ADDENDUM NO. 4

FOR

INTERSECTION CAPACITY IMPROVEMENTS (FY 23)
26-53ITB

ISSUED

April 28, 2026

CITY OF MCKINNEY CONTACT

Erika Roberts
Contracts & Construction Supervisor
401 E. Virginia Street
McKinney, Texas 75069
eroberts1@mckinneytexas.org

The City of McKinney exclusively uses Bonfire for the notification and dissemination of all solicitations. The receipt of solicitations through any other means may result in your receipt of incomplete specifications and/or addendums which could ultimately render your bid/proposal non-compliant. The City of McKinney accepts no responsibility for the receipt and/or notification of solicitations through any other means.

RECEIPT OF ADDENDUM NO. 4 MUST BE ACKNOWLEDGED IN SUBMITTAL

ADDENDUM NO. 4

INTERSECTION CAPACITY IMPROVEMENTS (FY 23)
26-53ITB

This Addendum is hereby made a part of the Invitation to Bid documents to the same extent as if it were originally included therein. The following clarifications shall be made to the Invitation to Bid and shall become a part of, and attached to, the Invitation to Bid documents.

Failure to acknowledge the addendum may result in your submission being considered non-responsive.

Modifications to Bid Documents

The following has been revised to reflect changes to the existing US 380 Illumination conditions due to TxDOT Project CSJ 0135-02-071 construction being ahead of schedule.

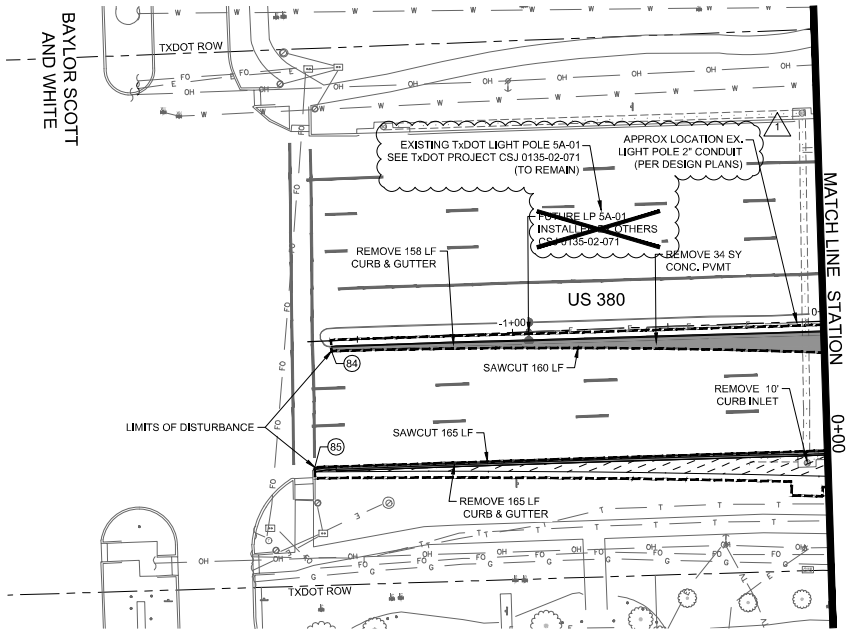
1. The following revised sheets replace the corresponding sheets in the plans: Sheets 47, 48, 49, 51, 52, 53, 54, 55, 58, and 59 revised.

2. Plan sheets: Sheets 179 to 185 added to plans.

3. The revised bid schedule pages (1 to13) to replace the existing project bid schedule. Bid form: Bid Items 226, 307, 403, 712, 713, 714, 716, 717, 718, 719, 720, and 721 updated. Bid items 802, 803, 804 added.

4. Project Manual: Sheet 78 revised.

END OF ADDENDUM NO. 4



Point Table		
Point #	Northing	Easting
84	7132055.9705	2524752.7449
85	7132018.5941	2524747.5100

!!! WARNING !!!

EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

811 Know what's below. Call before you dig.

0 10' 20' 40'

SCALE: 1"= 20' (22" X 34")
SCALE: 1"= 40' (11"X17")

LEGEND

- CONC. PVMT REMOVAL
- CONC. SIDEWALK REMOVAL
- MEDIAN / PARKWAY REMOVAL
- DISTURBED AREA

NOTES:

1. REMOVAL OF EXISTING IRRIGATION MAINS AND ALL OTHER APPURTENANCES RELATED TO IRRIGATION WILL BE SUBSIDIARY. (NO PAY ITEM)
2. CONTRACTOR SHALL SAWCUT AND LEAVE IN PLACE A 10'X10' CONCRETE WEDGE OR FILL 10' X 10' CORNER WITH HOT MIX ASPHALT (HMA) AT IMPROVEMENTS TO RIGHT TURN LANES. MATERIAL WILL REMAIN IN PLACE TILL TIME TO PREP SUBGRADE AND POUR CONCRETE. (NO PAY ITEM).
3. EXISTING INLETS TO BE RELOCATED SHALL BE CAPPED AND USED AS A JUNCTION BOX FOR PROPOSED INLET.

04/27/26

STATE OF TEXAS
HYUNGSUP CHO
142328
LICENSED PROFESSIONAL ENGINEER

FOR REVISION 1 ITEMS ONLY

NO.	DATE	COMMENT
001	04/27/2026	ADDENDUM 004 TXDOT ILLUMINATION REVISIONS

SUBMISSIONS

STATE OF TEXAS
PRIYA Y. MISTRY
123226
LICENSED PROFESSIONAL ENGINEER
01/05/2026

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
REMOVAL PLAN
STA. -1+61 TO STA. 0+00 (EB & WB)

McKINNEY TEXAS Unique by nature.

CobbFendley
TBPELS Firm Registration No. 274
Land Surveying Firm Registration No. 10048700
2801 Network Boulevard, Suite 600
Frisco, Texas 75034
972.335.3214 | fax 972.335.3282 | www.cobbfendley.com

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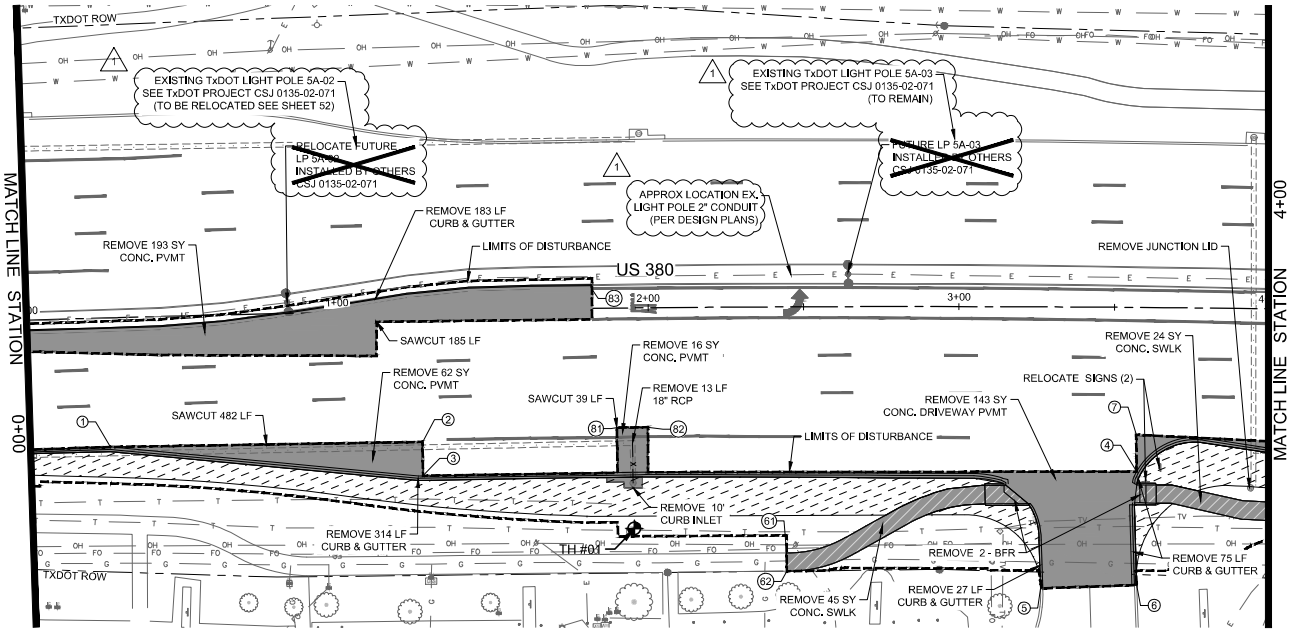
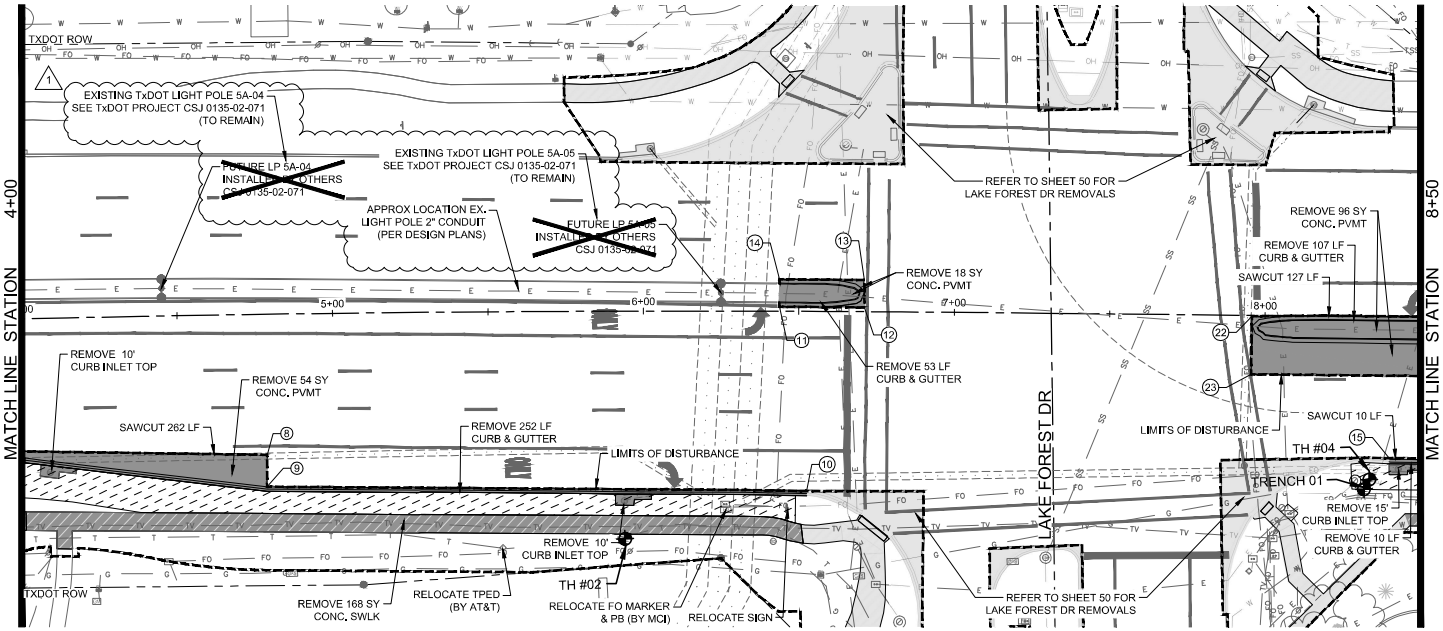
PYM	NLS, AYC
DATE:	JOB NUMBER:
4/24/2026	2312-064-01

SHEET
47





Point Table		
Point #	Northing	Easting
1	7132025.6289	2524938.0247
2	7132027.6793	2525038.4638
3	7132016.8081	2525038.6857
4	7132019.1579	2525268.2054
5	7131981.4937	2525237.4502
6	7131982.6704	2525268.3692
7	7132030.9992	2525268.0094
8	7132025.5441	2525388.4173
9	7132015.2936	2525388.0281
10	7132008.7056	2525561.5408
11	7132067.9974	2525554.5443
12	7132066.9044	2525581.8697
13	7132075.7077	2525582.2137
14	7132076.8033	2525554.8254
15	7132013.2254	2525749.0607
22	7132060.1588	2525706.4104
23	7132041.5336	2525705.5406
61	7131992.4875	2525155.7507
62	7131986.6247	2525155.8439
81	7132032.5703	2525100.9552
82	7132032.7264	2525110.9540
83	7132076.9802	2525092.7573

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4. TOP24"OF EXISTING ILLUMINATION POLE FOUNDATIONS OF RELOCATED POLES SHALL BE REMOVED PER TXDOT ITEMS 610 AND 612. THIS WORK WILL BE A NO EXTRA PAY ITEM.

04/27/26
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01/05/2026

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
REMOVAL PLAN (2)
STA. 0+00 TO STA. 8+50 (EB & WB)

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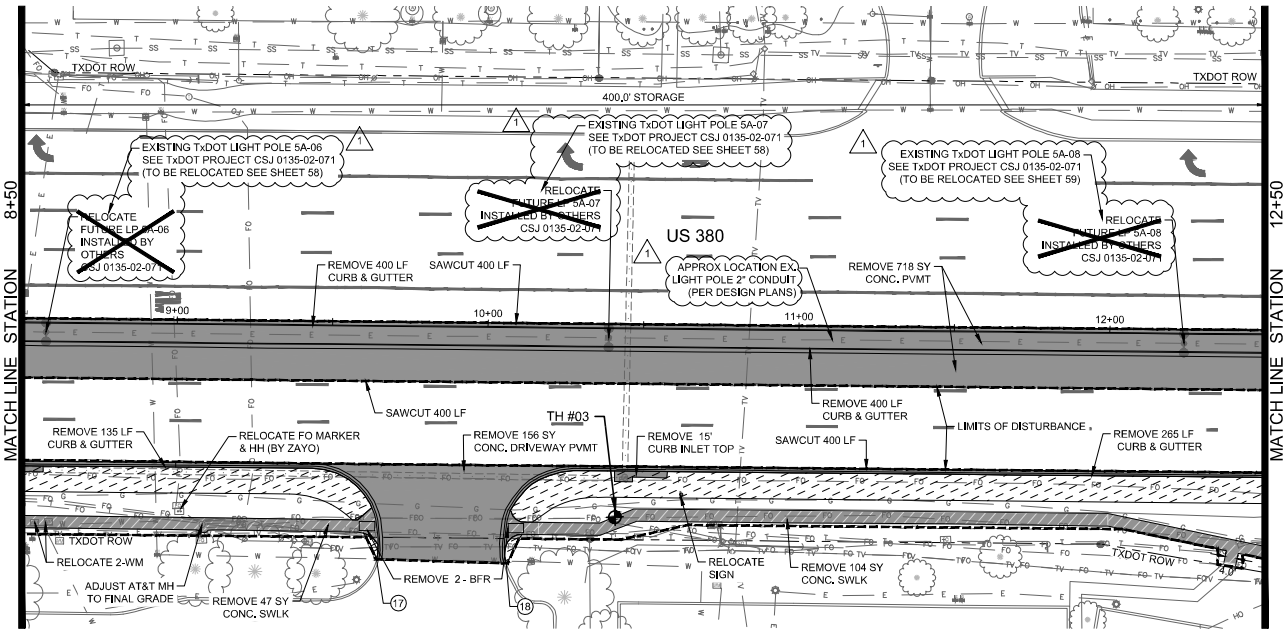
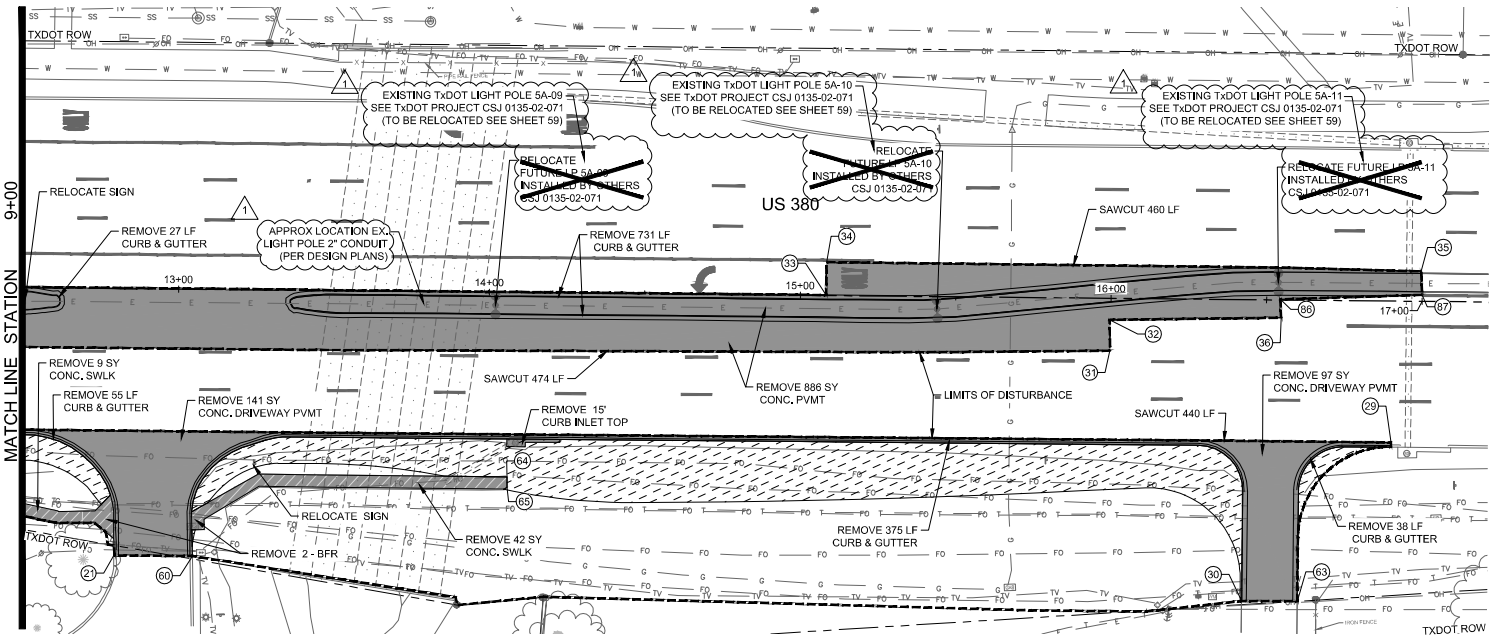
PYM	NLS, AYC
DATE:	JOB NUMBER:
4/24/2026	2312-064-01

