidence that the Work will not be completed in the time required for substantial or final completion;

(f) persistent failure to carry out the Work in accordance with the Contract;

(g) damage to the City or a third party to whom the City is, or may be, liable.

In the event that the City makes written demand upon the Contractor for amounts previously paid by the City as contemplated in this Subparagraph 5.3.1, the Contractor shall promptly comply with such demand. The City shall have no duty to third parties to withhold payment to the Contractor and shall incur no liability for a failure to withhold funds.

5.4 UNEXCUSED FAILURE TO PAY

5.4.1 If within fifteen (15) days after the date established herein for payment to the Contractor by the City, the City, without cause or basis hereunder, fails to pay the Contractor any amount then due and payable to the Contractor, then the Contractor may after ten (10) additional days' written notice to the City and the Engineer, and without prejudice to any other available rights or remedies it may have, stop the Work until payment of those amounts due from the City have been received. Late payments shall not accrue interest or other late charges.

5.5 SUBSTANTIAL COMPLETION

5.5.1 When the Contractor believes that the Work is substantially complete, the Contractor shall submit to the Engineer a list of items to be completed or corrected. When the Engineer on the basis of an inspection determines that the Work is in fact substantially complete, it will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of the City and the Contractor for Project security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the Contractor shall complete the items listed therein. Guarantees required by the Contract shall commence on the date of Substantial Completion of the Work. The Certificate of Substantial Completion shall be submitted to the City and the Contractor for their written acceptance of the responsibilities assigned to them in such certificate.

Upon Substantial Completion of the Work, and execution by both the City and the Contractor of the Certificate of Substantial Completion, the City shall pay the Contractor an amount sufficient to increase total payments to the Contractor to one hundred percent (100%) of the Contract Price less three hundred percent (300%) of the reasonable cost as determined by the City and the Engineer for completing all incomplete Work, correcting and bringing into conformance all defective and nonconforming Work, and handling all unsettled claims.

5.6 COMPLETION AND FINAL PAYMENT

5.6.1 When all of the Work is finally complete and the Contractor is ready for a final inspection, it shall notify the City and the Engineer thereof in writing. Thereupon, the Engineer will make final inspection of the Work and, if the Work is complete in full accordance with this Contract and this Contract has been fully performed, the Engineer will promptly issue a final Certificate for Payment certifying to the City that the Project is complete and the Contractor is entitled to the remainder of the unpaid Contract Price, less any amount withheld pursuant to this Contract. If the Engineer is unable to issue its final Certificate for Payment and is required to repeat its final inspection of the Work, the Contractor shall bear the cost of such repeat final inspection(s) which cost may be deducted by the City from the Contractor's final payment.

5.6.1.1 If the Contractor fails to achieve final completion within thirty (30) days of Substantial Completion, the Contractor shall pay the City the sum set forth hereinabove as liquidated damages per day for each and every calendar day of unexcused delay in achieving final completion beyond the date set forth herein for final completion of the Work. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the City, estimated at or before the time of executing this Contract. When the City reasonably believes that final completion will be inexcusably delayed, the City shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the City to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving final completion, or any part thereof, for which the City has withheld payment, the City shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages.

5.6.2 The Contractor shall not be entitled to final payment unless and until it submits to the Engineer its affidavit that all payrolls, invoices for materials and equipment, and other liabilities connected with the Work for which the City, or the City's property might be responsible, have been fully paid or otherwise satisfied; releases and waivers of lien from all Subcontractors of the Contractor and of any and all other parties required by the Engineer or the City; consent of Surety, if any, to final payment. If any third party fails or refuses to provide a release of claim or waiver of lien as required by the City, the Contractor shall furnish a bond satisfactory to the City to discharge any such lien or indemnify the City from liability.

5.6.3 The City shall make final payment of all sums due the Contractor within thirty (30) days of the Engineer's execution of a final Certificate for Payment.

5.6.4 Acceptance of final payment shall constitute a waiver of all claims against the City by the Contractor except for those claims previously made in writing against the City by the Contractor, pending at the time of final payment, and identified in writing by the Contractor as unsettled at the time of its request for final payment.

5.6.5 Under no circumstance shall Contractor be entitled to receive interest on any payments or monies due Contractor by the City, whether the amount on which the interest may accrue is timely, late, wrongfully withheld, or an assessment of damages of any kind.

ARTICLE VI

THE CITY

6.1 INFORMATION, SERVICES AND THINGS REQUIRED FROM CITY

6.1.1 The City shall furnish to the Contractor, at the time of executing this Contract, all written and tangible material in its possession concerning conditions below ground at the site of the Project.

Such written and tangible material is furnished to the Contractor only in order to make complete disclosure of such material and for no other purpose. By furnishing such material, the City does not represent, warrant, or guarantee its accuracy either in whole, in part, implicitly or explicitly, or at all, and shall have no liability therefor. The City shall also furnish surveys, legal limitations and utility locations (if known), and a legal description of the Project site.

6.1.2 Excluding permits and fees normally the responsibility of the Contractor, the City shall obtain all approvals, easements, and the like required for construction and shall pay for necessary assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

6.1.3 The City shall furnish the Contractor, free of charge, one copy of the Contract Documents for execution of the Work.

6.2 RIGHT TO STOP WORK

6.2.1 If the Contractor persistently fails or refuses to perform the Work in accordance with this Contract, or if the best interests of the public health, safety or welfare so require, the City may order the Contractor to stop the Work, or any described portion thereof, until the cause for stoppage has been corrected, no longer exists, or the City orders that Work be resumed. In such event, the Contractor shall immediately obey such order.

6.3 CITY'S RIGHT TO PERFORM WORK

6.3.1 If the Contractor's Work is stopped by the City under Paragraph 6.2, and the Contractor fails within seven (7) days of such stoppage to provide adequate assurance to the City that the cause of such stoppage will be eliminated or corrected, then the City may, without prejudice to any other rights or remedies the City may have against the Contractor, proceed to carry out the subject Work. In such a situation, an appropriate Change Order shall be issued deducting from the Contract Price the cost of correcting the subject deficiencies, plus compensation for the Engineer's additional services and expenses necessitated thereby, if any. If the unpaid portion of the Contract Price is insufficient to cover the amount due the City, the Contractor shall pay the difference to the City.

ARTICLE VII

THE CONTRACTOR

7.1 The Contractor is again reminded of its continuing duty set forth in Subparagraph 1.5.7. The Contractor shall perform no part of the Work at any time without adequate Contract Documents or, as appropriate, approved Shop Drawings, Product Data or Samples for such portion of the Work. If the Contractor performs any of the Work knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Engineer, the Contractor shall bear responsibility for

such performance and shall bear the cost of correction.

7.2 MUST FOLLOW CONTRACT

7.2.1 The Contractor shall perform the Work strictly in accordance with this Contract.

7.3 PROSECUTION OF WORK

7.3.1 The Contractor shall supervise and direct the Work using the Contractor's best skill, effort and attention. The Contractor shall be responsible to the City for any and all acts or omissions of the Contractor, its employees and others engaged in the Work on behalf of the Contractor.

7.3.2 The Contractor shall give adequate attention to the faithful prosecution of the Work and the timely completion of this Contract, with authority to determine the manner and means of performing such Work, so long as such methods insure timely completion and proper performance.

7.3.3 The Contractor shall exercise all appropriate means and measures to insure a safe and secure jobsite in order to avoid and prevent injury, damage or loss to persons or property.

7.3.4 The City will not interfere with the Contractor's manner and means of performing the Work. However, the City's insistence on strict compliance with the Contract shall not be regarded as an interference with the Contractor's manner and means. In the event that any part of the Work is not in strict compliance with the Contract, the Contractor is and shall be estopped from claiming any interference by the City or Engineer with the Contractor's manner and means of performing that part of the Work.

7.4 WARRANTY

7.4.1 The Contractor warrants to the City that all labor furnished to progress the Work under this Contract will be competent to perform the tasks undertaken, that the product of such labor will yield only first-class results, that materials and equipment furnished will be of good quality and new unless otherwise permitted by this Contract, and that the Work will be of good quality, free from faults and defects and in strict conformance with this Contract. All Work not conforming to these requirements may be considered defective. The Contractor warrants and guaranties that it shall complete the work and achieve substantial completion by the scheduled completion date, as may be extended by Contract, strictly in accordance with this contract. Defective work or materials shall be fixed, repaired or replaced free of charge or cost to the City.

7.5 PERMITS; FEES; LICENSES

7.5.1 The Contractor shall obtain and pay for all permits, fees and licenses necessary and ordinary for the Work. The Contractor shall comply with all lawful requirements applicable to the Work and shall give and maintain any and all notices required by applicable law pertaining to the Work.

7.6 SUPERVISION

7.6.1 The Contractor shall employ and maintain at the Project site only competent supervisory personnel. Absent written instruction from the Contractor to the contrary, the superintendent shall be deemed the Contractor's authorized representative at the site and shall be authorized to receive and accept any and all communications from the City or the Engineer.

7.6.2 Key supervisory personnel assigned by the Contractor to this Project are as follows:

NAME	FUNCTION

So long as the individuals named above remain actively employed or retained by the Contractor, they shall perform the functions indicated next to their names unless the City agrees to the contrary in writing. In the event one or more individuals not listed above subsequently assume one or more of those functions listed above, the Contractor shall be bound by the provisions of this Subparagraph 7.6.2 as though such individuals had been listed above.

7.7 WORK SCHEDULE

7.7.1 The Contractor, within fifteen (15) days of commencing the Work, shall submit to the City and the Engineer for their information, the Contractor's schedule for completing the Work. The Contractor's schedule shall be revised no less frequently than monthly (unless the parties otherwise agree in writing) and shall be revised to reflect conditions encountered from time to time and shall be related to the entire Project. Each such revision shall be furnished to the City and the Engineer. Failure by the Contractor to strictly comply with the provisions of this Section 7.7 shall constitute a material breach of this Contract.

7.8 ON-SITE DRAWINGS

7.8.1 The Contractor shall continuously maintain at the site, for the benefit of the City and the Engineer, one record copy of this Contract marked to record on a current basis changes, selections and modifications made during construction. Additionally, the Contractor shall maintain at the site for the City and Engineer the approved Shop Drawings, Product Data, Samples and other similar required submittals. Upon final completion of the Work, all of these record documents shall be delivered to the City.

7.9 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

7.9.1 Shop Drawings, Product Data, Samples and other submittals from the Contractor do not constitute Contract Documents. Their purpose is merely to demonstrate the manner in which the Contractor intends to implement the Work in conformance with information received from the Contract Documents.

7.9.2 The Contractor shall not perform any portion of the Work requiring submittal and review of Shop Drawings, Product Data or Samples unless and until such submittal shall have been approved by the Engineer. Approval by the Engineer, however, shall not be evidence that Work installed pursuant thereto conforms with the requirements of this Contract.

7.10 CLEANING THE SITE AND THE PROJECT

7.10.1 The Contractor shall keep the site reasonably clean during performance of the Work. Upon final completion of the Work, the Contractor shall clean the site and the Project and remove all waste, rubbish, temporary structures, and other materials together with all of the Contractor's property therefrom. Contractor shall dispose of all refuse at a Texas Natural Resource Conservation Commission approved landfill. The Contractor shall further restore all property damaged during the prosecution of the Work and shall leave the site in a clean and presentable condition. No additional payment shall be made by the City for this work, the compensation having been considered and included in the contract price.

7.11 ACCESS TO WORK AND INSPECTIONS

7.11.1 The City and the Engineer shall have access to the Work at all times from commencement of the Work through final completion. The Contractor shall take whatever steps necessary to provide access when requested. When reasonably requested by the City or the Engineer, the Contractor shall perform or cause to be performed such testing as may be necessary or appropriate to insure suitability of the jobsite or the Work's compliance with the Contract requirements.

7.12 INDEMNITY AND DISCLAIMER

7.12.1 CITY SHALL NOT BE LIABLE OR RESPONSIBLE FOR, AND SHALL BE INDEMNIFIED, HELD HARMLESS AND RELEASED BY CON-TRACTOR FROM AND AGAINST ANY AND ALL SUITS, ACTIONS, LOSSES, DAMAGES, CLAIMS, OR LIABILITY OF ANY CHARACTER, TYPE, OR DESC-RIPTION, INCLUDING ALL EXPENSES OF LITIGATION, COURT COSTS, AND ATTORNEY'S FEES, FOR INJURY OR DEATH TO ANY PERSON, OR INJURY OR LOSS TO ANY PROPERTY, RECEIVED OR SUSTAINED BY ANY PERSON OR PERSONS, INCLUDING THE CONTRACTOR, OR PROPERTY, ARISING OUT OF, OR OCCASIONED BY, DIRECTLY OR INDIRECTLY, THE PERFORMANCE OF CONTRACTOR UNDER THIS CONTRACT, INCLUDING CLAIMS AND DAMAGES ARISING IN WHOLE OR IN PART FROM THE NEGLIGENCE OF CITY, WITHOUT, HOWEVER, WAIVING ANY GOVERN-MENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW. THE PROVISIONS OF THIS INDEMNI-FICATION ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. IT IS THE EXPRESSED INTENT OF THE PARTIES TO THIS CONTRACT THAT THE INDEMNITY PROVIDED FOR IN THIS CONTRACT IS AN INDEMNITY EXTENDED BY CONTRACTOR TO INDEMNIFY AND PROTECT CITY FROM THE CONSEQUENCES OF THE CONTRACTOR'S AND THE CITY'S NEGLIGENCE, WHETHER SUCH NEGLIGENCE IS THE SOLE OR PARTIAL CAUSE OF ANY SUCH INJURY, DEATH, OR DAMAGE.

7.12.2 The Contractor will secure and maintain Contractual Liability insurance to cover this indemnification agreement that will be primary and non-contributory as to any insurance maintained by the City for its own benefit, including self-insurance. In addition, Contractor shall obtain and file with City a Certificate of Insurance and copies of policy endorsements evidencing the required coverage.

7.12.3 In claims against any person or entity indemnified under this Paragraph 7.12 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph 7.12 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

7.13 NONDISCRIMINATION

7.13.1 The Contractor shall not discriminate in any way against any person, employee or job applicant on the basis of race, color, creed, national origin, religion, age, sex, or disability where reasonable accommodations can be effected to enable the person to perform the essential functions of the job. The Contractor shall further ensure that the foregoing nondiscrimination requirement shall be made a part and requirement of each subcontract on this Project.

7.14 PREVAILING WAGE RATES

7.14.1 The Contractor shall comply in all respects with all requirements imposed by any laws, ordinances or resolutions applicable to the Project with regard to the minimum prevailing wage rates for all classes of employees, laborers, subcontractors, mechanics, workmen and persons furnishing labor and services to the Project. The City has adopted a Prevailing Wage Rate Schedule, available to the Contractor by request, which specifies the classes and wage rates to be paid to all persons. The Contractor shall pay not less than the minimum wage rates established thereby for each class, craft or type of labor, workman, or mechanic employed in the execution of this Contract. The failure of the Contractor to comply with this requirement shall result in the forfeiture to the City of a sum of not less than Sixty Dollars ($60.00) for each person per day, or portion thereof, that such person is paid less than the prevailing rate. Upon request by the City, Contractor shall make available for inspection and copying its books and records, including but not limited to its payroll records, account information and other documents as may be required by the City to ensure compliance with this provision.

7.15 JOB SITE SAFETY PRECAUTIONS

7.15.1 The Contractor shall at all times exercise reasonable precautions for the safety of its employees, laborers, subcontractors, mechanics, workmen and others on and near the jobsite and shall comply with all laws, ordinances, regulations, and standards of federal, state and local safety laws and regulations. The Contractor shall provide such machinery guards, safe walkways, ladders, bridges, and other safety devices as may be necessary or appropriate to ensure a safe and secure jobsite and shall require its subcontractors to comply with this requirement. The Contractor shall immediately comply with any and all safety requirements imposed by the Engineer during the progress of the Work.

7.16 WARNING DEVICES AND BARRICADES

7.16.1 The Contractor shall furnish and maintain such warning devices, barricades, lights, signs, pavement markings, and other devices as may be necessary or appropriate or required by federal, state and/or local guidelines to protect persons or property in, near or adjacent to the jobsite. No separate compensation shall be paid to the Contractor for such measures. Where the Work is being conducted in, upon or near streets, alleys, sidewalks, or other rights-of-way, the Contractor shall ensure the placement, maintenance and operation of any and all such warning devices as may be required by the City and shall do so until no longer required by the City. Such devices shall be in compliance with and conform to the manual and specifications for the uniform system of traffic control devices adopted by the Texas Department of Transportation.

7.17 PROTECTION OF UTILITIES AND OTHER CONTRACTORS

7.17.1 The Contractor shall use best efforts to leave undisturbed and uninterrupted all utilities and utility services provided to the jobsite, or which presently exists at, above or beneath the location where the Work is to be performed. In the event that any utility or utility service is disturbed or damaged during the progress of the Work, the Contractor shall forthwith repair, remedy or restore the utility at Contractor's sole expense.

7.17.2 The Contractor understands and acknowledges that other contractors of the City or of other entities may be present at the jobsite performing other work unrelated to the Project. The Contractor shall use best efforts to work around other contractors without impeding the work of others while still adhering to the completion date established herein. In the event that the Contractor's work is or may be

delayed by any other person, the Contractor shall immediately give notice thereof to the City and the Engineer and shall request a written Change Order in accordance with the procedures set forth by this Contract. The Contractor's failure to provide such notice and to request such Change Order shall

constitute a waiver of any and all claims associated therewith.

ARTICLE VIII

CONTRACT ADMINISTRATION

8.1 THE ENGINEER

8.1.1 When used in this Contract the term "Engineer" does not necessarily denote a duly licensed, trained or certified engineer; as used herein, the term shall be used interchangeably and shall mean a designated Engineer, Architect, or Contract Administrator (who may not be an architect or engineer) for the City, said person to be designated or redesignated by the City prior to or at any time during the Work hereunder. The Engineer may be an employee of the City or may be retained by the City as an independent contractor but, in either event, the Engineer's duties and authority shall be as set forth hereinafter. The Contractor understands and agrees that it shall abide by the decisions and instructions of the Engineer notwithstanding the contractual relationship between the City and Engineer. All the City's instructions to the Contractor shall be through the Engineer.

In the event the City should find it necessary or convenient to replace the Engineer, the City shall retain a replacement Engineer, and the status of the replacement Engineer shall be that of the former Engineer.

8.2 ENGINEER'S ADMINISTRATION

8.2.1 The Engineer, unless otherwise directed by the City in writing, will perform those duties and discharge those responsibilities allocated to the Engineer as set forth in this Contract. The Engineer shall be the City's representative from the effective date of this Contract until final payment has been made.

8.2.2 The City and the Contractor shall communicate with each other directly through designated representatives and/or project managers, and shall, where appropriate, provide copies of communications to the Engineer.

8.2.3 The Engineer shall be the initial interpreter of the requirements of the drawings and specifications and the judge of the performance thereunder by the Contractor. The Engineer shall render written or graphic interpretations necessary for the proper execution or progress of the Work with reasonable promptness on request of the Contractor.

8.2.4 The Engineer will review the Contractor's Applications for Payment and will certify to the City for payment to the Contractor, those amounts then due the Contractor as provided in this Contract.

8.2.5 The Engineer shall have authority to reject Work which is defective or does not conform to the requirements of this Contract. If the Engineer deems it necessary or advisable, the Engineer shall have authority to require additional inspection or testing of the Work for compliance with Contract requirements.

8.2.6 The Engineer will review and approve, or take other appropriate action as necessary, concerning the Contractor's submittals including Shop Drawings, Product Data and Samples. Such review, approval or other action shall be for the sole purpose of determining conformance with the design concept and information given through the Contract Documents.

8.2.7 The Engineer will review Change Orders that shall be prepared by the Contractor and may authorize minor changes in the Work by Field Order as provided elsewhere herein.

8.2.8 The Engineer shall, upon written request from the Contractor, conduct inspections to determine the date of Substantial Completion and the date of final completion, will receive and forward to the City for the City's review and records, written warranties and related documents required by this Contract and will issue a final Certificate for Payment upon compliance with the requirements of this Contract.

8.2.9 The Engineer's decisions in matters relating to aesthetic effect shall be final if consistent with the intent of this Contract.

8.3 CLAIMS BY THE CONTRACTOR

8.3.1 The Engineer shall determine all claims and matters in dispute between the Contractor and City with regard to the execution, progress, or sufficiency of the Work or the interpretation of the Contract Documents, including but not limited to the plans and specifications. Any dispute shall be submitted in writing to the Engineer within seven (7) days of the event or occurrence or the first appearance of the condition giving rise to the claim or dispute who shall render a written decision within a reasonable time thereafter. The Engineer's decisions shall be final and binding on the parties. In the event that either party objects to the Engineer's determination as to any

submitted dispute, that party shall submit a written objection to the Engineer and the opposing party within ten (10) days of receipt of the Engineer's written determination in order to preserve the objection. Failure to so object shall constitute a waiver of the objection for all purposes.

8.3.2 Pending final resolution of any claim of the Contractor, the Contractor shall diligently proceed with performance of this Contract and the City shall continue to make payments to the Contractor in accordance with this Contract.

8.3.3 ***CLAIMS FOR CONCEALED, LATENT OR UNKNOWN CONDITIONS*** **-** The Contractor expressly represents that it has been provided with an adequate opportunity to inspect the Project site and thoroughly review the Contract Documents and plans and specifications prior to submission of its bid and the City's acceptance of the bid. Subject to the conditions hereof, Contractor assumes full responsibility and risk for any concealed, latent or unknown condition which may affect the Work. No claims for extra work or additional compensation shall be made by Contractor in connection with concealed, latent or unknown conditions except as expressly provided herein. Should concealed, latent or unknown conditions encountered in the performance of the Work (a) below the surface of the ground or (b) in an existing structure be at variance with the conditions indicated by this Contract, or should unknown conditions of an unusual nature differing materially from those ordinarily encountered in the area and generally recognized as inherent in Work of the character provided for in this Contract, be encountered, the Contract Price shall be equitably adjusted by Change Order upon the written notice and claim by either party made within seven (7) days after the first observance of the condition. As a condition precedent to the City having any liability to the Contractor for concealed or unknown conditions, the Contractor must give the City and the Engineer written notice of, and an opportunity to observe, the condition prior to disturbing it. The failure by the Contractor to make the written notice and claim as provided in this Subparagraph shall constitute a waiver by the Contractor of any claim arising out of or relating to such concealed, latent or unknown condition and the Contractor thereby assumes all risks and additional costs associated therewith.

8.3.4 ***CLAIMS FOR ADDITIONAL COSTS*** **-** If the Contractor wishes to make a claim for an increase in the Contract Price, as a condition precedent to any liability of the City therefor, the Contractor shall give the Engineer written notice of such claim within seven (7) days after the occurrence of the event, or the first appearance of the condition, giving rise to such claim. Such notice shall be given by the Contractor before proceeding to execute any additional or changed Work. The failure by the Contractor to give such notice and to give such notice prior to executing the Work shall constitute a waiver of any claim for additional compensation.

8.3.4.1 In connection with any claim by the Contractor against the City for compensation in excess of the Contract Price, any liability of the City for the Contractor's costs shall be strictly limited to direct costs incurred by the Contractor and shall in no event include indirect costs or consequential damages of the Contractor. The City shall not be liable to the Contractor for claims of third parties, including Subcontractors. The City shall not be liable to the Contractor for any claims based upon delay to the Contractor for any reason whatsoever including any act or neglect on the part of the City.

8.3.5 ***CLAIMS FOR ADDITIONAL TIME*** **-** If the Contractor is delayed in progressing any task which at the time of the delay is then critical or which during the delay becomes critical, as the sole result of any act or neglect to act by the City or someone acting in the City's behalf, or by changes ordered in the Work, unusual delay in transportation, supply chain disruptions, unusually adverse weather conditions not reasonably anticipated, fire, pandemic or any causes beyond the Contractor's control, then the date for achieving Substantial Completion of the Work shall be extended upon the written notice and claim of the Contractor to the City and the Engineer, for such reasonable time and extended General Conditions as the Engineer may determine. Any notice and claim for an extension of time by the Contractor shall be made not more than seven (7) days after the occurrence of the event or the first appearance of the condition giving rise to the claim and shall set forth in detail the Contractor's basis for requiring additional time in which to complete the Project. In the event the delay to the Contractor is a continuing one, only one notice and claim for additional time shall be necessary. If the Contractor fails to make such claim as required in this Subparagraph, any claim for an extension of time shall be waived.

8.3.6 ***CLAIMS FOR EXTRA WORK*** **-** The Contractor shall not claim, request or demand any sum from the City for Extra Work or for additional costs, and hereby waives all such claims, requests and demands and any right to assert same, unless the conditions of this subparagraph are strictly complied with. "Extra Work" is defined herein to mean any labor, service, materials, equipment, supplies or charges that are directly or indirectly related to the Work, the Project or the Project site, that is not necessarily or fairly required or implied by the Contract Documents.

8.3.7 The parties acknowledge and agree that there shall be no payment made by the City to the Contractor without a written agreement (either a separate contract or a written Change Order) signed by the parties. Should the Contractor perform Extra Work or be requested to perform Extra Work by the Engineer or City, it shall be the Contractor's obligation and duty to first apply for and obtain a written Change Order, approved by the Engineer and executed by the City. The Contractor's failure to obtain a written, signed Change Order prior to commencement of Extra Work shall constitute a complete and final waiver of any right for compensation for the Extra Work. If the parties are unable to agree to the terms of a Change Order for any Extra Work, the Contractor may reserve its rights to additional time and compensation by filing a claim under section 8.3.

8.4 FIELD ORDERS

8.4.1 The Engineer shall have authority to order minor changes in the Work not involving a change in the Contract Price or in Contract Time and not inconsistent with the intent of the Contract. Such changes shall be effected by Field Order and shall be binding upon the Contractor. The Contractor shall carry out such Field Orders promptly.

8.5 MEDIATION

8.5.1 In the event that a dispute arises under the terms of this Contract, following an adverse determination by the Engineer and proper preservation of the issue as required herein, the parties agree to submit to mediation. In such event, the parties shall agree to a designated person to serve as mediator and each party shall be responsible for payment of one-half of the total mediation fees. The parties shall submit the dispute to mediation as soon as practical and in no event later than one (1) year after the Engineer's written decision on the matter. At least one designated representative of each party must attend and participate in good faith in an effort to resolve the matters in dispute. Mediation shall not be the exclusive remedy available to the Parties.

8.5.2 In no event shall the foregoing provision justify or authorize any delay in the progress of the Work; the parties shall abide by the decision of the Engineer in accomplishing the timely completion of the Project.

ARTICLE IX

SUBCONTRACTORS

9.1 DEFINITION

9.1.1 A Subcontractor is an entity which has a direct contract with the Contractor to perform a portion of the Work. No Subcontractor shall be in privity with the City.

9.2 AWARD OF SUBCONTRACTS

9.2.1 Upon execution of the Contract, the Contractor shall furnish the City, in writing, the names of persons or entities proposed by the Contractor to act as a Subcontractor on the Project. The City shall promptly reply to the Contractor, in writing, stating any objections the City may have to such proposed Subcontractor. The Contractor shall not enter a subcontract with a proposed Subcontractor with reference to whom the City has made timely objection. The Contractor shall not be required to subcontract with any party to whom the Contractor has objection.

9.2.2 All subcontracts shall afford the Contractor rights against the Subcontractor which correspond to those rights afforded to the City against the Contractor herein, including those rights afforded to the City by Subparagraph 12.2.1 below. All subcontracts shall incorporate by reference the provisions hereof and shall provide that no claims, causes or demands shall be made by any Subcontractor against the City.

9.2.3 The Contractor shall indemnify, defend and hold harmless the City from and against any and all claims, demands, causes of action, damage, and liability asserted or made against the City by or on behalf of any Subcontractor or persons working through a Subcontractor.

ARTICLE X

CHANGES IN THE WORK

10.1 CHANGES PERMITTED

10.1.1 Changes in the Work within the general scope of this Contract, consisting of additions, deletions, revisions, or any combination thereof, may be ordered without invalidating this Contract, by Change Order or by Field Order.

10.1.2 Changes in the Work shall be performed under applicable provisions of this Contract and the Contractor shall proceed promptly with such changes.

10.2 CHANGE ORDER DEFINED

10.2.1 Change Order shall mean a written order to the Contractor executed by the City and the Engineer, issued after execution of this Contract, authorizing and directing a change in the Work or an adjustment in the Contract Price or the Contract Time, or any

combination thereof. The Contract Price and the Contract Time may be changed only by written Change Order.

10.3 CHANGES IN THE CONTRACT PRICE

10.3.1 Any change in the Contract Price resulting from a Change Order shall be determined as follows:

(a) by mutual agreement between the City and the Contractor as evidenced by (1) the change in the Contract Price being set forth in the Change Order, (2) such change in the Contract Price, together with any conditions or requirements related thereto, being initialed by both parties and (3) the Contractor's execution of the Change Order, or (b) if no mutual agreement occurs between the City and the Contractor, then, as provided in Subparagraph 10.3.2 below.

10.3.2 If no mutual agreement occurs between the City and the Contractor as contemplated in Subparagraph 10.3.1 above, the change in the Contract Price, if any, shall then be determined by the Engineer on the basis of the reasonable expenditures or savings of those performing, deleting or revising the Work attributable to the change, including, in the case of an increase or decrease in the Contract Price, a reasonable allowance for direct job site overhead and profit. In such case, the Contractor shall present, in such form and with such content as the City or the Engineer requires, an itemized accounting of such expenditures or savings, plus appropriate supporting data for inclusion in a Change Order. Reasonable expenditures or savings shall be limited to the following: reasonable costs of materials, supplies, or equipment including delivery costs, reasonable costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance, reasonable rental costs of machinery and equipment exclusive of hand tools whether rented from the Contractor or others, reasonable costs of premiums for all bonds and insurance, permit fees, and sales, use or other taxes related to the Work, and reasonable cost of direct supervision and jobsite field office overhead directly attributable to the change. In no event, shall any expenditure or savings associated with the Contractor's home office or other non-jobsite overhead expense be included in any change in the Contract Price. Pending final determination of reasonable expenditures or savings to the City, payments on account shall be made to the Contractor on the Engineer's Certificate for Payment.

10.3.3 If unit prices are provided in the Contract, and if the quantities contemplated are so changed in a proposed Change Order that application of such unit prices to the quantities of Work proposed will cause substantial inequity to the City or to the Contractor, the applicable unit prices shall be equitably adjusted.

10.4 MINOR CHANGES

10.4.1 The Engineer shall have authority to order minor changes in the Work not involving a change in the Contract Price or an extension of the Contract Time and not inconsistent with the intent of this Contract. Such minor changes shall be made by written Field Order, and shall be binding upon the City and the Contractor. The Contractor shall promptly carry out such written Field Orders.

10.5 EFFECT OF EXECUTED CHANGE ORDER

10.5.1 The execution of a Change Order by the Contractor shall constitute conclusive evidence of the Contractor's agreement to the ordered changes in the Work, this Contract as thus amended, the Contract Price and the Contract Time. The Contractor, by executing the Change Order, waives and forever releases any claim against the City for additional time or compensation for matters relating to or arising out of or resulting from the Work included within or affected by the executed Change Order.

10.6 NOTICE TO SURETY; CONSENT

10.6.1 The Contractor shall notify and obtain the consent and approval of the Contractor's surety with reference to all Change Orders if such notice, consent or approval are required by the Contractor's surety or by law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the City that the surety has been notified of and consents to, such Change Order and the surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.

ARTICLE XI

UNCOVERING AND CORRECTING WORK

11.1 UNCOVERING WORK

11.1.1 If any of the Work is covered contrary to the Engineer's request or to any provisions of this Contract, it shall, if required by the Engineer or the City, be uncovered for the Engineer's inspection and shall be properly replaced at the Contractor's expense without change in the Contract Time.

11.1.2 If any of the Work is covered in a manner not inconsistent with Subparagraph 11.1.1 above, it shall, if required by the Engineer or City, be uncovered for the Engineer's inspection. If such Work conforms strictly with this Contract, costs of uncovering and

proper replacement shall by Change Order be charged to the City. If such Work does not strictly conform with this Contract, the Contractor shall pay the costs of uncovering and proper replacement.

11.2 CORRECTING WORK

11.2.1 The Contractor shall immediately proceed to correct Work rejected by the Engineer as defective or failing to conform to this Contract. The Contractor shall pay all costs and expenses associated with correcting such rejected Work, including any additional testing and inspections, and reimbursement to the City for the Engineer's services and expenses made necessary thereby.

11.2.2 If within one (1) year after Substantial Completion of the Work any of the Work is found to be defective or not in accordance with this Contract, the Contractor shall correct it promptly upon receipt of written notice from the City. This obligation shall survive final payment by the City and termination of this Contract. With respect to Work first performed and completed after Substantial Completion, this one-year obligation to specifically correct defective and nonconforming Work shall be extended by the period of time which elapses between Substantial Completion and completion of the subject Work.

11.2.3 Nothing contained in this Paragraph 11.2 shall establish any period of limitation with respect to other obligations which the Contractor has under this Contract or any obligations pursuant to the maintenance bond. Establishment of the one-year time period in Subparagraph 11.2.2 relates only to the duty of the Contractor to specifically correct the Work.

11.3 CITY MAY ACCEPT DEFECTIVE OR NONCONFORMING WORK

11.3.1 If the City chooses to accept defective or nonconforming Work, the City may do so. In such event, the Contract Price shall be reduced by the greater of (a) the reasonable cost of removing and correcting the defective or nonconforming Work, and (b) the difference between the fair market value of the Project as constructed and the fair market value of the Project had it not been constructed in such a manner as to include defective or nonconforming Work. If the remaining portion of the unpaid Contract Price, if any, is insufficient to compensate the City for its acceptance of defective or nonconforming Work, the Contractor shall, upon written demand from the City, pay the City such remaining compensation for accepting defective or nonconforming Work.

ARTICLE XII

CONTRACT TERMINATION

12.1 TERMINATION BY THE CONTRACTOR

12.1.1 If the Work is stopped for a period of ninety (90) days by an order of any court or other public authority, or as a result of an act of the Government, through no fault of the Contractor or any person or entity working directly or indirectly for the Contractor, the Contractor may, upon ten (10) days' written notice to the City and the Engineer, terminate performance under this Contract and recover from the City payment for the actual reasonable expenditures of the Contractor (as limited in Subparagraph 10.3.2 above) for all Work executed and for materials, equipment, tools, construction equipment and machinery actually purchased or rented solely for the Work, less any salvage value of any such items.

12.1.2 If the City shall persistently or repeatedly fail to perform any material obligation to the Contractor for a period of fifteen (15) days after receiving written notice from the Contractor of its intent to terminate hereunder, the Contractor may terminate performance under this Contract by written notice to the Engineer and the City. In such event, the Contractor shall be entitled to recover from the City as though the City had terminated the Contractor's performance under this Contract for convenience pursuant to Subparagraph 12.2.1 hereunder.

12.2 TERMINATION BY THE CITY

12.2.1 FOR CONVENIENCE

12.2.1.1 The City may for any reason whatsoever terminate performance under this Contract by the Contractor for convenience. The City shall give written notice of such termination to the Contractor specifying when termination becomes effective.

12.2.1.2 The Contractor shall incur no further obligations in connection with the Work, other than job site clean-up and protection, and the Contractor shall stop Work when such termination becomes effective. The Contractor shall also terminate outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The City may direct the Contractor to assign the Contractor's right, title and interest under terminated orders or subcontracts to the City or its designee.

12.2.1.3 The Contractor shall transfer title and deliver to the City such completed or partially completed Work and materials, equipment, parts, fixtures,

information and Contract rights as the Contractor has.

12.2.1.4 (a) The Contractor shall submit a termination claim to the City and the Engineer specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the Engineer. If the Contractor fails to file a termination claim within one (1)

year from the effective date of termination, the City shall pay the Contractor, an amount derived in accordance with subparagraph (c) below.

(b) The City and the Contractor may agree to the compensation, if any, due to the Contractor hereunder.

(c) Absent agreement to the amount due to the Contractor, the City shall pay the Contractor the following amounts:

(i) Contract (unit) prices which shall encompass labor, materials, equipment and other services accepted under this Contract;

(ii) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the Work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for overhead and profit thereon (such profit shall not include anticipated profit or consequential damages), provided however, that if it appears that the Contractor would have not profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any;

(iii) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Subparagraph 12.2.1.2 of this Paragraph. These costs shall not include amounts paid in accordance with other provisions hereof.

The total sum to be paid the Contractor under this Subparagraph 12.2.1 shall not exceed the total Contract Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

12.2.2 FOR CAUSE

12.2.2.1 If the Contractor persistently or repeatedly refuses or fails to prosecute the Work in a timely manner, abandons the jobsite and fails to resume work within five (5) days of written notice thereof by the City, fails to grant or allow access to the jobsite by the City or Engineer, fails to supply enough properly skilled workers, supervisory personnel or proper equipment or materials, fails to make prompt payment to Subcontractors or for materials or labor, persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise is guilty of a violation of a material provision of this Contract, then the City may by written notice to the Contractor, without prejudice to any other right or remedy, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever methods it may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

12.2.2.2 If the unpaid balance of the Contract Price does not exceed the cost of finishing the work, including compensation for the Engineer's additional services and expenses made necessary thereby, such difference shall be paid by the Contractor to the City. This obligation for payment shall survive the termination of the Contract.

12.2.2.3 In the event the employment of the Contractor is terminated by the City for cause pursuant to Subparagraph 12.2.2 and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under Subparagraph 12.2.1 and the provisions of Subparagraph 12.2.1 shall apply.

12.2.2.4 Should the City allow the Contractor to continue its performance of Work notwithstanding an event of default, or should there be an imminent potential of default, the City, at its sole option and within its sole discretion, may retain a third-party construction manager to document the events of default and oversee further progress of the Work. The use of a third-party construction manager shall not prevent the City from declaring the Contractor to be in

default and the City may, at its sole option and within its sole discretion, terminate this Contract at any time. Should the City retain a third-party construction manager, the costs thereof shall be withheld from any amounts due Contractor upon termination. The City's exercise of this option shall be without prejudice to any other right or remedy available to the City by law or under this Contract.

ARTICLE XIII

INSURANCE

13.1 CONTRACTOR SHALL MAINTAIN INSURANCE

13.1.1 The Contractor at his own expense shall purchase, maintain and keep in force during the life of this contract, adequate insurance that will protect the City, the Contractor and/or any Additional Insured from claims which may arise out of or result from operations under this contract. The insurance carriers must be authorized to transact business in Texas, approved by the City, and have an A.M. Best rating of A+ or its equivalent. The insurance required shall provide adequate protections from all claims, whether such operations be by the Contractor or by any Additional Insured or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone whose acts of any of them may be liable and from any special hazards, such as blasting, which may be encountered in the performance of this contract in the amounts as shown below in Paragraph 13.2.1.

13.1.2 The Contractor shall not commence work until the Contractor has obtained all the insurance required under this paragraph and such insurance has been approved by the City.

13.2 TYPES AND AMOUNTS OF CONTRACTOR'S INSURANCE

13.2.1. The Contractor shall furnish and maintain during the life of the contract adequate Worker's Compensation and Commercial General Liability (Public) Insurance in such amounts as follows:

Type of Insurance	Amount
Worker's Compensation	As set forth in the Worker's Compensation Act
Commercial General Liability (Public)	$1,000,000 Each Accident/Occurrence. $1,000,000 Aggregate $1,000,000 Products & Completed Operations Aggregate.
City's Protective Liability Insurance	$600,000 per occurrence $1,000,000 aggregate
Excess/Umbrella Liability	$1,000,000 per occurrence w/drop down coverage Limit of Insurance per Project or City's and Contractor's Protective Liability Insurance for the Project.
Automobile Liability	$500,000 Combined single limit per occurrence.

13.3 ADDITIONAL INSURED

13.3.1 The City shall be named as an additional insured on the Commercial General Liability (Public), City's Protective Liability, and Excess/Umbrella Liability Insurance Policies furnished by the Contractor.

13.4 WRITTEN NOTIFICATION

13.4.1 Each insurance policy shall be endorsed to contain a provision requiring that thirty (30) days prior to expiration, cancellation, non-renewal or any material change in coverage, a notice thereof shall be given by certified mail to the Division of Purchasing, City of Rowlett, 4000 Main Street, Rowlett, Texas, 75088. In the event the insurance company providing insurance is unable to contain such endorsement Contractor shall provide written notice to City of any expiration, cancellation, non-renewal or any material change in coverage.

13.5 PREMIUMS AND ASSESSMENTS

13.5.1 Companies issuing the insurance policies shall have no recourse against the City for payment of any premiums or assessments for any deductibles which are at the sole responsibility and risk of the Contractor.

13.6 CERTIFICATE OF INSURANCE

13.6.1 Proof that the insurance is in force shall be furnished to the City on City of Rowlett Standard Certificate of Insurance Forms. In the event, any insurance policy shown on the Certificate of Insurance

has an expiration date that is prior to the completion and final acceptance of the Project by the City, the Contractor shall furnish the City proof of identical continued coverage no later than thirty (30) days prior to the expiration date shown on the Certificate of Insurance.

13.7 PRIMARY COVERAGE

13.7.1 The coverages provided herein shall be primary and noncontributory with any other insurance maintained by the City for its benefit, including self-insurance.

13.8 SUBROGATION

13.8.1 Companies issuing the insurance policies shall have no recourse against the City for payment of any premiums or assessments for any deductibles which are at the sole responsibility and risk of the Contractor. Insurance Companies shall have no right of subrogation against the City or the Engineer.

13.9 WORKER'S COMPENSATION INSURANCE COVERAGE

13.9.1 The Contractor shall:

(1) provide coverage for its employees providing services on a project, for the duration of the project based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements;

(2) provide a certificate of coverage showing workers' compensation coverage to the governmental entity prior to beginning work on the project;

(3) provide the governmental entity prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project;

(4) obtain from each person providing services on a Project, and provide to the governmental entity:

(A) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(B) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project;

(7) post a notice on each project site informing all persons providing services on the project that they are required to be covered, and stating how a person may verify current coverage and report failure to provide coverage. This notice does not satisfy other posting requirements imposed by the Act or other commission rules. This notice must be printed with a title in at least 30-point bold type and text in at least 19- point normal type and shall be in both English and Spanish and any other language common to the worker population. The text for the notices shall be the following text provided by the Texas Worker's Compensation Commission on the sample notice, without any additional words or changes:

REQUIRED WORKERS' COMPENSATION COVERAGE

"The law requires that each person working on this site or providing services related to this construction project must be covered by workers' compensation insurance. This includes persons providing, hauling, or delivering equipment or materials, or providing labor or transportation or other service related to the project, regardless of the identity of their employer or status as an employee."

"Call the Texas Workers' Compensation Commission at 512-440-3789 to receive information on the legal requirement for coverage, to verify whether your employer has provided the required coverage, or to

report an employer's failure to provide coverage."

and

(8) contractually require each person with whom it contracts to provide services on a project, to:

(A) provide coverage based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements for all its employees providing services on the project, for the duration of the project;

(B) provide a certificate of coverage to the contractor prior to that person beginning work on the project;

(C) include in all contracts to provide services on the project the language in subsection (7) of this section;

(D) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(E) obtain from each other person with whom it contracts, and provide to the Contractor:

(i) a certificate of coverage, prior to the other person beginning work on the project; and

(ii) prior to the end of the coverage period, a new certificate of coverage showing extension of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(F) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(G) notify the City in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(H) contractually require each other person with whom it contracts, to perform as required by sub-paragraphs (A) - (G) of this subsection, with the certificate of coverage to be provided to the person for whom they are providing services.

ARTICLE XIV MISCELLANEOUS

14.1 LAWS AND ORDINANCES

14.1.1 The Contractor shall always and in all respects, observe and comply with all federal, state and local laws, ordinances, and regulations applicable to the Project and Work. The Contractor shall further ensure that all Subcontractors observe and comply with said laws, ordinances and regulations.

14.2 GOVERNING LAW

14.2.1 The Contract shall be governed by the laws of the State of Texas. Venue for any causes of action arising under the terms or provisions of this Contract or the Work to be performed hereunder shall be in the state courts of Dallas County, Texas.

14.3 SUCCESSORS AND ASSIGNS

14.3.1 The City and Contractor bind themselves, their respective successors, assigns and legal representatives to the other party hereto and to successors, assigns and legal representatives of such other party in respect to covenants, agreements and obligations contained in this Contract. The Contractor shall not assign this Contract without written consent of the City.

14.4 SURETY BONDS

14.4.1 The Contractor shall furnish separate performance and payment bonds to the City, per the requirements set out in the bid documents and state statutes to guaranty full and faithful performance of the Contract and the full and final payment of all persons supplying labor or materials to the Project. Each bond required by the bid documents or state statute shall set forth a penal sum in an amount not less than the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of

this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in form suitable to the City and shall be executed by a surety, or sureties, reasonably suitable to the City and authorized to do business in the State of Texas by the State Board of Insurance.

14.4.2 The Contractor, upon execution of the Contract and prior to commencement of the Work, shall furnish to the City a two-year maintenance bond in the amount of one hundred percent (100%) of the Contract Price covering the guaranty and maintenance prescribed herein, written by an approved surety authorized and duly licensed to conduct business in the State of Texas. The cost of said maintenance bond shall be included in the Contractor's unit bid prices and shall be paid by the Contractor.

14.5 SEVERABILITY

14.5.1 The provisions of this Contract are herein declared to be severable; if any term, provision or part hereof is determined to be invalid, void or unenforceable, such determination shall not affect the validity or enforceability of the remaining terms, provisions and parts, and this Contract shall be read as if the invalid, void or unenforceable portion had not been included herein.

14.6 AMENDMENTS

14.6.1 This Contract may be amended by the parties only by a written agreement duly executed by both parties. The failure of the City to object to any nonperformance or nonconforming work or to enforce any provision hereof shall in no event be regarded as or construed to be a waiver, release or modification of any term or provision in this Contract, nor shall such failure to object or enforce estop the City from insisting on strict compliance with this Contract or from recovering damages, costs or expenses arising because of such nonperformance or nonconforming work.

14.7 FORCE MAJEURE

14.7.1 As used herein, "force majeure" means an incident, situation, or act of a third party that is beyond a party's reasonable control such as an act of God, an act of the public enemy, strikes or other labor disturbances (other than strikes within such party's own labor force), hurricanes, earthquakes, fires, floods, epidemics, embargoes, war, and riots. The Contractor will not be liable or responsible for its failure to perform any obligation under this Contract because of an event of Force Majeure, provided, however, that the Contractor submits notice thereof to the City and Engineer within seven (7) days of such an event, obtains a written Change Order, signed by all parties, that allows an extension of the scheduled completion date, and identifies the specific causes and number of days in the Statement of Delay submitted with the next ensuing Application for Payment.

14.8 NOTICES

14.8.1 All notices required by this Contract shall be presumed received when deposited in the mail properly addressed to the other party or Engineer at the address set forth herein or set forth in a written designation of change of address delivered to all parties and the Engineer.

14.9 IMMUNITIES; DEFENSES

14.9.1 Nothing in this Contract shall be deemed to waive any immunity, sovereign, governmental, official, qualified or otherwise, from liability or suit, which the City may have or assert, except as may be provided by law, all such immunities being hereby expressly retained.

14.10 NO RIGHTS IN THIRD PARTIES

14.10.1 The indemnification provisions of this Contract and the rights and remedies afforded herein are solely for the benefit of the parties to this Contract. Nothing in this Contract is intended nor shall be construed to grant, create or confer any right, benefit, interest or cause of action in any person not a party to this Contract, or to the public in general.

14.11 PROHIBITION OF BOYCOTT ISRAEL

14.11.1 PROHIBITION OF BOYCOTT ISRAEL. The Contractor verifies that it does not Boycott Israel and agrees that during the term of this Contract will not Boycott Israel as that term is defined in Texas Government Code Section 808.001, as amended. For purposes of this verification, "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

14.11.2 IRAN, SUDAN, AND FOREIGN TERRORIST ORGANIZATIONS. The Contractor represents that neither it nor any of its parent company,

wholly- or majority-owned subsidiaries, and other affiliates is a company identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 2252.153 or Section 2270.0201, Texas Government Code, and posted on any of the following pages of such officer's internet website:

https://comptroller.texas.gov/purchasing/docs/sudan-list.pdf,

https://comptroller.texas.gov/purchasing/docs/iran-list.pdf, or

https://comptroller.texas.gov/purchasing/docs/fto-list.pdf.

The foregoing representation is made solely to comply with Section 2252.152, Texas Government Code, and to the extent such Section does not contravene applicable Federal or State law and excludes the Contractor and each of its parent company, wholly-or majority-owned subsidiaries, and other affiliates, if any, that the United States government has affirmatively declared to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization. The Contractor understands "affiliate" to mean any entity that controls, is controlled by, or is under common control with the Contractor and exists to make a profit.

14.11.3 PROHIBITION OF BOYCOTT ENERGY COMPANIES. Contractor verifies that it does not Boycott Energy Companies and agrees that during the term of this Contract will not Boycott Energy Companies as that term is defined in Texas Government Code Section 809.001, as amended. This section does not apply if Contractor is a sole proprietor, a non-profit entity, or a governmental entity; and only applies if: (i) Contractor has ten (10) or more fulltime employees and (ii) this Contract has a value of $100,000 or more to be paid under the terms of this Contract.

14.11.4 PROHIBITION OF DISCRIMINATION AGAINST FIREARM ENTITIES AND FIREARM TRADE ASSOCIATIONS. Contractor verifies that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (ii) will not discriminate during the term of the contract against a firearm entity or firearm trade association. This section only applies if: (i) Contractor has ten (10) or more fulltime employees and (ii) this Contract has a value of $100,000.00 or more to be paid under the terms of this Contract. However, this prohibition does not apply: (i) if Contractor is a sole proprietor, a non-profit entity, or a governmental entity; (ii) to a contract with a sole-source provider; or (iii) to a contract for which none of the bids from a company were able to provide the required certification.

EXECUTED in single or multiple originals, this___day of__, 2026.

{Signatures on following page}

CITY OF ROWLETT, TEXAS

_____
Jeff Winget, Mayor

ATTEST:

_____
Deborah Sorensen, City Secretary

DDM CONSTRUCTION CORPORATION

_____
Zack Markwardt, President

_____
(Street Address)

_____
(City/State/Zip)

CORPORATE ACKNOWLEDGMENT

THE STATE OF _____

COUNTY OF _____

BEFORE ME, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared:

_____ _____
(Print Name) *(Print Title)*

of_____, the Contractor designated herein above, known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of the said Contractor, a corporation, that he was duly authorized to perform the same by appropriate resolution of the board of directors of such corporation and that he executed the same as the act and deed of such corporation for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this___ day of_____, A.D., 2026.

_____
Notary Public In and For

_____County, _____

My Commission expires: _____

MAYOR'S ACKNOWLEDGMENT

THE STATE OF
TEXAS COUNTY OF
DALLAS

BEFORE ME, the undersigned authority, a Notary Public in and for said County and State, on this day personally appeared the undersigned, Mayor of the City of Rowlett, Texas, a municipal corporation, known to me to be the person and officer whose name is subscribed to the foregoing instrument and acknowledged to me that the same was the act of the said City of Rowlett, Texas, a municipal corporation, that he/she was duly authorized to perform the same by appropriate resolution of the City Council of the City of Rowlett and that he/she executed the same as the act of the said City for purpose and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this____day of_____, A.D., 2026.

_____
_____
Notary Public in and for the State of Texas

My Commission expires:_____

SECTION 11 NCTCOG STANDARD AND SPECIAL CONDITIONS

NCTCOG STANDARD SPECIFICATIONS AND SPECIAL CONDITIONS

The City of Rowlett has adopted the North Central Council of Governments Standard Specifications for Public Works Construction, 5th Edition with the following revisions as shown in *italics.*

Item 103.3.1.1. Performance Bond
- This bond shall provide for the repair and/or replacement of all defects due to faulty materials and workmanship that appear within a period of *two years* from the date of completion and acceptance of the improvement by the OWNER or such lesser or greater period as may be designated in the contract documents.

Item 105.2.2. Special Warranty
- If within *two years* after final acceptance of the work by the OWNER, …

FORM A.2. STANDARD CONSTRUCTION CONTRACT
- Omit and use the City's Standard Form of Agreement

FORM A.3. PERFORMANCE BOND
- 4th paragraph, "…the Principal shall repair and/or replace all defects due to faulty materials or workmanship that appear within a period of *two (2) years* from the date of completion and final acceptance by OWNER…"

- 6th paragraph, "Surety agrees that the bond provides for the repairs and/or replacement of all defects due to faulty materials and workmanship that appear within a period of *two (2) years* from the date of completion and acceptance of the improvements by the OWNER."

SPECIAL CONDITIONS

SC.01 GENERAL

All materials and workmanship shall conform to the City of Rowlett Standards and governed by the North Central Texas Council of Governments (NCTCOG) Standard Specifications For Public Works Construction, 5th Edition. Where indicated for specific pay items noted in the plans, all materials and workmanship shall conform to the Texas Department of Transportation Specifications for Construction and Maintenance of Highways, Streets, and Bridges, as adopted by the Texas Department of Transportation on September 1, 2024.

SC.02 LOCATION OF PROJECT

The work awarded under this contract shall include the following locations:

Phase 1: Century Drive – Rowlett Road to Vaughan Drive
Phase 2: Vaughan Drive; Singleton Street; and Lawing Lane

SC.03 SCOPE OF WORK

The work under this contract includes furnishing all labor, tools, material, and equipment, and for performing all work necessary for reconstruction of Century Drive from Rowlett Rd to Vaughan Dr.; Vaughan Dr; Singleton St.; and Lawing Ln (total of approximately 13,100 SY). Drainage upgrades include replacement of the storm sewers and inlets along all four roadways and replacement of the 3-10'x8' concrete box culverts with 5-11'x8' concrete box culverts under Century Dr. Culvert replacement also includes channel improvements both upstream and downstream. Project also includes approximately 2,690 LF of WL replacement and approximately 3,200 LF of Sanitary Sewer Line replacement. Construction plans were prepared and provided by Neel-Schaffer Engineering, Inc.

SC.04 DISQUALIFICATION OF BIDDERS

Add the following to Item 2 of the Additional Conditions for Public Works Construction Contracts first paragraph:

Within five (5) working days after bid opening, the apparent low bidder shall submit such evidence as the OWNER may require to establish the bidder's qualifications to satisfactorily perform the work included in this project. Information that shall be required shall include the following:

Add the following to Item 2 of the Additional Conditions for Public Works Construction Contracts after the last paragraph:

Should the bidder fail to produce evidence satisfactory to the OWNER on any of the foregoing points, he may be disqualified and the work awarded to the next bidder so qualifying.

SECTION 12 MEASUREMENT AND PAYMENT

MEASUREMENT AND PAYMENT

1. **SCOPE AND CONTRACT PRICE:** This section provides clarification of the measurement and payment for some work items in this Contract.

   The total Contract Price shall cover all Work required by the Contract Documents. All costs in connection with the proper and successful completion of the Work, including furnishing all materials, equipment, supplies, and appurtenance; providing all construction plant, equipment, and tools; and performing all necessary labor and
   supervision to fully complete the Work, shall be included in the unit and lump sum prices bid. All Work not specifically set forth as a pay item in the Proposal and Bid Form shall be considered a subsidiary obligation of Contractor and all costs in connection therewith shall be included in the prices bid.

2. **ESTIMATED QUANTITIES:** All estimated quantities stipulated in the Proposal and Bid Form or other Contract
   Documents are approximate and are to be used only (a) as a basis for estimating the probable cost of the Work and (b) for the purpose of comparing the bids submitted for the Work. The actual amounts of work done and materials furnished under unit price items may differ from the estimated quantities. The basis of payment for work and materials will be the actual amount of work done and materials furnished. Contractor agrees that it will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts.

3. **SUBSIDIARY PAY ITEMS:** The following items shall be considered subsidiary to the pay items provided for the work under this contract. Other subsidiary items are described herein.

   - Temporary Trench Repair
   - Landscaping Irrigation
   - All tees, fittings, and bends needed for waterline construction
   - Roadway embankment
   - Construction Surveying and Staking
   - Material Haul-0ff
   - Any item necessary for a complete project in place not specifically set forth by the plans as a bid item is considered to be included and paid for by other bid items in the contract.

SECTION 13

GENERAL SUBSIDIARY ITEMS AND INCIDENTAL WORK

SECTION 13 GENERAL SUBSIDIARY ITEMS AND INCIDENTAL WORK

Unless specifically identified as a separate pay item in the Bid Schedule or Contract Documents, all incidental labor, materials, equipment, tools, supervision, testing coordination, utility coordination, protection of existing facilities, restoration, and all work necessary to complete the intended function of each bid item shall be considered subsidiary to the respective bid item and no separate payment shall be made.
The following items shall be considered subsidiary to the applicable bid items:

General Construction

- Mobilization associated with individual bid items
- Construction staking and layout required for individual work activities
- Field measurements
- Survey verification
- Coordination with utility owners
- Coordination with property owners
- Temporary access required for construction
- Dust control associated with individual operations
- Cleanup and housekeeping
- Removal and disposal of construction debris
- Dewatering associated with installation operations
- Temporary erosion protection associated with individual work activities
- Temporary traffic control required for individual operations unless a separate Traffic Control bid item exists
- Protection of existing improvements
- Repair of damage caused by Contractor operations

Utility Protection and Coordination

- Utility locating
- Utility potholing
- SUE verification required for construction
- Hand excavation around utilities
- Utility exposure
- Temporary utility support
- Utility conflict investigation
- Utility coordination
- Utility protection
- Minor utility adjustments
- Temporary utility relocation
- Protection of underground utilities

- Protection of overhead utilities
- Repair of utility damage caused by Contractor operations

Vertical Adjustment of Existing Utilities

The Contractor shall be responsible for all vertical adjustment of existing utility appurtenances affected by construction activities.

Utility appurtenances include, but are not limited to:

- Water valve boxes
- Water meter boxes
- Fire hydrants
- Sanitary sewer manholes
- Sanitary sewer cleanouts
- Storm sewer manholes
- Storm sewer inlets
- Junction boxes
- Utility vaults
- Electrical pull boxes
- Communication pull boxes
- Fiber optic vaults
- Telephone boxes
- Cable television boxes
- Gas valve boxes
- Traffic signal pull boxes
- Street lighting pull boxes
- Irrigation valve boxes
- Irrigation controllers
- Backflow preventers
- Monitoring wells
- Survey monuments
- Any other utility appurtenance requiring adjustment to final grade

Subsidiary work shall include:

- Raising utility structures
- Lowering utility structures
- Grade rings
- Adjustment rings
- Concrete collars
- Utility extensions
- Utility reconstruction required for adjustment
- Surface restoration associated with adjustment work

Irrigation Systems

- Identification and location of irrigation systems
- Protection of irrigation systems
- Removal of sprinkler heads
- Removal of irrigation piping
- Removal of irrigation valves
- Removal of irrigation controllers
- Temporary irrigation shutdowns
- Relocation of sprinkler heads
- Relocation of irrigation piping
- Relocation of irrigation valves
- Relocation of irrigation controllers
- Reconnection of irrigation systems
- Replacement of damaged irrigation components
- Adjustment of sprinkler heads to final grade
- Adjustment of valve boxes to final grade
- Testing of irrigation systems
- Restoration of irrigation system operation
- Coordination with property owners regarding irrigation systems

Water System and Connections

- Connections to existing water mains
- Connections to proposed water mains
- Wet taps
- Cut-ins
- Line stops
- Water Main lowering
- Service reconnections
- Water service transfers
- Temporary water service maintenance
- Connection fittings
- Couplings
- Adapters
- Reducers
- Joint restraints
- Restrained joint systems
- Thrust restraint systems
- Thrust blocks
- Temporary shutdown coordination

- Disinfection
- Flushing
- Pressure testing
- Bacteriological testing coordination
- Tracer wire
- Detectable warning tape

Fire Hydrant and Related Connections

- Connections to fire hydrant assemblies
- Connections of hydrant leads to water mains
- Connections of hydrant leads to fire hydrants
- Hydrant branch connections
- Hydrant tee connections
- Auxiliary valve connections
- Hydrant extension sections
- Hydrant adjustments to final grade
- Temporary removal and reinstallation of fire hydrants
- Operational testing of fire hydrants
- Thrust blocking associated with hydrant installations
- Restrained joints associated with hydrant installations

Sanitary Sewer and Related Connections

- Connections to existing sanitary sewer mains
- Connections to proposed sanitary sewer mains
- Service reconnections
- Lateral reconnections
- Wye connections
- Tee connections
- Core drilling
- Manhole connections
- Flexible connectors
- Pipe plugs
- Temporary bypass pumping
- Temporary flow control
- Air testing
- Vacuum testing
- Television inspection coordination
- Manhole adjustments
- Cleanout adjustments

Storm Sewer and Related Connections

- Connections to existing storm sewer systems
- Connections to proposed storm sewer systems
- Connections to manholes
- Connections to inlets
- Connections to junction boxes
- Connections to culverts
- Core drilling
- Flexible connectors
- Pipe collars
- Grouting
- Pipe plugs
- Temporary flow diversion
- Structure modifications necessary to complete connections
- Manhole adjustments
- Inlet adjustments
- Frame and grate adjustments

Earthwork and Subgrade

- Moisture conditioning
- Water application
- Drying of soils
- Proof rolling
- Fine grading
- Trimming
- Shaping
- Blading
- Scarification
- Pulverization
- Density testing coordination
- Repair of disturbed subgrade

Lime Stabilization

- Lime spreading
- Water application
- Pulverization
- Mixing
- Mellowing
- Reworking
- Moisture conditioning
- Density testing coordination

- Surface protection

Cement Stabilization

- Cement spreading
- Water application
- Mixing
- Pulverization
- Reworking
- Moisture conditioning
- Curing
- Density testing coordination

Concrete Pavement

- Monolithic Curb
- Reinforcement supports
- Chairs
- Tie bars
- Dowel bars
- Reinforcement laps
- Curing compound
- Surface texturing
- Longitudinal tining
- Turf drag
- Broom finish
- Surface finishing
- Edge finishing
- Joint sealing
- Protection from traffic
- Concrete testing coordination
- Cylinder fabrication and transport
- Correction of deficient texture
- Repair of pavement damage caused by Contractor operations

Asphalt Pavement

- Tack coat
- Surface cleaning
- Joint preparation
- Edge trimming
- Temporary pavement markings required during placement
- Density testing coordination
- Surface corrections

- Temporary protection

Storm Drainage Structures

- Structure excavation
- Dewatering
- Bedding
- Joint sealants
- Pipe connections
- Flexible connectors
- Grout
- Formwork
- Reinforcement supports
- Backfilling
- Compaction
- Structure cleaning
- Testing coordination

Culverts, Headwalls, and Wingwalls

- Excavation
- Dewatering
- Formwork
- Reinforcement supports
- Joint sealants
- Backfill
- Compaction
- Structure cleanup
- Erosion repair around structures

Signs, Mailboxes, and Appurtenances

- Removal
- Storage
- Temporary relocation
- Resetting
- Hardware replacement
- Minor post adjustments
- Alignment
- Final adjustments
- Coordination with USPS for mailbox relocation

Landscaping and Restoration

- Topsoil preparation
- Fine grading

- Fertilizer
- Watering
- Mulching
- Reseeding
- Replacement of failed vegetation
- Sod maintenance during establishment period
- Restoration of disturbed lawns
- Restoration of landscaped areas

Property Restoration

- Driveway tie-ins
- Sidewalk tie-ins
- Fence restoration
- Mailbox restoration
- Irrigation restoration
- Landscape restoration
- Surface grading
- Cleanup of adjacent properties disturbed by construction

Environmental Compliance

- SW3P inspections
- BMP maintenance
- Sediment removal
- Inlet cleaning
- Temporary erosion control maintenance
- SW3P documentation
- Final stabilization
- Removal of temporary BMPs

PAYMENT CLAUSE

All labor, materials, equipment, tools, supervision, excavation, dewatering, fittings, couplings, adapters, core drilling, utility connections, utility adjustments, hydrant connections, hydrant lead connections, fire hydrant appurtenances, irrigation removal and restoration, testing coordination, shutdown coordination, bypass pumping, temporary flow control, grading, cleanup, restoration of disturbed areas, protection of existing improvements, surface restoration, and all incidental work required to complete the intended function of each bid item shall be considered subsidiary to the respective bid item.

No separate payment shall be made for utility connections, tie-ins, service reconnections, utility adjustments, irrigation adjustments, vertical utility adjustments, fire hydrant connections, water, sanitary sewer, or storm sewer connections, testing coordination,

restoration activities, or any incidental work unless specifically identified as a separate pay item in the Contract Documents.

Temporary Access and Temporary Surfacing (Subsidiary)

Unless specifically identified as a separate pay item in the Bid Schedule, all temporary access required to maintain access to residences, businesses, utilities, mail delivery, emergency services, driveways, parking areas, and adjacent properties during construction shall be considered subsidiary to the respective bid item requiring the work.

Subsidiary work shall include, but not be limited to:

- Temporary gravel access
- Temporary flex base access
- Temporary asphalt access
- Temporary driveway ramps
- Temporary pavement wedges
- Temporary construction entrances
- Temporary haul roads
- Temporary pedestrian access
- Temporary access maintenance
- Dust control associated with temporary access
- Removal of temporary access materials
- Restoration of disturbed areas following removal

PAYMENT CLAUSE

All labor, materials, equipment, hauling, placement, grading, compaction, maintenance, removal, restoration, and all incidental work required to provide temporary access during construction shall be considered subsidiary to the respective bid item and no separate payment shall be made unless specifically identified as a separate pay item in the Contract Documents.

Surface Texturing of Concrete Pavement

Surface texturing shall consist of providing a uniform textured finish to newly placed concrete pavement to improve skid resistance, surface drainage, ride quality, and long-term pavement performance. Surface texturing shall be performed immediately following finishing operations and prior to curing in accordance with the Contract Documents and applicable standards.

Texturing may consist of longitudinal tining, artificial turf drag, broom finish, burlap drag, or other approved methods specified in the Plans or approved by the Engineer. The finished surface shall be uniform in appearance and texture and shall provide adequate friction characteristics for vehicular and pedestrian traffic.

The Contractor shall maintain consistent texture depth and alignment throughout the pavement section. Areas exhibiting excessive roughness, inadequate texture, tearing,

scaling, displacement of mortar, or other defects shall be corrected, repaired, or replaced as directed by the Engineer at no additional cost to the Owner.

Surface texturing operations shall be coordinated with concrete placement, finishing, reinforcement placement, curing operations, and pavement protection measures to ensure compliance with pavement smoothness, durability, and performance requirements.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Construction

- Section 5.10 – Portland Cement Concrete Pavement Construction
- Section 5.11 – Concrete Placement and Finishing Requirements
- Section 5.12 – Surface Texture and Pavement Finish Requirements
- Section 5.13 – Concrete Curing Requirements
- Section 5.14 – Pavement Smoothness and Surface Tolerance Requirements
- Section 5.15 – Pavement Protection and Acceptance Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement

- 360.1 Description
- 360.2 Materials
- 360.3 Equipment
- 360.4 Construction Methods
- 360.4.16 Surface Texturing
- 360.4.17 Surface Finishing
- 360.4.18 Curing
- 360.5 Measurement
- 360.6 Payment

Additional Applicable TxDOT Items

- Item 420 – Concrete Structures (where applicable)
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, tools, texturing operations, finishing operations, turf drag, brooming, tining, curing protection, correction of deficient areas, pavement protection, quality control, testing coordination, and all incidental work required to provide the specified concrete pavement surface texture shall be considered subsidiary to the **Concrete Pavement (CRCP) bid item**, and no separate payment shall be made. Surface texturing, finishing, curing coordination, and correction of texture deficiencies shall be included in the unit price bid for concrete pavement unless specifically identified as a separate bid item in the Contract Documents.

SECTION 14

CONSTRUCTION BID ITEM DESCRIPTION

SECTION 14 CONSTRUCTION BID ITEM DESCRIPTION

1. MOBILIZATION (Phases 1 & 2)(LS)

Mobilization (LS) shall include all labor, materials, equipment, tools, supplies, temporary facilities, insurance, bonds, permits, administrative setup, scheduling coordination, subcontractor coordination, submittal preparation, and all other incidental and preparatory work required to fully establish construction operations at the project site. This item shall include transportation of personnel, equipment, and materials to and from the project site, establishment of field offices, staging areas, storage yards, and all necessary startup activities required prior to commencement of construction.

This item shall also include all demobilization activities required upon project completion, including removal of equipment, temporary facilities, restoration of staging areas, cleanup operations, and final project closeout activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – Project Mobilization Requirements (startup obligations and contractor readiness)
Section 1.03 – Preconstruction Activities (submittals, schedules, coordination)
Section 1.06 – Temporary Facilities and Project Setup Requirements

TXDOT REFERENCES

Item 618 – Mobilization (contractor startup and demobilization requirements)
Item 5 – Control of the Work (general construction authority and oversight)
Item 7 – Legal Relations and Responsibilities (contractual obligations)
Item 8 – Prosecution and Progress (schedule and sequencing requirements)
Item 502 – Barricades, Signs, and Traffic Handling (initial setup requirements)

PAYMENT CLAUSE

Mobilization shall constitute full compensation for all contractor startup, staging, preconstruction activities, and demobilization activities necessary to complete the Work. No additional payment shall be made for any incidental mobilization-related effort not specifically included in this item.

2 . FURNISH & INSTALL SW3P (Phases 1 & 2) (LS)

Furnish & Install SW3P (LS) shall include all labor, materials, equipment, permitting, inspections, documentation, implementation, maintenance, repair, replacement, updates,

revisions, and final removal necessary to fully comply with the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit, all applicable local jurisdictional requirements, and all requirements contained within the Contract Documents. This item shall include complete preparation and implementation of the Storm Water Pollution Prevention Plan (SWPPP), including contractor coordination, BMP installation sequencing, compliance tracking, and regulatory reporting.

This item shall include all temporary erosion and sedimentation control measures, Best Management Practices (BMPs), and environmental protection systems required for the duration of construction. Such measures shall include, but are not limited to, silt fence installation and maintenance, inlet protection devices, stabilized construction entrances, rock berms, fiber logs, wattles, sediment traps, check dams, diversion berms, temporary seeding, hydro-mulching, dust control measures, stormwater pollution prevention inspections, sediment removal, repair of failed controls, and all incidental environmental compliance activities required to prevent off-site sediment transport.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – General Project Requirements (Contractor responsibilities, compliance obligations)
Section 1.02 – Contractor Administrative Responsibilities (coordination, reporting, compliance tracking)
Section 1.05 – Regulatory Compliance Requirements (federal, state, and local environmental compliance)

Division 2 – Erosion & Sedimentation Control

Section 2.01 – Stormwater Pollution Prevention Plan (SWPPP) Implementation Requirements
Section 2.02 – Temporary Erosion and Sediment Control Devices (installation, maintenance, removal)
Section 2.03 – Inspection, Monitoring, and Maintenance Requirements (weekly and post-storm inspections)
Section 2.04 – Final Stabilization and Site Restoration Requirements

TXDOT REFERENCES

Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
506.1 – Description (scope of erosion control requirements)
506.2 – Materials (approved BMP materials and standards)

506.3 – Construction Methods (installation and maintenance procedures)
506.4 – Inspection and Maintenance Requirements (routine and storm event inspections)
506.5 – Measurement (basis of payment conditions)
506.6 – Payment (payment limitations and subsidiary requirements)

Item 164 – Seeding for Erosion Control (temporary and permanent stabilization)
Item 166 – Fertilizer (soil amendment requirements)
Item 168 – Vegetative Watering (establishment period maintenance)
Item 169 – Soil Retention Blanket (slope stabilization and erosion prevention)

PAYMENT CLAUSE

All SW3P-related implementation, maintenance, inspection, repair, replacement, documentation, and final removal activities shall be considered subsidiary to this Lump Sum bid item. No separate payment will be made for erosion and sediment control measures, BMP maintenance, inspection reporting, regulatory compliance activities, or environmental protection measures unless explicitly identified as separate bid items within the Contract Documents.

3. TRAFFIC CONTROL (Phases 1 & 2) (MO)

The Contractor shall provide detailed traffic control plans and submit to the City prior to the issuance of any construction permits for work within the City. The Submitted plan shall be signed by a qualified professional engineer in the state of Texas.

Traffic Control (MO) shall include all labor, materials, equipment, tools, signage, devices, and incidentals necessary to maintain safe and continuous movement of vehicular, pedestrian, bicycle, and emergency traffic throughout the duration of construction activities. This item shall include full implementation of Maintenance of Traffic (MOT) plans, including temporary lane closures, detours, traffic shifts, pedestrian routing, access maintenance to residences and businesses, flagging operations, and all required traffic safety coordination.

This item shall include furnishing, installing, maintaining, relocating, cleaning, repairing, and removing all traffic control devices including but not limited to cones, drums, barricades, temporary pavement markings, arrow boards, portable changeable message signs, temporary striping, signage, and protective barriers.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.07 – Traffic Maintenance and Safety Requirements
Section 1.08 – Public Safety and Access Requirements

Division 3 – Traffic Control

Section 3.01 – Maintenance of Traffic (MOT) Requirements
Section 3.02 – Traffic Control Devices Installation and Maintenance
Section 3.03 – Pedestrian and ADA Access Requirements
Section 3.04 – Lane Closure and Traffic Shift Procedures

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 666 – Retro-reflectorized Pavement Markings
Texas Manual on Uniform Traffic Control Devices (TMUTCD)
Item 5 – Control of the Work
Item 8 – Prosecution and Progress

PAYMENT CLAUSE

All traffic control labor, materials, equipment, maintenance, replacement, and operational activities shall be subsidiary to this Lump Sum item. No separate payment shall be made for flagging, signage, detours, lane closures, pedestrian routing, or any related traffic control activity.

4. PREPARATION OF RIGHT-OF-WAY (Phases 1 & 2) (STA)

Preparation of Right-of-Way (STA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete clearing, grubbing, demolition, removal, and disposal of all vegetation, trees, stumps, roots, debris, abandoned structures, fences, pavement, curbs, sidewalks, driveways, and any other obstructions necessary to prepare the project limits for construction. This item shall also include protection of all existing utilities, facilities, structures, and improvements designated to remain in place, including coordination with utility owners and avoidance of damage to existing infrastructure.

This item shall further include stripping and disposal of unsuitable materials, rough grading, and all incidental work required to establish a suitable construction area in accordance with the Contract Documents.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation

Section 2.01 – Clearing and Grubbing (removal of vegetation and organic material)
Section 2.02 – Demolition and Removal (removal of existing improvements)
Section 2.03 – Protection of Existing Improvements (utilities, structures, and appurtenances)
Section 2.04 – Utility Coordination and Conflict Avoidance Requirements

TXDOT REFERENCES

Item 100 – Preparing Right of Way (site clearing and preparation requirements)
Item 110 – Excavation (removal of unsuitable materials)
Item 132 – Embankment (fill and grading operations)
Item 677 – Protecting Existing Improvements (damage prevention and restoration requirements)
Item 5 – Control of the Work (general construction authority)

PAYMENT CLAUSE

All clearing, grubbing, demolition, removal, disposal, protection of existing improvements, and incidental preparation work shall be considered subsidiary to this bid item. No separate payment shall be made for disposal, hauling, restoration of disturbed areas, or protection of existing facilities unless specifically identified elsewhere in the Contract Documents.

5. ROADWAY EXCAVATION (CY)

Roadway Excavation (CY) shall include all labor, materials, equipment, tools, and incidentals necessary for the excavation, removal, loading, hauling, disposal, shaping, grading, moisture conditioning, and compaction of existing soils and materials required to construct roadway sections in accordance with the lines, grades, and cross sections shown in the Plans. This item shall include excavation of all unsuitable materials encountered within the limits of construction, including over-excavation where required, and replacement with suitable materials as directed by the Engineer.

This item shall further include subgrade preparation, proof rolling, correction of soft areas, and all incidental earthwork necessary to achieve a stable and uniform subgrade foundation suitable for subsequent pavement construction.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Earthwork

Section 3.01 – Excavation (general excavation requirements)
Section 3.02 – Subgrade Preparation (proof rolling and stabilization)

Section 3.03 – Moisture Conditioning (soil conditioning requirements)
Section 3.04 – Embankment Construction (fill placement and compaction)

TXDOT REFERENCES

Item 110 – Excavation (removal and disposal of material)
Item 132 – Embankment (placement and compaction of fill material)
Item 247 – Flexible Base (subgrade interface preparation)
Item 260 – Lime Treatment (soil stabilization if required)
Item 275 – Cement Treatment (soil stabilization if required)
Item 216 – Rolling (compaction and proof rolling requirements)

PAYMENT CLAUSE

All excavation, haul-off, grading, shaping, subgrade preparation, moisture conditioning, compaction, unsuitable material removal, and incidental earthwork activities shall be subsidiary to this bid item. No separate payment shall be made for over-excavation, correction of soft spots, or disposal of excess materials unless specifically identified in the Contract Documents.

6. CHANNEL EXCAVATION (CY)

Channel Excavation (CY) shall include all labor, materials, equipment, tools, and incidentals necessary for the excavation, grading, shaping, and disposal of soil and material required to construct drainage channels, swales, ditches, outfalls, and related stormwater conveyance improvements as shown in the Plans or as directed by the Engineer. This item shall include excavation to required line and grade, shaping of channel side slopes and invert, removal of unsuitable material, and restoration of disturbed areas.

This item shall further include stabilization of channel surfaces, temporary erosion control measures, and preparation for permanent erosion protection systems where required.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Drainage Improvements

Section 4.01 – Open Channel Construction (grading and shaping requirements)
Section 4.02 – Swales and Ditches (stormwater conveyance systems)
Section 4.03 – Erosion Control Requirements (temporary stabilization measures)
Section 4.04 – Final Stabilization and Vegetative Establishment Requirements

TXDOT REFERENCES

Item 110 – Excavation (channel excavation and removal)
Item 132 – Embankment (grading and fill placement)
Item 164 – Seeding for Erosion Control (vegetative stabilization)
Item 169 – Soil Retention Blanket (slope protection)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls

PAYMENT CLAUSE

All excavation, grading, shaping, disposal, haul-off, temporary stabilization, and incidental drainage construction activities shall be subsidiary to this bid item. No separate payment shall be made for erosion control or stabilization measures unless separately specified.

7. FURNISH & INSTALL PERMANENT SLOPE PROTECTION (SY)

Furnish & Install Permanent Slope Protection (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the construction and installation of permanent erosion protection systems at drainage channels, embankments, inlets, outfalls, and other areas susceptible to erosion. This item shall include furnishing and placing riprap, concrete slope paving, grouted riprap, or other approved engineered erosion protection systems as shown in the Plans.

This item shall include excavation, subgrade preparation, geotextile installation where required, placement of bedding material, placement and shaping of slope protection materials, and all incidental finishing and cleanup work required for a complete and durable installation.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Drainage Protection Systems

Section 4.05 – Permanent Erosion Control Systems (riprap and slope paving)
Section 4.06 – Channel and Embankment Protection Requirements
Section 4.07 – Geotechnical Fabric and Bedding Requirements

TXDOT REFERENCES

Item 432 – Riprap (stone slope protection systems)
Item 400 – Concrete Structures (concrete slope paving systems)
Item 421 – Hydraulic Cement Concrete (concrete placement requirements)
Item 164 – Seeding for Erosion Control (adjacent stabilization)
Item 169 – Soil Retention Blanket (slope stabilization support)

PAYMENT CLAUSE

All materials, excavation, bedding, placement, finishing, and incidental construction required for permanent slope protection shall be subsidiary to this bid item. No separate payment shall be made for geotextile, bedding preparation, or incidental stabilization unless specifically included in other bid items.

7. FURNISH & INSTALL FLEXAMAT SLOPE PROTECTION (OR APPROVED EQUAL) (SY)

Furnish & Install Flexamat Slope Protection (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, placement, anchoring, and finishing of engineered articulated concrete block mat systems (Flexamat or approved equal) for permanent slope stabilization. This item shall include excavation, grading, subgrade preparation, installation of geotextile fabric, placement of bedding layer if required, installation of the Flexamat system, anchoring systems, edge treatments, tie-ins to adjacent improvements, and all incidental work required for a fully functional and erosion-resistant installation.

This item shall include protection of adjacent improvements, coordination with drainage structures, and restoration of disturbed areas caused by installation activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Drainage Protection Systems

Section 4.05 – Permanent Erosion Control Systems
Section 4.06 – Engineered Slope Stabilization Systems
Section 4.07 – Geosynthetics and Matting Installation Requirements

TXDOT REFERENCES

Item 432 – Riprap (reference for slope protection equivalency)
Item 400 – Concrete Structures (concrete component systems)
Item 421 – Hydraulic Cement Concrete (material requirements)
Item 169 – Soil Retention Blanket (subgrade stabilization)
Item 506 – Temporary Erosion Control (construction phase protection)

PAYMENT CLAUSE

All excavation, grading, geotextile installation, anchoring systems, mat placement, edge treatment, and incidental work shall be subsidiary to this bid item. No separate payment shall be made for geotextile fabric, anchoring devices, or subgrade preparation unless separately specified.

8. FULL DEPTH SAW CUT AND REMOVE CONCRETE (SY)

Full Depth Saw Cut and Remove Concrete (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for full-depth saw cutting, removal, loading, hauling, and proper disposal of existing concrete pavement, sidewalks, driveways, or structural concrete as shown in the Plans or directed by the Engineer. This item shall include saw cutting to full depth along neat, straight lines to ensure clean edges, minimize disturbance to adjacent improvements, and facilitate proper reconstruction tie-ins.

This item shall include removal of concrete slabs, reinforcement steel, base material as required, subgrade cleanup, and preparation of the underlying surface for subsequent construction activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Removal and Rehabilitation

Section 5.01 – Concrete Pavement Removal Requirements
Section 5.02 – Saw Cutting and Demolition Procedures
Section 5.03 – Subgrade Preparation Following Removal

TXDOT REFERENCES

Item 361 – Full Depth Repair of Concrete Pavement
Item 360 – Concrete Pavement Removal Provisions
Item 110 – Excavation
Item 502 – Traffic Control Protection Requirements

PAYMENT CLAUSE

All saw cutting, removal, hauling, disposal, reinforcement removal, subgrade preparation, and incidental work shall be subsidiary to this bid item. No separate payment shall be made for disposal or restoration of disturbed areas unless specified.

9. FURNISH & INSTALL CRCP 10" (SY)

Furnish & Install CRCP 10” (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the construction of 10-inch Continuous Reinforced Concrete Pavement, including reinforcing steel placement, concrete placement, finishing, texturing, curing, jointing (as applicable to CRCP design), load transfer continuity, and all incidental work required for complete installation in accordance with the Plans.

This item shall include subgrade preparation, base placement if required, steel reinforcement installation, concrete batching and placement, finishing, curing, surface texture application, and protection of pavement until sufficient strength is achieved.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Concrete Pavement Systems

Section 6.01 – Continuous Reinforced Concrete Pavement (CRCP) Construction
Section 6.02 – Steel Reinforcement Installation Requirements
Section 6.03 – Concrete Placement, Finishing, and Curing
Section 6.04 – Pavement Quality Control Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement (CRCP)
Item 421 – Hydraulic Cement Concrete
Item 360.4 – Reinforcement Requirements
Item 360.5 – Construction Methods
Item 360.6 – Curing and Protection Requirements

PAYMENT CLAUSE

All reinforcement steel, concrete, placement operations, finishing, curing, jointing, and incidental construction activities shall be subsidiary to this bid item.

10 & 69. FURNISH & INSTALL 2" HMAC TYPE C (SY)

Furnish & Install 2” HMAC Type C (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the furnishing, placement, compaction, and finishing of a 2-inch hot mix asphalt concrete surface course. This item shall include tack coat application, surface preparation, haul, laydown, compaction, finishing, density testing coordination, and all incidental work required for a smooth, uniform, and durable asphalt surface.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Asphalt Pavement Systems

Section 6.05 – Hot Mix Asphalt Construction Requirements
Section 6.06 – Surface Course Placement and Compaction
Section 6.07 – Asphalt Quality Control Requirements

TXDOT REFERENCES

Item 340 – Dense-Graded Hot Mix Asphalt (Type C)
Item 341 – Surface Courses
Item 300 – Asphalt Pavement Construction Requirements
Item 585 – Tack Coat (if required under project design)

PAYMENT CLAUSE

All material, placement, compaction, testing coordination, tack coat, and incidental asphalt construction activities shall be subsidiary to this bid item.

11 & 70. FURNISH & INSTALL 6" FLEXIBLE BASE (SY)

Furnish & Install 6” Flexible Base (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for furnishing, hauling, placing, shaping, moisture conditioning, and compacting Type A Grade 1–2 flexible base material. This item shall include subgrade preparation, proof rolling, placement in uniform lifts, compaction to required density, and finishing to line and grade.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Base Courses

Section 5.01 – Flexible Base Materials Requirements
Section 5.02 – Placement and Compaction Procedures
Section 5.03 – Subgrade Preparation and Proof Rolling

TXDOT REFERENCES

Item 247 – Flexible Base
Item 200 – Excavation and Backfill
Item 216 – Rolling and Compaction
Item 260 – Lime Treatment (if required)
Item 275 – Cement Treatment (if required)

PAYMENT CLAUSE

All hauling, placement, compaction, moisture conditioning, shaping, and incidental base construction work shall be subsidiary to this bid item.

12 & 71. FURNISH & INSTALL 6" INTEGRAL CONCRETE CURB (LF)

Furnish and Install 6" Integral Concrete Curb (LF) shall include all labor, materials, equipment, tools, excavation, grading, forming, reinforcing (if required), concrete placement, finishing, curing, jointing, backfilling, cleanup, and incidentals necessary for the complete construction of integral concrete curb as shown on the Plans and as directed by the Engineer.

Integral concrete curb shall be constructed monolithically with the adjacent concrete pavement or concrete pavement widening and shall conform to the dimensions, grades, lines, cross slopes, and details shown on the Plans. The curb shall be formed and placed to

provide positive drainage and smooth transitions at driveways, curb returns, intersections, and other locations shown on the Plans.

Subgrade beneath the curb shall be prepared, shaped, and compacted in accordance with the Contract Documents. Any unstable or unsuitable material encountered beneath the curb shall be removed and replaced with approved material as directed by the Engineer.

Concrete shall conform to the requirements specified in the Contract Documents and applicable standards. The Contractor shall provide proper consolidation, finishing, edging, curing, and protection of the concrete. Expansion joints, contraction joints, construction joints, and tie-ins to existing concrete shall be installed as shown on the Plans or as directed by the Engineer.

This item shall include saw cutting, removal of minor obstructions, tie-ins to existing pavement and curb, adjustment to match existing grades, protection of adjacent improvements, and restoration of disturbed areas resulting from construction activities.

The Contractor shall protect newly placed concrete from traffic, weather, and damage until the concrete has achieved the required strength and has been accepted by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Construction

- Section 5.10 – Portland Cement Concrete Pavement Construction
- Section 5.11 – Concrete Placement and Finishing Requirements
- Section 5.13 – Concrete Curing Requirements
- Section 5.15 – Pavement Protection and Acceptance Requirements

Division 4 – Concrete Structures

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.05 – Formwork and Finishing Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement

- 360.1 Description
- 360.2 Materials
- 360.3 Equipment
- 360.4 Construction Methods
- 360.4.17 Surface Finishing
- 360.4.18 Curing
- 360.5 Measurement
- 360.6 Payment

Item 420 – Concrete Structures

- 420.1 Description
- 420.3 Construction Methods

Additional Applicable TxDOT Items

- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities
- Item 110 – Excavation
- Item 132 – Embankment

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, reinforcement (when required), concrete, placement, consolidation, finishing, edging, jointing, curing, saw cutting, tie-ins to existing improvements, protection of concrete, backfilling, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of the 6-inch integral concrete curb shall be considered subsidiary to this bid item.

No separate payment shall be made for subgrade preparation, tie-ins, minor excavation, formwork, joint material, curing operations, protection of concrete, surface finishing, restoration, or any incidental work required to complete the installation unless specifically identified as a separate pay item in the Contract Documents.

13 & 72. REMOVE & RECONSTRUCT CONCRETE DRIVEWAY (SY)

Remove & Reconstruct Concrete Driveway (SY) shall include removal of existing driveway, saw cutting, disposal, subgrade preparation, flexible base placement if required, and construction of new concrete driveway in accordance with the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Driveway Construction

Section 6.10 – Driveway Removal Requirements
Section 6.11 – Driveway Reconstruction Standards

TXDOT REFERENCES

Item 360 – Concrete Pavement
Item 361 – Full Depth Repair
Item 247 – Flexible Base
Item 502 – Traffic Control

PAYMENT CLAUSE

All removal, replacement, base preparation, concrete placement, and incidental driveway construction shall be subsidiary to this item.

14. REMOVE 4" CONCRETE SIDEWALK (SY)

Remove 4” Concrete Sidewalk (SY) shall include full-depth saw cutting, removal, hauling, and disposal of existing sidewalk concrete, including any base material and incidental improvements.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Pedestrian Facilities Removal

Section 6.12 – Sidewalk Removal Requirements

TXDOT REFERENCES

Item 361 – Removal Provisions
Item 110 – Excavation
Item 502 – Traffic Control

PAYMENT CLAUSE

All saw cutting, removal, hauling, and disposal shall be subsidiary to this bid item.

