STATE AID PROJECT NO.			
C 3586-2-6			
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		1
DESIGN CRITERIA: PREVENTIVE MAINTENANCE			
A.D.T. (2022): 3343			
A.D.T. (2042): 6352			
% TRUCK IN ADT: 92.3%			
FUNCTIONAL CLASS: PRINCIPAL ARTERIAL- OTHER			
DESIGN SPEED: (70 MPH MAINLANES)(50 MPH RAMPS)			
TDLR REQUIRED: NO			

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
SEE SHEET 2	

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED STATE HIGHWAY IMPROVEMENT

STATE AID PROJECT NO. C 3586-2-6

SH 255
WEBB COUNTY
CSJ: 3586-02-006

NET LENGTH OF ROADWAY = 43,684.07 FT. = 8.273 MI.
NET LENGTH OF BRIDGE = 783.00 FT. = 0.148 MI.
NET LENGTH OF PROJECT = 44,457.60 FT. = 8.422 MI.

LIMITS FROM: 6.054 MILES EAST OF FM 3338
LIMITS TO: IH 35

FOR THE CONSTRUCTION OF REHABILITATION OF EXISTING ROAD
CONSISTING OF TREAT EXIST SUBGRADE, TREAT FLEXBASE, HMA SUPERPAVE TYC, MBGF & PAVEMENT MARKINGS

FINAL PLANS

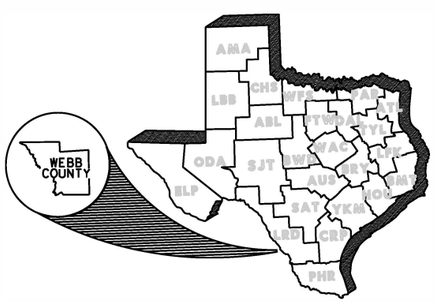
LETTING DATE: _____

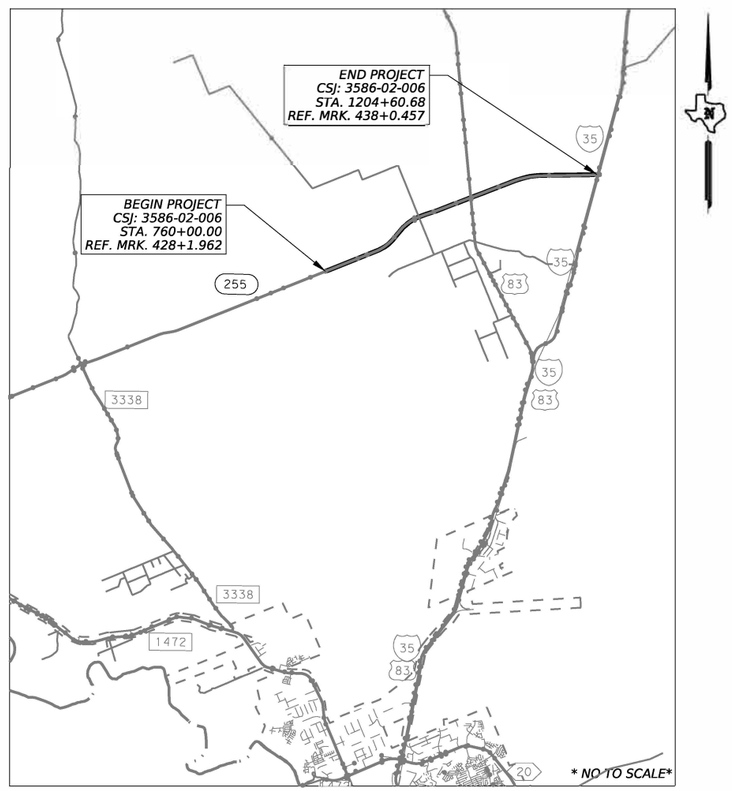
DATE CONTRACTOR BEGAN WORK: _____

DATE WORK WAS COMPLETED & ACCEPTED: _____

FINAL CONTRACT COST: $ _____

CONTRACTOR : _____





EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: UPRR 849042K

FINAL AS BUILTS

THE CONSTRUCTION WAS PERFORMED UNDER MY SUPERVISION IN ACCORDANCE WITH THE PLANS AND CONTRACT

_____
AREA ENGINEER

_____
DATE

Texas Department of Transportation

©2024 BY TEXAS DEPARTMENT OF TRANSPORTATION, ALL RIGHTS RESERVED

SUBMITTED FOR LETTING: 4/1/2024
DocuSigned by:
TRANSPORTATION ENGINEER
8EE5B149888F4E9...

RECOMMENDED FOR LETTING: 4/1/2024
DocuSigned by:
AREA ENGINEER
A54CD9F731724EC...

RECOMMENDED FOR LETTING: 4/1/2024
DocuSigned by:
Roberto Rodriguez III
DISTRICT DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT
A7BEC4A7B8A4E...

APPROVED FOR LETTING: 4/1/2024
DocuSigned by:
DISTRICT ENGINEER
A5A9883ECD1E4F7...

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000---008).

© 2024 BY TEXAS DEPARTMENT OF TRANSPORTATION; ALL RIGHTS RESERVED.

DATE: 5/1/2024 4:23:06 PM
FILE: c:\txdot\pw_onlinet\xdot5\misael.aguilar\d0763331\2006 SH255 TITLE SHEET.dgn

GENERAL

1	TITLE SHEET
2	INDEX OF SHEETS
3-4	PROJECT LAYOUT
5-9	EXISTING TYPICAL SECTIONS
10-15	PROPOSED TYPICAL SECTIONS
16-23	GENERAL NOTES
24-26	ESTIMATE & QUANTITY
27-29	SUMMARY OF EARTHWORK
30	SUMMARY OF TCP
31	SUMMARY OF ROADWAY
32	SUMMARY OF DRIVEWAYS
33	SUMMARY OF DRAINAGE, MBGF & BRIDGE
34	SUMMARY OF PAVEMENT MARKINGS & DELINEATORS
35	SUMMARY OF SIGNS
36	SUMMARY OF SW3P AND SOIL STABILITATION

TRAFFIC CONTROL PLAN

37	TCP GENERAL NOTES
38-39	TCP SEQUENCE OF CONSTRUCTION
40-41	TCP SEGMENT PHASING DETAIL
42-44	TCP TYPICAL PHASE SECTIONS
45	TCP JEFFERIES (WB & EB) INTERSECTION STAGE 1 LAYOUT
46	DETOUR JEFFERIES WESTBOUND STAGE 1 LAYOUT
47	DETOUR JEFFERIES EASTBOUND STAGE 1 LAYOUT
48	TCP JEFFERIES (WB) INTERSECTION STAGE 2 LAYOUT
49	TCP JEFFERIES (EB) INTERSECTION STAGE 3 LAYOUT
50-52	TCP JEFFERIES (WB) RAMP STAGE 4 LAYOUT
53-55	TCP JEFFERIES (EB) RAMP STAGE 5 LAYOUT
56	DETOUR US 83 WESTBOUND STAGE 1 LAYOUT
57	DETOUR US 83 WESTBOUND STAGE 2 LAYOUT
58	DETOUR US 83 WESTBOUND STAGE 3 LAYOUT
59	DETOUR US 83 WESTBOUND STAGE 4 LAYOUT
60	TCP US 83 ENTRANCE RAMP CLOSURE DETAIL
61	TCP US 83 EXIT RAMP CLOSURE DETAIL
62	TCP PTB INSTALLATION LAYOUT
63	TCP PLACEMENT OF MESSAGE SIGN & TMSP RADAR
64	TCP CONSTRUCTION JOINT DETAIL

TRAFFIC CONTROL PLAN STANDARDS

65-76	BC (1) - 21 THRU BC (12) - 21
77	TCP (1 - 7) - 11
78	TCP (2 - 1) - 18
79	TCP (2 - 6) - 18
80	TCP (3 - 1) - 13
81	TCP (3 - 2) - 13
82	TCP (3 - 3) - 14
83	TCP (6 - 4) - 12
84	WZ (BRK) - 13
85	WZ (UL) - 13
86	WZ (STPM) - 23
87	WZ (RS) - 22
88	WZ (RCD) - 13
89-90	SSCB(2) - 10
91	BARRIERGUARD - 19
92	HIGHWAYGUARD - 21
93	HV2 BARRIER - 21
94	ZONEGUARD - 19
95	ABSORB(M) - 19
96	SLED - 19
97	CCSS

ROADWAY DETAILS

98-100	SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET
101-108	GEOMETRIC DATA SHEET
109-144	MAINLANES PLAN & PROFILE LAYOUT
145-148	JEFFERIES (WB)RAMP PLAN & PROFILE LAYOUT
149-153	JEFFERIES (EB) RAMP PLAN & PROFILE LAYOUT
154	JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL
155-158	US 83 (WB) RAMP PLAN & PROFILE LAYOUT
159-162	US 83 (EB) RAMP PLAN & PROFILE LAYOUT
163-165	DRIVEWAY CROSS SECTION DETAILS
166	ROADWAY MISCELLANEOUS DETAIL MOWSTRIP

ROADWAY STANDARDS

167	RS (2) - 23
168	RS (3) - 23
169	RS (4) - 23
170	RS (5) - 23
171	GF (31) - 19
172-173	GF (31) TRTL3 - 20
174	GF (31) MS - 19
175	SGT (10S) 31 - 16
176	SGT (11S) 31 - 18
177	SGT (12S) 31 - 18
178	SGT (15) 31 - 20
179	BED - 14

DRAINAGE DETAILS

180-182	STRUCTURE CROSS SECTION DETAILS

DRAINAGE STANDARDS

183	BCS
184-186	SETB-FW-S
187	SCC-MD
188-189	SCC-5&6
190-191	SCC-8
192	MC-MD
193-194	MC-8-13
195-196	SETB-CD
197-198	SETP-CD

BRIDGE DETAILS

199-200	BRIDGE PROTECTION INSTALLATION LAYOUT

PAVEMENT MARKING DETAILS

201-219	PAVEMENT MARKING & SIGNING LAYOUT
220-221	SPECIAL SIGNS

PAVEMENT MARKINGS, SIGNING & DELINEATION STANDARDS

222	PM (2) - 22
223	PM (3) - 22
224	CLB(1) - 23
225	CLB(2) - 23
226	TS2(PL-2) - 23
227-237	SOSS
238	SMD (GEN) - 08
239	SMD (SLIP - 1) - 08
240	SMD (SLIP - 2) - 08
241	SMD (SLIP - 3) - 08
242	SOLS
243	SMD(2-1)-08
244	SMD(2-2)-08
245	SMD(2-3)-08
246	SMD(2-4)-08
247	SMD(2-6)-01
248	SMD(TY G)-08
249	SMD(8W1)-08
250	SMD(8W2)-08
251	TSR (3) - 13
252	TSR (4) - 13
253	TSR (5) - 13
254	D & OM (1) - 20
255	D & OM (2) - 20
256	D & OM (4) - 20
257	D & OM (5) - 20
258	D & OM (VIA) - 20

ENVIRONMENTAL ISSUES

259	ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENT (EPIC)
260-261	STORM WATER POLLUTION PREVENTION PLAN (SWP3)
262	TYPICAL SECTIONS RIGHT OF WAY MOWING ON HIGHWAYS

ENVIRONMENTAL ISSUES STANDARDS

263-264	REVEGETATION NOTES AND SPECIFICATIONS
265	EC (1) - 16
266	EC (2) - 16
267	EC (3) - 16
268	STRIP MOWING NON-DIVIDED HIGHWAYS
269	STRP MOWING DIVIDED HIGHWAYS

RAILROAD

270	RAILROAD SCOPE OF WORK

STANDARD SHEETS SPECIFICALLY IDENTIFIED ON THE "INDEX OF SHEETS" HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBILE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

DocuSigned by:

8EE5B149888F4E9...

6/03/2024

DATE

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

NOT TO SCALE

Texas Department of Transportation

SH 255

INDEX OF SHEETS

©TxDOT 2024

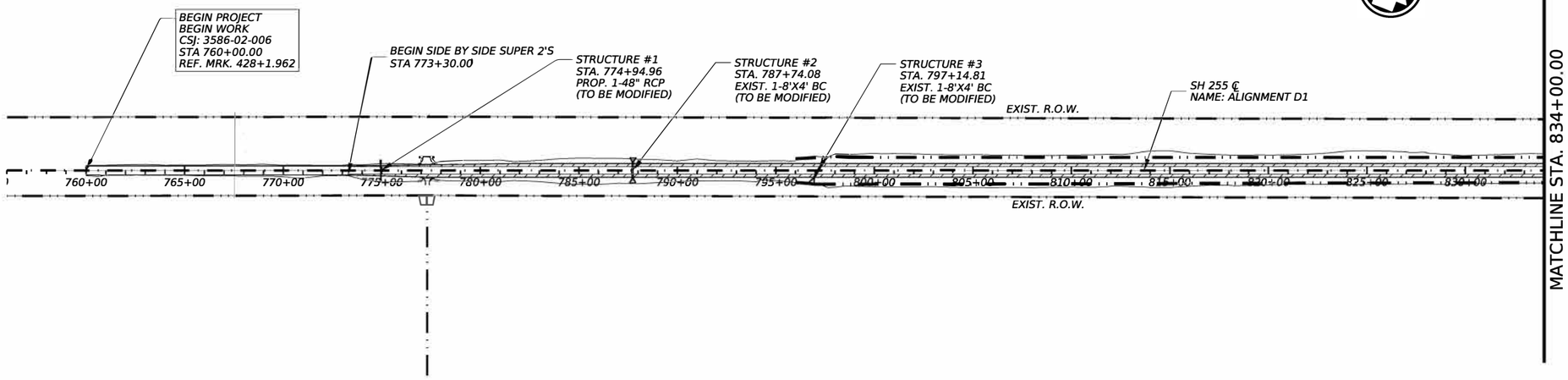
SHEET 1 OF 1

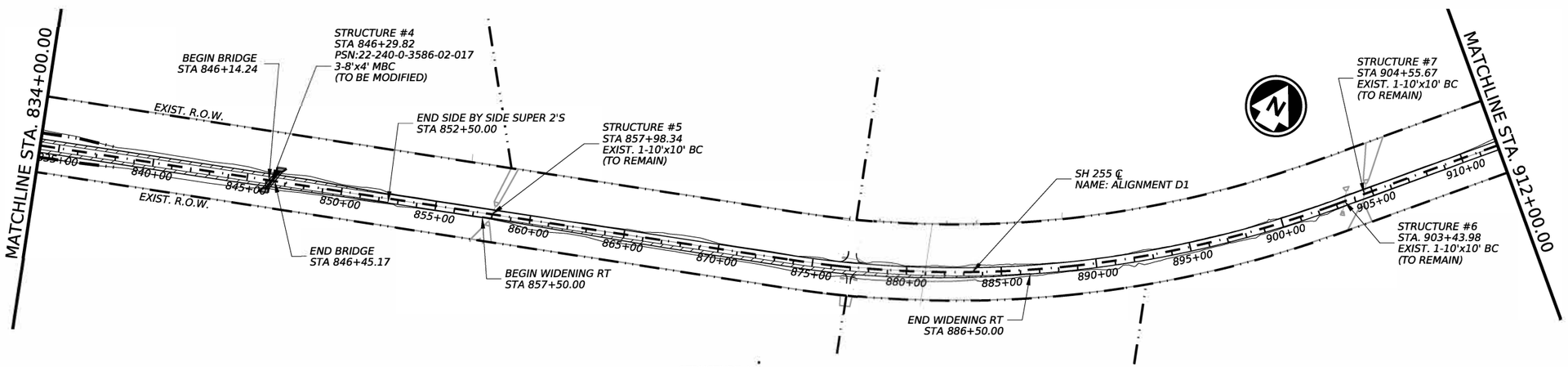
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	2

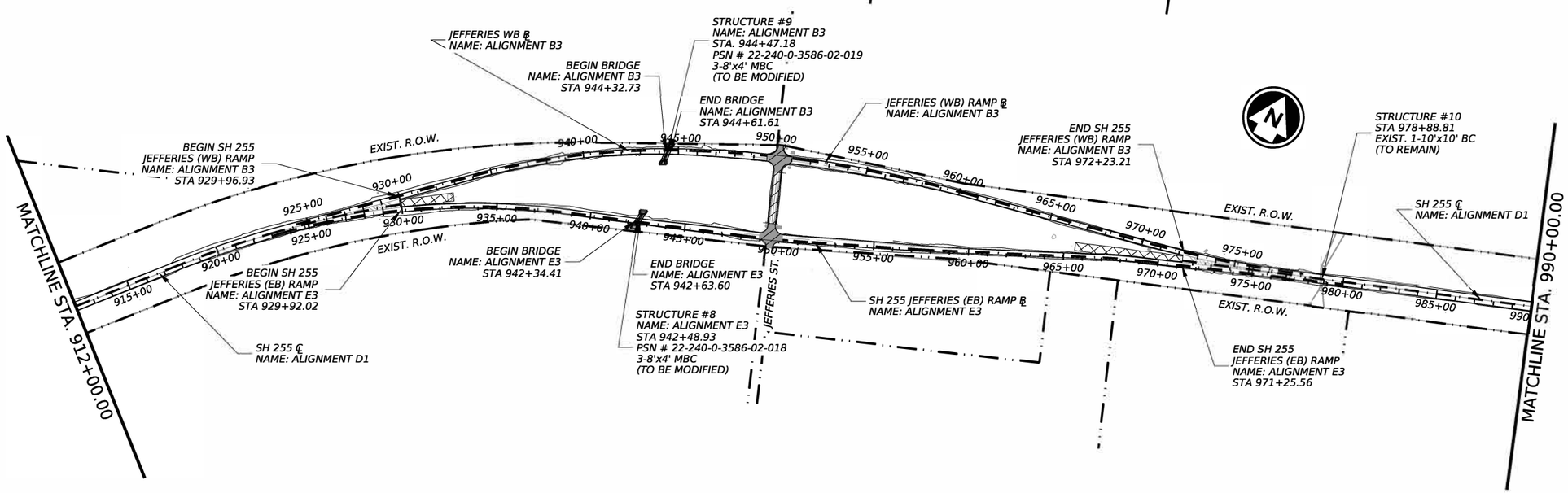
TS

DATE: 6/3/2024 11:20:58 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006 SH255 INDEX.dgn

DN: CK: DW: CK:







NOTES:

1. PLACE ADVANCE WARNING SIGNS AND BARRICADES IN ACCORDANCE WITH THE TMUTCD AND BC STANDARD SHEETS.

2. CONTRACTOR WILL UTILIZE TCP STANDARDS AND TMUTCD TO ACCOMMODATE FIELD CONDITIONS AS PER PLANS; OTHERWISE SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN OUTLINING IN DETAIL THE METHOD OF HANDLING TRAFFIC WITHIN AND ADJACENT TO THE WORK ZONE AREA BEFORE THE IMPLEMENTATION OF WORK.

3. REFER TO "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR CURVE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

0 325 650
SCALE IN FEET

Texas Department of Transportation

SH 255

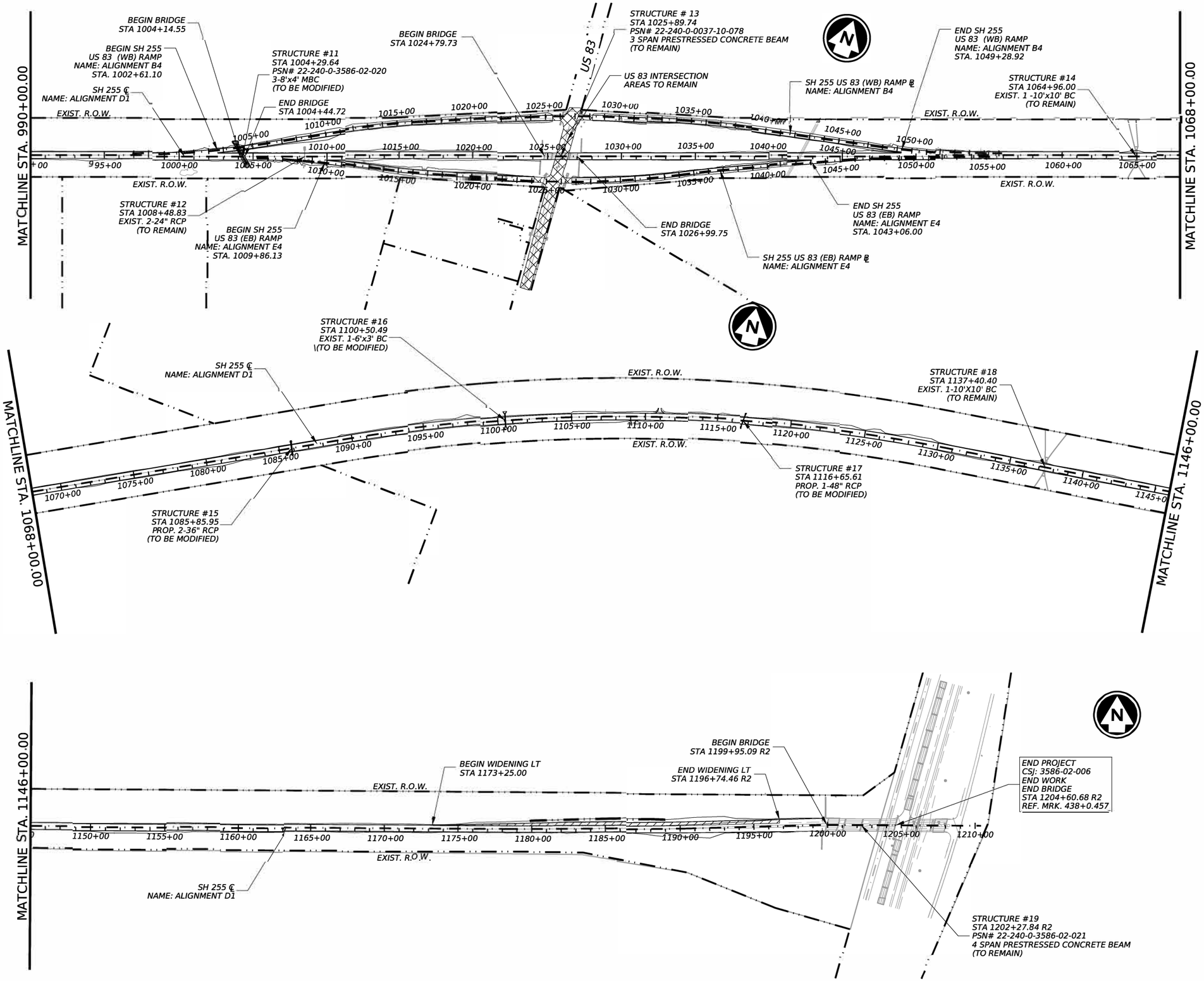
PROJECT LAYOUT

©TxDOT 2024

SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		3

DATE: 5/1/2024 9:12:05 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763331\006 prolay01.dgn



NOTES:

1. PLACE ADVANCE WARNING SIGNS AND BARRICADES IN ACCORDANCE WITH THE TMUTCD AND BC STANDARD SHEETS.

2. CONTRACTOR WILL UTILIZE TCP STANDARDS AND TMUTCD TO ACCOMMODATE FIELD CONDITIONS AS PER PLANS; OTHERWISE SUBMIT FOR APPROVAL A TRAFFIC CONTROL PLAN OUTLINING IN DETAIL THE METHOD OF HANDLING TRAFFIC WITHIN AND ADJACENT TO THE WORK ZONE AREA BEFORE THE IMPLEMENTATION OF WORK.