SHEET 48





Point Table		
Point #	Northing	Easting
17	7131977.3038	2525872.2646
18	7131974.6859	2525913.9171
21	7131954.9937	2526186.7751
29	7131978.3578	2526598.5042
30	7131928.8651	2526548.9171
31	7132010.6762	2526509.0611
32	7132020.6022	2526509.2864
33	7132031.4143	2526418.3773
34	7132041.9740	2526418.8319
35	7132033.0653	2526609.9145
36	7132019.5478	2526564.4062
63	7131928.1461	2526566.7678
64	7131976.1984	2526313.8993
65	7131972.8925	2526313.8453
86	7132025.4677	2526564.4056
87	7132025.4722	2526609.9788

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04/27/26
STATE OF TEXAS
HYUNGSUP SHIN
142328
LICENSED PROFESSIONAL ENGINEER
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SUBMITTED

STATE OF TEXAS
PRIYA Y. MISTRY
123228
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01/05/2026

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
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REMOVAL PLAN
STA. 8+50 TO END (EB & WB)

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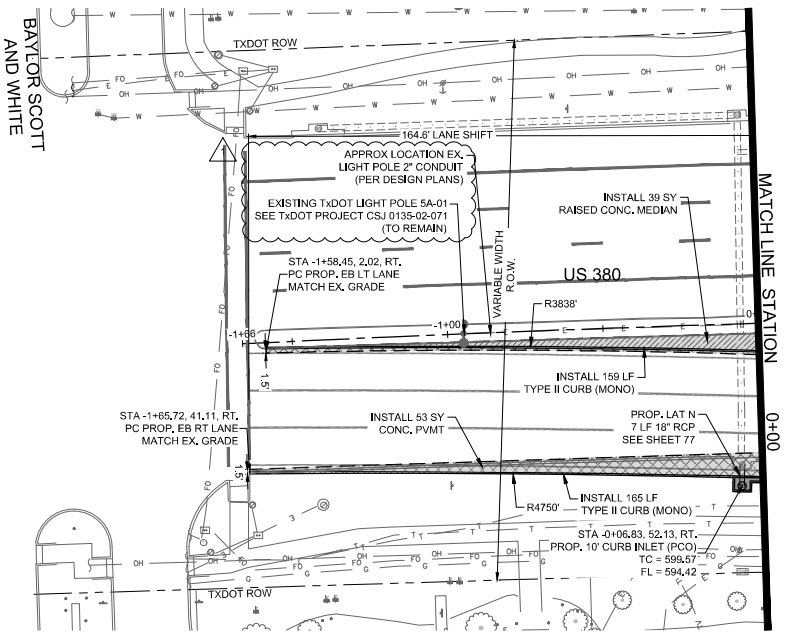
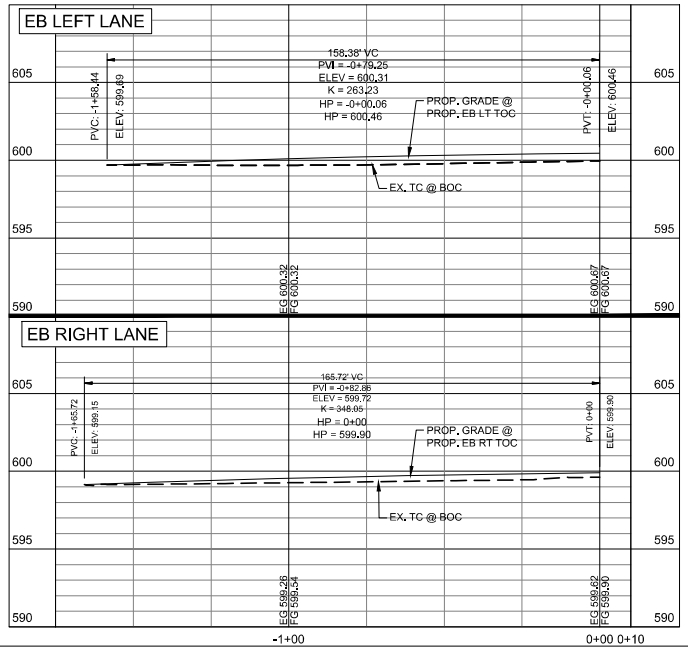
SHEET 49





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SCALE: H 1" = 40' V 1" = 8' (11"X17") H 1" = 20' V 1" = 4' (22"X34")

LEGEND

- PROP. CITY PAVEMENT
- PROP. TXDOT PAVEMENT REFER TO DETAIL ON THIS SHEET
- PROP. SIDEWALK REPLACEMENT
- PROP. BFR
- PROP. DETECTABLE WARNING SURFACE
- PROP. CONC. MEDIAN

NOTES:

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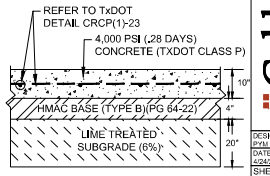
8. EXISTING CONDUIT SHALL BE ABANDONED IN PLACE IN ACCORDANCE TO TXDOT ITEM 612. THIS WORK WILL BE A NO EXTRA PAY ITEM.

1

04/27/26
HYUNSEOK CHO 142328 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

FOR REVISION 1 ITEMS ONLY



TXDOT - CONCRETE PAVEMENT SECTION
N.T.S.

NO.	DATE	COMMENT
001	04/27/2026	ADDENDUM 004 TXDOT ILLUMINATION REVISIONS

SUBMITTED

STATE OF TEXAS PRIYA Y. MISTRY 123228 LICENSED PROFESSIONAL ENGINEER 01/05/2026

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
PAVING PLAN & PROFILE
STA. -1+66 TO STA. 0+00 (EB)

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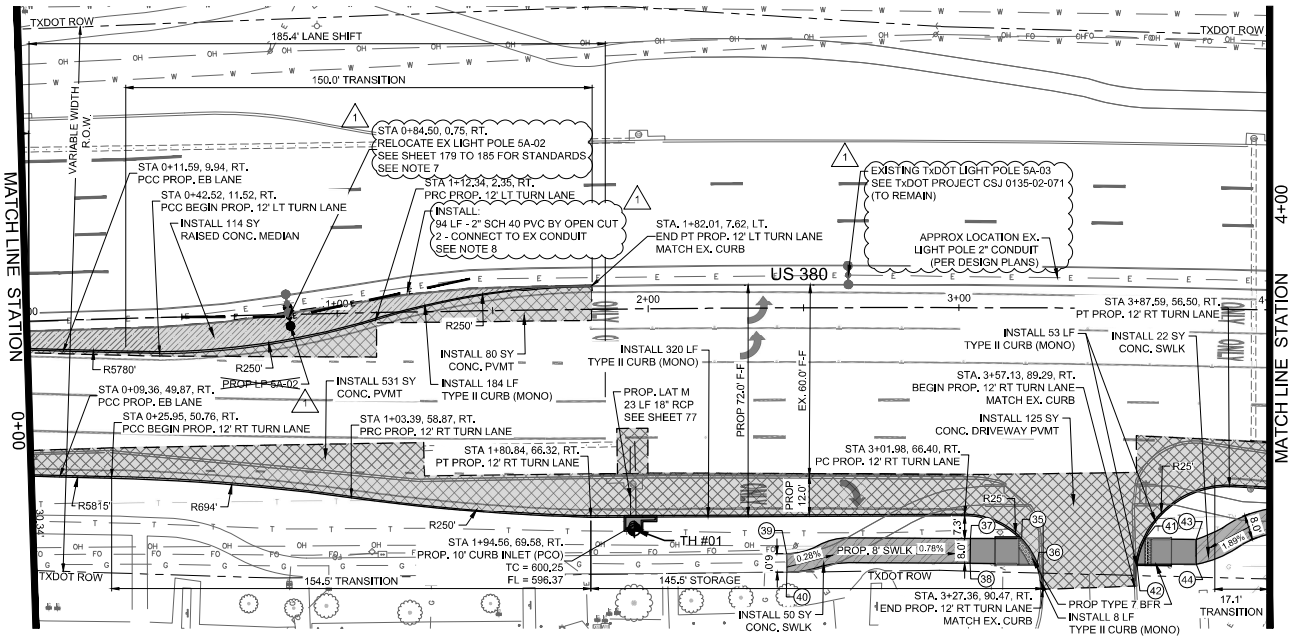
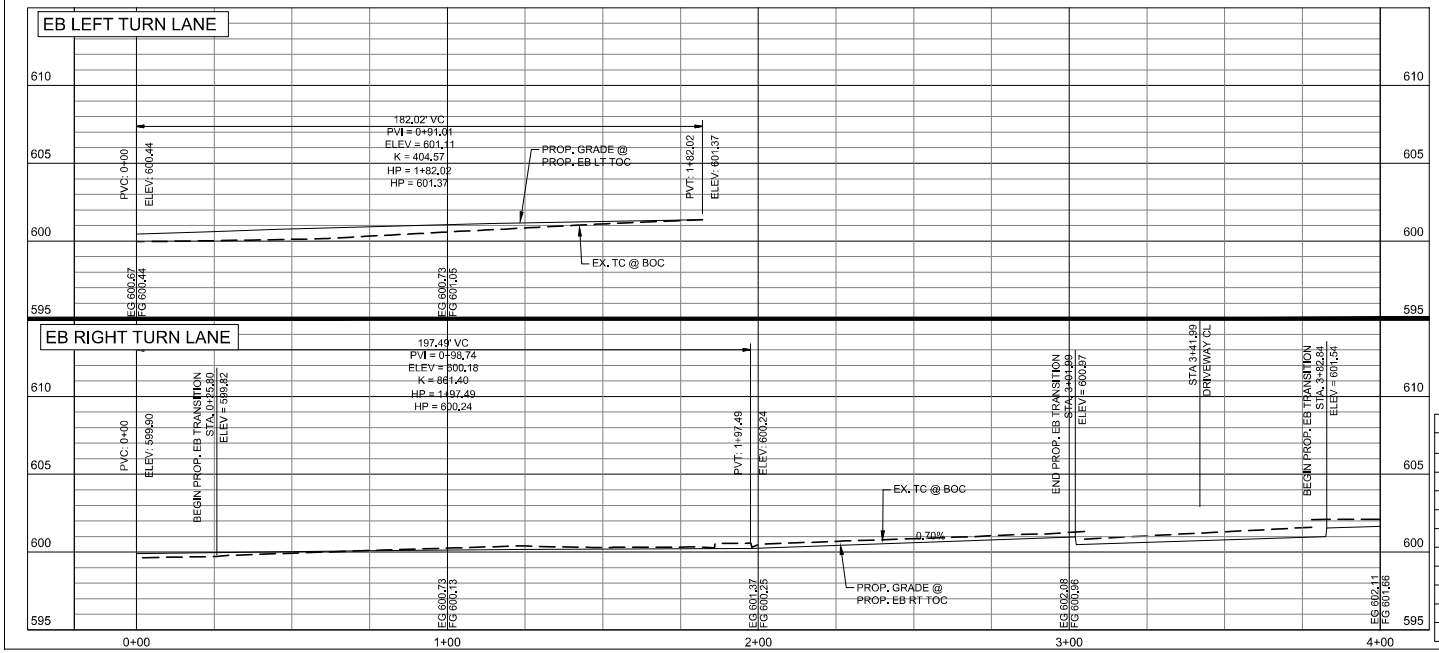
PYM	NLS, AYC
DATE:	JOB NUMBER:
4/24/2026	2312-064-01

SHEET 51





04/27/26
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LEGEND

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- PROP. TXDOT PAVEMENT REFER TO DETAIL ON THIS SHEET
- PROP. SIDEWALK REPLACEMENT
- PROP. BFR
- PROP. DETECTABLE WARNING SURFACE
- PROP. CONC. MEDIAN

NOTES:

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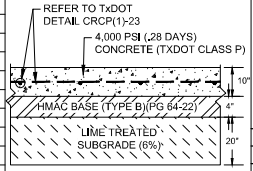
Point Table			
Point #	Northing	Easting	Elevation
35	7131997.7678	2525231.3301	601.44
36	7131989.7712	2525236.4388	601.64
37	7131997.7568	2525214.7876	601.31
38	7131989.7689	2525214.7496	601.47
39	7131992.6291	2525155.7547	601.72
40	7131986.6510	2525155.8436	601.89
41	7131997.7722	2525270.8739	0.00
42	7131989.7108	2525268.4333	0.00
43	7131997.7624	2525287.4797	0.00
44	7131989.7624	2525287.4797	0.00



TXDOT - CONCRETE PAVEMENT SECTION
N.T.S.

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SIGNATURE

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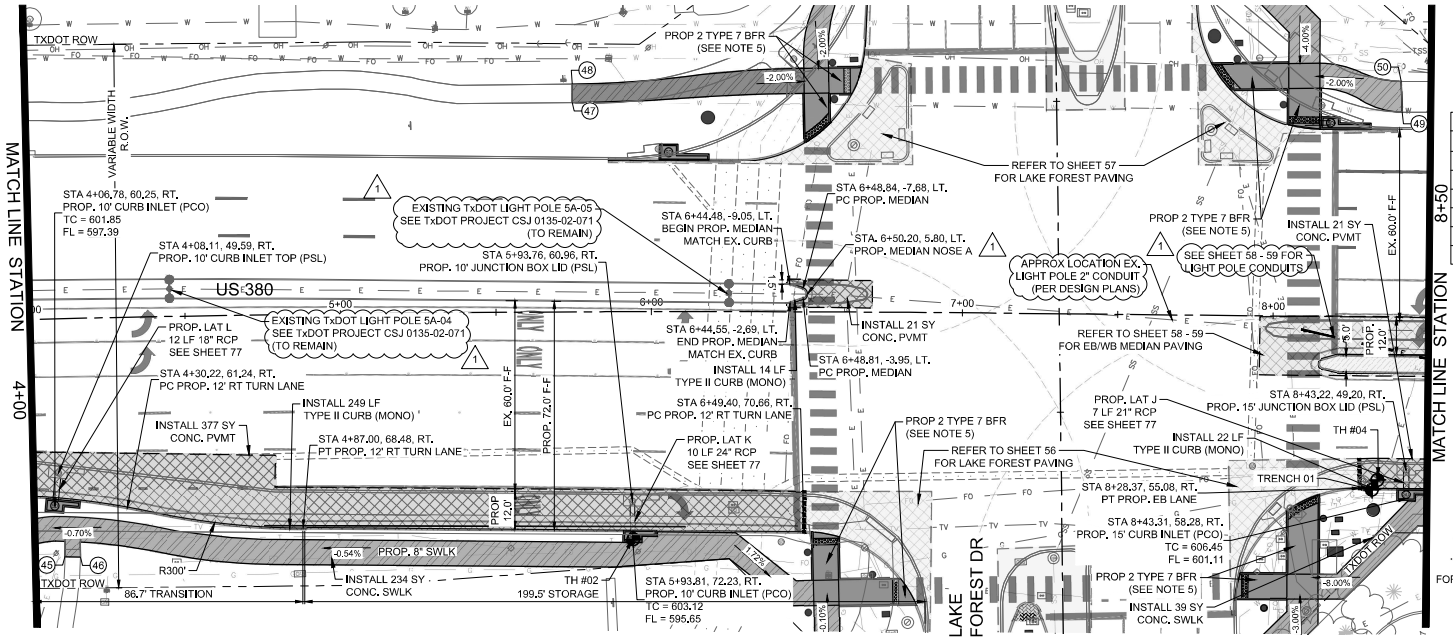
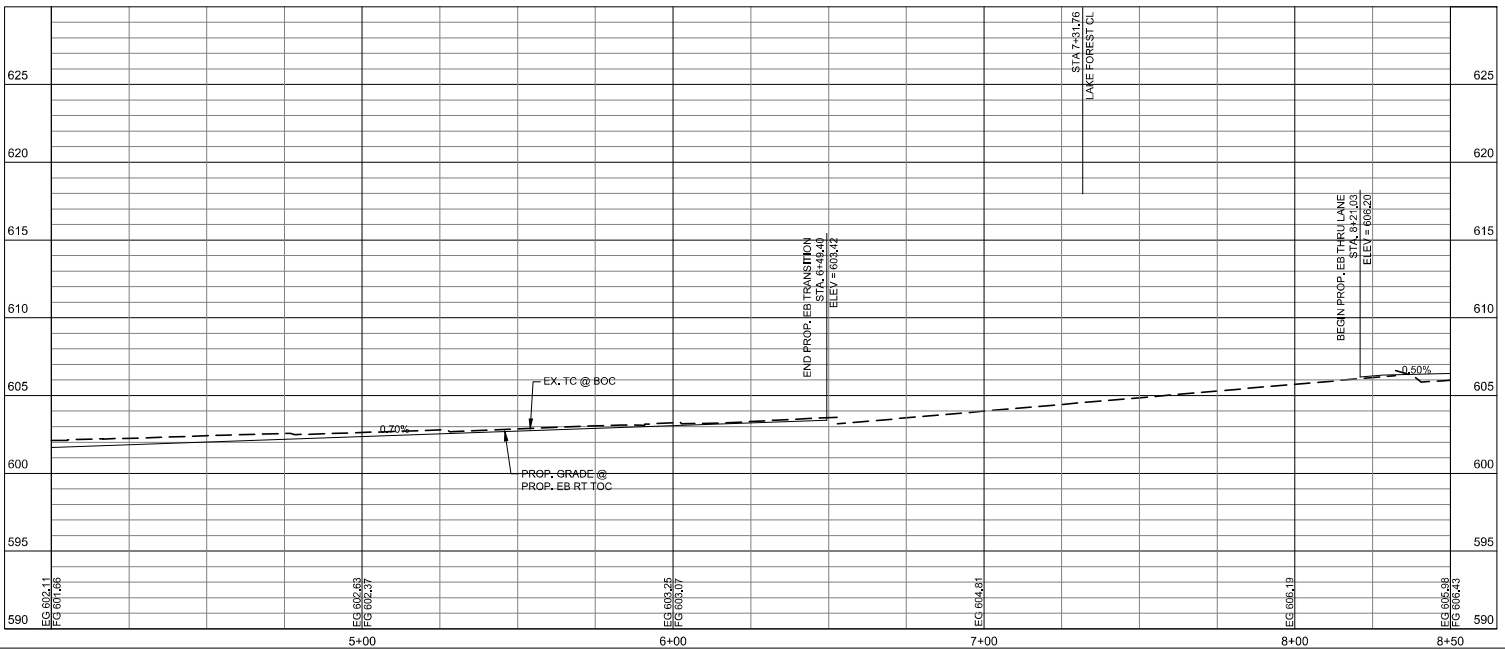
4/24/2026	2312-064-01
SHEET	52





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Point Table			
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45	7131995.0216	2525319.7755	602.76
46	7131994.8191	2525324.7801	602.70
47	7132135.9013	2525487.4133	604.99
48	7132141.8332	2525487.8014	605.07
49	7132124.5016	2525754.1651	606.34
50	7132134.3944	2525754.1763	606.49

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LEGEND

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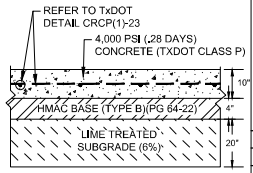

TXDOT - CONCRETE PAVEMENT SECTION
N.T.S.