15. FURNISH & INSTALL 4" CONCRETE SIDEWALK (SY)

Furnish and Install 4" Concrete Sidewalk (SY) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of 4-inch thick concrete sidewalk as shown on the Plans and as directed by the Engineer.

The sidewalk shall be constructed to the lines, grades, cross slopes, dimensions, and elevations shown on the Plans and shall comply with applicable ADA, TAS, PROWAG (where applicable), City standards, and Contract Documents. The Contractor shall verify all field conditions and coordinate construction with adjacent improvements to provide a smooth and accessible pedestrian facility.

Subgrade beneath the sidewalk shall be properly shaped, graded, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material at no additional cost to the Owner unless otherwise provided in the Contract Documents.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, screeding, floating, edging, finishing, texturing, curing, and protection of the concrete. Sidewalk surfaces shall be constructed with a uniform broom finish unless otherwise shown on the Plans.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, joint filler materials, and tie-ins to existing sidewalks, driveways, curb ramps, pavement, and structures. Sidewalk panels shall be constructed with joints and dimensions as shown on the Plans or in accordance with applicable standards.

The Contractor shall protect all adjacent utilities, irrigation systems, landscaping, trees, fences, structures, and other improvements during construction. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

This item shall include all necessary adjustments to match existing grades, tie-ins to adjacent improvements, temporary pedestrian access, protection of completed work, and restoration of disturbed areas.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk Construction Requirements
- Section 10.02 – Concrete Sidewalk Installation
- Section 10.03 – Sidewalk Grading and Subgrade Preparation
- Section 10.04 – Jointing and Finishing Requirements
- Section 10.05 – ADA and Accessibility Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation Requirements
- Section 4.05 – Finishing and Curing Requirements

TXDOT REFERENCES

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods
- 529.4 Measurement

- 529.5 Payment

Additional Applicable TxDOT Items

- Item 360 – Concrete Pavement (Concrete Materials and Finishing Requirements)
- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement, consolidation, screeding, floating, edging, broom finishing, surface texturing, curing, jointing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing improvements, temporary pedestrian access, protection of utilities, protection of irrigation systems, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 4-inch concrete sidewalk shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, joint materials, saw cutting, tie-ins, sidewalk transitions, protection of existing improvements, irrigation repairs, utility protection, temporary pedestrian access, surface finishing, curing, cleanup, or restoration unless specifically identified as a separate pay item in the Contract Documents.

16. FURNISH AND INSTALL TYPE 1 PEDESTRIAN RAMP (EA)

Furnish and Install Type 1 Pedestrian Ramp (EA) shall include all labor, materials, equipment, tools, excavation, grading, demolition, subgrade preparation, moisture conditioning, compaction, concrete placement, curb modifications, sidewalk reconstruction, detectable warning surfaces, finishing, curing, restoration, and incidentals necessary for the complete construction of an ADA-compliant Type 1 Pedestrian Ramp as shown on the Plans and as directed by the Engineer.

The pedestrian ramp shall be constructed in accordance with the Contract Documents, Americans with Disabilities Act (ADA), Texas Accessibility Standards (TAS), Public Rights-of-Way Accessibility Guidelines (PROWAG), City standards, TxDOT standards, and all applicable federal, state, and local requirements.

The Contractor shall verify all field conditions and construct the ramp to the grades, elevations, dimensions, cross slopes, running slopes, landing areas, flares, transitions, and

alignments shown on the Plans. The completed ramp shall provide a smooth, accessible transition between sidewalk and roadway surfaces.

This item shall include all excavation, removal of existing sidewalk, curb, curb ramps, pavement, landscaping, and other improvements necessary to construct the pedestrian ramp. Existing improvements damaged or disturbed by construction shall be restored to equal or better condition.

Subgrade shall be shaped, moisture conditioned, and compacted in accordance with the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, jointing, texturing, curing, and protection of concrete surfaces.

This item shall include furnishing and installing detectable warning surfaces (truncated domes) of the color, size, type, and configuration shown on the Plans. Detectable warning panels shall be installed in accordance with ADA, TAS, PROWAG, manufacturer recommendations, and applicable standards.

The Contractor shall coordinate all curb, sidewalk, driveway, pavement, drainage, utility, and landscape tie-ins necessary to complete the ramp installation. The Contractor shall maintain pedestrian access during construction and provide temporary pedestrian accommodations where required.

The Contractor shall protect existing utilities, irrigation systems, landscaping, traffic control devices, signs, mailboxes, and adjacent improvements. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Pedestrian Ramp Construction
- Section 10.03 – ADA and Accessibility Requirements
- Section 10.04 – Detectable Warning Surface Requirements
- Section 10.05 – Grading and Transition Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Finishing Requirements

- Section 4.05 – Curing Requirements

Division 3 – Demolition and Site Preparation

- Section 3.01 – Removal of Existing Improvements
- Section 3.04 – Protection of Existing Facilities

TXDOT REFERENCES

Item 531 – Sidewalks

- 531.1 Description
- 531.2 Materials
- 531.3 Construction
- 531.4 Measurement
- 531.5 Payment

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods

TxDOT Standard Sheets

- Pedestrian Accessibility Details (Current TxDOT Standard Sheets)
- Type 1 Pedestrian Ramp Details
- Detectable Warning Surface Details

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, demolition, removal of existing sidewalk and curb, grading, subgrade preparation, moisture conditioning, compaction, concrete, curb modifications, sidewalk reconstruction, detectable warning surfaces, truncated dome panels, formwork, placement, finishing, texturing, edging, jointing, curing, saw cutting, tie-ins to existing improvements, ADA compliance verification, utility protection, irrigation protection, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of a Type 1 Pedestrian Ramp shall be considered subsidiary to this bid item.

No separate payment shall be made for detectable warning panels, curb removal, sidewalk removal, curb modifications, grading adjustments, tie-ins, utility adjustments, irrigation repairs, temporary pedestrian access, restoration, or any incidental work necessary to

provide a fully functional and ADA-compliant pedestrian ramp unless specifically identified as a separate pay item in the Contract Documents.

17. FURNISH AND INSTALL TYPE 2 PEDESTRIAN RAMP (EA / SY)

Furnish and Install Type 2 Pedestrian Ramp (EA) shall include all labor, materials, equipment, tools, excavation, grading, demolition, subgrade preparation, moisture conditioning, compaction, concrete placement, curb modifications, sidewalk reconstruction, detectable warning surfaces, finishing, curing, restoration, and incidentals necessary for the complete construction of an ADA-compliant Type 2 Pedestrian Ramp as shown on the Plans and as directed by the Engineer.

The pedestrian ramp shall be constructed in accordance with the Contract Documents, Americans with Disabilities Act (ADA), Texas Accessibility Standards (TAS), Public Rights-of-Way Accessibility Guidelines (PROWAG), City standards, TxDOT standards, and all applicable federal, state, and local requirements.

The Contractor shall verify all field conditions and construct the ramp to the grades, elevations, dimensions, cross slopes, running slopes, landing areas, flares, transitions, and alignments shown on the Plans. The completed ramp shall provide a smooth, accessible transition between sidewalk and roadway surfaces and shall comply with all accessibility requirements.

This item shall include all excavation, removal of existing sidewalk, curb, curb ramps, pavement, landscaping, and other improvements necessary to construct the pedestrian ramp. Existing improvements damaged or disturbed by construction shall be restored to equal or better condition.

Subgrade shall be shaped, moisture conditioned, and compacted in accordance with the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, jointing, texturing, curing, and protection of concrete surfaces.

This item shall include furnishing and installing detectable warning surfaces (truncated domes) of the color, size, type, and configuration shown on the Plans. Detectable warning panels shall be installed in accordance with ADA, TAS, PROWAG, manufacturer recommendations, and applicable standards.

The Contractor shall coordinate all curb, sidewalk, driveway, pavement, drainage, utility, landscape, and grade tie-ins necessary to complete the ramp installation. The Contractor

shall maintain pedestrian access during construction and provide temporary pedestrian accommodations where required.

The Contractor shall protect existing utilities, irrigation systems, landscaping, traffic control devices, signs, mailboxes, and adjacent improvements. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Pedestrian Ramp Construction
- Section 10.03 – ADA and Accessibility Requirements
- Section 10.04 – Detectable Warning Surface Requirements
- Section 10.05 – Grading and Transition Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Finishing Requirements
- Section 4.05 – Curing Requirements

Division 3 – Demolition and Site Preparation

- Section 3.01 – Removal of Existing Improvements
- Section 3.04 – Protection of Existing Facilities

TXDOT REFERENCES

Item 531 – Sidewalks

- 531.1 Description
- 531.2 Materials
- 531.3 Construction
- 531.4 Measurement
- 531.5 Payment

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods

TxDOT Standard Sheets

- Pedestrian Accessibility Details (Current TxDOT Standard Sheets)
- Type 2 Pedestrian Ramp Details
- Detectable Warning Surface Details

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, demolition, removal of existing sidewalk and curb, grading, subgrade preparation, moisture conditioning, compaction, concrete, curb modifications, sidewalk reconstruction, detectable warning surfaces, truncated dome panels, formwork, placement, finishing, texturing, edging, jointing, curing, saw cutting, tie-ins to existing improvements, ADA compliance verification, utility protection, irrigation protection, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of a Type 2 Pedestrian Ramp shall be considered subsidiary to this bid item.

No separate payment shall be made for detectable warning panels, curb removal, sidewalk removal, curb modifications, grading adjustments, tie-ins, utility adjustments, irrigation repairs, temporary pedestrian access, restoration, or any incidental work necessary to provide a fully functional and ADA-compliant pedestrian ramp unless specifically identified as a separate pay item in the Contract Documents.

18. FURNISH AND INSTALL 12"–18" SIDEWALK CURB (LF)

Furnish and Install 12"–18" Sidewalk Curb (LF) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of concrete sidewalk curb as shown on the Plans and as directed by the Engineer.

The sidewalk curb shall be constructed to the dimensions, lines, grades, elevations, and details shown on the Plans. The curb height may vary from 12 inches to 18 inches as required by the design and field conditions. The Contractor shall construct the curb to provide proper separation, edge restraint, pedestrian protection, grade transitions, drainage control, and aesthetic continuity with adjacent improvements.

Subgrade beneath the curb shall be excavated, shaped, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material.

Concrete shall conform to the requirements specified in the Contract Documents and applicable standards. The Contractor shall provide proper placement, consolidation,

finishing, edging, curing, and protection of the concrete. Finished curb surfaces shall be true to line and grade and free of honeycombing, cracking, spalling, or other defects.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, tie-ins to existing curb, sidewalk, pavement, driveways, curb ramps, retaining walls, and other improvements. Saw cutting required to complete tie-ins shall be included.

Where shown on the Plans, the curb may be constructed monolithically with adjacent sidewalk, curb ramps, or concrete pavement. The Contractor shall coordinate placement and jointing to ensure proper alignment and appearance.

The Contractor shall protect existing utilities, irrigation systems, landscaping, trees, fences, structures, and adjacent improvements during construction. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

The Contractor shall maintain pedestrian access and provide temporary pedestrian accommodations where required by the Contract Documents.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Concrete Sidewalk and Curb Construction
- Section 10.03 – Grading and Subgrade Preparation
- Section 10.04 – Concrete Finishing and Jointing Requirements
- Section 10.05 – Accessibility and ADA Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation
- Section 4.05 – Finishing and Curing Requirements

Division 5 – Pavement Construction

- Section 5.15 – Tie-ins and Restoration Adjacent to Concrete Improvements

TXDOT REFERENCES

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods
- 529.4 Measurement

- 529.5 Payment

Item 420 – Concrete Structures

- 420.1 Description
- 420.3 Construction Methods

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement, consolidation, finishing, edging, jointing, curing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing improvements, protection of utilities, protection of irrigation systems, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 12-inch to 18-inch sidewalk curb shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, joint materials, tie-ins, saw cutting, protection of existing improvements, utility protection, irrigation repairs, temporary pedestrian access, cleanup, restoration, or any incidental work required to complete the installation unless specifically identified as a separate pay item in the Contract Documents.

FURNISH AND INSTALL 6"–12” SIDEWALK CURB (LF)

Furnish and Install 6"–8" Sidewalk Curb (LF) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of concrete sidewalk curb as shown on the Plans and as directed by the Engineer.

The sidewalk curb shall be constructed to the dimensions, lines, grades, elevations, and details shown on the Plans. The curb height may vary from 6 inches to 8 inches as required by the design and field conditions. The curb shall provide edge restraint, pedestrian separation, grade control, drainage control, and protection of adjacent landscaping and improvements.

Subgrade beneath the curb shall be excavated, shaped, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material in accordance with the Plans and specifications.

Concrete shall conform to the requirements specified in the Contract Documents and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, curing, and protection of the concrete. Finished curb surfaces shall be true to line and grade and free from cracking, honeycombing, spalling, or other defects.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, tie-ins to existing curb, sidewalk, pavement, driveways, curb ramps, retaining walls, landscaping features, and other improvements. Saw cutting required to complete tie-ins shall be included.

Where shown on the Plans, the curb may be constructed monolithically with adjacent sidewalk, curb ramps, pavement, or other concrete improvements. The Contractor shall coordinate placement and jointing to provide a uniform appearance and proper performance.

The Contractor shall protect existing utilities, irrigation systems, landscaping, trees, fences, structures, and adjacent improvements during construction. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

The Contractor shall maintain pedestrian access and provide temporary pedestrian accommodations where required during construction activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Concrete Sidewalk and Curb Construction
- Section 10.03 – Grading and Subgrade Preparation
- Section 10.04 – Concrete Finishing and Jointing Requirements
- Section 10.05 – Accessibility and ADA Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation Requirements
- Section 4.05 – Finishing and Curing Requirements

Division 5 – Pavement Construction

- Section 5.15 – Tie-ins and Restoration Adjacent to Concrete Improvements

TXDOT REFERENCES

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods
- 529.4 Measurement
- 529.5 Payment

Item 420 – Concrete Structures

- 420.1 Description
- 420.3 Construction Methods

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement, consolidation, finishing, edging, jointing, curing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing improvements, protection of utilities, protection of irrigation systems, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 6-inch to 8-inch sidewalk curb shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, joint materials, tie-ins, saw cutting, protection of existing improvements, utility protection, irrigation repairs, temporary pedestrian access, cleanup, restoration, or any incidental work required to complete the installation unless specifically identified as a separate pay item in the Contract Documents.

19. REMOVE AND RELOCATE SMALL SIGN ASSEMBLY (ALL SIGN TYPES AND SIZES) (EA)

Remove and Relocate Small Sign Assembly (All Sign Types and Sizes) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the identification,

removal, protection, storage, transportation, and reinstallation of existing small sign assemblies, including but not limited to regulatory signs, warning signs, guide signs, street name signs, and all associated posts, hardware, foundations, and mounting assemblies within the project limits. This item shall include careful removal to prevent damage to sign faces, reflective sheeting, posts, and mounting hardware, and shall include temporary storage, protection from damage, and reinstallation at locations shown in the Plans or as directed by the Engineer.

This item shall include furnishing and installing new posts, post foundations, anchors, and hardware where required to complete relocation, including resetting in new concrete foundations, alignment, height adjustment, and orientation to meet current roadway standards and visibility requirements. The Contractor shall verify proper placement to ensure compliance with sight distance, MUTCD requirements, pedestrian clearance, and roadway safety standards.

All disturbed pavement, sidewalk, or ground surfaces resulting from removal and relocation activities shall be restored to match existing conditions or as shown in the Plans. The Contractor shall coordinate all sign relocations with traffic control operations to ensure continuous compliance with safety requirements and minimize disruption to traffic operations.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 7 – Traffic Control and Signing

Section 7.01 – Traffic Sign Removal and Relocation Requirements
Section 7.02 – Sign Installation Standards and Mounting Requirements
Section 7.03 – Sign Visibility, Height, and Placement Requirements
Section 7.04 – Post and Foundation Installation Requirements

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 666 – Signs, Sign Posts, and Sign Mounting Assemblies
Item 4 – Scope of Work
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities
Texas MUTCD – Signing Placement and Installation Standards

PAYMENT CLAUSE

All labor, materials, equipment, removal, protection, transportation, storage, reinstallation, posts, foundations, hardware, alignment, and incidental work required for complete removal and relocation of small sign assemblies (all types and sizes) shall be subsidiary to this bid item. No separate payment shall be made for restoration of disturbed areas, temporary supports, or traffic control required for sign relocation activities unless specifically included as separate bid items in the Contract Documents.

20. FURNISH AND INSTALL 24" WHITE PAVEMENT MARKING (CROSSWALKS) (LF)

Furnish and Install 24" White Pavement Marking (Crosswalks) shall include all labor, materials, equipment, tools, surface preparation, layout, application, protection, and incidentals necessary for the installation of thermoplastic, paint, or other approved pavement marking material forming 24-inch wide white crosswalk markings at locations shown in the Plans or as directed by the Engineer. This item shall include surface cleaning, drying, removal of loose material, and preparation of existing pavement to ensure proper adhesion and long-term durability of the marking material.

This item shall include layout and marking of crosswalk patterns in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), including transverse, ladder, or continental-style crosswalk configurations as required by the Plans. The Contractor shall ensure accurate alignment, spacing, and geometry consistent with roadway centerlines, curb returns, pedestrian ramps, and intersection geometry. Application shall be performed under suitable weather conditions to ensure proper bonding, reflectivity, and curing.

All markings shall be installed with retroreflective materials meeting applicable TxDOT requirements for nighttime visibility and skid resistance. The Contractor shall protect newly installed markings from vehicular and pedestrian traffic until fully cured and shall be responsible for replacement of any damaged or improperly installed markings at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 7 – Traffic Control and Pavement Markings

Section 7.05 – Pavement Marking Materials and Installation Requirements
Section 7.06 – Crosswalk Marking Layout and Geometry Standards
Section 7.07 – Surface Preparation for Pavement Markings
Section 7.08 – Retroreflectivity and Visibility Requirements

TXDOT REFERENCES

Item 666 – Retroreflectorized Pavement Markings
666.1 – Description (pavement marking scope)
666.2 – Materials (thermoplastic, paint, epoxy requirements)
666.3 – Construction Methods (application and installation procedures)
666.4 – Measurement (quantification of installed markings)
666.5 – Payment (basis of compensation)

Texas MUTCD – Pavement Markings and Crosswalk Design Standards
Item 502 – Barricades, Signs, and Traffic Handling (traffic protection during installation)

PAYMENT CLAUSE

All labor, materials, surface preparation, layout, application, curing, protection, and incidental work required for complete installation of 24-inch white pavement markings for crosswalks shall be subsidiary to this bid item. No separate payment shall be made for traffic control, temporary protection, or restoration of markings unless specifically included as separate bid items in the Contract Documents.

21. MOVE POLICE SIGN & CONSTRUCT NEW 0.7 CY CONCRETE BASE (SHOP SUBMITTAL REQUIRED) (EA)

Move Police Sign and Construct New 0.7 CY Concrete Base (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the removal, protection, relocation, and reinstallation of existing police-related sign assembly and the construction of a new reinforced concrete foundation base of approximately 0.7 cubic yards at the new location shown in the Plans or as directed by the Engineer. This item shall include careful removal of the existing sign assembly to prevent damage to the sign face, reflective sheeting, posts, mounting hardware, and any electrical components if present.

This item shall further include excavation for the new sign foundation, disposal of unsuitable materials, subgrade preparation, forming, furnishing and placing reinforced concrete, vibration, finishing, curing, and backfilling around the completed base. The Contractor shall ensure that the foundation is constructed plumb, level, and in proper alignment to support wind loads, sign loading, and long-term stability.

A **shop drawing submittal shall be required** for the proposed concrete base design, including reinforcing steel layout, anchor bolt configuration, embedment depth, concrete mix design, and installation procedures. No work shall proceed until shop drawings are reviewed and approved by the Engineer.

All disturbed areas resulting from removal and installation activities shall be restored to match existing conditions or as directed by the Engineer. The Contractor shall coordinate

relocation with traffic control operations and ensure that all sign visibility, height, orientation, and placement comply with applicable roadway safety and MUTCD requirements.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 7 – Traffic Control and Sign Structures

Section 7.01 – Sign Removal and Relocation Requirements
Section 7.02 – Sign Foundation Design and Construction Requirements
Section 7.03 – Structural Concrete for Sign Bases
Section 7.04 – Shop Drawing Submittal and Approval Requirements

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 666 – Signs, Sign Posts, and Sign Mounting Assemblies
Item 420 – Concrete Structures (for foundations and structural concrete)
Item 421 – Hydraulic Cement Concrete
Item 4 – Scope of Work
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, disposal, forming, reinforcement, concrete placement, curing, sign removal, relocation, reinstallation, shop drawing preparation, and all incidental work required for the complete relocation of the police sign and construction of a new 0.7 CY concrete base shall be subsidiary to this bid item. No separate payment shall be made for shop drawings, reinforcement, anchor bolts, or restoration of disturbed areas unless specifically included as separate bid items in the Contract Documents.

22 & 77. REMOVE AND DISPOSAL OF SANITARY SEWER MANHOLE (SSMH) (EA)

Remove and Disposal of Sanitary Sewer Manhole (SSMH) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, abandonment (if required), excavation, breaking, dismantling, loading, hauling, and lawful disposal of an existing sanitary sewer manhole structure, including all associated components such as rings, covers, frames, grade adjustments, concrete barrel sections, base slabs, flow channels, and any connected appurtenances within the limits shown in the Plans or as directed by the Engineer.

This item shall include coordination with the Owner and utility operator prior to removal, verification of flow isolation, bypass pumping if required, and protection of existing active sanitary sewer infrastructure. The Contractor shall ensure that all sewage flows are safely managed during removal operations and that no discharge or overflow occurs during construction activities.

Excavation and shoring required for safe removal shall be included. The Contractor shall properly break, remove, and dispose of all manhole materials in accordance with applicable environmental regulations and dispose of materials at an approved disposal site. Any voids resulting from removal shall be properly backfilled with suitable material, compacted in accordance with specification requirements, and restored to match existing subgrade conditions or as directed by the Engineer.

If the existing sanitary sewer manhole is to be abandoned in place rather than fully removed, the Contractor shall plug and seal all incoming and outgoing pipes, fill the structure with flowable fill or other approved material, and cap the structure as directed by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer Manhole Removal Requirements
Section 8.02 – Abandonment and Plugging Procedures
Section 8.03 – Bypass Pumping and Flow Control Requirements
Section 8.04 – Excavation, Backfill, and Compaction Requirements for Sewer Structures

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures (as applicable)
Item 420 – Concrete Structures (removal and handling of reinforced concrete)
Item 464 – Reinforced Concrete Pipe (RCP) Systems (interface with sewer infrastructure)
Item 506 – Environmental Controls (spill and discharge prevention during sewer work)
Item 110 – Excavation
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, shoring, bypass pumping, flow control, removal, hauling, disposal, backfilling, compaction, abandonment sealing (if required), restoration of disturbed areas, and all incidental work required for complete removal and disposal of sanitary sewer manhole (SSMH) shall be subsidiary to this bid item. No

separate payment shall be made for bypass pumping, flow isolation, or disposal fees unless specifically identified as separate bid items in the Contract Documents.

23. REMOVE AND DISPOSAL OF SANITARY SEWER CLEANOUT (SSCO) (EA)

Remove and Disposal of Sanitary Sewer Cleanout (SSCO) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, excavation, abandonment (if required), disposal, and restoration of an existing sanitary sewer cleanout assembly, including cleanout riser pipe, cap, frame, box (if present), and all associated fittings and appurtenances located within the project limits or as directed by the Engineer.

This item shall include careful excavation around the existing cleanout to prevent damage to adjacent sanitary sewer infrastructure, utilities, pavement, sidewalk, curb, or other improvements. The Contractor shall verify that sanitary sewer flow is properly maintained during removal activities and shall implement temporary flow control measures if required.

The Contractor shall remove the cleanout assembly in its entirety unless otherwise directed, including saw cutting of surrounding pavement or concrete improvements, removal of pipe segments, and proper disposal of all materials in accordance with applicable local, state, and environmental regulations. All excavations shall be properly backfilled with suitable material, placed in lifts, and compacted to meet specification requirements.

Where abandonment in place is required or directed by the Engineer, the Contractor shall remove accessible components, plug or cap the sanitary sewer line in an approved manner, and fill the remaining void with flowable fill or other approved material to prevent settlement or infiltration.

All disturbed surfaces, including pavement, sidewalk, curb, landscaping, and other improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer Appurtenances Removal Requirements
Section 8.02 – Cleanout Installation and Abandonment Procedures
Section 8.03 – Excavation and Backfill for Sanitary Sewer Appurtenances
Section 8.04 – Utility Protection and Coordination Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures (as applicable)
Item 110 – Excavation
Item 464 – Sanitary Sewer Pipe Systems (connection interface requirements)
Item 506 – Temporary Erosion and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, saw cutting, removal, disposal, abandonment (if required), flow control, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete removal and disposal of sanitary sewer cleanout (SSCO) shall be subsidiary to this bid item. No separate payment shall be made for flow control, pavement restoration, or disposal activities unless specifically included as separate bid items in the Contract Documents.

24 & 73. FURNISH AND INSTALL 8" SANITARY SEWER PIPE (LF)

Furnish and Install 8" Sanitary Sewer Pipe (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, inspection, and acceptance of 8-inch sanitary sewer pipeline, including trench excavation, shoring, dewatering, bedding, pipe installation, jointing, alignment, grade control, backfilling, compaction, testing, and restoration of disturbed areas, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation of trench to required depth and width, removal and disposal of unsuitable material, maintenance of trench stability, and protection of adjacent utilities and improvements. The Contractor shall provide and maintain safe trench conditions in accordance with applicable OSHA requirements. Bedding material shall be placed and compacted to provide uniform pipe support and proper grade control.

Pipe installation shall include furnishing and installing 8-inch sanitary sewer pipe of the specified material type (PVC, DIP, or approved equal), including rubber gasket joints or solvent weld joints as applicable, proper alignment, slope control, and connection to existing sanitary sewer infrastructure, manholes, cleanouts, or other appurtenances as shown in the Plans. All joints shall be watertight and installed in accordance with manufacturer and specification requirements.

The Contractor shall perform required testing including, but not limited to, infiltration/exfiltration testing, air testing, deflection testing (for flexible pipe), and CCTV inspection as required by the Contract Documents. Any defects identified shall be corrected by the Contractor at no additional cost to the Owner.

Backfill shall be placed in layers, compacted to specified density, and completed in accordance with applicable standards. All surface restoration, including pavement, sidewalk, curb, landscaping, or other improvements disturbed by construction, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.05 – Sanitary Sewer Pipe Installation Requirements
Section 8.06 – Trenching, Bedding, and Backfill Requirements
Section 8.07 – Sanitary Sewer Testing and Acceptance Requirements
Section 8.08 – Utility Coordination and Protection Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 464 – Reinforced Concrete Pipe / Sanitary Sewer Systems (as applicable)
Item 499 – Open Trench Safety and Utility Protection Requirements
Item 506 – Environmental Controls
Item 110 – Excavation
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, trench excavation, shoring, dewatering, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch sanitary sewer pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, utility coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

25 & 74. FURNISH AND INSTALL TRENCH PROTECTION (SANITARY SEWER 8") (LF)

Furnish and Install Trench Protection (Sanitary Sewer 8") shall include all labor, materials, equipment, tools, design, engineering (if required), installation, maintenance, relocation, adjustment, and removal of all trench safety systems necessary to protect workers, adjacent utilities, and existing improvements during excavation and installation of 8-inch sanitary sewer pipe. This item shall include the provision of all required trench protection systems such as trench boxes, trench shields, shoring systems, hydraulic shoring, sheet piling, slide rail systems, or other engineered excavation support systems suitable for soil conditions and trench depth.

This item shall include full compliance with OSHA excavation safety standards, including sloping, benching, shoring, and shielding requirements as applicable. The Contractor shall be solely responsible for determining and implementing the appropriate trench protection system based on field conditions, soil type, groundwater conditions, excavation depth, adjacent surcharge loads, and utility conflicts.

The Contractor shall provide engineered trench protection design documents when required by governing safety regulations or when trench conditions exceed prescriptive OSHA allowable limits. Such designs shall be sealed by a licensed professional engineer when required. Installation shall ensure continuous protection of the excavation at all times during pipe installation, manhole connections, bedding placement, and backfilling operations.

Trench protection systems shall be installed, adjusted, and removed in a manner that does not damage installed utilities, adjacent structures, pavements, or other improvements. The Contractor shall coordinate trench protection with dewatering operations, utility crossings, and confined workspace requirements. All excavation support systems shall be maintained in safe working condition for the duration of their use.

Removal of trench protection systems shall be performed only after backfill has reached a stable condition sufficient to prevent trench collapse or settlement. Any damage to installed improvements resulting from inadequate trench protection shall be repaired by the Contractor at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.06 – Trenching and Excavation Safety Requirements
Section 8.07 – Subsurface Utility Protection Requirements
Section 8.08 – Backfill and Compaction Requirements Adjacent to Trench Protection Systems
Section 8.09 – Dewatering and Excavation Stability Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 499 – Open Trench Safety and Excavation Protection Requirements
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, engineering (if required), installation, maintenance, adjustment, relocation, and removal of trench protection systems, including trench boxes, shoring, shielding, sheet piling, or other excavation support systems, shall be subsidiary to this bid item. No separate payment shall be made for engineered shoring designs, OSHA compliance measures, groundwater control, or safety systems unless specifically identified as separate bid items in the Contract Documents.

26 & 76. FURNISH AND INSTALL SANITARY SEWER MANHOLE (5' DIAMETER) (EA)

Furnish and Install Sanitary Sewer Manhole (5’ Diameter) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, construction, installation, adjustment, testing, and acceptance of a 5-foot diameter sanitary sewer manhole, complete in place, including base, barrel sections, cone section, grade rings, frame and cover assembly, pipe connections, flow channels, benching, exterior coatings, waterproofing, and all appurtenant components as shown in the Plans or as directed by the Engineer.

This item shall include excavation to required depth and diameter, removal and disposal of unsuitable material, dewatering as required, and provision of stable subgrade foundation conditions suitable for manhole installation. The Contractor shall provide structural base preparation including leveling pad (cast-in-place or precast base as specified), ensuring proper alignment, invert elevations, and pipe connections.

Manhole construction shall include furnishing precast reinforced concrete sections meeting applicable ASTM standards, including watertight joints with gaskets or sealants, proper alignment of barrel sections, installation of eccentric or concentric cone sections as shown in the Plans, and adjustment to finished grade using grade rings or precast adjustment units. All pipe penetrations shall be made watertight using approved boot seals or flexible connectors.

Interior manhole surfaces shall include smooth concrete channels and benches shaped to promote hydraulic flow and minimize turbulence and sediment accumulation. Exterior surfaces shall be coated or sealed with approved waterproofing materials to prevent infiltration and corrosion.

The Contractor shall connect all incoming and outgoing sanitary sewer pipes to the manhole in accordance with design grades and alignments, ensuring watertight integrity of all joints. The Contractor shall perform vacuum testing, infiltration testing, or other acceptance testing as required by the Contract Documents. Any leaks, defects, or structural deficiencies shall be corrected by the Contractor at no additional cost.

Backfill shall be placed in controlled lifts and compacted to required density. Surface restoration shall be completed to match existing or proposed conditions, including pavement, sidewalk, curb, or landscaping disturbed by construction.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.10 – Sanitary Sewer Manhole Construction Requirements
Section 8.11 – Precast Concrete Manhole Installation Requirements
Section 8.12 – Manhole Jointing, Sealing, and Waterproofing Requirements
Section 8.13 – Invert Channel and Benching Construction Standards
Section 8.14 – Manhole Testing, Inspection, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (precast and cast-in-place components)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 499 – Utility Protection and Excavation Safety
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, dewatering, bedding, base preparation, manhole components, pipe connections, joint sealing, benching, invert construction, waterproofing, testing, backfilling, compaction, surface restoration, and all incidental work required for complete installation of a 5-foot diameter sanitary sewer manhole shall be subsidiary to this bid item. No separate payment shall be made for testing, waterproofing systems, grade adjustments, or restoration of disturbed improvements unless specifically included as separate bid items in the Contract Documents.

27 & 75. FURNISH AND INSTALL 8" SANITARY SEWER WITH 18" STEEL ENCASEMENT (LF)

Furnish and Install 8” Sanitary Sewer with 18” Steel Encasement (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, jacking, boring (or open cut where permitted), alignment, connection, testing, and acceptance of an 8-inch sanitary sewer pipe installed within an 18-inch steel

casing/encasement pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include all required excavation, boring pits, receiving pits, sheeting and shoring, dewatering, traffic control coordination, and protection of existing utilities and improvements. The Contractor shall be responsible for verifying alignment, grade, and installation tolerances required for both the carrier pipe and casing installation.

The 18-inch steel encasement pipe shall be furnished and installed by jacking, boring, or other approved trenchless installation method, designed to safely pass beneath roadways, railroads, drainage features, or existing utilities without disturbing surface improvements unless otherwise specified. Steel casing shall meet applicable structural and corrosion protection requirements, including coatings or wraps if required by the Contract Documents.

The 8-inch sanitary sewer carrier pipe shall be installed within the steel encasement pipe using approved casing spacers or supports to maintain proper alignment, grade, and separation from the casing wall. Carrier pipe joints shall be watertight and installed in accordance with manufacturer requirements and applicable sanitary sewer standards.

Annular space between the carrier pipe and casing shall be sealed with approved end seals or bulkheads to prevent infiltration of groundwater, soil intrusion, or debris. The Contractor shall ensure that all pipe connections at both ends of the encasement are properly tied into the sanitary sewer system with watertight transitions.

All installation operations shall be conducted in a manner that prevents settlement, surface disturbance, or damage to existing infrastructure. The Contractor shall restore all disturbed areas including pavement, sidewalk, curb, roadway, and landscaping to match existing conditions or as shown in the Plans.

The Contractor shall perform all required testing of the sanitary sewer line following installation, including air testing, infiltration/exfiltration testing, and CCTV inspection as required by the Contract Documents. Any deficiencies shall be corrected by the Contractor at no additional cost.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.15 – Trenchless Installation Methods (Boring and Jacking Requirements)
Section 8.16 – Casing Pipe Installation Requirements
Section 8.17 – Carrier Pipe Installation Within Casing Requirements

Section 8.18 – Sealing, End Caps, and Annular Space Protection
Section 8.19 – Utility Crossing and Protection Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 462 – Pipe Culverts (Steel Casing / Encasement Applications)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 476 – Jacking, Boring, or Tunneling Operations (as applicable)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, boring or jacking operations, pits, sheeting and shoring, dewatering, steel encasement pipe, carrier pipe, casing spacers, end seals, pipe connections, testing, backfilling, compaction, surface restoration, traffic control coordination, and all incidental work required for complete installation of 8-inch sanitary sewer within 18-inch steel encasement shall be subsidiary to this bid item. No separate payment shall be made for trenchless installation methods, utility protection, or restoration of disturbed improvements unless specifically identified as separate bid items in the Contract Documents.

28 & 78. SANITARY SEWER LINE REMOVAL (LF)

Sanitary Sewer Line Removal (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete abandonment, removal, excavation, dismantling, loading, hauling, and lawful disposal of existing sanitary sewer pipelines of all sizes and materials encountered within the limits shown in the Plans or as directed by the Engineer. This item shall include full depth excavation to expose the existing pipeline, removal of pipe segments, fittings, connections, and appurtenances, and disposal of all removed materials in accordance with applicable federal, state, and local environmental regulations.

This item shall include protection of active sanitary sewer flows during removal operations. The Contractor shall maintain service continuity and prevent unauthorized discharge by implementing bypass pumping, flow diversion, plugging, or other approved methods as required. Any damage to active sanitary sewer infrastructure resulting from improper removal operations shall be repaired by the Contractor at no additional cost to the Owner.

The Contractor shall carefully expose existing sanitary sewer lines by means of approved excavation methods, including hand excavation where necessary to prevent damage to adjacent utilities and improvements. Pipe removal shall include breaking, cutting, or disconnecting pipe joints and appurtenances in a controlled manner to avoid damage to surrounding infrastructure.

Where sanitary sewer lines are to be abandoned in place rather than fully removed, the Contractor shall plug and seal all open ends using approved methods, and fill remaining voids with flowable fill or other approved material to prevent settlement, infiltration, or collapse. All abandonment operations shall be performed in accordance with applicable utility standards and as directed by the Engineer.

All disturbed areas resulting from removal operations shall be backfilled with suitable material placed in controlled lifts and compacted to specification requirements. Surface restoration shall include replacement of pavement, sidewalk, curb, driveway, landscaping, and any other improvements disturbed by construction activities, to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer System Removal Requirements
Section 8.02 – Abandonment and Plugging of Sanitary Sewer Lines
Section 8.03 – Bypass Pumping and Flow Control Requirements
Section 8.04 – Utility Protection and Coordination Requirements
Section 8.06 – Excavation and Backfill Requirements for Sanitary Sewer Facilities

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (appurtenance removal where applicable)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 110 – Excavation
Item 499 – Utility Protection Requirements
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, removal, cutting, dismantling, hauling, disposal, bypass pumping, flow control, abandonment sealing, backfilling, compaction,

and surface restoration required for complete removal of sanitary sewer lines shall be subsidiary to this bid item. No separate payment shall be made for bypass pumping, utility protection, or restoration of disturbed improvements unless specifically included as separate bid items in the Contract Documents.

29. SANITARY SEWER ABANDONMENT & GROUT (CY)

Sanitary Sewer Abandonment & Grout (CY) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete abandonment, sealing, filling, and permanent decommissioning of existing sanitary sewer pipelines, manholes, laterals, cleanouts, and associated appurtenances as shown in the Plans or as directed by the Engineer. This item shall include excavation as required to access the sanitary sewer facility, exposure of pipe or structures, isolation of flow, and implementation of bypass pumping or flow control measures to maintain uninterrupted sanitary sewer service during abandonment operations.

This item shall include cleaning of the existing pipeline or structure prior to abandonment, removal of debris, sediment, and obstructions, and preparation of the system for grout filling. The Contractor shall furnish and place flowable fill, controlled low-strength material (CLSM), cementitious grout, or other approved material to completely fill all voids within the pipe, manholes, or appurtenances being abandoned. Grout shall be placed in a manner that ensures complete filling without voids, settlement, or future collapse.

For pipe abandonment, all accessible ends shall be properly plugged and sealed using approved mechanical or concrete plugs prior to grouting. For manhole abandonment, frames, covers, cones, and upper barrel sections shall be removed as required, and the remaining structure shall be filled completely with grout or flowable fill to prevent infiltration, collapse, or void formation.

The Contractor shall ensure that all abandonment activities prevent infiltration of groundwater, soil migration, or surface settlement. All work shall be performed in accordance with applicable safety, environmental, and utility standards. Any damage to active sanitary sewer infrastructure or adjacent improvements resulting from abandonment operations shall be repaired by the Contractor at no additional cost to the Owner.

All disturbed areas resulting from abandonment operations shall be backfilled, compacted, and restored to match existing conditions or as shown in the Plans, including pavement, sidewalk, curb, driveway, and landscaping restoration.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer Abandonment Requirements
Section 8.02 – Plugging and Sealing of Sanitary Sewer Facilities
Section 8.03 – Flowable Fill and Grout Filling Requirements
Section 8.04 – Manhole Abandonment Procedures
Section 8.05 – Bypass Pumping and Flow Control Requirements
Section 8.06 – Excavation, Backfill, and Restoration Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (as applicable for manhole components)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (CLSM)
Item 110 – Excavation
Item 499 – Utility Protection and Safety Requirements
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, cleaning, flow control, bypass pumping, plugging, grouting, flowable fill placement, sealing, removal of appurtenances, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete abandonment and grouting of sanitary sewer facilities shall be subsidiary to this bid item. No separate payment shall be made for bypass pumping, CLSM, grout materials, or restoration unless specifically identified as separate bid items in the Contract Documents.

30 & 79. FURNISH AND INSTALL 8" WATER LINE (INCLUDING ALL FITTINGS, BENDS, & TEES) (LF)

Furnish and Install 8” Water Line (Including All Fittings, Bends, & Tees) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, disinfection, and acceptance of an 8-inch potable water distribution pipeline system, including all pipe, fittings, bends, tees, adapters, valves connections (as shown or required), thrust restraint systems, and appurtenances required to provide a fully functional water distribution system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, maintenance of trench stability, dewatering as required, bedding, pipe installation, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall provide continuous protection of existing utilities and improvements during construction and shall coordinate all crossings, tie-ins, and connections with the City's water system or designated utility operator.

All fittings, bends, tees, couplings, and appurtenances shall be furnished and installed as required to complete the alignment and hydraulic configuration shown in the Plans. Thrust restraint systems shall be installed at all fittings, bends, tees, valves, and dead ends in accordance with design requirements and applicable standards to prevent pipe movement under operating pressure conditions.

The Contractor shall perform pressure testing of the installed water line in accordance with applicable standards, including hydrostatic pressure testing, leakage testing, and any required corrective actions. Upon successful testing, the Contractor shall disinfect the water line using approved chlorination methods, flush the system, and obtain required bacteriological test results prior to final acceptance and connection to the existing water distribution system.

All connections to existing water mains shall be coordinated with the Engineer and utility operator and shall include shutdown coordination, temporary water service provisions if required, and restoration of service with minimal disruption.

All surface improvements disturbed during installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Line Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements for Water Lines
Section 9.03 – Fittings, Valves, and Appurtenances Installation Requirements
Section 9.04 – Thrust Restraint Design and Installation Requirements
Section 9.05 – Pressure Testing, Disinfection, and Acceptance Requirements
Section 9.06 – Utility Coordination and Tie-In Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill

Item 500 – Pipe and Fittings for Water Distribution Systems
Item 502 – Barricades, Signs, and Traffic Handling
Item 499 – Utility Protection and Safety Requirements
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, thrust restraint systems, valves (if applicable), installation, jointing, testing, pressure testing, disinfection, flushing, bacteriological testing coordination, tie-ins, shutdown coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch water line including all fittings shall be subsidiary to this bid item. No separate payment shall be made for thrust blocks, testing, disinfection, tie-in coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

31. FURNISH AND INSTALL 16" WATER LINE (INCLUDING ALL FITTINGS, BENDS, & TEES) (LF)

Furnish and Install 16” Water Line (Including All Fittings, Bends, & Tees) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, disinfection, and acceptance of a 16-inch potable water transmission/distribution pipeline system, including all pipe, fittings, bends, tees, reducers, adapters, valves (if shown in Plans), thrust restraint systems, and all appurtenances required to construct a fully functional and operational water system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, dewatering, trench stabilization, sheeting and shoring as required, bedding, pipe installation, alignment, grade control, jointing, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall be responsible for maintaining safe excavation conditions at all times and shall protect existing utilities, structures, roadways, and improvements throughout construction activities.

All fittings, bends, tees, reducers, and appurtenances required to achieve the alignment and hydraulic configuration shown in the Plans shall be furnished and installed as part of this item. Thrust restraint systems, including thrust blocks and/or restrained joint systems,

shall be installed at all changes in direction, fittings, tees, valves, and dead ends to resist hydraulic forces and ensure long-term pipeline stability.

The Contractor shall perform hydrostatic pressure testing of the completed water line in accordance with applicable standards, including leakage testing and corrective repairs as necessary. Upon successful completion of pressure testing, the Contractor shall disinfect the water line using approved chlorination procedures, flush the system thoroughly, and obtain satisfactory bacteriological test results prior to final acceptance and system integration.

The Contractor shall coordinate all tie-ins to existing water systems with the Engineer and utility operator, including shutdown scheduling, temporary service provisions if required, and minimization of service interruptions. All work shall be performed in a manner that maintains continuity of service and public safety.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and other improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Transmission Main Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements
Section 9.03 – Fittings, Valves, and Appurtenances Requirements
Section 9.04 – Thrust Restraint Systems and Structural Stability Requirements
Section 9.05 – Pressure Testing, Disinfection, and Bacteriological Testing Requirements
Section 9.06 – Utility Coordination and Tie-In Requirements
Section 9.07 – Large Diameter Water Line Installation Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Fittings
Item 499 – Utility Accommodation and Protection
Item 502 – Traffic Control and Maintenance of Traffic
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, reducers, thrust restraint systems, installation, jointing, testing, pressure testing, disinfection, flushing, bacteriological testing coordination, tie-ins, shutdown coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 16-inch water line including all fittings shall be subsidiary to this bid item. No separate payment shall be made for thrust restraint systems, testing, disinfection, tie-in coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

32 & 80. FURNISH AND INSTALL TRENCH PROTECTION (WATER LINE 8" & 16") (LF)

Furnish and Install Trench Protection (Water Line 8” & 16”) shall include all labor, materials, equipment, tools, engineering, design (when required), installation, maintenance, adjustment, relocation, monitoring, and removal of all trench safety and excavation support systems necessary for the safe construction of 8-inch and 16-inch water lines, including all appurtenant structures, fittings, and tie-ins, as shown in the Plans or as directed by the Engineer.

This item shall include furnishing and installing all required trench protection systems, including but not limited to trench boxes, trench shields, hydraulic shoring systems, aluminum or steel shoring, sheet piling, slide rail systems, or other engineered excavation support systems necessary to safely support excavation walls during pipe installation, bedding, jointing, and backfilling operations.

The Contractor shall be solely responsible for determining the appropriate trench protection system based on site conditions, including soil type, groundwater conditions, excavation depth, surcharge loads, proximity to existing utilities, traffic loads, and structural constraints. All trench protection systems shall be designed, installed, and maintained in full compliance with OSHA excavation safety regulations and all applicable federal, state, and local safety requirements.

Where required by excavation depth or soil conditions, the Contractor shall provide engineered trench protection design documents prepared and sealed by a licensed Professional Engineer. Such designs shall include calculations, system layout, installation procedures, and structural adequacy for the anticipated loads and conditions.

Trench protection systems shall be installed in a manner that allows safe access for workers while preventing collapse, soil movement, or damage to adjacent utilities, structures, pavement, or improvements. The Contractor shall coordinate trench protection with dewatering operations, utility crossings, and confined workspace requirements associated with both 8-inch distribution and 16-inch transmission water line installations.

All trench protection systems shall remain in place and fully functional throughout excavation, pipe installation, jointing, inspection, testing, and backfilling operations. Removal of trench protection shall only occur after sufficient backfill placement has been completed to ensure stability and prevent trench failure or settlement.

Any damage to installed utilities, structures, or improvements resulting from inadequate trench protection, improper installation, or premature removal shall be repaired by the Contractor at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.02 – Trenching and Excavation Safety Requirements
Section 9.03 – Utility Protection and Coordination Requirements
Section 9.04 – Excavation Support Systems and Structural Stability
Section 9.05 – Backfill and Compaction Requirements Adjacent to Trench Support Systems
Section 9.06 – Dewatering and Groundwater Control Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, engineering (if required), installation, maintenance, adjustment, relocation, monitoring, and removal of trench protection systems, including trench boxes, shoring systems, shielding, sheet piling, slide rail systems, or other excavation support systems required for safe installation of 8-inch and 16-inch water lines shall be subsidiary to this bid item. No separate payment shall be made for engineered shoring design, OSHA compliance measures, groundwater control, or excavation safety systems unless specifically identified as separate bid items in the Contract Documents.

33 & 81. FURNISH AND INSTALL 8" GATE VALVE WITH VALVE BOXES (EA)

Furnish and Install 8” Gate Valve with Valve Boxes (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation,

testing, adjustment, and acceptance of an 8-inch resilient wedge gate valve assembly, complete with valve box, cover, accessories, and all appurtenant components required for a fully operational isolation valve installation, as shown in the Plans or as directed by the Engineer.

This item shall include excavation for valve installation, removal and disposal of unsuitable material, bedding preparation, alignment, and installation of the valve in accordance with manufacturer requirements and applicable water distribution standards. The gate valve shall be furnished with a non-rising stem or rising stem configuration as specified, with resilient wedge sealing mechanism, epoxy-coated interior and exterior surfaces (or approved equivalent), and rated for full working pressure of the water distribution system.

The Contractor shall install all required fittings, adapters, and restraint systems necessary to integrate the valve into the 8-inch water line, ensuring watertight connections and proper alignment with adjacent piping. The valve shall be installed in a manner that allows full operational accessibility and proper vertical alignment with the valve box assembly.

Valve box assemblies shall be furnished and installed to provide full access to the operating nut, including adjustable cast iron or polymer valve boxes with covers marked “WATER” in accordance with utility standards. Valve boxes shall be set plumb, centered over the valve operating nut, and adjusted to finished grade in coordination with roadway, sidewalk, or ground surface elevations.

The Contractor shall coordinate installation of the valve with pressure testing, disinfection, and system commissioning of the water line. All valves shall be fully tested for operation, leakage, and structural integrity prior to final acceptance. Any valve found to be defective or improperly installed shall be repaired or replaced at no additional cost to the Owner.

All disturbed areas resulting from valve installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.03 – Valves and Appurtenances Installation Requirements
Section 9.04 – Gate Valve Installation and Alignment Requirements
Section 9.05 – Valve Box and Access Assembly Requirements
Section 9.06 – Utility Tie-In and Isolation Valve Requirements
Section 9.07 – Testing and Operational Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Valves
Item 504 – Valves and Appurtenances (where applicable)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, valve installation, fittings, adapters, restraint systems, valve box installation, adjustment to grade, testing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch gate valve with valve box assembly shall be subsidiary to this bid item. No separate payment shall be made for valve boxes, fittings, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

34. FURNISH AND INSTALL 16" GATE VALVE WITH VALVE BOXES (EA)

Furnish and Install 16” Gate Valve with Valve Boxes (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, adjustment, and acceptance of a 16-inch resilient wedge gate valve assembly, including valve, fittings, adapters, restraint systems, valve box assembly, accessories, and all appurtenant components required for a fully operational isolation valve installation, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, bedding preparation, alignment, and installation of the valve in accordance with manufacturer requirements and applicable standards for large-diameter water transmission and distribution systems. The gate valve shall be furnished with epoxy-coated interior and exterior surfaces (or approved equivalent), resilient sealing mechanism, and pressure rating suitable for the 16-inch water transmission system operating conditions.

The Contractor shall furnish and install all necessary fittings, bends, tees, reducers, and restrained joint systems required to integrate the valve into the 16-inch water line. Thrust restraint systems shall be installed as required at all connections and fittings to ensure long-term stability and resistance to hydraulic forces. The valve shall be installed plumb and properly aligned with pipeline centerline to ensure smooth operation and accessibility.

Valve box assemblies (or valve access structures as required for large diameter valves) shall be furnished and installed to provide full operational access to the valve operating mechanism. Valve boxes shall be heavy-duty cast iron or approved equivalent, clearly marked “WATER,” and installed flush with finished grade or adjusted to match roadway, sidewalk, or surface conditions. Where required for deep installations, valve access risers or vault structures may be used as shown in the Plans.

The Contractor shall coordinate valve installation with hydrostatic pressure testing, disinfection, flushing, and system commissioning. All valves shall be fully tested for operation under pressure conditions and inspected for leakage, structural integrity, and proper function prior to acceptance. Any deficiencies shall be corrected by the Contractor at no additional cost to the Owner.

All disturbed areas resulting from installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.03 – Valve and Appurtenance Installation Requirements
Section 9.04 – Large Diameter Gate Valve Installation Requirements
Section 9.05 – Valve Box and Access Structure Requirements
Section 9.06 – Thrust Restraint and Structural Support Requirements
Section 9.07 – Testing, Disinfection, and Operational Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe, Valves, and Appurtenances
Item 504 – Valves (Large Diameter Applications)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, valve installation, fittings, adapters, restrained joint systems, valve box or vault installation, adjustment to grade, testing,

operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 16-inch gate valve with valve box assembly shall be subsidiary to this bid item. No separate payment shall be made for vaults, fittings, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

35 & 83. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY (EA)

Furnish and Install Fire Hydrant Assembly (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of a fully operational fire hydrant assembly, complete in place, as shown in the Plans or as directed by the Engineer. This item shall include the fire hydrant, hydrant valve, valve box or valve access, fittings, bends, tees, restrained joint piping, thrust restraint system, extension components (if required), and all appurtenant materials necessary to provide a complete and operational hydrant installation connected to the water distribution system.

This item shall include excavation, removal and disposal of unsuitable material, bedding preparation, alignment, and installation of hydrant branch piping from the water main to the hydrant location. The hydrant assembly shall be installed plumb and oriented as directed by the Engineer to ensure proper nozzle facing toward roadway access and emergency vehicle approach. The hydrant shall be furnished with a breakaway flange or traffic-safe design, and shall meet all applicable AWWA standards and local fire protection requirements.

The hydrant valve shall be installed on the branch line and shall include a valve box or access structure set to finished grade. All fittings, bends, and tees shall be properly restrained to resist thrust forces. The hydrant assembly shall be painted with approved safety colors and shall include caps, chains, operating nut, drain valve, and all standard accessories required for full operational readiness.

The Contractor shall coordinate installation with the Owner, fire authority, and utility operator to ensure proper spacing, flow capacity, and system compatibility. Upon completion, the hydrant assembly shall be tested under pressure, flushed, and verified for proper operation and flow performance as part of the water system testing and disinfection process.

All disturbed areas resulting from hydrant installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.08 – Fire Hydrant Installation Requirements
Section 9.09 – Hydrant Branch Piping and Valve Requirements
Section 9.10 – Thrust Restraint and Fitting Requirements
Section 9.11 – Hydrant Location, Spacing, and Orientation Requirements
Section 9.12 – Testing, Flushing, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe, Fittings, and Appurtenances
Item 504 – Valves and Hydrant Assemblies
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Barricades
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, hydrant assembly, hydrant valve, fittings, bends, tees, restrained joint piping, thrust restraint systems, valve box or access, installation, alignment, testing, flushing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of fire hydrant assembly shall be subsidiary to this bid item. No separate payment shall be made for hydrant extensions, fittings, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

36 & 84. FURNISH AND INSTALL 6" DIA FIRE HYDRANT LEAD PIPE (LF)

Furnish and Install 6” Diameter Fire Hydrant Lead Pipe (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 6-inch fire hydrant lead pipeline connecting the proposed water main to the fire hydrant assembly, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding, pipe installation, jointing, alignment, and backfilling with proper compaction in accordance with specification requirements. The fire hydrant lead

pipe shall be installed with proper grade and alignment to ensure efficient hydraulic flow from the water main to the hydrant assembly without obstruction or restriction.

The Contractor shall furnish and install all necessary fittings, bends, tees, adapters, and restrained joint systems required for connection to the water main and hydrant assembly. All joints shall be watertight and compatible with the specified pipe material. Thrust restraint systems shall be installed at all fittings and direction changes to prevent movement under operating pressure conditions.

The hydrant lead pipe shall be connected to the hydrant assembly and isolation valve in accordance with manufacturer and utility requirements. All connections shall be properly restrained and sealed to ensure long-term durability and leak-free operation. The Contractor shall coordinate installation with hydrant placement and water main construction to ensure proper sequencing and alignment.

Upon completion, the hydrant lead pipe shall be tested as part of the overall water system testing, including hydrostatic pressure testing and flushing. Any leaks, misalignments, or deficiencies shall be corrected by the Contractor at no additional cost to the Owner.

All disturbed areas resulting from installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.08 – Fire Hydrant Lead Pipe Installation Requirements
Section 9.09 – Hydrant Branch Connection Requirements
Section 9.10 – Thrust Restraint and Joint Restraining Requirements
Section 9.11 – Trenching, Bedding, and Backfill Requirements
Section 9.12 – Testing and System Integration Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Fittings
Item 504 – Fire Hydrant Assemblies and Appurtenances
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic

Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, restrained joint systems, installation, connection to water main and hydrant assembly, testing, flushing, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 6-inch fire hydrant lead pipe shall be subsidiary to this bid item. No separate payment shall be made for fittings, thrust restraint systems, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

37 & 101. REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY (EA)

Remove and Replace Fire Hydrant Assembly (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, disposal (or salvage as directed), furnishing, installation, reconnection, testing, and acceptance of a new fire hydrant assembly in the same or relocated position, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, exposure of existing hydrant lead piping and isolation valve, careful disconnection of the existing hydrant assembly, and removal of all hydrant components including barrel, bonnet, operating nut, nozzles, caps, chains, extension sections, and traffic breakaway components. The Contractor shall protect existing water distribution facilities during removal and maintain system integrity at all times.

The Contractor shall furnish and install a new fire hydrant assembly meeting all applicable AWWA and local utility standards, including hydrant body, operating mechanism, breakaway flange, nozzle configuration, caps, chains, and accessories. The hydrant shall be installed plumb, properly oriented toward roadway access, and set to correct finished grade.

This item shall include reconnection to the existing or newly constructed hydrant lead pipe and isolation valve, including all necessary fittings, bends, adapters, restrained joint piping, and thrust restraint systems required to ensure a watertight and structurally sound installation. Any required adjustments to align with existing water system infrastructure shall be included.

The Contractor shall test the hydrant assembly as part of the water system testing process, including pressure testing, flushing, and operational verification. The hydrant shall be fully functional and verified for flow performance prior to acceptance.

All disturbed areas resulting from removal and replacement activities, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.08 – Fire Hydrant Installation and Replacement Requirements
Section 9.09 – Hydrant Removal and Replacement Procedures
Section 9.10 – Hydrant Lead Connection and Valve Requirements
Section 9.11 – Thrust Restraint and Fitting Requirements
Section 9.12 – Testing, Flushing, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe, Fittings, and Appurtenances
Item 504 – Fire Hydrant Assemblies
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, removal, disposal or salvage, hydrant assembly, fittings, adapters, restrained joint piping, thrust restraint systems, reconnection, installation, testing, flushing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete removal and replacement of fire hydrant assembly shall be subsidiary to this bid item. No separate payment shall be made for fittings, adjustments, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

38. FURNISH AND INSTALL 8" WATER LINE WITH CONCRETE ENCASEMENT (LF)

Furnish and Install 8” Water Line with Concrete Encasement (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of an 8-inch potable water pipeline encased in concrete, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe installation, alignment, jointing, and placement of concrete encasement around the water line. The Contractor shall ensure proper grade control and alignment of the water line prior to encasement placement to prevent movement, flotation, or misalignment during concrete operations.

The concrete encasement shall be furnished and placed in accordance with the Plans and specifications, fully surrounding the pipe to the required dimensions and limits. The encasement shall be constructed using approved concrete mix design and shall be placed in a manner that prevents voids, segregation, or displacement of the water line. The Contractor shall ensure that the pipe remains properly supported and restrained during concrete placement.

All fittings, bends, tees, and appurtenances within the encasement zone shall be fully restrained and properly secured prior to encasement placement. The Contractor shall coordinate all installation sequencing to ensure continuous alignment and watertight integrity of the water system outside and within encasement sections.

The Contractor shall protect all adjacent utilities, structures, and improvements during excavation and concrete placement operations. Any damage resulting from encasement operations shall be repaired by the Contractor at no additional cost to the Owner.

After completion, the water line shall be tested in accordance with applicable hydrostatic pressure testing, flushing, and disinfection requirements prior to final acceptance. Any leaks or deficiencies shall be corrected by the Contractor.

All disturbed areas resulting from installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Line Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements
Section 9.03 – Concrete Encasement Requirements for Utilities
Section 9.04 – Thrust Restraint and Pipe Stabilization Requirements
Section 9.05 – Testing, Disinfection, and Acceptance Requirements
Section 9.06 – Utility Protection and Coordination Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Fittings
Item 420 – Concrete Structures (encasement application)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe installation, concrete encasement, jointing, restraint, protection of utilities, testing, pressure testing, flushing, disinfection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch water line with concrete encasement shall be subsidiary to this bid item. No separate payment shall be made for concrete encasement, restraint systems, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

39 & 98. REMOVE AND DISPOSAL OF STORM SEWER INLETS (ALL SIZES) (EA)

Remove and Disposal of Storm Sewer Inlets (All Sizes) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, dismantling, excavation, loading, hauling, and lawful disposal of existing storm sewer inlet structures of all types and sizes, including but not limited to curb inlets, drop inlets, junction inlets, median inlets, field inlets, and associated appurtenances, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation to expose the full structure, removal of inlet grates, frames, throat sections, concrete box sections, wing walls, aprons, and any connected storm drain piping. The Contractor shall exercise care to prevent damage to adjacent pavement, curb, sidewalk, utilities, and other improvements during removal operations.

Where storm sewer inlets are connected to active drainage systems, the Contractor shall maintain positive drainage and prevent flooding, ponding, or sediment discharge during removal operations. Temporary bypass measures, plugs, diversion systems, or other approved methods shall be provided as necessary to maintain system functionality and protect downstream facilities.

All removed concrete, metal, piping, and appurtenant materials shall be properly disposed of at approved disposal sites in accordance with applicable environmental regulations. Salvage of components may be required where directed by the Engineer.

After removal, all voids shall be backfilled with suitable material placed in controlled lifts and compacted to meet specification requirements. Where required, flowable fill or controlled low-strength material (CLSM) shall be used to prevent future settlement or void formation.

All disturbed areas, including pavement, curb, sidewalk, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Sewer Structure Removal Requirements
Section 10.02 – Inlet and Junction Structure Abandonment Procedures
Section 10.03 – Excavation, Backfill, and Compaction Requirements
Section 10.04 – Drainage System Flow Maintenance Requirements
Section 10.05 – Restoration of Storm Drainage Facilities

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (removal of reinforced concrete components)
Item 460 – Storm Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (CLSM)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, removal, dismantling, hauling, disposal, backfilling, compaction, flowable fill (if required), maintenance of drainage flow, restoration of disturbed areas, and all incidental work required for complete removal and disposal of storm sewer inlets (all sizes) shall be subsidiary to this bid item. No separate payment shall be made for bypassing drainage, salvage operations, or restoration unless specifically identified as separate bid items in the Contract Documents.

40 & 86. FURNISH AND INSTALL 24" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 24” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 24-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall ensure proper trench stability and protection of adjacent utilities, structures, and improvements during all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting ASTM and applicable TxDOT standards, including rubber gasket joints to provide watertight connections. The pipe shall be installed to the lines and grades shown in the Plans with proper alignment to ensure hydraulic efficiency and structural integrity.

The Contractor shall provide all necessary fittings, bends, connectors, and appurtenances required to connect to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, or outfalls. All joints shall be inspected and tested as required to ensure compliance with leakage and alignment standards.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV (if required by Contract Documents), and shall correct any defects at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)

Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 24-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

41 & 87. FURNISH AND INSTALL 30" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 30” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 30-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, alignment, jointing, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall maintain trench stability at all times and shall protect adjacent utilities, structures, roadways, and improvements from damage during construction activities.

Pipe installation shall include furnishing and installing reinforced concrete pipe conforming to applicable ASTM and TxDOT standards, including rubber gasket joints to ensure watertight performance. The pipe shall be installed to the line and grade shown in the Plans, with proper alignment to ensure hydraulic efficiency, structural integrity, and long-term durability.

The Contractor shall furnish and install all necessary fittings, connectors, and appurtenances required to connect the pipe to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, and outfalls. All joints shall be

installed in accordance with manufacturer recommendations and inspected for proper fit and sealing.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV inspection if required by the Contract Documents, and shall correct any deficiencies at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill Requirements for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 30-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

42 & 89. FURNISH AND INSTALL 48" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 48” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 48-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe installation, alignment, jointing, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall provide trench stability measures as required and shall protect adjacent utilities, structures, roadways, and improvements throughout all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting applicable ASTM and TxDOT standards, including rubber gasket joints to ensure watertight performance and long-term durability. The pipe shall be installed to the line and grade shown in the Plans, maintaining proper alignment to ensure hydraulic efficiency and structural integrity for large-diameter storm sewer conveyance.

The Contractor shall furnish and install all necessary fittings, connectors, and appurtenances required to connect the pipe to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, and outfalls. All joints shall be installed in accordance with manufacturer requirements and shall be inspected to ensure proper seating and sealing.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV inspection if required by the Contract Documents. Any defects, misalignment, joint leakage, or structural deficiencies shall be corrected by the Contractor at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Large Diameter Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing, Inspection, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 48-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

43 & 90 & 91. FURNISH AND INSTALL TRENCH PROTECTION (RCP) (LF / LS)

Furnish and Install Trench Protection (RCP) shall include all labor, materials, equipment, tools, engineering, design (when required), installation, maintenance, adjustment, relocation, monitoring, and removal of all trench safety and excavation support systems necessary for the safe construction of reinforced concrete pipe (RCP) storm sewer systems, including all sizes and classes of RCP specified in the Contract Documents, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include furnishing and installing all required trench protection systems, including but not limited to trench boxes, trench shields, hydraulic shoring systems, aluminum or steel shoring, sheet piling, slide rail systems, or other engineered excavation support systems required to safely support trench walls during excavation, pipe installation, bedding placement, jointing, and backfilling operations for storm sewer construction.

The Contractor shall be solely responsible for determining the appropriate trench protection system based on site-specific conditions including soil type, groundwater levels, excavation depth, surcharge loads, adjacent utilities, roadway loads, and structural constraints associated with large diameter storm sewer installation (including RCP 24” through 48” and as shown in the Plans). All trench protection systems shall comply with

OSHA excavation safety requirements and all applicable federal, state, and local safety regulations.

Where required by excavation depth or soil conditions, the Contractor shall provide engineered trench protection designs prepared and sealed by a licensed Professional Engineer. Such designs shall include structural calculations, installation procedures, system layout, and compliance with applicable safety standards.

Trench protection systems shall be installed, adjusted, and maintained to ensure continuous protection of excavations during all phases of construction. The Contractor shall coordinate trench protection with dewatering operations, utility crossings, and confined workspace requirements typical of storm sewer installation.

Removal of trench protection systems shall only occur after backfill placement has reached sufficient stability to prevent trench collapse, settlement, or damage to installed pipe or adjacent improvements. Any damage caused by inadequate or improper trench protection shall be repaired by the Contractor at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.07 – Trenching and Excavation Safety Requirements
Section 10.08 – Excavation Support Systems for Storm Sewer Installation
Section 10.09 – Bedding, Backfill, and Structural Stability Requirements
Section 10.10 – Utility Protection and Coordination Requirements
Section 10.11 – Dewatering and Groundwater Control Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe Installation Requirements
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, engineering (if required), installation, maintenance, adjustment, relocation, monitoring, and removal of trench protection systems, including trench boxes, trench shields, shoring systems, sheet piling, slide rail systems, or other excavation support systems required for safe installation of reinforced concrete pipe storm sewer systems shall be subsidiary to this bid item. No separate payment shall be made for engineered shoring design, OSHA compliance measures, groundwater control, or excavation safety systems unless specifically identified as separate bid items in the Contract Documents.

44. FURNISH AND INSTALL 60° WYE (EA)

Furnish and Install 60° Wye (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, alignment, testing, and acceptance of a 60-degree wye fitting for storm sewer or sanitary sewer systems, as applicable, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the wye fitting at the specified line and grade. The Contractor shall ensure proper alignment and orientation of all inlet and outlet pipes to maintain hydraulic efficiency and structural integrity of the pipeline system.

The wye fitting shall be furnished in the material type specified in the Plans (such as reinforced concrete, PVC, or other approved material), and shall conform to applicable ASTM and TxDOT standards. All joints shall be watertight and installed in accordance with manufacturer requirements. Rubber gasket joints or approved sealing systems shall be used where required.

The Contractor shall furnish and install all necessary connectors, couplings, and appurtenances required to integrate the wye into the existing or proposed pipeline system. Proper bedding, haunching, and backfill shall be provided to ensure uniform support and prevent differential settlement or misalignment.

The Contractor shall coordinate installation with adjacent pipeline construction and structures to ensure proper sequencing and compatibility with inlets, manholes, junction boxes, or mainline piping. Any adjustments required in the field to accommodate existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sanitary Sewer Systems

Section 10.06 – Fittings and Appurtenances Installation Requirements
Section 10.07 – Pipeline Alignment and Connection Requirements
Section 10.08 – Bedding and Backfill Requirements for Fittings
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Structural Integrity and Support Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings (RCP systems)
Item 464 – Sanitary Sewer Systems (if applicable)
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, fitting installation, jointing, alignment, connection to pipeline systems, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 60-degree wye shall be subsidiary to this bid item. No separate payment shall be made for fittings, adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

45 & 92. FURNISH AND INSTALL 45° WYE (EA)

Furnish and Install 45° Wye (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, alignment, connection, testing, and acceptance of a 45-degree wye fitting for storm sewer or sanitary sewer systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the wye fitting at the required line and grade. The Contractor shall ensure accurate alignment of all inlet and outlet runs to maintain hydraulic efficiency, structural integrity, and proper integration with the pipeline system.

The wye fitting shall be furnished in the material type specified in the Plans (such as reinforced concrete, PVC, ductile iron, or other approved material) and shall conform to applicable ASTM and TxDOT standards. All joints shall be watertight and installed in accordance with manufacturer requirements using approved gasketed or sealed joint systems.

The Contractor shall furnish and install all necessary connectors, adapters, couplings, and appurtenances required to integrate the wye fitting into the existing or proposed pipeline system. Proper bedding, haunching, and backfill shall be provided to ensure uniform support and prevent settlement, deflection, or joint separation.

Installation shall be coordinated with adjacent pipeline construction, structures, and appurtenances to ensure proper sequencing and alignment with inlets, manholes, junction boxes, or mainline piping. Any field adjustments required due to existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sewer Systems

Section 10.06 – Fittings and Appurtenances Installation Requirements
Section 10.07 – Pipeline Connection and Alignment Requirements
Section 10.08 – Bedding, Haunching, and Backfill Requirements
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Structural Support and Load Transfer Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings (RCP systems)
Item 464 – Sanitary Sewer Systems (if applicable)
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, fitting installation, jointing, alignment, connection to pipeline systems, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 45-degree wye shall be subsidiary to this bid item. No separate payment shall be made for fittings, adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

46. FURNISH AND INSTALL 22.5° BEND (EA)

Furnish and Install 22.5° Bend (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, alignment, connection, testing, and acceptance of a 22.5-degree bend fitting for storm sewer or sanitary sewer pipeline systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the bend at the required line and grade. The Contractor shall ensure precise alignment of the pipeline system through the bend to maintain hydraulic performance, structural integrity, and smooth transition between pipeline segments.

The bend fitting shall be furnished in the material specified in the Plans (such as reinforced concrete, ductile iron, PVC, or other approved material) and shall conform to applicable ASTM and TxDOT standards. All joints shall be watertight and installed in accordance with manufacturer requirements using approved gasketed, restrained, or sealed joint systems as applicable.

The Contractor shall furnish and install all necessary connectors, couplings, adapters, and appurtenances required to integrate the bend into the pipeline system. Thrust restraint systems, including restrained joints or thrust blocks, shall be provided at all bends to resist hydraulic forces and prevent movement or separation.

Proper bedding, haunching, and backfill shall be provided to ensure uniform support around the bend and adjacent pipe sections to prevent settlement, joint deflection, or structural failure. Installation shall be coordinated with adjacent pipeline construction, structures, and appurtenances to ensure proper sequencing and alignment.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sewer Systems

Section 10.06 – Fittings Installation Requirements
Section 10.07 – Pipeline Alignment and Geometry Requirements
Section 10.08 – Bedding, Haunching, and Backfill Requirements
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Thrust Restraint and Structural Stability Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings
Item 464 – Sanitary Sewer Systems (if applicable)
Item 499 – Utility Protection and Accommodation
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, fitting installation, jointing, alignment, thrust restraint systems, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 22.5-degree bend shall be subsidiary to this bid item. No separate payment shall be made for fittings, thrust restraint, or restoration unless specifically identified as separate bid items in the Contract Documents.

47. FURNISH AND INSTALL “Y” INLET (EA)

Furnish and Install “Y” Inlet (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, alignment, testing, and acceptance of a “Y”-type storm sewer inlet structure, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of the inlet structure at the required line, grade, and orientation. The “Y” inlet shall include all required reinforced concrete structures, junction components, inlet throat sections, transition pieces, and appurtenances necessary to provide a fully functional drainage collection point integrated with the storm sewer system.

The Contractor shall furnish and install all inlet components in accordance with the Plans and applicable standards, including precast or cast-in-place reinforced concrete structures, frames, and grates (or covers as specified). All joints shall be watertight and properly sealed to prevent infiltration, exfiltration, and structural deterioration.

The inlet shall be constructed to ensure proper hydraulic capture and conveyance of stormwater flows into the connected storm sewer system. The Contractor shall verify that inlet elevations, slope transitions, and pipe connections are properly aligned to prevent standing water, backflow, or hydraulic inefficiencies.

The Contractor shall furnish and install all necessary connecting storm sewer piping, fittings, bends, and appurtenances required to integrate the inlet with the adjacent storm drainage system. Proper bedding, haunching, and backfill shall be provided to ensure uniform support and prevent settlement or structural movement.

All disturbed areas, including pavement, curb, sidewalk, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Sewer Inlet Installation Requirements
Section 10.02 – Junction and Special Structure Requirements
Section 10.03 – Excavation, Bedding, and Backfill Requirements
Section 10.04 – Hydraulic Design and Inlet Performance Requirements
Section 10.05 – Structure Connection and Watertightness Requirements

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TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, inlet structure, concrete components, grates or covers, fittings, connecting pipes, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of “Y” inlet shall be subsidiary to this bid item. No separate payment shall be made for connecting pipes, fittings, or restoration unless specifically identified as separate bid items in the Contract Documents.

48 & 94. FURNISH AND INSTALL STORM DRAIN MANHOLE 5’ DIA (EA)

Furnish and Install Storm Drain Manhole 5’ Diameter (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 5-foot diameter reinforced concrete storm sewer manhole, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete manhole structure consisting of base section, barrel sections, cone or flat slab top (as applicable), grade rings, frame, and cover. The manhole shall be constructed in accordance with applicable standards to ensure structural integrity, watertight performance, and long-term durability.

The Contractor shall furnish and install all necessary inlet and outlet pipe connections, including flexible watertight boots, seals, gaskets, or other approved connection methods. All pipe penetrations shall be constructed to prevent infiltration and exfiltration and shall maintain alignment with connecting storm sewer pipelines.

Manhole channels and inverts shall be constructed or formed to provide smooth hydraulic flow transitions through the structure, minimizing turbulence and sediment accumulation. Benching shall be shaped and finished in accordance with applicable standards and as shown in the Plans.

The Contractor shall install frame and cover assemblies rated for the appropriate traffic loading condition, set to finished grade, and properly aligned with surrounding pavement, sidewalk, or ground surface. All joints between manhole sections shall be sealed using approved gaskets or jointing materials to ensure watertight construction.

The Contractor shall coordinate installation with adjacent storm sewer piping, inlets, and appurtenances to ensure proper elevation, alignment, and hydraulic continuity. Any field adjustments required to accommodate existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Manhole Installation Requirements
Section 10.02 – Precast and Cast-in-Place Structure Requirements
Section 10.03 – Pipe Connection and Watertight Seal Requirements
Section 10.04 – Manhole Channel and Invert Construction Requirements
Section 10.05 – Frame and Cover Installation Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Manholes and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, manhole structure, base, barrel sections, cone or slab top, frame and cover, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 5-foot diameter storm drain manhole shall be subsidiary to this bid item. No separate payment shall be made for watertight boots, joints, or restoration unless specifically identified as separate bid items in the Contract Documents.

49. FURNISH AND INSTALL 5’ X 5’ JUNCTION BOX (EA)

Furnish and Install 5’ X5 ‘ junction box (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 5-foot by f-foot reinforced concrete junction box, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete junction box. The junction box shall be constructed in accordance with applicable standards to ensure structural integrity, watertight performance, and long-term durability.

The Contractor shall furnish and install all necessary inlet and outlet pipe connections, including flexible watertight boots, seals, gaskets, or other approved connection methods. All pipe penetrations shall be constructed to prevent infiltration and exfiltration and shall maintain alignment with connecting storm sewer pipelines.

All inverts shall be constructed or formed to provide smooth hydraulic flow transitions through the structure, minimizing turbulence and sediment accumulation. Benching shall be shaped and finished in accordance with applicable standards and as shown in the Plans.

The Contractor shall install frame and cover assemblies rated for the appropriate traffic loading condition, set to finished grade, and properly aligned with surrounding pavement, sidewalk, or ground surface. All joints between manhole sections shall be sealed using approved gaskets or jointing materials to ensure watertight construction.

The Contractor shall coordinate installation with adjacent storm sewer piping, inlets, and appurtenances to ensure proper elevation, alignment, and hydraulic continuity. Any field adjustments required to accommodate existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Manhole Installation Requirements
Section 10.02 – Precast and Cast-in-Place Structure Requirements
Section 10.03 – Pipe Connection and Watertight Seal Requirements
Section 10.04 – Manhole Channel and Invert Construction Requirements
Section 10.05 – Frame and Cover Installation Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures

Item 460 – Storm Sewer Manholes and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, junction box structure, frame and cover, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 5-foot by 5-foot junction box shall be subsidiary to this bid item. No separate payment shall be made for watertight boots, joints, or restoration unless specifically identified as separate bid items in the Contract Documents.

50 & 95. FURNISH AND INSTALL 10' STANDARD INLET (EA)

Furnish and Install 10' Standard Inlet (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 10-foot standard reinforced concrete storm sewer inlet, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete inlet structure including base slab, inlet barrel sections, wingwalls (if applicable), throat section, top slab or frame and grate assembly, grade adjustment rings, and all appurtenant components required for a fully functional stormwater intake structure.

The inlet shall be constructed to capture and convey stormwater efficiently into the connected storm sewer system. The Contractor shall ensure proper hydraulic design alignment, inlet elevation, and connection to adjacent storm sewer piping to prevent bypass flows, ponding, or hydraulic inefficiencies.

The Contractor shall furnish and install all required pipe connections to the inlet structure using approved flexible watertight boots, gaskets, or sealing systems to ensure infiltration and exfiltration control. All structural joints between inlet components shall be sealed with approved gasket materials to provide watertight construction.

The inlet shall include a traffic-rated frame and grate assembly or cover as specified in the Plans. The frame and grate shall be installed flush with finished grade and properly aligned with surrounding pavement, curb, sidewalk, or ground surface conditions to ensure safe vehicular and pedestrian passage.

The Contractor shall coordinate installation with all connecting storm sewer pipelines, manholes, junction boxes, and other appurtenances to ensure proper hydraulic performance and structural integration. Any field adjustments required due to existing utilities or site conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Drain Inlet Installation Requirements
Section 10.02 – Standard Inlet Structural Requirements
Section 10.03 – Hydraulic Capacity and Flow Capture Requirements
Section 10.04 – Pipe Connection and Watertight Sealing Requirements
Section 10.05 – Frame, Grate, and Surface Adjustment Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Inlets and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, inlet structure, base slab, walls, throat sections, frame and grate, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 10-foot standard inlet shall be subsidiary to this bid item. No separate payment shall be made for watertight connectors,

structural adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

51 & 96. FURNISH AND INSTALL 14' STANDARD INLET (EA)

Furnish and Install 14' Standard Inlet (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 14-foot standard reinforced concrete storm sewer inlet structure, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete inlet structure including base slab, wall sections, inlet throat, wingwalls (if applicable), top slab or frame and grate assembly, grade adjustment rings, and all appurtenant components required to provide a fully functional stormwater collection and conveyance structure.

The inlet shall be constructed to ensure efficient capture and conveyance of stormwater runoff into the storm sewer system. The Contractor shall ensure proper hydraulic alignment, inlet elevations, and connection to adjacent storm sewer pipelines to prevent bypass flow, standing water, or hydraulic inefficiencies.

The Contractor shall furnish and install all required pipe connections to the inlet structure using approved flexible watertight boots, gaskets, or sealing systems to prevent infiltration and exfiltration. All structural joints between inlet components shall be sealed with approved gasket materials to ensure watertight integrity and long-term durability.

The inlet shall include a traffic-rated frame and grate assembly or cover as specified in the Plans. The frame and grate shall be installed flush with finished grade and properly aligned with surrounding pavement, curb, sidewalk, or ground surface to ensure safe and smooth vehicular and pedestrian travel.

The Contractor shall coordinate installation with all connecting storm sewer pipelines, junction structures, manholes, and appurtenances to ensure proper hydraulic function and structural integration. Any field adjustments required due to existing utilities or site conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Drain Inlet Installation Requirements
Section 10.02 – Large Standard Inlet Structural Requirements
Section 10.03 – Hydraulic Design and Capacity Requirements
Section 10.04 – Pipe Connection and Watertight Sealing Requirements
Section 10.05 – Frame, Grate, and Surface Adjustment Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Inlets and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, inlet structure, base slab, wall sections, throat sections, wingwalls (if applicable), frame and grate, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 14-foot standard inlet shall be subsidiary to this bid item. No separate payment shall be made for watertight connectors, structural adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

52. FURNISH AND INSTALL 2’ x 2’ CONCRETE BOX CULVERT (LATERAL) (LF)

Furnish and Install 2’ x 2’ Concrete Box Culvert (Lateral) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 2-foot by 2-foot reinforced concrete box culvert lateral drainage system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of precast or cast-in-place reinforced concrete box sections, including base slab (if applicable), sidewalls, top slab, jointing systems, and all appurtenant components required to provide a fully functional lateral drainage conveyance structure.

The box culvert shall be installed to the line and grade shown in the Plans with proper alignment to ensure hydraulic continuity and efficient stormwater conveyance. The Contractor shall ensure that all sections are properly seated on a prepared bedding layer and that uniform support is maintained along the full length of the structure to prevent differential settlement or structural distortion.

All joints between box culvert sections shall be sealed using approved gasketed or jointing systems to ensure watertight performance and prevent infiltration or exfiltration. Where required, joint wraps or external sealing systems shall be installed in accordance with manufacturer recommendations and project specifications.

The Contractor shall furnish and install all necessary connections to existing or proposed storm sewer systems, including inlets, manholes, junction structures, or outlet channels. Any field modifications required to accommodate existing utilities or site conditions shall be performed as directed by the Engineer.

The Contractor shall coordinate installation with adjacent drainage improvements to ensure proper hydraulic function, including inlet and outlet transitions, slope stabilization, and erosion control at discharge points.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Box Culvert Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill Requirements
Section 10.08 – Jointing and Watertight Sealing Requirements
Section 10.09 – Hydraulic Design and Flow Capacity Requirements
Section 10.10 – Structural Support and Installation Tolerances

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 462 – Concrete Box Culverts
Item 460 – Storm Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic

Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, box culvert sections, bedding, jointing, sealing systems, installation, alignment, connections, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 2' x 2' concrete box culvert lateral shall be subsidiary to this bid item. No separate payment shall be made for joint seals, structural adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

53. REMOVE EXISTING 10' x 8' REINFORCED BOX CULVERT (RBC) INCLUDING HEADWALLS (LS)

Remove Existing 10' x 8' Reinforced Box Culvert (RBC) Including Headwalls (LS) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, demolition, excavation, loading, hauling, and lawful disposal of the existing 10-foot by 8-foot reinforced concrete box culvert system, including all associated headwalls, wingwalls, end sections, aprons, cutoff walls, and appurtenant concrete structures, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation as required to fully expose the existing box culvert and headwall structures, including any associated wingwalls, slope protection, or structural appurtenances. The Contractor shall carefully demolish and remove reinforced concrete components in a controlled manner to prevent damage to adjacent roadways, utilities, drainage facilities, and other improvements.

Where the existing culvert is connected to active drainage systems, the Contractor shall maintain positive drainage throughout the removal operation. Temporary diversion channels, bypass systems, pumping, or other approved methods shall be provided as necessary to prevent flooding, erosion, or disruption of upstream or downstream drainage facilities.

The Contractor shall remove all reinforced concrete materials, reinforcing steel, and appurtenant structures from the site and properly dispose of them at approved disposal facilities in accordance with all applicable environmental and regulatory requirements. Salvage of materials shall only occur when directed by the Engineer.

Following removal, all resulting voids and excavated areas shall be backfilled with suitable material placed in controlled lifts and compacted to meet specification requirements.

Where directed, flowable fill or controlled low-strength material (CLSM) shall be used to prevent settlement and ensure long-term stability.

The Contractor shall restore all disturbed areas, including pavement, roadway subgrade, embankments, slopes, drainage channels, and appurtenant features, to match existing conditions or as shown in the Plans. Any erosion control or slope stabilization required as part of the restoration shall be provided under applicable bid items or as directed by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Structures Removal

Section 10.01 – Box Culvert Removal Requirements
Section 10.02 – Headwall and Wingwall Demolition Requirements
Section 10.03 – Excavation, Backfill, and Compaction Requirements
Section 10.04 – Drainage System Flow Maintenance Requirements
Section 10.05 – Structure Abandonment and Site Restoration Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 401 – Flowable Backfill (CLSM)
Item 420 – Concrete Structures (demolition/removal)
Item 462 – Concrete Box Culverts
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, demolition, excavation, removal, hauling, disposal, bypassing or diversion of flow, backfilling, compaction, flowable fill (if required), restoration of disturbed areas, slope stabilization, and all incidental work required for complete removal of the existing 10’ x 8’ reinforced box culvert including headwalls shall be subsidiary to this bid item. No separate payment shall be made for bypass systems, erosion control, or restoration unless specifically identified as separate bid items in the Contract Documents.

54. FURNISH AND INSTALL 5 – 11’ x 8’ MULTI-BOX CULVERT (MBC) (LF)

Furnish and Install 5 – 11’ x 8’ Multi-Box Culvert (MBC) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of a multi-cell reinforced concrete box culvert system consisting of five (5) parallel 11-foot by 8-foot barrels, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, embankment preparation, and installation of precast or cast-in-place reinforced concrete box sections including base slabs (if required), sidewalls, top slabs, intermediate walls, joint systems, and all appurtenant structural components necessary to construct a fully functional multi-cell drainage conveyance structure.

The multi-box culvert shall be installed to the line, grade, and alignment shown in the Plans, ensuring uniform bearing support across all cells to prevent differential settlement, distortion, or hydraulic imbalance between barrels. The Contractor shall provide proper bedding and foundation preparation in accordance with geotechnical recommendations and applicable specifications.

All joints between precast sections shall be sealed using approved gasketed or external sealing systems to ensure watertight performance and long-term durability. The Contractor shall ensure proper alignment and connection of all cells to maintain hydraulic continuity and structural integrity across the full culvert width.

The Contractor shall furnish and install all necessary inlet and outlet transitions, wingwalls, headwalls (if applicable), cutoff walls, aprons, and erosion protection measures as shown in the Plans. Proper integration with upstream and downstream drainage systems shall be maintained at all times.

The Contractor shall coordinate installation sequencing to ensure safe construction under traffic control requirements, utility constraints, and site access limitations. All disturbed areas, including embankments, pavement, slopes, drainage channels, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Major Structures

Section 10.06 – Multi-Cell Box Culvert Installation Requirements
Section 10.07 – Large Structure Foundation and Bedding Requirements
Section 10.08 – Jointing and Watertight Seal Requirements

Section 10.09 – Hydraulic Capacity and Multi-Cell Flow Distribution Requirements
Section 10.10 – Structural Alignment and Load Distribution Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 462 – Concrete Box Culverts (Multi-Cell Systems)
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 420 – Concrete Structures
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, precast or cast-in-place box culvert units, jointing systems, installation, alignment, inlet and outlet transitions, wingwalls, headwalls, erosion control, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 5 – 11' x 8' multi-box culvert system shall be subsidiary to this bid item. No separate payment shall be made for structural transitions, erosion protection, or restoration unless specifically identified as separate bid items in the Contract Documents.

55. FURNISH AND INSTALL STRAIGHT WINGWALLS (EA)

Furnish and Install Straight Wingwalls (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, alignment, and acceptance of straight reinforced concrete wingwalls associated with storm drainage structures, box culverts, multi-box culverts, or other hydraulic conveyance systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and construction of reinforced concrete wingwall structures including footing, stem wall, return walls (if applicable), coping, and all reinforcement, formwork, and appurtenant structural components necessary to provide a stable and hydraulically efficient inlet or outlet transition structure.

The wingwalls shall be constructed to the lines, grades, elevations, and geometry shown in the Plans to properly retain embankment material and direct stormwater flow into or out of the associated culvert or drainage structure. The Contractor shall ensure proper alignment

with the connected box culvert or storm sewer system to maintain hydraulic efficiency and prevent turbulence, erosion, or flow separation.

All reinforcing steel, concrete, formwork, and construction methods shall conform to applicable TxDOT and industry standards for reinforced concrete structures. All construction joints shall be properly prepared and sealed as required to ensure durability and structural integrity. The Contractor shall provide proper curing methods to achieve design strength and durability requirements.

The Contractor shall furnish and install all necessary erosion control measures at inlet and outlet locations, including riprap, concrete slope paving, or other energy dissipation systems as shown in the Plans or directed by the Engineer. Wingwall construction shall be coordinated with embankment placement and roadway construction to ensure proper integration with surrounding grades.