3. REFER TO "GEOMETRIC DATA" SHEET(S) FOR CURVE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

0 325 650
SCALE IN FEET

Texas Department of Transportation

SH 255

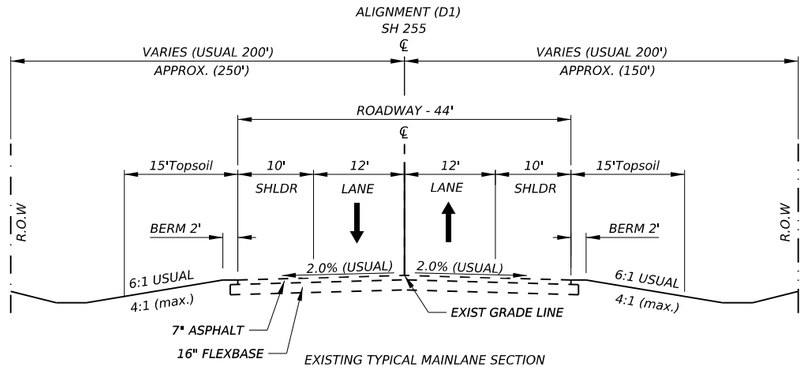
PROJECT LAYOUT

© TxDOT 2024

SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		4

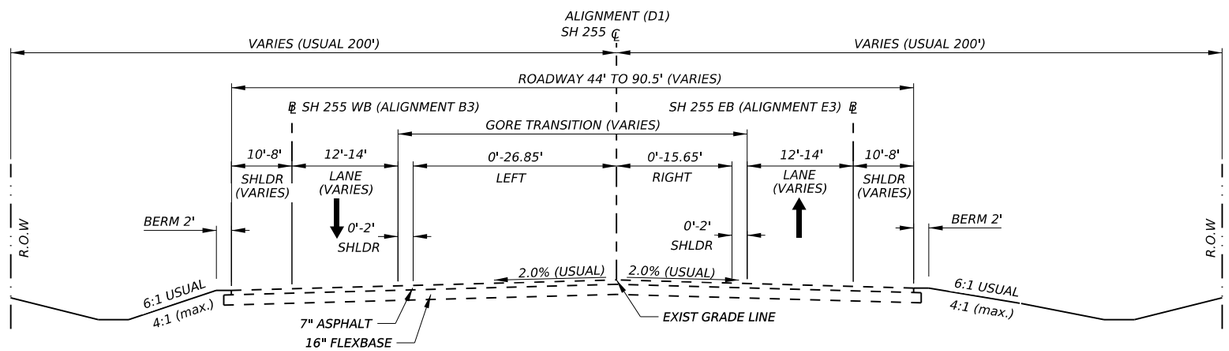
DATE: 4/10/2024 1:37:50 PM
FILE: c:\Users\mtoston\Desktop\Temp\AcPublish_16688\SH255_sht_layout.dwg



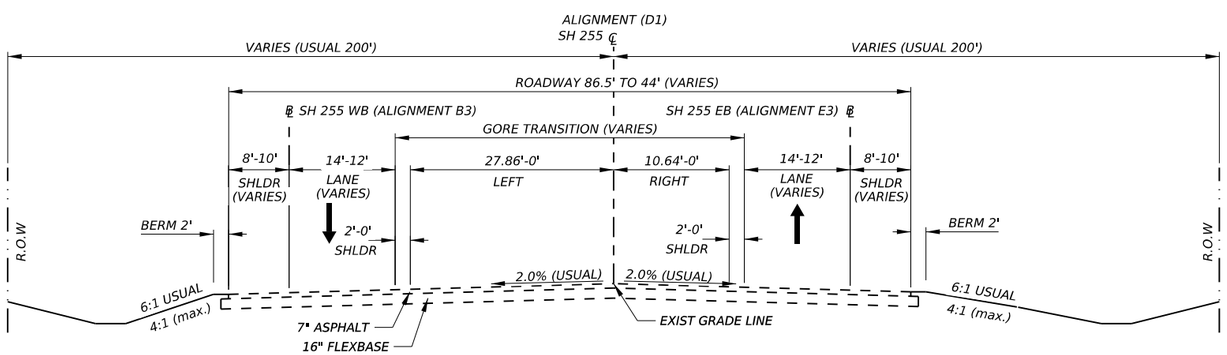
EXISTING TYPICAL MAINLANE SECTION
(ALIGN. D1) STA. 760+00 TO STA. 923+00
(ALIGN. D1) STA. 978+80.00 TO STA. 996+90.51
(ALIGN. D1) STA. 1002+60.15 TO STA. 1005+24.93
(ALIGN. D1) STA. 1009+84.96 TO STA. 1024+54.06
(ALIGN. D1) STA. 1027+25.81 TO STA. 1042+92.46
(ALIGN. D1) STA. 1055+91.09 TO STA. 1188+46.08 R2

EXISTING CONCRETE PAVEMENT TO REMAIN
(ALIGN. D1) STA. 1024+54.06 TO STA. 1027+25.74

NOTES:
EXISTING TOPSOIL WILL BE SALVAGED IN WINDROWS ALONG PROPOSED WIDENING SECTIONS AND WILL NOT BE PAID DIRECTLY BUT WILL BE SUBSIDARY TO ITEM 132 EMBANKMENT



EXISTING TYPICAL MAINLANE SECTION
(ALIGN. D1) STA. 923+00.00 TO STA.929+95.32



EXISTING TYPICAL MAINLANE SECTION
(ALIGN. D1) STA. 971+44.23 TO STA.978+80.00

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

EXISTING
TYPICAL SECTIONS

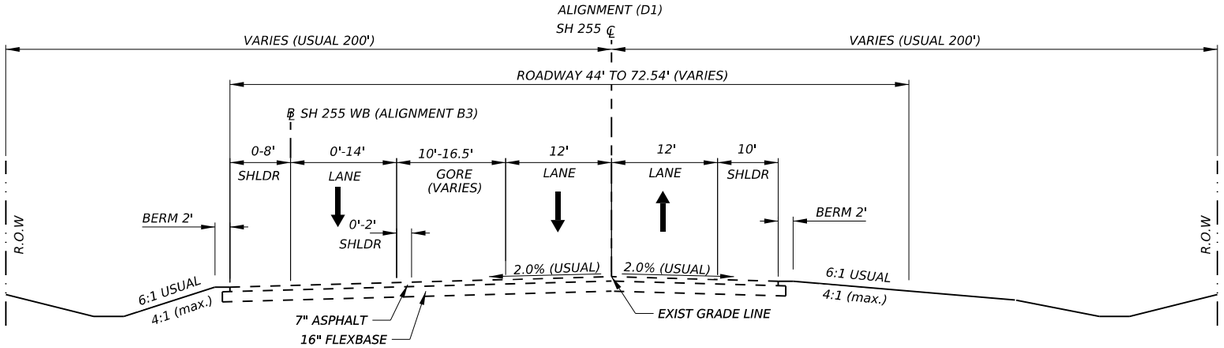
©TxDOT 2024

SHEET 1 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	5

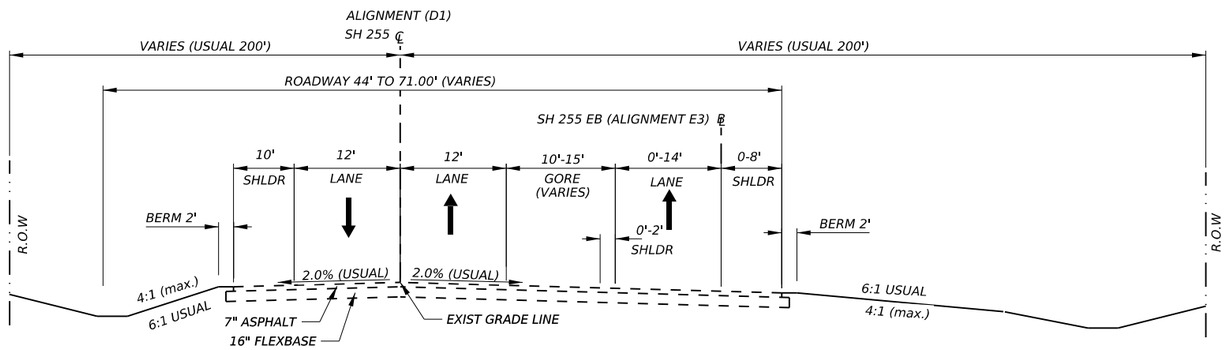
DATE: 4/9/2024 4:27:05 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_EX_TYPICALS.dgn

DN: CK: DW: CK:



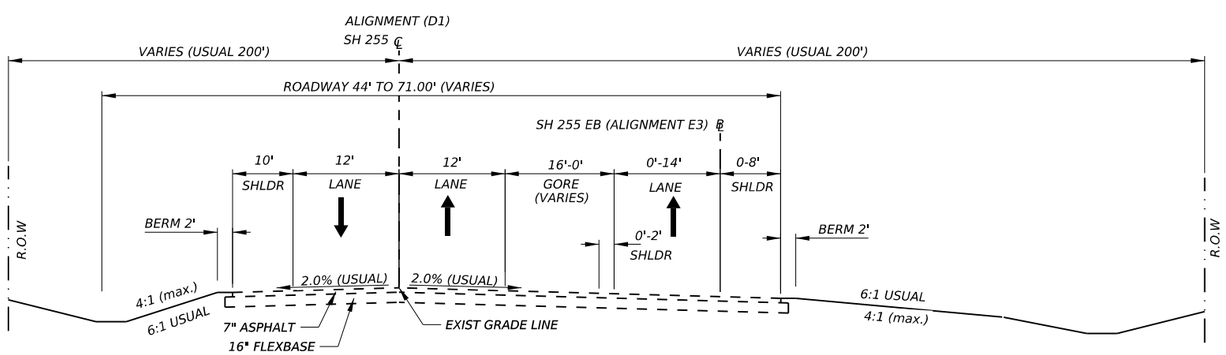
EXISTING TYPICAL MAINLANE SECTION

(ALIGN. D1) STA. 996+90.51 TO STA.1002+60.15



EXISTING TYPICAL MAINLANE SECTION

(ALIGN. D1) STA. 1005+24.93 TO STA.1009+84.96



EXISTING TYPICAL MAINLANE SECTION

(ALIGN. D1) STA. 1042+92.46 TO STA.1049+00.71

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

EXISTING TYPICAL SECTIONS

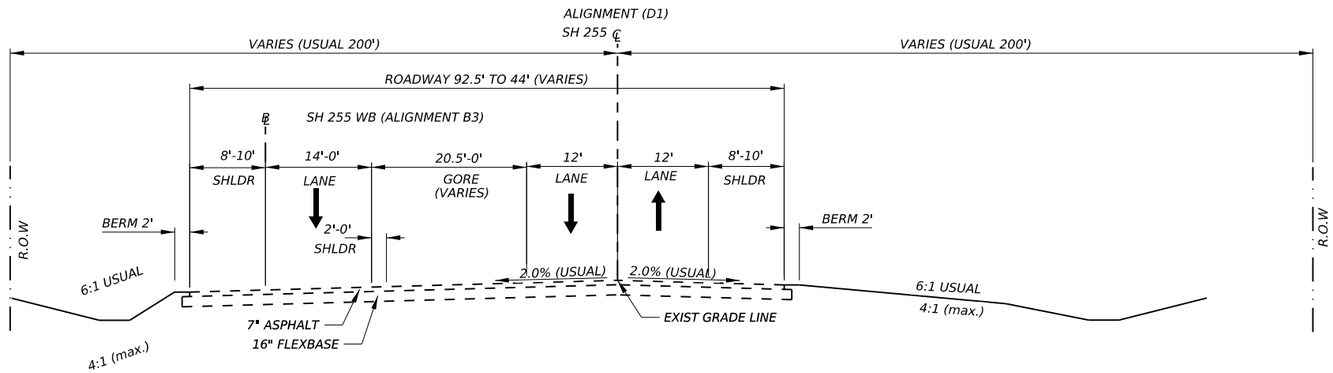
©TxDOT 2024

SHEET 2 OF 5

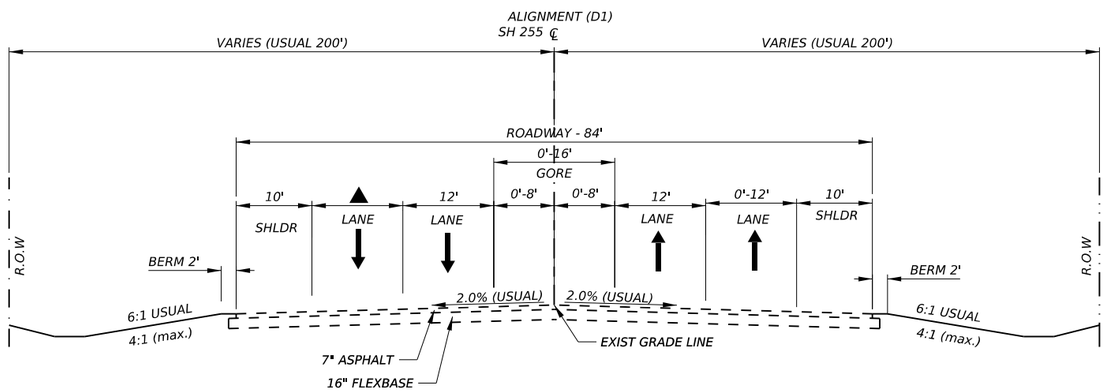
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		6

DATE: 4/9/2024 4:27:05 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_EX_TYPICALS.dgn

CK: DW: CK: DW:



EXISTING TYPICAL MAINLANE SECTION
(ALIGN. D1) STA. 1049+00.71 TO STA.1055+91.09



EXISTING TYPICAL MAINLANE SECTION
(ALIGN. D1) STA. 1188+46.08 R2 TO STA. 1204+60.68 R2

EXISTING TRANSITION (LT)

▲ (ALIGN. D1) STA. 1188+46.08 R2 TO 1196+74.46 R2 (0'-12")

▲ (ALIGN. D1) STA. 1196+74.46 R2 TO 1199+64.25 R2(12')

EXISTING TRANSITION (RT)

(ALIGN. D1) STA. 1188+46.08 R2 TO 1199+64.25 R2

EXISTING CONCRETE PAVEMENT TO REMAIN(LT & RT)
(ALIGN. D1) STA. 1199+64.25 R2 TO STA. 1204+60.68 R2

1 EXISTING PAVEMENT TO REMAIN

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

EXISTING
TYPICAL SECTIONS

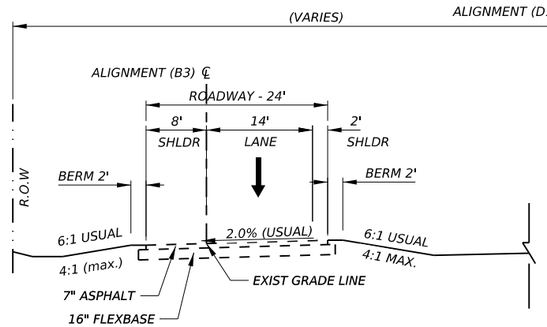
©TxDOT 2024

SHEET 3 OF 5

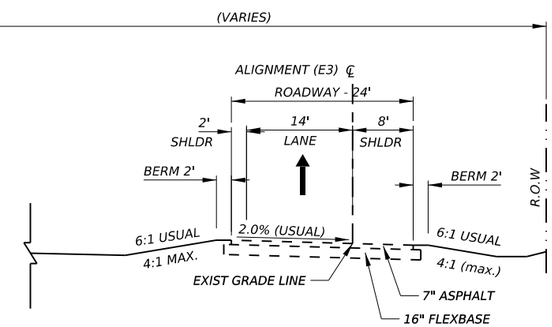
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		7

DATE: 4/9/2024 4:27:06 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_EX_TYPICALS.dgn

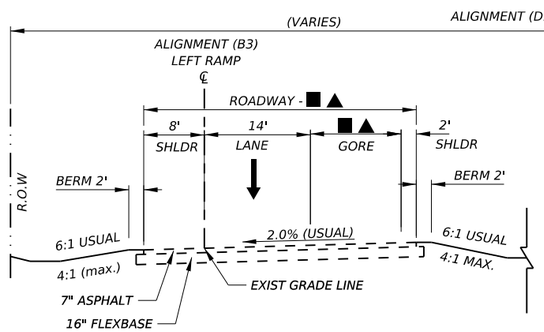
CK
DW
CK
DN



EXISTING TYPICAL SH 255 JEFFERIES (WB) RAMP
(ALIGN. B3) STA. 929+96.93 TO STA. 942+41.17
(ALIGN. B3) STA. 959+64.73 TO STA. 972+23.21

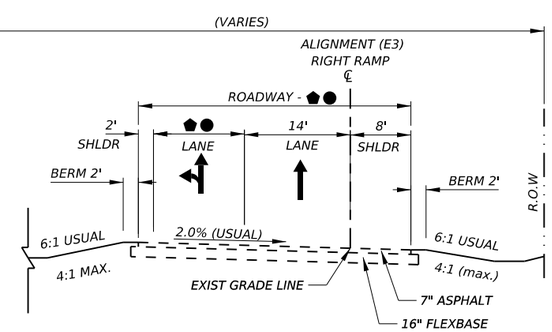


EXISTING TYPICAL SH 255 JEFFERIES (EB) RAMP
(ALIGN. E3) STA. 929+92.02 TO STA. 942+42.28
(ALIGN. E3) STA. 956+31.63 TO STA. 971+25.56



EXISTING TYPICAL SH 255 JEFFERIES (WB) RAMP
(ALIGN. B3) STA. 942+41.17 TO STA. 959+64.73

EXISTING TRANSITION (RT)
■ (ALIGN. B3) STA. 942+41.17 TO STA. 948+10.89
■ (ROADWAY 24'-36') (0'-12' LANE)
▲ (ALIGN. B3) STA. 953+19.16 TO STA. 959+64.73
▲ (ROADWAY 36'-24') (12'-0' LANE)



EXISTING TYPICAL SH 255 JEFFERIES (EB) RAMP
(ALIGN. E3) STA. 942+42.28 TO STA. 956+31.63

EXISTING TRANSITION (LT)
⬟ (ALIGN. E3) STA. 942+42.28 TO STA. 948+08.69
⬟ (ROADWAY 24'-36') (0'-12' LANE)
● (ALIGN. E3) STA. 953+34.22 TO STA. 956+31.63
● (ROADWAY 36'-24') (12'-0' LANE)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

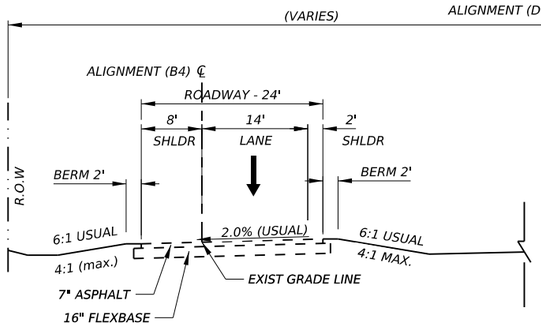
EXISTING
TYPICAL SECTIONS

©TxDOT 2024
SHEET 4 OF 5

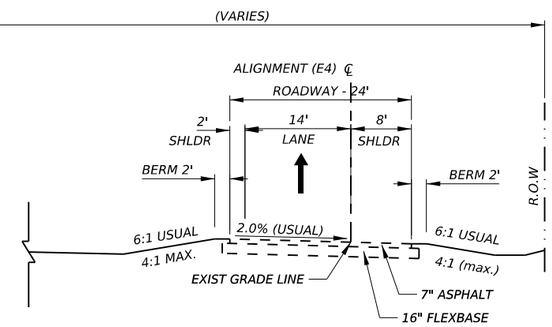
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		8

DATE: 4/9/2024 4:27:06 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_EX_TYPICALS.dgn

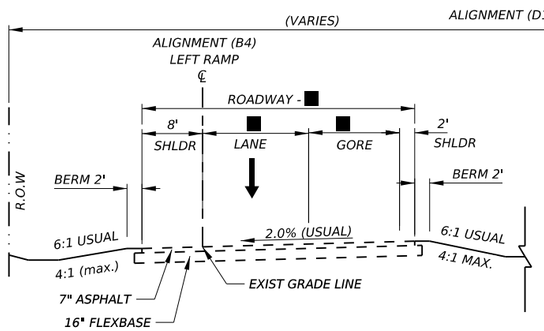
CK:
DW:
CK:
DW:



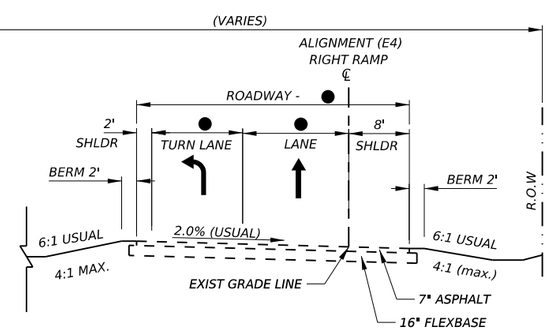
EXISTING TYPICAL SH 255 US 83 (WB) RAMP
(ALIGN. B4) STA.1002+61.10 TO STA. 1019+00.00
(ALIGN. B4) STA. 1034+23.50 TO STA. 1049+28.92



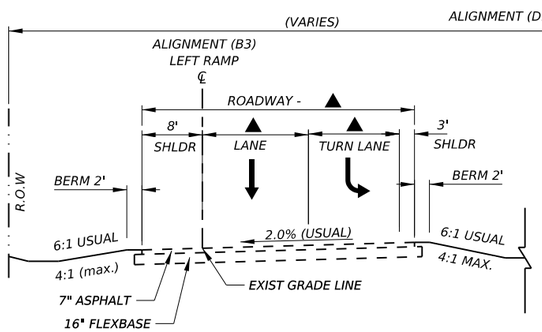
EXISTING TYPICAL SH 255 US 83 (EB) RAMP
(ALIGN. E4) STA. 1009+86.13 TO STA. 1023+35.06
(ALIGN. E4) STA. 1033+90.84 TO STA. 1043+06.00



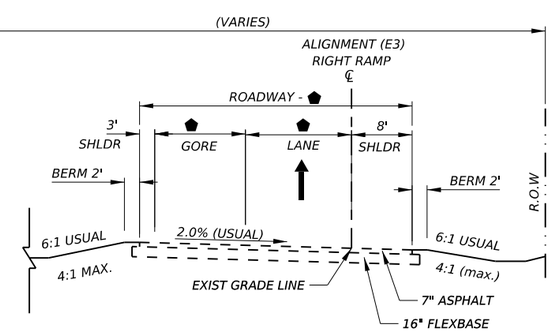
EXISTING TYPICAL SH 255 US 83 (WB) RAMP
EXISTING TRANSITION (RT)
■ (ALIGN. B4) STA. 1019+00.00 TO STA. 1025+15.00
(ROADWAY 24'-34') (12' LANE)(0'-12' GORE)
■ (ALIGN. B4) STA. 1025+15.00 TO STA. 1025+48.04
(ROADWAY 34')(12' LANE)(12' GORE)



EXISTING TYPICAL SH 255 US 83 (EB) RAMP
EXISTING TRANSITION (LT)
● (ALIGN. E4) STA. 1018+73.04 TO STA. 1023+35.06
(ROADWAY 24'-35')(0'-12' LANE)(14'12' LANE)
● (ALIGN. E4) STA. 1023+35.06 TO STA. 1024+15.04
(ROADWAY 35')(12' LANE)(12' LANE)



EXISTING TYPICAL SH 255 US 83 (WB) RAMP
EXISTING TRANSITION (RT)
▲ (ALIGN. B3) STA. 1028+18.77 TO STA. 1031+58.82
(ROADWAY 34')(12' LANE)(12' LANE)
▲ (ALIGN. B3) STA. 1031+58.82 TO STA. 1034+23.50
(ROADWAY 34'-24')(12'-14'LANE)(12'-0' LANE)



EXISTING TYPICAL SH 255 US 83 (EB) RAMP
EXISTING TRANSITION (LT)
⬟ (ALIGN. E3) STA. 1026+70.73 TO STA. 1027+25.52
(ROADWAY 35')(12' GORE)(12' LANE)
⬟ (ALIGN. E3) STA. 1027+25.52 TO STA. 1033+90.84
(ROADWAY 35'-24')(12'-0' GORE)(12'-14' LANE)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

EXISTING TYPICAL SECTIONS

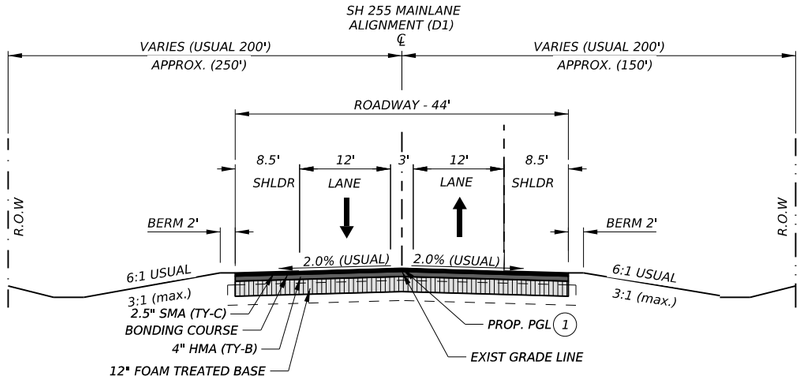
©TxDOT 2024

SHEET 5 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		9

DATE: 4/9/2024 4:27:07 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763331\2006_SH255_EX_TYPICALS.dgn

CK
DW
CK
DW

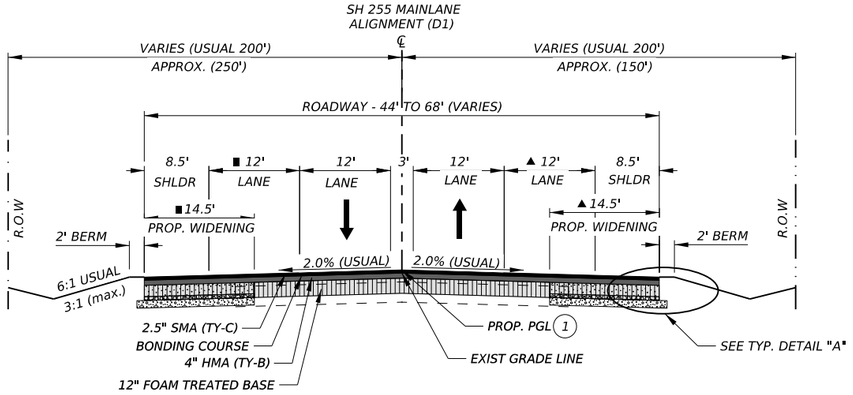


PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)

(ALIGN. D1) STA. 760+00.00 TO STA. 773+30.00
(ALIGN. D1) STA. 852+50.00 TO STA. 857+50.00
(ALIGN. D1) STA. 886+50.00 TO STA. 923+00.00
(ALIGN. D1) STA.978+80.00 TO STA. 996+90.51

(ALIGN. D1) STA. 1002+60.15 TO STA. 1005+24.93
(ALIGN. D1) STA. 1009+84.96 TO STA. 1019+80.24
(ALIGN. D1) STA. 1031+99.41 TO STA. 1042+92.46
(ALIGN. D1) STA.1055+91.09 TO STA. 1173+25.00

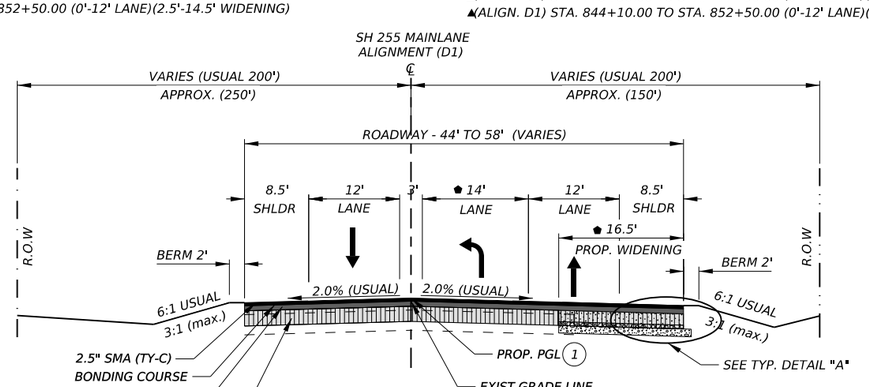
EXISTING CONCRETE PAVEMENT TO REMAIN PROPOSED STRIPING ONLY
(ALIGN. D1) STA. 1024+54.06 TO STA. 1027+25.81



PROPOSED TYPICAL MAINLANE SECTION (WIDEN AREA)
(ALIGN. D1) STA. 773+30.00 TO STA. 852+50.00

PROPOSED TRANSITION (LT)
■(ALIGN. D1) STA. 773+30.00 TO STA. 781+70.00 (0'-12' LANE)(2.5'-14.5' WIDENING)
■(ALIGN. D1) STA. 848+30.00 TO STA. 852+50.00 (0'-12' LANE)(2.5'-14.5' WIDENING)

PROPOSED TRANSITION (RT)
▲(ALIGN. D1) STA. 773+30.00 TO STA. 777+50.00 (0'-12' LANE)(14.5'-2.5' WIDENING)
▲(ALIGN. D1) STA. 844+10.00 TO STA. 852+50.00 (0'-12' LANE)(14.5'-2.5' WIDENING)