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
PAVING PLAN & PROFILE
STA. 4+00 TO STA. 8+50 (EB)

McKINNEY TEXAS Unique by nature.

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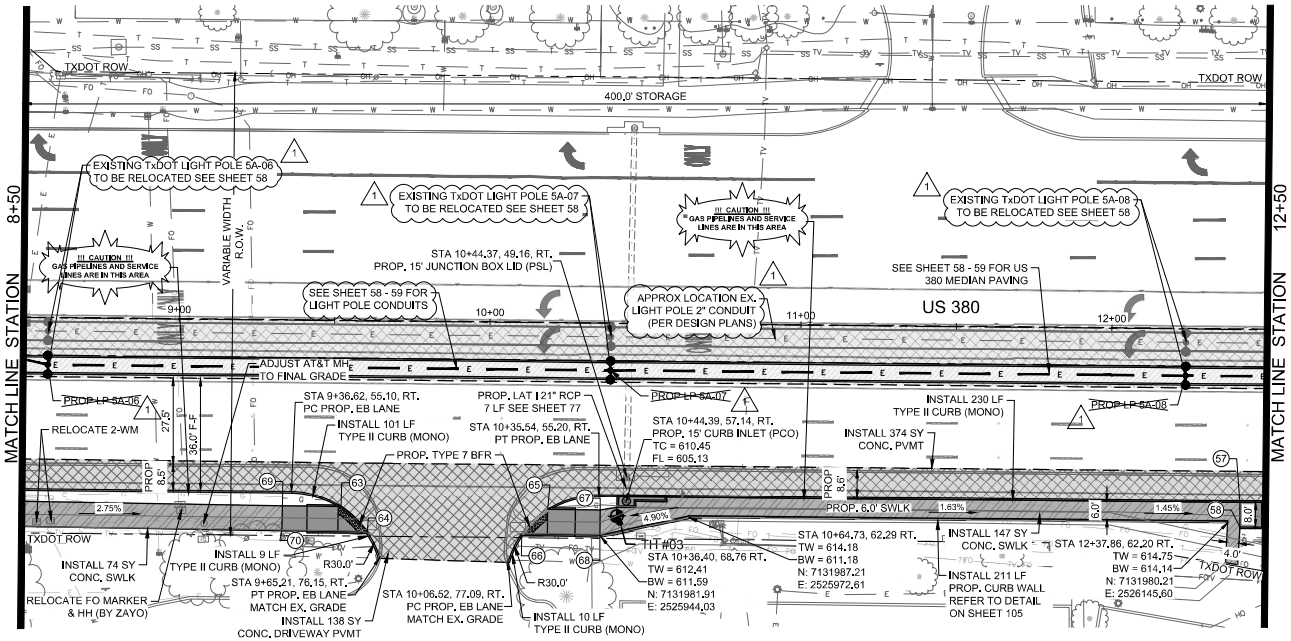
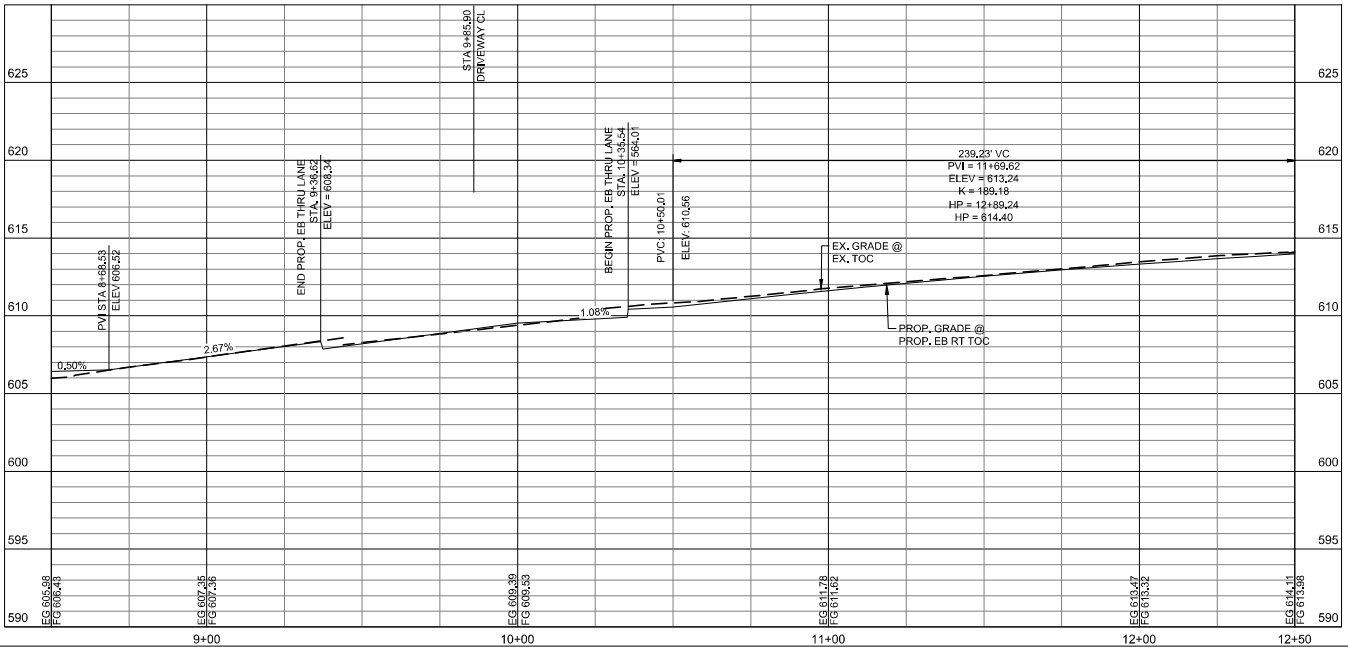
TBPELS Firm Registration No. 274
Land Surveying Firm Registration No. 10048700
2801 Network Boulevard, Suite 600
Frisco, Texas 75034
972.335.3214 | fax 972.335.3282 | www.cobbfendley.com

DESIGN BY:	DRAWN BY:
PYM	NLS, AYC
DATE:	JOB NUMBER:
4/24/2026	2312-064-01

SHEET 53





04/27/26

STATE OF TEXAS
HYUNGSUP CHO
142328
LICENSED
PROFESSIONAL ENGINEER

FOR REVISION 1 ITEMS ONLY

!!! WARNING !!!

EXISTING UTILITIES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

811 Know what's below. Call before you dig.

NO.	DATE	COMMENT
001	04/27/2026	ADDENDUM 004 TXDOT ILLUMINATION REVISIONS

SUBMITTED

0 10' 20' 40'
SCALE: H 1" = 40' V 1" = 8' (11"X17")
H 1" = 20' V 1" = 4' (22"X34")

LEGEND

- PROP. CITY PAVEMENT
- PROP. TXDOT PAVEMENT REFER TO DETAIL ON THIS SHEET
- PROP. SIDEWALK REPLACEMENT
- PROP. BFR
- PROP. DETECTABLE WARNING SURFACE
- PROP. CONC. MEDIAN

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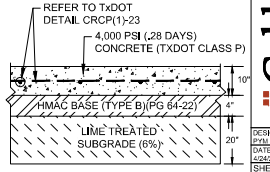
Point Table			
Point #	Northing	Easting	Elevation
57	7131986.7321	2526149.7400	613.92
58	7131978.7374	2526149.4466	614.08
63	7131994.2954	2525860.7666	609.13
64	7131985.8846	2525868.8656	609.36
65	7131991.3442	2525927.1190	610.41
66	7131983.7195	2525918.5419	610.14
67	7131990.6294	2525944.0378	610.47
68	7131982.6009	2525943.6466	610.63
69	7131995.1365	2525841.8273	608.28
70	7131987.1443	2525841.4730	608.44



TXDOT - CONCRETE PAVEMENT SECTION
N.T.S.

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
PAVING PLAN & PROFILE
STA. 8+50 TO STA. 12+50 (EB)

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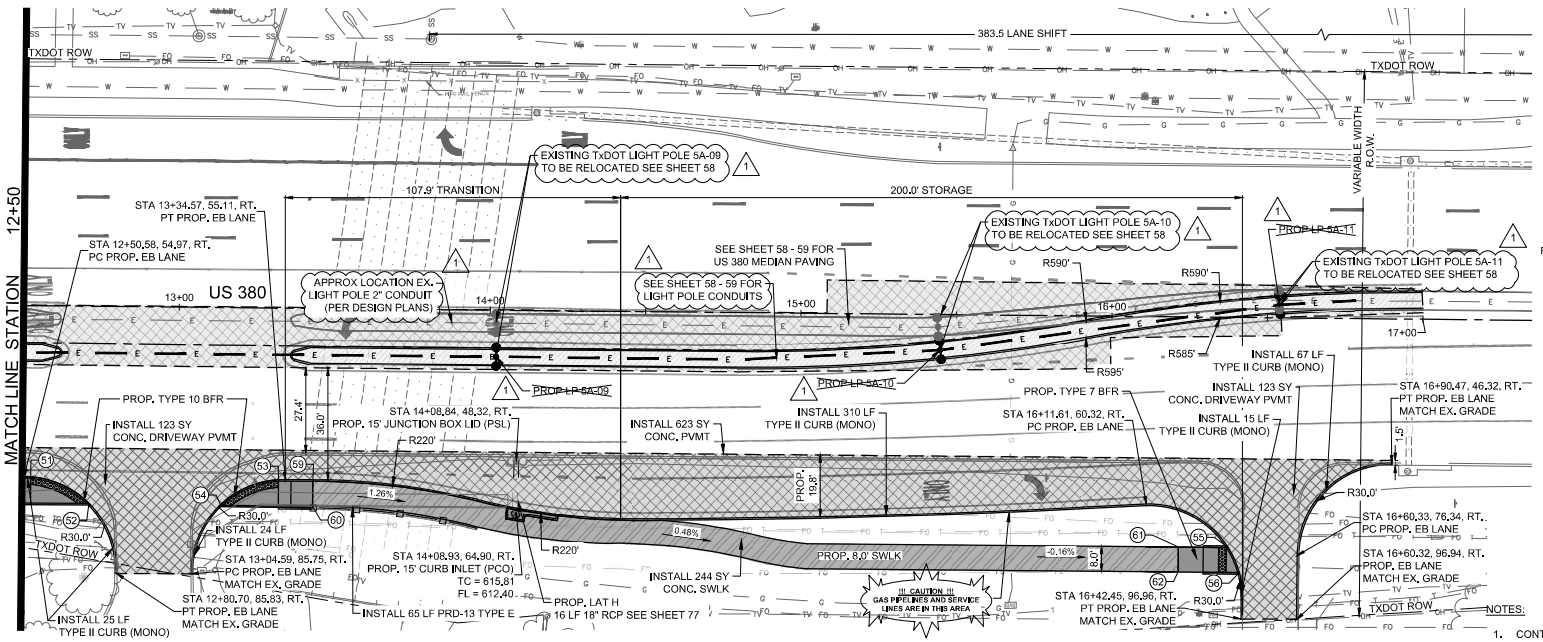
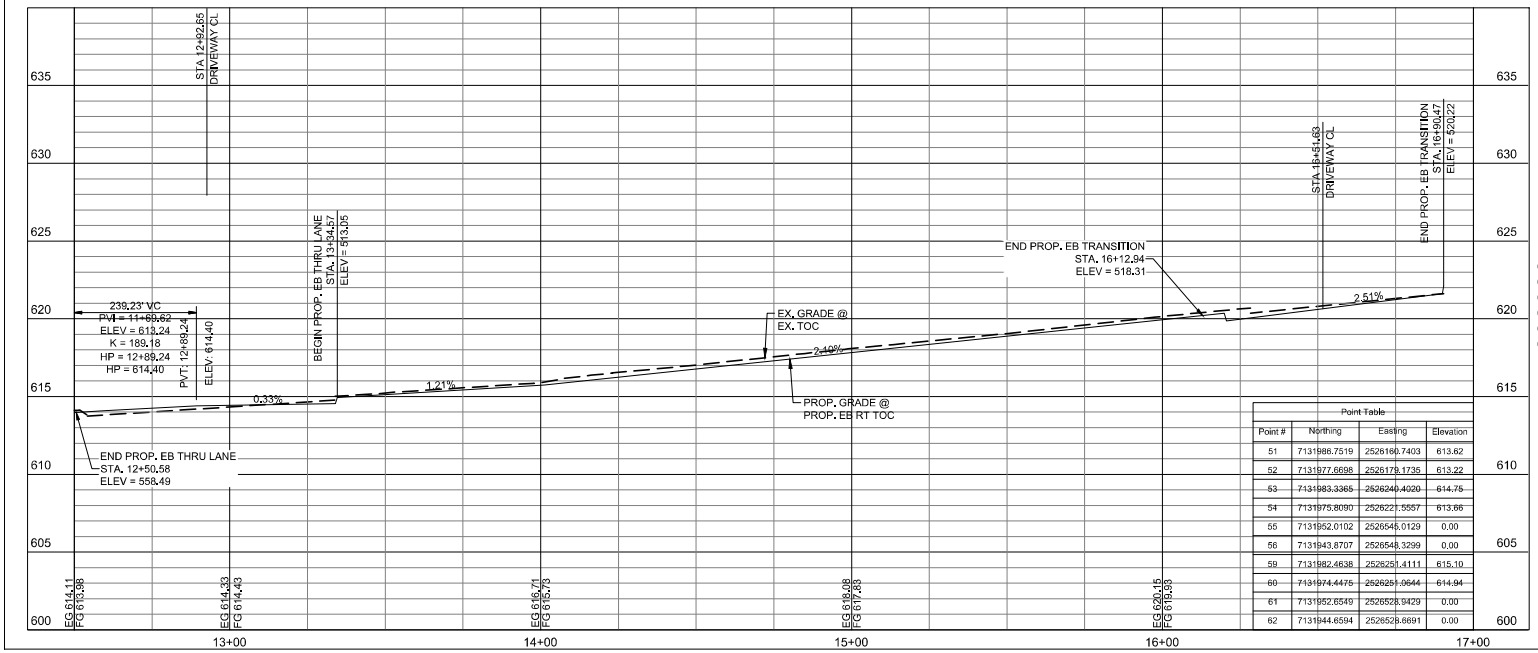
PRIYA Y. MISTRY 123226 LICENSED PROFESSIONAL ENGINEER 01/05/2026

DESIGN BY: PYM	DRAWN BY: NLS, AYC
DATE: 4/24/2026	JOB NUMBER: 2312-064-01
SHEET	54





Point Table

Point #	Northing	Easting	Elevation
51	7131986.7519	2526160.7403	613.62
52	7131977.6698	2526179.1735	613.22
53	7131983.3365	2526240.4020	614.75
54	7131975.8090	2526221.5557	613.66
55	7131952.0102	2526545.0129	0.00
56	7131943.8707	2526548.3299	0.00
59	7131982.4638	2526251.4111	615.10
60	7131974.4475	2526251.0644	614.94
61	7131952.6549	2526528.9429	0.00
62	7131944.6594	2526528.6691	0.00

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04/27/26
STATE OF TEXAS HYUNGSUP CHO 142328 LICENSED PROFESSIONAL ENGINEER
Hyungsup Cho

FOR REVISION 1 ITEMS ONLY

SCALE: H 1" = 40' V 1" = 8' (11"X17") H 1" = 20' V 1" = 4' (22"X34")

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- PROP. TXDOT PAVEMENT REFER TO DETAIL ON THIS SHEET
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- PROP. BFR
- PROP. DETECTABLE WARNING SURFACE
- PROP. CONC. MEDIAN

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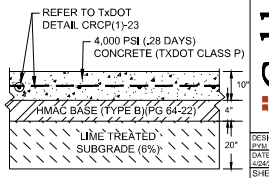

TXDOT - CONCRETE PAVEMENT SECTION
N.T.S.

NO.	DATE	COMMENT
001	04/27/2026	ADDENDUM 004 TXDOT ILLUMINATION REVISIONS

SIGNATURE

PRIYA Y. MISTRY 123226 LICENSED PROFESSIONAL ENGINEER 01/05/2026

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
PAVING PLAN & PROFILE
STA. 12+50 TO END (EB)

McKINNEY TEXAS Unique by nature.