All disturbed areas, including slopes, embankments, pavement, drainage channels, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Structures

Section 10.11 – Wingwall Design and Construction Requirements
Section 10.12 – Culvert Headwall and Wingwall Integration Requirements
Section 10.13 – Reinforced Concrete Structural Construction Requirements
Section 10.14 – Excavation, Backfill, and Foundation Support Requirements
Section 10.15 – Hydraulic Transition and Erosion Control Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 462 – Box Culverts and Wingwalls
Item 440 – Reinforcing Steel
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 506 – Riprap and Slope Protection (if applicable)
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, formwork, reinforcing steel, concrete, construction joints, curing, installation, backfilling, compaction, erosion protection, slope stabilization, restoration of disturbed areas, and all incidental work required for complete installation of straight wingwalls shall be subsidiary to this bid item. No separate payment shall be made for erosion control, slope protection, or restoration unless specifically identified as separate bid items in the Contract Documents.

56. FURNISH AND INSTALL PEDESTRIAN RAIL – TxDOT PR11 (ON TOP OF WINGWALLS) (LF)

Furnish and Install Pedestrian Rail – TxDOT PR11 (On Top of Wingwalls) (LF) shall include all labor, materials, equipment, tools, fabrication, installation, anchorage, finishing, and incidentals necessary for the complete furnishing and installation of TxDOT standard PR11 pedestrian railing system mounted on top of reinforced concrete wingwalls, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include fabrication of steel railing components in accordance with TxDOT standard details for PR11 pedestrian railing, including posts, rails, pickets (if applicable), connection plates, anchor bolts, embed plates, weldments, and all hardware required for a complete and functional safety barrier system. All steel shall be fabricated, welded, and finished in accordance with applicable TxDOT and ASTM structural steel requirements.

The Contractor shall install railing posts securely anchored to the top of wingwall concrete using approved embedded anchor systems, drilled and epoxy-set anchors, or cast-in-place embed plates as shown in the Plans. All anchorage systems shall be designed and installed to resist required lateral and impact loads in accordance with TxDOT safety standards.

All welding shall be performed by certified welders and shall meet applicable structural welding codes. All welds shall be cleaned, inspected, and coated as required. The railing system shall be galvanized or otherwise corrosion-protected in accordance with TxDOT specifications to ensure long-term durability in exposed conditions.

The pedestrian railing shall be installed true to line, grade, and alignment along the top of wingwalls, ensuring continuous protection for pedestrian safety and proper integration with adjacent roadway and drainage structures. Any field adjustments required for fit-up or alignment shall be performed as directed by the Engineer.

All disturbed areas associated with railing installation, including concrete surfaces, wingwall tops, and adjacent slopes or pavement, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Structures / Safety Appurtenances

Section 10.16 – Pedestrian Railing Installation Requirements
Section 10.17 – Structural Steel Fabrication and Erection Requirements
Section 10.18 – Anchorage and Embedded Connection Requirements
Section 10.19 – Corrosion Protection and Coating Requirements
Section 10.20 – Safety Barrier and Pedestrian Protection Requirements

TXDOT REFERENCES

Item 445 – Structural and Metal Fabrication
Item 446 – Structural Steel and Railings (PR11 Standard Details)
Item 448 – Structural Bolting
Item 449 – Structural Welding
Item 440 – Reinforcing Steel (for embedment coordination)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 110 – Excavation (if applicable for anchorage installation)
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, fabrication, welding, galvanizing, anchorage systems, embed plates, installation, alignment, testing, corrosion protection, and all incidental work required for complete installation of TxDOT PR11 pedestrian railing on top of wingwalls shall be subsidiary to this bid item. No separate payment shall be made for anchors, coatings, welding, or adjustments unless specifically identified as separate bid items in the Contract Documents.

57. FURNISH AND INSTALL COMBINATION RAIL – TxDOT TYPE C221 (LF)

Furnish and Install Combination Rail – TxDOT Type C221 (LF) shall include all labor, materials, equipment, tools, fabrication, installation, anchorage, finishing, and incidentals necessary for the complete furnishing and installation of TxDOT standard Type C221 combination railing system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include fabrication and installation of steel combination railing components in accordance with TxDOT standard details for Type C221, including posts, rail elements, splice connections, transition sections, anchor bolts, base plates, weldments, and all

required hardware. The railing system shall provide a continuous vehicle and/or pedestrian safety barrier as required by the Plans.

The Contractor shall furnish and install all posts and rail segments with proper spacing, alignment, and elevation to ensure continuous structural performance and safety compliance. Posts shall be securely anchored to concrete structures, bridge elements, wingwalls, or foundations using approved embedded anchor systems, drilled epoxy anchors, or cast-in-place embed plates as detailed in the Plans.

All structural steel fabrication and welding shall conform to applicable TxDOT specifications and recognized structural welding codes. Welds shall be performed by certified welders and shall be cleaned, inspected, and protected with appropriate corrosion-resistant coatings or galvanization as specified.

The combination rail system shall be installed true to line and grade, ensuring smooth transitions between rail segments, including any required end treatments or connections to adjacent barrier systems. The Contractor shall coordinate installation with roadway geometry, drainage structures, and adjacent safety features to ensure proper continuity and crash performance.

Any field adjustments required for fit-up, alignment, or interface with existing or new structures shall be performed as directed by the Engineer. All damaged coatings shall be repaired in accordance with TxDOT requirements prior to final acceptance.

All disturbed areas resulting from installation, including concrete surfaces, foundations, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Structural Sa□ety Appurtenances

Section 10.16 – Highway and Combination Rail Installation Requirements
Section 10.17 – Structural Steel Fabrication and Erection Requirements
Section 10.18 – Anchorage Systems and Embedded Components Requirements
Section 10.19 – Corrosion Protection and Protective Coating Requirements
Section 10.20 – Traffic Safety Barrier Continuity Requirements

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TXDOT REFERENCES

Item 445 – Structural and Metal Fabrication
Item 446 – Railings and Protective Barriers (Type C221 Standard)

Item 448 – Structural Bolting
Item 449 – Structural Welding
Item 440 – Reinforcing Steel (for embedded components coordination)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 110 – Excavation (if required for foundations)
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, fabrication, welding, galvanizing or coating, anchorage systems, installation, alignment, transitions, hardware, testing coordination, and all incidental work required for complete installation of TxDOT Type C221 combination rail shall be subsidiary to this bid item. No separate payment shall be made for anchors, coatings, transitions, or adjustments unless specifically identified as separate bid items in the Contract Documents.

58 & 97. REMOVE TREE (EA)

Remove Tree (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, cutting, grubbing, hauling, and lawful disposal of existing trees of all sizes as identified in the Plans or as directed by the Engineer, including root systems, stumps, and surface debris associated with the tree removal operation.

This item shall include full removal of the tree trunk, limbs, branches, stump, and root ball to a depth sufficient to prevent regrowth or interference with proposed construction. The Contractor shall perform grubbing and root removal as necessary within the limits of construction to ensure that no organic material remains that could compromise subgrade stability, pavement performance, or structural foundations.

The Contractor shall exercise care to prevent damage to adjacent trees, landscaping, utilities, structures, pavements, sidewalks, drainage facilities, and other improvements during tree removal operations. Any damage caused by tree removal activities shall be repaired by the Contractor at no additional cost to the Owner.

All tree debris, including wood, branches, roots, and organic material, shall be properly loaded, hauled, and disposed of at approved disposal or recycling facilities in accordance with applicable local regulations. Burning of debris shall not be permitted unless specifically authorized.

Where required, stump grinding may be used in lieu of full root ball removal provided that all grinding material is removed or properly backfilled with suitable material and compacted to specification requirements.

The Contractor shall restore all disturbed areas resulting from tree removal operations, including grading, backfilling, compaction, and placement of topsoil and vegetation as required to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation / Clearing & Grubbing

Section 2.01 – Tree Removal and Clearing Requirements
Section 2.02 – Stump and Root Removal Requirements
Section 2.03 – Disposal of Vegetative Debris
Section 2.04 – Protection of Existing Improvements
Section 2.05 – Site Restoration and Grading Requirements

TXDOT REFERENCES

Item 100 – Preparing Right of Way
Item 110 – Excavation
Item 161 – Clearing and Grubbing
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 506 – Vegetative Restoration (as applicable)
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, cutting, grubbing, stump removal, root removal, hauling, disposal, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete removal of tree shall be subsidiary to this bid item. No separate payment shall be made for stump grinding, debris disposal, or site restoration unless specifically identified as separate bid items in the Contract Documents.

59. TREE TRIMMING & BRUSH REMOVAL (CHANNEL) (LS)

Tree Trimming & Brush Removal (Channel) (LS) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete trimming, cutting, clearing, grubbing, hauling, and lawful disposal of trees, brush, understory vegetation, vines,

saplings, and overgrowth within and adjacent to existing or proposed drainage channels, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include selective trimming of overhanging limbs, removal of obstructive vegetation within channel flow paths, clearing of brush and woody debris from channel banks and channel bottoms, and removal of any vegetation that impedes hydraulic capacity, contributes to debris blockage, or interferes with construction activities. All work shall be performed in a manner that preserves required trees or vegetation specifically designated to remain in place.

The Contractor shall remove all cut vegetation, brush, and organic debris from the channel area and properly haul and dispose of it at approved disposal or recycling facilities in accordance with applicable environmental regulations. No debris shall be left within the channel, adjacent slopes, or right-of-way unless otherwise directed by the Engineer.

The Contractor shall take care to prevent damage to adjacent trees, erosion control measures, utilities, structures, and improvements during trimming and removal operations. Any damage caused by construction activities shall be repaired by the Contractor at no additional cost to the Owner.

Where required, stump removal or grinding shall be performed to prevent regrowth and ensure unobstructed channel flow. The Contractor shall ensure that all root systems and residual organic material are addressed as necessary to maintain channel stability and hydraulic performance.

All disturbed channel areas shall be restored to original or improved conditions, including regrading of slopes, stabilization of soil surfaces, and placement of erosion control measures such as seed, mulch, erosion control blankets, or other BMPs as shown in the Plans or directed by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation / Channel Clearing

Section 2.01 – Channel Clearing and Grubbing Requirements
Section 2.02 – Vegetation Removal in Drainage Channels
Section 2.03 – Brush and Debris Disposal Requirements
Section 2.04 – Erosion Control and Channel Protection Requirements
Section 2.05 – Restoration and Stabilization of Disturbed Channel Areas

TXDOT REFERENCES

Item 161 – Clearing and Grubbing
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 164 – Seeding for Erosion Control
Item 169 – Soil Retention Blanket
Item 168 – Vegetative Watering
Item 506 – Vegetative Restoration (as applicable)
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, trimming, cutting, brush removal, hauling, disposal, stump/root treatment (if required), channel clearing, erosion control protection, restoration of disturbed areas, and all incidental work required for complete channel vegetation clearing shall be subsidiary to this bid item. No separate payment shall be made for disposal, restoration, or BMP installation unless specifically identified as separate bid items in the Contract Documents.

60 & 100. REMOVE AND RELOCATE MAILBOXES (WITH PRIOR COORDINATION WITH POSTMASTER) (EA)

Remove and Relocate Mailboxes (EA) shall include all labor, materials, equipment, tools, coordination, and incidentals necessary for the complete removal, temporary handling, protection, relocation, and reinstallation of existing residential or commercial mailboxes and mailbox supports affected by construction activities, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include coordination with the United States Postal Service (USPS) Postmaster and affected property owners prior to any relocation work to ensure approved temporary or permanent mailbox locations are established in compliance with USPS requirements and service continuity standards. The Contractor shall be responsible for maintaining uninterrupted mail service throughout the duration of construction.

The Contractor shall carefully remove mailbox assemblies, including posts, support structures, mailboxes, concrete footings (if applicable), and associated hardware, and shall store, protect, or transport them as necessary to prevent damage. Any damaged mailbox components resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

Mailbox supports shall be reinstalled at the approved relocated location with proper alignment, height, and accessibility in accordance with USPS standards and ADA considerations where applicable. If new supports or foundations are required, they shall be furnished and installed as part of this item unless otherwise shown in the Plans.

The Contractor shall coordinate relocation timing to minimize disruption to postal delivery services and shall notify affected residents in advance of any temporary service changes as required. All relocated mailboxes shall be fully operational prior to removal of existing mailbox service points.

All disturbed areas resulting from mailbox removal and relocation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation / Miscellaneous Relocations

Section 2.01 – Utility and Appurtenance Relocation Requirements
Section 2.02 – Coordination with Third-Party Agencies (USPS, Utility Owners)
Section 2.03 – Protection of Existing Improvements
Section 2.04 – Restoration of Disturbed Areas
Section 2.05 – Traffic and Access Maintenance Requirements

TXDOT REFERENCES

Item 100 – Preparing Right of Way
Item 110 – Excavation
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, coordination with Postmaster/USPS, removal, temporary handling, storage, relocation, reinstallation, mailbox supports, foundations (if required), protection, restoration of disturbed areas, and all incidental work required for complete relocation of mailboxes shall be subsidiary to this bid item. No separate payment shall be made for coordination, temporary service arrangements, or replacement of damaged components unless specifically identified as separate bid items in the Contract Documents.

61 & 82. REMOVE WATERLINE (ALL SIZES) (LF)

Remove Waterline (All Sizes) (LF) shall include all labor, materials, equipment, tools, excavation, cutting, plugging, capping, abandonment coordination, removal, hauling, disposal, and incidentals necessary for the complete removal of existing water distribution pipelines of all diameters and materials encountered, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation to expose existing waterlines, including removal of pavement, curb, sidewalk, and other improvements as required. The Contractor shall carefully disconnect, cut, and remove pipe segments in a controlled manner to avoid damage to adjacent active utilities, structures, or infrastructure. All fittings, valves, tees, bends, and appurtenances associated with the existing waterline shall be removed where they fall within the limits of removal unless otherwise directed.

The Contractor shall coordinate all shutdowns, tie-ins, and isolations with the Owner and utility operator to ensure continuous service to remaining active water system users. Temporary bypass piping, water service connections, or other approved methods shall be provided as necessary to maintain uninterrupted water service during removal operations.

All removed pipe materials, fittings, and appurtenances shall be properly loaded, transported, and disposed of at approved disposal or recycling facilities in accordance with applicable regulations. Salvage of materials shall only be performed when specifically directed by the Engineer.

Open trenches resulting from waterline removal shall be backfilled with suitable material placed in controlled lifts and compacted to specification requirements. Where required, flowable fill or controlled low-strength material (CLSM) shall be used to ensure long-term stability and prevent settlement.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems / Utility Removal

Section 9.01 – Waterline Removal and Abandonment Requirements
Section 9.02 – Utility Coordination and Service Continuity Requirements
Section 9.03 – Excavation, Backfill, and Compaction Requirements
Section 9.04 – Disinfection, Isolation, and Shutdown Procedures
Section 9.05 – Restoration of Disturbed Areas Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, cutting, removal, hauling, disposal, utility coordination, shutdown coordination, bypass piping (if required), backfilling, compaction, CLSM (if required), restoration of disturbed areas, and all incidental work required for complete removal of waterline of all sizes shall be subsidiary to this bid item. No separate payment shall be made for service interruptions, bypass systems, or restoration unless specifically identified as separate bid items in the Contract Documents.

62. FURNISH AND INSTALL EMERGENCY ACCESS FLEXBASE INSTALLATION & MAINTENANCE (LS)

This item is for installation and maintenance of an emergency route to be use by emergency vehicles only during construction. Item includes 6” Flexible Base material and small sign assemblies shown in plan set. Furnish & Install 6” Flexible Base (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for furnishing, hauling, placing, shaping, moisture conditioning, and compacting Type A Grade 1–2 flexible base material. This item shall include subgrade preparation, proof rolling, placement in uniform lifts, compaction to required density, and finishing to line and grade.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Base Courses

Section 5.01 – Flexible Base Materials Requirements
Section 5.02 – Placement and Compaction Procedures
Section 5.03 – Subgrade Preparation and Proof Rolling

TXDOT REFERENCES

Item 247 – Flexible Base
Item 200 – Excavation and Backfill
Item 216 – Rolling and Compaction
Item 260 – Lime Treatment (if required)
Item 275 – Cement Treatment (if required)

PAYMENT CLAUSE

All hauling, placement, compaction, moisture conditioning, shaping, and incidental base construction work shall be subsidiary to this bid item.

63 & 104. FURNISH AND INSTALL 4" TOPSOIL (SY)

Furnish and Install Topsoil (SY) shall include all labor, materials, equipment, tools, excavation (if required from stockpile or offsite source), loading, hauling, placement, spreading, grading, conditioning, and incidentals necessary for the complete furnishing and placement of approved topsoil for landscape restoration, erosion control, and vegetative establishment, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include furnishing approved fertile, friable topsoil free of subsoil, clay lumps, rocks larger than specified size, roots, debris, weeds, and other deleterious materials. Topsoil shall be placed on all areas designated in the Plans, including slopes, embankments, swales, drainage channels, medians, and other disturbed areas requiring restoration prior to seeding or sodding.

The Contractor shall scarify and prepare the receiving surface prior to placement to ensure proper bonding between topsoil and underlying soil. Topsoil shall be evenly spread in uniform layers to the specified thickness and shall be graded to achieve smooth, finished surfaces conforming to final design grades.

The Contractor shall ensure that placed topsoil is protected from erosion, contamination, and compaction prior to establishment of vegetation. Where required, topsoil shall be lightly compacted or firmed to provide a stable planting medium without restricting root growth.

Topsoil placement shall be coordinated with erosion control measures, including sodding, seeding, mulch, or erosion control blankets, to ensure immediate stabilization of disturbed areas.

All disturbed areas, including roadway edges, slopes, drainage features, sidewalks, driveways, and adjacent properties, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Landscaping & Erosion Control

Section 3.01 – Topsoil Materials Requirements
Section 3.02 – Topsoil Placement and Spreading Requirements
Section 3.03 – Surface Preparation Requirements
Section 3.04 – Erosion Control Integration Requirements
Section 3.05 – Final Grading and Restoration Requirements

TXDOT REFERENCES

Item 162 – Furnishing and Placing Topsoil
Item 161 – Vegetative Establishment
Item 164 – Seeding for Erosion Control
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation (if required), hauling, placement, spreading, grading, surface preparation, protection, and all incidental work required for complete furnishing and installation of topsoil shall be subsidiary to this bid item. No separate payment shall be made for conditioning, rehandling, or restoration unless specifically identified as separate bid items in the Contract Documents.

64. FURNISH AND INSTALL SODDING (SY)

Furnish and Install Sodding (SY) shall include all labor, materials, equipment, tools, watering, maintenance, and incidentals necessary for the complete furnishing, installation, establishment, and acceptance of live sod for permanent erosion control and site stabilization, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include preparation of subgrade areas to receive sod, including final grading, removal of debris, rocks, construction materials, and unsuitable soil, and shaping of surfaces to provide smooth, uniform slopes and positive drainage. The Contractor shall furnish topsoil as required to achieve proper growing conditions where existing soil is unsuitable.

The sod shall consist of approved grass species suitable for local climate and soil conditions, free from weeds, pests, and disease, and shall be delivered and installed in a healthy, living condition. Sod shall be laid in a staggered brick-like pattern with tight joints and shall be properly rolled or tamped to ensure full soil contact and eliminate air pockets.

The Contractor shall be responsible for watering, fertilizing (if required), and maintaining the sod until it is fully established and accepted by the Engineer or Owner. Maintenance shall include mowing, replacement of dead or deteriorated sod, and protection from erosion, traffic, or construction damage.

The Contractor shall install sodding immediately following final grading and installation of erosion control measures to prevent soil erosion and sediment runoff. Temporary erosion control measures such as mulch, erosion control blankets, or silt control devices shall be maintained until permanent vegetation is established.

All disturbed areas, including embankments, slopes, drainage channels, sidewalks, driveways, and roadway edges, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Landscaping and Erosion Control

Section 3.01 – Sodding Materials and Installation Requirements
Section 3.02 – Topsoil Placement and Soil Preparation Requirements
Section 3.03 – Maintenance and Establishment of Vegetation
Section 3.04 – Erosion Control Integration Requirements
Section 3.05 – Final Acceptance of Vegetative Establishment

TXDOT REFERENCES

Item 161 – Vegetative Establishment
Item 162 – Furnishing and Placing Topsoil
Item 164 – Seeding for Erosion Control (as applicable for supplemental areas)
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls

Item 506 – Vegetative Restoration
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, sod furnishing and installation, topsoil placement, grading, watering, fertilization, maintenance, replacement of dead sod, erosion control measures, and all incidental work required for complete establishment of sodding shall be subsidiary to this bid item. No separate payment shall be made for maintenance, watering, or replacement unless specifically identified as separate bid items in the Contract Documents.

65. FULL DEPTH SAW CUT & REMOVE CONCRETE (8" THICK ROADWAY) (SY)

Full depth saw cut and Remove Concrete (8” Thick Roadway) (SY) shall include all labor, materials, equipment, tools, saw cutting, demolition, removal, loading, hauling, and lawful disposal of existing 8-inch thick reinforced or non-reinforced concrete pavement within roadway limits, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full-depth saw cutting along all limits of removal to produce clean, straight edges for adjacent pavement preservation. The Contractor shall remove concrete pavement in a controlled manner to prevent damage to adjacent pavement sections, curb, sidewalk, utilities, or subgrade improvements. Removal shall include pavement slabs, reinforcing steel (if present), joint materials, and any underlying debris or unsuitable materials associated with the pavement structure.

The Contractor shall dispose of all removed concrete and associated materials at approved disposal or recycling facilities in accordance with applicable environmental regulations. Recycling of concrete materials may be permitted if approved by the Engineer.

The Contractor shall protect existing subgrade and adjacent pavement during removal operations. Any damage to subgrade or adjacent facilities caused by improper removal methods shall be repaired by the Contractor at no additional cost to the Owner.

After removal, the exposed subgrade shall be prepared as required for subsequent construction activities, including proof rolling, moisture conditioning, compaction, or stabilization if directed by the Plans or Engineer.

All disturbed areas, including adjacent pavement, curb, sidewalk, utilities, and appurtenances, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Roadway Construction / Pavement Removal

Section 4.01 – Concrete Pavement Removal Requirements
Section 4.02 – Saw Cutting and Edge Preparation Requirements
Section 4.03 – Subgrade Protection and Restoration Requirements
Section 4.04 – Material Disposal and Recycling Requirements
Section 4.05 – Traffic Control During Pavement Removal

TXDOT REFERENCES

Item 360 – Concrete Pavement Removal
Item 110 – Excavation
Item 401 – Flowable Backfill (if required for voids)
Item 360 – Concrete Pavement (Removal and Replacement Standards)
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, saw cutting, demolition, removal, hauling, disposal, protection of adjacent facilities, subgrade preparation, and all incidental work required for complete removal of 8-inch thick roadway concrete pavement shall be subsidiary to this bid item. No separate payment shall be made for edge sawing, recycling, or subgrade restoration unless specifically identified as separate bid items in the Contract Documents.

66. REMOVE CONCRETE (DRIVEWAY APRON ≥ 5" THICK) (SY)

Remove Concrete (Driveway Apron ≥ 5” Thick) (SY) shall include all labor, materials, equipment, tools, saw cutting, demolition, removal, loading, hauling, and lawful disposal of existing concrete driveway apron pavement having a minimum thickness of 5 inches, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full-depth saw cutting along all limits of removal to provide clean, straight, and uniform edges for tie-in to remaining pavement or proposed reconstruction. The Contractor shall carefully remove concrete in a controlled manner to avoid damage to adjacent sidewalks, curb and gutter, roadway pavement, utilities, driveways, and other improvements.

Removal shall include concrete slab, reinforcing steel (if present), joint materials, edge thickening, and any base or subbase materials that are unsuitable for reuse as determined by the Engineer. The Contractor shall separate and properly dispose of all removed materials at approved disposal or recycling facilities in accordance with applicable regulations. Recycling of concrete materials may be permitted if approved by the Engineer.

The Contractor shall protect adjacent improvements and underlying subgrade during demolition operations. Any damage caused by improper removal methods shall be repaired by the Contractor at no additional cost to the Owner.

After removal, the exposed subgrade shall be shaped, proof rolled if required, and prepared for subsequent construction. Any soft, unstable, or unsuitable material shall be removed and replaced with approved fill or stabilized materials as directed by the Engineer.

All disturbed areas, including adjacent pavement, curb, sidewalk, landscaping, and driveway tie-ins, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Roadway Construction / Pavement Removal

Section 4.01 – Driveway and Pavement Removal Requirements
Section 4.02 – Saw Cutting and Edge Preparation Requirements
Section 4.03 – Subgrade Preparation and Restoration Requirements
Section 4.04 – Concrete Disposal and Recycling Requirements
Section 4.05 – Traffic Control and Access Maintenance Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement Removal
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 360 – Driveway and Pavement Reconstruction Standards
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, saw cutting, demolition, removal, hauling, disposal, protection of adjacent improvements, subgrade preparation, and all incidental work required for complete removal of concrete driveway apron (≥5” thick) shall be subsidiary to

this bid item. No separate payment shall be made for edge sawing, disposal, or subgrade correction unless specifically identified as separate bid items in the Contract Documents.

67. ROADWAY EXCAVATION (CY)

Roadway Excavation (CY) shall include all labor, materials, equipment, tools, excavation, loading, hauling, stockpiling, disposal, and incidentals necessary for the complete removal and/or excavation of existing soil, embankment material, unsuitable material, pavement structure (where applicable), and all other materials encountered within roadway construction limits, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation required for roadway subgrade preparation, widening, reconstruction, grade adjustments, drainage improvements, utility adjustments, and all related roadway construction activities. The Contractor shall perform excavation in a manner that maintains stability of adjacent facilities, utilities, structures, and traffic operations.

The Contractor shall remove unsuitable or unstable materials encountered during excavation as directed by the Engineer and replace such materials with approved suitable fill or embankment material. Over-excavation, if required due to unsuitable subgrade conditions, shall be performed as directed and shall be backfilled and compacted in accordance with specification requirements.

All excavation shall be performed to the lines, grades, and cross-sections shown in the Plans, or as directed by the Engineer in the field. The Contractor shall maintain proper drainage at all times and shall prevent ponding, erosion, or damage to completed or partially completed work.

Suitable excavated material may be used as embankment material if approved by the Engineer; otherwise, excess or unsuitable material shall be hauled to approved disposal sites in accordance with applicable regulations.

The Contractor shall coordinate roadway excavation operations with traffic control requirements to maintain safe passage for vehicles and pedestrians and shall protect all existing utilities and infrastructure during excavation activities.

All disturbed areas shall be restored as part of subsequent construction operations, including subgrade preparation, embankment placement, pavement construction, and erosion control measures.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Earthwork / Roadway Excavation

Section 2.01 – Roadway Excavation Requirements
Section 2.02 – Subgrade Preparation and Unsuitable Material Removal
Section 2.03 – Embankment and Fill Material Requirements
Section 2.04 – Drainage and Erosion Control During Excavation
Section 2.05 – Compaction and Density Requirements

TXDOT REFERENCES

Item 132 – Earth Excavation
Item 110 – Excavation
Item 150 – Embankment
Item 161 – Clearing and Grubbing (if applicable)
Item 401 – Flowable Backfill (if required)
Item 402 – Trench Excavation and Backfill (as applicable)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, loading, hauling, disposal, stockpiling, subgrade preparation, unsuitable material removal, embankment coordination, maintenance of drainage, traffic control coordination, and all incidental work required for complete roadway excavation shall be subsidiary to this bid item. No separate payment shall be made for over-excavation, disposal, or subgrade correction unless specifically identified as separate bid items in the Contract Documents.

68. FURNISH AND INSTALL CONCRETE PAVEMENT (CONTINUOUSLY REINFORCED CONCRETE PAVEMENT – CRCP) (10") (SY)

Furnish and Install Concrete Pavement (Continuously Reinforced Concrete Pavement – CRCP) (10”) (SY) shall include all labor, materials, equipment, tools, reinforcement, concrete production, placement, finishing, curing, jointing (as applicable), and incidentals necessary for the complete construction of 10-inch thick continuously reinforced concrete pavement, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include preparation and proof rolling of the subgrade, placement and compaction of subbase or flexible base (if required), setting of forms or slipform paving operations, placement of reinforcing steel (continuous longitudinal reinforcement),

transverse tie bars where required, and placement of high-quality concrete pavement meeting strength, durability, and workability requirements.

The Contractor shall ensure proper placement and support of reinforcing steel to maintain correct position within the slab during concrete placement. Continuous reinforcement shall be installed in accordance with approved shop drawings and specifications to ensure crack control and long-term pavement performance. All steel reinforcement shall be free of rust, oil, dirt, or other contaminants that may impair bond.

Concrete placement shall be performed using approved methods (slipform or fixed form) to achieve uniform thickness, smooth riding surface, proper grade, and surface texture. The Contractor shall provide proper finishing, texturing, and curing methods immediately after placement to ensure durability and prevent shrinkage cracking.

Construction joints, tie-ins, and transitions to existing pavement shall be constructed to provide smooth, durable connections without differential settlement or ride quality issues. Dowel bars, tie bars, and expansion materials shall be installed as required by the Plans.

The Contractor shall protect newly placed concrete pavement from traffic, weather, and construction activities until it has achieved required strength for opening. Any damaged or defective pavement shall be removed and replaced at no additional cost to the Owner.

All disturbed areas, including shoulders, subgrade, adjacent pavement, curb, sidewalk, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Construction

Section 5.01 – Portland Cement Concrete Pavement Requirements
Section 5.02 – CRCP Reinforcement and Placement Requirements
Section 5.03 – Subgrade and Base Preparation Requirements
Section 5.04 – Jointing, Tie Bars, and Structural Continuity Requirements
Section 5.05 – Curing, Finishing, and Surface Texture Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement
Item 360.1 – Description
Item 360.2 – Materials
Item 360.3 – Construction Methods (CRCP)
Item 360.4 – Reinforcement Requirements

Item 360.5 – Surface Texture and Curing Requirements
Item 360.6 – Measurement
Item 360.7 – Payment
Item 320 – Concrete Structures (as applicable)
Item 351 – Flexible Base (if required underlayment)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, reinforcing steel, concrete, placement, finishing, curing, joint treatment, subgrade preparation, base preparation, tie-ins, protection of work, and all incidental work required for complete installation of 10-inch continuously reinforced concrete pavement shall be subsidiary to this bid item. No separate payment shall be made for reinforcement, curing, dowels, tie bars, or surface finishing unless specifically identified as separate bid items in the Contract Documents.

85. FURNISH AND INSTALL 18" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 18” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 18-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall ensure proper trench stability and protection of adjacent utilities, structures, and improvements during all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting ASTM and applicable TxDOT standards, including rubber gasket joints to provide watertight connections. The pipe shall be installed to the lines and grades shown in the Plans with proper alignment to ensure hydraulic efficiency and structural integrity.

The Contractor shall provide all necessary fittings, bends, connectors, and appurtenances required to connect to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, or outfalls. All joints shall be inspected and tested as required to ensure compliance with leakage and alignment standards.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV (if required by Contract Documents), and shall correct any defects at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 18-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

88. FURNISH AND INSTALL 36" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 36” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing,

installation, testing, and acceptance of 36-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall ensure proper trench stability and protection of adjacent utilities, structures, and improvements during all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting ASTM and applicable TxDOT standards, including rubber gasket joints to provide watertight connections. The pipe shall be installed to the lines and grades shown in the Plans with proper alignment to ensure hydraulic efficiency and structural integrity.

The Contractor shall provide all necessary fittings, bends, connectors, and appurtenances required to connect to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, or outfalls. All joints shall be inspected and tested as required to ensure compliance with leakage and alignment standards.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV (if required by Contract Documents), and shall correct any defects at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)

Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 36-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

93. FURNISH AND INSTALL 45° BEND (EA)

Furnish and Install 45° Bend (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, alignment, connection, testing, and acceptance of a 45-degree bend fitting for storm sewer or sanitary sewer pipeline systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the bend at the required line and grade. The Contractor shall ensure accurate alignment and smooth transition of the pipeline through the bend to maintain hydraulic efficiency, structural integrity, and long-term performance of the system.

The bend shall be furnished in the material type specified in the Plans (such as reinforced concrete, PVC, ductile iron, or other approved material) and shall conform to applicable ASTM, TxDOT, and project specifications. All joints shall be watertight and installed using approved gasketed, restrained, or sealed joint systems as applicable.

The Contractor shall furnish and install all necessary connectors, couplings, adapters, and appurtenances required to integrate the bend into the pipeline system. Thrust restraint systems, including restrained joints and/or concrete thrust blocks where required, shall be provided at all bends to resist hydraulic forces and prevent movement or joint separation.

Proper bedding, haunching, and backfill shall be provided to ensure uniform support around the bend and adjacent pipe sections, preventing settlement, deflection, or

structural damage. Installation shall be coordinated with adjacent pipeline construction, structures, and appurtenances to ensure proper sequencing and alignment.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Utility and Drainage Systems

Section 10.06 – Pipeline Fittings and Appurtenances Installation Requirements
Section 10.07 – Pipeline Alignment and Geometry Requirements
Section 10.08 – Bedding, Haunching, and Backfill Requirements
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Thrust Restraint and Structural Stability Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings
Item 464 – Sanitary Sewer Systems (if applicable)
Item 499 – Utility Protection and Accommodation
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, fitting, installation, jointing, alignment, thrust restraint, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 45-degree bend shall be subsidiary to this bid item. No separate payment shall be made for fittings, thrust blocks, or restoration unless specifically identified as separate bid items in the Contract Documents.

99. REMOVE HEADWALL, PLUG 24" OUTFALL, REGRADE & SEED (PER GENERAL NOTE ITEM 9) (LS)

Remove Headwall, Plug 24” Outfall, Regrade & Seed (LS) shall include all labor, materials, equipment, tools, excavation, demolition, plugging, abandonment, grading, erosion

control, seeding, and incidentals necessary for the complete removal of existing headwall structures, permanent plugging of a 24-inch outfall pipe, restoration of channel/ground surface, and establishment of vegetative cover, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation and controlled demolition of the existing headwall structure, including wingwalls, cutoff walls, apron slabs, and any associated concrete or reinforced concrete appurtenances. The Contractor shall carefully remove all structural components to avoid damage to the existing outfall pipe, adjacent drainage features, utilities, or embankment areas.

The 24-inch outfall pipe shall be permanently plugged in accordance with approved engineering practices. Plugging shall be accomplished using approved watertight methods such as concrete bulkheads, masonry plugs, mechanical plugs, or other Engineer-approved systems. The plug shall be constructed to fully prevent infiltration, exfiltration, and hydraulic flow through the abandoned pipe.

Following removal and plugging operations, the Contractor shall backfill all voids with suitable material placed in controlled lifts and compacted to specification requirements. Where directed, flowable fill (CLSM) may be required to ensure long-term stability and prevent settlement or sinkhole formation.

The disturbed area shall then be regraded to match existing contours and provide positive drainage consistent with surrounding grades and channel flow patterns. All grading shall be performed to prevent erosion, ponding, or channel instability.

Final stabilization shall include seeding in accordance with General Note Item 9 and applicable erosion control requirements. This shall include seed bed preparation, furnishing and placing seed, mulch, fertilizer (if required), watering, and maintenance until vegetation is fully established and accepted by the Engineer.

All disturbed areas, including embankments, drainage channels, slopes, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Drainage System Abandonment & Restoration

Section 10.01 – Structure Removal and Abandonment Requirements
Section 10.02 – Pipe Plugging and Outfall Closure Requirements
Section 10.03 – Backfilling and Compaction Requirements
Section 10.04 – Grading and Restoration of Drainage Areas
Section 10.05 – Seeding and Vegetative Stabilization Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 401 – Flowable Backfill (CLSM)
Item 420 – Concrete Structures (demolition/removal)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 164 – Seeding for Erosion Control
Item 162 – Furnishing and Placing Topsoil (if required)
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket (if required)
Item 110 – Excavation
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, demolition, headwall removal, pipe plugging, grading, seeding, erosion control, backfilling, compaction, restoration of drainage areas, and all incidental work required for complete removal of headwall, plugging of 24-inch outfall, and site restoration shall be subsidiary to this bid item. No separate payment shall be made for plugging materials, CLSM, seeding maintenance, or restoration unless specifically identified as separate bid items in the Contract Documents.

102. FURNISH AND INSTALL ADS XL DURASLOT TRENCH DRAIN SYSTEM (OR APPROVED EQUAL) (LF)

Furnish and Install ADS XL DuraSlot Trench Drain System (or approved equal) (LF) shall include all labor, materials, equipment, tools, excavation, installation, connection, testing, and incidentals necessary for the complete furnishing and installation of a polymer trench drain system, including ADS XL DuraSlot or Engineer-approved equal, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation to required line, grade, and depth; removal and disposal of unsuitable material; subgrade preparation; and placement of a properly graded and compacted bedding layer to support the trench drain system. The Contractor shall ensure uniform support along the full length of the system to prevent differential settlement or deformation.

The trench drain system shall include modular channel sections, end caps, outlets, couplings, fittings, and all appurtenances required for a fully functional drainage system.

The system shall be furnished with load-rated grates appropriate for the installation location (vehicular, pedestrian, or other loading conditions) as specified in the Plans.

The Contractor shall install the trench drain system to precise line and grade to ensure positive drainage flow and proper integration with adjacent pavement, curb, inlet, or pipe systems. The top of grate shall be installed flush with finished surface elevations and properly aligned with surrounding improvements to prevent trip hazards or ponding.

Connections to storm sewer or drainage piping shall be made using approved fittings and watertight connections. Outlet structures shall be properly sealed and protected to prevent infiltration, exfiltration, or soil migration.

Backfill shall be placed in accordance with manufacturer recommendations and project specifications, ensuring proper compaction and protection of the trench drain system during and after installation. Concrete encasement shall be provided where shown in the Plans or required for structural support.

The Contractor shall coordinate installation with pavement construction, utility locations, and traffic control requirements to ensure safe and efficient installation sequencing. Any damage to installed trench drain components shall be repaired or replaced at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sur□ace Drainage

Section 10.01 – Trench Drain System Installation Requirements
Section 10.02 – Surface Drainage and Hydraulic Flow Requirements
Section 10.03 – Bedding and Structural Support Requirements
Section 10.04 – Connection to Storm Sewer Systems
Section 10.05 – Pavement Interface and Surface Grade Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (encasement if required)
Item 460 – Storm Sewer Systems and Appurtenances
Item 464 – Pipe Underdrains (as applicable)
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation

Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, trench drain modules, grates, fittings, outlets, bedding, backfill, compaction, concrete encasement (if required), installation, alignment, connection to storm sewer systems, restoration of disturbed areas, and all incidental work required for complete installation of ADS XL DuraSlot trench drain system (or approved equal) shall be subsidiary to this bid item. No separate payment shall be made for fittings, encasement, or restoration unless specifically identified as separate bid items in the Contract Documents.

103. REMOVE AND RELOCATE SMALL SIGN ASSEMBLY (ALL SIGN TYPES AND SIZES) (EA)

Remove and Relocate Small Sign Assembly (All Sign Types and Sizes) (EA) shall include all labor, materials, equipment, tools, coordination, removal, storage, transportation, reinstallation, and incidentals necessary for the complete removal, temporary protection, and relocation of existing traffic, regulatory, warning, guide, or informational sign assemblies of all types and sizes affected by construction activities, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include careful removal of sign panels, posts, foundations (if required), breakaway supports, hardware, and all associated components without damage to the sign face or structural elements, unless otherwise directed. The Contractor shall inventory and document existing sign locations prior to removal and shall coordinate all relocations with the Engineer and applicable jurisdictional agency to ensure compliance with MUTCD, TxDOT standards, and local requirements.

Sign assemblies shall be temporarily stored, protected, and maintained in a condition suitable for reuse. Any damage to signs, posts, or hardware resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

The Contractor shall furnish and install new foundations, posts, hardware, and mounting systems as required for relocation in accordance with current TxDOT standard details. Sign assemblies shall be reinstalled at locations designated in the Plans or as directed by the Engineer, ensuring proper height, lateral offset, orientation, and visibility.

All relocated signs shall meet applicable clearance, reflectivity, and safety requirements. The Contractor shall ensure that relocated sign assemblies do not obstruct sight distance, pedestrian paths, or roadway operations.

The Contractor shall coordinate sign relocation sequencing with traffic control operations to maintain continuous roadway safety and compliance throughout construction.

All disturbed areas resulting from sign removal or installation, including pavement, sidewalks, shoulders, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Traffic Control & Signing

Section 6.01 – Traffic Sign Removal and Relocation Requirements
Section 6.02 – Sign Installation and Foundation Requirements
Section 6.03 – Breakaway Support and Safety Standards
Section 6.04 – MUTCD Compliance Requirements
Section 6.05 – Restoration of Disturbed Areas

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 636 – Signs
Item 445 – Structural and Metal Fabrication (supports if applicable)
Item 110 – Excavation (for sign foundations)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, removal, transportation, storage, protection, reinstallation, foundations, posts, hardware, traffic coordination, restoration of disturbed areas, and all incidental work required for complete removal and relocation of small sign assemblies shall be subsidiary to this bid item. No separate payment shall be made for replacement hardware, temporary storage, or traffic control adjustments unless specifically identified as separate bid items in the Contract Documents.

105. FURNISH AND INSTALL SODDING (SY)

Furnish and Install Sodding (SY) shall include all labor, materials, equipment, tools, watering, maintenance, and incidentals necessary for the complete furnishing, placement,

establishment, and acceptance of live sod for permanent erosion control and site stabilization, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include preparation of the receiving surface, including final grading, removal of debris, rocks, construction materials, and unsuitable soils, and shaping of all slopes, ditches, embankments, and disturbed areas to provide smooth, uniform surfaces with positive drainage. Where existing soil conditions are unsuitable, the Contractor shall furnish and place approved topsoil to achieve proper growing conditions.

Sod shall be of approved grass species suitable for local climate conditions, free of weeds, pests, disease, and foreign material, and shall be furnished in a healthy, living condition. Sod shall be installed in a staggered (brick-like) pattern with tight joints, ensuring full soil contact to prevent drying, erosion, or displacement.

The Contractor shall water, maintain, and protect sod until it is fully established and accepted by the Engineer. Maintenance shall include watering, mowing (if required), replacement of dead or damaged sod, and repair of any erosion or displacement occurring prior to final acceptance.

Sodding shall be placed immediately following final grading and installation of erosion control measures to minimize soil erosion and sediment transport. Temporary erosion control devices shall remain in place and functional until permanent vegetation is fully established.

All disturbed areas, including slopes, embankments, roadway edges, drainage channels, sidewalks, driveways, and landscaped areas, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Landscaping & Erosion Control

Section 3.01 – Sodding Materials and Installation Requirements
Section 3.02 – Topsoil Placement and Soil Preparation Requirements
Section 3.03 – Vegetative Establishment and Maintenance Requirements
Section 3.04 – Erosion Control Integration Requirements
Section 3.05 – Final Acceptance and Establishment Requirements

TXDOT REFERENCES

Item 161 – Vegetative Establishment
Item 162 – Furnishing and Placing Topsoil
Item 164 – Seeding for Erosion Control (supplemental areas)

Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 506 – Vegetative Restoration
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, sod furnishing and installation, topsoil placement, grading, watering, maintenance, replacement of damaged sod, erosion control coordination, and all incidental work required for complete installation of sodding shall be subsidiary to this bid item. No separate payment shall be made for maintenance, watering, or replacement unless specifically identified as separate bid items in the Contract Documents.

SECTION 15 TECHNICAL SPECIFICATIONS

Flexamat Standard Specification (or approved equal)

1. DESCRIPTION

A Tied Concrete Block Mat with Doubled Layered Underlayment. This work shall consist of furnishing and placing the system in accordance with this specification and conforming with the lines, grades, design, and dimensions shown on the plans.

2. MATERIALS

Flexamat Standard is manufactured from individual concrete blocks tied together with high strength knitted polypropylene bi-axial geogrid. Each block is tapered, beveled and interlocked and includes connections that prevent lateral displacement of the blocks within the mats when they are lifted for placement.

Tied Concrete Block Mat with Doubled Layered Underlayment shall be Flexamat Standard, manufactured by Motz Enterprises, Inc.

2.1. **Blocks.** Furnish blocks manufactured with concrete conforming to the cement requirements of ASTM C150 and to the aggregate requirements of ASTM C33. Blocks shall have a minimum weight of 3 lb. per block and placed no further than 2 in. apart. Material weight per square foot shall not exceed 10 lbs. Blocks shall have a 2.25" profile, a flat-top pyramid shape, and a coarse finish without protrusions. Concrete shall have a minimum compressive strength requirement of Table1 and certified by a third party.

Table 1
Concrete Compressive Strength Requirements

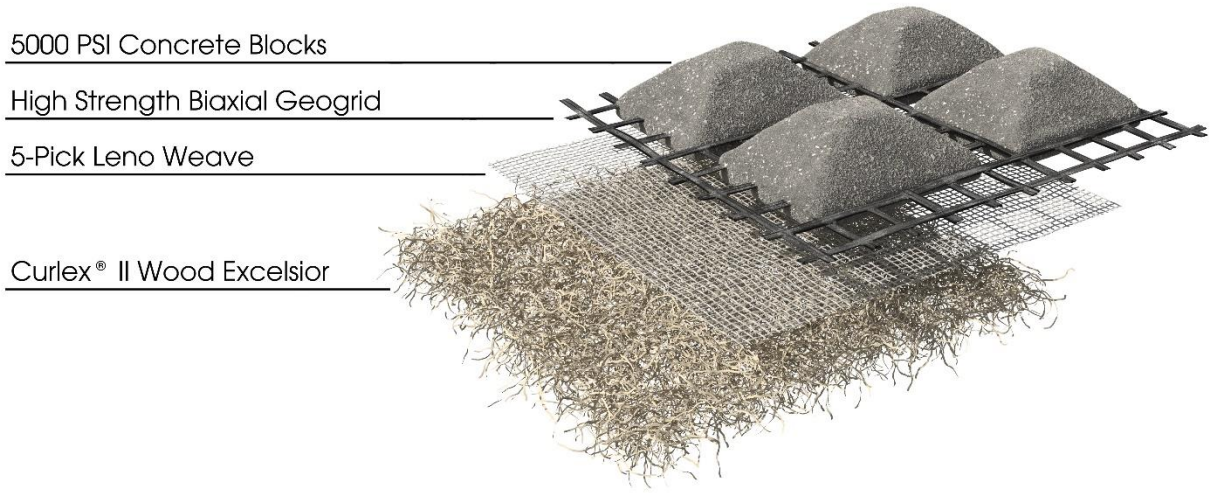
Age	Required Compressive Strength psi
28 - Day	5000 psi

2.2. **Polypropylene Bi-Axial Geogrid.** The interlocking geogrid shall be an open knitted fabric composed of high tenacity, multifilament polypropylene yarns knitted and coated in tension with an acrylic based coating which is designed to resist degradation in environments with exposure to water and low pH (,4 pH) and high pH (>9 pH). When combined with the revetment mat, this will yield a high tenacity, low elongating, and continuous filament polypropylene geogrid that is embedded within the base of the concrete blocks. Ensure the geogrid meets the requirements of Table 2.

Table 2
Polypropylene Bi-Axial Geogrid

Property	Unit	Test	Requirement
Mass/Unit Area	oz/yd^2	ASTM D5261	6.5 oz/yd^2
Aperture Size	English units	Measured	1.4x 1.4 inch
Ultimate Wide Width Tensile Strength (MD x CMD)	lb/ft	ASTM D6637	2,055 lb/ft
Elongation at Ultimate Tensile Strength (MD x CMD)	%	ASTM D6637	6%
Wide Width Tensile Strength @ 2% (MD x CMD)	lb/ft	ASTM D6637	822 lb/ft
Wide Width Tensile Strength @ 5% (MD x CMD)	lb/ft	ASTM D6637	1,640 lb/ft
Tensile Modulus @ 2% (MD x CMD)	lb/ft	ASTM D6637	41,100 lb/ft
Tensile Modulus @ 5% (MD x CMD)	lb/ft	ASTM D6637	32,800 lb/ft

2.3. **Underlayment Materials.** Flexamat Standard is a three-layered system, includes, in order from top to bottom, 1) Concrete block mat 2) 5-Pick Leno Weave and 3) Curlex® II. The underlayment materials shall be packaged within the roll of the Flexamat Standard.



Five-Pick Leno Weave:
This Five-Pick Weave provides added strength and support to the underlayments.

Index Property	Units	Value
GSM	g/m²	118 (-3˜ +3)
Density	Picks/10cm	62 x 24 (+/- 2)
Warp Strength	N/5cm	≥ 350
Warp Elongation	%	20 - 50
Weft Strength	N/5cm	≥ 280
Weft Elongation	%	20 - 50
Warp Shrinkage	%	≤ 7
Weft Shrinkage	%	≤ 9

Curlex® II:
Curlex II erosion control blanket (ECB) consists of a specific cut of naturally seed free Great Lakes Aspen curled wood excelsior with 80% six-inch fibers or greater fiber length. It is of consistent thickness with fibers evenly distributed throughout the entire area of the blanket. The top and bottom of each blanket is covered with degradable polypropylene netting.

Index Property	Test Method	Value
Thickness	ASTM D 6525	0.418 in (10.62 mm)
Light Penetration	ASTM D 6567	34.6%
Resiliency	ASTM D 6524	64%
Mass per Unit Area	ASTM D 6475	0.57 lb/yd^2 (309 g/m^2)
MD-Tensile Strength Max.	ASTM D 6818	127.0 lb/ft (1.9 kN/m)
TD-Tensile Strength Max.	ASTM D 6818	50.9 lb/ft (0.7 kN/m)
MD-Elongation	ASTM D 6818	28.64%
TD-Elongation	ASTM D 6818	29.84%
Swell	ECTC Procedure	89%
Water Absorption	ASTM D 1117/ECTC	199%
Bench-Scale Rain Splash	ECTC Method 2	SLR = 6.84 @ 2 in/hr [2,3]
Bench-Scale Rain Splash	ECTC Method 2	SLR = 7.19 @ 4 in/hr [2,3]
Bench-Scale Rain Splash	ECTC Method 2	SLR = 7.56 @ 6 in/hr [2,3]
Bench-Scale Shear	ECTC Method 3	2.6 lb/ft^2 @ 0.5 in soil loss [3]
Germination Improvement	ECTC Method 4	645%

[1] Weight is based on a dry fiber weight basis at time of manufacture. Baseline moisture content of Great Lakes Aspen excelsior is 22%.

[2] SLR is the Soil Loss Ratio, as reported by NTPEP/AASHTO. [3] Bench-scale index values should not be used for design purposes.

2.4. Mats will be rolled for shipment. Upon delivery, rolls may be left exposed for up to 30 days. If exposure will exceed 30 days, cover or tarp the rolls to minimize UV exposure.

Chipping or missing concrete resulting in a weight loss exceeding 15% of the average weight of a concrete unit is grounds for rejection by the engineer. Replace, repair or patch the damaged areas per the manufacturer's recommendations.

3. PERFORMANCE

Full-Scale laboratory testing performed by an independent 3rd party testing facility with associated engineered calculations certifying the hydraulic capacity of the proposed Tied-Concrete Block Erosion Control Mat meets the following requirements:

Test	Tested Value	Bed Slope	Soil Classification	Limiting Value
ASTM 6460	Shear Stress	30%	Sandy Loam (USDA)	24lb./ft^2
ASTM 6460	Velocity	20%	Loam (USDA)	30 ft./sec

4. ALTERNATIVE PRODUCTS

Such products must be pre-approved in writing by the Engineer prior to bid date. Alternative product packages must be submitted to the Engineer a minimum of fifteen (15) days prior to bid date. Submittal packages for alternate products must include, as a minimum, the following:

4.1. Alternative Product Properties – Product must be comprised of materials as detailed in Section 2, including both in composition and performance requirements.

4.2. Full-Scale laboratory testing performed by an independent 3rd party testing facility with associated engineered calculations certifying the hydraulic capacity of the proposed Tied-Concrete Block Erosion Control Mat meets the performance requirements listed in Section 3 of this specification.

4.3. A list of 15 comparable projects in terms of project size, application and material dimensions in the United States, where the results of the specific alternative material's use can be verified and reviewed for system integrity and sustained after a minimum of 10 years of service life.

5. EQUIPMENT

Provide the proper equipment to place the mat that will not damage the mat material or disturb the soil subgrade and seed bed.

6. CONSTRUCTION

Prior to installing Flexamat Standard, prepare the subgrade as detailed in the plans. All subgrade surfaces to be smooth and free of rocks, roots, debris, or other protrusions that would prevent intimate contact between the block and the subgrade. When seeding is shown on the plans, provide subgrade material that can sustain growth.

Ensure the prepared subgrade provides a smooth, firm, and unyielding foundation for the mats. The subgrade shall be graded into a parabolic or trapezoidal shape to concentrate flow to middle of mat or mats.

When vegetation is required, distribute seed on the prepared topsoil subgrade before installation of the concrete mats in accordance with the specifications.

Install mats to the line and grade shown on the plans and per the manufacturer's guidelines. The manufacturer or authorized representative will provide technical assistance during preparation and installation of the concrete block mats as needed.

Provide a minimum 18 in. deep concrete mat embedment toe trench at all edges exposed to concentrated flows. Recess exterior edges subject to sheet flow a minimum of 6 in.

Provide fastening or anchoring as recommended by the manufacturer or engineer for the site conditions.

7. MEASUREMENT

This Item will be measured by the square foot as shown on the plans, complete in place.

8. PAYMENT

The work performed, and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Flexamat Standard". This price is full compensation for loading and transporting, placing concrete block mats; excavation and disposal; furnishing topsoil and bedding; and equipment, labor, materials, tools, and incidentals.

Duraslot® XL Trench Drains

(or approved equal)

Duraslot XL trench drains provide superior inlet capacity and conveyance volume and are engineered to stand up to heavy traffic loads. Manufactured with durable and corrosion-resistant materials, Duraslot XL provides a long-lasting, cost-effective solution to stormwater capture. Duraslot XL adapts to other ADS products seamlessly making for easy design and installation and requiring fewer fittings or basins.

The product is made from dual-wall corrugated polyethylene pipe with an aluminum slot mounted on top. It is a cost-effective substitute for precast trench drains or cast-in-place trench drains with steel or cast iron grates.

The product is available in standard slot or variable slot height made specific to your project's needs.

Applications

- Streets/Highways
- Commercial
- Warehouse
- Parks
- Loading Docks
- Parking lots
- Athletic fields
- Schools/Plazas

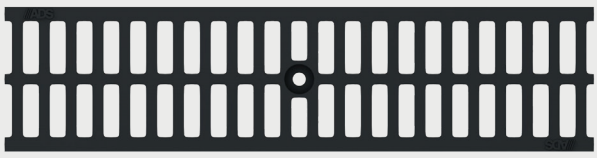
Features

- 5" (125 mm) ductile iron grates
- Up to 36" (900 mm) diameter N-12® pipe
- Tested to AASHTO HS-25
- Custom height slots
- Nyloplast® cleanouts available

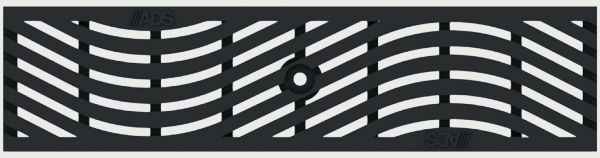
Benefits

- Greater hydraulic efficiency compared to corrugated steel pipe
- High conveyance capacity makes for longer continuous runs for less cost
- N-12 pipe offers 100-year design service life with high durability and corrosion resistance

Duraslot XL Grates



Standard grate
- Increased inlet capacity
- Higher load rating



Pedestrian grate
- ADA compliant & heel proof
- Decorative pattern

Duraslot XL Trench Drain Specification

Scope
This specification describes 6”-36” (150-900 mm) ADS Duraslot XL pipe for use in surface drain and conveyance applications.

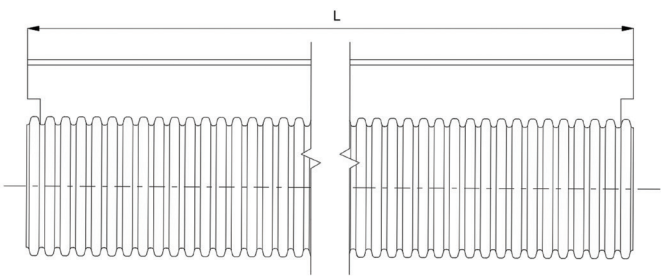
Pipe Requirements
Duraslot XL pipe, as manufactured and distributed by ADS, shall have a smooth interior and annular exterior corrugations with an aluminum slot grate frame mounted longitudinally along the length of the pipe to accept the grate, while maintaining the original pipe diameter.

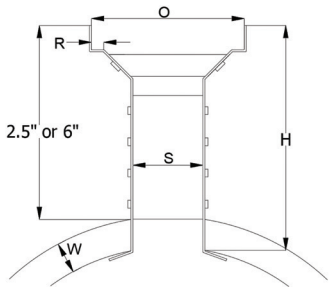
- 6”-10” (150-250 mm) pipe shall meet AASHTO M252, Type S
- 12”-36” (300-900 mm) pipe shall meet AASHTO M294, Type S or ASTM F2306
- Manning’s “n” value for use in design shall be 0.012

The aluminum slot grate frame shall be manufactured from 0.063” (1.6 mm) tempered commercial aluminum meeting the requirements of ASTM B209, consisting of two parallel plates separated by spacers spanning the slot width. The aluminum slot grate frame shall be coated with a primer to protect the aluminum when installed in concrete. Grates furnished by ADS shall be made of ductile iron with a 4.81” (122 mm) width and 19.69” (500 mm) length. The grate pattern, open area and load rating will vary based on the chosen design. The flange at the bottom of the aluminum slot grate frame shall be riveted to the pipe with a minimum of two rivets per linear foot.

Fittings
Duraslot XL fittings shall be modified from fittings which conform to AASHTO M252, AASHTO M294 or ASTM F2306.

Installation
Installation shall be in accordance with ADS recommended installation instructions. Contact your local ADS representative or visit adspipe.com for a copy of the latest installation guidelines.





Nominal Diameter in (mm)									
	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
L (drain grate length)	118.5 (3010)	118.5 (3010)	118.5 (3010)	118.5 (3010)	118.5 (3010)	118.5 (3010)	118.5 (3010)	118.5 (3010)	118.5 (3010)
H 2.5” (63 mm) slot	3.0 (76)	3.0 (76)	3.0 (76)	3.5 (89)	3.75 (95)	4.0 (102)	4.75 (121)	5.0 (127)	5.25 (133)
H 6” (150 mm) slot	6.5 (165)	6.5 (165)	6.5 (165)	7.0 (178)	7.0 (178)	7.0 (178)	7.25 (184)	8.25 (210)	8.25 (210)
O opening width in (mm)	5.0 (127)	5.0 (127)	5.0 (127)	5.0 (127)	5.0 (127)	5.0 (127)	5.0 (127)	5.0 (127)	5.0 (127)
R slot width in (mm)	0.316 (8)	0.316 (8)	0.316 (8)	0.316 (8)	0.316 (8)	0.316 (8)	0.316 (8)	0.316 (8)	0.316 (8)
S slot width in (mm)	2.25 (57)	2.25 (57)	2.25 (57)	2.25 (57)	2.25 (57)	2.25 (57)	2.25 (57)	2.25 (57)	2.25 (57)
W pipe width with corrugation in (mm)	0.46 (12)	0.61 (15)	0.73 (19)	1.15 (29)	1.30 (33)	1.57 (40)	1.86 (47)	2.55 (65)	2.85 (72)

NOTE:
1. Custom slot heights available up request. Production of custom slots will require approval by the Duraslot Project Engineer. Sign shopped drawings also required from interested party.
2. Other grate material options available upon request. Contact local ADS representative for availability of grate material option.

adspipe.com
800-821-6710

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City of Rowlett Purchasing Office
Addendum No. 1
Issued June 16, 2026

Bid No: **2026-77-B**
Bid Title: **Toler Business Park Phase 1 and Phase 2**
Bids Due: **7/1/2026 @ 2:00 P.M.**

Addendum #1 is issued by the City of Rowlett Purchasing Office. Please see the following for changes/additions/deletions or questions regarding the bid:

Changes

The original 2026-77-B Construction Plans document is corrupt. It has been replaced with 2026-77-B Construction Plans V6.16.26.

For vendors who have already submitted a response and feel this addendum may change their response, you may pick-up your submission and return it prior to July 1, 2026, by 2:00 P.M. If picking up the submission is not feasible, any new response submitted by your firm will supersede one previously submitted.

Acknowledge receipt of this addendum in the appropriate space of the Bid Certification Form if you have not previously submitted a response.

For questions regarding this addendum contact:

January M. Calhoun, CPPO, CPPB
Purchasing Manager
(972) 412-6189
jcalhoun@rowlett.com

City of Rowlett Purchasing Office
Addendum No. 2
Issued June 25, 2026

Bid No: **2026-77-B**
Bid Title: **Toler Business Park Phase 1 and Phase 2**
Bids Due: **7/15/2026 @ 2:00 P.M.**

Addendum #2 is issued by the City of Rowlett Purchasing Office. Please see the following for changes/additions/deletions or questions regarding the bid:

Changes

Questions Deadline: The questions deadline has been extended to 12:00pm on Monday, June 29, 2026.

Bid Due Date: The bid due date has been changed to 2:00pm on Wednesday, July 15, 2026.

For vendors who have already submitted a response and feel this addendum may change their response, you may pick-up your submission and return it prior to July 15, 2026, by 2:00 P.M. If picking up the submission is not feasible, any new response submitted by your firm will supersede one previously submitted.

Acknowledge receipt of this addendum in the appropriate space of the Bid Certification Form if you have not previously submitted a response.

For questions regarding this addendum contact:

January M. Calhoun, CPPO, CPPB
Purchasing Manager
(972) 412-6189
jcalhoun@rowlett.com

City of Rowlett Purchasing Office
Addendum No. 3
Issued July 1, 2026

Bid No: **2026-77-B**
Bid Title: **Toler Business Park Phase 1 and Phase 2**
Bids Due: **7/15/2026 @ 2:00 P.M.**

Addendum #3 is issued by the City of Rowlett Purchasing Office. Please see the following for changes/additions/deletions or questions regarding the bid:

Changes

1. Construction Plans have been revised. Please use 2026-77-B Construction Plans V6.30.26 included with this Addendum.
2. Bid Form: Line Item 2 update description to PREPARE SW3P (PHASES 1 & 2)
3. Bid Form: Line Item 9 update description to FURNISH AND INSTALL CONC PVMT (10")
4. Bid Form: Line Item 10 change quantity to 7,176 Square Yards
5. Bid Form: Line Item 11 change quantity to 7,176 Square Yards
6. Bid Form: Line Item 13 update description to REMOVE AND RECONSTRUCT CONCRETE DRIVEWAY (8" THICK)
7. Bid Form: Line Item 28 change quantity to 1,351 Linear Feet
8. Bid Form: Line Item 39 change quantity to 11 Each
9. Bid Form: Line Item 40 change quantity to 648 Linear Feet
10. Bid Form: Line Item 41 change quantity to 223 Linear Feet
11. Bid Form: Line Item 68 update description to FURNISH AND INSTALL CONC PVMT (10")
12. Bid Form Line Item 72: update description to RECONSTRUCT CONCRETE DRIVEWAY (8" THICK)
13. Bid Form: Line Item 86 change quantity to 722 Linear Feet
14. Bid Form: Line Item 87 change quantity to 681 Linear Feet
15. Contract Documents and Specifications, Section 14 Construction Bid Item Description:
    a. No. 2 update description to PREPARE SW3P (PHASES 1 & 2)
    b. No. 9 update description to FURNISH AND INSTALL CONC PVMT (10")
    c. No. 68 update description to FURNISH AND INSTALL CONC PVMT (10")
    d. No. 21 update unit of measurement to Lump Sum
    e. No. 85 update to include new item 64C
    f. No. 33 & 81 update to include new item 64D
    g. No. 51 & 96 update to include new item 110
16. Construction Plans: Sheet 003: Line Item 2 update description to PREPARE SW3P (PHASES 1 & 2)
17. Construction Plans: Sheet 003: Line Item 9 update description to FURNISH AND INSTALL CONC PVMT (10")
18. Construction Plans Sheet 003: Line Item 10 change quantity to 7,176 Square Yards
19. Construction Plans Sheet 003: Line Item 11 change quantity to 7,176 Square Yards
20. Construction Plans Sheet 003: Line Item 13 update description to REMOVE AND RECONSTRUCT CONCRETE DRIVEWAY (8" THICK)
21. Construction Plans Sheet 003: Line Item 28 change quantity to 1,351 Linear Feet
22. Construction Plans Sheet 003: Line Item 39 change quantity to 11 Each

23. Construction Plans Sheet 003: Line Item 40 change quantity to 648 Linear Feet
24. Construction Plans Sheet 003: Line Item 41 change quantity to 223 Linear Feet
25. Construction Plans Sheet 004: Line Item 68 updated description to FURNISH AND INSTALL CONC PVMT (10")
26. Construction Plans Sheet 004: Line Item 72: update description to RECONSTRUCT CONCRETE DRIVEWAY (8" THICK)
27. Construction Plans Sheet 004: Line Item 86 change quantity to 722 Linear Feet
28. Construction Plans Sheet 004: Line Item 87 change quantity to 681 Linear Feet
29. Construction Plans Sheet 006: Typical Section Sheet: Added Sidewalk adjacent curb detail
30. Construction Plans Sheet 20: Changed FH Note at STA 1+36 to show 6" Gate Valve.
31. Construction Plans Sheet 21: Added Embedment Detail.
32. Construction Plans Sheet 22: Added callouts for existing inlet that need to be removed.
33. Construction Plans Sheet 23: Added callouts for existing inlets that need to be removed.
34. Construction Plans Sheet 27: Took Concrete rirpap "payment subsidiary to "SW-0" notes out.
35. Construction Plans Sheet 28: Took Concrete rirpap "payment subsidiary to "SW-0" notes out.

Additions

1. Geotechnical Report is provided with this Addendum (38 pages).
2. TxDOT Standard Details sheets that were blank in previous plan set are provided with this Addendum (36 pages).
3. Bid Form: Overall Items, Add Line Item 2A FURNISH AND INSTALL ROCK BERM IN CHANNEL (PHASES 1 & 2), 40 Linear Feet
4. Bid Form: Overall Items, Add Line Item 2B FURNISH AND INSTALL TEMPORARY SEDIMENT CONTROL FENCE (PHASES 1 & 2), 4000 Linear Feet
5. Bid Form: Overall Items, Add Line Item 2C FURNISH AND INSTALL INLET PROTECTION (PHASES 1 & 2), 25 Each
6. Bid Form: Phase 1 Items, Add Line Item 64A REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (SHORT), 2 Each
7. Bid Form: Phase 1 Items, Add Line Item 64B REMOVE EXSITING AND INSTALL NEW SANITARY SEWER LINE SERVICES (SHORT), 8 Each
8. Bid Form: Phase 1 Items, Add Line Item 64C FURNISH AND INSTALL 18" CL III RCP, 37 Linear Feet
9. Bid Form: Phase 1 Items, Add Line Item 64D FURNISH AND INSTALL 6" GATE VALVE WITH VALVE BOXES, 1 Each
10. Bid Form: Phase 1 Items, Add Line Item 64E FURNISH AND INSTALL 5" CONCRETE RIPRAP AND TOEWALL IN CHANNEL, 923 Square Yards
11. Bid Form: Phase 1 Items, Add Line Item 64F FURNISH AND INSTALL 10" HES CONC (HIGH EARLY STRENGTH CONCRETE) (ONLY ON CENTURY & ONLY WITH PRIOR AUTHORIZATION FROM CITY), 1,500 Square Yards
12. Bid Form: Phase 2 Items, Add Line Item 106 REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (SHORT), 18 Each
13. Bid Form: Phase 2 Items, Add Line Item 107 REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (LONG), 13 Each
14. Bid Form: Phase 2 Items, Add Line Item 108 REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (SHORT), 16 Each
15. Bid Form: Phase 2 Items, Add Line Item 109 REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (LONG), 19 Each

16. Bid Form: Phase 2 Items, Add Line Item 110 FURNISH AND INSTALL 20' CURB INLET, 1 Each
17. Contract Documents and Specifications, Section 14 Construction Bid Item Description:
    a. Add Nos. 64A, 106, 107 REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (LONG & SHORT)
    b. Add Nos. 64B, 108 , 109 REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (LONG & SHORT)
    c. Add No. 64E FURNISH AND INSTALL 5" CONCRETE RIPRAP AND TOEWALL IN CHANNEL
    d. Add No. 64F FURNISH AND INSTALL 10" HES CONC (HIGH EARLY STRENGTH CONCRETE) (ONLY ON CENTURY & ONLY WITH PRIOR AUTHORIZATION FROM CITY),
18. Construction Plans: Sheet 003: Add Line Item 2A FURNISH AND INSTALL ROCK BERM IN CHANNEL (PHASES 1 & 2), 40 Linear Feet
19. Construction Plans: Sheet 003: Add Line Item 2B FURNISH AND INSTALL TEMPORARY SEDIMENT CONTROL FENCE (PHASES 1 & 2), 4000 Linear Feet
20. Construction Plans: Sheet 003: Add Line Item 2C FURNISH AND INSTALL INLET PROTECTION (PHASES 1 & 2), 25 Each
21. Construction Plans: Sheet 003: Add Line Item 64A REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (SHORT), 2 Each
22. Construction Plans: Sheet 003: Add Line Item 64B REMOVE EXSITING AND INSTALL NEW SANITARY SEWER LINE SERVICES (SHORT), 8 Each
23. Construction Plans: Sheet 003: Add Line Item 64C FURNISH AND INSTALL 18" CL III RCP, 37 Linear Feet
24. Construction Plans: Sheet 003: Add Line Item 64D FURNISH AND INSTALL 6" GATE VALVE WITH VALVE BOXES, 1 Each
25. Construction Plans: Sheet 003: Add Line Item 64E FURNISH AND INSTALL 5" CONCRETE RIPRAP AND TOEWALL IN CHANNEL, 923 Square Yards
26. Construction Plans: Sheet 003: Add Line Item 64F FURNISH AND INSTALL 10" HES CONC (HIGH EARLY STRENGTH CONCRETE) (ONLY ON CENTURY & ONLY WITH PRIOR AUTHORIZATION FROM CITY), 1,500 SY
27. Construction Plans: Sheet 004: Add Line Item 106 REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (SHORT), 18 Each
28. Construction Plans: Sheet 004: Add Line Item 107 REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (LONG), 13 Each
29. Construction Plans: Sheet 004: Add Item 108 REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (SHORT), 16 Each
30. Construction Plans: Sheet 004: Add Line Item 109 REMOVE EXISTING AND INSTALL NEW SANITARY SEWER LINE SERVICES (LONG), 19 Each
31. Construction Plans: Sheet 004: Add Line Item 110 FURNISH AND INSTALL 20' CURB INLET, 1 Each

Questions

Below is a list of questions received by the questions deadline with corresponding answers.

Q1. I am unable to download the plans. When I try to, I receive an error message. Please check the document and re-upload when you have a chance.

A1. Thank you for bringing this to our attention. Addendum No. 1 was issued to replace the document. Please view 2026-77-B Construction Plans V6.16.26. (This is now obsolete, please use the new plan set issued with this Addendum 2026-77-B Construction Plans V6.30.26).

Q2. On page 20 there is a 6" fire hydrant lead line being installed (item 36). The plans call out for an 8" gate valve to be installed on the 6" lead line. Could you please verify whether the gate valve should be an 8" or 6"?

A2. This should be 6" gate valve. Plan sheet updated in the construction plans. Line Item 64D has been added to the Bid Form.

Q3. The sanitary sewer plans appear to show sanitary service items; however, we were unable to identify corresponding bid items or quantities for this work in the bid item list. Please clarify how the sanitary service items are to be paid. If they are intended to be included under existing bid items, please identify the applicable bid item. If they are to be paid separately, please provide the required bid items, descriptions, and quantities for bidding purposes.

A3. Sanitary Sewer service quantities will be paid for by each, and have been added to the Bid Form as Line Items 64B, 108 and 109.

Q4. Could you please clarify the payment method for the water service items shown on the water plans? At this time, we do not see separate bid items or quantities listed for this work in the bid schedule. Please confirm whether the water service items are to be included in another existing bid item, or if additional bid items and quantities will be issued for bidding purposes.

A4. Water line service quantities will be paid for by each and have been added to the Bid Form as Line Items 64A, 106 and 107.

Q5. After reviewing the plan set, we noticed that removal bid items are included in the bid item list; however, demolition sheets do not appear to be included in the plans. Could you please provide the demolition sheets, or clarify the locations and limits of the removal work associated with the bid items for bidding purposes?

A5. Removal items are called out by notes in the plans. At this time we are not planning to include additional demolition sheets.

Q6. While reviewing the plans, we noticed erosion control bid items are included in the bid item list, but we were not able to locate any erosion control sheets in the plan set. Can the erosion control plans be provided, or can you clarify the locations and limits of the erosion control work.

A6. A full SW3P plan that fulfills TCEQ requirements shall be the responsibility of the contractor. We do show a rock berm to be placed in the channel during construction on sheet 028. Temporary sediment control fence and inlet protection should also be utilized to comply with NCTCOG, TCEQ, and Environmental requirements during the different stages of the traffic control plan. Changed the name of the SW3P bid item to "Prepare SW3P" and Added bid items for Temp Sediment Fence and Inlet Protection to the Bid Form as Line Items 2B and 2C. Also, see bid item descriptions in bid book for further information and clarification of lump sum items.

Q7. While reviewing Phase 1 of the storm plans, we noticed a quantity discrepancy for Item 40 – Furnish and Install 24" CL III RCP. The bid quantity appears to be significantly higher than the quantity shown

on the storm plan sheets 21 through 26. Could you please review this item and confirm the correct bid quantity?

Quantity for Item 40: 24" (PH1) RCP is 648 L F
Quantity for Item 41: 30" (PH1) RCP is 223 L F
Quantity for Item 86 24" (PH2) RCP: 722 LF
Quantity for Item 87 30" (PH2) RCP: 681 LF

A7. Quantity table plan sheets updated in the construction plans. The quantities on the Bid Form have been revised for Line Items 40, 41, 86, and 87.

Q8. While reviewing the Phase 1 storm plans, we noticed 18" RCP laterals shown on Sheet 26. However, we were unable to find a corresponding bid item for 18" RCP in Phase 1 of the bid schedule. Could you please confirm how these 18" RCP laterals are intended to be paid? If it is included under another bid item, please identify the applicable item. If it is to be paid separately, please provide the required bid item and quantity for bidding purposes.

A8. There should be 37 LF of 18" RCP. Line Item 64C was added to the Bid Form. Quantity table plan sheets updated in the construction plans.

Q9. While reviewing the storm plans, we noticed a discrepancy with the structure callout at Sta. 4+59.34. On Sheet 22 of the Phase 1 storm plans, the structure is called out as Item 48 – Furnish and Install Storm Drain MH 5' Dia. However, on Sheet 46 of the Phase 2 storm plans, the profile view appears to show that same structure as Item 49 – Furnish and Install 5' x 5' Junction Box. Could you please confirm which structure type and bid item should be used for this location for bidding purposes?

A9. This should be built by the callouts in the PH1 sheets.

Q10. Can you please clarify the limits for Phase 1 and Phase 2 on the storm plans? After reviewing the plans, we noticed several storm items that appear to be associated with Phase 2, but are shown or labeled within the Phase 1 storm sheets. This is creating some confusion when comparing the plan sheets to the bid items and quantities. Please confirm the correct phase limits and clarify which storm items should be included under Phase 1 and Phase 2.

A10. Storm Lines B & C are being paid for in Phase 2. Part of their plan view linework where they connect to the PH1 main trunk line shows up in PH1 sheets for construction clarity.

Q11. Is there a Geotech report and if so, will you please post it for review?

A11. Yes, included as part of this addendum.

Q12. Is this a turnkey project or are we allowed to bid only the utility portion of the project?

A12. The City wants one contractor to perform ALL aspects of the project. Subcontractors are encouraged to view the Pre-Bid Conference Attendees List at the following link for general contractors that were in attendance: https://www.rowletttx.gov/1438/Public-Openings-Tabulations-Pre-Bid-Conf.

Q13. While reviewing the storm plans, we noticed that SD LAT C-2 on Sheet 49 calls out a 20' curb inlet. However, we were unable to locate a corresponding bid item for this structure in the bid schedule. Could you please confirm how this 20' curb inlet is intended to be paid?

A13. Added to the Bid Form as Line Item 110.

Q14. Will a geotechnical report be provided for this project?

A14. Yes, included as part of this Addendum.

Q15. While reviewing the Phase 1 storm plans, we noticed several existing inlets that appear to be present based on Google Earth imagery but are not called out for removal on the plans. Specifically, on Sheet 22, there appear to be two additional existing inlets that do not have removal callouts. Also, on Sheet 23, there appear to be two existing inlets shown in the field/imagery that are not identified for removal on the plans. Could you please confirm whether these existing inlets are to remain in place or be removed?

A15. All existing inlets are to be removed. Updated quantity on the Bid Form for Line Item 39 to reflect missing inlets to be removed. Also added callouts to construction plan sheets for the existing inlets that need to be removed.

Q16. While reviewing Phase 1 of the storm plans, we noticed a quantity discrepancy for Item 40 – Furnish and Install 24" CL III RCP. The bid quantity appears to be lower than the quantity shown on storm plan sheets 21 through 26. Could you please review this item and confirm the correct quantity to use for bidding purposes?

A16. Storm drain quantities have been updated on the Bid Form for Line Item 40.

Q17. While reviewing Phase 1 of the storm plans, we noticed a quantity discrepancy for the 30" RCP. The bid quantity appears to be higher than the quantity shown on storm plan sheets 21 through 26. Could you please review this item and confirm the correct bid quantity for bidding purposes?

A17. Storm drain quantities have been updated on the Bid Form for Line Item 41.

Q18. Is there an embedment detail available for the reinforced concrete box culverts? We were unable to locate a specific embedment detail for the RCB installations in the plan set. Could you please provide the applicable bedding, embedment, backfill, and compaction requirements to be used.

A18. The Embedment Detail has been added to sheet 21. However, contractor shall also fulfill the requirements of the Geotechnical Report provided with this Addendum.

Q19. While reviewing the official Addendum 1 plan set titled “2026-77-B Construction Plans V6.16.26”, we noticed there appear to be blank pages from Page 106 through Page 114 and Page 124 through Page 139. Could you please confirm whether these pages were intentionally left blank, or if plan sheets are missing from the plan set? If sheets are missing, please provide the corrected plan set or the missing sheets.

A20. Missing sheets are TxDOT standard detail sheets and have been included as a separate document in this Addendum.

Q20. Project 2026-77-B, Bid Item 21 (Move Police Sign & New 0.7 CY Concrete Base): Sheet 29 lists the unit as LS (Qty 1) but Sheet 139 says EA. Please confirm which unit governs and correct the conflicting sheet.

A20. The quantity should be Lump Sum and the item unit measurement was updated in the item description section of the bid book which is included in this addendum.

Q21. What is the anticipated start date for Utilities?

A21. Franchise utilities are already being moved.

Q22. Who will pay for testing and staking?

A22. Testing is paid for by the City and Construction staking is paid for by the Contractor.

Q23. Will spoils stay onsite or be hauled off?

A23. Spoils to be hauled off.

Q24. Is a Geotech Report available?

A24. Yes, included as part of this Addendum.

Q25. While reviewing the storm sewer embedment details on Sheet SD-18, we noticed there are two storm sewer embedment details shown for paved areas. Could you please clarify which storm sewer embedment detail is intended to be used for the storm pipe installations under paved areas?

A25. The detail for this project is "Embedment for Storm Sewer".

Q26. 10" Pavement: The bid item calls for 10" CRCP, but the plan detail shows standard 10" reinforced concrete with #5 rebar, and no CRCP detail is provided. Please confirm which governs, and if CRCP is required, provide the CRCP detail (steel size/spacing, lap, depth).

A26. Follow the plan details. It is the City Standard pavement details. The description for Line Item 9 on the Bid Form has been revised.

Q27. Is a slip form paving machine required for 10" concrete pavement?

A27. It is not required.

Q28. We intend to build the concrete pavement half-width to keep one side open to traffic, but Sheets 7–9 require two lanes open during non-working hours. With forms, rebar, and curing concrete occupying the work half, two-way traffic cannot be maintained during non-working hours. We request that the City allow one-lane, two-way traffic controlled by temporary signals/flaggers (per TCP (1-2)-18 and

TCP (1-6)-18) through placement and cure, with local, business, and emergency access maintained. Please confirm this approach is acceptable.

A28. Yes, this is acceptable.

Q29. Does GC need to remove and restore the site for emergency flexbase access road after the project is complete?

A29. Yes, and it should be included in the bid item for that.

Q30. Sheet 100 includes an Aerial Crossing Detail (steel pipe, pier cap, concrete collar), but no aerial crossing is shown on the sanitary sewer plan & profiles, and no aerial crossing pay item is included in the bid schedule. Why is this detail included — is an aerial crossing intended on this project? If so, please identify its location, station, and the applicable pay item.

A30. You are correct there is no aerial crossing on the project, but this is a City Standard detail showing several details. The applicable detail on this sheet is the "precast concrete manhole."

Q31. Please confirm that pages 105 - 114 are blank in the "2026-77-B Construction Plans V6.16.26" set that were provided with addendum 1.

A31. Missing sheets are TxDOT standard detail sheets and have been included as a separate document in this Addendum.

Q32. While reviewing the Phase 1 sanitary sewer sheets 17 through 19, we noticed a quantity discrepancy for Bid Item 28. The bid quantity appears to be lower than the quantity shown on the plans for the sanitary sewer removal work. We also noticed Note 5 states to remove existing sewer pipes as upgrades are constructed and not leave or abandon them in place. Based on this note, please confirm whether all existing sewer pipe being replaced on sheets 17 through 19 is to be fully removed and paid under Bid Item 28. Could you please review and confirm the correct quantity to use for bidding purposes? If additional sanitary sewer removal is required beyond the current bid quantity, please confirm whether Bid Item 28 will be revised.

A32. The quantity has been updated on the Bid Form for Line Item 28.

Q33. Please confirm the subgrade and asphalt quantities for the phase 1 portion of the project.

A33. The quantities have been updated on the Bid Form for Line Items 10 and 11.

Q34. Per the paying description for 10" Paving, the item reference CRCP. Can a paving detail be provided for CRCP?

A34. The item description has been updated on the Bid Form for Line Item 68. Please follow rebar details in typical sections.

Q35. The Temporary Paving quantity is the same as the total linear foot of pipe being installed. The majority of the water and the sewer are outside of the paving. Is this item meant to include the services and the main lines? If it is for both, there is not enough quantity. If it is for the services, there

is too much quantity. Please clarify the intended areas for the Temporary paving and/or revise the quantity.

A35. This is intended to be used as needed during construction to keep traffic going.

Q36. During the pre-bid conference the 911/Police Dispatch phone pedestals were emphasized. Will the city of Rowlett consider an allowance for utility exploration to ensure the pedestal and the 911 service is not disturbed?

A36. Survey and SUE files can be provided upon award of contract and NTP for construction.

Q37. Per the TCP page on plan page 7, the roadway must remain open during construction, which means the 11x8MBC must be built in phases. To do this properly there would need to be temporary special shoring for each phase. Can a bid item be added for this extra scope?

A37. This should be included in the traffic control LS bid item.

Q38. Per the TCP page on plan page 7, the roadway must remain open during construction, which means the 11x8MBC must be built in phases. To do this safely for all involved, portable concrete traffic barrier would be needed to protect the public from driving off the edge of the roadway into the work area. Can a bid item be added for this extra scope?

A38. This should be included in the traffic control LS bid item.

Q39. Plan pages 27 and 28 make a large portion of concrete riprap subsidiary to the wing walls, can a bid item be added for this riprap to ensure all bidders include it in their pricing?

A39. Yes. Riprap has been added to the Bid Form as Line Item 64E and is no longer subsidiary to wingwalls.

Q40. Neither the C221 rail nor the PR11 rail locations are shown in the plans, please clarify where each type of rail is constructed.

A40. The railings are called out on the culvert layout sheet.

Q41. While reviewing the Phase 1 paving plans, we noticed that Bid Item 18 – 12" to 18" Sidewalk Curb is listed in the bid item quantity sheet grid as being shown on Sheet 14. However, we were unable to locate this item or its limits on the paving plans. Could you please confirm where the 12" to 18" sidewalk curb is shown on the plans?

A41. This curb is depicted in the culvert profile sheet typical section shown on sheet 21. It is on the south side of Century Drive at the culvert installation.

Q42. Could you please confirm the required reinforcing steel size and spacing for the concrete? The typical section and the City detail appear to show different bar sizes and spacing, and we'd like to verify which requirement governs.

A42. For this project utilize the typical section detail requiring #5 rebar at 18" OCEW.

43. Could you please confirm the required compressive strength (psi) for the roadway concrete paving? The typical section and the City details appear to specify different concrete strengths, so we'd like to verify which requirement governs.

A43. Street paving concrete shall be 4,000 PSI 28-day break.

Q44. Could you please confirm the required concrete classification? Does the City require a full sack increase of cement for those placements?

A44. Street paving concrete shall be 4,000 PSI 28-day break. Not sure what the second half of this question refers to.

Q45. Will an item be added for the street header locations? There is one location in Phase I and two location in Phase II. Does the Street Header need to be subsidiary to the 10" Concrete Paving?

A45. Street headers will be subsidiary to the concrete paving. No additional pay item.

Q46. Please consider adding the ACAD/dwg file to the addendum when the Q&A responses are issued. These files are extremely helpful during the bid and take off process.

A46. Electronic drawing files can be provided to the successful bidder only.

Q47. Is this project turnkey? What is the anticipated start date for Utilities? Who will pay for testing and staking? Will spoils stay onsite or be hauled off? Is a Geotech Report available?

A47. The City wants one contractor to perform ALL aspects of the project. Subcontractors are encouraged to view the Pre-Bid Conference Attendees List at the following link for general contractors that were in attendance: https://www.rowletttx.gov/1438/Public-Openings-Tabulations-Pre-Bid-Conf. Franchise utilities have begun adjustment of their utilities. The City will hire a materials testing firm and will pay for initial testing of materials. The contractor is responsible for construction staking. Spoils are to be hauled off. The Geotechnical Report is included with this Addendum.

Q48. Is Slipform paving required for the concrete pavement?

A48. It is not required.

Q49. 2 way traffic is required at all times on all roads per sheet 007. Can one way traffic be utilized on Singleton Street, Lawing Lane and Vaughan Drive and only have 2 way traffic only on Century Dr? This would greatly help keep construction activities move at a better, more efficient pace and give better value to the city while maintaining access to the public and property owners/visitors.

A49. The phasing plan has been noted to allow for one-lane, two-way traffic and be built in phases to accommodate parking for businesses. See Note 7 on the phasing plan. Alternatively, if the contractor can work out alternate parking location(s) for the businesses that utilize street parking, then one-way traffic could be considered in the areas listed in the question. The alternate parking location(s) shall be submitted as part of the traffic control plan.

Q50. How are any irrigation system modifications encountered during construction to be paid for?

A50. They are subsidiary to the project. No pay item is provided for this.

Q51. Could the city consider adding a HES (High Early Strength) concrete paving bid item to be available to help ease access concerns for the public and business owners? This is mainly due to large semi-truck traffic that exists on the road serving the various businesses in this area.

A51. HES concrete will be added as a pay item to be used ONLY ON CENTURY and ONLY WITH PRIOR AUTHORIZATION FROM THE CITY. Added to Bid form as Item 64F.

Q52. Will a detail be provided for Bid Item 18 – Sidewalk Curb? We were unable to locate a specific detail for this item in the plan set. Please provide the applicable detail, dimensions, reinforcement requirements.

A52. Sidewalk curb (12" – 18") detail is on the typical section plan sheet 006.

Q53. After reviewing the plans, we noticed there is a sidewalk lug detail shown with a retaining wall condition. Could a sidewalk lug detail be provided for areas where there is no retaining wall? Please include the required dimensions, reinforcement.

A53. Detail added to typical section plan sheet 006 for sidewalk against curb. Plan sheet revised and included in revised plan set in this addendum.

For vendors who have already submitted a response and feel this addendum may change their response, you may pick-up your submission and return it prior to July 15, 2026, by 2:00 P.M. If picking up the submission is not feasible, any new response submitted by your firm will supersede one previously submitted.

Acknowledge receipt of this addendum in the appropriate space of the Bid Certification Form if you have not previously submitted a response.

For questions regarding this addendum contact:

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Purchasing Manager
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SECTION 14 CONSTRUCTION BID ITEM DESCRIPTION V7.01.26

1. MOBILIZATION (Phases 1 & 2)(LS)

Mobilization (LS) shall include all labor, materials, equipment, tools, supplies, temporary facilities, insurance, bonds, permits, administrative setup, scheduling coordination, subcontractor coordination, submittal preparation, and all other incidental and preparatory work required to fully establish construction operations at the project site. This item shall include transportation of personnel, equipment, and materials to and from the project site, establishment of field offices, staging areas, storage yards, and all necessary startup activities required prior to commencement of construction.