PROPOSED TYPICAL MAINLANE SECTION (WIDEN AREA)
(ALIGN. D1) STA. 857+50.00 TO STA. 886+50.00

PROPOSED TRANSITION (RT)
●(ALIGN. D1) STA. 857+50.00 TO STA. 867+30.00 (0'-14' LANE)(2.5'-16.5' WIDENING)
● (ALIGN. D1) STA. 877+40.00 TO STA. 886+50.00 (14'-0' LANE)(16.5'-2' WIDENING)

RATES OF APPLICATION

NON-WIDENING AREA

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

WIDEN AREA

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

BASE PREP:
FLEXBASE TY-E GR1-2 (RDWY DEL) (FNL POS) (OC)
RECYCLE ASPHALT PAVEMENT (RAP) ORDINARY COMPACTED MATERIAL

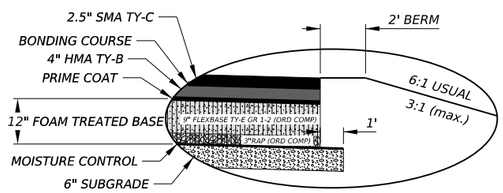
SUBGRADE:
EXISTING MATERIAL MOISTURE CONTROL

LEGEND

- STONE MATRIX ASPHALT TY-C
- HOTMIX ASPHALT (TY-B)
- FOAM TREATED BASE
- FLEXIBLE BASE (TY-E)(GR1-2)
- RAP (EXISTING PLANED MATERIAL)
- SUBGRADE

NOTES:

1. TYPICAL PROFILE RAISED IS APPROX. 2.5" REFER TO GEOMETRIC DATA SHEET FOR MORE INFORMATION ON PROFILE ELEVATIONS.



DETAIL "A"

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

PROPOSED
TYPICAL SECTIONS

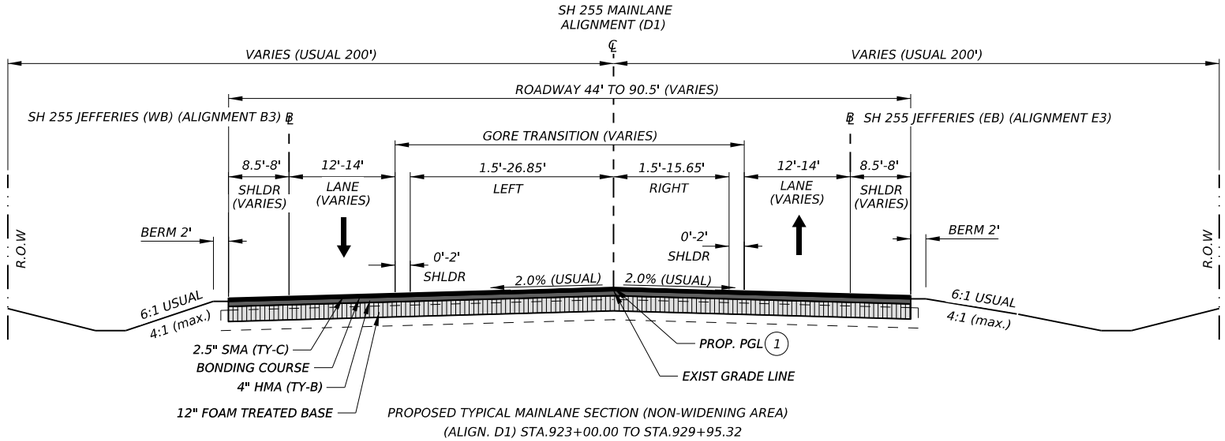
©TxDOT 2024

SHEET 1 OF 6

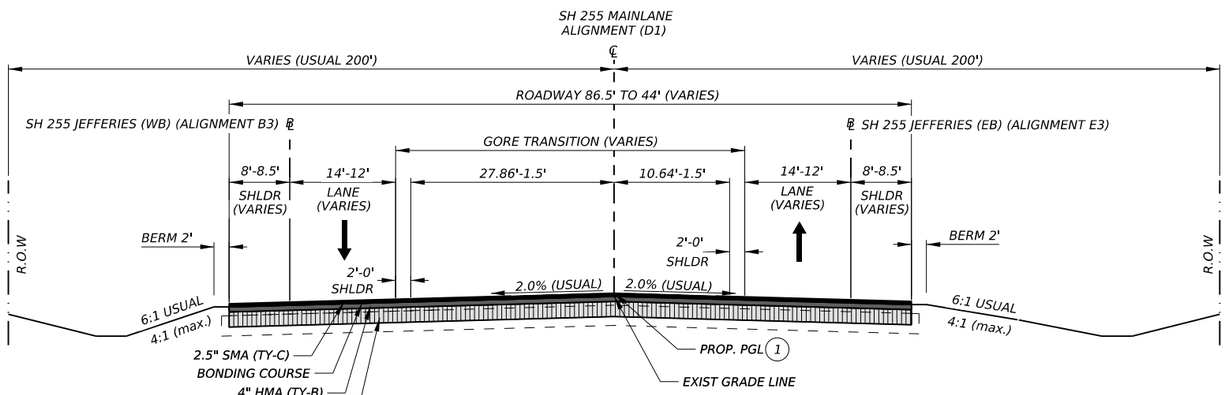
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	10

DATE: 4/9/2024 4:27:22 PM
FILE: c:\txdot\pw_onlinet\txdot5\misael.aguilar\d0763331\2006_SH255_PROP_TYPICALS.dgn

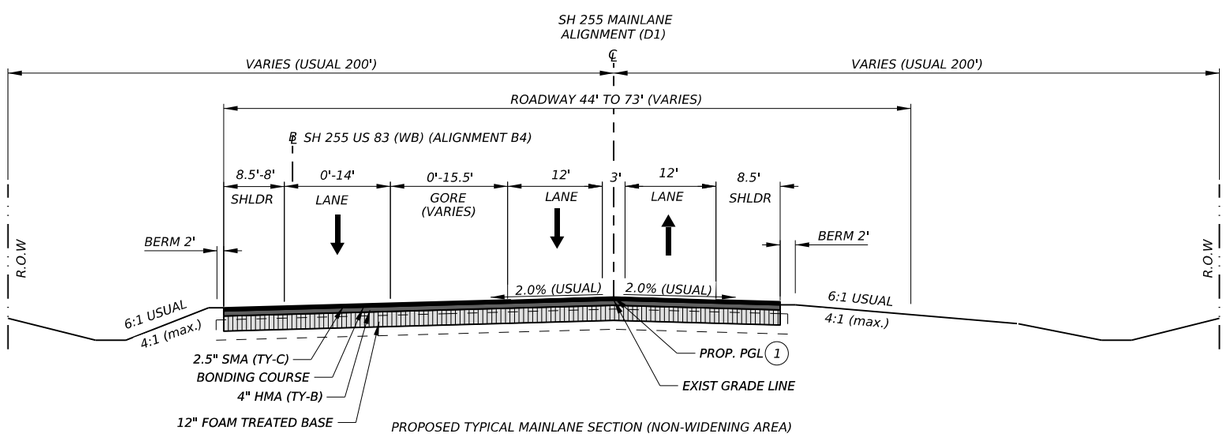
CK:
DW:
CK:
DW:



PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)
(ALIGN. D1) STA.923+00.00 TO STA.929+95.32



PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)
(ALIGN. D1) STA. 971+44.23 TO STA.978+80.00



PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)
(ALIGN. D1) STA. 996+90.51 TO STA.1002+60.15

RATES OF APPLICATION

NON-WIDENING AREA

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

LEGEND

- STONE MATRIX ASPHALT TY-C
- HOTMIX ASPHALT (TY-B)
- FOAM TREATED BASE
- FLEXIBLE BASE (TY-E)(GR1-2)
- RAP (EXISTING PLANED MATERIAL)
- SUBGRADE

NOTES:

1. TYPICAL PROFILE RAISED IS APPROX. 2.5" REFER TO GEOMETRIC DATA SHEET FOR MORE INFORMATION ON PROFILE ELEVATIONS.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

PROPOSED
TYPICAL SECTIONS

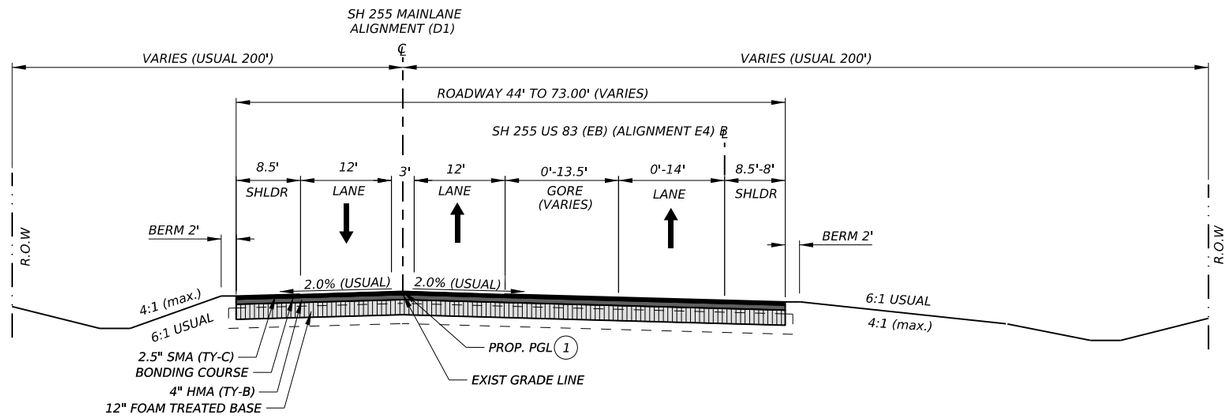
©TxDOT 2024

SHEET 2 OF 6

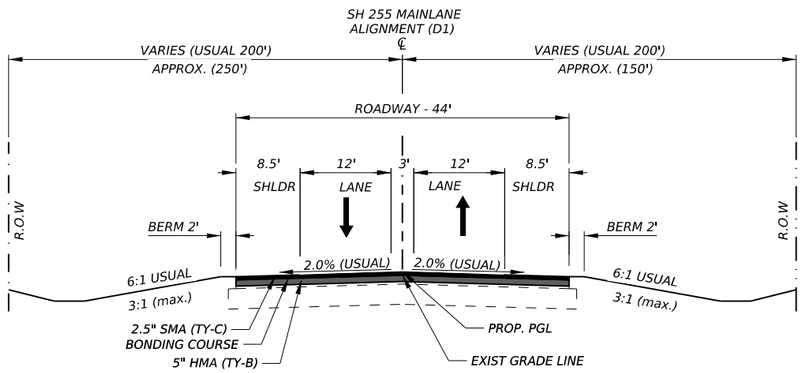
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		11

DATE: 4/9/2024 4:27:22 PM
FILE: c:\txdot\pw_online\txdot15\misael.aguilar\d0763331\2006 SH255 PROP TYPICALS.dgn

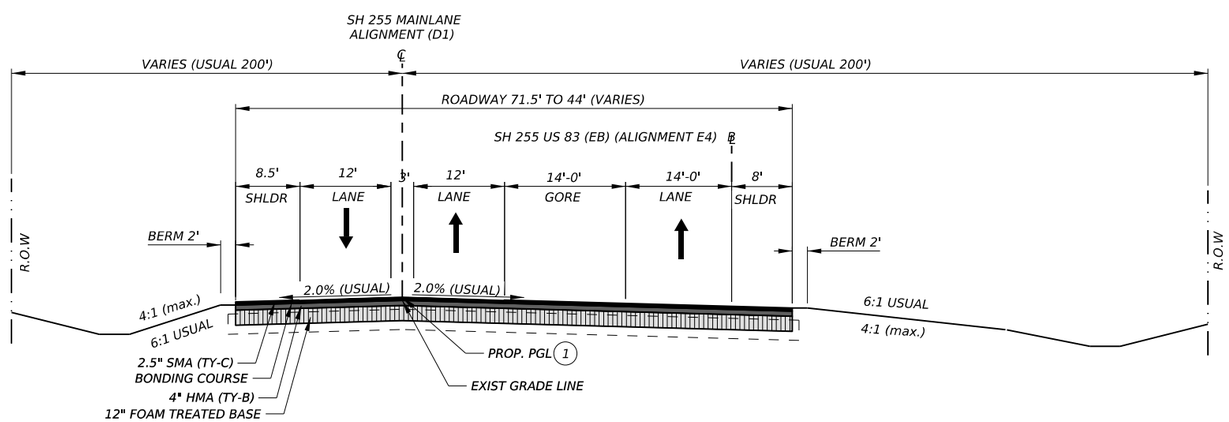
CK:
DW:
CK:
DN:



PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)
(ALIGN. D1) STA. 1005+24.93 TO STA.1009+84.96



PROPOSED TYPICAL MAINLANE SECTION (BRIDGE APPROACH)
(ALIGN. D1) STA. 1019+80.24 to STA. 1024+54.06
(ALIGN. D1) STA. 1027+25.81 to STA. 1031+99.41



PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)
(ALIGN. D1) STA. 1042+92.46 TO STA.1049+00.71

RATES OF APPLICATION

NON-WIDENING AREA

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

BRIDGE APPROACH

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

LEGEND

- STONE MATRIX ASPHALT TY-C
- HOTMIX ASPHALT (TY-B)
- FOAM TREATED BASE

NOTES:

1. TYPICAL PROFILE RAISED IS APPROX. 2.5" REFER TO GEOMETRIC DATA SHEET FOR MORE INFORMATION ON PROFILE ELEVATIONS.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

PROPOSED
TYPICAL SECTIONS

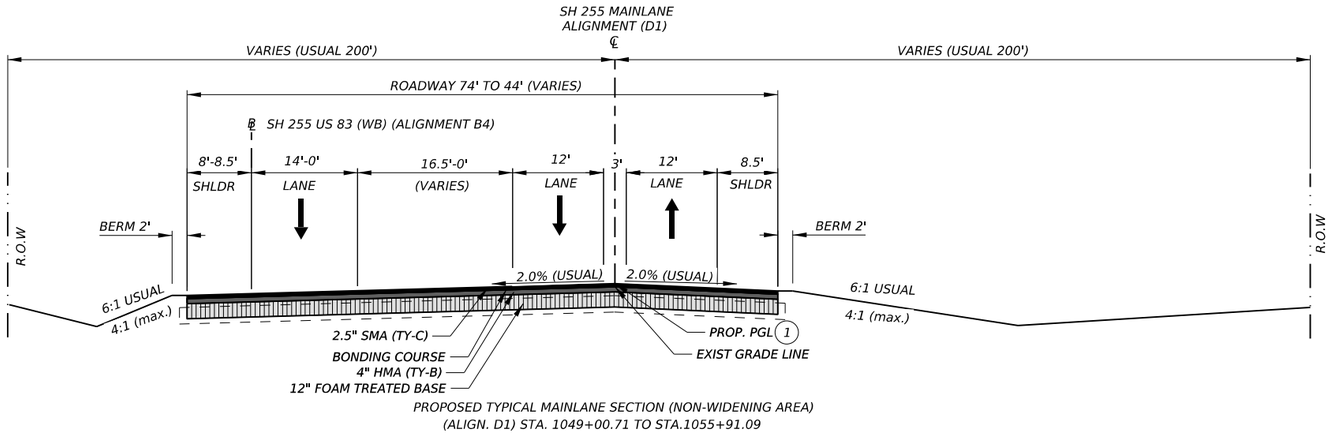
©TxDOT 2024

SHEET 3 OF 6

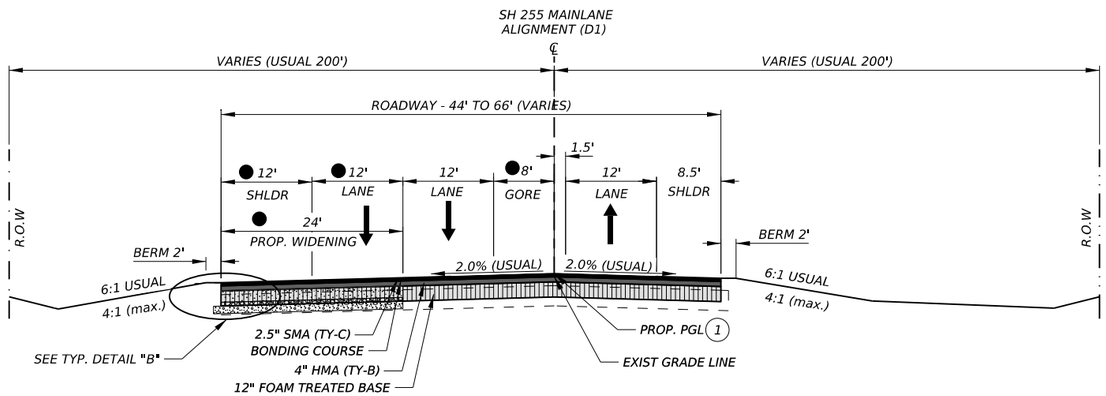
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	12

DATE: 4/9/2024 4:27:23 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_PROP_TYPICALS.dgn

CK: DW: CK: DW:



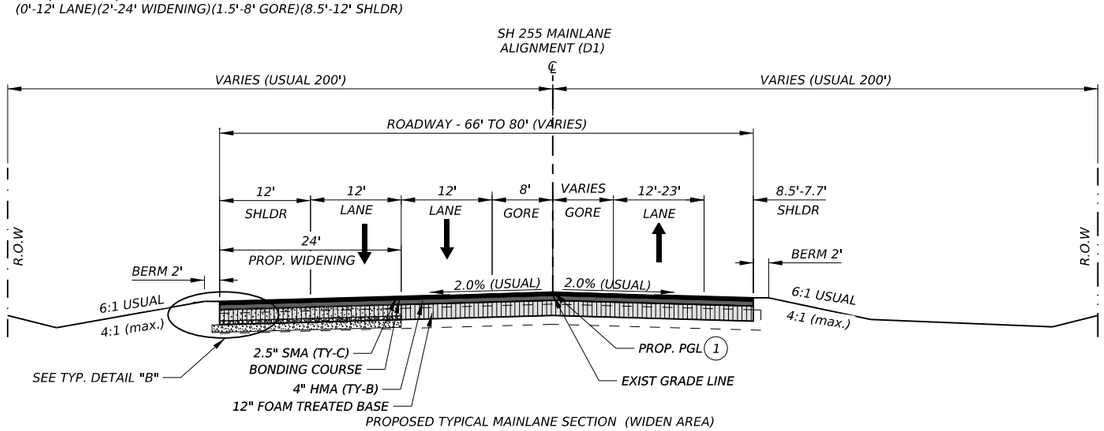
PROPOSED TYPICAL MAINLANE SECTION (NON-WIDENING AREA)
(ALIGN. D1) STA. 1049+00.71 TO STA.1055+91.09



PROPOSED TYPICAL MAINLANE SECTION (WIDEN AREA)
(ALIGN. D1) STA. 1173+25.00 TO STA. 1182+35.00

PROPOSED TRANSITION (LT)

● (ALIGN. D1) STA. 1173+25.00 TO STA. 1182+35.00
(0'-12' LANE)(2'-24' WIDENING)(1.5'-8' GORE)(8.5'-12' SHLDR)



PROPOSED TYPICAL MAINLANE SECTION (WIDEN AREA)
(ALIGN. D1) STA. 1182+35.00 TO STA. 1196+74.19

RATES OF APPLICATION

NON-WIDENING AREA

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

WIDEN AREA

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

BASE PREP:
FLEXBASE TY-E GR1-2 (RDWY DEL) (FNL POS) (OC)
RECYCLE ASPHALT PAVEMENT (RAP) ORDINARY COMPACTED MATERIAL

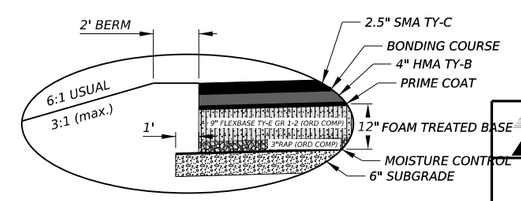
SUBGRADE:
EXISTING MATERIAL MOISTURE CONTROL

LEGEND

- STONE MATRIX ASPHALT TY-C
- HOTMIX ASPHALT (TY-B)
- FOAM TREATED BASE
- FLEXIBLE BASE (TY-E)(GR1-2)
- RAP (EXISTING PLANED MATERIAL)
- SUBGRADE

NOTES:

1. TYPICAL PROFILE RAISED IS APPROX. 2.5" REFER TO GEOMETRIC DATA SHEET FOR MORE INFORMATION ON PROFILE ELEVATIONS.



DETAIL "B"

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

PROPOSED
TYPICAL SECTIONS

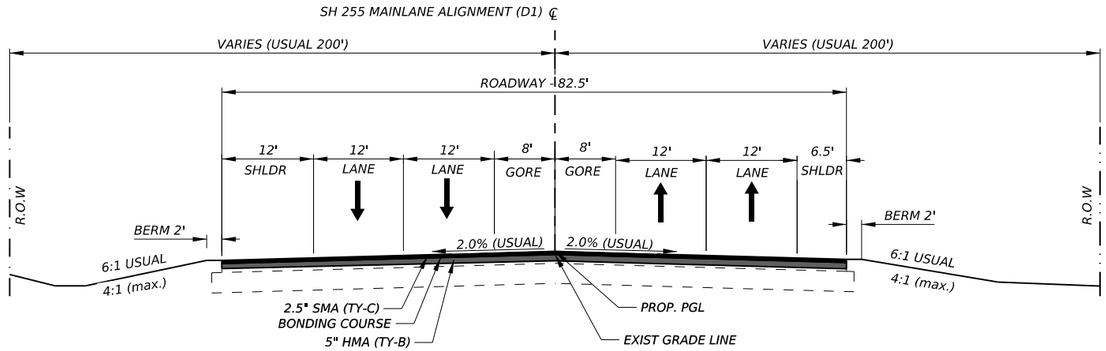
©TxDOT 2024

SHEET 4 OF 6

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		13

DATE: 4/9/2024 4:27:24 PM
FILE: c:\txdot\pw_online\txdot15\misael.aguilar\d0763331\2006 SH255 PROP TYPICALS.dgn

CK: DW: CK: DN:



PROPOSED TYPICAL MAINLANE SECTION (BRIDGE APPROACH)
(ALIGN. D1) STA. 1196+74.19 TO STA. 1199+64.25

EXISTING CONCRETE PAVEMENT TO REMAIN PROPOSED STRIPING ONLY
(ALIGN. D1) STA. 1199+64.25 TO STA. 1204+60.68

RATES OF APPLICATION

NON-WIDENING AREAS

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 140 SY/CY
-ASPH (RC-250) - 0.20 GAL/SY

FOAM STABILIZE BASE:
-PRETREAT W/ 1% CEMENT BY WT. (3510 LBS/CY)
-STABILIZED W/2.5% ASPHALT BY WT. - ASPHALT BINDER(PG 64-22)

BRIDGE APPROACH

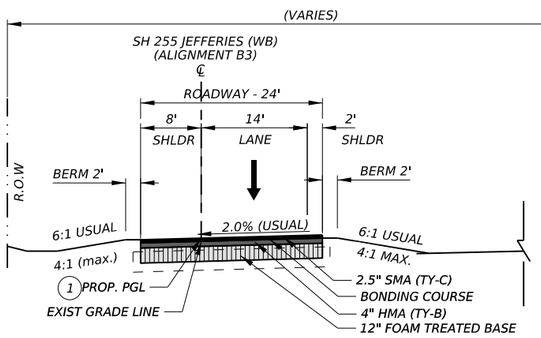
STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

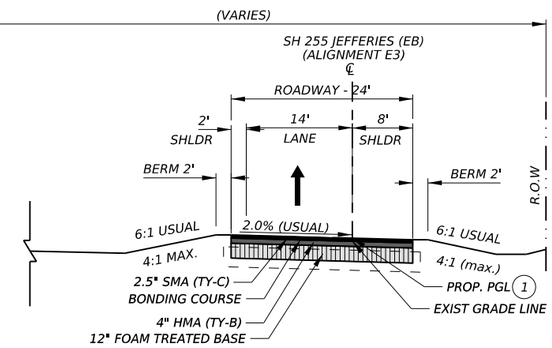
HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

LEGEND

- STONE MATRIX ASPHALT TY-C
- HOTMIX ASPHALT (TY-B)
- FOAM TREATED BASE



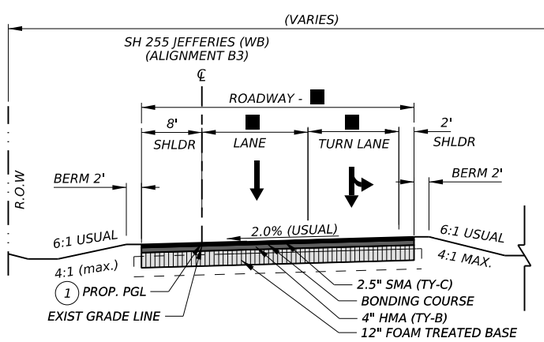
PROPOSED TYPICAL SH 255 JEFFERIES (WB) RAMP (NON-WIDENING AREA)
(ALIGN. B3) STA. 929+96.93 TO STA. 942+41.13
(ALIGN. B3) STA. 959+64.73 TO STA. 972+23.21



PROPOSED TYPICAL SH 255 JEFFERIES (EB) RAMP (NON-WIDENING AREA)
(ALIGN. E3) STA. 929+92.02 TO STA. 942+42.28
(ALIGN. E3) STA. 959+96.61 TO STA. 971+25.56

NOTES:

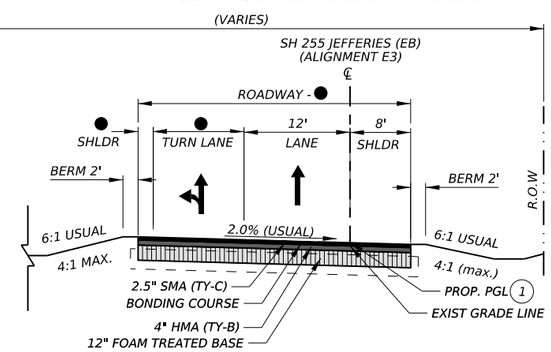
1. TYPICAL PROFILE RAISED IS APPROX. 2.5" REFER TO GEOMETRIC DATA SHEET FOR MORE INFORMATION ON PROFILE ELEVATIONS.