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Land Surveying Firm Registration No. 10048700
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Frisco, Texas 75034
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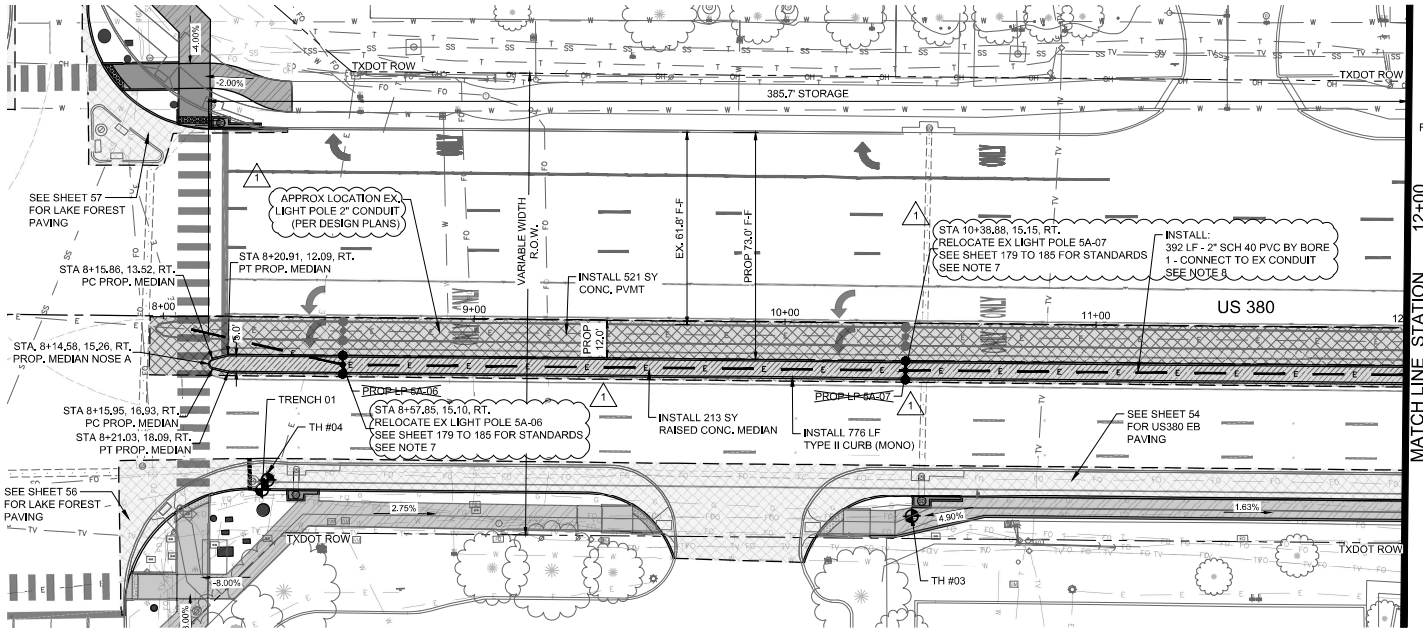
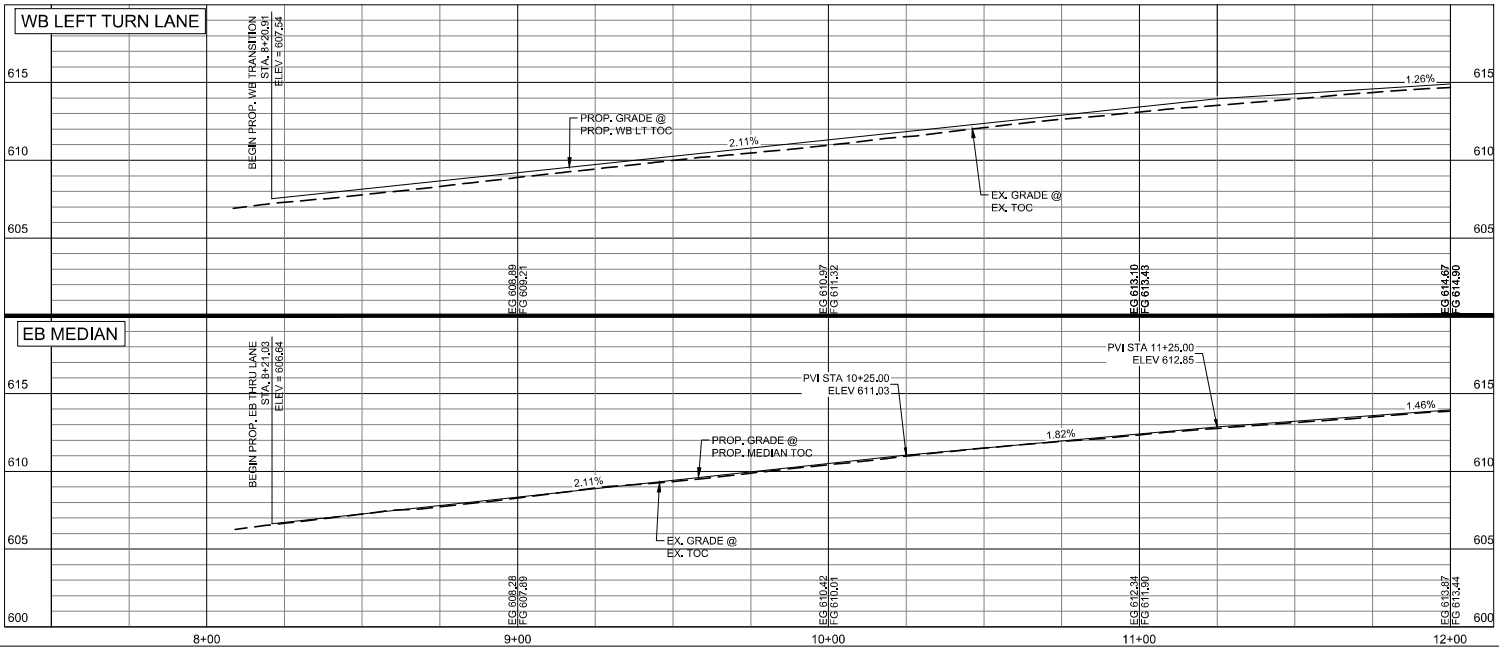
DESIGN BY:	DRAWN BY:
PYM	NLS, AYC
DATE:	JOB NUMBER:
4/24/2026	2312-064-01

SHEET 55





04/27/26

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SUBMITTED

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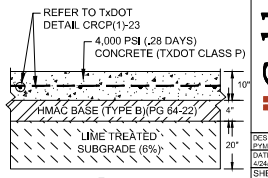

TXDOT - CONCRETE
PAVEMENT SECTION
N.T.S.

PRIYA Y. MISTRY
123226
LICENSED
PROFESSIONAL ENGINEER
01/05/2026

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
PAVING PLAN & PROFILE
STA. 0+00 TO STA. 12+00
WB LEFT TURN LANE & EB MEDIAN

McKINNEY TEXAS
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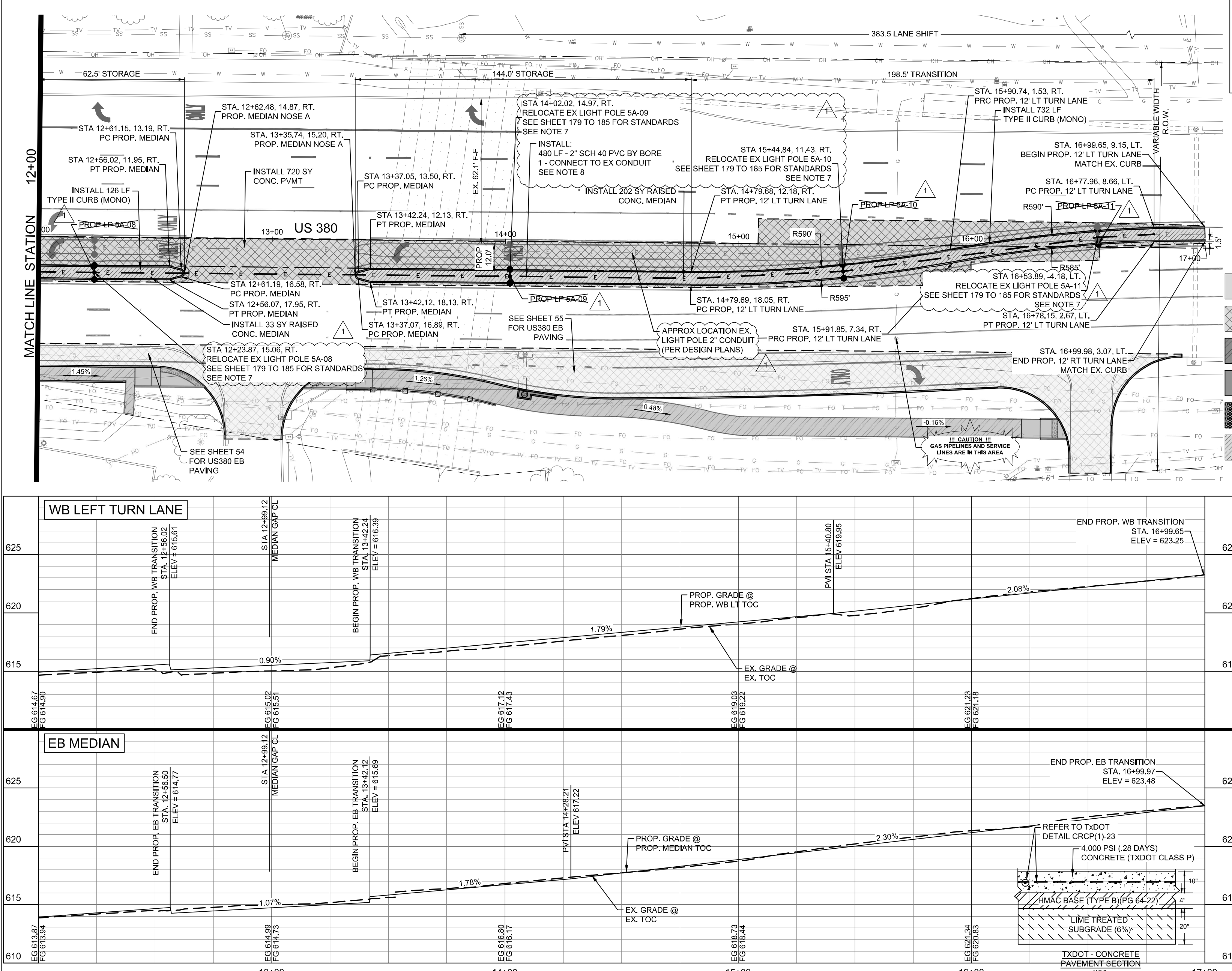
Frisco, Texas 75034
972.335.3214 | fax 972.335.3282 | www.cobbfendley.com

DESIGN BY:	DRAWN BY:
PYM	NLS, AYC
DATE:	JOB NUMBER:
4/24/2026	2312-064-01

SHEET
58

INTERSECTION CAPACITY IMPROVEMENTS
(FY 23) CIP ST2303
US 380 & LAKE FOREST DR
PAVING PLAN & PROFILE
STA. 12+00 TO END
WB LEFT TURN LANE & EB MEDIAN



MATCH LINE STATION 12+00
US 380
383.5 LANE SHIFT
62.5' STORAGE
144.0' STORAGE
198.5' TRANSITION
VARIABLE WIDTH R.O.W.
STA 12+61.15, 13.19, RT. PC PROP. MEDIAN
STA 12+56.02, 11.95, RT. PT PROP. MEDIAN
INSTALL 126 LF TYPE II CURB (MONO)
PROP LP 5A-08
STA. 12+62.48, 14.87, RT. PROP. MEDIAN NOSE A
STA. 13+35.74, 15.20, RT. PROP. MEDIAN NOSE A
INSTALL 720 SY CONC. PVMT
STA 12+61.19, 16.58, RT. PC PROP. MEDIAN
STA 12+56.07, 17.95, RT. PT PROP. MEDIAN
INSTALL 33 SY RAISED CONC. MEDIAN
STA 12+23.87, 15.06, RT. RELOCATE EX LIGHT POLE 5A-08 SEE SHEET 179 TO 185 FOR STANDARDS SEE NOTE 7
SEE SHEET 54 FOR US380 EB PAVING
STA 13+37.05, 13.50, RT. PC PROP. MEDIAN
STA 13+42.24, 12.13, RT. PT PROP. MEDIAN
STA 13+42.12, 18.13, RT. PT PROP. MEDIAN
STA 13+37.07, 16.89, RT. PC PROP. MEDIAN
EX. 62.1' F-F
PROP 12.0'
STA 14+02.02, 14.97, RT. RELOCATE EX LIGHT POLE 5A-09 SEE SHEET 179 TO 185 FOR STANDARDS SEE NOTE 7
INSTALL: 480 LF - 2" SCH 40 PVC BY BORE 1 - CONNECT TO EX CONDUIT SEE NOTE 8
PROP LP 5A-09
SEE SHEET 55 FOR US380 EB PAVING
INSTALL 202 SY RAISED CONC. MEDIAN
APPROX LOCATION EX. LIGHT POLE 2" CONDUIT (PER DESIGN PLANS)
STA 15+44.84, 11.43, RT. RELOCATE EX LIGHT POLE 5A-10 SEE SHEET 179 TO 185 FOR STANDARDS SEE NOTE 7
STA. 14+79.68, 12.18, RT. PT PROP. 12' LT TURN LANE
STA. 14+79.69, 18.05, RT. PC PROP. 12' LT TURN LANE
STA. 15+91.85, 7.34, RT. PRC PROP. 12' LT TURN LANE
PROP LP 5A-10
R590'
R595'
STA. 15+90.74, 1.53, RT. PRC PROP. 12' LT TURN LANE
INSTALL 732 LF TYPE II CURB (MONO)
STA. 16+99.65, 9.15, LT. BEGIN PROP. 12' LT TURN LANE MATCH EX. CURB
STA. 16+77.96, 8.66, LT. PC PROP. 12' LT TURN LANE
PROP LP 5A-11
R585'
STA 16+53.89, -4.18, LT. RELOCATE EX LIGHT POLE 5A-11 SEE SHEET 179 TO 185 FOR STANDARDS SEE NOTE 7
STA. 16+78.15, 2.67, LT. PT PROP. 12' LT TURN LANE
STA. 16+99.98, 3.07, LT. END PROP. 12' RT TURN LANE MATCH EX. CURB
1.5'
!!! CAUTION !!! GAS PIPELINES AND SERVICE LINES ARE IN THIS AREA
1.45%
1.26%
0.48%
-0.16%
ONLY
13+00
14+00
15+00
16+00
17+00
WB LEFT TURN LANE
END PROP. WB TRANSITION STA. 12+56.02 ELEV = 615.61
STA 12+99.12 MEDIAN GAP CL
BEGIN PROP. WB TRANSITION STA. 13+42.24 ELEV = 616.39
PVI STA 15+40.80 ELEV 619.95
END PROP. WB TRANSITION STA. 16+99.65 ELEV = 623.25
PROP. GRADE @ PROP. WB LT TOC
EX. GRADE @ EX. TOC
0.90%
1.79%
2.08%
EG 614.67 FG 614.90
EG 615.02 FG 615.51
EG 617.12 FG 617.43
EG 619.03 FG 619.22
EG 621.23 FG 621.18
EB MEDIAN
END PROP. EB TRANSITION STA. 12+56.50 ELEV = 614.77
STA 12+99.12 MEDIAN GAP CL
BEGIN PROP. EB TRANSITION STA. 13+42.12 ELEV = 615.69
PVI STA 14+28.21 ELEV 617.22
END PROP. EB TRANSITION STA. 16+99.97 ELEV = 623.48
PROP. GRADE @ PROP. MEDIAN TOC
EX. GRADE @ EX. TOC
1.07%
1.78%
2.30%
EG 613.87 FG 613.94
EG 614.99 FG 614.73
EG 616.80 FG 616.17
EG 618.73 FG 618.44
EG 621.34 FG 620.83
610
615
620
625
REFER TO TxDOT DETAIL CRCP(1)-23
4,000 PSI (,28 DAYS) CONCRETE (TXDOT CLASS P)
HMAC BASE (TYPE B) (PG 64-22)
LIME TREATED SUBGRADE (6%)
10"
4"
20"
TXDOT - CONCRETE PAVEMENT SECTION
N.T.S.

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04/27/26
HYUNGSUP CHO 142328 LICENSED PROFESSIONAL ENGINEER
FOR REVISION 1 ITEMS ONLY

PRIYA Y. MISTRY 123226 LICENSED PROFESSIONAL ENGINEER 01/05/2026

NO.	DATE	COMMENT
001	04/27/2026	ADDENDUM 004 TXDOT ILLUMINATION REVISIONS

REVISIONS

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Land Surveying Firm Registration No. 10046700
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DESIGN BY: PYM	DRAWN BY: N.S. AYC
DATE: 4/24/2026	JOB NUMBER: 2312-064-01
SHEET	59

DATE:
FILE:

ROADWAY ILLUMINATION ASSEMBLY NOTES

1. Details apply to roadway lighting installations bid or referenced under Item 610, "Roadway Illumination Assemblies." Provide, furnish, and install all other materials not shown on the plans which may be necessary for complete and proper construction. Where manufacturers provide warranties or guarantees as a customary trade practice, furnish to the State such warranties or guarantees.

2. The locations of poles and fixtures may be shifted by the Engineer to accommodate local conditions. Install or remove poles and luminaires located near overhead electrical lines using established industry and utility safety practices and in accordance with laws governing such work. Consult with the appropriate utility company prior to beginning such work.

3. Provide new and unused materials. Ensure that all materials and installations comply with the applicable articles of the National Electrical Code (NEC),TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA),and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as Canadian Standard Association, Intertek Testing Services NA Inc., or FM Approvals LLC can be considered equivalent to UL. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection.

4. Provide Roadway Illumination Light Fixtures as per TxDOT Departmental Material Specification (DMS) 11010, Item 610, and as shown on the Material Producers List (MPL) for Roadway Illumination and Electrical Supplies.