This item shall also include all demobilization activities required upon project completion, including removal of equipment, temporary facilities, restoration of staging areas, cleanup operations, and final project closeout activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – Project Mobilization Requirements (startup obligations and contractor readiness)
Section 1.03 – Preconstruction Activities (submittals, schedules, coordination)
Section 1.06 – Temporary Facilities and Project Setup Requirements

TXDOT REFERENCES

Item 618 – Mobilization (contractor startup and demobilization requirements)
Item 5 – Control of the Work (general construction authority and oversight)
Item 7 – Legal Relations and Responsibilities (contractual obligations)
Item 8 – Prosecution and Progress (schedule and sequencing requirements)
Item 502 – Barricades, Signs, and Traffic Handling (initial setup requirements)

PAYMENT CLAUSE

Mobilization shall constitute full compensation for all contractor startup, staging, preconstruction activities, and demobilization activities necessary to complete the Work. No additional payment shall be made for any incidental mobilization-related effort not specifically included in this item.

2. PREPARE SW3P (Phases 1 & 2) (LS)

Prepare SW3P (LS) shall include all labor, materials, equipment, permitting, inspections, documentation, implementation, maintenance, repair, replacement, updates, revisions,

and final removal necessary to fully comply with the Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit, all applicable local jurisdictional requirements, and all requirements contained within the Contract Documents. This item shall include complete preparation and implementation of the Storm Water Pollution Prevention Plan (SWPPP), including contractor coordination, BMP installation sequencing, compliance tracking, and regulatory reporting.

This item shall include all temporary erosion and sedimentation control measures, Best Management Practices (BMPs), and environmental protection systems required for the duration of construction. Such measures shall include, but are not limited to, silt fence installation and maintenance, inlet protection devices, stabilized construction entrances, rock berms, fiber logs, wattles, sediment traps, check dams, diversion berms, temporary seeding, hydro-mulching, dust control measures, stormwater pollution prevention inspections, sediment removal, repair of failed controls, and all incidental environmental compliance activities required to prevent off-site sediment transport.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – General Project Requirements (Contractor responsibilities, compliance obligations)
Section 1.02 – Contractor Administrative Responsibilities (coordination, reporting, compliance tracking)
Section 1.05 – Regulatory Compliance Requirements (federal, state, and local environmental compliance)

Division 2 – Erosion & Sedimentation Control

Section 2.01 – Stormwater Pollution Prevention Plan (SWPPP) Implementation Requirements
Section 2.02 – Temporary Erosion and Sediment Control Devices (installation, maintenance, removal)
Section 2.03 – Inspection, Monitoring, and Maintenance Requirements (weekly and post-storm inspections)
Section 2.04 – Final Stabilization and Site Restoration Requirements

TXDOT REFERENCES

Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
506.1 – Description (scope of erosion control requirements)
506.2 – Materials (approved BMP materials and standards)

506.3 – Construction Methods (installation and maintenance procedures)
506.4 – Inspection and Maintenance Requirements (routine and storm event inspections)
506.5 – Measurement (basis of payment conditions)
506.6 – Payment (payment limitations and subsidiary requirements)

Item 164 – Seeding for Erosion Control (temporary and permanent stabilization)
Item 166 – Fertilizer (soil amendment requirements)
Item 168 – Vegetative Watering (establishment period maintenance)
Item 169 – Soil Retention Blanket (slope stabilization and erosion prevention)

PAYMENT CLAUSE

All SW3P-related implementation, maintenance, inspection, repair, replacement, documentation, and final removal activities shall be considered subsidiary to this Lump Sum bid item. No separate payment will be made for erosion and sediment control measures, BMP maintenance, inspection reporting, regulatory compliance activities, or environmental protection measures unless explicitly identified as separate bid items within the Contract Documents.

2A. FURNISH AND INSTALL ROCK BERM IN CHANNEL (PHASES 1 & 2) (LF)

This item shall include temporary erosion and sedimentation control measures, Best Management Practices (BMPs), and environmental protection systems required for the duration of construction. Such measures shall include, check dams, stormwater pollution prevention inspections, sediment removal, repair of failed controls, and all incidental environmental compliance activities required to prevent off-site sediment transport.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – General Project Requirements (Contractor responsibilities, compliance obligations)
Section 1.02 – Contractor Administrative Responsibilities (coordination, reporting, compliance tracking)
Section 1.05 – Regulatory Compliance Requirements (federal, state, and local environmental compliance)

Division 2 – Erosion & Sedimentation Control

Section 2.01 – Stormwater Pollution Prevention Plan (SWPPP) Implementation Requirements
Section 2.02 – Temporary Erosion and Sediment Control Devices (installation,

maintenance, removal)
Section 2.03 – Inspection, Monitoring, and Maintenance Requirements (weekly and post-storm inspections)
Section 2.04 – Final Stabilization and Site Restoration Requirements

TXDOT REFERENCES

Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
506.1 – Description (scope of erosion control requirements)
506.2 – Materials (approved BMP materials and standards)
506.3 – Construction Methods (installation and maintenance procedures)
506.4 – Inspection and Maintenance Requirements (routine and storm event inspections)
506.5 – Measurement (basis of payment conditions)
506.6 – Payment (payment limitations and subsidiary requirements)

Item 164 – Seeding for Erosion Control (temporary and permanent stabilization)
Item 166 – Fertilizer (soil amendment requirements)
Item 168 – Vegetative Watering (establishment period maintenance)
Item 169 – Soil Retention Blanket (slope stabilization and erosion prevention)

PAYMENT CLAUSE

All SW3P-related implementation, maintenance, inspection, repair, replacement, documentation, and final removal activities shall be considered subsidiary to this Lump Sum bid item. No separate payment will be made for erosion and sediment control measures, BMP maintenance, inspection reporting, regulatory compliance activities, or environmental protection measures unless explicitly identified as separate bid items within the Contract Documents.

2B. FURNISH AND INSTALL TEMPORARY SEDIMENT CONTROL FENCE (PHASES 1 & 2)

This item shall include all temporary erosion and sedimentation control measures, Best Management Practices (BMPs), and environmental protection systems required for the duration of construction. Such measures shall include, but are not limited to, silt fence installation and maintenance, stormwater pollution prevention inspections, sediment removal, repair of failed controls, and all incidental environmental compliance activities required to prevent off-site sediment transport.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – General Project Requirements (Contractor responsibilities, compliance obligations)
Section 1.02 – Contractor Administrative Responsibilities (coordination, reporting, compliance tracking)
Section 1.05 – Regulatory Compliance Requirements (federal, state, and local environmental compliance)

Division 2 – Erosion & Sedimentation Control

Section 2.01 – Stormwater Pollution Prevention Plan (SWPPP) Implementation Requirements
Section 2.02 – Temporary Erosion and Sediment Control Devices (installation, maintenance, removal)
Section 2.03 – Inspection, Monitoring, and Maintenance Requirements (weekly and post-storm inspections)
Section 2.04 – Final Stabilization and Site Restoration Requirements

TXDOT REFERENCES

Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
506.1 – Description (scope of erosion control requirements)
506.2 – Materials (approved BMP materials and standards)
506.3 – Construction Methods (installation and maintenance procedures)
506.4 – Inspection and Maintenance Requirements (routine and storm event inspections)
506.5 – Measurement (basis of payment conditions)
506.6 – Payment (payment limitations and subsidiary requirements)

Item 164 – Seeding for Erosion Control (temporary and permanent stabilization)
Item 166 – Fertilizer (soil amendment requirements)
Item 168 – Vegetative Watering (establishment period maintenance)
Item 169 – Soil Retention Blanket (slope stabilization and erosion prevention)

2C. FURNISH AND INSTALL INLET PROTECTION (PHASES 1 & 2)

This item shall include all temporary erosion and sedimentation control measures, Best Management Practices (BMPs), and environmental protection systems required for the duration of construction. Such measures shall include, but are not limited to, inlet protection devices, installation and maintenance, stormwater pollution prevention inspections, sediment removal, repair of failed controls, and all incidental environmental compliance activities required to prevent off-site sediment transport.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.01 – General Project Requirements (Contractor responsibilities, compliance obligations)
Section 1.02 – Contractor Administrative Responsibilities (coordination, reporting, compliance tracking)
Section 1.05 – Regulatory Compliance Requirements (federal, state, and local environmental compliance)

Division 2 – Erosion & Sedimentation Control

Section 2.01 – Stormwater Pollution Prevention Plan (SWPPP) Implementation Requirements
Section 2.02 – Temporary Erosion and Sediment Control Devices (installation, maintenance, removal)
Section 2.03 – Inspection, Monitoring, and Maintenance Requirements (weekly and post-storm inspections)
Section 2.04 – Final Stabilization and Site Restoration Requirements

TXDOT REFERENCES

Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
506.1 – Description (scope of erosion control requirements)
506.2 – Materials (approved BMP materials and standards)
506.3 – Construction Methods (installation and maintenance procedures)
506.4 – Inspection and Maintenance Requirements (routine and storm event inspections)
506.5 – Measurement (basis of payment conditions)
506.6 – Payment (payment limitations and subsidiary requirements)

Item 164 – Seeding for Erosion Control (temporary and permanent stabilization)
Item 166 – Fertilizer (soil amendment requirements)
Item 168 – Vegetative Watering (establishment period maintenance)
Item 169 – Soil Retention Blanket (slope stabilization and erosion prevention)

PAYMENT CLAUSE

All SW3P-related implementation, maintenance, inspection, repair, replacement, documentation, and final removal activities shall be considered subsidiary to this Lump Sum bid item. No separate payment will be made for erosion and sediment control measures, BMP maintenance, inspection reporting, regulatory compliance activities, or environmental protection measures unless explicitly identified as separate bid items within the Contract Documents.

3. TRAFFIC CONTROL (Phases 1 & 2) (MO)

The Contractor shall provide detailed traffic control plans and submit to the City prior to the issuance of any construction permits for work within the City. The Submitted plan shall be signed by a qualified professional engineer in the state of Texas.

Traffic Control (MO) shall include all labor, materials, equipment, tools, signage, devices, and incidentals necessary to maintain safe and continuous movement of vehicular, pedestrian, bicycle, and emergency traffic throughout the duration of construction activities. This item shall include full implementation of Maintenance of Traffic (MOT) plans, including temporary lane closures, detours, traffic shifts, pedestrian routing, access maintenance to residences and businesses, flagging operations, and all required traffic safety coordination.

This item shall include furnishing, installing, maintaining, relocating, cleaning, repairing, and removing all traffic control devices including but not limited to cones, drums, barricades, temporary pavement markings, arrow boards, portable changeable message signs, temporary striping, signage, and protective barriers.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 1 – General Requirements

Section 1.07 – Traffic Maintenance and Safety Requirements
Section 1.08 – Public Safety and Access Requirements

Division 3 – Traffic Control

Section 3.01 – Maintenance of Traffic (MOT) Requirements
Section 3.02 – Traffic Control Devices Installation and Maintenance
Section 3.03 – Pedestrian and ADA Access Requirements
Section 3.04 – Lane Closure and Traffic Shift Procedures

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 666 – Retro-reflectorized Pavement Markings
Texas Manual on Uniform Traffic Control Devices (TMUTCD)
Item 5 – Control of the Work
Item 8 – Prosecution and Progress

PAYMENT CLAUSE

All traffic control labor, materials, equipment, maintenance, replacement, and operational activities shall be subsidiary to this Lump Sum item. No separate payment shall be made for flagging, signage, detours, lane closures, pedestrian routing, or any related traffic control activity.

4. PREPARATION OF RIGHT-OF-WAY (Phases 1 & 2) (STA)

Preparation of Right-of-Way (STA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete clearing, grubbing, demolition, removal, and disposal of all vegetation, trees, stumps, roots, debris, abandoned structures, fences, pavement, curbs, sidewalks, driveways, and any other obstructions necessary to prepare the project limits for construction. This item shall also include protection of all existing utilities, facilities, structures, and improvements designated to remain in place, including coordination with utility owners and avoidance of damage to existing infrastructure.

This item shall further include stripping and disposal of unsuitable materials, rough grading, and all incidental work required to establish a suitable construction area in accordance with the Contract Documents.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation

Section 2.01 – Clearing and Grubbing (removal of vegetation and organic material)
Section 2.02 – Demolition and Removal (removal of existing improvements)
Section 2.03 – Protection of Existing Improvements (utilities, structures, and appurtenances)
Section 2.04 – Utility Coordination and Conflict Avoidance Requirements

TXDOT REFERENCES

Item 100 – Preparing Right of Way (site clearing and preparation requirements)
Item 110 – Excavation (removal of unsuitable materials)
Item 132 – Embankment (fill and grading operations)
Item 677 – Protecting Existing Improvements (damage prevention and restoration requirements)
Item 5 – Control of the Work (general construction authority)

PAYMENT CLAUSE

All clearing, grubbing, demolition, removal, disposal, protection of existing improvements, and incidental preparation work shall be considered subsidiary to this bid item. No separate payment shall be made for disposal, hauling, restoration of disturbed areas, or

protection of existing facilities unless specifically identified elsewhere in the Contract Documents.

5. ROADWAY EXCAVATION (CY)

Roadway Excavation (CY) shall include all labor, materials, equipment, tools, and incidentals necessary for the excavation, removal, loading, hauling, disposal, shaping, grading, moisture conditioning, and compaction of existing soils and materials required to construct roadway sections in accordance with the lines, grades, and cross sections shown in the Plans. This item shall include excavation of all unsuitable materials encountered within the limits of construction, including over-excavation where required, and replacement with suitable materials as directed by the Engineer.

This item shall further include subgrade preparation, proof rolling, correction of soft areas, and all incidental earthwork necessary to achieve a stable and uniform subgrade foundation suitable for subsequent pavement construction.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Earthwork

Section 3.01 – Excavation (general excavation requirements)
Section 3.02 – Subgrade Preparation (proof rolling and stabilization)
Section 3.03 – Moisture Conditioning (soil conditioning requirements)
Section 3.04 – Embankment Construction (fill placement and compaction)

TXDOT REFERENCES

Item 110 – Excavation (removal and disposal of material)
Item 132 – Embankment (placement and compaction of fill material)
Item 247 – Flexible Base (subgrade interface preparation)
Item 260 – Lime Treatment (soil stabilization if required)
Item 275 – Cement Treatment (soil stabilization if required)
Item 216 – Rolling (compaction and proof rolling requirements)

PAYMENT CLAUSE

All excavation, haul-off, grading, shaping, subgrade preparation, moisture conditioning, compaction, unsuitable material removal, and incidental earthwork activities shall be subsidiary to this bid item. No separate payment shall be made for over-excavation, correction of soft spots, or disposal of excess materials unless specifically identified in the Contract Documents.

6. CHANNEL EXCAVATION (CY)

Channel Excavation (CY) shall include all labor, materials, equipment, tools, and incidentals necessary for the excavation, grading, shaping, and disposal of soil and material required to construct drainage channels, swales, ditches, outfalls, and related stormwater conveyance improvements as shown in the Plans or as directed by the Engineer. This item shall include excavation to required line and grade, shaping of channel side slopes and invert, removal of unsuitable material, and restoration of disturbed areas.

This item shall further include stabilization of channel surfaces, temporary erosion control measures, and preparation for permanent erosion protection systems where required.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Drainage Improvements

Section 4.01 – Open Channel Construction (grading and shaping requirements)
Section 4.02 – Swales and Ditches (stormwater conveyance systems)
Section 4.03 – Erosion Control Requirements (temporary stabilization measures)
Section 4.04 – Final Stabilization and Vegetative Establishment Requirements

TXDOT REFERENCES

Item 110 – Excavation (channel excavation and removal)
Item 132 – Embankment (grading and fill placement)
Item 164 – Seeding for Erosion Control (vegetative stabilization)
Item 169 – Soil Retention Blanket (slope protection)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls

PAYMENT CLAUSE

All excavation, grading, shaping, disposal, haul-off, temporary stabilization, and incidental drainage construction activities shall be subsidiary to this bid item. No separate payment shall be made for erosion control or stabilization measures unless separately specified.

7. FURNISH & INSTALL PERMANENT SLOPE PROTECTION (SY)

Furnish & Install Permanent Slope Protection (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the construction and installation of permanent erosion protection systems at drainage channels, embankments, inlets, outfalls, and other areas susceptible to erosion. This item shall include furnishing and placing riprap, concrete slope paving, grouted riprap, or other approved engineered erosion protection systems as shown in the Plans.

This item shall include excavation, subgrade preparation, geotextile installation where required, placement of bedding material, placement and shaping of slope protection

materials, and all incidental finishing and cleanup work required for a complete and durable installation.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Drainage Protection Systems

Section 4.05 – Permanent Erosion Control Systems (riprap and slope paving)
Section 4.06 – Channel and Embankment Protection Requirements
Section 4.07 – Geotechnical Fabric and Bedding Requirements

TXDOT REFERENCES

Item 432 – Riprap (stone slope protection systems)
Item 400 – Concrete Structures (concrete slope paving systems)
Item 421 – Hydraulic Cement Concrete (concrete placement requirements)
Item 164 – Seeding for Erosion Control (adjacent stabilization)
Item 169 – Soil Retention Blanket (slope stabilization support)

PAYMENT CLAUSE

All materials, excavation, bedding, placement, finishing, and incidental construction required for permanent slope protection shall be subsidiary to this bid item. No separate payment shall be made for geotextile, bedding preparation, or incidental stabilization unless specifically included in other bid items.

7. FURNISH & INSTALL FLEXAMAT SLOPE PROTECTION (OR APPROVED EQUAL) (SY)

Furnish & Install Flexamat Slope Protection (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, placement, anchoring, and finishing of engineered articulated concrete block mat systems (Flexamat or approved equal) for permanent slope stabilization. This item shall include excavation, grading, subgrade preparation, installation of geotextile fabric, placement of bedding layer if required, installation of the Flexamat system, anchoring systems, edge treatments, tie-ins to adjacent improvements, and all incidental work required for a fully functional and erosion-resistant installation.

This item shall include protection of adjacent improvements, coordination with drainage structures, and restoration of disturbed areas caused by installation activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Drainage Protection Systems

Section 4.05 – Permanent Erosion Control Systems
Section 4.06 – Engineered Slope Stabilization Systems
Section 4.07 – Geosynthetics and Matting Installation Requirements

TXDOT REFERENCES

Item 432 – Riprap (reference for slope protection equivalency)
Item 400 – Concrete Structures (concrete component systems)
Item 421 – Hydraulic Cement Concrete (material requirements)
Item 169 – Soil Retention Blanket (subgrade stabilization)
Item 506 – Temporary Erosion Control (construction phase protection)

PAYMENT CLAUSE

All excavation, grading, geotextile installation, anchoring systems, mat placement, edge treatment, and incidental work shall be subsidiary to this bid item. No separate payment shall be made for geotextile fabric, anchoring devices, or subgrade preparation unless separately specified.

8. FULL DEPTH SAW CUT AND REMOVE CONCRETE (SY)

Full Depth Saw Cut and Remove Concrete (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for full-depth saw cutting, removal, loading, hauling, and proper disposal of existing concrete pavement, sidewalks, driveways, or structural concrete as shown in the Plans or directed by the Engineer. This item shall include saw cutting to full depth along neat, straight lines to ensure clean edges, minimize disturbance to adjacent improvements, and facilitate proper reconstruction tie-ins.

This item shall include removal of concrete slabs, reinforcement steel, base material as required, subgrade cleanup, and preparation of the underlying surface for subsequent construction activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Removal and Rehabilitation

Section 5.01 – Concrete Pavement Removal Requirements
Section 5.02 – Saw Cutting and Demolition Procedures
Section 5.03 – Subgrade Preparation Following Removal

TXDOT REFERENCES

Item 361 – Full Depth Repair of Concrete Pavement
Item 360 – Concrete Pavement Removal Provisions

Item 110 – Excavation
Item 502 – Traffic Control Protection Requirements

PAYMENT CLAUSE

All saw cutting, removal, hauling, disposal, reinforcement removal, subgrade preparation, and incidental work shall be subsidiary to this bid item. No separate payment shall be made for disposal or restoration of disturbed areas unless specified.

9. FURNISH & INSTALL 10" CONCRETE PAVEMENT (SY)

Furnish & Install 10” (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the construction of 10-inch Concrete Pavement, including reinforcing steel placement, concrete placement, finishing, texturing, curing, jointing, load transfer continuity, and all incidental work required for complete installation in accordance with the Plans.

This item shall include subgrade preparation, base placement if required, steel reinforcement installation, concrete batching and placement, finishing, curing, surface texture application, and protection of pavement until sufficient strength is achieved.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Construction

- **Section 5.02 – Subgrade Preparation**
- **Section 5.03 – Lime and Cement Stabilization**
- **Section 5.08 – Asphalt Bond Breaker (where applicable)**
- **Section 5.10 – Portland Cement Concrete Pavement**
- **Section 5.12 – Sur□ace Texture and Finishing**
- **Section 5.13 – Concrete Curing**
- **Section 5.15 – Pavement Protection and Acceptance**

TXDOT REFERENCES

Item 360 – Concrete Pavement

- **360.1 Description**
- **360.2 Materials**
- **360.3 Equipment**
- **360.4 Construction**
- **360.5 Measurement**
- **360.6 Payment**

PAYMENT CLAUSE

All reinforcement steel, concrete, placement operations, finishing, curing, jointing, and incidental construction activities shall be subsidiary to this bid item.

10 & 69. FURNISH & INSTALL 2" HMAC TYPE C (SY)

Furnish & Install 2” HMAC Type C (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the furnishing, placement, compaction, and finishing of a 2-inch hot mix asphalt concrete surface course. This item shall include tack coat application, surface preparation, haul, laydown, compaction, finishing, density testing coordination, and all incidental work required for a smooth, uniform, and durable asphalt surface.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Asphalt Pavement Systems

Section 6.05 – Hot Mix Asphalt Construction Requirements
Section 6.06 – Surface Course Placement and Compaction
Section 6.07 – Asphalt Quality Control Requirements

TXDOT REFERENCES

Item 340 – Dense-Graded Hot Mix Asphalt (Type C)
Item 341 – Surface Courses
Item 300 – Asphalt Pavement Construction Requirements
Item 585 – Tack Coat (if required under project design)

PAYMENT CLAUSE

All material, placement, compaction, testing coordination, tack coat, and incidental asphalt construction activities shall be subsidiary to this bid item.

11 & 70. FURNISH & INSTALL 6" FLEXIBLE BASE (SY)

Furnish & Install 6” Flexible Base (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for furnishing, hauling, placing, shaping, moisture conditioning, and compacting Type A Grade 1–2 flexible base material. This item shall include subgrade preparation, proof rolling, placement in uniform lifts, compaction to required density, and finishing to line and grade.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Base Courses

Section 5.01 – Flexible Base Materials Requirements
Section 5.02 – Placement and Compaction Procedures
Section 5.03 – Subgrade Preparation and Proof Rolling

TXDOT REFERENCES

Item 247 – Flexible Base
Item 200 – Excavation and Backfill
Item 216 – Rolling and Compaction
Item 260 – Lime Treatment (if required)
Item 275 – Cement Treatment (if required)

PAYMENT CLAUSE

All hauling, placement, compaction, moisture conditioning, shaping, and incidental base construction work shall be subsidiary to this bid item.

12 & 71. FURNISH & INSTALL 6" INTEGRAL CONCRETE CURB (LF)

Furnish and Install 6" Integral Concrete Curb (LF) shall include all labor, materials, equipment, tools, excavation, grading, forming, reinforcing (if required), concrete placement, finishing, curing, jointing, backfilling, cleanup, and incidentals necessary for the complete construction of integral concrete curb as shown on the Plans and as directed by the Engineer.

Integral concrete curb shall be constructed monolithically with the adjacent concrete pavement or concrete pavement widening and shall conform to the dimensions, grades, lines, cross slopes, and details shown on the Plans. The curb shall be formed and placed to provide positive drainage and smooth transitions at driveways, curb returns, intersections, and other locations shown on the Plans.

Subgrade beneath the curb shall be prepared, shaped, and compacted in accordance with the Contract Documents. Any unstable or unsuitable material encountered beneath the curb shall be removed and replaced with approved material as directed by the Engineer.

Concrete shall conform to the requirements specified in the Contract Documents and applicable standards. The Contractor shall provide proper consolidation, finishing, edging, curing, and protection of the concrete. Expansion joints, contraction joints, construction joints, and tie-ins to existing concrete shall be installed as shown on the Plans or as directed by the Engineer.

This item shall include saw cutting, removal of minor obstructions, tie-ins to existing pavement and curb, adjustment to match existing grades, protection of adjacent improvements, and restoration of disturbed areas resulting from construction activities.

The Contractor shall protect newly placed concrete from traffic, weather, and damage until the concrete has achieved the required strength and has been accepted by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Construction

- Section 5.10 – Portland Cement Concrete Pavement Construction
- Section 5.11 – Concrete Placement and Finishing Requirements
- Section 5.13 – Concrete Curing Requirements
- Section 5.15 – Pavement Protection and Acceptance Requirements

Division 4 – Concrete Structures

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.05 – Formwork and Finishing Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement

- 360.1 Description
- 360.2 Materials
- 360.3 Equipment
- 360.4 Construction Methods
- 360.4.17 Surface Finishing
- 360.4.18 Curing
- 360.5 Measurement
- 360.6 Payment

Item 420 – Concrete Structures

- 420.1 Description
- 420.3 Construction Methods

Additional Applicable TxDOT Items

- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities
- Item 110 – Excavation
- Item 132 – Embankment

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, reinforcement (when required), concrete, placement,

consolidation, finishing, edging, jointing, curing, saw cutting, tie-ins to existing improvements, protection of concrete, backfilling, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of the 6-inch integral concrete curb shall be considered subsidiary to this bid item.

No separate payment shall be made for subgrade preparation, tie-ins, minor excavation, formwork, joint material, curing operations, protection of concrete, surface finishing, restoration, or any incidental work required to complete the installation unless specifically identified as a separate pay item in the Contract Documents.

13 & 72. REMOVE & RECONSTRUCT CONCRETE DRIVEWAY (SY)

Remove & Reconstruct Concrete Driveway (SY) shall include removal of existing driveway, saw cutting, disposal, subgrade preparation, flexible base placement if required, and construction of new concrete driveway in accordance with the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Driveway Construction

Section 6.10 – Driveway Removal Requirements
Section 6.11 – Driveway Reconstruction Standards

TXDOT REFERENCES

Item 360 – Concrete Pavement
Item 361 – Full Depth Repair
Item 247 – Flexible Base
Item 502 – Traffic Control

PAYMENT CLAUSE

All removal, replacement, base preparation, concrete placement, and incidental driveway construction shall be subsidiary to this item.

14. REMOVE 4" CONCRETE SIDEWALK (SY)

Remove 4” Concrete Sidewalk (SY) shall include full-depth saw cutting, removal, hauling, and disposal of existing sidewalk concrete, including any base material and incidental improvements.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Pedestrian Facilities Removal

Section 6.12 – Sidewalk Removal Requirements

TXDOT REFERENCES

Item 361 – Removal Provisions
Item 110 – Excavation
Item 502 – Traffic Control

PAYMENT CLAUSE

All saw cutting, removal, hauling, and disposal shall be subsidiary to this bid item.

15. FURNISH & INSTALL 4" CONCRETE SIDEWALK (SY)

Furnish and Install 4" Concrete Sidewalk (SY) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of 4-inch thick concrete sidewalk as shown on the Plans and as directed by the Engineer.

The sidewalk shall be constructed to the lines, grades, cross slopes, dimensions, and elevations shown on the Plans and shall comply with applicable ADA, TAS, PROWAG (where applicable), City standards, and Contract Documents. The Contractor shall verify all field conditions and coordinate construction with adjacent improvements to provide a smooth and accessible pedestrian facility.

Subgrade beneath the sidewalk shall be properly shaped, graded, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material at no additional cost to the Owner unless otherwise provided in the Contract Documents.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, screeding, floating, edging, finishing, texturing, curing, and protection of the concrete. Sidewalk surfaces shall be constructed with a uniform broom finish unless otherwise shown on the Plans.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, joint filler materials, and tie-ins to existing sidewalks, driveways, curb ramps, pavement, and structures. Sidewalk panels shall be constructed with joints and dimensions as shown on the Plans or in accordance with applicable standards.

The Contractor shall protect all adjacent utilities, irrigation systems, landscaping, trees, fences, structures, and other improvements during construction. Any damage resulting

from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

This item shall include all necessary adjustments to match existing grades, tie-ins to adjacent improvements, temporary pedestrian access, protection of completed work, and restoration of disturbed areas.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk Construction Requirements
- Section 10.02 – Concrete Sidewalk Installation
- Section 10.03 – Sidewalk Grading and Subgrade Preparation
- Section 10.04 – Jointing and Finishing Requirements
- Section 10.05 – ADA and Accessibility Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation Requirements
- Section 4.05 – Finishing and Curing Requirements

TXDOT REFERENCES

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods
- 529.4 Measurement
- 529.5 Payment

Additional Applicable TxDOT Items

- Item 360 – Concrete Pavement (Concrete Materials and Finishing Requirements)
- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement, consolidation, screeding, floating, edging, broom finishing, surface texturing, curing, jointing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing

improvements, temporary pedestrian access, protection of utilities, protection of irrigation systems, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 4-inch concrete sidewalk shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, joint materials, saw cutting, tie-ins, sidewalk transitions, protection of existing improvements, irrigation repairs, utility protection, temporary pedestrian access, surface finishing, curing, cleanup, or restoration unless specifically identified as a separate pay item in the Contract Documents.

16. FURNISH AND INSTALL TYPE 1 PEDESTRIAN RAMP (EA)

Furnish and Install Type 1 Pedestrian Ramp (EA) shall include all labor, materials, equipment, tools, excavation, grading, demolition, subgrade preparation, moisture conditioning, compaction, concrete placement, curb modifications, sidewalk reconstruction, detectable warning surfaces, finishing, curing, restoration, and incidentals necessary for the complete construction of an ADA-compliant Type 1 Pedestrian Ramp as shown on the Plans and as directed by the Engineer.

The pedestrian ramp shall be constructed in accordance with the Contract Documents, Americans with Disabilities Act (ADA), Texas Accessibility Standards (TAS), Public Rights-of-Way Accessibility Guidelines (PROWAG), City standards, TxDOT standards, and all applicable federal, state, and local requirements.

The Contractor shall verify all field conditions and construct the ramp to the grades, elevations, dimensions, cross slopes, running slopes, landing areas, flares, transitions, and alignments shown on the Plans. The completed ramp shall provide a smooth, accessible transition between sidewalk and roadway surfaces.

This item shall include all excavation, removal of existing sidewalk, curb, curb ramps, pavement, landscaping, and other improvements necessary to construct the pedestrian ramp. Existing improvements damaged or disturbed by construction shall be restored to equal or better condition.

Subgrade shall be shaped, moisture conditioned, and compacted in accordance with the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, jointing, texturing, curing, and protection of concrete surfaces.

This item shall include furnishing and installing detectable warning surfaces (truncated domes) of the color, size, type, and configuration shown on the Plans. Detectable warning panels shall be installed in accordance with ADA, TAS, PROWAG, manufacturer recommendations, and applicable standards.

The Contractor shall coordinate all curb, sidewalk, driveway, pavement, drainage, utility, and landscape tie-ins necessary to complete the ramp installation. The Contractor shall maintain pedestrian access during construction and provide temporary pedestrian accommodations where required.

The Contractor shall protect existing utilities, irrigation systems, landscaping, traffic control devices, signs, mailboxes, and adjacent improvements. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Pedestrian Ramp Construction
- Section 10.03 – ADA and Accessibility Requirements
- Section 10.04 – Detectable Warning Surface Requirements
- Section 10.05 – Grading and Transition Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Finishing Requirements
- Section 4.05 – Curing Requirements

Division 3 – Demolition and Site Preparation

- Section 3.01 – Removal of Existing Improvements
- Section 3.04 – Protection of Existing Facilities

TXDOT REFERENCES

Item 531 – Sidewalks

- 531.1 Description
- 531.2 Materials
- 531.3 Construction
- 531.4 Measurement
- 531.5 Payment

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description

- 529.2 Materials
- 529.3 Construction Methods

TxDOT Standard Sheets

- Pedestrian Accessibility Details (Current TxDOT Standard Sheets)
- Type 1 Pedestrian Ramp Details
- Detectable Warning Surface Details

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, demolition, removal of existing sidewalk and curb, grading, subgrade preparation, moisture conditioning, compaction, concrete, curb modifications, sidewalk reconstruction, detectable warning surfaces, truncated dome panels, formwork, placement, finishing, texturing, edging, jointing, curing, saw cutting, tie-ins to existing improvements, ADA compliance verification, utility protection, irrigation protection, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of a Type 1 Pedestrian Ramp shall be considered subsidiary to this bid item.

No separate payment shall be made for detectable warning panels, curb removal, sidewalk removal, curb modifications, grading adjustments, tie-ins, utility adjustments, irrigation repairs, temporary pedestrian access, restoration, or any incidental work necessary to provide a fully functional and ADA-compliant pedestrian ramp unless specifically identified as a separate pay item in the Contract Documents.

17. FURNISH AND INSTALL TYPE 2 PEDESTRIAN RAMP (EA / SY)

Furnish and Install Type 2 Pedestrian Ramp (EA) shall include all labor, materials, equipment, tools, excavation, grading, demolition, subgrade preparation, moisture conditioning, compaction, concrete placement, curb modifications, sidewalk reconstruction, detectable warning surfaces, finishing, curing, restoration, and incidentals necessary for the complete construction of an ADA-compliant Type 2 Pedestrian Ramp as shown on the Plans and as directed by the Engineer.

The pedestrian ramp shall be constructed in accordance with the Contract Documents, Americans with Disabilities Act (ADA), Texas Accessibility Standards (TAS), Public Rights-

of-Way Accessibility Guidelines (PROWAG), City standards, TxDOT standards, and all applicable federal, state, and local requirements.

The Contractor shall verify all field conditions and construct the ramp to the grades, elevations, dimensions, cross slopes, running slopes, landing areas, flares, transitions, and alignments shown on the Plans. The completed ramp shall provide a smooth, accessible transition between sidewalk and roadway surfaces and shall comply with all accessibility requirements.

This item shall include all excavation, removal of existing sidewalk, curb, curb ramps, pavement, landscaping, and other improvements necessary to construct the pedestrian ramp. Existing improvements damaged or disturbed by construction shall be restored to equal or better condition.

Subgrade shall be shaped, moisture conditioned, and compacted in accordance with the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, jointing, texturing, curing, and protection of concrete surfaces.

This item shall include furnishing and installing detectable warning surfaces (truncated domes) of the color, size, type, and configuration shown on the Plans. Detectable warning panels shall be installed in accordance with ADA, TAS, PROWAG, manufacturer recommendations, and applicable standards.

The Contractor shall coordinate all curb, sidewalk, driveway, pavement, drainage, utility, landscape, and grade tie-ins necessary to complete the ramp installation. The Contractor shall maintain pedestrian access during construction and provide temporary pedestrian accommodations where required.

The Contractor shall protect existing utilities, irrigation systems, landscaping, traffic control devices, signs, mailboxes, and adjacent improvements. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE
Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Pedestrian Ramp Construction
- Section 10.03 – ADA and Accessibility Requirements
- Section 10.04 – Detectable Warning Surface Requirements

- Section 10.05 – Grading and Transition Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Finishing Requirements
- Section 4.05 – Curing Requirements

Division 3 – Demolition and Site Preparation

- Section 3.01 – Removal of Existing Improvements
- Section 3.04 – Protection of Existing Facilities

TXDOT REFERENCES

Item 531 – Sidewalks

- 531.1 Description
- 531.2 Materials
- 531.3 Construction
- 531.4 Measurement
- 531.5 Payment

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods

TxDOT Standard Sheets

- Pedestrian Accessibility Details (Current TxDOT Standard Sheets)
- Type 2 Pedestrian Ramp Details
- Detectable Warning Surface Details

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, demolition, removal of existing sidewalk and curb, grading, subgrade preparation, moisture conditioning, compaction, concrete, curb modifications, sidewalk reconstruction, detectable warning surfaces, truncated dome panels, formwork, placement, finishing, texturing, edging, jointing, curing, saw cutting, tie-ins to existing improvements, ADA compliance verification, utility protection, irrigation protection, temporary pedestrian accommodations, cleanup, restoration of disturbed

areas, and all incidental work required for complete installation of a Type 2 Pedestrian Ramp shall be considered subsidiary to this bid item.

No separate payment shall be made for detectable warning panels, curb removal, sidewalk removal, curb modifications, grading adjustments, tie-ins, utility adjustments, irrigation repairs, temporary pedestrian access, restoration, or any incidental work necessary to provide a fully functional and ADA-compliant pedestrian ramp unless specifically identified as a separate pay item in the Contract Documents.

18. FURNISH AND INSTALL 12"–18" SIDEWALK CURB (LF)

Furnish and Install 12"–18" Sidewalk Curb (LF) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of concrete sidewalk curb as shown on the Plans and as directed by the Engineer.

The sidewalk curb shall be constructed to the dimensions, lines, grades, elevations, and details shown on the Plans. The curb height may vary from 12 inches to 18 inches as required by the design and field conditions. The Contractor shall construct the curb to provide proper separation, edge restraint, pedestrian protection, grade transitions, drainage control, and aesthetic continuity with adjacent improvements.

Subgrade beneath the curb shall be excavated, shaped, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material.

Concrete shall conform to the requirements specified in the Contract Documents and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, curing, and protection of the concrete. Finished curb surfaces shall be true to line and grade and free of honeycombing, cracking, spalling, or other defects.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, tie-ins to existing curb, sidewalk, pavement, driveways, curb ramps, retaining walls, and other improvements. Saw cutting required to complete tie-ins shall be included.

Where shown on the Plans, the curb may be constructed monolithically with adjacent sidewalk, curb ramps, or concrete pavement. The Contractor shall coordinate placement and jointing to ensure proper alignment and appearance.

The Contractor shall protect existing utilities, irrigation systems, landscaping, trees, fences, structures, and adjacent improvements during construction. Any damage resulting

from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

The Contractor shall maintain pedestrian access and provide temporary pedestrian accommodations where required by the Contract Documents.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Concrete Sidewalk and Curb Construction
- Section 10.03 – Grading and Subgrade Preparation
- Section 10.04 – Concrete Finishing and Jointing Requirements
- Section 10.05 – Accessibility and ADA Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation
- Section 4.05 – Finishing and Curing Requirements

Division 5 – Pavement Construction

- Section 5.15 – Tie-ins and Restoration Adjacent to Concrete Improvements

TXDOT REFERENCES

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods
- 529.4 Measurement
- 529.5 Payment

Item 420 – Concrete Structures

- 420.1 Description
- 420.3 Construction Methods

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement, consolidation, finishing, edging, jointing, curing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing improvements, protection of utilities, protection of irrigation systems, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 12-inch to 18-inch sidewalk curb shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, joint materials, tie-ins, saw cutting, protection of existing improvements, utility protection, irrigation repairs, temporary pedestrian access, cleanup, restoration, or any incidental work required to complete the installation unless specifically identified as a separate pay item in the Contract Documents.

FURNISH AND INSTALL 6"–12” SIDEWALK CURB (LF)

Furnish and Install 6"–8" Sidewalk Curb (LF) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of concrete sidewalk curb as shown on the Plans and as directed by the Engineer.

The sidewalk curb shall be constructed to the dimensions, lines, grades, elevations, and details shown on the Plans. The curb height may vary from 6 inches to 8 inches as required by the design and field conditions. The curb shall provide edge restraint, pedestrian separation, grade control, drainage control, and protection of adjacent landscaping and improvements.

Subgrade beneath the curb shall be excavated, shaped, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material in accordance with the Plans and specifications.

Concrete shall conform to the requirements specified in the Contract Documents and applicable standards. The Contractor shall provide proper placement, consolidation, finishing, edging, curing, and protection of the concrete. Finished curb surfaces shall be true to line and grade and free from cracking, honeycombing, spalling, or other defects.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, tie-ins to existing curb, sidewalk, pavement, driveways, curb ramps, retaining walls,

landscaping features, and other improvements. Saw cutting required to complete tie-ins shall be included.

Where shown on the Plans, the curb may be constructed monolithically with adjacent sidewalk, curb ramps, pavement, or other concrete improvements. The Contractor shall coordinate placement and jointing to provide a uniform appearance and proper performance.

The Contractor shall protect existing utilities, irrigation systems, landscaping, trees, fences, structures, and adjacent improvements during construction. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

The Contractor shall maintain pedestrian access and provide temporary pedestrian accommodations where required during construction activities.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Sidewalks and Accessibility Improvements

- Section 10.01 – Sidewalk and Pedestrian Facility Construction
- Section 10.02 – Concrete Sidewalk and Curb Construction
- Section 10.03 – Grading and Subgrade Preparation
- Section 10.04 – Concrete Finishing and Jointing Requirements
- Section 10.05 – Accessibility and ADA Requirements
- Section 10.06 – Protection and Acceptance Requirements

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation Requirements
- Section 4.05 – Finishing and Curing Requirements

Division 5 – Pavement Construction

- Section 5.15 – Tie-ins and Restoration Adjacent to Concrete Improvements

TXDOT REFERENCES

Item 529 – Concrete Curb, Gutter, and Sidewalk

- 529.1 Description
- 529.2 Materials
- 529.3 Construction Methods
- 529.4 Measurement
- 529.5 Payment

Item 420 – Concrete Structures

- 420.1 Description

- 420.3 Construction Methods

Additional Applicable TxDOT Items

- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement, consolidation, finishing, edging, jointing, curing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing improvements, protection of utilities, protection of irrigation systems, temporary pedestrian accommodations, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 6-inch to 8-inch sidewalk curb shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, joint materials, tie-ins, saw cutting, protection of existing improvements, utility protection, irrigation repairs, temporary pedestrian access, cleanup, restoration, or any incidental work required to complete the installation unless specifically identified as a separate pay item in the Contract Documents.

19. REMOVE AND RELOCATE SMALL SIGN ASSEMBLY (ALL SIGN TYPES AND SIZES) (EA)

Remove and Relocate Small Sign Assembly (All Sign Types and Sizes) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the identification, removal, protection, storage, transportation, and reinstallation of existing small sign assemblies, including but not limited to regulatory signs, warning signs, guide signs, street name signs, and all associated posts, hardware, foundations, and mounting assemblies within the project limits. This item shall include careful removal to prevent damage to sign faces, reflective sheeting, posts, and mounting hardware, and shall include temporary storage, protection from damage, and reinstallation at locations shown in the Plans or as directed by the Engineer.

This item shall include furnishing and installing new posts, post foundations, anchors, and hardware where required to complete relocation, including resetting in new concrete foundations, alignment, height adjustment, and orientation to meet current roadway standards and visibility requirements. The Contractor shall verify proper placement to

ensure compliance with sight distance, MUTCD requirements, pedestrian clearance, and roadway safety standards.

All disturbed pavement, sidewalk, or ground surfaces resulting from removal and relocation activities shall be restored to match existing conditions or as shown in the Plans. The Contractor shall coordinate all sign relocations with traffic control operations to ensure continuous compliance with safety requirements and minimize disruption to traffic operations.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 7 – Traffic Control and Signing

Section 7.01 – Traffic Sign Removal and Relocation Requirements
Section 7.02 – Sign Installation Standards and Mounting Requirements
Section 7.03 – Sign Visibility, Height, and Placement Requirements
Section 7.04 – Post and Foundation Installation Requirements

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 666 – Signs, Sign Posts, and Sign Mounting Assemblies
Item 4 – Scope of Work
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities
Texas MUTCD – Signing Placement and Installation Standards

PAYMENT CLAUSE

All labor, materials, equipment, removal, protection, transportation, storage, reinstallation, posts, foundations, hardware, alignment, and incidental work required for complete removal and relocation of small sign assemblies (all types and sizes) shall be subsidiary to this bid item. No separate payment shall be made for restoration of disturbed areas, temporary supports, or traffic control required for sign relocation activities unless specifically included as separate bid items in the Contract Documents.

20. FURNISH AND INSTALL 24" WHITE PAVEMENT MARKING (CROSSWALKS) (LF)

Furnish and Install 24" White Pavement Marking (Crosswalks) shall include all labor, materials, equipment, tools, surface preparation, layout, application, protection, and incidentals necessary for the installation of thermoplastic, paint, or other approved pavement marking material forming 24-inch wide white crosswalk markings at locations

shown in the Plans or as directed by the Engineer. This item shall include surface cleaning, drying, removal of loose material, and preparation of existing pavement to ensure proper adhesion and long-term durability of the marking material.

This item shall include layout and marking of crosswalk patterns in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), including transverse, ladder, or continental-style crosswalk configurations as required by the Plans. The Contractor shall ensure accurate alignment, spacing, and geometry consistent with roadway centerlines, curb returns, pedestrian ramps, and intersection geometry. Application shall be performed under suitable weather conditions to ensure proper bonding, reflectivity, and curing.

All markings shall be installed with retroreflective materials meeting applicable TxDOT requirements for nighttime visibility and skid resistance. The Contractor shall protect newly installed markings from vehicular and pedestrian traffic until fully cured and shall be responsible for replacement of any damaged or improperly installed markings at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 7 – Traffic Control and Pavement Markings

Section 7.05 – Pavement Marking Materials and Installation Requirements
Section 7.06 – Crosswalk Marking Layout and Geometry Standards
Section 7.07 – Surface Preparation for Pavement Markings
Section 7.08 – Retroreflectivity and Visibility Requirements

TXDOT REFERENCES

Item 666 – Retroreflectorized Pavement Markings
666.1 – Description (pavement marking scope)
666.2 – Materials (thermoplastic, paint, epoxy requirements)
666.3 – Construction Methods (application and installation procedures)
666.4 – Measurement (quantification of installed markings)
666.5 – Payment (basis of compensation)

Texas MUTCD – Pavement Markings and Crosswalk Design Standards
Item 502 – Barricades, Signs, and Traffic Handling (traffic protection during installation)

PAYMENT CLAUSE

All labor, materials, surface preparation, layout, application, curing, protection, and incidental work required for complete installation of 24-inch white pavement markings for

crosswalks shall be subsidiary to this bid item. No separate payment shall be made for traffic control, temporary protection, or restoration of markings unless specifically included as separate bid items in the Contract Documents.

21. MOVE POLICE SIGN & CONSTRUCT NEW 0.7 CY CONCRETE BASE (SHOP SUBMITTAL REQUIRED) (LS)

Move Police Sign and Construct New 0.7 CY Concrete Base (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the removal, protection, relocation, and reinstallation of existing police-related sign assembly and the construction of a new reinforced concrete foundation base of approximately 0.7 cubic yards at the new location shown in the Plans or as directed by the Engineer. This item shall include careful removal of the existing sign assembly to prevent damage to the sign face, reflective sheeting, posts, mounting hardware, and any electrical components if present.

This item shall further include excavation for the new sign foundation, disposal of unsuitable materials, subgrade preparation, forming, furnishing and placing reinforced concrete, vibration, finishing, curing, and backfilling around the completed base. The Contractor shall ensure that the foundation is constructed plumb, level, and in proper alignment to support wind loads, sign loading, and long-term stability.

A **shop drawing submittal shall be required** for the proposed concrete base design, including reinforcing steel layout, anchor bolt configuration, embedment depth, concrete mix design, and installation procedures. No work shall proceed until shop drawings are reviewed and approved by the Engineer.

All disturbed areas resulting from removal and installation activities shall be restored to match existing conditions or as directed by the Engineer. The Contractor shall coordinate relocation with traffic control operations and ensure that all sign visibility, height, orientation, and placement comply with applicable roadway safety and MUTCD requirements.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 7 – Traffic Control and Sign Structures

Section 7.01 – Sign Removal and Relocation Requirements
Section 7.02 – Sign Foundation Design and Construction Requirements
Section 7.03 – Structural Concrete for Sign Bases
Section 7.04 – Shop Drawing Submittal and Approval Requirements

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 666 – Signs, Sign Posts, and Sign Mounting Assemblies
Item 420 – Concrete Structures (for foundations and structural concrete)
Item 421 – Hydraulic Cement Concrete
Item 4 – Scope of Work
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, disposal, forming, reinforcement, concrete placement, curing, sign removal, relocation, reinstallation, shop drawing preparation, and all incidental work required for the complete relocation of the police sign and construction of a new 0.7 CY concrete base shall be subsidiary to this bid item. No separate payment shall be made for shop drawings, reinforcement, anchor bolts, or restoration of disturbed areas unless specifically included as separate bid items in the Contract Documents.

22 & 77. REMOVE AND DISPOSAL OF SANITARY SEWER MANHOLE (SSMH) (EA)

Remove and Disposal of Sanitary Sewer Manhole (SSMH) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, abandonment (if required), excavation, breaking, dismantling, loading, hauling, and lawful disposal of an existing sanitary sewer manhole structure, including all associated components such as rings, covers, frames, grade adjustments, concrete barrel sections, base slabs, flow channels, and any connected appurtenances within the limits shown in the Plans or as directed by the Engineer.

This item shall include coordination with the Owner and utility operator prior to removal, verification of flow isolation, bypass pumping if required, and protection of existing active sanitary sewer infrastructure. The Contractor shall ensure that all sewage flows are safely managed during removal operations and that no discharge or overflow occurs during construction activities.

Excavation and shoring required for safe removal shall be included. The Contractor shall properly break, remove, and dispose of all manhole materials in accordance with applicable environmental regulations and dispose of materials at an approved disposal site. Any voids resulting from removal shall be properly backfilled with suitable material, compacted in accordance with specification requirements, and restored to match existing subgrade conditions or as directed by the Engineer.

If the existing sanitary sewer manhole is to be abandoned in place rather than fully removed, the Contractor shall plug and seal all incoming and outgoing pipes, fill the

structure with flowable fill or other approved material, and cap the structure as directed by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer Manhole Removal Requirements
Section 8.02 – Abandonment and Plugging Procedures
Section 8.03 – Bypass Pumping and Flow Control Requirements
Section 8.04 – Excavation, Backfill, and Compaction Requirements for Sewer Structures

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures (as applicable)
Item 420 – Concrete Structures (removal and handling of reinforced concrete)
Item 464 – Reinforced Concrete Pipe (RCP) Systems (interface with sewer infrastructure)
Item 506 – Environmental Controls (spill and discharge prevention during sewer work)
Item 110 – Excavation
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, shoring, bypass pumping, flow control, removal, hauling, disposal, backfilling, compaction, abandonment sealing (if required), restoration of disturbed areas, and all incidental work required for complete removal and disposal of sanitary sewer manhole (SSMH) shall be subsidiary to this bid item. No separate payment shall be made for bypass pumping, flow isolation, or disposal fees unless specifically identified as separate bid items in the Contract Documents.

23. REMOVE AND DISPOSAL OF SANITARY SEWER CLEANOUT (SSCO) (EA)

Remove and Disposal of Sanitary Sewer Cleanout (SSCO) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, excavation, abandonment (if required), disposal, and restoration of an existing sanitary sewer cleanout assembly, including cleanout riser pipe, cap, frame, box (if present), and all associated fittings and appurtenances located within the project limits or as directed by the Engineer.

This item shall include careful excavation around the existing cleanout to prevent damage to adjacent sanitary sewer infrastructure, utilities, pavement, sidewalk, curb, or other

improvements. The Contractor shall verify that sanitary sewer flow is properly maintained during removal activities and shall implement temporary flow control measures if required.

The Contractor shall remove the cleanout assembly in its entirety unless otherwise directed, including saw cutting of surrounding pavement or concrete improvements, removal of pipe segments, and proper disposal of all materials in accordance with applicable local, state, and environmental regulations. All excavations shall be properly backfilled with suitable material, placed in lifts, and compacted to meet specification requirements.

Where abandonment in place is required or directed by the Engineer, the Contractor shall remove accessible components, plug or cap the sanitary sewer line in an approved manner, and fill the remaining void with flowable fill or other approved material to prevent settlement or infiltration.

All disturbed surfaces, including pavement, sidewalk, curb, landscaping, and other improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer Appurtenances Removal Requirements
Section 8.02 – Cleanout Installation and Abandonment Procedures
Section 8.03 – Excavation and Backfill for Sanitary Sewer Appurtenances
Section 8.04 – Utility Protection and Coordination Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures (as applicable)
Item 110 – Excavation
Item 464 – Sanitary Sewer Pipe Systems (connection interface requirements)
Item 506 – Temporary Erosion and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, saw cutting, removal, disposal, abandonment (if required), flow control, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete removal and disposal of sanitary sewer cleanout (SSCO) shall be subsidiary to this bid item. No separate payment shall be made for flow

control, pavement restoration, or disposal activities unless specifically included as separate bid items in the Contract Documents.

24 & 73. FURNISH AND INSTALL 8" SANITARY SEWER PIPE (LF)

Furnish and Install 8" Sanitary Sewer Pipe (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, inspection, and acceptance of 8-inch sanitary sewer pipeline, including trench excavation, shoring, dewatering, bedding, pipe installation, jointing, alignment, grade control, backfilling, compaction, testing, and restoration of disturbed areas, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation of trench to required depth and width, removal and disposal of unsuitable material, maintenance of trench stability, and protection of adjacent utilities and improvements. The Contractor shall provide and maintain safe trench conditions in accordance with applicable OSHA requirements. Bedding material shall be placed and compacted to provide uniform pipe support and proper grade control.

Pipe installation shall include furnishing and installing 8-inch sanitary sewer pipe of the specified material type (PVC, DIP, or approved equal), including rubber gasket joints or solvent weld joints as applicable, proper alignment, slope control, and connection to existing sanitary sewer infrastructure, manholes, cleanouts, or other appurtenances as shown in the Plans. All joints shall be watertight and installed in accordance with manufacturer and specification requirements.

The Contractor shall perform required testing including, but not limited to, infiltration/exfiltration testing, air testing, deflection testing (for flexible pipe), and CCTV inspection as required by the Contract Documents. Any defects identified shall be corrected by the Contractor at no additional cost to the Owner.

Backfill shall be placed in layers, compacted to specified density, and completed in accordance with applicable standards. All surface restoration, including pavement, sidewalk, curb, landscaping, or other improvements disturbed by construction, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.05 – Sanitary Sewer Pipe Installation Requirements
Section 8.06 – Trenching, Bedding, and Backfill Requirements
Section 8.07 – Sanitary Sewer Testing and Acceptance Requirements
Section 8.08 – Utility Coordination and Protection Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 464 – Reinforced Concrete Pipe / Sanitary Sewer Systems (as applicable)
Item 499 – Open Trench Safety and Utility Protection Requirements
Item 506 – Environmental Controls
Item 110 – Excavation
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, trench excavation, shoring, dewatering, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch sanitary sewer pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, utility coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

25 & 74. FURNISH AND INSTALL TRENCH PROTECTION (SANITARY SEWER 8") (LF)

Furnish and Install Trench Protection (Sanitary Sewer 8") shall include all labor, materials, equipment, tools, design, engineering (if required), installation, maintenance, relocation, adjustment, and removal of all trench safety systems necessary to protect workers, adjacent utilities, and existing improvements during excavation and installation of 8-inch sanitary sewer pipe. This item shall include the provision of all required trench protection systems such as trench boxes, trench shields, shoring systems, hydraulic shoring, sheet piling, slide rail systems, or other engineered excavation support systems suitable for soil conditions and trench depth.

This item shall include full compliance with OSHA excavation safety standards, including sloping, benching, shoring, and shielding requirements as applicable. The Contractor shall be solely responsible for determining and implementing the appropriate trench protection system based on field conditions, soil type, groundwater conditions, excavation depth, adjacent surcharge loads, and utility conflicts.

The Contractor shall provide engineered trench protection design documents when required by governing safety regulations or when trench conditions exceed prescriptive OSHA allowable limits. Such designs shall be sealed by a licensed professional engineer when required. Installation shall ensure continuous protection of the excavation at all times during pipe installation, manhole connections, bedding placement, and backfilling operations.

Trench protection systems shall be installed, adjusted, and removed in a manner that does not damage installed utilities, adjacent structures, pavements, or other improvements. The Contractor shall coordinate trench protection with dewatering operations, utility crossings, and confined workspace requirements. All excavation support systems shall be maintained in safe working condition for the duration of their use.

Removal of trench protection systems shall be performed only after backfill has reached a stable condition sufficient to prevent trench collapse or settlement. Any damage to installed improvements resulting from inadequate trench protection shall be repaired by the Contractor at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.06 – Trenching and Excavation Safety Requirements
Section 8.07 – Subsurface Utility Protection Requirements
Section 8.08 – Backfill and Compaction Requirements Adjacent to Trench Protection Systems
Section 8.09 – Dewatering and Excavation Stability Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 499 – Open Trench Safety and Excavation Protection Requirements
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, engineering (if required), installation, maintenance, adjustment, relocation, and removal of trench protection systems, including trench boxes, shoring, shielding, sheet piling, or other excavation support systems, shall be subsidiary to this bid item. No separate payment shall be made for engineered shoring designs, OSHA compliance measures, groundwater control, or safety systems unless specifically identified as separate bid items in the Contract Documents.

26 & 76. FURNISH AND INSTALL SANITARY SEWER MANHOLE (5' DIAMETER) (EA)

Furnish and Install Sanitary Sewer Manhole (5’ Diameter) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing,

construction, installation, adjustment, testing, and acceptance of a 5-foot diameter sanitary sewer manhole, complete in place, including base, barrel sections, cone section, grade rings, frame and cover assembly, pipe connections, flow channels, benching, exterior coatings, waterproofing, and all appurtenant components as shown in the Plans or as directed by the Engineer.

This item shall include excavation to required depth and diameter, removal and disposal of unsuitable material, dewatering as required, and provision of stable subgrade foundation conditions suitable for manhole installation. The Contractor shall provide structural base preparation including leveling pad (cast-in-place or precast base as specified), ensuring proper alignment, invert elevations, and pipe connections.

Manhole construction shall include furnishing precast reinforced concrete sections meeting applicable ASTM standards, including watertight joints with gaskets or sealants, proper alignment of barrel sections, installation of eccentric or concentric cone sections as shown in the Plans, and adjustment to finished grade using grade rings or precast adjustment units. All pipe penetrations shall be made watertight using approved boot seals or flexible connectors.

Interior manhole surfaces shall include smooth concrete channels and benches shaped to promote hydraulic flow and minimize turbulence and sediment accumulation. Exterior surfaces shall be coated or sealed with approved waterproofing materials to prevent infiltration and corrosion.

The Contractor shall connect all incoming and outgoing sanitary sewer pipes to the manhole in accordance with design grades and alignments, ensuring watertight integrity of all joints. The Contractor shall perform vacuum testing, infiltration testing, or other acceptance testing as required by the Contract Documents. Any leaks, defects, or structural deficiencies shall be corrected by the Contractor at no additional cost.

Backfill shall be placed in controlled lifts and compacted to required density. Surface restoration shall be completed to match existing or proposed conditions, including pavement, sidewalk, curb, or landscaping disturbed by construction.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.10 – Sanitary Sewer Manhole Construction Requirements
Section 8.11 – Precast Concrete Manhole Installation Requirements
Section 8.12 – Manhole Jointing, Sealing, and Waterproofing Requirements

Section 8.13 – Invert Channel and Benching Construction Standards
Section 8.14 – Manhole Testing, Inspection, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (precast and cast-in-place components)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 499 – Utility Protection and Excavation Safety
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, dewatering, bedding, base preparation, manhole components, pipe connections, joint sealing, benching, invert construction, waterproofing, testing, backfilling, compaction, surface restoration, and all incidental work required for complete installation of a 5-foot diameter sanitary sewer manhole shall be subsidiary to this bid item. No separate payment shall be made for testing, waterproofing systems, grade adjustments, or restoration of disturbed improvements unless specifically included as separate bid items in the Contract Documents.

27 & 75. FURNISH AND INSTALL 8" SANITARY SEWER WITH 18" STEEL ENCASEMENT (LF)

Furnish and Install 8” Sanitary Sewer with 18” Steel Encasement (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, jacking, boring (or open cut where permitted), alignment, connection, testing, and acceptance of an 8-inch sanitary sewer pipe installed within an 18-inch steel casing/encasement pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include all required excavation, boring pits, receiving pits, sheeting and shoring, dewatering, traffic control coordination, and protection of existing utilities and improvements. The Contractor shall be responsible for verifying alignment, grade, and installation tolerances required for both the carrier pipe and casing installation.

The 18-inch steel encasement pipe shall be furnished and installed by jacking, boring, or other approved trenchless installation method, designed to safely pass beneath roadways, railroads, drainage features, or existing utilities without disturbing surface improvements

unless otherwise specified. Steel casing shall meet applicable structural and corrosion protection requirements, including coatings or wraps if required by the Contract Documents.

The 8-inch sanitary sewer carrier pipe shall be installed within the steel encasement pipe using approved casing spacers or supports to maintain proper alignment, grade, and separation from the casing wall. Carrier pipe joints shall be watertight and installed in accordance with manufacturer requirements and applicable sanitary sewer standards.

Annular space between the carrier pipe and casing shall be sealed with approved end seals or bulkheads to prevent infiltration of groundwater, soil intrusion, or debris. The Contractor shall ensure that all pipe connections at both ends of the encasement are properly tied into the sanitary sewer system with watertight transitions.

All installation operations shall be conducted in a manner that prevents settlement, surface disturbance, or damage to existing infrastructure. The Contractor shall restore all disturbed areas including pavement, sidewalk, curb, roadway, and landscaping to match existing conditions or as shown in the Plans.

The Contractor shall perform all required testing of the sanitary sewer line following installation, including air testing, infiltration/exfiltration testing, and CCTV inspection as required by the Contract Documents. Any deficiencies shall be corrected by the Contractor at no additional cost.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.15 – Trenchless Installation Methods (Boring and Jacking Requirements)
Section 8.16 – Casing Pipe Installation Requirements
Section 8.17 – Carrier Pipe Installation Within Casing Requirements
Section 8.18 – Sealing, End Caps, and Annular Space Protection
Section 8.19 – Utility Crossing and Protection Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 462 – Pipe Culverts (Steel Casing / Encasement Applications)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 476 – Jacking, Boring, or Tunneling Operations (as applicable)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls

Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, boring or jacking operations, pits, sheeting and shoring, dewatering, steel encasement pipe, carrier pipe, casing spacers, end seals, pipe connections, testing, backfilling, compaction, surface restoration, traffic control coordination, and all incidental work required for complete installation of 8-inch sanitary sewer within 18-inch steel encasement shall be subsidiary to this bid item. No separate payment shall be made for trenchless installation methods, utility protection, or restoration of disturbed improvements unless specifically identified as separate bid items in the Contract Documents.

28 & 78. SANITARY SEWER LINE REMOVAL (LF)

Sanitary Sewer Line Removal (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete abandonment, removal, excavation, dismantling, loading, hauling, and lawful disposal of existing sanitary sewer pipelines of all sizes and materials encountered within the limits shown in the Plans or as directed by the Engineer. This item shall include full depth excavation to expose the existing pipeline, removal of pipe segments, fittings, connections, and appurtenances, and disposal of all removed materials in accordance with applicable federal, state, and local environmental regulations.

This item shall include protection of active sanitary sewer flows during removal operations. The Contractor shall maintain service continuity and prevent unauthorized discharge by implementing bypass pumping, flow diversion, plugging, or other approved methods as required. Any damage to active sanitary sewer infrastructure resulting from improper removal operations shall be repaired by the Contractor at no additional cost to the Owner.

The Contractor shall carefully expose existing sanitary sewer lines by means of approved excavation methods, including hand excavation where necessary to prevent damage to adjacent utilities and improvements. Pipe removal shall include breaking, cutting, or disconnecting pipe joints and appurtenances in a controlled manner to avoid damage to surrounding infrastructure.

Where sanitary sewer lines are to be abandoned in place rather than fully removed, the Contractor shall plug and seal all open ends using approved methods, and fill remaining voids with flowable fill or other approved material to prevent settlement, infiltration, or collapse. All abandonment operations shall be performed in accordance with applicable utility standards and as directed by the Engineer.

All disturbed areas resulting from removal operations shall be backfilled with suitable material placed in controlled lifts and compacted to specification requirements. Surface restoration shall include replacement of pavement, sidewalk, curb, driveway, landscaping, and any other improvements disturbed by construction activities, to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer System Removal Requirements
Section 8.02 – Abandonment and Plugging of Sanitary Sewer Lines
Section 8.03 – Bypass Pumping and Flow Control Requirements
Section 8.04 – Utility Protection and Coordination Requirements
Section 8.06 – Excavation and Backfill Requirements for Sanitary Sewer Facilities

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (appurtenance removal where applicable)
Item 464 – Sanitary Sewer Systems and Appurtenances
Item 110 – Excavation
Item 499 – Utility Protection Requirements
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, removal, cutting, dismantling, hauling, disposal, bypass pumping, flow control, abandonment sealing, backfilling, compaction, and surface restoration required for complete removal of sanitary sewer lines shall be subsidiary to this bid item. No separate payment shall be made for bypass pumping, utility protection, or restoration of disturbed improvements unless specifically included as separate bid items in the Contract Documents.

29. SANITARY SEWER ABANDONMENT & GROUT (CY)

Sanitary Sewer Abandonment & Grout (CY) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete abandonment, sealing, filling, and permanent decommissioning of existing sanitary sewer pipelines, manholes, laterals, cleanouts, and associated appurtenances as shown in the Plans or as directed by the Engineer. This item shall include excavation as required to access the sanitary sewer

facility, exposure of pipe or structures, isolation of flow, and implementation of bypass pumping or flow control measures to maintain uninterrupted sanitary sewer service during abandonment operations.

This item shall include cleaning of the existing pipeline or structure prior to abandonment, removal of debris, sediment, and obstructions, and preparation of the system for grout filling. The Contractor shall furnish and place flowable fill, controlled low-strength material (CLSM), cementitious grout, or other approved material to completely fill all voids within the pipe, manholes, or appurtenances being abandoned. Grout shall be placed in a manner that ensures complete filling without voids, settlement, or future collapse.

For pipe abandonment, all accessible ends shall be properly plugged and sealed using approved mechanical or concrete plugs prior to grouting. For manhole abandonment, frames, covers, cones, and upper barrel sections shall be removed as required, and the remaining structure shall be filled completely with grout or flowable fill to prevent infiltration, collapse, or void formation.

The Contractor shall ensure that all abandonment activities prevent infiltration of groundwater, soil migration, or surface settlement. All work shall be performed in accordance with applicable safety, environmental, and utility standards. Any damage to active sanitary sewer infrastructure or adjacent improvements resulting from abandonment operations shall be repaired by the Contractor at no additional cost to the Owner.

All disturbed areas resulting from abandonment operations shall be backfilled, compacted, and restored to match existing conditions or as shown in the Plans, including pavement, sidewalk, curb, driveway, and landscaping restoration.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.01 – Sanitary Sewer Abandonment Requirements
Section 8.02 – Plugging and Sealing of Sanitary Sewer Facilities
Section 8.03 – Flowable Fill and Grout Filling Requirements
Section 8.04 – Manhole Abandonment Procedures
Section 8.05 – Bypass Pumping and Flow Control Requirements
Section 8.06 – Excavation, Backfill, and Restoration Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (as applicable for manhole components)

Item 464 – Sanitary Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (CLSM)
Item 110 – Excavation
Item 499 – Utility Protection and Safety Requirements
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, cleaning, flow control, bypass pumping, plugging, grouting, flowable fill placement, sealing, removal of appurtenances, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete abandonment and grouting of sanitary sewer facilities shall be subsidiary to this bid item. No separate payment shall be made for bypass pumping, CLSM, grout materials, or restoration unless specifically identified as separate bid items in the Contract Documents.

30 & 79. FURNISH AND INSTALL 8" WATER LINE (INCLUDING ALL FITTINGS, BENDS, & TEES) (LF)

Furnish and Install 8” Water Line (Including All Fittings, Bends, & Tees) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, disinfection, and acceptance of an 8-inch potable water distribution pipeline system, including all pipe, fittings, bends, tees, adapters, valves connections (as shown or required), thrust restraint systems, and appurtenances required to provide a fully functional water distribution system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, maintenance of trench stability, dewatering as required, bedding, pipe installation, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall provide continuous protection of existing utilities and improvements during construction and shall coordinate all crossings, tie-ins, and connections with the City’s water system or designated utility operator.

All fittings, bends, tees, couplings, and appurtenances shall be furnished and installed as required to complete the alignment and hydraulic configuration shown in the Plans. Thrust restraint systems shall be installed at all fittings, bends, tees, valves, and dead ends in accordance with design requirements and applicable standards to prevent pipe movement under operating pressure conditions.

The Contractor shall perform pressure testing of the installed water line in accordance with applicable standards, including hydrostatic pressure testing, leakage testing, and any required corrective actions. Upon successful testing, the Contractor shall disinfect the water line using approved chlorination methods, flush the system, and obtain required bacteriological test results prior to final acceptance and connection to the existing water distribution system.

All connections to existing water mains shall be coordinated with the Engineer and utility operator and shall include shutdown coordination, temporary water service provisions if required, and restoration of service with minimal disruption.

All surface improvements disturbed during installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Line Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements for Water Lines
Section 9.03 – Fittings, Valves, and Appurtenances Installation Requirements
Section 9.04 – Thrust Restraint Design and Installation Requirements
Section 9.05 – Pressure Testing, Disinfection, and Acceptance Requirements
Section 9.06 – Utility Coordination and Tie-In Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Pipe and Fittings for Water Distribution Systems
Item 502 – Barricades, Signs, and Traffic Handling
Item 499 – Utility Protection and Safety Requirements
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, thrust restraint systems, valves (if applicable), installation, jointing, testing, pressure testing, disinfection, flushing, bacteriological testing coordination, tie-ins, shutdown coordination,

backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch water line including all fittings shall be subsidiary to this bid item. No separate payment shall be made for thrust blocks, testing, disinfection, tie-in coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

31. FURNISH AND INSTALL 16" WATER LINE (INCLUDING ALL FITTINGS, BENDS, & TEES) (LF)

Furnish and Install 16” Water Line (Including All Fittings, Bends, & Tees) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, disinfection, and acceptance of a 16-inch potable water transmission/distribution pipeline system, including all pipe, fittings, bends, tees, reducers, adapters, valves (if shown in Plans), thrust restraint systems, and all appurtenances required to construct a fully functional and operational water system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, dewatering, trench stabilization, sheeting and shoring as required, bedding, pipe installation, alignment, grade control, jointing, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall be responsible for maintaining safe excavation conditions at all times and shall protect existing utilities, structures, roadways, and improvements throughout construction activities.

All fittings, bends, tees, reducers, and appurtenances required to achieve the alignment and hydraulic configuration shown in the Plans shall be furnished and installed as part of this item. Thrust restraint systems, including thrust blocks and/or restrained joint systems, shall be installed at all changes in direction, fittings, tees, valves, and dead ends to resist hydraulic forces and ensure long-term pipeline stability.

The Contractor shall perform hydrostatic pressure testing of the completed water line in accordance with applicable standards, including leakage testing and corrective repairs as necessary. Upon successful completion of pressure testing, the Contractor shall disinfect the water line using approved chlorination procedures, flush the system thoroughly, and obtain satisfactory bacteriological test results prior to final acceptance and system integration.

The Contractor shall coordinate all tie-ins to existing water systems with the Engineer and utility operator, including shutdown scheduling, temporary service provisions if required, and minimization of service interruptions. All work shall be performed in a manner that maintains continuity of service and public safety.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and other improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Transmission Main Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements
Section 9.03 – Fittings, Valves, and Appurtenances Requirements
Section 9.04 – Thrust Restraint Systems and Structural Stability Requirements
Section 9.05 – Pressure Testing, Disinfection, and Bacteriological Testing Requirements
Section 9.06 – Utility Coordination and Tie-In Requirements
Section 9.07 – Large Diameter Water Line Installation Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Fittings
Item 499 – Utility Accommodation and Protection
Item 502 – Traffic Control and Maintenance of Traffic
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, reducers, thrust restraint systems, installation, jointing, testing, pressure testing, disinfection, flushing, bacteriological testing coordination, tie-ins, shutdown coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 16-inch water line including all fittings shall be subsidiary to this bid item. No separate payment shall be made for thrust restraint systems, testing, disinfection, tie-in coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

32 & 80. FURNISH AND INSTALL TRENCH PROTECTION (WATER LINE 8" & 16") (LF)

Furnish and Install Trench Protection (Water Line 8” & 16”) shall include all labor, materials, equipment, tools, engineering, design (when required), installation, maintenance, adjustment, relocation, monitoring, and removal of all trench safety and excavation

support systems necessary for the safe construction of 8-inch and 16-inch water lines, including all appurtenant structures, fittings, and tie-ins, as shown in the Plans or as directed by the Engineer.

This item shall include furnishing and installing all required trench protection systems, including but not limited to trench boxes, trench shields, hydraulic shoring systems, aluminum or steel shoring, sheet piling, slide rail systems, or other engineered excavation support systems necessary to safely support excavation walls during pipe installation, bedding, jointing, and backfilling operations.

The Contractor shall be solely responsible for determining the appropriate trench protection system based on site conditions, including soil type, groundwater conditions, excavation depth, surcharge loads, proximity to existing utilities, traffic loads, and structural constraints. All trench protection systems shall be designed, installed, and maintained in full compliance with OSHA excavation safety regulations and all applicable federal, state, and local safety requirements.

Where required by excavation depth or soil conditions, the Contractor shall provide engineered trench protection design documents prepared and sealed by a licensed Professional Engineer. Such designs shall include calculations, system layout, installation procedures, and structural adequacy for the anticipated loads and conditions.

Trench protection systems shall be installed in a manner that allows safe access for workers while preventing collapse, soil movement, or damage to adjacent utilities, structures, pavement, or improvements. The Contractor shall coordinate trench protection with dewatering operations, utility crossings, and confined workspace requirements associated with both 8-inch distribution and 16-inch transmission water line installations.

All trench protection systems shall remain in place and fully functional throughout excavation, pipe installation, jointing, inspection, testing, and backfilling operations. Removal of trench protection shall only occur after sufficient backfill placement has been completed to ensure stability and prevent trench failure or settlement.

Any damage to installed utilities, structures, or improvements resulting from inadequate trench protection, improper installation, or premature removal shall be repaired by the Contractor at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.02 – Trenching and Excavation Safety Requirements
Section 9.03 – Utility Protection and Coordination Requirements

Section 9.04 – Excavation Support Systems and Structural Stability
Section 9.05 – Backfill and Compaction Requirements Adjacent to Trench Support Systems
Section 9.06 – Dewatering and Groundwater Control Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, engineering (if required), installation, maintenance, adjustment, relocation, monitoring, and removal of trench protection systems, including trench boxes, shoring systems, shielding, sheet piling, slide rail systems, or other excavation support systems required for safe installation of 8-inch and 16-inch water lines shall be subsidiary to this bid item. No separate payment shall be made for engineered shoring design, OSHA compliance measures, groundwater control, or excavation safety systems unless specifically identified as separate bid items in the Contract Documents.

33, 64D & 81. FURNISH AND INSTALL 6” & 8" GATE VALVES WITH VALVE BOXES (EA)

Furnish and Install 6” & 8” Gate Valve with Valve Boxes (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, adjustment, and acceptance of an 8-inch resilient wedge gate valve assembly, complete with valve box, cover, accessories, and all appurtenant components required for a fully operational isolation valve installation, as shown in the Plans or as directed by the Engineer.

This item shall include excavation for valve installation, removal and disposal of unsuitable material, bedding preparation, alignment, and installation of the valve in accordance with manufacturer requirements and applicable water distribution standards. The gate valve shall be furnished with a non-rising stem or rising stem configuration as specified, with resilient wedge sealing mechanism, epoxy-coated interior and exterior surfaces (or approved equivalent), and rated for full working pressure of the water distribution system.

The Contractor shall install all required fittings, adapters, and restraint systems necessary to integrate the valve into the 8-inch water line, ensuring watertight connections and proper

alignment with adjacent piping. The valve shall be installed in a manner that allows full operational accessibility and proper vertical alignment with the valve box assembly.

Valve box assemblies shall be furnished and installed to provide full access to the operating nut, including adjustable cast iron or polymer valve boxes with covers marked "WATER" in accordance with utility standards. Valve boxes shall be set plumb, centered over the valve operating nut, and adjusted to finished grade in coordination with roadway, sidewalk, or ground surface elevations.

The Contractor shall coordinate installation of the valve with pressure testing, disinfection, and system commissioning of the water line. All valves shall be fully tested for operation, leakage, and structural integrity prior to final acceptance. Any valve found to be defective or improperly installed shall be repaired or replaced at no additional cost to the Owner.

All disturbed areas resulting from valve installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.03 – Valves and Appurtenances Installation Requirements
Section 9.04 – Gate Valve Installation and Alignment Requirements
Section 9.05 – Valve Box and Access Assembly Requirements
Section 9.06 – Utility Tie-In and Isolation Valve Requirements
Section 9.07 – Testing and Operational Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Valves
Item 504 – Valves and Appurtenances (where applicable)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, valve installation, fittings, adapters, restraint systems, valve box installation, adjustment to grade, testing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch gate valve with valve box assembly shall be subsidiary to this bid item. No separate payment shall be made for valve boxes, fittings, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

34. FURNISH AND INSTALL 16" GATE VALVE WITH VALVE BOXES (EA)

Furnish and Install 16” Gate Valve with Valve Boxes (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, adjustment, and acceptance of a 16-inch resilient wedge gate valve assembly, including valve, fittings, adapters, restraint systems, valve box assembly, accessories, and all appurtenant components required for a fully operational isolation valve installation, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, bedding preparation, alignment, and installation of the valve in accordance with manufacturer requirements and applicable standards for large-diameter water transmission and distribution systems. The gate valve shall be furnished with epoxy-coated interior and exterior surfaces (or approved equivalent), resilient sealing mechanism, and pressure rating suitable for the 16-inch water transmission system operating conditions.

The Contractor shall furnish and install all necessary fittings, bends, tees, reducers, and restrained joint systems required to integrate the valve into the 16-inch water line. Thrust restraint systems shall be installed as required at all connections and fittings to ensure long-term stability and resistance to hydraulic forces. The valve shall be installed plumb and properly aligned with pipeline centerline to ensure smooth operation and accessibility.

Valve box assemblies (or valve access structures as required for large diameter valves) shall be furnished and installed to provide full operational access to the valve operating mechanism. Valve boxes shall be heavy-duty cast iron or approved equivalent, clearly marked “WATER,” and installed flush with finished grade or adjusted to match roadway, sidewalk, or surface conditions. Where required for deep installations, valve access risers or vault structures may be used as shown in the Plans.

The Contractor shall coordinate valve installation with hydrostatic pressure testing, disinfection, flushing, and system commissioning. All valves shall be fully tested for operation under pressure conditions and inspected for leakage, structural integrity, and

proper function prior to acceptance. Any deficiencies shall be corrected by the Contractor at no additional cost to the Owner.

All disturbed areas resulting from installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.03 – Valve and Appurtenance Installation Requirements
Section 9.04 – Large Diameter Gate Valve Installation Requirements
Section 9.05 – Valve Box and Access Structure Requirements
Section 9.06 – Thrust Restraint and Structural Support Requirements
Section 9.07 – Testing, Disinfection, and Operational Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe, Valves, and Appurtenances
Item 504 – Valves (Large Diameter Applications)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, valve installation, fittings, adapters, restrained joint systems, valve box or vault installation, adjustment to grade, testing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 16-inch gate valve with valve box assembly shall be subsidiary to this bid item. No separate payment shall be made for vaults, fittings, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

35 & 83. FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY (EA)

Furnish and Install Fire Hydrant Assembly (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation,

testing, and acceptance of a fully operational fire hydrant assembly, complete in place, as shown in the Plans or as directed by the Engineer. This item shall include the fire hydrant, hydrant valve, valve box or valve access, fittings, bends, tees, restrained joint piping, thrust restraint system, extension components (if required), and all appurtenant materials necessary to provide a complete and operational hydrant installation connected to the water distribution system.

This item shall include excavation, removal and disposal of unsuitable material, bedding preparation, alignment, and installation of hydrant branch piping from the water main to the hydrant location. The hydrant assembly shall be installed plumb and oriented as directed by the Engineer to ensure proper nozzle facing toward roadway access and emergency vehicle approach. The hydrant shall be furnished with a breakaway flange or traffic-safe design, and shall meet all applicable AWWA standards and local fire protection requirements.

The hydrant valve shall be installed on the branch line and shall include a valve box or access structure set to finished grade. All fittings, bends, and tees shall be properly restrained to resist thrust forces. The hydrant assembly shall be painted with approved safety colors and shall include caps, chains, operating nut, drain valve, and all standard accessories required for full operational readiness.

The Contractor shall coordinate installation with the Owner, fire authority, and utility operator to ensure proper spacing, flow capacity, and system compatibility. Upon completion, the hydrant assembly shall be tested under pressure, flushed, and verified for proper operation and flow performance as part of the water system testing and disinfection process.

All disturbed areas resulting from hydrant installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.08 – Fire Hydrant Installation Requirements
Section 9.09 – Hydrant Branch Piping and Valve Requirements
Section 9.10 – Thrust Restraint and Fitting Requirements
Section 9.11 – Hydrant Location, Spacing, and Orientation Requirements
Section 9.12 – Testing, Flushing, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe, Fittings, and Appurtenances
Item 504 – Valves and Hydrant Assemblies
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Barricades
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, hydrant assembly, hydrant valve, fittings, bends, tees, restrained joint piping, thrust restraint systems, valve box or access, installation, alignment, testing, flushing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of fire hydrant assembly shall be subsidiary to this bid item. No separate payment shall be made for hydrant extensions, fittings, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

36 & 84. FURNISH AND INSTALL 6" DIA FIRE HYDRANT LEAD PIPE (LF)

Furnish and Install 6” Diameter Fire Hydrant Lead Pipe (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 6-inch fire hydrant lead pipeline connecting the proposed water main to the fire hydrant assembly, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding, pipe installation, jointing, alignment, and backfilling with proper compaction in accordance with specification requirements. The fire hydrant lead pipe shall be installed with proper grade and alignment to ensure efficient hydraulic flow from the water main to the hydrant assembly without obstruction or restriction.

The Contractor shall furnish and install all necessary fittings, bends, tees, adapters, and restrained joint systems required for connection to the water main and hydrant assembly. All joints shall be watertight and compatible with the specified pipe material. Thrust restraint systems shall be installed at all fittings and direction changes to prevent movement under operating pressure conditions.

The hydrant lead pipe shall be connected to the hydrant assembly and isolation valve in accordance with manufacturer and utility requirements. All connections shall be properly restrained and sealed to ensure long-term durability and leak-free operation. The Contractor shall coordinate installation with hydrant placement and water main construction to ensure proper sequencing and alignment.

Upon completion, the hydrant lead pipe shall be tested as part of the overall water system testing, including hydrostatic pressure testing and flushing. Any leaks, misalignments, or deficiencies shall be corrected by the Contractor at no additional cost to the Owner.

All disturbed areas resulting from installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.08 – Fire Hydrant Lead Pipe Installation Requirements
Section 9.09 – Hydrant Branch Connection Requirements
Section 9.10 – Thrust Restraint and Joint Restraining Requirements
Section 9.11 – Trenching, Bedding, and Backfill Requirements
Section 9.12 – Testing and System Integration Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Fittings
Item 504 – Fire Hydrant Assemblies and Appurtenances
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, restrained joint systems, installation, connection to water main and hydrant assembly, testing, flushing, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 6-inch fire hydrant lead pipe shall be subsidiary to this

bid item. No separate payment shall be made for fittings, thrust restraint systems, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

37 & 101. REMOVE AND REPLACE FIRE HYDRANT ASSEMBLY (EA)

Remove and Replace Fire Hydrant Assembly (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, disposal (or salvage as directed), furnishing, installation, reconnection, testing, and acceptance of a new fire hydrant assembly in the same or relocated position, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, exposure of existing hydrant lead piping and isolation valve, careful disconnection of the existing hydrant assembly, and removal of all hydrant components including barrel, bonnet, operating nut, nozzles, caps, chains, extension sections, and traffic breakaway components. The Contractor shall protect existing water distribution facilities during removal and maintain system integrity at all times.

The Contractor shall furnish and install a new fire hydrant assembly meeting all applicable AWWA and local utility standards, including hydrant body, operating mechanism, breakaway flange, nozzle configuration, caps, chains, and accessories. The hydrant shall be installed plumb, properly oriented toward roadway access, and set to correct finished grade.

This item shall include reconnection to the existing or newly constructed hydrant lead pipe and isolation valve, including all necessary fittings, bends, adapters, restrained joint piping, and thrust restraint systems required to ensure a watertight and structurally sound installation. Any required adjustments to align with existing water system infrastructure shall be included.

The Contractor shall test the hydrant assembly as part of the water system testing process, including pressure testing, flushing, and operational verification. The hydrant shall be fully functional and verified for flow performance prior to acceptance.

All disturbed areas resulting from removal and replacement activities, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.08 – Fire Hydrant Installation and Replacement Requirements
Section 9.09 – Hydrant Removal and Replacement Procedures
Section 9.10 – Hydrant Lead Connection and Valve Requirements
Section 9.11 – Thrust Restraint and Fitting Requirements
Section 9.12 – Testing, Flushing, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe, Fittings, and Appurtenances
Item 504 – Fire Hydrant Assemblies
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, removal, disposal or salvage, hydrant assembly, fittings, adapters, restrained joint piping, thrust restraint systems, reconnection, installation, testing, flushing, operational verification, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete removal and replacement of fire hydrant assembly shall be subsidiary to this bid item. No separate payment shall be made for fittings, adjustments, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

38. FURNISH AND INSTALL 8" WATER LINE WITH CONCRETE ENCASEMENT (LF)

Furnish and Install 8” Water Line with Concrete Encasement (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of an 8-inch potable water pipeline encased in concrete, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe installation, alignment, jointing, and placement of concrete encasement around the water line. The Contractor shall ensure proper grade control and alignment of the water line prior to encasement placement to prevent movement, flotation, or misalignment during concrete operations.

The concrete encasement shall be furnished and placed in accordance with the Plans and specifications, fully surrounding the pipe to the required dimensions and limits. The encasement shall be constructed using approved concrete mix design and shall be placed in a manner that prevents voids, segregation, or displacement of the water line. The Contractor shall ensure that the pipe remains properly supported and restrained during concrete placement.

All fittings, bends, tees, and appurtenances within the encasement zone shall be fully restrained and properly secured prior to encasement placement. The Contractor shall coordinate all installation sequencing to ensure continuous alignment and watertight integrity of the water system outside and within encasement sections.

The Contractor shall protect all adjacent utilities, structures, and improvements during excavation and concrete placement operations. Any damage resulting from encasement operations shall be repaired by the Contractor at no additional cost to the Owner.

After completion, the water line shall be tested in accordance with applicable hydrostatic pressure testing, flushing, and disinfection requirements prior to final acceptance. Any leaks or deficiencies shall be corrected by the Contractor.

All disturbed areas resulting from installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Line Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements
Section 9.03 – Concrete Encasement Requirements for Utilities
Section 9.04 – Thrust Restraint and Pipe Stabilization Requirements
Section 9.05 – Testing, Disinfection, and Acceptance Requirements
Section 9.06 – Utility Protection and Coordination Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Water Line Pipe and Fittings
Item 420 – Concrete Structures (encasement application)
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation

Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe installation, concrete encasement, jointing, restraint, protection of utilities, testing, pressure testing, flushing, disinfection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch water line with concrete encasement shall be subsidiary to this bid item. No separate payment shall be made for concrete encasement, restraint systems, testing, or restoration unless specifically identified as separate bid items in the Contract Documents.

39 & 98. REMOVE AND DISPOSAL OF STORM SEWER INLETS (ALL SIZES) (EA)

Remove and Disposal of Storm Sewer Inlets (All Sizes) (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, dismantling, excavation, loading, hauling, and lawful disposal of existing storm sewer inlet structures of all types and sizes, including but not limited to curb inlets, drop inlets, junction inlets, median inlets, field inlets, and associated appurtenances, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation to expose the full structure, removal of inlet grates, frames, throat sections, concrete box sections, wing walls, aprons, and any connected storm drain piping. The Contractor shall exercise care to prevent damage to adjacent pavement, curb, sidewalk, utilities, and other improvements during removal operations.

Where storm sewer inlets are connected to active drainage systems, the Contractor shall maintain positive drainage and prevent flooding, ponding, or sediment discharge during removal operations. Temporary bypass measures, plugs, diversion systems, or other approved methods shall be provided as necessary to maintain system functionality and protect downstream facilities.

All removed concrete, metal, piping, and appurtenant materials shall be properly disposed of at approved disposal sites in accordance with applicable environmental regulations. Salvage of components may be required where directed by the Engineer.

After removal, all voids shall be backfilled with suitable material placed in controlled lifts and compacted to meet specification requirements. Where required, flowable fill or

controlled low-strength material (CLSM) shall be used to prevent future settlement or void formation.

All disturbed areas, including pavement, curb, sidewalk, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Sewer Structure Removal Requirements
Section 10.02 – Inlet and Junction Structure Abandonment Procedures
Section 10.03 – Excavation, Backfill, and Compaction Requirements
Section 10.04 – Drainage System Flow Maintenance Requirements
Section 10.05 – Restoration of Storm Drainage Facilities

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (removal of reinforced concrete components)
Item 460 – Storm Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (CLSM)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, removal, dismantling, hauling, disposal, backfilling, compaction, flowable fill (if required), maintenance of drainage flow, restoration of disturbed areas, and all incidental work required for complete removal and disposal of storm sewer inlets (all sizes) shall be subsidiary to this bid item. No separate payment shall be made for bypassing drainage, salvage operations, or restoration unless specifically identified as separate bid items in the Contract Documents.