PROPOSED TYPICAL SH 255 JEFFERIES (WB) RAMP (NON-WIDENING AREA)
(ALIGN. B3) STA. 942+41.13 TO STA. 959+64.73

PROPOSED TRANSITIONS
■(ALIGN. E3) STA. 942+41.13 TO STA. 948+10.76 (ROADWAY 24'-34')(12' LANE)(0-12' TURN LANE)
■ (ALIGN. E3) STA. 948+10.73 TO STA. 950+97.01 (ROADWAY 34'-36')(12'-14' LANE)(12' TURN LANE)
■ (ALIGN. E3) STA. 950+97.01 TO STA.953+19.16 (ROADWAY 36')(14' LANE)(12' TURN LANE)
■(ALIGN. E3) STA. 953+19.16 TO STA. 959+64.73 (ROADWAY 36'-24')(14'-12' LANE)(12-'0' TURN LANE)

JEFFERIES (WB) CROSSOVER INTERSECTION FROM STA. 949+69.23 TO STA. 950+96.92 WILL BE SPOT BASE REPAIRED.
REFER TO "SH 255 JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL" SHEET(S) FOR MORE INFORMATION



PROPOSED TYPICAL SH 255 JEFFERIES (EB) RAMP (NON-WIDENING AREA)
(ALIGN. E3) STA. 942+42.28 TO STA. 959+96.61

PROPOSED TRANSITIONS
●(ALIGN. E3) STA. 942+42.28 TO STA. 948+08.69 (ROADWAY 24'-34')(0-12' TURN LANE) (2' SHDLR)
●(ALIGN. E3) STA. 948+08.69 TO STA. 953+34.22 (ROADWAY 34'-35')(12' TURN LANE) (2'-3' SHDLR)
●(ALIGN. E3) STA. 953+34.22 TO STA. 959+96.91 (ROADWAY 35'-24')(12-'0' TURN LANE) (3'-2' SHDLR)

JEFFERIES (EB) CROSSOVER INTERSECTION FROM STA. 948+94.18 TO STA. 950+17.98 WILL BE SPOT BASE REPAIRED.
REFER TO "SH 255 JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL" SHEET(S) FOR MORE INFORMATION

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

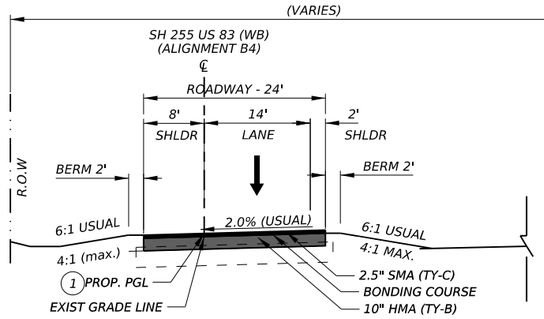
PROPOSED TYPICAL SECTIONS

©TxDOT 2024

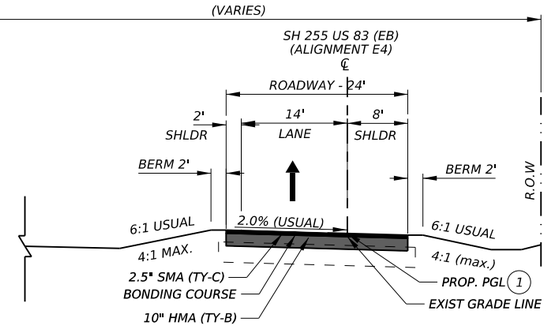
SHEET 5 OF 6

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		14

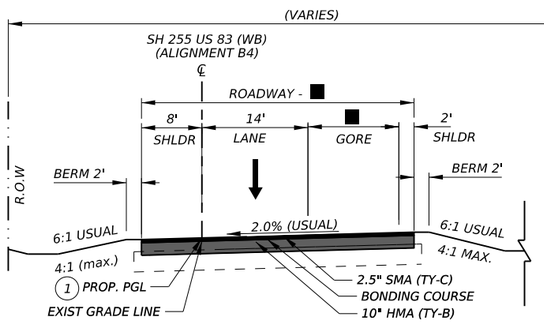
DATE: 4/10/2024 4:27:24 PM
FILE: c:\pwworking\pmt\wcestas\Name\cwm\ra\TxDOT50\0683\1a\0005 SH255 PROP TYPICALS\SH255 PROP TYPICALS.dgn



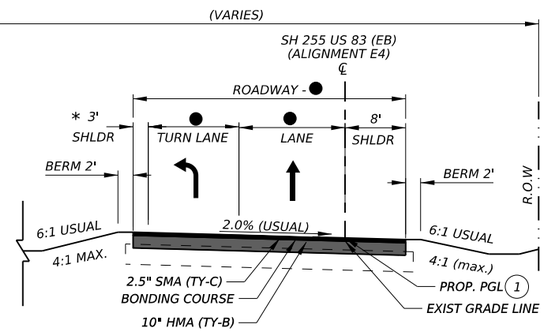
PROPOSED TYPICAL SH 255 US 83 (WB) RAMP (NON-WIDENING AREA)
(ALIGN. B4) STA.1002+61.10 TO STA. 1019+00.00
(ALIGN. B4) STA. 1038+72.57 TO STA. 1049+28.92



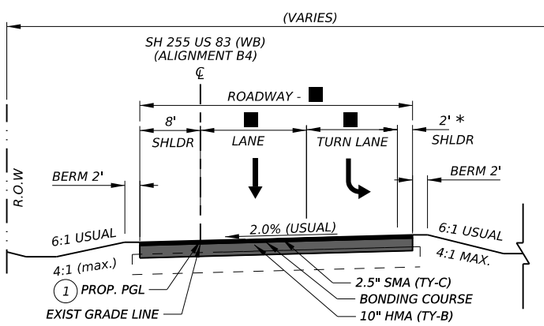
PROPOSED TYPICAL SH 255 US 83 (EB) RAMP (NON-WIDENING AREA)
(ALIGN. E4) STA. 1009+86.13 TO STA. 1023+35.06
(ALIGN. E4) STA. 1033+90.84 TO STA. 1043+06.00



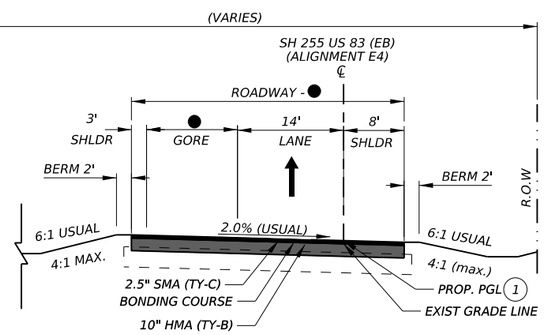
EXISTING TRANSITION (RT)
■ (ALIGN. B4) STA. 1019+00.00 TO STA. 1025+15.00
(ROADWAY 24'-34')(0'-10' GORE)
■ (ALIGN. B4) STA. 1025+15.00 TO STA. 1025+48.04
(ROADWAY 34')(10' GORE)



EXISTING TRANSITION (LT)
● (ALIGN. E4) STA. 1018+73.04 TO STA. 1020+39.81
(ROADWAY 24'-35')(0'-12' LANE)(14'12' LANE)
● (ALIGN. E4) STA. 1020+39.81 TO STA. 1024+15.04
(ROADWAY 35')(12' LANE)(12' LANE)
* SHOULDER ALONG STA. 1018+73.04 TO STA. 1023+35.06 WILL BE SPOT BASE REPAIRED.
REFER TO "SH 255 US 83 (EB) RAMP PLAN & PROFILE LAYOUT" SHEET(S) FOR MORE INFORMATION.



PROPOSED TYPICAL SH 255 US 83 (WB) RAMP (NON-WIDENING AREA)
EXISTING TRANSITION (RT)
(ALIGN. B4) STA. 1028+18.77 TO STA. 1031+58.82
(ROADWAY 34')(12' LANE)(12' LANE)
(ALIGN. B4) STA. 1031+58.82 TO STA. 1038+72.57
(ROADWAY 34'-24')(12'-14'LANE)(12'-0' LANE)
* SHOULDER ALONG STA. 1030+37.55 TO STA. 1034+23.50 WILL BE SPOT BASE REPAIRED.
REFER TO "SH 255 US 83 (WB) RAMP PLAN & PROFILE LAYOUT" SHEET(S) FOR MORE INFORMATION



PROPOSED TYPICAL SH 255 US 83 (EB) RAMP (NON-WIDENING AREA)
EXISTING TRANSITION (LT)
⬟ (ALIGN. E4) STA. 1026+70.73 TO STA. 1027+25.52
(ROADWAY 35')(10' GORE)(14' LANE)
⬟ (ALIGN. E4) STA. 1027+25.52 TO STA. 1033+90.84
(ROADWAY 35'-24')(10'-0' GORE)(14' LANE)

RATES OF APPLICATION

NON-WIDENING AREAS

STONE MATRIX ASPHALT:
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT:
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

LEGEND

STONE MATRIX ASPHALT TY-C

HOTMIX ASPHALT (TY-B)

NOTES:

1 TYPICAL PROFILE RAISED IS APPROX. 2.5" REFER TO GEOMETRIC DATA SHEET FOR MORE INFORMATION ON PROFILE ELEVATIONS.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

PROPOSED
TYPICAL SECTIONS

©TxDOT 2024

SHEET 6 OF 6

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		15

DATE: 4/9/2024 4:27:25 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_PROP_TYPICALS.dgn

CK: DW: CK: DN:

GENERAL NOTES:

Contractor questions on this project are to be addressed to the following individual(s):

Misael Aguilar – Misael.Aguilar@txdot.gov

Angel Martinez – Angel.Martinez@txdot.gov

Questions may be submitted via the Letting Pre-Bid Q&A web page. This webpage can be accessed from the Notice to Contractors dashboard located at the following Address:

https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors

All contractor questions will be reviewed by the Engineer. All questions and any corresponding responses that are generated will be posted through the same Letting Pre-Bid Q&A web page.

The Letting Pre-Bid Q&A webpage for each project can be accessed by using the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project you want to view the Q&A for and click on the link in the window that pops up.

Item 5 - Control of the Work

The Contractor shall maintain and preserve the integrity of all “existing survey markers” by avoiding the disturbance of such markers, which include all control points (horizontal and/or vertical), stakes, marks, and right-of-way markers. The Department will repair all Contractor disturbed control points, stakes, marks, and right-of-way markers. The cost for any and all repairs to the “existing survey markers” will be deducted from money due or to become due to the Contractor.
.
Prior to construction must call 811 to verify any utilities located within project limits. Contractor will also coordinate with utility owners listed below for any adjustments needed to sanitary sewer manholes, water valves, gas valve, telecommunication, television manhole located within project limits. The utility company is responsible for any adjustment when necessary. The work should be performed in a manner as to not delay construction contractor work activity.

Contractor will make necessary arrangements with the utility owner(s) when utility adjustments are required, as a result of construction activities.

Item 7 - Legal Relations and Responsibilities

No significant traffic generator events identified.

Jurisdictional Waters of the United States and Project Specific Locations (PSL) Coordination - This project requires permit(s) with environmental resource agencies. There is a high probability that environmentally sensitive areas will be encountered on contractor designated project specific locations (PSLS) for the project (including but not limited to haul roads, equipment staging areas, parking areas, etc.).
Requirements for Work within Jurisdictional Waters of the United States:
The department has been authorized to perform work within designated areas of the project under U.S. Army Corps of Engineers (USACE) nationwide permit (NWP) #14 and/or #3a and/or #3b.

The contractor will not initiate activities in a project specific location (PSL) associated with a U.S. Army Corps of Engineers (USACE) permit area (i.e. an area where the USACE has jurisdiction) that has not been previously evaluated by the USACE as part of the permitting for this project. Such activities include, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. Associated defined here includes materials delivered to or from the PSL. The permit area includes all waters of the U.S. and their associated wetlands affected by activities associated with this project. Special restrictions may be required for such work in these USACE jurisdictional areas. The contractor will be responsible for any and all consultations with the USACE regarding activities, including PSLs, which have not been previously evaluated by the USACE. The Contractor will provide the department with a copy of all consultation(s) or approval(s) from the USACE prior to initiating activities.

The contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self-determination has been made that the PSL is non-jurisdictional or proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The contractor is solely responsible for documenting any determination(s) that their activities do not affect a USACE permit area. The contractor will maintain copies of their determination(s) for review by the department and/or any regulatory agency.

The disturbed area for all project locations in the Contract, and the Contractor project specific locations (PSLs) within 1 mile of the project limits for the Contract, will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, the Contractor shall provide a copy of the Contractor Notice of Intent (NOI) for the PSLs to the Engineer and to the local government operating a municipal separate storm sewer system (MS4) if applicable. If the total area of project disturbed areas and PSLs total between 1-acre but less than 5-acres, the Contractor shall post the appropriate Contractor Construction Site Notice for all Contractor PSLs to be in compliance with TCEQ storm water regulations.

In order to expedite the approval process for PSLs or to eliminate or minimize potential impacts to project progress, initiate coordination efforts with the U.S.A.C.E. within 30 days from the date of “authorization to begin work” for all PSLs that are in areas where the USACE has jurisdiction (i.e. USACE permit areas). If this is not done, the contractor waives the right to request any contract time considerations if project progress is impacted and PSL’S approval is still pending.

Requests submitted to the area engineer will be evaluated on this basis and will require documentation showing substantial early coordination efforts to expedite the approval process as herein stated. The request will include a detailed chronological summary status with dates of coordination activities with the resource agencies, including those occurring after the initial coordination, to be reviewed and confirmed by the district’s environmental section.

For PSLs that fall within USACE permit areas, the Contractor must document and coordinate with the USACE, if required, before any excavation hauled from or embankment hauled into a USACE permit area by either (1) or (2) below.

1. Restricted Use of Materials for Previously Evaluated Permit Areas. The Contractor will document both the project specific location (PSL) and their authorization, and the Contractor will maintain copies for review by the Department and/or any regulatory agency. When an area within the project limits has been evaluated by the USACE as part of the permit process for this project, then:

   a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in Item 110 is used for permanent or
   b. temporary fill (Item 132, Embankment) within a USACE permit area may be restricted.
   c. Suitable embankment (Item 132) from within the USACE permit area is used as fill within a USACE evaluated area may be restricted; and,
   d. Unsuitable excavation or excess excavation [“Waste”] (Item 110) that is disposed of at an approved location within a USACE evaluated area may be restricted.

2. Contractor Materials from Areas Other than Previously Evaluated Areas. The Contractor will provide the Department with a copy of all USACE coordination or approvals before initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off-right-of-way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow and disposal sites, including:
   a. Item 132, Embankment, used for temporary or permanent fill within a USACE permit area; and,
   b. Unsuitable excavation or excess excavation [“Waste”] (Item 110, Excavation) that is disposed of outside a USACE evaluated area.

Storm Water Regulations Requirements:
The Contractor shall be responsible for (off ROW) PSLs applicable to the TCEQ Construction General Permit (CGP) requirements and will notify the Engineer of the disturbed acreage within one (1) mile of the project limits. The Contractor shall obtain any required authorization form the TCEQ for any Contractor PSLs for construction support activities on or off ROW.

The total area disturbed for this project is 34.5 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, the Contractor shall provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer and to the local government that operates a municipal separate storm sewer system (MS4), if applicable.

Item 8 - Prosecution and Progress

Before starting work, provide a sequence of work and estimated progress schedule meeting the requirements of Section 8.5.2, “Progress Schedule.”

No closures will be allowed on the weekends which include the following holidays: January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 25 and Easter weekend.

Item 9 - Measurement and Payment

Coordinate and provide off-duty law enforcement officers with officially marked vehicles (if patrol cruisers are available from the enforcement agency involved) during the following operations transitioning to a new sequence of construction, traffic signal upgrades, lane closures, *and/or* during a one-way traffic control situation. For payment through TxDOT state force account method, complete the weekly tracking forms provided by the department and submit invoices that agree with the tracking form for payment at the end of each month approved services were provided.

Submit Material on hand (MOH) payment requests at least _5_ working days prior to the end of the month for payment on that month’s estimate. For out-of-town MOH submit requests at least 10 working days prior to the end of the month.

Item 100 - Preparing Right of Way

Burning of brush will not be permitted.

Do not begin any clearing operations until the trees and areas of vegetation that should not be removed or disturbed by construction activities have been identified. To ensure that these areas are not disturbed, place protection fencing as shown in the plans or as directed/approved by the Engineer.

All right of way clearing operations will be coordinated with the project's SW3P and as directed/approved by the Engineer.

Item 132 - Embankment

The embankment material must be consistent and homogeneous, free from vegetation or other objectionable matter, reasonably free from lumps of earth and suitable for forming a stable embankment.

For fill sections from embankment finished grade line and below, to a depth of 4 feet:
Field compact density to ≥ 98% dry density.
Plasticity Index (PI) limit is: 5≤ PI ≤ 25.
Liquid limit ≤ 45

For all other fill sections, Plasticity Index (PI) limit is less than or equal to 30.

It is the Contractor’s responsibility to advise the Engineer of the location of the source sufficiently in advance to avoid delay.

Item 134 - Backfilling Pavement Edges

TY “B” material will be used as temporary taper to be in place before opening travel way to traffic

Item 164 - Seeding for Erosion Control

Drill seeding will be used for this project. Refer to the Laredo District Standard Revegetation notes and specifications for additional information.

Item 247 - Flexible Base

A pre-placement meeting must be conducted at least 48 hrs prior to flex base placing operations.
Ride quality will be required on the base.

If the flexible base comes from a stockpile, test the stockpile before delivery to the project. Stockpile must be labeled and designated the contractor and the project. Follow the department guide schedule for testing frequency. The Contractor’s attention is called to the fact that the preliminary test will require approximately 30 days and it is the Contractor’s responsibility to advise the Engineer of the location of the flexible base source sufficiently in advance to avoid delays. Blade the side slopes to remove all grass from the area of construction before placing flexible base on that portion of the roadway to be widened, level-up, seal coat, or HMAC overlay. Blade the sod back onto the side slopes after the proposed items of work have been completed. This work is subsidiary to pertinent work items.

Conform to the following flexible base (TY E GR 1-2) requirements:

Density and Moisture Control. Compact to a minimum of 100% of the maximum dry density and within ±2.0% of the optimum moisture content as determined in accordance with Tex-113-E, unless otherwise shown on the plans. Provide the Engineer with the beginning and ending station numbers of the area completed for testing. The Engineer will determine roadway density and moisture content of completed sections in accordance with Tex-115-E, Part I. The Engineer will determine random locations for testing in accordance with Tex-115-E, Part IV. Do not achieve density by drying the material after compaction. When the density is less than 100% of the maximum dry density, the Engineer may perform additional testing to determine the extent of the area to correct. The Engineer may accept the section if no more than one of the five most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density

Item 316 – Seal Coat

A pre-placement meeting must be conducted at least 48 hrs. prior to seal coat placement.

The usual open season for application of asphalt is from: April 1st to September 30th, unless otherwise approved in writing by the Engineer.

In addition to other asphalt distributor requirements, the asphalt distributor shall be capable of providing a transversely varied asphalt rate. The Contractor shall demonstrate that the distributor can apply an asphalt rate outside the wheel path locations between 22 and 32 percent higher than the asphalt rate being applied in the wheel paths. The contractor's calibration of the distributor will include verification of this capability and a description of the spray bar(s) and nozzles to be used. The percentage difference in asphalt rate provided by each tested spray bar and nozzle arrangement shall be provided to the Engineer. The Engineer will select the pavements where transversely varied asphalt rate is to be provided and will provide this information at the pre-construction meeting.

The estimated application rate noted in the plans is for locations outside the wheel paths and is for estimation purposes only.

Remove excess accumulated rock (Windrow) from edge of pavement swept by brooms.

Self-propelled broom sweeper working properly and have an approved bristle size.
Approved thermal probe, gauge method for temperature reading, easy and safe access.

Use vacuum sweeper in curb and gutter sections.

Item 320 – Equipment for Hot Mix Asphalt Materials

For staged construction, all longitudinal ACP joints shall be constructed with a 3:1 to 6:1 taper. For placement of 2 inches or more, the device will provide a maximum ½ inch vertical edge. Outside edges (next to the grass/earth) will also have a taper or will be backfilled the same day.

Final Surface course: all longitudinal ACP joints for the final Hot Mix surface course shall be in widths equal to travel lane widths so that all final course ACP joints will match the proposed lane striping (pavement markings), unless otherwise directed by the engineer.

Item 351 - Flexible Pavement Structure Repair

The section of roadway where the repair is to be made will be the entire width of the lane and a minimum length of 50 feet, unless otherwise directed by the Engineer.

Item 354 - Planing and Texturing Pavement

Contractor to retain ownership of planed materials.

Pavement sections to be planed and overlaid are planed no more than one week prior to placing overlay.

The contractor will not be allowed to remove all existing asphalt from (edge of pavement to edge of pavement) when TCP requires to be done in phases.

The contractor will be responsible for verifying the existing asphalt depth at the bridge before beginning planing operations. The contractor will be responsible for any needed repairs to the armor joint(s) and/or deck(s) as a result of the planing operations. The repairs will be conducted to the satisfaction of the Engineer. The Contractor will be responsible for all costs incurred for the repairs, including but not limited to materials, labor, equipment, and pertinent incidentals.

Item 403 – Temporary Shoring

Payment under this item is pending receipt of documentation noted in the plan set Including details specific to each individual location.

Item 416 - Drilled Shaft Foundations

After drill shaft installation plan is approved by the Engineer, a pre-placement meeting shall be held at least 48 hours before beginning excavation operations.

After drill shaft installation plan is approved by the Engineer, a pre-placement Meeting shall be held at least 48 hours before beginning excavation operations.

Item 421 - Hydraulic Cement Concrete

Sulfate resistant cement concrete shall be used in all situations for structural elements in contact with the natural ground. These includes, but is not limited to, all reinforced concrete pipe, concrete box culverts, drill shafts, bridge columns, bridge abutments, wingwalls, approach slabs, inlets, manholes, junction boxes, ground boxes and all concrete riprap.

Air entrainment is not required. If concrete is supplied with air entrainment, the concrete must adhere to the requirements of item 421.4.2.4.

Item 432 - Riprap

Provide Class B Concrete for riprap.

Item 496 - Removing Structures

The structure(s) to be removed have surface coatings which may contain hazardous materials. Provide for the safety and health of employees and abide by all OSHA Standards and Regulations.

Item 500 - Mobilization

"Materials-on-Hand" payments will not be considered in determining percentages used to compute mobilization payments.

Item 502 - Barricades, Signs, and Traffic Handling

Designate, as the Contractor Responsible Person (CRP), an English-speaking employee on-call nights and weekends (or any other time that work is not in progress) with a local address and telephone number for maintenance of signs

and barricades. This employee will be located within one (1) hour of traveling time to the project site. Notify the Engineer in writing of the name, address and telephone number of this employee. Furnish this information to local law enforcement officials.

Notify the Engineer at least two weeks prior to a proposed traffic pattern change(s) that will require a revision to traffic signals. This is required to provide the State/City time to perform a traffic study, determine the new signal timing and phasing settings that need to be implemented with the traffic change.

Traffic signals in new locations require:

1. The contractor to place the signals in flashing mode two weeks prior to activation.

Provide two-way radios in areas where flagmen do not have visual contact with one another or cannot communicate with one another.

Ensure equipment not in use, stockpile aggregate, and other working materials are:
A minimum of 30 feet from the edge of the travel lane;
Do not obstruct traffic or sight distance.
Do not interfere with the access from abutting property; or
Do not interfere with roadway drainage.

Erect signs in locations not obstructing the traveling public's view of the normal roadway signing or necessary sight distance at intersections and curves.

During the holiday time frame of December 21st through January 1st, every effort should be taken to ensure that all travel lanes remain open where possible.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Item 504 - Field Office and Laboratory

Provide a Type D Structure and Asphalt Content by Ignition Method for TxDOT Quality Assurance Testing. Contractor's quality control testing shall be performed in a separate space or facility. If a separate space is utilized within a shared facility, partition the space with a floor to ceiling wall with a door access for indoor use that is lockable with a key. Each separate space shall have an exterior door access.

Ensure that the field lab has an office for TxDOT use along with lockable file cabinet, desk and chair.

The floor and landing of the facility shall support the weight of all equipment and personnel providing a stable, essentially zero deflection during testing operations, acceptable to the Engineer.

Contractor is responsible to transport to and from the field lab TxDOT owned testing equipment required for hot mix operations. Contractor will pick up, deliver, install and set up TxDOT owned equipment required in the field lab. TxDOT owned equipment required in the field lab will be picked up at LRD DST LAB or as determined by the LRD DST LAB Supervisor.

Pick up and deliver TxDOT owned equipment under the supervision of a TxDOT lab technician. A TxDOT lab technician will verify the installation and set-up of the equipment at least 48 hours prior to beginning of hot mix operations (trial batch included).

All equipment will be returned by the Contractor in the same manner and location as it was picked up. Contractor is responsible for any damages incurred to TxDOT equipment.

Item 506 - Temporary Erosion, Sedimentation, and Environmental Controls

The Department will take over responsibility for the establishment of 70% vegetative cover, based on adjacent undisturbed vegetation, upon the completion of all other work in accordance with the contract and final acceptance.

Concrete washout area(s) shall be installed prior to concrete placement on site. The concrete washout area(s) shall be entirely self-contained. Location must be Approved by the Engineer. Concrete washout area(s) are subsidiary to pertinent Items.

Item 512 - Portable Traffic Barrier

Do not use different types of Portable Traffic Barriers in a single continuous installation.

Place PTB at ½" GAP over SPAN BRIDGE DECKS for Expansion to AVOID THERMAL SLAB vs. PTB Extreme THERMAL Movement.

Item 540 – Metal Beam Guard Fence

Install cast-in place concrete curb Type II in the metal beam guard fence transition (Thrie-Beam Transition). Pre-cast concrete curb will not be allowed.

Item 585 - Ride Quality for Pavement Surfaces

Use pay adjustment schedule 1.

Measure ride quality of the base course after placement of the prime coat and before placement of the surface treatment, unless otherwise approved. Use a certified profiler operator from the Department's MPL. When requested, furnish the Engineer documentation for the person certified to operate the profiler.

Provide all profile measurements to the Engineer in electronic data files within 3 days after placement of the prime coat using the format specified in Tex-1001-S. The Engineer will use Department software to evaluate longitudinal profiles to determine areas requiring corrective action. Correct 0.1-mi. sections having an average international roughness index (IRI) value greater than 125.0 in. per mile to an IRI value of 125.0 in. per mile or less for each wheel path, unless otherwise shown on the plans.