5. Fabricate steel roadway illumination poles in accordance with Roadway Illumination Poles (RIP) standards and Item 610. Poles fabricated according to RIP standards do not require shop drawing submittals.

   a. Alternate designs to RIP standards or the use of aluminum to fabricate poles will require the submission of shop drawings electronically. For instructions on submitting shop drawings electronically see "Guide to Electronic Shop Drawing Submittal" on the TxDOT web site.

   b. Limitations on use of the RIP standard: The RIP standard details were developed for installations in locations where the 3-second gust basic maximum wind speed is 110 mph, and where the elevation of the base of the pole is less than (i.e. not more than) 25' above the elevation of the surrounding terrain, in accordance with the "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," 6th Edition (2013) of the AASHTO Design Specifications. For poles to be installed in regions where the maximum basic wind speed exceeds 110 mph or to be mounted more than 25' above the surrounding terrain, provide poles meeting the following requirements:

      i. Submittals. Following the electronic shop drawing submittal process (see Guide to Electronic Shop Drawing Submittal on the TxDOT web site), submit to the Engineer for approval fabrication drawings and calculations for the poles, sealed by a Texas licensed professional engineer (P.E.).

      ii. Luminaire Structural Support Requirements. Provide light poles, arms, and anchor bolt assemblies with a 25 year design life to safely resist dead loads, ice loads and the required basic wind speeds at the location of installation in accordance with the 6th edition (2013) of the AASHTO Design Specifications. For transformer base poles, include transformer base and connecting hardware in calculations and shop drawing submittals. Structurally test all transformer bases to resist the theoretical plastic moment capacity of the pole. Submit certification of the plastic moment load test and FHWA breakaway requirement test of the model of base being furnished with the shop drawings. Show breakaway base model number, manufacturer's name, and logo on shop drawings. Include on manufacturer's shop drawings the ASTM designations for all materials to be used.

6. For both transformer and shoe-base type illumination poles, provide and install double-pole breakaway fuse holders as specified by DMS-11040. Breakaway fuse holders are listed on the MPL for Roadway Illumination and Electrical Supplies under Items 610 & 620. Provide 10 amp time delay fuses for breakaway connectors in light poles, or inside the light fixture for underpass luminaires. In each pole, connect luminaires to the breakaway connector with continuous stranded 12 AWG copper conductors as listed on the MPL. Bond all equipment grounding conductors together and to the ground lug in the transformer base or hand hole.

7. Tighten anchor bolts for shoe base, concrete traffic barrier base, and bridge mount roadway illumination poles, in accordance with Item 449.

8. Install T-Base with following procedure:

   a. Anchor Bolt Tightening.

      i. Coat the threads of the anchor bolts with electrically conductive lubricant.

      ii. Place the T-base over the anchor bolts. Foundation must be level and flat. The maximum permissible gap under any one corner of the t-base is 1/8" before nuts are tightened.

      iii. Coat the bearing surfaces of the nuts and washers with electrically conductive lubricant. Install (1) 1/2" hold down washer, (1) lock washer, and (1) nut on each anchor bolt. Turn the nuts onto the bolts so that each is hand-tight against the washer.

      iv. Using a torque wrench, tighten each nut to 150 ft-lb. Uniform contact is required between the foundation and the T-base in the corner regions of the T-base, and all corner gaps must be closed after applying torque. If a gap still exists after torquing to 150 ft-lbs, continue torquing each bolt incrementally until gap is closed or maximum allowable torque of 250 ft. pound is reached, whichever comes first. If 250 ft-lbs is not enough to close the gap the foundation must be leveled. Gaps along the straight sides of the T-bases and the foundation are permissible. Ensure that no high point of contact occurs between the straight sides of the T-base and the foundation.

      v. Check top of T-base for level. If not level then foundation must be leveled.

   b. Top Bolt Procedure

      i. Erect pole over T-base with crane. Coat bolts, nuts, washers, and lock washers with electrically conductive lubricant.

      ii. Install bolts and 1/2" connecting washers from the inside of the T-base, thread up through the pole base. Install flat washers, lock washers and nuts snug tight according to Item 447, "Structural Bolting."

      iii. Tighten each nut to 150 ft-lb. using a torque wrench.

   c. Level and Plumb

      i. Ensure pole is plumb and mast arm is perpendicular to the roadway according to plans to within 5 degrees.

9. Construct luminaire pole foundations in accordance with Item 416, "Drilled Shaft Foundations," and TxDOT standard sheet RID(2).

10. Provide and install underpass luminaires in accordance with Item 610, DMS-11010, and TxDOT standard sheet RID(3). Typical luminaire size for underpass luminaires is 150W HPS or 150W EQ LED.

11. Mount luminaires on arms level as shown by the luminaire level indicator.

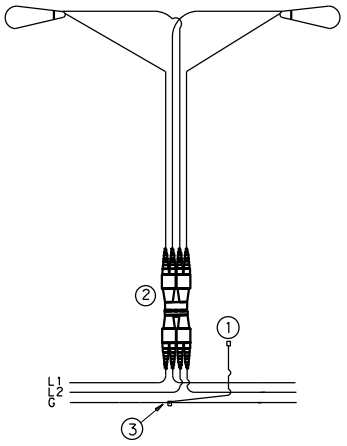
12. Orient luminaires perpendicular to the roadway intended to be lit unless otherwise shown on the plans.

Wiring Diagram Notes:

① Use 1/2 in.-13 UNC threaded, copper or tin-plated copper, pole bonding connector, sized appropriately for conductors, bonded to T-base, or use ground lug in handhole as available.

② Use pre-qualified two-pole breakaway connectors for all luminaire pole installations. For luminaires fed by a circuit with a neutral conductor, use double pole breakaway connectors with the neutral side unfused and marked white.

③ Split Bolt or other connector.



L1,L2 = Hot Conductors
G = Grounding Conductor

TYPICAL WIRING DIAGRAM

LUMINAIRES SERVED AT 480V ON 240/480 VOLT SERVICE OR LUMINAIRES SERVED AT 240V FOR 120/240 VOLT SERVICE.

Decorative LED Lighting Notes:

1. LED Drivers in Remote Outdoor enclosures (for drivers that do not include an enclosure as part of a factory assembly):

   a. Provide NEMA 3R outdoor enclosure or as approved.

   b. Install enclosure at least 12" above ground or other horizontal surface. Mount vertically or on ceiling, and avoid direct sun where possible.

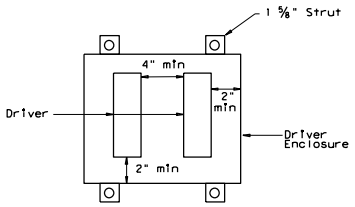
   c. Install drivers with at least 2 inches of space from enclosure walls.

   d. For multiple drivers in an enclosure, provide at least 4 inches side to side and 1 inch end to end from other drivers or electronic equipment

   e. For drivers mounted on back wall of enclosure, mount enclosure on 1 5/8" strut or other standoff to dissipate heat, or mount driver to side of the enclosure or to the metal cover.

   f. Provide remote drivers with a maximum of 100 watts

   g. Provide drivers with documentation of 100,000 hr lifetime at Tcase of 65C or higher.



Driver Spacing In Remote Enclosure

Texas Department of Transportation — Traffic Safety Division Standard

ROADWAY ILLUMINATION DETAILS

RID(1)-20

FILE: rid1-20.dgn	DN:	CK:	DW:	CK:
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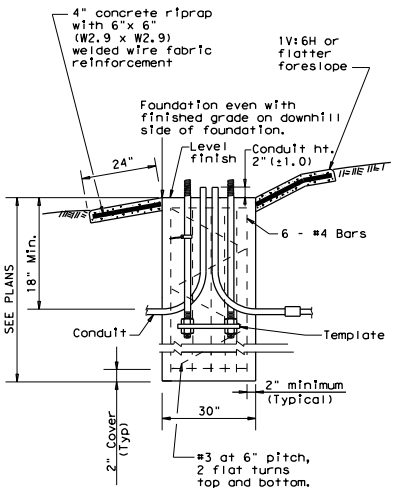
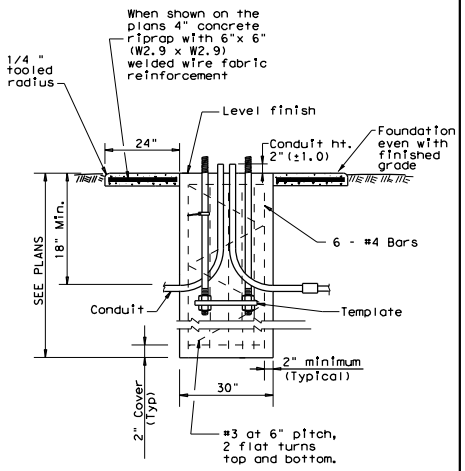


SECTION A-A
SHOWING SLOPED GRADE



SECTION A-A
SHOWING CONSTANT GRADE

TABLE 1
ANCHOR BOLTS

POLE MOUNTING HEIGHT	BOLT CIRCLE		ANCHOR BOLT SIZE
	Shoe Base	T-Base	
<40 ft.	13 in.	14 in.	1in.x 30in.
40-50 ft.	15 in.	17 ¼in.	1 ¼in. x 30in.

TABLE 2
RECOMMENDED FOUNDATION LENGTHS
(See note 1)

MOUNTING HEIGHT	TEXAS CONE PENETROMETER N Blows/ft		
	10	15	40
≤20 ft.	6'	6'	6'
>20 ft. to 30 ft.	8'	6'	6'
>30 ft. to 40 ft.	8'	8'	6'
>40 ft. to 50 ft.	10'	8'	6'

TABLE 3
PAY QUANTITY OF RIPRAP PER FOUNDATION (Install only when shown on the plans)

Foundation Diameter	RIPRAP DIAMETER	RIPRAP (CONC) (CL B)
30 in.	78 in.	0.35 CY

GENERAL NOTES:

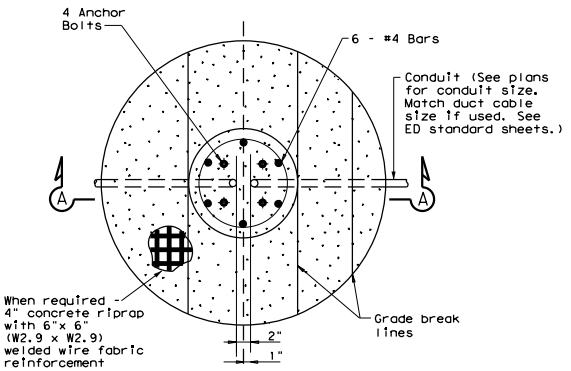
1. "Recommended Foundation Lengths" table is for information purposes only. Foundation lengths shall be as shown on the plans, or as directed by the Engineer. Foundations will be paid for under Item 416, "Drilled Shaft Foundations," unless otherwise shown on the plans.
2. Erect roadway illumination assembly poles plumb and true. Form and level the top 6" of the foundation so the pole will be plumb. Use leveling nuts to plumb shoe base poles. Do not use shims or leveling nuts under transformer bases. Do not grout between baseplate and the foundation.
3. Ensure Class 2A and 2B fit for anchor bolts and nuts. Tap and chase nuts after galvanizing. Anchor bolt body with rolled threads need not be full size.
4. Use appropriate class of concrete as specified in Items 416 and 432. Concrete for riprap may be upgraded to Class C at no extra cost to the Department.
5. Place riprap around the foundation when called for elsewhere in the plans. Riprap will be paid for under Item 432.
6. Locate breakaway roadway illumination assemblies as shown in the placement table, unless otherwise dimensioned on the plans. Protect non-breakaway illumination assemblies from vehicular impact (i.e. 2.5 ft. behind guard rail or mounted on traffic barrier), or located outside the clear zone, except that 2.5 ft. from curb face is minimum desired for light poles on city streets, 45 mph or less. See Roadway Design Manual for further information.
7. Use 4 hold down and 4 connecting washers on transformer base poles as recommended by the manufacturer and supplied with base.
8. Install a minimum of 2 conduits in each foundation. See lighting layout sheets for locations of foundations with more than 2 conduits. Cap unused conduits in foundations on both ends.
9. Conduit location in foundations is critical for breakaway devices. Place conduits 2 in. apart on centerline as shown.
10. Bond anchor bolt to rebar cage with #6 bare stranded copper conductor. Use listed mechanical connectors rated for embedment in concrete. The bonded steel in the foundation creates a concrete encased grounding electrode which replaces the ground rod.
11. Grade earthwork around T-base foundations even with the finished grade as shown in Section A-A to ensure proper function of the breakaway device. Use riprap on T-base foundations that are located on sloped grades, and as shown on the plans for level grades.

TABLE 4
BREAKAWAY POLE PLACEMENT (See note 6)

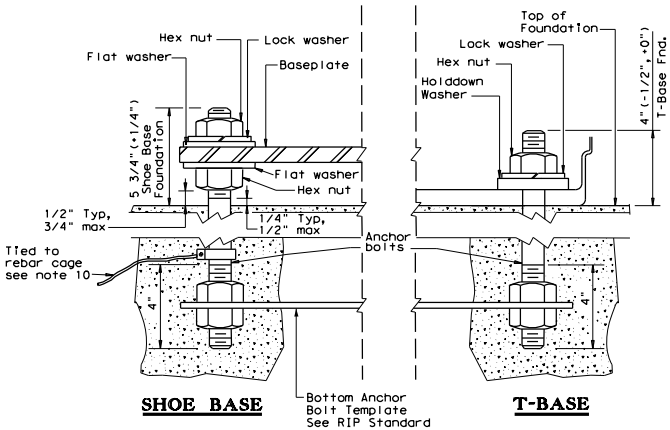
ROADWAY FUNCTIONAL CLASSIFICATION	** POLE OFFSET (DISTANCE TO FACE OF TRANSFORMER BASE)
Freeway Mainlanes (roadway with full control of access)	15 ft. (minimum and typical) from lane edge
All curbed, 45 mph or less design speed	2.5 ft. minimum (15 ft. desirable) from curb face
All others	10 ft. minimum*(15 ft. desirable) from lane edge

* or as close to ROW line as is practical

** provide 2/5 of the luminaire mounting height behind the pole for "falling area" to prevent encroachment on the other travel lanes. See design guidelines.



FOUNDATION DETAIL



ANCHOR BOLT DETAIL

Texas Department of Transportation
Traffic Safety Division Standard

ROADWAY ILLUMINATION DETAILS (RDWY ILLUM FOUNDATIONS)

RID(2)-20

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12-20				

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DATE:
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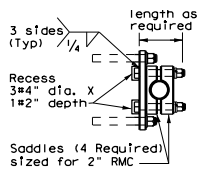
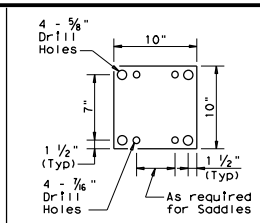
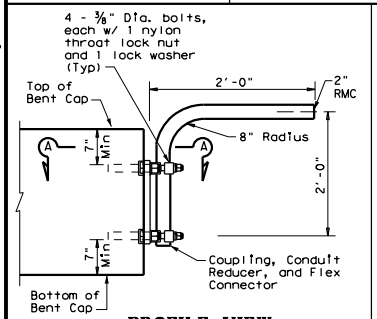


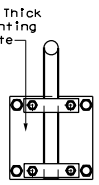
SECTION A-A



MOUNTING PLATE
(ASTM A-36 or better)

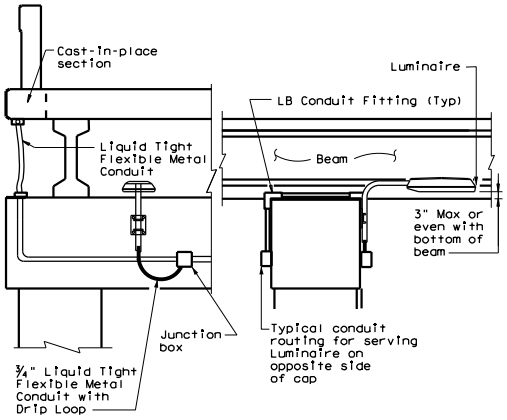


PROFILE VIEW
Or as Required
(See Note A.3)



END VIEW

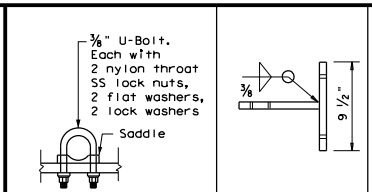
UNDERPASS LIGHTING ARM



IN RD IL AM (U/P)(TY 1)

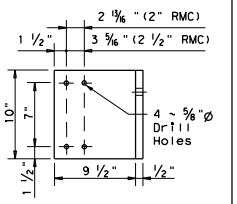
If bridge has pre-cast panels under deck, run circuit under deck edge.