40 & 86. FURNISH AND INSTALL 24" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 24” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 24-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall ensure proper trench stability and protection of adjacent utilities, structures, and improvements during all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting ASTM and applicable TxDOT standards, including rubber gasket joints to provide watertight connections. The pipe shall be installed to the lines and grades shown in the Plans with proper alignment to ensure hydraulic efficiency and structural integrity.

The Contractor shall provide all necessary fittings, bends, connectors, and appurtenances required to connect to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, or outfalls. All joints shall be inspected and tested as required to ensure compliance with leakage and alignment standards.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV (if required by Contract Documents), and shall correct any defects at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic

Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 24-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

41 & 87. FURNISH AND INSTALL 30" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 30” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 30-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, alignment, jointing, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall maintain trench stability at all times and shall protect adjacent utilities, structures, roadways, and improvements from damage during construction activities.

Pipe installation shall include furnishing and installing reinforced concrete pipe conforming to applicable ASTM and TxDOT standards, including rubber gasket joints to ensure watertight performance. The pipe shall be installed to the line and grade shown in the Plans, with proper alignment to ensure hydraulic efficiency, structural integrity, and long-term durability.

The Contractor shall furnish and install all necessary fittings, connectors, and appurtenances required to connect the pipe to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, and outfalls. All joints shall be installed in accordance with manufacturer recommendations and inspected for proper fit and sealing.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV inspection if required by the Contract Documents, and shall correct any deficiencies at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill Requirements for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 30-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

42 & 89. FURNISH AND INSTALL 48" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 48” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 48-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe installation, alignment, jointing, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall provide trench stability measures as required and shall protect adjacent utilities, structures, roadways, and improvements throughout all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting applicable ASTM and TxDOT standards, including rubber gasket joints to ensure watertight performance and long-term durability. The pipe shall be installed to the line and grade shown in the Plans, maintaining proper alignment to ensure hydraulic efficiency and structural integrity for large-diameter storm sewer conveyance.

The Contractor shall furnish and install all necessary fittings, connectors, and appurtenances required to connect the pipe to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, and outfalls. All joints shall be installed in accordance with manufacturer requirements and shall be inspected to ensure proper seating and sealing.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV inspection if required by the Contract Documents. Any defects, misalignment, joint leakage, or structural deficiencies shall be corrected by the Contractor at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Large Diameter Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing, Inspection, and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill

Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 48-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

43 & 90 & 91. FURNISH AND INSTALL TRENCH PROTECTION (RCP) (LF / LS)

Furnish and Install Trench Protection (RCP) shall include all labor, materials, equipment, tools, engineering, design (when required), installation, maintenance, adjustment, relocation, monitoring, and removal of all trench safety and excavation support systems necessary for the safe construction of reinforced concrete pipe (RCP) storm sewer systems, including all sizes and classes of RCP specified in the Contract Documents, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include furnishing and installing all required trench protection systems, including but not limited to trench boxes, trench shields, hydraulic shoring systems, aluminum or steel shoring, sheet piling, slide rail systems, or other engineered excavation support systems required to safely support trench walls during excavation, pipe installation, bedding placement, jointing, and backfilling operations for storm sewer construction.

The Contractor shall be solely responsible for determining the appropriate trench protection system based on site-specific conditions including soil type, groundwater levels, excavation depth, surcharge loads, adjacent utilities, roadway loads, and structural constraints associated with large diameter storm sewer installation (including RCP 24” through 48” and as shown in the Plans). All trench protection systems shall comply with OSHA excavation safety requirements and all applicable federal, state, and local safety regulations.

Where required by excavation depth or soil conditions, the Contractor shall provide engineered trench protection designs prepared and sealed by a licensed Professional

Engineer. Such designs shall include structural calculations, installation procedures, system layout, and compliance with applicable safety standards.

Trench protection systems shall be installed, adjusted, and maintained to ensure continuous protection of excavations during all phases of construction. The Contractor shall coordinate trench protection with dewatering operations, utility crossings, and confined workspace requirements typical of storm sewer installation.

Removal of trench protection systems shall only occur after backfill placement has reached sufficient stability to prevent trench collapse, settlement, or damage to installed pipe or adjacent improvements. Any damage caused by inadequate or improper trench protection shall be repaired by the Contractor at no additional cost to the Owner.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.07 – Trenching and Excavation Safety Requirements
Section 10.08 – Excavation Support Systems for Storm Sewer Installation
Section 10.09 – Bedding, Backfill, and Structural Stability Requirements
Section 10.10 – Utility Protection and Coordination Requirements
Section 10.11 – Dewatering and Groundwater Control Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe Installation Requirements
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, engineering (if required), installation, maintenance, adjustment, relocation, monitoring, and removal of trench protection systems, including trench boxes, trench shields, shoring systems, sheet piling, slide rail systems, or other excavation support systems required for safe installation of reinforced concrete pipe storm sewer systems shall be subsidiary to this bid item. No separate payment shall be made for engineered shoring design, OSHA compliance measures, groundwater control, or

excavation safety systems unless specifically identified as separate bid items in the Contract Documents.

44. FURNISH AND INSTALL 60° WYE (EA)

Furnish and Install 60° Wye (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, alignment, testing, and acceptance of a 60-degree wye fitting for storm sewer or sanitary sewer systems, as applicable, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the wye fitting at the specified line and grade. The Contractor shall ensure proper alignment and orientation of all inlet and outlet pipes to maintain hydraulic efficiency and structural integrity of the pipeline system.

The wye fitting shall be furnished in the material type specified in the Plans (such as reinforced concrete, PVC, or other approved material), and shall conform to applicable ASTM and TxDOT standards. All joints shall be watertight and installed in accordance with manufacturer requirements. Rubber gasket joints or approved sealing systems shall be used where required.

The Contractor shall furnish and install all necessary connectors, couplings, and appurtenances required to integrate the wye into the existing or proposed pipeline system. Proper bedding, haunching, and backfill shall be provided to ensure uniform support and prevent differential settlement or misalignment.

The Contractor shall coordinate installation with adjacent pipeline construction and structures to ensure proper sequencing and compatibility with inlets, manholes, junction boxes, or mainline piping. Any adjustments required in the field to accommodate existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sanitary Sewer Systems

Section 10.06 – Fittings and Appurtenances Installation Requirements
Section 10.07 – Pipeline Alignment and Connection Requirements
Section 10.08 – Bedding and Backfill Requirements for Fittings

Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Structural Integrity and Support Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings (RCP systems)
Item 464 – Sanitary Sewer Systems (if applicable)
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, fitting installation, jointing, alignment, connection to pipeline systems, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 60-degree wye shall be subsidiary to this bid item. No separate payment shall be made for fittings, adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

45 & 92. FURNISH AND INSTALL 45° WYE (EA)

Furnish and Install 45° Wye (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, alignment, connection, testing, and acceptance of a 45-degree wye fitting for storm sewer or sanitary sewer systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the wye fitting at the required line and grade. The Contractor shall ensure accurate alignment of all inlet and outlet runs to maintain hydraulic efficiency, structural integrity, and proper integration with the pipeline system.

The wye fitting shall be furnished in the material type specified in the Plans (such as reinforced concrete, PVC, ductile iron, or other approved material) and shall conform to applicable ASTM and TxDOT standards. All joints shall be watertight and installed in

accordance with manufacturer requirements using approved gasketed or sealed joint systems.

The Contractor shall furnish and install all necessary connectors, adapters, couplings, and appurtenances required to integrate the wye fitting into the existing or proposed pipeline system. Proper bedding, haunching, and backfill shall be provided to ensure uniform support and prevent settlement, deflection, or joint separation.

Installation shall be coordinated with adjacent pipeline construction, structures, and appurtenances to ensure proper sequencing and alignment with inlets, manholes, junction boxes, or mainline piping. Any field adjustments required due to existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sewer Systems

Section 10.06 – Fittings and Appurtenances Installation Requirements
Section 10.07 – Pipeline Connection and Alignment Requirements
Section 10.08 – Bedding, Haunching, and Backfill Requirements
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Structural Support and Load Transfer Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings (RCP systems)
Item 464 – Sanitary Sewer Systems (if applicable)
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, fitting installation, jointing, alignment, connection to pipeline systems, backfilling, compaction, testing coordination,

restoration of disturbed areas, and all incidental work required for complete installation of 45-degree wye shall be subsidiary to this bid item. No separate payment shall be made for fittings, adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

46. FURNISH AND INSTALL 22.5° BEND (EA)

Furnish and Install 22.5° Bend (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, alignment, connection, testing, and acceptance of a 22.5-degree bend fitting for storm sewer or sanitary sewer pipeline systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the bend at the required line and grade. The Contractor shall ensure precise alignment of the pipeline system through the bend to maintain hydraulic performance, structural integrity, and smooth transition between pipeline segments.

The bend fitting shall be furnished in the material specified in the Plans (such as reinforced concrete, ductile iron, PVC, or other approved material) and shall conform to applicable ASTM and TxDOT standards. All joints shall be watertight and installed in accordance with manufacturer requirements using approved gasketed, restrained, or sealed joint systems as applicable.

The Contractor shall furnish and install all necessary connectors, couplings, adapters, and appurtenances required to integrate the bend into the pipeline system. Thrust restraint systems, including restrained joints or thrust blocks, shall be provided at all bends to resist hydraulic forces and prevent movement or separation.

Proper bedding, haunching, and backfill shall be provided to ensure uniform support around the bend and adjacent pipe sections to prevent settlement, joint deflection, or structural failure. Installation shall be coordinated with adjacent pipeline construction, structures, and appurtenances to ensure proper sequencing and alignment.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Sewer Systems

Section 10.06 – Fittings Installation Requirements
Section 10.07 – Pipeline Alignment and Geometry Requirements

Section 10.08 – Bedding, Haunching, and Backfill Requirements
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Thrust Restraint and Structural Stability Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings
Item 464 – Sanitary Sewer Systems (if applicable)
Item 499 – Utility Protection and Accommodation
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, fitting installation, jointing, alignment, thrust restraint systems, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 22.5-degree bend shall be subsidiary to this bid item. No separate payment shall be made for fittings, thrust restraint, or restoration unless specifically identified as separate bid items in the Contract Documents.

47. FURNISH AND INSTALL “Y” INLET (EA)

Furnish and Install “Y” Inlet (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, alignment, testing, and acceptance of a “Y”-type storm sewer inlet structure, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of the inlet structure at the required line, grade, and orientation. The “Y” inlet shall include all required reinforced concrete structures, junction components, inlet throat sections, transition pieces, and appurtenances necessary to provide a fully functional drainage collection point integrated with the storm sewer system.

The Contractor shall furnish and install all inlet components in accordance with the Plans and applicable standards, including precast or cast-in-place reinforced concrete structures, frames, and grates (or covers as specified). All joints shall be watertight and properly sealed to prevent infiltration, exfiltration, and structural deterioration.

The inlet shall be constructed to ensure proper hydraulic capture and conveyance of stormwater flows into the connected storm sewer system. The Contractor shall verify that inlet elevations, slope transitions, and pipe connections are properly aligned to prevent standing water, backflow, or hydraulic inefficiencies.

The Contractor shall furnish and install all necessary connecting storm sewer piping, fittings, bends, and appurtenances required to integrate the inlet with the adjacent storm drainage system. Proper bedding, haunching, and backfill shall be provided to ensure uniform support and prevent settlement or structural movement.

All disturbed areas, including pavement, curb, sidewalk, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Sewer Inlet Installation Requirements
Section 10.02 – Junction and Special Structure Requirements
Section 10.03 – Excavation, Bedding, and Backfill Requirements
Section 10.04 – Hydraulic Design and Inlet Performance Requirements
Section 10.05 – Structure Connection and Watertightness Requirements

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TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, inlet structure, concrete components, grates or covers, fittings, connecting pipes, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of “Y” inlet shall be subsidiary to this bid item. No separate payment shall be made for connecting pipes, fittings, or restoration unless specifically identified as separate bid items in the Contract Documents.

48 & 94. FURNISH AND INSTALL STORM DRAIN MANHOLE 5’ DIA (EA)

Furnish and Install Storm Drain Manhole 5’ Diameter (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 5-foot diameter reinforced concrete storm sewer manhole, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete manhole structure consisting of base section, barrel sections, cone or flat slab top (as applicable), grade rings, frame, and cover. The manhole shall be constructed in accordance with applicable standards to ensure structural integrity, watertight performance, and long-term durability.

The Contractor shall furnish and install all necessary inlet and outlet pipe connections, including flexible watertight boots, seals, gaskets, or other approved connection methods. All pipe penetrations shall be constructed to prevent infiltration and exfiltration and shall maintain alignment with connecting storm sewer pipelines.

Manhole channels and inverts shall be constructed or formed to provide smooth hydraulic flow transitions through the structure, minimizing turbulence and sediment accumulation. Benching shall be shaped and finished in accordance with applicable standards and as shown in the Plans.

The Contractor shall install frame and cover assemblies rated for the appropriate traffic loading condition, set to finished grade, and properly aligned with surrounding pavement, sidewalk, or ground surface. All joints between manhole sections shall be sealed using approved gaskets or jointing materials to ensure watertight construction.

The Contractor shall coordinate installation with adjacent storm sewer piping, inlets, and appurtenances to ensure proper elevation, alignment, and hydraulic continuity. Any field adjustments required to accommodate existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Manhole Installation Requirements
Section 10.02 – Precast and Cast-in-Place Structure Requirements
Section 10.03 – Pipe Connection and Watertight Seal Requirements
Section 10.04 – Manhole Channel and Invert Construction Requirements
Section 10.05 – Frame and Cover Installation Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Manholes and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, manhole structure, base, barrel sections, cone or slab top, frame and cover, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 5-foot diameter storm drain manhole shall be subsidiary to this bid item. No separate payment shall be made for watertight boots, joints, or restoration unless specifically identified as separate bid items in the Contract Documents.

49. FURNISH AND INSTALL 5’ X 5’ JUNCTION BOX (EA)

Furnish and Install 5’ X5 ‘ junction box (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 5-foot by f-foot reinforced concrete junction box, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete junction box. The junction box shall be constructed in accordance with applicable standards to ensure structural integrity, watertight performance, and long-term durability.

The Contractor shall furnish and install all necessary inlet and outlet pipe connections, including flexible watertight boots, seals, gaskets, or other approved connection methods. All pipe penetrations shall be constructed to prevent infiltration and exfiltration and shall maintain alignment with connecting storm sewer pipelines.

All inverts shall be constructed or formed to provide smooth hydraulic flow transitions through the structure, minimizing turbulence and sediment accumulation. Benching shall be shaped and finished in accordance with applicable standards and as shown in the Plans.

The Contractor shall install frame and cover assemblies rated for the appropriate traffic loading condition, set to finished grade, and properly aligned with surrounding pavement, sidewalk, or ground surface. All joints between manhole sections shall be sealed using approved gaskets or jointing materials to ensure watertight construction.

The Contractor shall coordinate installation with adjacent storm sewer piping, inlets, and appurtenances to ensure proper elevation, alignment, and hydraulic continuity. Any field adjustments required to accommodate existing conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Manhole Installation Requirements
Section 10.02 – Precast and Cast-in-Place Structure Requirements
Section 10.03 – Pipe Connection and Watertight Seal Requirements
Section 10.04 – Manhole Channel and Invert Construction Requirements
Section 10.05 – Frame and Cover Installation Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures

Item 460 – Storm Sewer Manholes and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, junction box structure, frame and cover, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 5-foot by 5-foot junction box shall be subsidiary to this bid item. No separate payment shall be made for watertight boots, joints, or restoration unless specifically identified as separate bid items in the Contract Documents.

50 & 95. FURNISH AND INSTALL 10’ STANDARD INLET (EA)

Furnish and Install 10’ Standard Inlet (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 10-foot standard reinforced concrete storm sewer inlet, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete inlet structure including base slab, inlet barrel sections, wingwalls (if applicable), throat section, top slab or frame and grate assembly, grade adjustment rings, and all appurtenant components required for a fully functional stormwater intake structure.

The inlet shall be constructed to capture and convey stormwater efficiently into the connected storm sewer system. The Contractor shall ensure proper hydraulic design alignment, inlet elevation, and connection to adjacent storm sewer piping to prevent bypass flows, ponding, or hydraulic inefficiencies.

The Contractor shall furnish and install all required pipe connections to the inlet structure using approved flexible watertight boots, gaskets, or sealing systems to ensure infiltration and exfiltration control. All structural joints between inlet components shall be sealed with approved gasket materials to provide watertight construction.

The inlet shall include a traffic-rated frame and grate assembly or cover as specified in the Plans. The frame and grate shall be installed flush with finished grade and properly aligned with surrounding pavement, curb, sidewalk, or ground surface conditions to ensure safe vehicular and pedestrian passage.

The Contractor shall coordinate installation with all connecting storm sewer pipelines, manholes, junction boxes, and other appurtenances to ensure proper hydraulic performance and structural integration. Any field adjustments required due to existing utilities or site conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Drain Inlet Installation Requirements
Section 10.02 – Standard Inlet Structural Requirements
Section 10.03 – Hydraulic Capacity and Flow Capture Requirements
Section 10.04 – Pipe Connection and Watertight Sealing Requirements
Section 10.05 – Frame, Grate, and Surface Adjustment Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Inlets and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, inlet structure, base slab, walls, throat sections, frame and grate, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 10-foot standard inlet shall be subsidiary to this bid item. No separate payment shall be made for watertight connectors,

structural adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

51, 96, & 110. FURNISH AND INSTALL 14' & 20' STANDARD INLET (EA)

Furnish and Install 14' and 20' Standard Inlet (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 14-foot and 20-foot standard reinforced concrete storm sewer inlet structures, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of a precast or cast-in-place reinforced concrete inlet structure including base slab, wall sections, inlet throat, wingwalls (if applicable), top slab or frame and grate assembly, grade adjustment rings, and all appurtenant components required to provide a fully functional stormwater collection and conveyance structure.

The inlet shall be constructed to ensure efficient capture and conveyance of stormwater runoff into the storm sewer system. The Contractor shall ensure proper hydraulic alignment, inlet elevations, and connection to adjacent storm sewer pipelines to prevent bypass flow, standing water, or hydraulic inefficiencies.

The Contractor shall furnish and install all required pipe connections to the inlet structure using approved flexible watertight boots, gaskets, or sealing systems to prevent infiltration and exfiltration. All structural joints between inlet components shall be sealed with approved gasket materials to ensure watertight integrity and long-term durability.

The inlet shall include a traffic-rated frame and grate assembly or cover as specified in the Plans. The frame and grate shall be installed flush with finished grade and properly aligned with surrounding pavement, curb, sidewalk, or ground surface to ensure safe and smooth vehicular and pedestrian travel.

The Contractor shall coordinate installation with all connecting storm sewer pipelines, junction structures, manholes, and appurtenances to ensure proper hydraulic function and structural integration. Any field adjustments required due to existing utilities or site conditions shall be performed as directed by the Engineer.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.01 – Storm Drain Inlet Installation Requirements
Section 10.02 – Large Standard Inlet Structural Requirements
Section 10.03 – Hydraulic Design and Capacity Requirements
Section 10.04 – Pipe Connection and Watertight Sealing Requirements
Section 10.05 – Frame, Grate, and Surface Adjustment Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 460 – Storm Sewer Inlets and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, inlet structure, base slab, wall sections, throat sections, wingwalls (if applicable), frame and grate, pipe connections, sealing systems, bedding, backfilling, compaction, alignment, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 14-foot and 20-ft standard inlets shall be subsidiary to this bid item. No separate payment shall be made for watertight connectors, structural adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

52. FURNISH AND INSTALL 2’ x 2’ CONCRETE BOX CULVERT (LATERAL) (LF)

Furnish and Install 2’ x 2’ Concrete Box Culvert (Lateral) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, testing, and acceptance of a 2-foot by 2-foot reinforced concrete box culvert lateral drainage system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and installation of precast or cast-in-place reinforced concrete box sections, including base slab (if applicable), sidewalls, top slab, jointing

systems, and all appurtenant components required to provide a fully functional lateral drainage conveyance structure.

The box culvert shall be installed to the line and grade shown in the Plans with proper alignment to ensure hydraulic continuity and efficient stormwater conveyance. The Contractor shall ensure that all sections are properly seated on a prepared bedding layer and that uniform support is maintained along the full length of the structure to prevent differential settlement or structural distortion.

All joints between box culvert sections shall be sealed using approved gasketed or jointing systems to ensure watertight performance and prevent infiltration or exfiltration. Where required, joint wraps or external sealing systems shall be installed in accordance with manufacturer recommendations and project specifications.

The Contractor shall furnish and install all necessary connections to existing or proposed storm sewer systems, including inlets, manholes, junction structures, or outlet channels. Any field modifications required to accommodate existing utilities or site conditions shall be performed as directed by the Engineer.

The Contractor shall coordinate installation with adjacent drainage improvements to ensure proper hydraulic function, including inlet and outlet transitions, slope stabilization, and erosion control at discharge points.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Box Culvert Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill Requirements
Section 10.08 – Jointing and Watertight Sealing Requirements
Section 10.09 – Hydraulic Design and Flow Capacity Requirements
Section 10.10 – Structural Support and Installation Tolerances

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 462 – Concrete Box Culverts
Item 460 – Storm Sewer Systems and Appurtenances
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation

Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, box culvert sections, bedding, jointing, sealing systems, installation, alignment, connections, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 2' x 2' concrete box culvert lateral shall be subsidiary to this bid item. No separate payment shall be made for joint seals, structural adjustments, or restoration unless specifically identified as separate bid items in the Contract Documents.

53. REMOVE EXISTING 10' x 8' REINFORCED BOX CULVERT (RBC) INCLUDING HEADWALLS (LS)

Remove Existing 10' x 8' Reinforced Box Culvert (RBC) Including Headwalls (LS) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, demolition, excavation, loading, hauling, and lawful disposal of the existing 10-foot by 8-foot reinforced concrete box culvert system, including all associated headwalls, wingwalls, end sections, aprons, cutoff walls, and appurtenant concrete structures, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation as required to fully expose the existing box culvert and headwall structures, including any associated wingwalls, slope protection, or structural appurtenances. The Contractor shall carefully demolish and remove reinforced concrete components in a controlled manner to prevent damage to adjacent roadways, utilities, drainage facilities, and other improvements.

Where the existing culvert is connected to active drainage systems, the Contractor shall maintain positive drainage throughout the removal operation. Temporary diversion channels, bypass systems, pumping, or other approved methods shall be provided as necessary to prevent flooding, erosion, or disruption of upstream or downstream drainage facilities.

The Contractor shall remove all reinforced concrete materials, reinforcing steel, and appurtenant structures from the site and properly dispose of them at approved disposal facilities in accordance with all applicable environmental and regulatory requirements. Salvage of materials shall only occur when directed by the Engineer.

Following removal, all resulting voids and excavated areas shall be backfilled with suitable material placed in controlled lifts and compacted to meet specification requirements. Where directed, flowable fill or controlled low-strength material (CLSM) shall be used to prevent settlement and ensure long-term stability.

The Contractor shall restore all disturbed areas, including pavement, roadway subgrade, embankments, slopes, drainage channels, and appurtenant features, to match existing conditions or as shown in the Plans. Any erosion control or slope stabilization required as part of the restoration shall be provided under applicable bid items or as directed by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Structures Removal

Section 10.01 – Box Culvert Removal Requirements
Section 10.02 – Headwall and Wingwall Demolition Requirements
Section 10.03 – Excavation, Backfill, and Compaction Requirements
Section 10.04 – Drainage System Flow Maintenance Requirements
Section 10.05 – Structure Abandonment and Site Restoration Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 401 – Flowable Backfill (CLSM)
Item 420 – Concrete Structures (demolition/removal)
Item 462 – Concrete Box Culverts
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, demolition, excavation, removal, hauling, disposal, bypassing or diversion of flow, backfilling, compaction, flowable fill (if required), restoration of disturbed areas, slope stabilization, and all incidental work required for complete removal of the existing 10’ x 8’ reinforced box culvert including headwalls shall be subsidiary to this bid item. No separate payment shall be made for bypass systems, erosion control, or restoration unless specifically identified as separate bid items in the Contract Documents.

54. FURNISH AND INSTALL 5 – 11’ x 8’ MULTI-BOX CULVERT (MBC) (LF)

Furnish and Install 5 – 11’ x 8’ Multi-Box Culvert (MBC) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of a multi-cell reinforced concrete box culvert system consisting of five (5) parallel 11-foot by 8-foot barrels, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, embankment preparation, and installation of precast or cast-in-place reinforced concrete box sections including base slabs (if required), sidewalls, top slabs, intermediate walls, joint systems, and all appurtenant structural components necessary to construct a fully functional multi-cell drainage conveyance structure.

The multi-box culvert shall be installed to the line, grade, and alignment shown in the Plans, ensuring uniform bearing support across all cells to prevent differential settlement, distortion, or hydraulic imbalance between barrels. The Contractor shall provide proper bedding and foundation preparation in accordance with geotechnical recommendations and applicable specifications.

All joints between precast sections shall be sealed using approved gasketed or external sealing systems to ensure watertight performance and long-term durability. The Contractor shall ensure proper alignment and connection of all cells to maintain hydraulic continuity and structural integrity across the full culvert width.

The Contractor shall furnish and install all necessary inlet and outlet transitions, wingwalls, headwalls (if applicable), cutoff walls, aprons, and erosion protection measures as shown in the Plans. Proper integration with upstream and downstream drainage systems shall be maintained at all times.

The Contractor shall coordinate installation sequencing to ensure safe construction under traffic control requirements, utility constraints, and site access limitations. All disturbed areas, including embankments, pavement, slopes, drainage channels, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Major Structures

Section 10.06 – Multi-Cell Box Culvert Installation Requirements
Section 10.07 – Large Structure Foundation and Bedding Requirements
Section 10.08 – Jointing and Watertight Seal Requirements

Section 10.09 – Hydraulic Capacity and Multi-Cell Flow Distribution Requirements
Section 10.10 – Structural Alignment and Load Distribution Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 462 – Concrete Box Culverts (Multi-Cell Systems)
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 420 – Concrete Structures
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, precast or cast-in-place box culvert units, jointing systems, installation, alignment, inlet and outlet transitions, wingwalls, headwalls, erosion control, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 5 – 11' x 8' multi-box culvert system shall be subsidiary to this bid item. No separate payment shall be made for structural transitions, erosion protection, or restoration unless specifically identified as separate bid items in the Contract Documents.

55. FURNISH AND INSTALL STRAIGHT WINGWALLS (EA)

Furnish and Install Straight Wingwalls (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, connection, alignment, and acceptance of straight reinforced concrete wingwalls associated with storm drainage structures, box culverts, multi-box culverts, or other hydraulic conveyance systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, subgrade preparation, and construction of reinforced concrete wingwall structures including footing, stem wall, return walls (if applicable), coping, and all reinforcement, formwork, and appurtenant structural components necessary to provide a stable and hydraulically efficient inlet or outlet transition structure.

The wingwalls shall be constructed to the lines, grades, elevations, and geometry shown in the Plans to properly retain embankment material and direct stormwater flow into or out of the associated culvert or drainage structure. The Contractor shall ensure proper alignment

with the connected box culvert or storm sewer system to maintain hydraulic efficiency and prevent turbulence, erosion, or flow separation.

All reinforcing steel, concrete, formwork, and construction methods shall conform to applicable TxDOT and industry standards for reinforced concrete structures. All construction joints shall be properly prepared and sealed as required to ensure durability and structural integrity. The Contractor shall provide proper curing methods to achieve design strength and durability requirements.

The Contractor shall furnish and install all necessary erosion control measures at inlet and outlet locations, including riprap, concrete slope paving, or other energy dissipation systems as shown in the Plans or directed by the Engineer. Wingwall construction shall be coordinated with embankment placement and roadway construction to ensure proper integration with surrounding grades.

All disturbed areas, including slopes, embankments, pavement, drainage channels, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Structures

Section 10.11 – Wingwall Design and Construction Requirements
Section 10.12 – Culvert Headwall and Wingwall Integration Requirements
Section 10.13 – Reinforced Concrete Structural Construction Requirements
Section 10.14 – Excavation, Backfill, and Foundation Support Requirements
Section 10.15 – Hydraulic Transition and Erosion Control Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures
Item 462 – Box Culverts and Wingwalls
Item 440 – Reinforcing Steel
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 506 – Riprap and Slope Protection (if applicable)
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, formwork, reinforcing steel, concrete, construction joints, curing, installation, backfilling, compaction, erosion protection, slope stabilization, restoration of disturbed areas, and all incidental work required for complete installation of straight wingwalls shall be subsidiary to this bid item. No separate payment shall be made for erosion control, slope protection, or restoration unless specifically identified as separate bid items in the Contract Documents.

56. FURNISH AND INSTALL PEDESTRIAN RAIL – TxDOT PR11 (ON TOP OF WINGWALLS) (LF)

Furnish and Install Pedestrian Rail – TxDOT PR11 (On Top of Wingwalls) (LF) shall include all labor, materials, equipment, tools, fabrication, installation, anchorage, finishing, and incidentals necessary for the complete furnishing and installation of TxDOT standard PR11 pedestrian railing system mounted on top of reinforced concrete wingwalls, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include fabrication of steel railing components in accordance with TxDOT standard details for PR11 pedestrian railing, including posts, rails, pickets (if applicable), connection plates, anchor bolts, embed plates, weldments, and all hardware required for a complete and functional safety barrier system. All steel shall be fabricated, welded, and finished in accordance with applicable TxDOT and ASTM structural steel requirements.

The Contractor shall install railing posts securely anchored to the top of wingwall concrete using approved embedded anchor systems, drilled and epoxy-set anchors, or cast-in-place embed plates as shown in the Plans. All anchorage systems shall be designed and installed to resist required lateral and impact loads in accordance with TxDOT safety standards.

All welding shall be performed by certified welders and shall meet applicable structural welding codes. All welds shall be cleaned, inspected, and coated as required. The railing system shall be galvanized or otherwise corrosion-protected in accordance with TxDOT specifications to ensure long-term durability in exposed conditions.

The pedestrian railing shall be installed true to line, grade, and alignment along the top of wingwalls, ensuring continuous protection for pedestrian safety and proper integration with adjacent roadway and drainage structures. Any field adjustments required for fit-up or alignment shall be performed as directed by the Engineer.

All disturbed areas associated with railing installation, including concrete surfaces, wingwall tops, and adjacent slopes or pavement, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Structures / Safety Appurtenances

Section 10.16 – Pedestrian Railing Installation Requirements
Section 10.17 – Structural Steel Fabrication and Erection Requirements
Section 10.18 – Anchorage and Embedded Connection Requirements
Section 10.19 – Corrosion Protection and Coating Requirements
Section 10.20 – Safety Barrier and Pedestrian Protection Requirements

TXDOT REFERENCES

Item 445 – Structural and Metal Fabrication
Item 446 – Structural Steel and Railings (PR11 Standard Details)
Item 448 – Structural Bolting
Item 449 – Structural Welding
Item 440 – Reinforcing Steel (for embedment coordination)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 110 – Excavation (if applicable for anchorage installation)
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, fabrication, welding, galvanizing, anchorage systems, embed plates, installation, alignment, testing, corrosion protection, and all incidental work required for complete installation of TxDOT PR11 pedestrian railing on top of wingwalls shall be subsidiary to this bid item. No separate payment shall be made for anchors, coatings, welding, or adjustments unless specifically identified as separate bid items in the Contract Documents.

57. FURNISH AND INSTALL COMBINATION RAIL – TxDOT TYPE C221 (LF)

Furnish and Install Combination Rail – TxDOT Type C221 (LF) shall include all labor, materials, equipment, tools, fabrication, installation, anchorage, finishing, and incidentals necessary for the complete furnishing and installation of TxDOT standard Type C221 combination railing system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include fabrication and installation of steel combination railing components in accordance with TxDOT standard details for Type C221, including posts, rail elements, splice connections, transition sections, anchor bolts, base plates, weldments, and all

required hardware. The railing system shall provide a continuous vehicle and/or pedestrian safety barrier as required by the Plans.

The Contractor shall furnish and install all posts and rail segments with proper spacing, alignment, and elevation to ensure continuous structural performance and safety compliance. Posts shall be securely anchored to concrete structures, bridge elements, wingwalls, or foundations using approved embedded anchor systems, drilled epoxy anchors, or cast-in-place embed plates as detailed in the Plans.

All structural steel fabrication and welding shall conform to applicable TxDOT specifications and recognized structural welding codes. Welds shall be performed by certified welders and shall be cleaned, inspected, and protected with appropriate corrosion-resistant coatings or galvanization as specified.

The combination rail system shall be installed true to line and grade, ensuring smooth transitions between rail segments, including any required end treatments or connections to adjacent barrier systems. The Contractor shall coordinate installation with roadway geometry, drainage structures, and adjacent safety features to ensure proper continuity and crash performance.

Any field adjustments required for fit-up, alignment, or interface with existing or new structures shall be performed as directed by the Engineer. All damaged coatings shall be repaired in accordance with TxDOT requirements prior to final acceptance.

All disturbed areas resulting from installation, including concrete surfaces, foundations, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Structural Sa□ety Appurtenances

Section 10.16 – Highway and Combination Rail Installation Requirements
Section 10.17 – Structural Steel Fabrication and Erection Requirements
Section 10.18 – Anchorage Systems and Embedded Components Requirements
Section 10.19 – Corrosion Protection and Protective Coating Requirements
Section 10.20 – Traffic Safety Barrier Continuity Requirements

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TXDOT REFERENCES

Item 445 – Structural and Metal Fabrication
Item 446 – Railings and Protective Barriers (Type C221 Standard)

Item 448 – Structural Bolting
Item 449 – Structural Welding
Item 440 – Reinforcing Steel (for embedded components coordination)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 110 – Excavation (if required for foundations)
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, fabrication, welding, galvanizing or coating, anchorage systems, installation, alignment, transitions, hardware, testing coordination, and all incidental work required for complete installation of TxDOT Type C221 combination rail shall be subsidiary to this bid item. No separate payment shall be made for anchors, coatings, transitions, or adjustments unless specifically identified as separate bid items in the Contract Documents.

58 & 97. REMOVE TREE (EA)

Remove Tree (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete removal, cutting, grubbing, hauling, and lawful disposal of existing trees of all sizes as identified in the Plans or as directed by the Engineer, including root systems, stumps, and surface debris associated with the tree removal operation.

This item shall include full removal of the tree trunk, limbs, branches, stump, and root ball to a depth sufficient to prevent regrowth or interference with proposed construction. The Contractor shall perform grubbing and root removal as necessary within the limits of construction to ensure that no organic material remains that could compromise subgrade stability, pavement performance, or structural foundations.

The Contractor shall exercise care to prevent damage to adjacent trees, landscaping, utilities, structures, pavements, sidewalks, drainage facilities, and other improvements during tree removal operations. Any damage caused by tree removal activities shall be repaired by the Contractor at no additional cost to the Owner.

All tree debris, including wood, branches, roots, and organic material, shall be properly loaded, hauled, and disposed of at approved disposal or recycling facilities in accordance with applicable local regulations. Burning of debris shall not be permitted unless specifically authorized.

Where required, stump grinding may be used in lieu of full root ball removal provided that all grinding material is removed or properly backfilled with suitable material and compacted to specification requirements.

The Contractor shall restore all disturbed areas resulting from tree removal operations, including grading, backfilling, compaction, and placement of topsoil and vegetation as required to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation / Clearing & Grubbing

Section 2.01 – Tree Removal and Clearing Requirements
Section 2.02 – Stump and Root Removal Requirements
Section 2.03 – Disposal of Vegetative Debris
Section 2.04 – Protection of Existing Improvements
Section 2.05 – Site Restoration and Grading Requirements

TXDOT REFERENCES

Item 100 – Preparing Right of Way
Item 110 – Excavation
Item 161 – Clearing and Grubbing
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 506 – Vegetative Restoration (as applicable)
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, cutting, grubbing, stump removal, root removal, hauling, disposal, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete removal of tree shall be subsidiary to this bid item. No separate payment shall be made for stump grinding, debris disposal, or site restoration unless specifically identified as separate bid items in the Contract Documents.

59. TREE TRIMMING & BRUSH REMOVAL (CHANNEL) (LS)

Tree Trimming & Brush Removal (Channel) (LS) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete trimming, cutting, clearing, grubbing, hauling, and lawful disposal of trees, brush, understory vegetation, vines,

saplings, and overgrowth within and adjacent to existing or proposed drainage channels, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include selective trimming of overhanging limbs, removal of obstructive vegetation within channel flow paths, clearing of brush and woody debris from channel banks and channel bottoms, and removal of any vegetation that impedes hydraulic capacity, contributes to debris blockage, or interferes with construction activities. All work shall be performed in a manner that preserves required trees or vegetation specifically designated to remain in place.

The Contractor shall remove all cut vegetation, brush, and organic debris from the channel area and properly haul and dispose of it at approved disposal or recycling facilities in accordance with applicable environmental regulations. No debris shall be left within the channel, adjacent slopes, or right-of-way unless otherwise directed by the Engineer.

The Contractor shall take care to prevent damage to adjacent trees, erosion control measures, utilities, structures, and improvements during trimming and removal operations. Any damage caused by construction activities shall be repaired by the Contractor at no additional cost to the Owner.

Where required, stump removal or grinding shall be performed to prevent regrowth and ensure unobstructed channel flow. The Contractor shall ensure that all root systems and residual organic material are addressed as necessary to maintain channel stability and hydraulic performance.

All disturbed channel areas shall be restored to original or improved conditions, including regrading of slopes, stabilization of soil surfaces, and placement of erosion control measures such as seed, mulch, erosion control blankets, or other BMPs as shown in the Plans or directed by the Engineer.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation / Channel Clearing

Section 2.01 – Channel Clearing and Grubbing Requirements
Section 2.02 – Vegetation Removal in Drainage Channels
Section 2.03 – Brush and Debris Disposal Requirements
Section 2.04 – Erosion Control and Channel Protection Requirements
Section 2.05 – Restoration and Stabilization of Disturbed Channel Areas

TXDOT REFERENCES

Item 161 – Clearing and Grubbing
Item 110 – Excavation
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 164 – Seeding for Erosion Control
Item 169 – Soil Retention Blanket
Item 168 – Vegetative Watering
Item 506 – Vegetative Restoration (as applicable)
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, trimming, cutting, brush removal, hauling, disposal, stump/root treatment (if required), channel clearing, erosion control protection, restoration of disturbed areas, and all incidental work required for complete channel vegetation clearing shall be subsidiary to this bid item. No separate payment shall be made for disposal, restoration, or BMP installation unless specifically identified as separate bid items in the Contract Documents.

60 & 100. REMOVE AND RELOCATE MAILBOXES (WITH PRIOR COORDINATION WITH POSTMASTER) (EA)

Remove and Relocate Mailboxes (EA) shall include all labor, materials, equipment, tools, coordination, and incidentals necessary for the complete removal, temporary handling, protection, relocation, and reinstallation of existing residential or commercial mailboxes and mailbox supports affected by construction activities, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include coordination with the United States Postal Service (USPS) Postmaster and affected property owners prior to any relocation work to ensure approved temporary or permanent mailbox locations are established in compliance with USPS requirements and service continuity standards. The Contractor shall be responsible for maintaining uninterrupted mail service throughout the duration of construction.

The Contractor shall carefully remove mailbox assemblies, including posts, support structures, mailboxes, concrete footings (if applicable), and associated hardware, and shall store, protect, or transport them as necessary to prevent damage. Any damaged mailbox components resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

Mailbox supports shall be reinstalled at the approved relocated location with proper alignment, height, and accessibility in accordance with USPS standards and ADA considerations where applicable. If new supports or foundations are required, they shall be furnished and installed as part of this item unless otherwise shown in the Plans.

The Contractor shall coordinate relocation timing to minimize disruption to postal delivery services and shall notify affected residents in advance of any temporary service changes as required. All relocated mailboxes shall be fully operational prior to removal of existing mailbox service points.

All disturbed areas resulting from mailbox removal and relocation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Site Preparation / Miscellaneous Relocations

Section 2.01 – Utility and Appurtenance Relocation Requirements
Section 2.02 – Coordination with Third-Party Agencies (USPS, Utility Owners)
Section 2.03 – Protection of Existing Improvements
Section 2.04 – Restoration of Disturbed Areas
Section 2.05 – Traffic and Access Maintenance Requirements

TXDOT REFERENCES

Item 100 – Preparing Right of Way
Item 110 – Excavation
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, coordination with Postmaster/USPS, removal, temporary handling, storage, relocation, reinstallation, mailbox supports, foundations (if required), protection, restoration of disturbed areas, and all incidental work required for complete relocation of mailboxes shall be subsidiary to this bid item. No separate payment shall be made for coordination, temporary service arrangements, or replacement of damaged components unless specifically identified as separate bid items in the Contract Documents.

61 & 82. REMOVE WATERLINE (ALL SIZES) (LF)

Remove Waterline (All Sizes) (LF) shall include all labor, materials, equipment, tools, excavation, cutting, plugging, capping, abandonment coordination, removal, hauling, disposal, and incidentals necessary for the complete removal of existing water distribution pipelines of all diameters and materials encountered, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation to expose existing waterlines, including removal of pavement, curb, sidewalk, and other improvements as required. The Contractor shall carefully disconnect, cut, and remove pipe segments in a controlled manner to avoid damage to adjacent active utilities, structures, or infrastructure. All fittings, valves, tees, bends, and appurtenances associated with the existing waterline shall be removed where they fall within the limits of removal unless otherwise directed.

The Contractor shall coordinate all shutdowns, tie-ins, and isolations with the Owner and utility operator to ensure continuous service to remaining active water system users. Temporary bypass piping, water service connections, or other approved methods shall be provided as necessary to maintain uninterrupted water service during removal operations.

All removed pipe materials, fittings, and appurtenances shall be properly loaded, transported, and disposed of at approved disposal or recycling facilities in accordance with applicable regulations. Salvage of materials shall only be performed when specifically directed by the Engineer.

Open trenches resulting from waterline removal shall be backfilled with suitable material placed in controlled lifts and compacted to specification requirements. Where required, flowable fill or controlled low-strength material (CLSM) shall be used to ensure long-term stability and prevent settlement.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems / Utility Removal

Section 9.01 – Waterline Removal and Abandonment Requirements
Section 9.02 – Utility Coordination and Service Continuity Requirements
Section 9.03 – Excavation, Backfill, and Compaction Requirements
Section 9.04 – Disinfection, Isolation, and Shutdown Procedures
Section 9.05 – Restoration of Disturbed Areas Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 499 – Utility Accommodation and Protection
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, cutting, removal, hauling, disposal, utility coordination, shutdown coordination, bypass piping (if required), backfilling, compaction, CLSM (if required), restoration of disturbed areas, and all incidental work required for complete removal of waterline of all sizes shall be subsidiary to this bid item. No separate payment shall be made for service interruptions, bypass systems, or restoration unless specifically identified as separate bid items in the Contract Documents.

62. FURNISH AND INSTALL EMERGENCY ACCESS FLEXBASE INSTALLATION & MAINTENANCE (LS)

This item is for installation and maintenance of an emergency route to be use by emergency vehicles only during construction. Item includes 6” Flexible Base material and small sign assemblies shown in plan set. Furnish & Install 6” Flexible Base (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for furnishing, hauling, placing, shaping, moisture conditioning, and compacting Type A Grade 1–2 flexible base material. This item shall include subgrade preparation, proof rolling, placement in uniform lifts, compaction to required density, and finishing to line and grade.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Base Courses

Section 5.01 – Flexible Base Materials Requirements
Section 5.02 – Placement and Compaction Procedures
Section 5.03 – Subgrade Preparation and Proof Rolling

TXDOT REFERENCES

Item 247 – Flexible Base
Item 200 – Excavation and Backfill
Item 216 – Rolling and Compaction
Item 260 – Lime Treatment (if required)
Item 275 – Cement Treatment (if required)

PAYMENT CLAUSE

All hauling, placement, compaction, moisture conditioning, shaping, and incidental base construction work shall be subsidiary to this bid item.

63 & 104. FURNISH AND INSTALL 4" TOPSOIL (SY)

Furnish and Install Topsoil (SY) shall include all labor, materials, equipment, tools, excavation (if required from stockpile or offsite source), loading, hauling, placement, spreading, grading, conditioning, and incidentals necessary for the complete furnishing and placement of approved topsoil for landscape restoration, erosion control, and vegetative establishment, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include furnishing approved fertile, friable topsoil free of subsoil, clay lumps, rocks larger than specified size, roots, debris, weeds, and other deleterious materials. Topsoil shall be placed on all areas designated in the Plans, including slopes, embankments, swales, drainage channels, medians, and other disturbed areas requiring restoration prior to seeding or sodding.

The Contractor shall scarify and prepare the receiving surface prior to placement to ensure proper bonding between topsoil and underlying soil. Topsoil shall be evenly spread in uniform layers to the specified thickness and shall be graded to achieve smooth, finished surfaces conforming to final design grades.

The Contractor shall ensure that placed topsoil is protected from erosion, contamination, and compaction prior to establishment of vegetation. Where required, topsoil shall be lightly compacted or firmed to provide a stable planting medium without restricting root growth.

Topsoil placement shall be coordinated with erosion control measures, including sodding, seeding, mulch, or erosion control blankets, to ensure immediate stabilization of disturbed areas.

All disturbed areas, including roadway edges, slopes, drainage features, sidewalks, driveways, and adjacent properties, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Landscaping & Erosion Control

Section 3.01 – Topsoil Materials Requirements
Section 3.02 – Topsoil Placement and Spreading Requirements
Section 3.03 – Surface Preparation Requirements
Section 3.04 – Erosion Control Integration Requirements
Section 3.05 – Final Grading and Restoration Requirements

TXDOT REFERENCES

Item 162 – Furnishing and Placing Topsoil
Item 161 – Vegetative Establishment
Item 164 – Seeding for Erosion Control
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation (if required), hauling, placement, spreading, grading, surface preparation, protection, and all incidental work required for complete furnishing and installation of topsoil shall be subsidiary to this bid item. No separate payment shall be made for conditioning, rehandling, or restoration unless specifically identified as separate bid items in the Contract Documents.

64. FURNISH AND INSTALL SODDING (SY)

Furnish and Install Sodding (SY) shall include all labor, materials, equipment, tools, watering, maintenance, and incidentals necessary for the complete furnishing, installation, establishment, and acceptance of live sod for permanent erosion control and site stabilization, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include preparation of subgrade areas to receive sod, including final grading, removal of debris, rocks, construction materials, and unsuitable soil, and shaping of surfaces to provide smooth, uniform slopes and positive drainage. The Contractor shall furnish topsoil as required to achieve proper growing conditions where existing soil is unsuitable.

The sod shall consist of approved grass species suitable for local climate and soil conditions, free from weeds, pests, and disease, and shall be delivered and installed in a healthy, living condition. Sod shall be laid in a staggered brick-like pattern with tight joints and shall be properly rolled or tamped to ensure full soil contact and eliminate air pockets.

The Contractor shall be responsible for watering, fertilizing (if required), and maintaining the sod until it is fully established and accepted by the Engineer or Owner. Maintenance shall include mowing, replacement of dead or deteriorated sod, and protection from erosion, traffic, or construction damage.

The Contractor shall install sodding immediately following final grading and installation of erosion control measures to prevent soil erosion and sediment runoff. Temporary erosion control measures such as mulch, erosion control blankets, or silt control devices shall be maintained until permanent vegetation is established.

All disturbed areas, including embankments, slopes, drainage channels, sidewalks, driveways, and roadway edges, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Landscaping and Erosion Control

Section 3.01 – Sodding Materials and Installation Requirements
Section 3.02 – Topsoil Placement and Soil Preparation Requirements
Section 3.03 – Maintenance and Establishment of Vegetation
Section 3.04 – Erosion Control Integration Requirements
Section 3.05 – Final Acceptance of Vegetative Establishment

TXDOT REFERENCES

Item 161 – Vegetative Establishment
Item 162 – Furnishing and Placing Topsoil
Item 164 – Seeding for Erosion Control (as applicable for supplemental areas)
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls

Item 506 – Vegetative Restoration
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, sod furnishing and installation, topsoil placement, grading, watering, fertilization, maintenance, replacement of dead sod, erosion control measures, and all incidental work required for complete establishment of sodding shall be subsidiary to this bid item. No separate payment shall be made for maintenance, watering, or replacement unless specifically identified as separate bid items in the Contract Documents.

64A, 106, 107 REMOVE EXISTING AND INSTALL NEW WATERLINE SERVICES (LONG & Short) (LF)

Remove existing and install new waterline services (long & short) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, disinfection, and acceptance of an 8-inch potable water distribution pipeline system, including all pipe, fittings, bends, tees, adapters, valves connections (as shown or required), thrust restraint systems, and appurtenances required to provide a fully functional water distribution system, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full trench excavation, removal and disposal of unsuitable material, maintenance of trench stability, dewatering as required, bedding, pipe installation, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall provide continuous protection of existing utilities and improvements during construction and shall coordinate all crossings, tie-ins, and connections with the City's water system or designated utility operator.

All fittings, bends, tees, couplings, and appurtenances shall be furnished and installed as required to complete the alignment and hydraulic configuration shown in the Plans. Thrust restraint systems shall be installed at all fittings, bends, tees, valves, and dead ends in accordance with design requirements and applicable standards to prevent pipe movement under operating pressure conditions.

The Contractor shall perform pressure testing of the installed water line in accordance with applicable standards, including hydrostatic pressure testing, leakage testing, and any required corrective actions. Upon successful testing, the Contractor shall disinfect the water line using approved chlorination methods, flush the system, and obtain required

bacteriological test results prior to final acceptance and connection to the existing water distribution system.

All connections to existing water mains shall be coordinated with the Engineer and utility operator and shall include shutdown coordination, temporary water service provisions if required, and restoration of service with minimal disruption.

All surface improvements disturbed during installation, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 9 – Water Distribution Systems

Section 9.01 – Water Line Installation Requirements
Section 9.02 – Trenching, Bedding, and Backfill Requirements for Water Lines
Section 9.03 – Fittings, Valves, and Appurtenances Installation Requirements
Section 9.04 – Thrust Restraint Design and Installation Requirements
Section 9.05 – Pressure Testing, Disinfection, and Acceptance Requirements
Section 9.06 – Utility Coordination and Tie-In Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 500 – Pipe and Fittings for Water Distribution Systems
Item 502 – Barricades, Signs, and Traffic Handling
Item 499 – Utility Protection and Safety Requirements
Item 110 – Excavation
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe, fittings, bends, tees, thrust restraint systems, valves (if applicable), installation, jointing, testing, pressure testing, disinfection, flushing, bacteriological testing coordination, tie-ins, shutdown coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch water service lines including all fittings shall be subsidiary to this bid item. No separate payment shall be made for thrust blocks, testing, disinfection,

tie-in coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

64B, 108, 109 REMOVE EXISTING AND INSTALL NEW SANITARY SEWER SERVICES (LONG & Short) (LF)

Remove existing and install new sanitary sewer services (long & short) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, inspection, and acceptance of 8-inch sanitary sewer services, including trench excavation, shoring, dewatering, bedding, pipe installation, jointing, alignment, grade control, backfilling, compaction, testing, and restoration of disturbed areas, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation of trench to required depth and width, removal and disposal of unsuitable material, maintenance of trench stability, and protection of adjacent utilities and improvements. The Contractor shall provide and maintain safe trench conditions in accordance with applicable OSHA requirements. Bedding material shall be placed and compacted to provide uniform pipe support and proper grade control.

Pipe installation shall include furnishing and installing 8-inch sanitary sewer pipe of the specified material type (PVC, DIP, or approved equal), including rubber gasket joints or solvent weld joints as applicable, proper alignment, slope control, and connection to existing sanitary sewer infrastructure, manholes, cleanouts, or other appurtenances as shown in the Plans. All joints shall be watertight and installed in accordance with manufacturer and specification requirements.

The Contractor shall perform required testing including, but not limited to, infiltration/exfiltration testing, air testing, deflection testing (for flexible pipe), and CCTV inspection as required by the Contract Documents. Any defects identified shall be corrected by the Contractor at no additional cost to the Owner.

Backfill shall be placed in layers, compacted to specified density, and completed in accordance with applicable standards. All surface restoration, including pavement, sidewalk, curb, landscaping, or other improvements disturbed by construction, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 8 – Sanitary Sewer Systems

Section 8.05 – Sanitary Sewer Pipe Installation Requirements
Section 8.06 – Trenching, Bedding, and Backfill Requirements

Section 8.07 – Sanitary Sewer Testing and Acceptance Requirements
Section 8.08 – Utility Coordination and Protection Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 464 – Reinforced Concrete Pipe / Sanitary Sewer Systems (as applicable)
Item 499 – Open Trench Safety and Utility Protection Requirements
Item 506 – Environmental Controls
Item 110 – Excavation
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, trench excavation, shoring, dewatering, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection coordination, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 8-inch sanitary sewer pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, utility coordination, or restoration unless specifically identified as separate bid items in the Contract Documents.

64C, 85. FURNISH AND INSTALL 18" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 18” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 18-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall ensure proper trench stability and protection of adjacent utilities, structures, and improvements during all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting ASTM and applicable TxDOT standards, including rubber gasket joints to provide watertight connections. The pipe shall be installed to the lines and grades shown in the Plans with proper alignment to ensure hydraulic efficiency and structural integrity.

The Contractor shall provide all necessary fittings, bends, connectors, and appurtenances required to connect to existing or proposed storm sewer structures, including inlets,

junction boxes, manholes, or outfalls. All joints shall be inspected and tested as required to ensure compliance with leakage and alignment standards.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV (if required by Contract Documents), and shall correct any defects at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 18-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

64E. FURNISH AND INSTALL 5" CONCRETE RIPRAP AND TOEWALL IN CHANNEL (SY)

Furnish and install 5" concrete riprap and toewall in channel (SY) shall include all labor, materials, equipment, tools, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete placement, finishing, curing, jointing, saw cutting, tie-ins, restoration, and incidentals necessary for the complete construction of 5-inch thick concrete riprap as shown on the Plans and as directed by the Engineer.

Subgrade beneath the riprap shall be properly shaped, graded, moisture conditioned, and compacted to the density requirements specified in the Contract Documents. Any unsuitable material encountered shall be removed and replaced with approved material at no additional cost to the Owner unless otherwise provided in the Contract Documents.

Concrete shall conform to the requirements specified in the Plans and applicable standards. The Contractor shall provide proper placement, consolidation, screeding, floating, edging, finishing, texturing, curing, and protection of the concrete.

This item shall include all expansion joints, contraction joints, construction joints, isolation joints, joint filler materials, and tie-ins to existing structures

The Contractor shall protect all adjacent utilities. Any damage resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

This item shall include all necessary adjustments to match existing grades, tie-ins to adjacent improvements, protection of completed work, and restoration of disturbed areas.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Concrete Construction

- Section 4.01 – Cast-in-Place Concrete Requirements
- Section 4.02 – Concrete Materials
- Section 4.04 – Placement and Consolidation Requirements
- Section 4.05 – Finishing and Curing Requirements

TXDOT REFERENCES

Additional Applicable TxDOT Items

- Item 360 – Concrete Pavement (Concrete Materials and Finishing Requirements)
- Item 110 – Excavation
- Item 132 – Embankment
- Item 5 – Control of Work
- Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, grading, subgrade preparation, moisture conditioning, compaction, formwork, concrete, reinforcement (if required), placement,

consolidation, screeding, floating, edging, broom finishing, surface texturing, curing, jointing, saw cutting, expansion joints, contraction joints, isolation joints, tie-ins to existing improvements, temporary pedestrian access, protection of utilities, protection of irrigation systems, cleanup, restoration of disturbed areas, and all incidental work required for complete installation of 5-inch concrete sidewalk shall be considered subsidiary to this bid item.

No separate payment shall be made for excavation, grading, subgrade preparation, moisture conditioning, compaction, joint materials, saw cutting, tie-ins, sidewalk transitions, protection of existing improvements, irrigation repairs, utility protection, temporary pedestrian access, surface finishing, curing, cleanup, or restoration unless specifically identified as a separate pay item in the Contract Documents.

64F. FURNISH AND INSTALL 10" HES CONC (HIGH EARLY STRENGTH CONCRETE) (ONLY ON CENTURY & ONLY WITH PRIOR AUTHORIZATION FROM CITY) (SY)

Furnish and install 10" HES conc (high early strength concrete) (ONLY ON CENTURY & ONLY WITH PRIOR AUTHORIZATION FROM CITY) (SY) shall include all labor, materials, equipment, tools, and incidentals necessary for the construction of 10-inch High Early Strength Concrete Pavement, including reinforcing steel placement, concrete placement, finishing, texturing, curing, jointing, load transfer continuity, and all incidental work required for complete installation in accordance with the Plans.

This item shall include subgrade preparation, base placement if required, steel reinforcement installation, concrete batching and placement, finishing, curing, surface texture application, and protection of pavement until sufficient strength is achieved.

This item is to only be used with prior authorization from the City Staff.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Concrete Pavement Systems

Section 6.02 – Steel Reinforcement Installation Requirements
Section 6.03 – Concrete Placement, Finishing, and Curing
Section 6.04 – Pavement Quality Control Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement (CRCP)
Item 421 – Hydraulic Cement Concrete
Item 360.4 – Reinforcement Requirements

Item 360.5 – Construction Methods
Item 360.6 – Curing and Protection Requirements

PAYMENT CLAUSE

All reinforcement steel, concrete, placement operations, finishing, curing, jointing, and incidental construction activities shall be subsidiary to this bid item.

65. FULL DEPTH SAW CUT & REMOVE CONCRETE (8" THICK ROADWAY) (SY)

Full depth saw cut and Remove Concrete (8" Thick Roadway) (SY) shall include all labor, materials, equipment, tools, saw cutting, demolition, removal, loading, hauling, and lawful disposal of existing 8-inch thick reinforced or non-reinforced concrete pavement within roadway limits, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full-depth saw cutting along all limits of removal to produce clean, straight edges for adjacent pavement preservation. The Contractor shall remove concrete pavement in a controlled manner to prevent damage to adjacent pavement sections, curb, sidewalk, utilities, or subgrade improvements. Removal shall include pavement slabs, reinforcing steel (if present), joint materials, and any underlying debris or unsuitable materials associated with the pavement structure.

The Contractor shall dispose of all removed concrete and associated materials at approved disposal or recycling facilities in accordance with applicable environmental regulations. Recycling of concrete materials may be permitted if approved by the Engineer.

The Contractor shall protect existing subgrade and adjacent pavement during removal operations. Any damage to subgrade or adjacent facilities caused by improper removal methods shall be repaired by the Contractor at no additional cost to the Owner.

After removal, the exposed subgrade shall be prepared as required for subsequent construction activities, including proof rolling, moisture conditioning, compaction, or stabilization if directed by the Plans or Engineer.

All disturbed areas, including adjacent pavement, curb, sidewalk, utilities, and appurtenances, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Roadway Construction / Pavement Removal

Section 4.01 – Concrete Pavement Removal Requirements
Section 4.02 – Saw Cutting and Edge Preparation Requirements

Section 4.03 – Subgrade Protection and Restoration Requirements
Section 4.04 – Material Disposal and Recycling Requirements
Section 4.05 – Traffic Control During Pavement Removal

TXDOT REFERENCES

Item 360 – Concrete Pavement Removal
Item 110 – Excavation
Item 401 – Flowable Backfill (if required for voids)
Item 360 – Concrete Pavement (Removal and Replacement Standards)
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, saw cutting, demolition, removal, hauling, disposal, protection of adjacent facilities, subgrade preparation, and all incidental work required for complete removal of 8-inch thick roadway concrete pavement shall be subsidiary to this bid item. No separate payment shall be made for edge sawing, recycling, or subgrade restoration unless specifically identified as separate bid items in the Contract Documents.

66. REMOVE CONCRETE (DRIVEWAY APRON ≥ 5" THICK) (SY)

Remove Concrete (Driveway Apron ≥ 5” Thick) (SY) shall include all labor, materials, equipment, tools, saw cutting, demolition, removal, loading, hauling, and lawful disposal of existing concrete driveway apron pavement having a minimum thickness of 5 inches, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include full-depth saw cutting along all limits of removal to provide clean, straight, and uniform edges for tie-in to remaining pavement or proposed reconstruction. The Contractor shall carefully remove concrete in a controlled manner to avoid damage to adjacent sidewalks, curb and gutter, roadway pavement, utilities, driveways, and other improvements.

Removal shall include concrete slab, reinforcing steel (if present), joint materials, edge thickening, and any base or subbase materials that are unsuitable for reuse as determined by the Engineer. The Contractor shall separate and properly dispose of all removed materials at approved disposal or recycling facilities in accordance with applicable regulations. Recycling of concrete materials may be permitted if approved by the Engineer.

The Contractor shall protect adjacent improvements and underlying subgrade during demolition operations. Any damage caused by improper removal methods shall be repaired by the Contractor at no additional cost to the Owner.

After removal, the exposed subgrade shall be shaped, proof rolled if required, and prepared for subsequent construction. Any soft, unstable, or unsuitable material shall be removed and replaced with approved fill or stabilized materials as directed by the Engineer.

All disturbed areas, including adjacent pavement, curb, sidewalk, landscaping, and driveway tie-ins, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 4 – Roadway Construction / Pavement Removal

Section 4.01 – Driveway and Pavement Removal Requirements
Section 4.02 – Saw Cutting and Edge Preparation Requirements
Section 4.03 – Subgrade Preparation and Restoration Requirements
Section 4.04 – Concrete Disposal and Recycling Requirements
Section 4.05 – Traffic Control and Access Maintenance Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement Removal
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 360 – Driveway and Pavement Reconstruction Standards
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, saw cutting, demolition, removal, hauling, disposal, protection of adjacent improvements, subgrade preparation, and all incidental work required for complete removal of concrete driveway apron (≥5” thick) shall be subsidiary to this bid item. No separate payment shall be made for edge sawing, disposal, or subgrade correction unless specifically identified as separate bid items in the Contract Documents.

67. ROADWAY EXCAVATION (CY)

Roadway Excavation (CY) shall include all labor, materials, equipment, tools, excavation, loading, hauling, stockpiling, disposal, and incidentals necessary for the complete removal

and/or excavation of existing soil, embankment material, unsuitable material, pavement structure (where applicable), and all other materials encountered within roadway construction limits, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation required for roadway subgrade preparation, widening, reconstruction, grade adjustments, drainage improvements, utility adjustments, and all related roadway construction activities. The Contractor shall perform excavation in a manner that maintains stability of adjacent facilities, utilities, structures, and traffic operations.

The Contractor shall remove unsuitable or unstable materials encountered during excavation as directed by the Engineer and replace such materials with approved suitable fill or embankment material. Over-excavation, if required due to unsuitable subgrade conditions, shall be performed as directed and shall be backfilled and compacted in accordance with specification requirements.

All excavation shall be performed to the lines, grades, and cross-sections shown in the Plans, or as directed by the Engineer in the field. The Contractor shall maintain proper drainage at all times and shall prevent ponding, erosion, or damage to completed or partially completed work.

Suitable excavated material may be used as embankment material if approved by the Engineer; otherwise, excess or unsuitable material shall be hauled to approved disposal sites in accordance with applicable regulations.

The Contractor shall coordinate roadway excavation operations with traffic control requirements to maintain safe passage for vehicles and pedestrians and shall protect all existing utilities and infrastructure during excavation activities.

All disturbed areas shall be restored as part of subsequent construction operations, including subgrade preparation, embankment placement, pavement construction, and erosion control measures.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 2 – Earthwork / Roadway Excavation

Section 2.01 – Roadway Excavation Requirements
Section 2.02 – Subgrade Preparation and Unsuitable Material Removal
Section 2.03 – Embankment and Fill Material Requirements
Section 2.04 – Drainage and Erosion Control During Excavation
Section 2.05 – Compaction and Density Requirements

TXDOT REFERENCES

Item 132 – Earth Excavation
Item 110 – Excavation
Item 150 – Embankment
Item 161 – Clearing and Grubbing (if applicable)
Item 401 – Flowable Backfill (if required)
Item 402 – Trench Excavation and Backfill (as applicable)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, loading, hauling, disposal, stockpiling, subgrade preparation, unsuitable material removal, embankment coordination, maintenance of drainage, traffic control coordination, and all incidental work required for complete roadway excavation shall be subsidiary to this bid item. No separate payment shall be made for over-excavation, disposal, or subgrade correction unless specifically identified as separate bid items in the Contract Documents.

68. FURNISH AND INSTALL CONCRETE (10") (SY)

Furnish and Install Concrete Pavement (10”) (SY) shall include all labor, materials, equipment, tools, reinforcement, concrete production, placement, finishing, curing, jointing (as applicable), and incidentals necessary for the complete construction of 10-inch thick continuously reinforced concrete pavement, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include preparation and proof rolling of the subgrade, placement and compaction of subbase or flexible base (if required), setting of forms or slipform paving operations, placement of reinforcing steel (continuous longitudinal reinforcement), transverse tie bars where required, and placement of high-quality concrete pavement meeting strength, durability, and workability requirements.

The Contractor shall ensure proper placement and support of reinforcing steel to maintain correct position within the slab during concrete placement. Continuous reinforcement shall be installed in accordance with approved shop drawings and specifications to ensure crack control and long-term pavement performance. All steel reinforcement shall be free of rust, oil, dirt, or other contaminants that may impair bond.

Concrete placement shall be performed using approved methods (slipform or fixed form) to achieve uniform thickness, smooth riding surface, proper grade, and surface texture. The Contractor shall provide proper finishing, texturing, and curing methods immediately after placement to ensure durability and prevent shrinkage cracking.

Construction joints, tie-ins, and transitions to existing pavement shall be constructed to provide smooth, durable connections without differential settlement or ride quality issues. Dowel bars, tie bars, and expansion materials shall be installed as required by the Plans.

The Contractor shall protect newly placed concrete pavement from traffic, weather, and construction activities until it has achieved required strength for opening. Any damaged or defective pavement shall be removed and replaced at no additional cost to the Owner.

All disturbed areas, including shoulders, subgrade, adjacent pavement, curb, sidewalk, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 5 – Pavement Construction

Section 5.01 – Portland Cement Concrete Pavement Requirements
Section 5.02 – CRCP Reinforcement and Placement Requirements
Section 5.03 – Subgrade and Base Preparation Requirements
Section 5.04 – Jointing, Tie Bars, and Structural Continuity Requirements
Section 5.05 – Curing, Finishing, and Surface Texture Requirements

TXDOT REFERENCES

Item 360 – Concrete Pavement
Item 360.1 – Description
Item 360.2 – Materials
Item 360.3 – Construction Methods (CRCP)
Item 360.4 – Reinforcement Requirements
Item 360.5 – Surface Texture and Curing Requirements
Item 360.6 – Measurement
Item 360.7 – Payment
Item 320 – Concrete Structures (as applicable)
Item 351 – Flexible Base (if required underlayment)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic

Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, reinforcing steel, concrete, placement, finishing, curing, joint treatment, subgrade preparation, base preparation, tie-ins, protection of work, and all incidental work required for complete installation of 10-inch continuously reinforced concrete pavement shall be subsidiary to this bid item. No separate payment shall be made for reinforcement, curing, dowels, tie bars, or surface finishing unless specifically identified as separate bid items in the Contract Documents.

88. FURNISH AND INSTALL 36" CLASS III REINFORCED CONCRETE PIPE (RCP) (LF)

Furnish and Install 36” Class III Reinforced Concrete Pipe (RCP) (LF) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, testing, and acceptance of 36-inch diameter Class III reinforced concrete storm sewer pipe, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include trench excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, pipe placement, jointing, alignment, grade control, and backfilling with proper compaction in accordance with specification requirements. The Contractor shall ensure proper trench stability and protection of adjacent utilities, structures, and improvements during all phases of construction.

Pipe installation shall include furnishing and installing reinforced concrete pipe meeting ASTM and applicable TxDOT standards, including rubber gasket joints to provide watertight connections. The pipe shall be installed to the lines and grades shown in the Plans with proper alignment to ensure hydraulic efficiency and structural integrity.

The Contractor shall provide all necessary fittings, bends, connectors, and appurtenances required to connect to existing or proposed storm sewer structures, including inlets, junction boxes, manholes, or outfalls. All joints shall be inspected and tested as required to ensure compliance with leakage and alignment standards.

The Contractor shall perform all required testing and inspection, including visual inspection and CCTV (if required by Contract Documents), and shall correct any defects at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems

Section 10.06 – Reinforced Concrete Pipe Installation Requirements
Section 10.07 – Trenching, Bedding, and Backfill for Storm Sewer Systems
Section 10.08 – Pipe Jointing and Watertightness Requirements
Section 10.09 – Alignment, Grade Control, and Installation Tolerances
Section 10.10 – Storm Sewer Testing and Acceptance Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 460 – Storm Sewer Pipe (Reinforced Concrete Pipe)
Item 464 – Pipe Culverts (as applicable)
Item 402 – Trench Excavation and Backfill
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, bedding, pipe furnishing and installation, jointing, alignment, testing, inspection, backfilling, compaction, restoration of disturbed areas, and all incidental work required for complete installation of 36-inch Class III reinforced concrete pipe shall be subsidiary to this bid item. No separate payment shall be made for testing, dewatering, or restoration unless specifically identified as separate bid items in the Contract Documents.

93. FURNISH AND INSTALL 45° BEND (EA)

Furnish and Install 45° Bend (EA) shall include all labor, materials, equipment, tools, and incidentals necessary for the complete furnishing, installation, alignment, connection, testing, and acceptance of a 45-degree bend fitting for storm sewer or sanitary sewer pipeline systems, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation, removal and disposal of unsuitable material, dewatering as required, bedding preparation, and installation of the bend at the required line and grade. The Contractor shall ensure accurate alignment and smooth transition of the

pipeline through the bend to maintain hydraulic efficiency, structural integrity, and long-term performance of the system.

The bend shall be furnished in the material type specified in the Plans (such as reinforced concrete, PVC, ductile iron, or other approved material) and shall conform to applicable ASTM, TxDOT, and project specifications. All joints shall be watertight and installed using approved gasketed, restrained, or sealed joint systems as applicable.

The Contractor shall furnish and install all necessary connectors, couplings, adapters, and appurtenances required to integrate the bend into the pipeline system. Thrust restraint systems, including restrained joints and/or concrete thrust blocks where required, shall be provided at all bends to resist hydraulic forces and prevent movement or joint separation.

Proper bedding, haunching, and backfill shall be provided to ensure uniform support around the bend and adjacent pipe sections, preventing settlement, deflection, or structural damage. Installation shall be coordinated with adjacent pipeline construction, structures, and appurtenances to ensure proper sequencing and alignment.

All disturbed areas, including pavement, sidewalk, curb, driveway, landscaping, and drainage features, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Utility and Drainage Systems

Section 10.06 – Pipeline Fittings and Appurtenances Installation Requirements
Section 10.07 – Pipeline Alignment and Geometry Requirements
Section 10.08 – Bedding, Haunching, and Backfill Requirements
Section 10.09 – Watertight Joint and Sealing Requirements
Section 10.10 – Thrust Restraint and Structural Stability Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 402 – Trench Excavation and Backfill
Item 460 – Storm Sewer Pipe and Fittings
Item 464 – Sanitary Sewer Systems (if applicable)
Item 499 – Utility Protection and Accommodation
Item 110 – Excavation
Item 401 – Flowable Backfill (if required)
Item 506 – Environmental Controls
Item 502 – Traffic Control and Maintenance of Traffic

Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, fitting, installation, jointing, alignment, thrust restraint, backfilling, compaction, testing coordination, restoration of disturbed areas, and all incidental work required for complete installation of 45-degree bend shall be subsidiary to this bid item. No separate payment shall be made for fittings, thrust blocks, or restoration unless specifically identified as separate bid items in the Contract Documents.

99. REMOVE HEADWALL, PLUG 24" OUTFALL, REGRADE & SEED (PER GENERAL NOTE ITEM 9) (LS)

Remove Headwall, Plug 24” Outfall, Regrade & Seed (LS) shall include all labor, materials, equipment, tools, excavation, demolition, plugging, abandonment, grading, erosion control, seeding, and incidentals necessary for the complete removal of existing headwall structures, permanent plugging of a 24-inch outfall pipe, restoration of channel/ground surface, and establishment of vegetative cover, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation and controlled demolition of the existing headwall structure, including wingwalls, cutoff walls, apron slabs, and any associated concrete or reinforced concrete appurtenances. The Contractor shall carefully remove all structural components to avoid damage to the existing outfall pipe, adjacent drainage features, utilities, or embankment areas.

The 24-inch outfall pipe shall be permanently plugged in accordance with approved engineering practices. Plugging shall be accomplished using approved watertight methods such as concrete bulkheads, masonry plugs, mechanical plugs, or other Engineer-approved systems. The plug shall be constructed to fully prevent infiltration, exfiltration, and hydraulic flow through the abandoned pipe.

Following removal and plugging operations, the Contractor shall backfill all voids with suitable material placed in controlled lifts and compacted to specification requirements. Where directed, flowable fill (CLSM) may be required to ensure long-term stability and prevent settlement or sinkhole formation.

The disturbed area shall then be regraded to match existing contours and provide positive drainage consistent with surrounding grades and channel flow patterns. All grading shall be performed to prevent erosion, ponding, or channel instability.

Final stabilization shall include seeding in accordance with General Note Item 9 and applicable erosion control requirements. This shall include seed bed preparation, furnishing and placing seed, mulch, fertilizer (if required), watering, and maintenance until vegetation is fully established and accepted by the Engineer.

All disturbed areas, including embankments, drainage channels, slopes, and adjacent improvements, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Drainage System Abandonment & Restoration

Section 10.01 – Structure Removal and Abandonment Requirements
Section 10.02 – Pipe Plugging and Outfall Closure Requirements
Section 10.03 – Backfilling and Compaction Requirements
Section 10.04 – Grading and Restoration of Drainage Areas
Section 10.05 – Seeding and Vegetative Stabilization Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 401 – Flowable Backfill (CLSM)
Item 420 – Concrete Structures (demolition/removal)
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 164 – Seeding for Erosion Control
Item 162 – Furnishing and Placing Topsoil (if required)
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket (if required)
Item 110 – Excavation
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, demolition, headwall removal, pipe plugging, grading, seeding, erosion control, backfilling, compaction, restoration of drainage areas, and all incidental work required for complete removal of headwall, plugging of 24-inch outfall, and site restoration shall be subsidiary to this bid item. No separate payment shall be made for plugging materials, CLSM, seeding maintenance, or restoration unless specifically identified as separate bid items in the Contract Documents.

102. FURNISH AND INSTALL ADS XL DURASLOT TRENCH DRAIN SYSTEM (OR APPROVED EQUAL) (LF)

Furnish and Install ADS XL DuraSlot Trench Drain System (or approved equal) (LF) shall include all labor, materials, equipment, tools, excavation, installation, connection, testing, and incidentals necessary for the complete furnishing and installation of a polymer trench drain system, including ADS XL DuraSlot or Engineer-approved equal, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include excavation to required line, grade, and depth; removal and disposal of unsuitable material; subgrade preparation; and placement of a properly graded and compacted bedding layer to support the trench drain system. The Contractor shall ensure uniform support along the full length of the system to prevent differential settlement or deformation.

The trench drain system shall include modular channel sections, end caps, outlets, couplings, fittings, and all appurtenances required for a fully functional drainage system. The system shall be furnished with load-rated grates appropriate for the installation location (vehicular, pedestrian, or other loading conditions) as specified in the Plans.

The Contractor shall install the trench drain system to precise line and grade to ensure positive drainage flow and proper integration with adjacent pavement, curb, inlet, or pipe systems. The top of grate shall be installed flush with finished surface elevations and properly aligned with surrounding improvements to prevent trip hazards or ponding.

Connections to storm sewer or drainage piping shall be made using approved fittings and watertight connections. Outlet structures shall be properly sealed and protected to prevent infiltration, exfiltration, or soil migration.

Backfill shall be placed in accordance with manufacturer recommendations and project specifications, ensuring proper compaction and protection of the trench drain system during and after installation. Concrete encasement shall be provided where shown in the Plans or required for structural support.

The Contractor shall coordinate installation with pavement construction, utility locations, and traffic control requirements to ensure safe and efficient installation sequencing. Any damage to installed trench drain components shall be repaired or replaced at no additional cost to the Owner.

All disturbed areas, including pavement, sidewalk, curb, driveway, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 10 – Storm Drainage Systems / Surface Drainage

Section 10.01 – Trench Drain System Installation Requirements
Section 10.02 – Surface Drainage and Hydraulic Flow Requirements
Section 10.03 – Bedding and Structural Support Requirements
Section 10.04 – Connection to Storm Sewer Systems
Section 10.05 – Pavement Interface and Surface Grade Requirements

TXDOT REFERENCES

Item 400 – Excavation and Backfill for Structures
Item 420 – Concrete Structures (encasement if required)
Item 460 – Storm Sewer Systems and Appurtenances
Item 464 – Pipe Underdrains (as applicable)
Item 401 – Flowable Backfill (if required)
Item 110 – Excavation
Item 502 – Traffic Control and Maintenance of Traffic
Item 506 – Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, excavation, trench drain modules, grates, fittings, outlets, bedding, backfill, compaction, concrete encasement (if required), installation, alignment, connection to storm sewer systems, restoration of disturbed areas, and all incidental work required for complete installation of ADS XL DuraSlot trench drain system (or approved equal) shall be subsidiary to this bid item. No separate payment shall be made for fittings, encasement, or restoration unless specifically identified as separate bid items in the Contract Documents.

103. REMOVE AND RELOCATE SMALL SIGN ASSEMBLY (ALL SIGN TYPES AND SIZES) (EA)

Remove and Relocate Small Sign Assembly (All Sign Types and Sizes) (EA) shall include all labor, materials, equipment, tools, coordination, removal, storage, transportation, reinstallation, and incidentals necessary for the complete removal, temporary protection, and relocation of existing traffic, regulatory, warning, guide, or informational sign assemblies of all types and sizes affected by construction activities, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include careful removal of sign panels, posts, foundations (if required), breakaway supports, hardware, and all associated components without damage to the sign face or structural elements, unless otherwise directed. The Contractor shall inventory and document existing sign locations prior to removal and shall coordinate all relocations with the Engineer and applicable jurisdictional agency to ensure compliance with MUTCD, TxDOT standards, and local requirements.

Sign assemblies shall be temporarily stored, protected, and maintained in a condition suitable for reuse. Any damage to signs, posts, or hardware resulting from Contractor operations shall be repaired or replaced at no additional cost to the Owner.

The Contractor shall furnish and install new foundations, posts, hardware, and mounting systems as required for relocation in accordance with current TxDOT standard details. Sign assemblies shall be reinstalled at locations designated in the Plans or as directed by the Engineer, ensuring proper height, lateral offset, orientation, and visibility.

All relocated signs shall meet applicable clearance, reflectivity, and safety requirements. The Contractor shall ensure that relocated sign assemblies do not obstruct sight distance, pedestrian paths, or roadway operations.

The Contractor shall coordinate sign relocation sequencing with traffic control operations to maintain continuous roadway safety and compliance throughout construction.

All disturbed areas resulting from sign removal or installation, including pavement, sidewalks, shoulders, and landscaping, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 6 – Traffic Control & Signing

Section 6.01 – Traffic Sign Removal and Relocation Requirements
Section 6.02 – Sign Installation and Foundation Requirements
Section 6.03 – Breakaway Support and Safety Standards
Section 6.04 – MUTCD Compliance Requirements
Section 6.05 – Restoration of Disturbed Areas

TXDOT REFERENCES

Item 502 – Barricades, Signs, and Traffic Handling
Item 636 – Signs
Item 445 – Structural and Metal Fabrication (supports if applicable)
Item 110 – Excavation (for sign foundations)

Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, removal, transportation, storage, protection, reinstallation, foundations, posts, hardware, traffic coordination, restoration of disturbed areas, and all incidental work required for complete removal and relocation of small sign assemblies shall be subsidiary to this bid item. No separate payment shall be made for replacement hardware, temporary storage, or traffic control adjustments unless specifically identified as separate bid items in the Contract Documents.

105. FURNISH AND INSTALL SODDING (SY)

Furnish and Install Sodding (SY) shall include all labor, materials, equipment, tools, watering, maintenance, and incidentals necessary for the complete furnishing, placement, establishment, and acceptance of live sod for permanent erosion control and site stabilization, complete in place, as shown in the Plans or as directed by the Engineer.

This item shall include preparation of the receiving surface, including final grading, removal of debris, rocks, construction materials, and unsuitable soils, and shaping of all slopes, ditches, embankments, and disturbed areas to provide smooth, uniform surfaces with positive drainage. Where existing soil conditions are unsuitable, the Contractor shall furnish and place approved topsoil to achieve proper growing conditions.

Sod shall be of approved grass species suitable for local climate conditions, free of weeds, pests, disease, and foreign material, and shall be furnished in a healthy, living condition. Sod shall be installed in a staggered (brick-like) pattern with tight joints, ensuring full soil contact to prevent drying, erosion, or displacement.

The Contractor shall water, maintain, and protect sod until it is fully established and accepted by the Engineer. Maintenance shall include watering, mowing (if required), replacement of dead or damaged sod, and repair of any erosion or displacement occurring prior to final acceptance.

Sodding shall be placed immediately following final grading and installation of erosion control measures to minimize soil erosion and sediment transport. Temporary erosion control devices shall remain in place and functional until permanent vegetation is fully established.

All disturbed areas, including slopes, embankments, roadway edges, drainage channels, sidewalks, driveways, and landscaped areas, shall be restored to match existing conditions or as shown in the Plans.

NCTCOG PUBLIC WORKS CONSTRUCTION STANDARDS REFERENCE

Division 3 – Landscaping & Erosion Control

Section 3.01 – Sodding Materials and Installation Requirements
Section 3.02 – Topsoil Placement and Soil Preparation Requirements
Section 3.03 – Vegetative Establishment and Maintenance Requirements
Section 3.04 – Erosion Control Integration Requirements
Section 3.05 – Final Acceptance and Establishment Requirements

TXDOT REFERENCES

Item 161 – Vegetative Establishment
Item 162 – Furnishing and Placing Topsoil
Item 164 – Seeding for Erosion Control (supplemental areas)
Item 168 – Vegetative Watering
Item 169 – Soil Retention Blanket
Item 506 – Temporary Erosion, Sedimentation, and Environmental Controls
Item 506 – Vegetative Restoration
Item 502 – Traffic Control and Maintenance of Traffic
Item 5 – Control of the Work
Item 7 – Legal Relations and Responsibilities

PAYMENT CLAUSE

All labor, materials, equipment, sod furnishing and installation, topsoil placement, grading, watering, maintenance, replacement of damaged sod, erosion control coordination, and all incidental work required for complete installation of sodding shall be subsidiary to this bid item. No separate payment shall be made for maintenance, watering, or replacement unless specifically identified as separate bid items in the Contract Documents.

GEOTECHNICAL ENGINEERING STUDY
ROADWAY RECONSTRUCTION
TOLER BUSINESS PARK – PHASES I AND II
ROWLETT, TEXAS

Presented To:

Neel-Schaffer, Inc.

March 2022

PROJECT NO. 1314-21-17

CMJ Engineering

March 24, 2022
Report No. 1314-21-17

Neel-Schaffer, Inc.
2501 Avenue J, Suite 120
Arlington, Texas 76006

Attn: Mr. Derek Cheatham, P.E.

GEOTECHNICAL ENGINEERING STUDY
ROADWAY RECONSTRUCTION
TOLER BUSINESS PARK – PHASES I AND II
ROWLETT, TEXAS

Dear Mr. Cheatham:

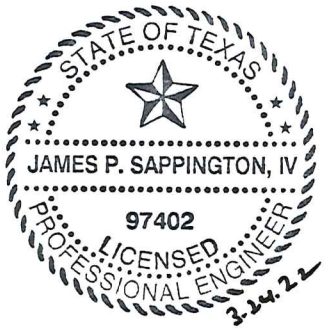
Submitted here are the results of a geotechnical engineering study for the referenced project. This study was performed in general accordance with CMJ Proposal 21-8253 dated August 22, 2021. The geotechnical services were authorized via Task Order #1 as executed by Mr. Derek Cheatham, P.E., pursuant to the Master Professional Services Agreement with Neel-Schaffer, Inc. dated October 20, 2021.

Engineering analyses and recommendations are contained in the text section of the report. Results of our field and laboratory services are included in the appendix of the report. We would appreciate the opportunity to be considered for providing the materials engineering and geotechnical observation services during the construction phase of this project.

We appreciate the opportunity to be of service to Neel-Schaffer, Inc. Please contact us if you have any questions or if we may be of further service at this time.

Respectfully submitted,
CMJ ENGINEERING, INC.
TEXAS FIRM REGISTRATION NO. F-9177

James P. Sappington IV, P.E.
President
Texas No. 97402



copies submitted: (2) Mr. Derek Cheatham, P.E.; Neel-Schaffer, Inc. (email & mail)

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1.0 INTRODUCTION

1.1 Project Description

This report presents the results of a geotechnical engineering study for total reconstruction of the existing concrete roadways within the Toler Business Park, Phases I and II in Rowlett, Texas. Roadways planned for improvement include Century Drive, Vaughan Drive, and both Singleton Street and Lawing Lane from Vaughan Drive westward approximately 600 feet. Paving will consist of 10-inch-thick concrete overlying a 2-inch thick hot-mix asphalt subgrade per the City of Rowlett standard “Major Thoroughfare” section. Select water and sewer lines will be replaced. In addition, an existing culvert along Century Drive will also be replaced. The total project length is on the order of 3,300 linear feet. Plate A.1, Plan of Borings, presents the project vicinity and approximate locations of the exploration borings.

1.2 Purpose and Scope

The purpose of this geotechnical engineering study has been to determine the general paving and subsurface conditions, evaluate the engineering characteristics of the subsurface materials encountered, develop recommendations for the type or types of pavement subgrade preparation and stabilization, and provide foundation recommendations for the replacement box culvert structure.

To accomplish its intended purposes, the study has been conducted in the following phases: (1) drilling sample borings to determine the general subsurface conditions and to obtain samples for testing; (2) performing laboratory tests on appropriate samples to determine pertinent engineering properties of the subsurface materials; and (3) performing engineering analyses, using the field and laboratory data, to develop geotechnical recommendations for the proposed construction.

The design is currently in progress and the locations and/or elevations of structures could change. The recommendations contained in this report are based on data supplied by Neel-Schaffer, Inc. Once the final design is near completion (80- to 90-percent stage), it is recommended that CMJ Engineering, Inc. be retained to review those portions of the construction documents pertaining to the geotechnical recommendations, as a means to determine that our recommendations have been interpreted as intended.

1.3 Report Format

The text of the report is contained in Sections 1 through 8. All plates and large tables are contained in Appendix A. The alpha-numeric plate and table numbers identify the appendix in which they appear. Small tables of less than one page in length may appear in the body of the text and are numbered according to the section in which they occur.

Units used in the report are based on the English system and may include tons per square foot (tsf), kips (1 kip = 1,000 pounds), kips per square foot (ksf), pounds per square foot (psf), pounds per cubic foot (pcf), and pounds per square inch (psi).

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Subsurface materials at the project sites were explored by eight (8) borings drilled in the existing pavement areas. Boring B-6 was drilled to a depth of 30 feet in the vicinity of the existing box culvert and the remaining borings were drilled to a depth of 10 feet using continuous flight augers at the approximate locations shown on the Plan of Borings, Plate A.1. The boring logs are included on Plates A.4 through A.11 and keys to classifications and symbols used on the logs are provided on Plates A.2 and A.3.

Undisturbed samples of cohesive soils were obtained with nominal 3-inch diameter thin-walled (Shelby) tube samplers at the locations shown on the logs of borings. The Shelby tube sampler consists of a thin-walled steel tube with a sharp cutting edge connected to a head equipped with a ball valve threaded for rod connection. The tube is pushed into the soil by the hydraulic pulldown of the drilling rig. The soil specimens were extruded from the tube in the field, logged, tested for consistency with a hand penetrometer, sealed, and packaged to limit loss of moisture.

The consistency of cohesive soil samples was evaluated in the field using a calibrated hand penetrometer. In this test a 0.25-inch diameter piston is pushed into the relatively undisturbed sample at a constant rate to a depth of 0.25 inch. The results of these tests, in tsf, are tabulated at respective sample depths on the logs. When the capacity of the penetrometer is exceeded, the value is tabulated as 4.5+.

Ground-water observations during and after completion of the borings are shown on the upper right of the boring log. Upon completion of the borings, the bore holes were backfilled with soil cuttings and capped with quick-set concrete.

2.2 Laboratory Testing

Laboratory soil tests were performed on selected representative samples recovered from the borings. In addition to the classification tests (liquid limits and plastic limits), moisture content, unconfined compressive strength, and unit weight tests were performed. Results of the laboratory classification tests, moisture content, unconfined compressive strength, and unit weight tests conducted for this project are included on the boring logs.

Free swell testing was performed to check on expansive characteristics of the soils. Free swell test results are provided on Plate A.12. Lime series testing was performed to check the optimum lime concentration for subgrade stabilization. Lime series test results are provided on Plate A.13. Soluble sulfate tests were conducted on selected soil samples. The sulfate testing was conducted to help identify sulfate-induced heaving potential of the soils. The results of these tests are presented on Plate A.14.