Re-profile and correct sections that fail to maintain ride quality until placement of the next course, as directed. Correct re-profiled sections until specification requirements are met, as approved. Perform this work at no additional expense to the Department.

Item 636 - Signs

Salvage and deliver all aluminum sign faces to the local TxDOT maintenance office.

Item 644 - Small Roadside Sign Assemblies

Salvage and deliver all aluminum sign faces to the local TxDOT maintenance office.

Item 658 – Delineator and Object Marker Assemblies

Proposed delineators for this project will consist of oval shape tube flexible post with a quick release embedded anchor insert stub only, such as Flexstake Inc. – 650 series or Shur-Tite – SD series or equal flexible driveable delineators.

Provide and place delineator Type 1, 2, 3, 4, object markers/chevrons and large arrows signs project 4' or 7' above the pavement surface and not the ground line. (Provide adequate length for proper anchor and projection above ground line).

Item 666 – Reflectorized Pavement Markings

Reflectivity requirements for Type I will be as per Item 666.

Payment on Type I markings requiring retroreflective testing will be made at a 75% rate until passing test results are received.

Item 730 – Roadwide Mowing

Refer to the 2014 Standard Specifications for additional information.

Trimming is required around all guardrails, the face of retaining walls, bridge sloped riprap embankments and around all landscape plantings within the right of way regardless of location.

Strip mowing shall be a maximum of 15 feet wide along the edge of pavement, unpaved shoulders, or end of drainage structures.

Mowing is not allowed during the wildflower blooming/growing season.

Mowing for sight distance per standard is required and shall be considered subsidiary to pertinent bid items. See standard Strip-Mow-ND-04 and/or Strip-Mow-D-04 for more detailed information.

At the time of letting for this project, there may be locations of existing cable barrier fence, Metal Beam Guard Fence (MBGF), concrete traffic barriers, post, and cable and/or other types of traffic barriers in the ROW within the limits of this

project The contractor is responsible for determining what type of mowing equipment will be necessary for mowing any narrow areas.

There will be no adjustment to the unit bid prices on this contract for mowing along existing or new traffic barrier, MBGF, post and cable and/or any other type of traffic barrier and any additional or alternative equipment, additional labor, or other anticipated expenses necessary to complete the work required by this project will be paid for at the unit price bid for the items in this project.
No additional payment will be made for mowing of these narrow width areas along existing or new traffic barrier.

Undivided Highway:

Mow an area 15 feet wide on each of the following: crossing roads within the limits of the highway right-of-way, areas adjacent to the inside and outside shoulders of the through lanes, and the areas for transition and safety mowing.

When performing mowing in front of private dwellings, churches, schools, and developed areas, the contractor will mow the entire right-of-way from the pavement edge to the right-of-way line, plus the areas for transition and safety mowing. The contractor will mow an area 15 feet wide past the ends of all pipes and culverts.

The rate of transition between the designated strip width and other areas is 6:1 parallel to the roadway for every one (1) foot increase or decrease in width.

Equipment:

Equipment must have four daytime fluorescent orange flags in good condition, 2 mounted on the rear of the equipment and 2 mounted on the front of the equipment. Provide highly visible omnidirectional amber flashing warning lights on tractors and work trucks. Ensure that all workers have personal equipment as per Item 7.2.1 "Safety".

Item 3076 - Dense-Graded Hot-Mix Asphalt

Use aggregate that meets the SAC-A, only for the final riding surface.

Apply the Bonding Course in accordance with Item 3084.

Substitute Binders (grade dumping) will not be allowed on the final riding surface.

Refer to item 585 for ride quality requirements.

The use of RAP or RAS will not be allowed on the final riding surface.

For Mill inlays sections:
Only mill what can be paved at the end of the workday.

RAP 20% is allowed for TY B mixes, but RAS will not be allowed. Substitute Binders in the intermediate layer (grade dumping) may be allowed when the surface HMA layer is placed not more than 6 months after the intermediate layer is complete or as approved by the engineer.

Item 3080 – Stone-Matrix Asphalt

Provide an asphalt binder PG 76-22. Substitution of the PG binder is not allowed.

Use aggregate that meets the SAC requirement of class A.

Apply the Bonding Course in accordance to Item 3084.

The use of RAP, RAS, and/or Substitute Binders will not be allowed on the final riding surface.

For mill and inlay sections:
Only mill what can be paved by the end of the workday.

Refer to Item 585 for ride quality requirements.

Item 3084 – Bonding Course

An average rate of 0.20 GAL/SY was used for estimation purposes. Contractor shall choose an option shown below and bid accordingly.

OPTIONS:

MATERIAL	MINIMUM TYPICAL APPLICATION RATE (GAL/SY)
TRAIL – Emulsified Asphalt	#
TRAIL – Hot Applied	#

Spray Applied Underseal Membrane	#

Typical Application Rate may vary from 0.07 to 0.20 GAL/SY depending on option.

Apply bonding course at every intermediate layer, unless otherwise directed. The type of tack coat must be approved by the Engineer.

The Engineer may adjust the application rates as per field conditions.

Shear Bond Strength Test will be performed for informational purposes, and will not be used for specification compliance. The target shear bond strength is a minimum of 40 psi and for final surface layer a minimum of 50 psi.

Item 6001 - Portable Changeable Message Sign

Provide TWO (02) electronic portable changeable message signs as required by the Engineer. Provide backups and keep operational and available on the jobsite at all times during traffic control operations. The electronic portable changeable message signs will be made available for utilization for the entire duration of the project, including all alternative locations.

Item 6158 – Trailer Mounted Solar Powered Radar Speed Control Monitor

Provide TWO (02) trailer mounted solar powered radar speed detection radar unit With light emitting diode (LED) display panel. Install as per plans or as directed by The Engineer.

Provide a display panel that consist of two characters, each a minimum of 18 in. Height. Display Panel shall be in amber color and visible from a minimum of 600 Ft. Provide a display panel that is equipped to alert motorist when they are traveling over the posted speed, either by flashing the traveling speed, changing the display color, or by blinking out the display.

Item 6185 – Truck Mounted Attenuator (TMA) and Trailer

Provide 04 Truck Mounted Attenuator as required by the Engineer. Provide backup and keep operational and available on the jobsite at all times during traffic control operations. The Truck Mounted Attenuator will be made available for utilization for the entire duration of the project, including all alternative locations.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 3586-02-006 **DISTRICT** Laredo **COUNTY** Webb
HIGHWAY SH 255

						TOTAL EST.	TOTAL FINAL
			CONTROL SECTION JOB	**3586-02-006**			
			PROJECT ID	**A00133253**			
			COUNTY	**Webb**			
			HIGHWAY	**SH 255**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	100-6002	PREPARING ROW	STA	164.000		164.000	
	110-6001	EXCAVATION (ROADWAY)	CY	7,205.000		7,205.000	
	112-6003	SUBGRADE WIDENING (DENS CONT)	SY	33,073.000		33,073.000	
	132-6005	EMBANKMENT (FINAL)(ORD COMP)(TY C)	CY	28,466.000		28,466.000	
	134-6002	BACKFILL (TY B)	STA	240.000		240.000	
	164-6036	DRILL SEEDING (PERM) (RURAL) (CLAY)	AC	39.800		39.800	
	164-6042	DRILL SEEDING (TEMP) (WARM)	AC	39.800		39.800	
	216-6001	PROOF ROLLING	HR	14.000		14.000	
	247-6332	FL BS (RDWY DEL)(TY E GR 1-2)(FNL POS)	CY	7,946.000		7,946.000	
	316-6029	ASPH (RC-250)	GAL	54,268.000		54,268.000	
	316-6226	AGGR(TY-PB GR-5 SAC-B)	CY	1,939.000		1,939.000	
	351-6029	FLEXIBLE PAVE STRUCTURE REPAIR(12.5")	SY	2,646.000		2,646.000	
	354-6057	PLANE ASPH CONC PAV (4")	SY	215,306.000		215,306.000	
	354-6082	PLANE ASPH CONC PAV (10")	SY	21,287.000		21,287.000	
	354-6178	PLAN ASPH CONC PAV (4"-7.5")	SY	7,290.000		7,290.000	
	403-6001	TEMPORARY SPL SHORING	SF	3,052.000		3,052.000	
	416-6002	DRILL SHAFT (24 IN)	LF	77.000		77.000	
	416-6015	DRILL SHAFT (NON - REINFORCED) (12 IN)	LF	7.000		7.000	
	432-6045	RIPRAP (MOW STRIP)(4 IN)	CY	49.000		49.000	
	467-6015	SET (TY I) (36 IN) (4: 1) (C)	EA	4.000		4.000	
	467-6022	SET (TY I) (48 IN) (4: 1) (C)	EA	6.000		6.000	
	467-6212	SET (TY I)(S= 6 FT)(HW= 4 FT)(4:1) (C)	EA	2.000		2.000	
	467-6276	SET (TY I)(S= 8 FT)(HW= 5 FT)(4:1) (C)	EA	19.000		19.000	
	467-6280	SET (TY I)(S= 8 FT)(HW= 6 FT)(4:1) (C)	EA	5.000		5.000	
	467-6284	SET (TY I)(S= 8 FT)(HW= 7 FT)(4:1) (C)	EA	4.000		4.000	
	480-6001	CLEAN EXIST CULVERTS	EA	17.000		17.000	
	496-6005	REMOV STR (WINGWALL)	EA	14.000		14.000	
	496-6006	REMOV STR (HEADWALL)	EA	6.000		6.000	
	500-6001	MOBILIZATION	LS	1.000		1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	24.000		24.000	
	506-6003	ROCK FILTER DAMS (INSTALL) (TY 3)	LF	756.000		756.000	
	506-6011	ROCK FILTER DAMS (REMOVE)	LF	756.000		756.000	
	506-6020	CONSTRUCTION EXITS (INSTALL) (TY 1)	SY	112.000		112.000	
	506-6024	CONSTRUCTION EXITS (REMOVE)	SY	112.000		112.000	
	506-6030	BACKHOE WORK (EROSION & SEDMT CONT)	HR	64.600		64.600	
	506-6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	2,582.000		2,582.000	
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	2,582.000		2,582.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 3586-02-006 **DISTRICT** Laredo **COUNTY** Webb
HIGHWAY SH 255

						TOTAL EST.	TOTAL FINAL
			CONTROL SECTION JOB	**3586-02-006**			
			PROJECT ID	**A00133253**			
			COUNTY	**Webb**			
			HIGHWAY	**SH 255**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	510-6002	ONE-WAY TRAF CONT (PILOT CAR)	HR	2,480.000		2,480.000	
	510-6004	ONE-WAY TRAFFIC CONTROL (PORT TRAF SIG)	DAY	310.000		310.000	
	512-6072	PTB (FRN&INSTL)(SGL SLP)(TY 1) OR (STL)	LF	540.000		540.000	
	512-6074	PTB (MOVE)(SGL SLP)(TY 1) OR (STL)	LF	2,880.000		2,880.000	
	512-6076	PTB (REMOVE)(SGL SLP)(TY 1) OR (STL)	LF	540.000		540.000	
	530-6005	DRIVEWAYS (ACP)	SY	1,055.000		1,055.000	
	533-6003	RUMBLE STRIPS (SHOULDER) ASPHALT	LF	110,437.000		110,437.000	
	533-6004	RUMBLE STRIPS (CENTERLINE) ASPHALT	LF	82,523.000		82,523.000	
	540-6001	MTL W-BEAM GD FEN (TIM POST)	LF	825.000		825.000	
	540-6006	MTL BEAM GD FEN TRANS (THRIE-BEAM)	EA	6.000		6.000	
	542-6001	REMOVE METAL BEAM GUARD FENCE	LF	450.000		450.000	
	542-6004	RM MTL BM GD FENCE TRANS (THRIE-BEAM)	EA	1.000		1.000	
	544-6001	GUARDRAIL END TREATMENT (INSTALL)	EA	10.000		10.000	
	544-6003	GUARDRAIL END TREATMENT (REMOVE)	EA	6.000		6.000	
	545-6003	CRASH CUSH ATTEN (MOVE & RESET)	EA	46.000		46.000	
	545-6005	CRASH CUSH ATTEN (REMOVE)	EA	2.000		2.000	
	545-6028	CRASH CUSH ATTEN (INSTL) (S) (TL3)	EA	2.000		2.000	
	636-6001	ALUMINUM SIGNS (TY A)	SF	54.000		54.000	
	636-6002	ALUMINUM SIGNS (TY G)	SF	1,890.000		1,890.000	
	644-6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)	EA	56.000		56.000	
	644-6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	31.000		31.000	
	644-6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)	EA	7.000		7.000	
	644-6076	REMOVE SM RD SN SUP&AM	EA	76.000		76.000	
	647-6001	INSTALL LRSS (STRUCT STEEL)	LB	7,795.800		7,795.800	
	647-6003	REMOVE LRSA	EA	9.000		9.000	
	658-6060	REMOVE DELIN & OBJECT MARKER ASSMS	EA	52.000		52.000	
	658-6061	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2	EA	15.000		15.000	
	658-6069	INSTL DEL ASSM (D-SW)SZ (BRF)CTB (BR)	EA	10.000		10.000	
	658-6100	INSTL OM ASSM (OM-2Z)(WFLX)GND(BI)	EA	50.000		50.000	
	662-6098	WK ZN PAV MRK REMOV (Y)6"(SLD)	LF	177,786.000		177,786.000	
	666-6018	REFL PAV MRK TY I (W)6"(DOT)(100MIL)	LF	931.000		931.000	
	666-6030	REFL PAV MRK TY I (W)8"(DOT)(100MIL)	LF	581.000		581.000	
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	1,094.000		1,094.000	
	666-6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	102.000		102.000	
	666-6054	REFL PAV MRK TY I (W)(ARROW)(100MIL)	EA	23.000		23.000	
	666-6072	REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)	EA	5.000		5.000	
	666-6078	REFL PAV MRK TY I (W)(WORD)(100MIL)	EA	23.000		23.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 3586-02-006 **DISTRICT** Laredo **COUNTY** Webb
HIGHWAY SH 255

						TOTAL EST.	TOTAL FINAL
			CONTROL SECTION JOB	**3586-02-006**			
			PROJECT ID	**A00133253**			
			COUNTY	**Webb**			
			HIGHWAY	**SH 255**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	666-6306	RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)	LF	3,431.000		3,431.000	
	666-6309	RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)	LF	93,219.000		93,219.000	
	666-6318	RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)	LF	2,288.000		2,288.000	
	666-6321	RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)	LF	90,015.000		90,015.000	
	666-6343	REF PROF PAV MRK TY I(W)6"(SLD)(100MIL)	LF	1,538.000		1,538.000	
	666-6347	REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)	LF	2,296.000		2,296.000	
	672-6007	REFL PAV MRKR TY I-C	EA	236.000		236.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	2,718.000		2,718.000	
	730-6001	STRIP MOWING	AC	208.000		208.000	
	730-6002	FULL - WIDTH MOWING	AC	208.000		208.000	
	3076-6007	D-GR HMA TY-B SAC-B PG70-22	TON	74,207.000		74,207.000	
	3080-6001	STONE-MTRX-ASPH SMA-C SAC-A PG76-22	TON	39,767.000		39,767.000	
	3084-6001	BONDING COURSE	GAL	54,708.000		54,708.000	
	3088-6001	CEMENT	TON	1,277.000		1,277.000	
	3088-6002	ASPHALT BINDER (PG 64-22)	TON	3,190.000		3,190.000	
	3088-6006	FOAMED ASPHALT TREAT (12")(DC)	SY	249,666.000		249,666.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2.000		2.000	
	6056-6001	PREFORMED IN-LANE(TRANS) RUMBLE STRIP	LF	200.000		200.000	
	6158-6001	TMSP RADAR SPEED CONTROL MONITOR	EA	2.000		2.000	
	6185-6002	TMA (STATIONARY)	DAY	489.000		489.000	
	6185-6003	TMA (MOBILE OPERATION)	HR	120.000		120.000	
	08	CONTRACTOR FORCE ACCOUNT LAW ENFORCEMENT (NON-PARTICIPATING)	LS	1.000		1.000	
		CONTRACTOR FORCE ACCOUNT SAFETY CONTINGENCY (NON-PARTICIPATING)	LS	1.000		1.000	
		CONTRACTOR FORCE ACCOUNT EROSION CONTROL MAINTENANCE (NON-PARTICIPATING)	LS	1.000		1.000	

SH 255 MAINLANES					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
760+00.00 R1	0	0	0	0	0
761+00.00 R1	0	1.9	0	1.9	-1.9
762+00.00 R1	0	2.2	0	4.1	-4.1
763+00.00 R1	0	4.2	0	8.3	-8.3
764+00.00 R1	0	3.5	0	11.8	-11.8
765+00.00 R1	0	1.9	0	13.7	-13.7
766+00.00 R1	0	3.1	0	16.8	-16.8
767+00.00 R1	0	8.4	0	25.2	-25.2
768+00.00 R1	0	11	0	36.2	-36.2
769+00.00 R1	0	13.8	0	50	-50
770+00.00 R1	0	13.9	0	63.9	-63.9
771+00.00 R1	0	10	0	73.9	-73.9
772+00.00 R1	0	6.1	0	80	-80
773+00.00 R1	0	2.5	0	82.5	-82.5
774+00.00 R1	0	17.4	0	99.9	-99.9
775+00.00 R1	0	56.9	0	156.8	-156.8
776+00.00 R1	0	91.8	0	248.6	-248.6
777+00.00 R1	0	63.2	0	311.8	-311.8
778+00.00 R1	0	43	0	354.8	-354.8
779+00.00 R1	0	80.2	0	435	-435
780+00.00 R1	0	101.4	0	536.4	-536.4
781+00.00 R1	0	118	0	654.4	-654.4
782+00.00 R1	0	110.9	0	765.3	-765.3
783+00.00 R1	0	118.3	0	883.6	-883.6
784+00.00 R1	0	213.9	0	1097.5	-1097.5
785+00.00 R1	0	347.8	0	1445.3	-1445.3
786+00.00 R1	0	395.3	0	1840.6	-1840.6
787+00.00 R1	0	364.2	0	2204.8	-2204.8
788+00.00 R1	0	314.3	0	2519.1	-2519.1
789+00.00 R1	0	260.1	0	2779.2	-2779.2
790+00.00 R1	0	201.2	0	2980.4	-2980.4
791+00.00 R1	0	156.5	0	3136.9	-3136.9
792+00.00 R1	0	135.2	0	3272.1	-3272.1
793+00.00 R1	0	110.5	0	3382.6	-3382.6
794+00.00 R1	0	105.2	0	3487.8	-3487.8
795+00.00 R1	0	96.9	0	3584.7	-3584.7
796+00.00 R1	16.9	136.6	16.9	3721.3	-3704.4
797+00.00 R1	13.2	287.6	30.1	4008.9	-3978.8
798+00.00 R1	71.9	325.9	102	4334.8	-4232.8
799+00.00 R1	147	246.5	249	4581.3	-4332.3
800+00.00 R1	195.1	236.2	444.1	4817.5	-4373.4
801+00.00 R1	226.1	244.3	670.2	5061.8	-4391.6
802+00.00 R1	197	247	867.2	5308.8	-4441.6
803+00.00 R1	159.7	238.9	1026.9	5547.7	-4520.8
804+00.00 R1	160.8	234.3	1187.7	5782	-4594.3
805+00.00 R1	207.4	225.1	1395.1	6007.1	-4612
806+00.00 R1	246.2	227.9	1641.3	6235	-4593.7
807+00.00 R1	227.2	242.6	1868.5	6477.6	-4609.1
808+00.00 R1	200.5	246.1	2069	6723.7	-4654.7
809+00.00 R1	196.8	245.6	2265.8	6969.3	-4703.5
810+00.00 R1	205.4	218.1	2471.2	7187.4	-4716.2
811+00.00 R1	216.2	214.9	2687.4	7402.3	-4714.9
812+00.00 R1	189.3	226.4	2876.7	7628.7	-4752
813+00.00 R1	165.8	204.6	3042.5	7833.3	-4790.8
814+00.00 R1	230.9	180.5	3273.4	8013.8	-4740.4
815+00.00 R1	310.3	181.7	3583.7	8195.5	-4611.8
816+00.00 R1	264.8	212.4	3848.5	8407.9	-4559.4
817+00.00 R1	155.4	248.7	4003.9	8656.6	-4652.7
818+00.00 R1	123.4	237.1	4127.3	8893.7	-4766.4
819+00.00 R1	114.2	231.1	4241.5	9124.8	-4883.3
820+00.00 R1	66.1	275.4	4307.6	9400.2	-5092.6
821+00.00 R1	58.3	277.6	4365.9	9677.8	-5311.9
822+00.00 R1	92.9	244.8	4458.8	9922.6	-5463.8
823+00.00 R1	139.1	218.6	4597.9	10141.2	-5543.3
824+00.00 R1	212.1	188.2	4810	10329.4	-5519.4
825+00.00 R1	277	162.8	5087	10492.2	-5405.2
826+00.00 R1	257.3	178.8	5344.3	10671	-5326.7
827+00.00 R1	184.5	212.1	5528.8	10883.1	-5354.3
828+00.00 R1	126.5	225.6	5655.3	11108.7	-5453.4
829+00.00 R1	93.2	226.1	5748.5	11334.8	-5586.3
830+00.00 R1	65.1	238.9	5813.6	11573.7	-5760.1
831+00.00 R1	57.3	265	5870.9	11838.7	-5967.8
832+00.00 R1	70.9	262.6	5941.8	12101.3	-6159.5

SH 255 MAINLANES					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
833+00.00 R1	87.2	249.1	6029	12350.4	-6321.4
834+00.00 R1	92	226.8	6121	12577.2	-6456.2
835+00.00 R1	77.3	210.3	6198.3	12787.5	-6589.2
836+00.00 R1	61.2	204.3	6259.5	12991.8	-6732.3
837+00.00 R1	53	159.7	6312.5	13151.5	-6839
838+00.00 R1	63.9	110.7	6376.4	13262.2	-6885.8
839+00.00 R1	70.2	118.5	6446.6	13380.7	-6934.1
840+00.00 R1	45.9	190.7	6492.5	13571.4	-7078.9
841+00.00 R1	24.3	230.1	6516.8	13801.5	-7284.7
842+00.00 R1	26.2	199.3	6543	14000.8	-7457.8
843+00.00 R1	21.2	176.7	6564.2	14177.5	-7613.3
844+00.00 R1	7.4	171.2	6571.6	14348.7	-7777.1
845+00.00 R1	14.4	138.4	6586	14487.1	-7901.1
846+00.00 R1	34.4	83.9	6620.4	14571	-7950.6
847+00.00 R1	23.9	52.5	6644.3	14623.5	-7979.2
848+00.00 R1	0	61.1	6644.3	14684.6	-8040.3
849+00.00 R1	0	57	6644.3	14741.6	-8097.3
850+00.00 R1	0	42.1	6644.3	14783.7	-8139.4
851+00.00 R1	0	30.3	6644.3	14814	-8169.7
852+00.00 R1	0	15.3	6644.3	14829.3	-8185
853+00.00 R1	0	11.5	6644.3	14840.8	-8196.5
854+00.00 R1	0	5.2	6644.3	14846	-8201.7
855+00.00 R1	0	2.7	6644.3	14848.7	-8204.4
856+00.00 R1	0	2.3	6644.3	14851	-8206.7
857+00.00 R1	0	2.6	6644.3	14853.6	-8209.3
858+00.00 R1	0	2.5	6644.3	14856.1	-8211.8
859+00.00 R1	6.1	2.4	6650.4	14858.5	-8208.1
860+00.00 R1	5	13.4	6655.4	14871.9	-8216.5
861+00.00 R1	0	29.5	6655.4	14901.4	-8246
862+00.00 R1	6.5	24	6661.9	14925.4	-8263.5
863+00.00 R1	23.4	14.6	6685.3	14940	-8254.7
864+00.00 R1	17	39.6	6702.3	14979.6	-8277.3
865+00.00 R1	0	47.5	6702.3	15027.1	-8324.8
866+00.00 R1	0	32.7	6702.3	15059.8	-8357.5
867+00.00 R1	0	34	6702.3	15093.8	-8391.5
868+00.00 R1	0	49.3	6702.3	15143.1	-8440.8
869+00.00 R1	0	70.1	6702.3	15213.2	-8510.9
870+00.00 R1	15.8	61.8	6718.1	15275	-8556.9
871+00.00 R1	35	36.6	6753.1	15311.6	-8558.5
872+00.00 R1	39.1	24.2	6792.2	15335.8	-8543.6
873+00.00 R1	33.5	35.6	6825.7	15371.4	-8545.7
874+00.00 R1	2.8	91.9	6828.5	15463.3	-8634.8
875+00.00 R1	0	144.5	6828.5	15607.8	-8779.3
876+00.00 R1	0	139.7	6828.5	15747.5	-8919
877+00.00 R1	0	79.4	6828.5	15826.9	-8998.4
878+00.00 R1	0	115.8	6828.5	15942.7	-9114.2
879+00.00 R1	0	185.7	6828.5	16128.4	-9299.9
880+00.00 R1	0	149	6828.5	16277.4	-9448.9
881+00.00 R1	0	121	6828.5	16398.4	-9569.9
882+00.00 R1	0	107.2	6828.5	16505.6	-9677.1
883+00.00 R1	0	82.2	6828.5	16587.8	-9759.3
884+00.00 R1	0	67.8	6828.5	16655.6	-9827.1
885+00.00 R1	0	55.2	6828.5	16710.8	-9882.3
886+00.00 R1	0	31.8	6828.5	16742.6	-9914.1
887+00.00 R1	0	15.9	6828.5	16758.5	-9930
888+00.00 R1	0	7.6	6828.5	16766.1	-9937.6
889+00.00 R1	0	4	6828.5	16770.1	-9941.6
890+00.00 R1	2.3	5.3	6830.8	16775.4	-9944.6
891+00.00 R1	0	16.9	6830.8	16792.3	-9961.5
892+00.00 R1	0	41.3	6830.8	16833.6	-10002.8
893+00.00 R1	0	46.8	6830.8	16880.4	-10049.6
894+00.00 R1	0	28.8	6830.8	16909.2	-10078.4
895+00.00 R1	0	17.9	6830.8	16927.1	-10096.3
896+00.00 R1	0	12	6830.8	16939.1	-10108.3
897+00.00 R1	0	7.1	6830.8	16946.2	-10115.4
898+00.00 R1	0	6.9	6830.8	16953.1	-10122.3
899+00.00 R1	0	10.2	6830.8	16963.3	-10132.5
900+00.00 R1	0	9.4	6830.8	16972.7	-10141.9
901+00.00 R1	0	6.2	6830.8	16978.9	-10148.1
902+00.00 R1	0	6.7	6830.8	16985.6	-10154.8
903+00.00 R1	0	4.8	6830.8	16990.4	-10159.6
904+00.00 R1	0	2.4	6830.8	16992.8	-10162
905+00.00 R1	0	3	6830.8	16995.8	-10165