UNDERPASS LIGHTING TYPE 1

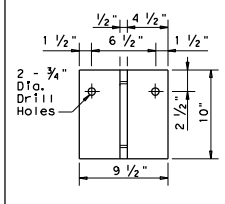


CLAMP DETAIL
(2 Req'd)

PLAN VIEW



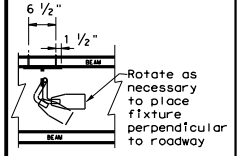
FRONT



SIDE

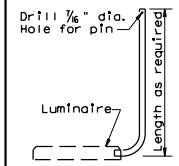
BRACKET DETAIL

Make from 1/2" plate (ASTM A-36 or better)

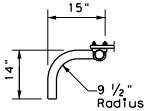


PLAN VIEW

FIXTURE ORIENTATION

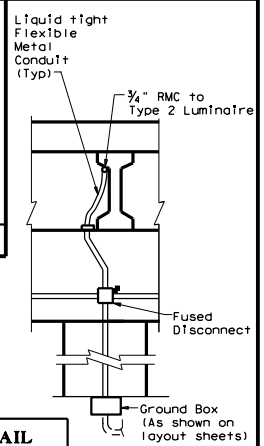


SIDE



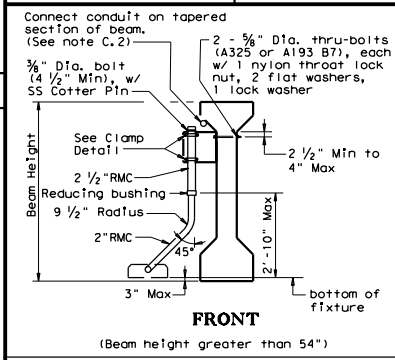
PLAN VIEW

ARM DETAIL

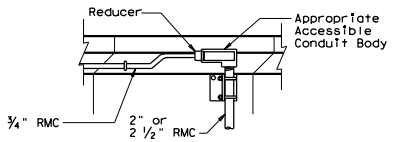


3 - No. 12 XHHW in 3/4" RMC for Branch Circuit runs from fused disconnect to underpass Luminaires

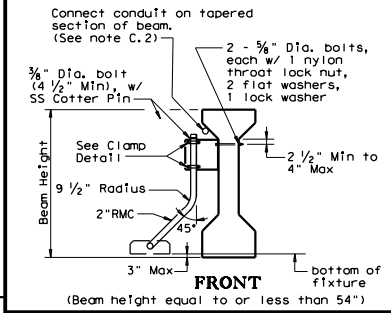
CONDUIT DETAIL



FRONT
(Beam height greater than 54")



CONDUIT CONNECTION PROFILE



FRONT
(Beam height equal to or less than 54")

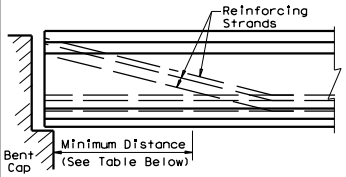


TABLE 5

LOCATION OF UNDERPASS LIGHT MOUNTING BRACKET TABLE

SPAN LENGTH	MINIMUM DISTANCE
≤ 50'	10'-0"
50' - 70'	15'-0"
70' - 90'	20'-0"
> 90'	25'-0"

IN RD IL AM (U/P)(TY 2)

LOCATION OF UNDERPASS LIGHT MOUNTING BRACKET

UNDERPASS LIGHTING TYPE 2

GENERAL NOTES:

A. ALL 150 watt HPS and 150 watt equivalent LED Luminaires

1. Luminaire locations, conduit and conductor sizes and routing are typical and diagrammatic only. See project layout sheets for specific details.
2. Conduit will be paid for under Item 618, "Conduit" and conductors will be paid for under Item 620, "Electrical Conductors," unless otherwise shown on the plans.
3. Adjust conduit in saddles to place fixture height and orientation as required. See fixture orientation detail and plans. Where practicable, place luminaires so the bottom of luminaire is above the bottom of the beam, maximum of 3 in. (See detail UNDERPASS LIGHTING ARM TYPE 2)
4. Except as noted, galvanize all structural steel and exposed bolts, nuts, and washers in accordance with Item 445 "Galvanizing".
5. Fabrication of brackets and support arms will not be paid for directly but is subsidiary to Item 610, "Roadway Illumination Assemblies."
6. Install a heavy duty NEMA 3R fused disconnect or breaker enclosure rated at 30 amps and 480 volts to switch underpass luminaires as shown on plans, with at least one per bridge circuit. Install 20 amp time-delay fuses or inverse-time circuit breakers. Mount disconnect or breaker enclosure 10 ft.(min) above grade on columns or bent caps as approved by the Department. Modify disconnect to allow padlocking in the "ON" and "OFF" positions. Padlocks and disconnect switches or circuit breakers for underpass fixtures will not be paid for directly but are subsidiary to the various bid items of the contract.
7. Conduit on columns, caps, and slab is shown surface mounted. For new columns and caps, embed PVC conduit in concrete. Bond and ground metal junction boxes and conduit.

B. TYPE 1

1. Provide 2 in. rigid metal conduit (2.375" O.D., 0.146" wall) for Type 1 arm shaft.
2. Use 3/8 in. stainless steel bolt or stud non-epoxy type expansion anchors for concrete for Type 1 mounting. Except as noted, provide an allowable 2650 lbs minimum pull-out force (after consideration of adjustment factors for edge distance and bolt spacing) for each anchor. Install each anchor to the embedment depth recommended by the manufacturer.
3. Attach conduit to plate with 4 saddles, four - 3/8 in. diameter bolts, nylon throat lock nuts, and lock washers.

C. TYPE 2

1. Provide 2 in. rigid metal conduit (2.375" O.D., 0.146" wall) or provide a combination of 2 1/2 in. (2.875" O.D., 0.193" wall) and 2 in. (2.375" O.D., 0.146" wall) rigid metal conduits with a reducing bushing as beam height stipulated for Type 2 arm shaft. Field cutting and threading will be permitted. Paint cut and threaded areas with zinc rich paint after conduit is connected to adjacent fitting.
2. Connecting conduit may be strapped to tapered section only of precast beams as shown. Anchor as approved by the Engineer. Maximum anchor depth is 1 in.
3. Indiscriminate drilling into precast concrete beams may result in reduced beam strength. Use drilling location and method as directed by the Engineer. See Location of Underpass Lighting Mounting Bracket detail. The locations shown in the table are such that reinforcing strands will not be damaged.

Texas Department of Transportation

Traffic Safety Division Standard

ROADWAY ILLUMINATION DETAILS

(UNDERPASS LIGHT FIXTURES)

RID(3)-20

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SHIPPING PARTS LIST - POLES AND LUMINAIRE ARMS

Nominal Mounting Ht. (ft)	Shoe Base Designation			Quantity	T-Base Designation				Quantity	CSB/SSCB Mounted Designation				Quantity	OTHER Designation				Quantity
	Pole	A1	Luminaire		Pole	A1	A2	Luminaire		Pole	A1	A2	Luminaire		Pole	A1	A2	Luminaire	
20	(Type SA 20 S - 4)		(150W EQ) LED		(Type SA 20 T - 4)			(150W EQ) LED											
	(Type SA 20 S - 4 - 4)		(150W EQ) LED		(Type SA 20 T - 4 - 4)			(150W EQ) LED											
30	(Type SA 30 S - 4)		(250W EQ) LED		(Type SA 30 T - 4)			(250W EQ) LED		(Type SP 28 S - 4)			(250W EQ) LED						
	(Type SA 30 S - 4 - 4)		(250W EQ) LED		(Type SA 30 T - 4 - 4)			(250W EQ) LED		(Type SP 28 S - 4 - 4)			(250W EQ) LED						
	(Type SA 30 S - 8)		(250W EQ) LED		(Type SA 30 T - 8)			(250W EQ) LED		(Type SP 28 S - 8)			(250W EQ) LED						
	(Type SA 30 S - 8 - 8)		(250W EQ) LED		(Type SA 30 T - 8 - 8)			(250W EQ) LED		(Type SP 28 S - 8 - 8)			(250W EQ) LED						
40	(Type SA 40 S - 4)		(250W EQ) LED		(Type SA 40 T - 4)			(250W EQ) LED		(Type SP 38 S - 4)			(250W EQ) LED						
	(Type SA 40 S - 4 - 4)		(250W EQ) LED		(Type SA 40 T - 4 - 4)			(250W EQ) LED		(Type SP 38 S - 4 - 4)			(250W EQ) LED						
	(Type SA 40 S - 8)		(250W EQ) LED		(Type SA 40 T - 8)			(250W EQ) LED		(Type SP 38 S - 8)			(250W EQ) LED						
	(Type SA 40 S - 8 - 8)		(250W EQ) LED		(Type SA 40 T - 8 - 8)			(250W EQ) LED		(Type SP 38 S - 8 - 8)			(250W EQ) LED						
	(Type SA 40 S - 10)		(250W EQ) LED		(Type SA 40 T - 10)			(250W EQ) LED		(Type SP 38 S - 10)			(250W EQ) LED						
	(Type SA 40 S - 10 - 10)		(250W EQ) LED		(Type SA 40 T - 10 - 10)			(250W EQ) LED		(Type SP 38 S - 10 - 10)			(250W EQ) LED						
	(Type SA 40 S - 12)		(250W EQ) LED		(Type SA 40 T - 12)			(250W EQ) LED		(Type SP 38 S - 12)			(250W EQ) LED						
	(Type SA 40 S - 12 - 12)		(250W EQ) LED		(Type SA 40 T - 12 - 12)			(250W EQ) LED		(Type SP 38 S - 12 - 12)			(250W EQ) LED						
50	(Type SA 50 S - 4)		(400W EQ) LED		(Type SA 50 T - 4)			(400W EQ) LED		(Type SP 48 S - 4)			(400W EQ) LED						
	(Type SA 50 S - 4 - 4)		(400W EQ) LED		(Type SA 50 T - 4 - 4)			(400W EQ) LED		(Type SP 48 S - 4 - 4)			(400W EQ) LED						
	(Type SA 50 S - 8)		(400W EQ) LED		(Type SA 50 T - 8)			(400W EQ) LED		(Type SP 48 S - 8)			(400W EQ) LED						
	(Type SA 50 S - 8 - 8)		(400W EQ) LED		(Type SA 50 T - 8 - 8)			(400W EQ) LED		(Type SP 48 S - 8 - 8)			(400W EQ) LED						
	(Type SA 50 S - 10)		(400W EQ) LED		(Type SA 50 T - 10)			(400W EQ) LED		(Type SP 48 S - 10)			(400W EQ) LED						
	(Type SA 50 S - 10 - 10)		(400W EQ) LED		(Type SA 50 T - 10 - 10)			(400W EQ) LED		(Type SP 48 S - 10 - 10)			(400W EQ) LED						
	(Type SA 50 S - 12)		(400W EQ) LED		(Type SA 50 T - 12)			(400W EQ) LED		(Type SP 48 S - 12)			(400W EQ) LED						
	(Type SA 50 S - 12 - 12)		(400W EQ) LED		(Type SA 50 T - 12 - 12)			(400W EQ) LED		(Type SP 48 S - 12 - 12)			(400W EQ) LED						

ILLUMINATION PROJECT SCOPE SHALL BE RELOCATIONS ONLY

GENERAL NOTES:

1. All work, materials and services not shown on the plans which may be necessary for complete and proper construction shall be performed, furnished and installed by the Contractor. Faulty fabrication or poor workmanship in any material, equipment or installation will be considered justification for rejection. Where manufacturers provide warranties or guarantees as a customary trade practice, furnish to the Department such warranties or guarantees.

2. The location of poles and fixtures are diagrammatic only and may be shifted by the Engineer to accommodate local conditions. Install or remove poles and luminaires located near overhead electrical lines using established industry and utility safety practices and in accordance with laws governing such work. Consult with the appropriate utility company prior to beginning such work.

3. Standard Steel Pole Designs. Steel poles fabricated in accordance with the details and dimensions shown herein, shall be considered standard designs. Submission of shop drawings and design calculations for standard designs is not required.

4. Optional Steel Pole Designs. Multi-sided steel poles may be allowed as optional designs, if steel poles are permitted or required, pending approval by the Department as outlined below.

   a. Shop Drawings. Optional designs require submission of shop drawings and design calculations bearing the seal of an engineer licensed in the State of Texas, in accordance with Item 441, "Steel Structures." The Department may elect to pre-approve some shop drawings for optionally designed poles. Submission of shop drawings and design calculations is not required for structures fabricated in accordance with the details of shop drawings on the pre-approved list maintained by the TxDOT Traffic Operations Division. Any deviation from the pre-approved shop drawings will require submission of shop drawings of the complete assembly and design calculations as described above.
   b. Structural Support Design for Luminaires. Lighting support structures shall be designed for a 25 year design life in accordance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 6th Edition (2013) and Interim Revisions thereto. All poles shall be designed for 110 mph 3-second gust wind speeds. The Gust Factor, G, and Wind Importance Factor, Ir, shall be applied as per the AASHTO Specifications assuming a 25-year design life. The design wind pressure for hurricane wind velocities greater than 100 mph shall not be less than the design wind pressure using 100 mph with the non-hurricane Wind Importance Factor, Ir, value. For transformer base poles, fabricator shall include transformer base and connecting hardware in design calculations and shop drawing submittals. All transformer bases shall have been structurally tested to resist the theoretical plastic moment capacity of the pole. Certification of the plastic moment load test and FHWA breakaway requirement test of the model of base being furnished shall be submitted with the shop drawings. Shop drawings shall show breakaway base model number, and manufacturer's name and logo. Manufacturer's shop drawings shall include the ASTM designations for all materials to be used.
   c. Mast Arm Attachments. All poles and attachments shall be structurally designed to support two 12-foot mast arms and luminaires. Poles shall be supplied with mast arm combinations as shown in the plans. All mast arms shall be designed for a 60-pound luminaire having an effective projected area of 1.6 square feet.
   d. Anchor Bolt Assembly. Anchor bolt assemblies for optionally designed poles shall be the same as those shown herein.

5. Aluminum Pole Designs. Aluminum pole designs may be allowed, if aluminum poles are permitted or required, pending approval by the Department as outlined below.

   a. Meet all of the requirements stated above for optional steel pole designs and the following:
      1. Aluminum poles shall be fabricated in accordance with "Structural Welding Code-Aluminum" AWS D1.2.
      2. Aluminum pole designs shall use the same anchor bolt assembly and be subject to the same geometric restraints and other requirements for steel poles specified herein.
      3. Aluminum poles shall be equipped with vibration mitigation devices, as approved by the engineer.
      4. Pole components shall be constructed using the following material:
         Shaft: ASTM B221 or B241 Alloy 6063-T6, ASTM B209 Alloy 5086-H34, ASTM B221 Alloy 6005-T5.
         Base Flange: ASTM B26 Alloy 356.0-T6 or ASTM B108 Alloy 356.0-T6 (Yield strength test required).
         Mast Arm Fitting: ASTM B209 Alloy 6061-T6 or ASTM B221 Alloy 6005-T5.
         Mast Arms: ASTM B241 Alloy 6061-T6 or Alloy 6063-T6.
         Pole Cap: ASTM B209 Alloy 5086-H32 or ASTM B108 or B26 Alloy 356.0-T6.
         Bolts: Stainless Steel AISI 300 series. Bolts threading into aluminum threads shall be treated with anti-seize compound, Never-Seez Compound, Permatex 133K or equal.

6. Special Designs. Poles with architectural treatments shall meet the requirements shown elsewhere in the plans.

7. Luminaire Mounting Height. Actual luminaire mounting height shall be the nominal mounting height given on RIP(2) for all pole-arm combinations except for poles with 4 ft. luminaire arms, which shall be 3'-0" lower than the nominal height, unless otherwise shown or directed.

EXPLANATION OF ROADWAY ILLUMINATION ASSEMBLY DESIGNATIONS

(TYPE SA 50 T - X - X) (400W EQ) LED

- SA: Pole and mast arm may be steel or aluminum.
- ST: Pole and mast arm must be steel.
- AL: Pole and mast arm must be aluminum.
- SP: Special (ovalized) steel or aluminum pole for installing on CSB or SSCB. See standard sheet CSB (4), or SSCB (4).

Two numerical digits denote nominal mounting height in feet.

Next letter denotes type of base, (S-Shoe Base, T-Transformer Base, or B-Bridge/Ret.Wall Mount)

First number denotes length of mast arm in feet.

Use of second mast arm is indicated by second dashed number which denotes length in feet.

Luminaire rating in watts (i.e. 400W). Equivalent wattage LED fixtures will include EQ (i.e. 400W EQ)

Last letters indicate light source (S - High Pressure Sodium; LED - LED luminaire)

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SHEET 1 OF 4

Texas Department of Transportation

Traffic Safety Division Standard

ROADWAY ILLUMINATION POLES

RIP(1)-19

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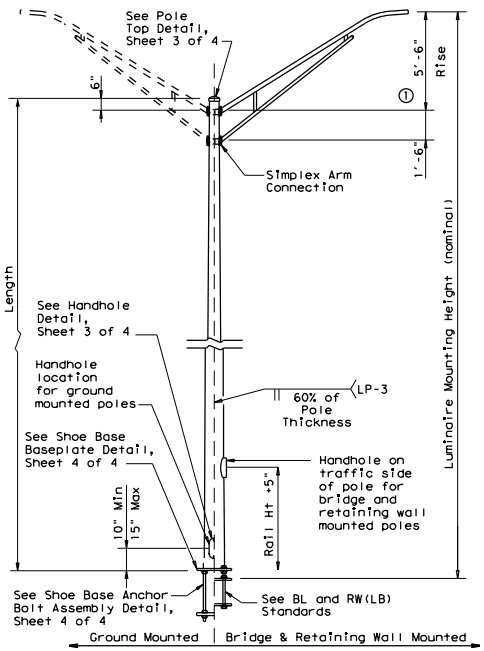
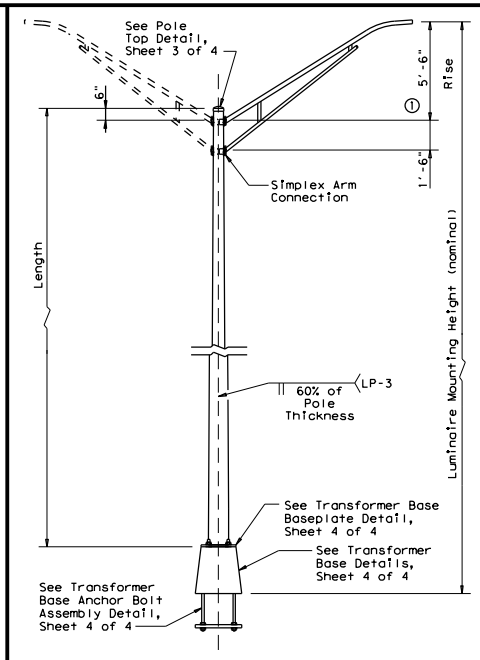


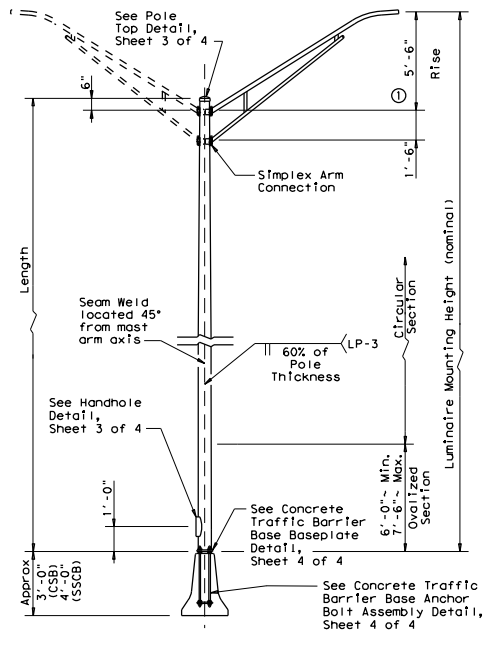
SHOE BASE POLE

SHOE BASE POLE					
Luminaire Mounting Height (Nominal) (ft)	Base Diameter (in)	Top Diameter (in)	Length (ft)	Pole Thickness (in)	Design Moment (K-ft)
20.00	7.00	4.90	15.00	0.1196	7.1
30.00	7.50	4.00	25.00	0.1196	13.2
31.00-39.00	8.00	4.36-3.24	26.00-34.00	0.1196	20.7
40.00	8.50	3.60	35.00	0.1196	20.7
50.00	10.50	4.20	45.00	0.1196	30.3



TRANSFORMER BASE POLE

TRANSFORMER BASE POLE					
Luminaire Mounting Height (Nominal) (ft)	Base Diameter (in)	Top Diameter (in)	Length (ft)	Pole Thickness (in)	Design Moment (K-ft)
20.00	7.00	5.11	13.50	0.1196	7.1
30.00	7.50	4.21	23.50	0.1196	13.2
31.00-39.00	8.00	4.57-3.45	24.50-32.50	0.1196	20.7
40.00	8.50	3.81	33.50	0.1196	20.7
50.00	10.00	3.91	43.50	0.1196	30.3



CONCRETE TRAFFIC BARRIER BASE POLE

CONCRETE TRAFFIC BARRIER BASE POLE (CSB/SSCB)						
Luminaire Mounting Height (Nominal) (ft)	Base② Diameter (in)	Top Diameter (in)	Length (ft)	Pole Thickness (in)	Design Moment (K-ft)	
					About ℄ of Rail	Perp. to Rail
28.00	9.00	5.78	23.00	0.1196	10.3	13.2
38.00	9.00	4.38	33.00	0.1196	16.6	20.8
48.00	10.50	4.48	43.00	0.1345	25.1	30.5

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (ksi)
Pole Shaft (0.14"/ft. Taper)	A572 Gr 50, A595 Gr A, A1011 HSLAS Gr 50 Cl 2 ③, or A1008 HSLAS Gr 50 Cl 2	50
Base Plate and Handhole Frame	A572 Gr.50, or A36	36
T-Base Connecting Bolts	F3125 Gr A325	92
Anchor Bolts	F1554 Gr 55, A193-B7 or A321	55 105
Anchor Bolt Templates	A36	36
Heavy Hex (H.H.) Nuts	A194 Gr 2H, or A563 Gr DH	
Flat Washers	F436	

NOTES:

① 2'-6" rise for 4 ft. luminaire arms.