The above laboratory tests were performed in general accordance with applicable ASTM procedures, or generally accepted practice.

3.0 SUBSURFACE CONDITIONS

3.1 Soil Conditions

Specific types and depths of subsurface strata encountered at the boring locations are shown on the boring logs in Appendix A. The generalized subsurface stratigraphy encountered in the borings are discussed below. Note that depths on the borings refer to the depth from the existing grade or ground surface present at the time of the investigation, and the boundaries between the various soil types are approximate.

Existing paving consists of 4¾ to 6 inches of concrete. Soils encountered consist of dark brown, brown, light brown, light reddish brown, gray, and light gray silty clays, shaly clays, and clays of high plasticity. The near surface clays were noted as fill in Boring B-6 to a depth of 5 feet. Calcareous

nodules or deposits, iron stains, ironstone nodules, iron seams, and pebbles, are often present within the soils. All borings were terminated within the various clays at depths of 10 to 30 feet.

The various clay soils encountered in the borings had Liquid Limits (LL) ranging from 52 to 80 with Plasticity Indices (PI) ranging from 37 to 62 and are classified as CH by the USCS. The various clay soils varied from stiff to hard (soil basis) in consistency with pocket penetrometer readings of 1.75 to over 4.5 tsf, with the exception of a notably soft to firm (soil basis) zone encountered below the concrete in Boring B-5 to a depth of 2 feet. Tested unit weight values varied from 93 to 102 pcf and unconfined compressive strengths were 1,980 to 4,520 psf. Moisture contents of the soils ranged from 18 to 31 percent.

3.2 Ground-Water Observations

The borings were drilled using continuous flight augers in order to observe ground-water seepage during drilling. Ground-water seepage was not encountered during drilling and all borings were subsequently dry at drilling completion.

While it is not possible to accurately predict the magnitude of subsurface water fluctuation that might occur based upon these short-term observations, it should be recognized that ground-water conditions will vary with fluctuations in rainfall. Seasonal water seeps can occur in joints in the clays. Fluctuations of the ground-water level can occur due to seasonal variations in the amount of rainfall; site topography and runoff; hydraulic conductivity of soil strata; and other factors not evident at the time the borings were performed. The possibility of ground-water level fluctuations should be considered when developing the design and construction plans for the project.

4.0 PAVEMENTS

4.1 General Pavement Considerations

Pavement performance is impacted by many factors far beyond what is normally included in engineering design. Wherein pavement analyses should include establishing an appropriate thickness of concrete and appropriate subgrade remediation and/or stabilization; other factors such as pavement drainage, location of trees adjacent to the existing paving, and water conditions in grassed areas adjacent to curbing impact the performance of the pavement. In addition, the activity of the soil below the pavement can cause differential expansive soil conditions under the pavement. We understand the City of Rowlett standard pavement section for “Major Thoroughfare” has been selected by the city for this project.

Subgrade soils encountered in the borings consist of highly plastic clays. The success of the pavement subgrade consisting of such materials is subgrade soil strength and control of water. Adequate subgrade performance can be achieved by stabilizing existing soils and fills used to construct the pavement subgrade. Lower plasticity and sandy soils normally are stabilized using Portland cement. Highly plastic clays are normally stabilized using hydrated lime. The City of Rowlett utilizes a combined stabilizer approach utilizing both mentioned agents. The use of lime with clay subgrade soils also serves to achieve the necessary gradation prior to the application of cement stabilizer.

In lieu of a lime and cement stabilized subgrade for this project, a flexible base meeting TxDOT Item 247, Type A, Grades 1 or 2 may be utilized on an equal basis. The option of using a flexible base in lieu of lime stabilizing the subgrade presents a relatively quick, straight forward solution to preparing the materials prior to pavement placement and relieves soluble sulfate heave concerns as discussed below.

This general area of Rowlett is underlain by materials of the Ozan Formation. Ozan soils are well known for their high plasticity, high activity, and sensitivity to cuts and fills. The project area under investigation have been paved for many years. Correspondingly, most borings reflect soils below the pavements that are relatively moist with a relatively low to moderate potential for expansive soil movement; however, borings with high hand penetrometer readings and relatively low soil moisture content have the potential of several inches of expansive soil movement; on the order of 5 to 6½ inches.

The design of the pavement drainage and grading should consider the potential for differential ground movement due to future soil swelling as discussed above. In order to minimize rainwater infiltration through the pavement surface, and thereby minimizing future upward movement of the pavement slabs all cracks and joints in the pavement should be sealed on a routine basis after construction.

4.2 Lime-Induced Heaving

Soluble sulfate tests were conducted to check for lime-induced heaving potential. Lime-induced heaving is caused when calcium-based stabilizer such as hydrated lime is added to a soil with a high

soluble sulfate concentration. The lime reacts with the sulfates to cause potentially large volumetric changes in the soil.

Soluble sulfate levels in soils on the order of 2,000 parts-per-million (ppm) or less are usually of low concern and warrant only observation of the subgrade during the stabilization process. Soluble sulfate levels on the order of 2,000 to 6,000 ppm usually warrant a double lime process, with the first treatment of lime consisting of ½ the recommended concentration and a second lime treatment consisting of the full recommended concentration. Sulfate levels on the order of 6,000+ ppm may require a double-lime process, with the two full concentration lime treatments.

The soluble sulfate levels of the tested samples were less than 100 ppm, as tabulated on Plate A.14. With sulfate test values below 2,000 ppm, a single-lime treatment is recommended at this time. The single-lime treatment is described in Section 4.3. Although sulfate levels less than 2,000 ppm were detected in the borings corresponding to these roadways, the presence and concentration of soluble sulfates are known to vary greatly within short lateral distances. Prior to lime stabilization or compaction along these roadways, the pavement subgrade should be further tested for soluble sulfates. Once the subgrade is established, the actual subgrade should be retested at 200-foot intervals to verify sulfate concentration and any special measures identified on a case-by-case basis. Any locations with soluble sulfates greater than 2,000 ppm should use alternative methods of subgrade preparation (i.e., use of flex base or double lime process). Additionally, it is recommended that during the curing period of the lime treatment, the subgrade be supplied with ample moisture and it should be checked for any volumetric changes that may indicate a lime-induced heaving condition. As an alternative, a 6-inch flexible base (TxDOT Item 247, Type A, Grade 1 or 2) may be used under a concrete surfacing to provide a suitable subgrade to alleviate sulfate heave concerns.

4.3 Pavement Subgrade Stabilization with Lime and Cement

Anticipated subgrade materials consist of highly active clays. These subgrade soils are subject to loss in support value with the moisture increases which occur beneath pavement sections. Treatment of these soils with a combination of lime and cement will improve their subgrade characteristics to support the proposed pavement structure.

In lieu of a lime and cement stabilized subgrade for this project, a flexible base meeting TxDOT Item 247, Type A, Grades 1 or 2 may be utilized on an equal basis (6-inch minimum), placed atop a properly prepared and compacted subgrade. The option of using a flexible base in lieu of stabilizing the

subgrade presents a relatively quick, straight forward solution to preparing the materials prior to pavement placement and relieves soluble sulfate heave concerns.

Prior to lime stabilization or compaction, the subgrade should be further tested for soluble sulfates. Any locations with soluble sulfates greater than 2,000 ppm should use alternative methods of subgrade preparation (i.e., use of flex base). With any method, the subgrade should be proofrolled with heavy pneumatic equipment. Any soft or pumping areas should be undercut to a firm subgrade and properly backfilled as described in the Earthwork section. Soft to firm subgrade soils were encountered in Boring B-5, and this condition should be anticipated in this vicinity. The subgrade should initially be scarified to a minimum depth of 12 inches (per city standards) the stabilized per the following specifications.

It is recommended a minimum of 6 percent hydrated lime be used to modify the clay subgrade soils prior to the addition of cement stabilizer. The estimated amount of hydrated lime required should be on the order of 27 pounds per square yard for a 6-inch depth, based on a soil dry unit weight of 100 pcf. The hydrated lime should be thoroughly mixed and blended with the upper 6 inches of the clay subgrade (TxDOT Item 260). The hydrated lime should meet the requirements of Item 260 (Type A) in the Texas Department of Transportation (TxDOT) Standard Specifications for Construction of Highways, Streets and Bridges, 2014 Edition.

Following lime treatment, it is recommended a minimum of 5 percent Portland cement be used to stabilize the subgrade soils. The estimated amount of cement required to stabilize the subgrade should be on the order of 23 pounds per square yard for a 6-inch depth, based on a soil dry unit weight of 100 pcf. The cement should be thoroughly mixed and blended with the upper 6 inches of the subgrade (TxDOT Item 275). The Portland cement should meet the requirements of Item 275 in the Texas Department of Transportation (TxDOT) Standard Specifications for Construction of Highways, Streets and Bridges, 2014 Edition.

The cement stabilized subgrade should be uniformly compacted to a minimum of 98 percent of ASTM Standard Test Method for Moisture-Density Relations of Soil-Cement Mixtures (ASTM D 558), near minus 3 to plus 1 percentage points of the optimum moisture content determined by that test. The operation of cement application, mixing, spreading, compacting, and finishing per lift should be continuous and completed within 2 hours from the start of mixing. Any processed material that has not been compacted and finished shall not be left undisturbed for longer than 30 minutes. Smaller sections should be completed at one time, rather than overly long sections.

After completion of final finishing, the surface should be cured by application of a bituminous or other approved sealing membrane, or by being kept continuously moist for a period of 7 days with a water spray that will not erode the surface of the cement treated base. If curing material is used, it should be applied as soon as possible, but not later than 24 hours after completing finishing operations. The surface should be kept continuously moist prior to application of curing material.

The Texas Transportation Institute has performed studies to reduce "block cracks" common to cement-treated base materials. Microcracking is the application of several vibratory roller passes to a cement-treated base after a short curing stage, typically after one to three days, to create a fine network of cracks. Microcracking is one technique to help reduce the risk of shrinkage cracks forming in the cement-treated base and thereby reducing the risk of reflective cracking upward through the asphalt surface. The goal of microcracking is to form a network of fine cracks and prevent the wider, more severe cracks from forming. **Proper moisture control during cement placement/mixing and curing are also key factors to reducing shrinkage cracking**.

It is recommended that subgrade stabilization extend to at least one foot beyond pavement edges to aid in reducing pavement movements and cracking along the curb line due to seasonal moisture variations after construction. Each construction area should be shaped to allow drainage of surface water during earthwork operations, and surface water should be pumped immediately from each construction area after each rain and a firm subgrade condition maintained. Water should not be allowed to pond in order to prevent percolation and subgrade softening, and cement should be added to the subgrade after removal of all surface vegetation and debris. Sand should be specifically prohibited beneath pavement areas, since these more porous soils can allow water inflow, resulting in heave and strength loss of subgrade soils.

Surface drainage is critical to the performance of this pavement. Water should be allowed to exit the pavement surface quickly.

4.4 Pavement Material Requirements

Material and process specifications developed by the Texas Department of Transportation (TxDOT) have been utilized. These specifications are outlined in the TxDOT Standard Specifications for Construction of Highways, Streets and Bridges, 2014 Edition. Specific construction recommendations for rigid pavements are given below.

Reinforced Portland Cement Concrete: (Minimum 10 inches thick) - Reinforced Portland cement concrete pavement should consist of Portland cement concrete having a 28-day compressive strength of at least 4,000 psi. The mix should be designed in accordance with the ACI Code 318 using 3 to 6 percent air entrainment. The pavement should be adequately reinforced with temperature steel and all construction joints or expansion/contraction joints should be provided with load transfer dowels. The spacing of the joints will depend primarily on the type of steel used and also thickness of the pavement. No. 4 steel rebar spaced at 18 inches on center in both the longitudinal and transverse direction is required, in accordance with City of Rowlett standards.

Hot Mix Asphaltic Concrete Base Course: (Minimum 2 inches thick) - Item 340, Type B, Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.

Lime Stabilized Subgrade: Lime treatment for base course (road mix) - Item 260, Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.

Cement Stabilized Subgrade: Cement treatment for base course (road mix) - Item 275, Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.

Flexible Base: Crushed Stone Flexible Base – Item 247, Type A, Grades 1 or 2, Texas Department of Transportation Standard Specifications for Construction of Maintenance of Highways, Streets, and Bridges, 2014 Edition.

4.5 General Pavement Construction and Considerations

The design of the pavement drainage and grading should consider the potential for differential ground movement due to future soil swelling on the order of 6½ inches. In order to minimize rainwater infiltration through the pavement surface, and thereby minimizing future upward movement of the pavement slabs, all cracks and joints in the pavement should be sealed on a routine basis after construction.

Where mature trees and water-intensive shrubs exist adjacent to the roadway, consideration may be given to installation of a vertical moisture barrier along the curb line in order to reduce the potential for moisture-induced volume change of the subgrade soils and restrict root systems from penetrating below the pavement. Such barriers can be accomplished by excavating narrow trench lines adjacent to the curb to depths on the order of 3 to 4 feet and filling this zone with lean concrete or flowable fill. This zone also can be filled with a geomembrane and proper backfilling using flowable fill or comparable material.

Proper surface drainage in the shoulders is also critical to long-term performance of the pavement. Water allowed to pond adjacent to the pavement will result in loss of edge and subgrade support and an increase in post-construction heave of the pavement.

5.0 BOX CULVERT

5.1 General Considerations

Two independent design criteria must be satisfied in the selection of the type of foundation to support the proposed culvert structure and associated wingwalls. First, the ultimate bearing capacity, reduced by a sufficient factor of safety, must not be exceeded by the bearing pressure transferred to the foundation soils. Second, due to consolidation or expansion of the underlying soils during the operating life of the structure, total and differential vertical movements must be within tolerable limits.

5.2 Potential Vertical Movements

Structures placed within the zone of seasonal moisture change will be subject to movement as a result of moisture induced volume changes in the highly active clays. The clays expand (heave) with increases in moisture and contract (shrink) with decreases in moisture. The movement typically occurs as post construction heave. The potential magnitude of the moisture induced movements is rather indeterminate. It is influenced by the soil properties, overburden pressures, and to a great extent by soil moisture levels at the time of construction. The greatest potential for post-construction movement occurs when the soils are in a dry condition at the time of construction. Based on the conditions encountered in the Boring B-6, potential moisture induced movements are estimated to be on the order of 5¾ inches for soils in a dry condition. Soil movements, significantly larger than estimated, could occur due to inadequate site grading, poor drainage, ponding of rainfall, and/or leaking pipelines.

5.3 Foundations, Footings

Proper identification of the bearing material by qualified geotechnical personnel during construction is paramount; therefore, the foundation bearing depth may be deeper, depending on materials encountered. Based on Boring B-6, the excavation will be through high plasticity clays. If ground-water is encountered, care should be taken to dewater these areas and cause as minimal disturbance as possible. If soft soil and ground-water conditions are present at the base of the excavation, the box culvert may be founded upon a minimum 1-foot crushed stone pad with a geotextile "separator" fabric below the stone pad. Otherwise, with minimal disturbance, the box culvert may rest atop the natural clay soils.

Mat type foundations should be a minimum of 2 feet in least dimension, but must be widened as required, based on allowable bearing capacity given below. We understand the mat foundation will be situated on the order of 8 feet below ground as referenced from street grade. Based on Boring B-6 at this depth, the mat foundation may be founded upon natural, stiff clays. A mat foundation situated on the clays at this depth may be designed for a net allowable bearing capacity of 2.0 ksf. This bearing value assumes that the excavation base is dry and little to no disturbance of the soils is allowed.

Excavation for the footing base may need to incorporate dewatering to keep the excavation free of excess water, depending on site conditions. In addition, ground-water, if encountered, should be lowered to a depth of 2 feet below the proposed excavation. Soils existing in a soft to firm state should be evaluated on a case-by-case basis. Close inspection of soils strength should be conducted by a geotechnical engineer to allow designation and removal of soft soils not meeting the bearing capacity stated above. It should be noted that the culvert foundations could be subjected to non-uniform pressure across the foundation, and possibly negative pressure (separation of foundation from soil) under a portion of the foundation, due to the overturning moment induced by the lateral earth pressures. The allowable foundation pressures given above are for the maximum pressure induced by the foundation loads, and not the average pressure under the foundation base.

The horizontal bases of the mat and footings will develop resistance to sliding by means of a combination of friction and adhesion (for cohesive foundation materials). Given the nature of the foundation materials, an adhesion of 500 psf may be used for earth formed footings. An ultimate friction factor of 0.3 may be used to calculate sliding resistance of the footings bearing on site soils.

The bearing value above incorporates a minimum factor of safety against shear failure of 3. Mats founded within undisturbed materials utilizing the above bearing capacity are not anticipated to undergo settlements greater than 1 inch or differential settlement greater than ¾ inch after construction. Differential movements on the order of 2 to 2½ inches should be expected due to the expansive nature of the underlying clays for foundations situated 8 feet below existing ground surface (as referenced from top of ground at the exploration boring location B-6).

In addition, where proposed pavement extends beyond the edge of the proposed culvert (approaches), the potential exists for differential movement at this interface. The culvert excavation backfill below and three feet beyond the approaches should consist of either flowable fill or properly compacted crushed stone flexible base in order to reduce backfill settlement and the potential for differential movement/distress.

5.4 Mat-Type Footing Construction Considerations

Mat type foundation construction should be monitored by a representative of the geotechnical engineer to observe, among other things, the following items:

- Identification of bearing material
- Adequate penetration of the foundation excavation into the bearing layer
- The base and sides of the excavation are clean of loose cuttings
- When seepage is encountered, whether it is of sufficient amount to require the use of excavation dewatering methods

The footing excavations should be neat vertical cuts and maintained throughout construction. Precautions should be taken during the placement of reinforcing steel and concrete to prevent loose, excavated soil from falling into the excavation. Concrete should be placed as soon as practical after completion of the excavating, cleaning, reinforcing steel placement and observation. Excavation for a mat type foundation should be filled with concrete before the end of the workday, or sooner if required, to prevent deterioration of the bearing material. Prolonged exposure or inundation of the bearing surface with water will result in change in strength and compressibility characteristics. If delays occur, the excavation should be deepened as necessary and cleaned, in order to provide a fresh bearing surface. If more than 24 hours of exposure of the bearing surface is anticipated in the excavations, a “mud slab” should be used to protect the bearing surfaces. If a mud slab is used, the foundation excavations should initially be over-excavated by approximately 4 inches and a lean concrete mud slab of approximately 4 inches in thickness should be placed in the bottom of the excavations immediately following exposure of the bearing surface by excavation. The mud slab will

protect the bearing surface, maintain more uniform moisture in the subgrade, facilitate dewatering of excavations if required, and provide a working surface for the placement of formwork and reinforcing steel.

The concrete should be placed in a manner that will prevent the concrete from striking the reinforcing steel or the sides of the excavation in a manner that would cause segregation of the concrete.

5.5 Lateral Earth Pressures

General

The culvert and associated wingwalls must be designed for lateral pressures including, but not necessarily limited to, earth, water, surcharge, swelling, and vibration. In addition, the lateral pressures will be influenced by whether the backfill is drained or undrained, and above or below the ground-water table.

Equivalent Fluid Pressures

Lateral earth pressures on the culvert and associated wing/retaining walls will depend on a variety of factors, including the type of soils behind the wall, the condition of the soils, and the drainage conditions behind the wall. Recommended lateral earth pressures expressed as equivalent fluid pressures, per foot of wall height, are presented in Table 5.5-1 for a wall with a level backfill behind the top of the wall. The equivalent fluid pressure for an undrained condition should be used if a drainage system is not present to remove water trapped in the backfill and behind the wall. Pressures are provided for at-rest and active earth pressure conditions. Rigid culvert walls are not anticipated to develop active pressures and should be designed for the at-rest condition. In order to allow for an active condition the top of the wall(s) must deflect on the order of 0.4 percent.

For the select fill, flowable fill, or free draining granular backfill these values assume that a “full” wedge of the material is present behind the wall. The wedge is defined where the wall backfill limits extend outward at least 2 feet from the base of the wall and then upward on a 1H:2V slope. For narrower backfill widths of granular or select fill soils, the equivalent fluid pressures for the on-site soils should be used.

TABLE 5.5-1 – Equivalent Fluid Pressures				
Backfill Material	At-Rest Equivalent Fluid Pressure (pcf)		Active Equivalent Fluid Pressure (pcf)	
	Drained	Undrained	Drained	Undrained
Excavated on-site clay or clay fill material	100	110	85	100
Select fill or flowable fill	65	90	50	85
Free draining granular backfill material	50	90	35	80

For the select fill or free draining granular backfill these values assume that a "full" wedge of the material is present behind the wall. The wedge is defined where the wall backfill limits extend outward at least 2 feet from the base of the wall and then upward on a 1H:2V slope. For narrower backfill widths of granular or select fill soils, the equivalent fluid pressures for the on-site soils should be used.

Additional Lateral Pressures

The location and magnitude of permanent surcharge loads (if present) should be determined, and the additional pressure generated by these loads such as the weight of construction equipment and vehicular loads that are used at the time the structures are being built must also be considered in the design. The effect of this or any other surcharge loading may be accounted for by adding an additional uniform load to the full depth of the side walls equivalent to one-half of the expected vertical surcharge intensity for select backfill materials, or equal to the full vertical surcharge intensity for clay backfill. The equivalent fluid pressures, given here, do not include a safety factor. Analysis of surcharge loads (if any) should be performed on a case-by-case basis. This is not included in the scope of this study. These services can be provided as additional services upon request.

5.6 Wall Backfill Material Requirements

Excavated On-Site Soil: For wall backfill areas with site-excavated materials or similar imported materials, all oversized fragments larger than four inches in maximum dimension should be removed from the backfill materials prior to placement. The backfill should be free of all organic and deleterious materials, and should be placed in maximum 8-inch compacted lifts at a minimum of 95 percent of Standard Proctor density (ASTM D 698) within a moisture range of plus to minus 3 percentage points of optimum moisture. Compaction within five feet of the walls should be

accomplished using hand compaction equipment, and should be between 90 and 95 percent of the Standard Proctor density.

Select Fill: All wall select backfill should consist of clayey sand and/or sandy clay material with with a Liquid Limit less than 35 and a Plasticity Index (PI) between 5 and 16. The select fill should be placed in maximum 8-inch lifts and compacted to between 95 and 100 percent of Standard Proctor density (ASTM D698) within a moisture range of plus to minus 3 percentage points of the optimum moisture. Compaction within five feet of the walls should be accomplished using hand compaction equipment and should be compacted between 90 and 95 percent of the Standard Proctor density.

Flowable Backfill: Item 401, Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, 2014 Edition.

Granular Wall Backfill: All free draining granular wall backfill material should be a crushed stone, sand/gravel mixture, or sand/crushed stone mixture. The material should have less than 3 percent passing the No. 200 sieve and less than 30 percent passing the No. 40 sieve. The minus No. 40 sieve material should be non-plastic. Granular wall backfill should not be water jetted during installation.

5.7 Wall Backfill Settlement

Settlement of the wall backfill should be anticipated. Piping and conduits through the fill should be designed for potential soil loading due to fill settlement. Floor slabs, sidewalls, and pavements over fills may also settle. Backfill compacted to the density recommended above is anticipated to settle on the order of 0.2 to 0.5 percent of the fill thickness.

5.8 Wall Drainage

In order to achieve the “drained” condition for low-permeability walls (concrete, masonry, etc.), a vertical drainage blanket or geocomposite drainage member must be installed adjacent to the wall on the backfill side. The drainage must be connected to an outlet drain at the base of the wall. Drainage could be provided using a collector pipe or weep holes near the base of the wall. Drains should be properly filtered to minimize the potential for erosion through these drains, and/or the plugging of drain lines. Design or specific recommendations for drainage members is beyond the scope for this study. These services can be provided as an additional service upon request.

6.0 EARTHWORK

6.1 Site Preparation

The subgrade should be firm and able to support the construction equipment without displacement. Soft or yielding subgrade should be corrected and made stable before construction proceeds. The subgrade should be proof rolled to detect soft spots, which if exist, should be reworked to provide a firm and otherwise suitable subgrade. Proof rolling should be performed using a heavy pneumatic tired roller, loaded dump truck, or similar piece of equipment. The proof rolling operations should be observed by the project geotechnical engineer or his/her representative. Prior to fill placement, the subgrade should be scarified to a minimum depth of 6 inches, its moisture content adjusted, and recompacted to the moisture and density recommended for fill. In areas of perched water or pumping subgrade, it may be necessary to install sub-pavement drains or edge drains. This decision should be made during construction to verify the need.

6.2 Placement and Compaction

Fill material should be placed in loose lifts not exceeding 8 inches in uncompacted thickness. The uncompacted lift thickness should be reduced to 4 inches for structure backfill zones requiring hand-operated power compactors or small self-propelled compactors. The fill material should be uniform with respect to material type and moisture content. Clods and chunks of material should be broken down and the fill material mixed by disking, blading, or plowing, as necessary, so that a material of uniform moisture and density is obtained for each lift. Water required for sprinkling to bring the fill material to the proper moisture content should be applied evenly through each layer.

The on-site soils are suitable for use in general site grading. Imported fill material should be clean soil with a Liquid Limit less than 60 and no rock greater than 4 inches in maximum dimension. The fill materials should be free of vegetation and debris.

Within the city right-of-way, fill material should be compacted to a minimum of 98 percent of the maximum dry density determined by the Standard Proctor test, ASTM D698. Beyond the right-of-way, fill material should be compacted to a minimum of 95 percent of the maximum dry density determined by the Standard Proctor test, ASTM D698. In conjunction with the compacting operation, the fill material should be brought to the proper moisture content. The moisture content for earth fill should range from at the optimum content to 5 percentage points above optimum (0 to +5). These ranges of moisture contents are given as maximum recommended ranges. For some soils and under

some conditions, the contractor may have to maintain a more narrow range of moisture content (within the recommended range) in order to consistently achieve the recommended density.

Field density tests should be taken as each lift of fill material is placed. As a guide, one field density test per lift for each 5,000 square feet of compacted area is recommended. For small areas or critical areas the frequency of testing may need to be increased to one test per 2,500 square feet. A minimum of 2 tests per lift should be required. The earthwork operations should be observed and tested on a continuing basis by an experienced geotechnician working in conjunction with the project geotechnical engineer.

Each lift should be compacted, tested, and approved before another lift is added. The purpose of the field density tests is to provide some indication that uniform and adequate compaction is being obtained. The actual quality of the fill, as compacted, should be the responsibility of the contractor and satisfactory results from the tests should not be considered as a guarantee of the quality of the contractor's filling operations.

6.3 Trench Backfill

Trench backfill for pipelines or other utilities should be properly placed and compacted. Overly dense or dry backfill can swell and create a mound along the completed trench line. Loose or wet backfill can settle and form a depression along the completed trench line. Distress to overlying structures, pavements, etc. is likely if heaving or settlement occurs. On-site soil fill material is recommended for trench backfill. Care should be taken not to use free draining granular material, to prevent the backfilled trench from becoming a french drain and piping surface or subsurface water beneath structures, pipelines, or pavements. If a higher class bedding material is required for the pipelines, a lean concrete bedding will limit water intrusion into the trench and will not require compaction after placement. The soil backfill should be placed in approximately 4- to 6-inch loose lifts. The density and moisture content should be as recommended for fill in Section 6.2, Placement and Compaction, of this report. A minimum of one field density test should be taken per lift for each 150 linear feet of trench, with a minimum of 2 tests per lift.

6.4 Excavation

No rock was encountered to the boring exploration depths. The possibility exists that water may occur in joints in the clays, particularly after periods of significant rainfall.

The side slopes of excavations through the overburden soils should be made in such a manner to provide for their stability during construction. Existing structures, pipelines or other facilities, which are constructed prior to or during the currently proposed construction and which require excavation, should be protected from loss of end bearing or lateral support.

Temporary construction slopes and/or permanent embankment slopes should be protected from surface runoff water. Site grading should be designed to allow drainage at planned areas where erosion protection is provided, instead of allowing surface water to flow down unprotected slopes.

Trench safety recommendations are beyond the scope of this report. The contractor must comply with all applicable safety regulations concerning trench safety and excavations including, but not limited to, OSHA regulations.

6.5 Acceptance of Imported Fill

Any soil imported from off-site sources should be tested for compliance with the recommendations for the particular application and approved by the project geotechnical engineer prior to the materials being used. The owner should also require the contractor to obtain a written, notarized certification from the landowner of each proposed off-site soil borrow source stating that to the best of the landowner's knowledge and belief there has never been contamination of the borrow source site with hazardous or toxic materials. The certification should be furnished to the owner prior to proceeding to furnish soils to the site. Soil materials derived from the excavation of underground petroleum storage tanks should not be used as fill on this project.

6.6 Soil Corrosion Potential

Specific testing for soil corrosion potential was not included in the scope of this study. However, based upon past experience on other projects in the vicinity, the soils at this site may be corrosive. Standard construction practices for protecting metal pipe and similar facilities in contact with these soils should be used.

6.7 Erosion and Sediment Control

All disturbed areas should be protected from erosion and sedimentation during construction, and all permanent slopes and other areas subject to erosion or sedimentation should be provided with

permanent erosion and sediment control facilities. All applicable ordinances and codes regarding erosion and sediment control should be followed.

7.0 CONSTRUCTION OBSERVATIONS

In any geotechnical investigation, the design recommendations are based on a limited amount of information about the subsurface conditions. In the analysis, the geotechnical engineer must assume the subsurface conditions are similar to the conditions encountered in the borings. However, quite often during construction anomalies in the subsurface conditions are revealed. Therefore, it is recommended that CMJ Engineering, Inc. be retained to observe earthwork and foundation installation and perform materials evaluation during the construction phase of the project. This enables the geotechnical engineer to stay abreast of the project and to be readily available to evaluate unanticipated conditions, to conduct additional tests if required and, when necessary, to recommend alternative solutions to unanticipated conditions. Until these construction phase services are performed by the project geotechnical engineer, the recommendations contained in this report on such items as final foundation bearing elevations, proper soil moisture condition, and other such subsurface related recommendations should be considered as preliminary.

It is proposed that construction phase observation and materials testing commence by the project geotechnical engineer at the outset of the project. Experience has shown that the most suitable method for procuring these services is for the owner or the owner's design engineers to contract directly with the project geotechnical engineer. This results in a clear, direct line of communication between the owner and the owner's design engineers and the geotechnical engineer.

8.0 REPORT CLOSURE

The boring locations for this study were selected by CMJ Engineering, Inc. The locations and elevations of the borings should be considered accurate only to the degree implied by the methods used in their determination. The boring logs shown in this report contain information related to the types of soil encountered at specific locations and times and show lines delineating the interface between these materials. The logs also contain our field representative's interpretation of conditions that are believed to exist in those depth intervals between the actual samples taken. Therefore, these boring logs contain both factual and interpretive information. Laboratory soil classification tests were also performed on samples from selected depths in the borings. The results of these tests,

along with visual-manual procedures were used to generally classify each stratum. Therefore, it should be understood that the classification data on the logs of borings represent visual estimates of classifications for those portions of each stratum on which the full range of laboratory soil classification tests were not performed. It is not implied that these logs are representative of subsurface conditions at other locations and times.

With regard to ground-water conditions, this report presents data on ground-water levels as they were observed during the course of the field work. In particular, water level readings have been made in the borings at the times and under conditions stated in the text of the report and on the boring logs. It should be noted that fluctuations in the level of the ground-water table can occur with passage of time due to variations in rainfall, temperature and other factors. Also, this report does not include quantitative information on rates of flow of ground water into excavations, on pumping capacities necessary to dewater the excavations, or on methods of dewatering excavations. Unanticipated soil conditions at a construction site are commonly encountered and cannot be fully predicted by mere soil samples, test borings or test pits. Such unexpected conditions frequently require that additional expenditures be made by the owner to attain a properly designed and constructed project. Therefore, provision for some contingency fund is recommended to accommodate such potential extra cost.

The analyses, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of our field investigation and further on the assumption that the exploratory borings are representative of the subsurface conditions throughout the site; that is, the subsurface conditions everywhere are not significantly different from those disclosed by the borings at the time they were completed. If, during construction, different subsurface conditions from those encountered in our borings are observed, or appear to be present in excavations, we must be advised promptly so that we can review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between submission of this report and the start of the work at the site, if conditions have changed due either to natural causes or to construction operations at or adjacent to the site, or if structure locations, structural loads or finish grades are changed, we urge that we be promptly informed and retained to review our report to determine the applicability of the conclusions and recommendations, considering the changed conditions and/or time lapse.

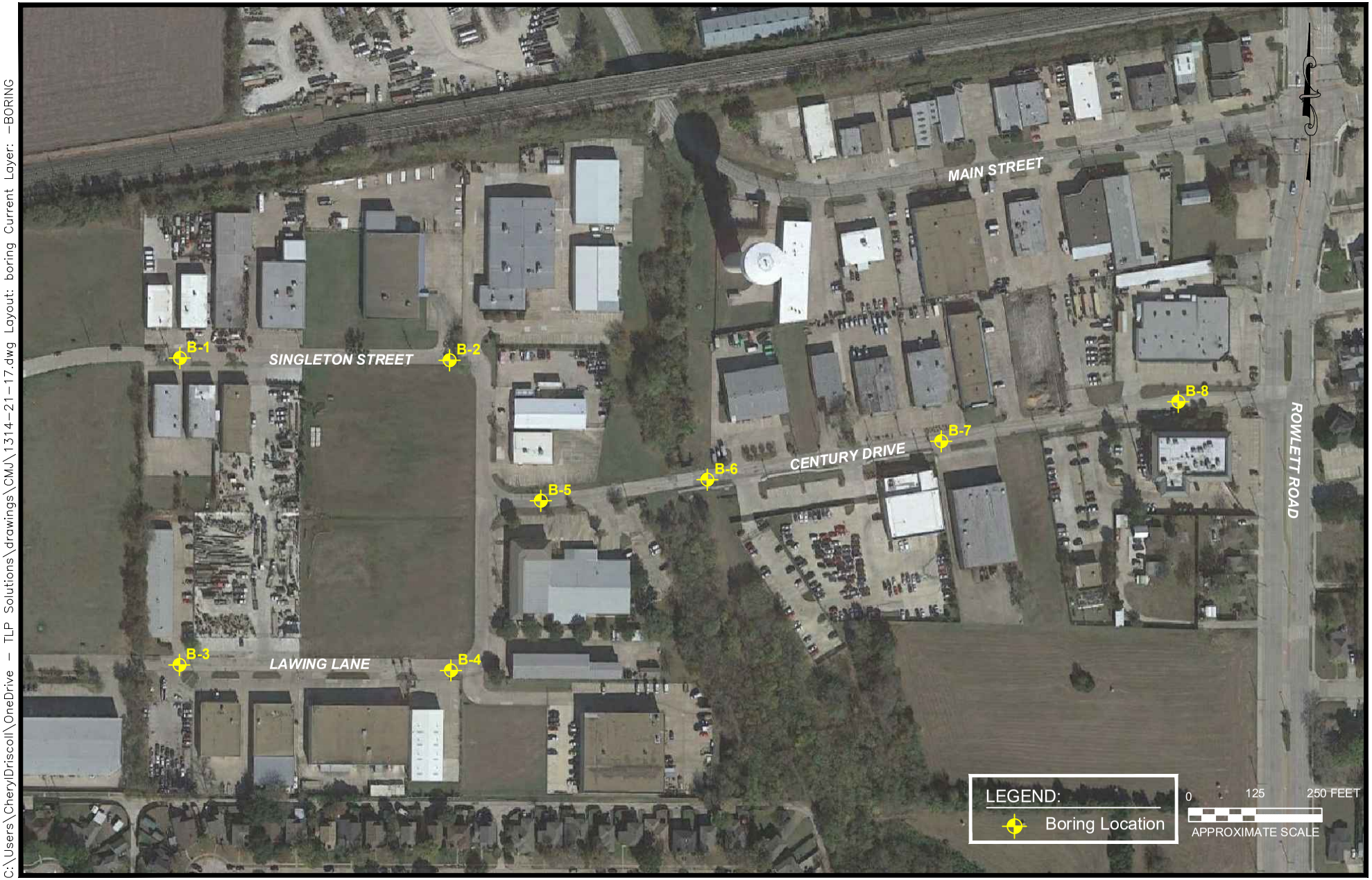
Further, it is urged that CMJ Engineering, Inc. be retained to review those portions of the plans and specifications for this particular project that pertain to earthwork and foundations as a means to determine whether the plans and specifications are consistent with the recommendations contained in this report. In addition, we are available to observe construction, particularly the compaction of structural fill, or backfill and the construction of foundations as recommended in the report, and such other field observations as might be necessary.

The scope of our services did not include any environmental assessment or investigation for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, ground water or air, on or below or around the site.

This report has been prepared for use in developing an overall design concept. Paragraphs, statements, test results, boring logs, diagrams, etc. should not be taken out of context, nor utilized without a knowledge and awareness of their intent within the overall concept of this report. The reproduction of this report, or any part thereof, supplied to persons other than the owner, should indicate that this study was made for design purposes only and that verification of the subsurface conditions for purposes of determining difficulty of excavation, trafficability, etc. are responsibilities of the contractor.

This report has been prepared for the exclusive use of Neel-Schaffer, Inc. for specific application to design of this project. The only warranty made by us in connection with the services provided is that we have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality. No other warranty, expressed or implied, is made or intended.

* * * *



PLAN OF BORINGS

ROADWAY RECONSTRUCTION - TOLER BUSINESS PARK
ROWLETT, TEXAS

PLATE
A.1

CMJ ENGINEERING, INC.

CMJ PROJECT NO. 1314-21-17

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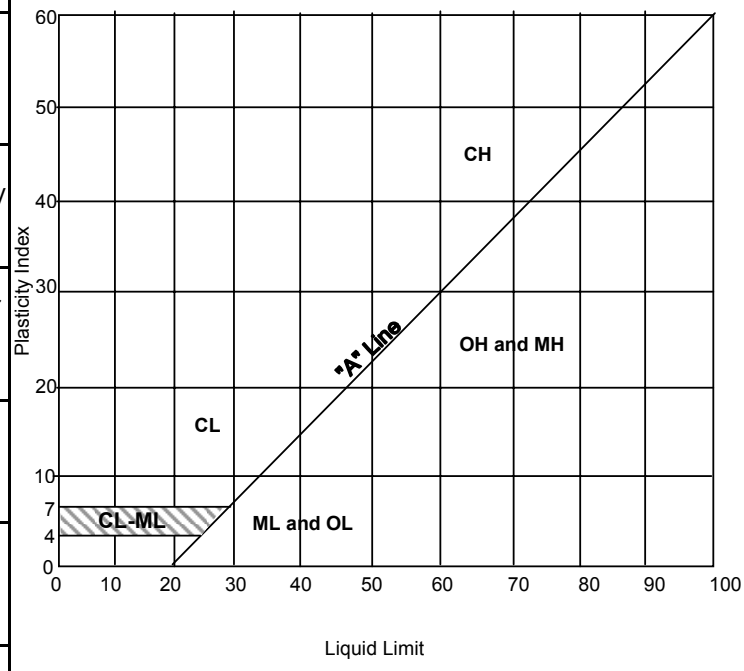
Date: 11/02/21

Major Divisions			Grp. Sym.	Typical Names	Laboratory Classification Criteria	
Coarse-grained soils (more than half of the material is larger than No. 200 sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4: $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW	
		Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures	Liquid and Plastic limits below "A" line or P.I. greater than 4	Liquid and plastic limits plotting in hatched zone between 4 and 7 are borderline cases requiring use of dual symbols
			GC	Clayey gravels, gravel-sand-clay mixtures	Liquid and Plastic limits above "A" line with P.I. greater than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6: $C_C = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
			SP	Poorly graded sands; gravelly sands, little or no fines	Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures	Liquid and Plastic limits below "A" line or P.I. less than 4	Liquid and plastic limits plotting between 4 and 7 are borderline cases requiring use of dual symbols
			SC	Clayey sands, sand-clay mixtures	Liquid and Plastic limits above "A" line with P.I. greater than 7	
Fine-grained soils (More than half of material is smaller than No. 200 sieve)	Silts and clays (Liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, and lean clays		
			OL	Organic silts and organic silty clays of low plasticity		
	Silts and clays (Liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH	Inorganic clays of high plasticity, fat clays		
			OH	Organic clays of medium to high plasticity, organic silts		
	Highly Organic soils		Pt	Peat and other highly organic soils		

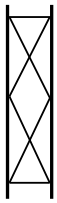
Determine percentages of sand and gravel from grain size curve.
Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:
Less than 5 percent.....GW, GP, SW, SP
More than 12 percent.....GM, GC, SM, SC
5 to 12 percent.....*Borderline* cases requiring dual symbols



Plasticity Chart

UNIFIED SOIL CLASSIFICATION SYSTEM **PLATE A-2**

SOIL OR ROCK TYPES

GRAVEL	LEAN CLAY	LIMESTONE							
SAND	SANDY	SHALE									
SILT	SILTY	SANDSTONE									
CLAYEY	HIGHLY PLASTIC CLAY	CONGLOMERATE	Shelby Tube	Auger	Split Spoon	Rock Core	Cone Pen	No Recovery			

TERMS DESCRIBING CONSISTENCY, CONDITION, AND STRUCTURE OF SOIL

Fine Grained Soils (More than 50% Passing No. 200 Sieve)

Descriptive Item	Penetrometer Reading, (tsf)
Soft	0.0 to 1.0
Firm	1.0 to 1.5
Stiff	1.5 to 3.0
Very Stiff	3.0 to 4.5
Hard	4.5+

Coarse Grained Soils (More than 50% Retained on No. 200 Sieve)

Penetration Resistance (blows/foot)	Descriptive Item	Relative Density
0 to 4	Very Loose	0 to 20%
4 to 10	Loose	20 to 40%
10 to 30	Medium Dense	40 to 70%
30 to 50	Dense	70 to 90%
Over 50	Very Dense	90 to 100%

Soil Structure

Calcareous	Contains appreciable deposits of calcium carbonate; generally nodular
Slickensided	Having inclined planes of weakness that are slick and glossy in appearance
Laminated	Composed of thin layers of varying color or texture
Fissured	Containing cracks, sometimes filled with fine sand or silt
Interbedded	Composed of alternate layers of different soil types, usually in approximately equal proportions

TERMS DESCRIBING PHYSICAL PROPERTIES OF ROCK

Hardness and Degree of Cementation

Very Soft or Plastic	Can be remolded in hand; corresponds in consistency up to very stiff in soils
Soft	Can be scratched with fingernail
Moderately Hard	Can be scratched easily with knife; cannot be scratched with fingernail
Hard	Difficult to scratch with knife
Very Hard	Cannot be scratched with knife
Poorly Cemented or Friable	Easily crumbled
Cemented	Bound together by chemically precipitated material; Quartz, calcite, dolomite, siderite, and iron oxide are common cementing materials.

Degree of Weathering

Unweathered	Rock in its natural state before being exposed to atmospheric agents
Slightly Weathered	Noted predominantly by color change with no disintegrated zones
Weathered	Complete color change with zones of slightly decomposed rock
Extremely Weathered	Complete color change with consistency, texture, and general appearance approaching soil

KEY TO CLASSIFICATION AND SYMBOLS **PLATE A.3**

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-1	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 6 inches thick										
			CLAY, dark brown, w/ ironstone nodules and iron stains, stiff			1.75		70	18	52	26	99	
						2.75					25	101	4520
						3.0					27		
5													
			CLAY / SILTY CLAY, light brown, w/ calcareous deposits, calcareous nodules, ironstone nodules, and iron stains, hard			4.5+		52	15	37	19		
						4.5+					19		
10													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-1**

PLATE A.4

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-2	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 5.5 inches thick										
			CLAY, dark brown, w/ ironstone nodules and iron stains, stiff			2.5		73	20	53	27	95	
						3.75					24		
			CLAY, gray, w/ ironstone nodules, iron stains, and pebbles, very stiff										
						3.75					24		
5													
			CLAY / SILTY CLAY, light brown, w/ ironstone nodules, iron stains, and pebbles, hard			4.5+					20		
						4.5+					18		
10													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-2**

PLATE A.5

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-3	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 4.75 inches thick										
			CLAY, dark brown, w/ ironstone nodules and iron stains, stiff			2.0		72	20	52	29	94	
						1.75					30	93	2310
			-grades brown, w/ calcareous deposits and pebbles below 4'			2.5					24		
5			**CLAY / SILTY CLAY**, light brown and light gray, w/ calcareous deposits, ironstone nodules, iron stains, and pebbles, very stiff to hard			3.25		70	18	52	25		
						4.5+					20		
10													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-3** **PLATE A.6**

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-4	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 5.25 inches thick										
			CLAY, dark brown, w/ calcareous nodules, ironstone nodules, and iron stains, stiff			1.75		71	19	52	29	95	
						2.25					28		
			CLAY / SILTY CLAY, light brown, w/ calcareous deposits, calcareous nodules, ironstone nodules, iron stains, and pebbles, hard			3.0		71	19	52	25	97	
5			-w/ brown, stiff to very stiff above 6'			4.5+					20		
						4.5+					19		
10													

LOG OF BORING NO. **B-4**

PLATE A.7

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-5	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 7 inches thick										
			CLAY, dark brown, w/ calcareous deposits, calcareous nodules, ironstone nodules, iron stains, and pebbles, stiff			1.0		69	19	50	31	93	1980
						1.75					31		
			-soft to firm above 2'										
			CLAY / SILTY CLAY, light brown and light gray, w/ calcareous deposits, ironstone deposits, and pebbles, stiff to very stiff			1.75					29		
5													
						3.5					21		
						3.25					19		
10													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-5** **PLATE A.8**

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-6	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
30.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 5.75 inches thick										
			CLAY, brown and light gray, w/ calcareous nodules, ironstone nodules, and pebbles, stiff (FILL)			1.75		63	18	45	25	99	
						2.5					26		
						2.5					26	99	4030
5			**CLAY**, dark brown, w/ ironstone nodules, iron stains, and pebbles, stiff										
						2.75		68	19	49	28	93	
						2.5					24	102	3630
10													
			SHALY CLAY, light brown, light reddish brown, and gray, w/ calcareous nodules, ironstone nodules, and iron seams, hard			4.5+		78	22	56	25		
15													
						4.5+					26		
20													
						4.5+					23		
25													
						4.5+					22		
30													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-6**

PLATE A.9

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-7	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 6 inches thick										
			CLAY / SILTY CLAY, light brown and light reddish brown, w/ calcareous nodules, ironstone nodules, iron stains, and pebbles, stiff to very stiff			3.5		80	18	62	24	98	
						3.25					27		
			-w/ gray, 2' to 6'										
			-w/ iron seams below 2'			2.75					24		
5													
						4.0					21		
			-hard below 8'			4.5+					22		
10													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-7**

PLATE A.10

CMJ ENGINEERING INC.

Project No.	Boring No.	Project
1314-21-17	B-8	Roadway Reconstruction Toler Business Park - Rowlett, Texas

Location	Water Observations
See Plate A.1	Dry during drilling; dry at completion

Completion Depth	Completion Date
10.0'	12-13-22

Surface Elevation

Type: B-47, w/ CFA

Depth, Ft.	Symbol	Samples	Stratum Description	REC %	RQD %	Blows/Ft. or Pen Reading, T.S.F.	Passing No 200 Sieve, %	Liquid Limit, %	Plastic Limit, %	Plasticity Index	Moisture Content, %	Unit Dry Wt. Lbs./Cu. Ft.	Unconfined Compression Pounds/Sq. Ft.
			CONCRETE, 6 inches thick										
			CLAY, dark brown, w/ calcareous nodules, ironstone nodules, iron stains, and pebbles, stiff			2.25		70	19	51	27	97	
			-grades brown below 2'			2.25					29	94	3570
5			**CLAY / SILTY CLAY**, light brown, light reddish brown, and light gray, w/ calcareous deposits, calcareous nodules, ironstone nodules, iron stains, and pebbles, stiff to very stiff			2.25		75	18	57	28		
						3.0					25		
						3.25					23		
10													

LOG OF BORING 1314-21-17.GPJ CMJ.GDT 3/24/22

LOG OF BORING NO. **B-8**

PLATE A.11

FREE SWELL TEST RESULTS

Project: Roadway Reconstruction
Toler Business Park - Rowlett, Texas

Project No.: 1314-21-17

Boring No.	Depth Interval (ft.)	Sample Description	Liquid Limit	Plastic Limit	Plasticity Index	Moisture Content %		Percent Swell (%)
			LL	PL	PI	Initial	Final	
B-4	4 – 6	Clay / Silty Clay	71	19	52	24.8	29.9	1.4
B-6	6 – 8	Clay	68	19	49	27.7	28.0	0.3

Free swell tests performed at approximate overburden pressure

LIME SERIES TEST RESULTS

Project: Roadway Reconstruction
Toler Business Park - Rowlett, Texas

Project No.: 1314-21-17

Boring No.: B – 5	Depth: 7” to 2’
Material: Clay	
Percent Lime	pH
0	8.34
2	12.03
4	12.34
6	12.39
8	12.42
10	12.43

SOLUBLE SULFATE TEST RESULTS

Project: Roadway Reconstruction
Toler Business Park - Rowlett, Texas

Project No.: 1314-21-17

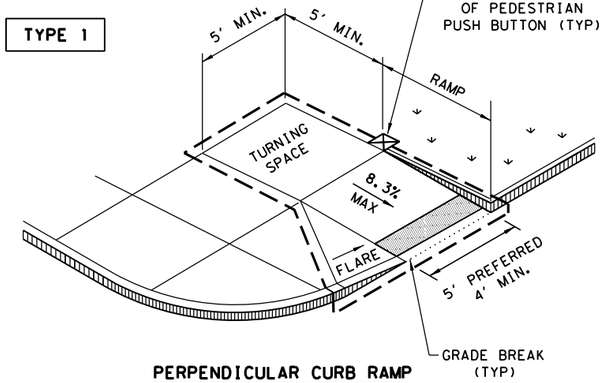
Boring No.	Depth (ft.)	Material	Soluble Sulfates (ppm)
B-1	6”-2	Clay	<100
B-2	5½"-2	Clay	<100
B-3	4¾"-2	Clay	<100
B-4	5¼”-2	Clay	<100
B-5	7"-2	Clay	<100
B-6	5¾"-2	Clay	<100
B-7	6"-2	Clay/Silty Clay	<100
B-8	6”-2	Clay	<100

Note: Test Method TxDOT Tex 145-E.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

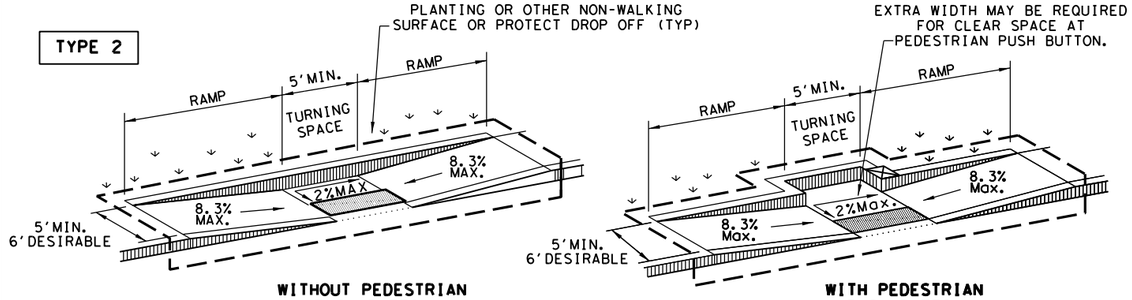
DATE:
FILE:

TYPE 1



PERPENDICULAR CURB RAMP

TYPE 2

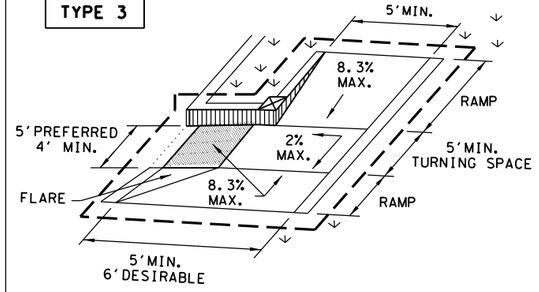


WITHOUT PEDESTRIAN PUSH BUTTON

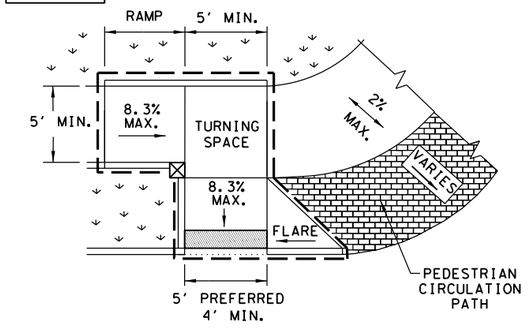
WITH PEDESTRIAN PUSH BUTTON

PARALLEL CURB RAMP

TYPE 3

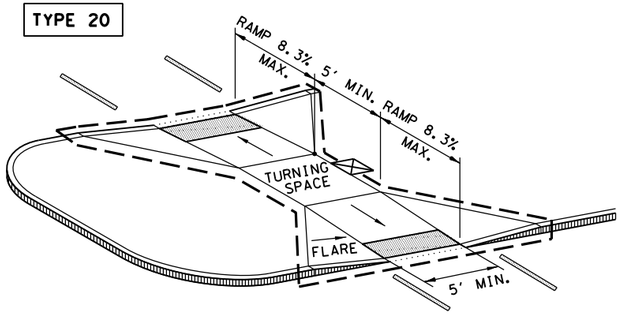


TYPE 6



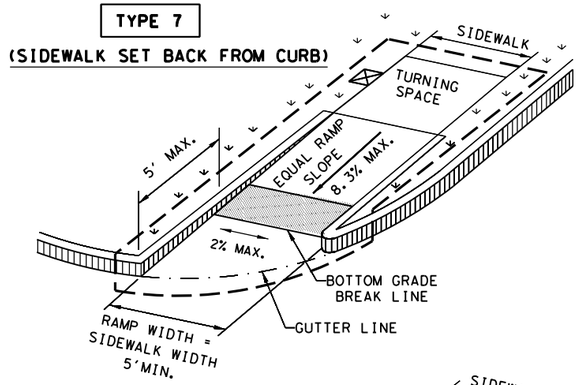
COMBINATION CURB RAMPS

TYPE 20

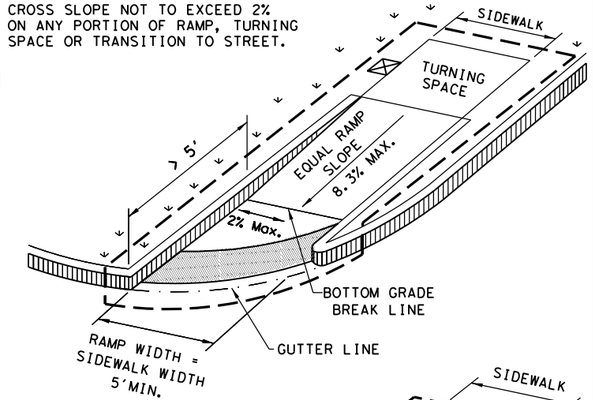


CURB RAMPS AT MEDIAN ISLANDS

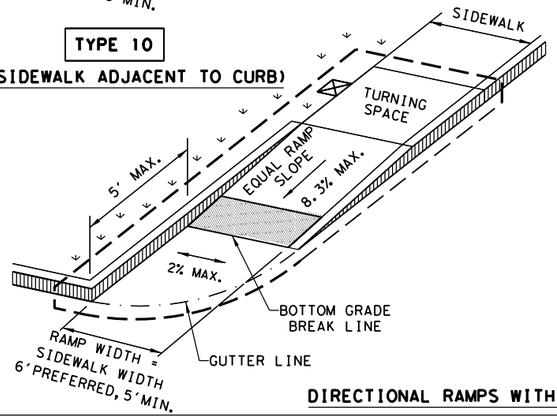
TYPE 7
(SIDEWALK SET BACK FROM CURB)



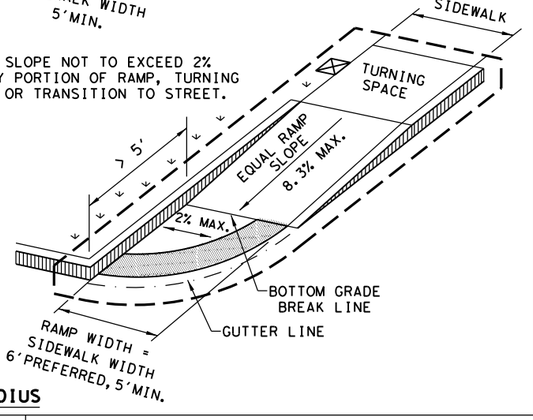
CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



TYPE 10
(SIDEWALK ADJACENT TO CURB)

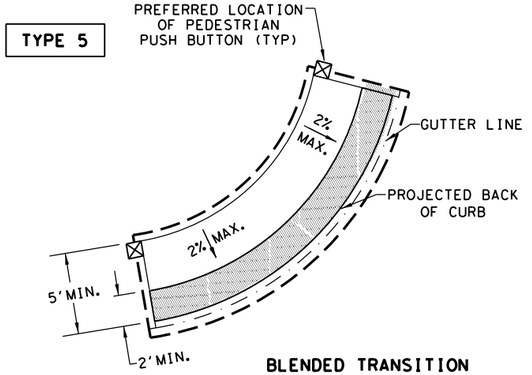


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



DIRECTIONAL RAMPS WITHIN RADIUS

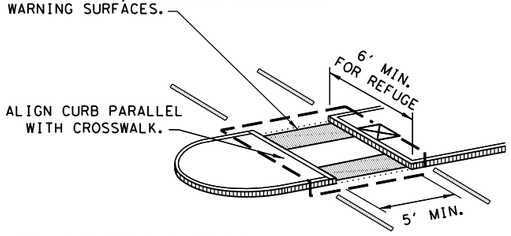
TYPE 5



BLENDED TRANSITION
(FLUSH LANDING)

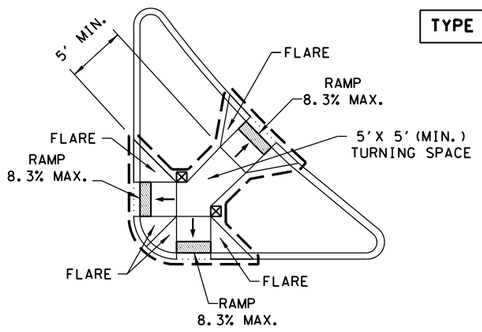
INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.

TYPE 21



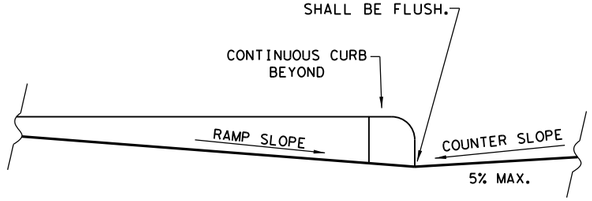
NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

TYPE 22



COMBINATION ISLAND RAMPS

BOTTOM GRADE BREAK OF CURB RAMP WILL NORMALLY BE AT GUTTER LINE. SURFACE SLOPES AT GRADE BREAKS SHALL BE FLUSH.



TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DETECTABLE WARNING SURFACE

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

GUTTER LINE

GRADE BREAK

RAMP LIMITS OF PAYMENT

SHEET 1 OF 4

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
REVISED 08, 2005				
REVISED 06, 2012				
REVISED 01, 2018	DIST	COUNTY		SHEET NO.

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DATE:
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GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicalble standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

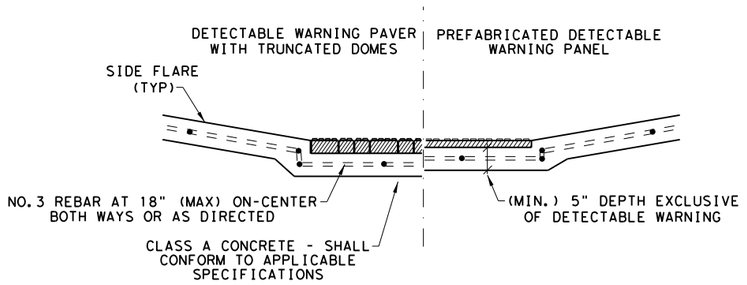
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

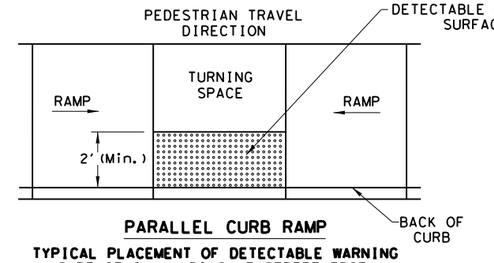
SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

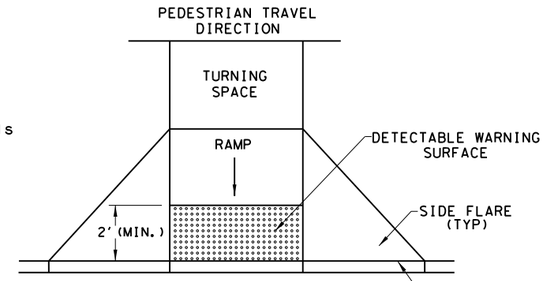


SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

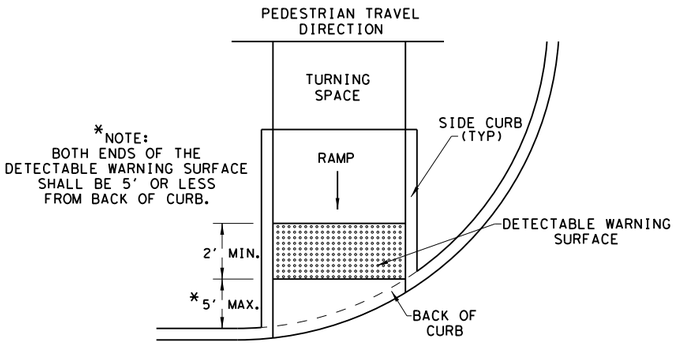
DETECTABLE WARNING SURFACE DETAILS



PARALLEL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DIRECTIONAL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

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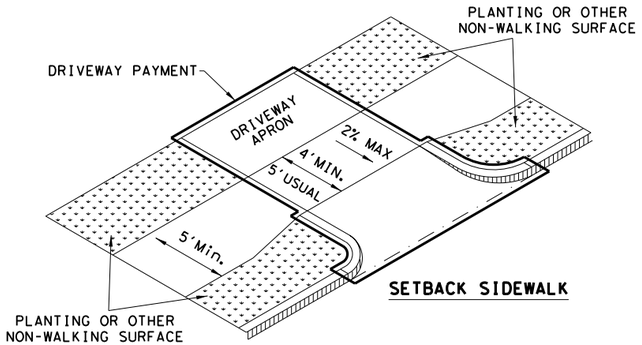
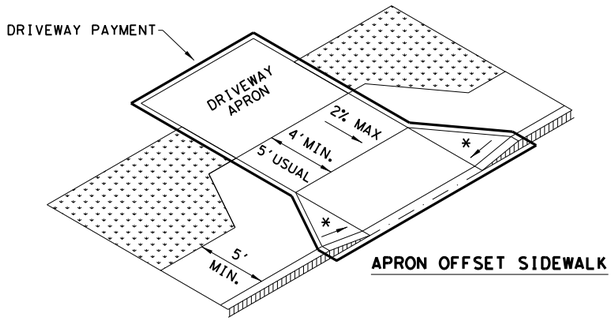
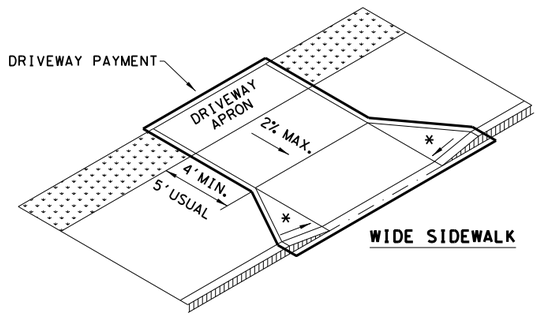
SIDEWALK TREATMENT AT DRIVEWAYS



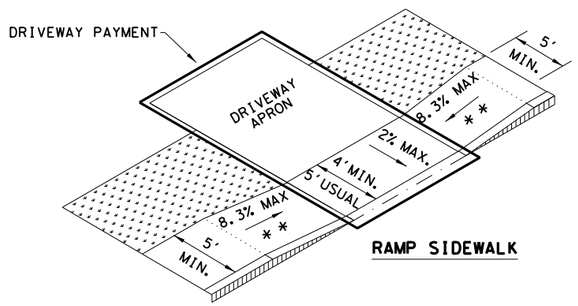
SETBACK SIDEWALK



APRON OFFSET SIDEWALK



WIDE SIDEWALK

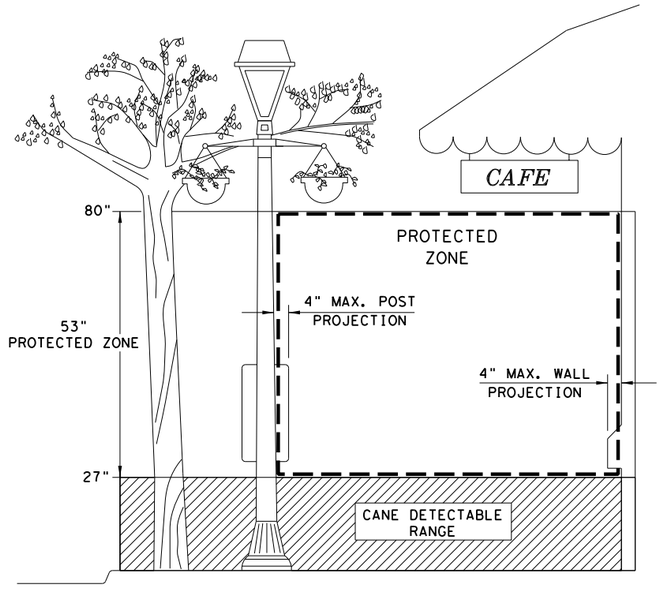


RAMP SIDEWALK

NOTES:

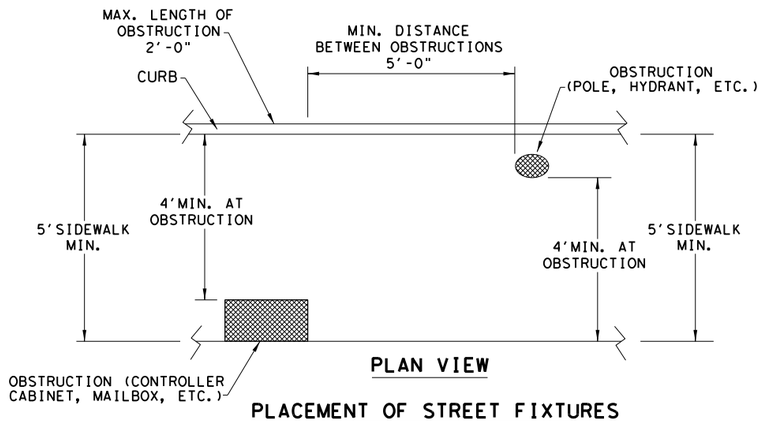
* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.

* * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.



PROTECTED ZONE

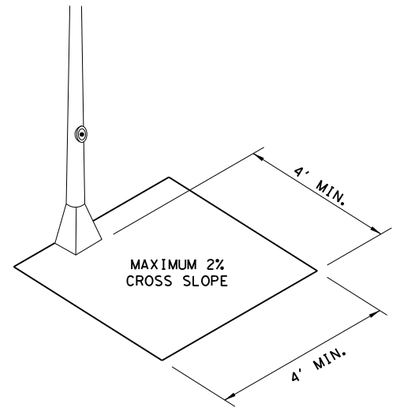
NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



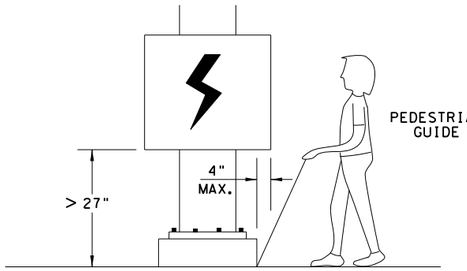
PLAN VIEW

PLACEMENT OF STREET FIXTURES

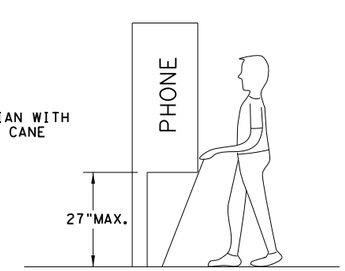
NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.



PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

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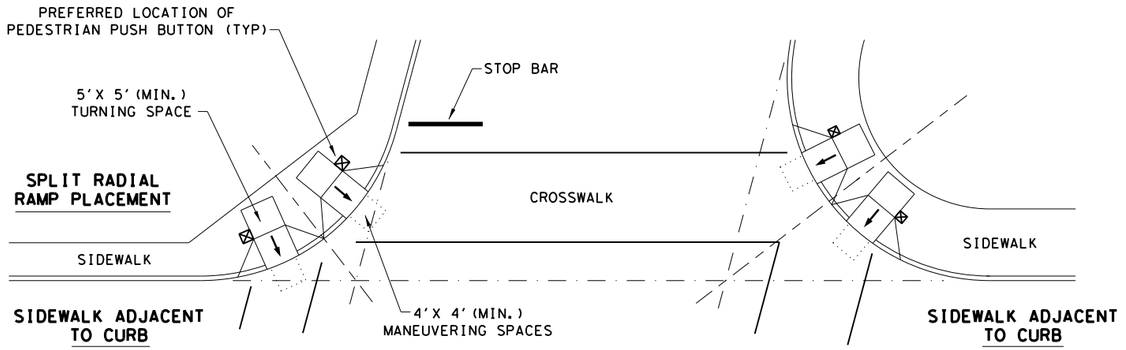
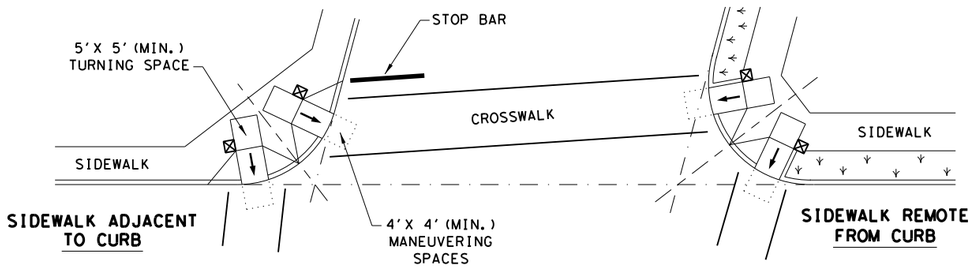
TYPICAL CROSSING LAYOUTS

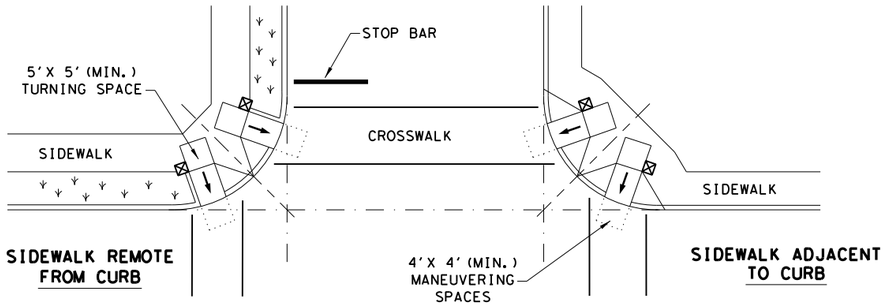
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



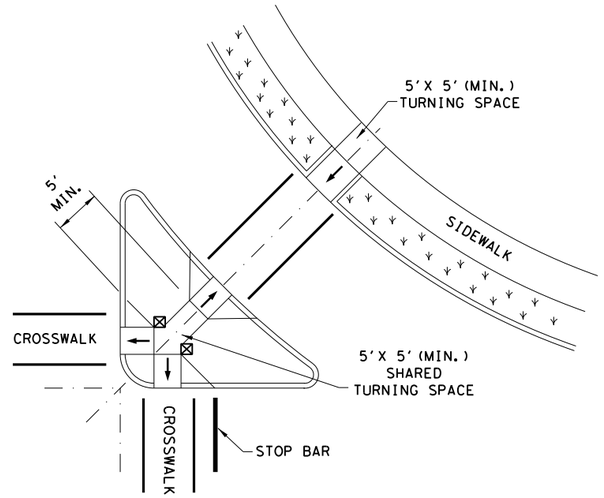
SKEWED INTERSECTION WITH "LARGE" RADIUS



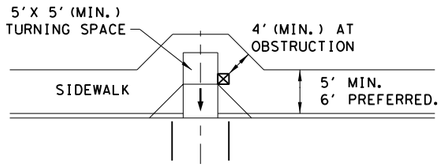
SKEWED INTERSECTION WITH "SMALL" RADIUS



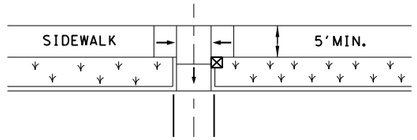
NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND



SIDEWALK ADJACENT TO CURB



SIDEWALK REMOTE FROM CURB

MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

LEGEND:

SHOWS DOWNWARD SLOPE. →

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE). ☒

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

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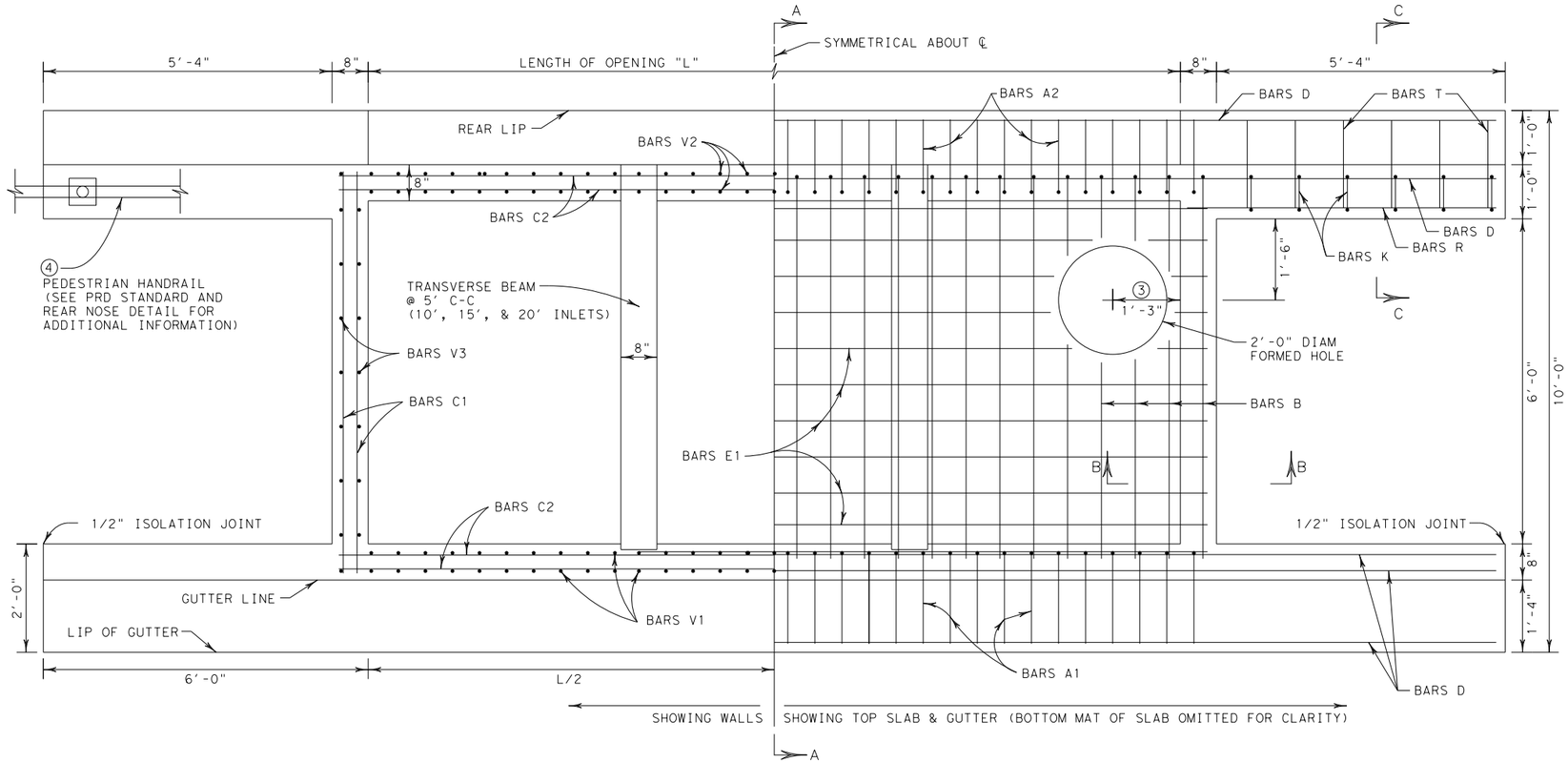
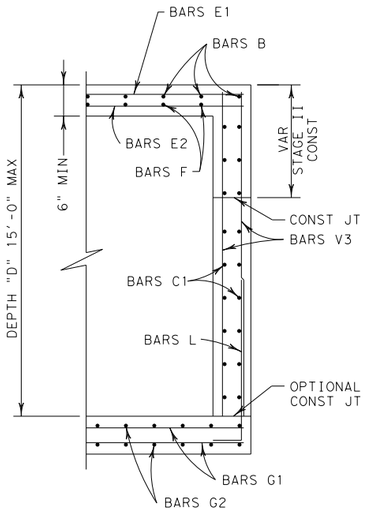
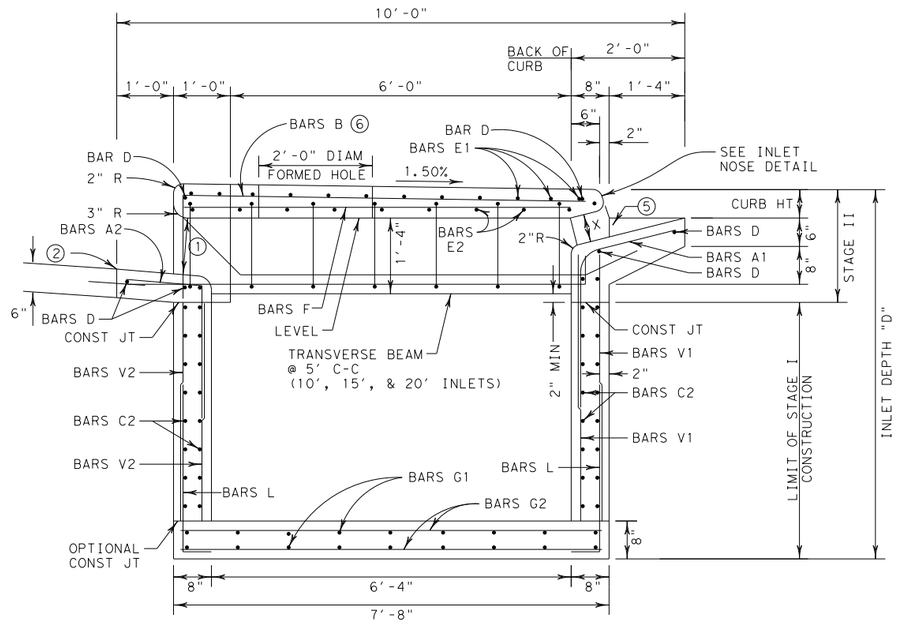


PLAN VIEW
N.T.S.



SECTION B–B
N.T.S.



SECTION A–A
N.T.S.

THROAT DIMENSION	
CURB HEIGHT	"X"
5"	5"
6"	5 7/8"
7"	6 1/4"
8"	6 1/2"

① 12" OPENING AT MIDPOINT OF INLET

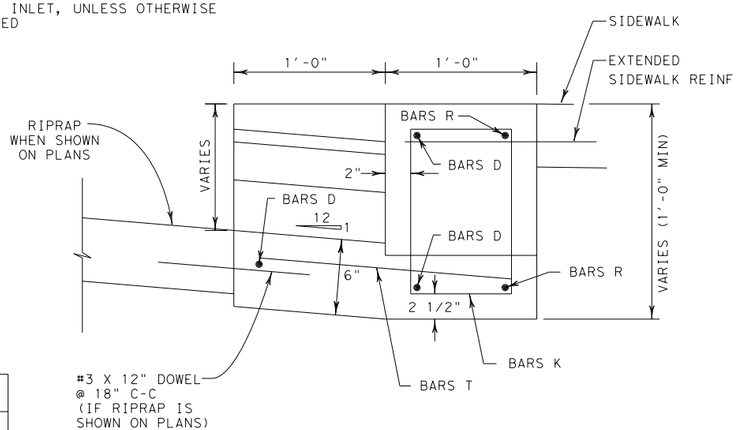
② REAR LIP AT CONSTANT ELEVATION ACROSS OPENING

③ PLACE RING & COVER AT OUTFALL END OF INLET, UNLESS OTHERWISE DIRECTED

④ HANDRAIL REQUIRED IF SIDEWALK IS PRESENT

⑤ 4" DEPRESSION AT GUTTER LINE

⑥ BARS B TO BE CONTINUOUS ACROSS REAR OPENING



SECTION C–C
N.T.S.

MAXIMUM PARALLEL * CONDUIT SIZE	
PIPE DIAMETER (IN)	BOX SPAN (FT)
60	5

* PARALLEL TO ROADWAY

SEE SHEET 2 OF 3 FOR GENERAL NOTES.

Texas Department of Transportation

Fort Worth District Standard

OPEN BACK CURB INLET FOR USE WITH TYPE II CURB I-COB (FTW)

ORIGINAL DRAWING: 05/2019	icob-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISED JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

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http://www.dot.state.tx.us/ftw/specinfo/standard.htm
$TIME$
$DATE$
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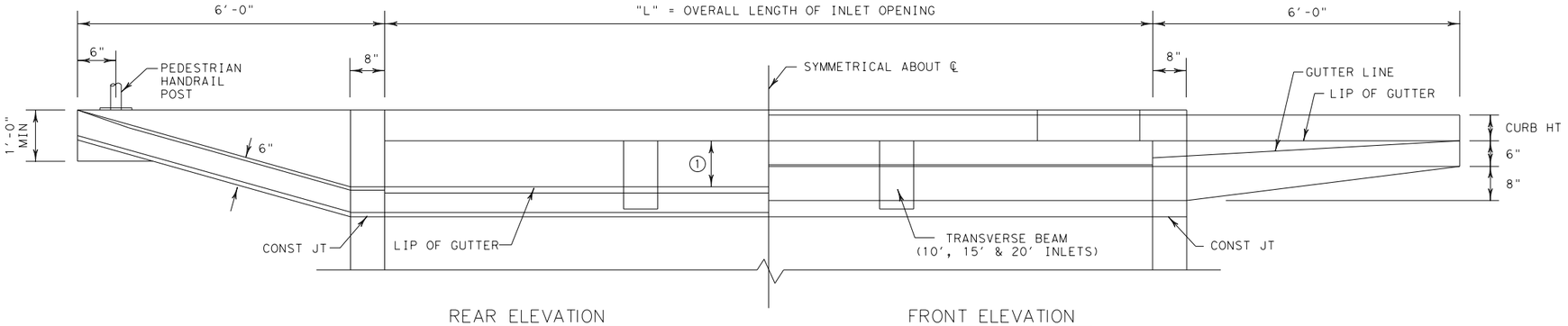
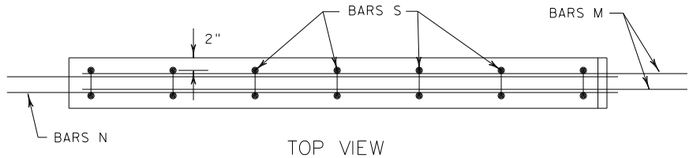
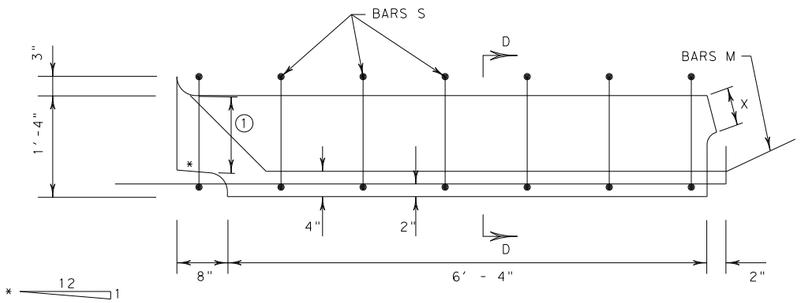


REAR ELEVATION
N.T.S.

FRONT ELEVATION
N.T.S.

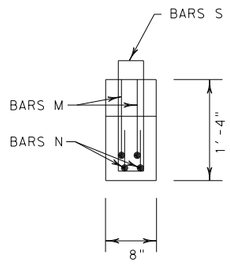


TOP VIEW
N.T.S.



① 12" AT MIDPOINT OF INLET

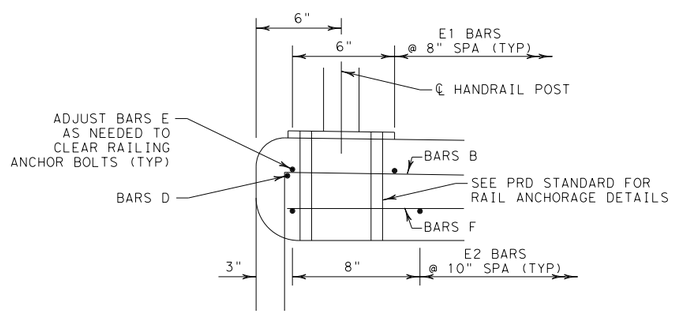
TRANSVERSE BEAM DETAILS
N.T.S.



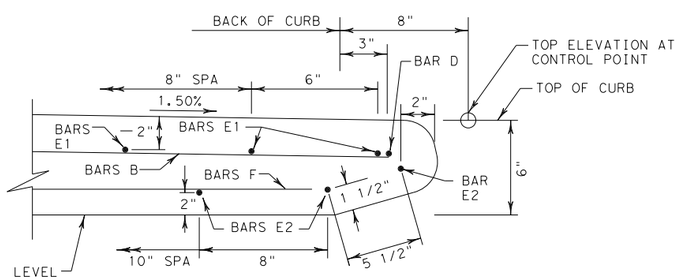
SECTION D–D
N.T.S.

GENERAL NOTES

1. DESIGNED ACCORDING TO AASHTO LRFD SPECIFICATIONS FOR PEDESTRIAN LOADING AND HL–93 LOADING UNDER "EXTREME EVENT II" LOAD COMBINATION.
2. ALL CONCRETE FOR CAST–IN–PLACE STRUCTURES SHALL BE CLASS "C"; ALL CONCRETE FOR PRECAST STRUCTURES SHALL BE CLASS "H" (MIN 5000 PSI COMPRESSIVE STRENGTH).
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. STAGE I MAY BE EITHER CAST–IN–PLACE OR PRECAST. FABRICATE PRECAST STRUCTURES USING REBAR AS DETAILED HEREON, WITH BARS A1, A2, V1 AND V3 TO BE INCLUDED WITH STAGE I. SPLICING OF BARS WILL NOT BE PERMITTED, EXCEPT AS NOTED.
5. STAGE II SHALL BE CAST–IN–PLACE.
6. CHAMFER ALL EXPOSED CORNERS 3/4", EXCEPT WHERE NOTED OTHERWISE.
7. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO THE CENTERS OF BARS.
8. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM DRAIN PIPE.
9. FOR PIPE AND BOX CONNECTIONS TO PRECAST STRUCTURES, SEE STANDARD DETAIL SHEET PBGC.
10. INSTALL RING AND COVER AT OUTFALL END OF INLET, UNLESS OTHERWISE DIRECTED. CAST IRON RING AND COVER SHALL CONFORM TO ITEM 471. SEE STANDARD MDD (FTW) FOR RING AND COVER DETAILS.
11. DEPTHS OTHER THAN THOSE SHOWN MAY BE USED WHENEVER NECESSARY, UP TO A MAXIMUM DEPTH OF 15'. QUANTITIES FOR OTHER DEPTHS MAY BE DETERMINED BY INTERPOLATION.
12. DO NOT COMMENCE WITH STAGE II CONSTRUCTION UNTIL CONCRETE PAVEMENT AND CURB, OR CONCRETE CURB AND GUTTER CONSTRUCTION IS COMPLETED AT THE INLET SITE.
13. INSTALL A TEMPORARY WOOD COVER AFTER STAGE I IS COMPLETED, TO REMAIN IN PLACE UNTIL STAGE II CONSTRUCTION BEGINS.
14. THE LOCATION OF INLET AS SHOWN IN THE PLAN REFERS TO THE CONTROL POINT AT THE FACE OF CURB AND MID–POINT OF THE INLET.
15. PLACE A SEALED 1/2" ISOLATION JOINT ALONG ALL VERTICAL FACES ABUTTING CONCRETE PAVEMENT, CURB, CURB AND GUTTER, OR SIDEWALK. USE CLASS 5 OR 8 JOINT SEALANT TO SEAL THE JOINT. SEE STANDARD JS (FTW) FOR ADDITIONAL INFORMATION.