SH 255 MAINLANES					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
906+00.00 R1	0	3	6830.8	16998.8	-10168
907+00.00 R1	8.8	1.8	6839.6	17000.6	-10161
908+00.00 R1	9.3	1.1	6848.9	17001.7	-10152.8
909+00.00 R1	0	1.9	6848.9	17003.6	-10154.7
910+00.00 R1	0	2	6848.9	17005.6	-10156.7
911+00.00 R1	0	5.6	6848.9	17011.2	-10162.3
912+00.00 R1	0	9.5	6848.9	17020.7	-10171.8
913+00.00 R1	0	5.1	6848.9	17025.8	-10176.9
914+00.00 R1	0	2.3	6848.9	17028.1	-10179.2
915+00.00 R1	0	3.7	6848.9	17031.8	-10182.9
916+00.00 R1	0	2.8	6848.9	17034.6	-10185.7
917+00.00 R1	0	3.7	6848.9	17038.3	-10189.4
918+00.00 R1	0	22.4	6848.9	17060.7	-10211.8
919+00.00 R1	0	41.3	6848.9	17102	-10253.1
920+00.00 R1	0	48.5	6848.9	17150.5	-10301.6
921+00.00 R1	0	43	6848.9	17193.5	-10344.6
922+00.00 R1	0	35.1	6848.9	17228.6	-10379.7
923+00.00 R1	0	40.4	6848.9	17269	-10420.1
924+00.00 R1	0	38.9	6848.9	17307.9	-10459
925+00.00 R1	0	23.3	6848.9	17331.2	-10482.3
926+00.00 R1	0	10.8	6848.9	17342	-10493.1
927+00.00 R1	8.9	14.7	6857.8	17356.7	-10498.9
928+00.00 R1	55.8	22.1	6913.6	17378.8	-10465.2
929+00.00 R1	88.1	40.6	7001.7	17419.4	-10417.7
929+95.32 R1	62.7	59	7064.4	17478.4	-10414
971+44.23 R1	0	1476.6	7064.4	18955	-11890.6
972+00.00 R1	0	2.7	7064.4	18957.7	-11893.3
973+00.00 R1	0	9.9	7064.4	18967.6	-11903.2
974+00.00 R1	0	9.8	7064.4	18977.4	-11913
975+00.00 R1	0	8.8	7064.4	18986.2	-11921.8
976+00.00 R1	0	11.1	7064.4	18997.3	-11932.9
977+00.00 R1	0	11.8	7064.4	19009.1	-11944.7
978+00.00 R1	0	15.5	7064.4	19024.6	-11960.2
978+80.00 R1	0	15.2	7064.4	19039.8	-11975.4
979+00.00 R1	0	3	7064.4	19042.8	-11978.4
980+00.00 R1	0	9.6	7064.4	19052.4	-11988
981+00.00 R1	0	12.3	7064.4	19064.7	-12000.3
982+00.00 R1	0	16.3	7064.4	19081	-12016.6
983+00.00 R1	0	13.3	7064.4	19094.3	-12029.9
984+00.00 R1	0	10.1	7064.4	19104.4	-12040
985+00.00 R1	0	9.7	7064.4	19114.1	-12049.7
986+00.00 R1	0	8.3	7064.4	19122.4	-12058
987+00.00 R1	0	6.9	7064.4	19129.3	-12064.9
988+00.00 R1	0	6	7064.4	19135.3	-12070.9
989+00.00 R1	0	4.4	7064.4	19139.7	-12075.3
990+00.00 R1	0	3.4	7064.4	19143.1	-12078.7
991+00.00 R1	0	3.9	7064.4	19147	-12082.6
992+00.00 R1	0	3.4	7064.4	19150.4	-12086
993+00.00 R1	0	2.9	7064.4	19153.3	-12088.9
994+00.00 R1	0	6.3	7064.4	19159.6	-12095.2
995+00.00 R1	0	7.2	7064.4	19166.8	-12102.4
996+00.00 R1	0	4.4	7064.4	19171.2	-12106.8
996+90.51 R1	0	1.9	7064.4	19173.1	-12108.7
997+00.00 R1	0	0.1	7064.4	19173.2	-12108.8
998+00.00 R1	0	1.7	7064.4	19174.9	-12110.5
999+00.00 R1	0	1.3	7064.4	19176.2	-12111.8
1000+00.00 R1	0	2	7064.4	19178.2	-12113.8
1001+00.00 R1	0	4.6	7064.4	19182.8	-12118.4
1002+00.00 R1	0	9.5	7064.4	19192.3	-12127.9
1002+60.15 R1	0	7.8	7064.4	19200.1	-12135.7
1003+00.00 R1	0	4.5	7064.4	19204.6	-12140.2
1004+00.00 R1	0	12.2	7064.4	19216.8	-12152.4
1005+00.00 R1	0	11.8	7064.4	19228.6	-12164.2
1006+00.00 R1	0	11.6	7064.4	19240.2	-12175.8
1007+00.00 R1	0	15.7	7064.4	19255.9	-12191.5
1008+00.00 R1	0	27.6	7064.4	19283.5	-12219.1
1009+00.00 R1	0	52.7	7064.4	19336.2	-12271.8
1009+84.96 R1	0	63.6	7064.4	19399.8	-12335.4
1010+00.00 R1	0	12.7	7064.4	19412.5	-12348.1
1011+00.00 R1	0	73.3	7064.4	19485.8	-12421.4
1012+00.00 R1	0	68.4	7064.4	19554.2	-12489.8
1013+00.00 R1	0	78.9	7064.4	19633.1	-12568.7
1014+00.00 R1	0	76.9	7064.4	19710	-12645.6

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF EARTHWORK

©TxDOT 2024

SHEET 1 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		27

DATE: 4/24/2024 2:02:10 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006 SH255 EW QTY.dgn

CK: DW: CK: DW: CK:

SH 255 MAINLANES					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
1015+00.00 R1	0	69.4	7064.4	19779	-12715
1016+00.00 R1	0	79.1	7064.4	19859	-12794.1
1017+00.00 R1	0	111.3	7064.4	19970	-12905.4
1018+00.00 R1	0	134	7064.4	20104	-13039.4
1019+00.00 R1	0	140.1	7064.4	20244	-13179.5
1019+80.24 R1	0	109.7	7064.4	20354	-13289.2
1020+00.00 R1	0	25.2	7064.4	20379	-13314.4
1021+00.00 R1	0	105.2	7064.4	20484	-13419.6
1022+00.00 R1	0	61.8	7064.4	20546	-13481.4
1023+00.00 R1	0	40.8	7064.4	20587	-13522.2
1024+00.00 R1	0	44.4	7064.4	20631	-13566.6
1024+54.06 R1	0	25.6	7064.4	20657	-13592.2
1027+25.81 R1	0	76.3	7064.4	20733	-13668.5
1028+00.00 R1	0	5	7064.4	20738	-13673.5
1029+00.00 R1	0	23.8	7064.4	20762	-13697.3
1030+00.00 R1	0	43.4	7064.4	20805	-13740.7
1031+00.00 R1	0	47.2	7064.4	20852	-13787.9
1031+99.41 R1	0	49.6	7064.4	20902	-13837.5
1032+00.00 R1	0	0.3	7064.4	20902	-13837.8
1033+00.00 R1	0	52.9	7064.4	20955	-13890.7
1034+00.00 R1	0	45.4	7064.4	21001	-13936.1
1035+00.00 R1	0	36.2	7064.4	21037	-13972.3
1036+00.00 R1	0	36.2	7064.4	21073	-14008.5
1037+00.00 R1	0	47.6	7064.4	21121	-14056.1
1038+00.00 R1	0	71.1	7064.4	21192	-14127.2
1039+00.00 R1	0	77.3	7064.4	21269	-14204.5
1040+00.00 R1	0	83.9	7064.4	21353	-14288.4
1041+00.00 R1	0	94.8	7064.4	21448	-14383.2
1042+00.00 R1	0	80.3	7064.4	21528	-14463.5
1043+00.00 R1	0	72.3	7064.4	21600	-14535.8
1044+00.00 R1	0	62.3	7064.4	21663	-14598.1
1045+00.00 R1	0	39.1	7064.4	21702	-14637.2
1046+00.00 R1	0	40.7	7064.4	21742	-14677.9
1047+00.00 R1	0	80.8	7064.4	21823	-14758.7
1048+00.00 R1	0	66.8	7064.4	21890	-14825.5
1049+00.00 R1	0	27.7	7064.4	21918	-14853.2
1049+00.71 R1	0	0.2	7064.4	21918	-14853.4
1050+00.00 R1	0	23.5	7064.4	21941	-14876.9
1051+00.00 R1	0	13.9	7064.4	21955	-14890.8
1052+00.00 R1	0	7.2	7064.4	21962	-14898
1053+00.00 R1	0	4.3	7064.4	21967	-14902.3
1054+00.00 R1	0	2.4	7064.4	21969	-14904.7
1055+00.00 R1	0	3.2	7064.4	21972	-14907.9
1056+00.00 R1	0	3.4	7064.4	21976	-14911.3
1057+00.00 R1	0	1.5	7064.4	21977	-14912.8
1058+00.00 R1	0	1.1	7064.4	21978	-14913.9
1059+00.00 R1	0	0.5	7064.4	21979	-14914.4
1060+00.00 R1	0	0.6	7064.4	21979	-14915
1061+00.00 R1	0	0.9	7064.4	21980	-14915.9
1062+00.00 R1	0	1.8	7064.4	21982	-14917.7
1063+00.00 R1	0	2.5	7064.4	21985	-14920.2
1064+00.00 R1	0	2.8	7064.4	21987	-14923
1065+00.00 R1	0	14.2	7064.4	22002	-14937.2
1066+00.00 R1	0	14.1	7064.4	22016	-14951.3
1067+00.00 R1	0	2.9	7064.4	22019	-14954.2
1068+00.00 R1	0	2.2	7064.4	22021	-14956.4
1069+00.00 R1	0	1.5	7064.4	22022	-14957.9
1070+00.00 R1	0	1.3	7064.4	22024	-14959.2
1071+00.00 R1	0	1.9	7064.4	22026	-14961.1
1072+00.00 R1	0	3.8	7064.4	22029	-14964.9
1073+00.00 R1	0	5.6	7064.4	22035	-14970.5
1074+00.00 R1	0	4.3	7064.4	22039	-14974.8
1075+00.00 R1	0	3.8	7064.4	22043	-14978.6
1076+00.00 R1	0	5.3	7064.4	22048	-14983.9
1077+00.00 R1	0	4.6	7064.4	22053	-14988.5
1078+00.00 R1	0	3.1	7064.4	22056	-14991.6
1079+00.00 R1	0	4.2	7064.4	22060	-14995.8
1080+00.00 R1	0	8.5	7064.4	22069	-15004.3
1081+00.00 R1	0	14.4	7064.4	22083	-15018.7
1082+00.00 R1	0	14.9	7064.4	22098	-15033.6
1083+00.00 R1	0	11	7064.4	22109	-15044.6
1084+00.00 R1	0	6.9	7064.4	22116	-15051.5
1085+00.00 R1	0	3.5	7064.4	22119	-15055

SH 255 MAINLANES					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
1086+00.00 R1	0	3	7064.4	22122	-15058
1087+00.00 R1	0	5.2	7064.4	22128	-15063.2
1088+00.00 R1	0	6.2	7064.4	22134	-15069.4
1089+00.00 R1	0	3.2	7064.4	22137	-15072.6
1090+00.00 R1	0	4.7	7064.4	22142	-15077.3
1091+00.00 R1	0	7.6	7064.4	22149	-15084.9
1092+00.00 R1	0	8.1	7064.4	22157	-15093
1093+00.00 R1	0	7.9	7064.4	22165	-15100.9
1094+00.00 R1	0	7.7	7064.4	22173	-15108.6
1095+00.00 R1	0	8.8	7064.4	22182	-15117.4
1096+00.00 R1	0	12.5	7064.4	22194	-15129.9
1097+00.00 R1	0	13.3	7064.4	22208	-15143.2
1098+00.00 R1	0	13.9	7064.4	22222	-15157.1
1099+00.00 R1	0	13.4	7064.4	22235	-15170.5
1100+00.00 R1	0	8.7	7064.4	22244	-15179.2
1101+00.00 R1	0	8.1	7064.4	22252	-15187.3
1102+00.00 R1	0	8.9	7064.4	22261	-15196.2
1103+00.00 R1	0	7.2	7064.4	22268	-15203.4
1104+00.00 R1	0	6	7064.4	22274	-15209.4
1105+00.00 R1	0	8.2	7064.4	22282	-15217.6
1106+00.00 R1	0	21	7064.4	22303	-15238.6
1107+00.00 R1	0	30.1	7064.4	22333	-15268.7
1108+00.00 R1	0	24.3	7064.4	22357	-15293
1109+00.00 R1	0	18.9	7064.4	22376	-15311.9
1110+00.00 R1	0	19.8	7064.4	22396	-15331.7
1111+00.00 R1	0	17.8	7064.4	22414	-15349.5
1112+00.00 R1	0	10.9	7064.4	22425	-15360.4
1113+00.00 R1	0	7.7	7064.4	22433	-15368.1
1114+00.00 R1	0	7.1	7064.4	22440	-15375.2
1115+00.00 R1	0	4.3	7064.4	22444	-15379.5
1116+00.00 R1	0	2.1	7064.4	22446	-15381.6
1117+00.00 R1	0	2.6	7064.4	22449	-15384.2
1118+00.00 R1	0	4	7064.4	22453	-15388.2
1119+00.00 R1	0	8.9	7064.4	22462	-15397.1
1120+00.00 R1	0	9.9	7064.4	22471	-15407
1121+00.00 R1	0	6.8	7064.4	22478	-15413.8
1122+00.00 R1	0	8.8	7064.4	22487	-15422.6
1123+00.00 R1	0	17.2	7064.4	22504	-15439.8
1124+00.00 R1	0	31.6	7064.4	22536	-15471.4
1125+00.00 R1	0	22.5	7064.4	22558	-15493.9
1126+00.00 R1	0	17.9	7064.4	22576	-15511.8
1127+00.00 R1	0	17.5	7064.4	22594	-15529.3
1128+00.00 R1	0	15.7	7064.4	22609	-15545
1129+00.00 R1	0	23	7064.4	22632	-15568
1130+00.00 R1	0	12.9	7064.4	22645	-15580.9
1131+00.00 R1	0	7.2	7064.4	22653	-15588.1
1132+00.00 R1	0	7.1	7064.4	22660	-15595.2
1133+00.00 R1	0	8.5	7064.4	22668	-15603.7
1134+00.00 R1	0	6	7064.4	22674	-15609.7
1135+00.00 R1	0	3.7	7064.4	22678	-15613.4
1136+00.00 R1	0	4.1	7064.4	22682	-15617.5
1137+00.00 R1	0	2.9	7064.4	22685	-15620.4
1138+00.00 R1	0	3	7064.4	22688	-15623.4
1139+00.00 R1	0	3.6	7064.4	22691	-15627
1140+00.00 R1	0	9.7	7064.4	22701	-15636.7
1141+00.00 R1	0	11.8	7064.4	22713	-15648.5
1142+00.00 R1	0	7.7	7064.4	22721	-15656.2
1143+00.00 R1	0	4.9	7064.4	22726	-15661.1
1144+00.00 R1	0	4	7064.4	22730	-15665.1
1145+00.00 R1	0	3.5	7064.4	22733	-15668.6
1146+00.00 R1	0	1.4	7064.4	22734	-15670
1147+00.00 R1	0	1.2	7064.4	22736	-15671.2
1148+00.00 R1	0	1.5	7064.4	22737	-15672.7
1149+00.00 R1	0	2.4	7064.4	22740	-15675.1
1150+00.00 R1	0	3.7	7064.4	22743	-15678.8
1151+00.00 R1	0	6.6	7064.4	22750	-15685.4
1152+00.00 R1	0	13.3	7064.4	22763	-15698.7
1153+00.00 R1	0	14.8	7064.4	22778	-15713.5
1154+00.00 R1	0	13.6	7064.4	22792	-15727.1
1155+00.00 R1	0	13.2	7064.4	22805	-15740.3
1156+00.00 R1	0	11	7064.4	22816	-15751.3
1157+00.00 R1	0	9.3	7064.4	22825	-15760.6
1158+00.00 R1	0	7.5	7064.4	22833	-15768.1

SH 255 MAINLANES					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
1159+00.00 R1	0	6.2	7064.4	22839	-15774.3
1160+00.00 R1	0	4.2	7064.4	22843	-15778.5
1161+00.00 R1	0	4.5	7064.4	22847	-15783
1162+00.00 R1	0	5.9	7064.4	22853	-15788.9
1163+00.00 R1	0	5	7064.4	22858	-15793.9
1164+00.00 R1	0	3.9	7064.4	22862	-15797.8
1165+00.00 R1	0	3.5	7064.4	22866	-15801.3
1166+00.00 R1	0	3.9	7064.4	22870	-15805.2
1167+00.00 R1	0	8.9	7064.4	22879	-15814.1
1168+00.00 R1	0	14.2	7064.4	22893	-15828.3
1169+00.00 R1	0	11.9	7064.4	22905	-15840.2
1170+00.00 R1	0	6.9	7064.4	22912	-15847.1
1171+00.00 R1	0	6.4	7064.4	22918	-15853.5
1172+00.00 R1	0	8.4	7064.4	22926	-15861.9
1173+00.00 R1	0	8.3	7064.4	22935	-15870.2
1174+00.00 R1	0	4.2	7064.4	22939	-15874.4
1175+00.00 R1	0	1.1	7064.4	22940	-15875.5
1176+00.00 R1	0	11.5	7064.4	22951	-15887
1177+00.00 R1	0	24.1	7064.4	22976	-15911.1
1178+00.00 R1	0	25.1	7064.4	23001	-15936.2
1179+00.00 R1	2.1	37.3	7066.5	23038	-15971.4
1180+00.00 R1	0	57.8	7066.5	23096	-16029.2
1181+00.00 R1	8.7	73.3	7075.2	23169	-16093.8
1182+00.00 R1	20.4	101.9	7095.6	23271	-16175.3
1183+00.00 R1	0	119.7	7095.6	23391	-16295
1184+00.00 R1	0	116.4	7095.6	23507	-16411.4
1185+00.00 R1	30.8	114	7126.4	23621	-16494.6
1186+00.00 R1	43.3	116	7169.7	23737	-16567.3
1187+00.00 R	24.4	119.2	7194.1	23856	-16662.1
1188+00.00 R	10.2	122.6	7204.3	23979	-16774.5
1189+00.00 R	0	112.7	7204.3	24092	-16887.2
1190+00.00 R	0	169.3	7204.3	24261	-17056.5
1191+00.00 R	0	263.5	7204.3	24524	-17320
1192+00.00 R	0	236.4	7204.3	24761	-17556.4
1193+00.00 R	0	126.2	7204.3	24887	-17682.6
1194+00.00 R	0	47.8	7204.3	24935	-17730.4
1195+00.00 R	0	24.5	7204.3	24959	-17754.9
1196+00.00 R	0	16.7	7204.3	24976	-17771.6
1196+74.19 R	0	8.5	7204.3	24984	-17780.1
1197+00.00 R	0	2.7	7204.3	24987	-17782.8
1198+00.00 R	0	8.3	7204.3	24995	-17791.1
1199+00.00 R	0	4	7204.3	24999	-17795.1
1199+64.25 R	0	0.6	7204.3	25000	-17795.7

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF EARTHWORK

©TxDOT 2024

SHEET 2 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	28

DATE: 4/24/2024 2:02:11 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006 SH255 EW QTY.dgn

CRC DW: CRC DW:

SH 255 JEFFERIES (WB) RAMP					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
929+96.93 R1	0	0	0	0	0
930+00.00 R1	0	1.1	0	1.1	-1.1
931+00.00 R1	0	41.5	0	42.6	-42.6
932+00.00 R1	0	48.6	0	91.2	-91.2
933+00.00 R1	0	38.4	0	129.6	-129.6
934+00.00 R1	0	24.3	0	153.9	-153.9
935+00.00 R1	0	20.7	0	174.6	-174.6
936+00.00 R1	0	16.5	0	191.1	-191.1
937+00.00 R1	0	10.9	0	202	-202
938+00.00 R1	0	7.5	0	209.5	-209.5
939+00.00 R1	0	8.7	0	218.2	-218.2
940+00.00 R1	0	11.4	0	229.6	-229.6
941+00.00 R1	0	10.7	0	240.3	-240.3
942+00.00 R1	0	12.2	0	252.5	-252.5
943+00.00 R1	0	12.7	0	265.2	-265.2
944+00.00 R1	0	14.5	0	279.7	-279.7
945+00.00 R1	0	18	0	297.7	-297.7
946+00.00 R1	0	14.6	0	312.3	-312.3
947+00.00 R1	0	8.1	0	320.4	-320.4
948+00.00 R1	0	4.1	0	324.5	-324.5
949+00.00 R1	0	2.3	0	326.8	-326.8
950+00.00 R1	0	1.1	0	327.9	-327.9
951+00.00 R1	0	6.4	0	334.3	-334.3
952+00.00 R1	0	14	0	348.3	-348.3
953+00.00 R1	0	18.8	0	367.1	-367.1
954+00.00 R1	0	27.5	0	394.6	-394.6
955+00.00 R1	0	42	0	436.6	-436.6
956+00.00 R1	0	44.8	0	481.4	-481.4
957+00.00 R1	0	29.5	0	510.9	-510.9
958+00.00 R1	0	13.9	0	524.8	-524.8
959+00.00 R1	0	8.6	0	533.4	-533.4
960+00.00 R1	0	7.2	0	540.6	-540.6
961+00.00 R1	0	7.4	0	548	-548
962+00.00 R1	0	12.3	0	560.3	-560.3
963+00.00 R1	0	14.3	0	574.6	-574.6
964+00.00 R1	0	11.7	0	586.3	-586.3
965+00.00 R1	0	10.7	0	597	-597
966+00.00 R1	0	12	0	609	-609
967+00.00 R1	0	12.9	0	621.9	-621.9
968+00.00 R1	0	9.7	0	631.6	-631.6
969+00.00 R1	0	4.8	0	636.4	-636.4
970+00.00 R1	0	5	0	641.4	-641.4
971+00.00 R1	0	5.5	0	646.9	-646.9
972+00.00 R1	0	3.3	0	650.2	-650.2
972+23.21 R1	0	0.5	0	650.7	-650.7

SH 255 JEFFERIES (EB) RAMP					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
929+92.02 R1	0	0	0	0	0
930+00.00 R1	0	3.2	0	3.2	-3.2
931+00.00 R1	0	32.7	0	35.9	-35.9
932+00.00 R1	0	17.8	0	53.7	-53.7
933+00.00 R1	0	11.8	0	65.5	-65.5
934+00.00 R1	0	8.1	0	73.6	-73.6
935+00.00 R1	0	5.4	0	79	-79
936+00.00 R1	0	5.7	0	84.7	-84.7
937+00.00 R1	0	10.4	0	95.1	-95.1
938+00.00 R1	0	14.2	0	109.3	-109.3
939+00.00 R1	0	19.7	0	129	-129
940+00.00 R1	0	21	0	150	-150
941+00.00 R1	0	23	0	173	-173
942+00.00 R1	0	22.1	0	195.1	-195.1
943+00.00 R1	0	18.7	0	213.8	-213.8
944+00.00 R1	0	22.1	0	235.9	-235.9
945+00.00 R1	0	22.5	0	258.4	-258.4
946+00.00 R1	0	19.7	0	278.1	-278.1
947+00.00 R1	0	18.4	0	296.5	-296.5
948+00.00 R1	0	19.4	0	315.9	-315.9
949+00.00 R1	0	11.2	0	327.1	-327.1
950+00.00 R1	0	3.5	0	330.6	-330.6
951+00.00 R1	0	4.4	0	335	-335
952+00.00 R1	0	5.8	0	340.8	-340.8
953+00.00 R1	0	6.7	0	347.5	-347.5
954+00.00 R1	0	10.7	0	358.2	-358.2
955+00.00 R1	0	15.8	0	374	-374
956+00.00 R1	0	22.2	0	396.2	-396.2
957+00.00 R1	0	20.1	0	416.3	-416.3
958+00.00 R1	0	14.5	0	430.8	-430.8
959+00.00 R1	0	19	0	449.8	-449.8
960+00.00 R1	0	16	0	465.8	-465.8
961+00.00 R1	0	14.2	0	480	-480
962+00.00 R1	0	15.9	0	495.9	-495.9
963+00.00 R1	0	11.4	0	507.3	-507.3
964+00.00 R1	0	10.2	0	517.5	-517.5
965+00.00 R1	0	13.8	0	531.3	-531.3
966+00.00 R1	0	11.4	0	542.7	-542.7
967+00.00 R1	0	6.8	0	549.5	-549.5
968+00.00 R1	0	6.5	0	556	-556
969+00.00 R1	0	4.1	0	560.1	-560.1
970+00.00 R1	0	2.7	0	562.8	-562.8
971+00.00 R1	0	2.8	0	565.6	-565.6
971+25.56 R1	0	0.9	0	566.5	-566.5