② Before ovalized as shown on Concrete Traffic Barrier Base Baseplate details, Sheet 4 of 4.

③ A1011 SS Gr 50 may be used instead of HSLAS, provided the material meets the elongation requirements for HSLAS.

POLE ASSEMBLY FABRICATION TOLERANCES TABLE

DIMENSION	TOLERANCE
Shaft length	+1"
I.D. of outside piece of slip fitting pieces	+1/8", -1/16"
O.D. of inside piece of slip fitting pieces	+1/32", -1/8"
Shaft diameter: other	+3/16"
Out of "round"	1/4"
Straightness of shaft	±1/4" in 10 ft
Twist in multi-sided shaft	4° in 50 ft
Perpendicular to baseplate	1/8" in 24"
Pole centered on baseplate	±1/4"
Location of Attachments	±1/4"
Bolt hole spacing	±1/16"

GENERAL NOTES:

1. Designs conform to AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th Edition (2013) and Interim Revisions thereto. Design 3-Second Gust Wind Speed equals 110 mph with a 1.14 gust factor. A wind importance factor of 0.80 is applied to adjust the wind speed to a 25 year recurrence interval. Design moments listed in tables assume base of pole is 25' above natural ground level.

2. Structures are designed to support two 12' luminaire mast arms and luminaires. Mast arms are designed to support a 60-pound luminaire having an effective projected area of 1.6 square feet.

3. Fabrication shall be in accordance with the Specifications and with the details, dimensions, and weld procedures shown herein. Do not submit shop drawings for roadway illumination pole assemblies fabricated in accordance with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of these sheets and the Specifications. In the absence of specified fabrication tolerances, dimensions shall be within the tolerances generally obtainable in normal fabrication practice.

4. For mounting heights between values shown in the tables, use base diameter and thickness values for the larger height.

5. Unless otherwise noted, all steel parts shall be galvanized in accordance with Item 445, "Galvanizing."

6. Steel poles shall be fabricated in accordance with Item 441, "Steel Structures." Longitudinal seam welds for pole sections shall have 60% minimum penetration. All welding shall be in accordance with AWS D1.1, Structural Welding Code-Steel.

7. Two-section poles joined by circumferential welds will not be permitted, unless otherwise shown on the plans. Poles may be fabricated in two sections and field-assembled by the lap-joint method. The two sections shall telescope together with a lap length of not less than 1-1/2 times the shaft diameter at the lap joint.

8. Alternate material equal to or better than material specified may be substituted with the approval of the Engineer.

9. Lubricate and tighten anchor bolts, when erecting shoe base poles and concrete traffic barrier base poles, in accordance with Item 449, "Anchor Bolts."

10. All poles, except Transformer Base Poles, shall have hand holes with reinforcing frames and covers. For ground mounted shoe base poles, hand holes shall be placed 90 degrees to mast arm unless otherwise noted on the plans. For poles mounted on a concrete traffic barrier with one luminaire arm, hand holes shall be located 180 degrees from luminaire arm. For poles mounted on a concrete traffic barrier with two luminaire arms, all hand holes shall be on the same side of the barrier. For poles mounted on a bridge lighting bracket or a retaining wall lighting bracket, hand hole shall be on traffic side of the pole, at a height that will clear the barrier.

11. The finished pole shall have a smooth, uniform finish free of pits, blisters, or other defects. Scratched, chipped, and other damaged galvanized areas on poles and mast arms shall be repaired in accordance with Item 445, "Galvanizing."

12. Pole length is based on a 5'-6" luminaire arm rise. 4 ft. luminaire arms have a 2'-6" rise. A pole with 4 ft. luminaire arms will have an actual mounting height 3'-0" less than the nominal mounting height. Increasing the pole length to meet the nominal mounting height is allowed, but unnecessary unless otherwise directed by the engineer.

13. Erect transformer base poles in accordance with sheet RID(1).

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ROADWAY ILLUMINATION POLES

RIP(2)-19

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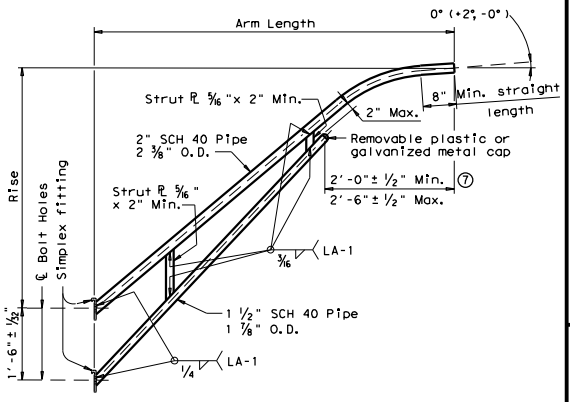
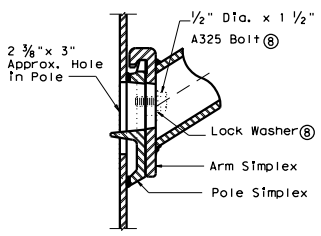


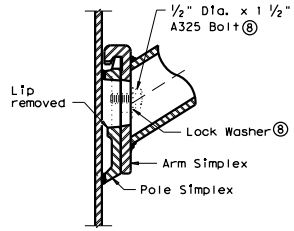
LUMINAIRE ARM

LUMINAIRE ARM DIMENSIONS		
Nominal Arm Length	Arm Length	Rise
4'-0"	3'-6"	2'-6"
6'-0"	5'-6"	5'-6"
8'-0"	7'-6"	5'-6"
10'-0"	9'-6"	5'-6"
12'-0"	11'-6"	5'-6"

ARM ASSEMBLY FABRICATION TOLERANCES TABLE	
DIMENSION	TOLERANCE
Arm Length	±1"
Arm Rise	±1"
Deviation from flat	1/8" in 12"
Spacing between holes	±1/32"

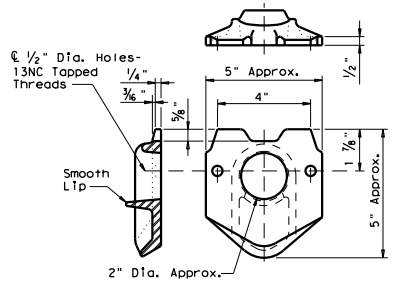


UPPER SIMPLEX FITTING
(Gusset not shown for clarity)

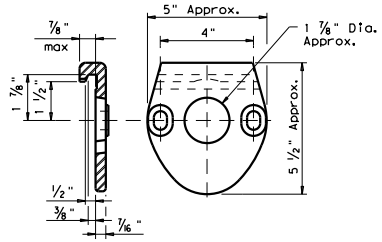


LOWER SIMPLEX FITTING
(Gusset not shown for clarity)

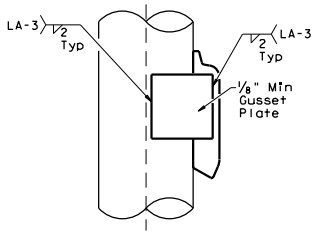
SECTION B-B



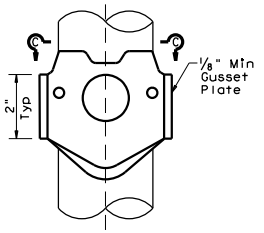
POLE SIMPLEX DETAIL ⑨



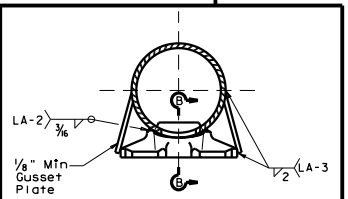
ARM SIMPLEX DETAIL ⑨



SIDE

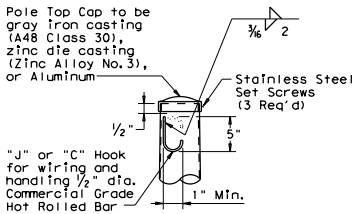


ELEVATION

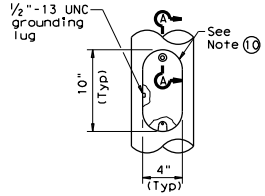


SECTION C-C

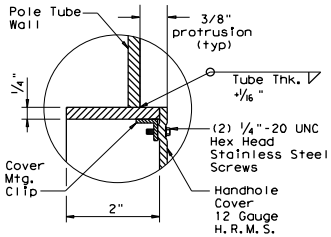
SIMPLEX ATTACHMENT DETAIL



POLE TOP



ELEVATION



SECTION A-A

HANDHOLE

NOTES:

④ Any of the materials listed for plates may be used where the drawings do not specify a particular ASTM designation.

⑤ A576 must be suitable for forging and also meet minimum tensile strength of 65 ksi, minimum yield of 35 ksi, and elongation in 2 inches of 22 percent.

⑥ A572, A1008 HSLAS-F, and A1011 HSLAS-F materials may have higher yield strengths but shall not have less elongation than the grade indicated.

⑦ Dimensional limits are given to show acceptable variation in design. All of a Fabricator's production of a particular arm length shall have the same dimensions within specified tolerances.

⑧ Each pole simplex fitting shall be supplied with 2 bolts and 2 lock washers of the size specified. The bolts and lock washers shall be secured to the pole with the other hardware items called for in the plans.

⑨ Proposed deviations in arm simplex dimensions or materials must be submitted to the Department for approval.

⑩ A welded handhole frame is permissible. Maximum of two (2) CJP weld splices is allowed.

MATERIALS	
Pole or Arm Simplex	ASTM A27 Gr 65-35 or Gr 70-36, A148 Gr 80-50, A576 Gr 1021 ⑤, or A36 (Arm only)
Arm Pipes	ASTM A53 Gr A or B, A500 Gr B, A501, A 1008 HSLAS-F Gr 50 ⑥, or A1011 HSLAS-F Gr 50 ⑥
Arm Struts and Gusset Plates ④	ASTM A36, A572 Gr 50 ⑥, or A588
Misc.	ASTM designations as noted

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ROADWAY ILLUMINATION POLES

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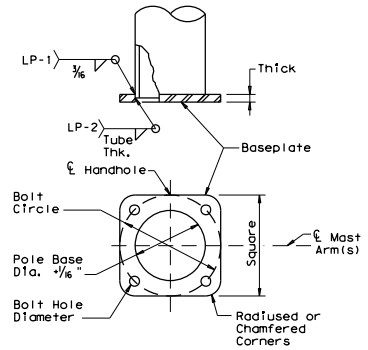
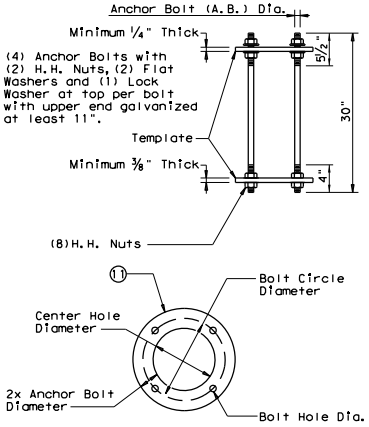


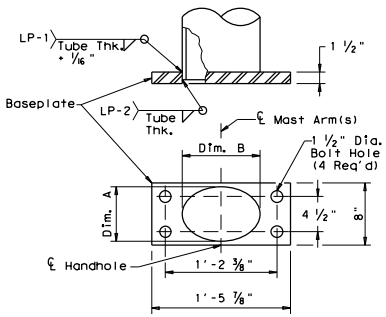
SHOE BASE BASEPLATE

SHOE BASE BASEPLATE TABLE				
MOUNTING HEIGHTS (nominal)	BOLT CIRCLE	SQUARE	THICK	BOLT HOLE DIAMETER
20'- 39'	13"	13"	1 1/4"	1 1/4"
40'	15"	15"	1 1/4"	1 1/2"
50'	15"	15"	1 1/2"	1 1/2"



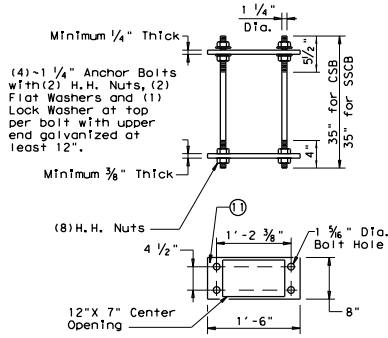
SHOE BASE ANCHOR BOLT ASSEMBLY

SHOE BASE ANCHOR BOLT ASSEMBLY TABLE				
MOUNTING HEIGHTS (nominal)	A.B. Dia.	BOLT CIRCLE DIAMETER	CTR. HOLE DIAMETER	BOLT HOLE DIAMETER
20'-39'	1"	13"	11"	1 1/16"
40'-50'	1 1/4"	15"	12 1/2"	1 5/16"



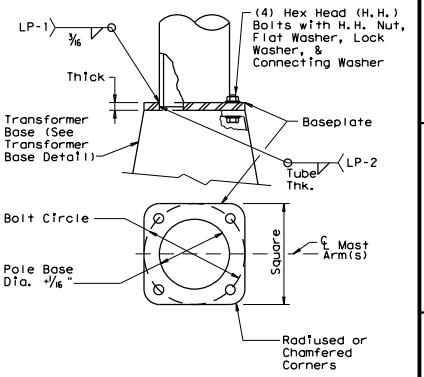
CONCRETE TRAFFIC BARRIER BASE BASEPLATE

CONCRETE TRAFFIC BARRIER BASE BASEPLATE TABLE			
MOUNTING HEIGHTS (nominal)	POLE DIA.(12)	DIM. A	DIM. B
28'- 38'	9"	7"± 1/4"	10"± 1/4"
48'	10 1/2"	7"± 1/4"	13"± 1/4"



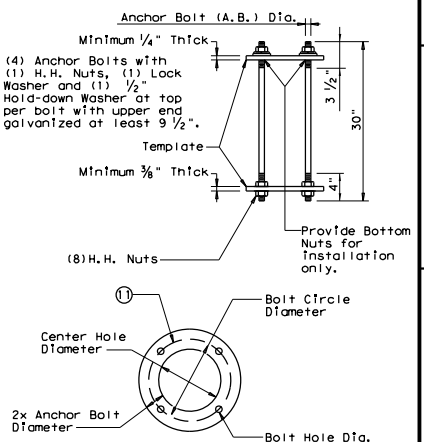
CONCRETE TRAFFIC BARRIER BASE ANCHOR BOLT ASSEMBLY

TRANSFORMER BASE ANCHOR BOLT ASSEMBLY TABLE				
MOUNTING HEIGHTS (nominal)	A.B. Dia.	BOLT CIRCLE DIAMETER	CTR. HOLE DIAMETER	BOLT HOLE DIAMETER
20'- 39'	1"	14"	12"	1 1/16"
40'- 50'	1 1/4"	17 1/4"	14 3/4"	1 5/16"



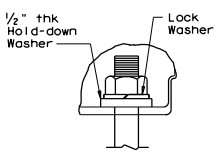
TRANSFORMER BASE BASEPLATE

TRANSFORMER BASE BASEPLATE TABLE						
MOUNTING HEIGHTS (nominal)	BOLT CIRCLE	SQUARE	THICK	CONNECTING BOLT DIA.	BOLT HOLE DIAMETER	TRANSFOMER BASE TYPE
20'- 39'	13"	13"	1 1/4"	1"	1 1/4"	A
40'	15"	15"	1 1/4"	1 1/4"	1 1/2"	B
50'	15"	15"	1 1/2"	1 1/4"	1 1/2"	B

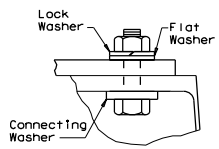


TRANSFORMER BASE ANCHOR BOLT ASSEMBLY

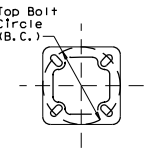
TRANSFORMER BASE TABLE		
TYPE	TOP B.C.	BTM. B.C.
A	13"	14"
B	15"	17 1/4"



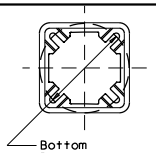
DETAIL A



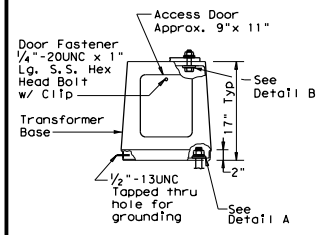
DETAIL B



TOP PLAN



BOTTOM PLAN



ELEVATION

TRANSFORMER BASE DETAILS

GENERAL NOTES:

1. For mounting heights between those shown in the table, use the values in the table for the larger mounting height.
2. All breakaway bases shall meet the breakaway requirements of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 6th Edition (2013) and Interim Revisions thereto, and shall have been tested by FHWA-approved methods. All bases shall have been structurally tested to resist 150% of the design moment.
3. Transformer bases shall be cast from aluminum, ASTM B108 or B26 Alloy 356.0-T6, or other material approved by the Engineer. Four Hex Head (H.H.) bolts with four H.H. nuts, four lock washers, four flat washers, and connecting and hold-down washers as recommended by the manufacturer, galvanized to ASTM A153 Class C or D, or B695 Class 50, shall be provided with each transformer base for connecting the pole. Bolts shall be ASTM A325 or approved equal. Nuts shall be ASTM A563 grade DH galvanized.
4. Bases shall be stamped, incised or by other approved permanent means, marked to show fabricator's name or logo, and model number. Such information shall be placed in a readily seen location, inside or outside the base, but shall not be placed on the door.
5. Doors for transformer bases shall be made of plastic, fiberglass or other non-metallic material approved by the Engineer and shall be attached with stainless steel screws or bolts. Transformer bases shall be cleaned by grit blast cleaning after heat treatment. Certification by the manufacturer of heat treatment shall be furnished with transformer bases. The certification shall show the metal alloy and temper and that the base meets those requirements, chemical and physical. The certification shall also show the material ASTM specification. Transformer bases shall be cast with a removable tab bar for material testing. Some bars may have been removed by the manufacturer for testing.