REAR NOSE DETAIL
N.T.S.



INLET NOSE DETAIL
N.T.S.

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Texas Department of Transportation

Fort Worth District Standard

OPEN BACK CURB INLET FOR USE WITH TYPE II CURB I-COB (FTW)

ORIGINAL DRAWING: 05/2019	icob-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISED JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

http://www.dot.state.tx.us/ftw/specinfo/standard.htm
$DATE$
$PATH$
$FILE$
$TIME$

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BILL OF REINFORCING STEEL FOR "D"= 4'

Length "L"	Bars A1			Bars A2			Bars B			Bars C1			Bars C2			Bars D			Bars E1			Bars E2			Bars F			Bars G1		
	#4		at 6" Spa	#4		at 6" Spa	#4		at 6.0" Spa	#5		at 6" Spa	#5		at 6" Spa	#4			#5		at 8" Spa	#5		at 10" Spa	#4		at 7.5" Spa	#5		at 12" Spa
[ft]	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt
5.0	13	4.323	38	13	3.667	32	13	8.917	77	28	7.417	217	19	6.000	119	6	16.667	67	12	6.000	75	10	6.000	63	9	6.802	41	18	6.000	113
10.0	23	4.323	66	23	3.667	56	23	8.917	137	28	7.417	217	19	11.000	218	6	21.667	87	12	11.000	138	10	11.000	115	17	6.802	77	18	11.000	207
15.0	33	4.323	95	33	3.667	81	33	8.917	197	28	7.417	217	19	16.000	317	6	26.667	107	12	16.000	200	10	16.000	167	25	6.802	114	18	16.000	300
20.0	43	4.323	124	43	3.667	105	43	8.917	256	28	7.417	217	19	21.000	416	6	31.667	127	12	21.000	263	10	21.000	219	33	6.802	150	18	21.000	394

BILL OF REINFORCING STEEL FOR "D"= 4' (CONTINUED)

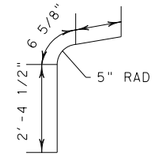
Length "L"	Bars G2			Bars K			Bars L			Bars M			Bars N			Bars R			Bars S			Bars T		
	#5		at 6" Spa	#3		at 12" Spa	#5		at 6" Spa	#4			#4			#4			#4		at 13" Spa	#3		at 12" Spa
[ft]	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt	No	Length	Wt
5.0	26	7.417	201	12	4.333	20	32	3.750	125	0	8.500	0	0	8.583	0	4	5.708	15	0	4.250	0	12	1.667	8
10.0	46	7.417	356	12	4.333	20	52	3.750	203	2	8.500	11	2	8.583	11	4	5.708	15	7	4.250	20	12	1.667	8
15.0	66	7.417	511	12	4.333	20	72	3.750	282	4	8.500	23	4	8.583	23	4	5.708	15	14	4.250	40	12	1.667	8
20.0	86	7.417	665	12	4.333	20	92	3.750	360	6	8.500	34	6	8.583	34	4	5.708	15	21	4.250	60	12	1.667	8

BILL OF REINFORCING STEEL FOR "D" = 4' (CONTINUED)

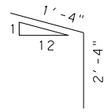
Length "L"	Bars V1			Bars V2			Bars V3		
	#5		at 6" Spa	#5		at 6" Spa	#5		at 12" Spa
[ft]	No	Length	Wt	No	Length	Wt	No	Length	Wt
5.0	20	2.833	59	20	2.000	42	28	3.833	112
10.0	40	2.833	118	40	2.000	83	28	3.833	112
15.0	60	2.833	177	60	2.000	125	28	3.833	112
20.0	80	2.833	236	80	2.000	167	28	3.833	112

SUMMARY OF QUANTITIES

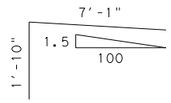
Total Reinf	Steel Qty Adjust.	Class "C" Concrete	Concrete Qty Adjust.
Weight	P.L.F.		P.L.F.
[Lb]	[Lb]	[CY]	[CY]
1,422	182.9	6.2	0.63
2,275	266.3	9.1	0.87
3,129	349.8	12.0	1.12
3,982	433.2	14.8	1.37



BARS A1
#4 @ 6" C-C



BARS A2
#4 @ 6"



BARS B
#4 @ 6" C-C

"L" + 1'-0"

BARS G1
#5 @ 12" C-C

7'-5"

BARS C1
#5 @ 6" C-C

"L" + 11'-8"

BARS D
#4 AS SHOWN

"L" + 1'-0"

BARS E
E1 - #5 @ 8" MAX
E2 - #5 @ 10" MAX

6'-9 5/8"

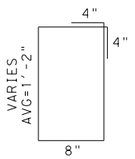
BARS F
#4 @ 7.5" C-C

7'-5"

BARS G2
#5 @ 6" C-C

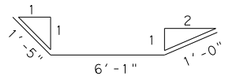
"L" + 1'-0"

BARS C2
#5 @ 6" C-C

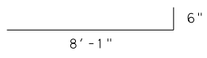


BARS K
#3 @ 12" C-C

BARS L
#5 @ 6" C-C



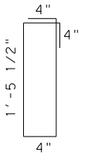
BARS M
#4 AS SHOWN



BARS N
#4 AS SHOWN

5'-8 1/2"

BARS R
#4 AS SHOWN



BARS S
#4 @ 13" C-C

1'-8"

BARS T
#3 @ 12" C-C

"D" MINUS 1'-2"

BARS V1
#5 @ 6" C-C

"D" MINUS 2'-0"

BARS V2
#5 @ 6" C-C

"D" MINUS 2"

BARS V3
#5 @ 12" C-C

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SHEET 3 OF 3 SHEETS

Texas Department of Transportation

Fort Worth District Standard

OPEN BACK CURB INLET FOR USE WITH TYPE II CURB
I-COB (FTW)

ORIGINAL DRAWING: 05/2019	icob-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		
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http://www.dot.state.tx.us/ftw/specinfo/standard.htm
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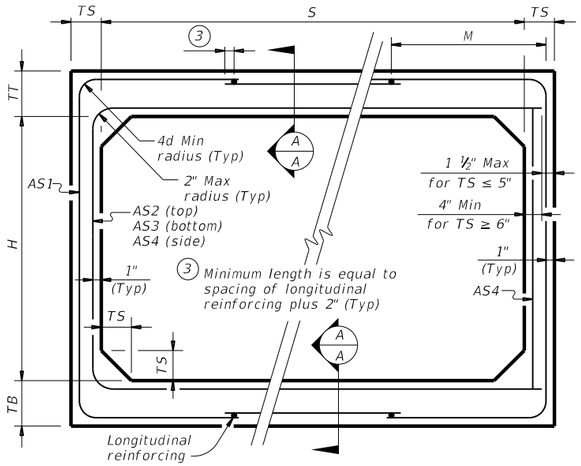
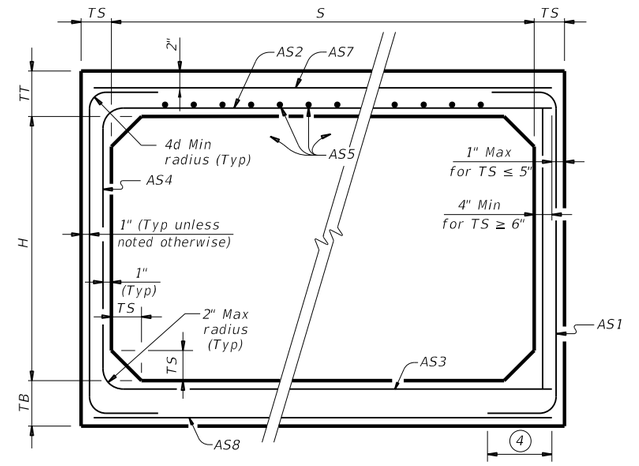
BOX DATA

SECTION DIMENSIONS					Fill Height	M (Min)	REINFORCING (sq. in. / ft.) (2)							(1) Lift Weight
S (ft.)	H (ft.)	TT (in.)	TB (in.)	TS (in.)	(ft.)	(in.)	AS1	AS2	AS3	AS4	AS5	AS7	AS8	(tons)
11	4	11	11	11	< 2	–	0.36	0.33	0.27	0.26	0.26	0.26	0.26	19.5
11	4	11	11	11	2 < 3	62	0.41	0.36	0.30	0.26	–	–	–	19.5
11	4	11	11	11	3 – 5	62	0.34	0.29	0.27	0.26	–	–	–	19.5
11	4	11	11	11	10	55	0.41	0.34	0.35	0.26	–	–	–	19.5
11	4	11	11	11	15	55	0.53	0.44	0.45	0.26	–	–	–	19.5
11	4	11	11	11	20	55	0.69	0.57	0.58	0.26	–	–	–	19.5
11	4	11	11	11	25	55	0.86	0.70	0.72	0.26	–	–	–	19.5
11	5	11	11	11	< 2	–	0.32	0.35	0.29	0.26	0.26	0.26	0.26	20.6
11	5	11	11	11	2 < 3	62	0.38	0.39	0.33	0.26	–	–	–	20.6
11	5	11	11	11	3 – 5	57	0.31	0.32	0.30	0.26	–	–	–	20.6
11	5	11	11	11	10	55	0.37	0.37	0.38	0.26	–	–	–	20.6
11	5	11	11	11	15	55	0.49	0.49	0.50	0.26	–	–	–	20.6
11	5	11	11	11	20	50	0.63	0.63	0.64	0.26	–	–	–	20.6
11	5	11	11	11	25	50	0.78	0.77	0.79	0.26	–	–	–	20.6
11	6	11	11	11	< 2	–	0.30	0.36	0.33	0.26	0.26	0.26	0.26	21.7
11	6	11	11	11	2 < 3	62	0.35	0.43	0.37	0.26	–	–	–	21.7
11	6	11	11	11	3 – 5	55	0.29	0.35	0.33	0.26	–	–	–	21.7
11	6	11	11	11	10	55	0.35	0.40	0.42	0.26	–	–	–	21.7
11	6	11	11	11	15	50	0.45	0.52	0.54	0.26	–	–	–	21.7
11	6	11	11	11	20	50	0.57	0.67	0.69	0.26	–	–	–	21.7
11	6	11	11	11	25	50	0.71	0.83	0.85	0.26	–	–	–	21.7
11	7	11	11	11	< 2	–	0.27	0.38	0.35	0.26	0.26	0.26	0.26	22.8
11	7	11	11	11	2 < 3	62	0.32	0.45	0.40	0.26	–	–	–	22.8
11	7	11	11	11	3 – 5	55	0.27	0.37	0.35	0.26	–	–	–	22.8
11	7	11	11	11	10	55	0.32	0.42	0.44	0.26	–	–	–	22.8
11	7	11	11	11	15	50	0.41	0.55	0.57	0.26	–	–	–	22.8
11	7	11	11	11	20	50	0.53	0.71	0.73	0.26	–	–	–	22.8
11	7	11	11	11	25	50	0.65	0.87	0.90	0.26	–	–	–	22.8
11	8	11	11	11	< 2	–	0.26	0.40	0.38	0.26	0.26	0.26	0.26	23.9
11	8	11	11	11	2 < 3	62	0.30	0.48	0.42	0.26	–	–	–	23.9
11	8	11	11	11	3 – 5	62	0.26	0.40	0.38	0.26	–	–	–	23.9
11	8	11	11	11	10	55	0.30	0.44	0.47	0.26	–	–	–	23.9
11	8	11	11	11	15	50	0.39	0.58	0.60	0.26	–	–	–	23.9
11	8	11	11	11	20	50	0.49	0.74	0.77	0.26	–	–	–	23.9
11	8	11	11	11	25	50	0.61	0.91	0.94	0.26	–	–	–	23.9
11	9	11	11	11	< 2	–	0.26	0.42	0.40	0.26	0.26	0.26	0.26	25
11	9	11	11	11	2 < 3	69	0.28	0.51	0.45	0.26	–	–	–	25
11	9	11	11	11	3 – 5	62	0.26	0.42	0.40	0.26	–	–	–	25
11	9	11	11	11	10	55	0.29	0.46	0.49	0.26	–	–	–	25
11	9	11	11	11	15	50	0.37	0.60	0.63	0.26	–	–	–	25
11	9	11	11	11	20	50	0.47	0.76	0.80	0.26	–	–	–	25
11	9	11	11	11	25	50	0.57	0.94	0.98	0.26	–	–	–	25
11	10	11	11	11	< 2	–	0.26	0.45	0.43	0.26	0.26	0.26	0.26	26.1
11	10	11	11	11	2 < 3	75	0.27	0.53	0.48	0.26	–	–	–	26.1
11	10	11	11	11	3 – 5	69	0.26	0.44	0.43	0.26	–	–	–	26.1
11	10	11	11	11	10	62	0.28	0.48	0.52	0.26	–	–	–	26.1
11	10	11	11	11	15	55	0.35	0.61	0.65	0.26	–	–	–	26.1
11	10	11	11	11	20	55	0.44	0.78	0.83	0.26	–	–	–	26.1
11	11	11	11	11	< 2	–	0.26	0.47	0.46	0.26	0.26	0.26	0.26	27.2
11	11	11	11	11	2 < 3	86	0.26	0.55	0.51	0.26	–	–	–	27.2
11	11	11	11	11	3 – 5	75	0.26	0.46	0.45	0.26	–	–	–	27.2
11	11	11	11	11	10	69	0.27	0.49	0.54	0.26	–	–	–	27.2
11	11	11	11	11	15	55	0.34	0.63	0.68	0.26	–	–	–	27.2
11	11	11	11	11	20	55	0.42	0.80	0.85	0.26	–	–	–	27.2



CORNER OPTION "A" CORNER OPTION "B"

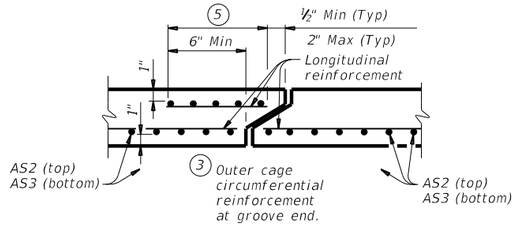
FILL HEIGHT 2 FT AND GREATER



CORNER OPTION "A" CORNER OPTION "B"

FILL HEIGHT LESS THAN 2 FT

(4) Length is equal to spacing of longitudinal reinforcing plus 2". (10" Min) (Typ)



SECTION A-A

(Showing top and bottom slab joint reinforcement.)

(1) For box length = 8'-0"

(2) AS1 thru AS4, AS7 and AS8 are minimum required areas of reinforcement per linear foot of box length. AS5 is minimum required area of reinforcement per linear foot of box width.

MATERIAL NOTES:

Provide 0.03 sq. in./ft. minimum longitudinal reinforcement at each face in slabs and walls. This minimum requirement may be met by the transverse wires when wire mesh reinforcement is used.

Provide Class H concrete (f`c = 5,000 psi).

GENERAL NOTES:

Designs shown conform to ASTM C1577. Refer to ASTM C1577 for information or details not shown.

See Box Culverts Precast Miscellaneous Details (SCP-MD) standard sheet for details and notes not shown.

In lieu of furnishing the designs shown on this sheet, the contractor may furnish an alternate design that is equal to or exceeds the box design for the design fill height in the table. Submit shop plans for alternate designs in accordance with Item "Precast Concrete Structural Members (Fabrication)".

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

SINGLE BOX CULVERTS PRECAST

11'-0" SPAN

SCP-11

FILE: scp11sts-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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	DIST	COUNTY		SHEET NO.

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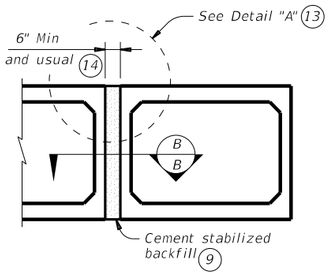
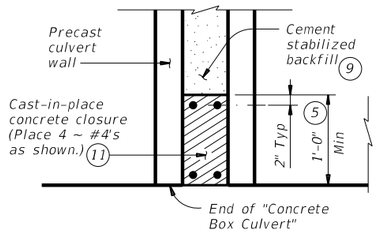
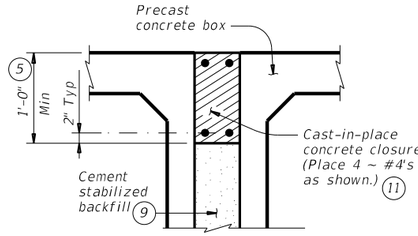


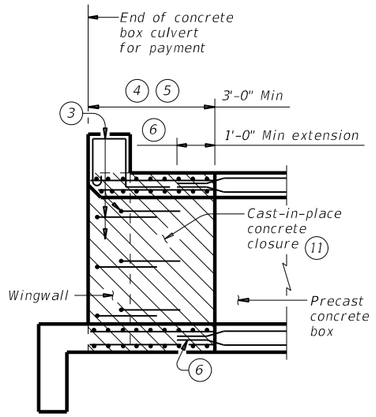
MULTIPLE UNIT PLACEMENT



SECTION B-B

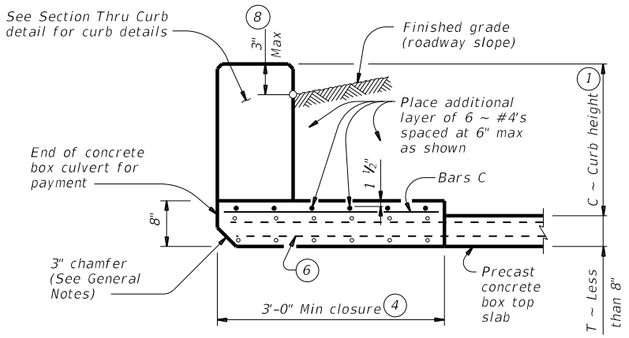


DETAIL "A" (13)

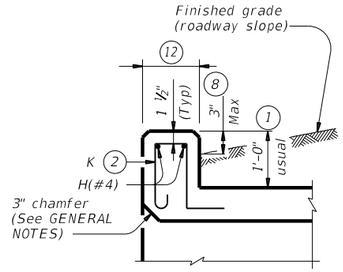


WINGWALL CONNECTION

(Also applies to safety end treatment.)

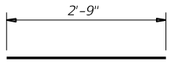


SECTION THRU TOP SLABS LESS THAN 8"

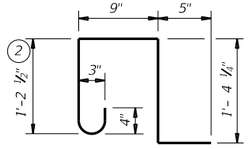


SECTION THRU CURB

QUANTITIES PER FOOT OF CURB (10)	
Reinforcing Steel	4.12 Lb
Concrete	0.037 CY



BARS C (#4)
(Spa = 1'–0" Max)



BARS K (#4)
(Spa = 1'–0" Max)
(Length = 4'–2")

1 (0" Min to 5'–0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail, bicycle rail, or curbs taller than 1'–0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631–CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

2 For curbs less than 1'–0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.

3 Extend curb, wingwall, or safety end treatment reinforcing into concrete closure. Bend or trim, as necessary, any reinforcing that does not fit into closure area.

4 Provide a 3'–0" Min cast–in–place concrete closure. Break back boxes in the field or cast boxes short. Provide bands of reinforcing in the closure that are the same size and spacing as in the precast box section. Provide #4 longitudinal reinforcement spaced at 12 inches Max within the closure. Except where shown otherwise, construct the cast–in–place closure flush with the inside and outside faces of the precast box section.

5 For multiple unit placements, adjust the length of the closure for the interior walls as necessary. Provide a 3'–0" Min cast–in–place closure in the top slab, bottom slab, and exterior wall. See Section B–B detail when interior walls are cast full length.

6 Extend precast box reinforcing a minimum of 1'–0" into concrete closure (Typ).

7 Place bands of reinforcing matching the inside and outside face reinforcing in the gaps of the top and bottom slabs. Place a band matching the outside face reinforcing of the wall in the gaps of the walls (placed in the outside face only). Tack weld the bands to the exposed reinforcing at each point of contact.

8 For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

9 Cement stabilized backfill between boxes is considered part of the box culvert for payment.

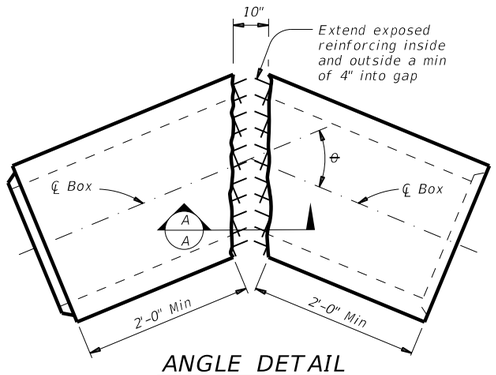
10 All curb concrete and reinforcing is considered part of the box culvert for payment.

11 Any additional concrete and reinforcing required for the closures will be considered subsidiary to the box culvert for payment.

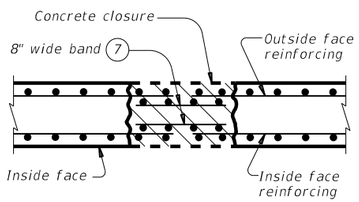
12 1'–0" typical. 2'–3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elsewhere in the plans.

13 For multiple unit placement with overlay, with 1 to 2 course surface treatment, or with the top slab as the final riding surface, provide wall closure as shown in Detail "A".

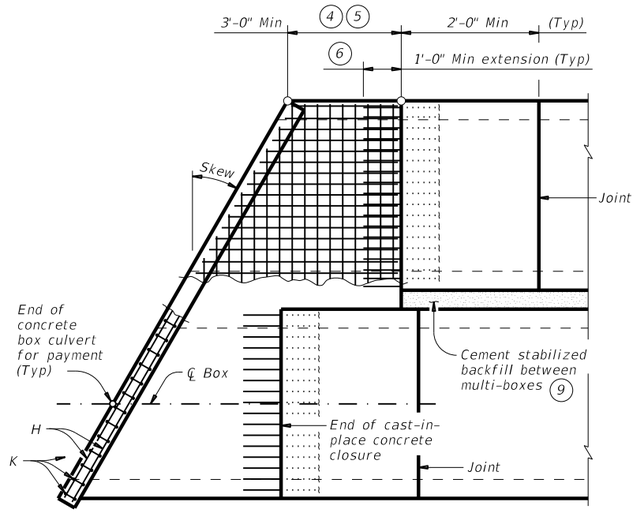
14 This dimension may be increased with approval of the Engineer to allow the precast boxes to be tunneled or jacked in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box". No payment will be made for any additional material in the gap between adjacent boxes.



ANGLE DETAIL



SECTION A-A



PLAN OF SKEWED ENDS

(Showing multi–box placement.)

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide ASTM A1064 welded wire reinforcement.
Provide Class C concrete (f'c = 3,600 psi) for the closures.
Provide cement stabilized backfill meeting the requirements of Item 400, "Excavation and Backfill for Structures."
Any additional concrete required for the closures will be considered subsidiary to the box culvert.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
Refer to the Single Box Culverts Precast (SCP) standard sheets for details and notes not shown.
Chamfer the bottom edge of the top slab closure 3 inches at culvert closure ends.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bars dimensions are out–to–out of bars.

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

BOX CULVERTS PRECAST MISCELLANEOUS DETAILS

SCP-MD

FILE: scpmdsts-20.dgn	DN: GAF	CK: LMW	DW: BWH/TxDOT	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.

Culvert Station and/or Creek Name followed by applicable end (Lt, Rt or Both)	Description of Box Culvert No. Spans ~ Span X Height	Max Fill Height (Ft)	Applicable Box Culvert Standard (4)	Applicable Wingwall or End Treatment Standard	Skew Angle (0°,15°, 30° or 45°)	Side Slope or Channel Slope Ratio (SL:1)	T Culvert Top Slab Thickness (In)	U Culvert Wall Thickness (In)	C Estimated Curb Height (Ft)	Hw Height of Wingwall (1) (Ft)	A Curb to End of Wingwall (Ft)	B Offset of End of Wingwall (Ft)	Lw Length of Longest Wingwall (Ft)	Ltw Culvert Toewall Length (Ft)	Atw Anchor Toewall Length (Ft)	Riprap Apron (CY)	Class "C" Conc (Curb) (2) (CY)	Class "C" Conc (Wingwall) (3) (CY)	Total Wingwall Area (SF)
Century Dr Sta 4+40 (Lt)	5 ~11'x 8'	5'	SCP-11	PW-1	0°	2:1	11"	11"	2.083'	11.000'	N/A	N/A	22.000'	66.167'	N/A	0.0	5.1	40.9	484
Century Dr Sta 4+40 (Lt)	5 ~11'x 8'	5'	SCP-11	SW-0	0°	6:1	11"	11"	2.083'	10.750'	N/A	N/A	57.000'	N/A	N/A	452	5.1	39.6	343
Century Dr Sta 4+40 (Rt)	5 ~11'x 8'	5'	SCP-11	SW-0	0°	6:1	11"	11"	2.083'	10.750'	N/A	N/A	65.850'	N/A	N/A	471	5.1	39.6	730

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DATE:
FILE:

NOTES:
Skew = 0° on SW-0, FW-0, SETB-CD, SETB-SW-0, and SETB-FW-0 standard sheets;
30° maximum for safety end treatment

SL:1 = Horizontal : 1 Vertical
- Side slope at culvert for flared or straight wingwalls.
- Channel slope for parallel wingwalls.
- Slope must be 3:1 or flatter for safety end treatments.

T = Box culvert top slab thickness. Dimension can be found on the applicable box culvert standard sheet.

U = Box culvert wall thickness. Dimension can be found on the applicable box culvert standard sheet.

C = Curb height

See applicable wing or end treatment standard sheets for calculations of Hw, A, B, Lw, Ltw, Atw, and Total Wingwall Area.

Hw = Height of wingwall

A = Distance from face of curb to end of wingwall (not applicable to parallel or straight wingwalls)

B = Offset of end of wingwall (not applicable to parallel or straight wingwalls)

Lw = Length of longest wingwall.

Ltw = Length of culvert toewall (not applicable when using riprap apron)

Atw = Length of anchor toewall (applicable to safety end treatment only)
Total Wingwall Area = Wingwall area in sq. ft. for two wingwalls (one structure end) if Lt or Rt.
Area for four wingwalls (two structure ends) if Both.

(1) Round the wall heights shown to the nearest foot for bidding purposes.

(2) Concrete volume shown is for box culvert curb only. For curbs using the Box Culvert Rail Mounting Details (RAC) standard sheet quantities shown must be increased by a factor of 2.25. If Class S concrete is required for the top slab of the culvert, also provide Class S concrete for the curb. Curb concrete is considered part of the Box Culvert for payment.

(3) Concrete volume shown is total of wings, footings, culvert toewall (if any), anchor toewalls (if any) and wingwall toewalls. Riprap aprons, culverts, and curb quantities are not included.

(4) Regardless of the type of culvert shown on this sheet, the Contractor has the option of furnishing cast-in-place or precast culverts unless otherwise shown elsewhere on the plans. If the Contractor elects to provide culverts of a different type than those shown on this sheet, it is the Contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.

SPECIAL NOTE:

This sheet is a supplement to the box culvert standards. It is to be filled out by the culvert specifier and provides dimensions for the construction of the box culvert wingwalls and safety end treatments.

An Excel 2010 spreadsheet to assist in completing this table can be downloaded from the Bridge Standards (English) web page on the TxDOT web site. The completed sheet must be signed, sealed, and dated by a licensed Professional Engineer.

Texas Department of Transportation

Bridge Division Standard

BOX CULVERT SUPPLEMENT
WINGS AND END TREATMENTS

BCS

FILE: bcsstde1-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.

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DATE:
FILE:

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

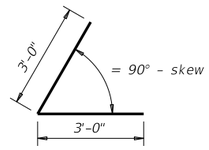
Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing (2~wings) (4)		Estimated Quantities per ft of Toewall (1~toewall)	
					Bars J1		Bars J2					
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	Reinf (Lb/Ft)	Conc (CY/Ft)	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	48.64	0.406	6.85	0.071
2'-9"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.31	0.424	6.85	0.071
3'-0"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	49.98	0.444	6.85	0.071
3'-3"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.32	0.462	6.85	0.071
3'-6"	2'-10"	10"	1'-0"	7"	#4	1'-0"	#4	1'-0"	53.98	0.480	6.85	0.071
4'-0"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	55.77	0.532	6.85	0.071
4'-6"	3'-2"	1'-2"	1'-0"	7"	#4	1'-0"	#4	1'-0"	59.77	0.568	6.85	0.071
5'-0"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	63.45	0.632	6.96	0.075
5'-6"	3'-9"	1'-7"	1'-2"	7"	#4	1'-0"	#4	1'-0"	67.46	0.668	6.96	0.075
6'-0"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	80.67	0.730	7.07	0.078
6'-6"	4'-4"	2'-0"	1'-4"	7"	#5	1'-0"	#5	1'-0"	85.05	0.768	7.07	0.078
7'-0"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	92.15	0.864	8.07	0.093
7'-6"	5'-0"	2'-3"	1'-9"	8"	#5	1'-0"	#5	1'-0"	96.54	0.902	8.07	0.093
8'-0"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	139.04	0.962	8.13	0.095
8'-6"	5'-6"	2'-8"	1'-10"	8"	#5	6"	#5	6"	144.47	1.000	8.13	0.095
9'-6"	6'-0"	2'-10"	2'-2"	9"	#5	6"	#5	6"	156.93	1.136	8.41	0.110
10'-6"	6'-5"	3'-0"	2'-5"	9"	#6	6"	#5	6"	196.27	1.234	8.57	0.117
11'-6"	7'-2"	3'-6"	2'-8"	11"	#6	6"	#6	6"	230.13	1.438	9.52	0.140
12'-6"	7'-8"	3'-9"	2'-11"	1'-0"	#7	6"	#6	6"	283.41	1.592	9.74	0.157
13'-6"	8'-2"	4'-0"	3'-2"	1'-2"	#8	6"	#6	6"	348.72	1.804	10.02	0.186
14'-6"	8'-10"	4'-5"	3'-5"	1'-4"	#9	6"	#6	6"	432.94	2.046	10.30	0.218
15'-6"	9'-6"	4'-10"	3'-8"	1'-6"	#9	6"	#7	6"	489.52	2.302	11.24	0.253
16'-0"	9'-11"	5'-0"	3'-11"	1'-7"	#9	6"	#7	6"	505.72	2.448	11.47	0.279

TABLE OF WINGWALL REINFORCING
(2~wings)

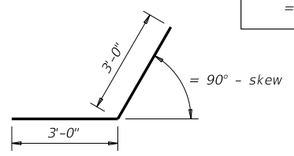
Bar	Size	No.	Spa
D1	#6	~	1'-0"
D2	#6	~	1'-0"
E1	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	~	8"
M1	#4	4	~
P	#4	~	1'-0"
V	#4	~	1'-0"

TABLE OF TOEWALL REINFORCING

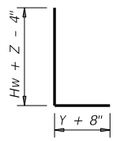
Bar	Size	No.	Spa
J3	#4	~	1'-0"
M2	#4	2	~
E2	#4	~	1'-0"



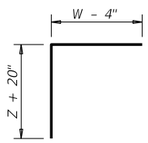
BARS D1



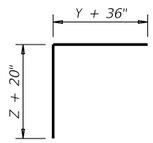
BARS D2



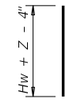
BARS J1



BARS J2



BARS J3



BARS V

WING DIMENSION FORMULAS:
(All values are in feet.)

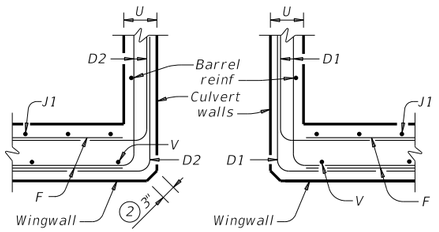
Hw = H + T + C
Lw = (Hw) (SL) ÷ cosine (θ) for Type PW-1
= (Hw - 1') (SL) ÷ cosine (θ) for Type PW-2 and Hw ≥ 4'
= (Hw - 0.5') (SL) ÷ cosine (θ) for Type PW-2 and Hw < 4'

For cast-in-place culverts:
Ltw = [(N) (S) + (N + 1) (U)] ÷ cosine (θ)

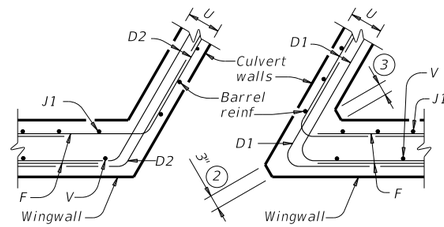
For precast culverts:
Ltw = [(N) (2 U + S) + (N - 1) (0.5')] ÷ cosine (θ)
Total Wingwall Area (two wings ~ SF)
= (2)(Hw)(Lw) for Type PW-1
= (2)(Hw)(Lw) - 6 SF for Type PW-2 and Hw ≥ 4'
= (2)(Hw)(Lw) - 1.5 SF for Type PW-2 and Hw < 4'

Hw = Height of wingwall
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans
SL:1 = Channel slope ratio. (horizontal: 1 vertical, usual value is 2:1)
θ = Culvert skew

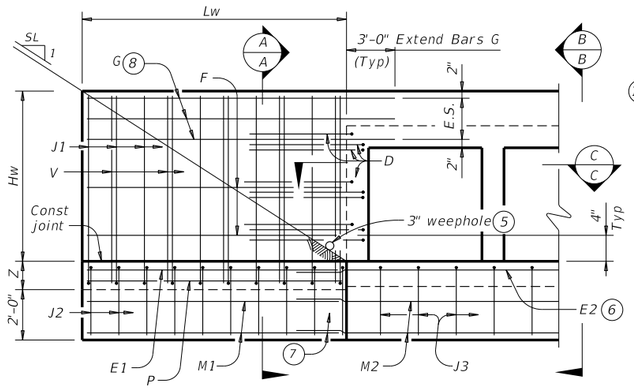
See applicable box culvert standard sheet for S, H, T, and U values.



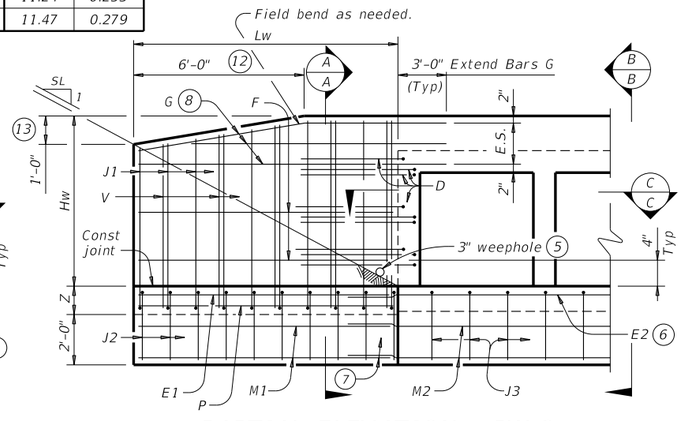
SECTION C-C - PW-1



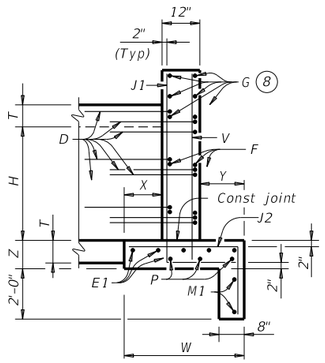
SECTION C-C - PW-2



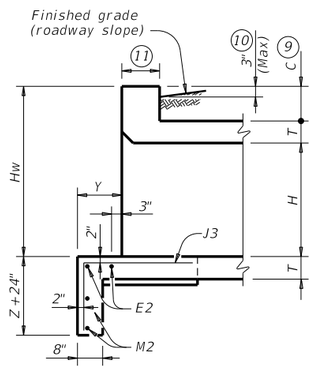
PARTIAL ELEVATION - PW-1



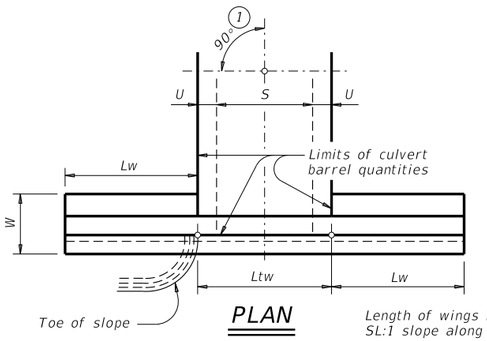
PARTIAL ELEVATION - PW-2



SECTION A-A
(Showing wing reinforcement.)

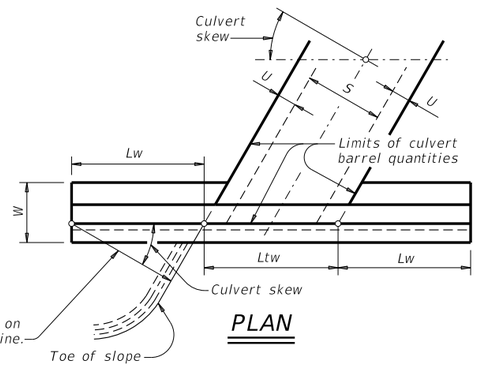


SECTION B-B
(Showing wing reinforcement.)



PLAN

DETAILS FOR NON-SKEWED BOX CULVERTS



PLAN

DETAILS FOR SKEWED BOX CULVERTS
(Showing 30° skew.)

1. Skew = 0°
2. At discharge end, chamfer may be ¾" minimum.
3. For 15° skew ~ 1"
   For 30° skew ~ 2"
   For 45° skew ~ 3"
4. Quantities shown are for two Type PW-1 wings. Adjust concrete volume for Type PW-2 wings. To determine estimated quantities for two wings, multiply the tabulated values by Lw. Quantities shown do not include weight of Bars D.
5. Provide weepholes for Hw = 5'-0" and greater. Fill around weepholes with coarse gravel.
6. Extend Bars E2 1'-6" minimum into the wingwall footing.
7. Lap Bars M1 1'-6" minimum with Bars M2.
8. Place Bars G as shown, equally spaced at 8" maximum. Provide at least two pairs of Bars G per wing.
9. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.
10. For vehicle safety, the following requirements must be met:
    - For structures without bridge rail, construct curbs no more than 3" above finished grade.
    - For structures with bridge rail, construct curbs flush with finished grade.

    Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
11. 1'-0" typical. 2'-3" when the Box Culvert Rail Mounting Details (RAC) standard sheet is referred to elswhere in the plans.
12. 3'-0" for Hw < 4'.
13. 6" for Hw < 4'.

DESIGNER NOTES:
Type PW-1 can be used for all applications and must be used if railing is to be mounted to the wingwall.
Type PW-2 can only be used for applications without a railing mounted to the wingwall.

MATERIAL NOTES:
Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforing steel if required elsewhere in the plans.

GENERAL NOTES:
Designed in accordance with AASHTO LRFD Bridge Design Specifications.
Depth of toewalls for wingwalls and culverts may be reduced or eliminated when founded on solid rock, when directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for wingwall type and additional dimensions and information.
Quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for the Contractor's information only.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.

Texas Department of Transportation

Bridge Division Standard

CONCRETE WINGWALLS
WITH PARALLEL WINGS FOR BOX CULVERTS
TYPES PW-1 AND PW-2

PW

FILE: pwstde01-20.dgn	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
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REVISIONS	DIST	COUNTY		SHEET NO.

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TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for one structure end)

Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing length (2~wings) (3)	
					Bars J1		Bars J2			
Maximum Wingwall Height Hw	W	X	Y	Z	Size	Spa	Size	Spa	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721
13'-0"	6'-8"	3'-3"	2'-9"	11"	#7	6"	#5	6"	178.80	0.856
14'-0"	7'-2"	3'-6"	3'-0"	1'-0"	#8	6"	#5	6"	216.78	0.959
15'-0"	7'-8"	4'-0"	3'-0"	1'-1"	#9	6"	#6	6"	283.06	1.068
16'-0"	8'-2"	4'-6"	3'-0"	1'-3"	#9	6"	#6	6"	297.02	1.234

TABLE OF WINGWALL REINFORCING
(2~wings)

Bar	Size	No.	Spa
D	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
R	#5	6	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

WING DIMENSION FORMULAS:

(All values are in feet.)

Hw = H + T + C - 0.250'
Lw = (Hw - 0.333') (SL)

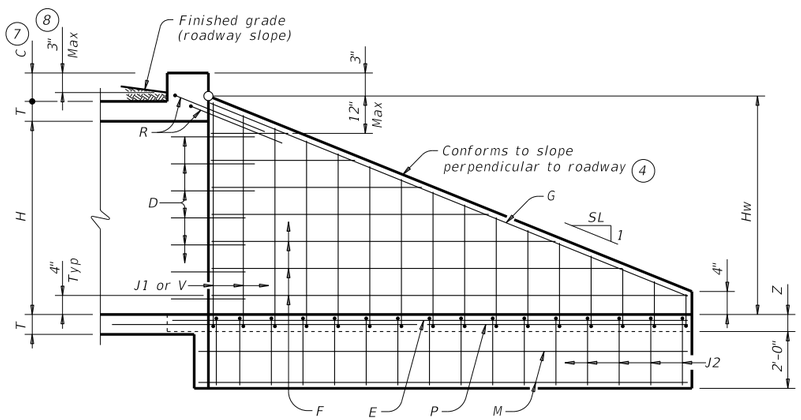
For cast-in-place culverts:
Ltw = (N) (S) + (N + 1) (U)

For precast culverts:
Ltw = (N) (2U + S) + (N - 1) (0.5')

Total Wingwall Area (two wings ~ SF) = (Hw + 0.333') (Lw)

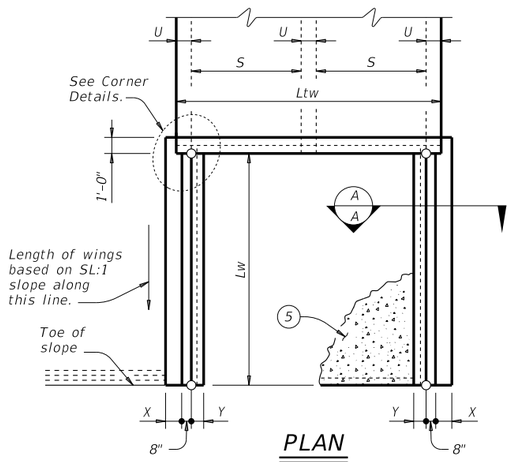
Hw = Height of wingwall
SL:1 = Side slope ratio (horizontal:1 vertical)
Lw = Length of wingwall
Ltw = Culvert toewall length
N = Number of culvert spans

See applicable box culvert standard sheet for H, S, T, and U values.



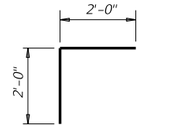
INSIDE ELEVATION

(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)

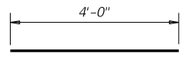


PLAN

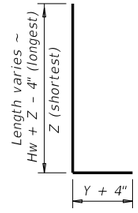
(Showing dimensions.)



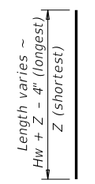
BARS R



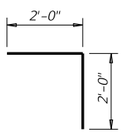
BARS D



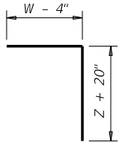
BARS J1



BARS V



BARS L



BARS J2

(1) Extend Bars P 3'-0" minimum into bottom slab of box culvert.

(2) Adjust as necessary to maintain 1 1#2" clear cover and 4" minimum between bars.

(3) Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings, multiply the tabulated values by Lw.

(4) Recommended values of side slope are: 2:1, 3:1, 4:1, and 6:1.

(5) When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap". Unless otherwise shown on the plans or directed by the Engineer, provide a 6" wide by 1'-6" deep reinforced concrete toewall along all edges of the riprap adjacent to natural ground; reinforce the toewall by extending typical riprap reinforcing into the toewall; and extend construction joints or grooved joints oriented in the direction of flow across the full distance of the riprap at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B will not be required.

(6) At Contractor's option, culvert toewall may be ended flush with wingwall toewall. Adjust reinforcing as needed.

(7) 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0, refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Box Culvert Rail Mounting Details (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

(8) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

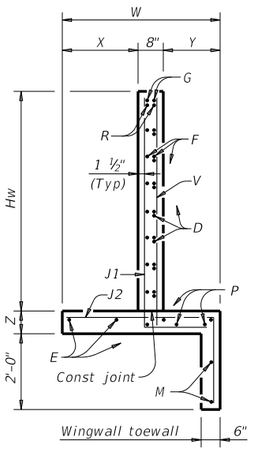
MATERIAL NOTES:

Provide Class C concrete (f'c=3,600 psi).
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
In riprap concrete, synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing unless noted otherwise.

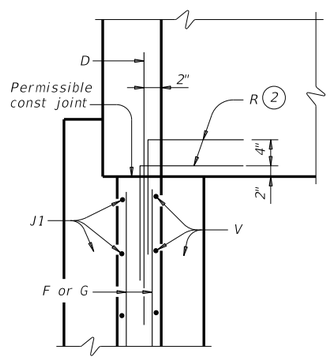
GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
The quantities for concrete and reinforcing steel resulting from the formulas given on this sheet are for Contractor's information only.

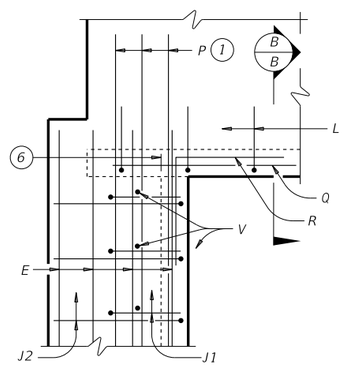
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.



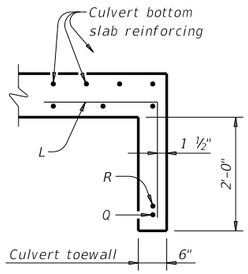
SECTION A-A



WINGWALL



FOOTING AND TOEWALL



SECTION B-B (5)

CORNER DETAILS

Texas Department of Transportation

Bridge Division Standard

CONCRETE WINGWALLS WITH STRAIGHT WINGS FOR 0° SKEW BOX CULVERTS

SW-O

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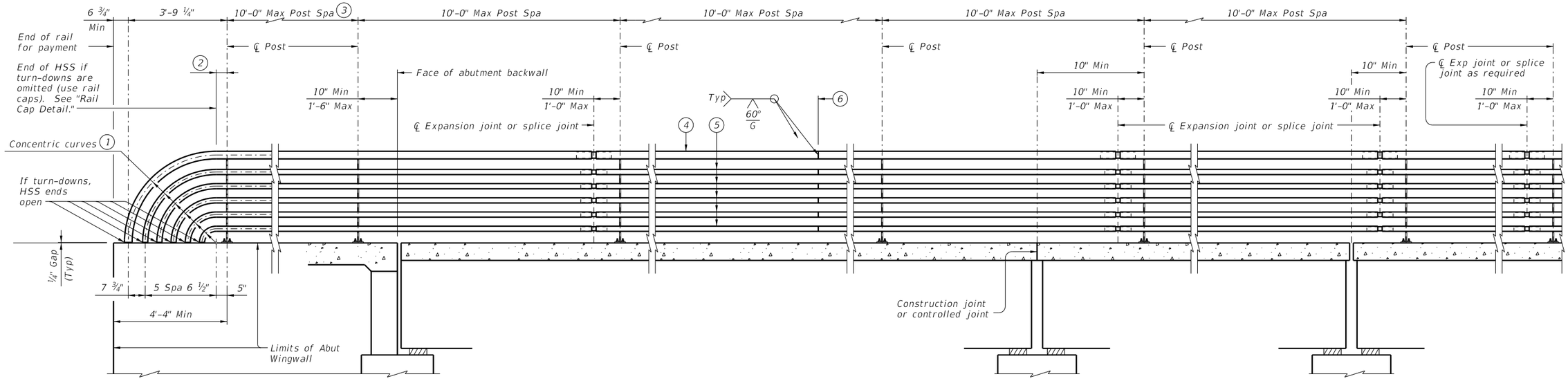
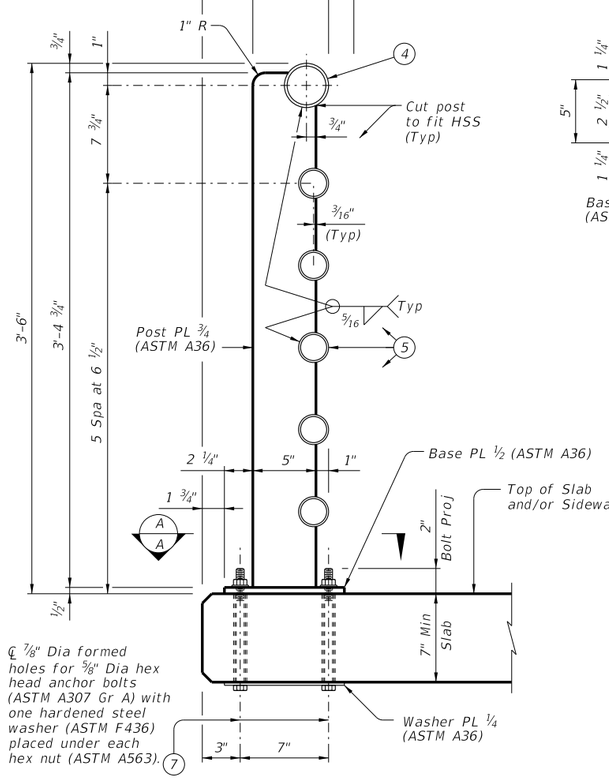


AT ABUTMENTS

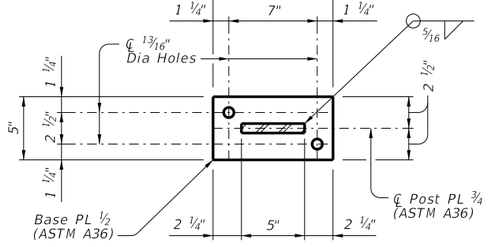
AT BENTS WITHOUT SLAB EXP JOINTS

AT BENTS WITH SLAB EXP JOINTS

ROADWAY ELEVATION OF RAIL

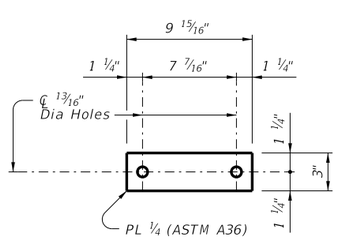


ON BRIDGE SLAB

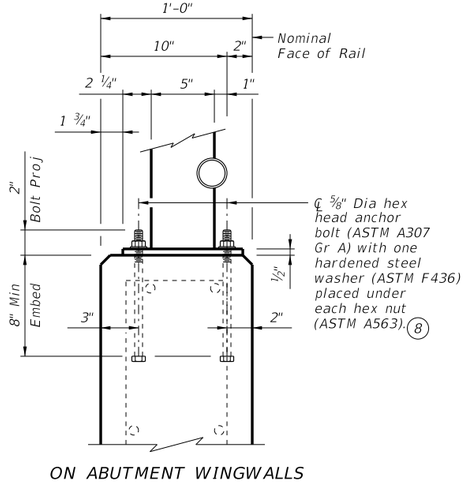


SECTION A-A

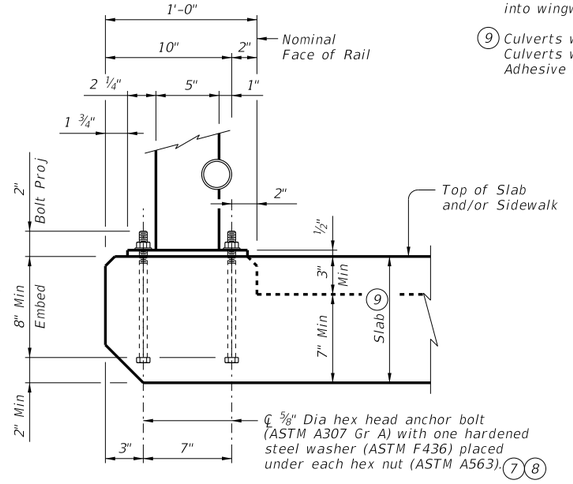
Showing base plate detail.



WASHER PLATE DETAIL



ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS



ON CULVERTS WITH OR WITHOUT CURBS

Used with 1'-0" Min thick parallel wings on culverts.

SECTIONS THRU RAIL

(1) Portion of railing with turn-downs to be used or omitted as indicated on Bridge Layout.

(2) 10" Min ~ 1'-6" Max if turn-downs are omitted.

(3) Min of 2 posts required on wingwall.

(4) HSS 3.500 x 0.216 (Rail Member)

(5) HSS 2.375 x 0.154 (Rail Member)

(6) One shop splice per panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single V groove. Grind smooth.

(7) At Contractor's option, adhesive anchors may be used. Adhesive anchors must be ⅝" Dia ASTM A307 Grade A fully threaded rods. Minimum adhesive anchor embedment depth is 5" into slabs or culverts without curbs. See "Material Notes" for adhesive anchor requirements.

(8) At Contractor's option, adhesive anchors may be used. Adhesive anchors must be ⅝" Dia ASTM A307 Grade A fully threaded rods. Minimum adhesive anchor embedment depth is 7" into wingwalls or culverts with curbs. See "Material Notes" for adhesive anchor requirements.

(9) Culverts without curbs for cast-in-place anchor bolts require a 10" Min slab thickness. Culverts with curbs for cast-in-place anchor bolts require a curb plus slab thickness of 10" Min. Adhesive anchors may be used with a 7" Min slab thickness or culverts with curbs.

SHEET 1 OF 2

Texas Department of Transportation

Bridge Division Standard

PEDESTRIAN RAIL

TYPE PR11

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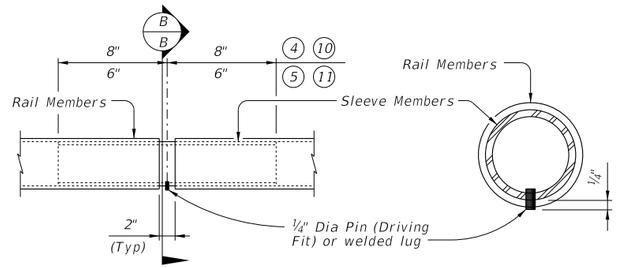
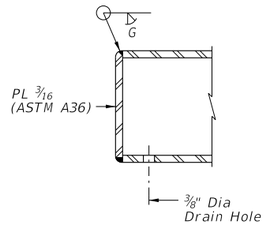


AT SPLICES OR EXP JTS SECTION B-B

PIPE SPLICE DETAIL



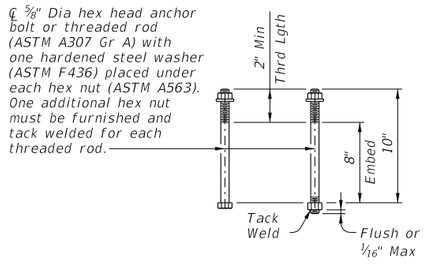
RAIL CAP DETAIL

(4) HSS 3.500 x 0.216 (Rail Member)

(5) HSS 2.375 x 0.154 (Rail Member)

(10) HSS 2.875 x 0.203 (Sleeve Member)

(11) HSS 1.900 x 0.145 (Sleeve Member)



CAST-IN-PLACE & FORMED HOLE ANCHOR BOLT OPTIONS

CONSTRUCTION NOTES:

Panel lengths of railing must be attached to a minimum of three posts except at abutment wingwalls.

At the Contractor's option anchor bolts may be an adhesive anchorage system. See "Material Notes."

Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

Face of rail and posts must be vertical transversely unless otherwise approved. Posts must be perpendicular to adjacent roadway grade. Use Type VIII epoxy mortar under post base plates if gaps larger than 1/16" exist.

For curved railing applications, fabricate the HSS rail to the radius when the radius is 600' or less. Submit shop drawings for approval when tubes are required to be fabricated to a radius. Shop drawings must be submitted to the Engineer for approval.

Round or chamfer all exposed edges of steel components 1/16" by grinding prior to galvanizing.

MATERIAL NOTES:

Provide ASTM A500 Gr B, A1085 or A53 Gr B for all HSS.

Galvanize all metal components of steel rail system. Apply additional coatings when shown elsewhere on the plans. When plans require paint over galvanizing, follow the requirements for painting galvanized steel in Item 445, "Galvanizing" and when field painting, Item 446, "Field Cleaning and Painting Steel." Sleeve members and anchor bolts must receive galvanization prior to installation and only field paint after installation unless directed otherwise by Engineer.

Anchor bolts must be 5/8" Dia ASTM A307 Gr A with one hardened steel washer (ASTM F436) placed under each hex nut or ASTM A307 Gr A threaded rods with one tack welded hex nut each and with one hex nut with one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements.

Optional adhesive anchorage system must be 5/8" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436). Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into slab, wingwalls, or culvert curbs using a Type III, Class C, D, E, or F anchor adhesive. Anchor adhesive chosen must be able to achieve a nominal bond strength in tension, Na, of a single anchor of 10 kips (edge distance must be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing".

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

For all rails, submit erection drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval.

Average weight of railing is 30 plf.

Texas Department of Transportation | Bridge Division Standard

PEDESTRIAN RAIL

TYPE PR11

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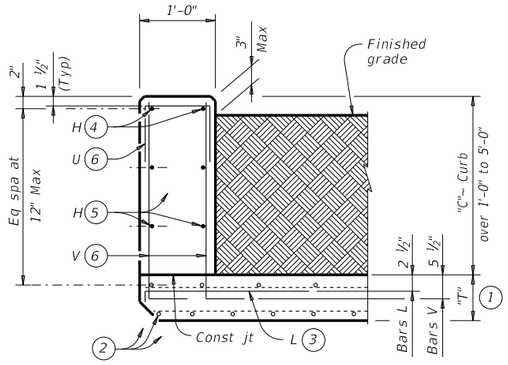
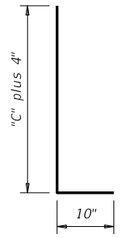
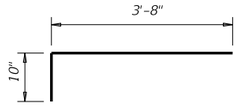


TYPICAL SECTION

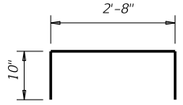
Used for curbs over 1'–0" to 5'–0"



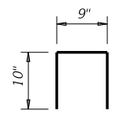
BARS V (#5) (6)
Spaced at 12" Max



BARS L (#5) (3)
Spaced at 12" Max



OPTIONAL BARS L (#5) (3) (7)
Spaced at 12" Max



BARS U (#4) (6)
Spaced at 12" Max

(1) "T" is equal to the culvert top slab thickness. For precast boxes with slabs less than 8" thick, see SCP-MD standard for additional details.

(2) Adjust normal culvert slab bars as necessary to clear obstructions.

(3) Place bars L as shown. Tilt hook as necessary to maintain cover.

(4) Place normal culvert curb bars H(#4) as shown. Adjust as necessary to clear obstructions.

(5) Additional bars H(#4) as required to maintain 12" Max spacing.

(6) Replace normal culvert curb bars K with one bar U and two bars V as shown spaced at 12" Max. Adjust length of bars V as necessary to maintain clear cover.

(7) Optional bars L are to be used only for precast box culverts with 3'–0" closure pour.

(8) Quantities shown are for Contractor's information only. Quantities are per linear foot of curb length. The value in table can be interpolated for intermediate values of curb height, "C". Quantity includes bars K (when applicable).

TABLE OF ESTIMATED CURB QUANTITIES (8)

Curb Height "C"	Conc (CY/LF)	Reinf Steel (Lb/LF)
1'–0"	0.037	10.4
1'–6"	0.056	14.5
2'–0"	0.074	15.6
2'–6"	0.093	18.0
3'–0"	0.111	19.0
3'–6"	0.130	21.3
4'–0"	0.148	22.4
4'–6"	0.167	24.8
5'–0"	0.185	25.9

CONSTRUCTION NOTES:

Adjust reinforcing steel as necessary to provide 1 ¼" cover.

For vehicle safety, top of the curb must not project more than 3" above the finished grade.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.

Provide galvanized reinforcing steel if required elsewhere in the plans.

Provide Class "C" concrete (f'_c = 3,600 psi) minimum for curbs.

Provide bar laps, where required, as follows:

- Uncoated or galvanized ~ #4 = 1'–8" Min

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.

These extended curb details have sufficient strength to allow for future retrofit of Type T631 or T631LS railing. These details are suitable for use with PR11, PR22 and PR3 type rails. These details are not suitable for the mounting of other rail types. For new construction using T631 or T631LS railing, use the T631-CM standard.

This Curb is considered as part of the Box Culvert for payment.

Cover dimensions are clear dimensions, unless noted otherwise.

Reinforcing bar dimensions shown are out-to-out of bar.

Texas Department of Transportation

Bridge Division Standard

EXTENDED CURB DETAILS

FOR BOX CULVERTS WITH CURBS OVER 1'-0" TO 5'-0" TALL

ECD

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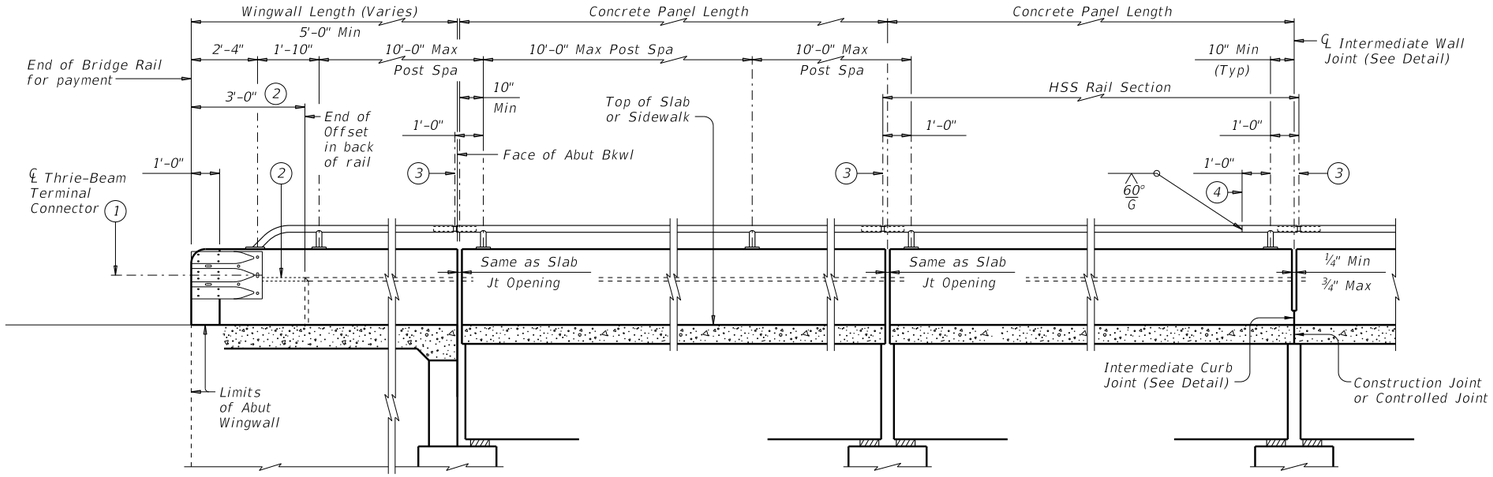
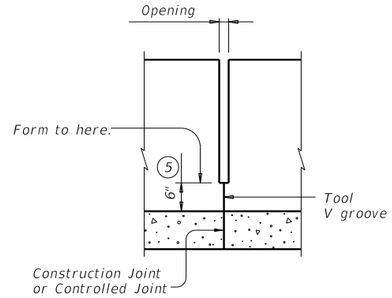


AT ABUTMENTS | AT BENTS WITH SLAB EXP JOINTS | AT BENTS WITHOUT SLAB EXP JOINTS

ROADWAY ELEVATION OF RAIL



INTERMEDIATE WALL JOINT DETAIL

Provide at all interior bents without slab expansion joints.

(1) Terminal Connectors and associated hardware are to be paid for under the Item "Metal Beam Guard Fence." Attach Metal Beam Guard Fence Transitions to the bridge rail and extend along the embankment unless otherwise shown in the plans.

(2) Back of rail offset may, with Engineer's approval, be continued to the end of the railing.

(3) ℄ Expansion joint or splice joint as required.

(4) One shop splice per HSS rail section is permitted with minimum 85 percent penetration. The weld may be square groove, or single V groove. Grind smooth.

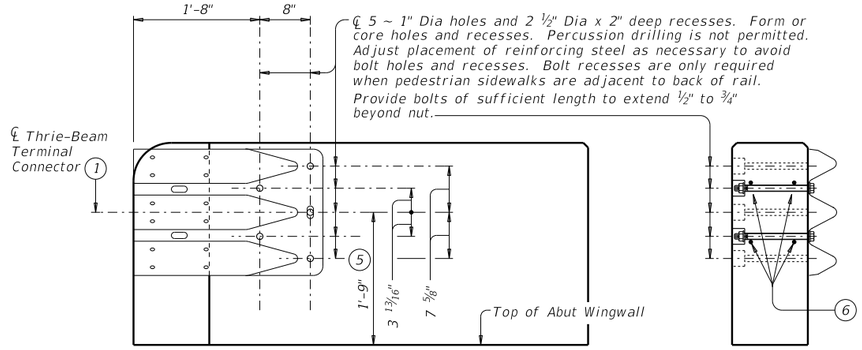
(5) Increase 2" for structures with overlay.

(6) Place 4 additional Bars R(#4) 3'-8" in length inside Bars S(#4) and centered 2'-0" from end of rail when Terminal Connections are required. Field bend as needed.

(7) HSS 2.875 x 0.203

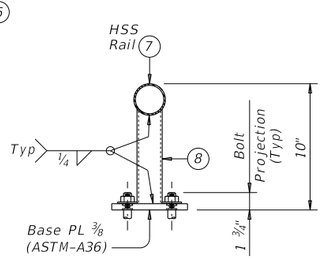
(8) HSS 2.375 x 0.154

(9) ⅜" Dia Hole in bottom of HSS rail (Minimum 1 hole between posts ~ Typ)

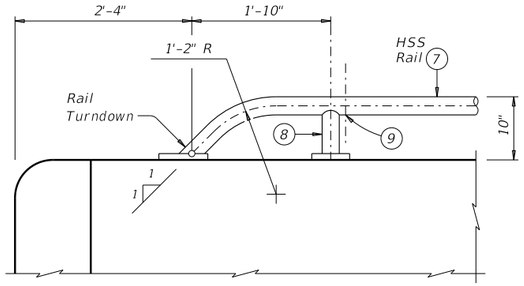


ELEVATION | SECTION

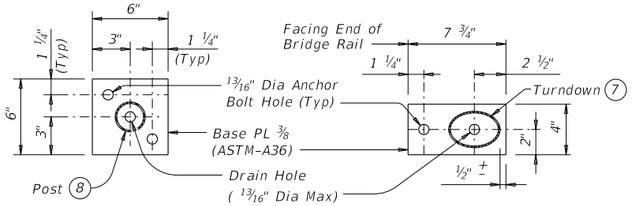
TERMINAL CONNECTION DETAILS



TRANSVERSE SECTION

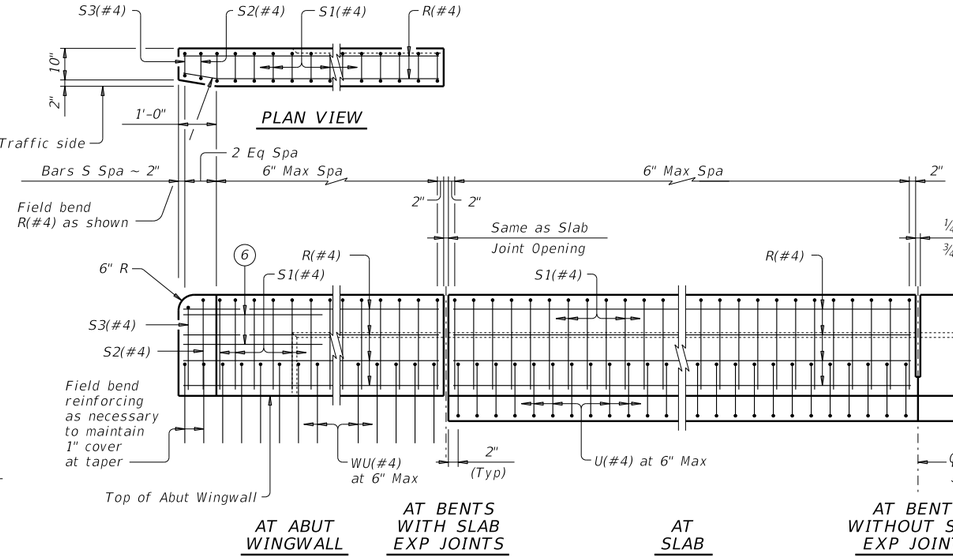


HSS RAIL TERMINAL DETAIL



POST BASE PLATE PLAN | RAIL TURNDOWN BASE PLATE PLAN

HSS RAIL DETAILS



ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT

(Showing without raised sidewalk)

SHEET 1 OF 3

Texas Department of Transportation | Bridge Division Standard

COMBINATION RAIL

TYPE C221

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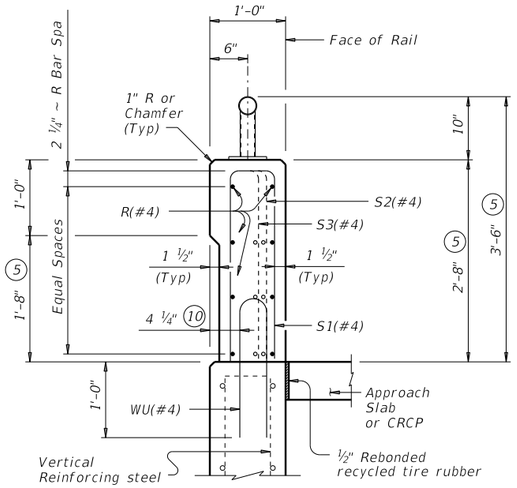
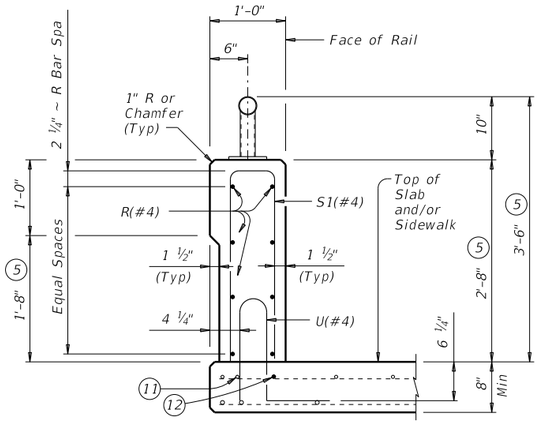
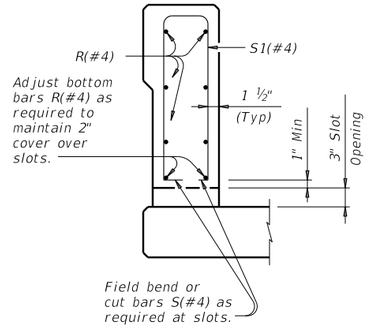


ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS

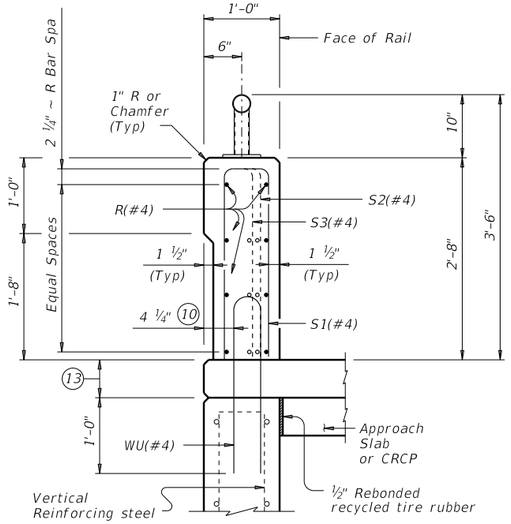


ON BRIDGE SLAB

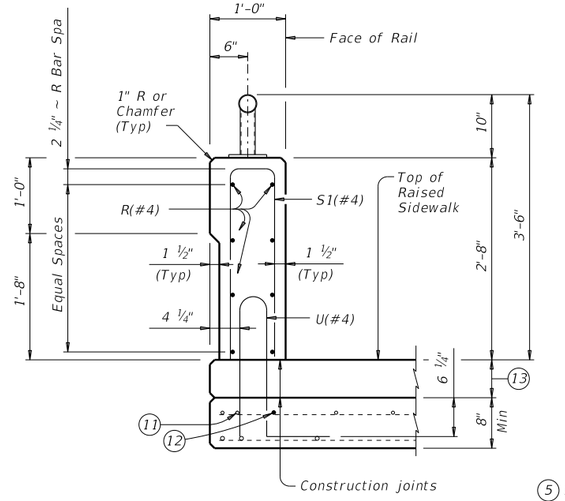
SECTIONS THRU RAIL WITHOUT RAISED SIDEWALK



SECTION THRU OPTIONAL SIDE SLOT DRAIN

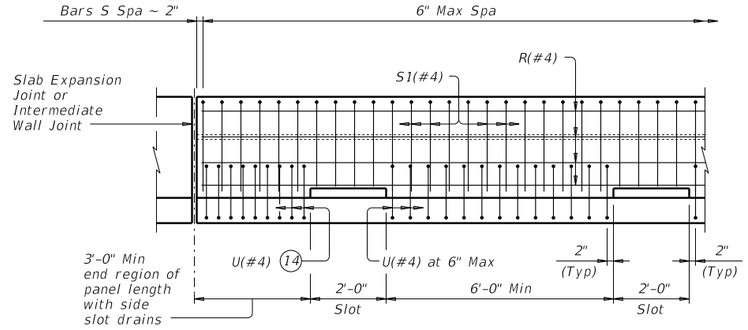


ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS



ON BRIDGE SLAB

SECTIONS THRU RAIL WITH RAISED SIDEWALK



OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Drains should not be placed over railroad tracks; lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.

(5) Increase 2" for structures with overlay.

(10) 5 ¼" when vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls or retaining walls on traffic side of wall.

(11) As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars must be furnished at the Contractors expense.

(12) Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie reinforcing.

(13) Raised Sidewalk

(14) Space U(#4) bars at 4" Max when end region of panel length is less than 6'-0" to side slot drain. Space U(#4) bars at 6" Max when end region of panel length is 6'-0" and greater to side slot drain.

Texas Department of Transportation

Bridge Division Standard

COMBINATION RAIL

TYPE C221

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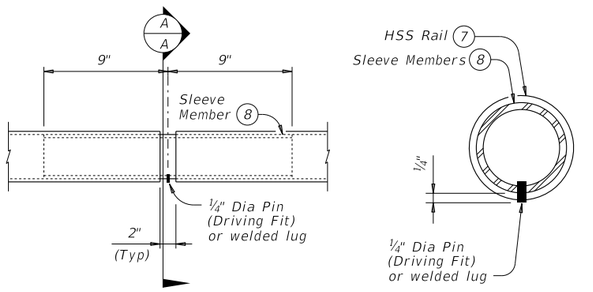
RAIL DATA FOR HORIZONTAL CURVES

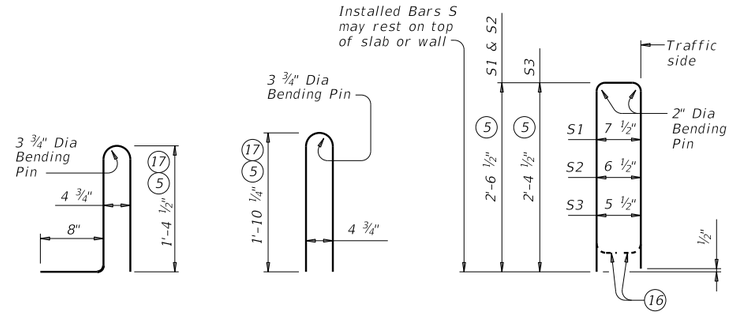
	RADIUS TO FACE OF RAIL	MAX CHORD LENGTH	CONSTRUCT OR FABRICATE
HSS Rail	Over 2800'	29'–0"	Straight rail panels
	Over 1400' thru 2800'	14'–6"	To required radius or to chords shown
	Over 700' thru 1400'	7'–3"	
	Thru 700'	Zero	To required radius



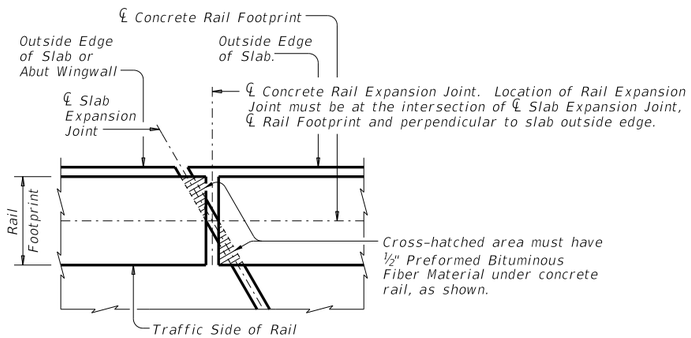
AT SPLICE OR EXP JTS

SECTION A-A

PIPE SPLICE DETAILS

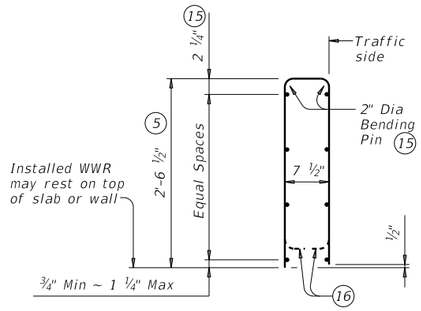


BARS U (#4) BARS WU (#4) BARS S (#4)



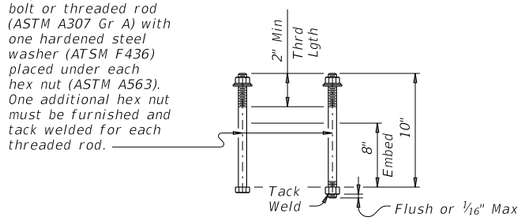
PLAN OF RAIL AT EXPANSION JOINTS

Example showing Slab Expansion Joints without breakbacks.



OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES
Minimum (Cumulative Total) Wire Area	1.067 Sq In.	0.267 Sq In. per Ft
	No. of Wires	Spacing
Minimum	8	4"
Maximum	10	8"
Maximum Wire Size Differential	The smaller wire must have an area of 40% or more of the larger wire.	



CAST-IN-PLACE ANCHOR BOLT OPTIONS (18)

(5) Increase 2" for structures with overlay.

(7) HSS 2.875 x 0.203

(8) HSS 2.375 x 0.154

(15) No longitudinal wires may be in top center of cage.

(16) Bend or cut as required to clear drain slots.

(17) For raised sidewalks, add sidewalk height to total bar height. Use sidewalk height at rail's location.

(18) See "Material Notes" for anchor bolt information.

CONSTRUCTION NOTES:

This railing may be constructed by the slipform process when approved by the Engineer, with equipment approved by the Engineer and when adhesive anchor bolts are used. Slipforming parapet is not allowed if anchor bolts are cast with parapet wall. Provide sensor control for both line and grade. Tack welding to provide bracing for slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to bars U, WU and S at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld in the upper two thirds of the cage. Paint welded areas on epoxy coated and/or galvanized reinforcing with an organic zinc rich paint in accordance with Item 445 "Galvanizing".

If rail is slipformed, apply an heavy epoxy bead 1" behind toe of traffic side of rail to concrete deck just prior to slip forming. Provide a ⅜" width x ¼" tall heavy epoxy bead with Type III, Class C or a Type V epoxy.

Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

At the Contractor's option anchor bolts may be cast with the parapet. See "Material Notes."

Face of rail, parapet must be plumb unless otherwise approved by the Engineer. HSS rail posts must be square to the top of parapet. Use epoxy mortar under post base plates if gaps larger than 1/16" exist.

Round or chamfer exposed edges of HSS rail and HSS rail posts to approximately 1/16" by grinding.

HSS rail sections must not include less than two posts, and no more than four (except at Abutments).

Chamfer all parapet exposed corners.

MATERIAL NOTES:

Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.

Provide Grade 60 reinforcing steel.

Epoxy coat or galvanize all reinforcing steel if slab bars are epoxy coated or galvanized.

Provide ASTM A1085 or A500 Gr B or A53 Gr B for all HSS.

Galvanize all metal components of steel rail system. Apply additional coatings when shown elsewhere on the plans. When plans require paint over galvanizing, follow the requirements for painting galvanized steel in Item 445, "Galvanizing" and when field painting, Item 446, "Field Cleaning and Painting Steel." Sleeve members and anchor bolts must receive galvanization prior to installation and only field paint after installation unless directed otherwise by Engineer.

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM 1064) may be substituted for Bars R and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other that shown are permitted if conditions in the table are satisfied. Provide the same laps as required for reinforcing bars.

Anchor bolts must be ⅜" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into parapet wall with a Type III, Class C, D, E, or F anchor adhesive. Minimum adhesive anchor embedment depth is 3". Anchor adhesive chosen must be able to achieve a nominal bond strength in tension of a single anchor, Na, of 5 kips (edge distance must be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing".

Optional cast-in-place anchor bolts must be ⅝" Dia ASTM A307 Gr A bolts (or threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer (ASTM F436) at each bolt. Nuts must conform to ASTM A563 requirements.

Provide bar laps, where required, as follows: Uncoated or galvanized ~ #4 = 1'-7"
Epoxy coated ~ #4 = 2'-5"

GENERAL NOTES:

This rail has been evaluated and accepted to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-3 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Submit erection drawings showing panel lengths, rail post spacing, and anchor bolt setting to the Engineer for approval.

Average weight of railing with no overlay: 380 plf (total)
370 plf (Conc)
10 plf (Steel)

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

Texas Department of Transportation

Bridge Division Standard

COMBINATION RAIL

TYPE C221

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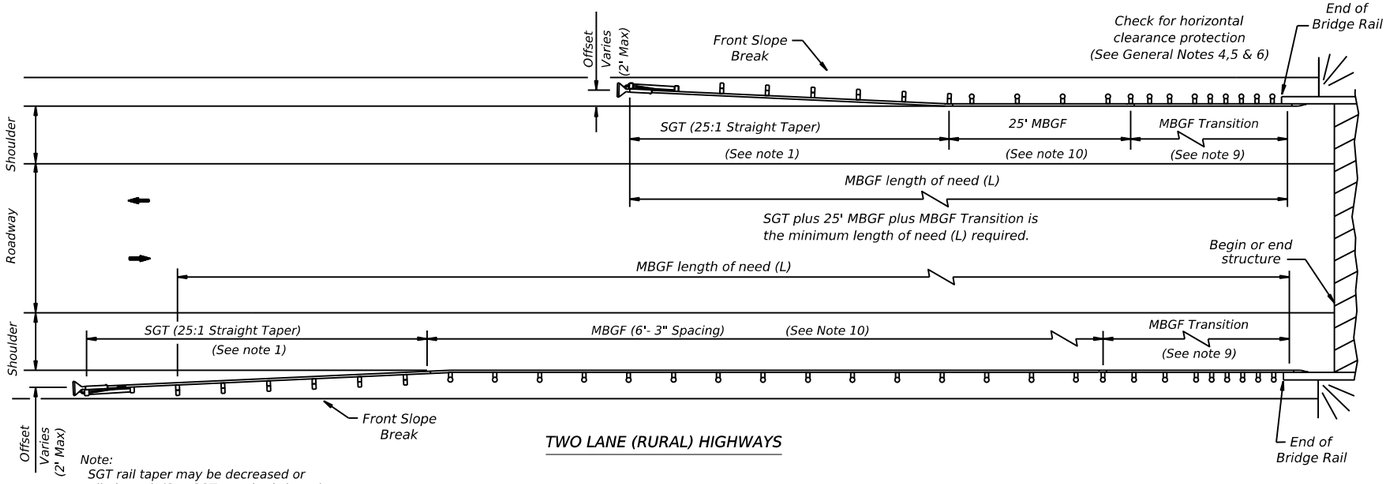
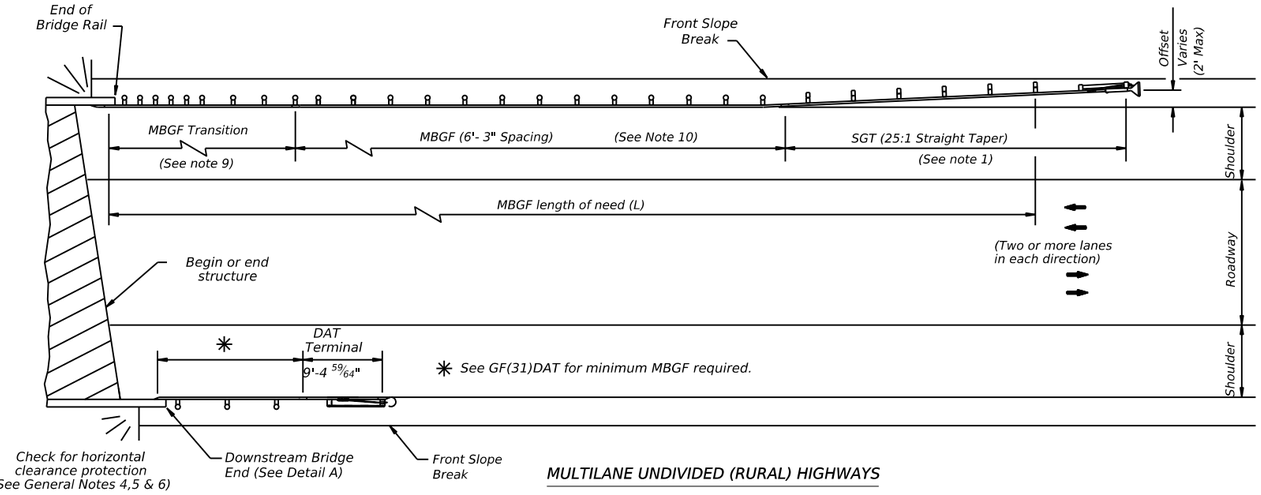
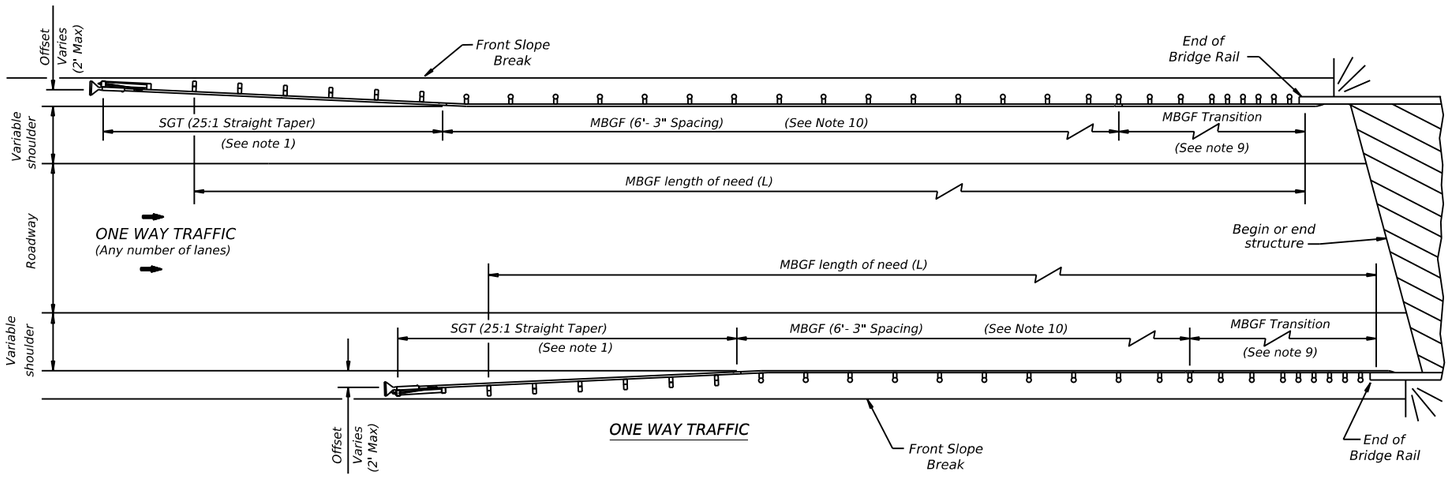


Note:
SGT rail taper may be decreased or eliminated. (See SGT standard sheets)

TWO LANE (RURAL) HIGHWAYS



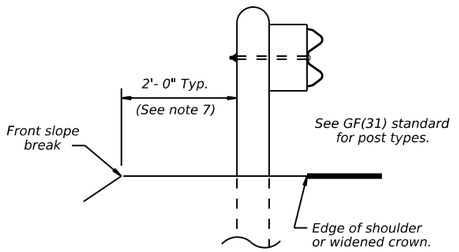
MULTILANE UNDIVIDED (RURAL) HIGHWAYS



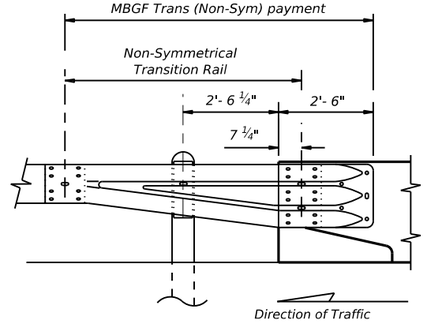
ONE WAY TRAFFIC

GENERAL NOTES

1. For more detail: See GF(31), SGT( )31, GF(31)TR, and GF(31)TL2 standard sheets.
2. Quantities of metal beam guard fence (MBGF) at individual bridge ends are as shown in the plans.
3. Use average daily traffic (ADT) for the current year to determine MBGF length of need in accordance with the Roadway Design Manual unless otherwise specified. Where significant traffic volume growth is anticipated on low volume (0-750 ADT) highways, use length determinations for the higher volume category.
4. MBGF may not be required to shield departure end of bridge unless other obstacles within the horizontal clearance limits or opposing traffic indicate a MBGF consideration.
5. Downstream anchor terminals (DAT) are only for downstream end anchorage use, outside the horizontal clearance area of opposing traffic.
6. Direct connection of MBGF to concrete rails are only for downstream rail connections outside the horizontal clearance area of opposing traffic. (This requires a minimum of three standard line posts plus the DAT terminal, See Detail A)
7. The crown shall be widened to accommodate MBGF. Typically the "front slope" break should be 2'- 0" from the back of the MBGF post. This applies to new construction on new alignment or where existing roadway cross section is to be widened to increase roadway width. This does not apply to rehabilitation work where existing roadway crown width is to be retained (See Typical Cross Section at MBGF).
8. For restrictive bridge widths: The MBGF should be properly transitioned from the existing bridge rail to the adjoining MBGF (See MBGF Transition Standards). Metal beam guard fence at these bridge location(s) shall be flared at the rate of 25:1 or flatter, and be of the length necessary to locate the terminal end at the 2 ft."maximum" offset from the shoulder edge in the approach direction.
9. Transition length and post spacing will vary depending on the transition type. Transition type will be shown elsewhere in the plans.
10. A minimum 25' length of MBGF will be required.