SH 255 US 83 (WB) RAMP					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
1002+61.10 R1	0	0	0	0	0
1003+00.00 R1	0	3	0	3	-3
1004+00.00 R1	0	7.9	0	10.9	-10.9
1005+00.00 R1	0	8.5	0	19.4	-19.4
1006+00.00 R1	0	8.3	0	27.7	-27.7
1007+00.00 R1	0	11.5	0	39.2	-39.2
1008+00.00 R1	0	18.6	0	57.8	-57.8
1009+00.00 R1	0	30.2	0	88	-88
1010+00.00 R1	0	57.5	0	145.5	-145.5
1011+00.00 R1	0	57.6	0	203.1	-203.1
1012+00.00 R1	0	44.4	0	247.5	-247.5
1013+00.00 R1	0	39.2	0	286.7	-286.7
1014+00.00 R1	0	21.4	0	308.1	-308.1
1015+00.00 R1	0	18.2	0	326.3	-326.3
1016+00.00 R1	0	17.1	0	343.4	-343.4
1017+00.00 R1	0	17.5	0	360.9	-360.9
1018+00.00 R1	0	22.8	0	383.7	-383.7
1019+00.00 R1	0	41.4	0	425.1	-425.1
1020+00.00 R1	0	52.4	0	477.5	-477.5
1021+00.00 R1	0	39.1	0	516.6	-516.6
1022+00.00 R1	0	24.4	0	541	-541
1023+00.00 R1	0	26.1	0	567.1	-567.1
1024+00.00 R1	0	34.3	0	601.4	-601.4
1025+00.00 R1	0	38.8	0	640.2	-640.2
1025+48.04 R1	0	10.6	0	650.8	-650.8
1028+18.77 R1	0	5.9	0	656.7	-656.7
1029+00.00 R1	0	14.2	0	670.9	-670.9
1030+00.00 R1	0	25	0	695.9	-695.9
1031+00.00 R1	0	26.8	0	722.7	-722.7
1032+00.00 R1	0	31.5	0	754.2	-754.2
1033+00.00 R1	0	31.1	0	785.3	-785.3
1034+00.00 R1	0	25.9	0	811.2	-811.2
1035+00.00 R1	0	20.1	0	831.3	-831.3
1036+00.00 R1	0	19.9	0	851.2	-851.2
1037+00.00 R1	0	21.8	0	873	-873
1038+00.00 R1	0	30	0	903	-903
1039+00.00 R1	0	31.8	0	934.8	-934.8
1040+00.00 R1	0	33.6	0	968.4	-968.4
1041+00.00 R1	0	41	0	1009.4	-1009.4
1042+00.00 R1	0	46.2	0	1055.6	-1055.6
1043+00.00 R1	0	44.8	0	1100.4	-1100.4
1044+00.00 R1	0	36.2	0	1136.6	-1136.6
1045+00.00 R1	0	26.1	0	1162.7	-1162.7
1046+00.00 R1	0	22.9	0	1185.6	-1185.6
1047+00.00 R1	0	47	0	1232.6	-1232.6
1048+00.00 R1	0	54.3	0	1286.9	-1286.9
1049+00.00 R1	0	31	0	1317.9	-1317.9
1049+28.92 R1	0	7	0	1324.9	-1324.9

SH 255 US 83 (EB) RAMP					
STATION	STATION CUT	STATION FILL	ACCUM CUT	ACCUM FILL	MASS ORDINATE
	CY	CY	CY	CY	CY
1009+86.13 R1	0	0	0	0	0
1010+00.00 R1	0	0.9	0	0.9	-0.9
1011+00.00 R1	0	10.8	0	11.7	-11.7
1012+00.00 R1	0	16.6	0	28.3	-28.3
1013+00.00 R1	0	23.8	0	52.1	-52.1
1014+00.00 R1	0	33.4	0	85.5	-85.5
1015+00.00 R1	0	39.5	0	125	-125
1016+00.00 R1	0	50.5	0	175.5	-175.5
1017+00.00 R1	0	75.9	0	251.4	-251.4
1018+00.00 R1	0	73.4	0	324.8	-324.8
1019+00.00 R1	0	63.9	0	388.7	-388.7
1020+00.00 R1	0	63.8	0	452.5	-452.5
1021+00.00 R1	0	46.4	0	498.9	-498.9
1022+00.00 R1	0	25.4	0	524.3	-524.3
1023+00.00 R1	0	8.9	0	533.2	-533.2
1024+00.00 R1	0	2.4	0	535.6	-535.6
1024+15.04 R1	0	0.1	0	535.7	-535.7
1026+70.73 R1	0	8.7	0	544.4	-544.4
1027+00.00 R1	0	2.6	0	547	-547
1028+00.00 R1	0	10.6	0	557.6	-557.6
1029+00.00 R1	0	11.8	0	569.4	-569.4
1030+00.00 R1	0	18.3	0	587.7	-587.7
1031+00.00 R1	0	17.6	0	605.3	-605.3
1032+00.00 R1	0	16.1	0	621.4	-621.4
1033+00.00 R1	0	20.9	0	642.3	-642.3
1034+00.00 R1	0	21	0	663.3	-663.3
1035+00.00 R1	0	16.5	0	679.8	-679.8
1036+00.00 R1	0	14.6	0	694.4	-694.4
1037+00.00 R1	0	23.8	0	718.2	-718.2
1038+00.00 R1	0	30.1	0	748.3	-748.3
1039+00.00 R1	0	30.7	0	779	-779
1040+00.00 R1	0	37.3	0	816.3	-816.3
1041+00.00 R1	0	48	0	864.3	-864.3
1042+00.00 R1	0	36.7	0	901	-901
1043+00.00 R1	0	21	0	922	-922
1043+06.00 R1	0	1.4	0	923.4	-923.4

SUMMARY OF EARTHWORK ITEMS		
LOCATION	110	132
	6001	6005
	EXCAVATION (ROADWAY)	EMBANKMENT (FINAL)(ORD
	CY	CY
SH 255 MAINLANES	7204.3	25000
SH 255 JEFFERIES (WB) RAMP		650.7
SH 255 JEFFERIES (EB) RAMP		566.5
SH 255 US 83 (WB) RAMP		1324.9
SH 255 US 83 (EB) RAMP		923.4
TOTAL	7205	28466

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF EARTHWORK

©TxDOT 2024

SHEET 3 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		29

DATE: 4/24/2024 2:02:11 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006 SH255 EW QTY.dgn

SUMMARY OF MOBILIZATION ITEMS		
CSJ	500 6001 MOBILIZATION LS	502 6001 BARRICADES, SIGNS AND TRAFFIC HANDLING MO
3586-02-006	1.00	24.00
PROJECT TOTALS	1	24

SUMMARY OF WORKZONE TRAFFIC CONTROL ITEMS														
CSJ	134 6002 BACKFILL (TY B) STA	510 6002 ONE-WAY TRAF CONT (PILOT CAR) HR	510 6004 ONE-WAY TRAFFIC CONTROL (PORT TRAF SIG) DAY	512 6072 PTB (FRN&INSTL)(SGL SLP)(TY 1) OR (STL) LF	512 6074 PTB (MOVE)(SGL SLP)(TY 1) OR (STL) LF	512 6076 PTB (REMOVE)(SGL SLP)(TY 1) OR (STL) LF	545 6003 CRASH CUSH ATTEN (MOVE & RESET) EA	545 6005 CRASH CUSH ATTEN (REMOVE) EA	545 6028 CRASH CUSH ATTEN (INSTL) (S) (TL3) EA	662 6098 WK ZN PAV MRK REMOV (Y)6"(SLD) LF	6001 6002 PORTABLE CHANGEABLE MESSAGE SIGN EA	6158 6001 TMSP RADAR SPEED CONTROL MONITOR EA	6185 6002 TMA (STATIONARY) DAY	6185 6003 TMA (MOBILE OPERATION) HR
PROJECT LIMITS	240										2	2		
PHASE I				90	1710		38		2				169	
PHASE II		1320	165							88893			173	64
PHASE III		360	45							88893			45	32
PHASE IV													4	
PHASE V		800	100										98	
PHASE VI														24
PHASE VII				450	1150	540	8	2						
PROJECT TOTALS	240	2480	310	540	2880	540	46	2	2	177786	2	2	489	120

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF TCP

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		30

DATE: 5/31/2024 9:01:58 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_SUMM_QTY.dgn

CK:
DW:
CK:
DN:

SUMMARY OF ROADWAY

LOCATION		LENGTH	100 / 6002 PREPARING ROW	164 / 6036 DRILL SEEDING (PERM) (RURAL) (CLAY)	164 / 6042 DRILL SEEDING (TEMP) (WARM)	SPOT BASE 351 / 6029 FLEXIBLE PAVE STRUCTURE REPAIR(12.5*)	EXIST. SUBGRADE * EXIST. SUBGRADE BS MAT'L	ROLLING 112 / 6003 SUBGRADE WIDENING (DENS CONT)	ROLLING 216 / 6001 PROOF ROLLING	PROP. FLEXBASE @ * PROP. FLBS MAT'L	PROP. FLEXBASE ▲ * PROP. RAP (3")	PROP. FLEXBASE 247 / 6332 FL BS (RDWY DEL)(TY E GR 1-2)(FNL POS)	FOAM TREATED FLEXBASE ▲ * AREA	FOAM TREATED FLEXBASE 3088 / 6001 ▲ CEMENT	FOAM TREATED FLEXBASE 3088 / 6002 ▲ ASPHALT BINDER (PG 64-22)	FOAM TREATED FLEXBASE 3088 / 6006 ▲ FOAMED ASPHALT TREAT (12*)(DC)	PRIME COAT ▲ * AREA	PRIME COAT 316 / 6029 ASPH (RC-250)	PRIME COAT 316 / 6226 ▲ AGGR(TY-PB GR-5 SAC-B)	BOTTOM HMA LAYER * AREA	BOTTOM HMA LAYER 3076 / 6007 D-GR HMA TY-B SAC-B PG70-22	MIDDLE LAYER ▲ * AREA	MIDDLE LAYER 3084 / 6001 ▲ BONDING COURSE	TOP HMA LAYER * AREA	TOP HMA LAYER 3080 / @6001 STONE-MT RX-ASPH SMA-C SAC-A PG76-22	MILLING @ * EXIST. RAP (4")	MILLING 354 / 6057 PLANE ASPH CONC PAV (4")	MILLING 354 / 6178 PLAN ASPH CONC PAV (4*-7.5*)	MILLING 354 / 6082 PLANE ASPH CONC PAV (10*)
BEGIN STATION	END STATION	LF	STA	AC	AC	SY	CY	SY	HR	SY	CY	CY	SY	TON	TON	SY	SY	GAL	CY	SY	TON	SY	GAL	SY	TON	CY	SY	SY	SY
760+00.00	770+00.00	1000.00	10.0	0.69	0.69								4888.9	25.0	62.4	4888.9	4888.9	977.8	34.9	4888.9	1173.3	4888.9	977.8	4888.9	702.8	542.7	4888.9		
770+00.00	782+00.00	1200.00	12.0	1.43	1.43		163.6	1963.3	1.0	1963.3	163.6	490.8	7346.7	37.5	93.8	7346.7	7346.7	1469.3	52.5	7346.7	1763.2	4616.7	923.3	7346.7	1056.1	651.2	5866.7		
782+00.00	794+00.00	1200.00	12.0	0.83	0.83		322.2	3866.7	1.4	3866.7	322.2	966.7	9066.7	46.3	115.8	9066.7	9066.7	1813.3	64.8	9066.7	2176.0	9066.7	1813.3	9066.7	1303.3	651.2	5866.7		
794+00.00	806+00.00	1200.00	12.0	0.83	0.83		322.2	3866.7	0.7	3866.7	322.2	966.7	9066.7	46.3	115.8	9066.7	9066.7	1813.3	64.8	9066.7	2176.0	9066.7	1813.3	9066.7	1303.3	651.2	5866.7		
806+00.00	818+00.00	1200.00	12.0	0.83	0.83		322.2	3866.7	1.4	3866.7	322.2	966.7	9066.7	46.3	115.8	9066.7	9066.7	1813.3	64.8	9066.7	2176.0	9066.7	1813.3	9066.7	1303.3	651.2	5866.7		
818+00.00	830+00.00	1200.00	12.0	0.83	0.83		322.2	3866.7	1.4	3866.7	322.2	644.4	9066.7	46.3	115.8	9066.7	9066.7	1813.3	64.8	9066.7	2176.0	9066.7	1813.3	9066.7	1303.3	651.2	5866.7		
830+00.00	842+00.00	1200.00	12.0	0.83	0.83		322.2	3866.7	1.4	3866.7	322.2	966.7	9066.7	46.3	115.8	9066.7	9066.7	1813.3	64.8	9066.7	2176.0	9066.7	1813.3	9066.7	1303.3	651.2	5866.7		
842+00.00	854+00.00	1200.00	12.0	1.55	1.55		211.9	2543.3	2.3	2543.3	211.9	635.8	7826.7	40.0	100.0	7826.7	7826.7	1565.3	55.9	7826.7	1878.4	7826.7	1565.3	7826.7	1125.1	651.2	5866.7		
854+00.00	866+00.00	1200.00	12.0	0.83	0.83		74.8	897.2	0.2	897.2	74.8	224.3	6527.8	33.3	83.4	6527.8	6527.8	1305.6	46.6	6527.8	1566.7	6527.8	1305.6	6527.8	938.4	651.2	5866.7		
866+00.00	878+00.00	1200.00	12.0	0.83	0.83		172.8	2052.2	1.3	2052.2	171.0	513.1	7585.6	38.7	96.9	7585.6	7585.6	1517.1	54.2	7585.6	1820.5	7585.6	1517.1	7585.6	1090.4	651.2	5866.7		
878+00.00	890+00.00	1200.00	12.0	0.83	0.83		74.8	897.2	0.2	897.2	74.8	224.3	6527.8	33.3	83.4	6527.8	6527.8	1305.6	46.6	6527.8	1566.7	6527.8	1305.6	6527.8	938.4	651.2	5866.7		
890+00.00	902+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
902+00.00	914+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
914+00.00	926+00.00	1200.00		0.83	0.83								6641.0	33.9	84.8	6641.0	6641.0	1328.2	47.4	6641.0	1593.8	6641.0	1328.2	6641.0	954.6	651.2	5866.7		
926+00.00	929+95.32	395.32		0.27	0.27								2953.9	15.1	37.7	2953.9	2953.9	590.8	21.1	2953.9	708.9	2953.9	590.8	2953.9	424.6	214.5	1932.7		
929+95.34	941+95.34	1200.00	REFER TO SH255 JEFFERIES (WB) RAMP, SH 255 JEFFERIES (EB) RAMP & JEFFERIES CROSSOVER BELOW.																										
941+95.34	971+43.80	2948.46																											
971+44.23	974+00.00	255.77	9.5	0.18	0.18								1854.3	9.5	23.7	1854.3	1854.3	370.9	13.2	1854.3	445.0	1854.3	370.9	1854.3	266.6	138.8	1250.4		
974+00.00	986+00.00	1200.00		0.83	0.83								7000.0	35.8	89.4	7000.0	7000.0	1400.0	50.0	7000.0	1680.0	7000.0	1400.0	7000.0	1006.3	651.2	5866.7		
986+00.00	998+00.00	1200.00		0.83	0.83								6038.4	30.8	77.1	6038.4	6038.4	1207.7	43.1	6038.4	1449.2	6038.4	1207.7	6038.4	868.0	670.3	6038.4		
998+00.00	1010+00.00	1200.00		0.83	0.83								7841.9	40.1	100.1	7841.9	7841.9	1568.4	56.0	7841.9	1882.1	7841.9	1568.4	7841.9	1127.3	870.5	7841.9		
1010+00.00	1022+00.00	1200.00		0.83	0.83								4792.3	24.5	61.2	4792.3	4792.3	958.5	34.2	5866.7	1472.5	5866.7	1173.3	5866.7	843.3	532.0	4792.7	1074.0	
1022+00.00	1034+00.00	1199.93		0.83	0.83								980.7	5.0	12.5	980.7	980.7	196.1	7.0	4538.1	1302.6	4538.1	907.6	4538.1	652.4	108.9	981.1	3557.0	
1034+00.00	1046+00.00	1200.00		0.83	0.83								6498.1	33.2	83.0	6498.1	6498.1	1299.6	46.4	6498.1	1559.6	6498.1	1299.6	6498.1	934.1	721.3	6498.1		
1046+00.00	1058+00.00	1208.11		0.83	0.83								8115.5	41.5	103.6	8115.5	8115.5	1623.1	58.0	8115.5	1947.7	8115.5	1623.1	8115.5	1166.6	900.8	8115.5		
1058+00.00	1070+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1070+00.00	1082+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1082+00.00	1094+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1094+00.00	1106+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1106+00.00	1118+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1118+00.00	1130+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1130+00.00	1142+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1142+00.00	1154+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1154+00.00	1166+00.00	1200.00		0.83	0.83								5866.7	30.0	74.9	5866.7	5866.7	1173.3	41.9	5866.7	1408.0	5866.7	1173.3	5866.7	843.3	651.2	5866.7		
1166+00.00	1178+00.00	1200.00	12.0	0.83	0.83		57.2	686.1	0.1	686.1	57.2	171.5	6447.2	32.9	82.3	6447.2	6447.2	1289.4	46.1	6447.2	1547.3	6447.2	1289.4	6447.2	926.8	651.2	5866.7		
1178+00.00	1190+00.00	1200.00	12.0	0.83	0.83		222.4	2668.3	1.3	2668.3	222.4	667.1	8268.3	42.2	105.6	8268.3	8268.3	1653.7	59.1	8268.3	1984.4	8268.3	1653.7	8268.3	1188.6	710.2	6398.3		
1190+00.00	1202+00.00	1198.80	9.6	0.66	0.66		169.3	2031.5	1.0	2031.5	169.3	507.9	7553.3	38.6	96.5	7553.3	7553.3	1510.7	54.0	7553.3	1949.1	7827.2	1565.4	7553.3	1085.8	228.1	2055.1	2659.0	
1202+00.00	1204+60.68	260.68																											
SUB-TOTAL		44467.07	164	28.75	28.75		2758	33073	14	33073	2757	7946	225556	1153	2881	225556	225556	45112	1612	230187	55660	227731	45547	230187	33090	21267	191594	7290	
SH 255 JEFFERIES (WB) RAMP																													
929+96.93	936+37.46	640.53		0.44	0.44								1708.1	8.7	21.8	1708.1	1708.1	341.6	12.2	1708.1	409.9	1708.1	341.6	1708.1	245.5	189.6	1708.1		
936+37.46	948+37.46	1200.00		0.83	0.83								3546.1	18.1	45.3	3546.1	3546.1	709.2	25.3	3546.1	851.1	2913.2	582.6	3546.1	509.8	393.6	3546.1		
948+37.46	960+37.46	1200.00		0.83	0.83								3748.4	19.1	47.9	3748.4	3748.4	749.7	26.8	3748.4	899.6	3748.4	749.7	3748.4	538.8	416.1	3748.4		
960+37.46	972+23.21	1185.75		0.82	0.82								3162.0	16.2	40.4	3162.0	3162.0	632.4	22.6	3162.0	758.9	3162.0	632.4	3162.0	454.5	351.0	3162.0		
SUB-TOTAL		4226.28		2.91	2.91								12165	63	156	12165	12165	2433	87	12165	2920	11532	2307	12165	1749	1351	12165		
SH 255 JEFFERIES (EB) RAMP																													
929+92.02	935+02.00	507.98		0.35	0.35								1354.6	6.9	17.3	1354.6	1354.6	270.9	9.7	1354.6	325.1	1354.6	270.9	1354.6	194.7	150.4	1354.6		
935+02.00	947+02.00	1200.00		0.83	0.83								3506.5	17.9	44.8	3506.5	3455.4	691.1	24.7	3455.4	829.3	3455.4	691.1	3455.4	496.7	383.5	3455.4		
947+02.00	959+02.00	1200.00		0.83	0.83								3762.4	19.2	48.0	3762.4	3762.4	752.5	26.9	3762.4	903.0	3762.4	752.5	3762.4	540.8	379.1	3415.4		
959+02.00	971+02.00	1200.00		0.83	0.83								3257.8	16.6	41.5	3257.8	3257.8	651.6	23.3	3257.8	781.9	3257.8	651.6	3257.8	468.3	361.6	3257.8		
971+02.00	971+25.56	23.56		0.02	0.02								62.8	0.3	0.8	62.8	62.8	12.6	0.4	62.8	15.1	62.8	12.6	62.8	9.0	7.0	62.8		
SUB-TOTAL		4131.54		2.85	2.85								11945	61	153	11945	11894	2379	85	11894	2855	11894	2379	11894	1710	1282	11547		
JEFFERIES CROSSOVER		271.70		0.19	0.19	2200.0																1087.0	218.0	1087.0	157.0				
SUB-TOTAL		271.70	0.0	0.19	0.19	2200																1087.0	218.0	1087.0	157.0				
1002+61.10	1013+50.00																												
SH 255 US 83 (WB) RAMP																													
1002+61.10	1013+50.00	1038.90		0.72	0.72												2770.4	554.1	19.8	2770.4	1662.2	2770.4	554.1	2770.4	398.2	307.5			2770.4
1013+50.00	1025+50.00	1198.04		0.83	0.83												3573.2	714.6	25.5	3573.2	2143.9	3573.2	714.6	3573.2	513.6	396.6			3573.2
1025+50.00	1037+50.00	931.23		0.64	0.64	180.0											3233.0	646.6	23.1	3233.0	1939.8	3233.0	646.6	3233.0	464.7	358.9			3233.0
1037+50.00	1049+28.92	1178.92		0.81	0.81												3143.8	628.8	22.5	3143.8	1886.3	3143.8	628.8	3143.8	451.9	349.0			3143.8
SUB-TOTAL		4347.09		2.99	2.99	180											12720	2544	91	12720	7632	12720	2544	12720	1829	1412			12720
SH 255 US 83 (EB) RAMP																													
1009+86.13	1017+00.00	713.87		0.49	0.49												1903.7	380.7	13.6	1903.7	1142.2	1903.7	380.7	1903.7	273.7	211.3			1903.7
1017+00.00	1029+00.00	944.31		0.65	0.65												3046.2	609.2	21.8	2614.1	1568.5	2614.1	522.8	2614.1	375.8	290.2			2614.1
1029+00.00	1041+00.00	1200.00		0.83	0.83	266.0											3500.0	700.0	25.0	3500.0	2100.0	3500.0	700.0	3500.0	503.1	388.5			3500.0
1041+00.00	1043+06.00	206.00		0.14	0.14												549.3	109.9	3.9	549.3	329.6	549.3	109.9	549.3	79.0	61.0			549.3
SUB-TOTAL		3064.18		2.11	2.11	266											8999	1800	64	8567	5140	8567	1713	8567	1232	951			8567
TOTAL		44,467.07	164	39.8	39.8	2,646	2,758	33,073	14	33,073	2,757	7,946	249,666	1,277	3,190	249,666	271,334	54,268	1,939	275,533	74,207	273,531	54,708	276,620	39,767	26,263	215,306	7,290	21,287

NOTES:

* FOR CONTRACTOR'S INFORMATION ONLY.

▲ THE RATES ARE SHOWN IN THE PROPOSED TYPICAL SECTIONS AND ARE FOR ESTIMATION PURPOSES ONLY. THESE RATES WILL BE ADJUSTED AS NEEDED IN THE FIELD.

@ REFER TO GENERAL NOTES FOR MORE INFORMATION OF STOCKPILING MATERIAL.

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF ROADWAY

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		31

DATE: 5/9/2024 2:14:13 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763331\2006_SH255_SUMM_QTY.dgn

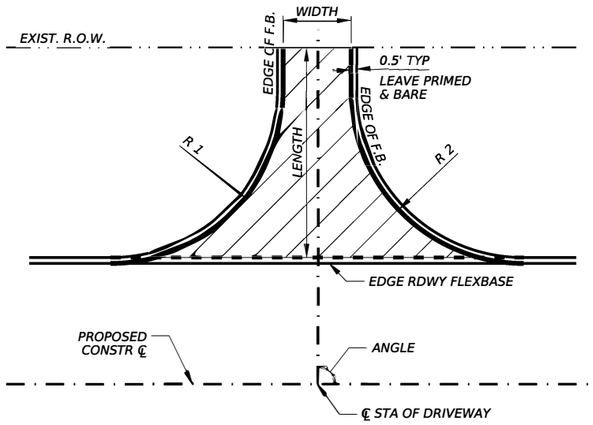
CK: DW: CK: DW:

SUMMARY OF DRIVEWAYS													FOR CONTRACTOR INFORMATION			
DRIVEWAY	ALIGNMENT	APPROX. STA.	SIDE	EXISTING MATERIAL	PROPOSED MATERIAL	ANGLE	RADIUS		WIDTH	LENGTH	AREA	530 6005 DRIVEWAYS (ACP)	MILL	HOTMIX	INTERMEIDATE LAYER	HOTMIX
							R1	R2					EXISTING MAT'L TO BE REMOVED	SMA	BONDING COURSE	TY-B
#				TYPE	TYPE	DEGREE	FT	FT	FT	FT	SY	SY	SY	TON	GAL	TON
1	D1	777+29.04	LT	ASPH	ASPH	90	35	35	37	40	222.9	222.9	222.9	32.0	44.6	80.2
2	D1	777+31.51	RT	ASPH	ASPH	90	25	25	16	40	100.9	100.9	100.9	14.5	20.2	36.3
3	D1	876+98.18	RT	ASPH	ASPH	90	25	25	16	50	118.7	118.7	118.7	17.1	23.7	42.7
4	D1	877+06.43	RT	ASPH	ASPH	90	50	50	37.5	60	369.2	369.2	369.2	53.1	73.8	132.9
5	D1	1109+15.31	RT	ASPH	ASPH	90	25	25	18	40	109.8	109.8	109.8	15.8	22.0	39.5
6	D1	1110+96.30	LT	ASPH	ASPH	90	35	35	15	45	133.4	133.4	133.4	19.2	26.7	48.0
TOTALS												1055	1055	152	211	380

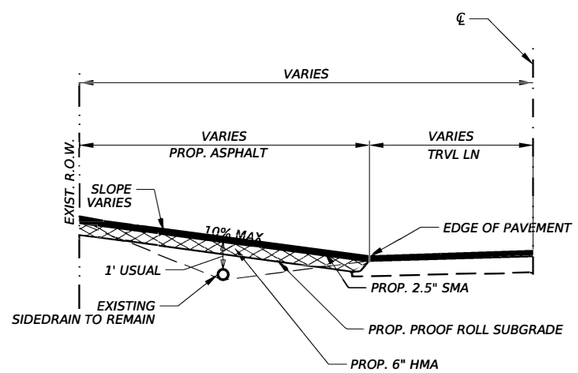
GENERAL NOTES

- DRIVEWAYS (ACP) WILL CONSIST OF:
  * MILLING APPROX. 8.5" OF EXISTING MATERIAL
  * 6" HMA (D-GR HMA TY-B PG70-22 SAC-B-120 LBS/SY/IN)
  * BONDING COURSE (REFER TO GENERAL NOTES)
  * 2.5" SMA (TY-C PG 76-22 SAC-A 115 LBS/SY/IN)
  * SUBGRADE: PROOF ROLL
- THE WORK PERFORMED TO REMOVE EXISTING DRIVEWAYS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED SUBSIDIARY TO ITEM 530 "INTERSECTIONS, DRIVEWAYS, AND TURNOUTS".
- MAXIMUM PERCENT SLOPE ON DRIVEWAY WILL BE 10% AS SHOWN ON THE DETAILS. WHEN BREAK IN GRADE IS PRESENT A% + B% = 10% MAX AS SHOWN ON DETAILS.
- EXISTING DRIVEWAY MATERIAL WILL NOT BE SALVAGED FOR USE IN RECONSTRUCTING THE PROPOSED ROADWAY OR DRIVEWAYS.
- ALL SUBGRADE MATERIAL AND PROOF ROLLING NEEDED TO CONSTRUCT THE DRIVEWAYS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO ITEM 530 "INTERSECTIONS, DRIVEWAYS, AND TURNOUTS".