NOTES:

(11) Anchor Bolt Templates do not need to be galvanized.

(12) Pole diameter before ovalized.

ANCHOR BOLT FABRICATION TOLERANCES TABLE	
DIMENSION	TOLERANCE
Length	± 1/2"
Threaded length	± 1/2"
Galvanized length (If required)	- 1/4"

SHEET 4 OF 4

Texas Department of Transportation — Traffic Safety Division Standard

ROADWAY ILLUMINATION POLES

RIP(4)-19

FILE: rip-19.dgn	DN:	CK:	DW:	CK:
©TxDOT January 2007	CONT	SECT	JOB	HIGHWAY
REVISIONS 7-17 12-19	DIST	COUNTY		SHEET NO. 185

730

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
100A	1	LS	Mobilization at W White Avenue & Westcreek Ranch Apartments Driveway complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
100B	1	LS	Mobilization at W White Avenue & Community Ave complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
100C	1	LS	Mobilization at Eldorado Parkway & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
100D	1	LS	Mobilization at US 380 & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
101A	1	LS	General Site Preparation at W White Avenue & Westcreek Ranch Apartments Driveway complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
101B	1	LS	General Site Preparation at W White Avenue & Community Ave complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
101C	1	LS	General Site Preparation at Eldorado Parkway & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
101D	1	LS	General Site Preparation at US 380 & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
102A	1	LS	Traffic Control at W White Avenue & Westcreek Ranch Apartments Driveway complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
102B	1	LS	Traffic Control at W White Avenue & Community Ave complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
102C	1	LS	Traffic Control at Eldorado Parkway & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
102D	1	LS	Traffic Control at US 380 & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
103A	1	LS	SWPPP (Including Tree Protection) at W White Avenue & Westcreek Ranch Apartments Driveway complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
103B	1	LS	SWPPP (Including Tree Protection) at W White Avenue & Community A complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
103C	1	LS	SWPPP (Including Tree Protection) at Eldorado Parkway & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
103D	1	LS	SWPPP (Including Tree Protection) at US 380 & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
104A	1	LS	Furnish & Install Project Signs at W White Avenue & Westcreek Ranch Apartments Driveway complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
104B	1	LS	Furnish & Install Project Signs at W White Avenue & Community Ave complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
104C	1	LS	Furnish & Install Project Signs at Eldorado Parkway & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
104D	1	LS	Furnish & Install Project Signs at US 380 & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
105A	1	LS	Irrigation at W White Avenue & Westcreek Ranch Apartments Driveway complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
105B	1	LS	Irrigation at W White Avenue & Community Ave complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
105C	1	LS	Irrigation at Eldorado Parkway & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
105D	1	LS	Irrigation at US 380 & Lake Forest Drive complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
200	5,725	LF	Sawcut, Remove, & Dispose of Existing Concrete Curb & Gutter (All Types) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
201	2,756	SY	Sawcut, Remove, & Dispose of Existing Concrete Pavement, Concrete Median Nose, & Concrete Median (All Depths, All Types) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
202	753	SY	Sawcut, Remove, & Dispose of Existing Concrete Commercial Driveways (All Depths, All Types) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
203	911	SY	Sawcut, Remove, & Dispose of Existing Concrete Sidewalk (All Depths, All Types) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
204	14	SY	Remove Existing Pavers (All Depths, All Types) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
205	1	EA	Remove Existing HOA Monument complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
206	15	EA	Remove Existing Concrete Ramps complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
207	1	EA	Remove Existing 8' Recessed Curb Inlet complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
208	4	EA	Remove Existing 10' TxDOT Curb Inlet Top (PCO) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
209	5	EA	Remove Existing 15' TxDOT Curb Inlet Top (PCO) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
210	1	EA	Remove Existing 10' TxDOT Curb Inlet Base (PB) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
211	2	EA	Remove Existing 15' TxDOT Curb Inlet Base (PB) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
212	1	EA	Remove Existing Junction Box Lid (PSL) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
213	25	LF	Remove Existing 18" RCP complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
214	1	EA	Remove Existing Storm Manhole Concrete Pad complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
215	16	EA	Remove Trees (>6" to 18") complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
216	4	EA	Remove Trees (>18" to 30") complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
217	1,801	LF	Remove Existing Reflective Pavement Marking TY I White 6" Skip complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
218	5,533	LF	Remove Existing Reflective Pavement Marking TY I White 8" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
219	550	LF	Remove Existing Reflective Pavement Marking TY I White 24" Solid (Stop Bar) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
220	653	LF	Remove Existing Reflective Pavement Marking TY I White 24" Solid (Cross Walk) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
221	16	EA	Remove Existing Reflective Pavement Marking TY I Arrow complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
222	15	EA	Remove Existing Reflective Pavement Marking TY I Word complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
223	671	LF	Remove Existing Reflective Pavement Marking TY I Yellow Double 4" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
224	525	LF	Remove Existing Reflective Pavement Marking TY I Yellow 6" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
225	133	LF	Remove Existing Reflective Pavement Marking TY I Yellow 12" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
226	401	1 LF	Remove Existing Reflective Pavement Marking TY I White 6" Dot Puppy Tracks complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ LF	$
227	7	EA	Remove Existing Traffic Sign complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
228	106	EA	Remove Reflective Pavement Marking TY II-C-R complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
300	3,286	CY	Unclassified Street Excavation complete in place, the sum of, _____ Dollars and _____ Cents per CUBIC YARD	/ CY	$
301	852	CY	Compacted Earth Fill complete in place, the sum of, _____ Dollars and _____ Cents per CUBIC YARD	/ CY	$
302	2,041	SY	Furnish & Install 8" Flexbase with Geogrid complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
303	5,867	SY	Furnish & Install 20" Lime Stabilized Subgrade complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
304	294	TON	Furnish & Install Lime complete in place, the sum of, _____ Dollars and _____ Cents per TON	/ TON	$
305	5,867	SY	Furnish $ Install 4" Type B HMAC (PG-64-22) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
306	3,659	SY	Furnish & Install 10" CRCP (TXDOT Class P) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
307	1 1,618	SY	Furnish & Install 8" Reinforced Concrete Pavement complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
308	560	SY	Furnish & Install 6" Reinforced Concrete Driveway complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
309	1,480	LF	Furnish & Install 6" Monolithic Curb & Gutter complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
310	3,885	LF	Furnish & Install Type II Curb (Mono) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
311	5	EA	Furnish & Install Monolithic Median Nose - Type A complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
312	3	EA	Furnish & Install Monolithic Median Nose - Type B complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
313	95	SY	Furnish & Install Colored Textured Concrete complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
314	601	SY	Furnish & Install Concrete Median complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
315	3	EA	Furnish & Install 6' Mower Ramp complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
316	1,162	SY	Furnish & Install 4" Reinforced Concrete Sidewalk (Width Varies) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
317	228	SY	Furnish & Install 5" Reinforced Concrete Trail (Width Varies) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
318	21	EA	Furnish & Install Barrier Free Ramp complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
319	2,570	SY	Furnish & Install Solid Sod complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE YARD	/ SY	$
320	211	LF	Furnish and Install Curb Wall complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
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Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
321	1	LS	Furnish & Install Landscaping, Including Tree Lighting complete in place, the sum of, _____ Dollars and _____ Cents per LUMP SUM	/ LS	$
322	65	LF	Furnish and Install Pedestrian Rail complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
400	1,590	LF	Reflective Pavement Marking TY I White 6" Skip complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
401	1,869	LF	Reflective Pavement Marking TY I White 6" Dot - Puppy Track complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
402	3,037	LF	Reflective Pavement Marking TY I White 6" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
403	1 6,532	LF	Reflective Pavement Marking TY I White 8" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
404	641	LF	Reflective Pavement Marking TY I White 24" Solid - Stop Bar complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
405	977	LF	Reflective Pavement Marking TY I White 24" Solid - Crosswalk complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
406	75	EA	Reflective Pavement Marking TY I White Arrow complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
407	16	EA	Reflective Pavement Marking TY I White Word complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
408	240	LF	Reflective Pavement Marking TY I Yellow Double 4" Solid (Detail E) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
409	2,482	LF	Reflective Pavement Marking TY I Yellow 6" Solid complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
410	494	LF	Reflective Pavement Marking TY I Yellow Double 4" Solid (Detail K) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
411	133	LF	Reflective Pavement Marking TY I Yellow 12" Solid - Crosshatch complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
412	502	EA	Reflective Pavement Marking TY II-C-R complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
413	37	EA	Reflective Pavement Marking TY II-A-A complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
414	48	LF	Reflective Pavement Marking Fire Lane Striping complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
415	7	EA	Furnish & Install Traffic Sign complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
500	4	EA	Relocate Water Meter complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
600	1	EA	Furnish & Install 8' Recessed Curb Inlet complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
601	4	EA	Furnish & Install 10' TXDOT Curb Inlet Base (PB) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
602	4	EA	Furnish & Install 15' TXDOT Curb Inlet Base (PB) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
603	4	EA	Furnish & Install 10' TXDOT Curb Inlet Top (PCO) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
604	5	EA	Furnish & Install 15' TXDOT Curb Inlet Top (PCO) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
605	3	EA	Furnish & Install 10' TXDOT Junction Box Lid (PSL) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
606	3	EA	Furnish & Install 15' TXDOT Junction Box Lid (PSL) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
607	77	LF	Furnish & Install 18" Class III RCP complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
608	14	LF	Furnish & Install 21" Class III RCP complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
609	10	LF	Furnish & Install 24" Class III RCP complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
700	56	LF	Drill Shaft (Trf Sig Pole) (24 In) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
701	12	LF	Drill Shaft (Trf Sig Pole) (30 In) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
702	54	LF	Drill Shaft (Trf Sig Pole) (48 In) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
703	320	LF	Conduit (Pvc) (Sched 40)(2")(Trench) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
704	325	LF	Conduit (Pvc) (Sched 40)(3")(Trench) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
705	1,010	LF	Conduit (Pvc) (Sched 40)(3")(Bore) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
706	5	LF	Conduit (Pvc) (Sched 40)(4")(Trench) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
707	2,100	LF	Elec Conductor (No.6) Bare complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
708	1,450	LF	Elec Conductor (No.6) Insulated complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
709	2,570	LF	Elec Conductor (No.8) Insulated complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
710	12	EA	Ground Box Ty D w/ Apron complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
711	12	EA	Remove Ground Box complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
712	15	EA	Backplate (12 In)(3 Sec) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
713	7	EA	Backplate (12 In)(4 Sec) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
714	8	EA	Backplate (12 In)(5 Sec) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
715	12	EA	Ped Sig Sec (12")(Led)(Countdown/ 2 Indications) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
716	23	EA	Veh Sig Sec (12 In)(Red) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
717	23	EA	Veh Sig Sec (12 In)(Yellow) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
718	23	EA	Veh Sig Sec (12 In)(Green) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
719	14	EA	Veh Sig Sec (12 In)(Red Arrow) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
720	15	EA	Veh Sig Sec (12 In)(Yellow Arrow) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
721	15	EA	Veh Sig Sec (12 In)(Green Arrow) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
722	2,275	LF	Traffic Signal Cable (Ty C)(12 Awg)(2 Cndr) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
723	790	LF	Traffic Signal Cable (Ty A)(14 Awg)(5 Cndr) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
724	945	LF	Traffic Signal Cable (Ty A)(14 Awg)(7 Cndr) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
725	2,180	LF	Traffic Signal Cable (Ty A)(14 Awg)(10 Cndr) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
726	1,150	LF	Traffic Signal Cable (Ty A)(14 Awg)(20 Cndr) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
727	1	EA	Ins Traffic Signal Assembly (S) 1 Arm (32')(Lum) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
728	1	EA	Ins Traffic Signal Assemble (S) 1 Arm (55')(Lum) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
729	2	EA	Ins Traffic Signal Assemble (S) 1 Arm (65')(Lum) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
730	12	EA	Install Ped Pole Assembly complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
731	2	EA	Remove Ped Pole Assembly complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
732	12	EA	Ins Ped Detect (2 In Push Button) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
733	12	EA	Pedestrian Sign (R10-3e) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
734	690	LF	Vivds Cable (Install) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
735	5	EA	Vivds Camera (Install) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
736	1,180	LF	Opticom Cable (Install) complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
737	5	EA	Opticom Receiver (Install) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
738	22	SF	Install Aluminum Signs (Ty A) complete in place, the sum of, _____ Dollars and _____ Cents per SQUARE FOOT	/ SF	$
739	11	EA	Relocate Aluminum Signs (Ty A) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
740	2	EA	Remove Aluminum Signs (Ty A) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
741	1	EA	Remove Control Cabinet (Grnd Mnt) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
742	1	EA	Install Control Cabinet (Grnd Mnt) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
743	4	EA	Remove Signal Pole Assembly complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
744	1	EA	ITS Pole (40 ft)(Relocate) complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
800	56	VF	Drill Shaft (Rdwy III Pole) (30 In) complete in place, the sum of, _____ Dollars and _____ Cents per TON	/ VF	$
801	7	EA	Relocate Light Pole complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
802	4	EA	Connect to Existing Conduit (Pvc)(Sched 40)(2") complete in place, the sum of, _____ Dollars and _____ Cents per EACH	/ EA	$
803	94	LF	Conduit (Pvc) (Sched 40)(2")(Trench)(Including relocating exsiting cond complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$

Bid Form
City of McKinney
Intersection Capacity Improvements (FY23)
Bid No. 25-59ITB CIP # ST2303

Item No.	Quantity	Unit	Description & Written Unit Price	Unit Price	Total
804	872	LF	Conduit (Pvc) (Sched 40)(2")(Bore)(Including relocating exsiting conduc complete in place, the sum of, _____ Dollars and _____ Cents per LINEAR FOOT	/ LF	$
TOTAL BID AMOUNT			_____ Dollars and _____ Cents		$

NOTES:
1. CONTRACTOR IS TO BID THIS PROJECT PER THE BID SCHEDULE.
2. CONTRACTOR IS TO BID ALL ITEMS PER THE QUANTITY AND UNIT AS DETAILED IN THE BID SCHEDULE.
3. ANY BID LEFT BLANK OR BID AS $0.00 WILL BE CONSIDERED A NON-BID AND WILL DISQUALIFY THE ENTIRE BID.
4. ANY CHANGE TO THE QUANTITIES OR UNITS WILL BE CONSIDERED ALTERING THE BID AND WILL BE DISQUALIFIED.

Measurement and payment for this item will be the price bid per EACH junction box lid installed, and will be full compensation for all materials, equipment, labor, and any other incidentals necessary.

Bid Items included under this SP are:

a. 10' TXDOT Junction Box Lid (PSL)
b. 15' TXDOT Junction Box Lid (PSL)

SP-46: CLASS III RCP STORM SEWER PIPE (ALL SIZES)

All work will be done and paid for in accordance with NCTCOG Items 501.6 and 508, TxDOT Item 464, and as described within this bid item.

This item will include all sizes of reinforced concrete storm sewer pipe shown in the plans, including bends, transitions, and branches. Included in this bid item will be all necessary trench safety, backfill and embedment required for the installation of the proposed line.

Measurement and payment for this item will be made on the basis of the price bid per LINEAR FOOT of each size storm sewer pipe and will be full compensation for all materials, equipment, labor, and any other incidentals necessary to install the storm sewer.

Bid Items included under this SP are:

a. 18" Class III RCP
b. 21" Class III RCP
c. 24" Class III RCP

SP-47: TRAFFIC SIGNAL MODIFICATIONS

All work will be done and paid for in accordance with TxDOT Items 416, 618, 620, 624, 680, 682, 684, 686, 687, 688, 690, 6006, 6011, and LMA-12.

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SP-48: ILLUMINATION

All work will be done and paid for in accordance with TxDOT Items 416, 610, and 612. All pole relocations shall exclude luminaires. Luminaires shall be installed by others after completion of this project