TYPICAL CROSS SECTION AT MBGF



Note:
All rail elements shall be lapped in the direction of adjacent traffic.

DETAIL A

Showing Downstream Rail Attachment

Texas Department of Transportation

Design Division Standard

BRIDGE END DETAILS

(METAL BEAM GUARD FENCE APPLICATIONS TO RIGID RAILS)

BED-14

FILE: bed14.dgn	DN: TxDOT	CK: AM	DW: BD/VP	CK: CGL
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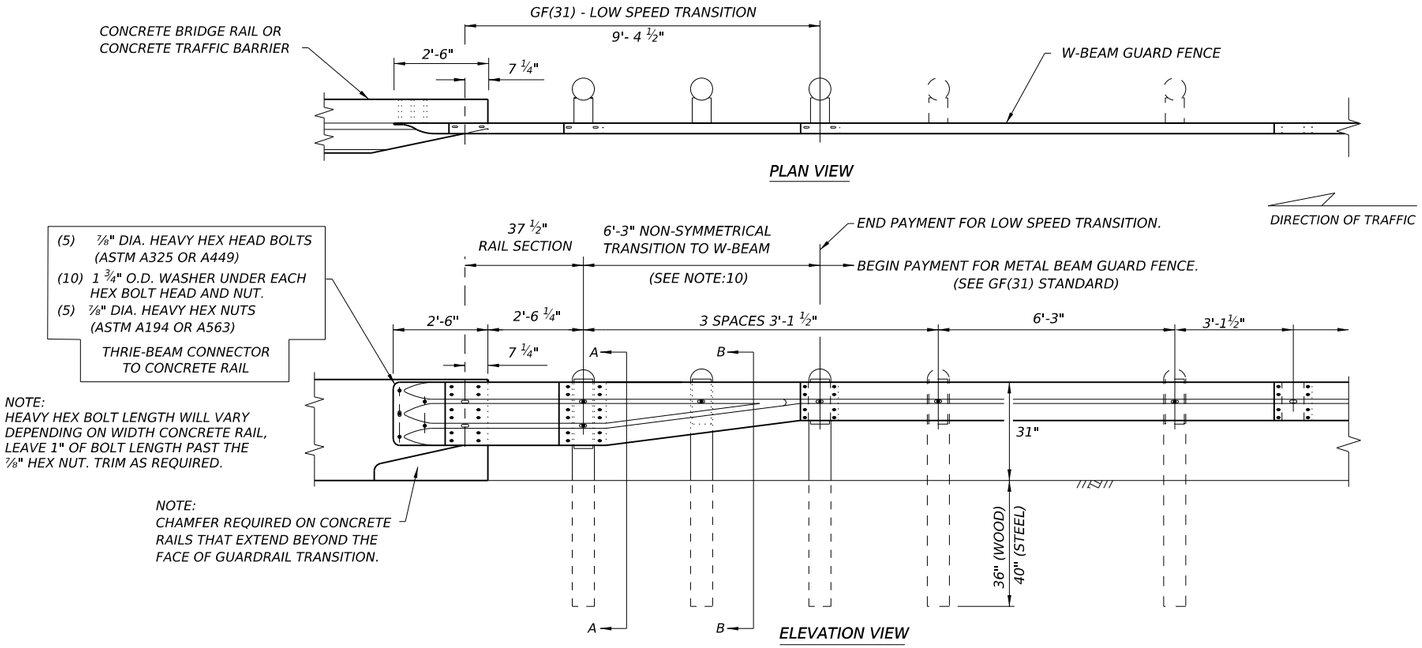
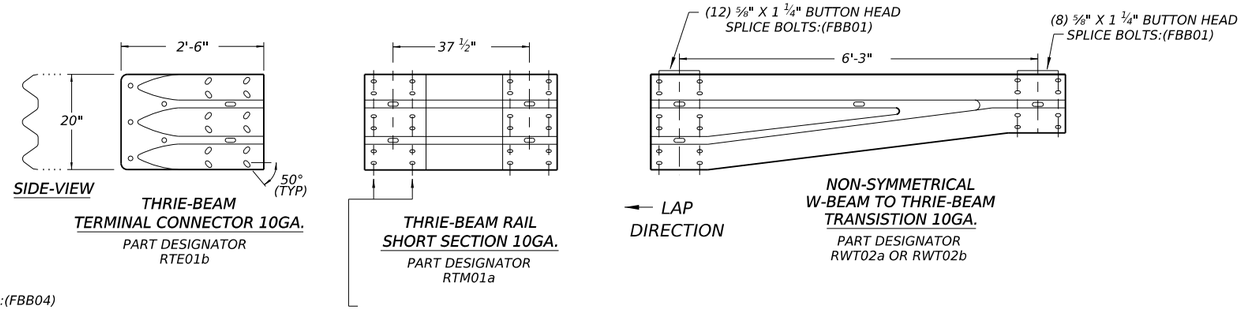


GENERAL NOTES

1. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST, OR STEEL POST) WILL BE AS SHOWN IN THE PLANS. THE EXACT POSITION OF TRANSITIONS SHALL BE AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. REFER TO GF(31)STANDARD SHEET.
2. RAIL ELEMENT SHALL MEET THE REQUIREMENTS OF ITEM 540,"METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED IN THE PLANS.
3. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING." FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM REQUIRING CONSTRUCTION OF THE TRANSITION.
4. BUTTON HEAD "POST BOLTS & NUTS" SHALL MEET THE REQUIREMENTS OF (ASTM A307), AND SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND ⅝" WASHER (FWC16a)AND NOT MORE THAN 1" BEYOND IT. TRIM BOLT LENGTH TO MEET REQUIRED LENGTH.
5. POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.
6. CROWN SHALL BE WIDENED TO ACCOMMODATE TRANSITIONS.
7. WHERE SOLID ROCK IS ENCOUNTERED, CONTACT THE DESIGN DIVISION FOR ADDITIONAL GUIDANCE. (512) 416-2678
8. UNLESS OTHERWISE SHOWN IN THE PLANS, A COMPOSITE MATERIAL BLOCK THAT MEETS THE REQUIREMENTS OF DMS-7210,"COMPOSITE MATERIAL POSTS AND BLOCKS FOR METAL BEAM GUARD FENCE" MAY BE SUBSTITUTED FOR BLOCKS OF SIMILAR DIMENSIONS. THE CONSTRUCTION DIVISION, TXDOT, MAINTAINS A MATERIAL PRODUCER LIST (MPL) FOR PRODUCERS OF MATERIALS CONFORMING TO DMS-7210. ONLY PRODUCERS ON THE MPL CAN FURNISH COMPOSITE MATERIAL BLOCKS.
9. REFER TO GF(31)STANDARD SHEET & BRIDGE RAILING DETAILS FOR ADDITIONAL DETAILS.
10. FOR ROUND WOOD POSTS SYSTEMS, ALL ROUND WOOD POSTS SHALL BE 7 ½" DIA. MINIMUM THROUGHOUT THE TRANSITION.



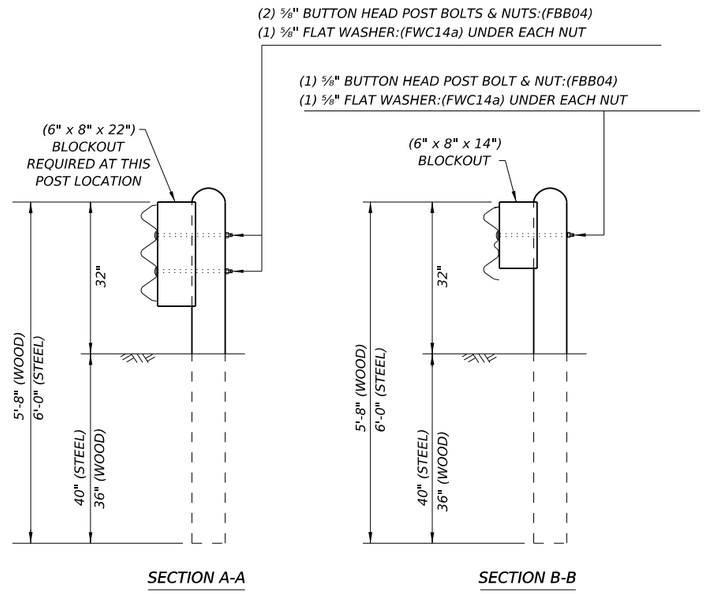
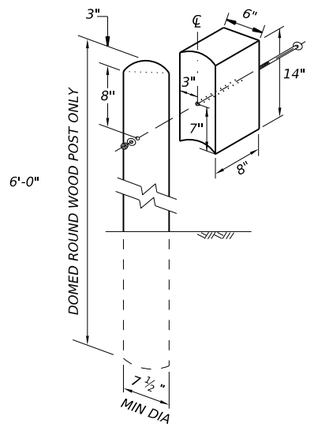
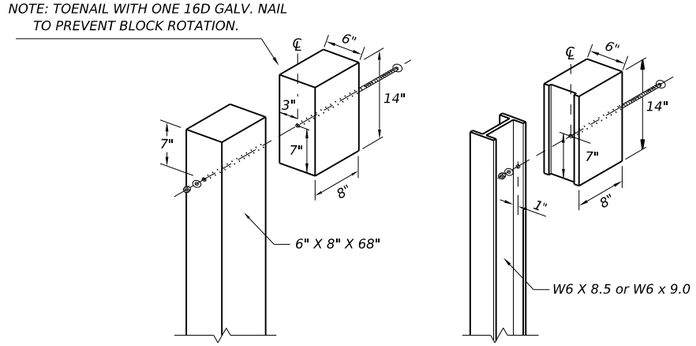


PLATE WASHER INSTRUCTIONS

BRIDGE APPROACH - UPSTREAM: THE SHORT RAIL LAPS OVER THE TERMINAL CONNECTOR. PLATE WASHERS ARE INSTALLED UNDER THE SPLICE NUTS AGAINST INSIDE OF CONNECTOR.
BRIDGE EXIT - DOWNSTREAM: THE TERMINAL CONNECTOR LAPS OVER THE NESTED RAIL. PLATE WASHERS ARE INSTALLED UNDER THE BOLT HEAD AGAINST OUTSIDE OF CONNECTOR.





NOTE: *"WOOD" INDICATES DIMENSIONS FOR BOTH ROUND AND RECTANGULAR WOOD POST SYSTEMS.

LOW-SPEED TRANSITION

Texas Department of Transportation

Design Division Standard

METAL BEAM GUARD FENCE THRIE-BEAM TRANSITION TL-2 MASH COMPLIANT

GF(31)TR TL2-19

FILE: gf31tr1219.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL/AG		
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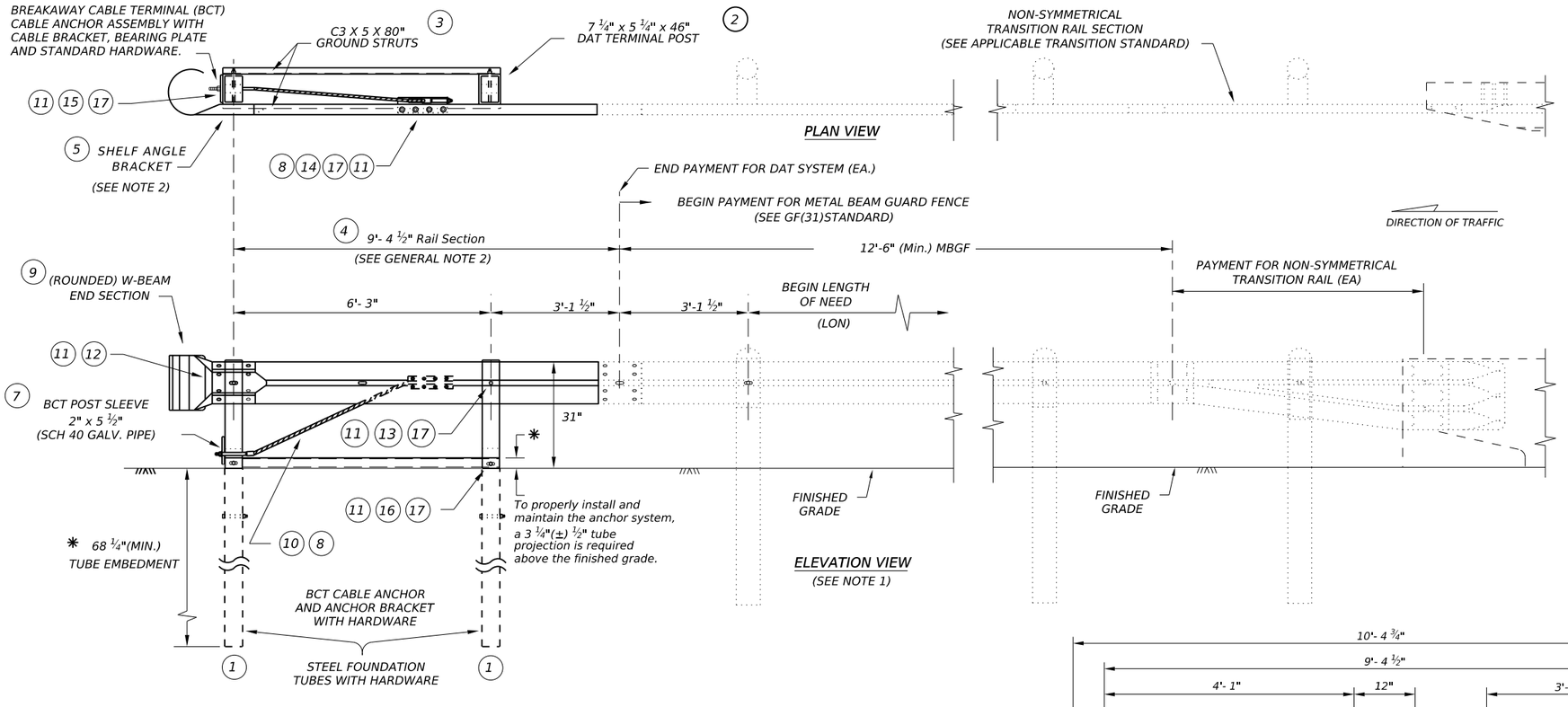


DOWNSTREAM ANCHOR TERMINAL (DAT)

NOTE: ONLY FOR DOWNSTREAM USE, WHEN LOCATED OUTSIDE THE HORIZONTAL CLEARANCE AREA OF OPPOSING TRAFFIC.

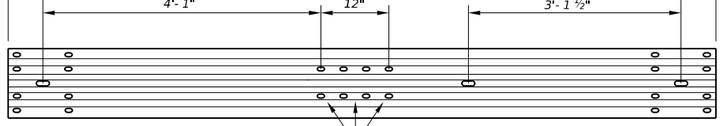
GENERAL NOTES

1. THE DETAIL SHOWN IS THE MINIMUM LENGTH OF NEED (LON) FOR A DOWNSTREAM ANCHOR TERMINAL (DAT) CONNECTED TO A CONCRETE RAIL.
2. THE RAIL SECTION AT THE END POST IS SUPPORTED BY THE SHELF ANGLE BRACKET. THE RAIL ELEMENT IS NOT ATTACHED TO THE END POST.
3. THE FOUNDATION TUBES SHALL NOT PROJECT MORE THAN 3 ¾" ABOVE THE FINISHED GRADE.
4. ALL HARDWARE FOR DAT SHALL BE ASTM A307 UNLESS OTHERWISE SHOWN.
5. REFER TO GF(31) SHEET FOR TERMINAL CONNECTION DETAILS.

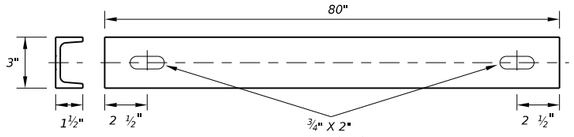
MOW STRIP INSTALLATION

IF A MOW STRIP IS REQUIRED WITH THE DAT INSTALLATION THE LEAVE-OUT AREA AROUND THE STEEL FOUNDATION TUBES AND THE TWO CHANNEL STRUTS MAY BE OMITTED. THIS WILL REQUIRE A FULL POUR AT THE FOUNDATION TUBES.

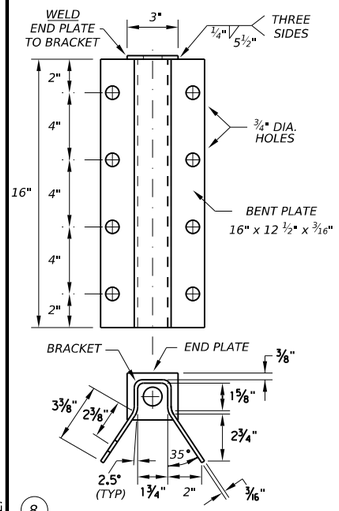
#	(DAT) PARTS LIST	QTY
1	STEEL FOUNDATION TUBE	2
2	DAT TERMINAL POST	2
3	CHANNEL STRUT	2
4	TERMINAL RAIL ELEMENT	1
5	SHELF ANGLE BRACKET	1
6	BCT BEARING PLATE	1
7	BCT POST SLEEVE	1
8	GUARDRAIL ANCHOR BRACKET	1
9	(ROUNDED)W-BEAM END SECTION	1
10	BCT CABLE ANCHOR	1
11	RECESSED NUT, GUARDRAIL	20
12	1 ¼" BUTTON HEAD BOLT	4
13	10" BUTTON HEAD BOLT	2
14	⅝" X 2" HEX HEAD BOLT	8
15	⅝" X 8" HEX HEAD BOLT	4
16	⅝" X 10" HEX HEAD BOLT	2
17	⅝" FLAT WASHER	18



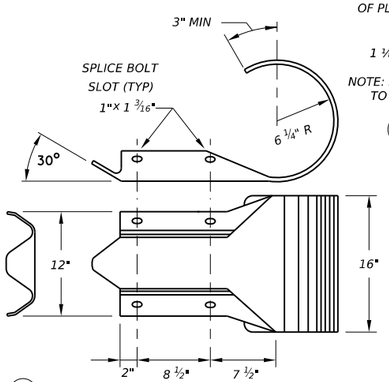
4 TERMINAL RAIL ELEMENT FOR DAT



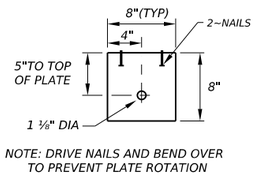
3 CHANNEL STRUT
C3 X 5 X 80",GRADE A36



8 GUARDRAIL ANCHOR BRACKET

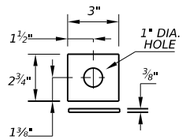


9 W-BEAM END SECTION (ROUNDED) (12 GA.)

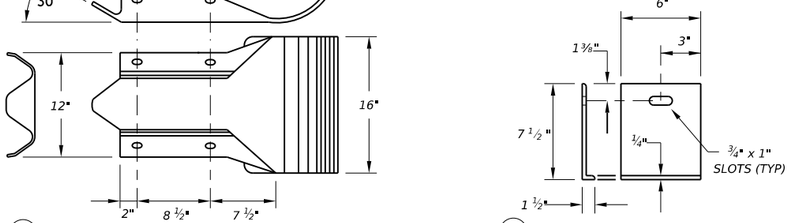


NOTE: DRIVE NAILS AND BEND OVER TO PREVENT PLATE ROTATION

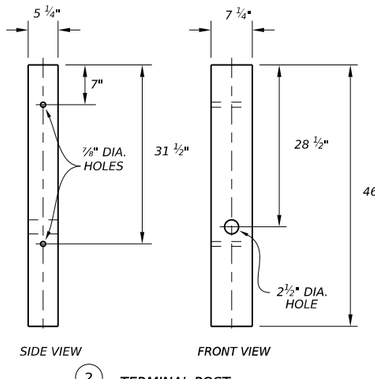
6 BEARING PLATE
8"x 8"x ⅝" ℄



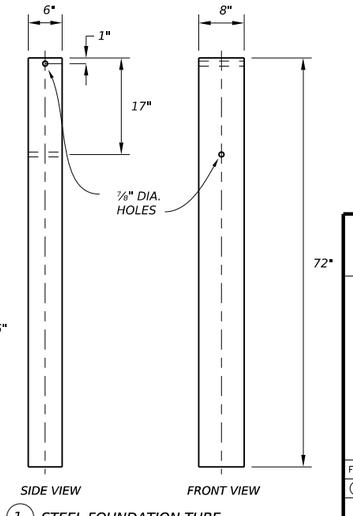
END PLATE



5 SHELF ANGLE BRACKET



2 TERMINAL POST
7 ¼"x 5 ¼"x 46" WOOD POST



1 STEEL FOUNDATION TUBE
6"x 8"x ⅛" x 72" STEEL TUBE

Texas Department of Transportation

Design Division Standard

METAL BEAM GUARD FENCE (DOWNSTREAM ANCHOR TERMINAL) TL-3 MASH COMPLIANT

GF(31)DAT-19

FILE: gf31dat19.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL/AG
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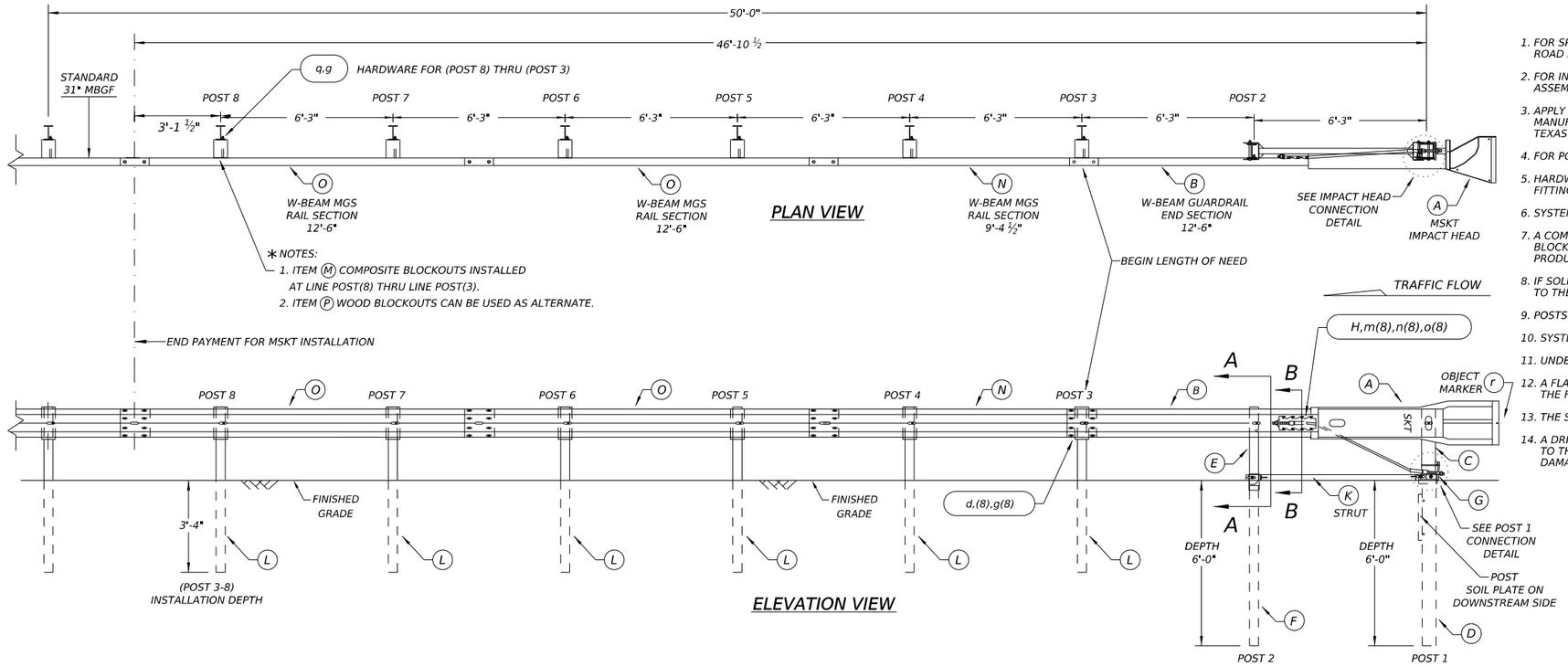


NOTE: SEE (GENERAL NOTE 14) FOR DRIVING CAP INFORMATION.

GENERAL NOTES

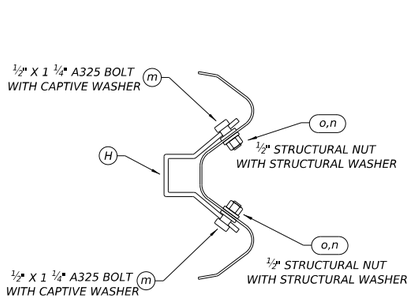
1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432)263-2435. 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
2. FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE; MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION~062717).
3. APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
5. HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
6. SYSTEM SHOWN USING STEEL WIDE FLANGE POSTS WITH COMPOSITE BLOCKOUTS.
7. A COMPOSITE MATERIAL BLOCKOUTS THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
8. IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, & REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
9. POSTS SHALL NOT BE SET IN CONCRETE.
10. SYSTEM MUST BE ATTACHED TO STANDARD 31" MBGF.
11. UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
12. A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCROACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
13. THE SYSTEM IS SHOWN WITH TWO 12'-6" MBGF PANELS, ONE 25'-0" MBGF PANEL IS ALSO ALLOWED IN THEIR PLACE.
14. A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POSTS 3-8 TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST. SPECIAL DRIVING CAP TO BE USED ON LOWER POSTS 1 & 2 TO PREVENT DAMAGE TO THE WELDED PLATES.

ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM NUMBERS
A	1	MSKT IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	SF1303
C	1	POST 1 - TOP (6" X 6" X ⅛" TUBE)	MTPHP1A
D	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
E	1	POST 2 - ASSEMBLY TOP	UHP2A
F	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	GROUND STRUT	MS785
L	6	W6x9 OR W6x8.5 STEEL POST	P621
M	6	COMPOSITE BLOCKOUTS	CBSP-14
N	1	W-BEAM MGS RAIL	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P	6	WOOD BLOCKOUT 6" X 8" X 14"	P675
Q	1	W-BEAM MGS RAIL SECTION (25'-0")	G1209
SMALL HARDWARE			
a	2	5/16" x 1" HEX BOLT (GRD 5)	B5160104A
b	4	5/16" WASHER	W0516
c	2	5/16" HEX NUT	N0516
d	25	⅝" Dia. x 1 ¼" SPLICE BOLT (POST 2)	B580122
e	2	⅝" Dia. x 9" HEX BOLT (GRD A449)	B580904A
f	3	⅝" WASHER	W050
g	33	⅝" Dia. H.G.R NUT	N050
h	1	¾" Dia. x 8 ½" HEX BOLT (GRD A449)	B340854A
j	1	½" Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	½" x 1 ¼" A325 BOLT WITH CAPTIVE WASHER	SB12A
n	8	½" STRUCTURAL NUTS	N012A
o	8	1 1/16" O.D. x 9/16" I.D. STRUCTURAL WASHERS	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	6	⅝" x 10" H.G.R. BOLT	B581002
r	1	OBJECT MARKER 18" X 18"	E3151

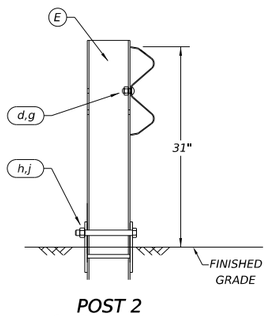
SEE NOTES: ∗

ALTERNATIVE ITEMS NOT SHOWN.
∗ ITEM(P) 8" WOOD-BLOCKOUT
∗∗ ITEM(Q) 25'GUARD FENCE PANEL

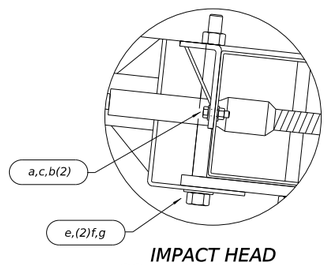
∗∗



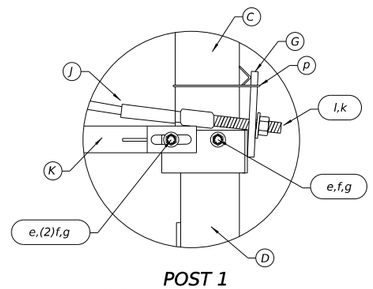
SECTION B-B
ANCHOR BRACKET



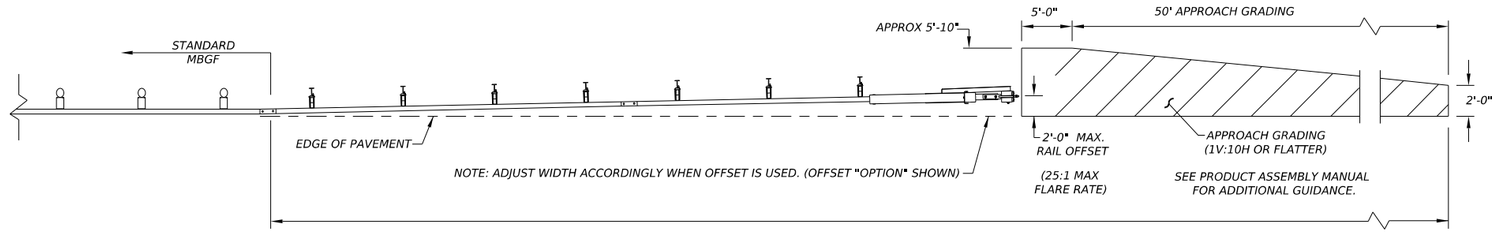
POST 2
SECTION A-A



IMPACT HEAD
CONNECTION DETAIL



POST 1
CONNECTION DETAIL



APPROACH GRADING AT GUARDRAIL END TREATMENTS

NOTE: TXDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE MSKT END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

Texas Department of Transportation

Design Division Standard

SINGLE GUARDRAIL TERMINAL
MSKT-MASH-TL-3
SGT(12S)31-18

FILE: sgt12s3118.dgn	DN:TxDOT	CK:KM	DW:VP	CK:CL	
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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

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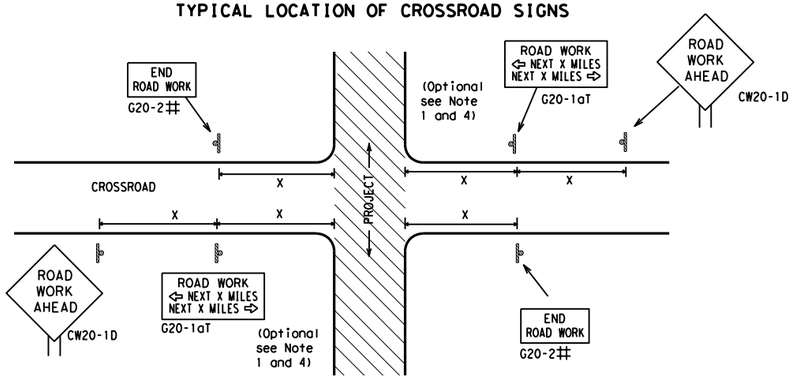
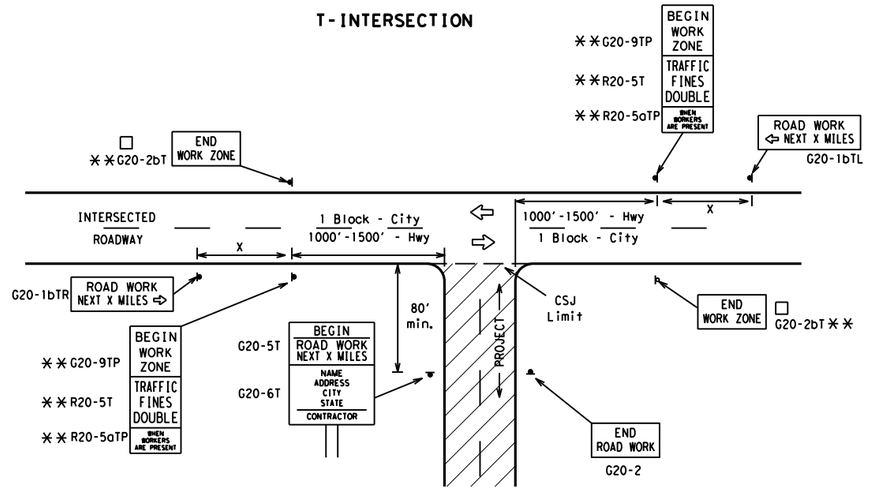
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

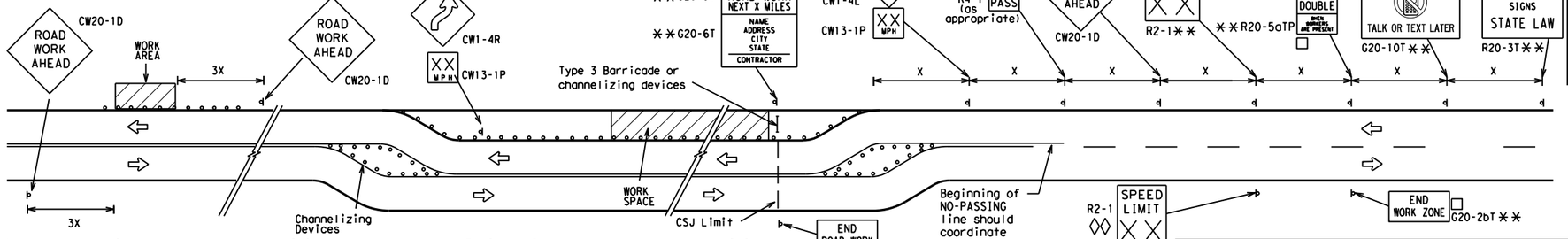
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

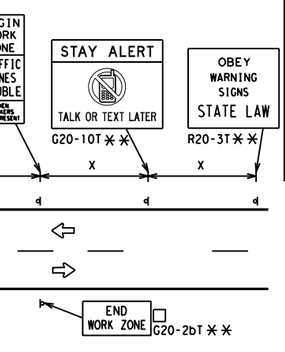
1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

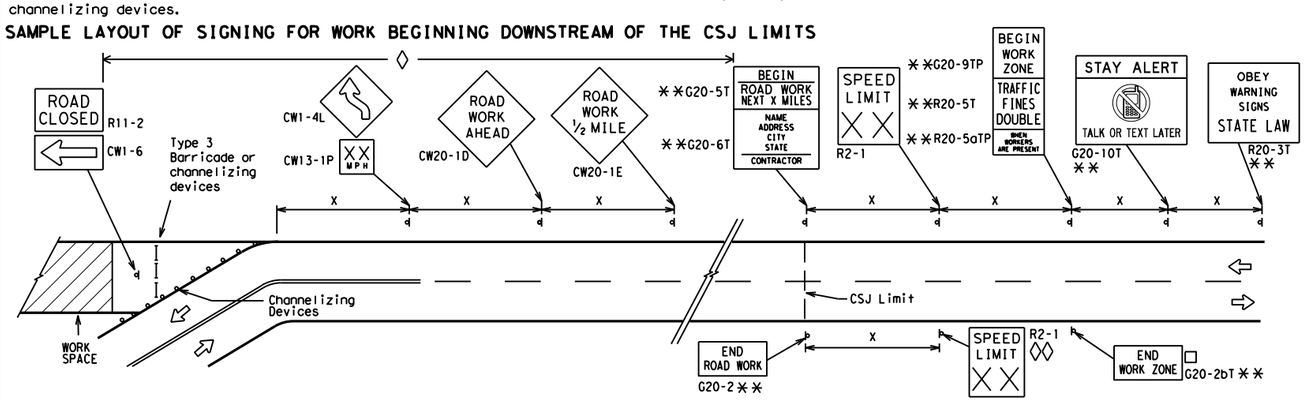


When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

** CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⊢⊣	Type 3 Barricade
○ ○ ○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

SHEET 2 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

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9-07	8-14	DIST	COUNTY		SHEET NO.
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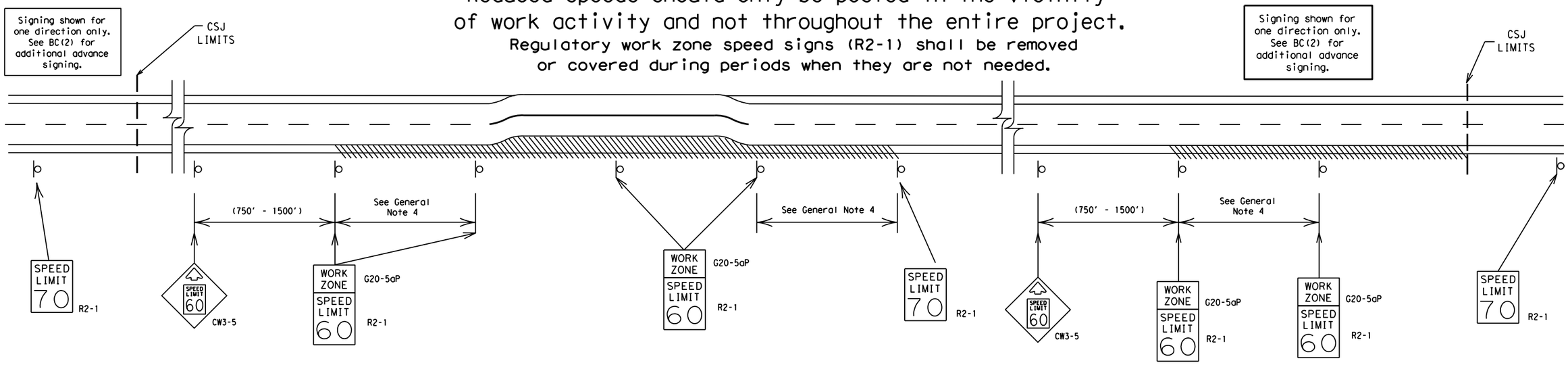
TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

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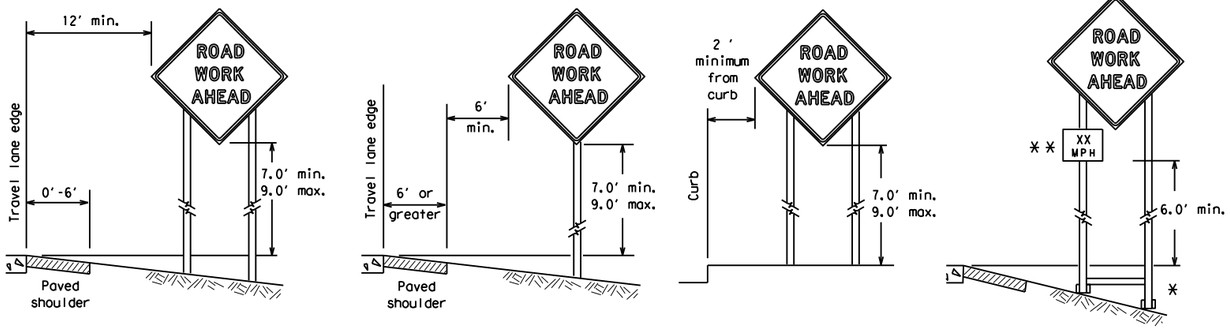
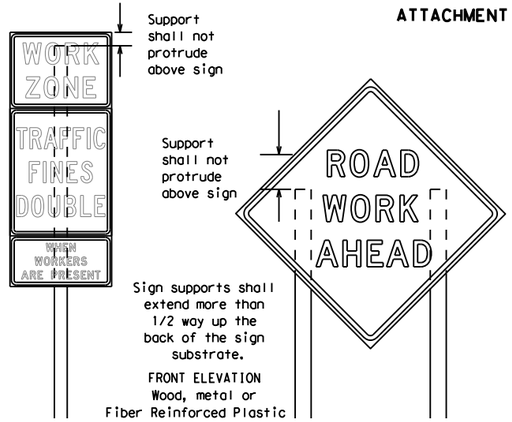
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

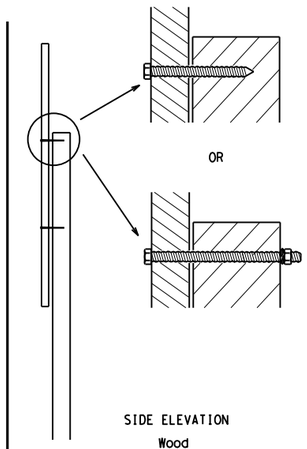


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

* * When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





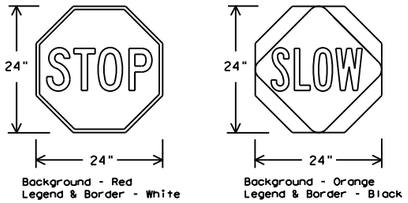
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

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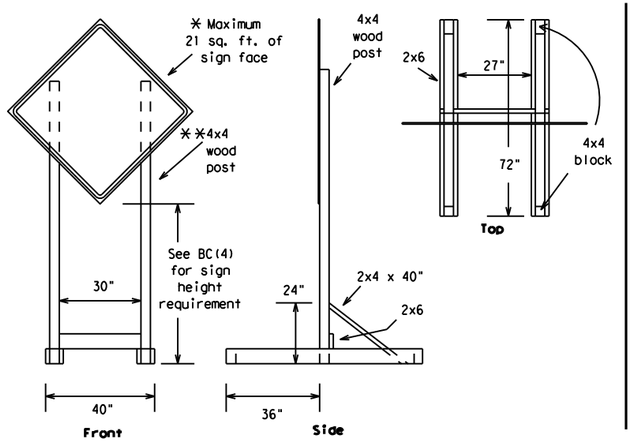
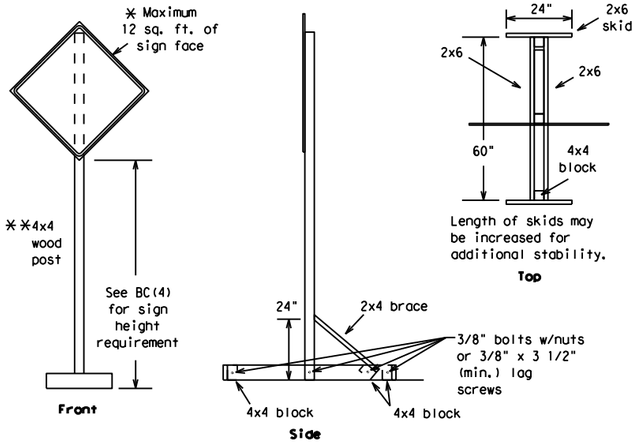
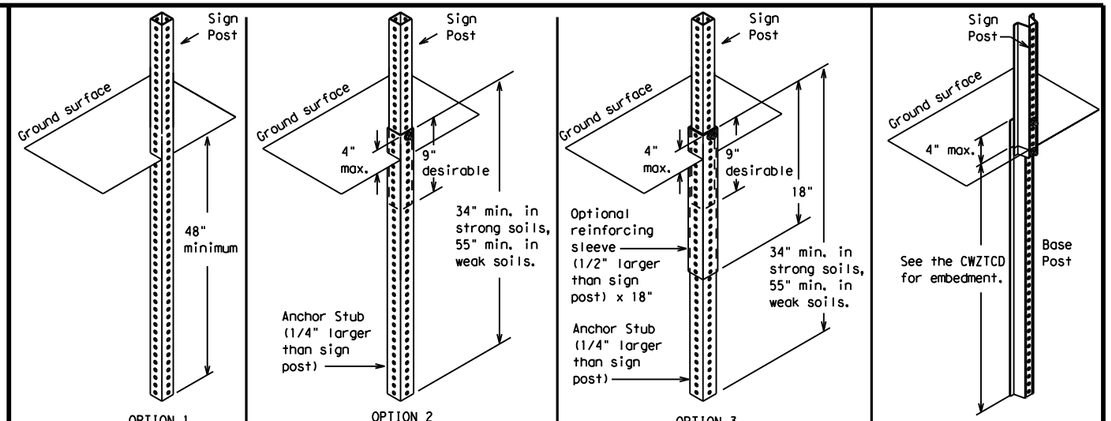




SKID MOUNTED WOOD SIGN SUPPORTS

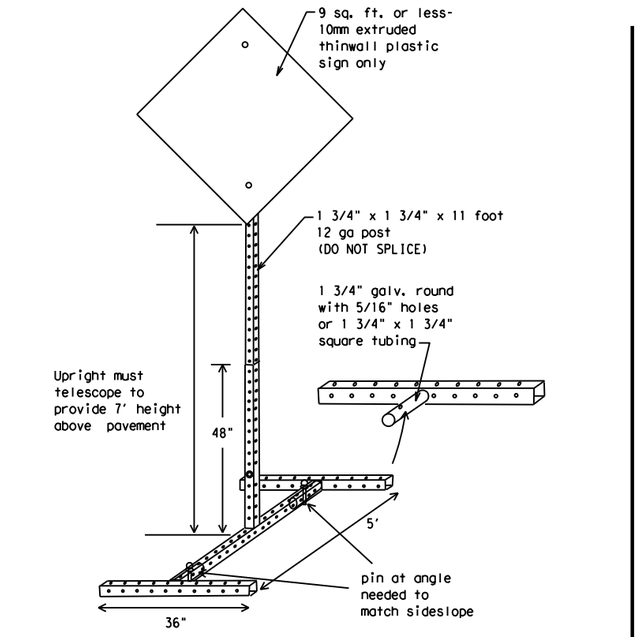
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

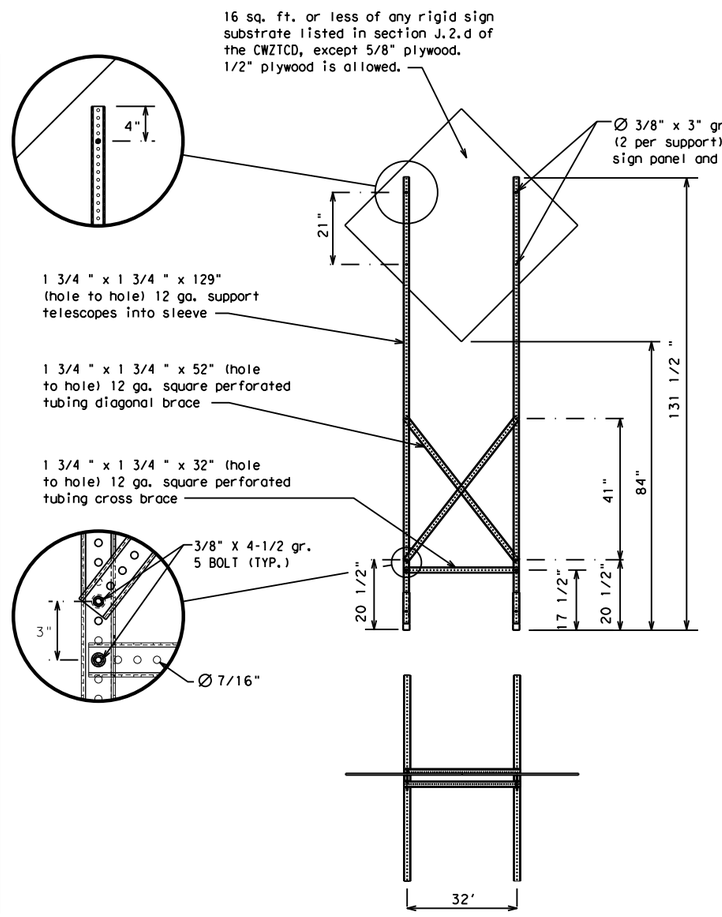


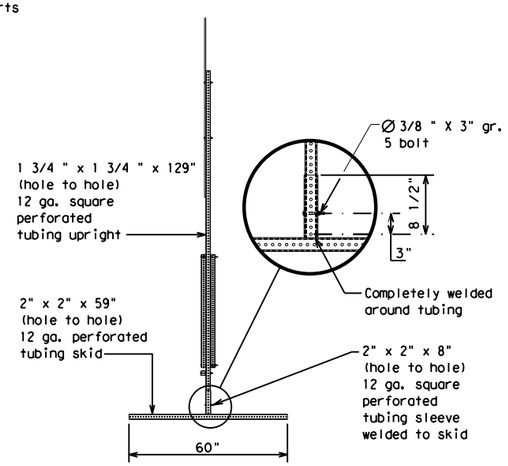
PERFORATED SQUARE METAL TUBING

GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

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Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation * IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

- FREEWAY CLOSED X MILE
- FRONTAGE ROAD CLOSED
- ROAD CLOSED AT SH XXX
- SHOULDER CLOSED XXX FT
- ROAD CLSD AT FM XXXX
- RIGHT LN CLOSED XXX FT
- RIGHT X LANES CLOSED
- RIGHT X LANES OPEN
- CENTER LANE CLOSED
- DAYTIME LANE CLOSURES
- NIGHT LANE CLOSURES
- I-XX SOUTH EXIT CLOSED
- VARIOUS LANES CLOSED
- EXIT XXX CLOSED X MILE
- EXIT CLOSED
- RIGHT LN TO BE CLOSED
- MALL DRIVEWAY CLOSED
- X LANES CLOSED TUE - FRI
- XXXXXXXX BLVD CLOSED

Other Condition List

- ROADWORK XXX FT
- ROAD REPAIRS XXXX FT
- FLAGGER XXXX FT
- LANE NARROWS XXXX FT
- RIGHT LN NARROWS XXXX FT
- TWO-WAY TRAFFIC XX MILE
- MERGING TRAFFIC XXXX FT
- CONST TRAFFIC XXX FT
- LOOSE GRAVEL XXXX FT
- UNEVEN LANES XXXX FT
- DETOUR X MILE
- ROUGH ROAD XXXX FT
- ROADWORK PAST SH XXXX
- ROADWORK NEXT FRI-SUN
- BUMP XXXX FT
- US XXX EXIT X MILES
- TRAFFIC SIGNAL XXXX FT
- LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

- MERGE RIGHT
- FORM X LINES RIGHT
- DETOUR NEXT X EXITS
- USE XXXXX RD EXIT
- USE EXIT XXX
- USE EXIT I-XX NORTH
- STAY ON US XXX SOUTH
- USE I-XX E TO I-XX N
- TRUCKS USE US XXX N
- WATCH FOR TRUCKS
- WATCH FOR TRUCKS
- EXPECT DELAYS
- EXPECT DELAYS
- PREPARE TO STOP
- REDUCE SPEED XXX FT
- END SHOULDER USE
- USE OTHER ROUTES
- WATCH FOR WORKERS
- STAY IN LANE *

Location List

- AT FM XXXX
- BEFORE RAILROAD CROSSING
- NEXT X MILES
- PAST US XXX EXIT
- XXXXXXX TO XXXXXXX
- US XXX TO FM XXXX

Warning List

- SPEED LIMIT XX MPH
- MAXIMUM SPEED XX MPH
- MINIMUM SPEED XX MPH
- ADVISORY SPEED XX MPH
- RIGHT LANE EXIT
- USE CAUTION
- DRIVE SAFELY
- DRIVE WITH CARE

** Advance Notice List

- TUE-FRI XX AM- X PM
- APR XX-XX X PM-X AM
- BEGINS MONDAY
- BEGINS MAY XX
- MAY X-X XX PM - XX AM
- NEXT FRI-SUN
- XX AM TO XX PM
- NEXT TUE AUG XX
- TONIGHT XX PM- XX AM

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

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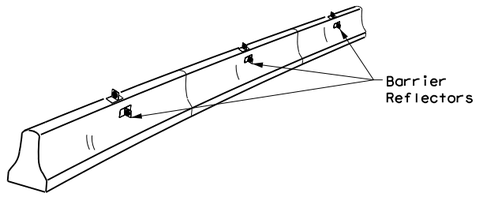
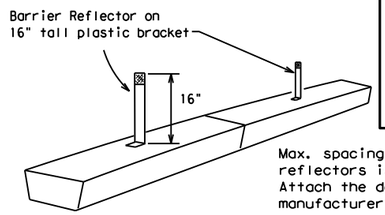
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



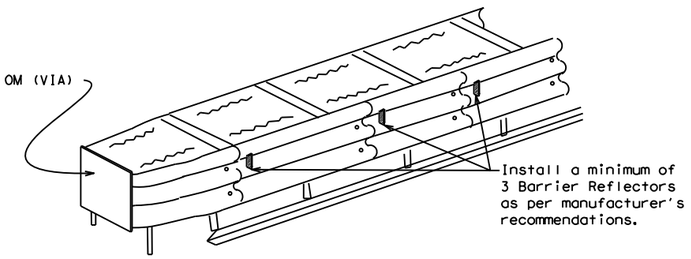
CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.



Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB)



DELINEATION OF END TREATMENTS

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

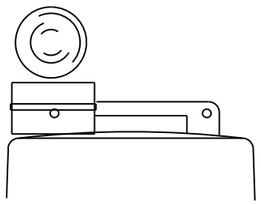
LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the apppropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

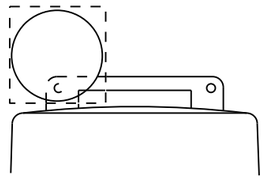
WARNING LIGHTS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

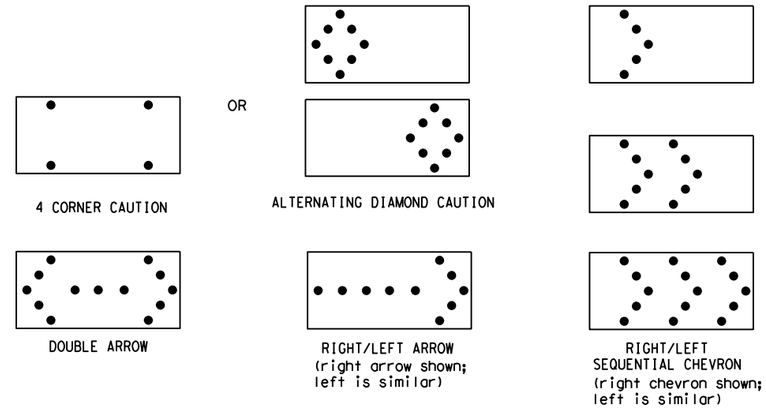
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

SHEET 7 OF 12

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

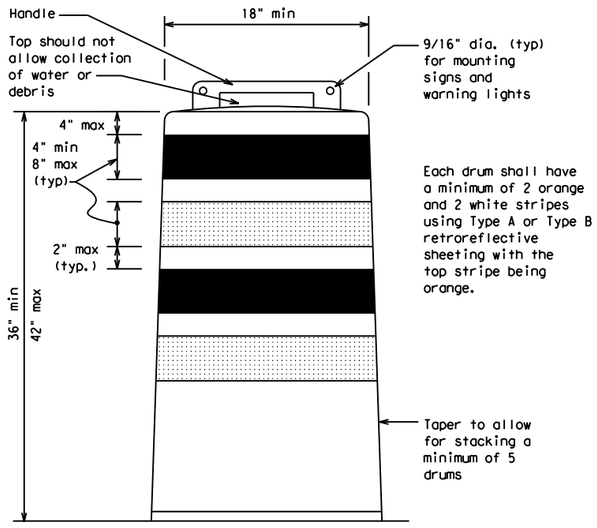
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

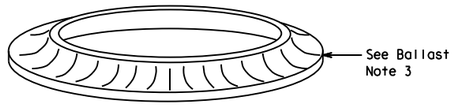
RETROREFLECTIVE SHEETING

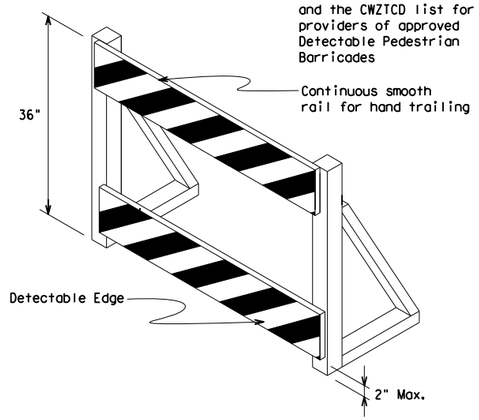
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

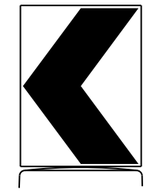




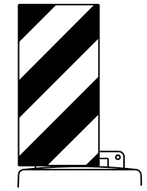


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

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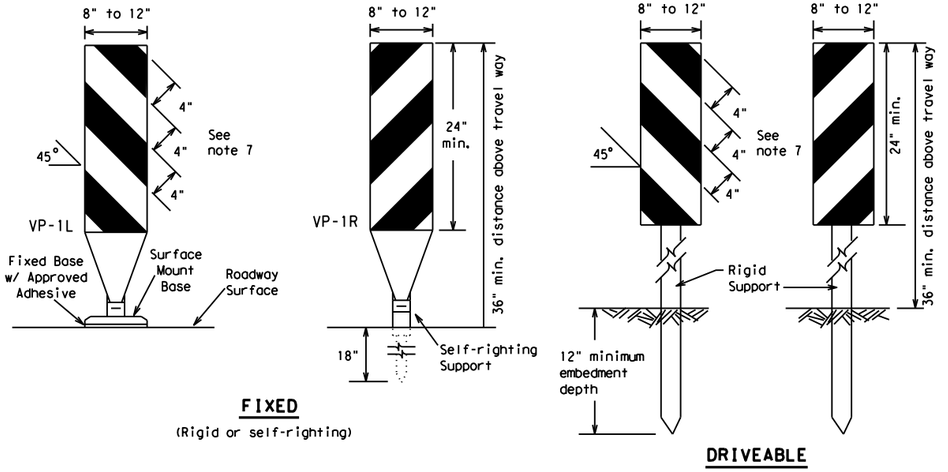
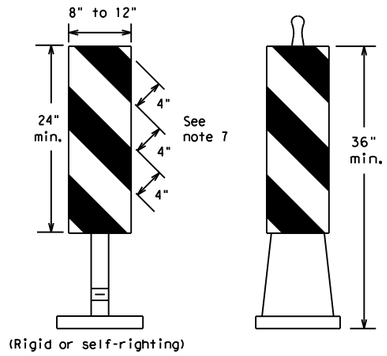


FIXED
(Rigid or self-righting)

DRIVEABLE

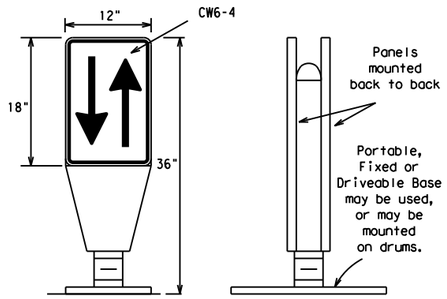


(Rigid or self-righting)

PORTABLE

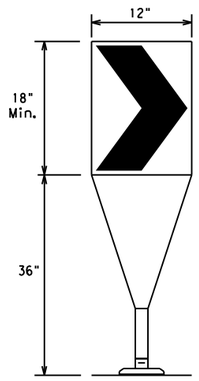
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



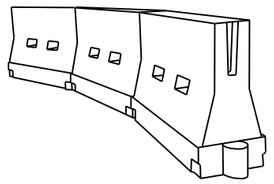
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

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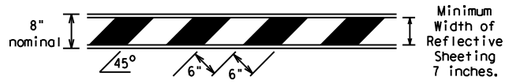
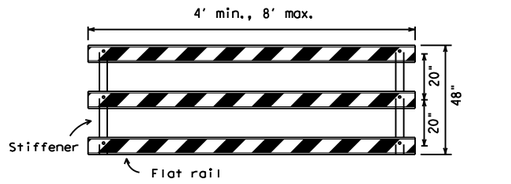
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



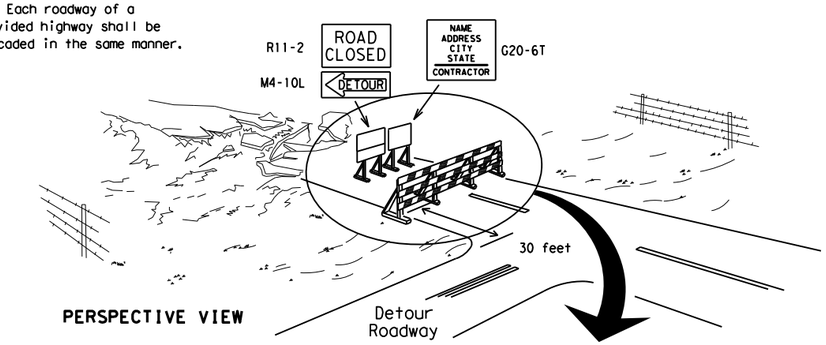
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

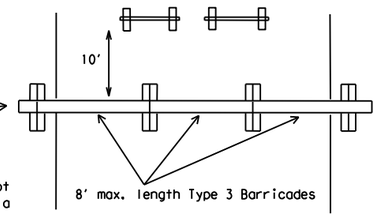
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

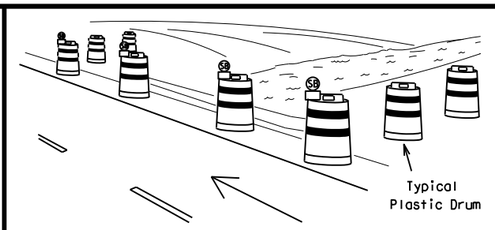
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

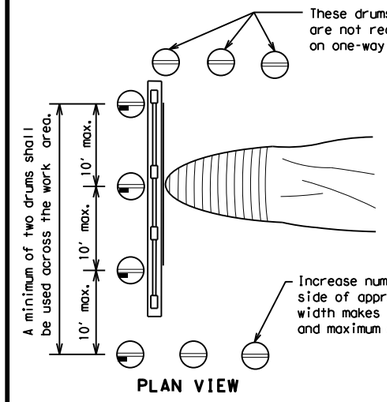
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

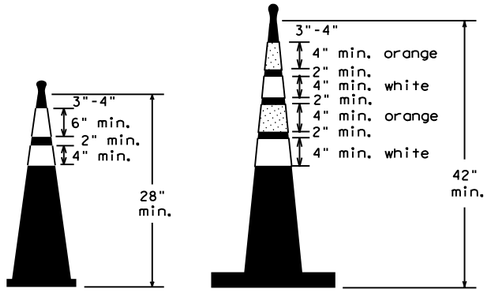
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

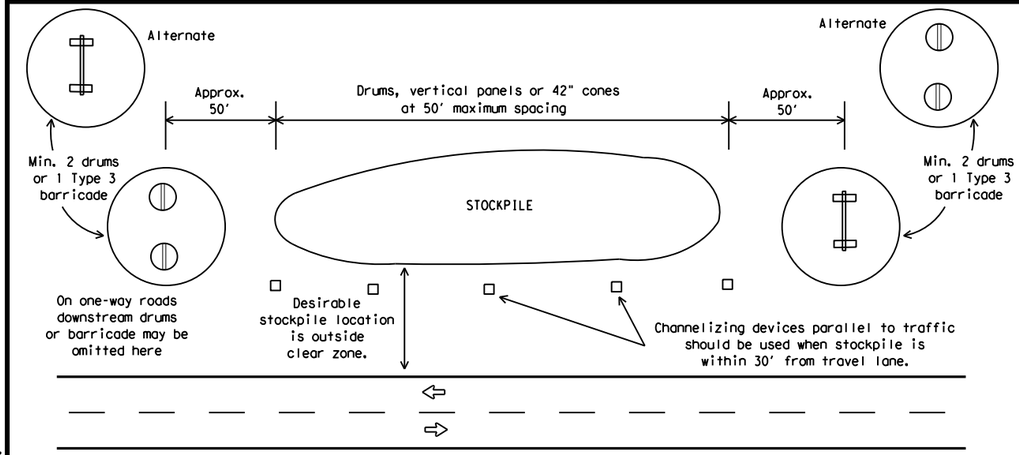
PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



28" Cones shall have a minimum weight of 9 1/2 lbs.
42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

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Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

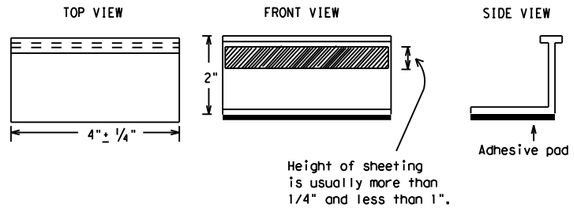
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

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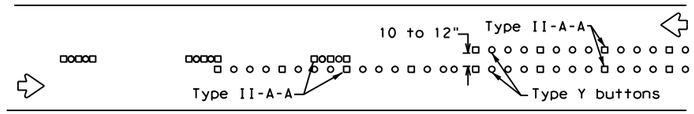
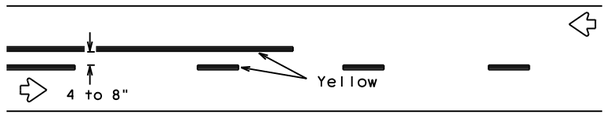
PAVEMENT MARKING PATTERNS

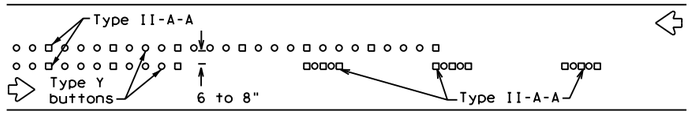
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



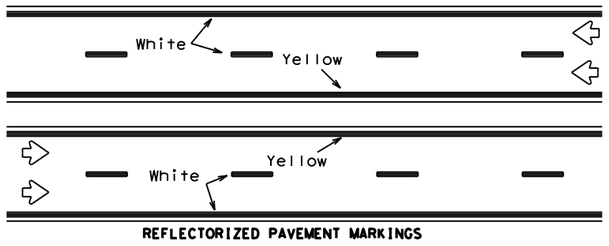
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



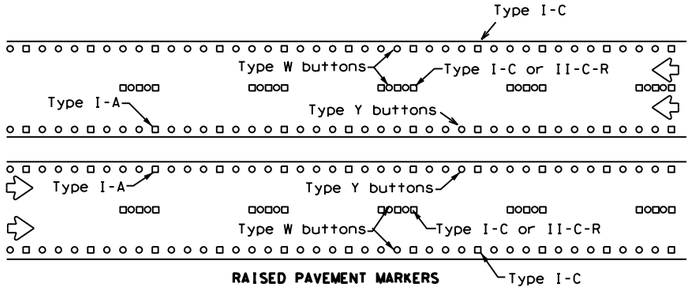
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



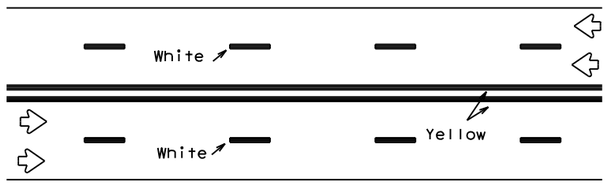
REFLECTORIZED PAVEMENT MARKINGS



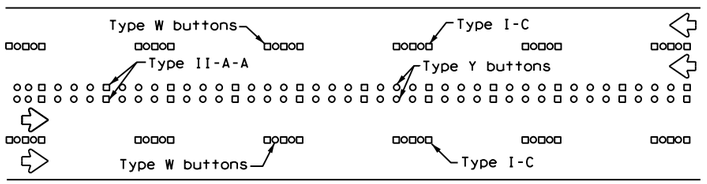
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



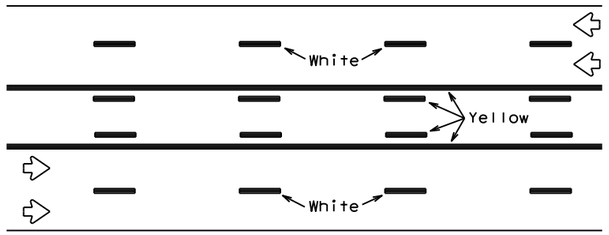
REFLECTORIZED PAVEMENT MARKINGS



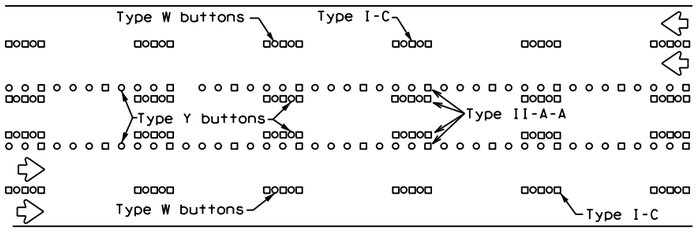
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

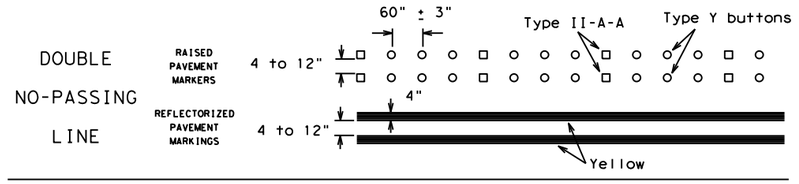
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

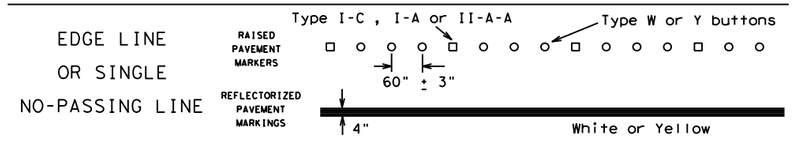
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

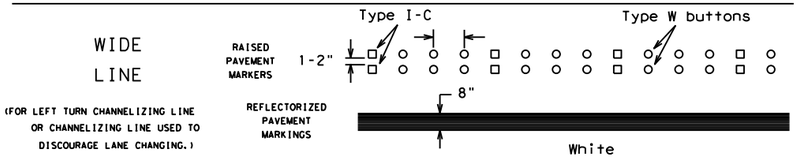


EDGE LINE OR SINGLE NO-PASSING LINE



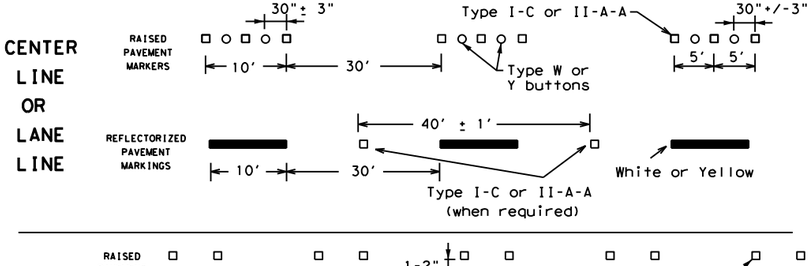
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

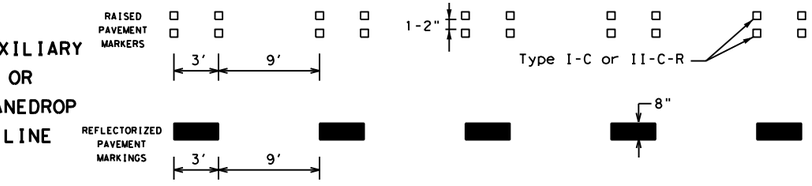


BROKEN LINES

CENTER LINE OR LANE LINE

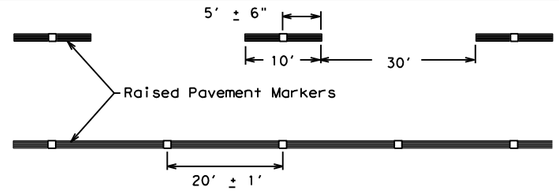


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

SHEET 12 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

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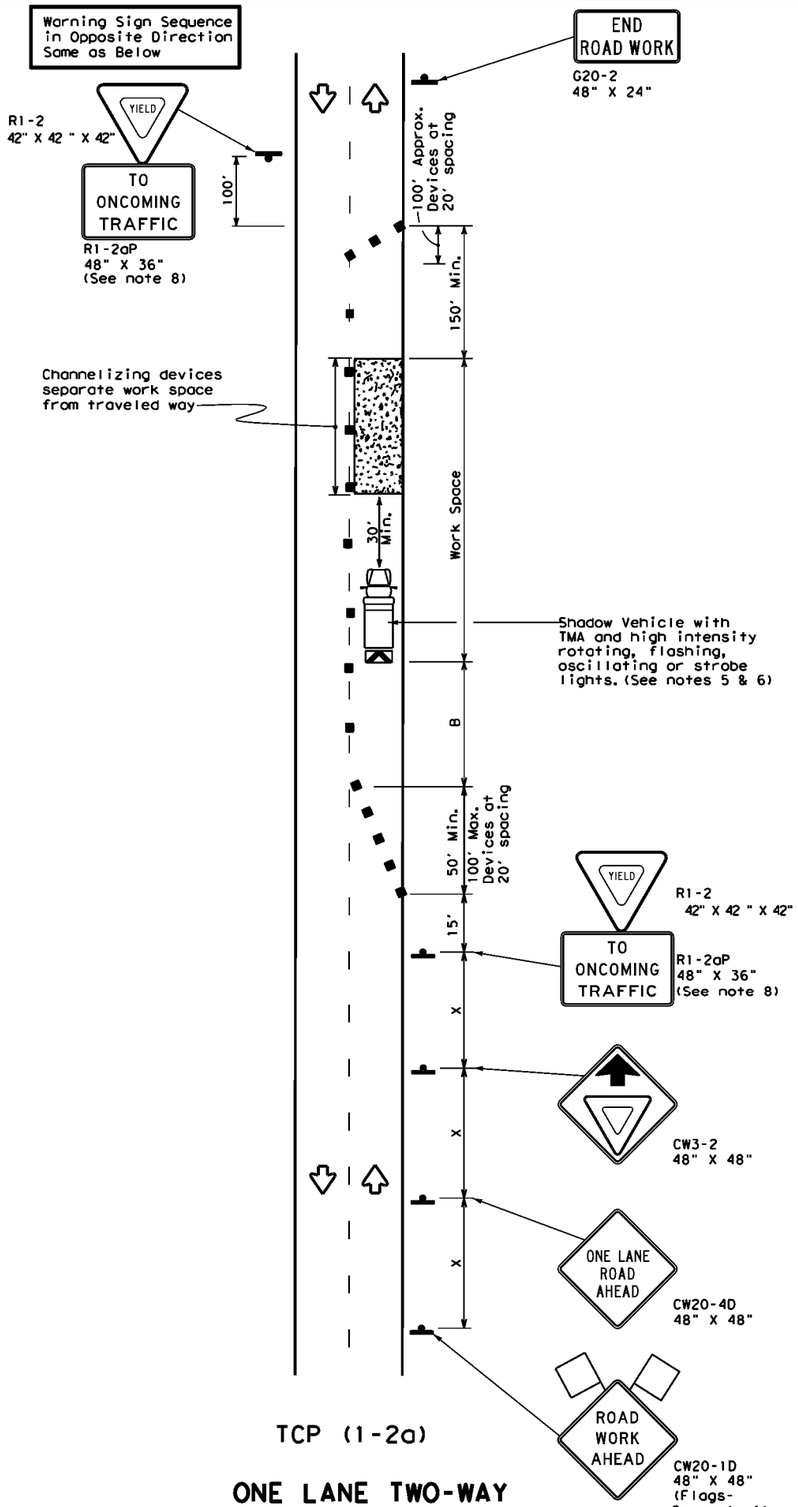
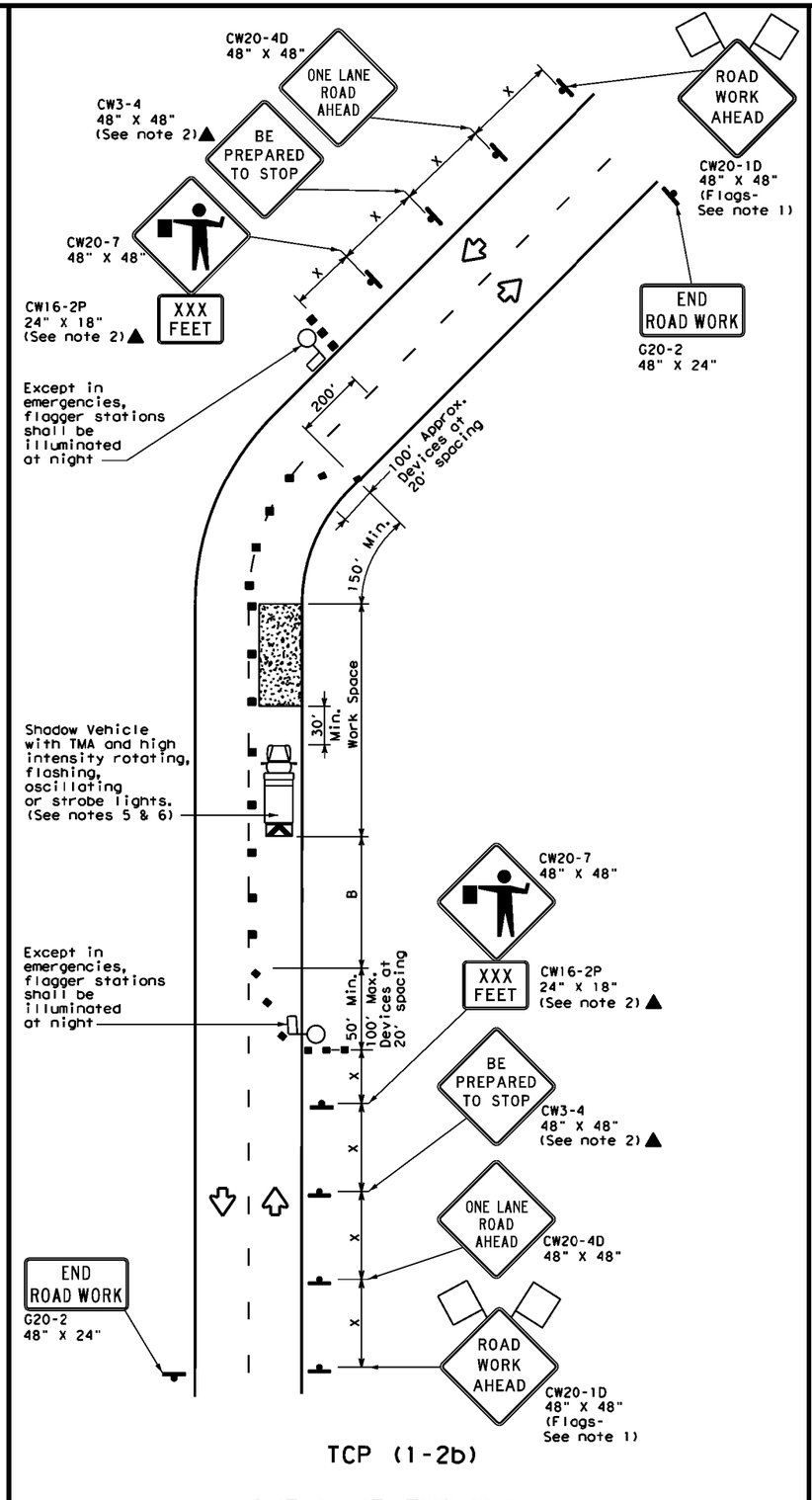


TCP (1-2a)

ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(1-2)-18

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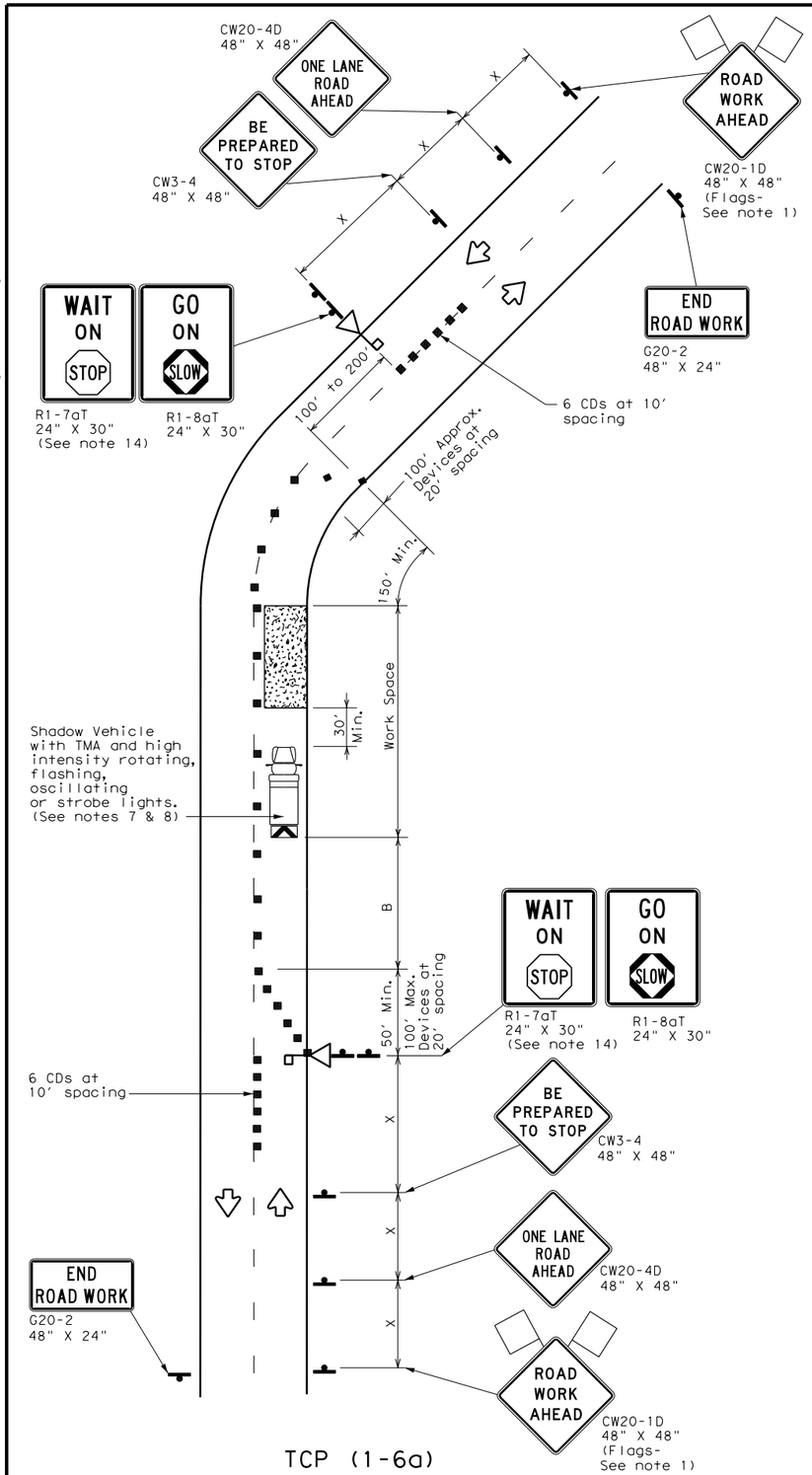
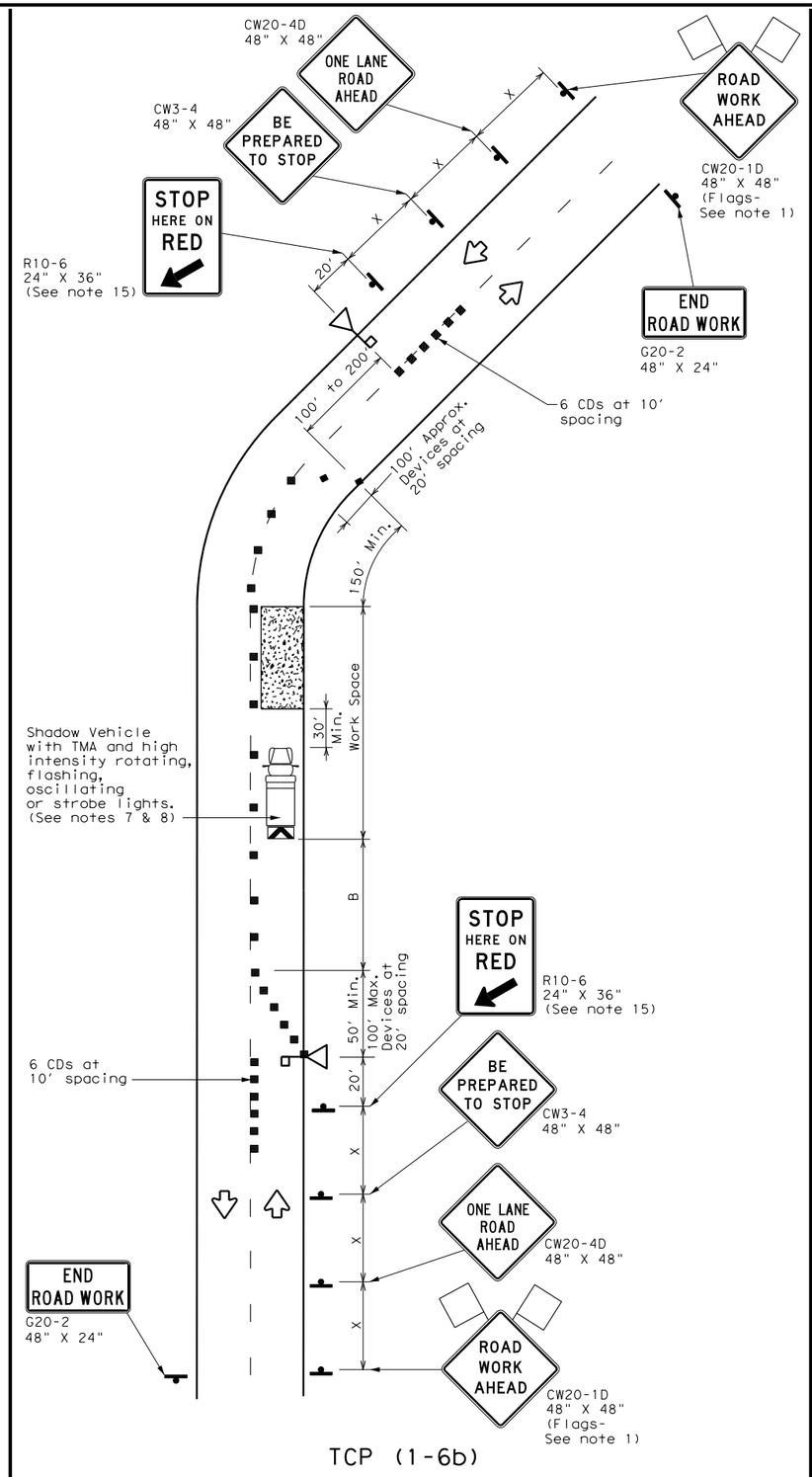


TCP (1-6a)

ONE LANE TWO-WAY CONTROL WITH STOP/SLOW AFADs



TCP (1-6b)

ONE LANE TWO-WAY CONTROL WITH RED/YELLOW LENS AFADs

LEGEND			
	Type 3 Barricade		Channelizing Devices (CDs)
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Automated Flagger Assistance Device (AFAD)	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. AFADs shall only be used in situations where there is one lane of approaching traffic in the direction to be controlled.
3. Adequate stopping sight distance must be provided to each AFAD location for approaching traffic. (See table above).
4. Each AFAD shall be operated by a qualified/certified flagger. Flaggers operating AFADs shall not leave them unattended while they are in use.
5. One flagger may operate two AFADs only when the flagger has an unobstructed view of both AFADs and of the approaching traffic in both directions.
6. When pilot cars are used, a flagger controlling traffic shall be located on each approach. AFADs shall not be operated by the pilot car operator.
7. All AFADs shall be equipped with gate arms with an orange or fluorescent red-orange flag attached to the end of the gate arm. The flag shall be a minimum of 16" square.
8. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
9. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
10. Flaggers should use two-way radios or other methods of communication to control traffic.
11. Length of work space should be based on the ability of flaggers to communicate.
12. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the AFAD.
13. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
14. The R1-7aT "WAIT ON STOP" sign and the R1-8aT "GO ON SLOW" sign shall be installed at the AFAD location on separate supports or they may be fabricated as one 48" x 30" sign. They shall not obscure the face of the STOP/SLOW AFAD.
15. The R10-6 "STOP HERE ON RED" arrow sign shall be offset so as not to obscure the lenses of the AFAD.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
AUTOMATED FLAGGER ASSISTANCE DEVICES (AFADS)

TCP(1-6)-18

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