(1) REFER TO "SH 255 DRIVEWAY CROSS SECTION DETAILS" SHEET(S) FOR MORE INFORMATION ON PROPOSED DRIVEWAYS.

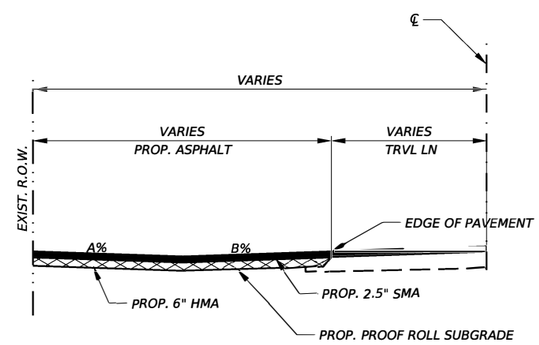


TYPICAL ASPHALT DRIVEWAY



TYPICAL DRIVEWAY SECTION

(1) NO DIP



TYPICAL DRIVEWAY SECTION

(1) DIP

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF DRIVEWAYS

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	32

DATE: 5/9/2024 12:02:26 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006 SH255 SUMM QTY.dgn

CK: DW: CK: DW:

SUMMARY OF DRAINAGE ITEMS										
STRUCTURE # @ STATION #	467 6015	467 6022	467 6212	467 6276	467 6280	467 6284	480 6001	496 6005	496 6006	403 6001
	SET (TY I) (36 IN) (4: 1) (C)	SET (TY I) (48 IN) (4: 1) (C)	SET (TY I)(S= 6 FT)(HW= 4 FT)(4:1) (C)	SET (TY I)(S= 8 FT)(HW= 5 FT)(4:1) (C)	SET (TY I)(S= 8 FT)(HW= 6 FT)(4:1) (C)	SET (TY I)(S= 8 FT)(HW= 7 FT)(4:1) (C)	CLEAN EXIST CULVERTS	REMOV STR (WINGWALL)	REMOV STR (HEADWALL)	TEMPORARY SPL SHORING
	EA	EA	EA	EA	EA	EA	EA	EA	EA	SF
STRUCTURE # 1 @ STA. 774+94.96		2					1		2	
STRUCTURE # 2 @ STA 787+74.08				1	1		1	2		471
STRUCTURE # 3 @ STA 797+14.81					1	1	1	2		780
STRUCTURE # 4 @ STA 846+29.82 (PSN 22-240-0-3586-02-017)							1	2		470
STRUCTURE #5 @ STA 857+98.34 (TO REMAIN)							1			
STRUCTURE # 6 @ STA 903+43.98 (TO REMAIN)							1			
STRUCTURE #7 @ STA 904+55.67 (TO REMAIN)							1			
STRUCTURE # 8 @ STA 942+48.93 (JEFFRIES EB) (PSN 22-240-0-3586-02-018)							1	2		410
STRUCTURE # 9 @ STA 944+47.18 (JEFFRIES WB) (PSN 22-240-0-3586-02-019)							1	2		511
STRUCTURE # 10 @ STA 978+88.81 (TO REMAIN)							1			
STRUCTURE # 11 @ STA 1004+29.64 (PSN 22-240-0-3586-02-020)							1	2		410
STRUCTURE # 12 @ STA 1008+48.83 (TO REMAIN)							1			
STRUCTURE # 13 @ STA 1025+89.74 (PSN 22-240-0-0037-10-078)										
STRUCTURE # 14 @ STA 1064+96.00 (TO REMAIN)							1			
STRUCTURE # 15 @ STA 1085+85.95	4						1		2	
STRUCTURE # 16 @ STA 1100+50.49			2				1	2		
STRUCTURE # 17 @ STA 1116+65.61		4					1		2	
STRUCTURE # 18 @ STA 1137+40.40 (TO REMAIN)							1			
STRUCTURE # 19 @ STA 1202+27.84 (PSN 22-240-0-3586-02-021)										
PROJECT TOTALS	4	6	2	1	2	1	17	14	6	3052

SUMMARY OF MBGF							
PSN #	432 6045	540 6001	540 6006	542 6001	542 6004	544 6001	544 6003
	RIPRAP (MOW STRIP)(4 IN)	MTL W-BEAM GD FEN (TIM POST)	MTL BEAM GD FEN TRANS (THRIE-BEAM)	REMOVE METAL BEAM GUARD FENCE	RM MTL BM GD FENCE TRANS (THRIE-BEAM)	GUARDRAIL END TREATMENT (INSTALL)	GUARDRAIL END TREATMENT (REMOVE)
	CY	LF	EA	LF	EA	EA	EA
CROSSING							
STRUCTURE #10 978+88.81	12.6	225				2	
STRUCTURE #18 1137+40.40	12.6	225				2	
BRIDGE PSN#							
22-240-0-0037-10-078	14.5	250	4	300	1	4	4
22-240-0-3586-02-021	9.1	125	2	150		2	2
TOTAL	49	825	6	450	1	10	6

SUMMARY OF BRIDGE ITEMS			
PSN #	467 6276	467 6280	467 6284
	SET (TY I)(S= 8 FT)(HW= 5 FT)(4:1) (C)	SET (TY I)(S= 8 FT)(HW= 6 FT)(4:1) (C)	SET (TY I)(S= 8 FT)(HW= 7 FT)(4:1) (C)
	EA	EA	EA
22-240-0-3586-02-017	3	3	
22-240-0-3586-02-018	6		
22-240-0-3586-02-019	3		3
22-240-0-3586-02-020	6		
22-240-0-0037-10-078			
PROJECT TOTALS	18	3	3

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF DRAINAGE, MBGF & BRIDGE

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		33

DATE: 5/9/2024 12:20:05 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_SUMM_QTY.dgn

CK: DW: CK: DN:

SUMMARY OF PAVEMENT MARKING, SIGNS & DELINEATOR ITEMS

DESCRIPTION	PLAN SHEET	BEGIN STATION	END STATION	533	533	658	658	658	658	666	666	666	666	666	666	666	666	666	666	666	666	666	672	672	6056
				6003	6004	6061	6069	6060	6100	6018	6030	6036	6048	6054	6072	6078	6306	6309	6318	6321	6343	6347	6007	6009	6001
				RUMBLE STRIPS (SHOULDER) ASPHALT	RUMBLE STRIPS (CENTERLINE) ASPHALT	INSTL DEL ASSM (D-SW)SZ 1(BRF)GF2	INSTL DEL ASSM (D-SW)SZ (BRF)CTB (BR)	REMOVE DELIN & OBJECT MARKER ASSMS	INSTL OM ASSM (OM-2Z)(WFLX)GND(BI)	REFL PAV MRK TY I (W)6"(DOT)(100MIL)	REFL PAV MRK TY I (W)8"(DOT)(100MIL)	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	REFL PAV MRK TY I (W)24"(SL D)(100MIL)	REFL PAV MRK TY I (W)(ARRO W)(100MIL)	REFL PAV MRK TY I(W)(LNDP ARW)(100M IL)	REFL PAV MRK TY I (W)(WORD)(100MIL)	RE PM W/RET REQ TY I (W)6*(BRK)(100MIL)	RE PM W/RET REQ TY I (W)6*(SLD)(100MIL)	RE PM W/RET REQ TY I (Y)6*(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)6*(SLD)(100MIL)	REF PROF PAV MRK TY I(W)6"(SL D)(100MIL)	REF PROF PAV MRK TY I(Y)6"(SLD)(100MIL)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	PREFORME D IN-LANE(T RANS) RUMBLE STRIP
				LF	LF	EA	EA	EA	EA	LF	LF	LF	LF	EA	EA	EA	LF	LF	LF	LF	LF	LF	EA	EA	LF
MAINLANES		760+00.00	770+00.00	2000	2000													2000		2000				50	
MAINLANES		770+00.00	782+00.00	2400	2400			6	6	188							113	2222		2400			6	60	
MAINLANES	2	782+00.00	794+00.00	2400	2400			2	2	228					2		373	2400		2400			19	60	
MAINLANES		794+00.00	806+00.00	2400	2400			2	2								600	2400		2400			30	60	
MAINLANES	3	806+00.00	818+00.00	2400	2400												600	2400		2400			30	60	
MAINLANES		818+00.00	830+00.00	2400	2400												600	2400		2400			30	60	
MAINLANES	4	830+00.00	842+00.00	2400	2400					182					2		300	2400		2400			15	60	
MAINLANES		842+00.00	854+00.00	2400	2400			4	4	105							158	2400		2400			8	60	
MAINLANES	5	854+00.00	866+00.00	2400	2400													2400		4100				188	
MAINLANES		866+00.00	878+00.00	2400	2400			4	4		167	200	14	2		2		2220		2920			10	107	
MAINLANES	6	878+00.00	890+00.00	2400	2400													2400		4100				188	
MAINLANES		890+00.00	902+00.00	2400	2400													2400		2400				60	
MAINLANES	7	902+00.00	914+00.00	2400	2400			4	4									2400		2400				60	
MAINLANES		914+00.00	926+00.00	2400	2400													2400		2454				65	
MAINLANES	8	926+00.00	929+95.32	791	791													791		1582				80	
JEFFERIES (WB)		929+96.93	938+27.00	1661														831		831					
JEFFERIES (EB)		929+92.02	937+94.65	1605												2		803		803					40
JEFFERIES (WB)		938+27.00	950+63.34	2473				4	4									1146		1228			10	16	
JEFFERIES (EB)		937+94.65	949+76.10	2363				4	4		115	50		4		2		1206		1101					
JEFFERIES CROSSOVER													24					570		616				16	
JEFFERIES (WB)	9	950+63.34	962+69.22	2466								200		4		2		1274		1179			10		
JEFFERIES (EB)		949+76.10	961+78.57	2405														1129		1248					
JEFFERIES (WB)		962+69.22	972+23.21	1908												2		954		954					40
JEFFERIES (EB)		961+78.57	971+25.56	1894														947		947					
MAINLANES		971+44.23	974+00.00	512	512													512		1024				52	
MAINLANES	10	974+00.00	986+00.00	2400	2400	3		2	1									2400		3172				118	
MAINLANES		986+00.00	998+00.00	2400	2400													2400		2400				60	
MAINLANES	11	998+00.00	1010+00.00	2400	2400			4	4									2710		2712				60	
US 83 (WB)		1002+61.10	1010+96.05	1670														835		835					
US 83 (EB)		1009+86.13	1010+01.24	31														16		16					
MAINLANES		1010+00.00	1022+00.00	2400	2400													1200		1200				60	
US 83 (WB)		1010+96.05	1022+14.31	2237																					
US 83 (EB)		1010+01.24	1022+07.66	2413							77	28				2		1207		1207			2		40
MAINLANES	12	1022+00.00	1034+00.00	2400	2400	6	6	4	4									1857		1857	544	544		60	
US 83 (WB)		1022+14.31	1034+15.70	2403							107	249	24	6		3		1075		1083			13		
US 83 (EB)		1022+07.66	1034+09.54	2404								262	24	6		3		1066		1042			14		
MAINLANES		1034+00.00	1046+00.00	2400	2400													2559		2559				60	
US 83 (WB)		1034+15.70	1046+25.38		2420						115					2		1210		1210					80
US 83 (EB)		1034+09.54	1043+06.00	1793														897		897					
MAINLANES	13	1046+00.00	1058+00.00	2400	2400											2		2299		2600				60	
US 83 (WB)		1046+25.38	1049+28.92	608														304		304					
MAINLANES		1058+00.00	1070+00.00	2400	2400			2	2									2400		2400				60	
MAINLANES	14	1070+00.00	1082+00.00	2400	2400													2400	209	1864				60	
MAINLANES		1082+00.00	1094+00.00	2400	2400			2	2									2400	300	350				18	
MAINLANES	15	1094+00.00	1106+00.00	2400	2400			2	2									2400	241	1038				45	
MAINLANES		1106+00.00	1118+00.00	2400	2400			2	2									2250	156	1532				51	
MAINLANES	16	1118+00.00	1130+00.00	2400	2400													2400	300					15	
MAINLANES		1130+00.00	1142+00.00	2400	2400	3		2	1									2400	300					15	
MAINLANES	17	1142+00.00	1154+00.00	2400	2400													2400	300					15	
MAINLANES		1154+00.00	1166+00.00	2400	2400													2400	300					15	
MAINLANES	18	1166+00.00	1178+00.00	2400	2400					119								2400	182	2393				123	
MAINLANES		1178+00.00	1190+00.00	2400	2400					109					1		192	2400		4800			10	240	
MAINLANES	19	1190+00.00	1202+00.00	2400	2400	3	2	2	2								429	1929		3857	472	943	22	240	
MAINLANES		1202+00.00	1204+60.68				2					105	16	1		1	66				522	809	7	41	
TOTALS				110437	82523	15	10	52	50	931	581	1094	102	23	5	23	3431	93219	2288	90015	1538	2296	236	2718	200

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF PAVEMENT MARKINGS & DELINEATORS

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		34

DATE: 5/9/2024 1:18:00 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_SUMM_QTY.dgn

CK: DW: CK: DN:

PLAN SHEET	BEGIN STATION	END STATION	SMALL SIGNS						LARGE SIGNS				
			636	636	644	644	644	644	416	416	636	647	647
				6001	6001	6004	6007	6076	6002	6015	6002	6001	6003
			* ALUMINUM SIGNS (TY A)	ALUMINUM SIGNS (TY A)	IN SM RD SN SUP&AM TY10BWG(1) SA(P)	IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TY10BWG(1) SA(U)	REMOVE SM RD SN SUP&AM	DRILL SHAFT (24 IN)	DRILL SHAFT (NON - REINFORCED) (12 IN)	ALUMINUM SIGNS (TY G)	INSTALL LRSS (STRUCT STEEL)	REMOVE LRSA
			SF	SF	EA	EA	EA	EA	LF	LF	SF	LB	EA
1	760+00.00	770+00.00	6.2		1			1					
	770+00.00	782+00.00	14.0		1	1		1					
2	782+00.00	794+00.00											
	794+00.00	806+00.00	9.0			1							
3	806+00.00	818+00.00											
	818+00.00	830+00.00											
4	830+00.00	842+00.00	9.0			1							
	842+00.00	854+00.00	5.0		1								
5	854+00.00	866+00.00	6.2		1			1					
	866+00.00	878+00.00											
6	878+00.00	890+00.00											
	890+00.00	902+00.00											
7	902+00.00	914+00.00											
	914+00.00	926+00.00	36.8		1	3		3					
8	926+00.00	938+27.00	39.3		5								
	926+00.00	937+94.65	9.0			1							
	Crossover		61.5	26.6	5			5					
	938+27.00	950+63.34		13.3				1					
	937+94.65	949+76.10	58.3		5	2		7					
9	950+63.34	962+69.22	73.2		5	3		8					
	949+76.10	961+78.57	26.5	13.3	3			3	10.5		250	988.28	1
	962+69.22	972+23.21	22.2		2			1					
	961+78.57	974+00.00	50.5		5			1					
10	974+00.00	986+00.00	27.8		2	2		2					
	986+00.00	998+00.00	7.5		1			1	10.5		250	1028.10	1
11	998+00.00	1010+00.00											
	998+00.00	1010+96.05	27.0		2	1		3					
	998+00.00	1010+01.24	14.0			2		2	10.5		247	1058.85	1
	1010+00.00	1022+00.00	39.0			2		2					
	1010+96.05	1022+14.31											
	1010+01.24	1022+07.06	36.0		1		1	2					
12	1022+00.00	1034+00.00											
	1022+14.31	1034+15.70	100.0		5	1	2	8					
	1022+07.06	1034+09.54	80.3		4	1	3	8					
	1034+00.00	1046+00.00											
	1034+15.70	1046+25.38	9.0				1	1					
	1034+09.54	1046+00.00	9.0		1			1					
13	1046+00.00	1058+00.00	48.0			3		3					
	1046+25.38	1058+00.00	5.0			1		1	10.5		247	1032.53	1
	1058+00.00	1070+00.00	16.5		2			2	10.5		250	1000.80	1
14	1070+00.00	1082+00.00	6.2		1			1					
	1082+00.00	1094+00.00	9.0			1		1					
15	1094+00.00	1106+00.00	7.5			1		1		7	16.5	187.02	1
	1106+00.00	1118+00.00							10.5		250	999.98	1
16	1118+00.00	1130+00.00											
	1130+00.00	1142+00.00											
17	1142+00.00	1154+00.00							7		189.75	777.64	1
	1154+00.00	1166+00.00											
18	1166+00.00	1178+00.00							7		189.75	723.28	1
	1178+00.00	1190+00.00	31.7		2	2		4					
19	1190+00.00	1202+00.00	29.0			2		1					
	1202+00.00	1204+60.68											
TOTALS			930	54	56	31	7	76	77	7	1890	7796.50	9

NOTES:

* THIS ITEM WILL NOT BE PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO ITEM 644 "SMALL ROADSIDE SIGN ASSEMBLIES" AND IS FOR CONTRACTOR'S INFORMATION ONLY.

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF LARGE AND SMALL SIGNS

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		35

DATE: 5/10/2024 7:18:06 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763331\2006_SH255_SUMM_QTY.dgn

SUMMARY OF EROSION CONTROL ITEMS											
			506	506	506	506	506	506	506	730	730
			6003	6011	6020	6024	6030	6038	6039	6001	6002
CSJ: 3586-02-006	DETAIL	** TOP SOIL 6"	ROCK FILTER DAMS (INSTALL) (TY 3)	ROCK FILTER DAMS (REMOVE)	CONSTRUCTION EXITS (INSTALL) (TY 1)	CONSTRUCTION EXITS (REMOVE)	BACKHOE WORK (EROSION & SEDMT CONT)	TEMP SEDMT CONT FENCE (INSTALL)	TEMP SEDMT CONT FENCE (REMOVE)	STRIP MOWING	FULL - WIDTH MOWING
	NO.	AC	LF	LF	SY	SY	HR	LF	LF	AC	AC
STA. 760+00.00 TO 1204+60.68		5.00			112	112					
STRUCTURE											
STRUCTURE # 1 @ STA. 774+94.96	1						2.3	92	92		
STRUCTURE # 2 @ STA 787+74.08	2		55	55			2.0	80	80		
STRUCTURE # 3 @ STA 797+14.81	2		55	55			2.0	80	80		
STRUCTURE #5 @ STA 857+98.34 (TO REMAIN)	2		53	53			2.0	80	80		
STRUCTURE # 6 @ STA 903+43.98 (TO REMAIN)	2		47	47			2.0	80	80		
STRUCTURE #7 @ STA 904+55.67 (TO REMAIN)	2		52	52			2.0	80	80		
STRUCTURE # 10 @ STA 978+88.81 (TO REMAIN)	2		40	40			2.0	80	80		
STRUCTURE # 12 @ STA 1008+48.83 (TO REMAIN)	2		31	31			2.0	80	80		
STRUCTURE # 14 @ STA 1064+96.00 (TO REMAIN)	2		45	45			2.0	80	80		
STRUCTURE # 15 @ STA 1085+85.95	1						2.5	100	100		
STRUCTURE # 16 @ STA 1100+50.49	2		50	50			2.0	80	80		
STRUCTURE # 17 @ STA 1116+65.61	1						2.3	90	90		
STRUCTURE # 18 @ STA 1137+40.40 (TO REMAIN)	2		42	42			2.0	80	80		
BRIDGES											
STRUCTURE # 4 @ STA 846+29.82 (PSN 22-240-0-3586-02-017)	3		80	80			6.0	240	240		
STRUCTURE # 8 @ STA 942+48.93 (JEFFRIES EB) (PSN 22-240-0-3586-02-018)	3		68	68			6.0	240	240		
STRUCTURE # 9 @ STA 944+47.18 (JEFFRIES WB) (PSN 22-240-0-3586-02-019)	3		68	68			6.0	240	240		
STRUCTURE # 11 @ STA 1004+29.64 (PSN 22-240-0-3586-02-020)	3		70	70			6.0	240	240		
STRUCTURE # 13 @ STA 1025+89.74 (PSN 22-240-0-0037-10-078)	N/A										
STRUCTURE # 19 @ STA 1202+27.84 (PSN 22-240-0-3586-02-021)	N/A										
DRIVEWAYS											
#1 @ STA. 777+29.04	4						2.3	90	90		
#2 @ STA. 777+31.51	4						2.3	90	90		
#3 @ STA. 876+98.18	4						2.3	90	90		
#4 @ STA. 877+06.43	4						2.3	90	90		
#5 @ STA. 1109+15.31	4						2.3	90	90		
#6 @ STA. 1110+96.30	4						2.3	90	90		
TOTAL		5	756	756	112	112	64.6	2582	2582	208	208

SYMBOL LEGEND

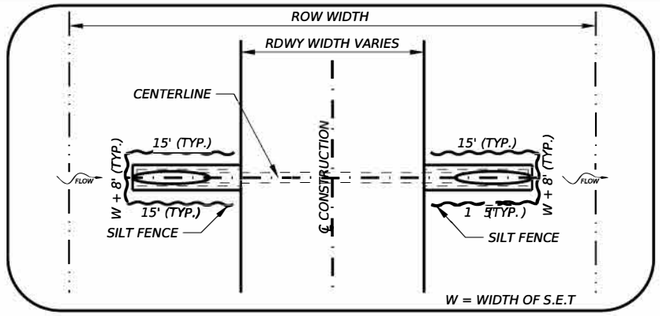
SILT FENCE

ROCK FILTER DAM TYPE 3

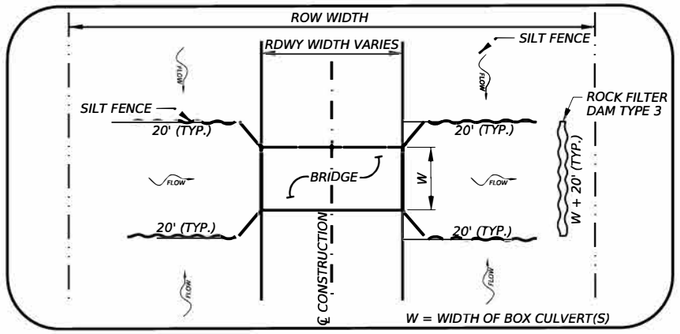
NOTES:

** SUBSIDIARY TO ITEM 132 "EMBANKMENT" EXISITING TOPSOIL WILL BE SALVAGED IN WINDROWS.

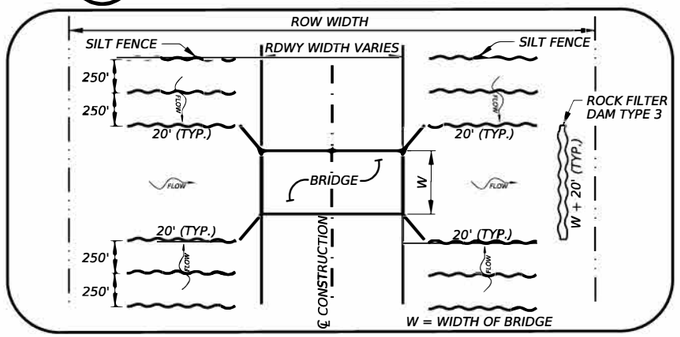
□ BACKHOE EROSION CONTROL BASES ON A RATE OF 40 LF OF TEMPORARY SEDIMENTATION CONTROL FENCE PER HOUR.



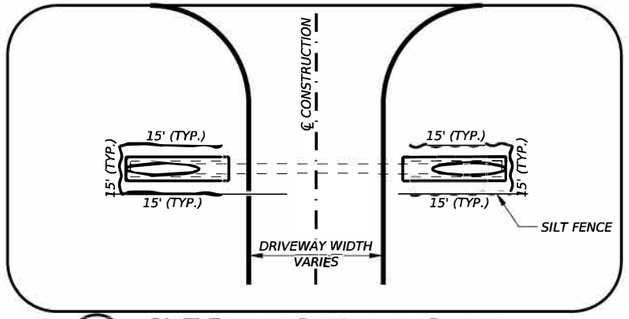
1 SILT FENCE DETAIL FOR PIPE ON ROADWAY



2 SILT FENCE DETAIL FOR BOX CULVERT(S) ON ROADWAY



3 SILT FENCE DETAIL FOR BRIDGE ON ROADWAY



4 SILT FENCE DETAIL FOR PIPE ON DRIVEWAY

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 5/30/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SUMMARY OF SW3P AND SOIL STABILIZATION

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	36

DATE: 5/30/2024 11:59:44 AM
FILE: c:\txdot\pw_online\txdot15\misael.aguilar\d0763331\2006 SH255 SUMM QTY.dgn

DN: CK: DW: CK:

TCP GENERAL NOTES

1. This is a suggested Traffic Control Plan (TCP). The Contractor may submit an alternate Traffic Control Plan, signed and sealed by a Licensed Professional Engineer in Texas, for approval by the Engineer. When mutually beneficial changes are proposed to the existing Traffic Control Plan and are agreed upon by the Contractor and the Department, the plan sheets shall be developed, signed and sealed by a Profesional Engineer.

2. Refer to Item 8 "Prosecution and Progress" and project general notes for additional information regarding the Traffic Control Plan.

3. Furnish and install all Traffic Control Plans devices, including but not limited to barricades, signs, and work zone markings, in compliance with the latest version of the Texas Manual on Uniform Traffic Control Devices (TMUTCD), the State Standard Traffic Control Plans (TCP) sheets, and the Barricades and Construction (BC) sheets. Refer to the project general notes for additional information regarding the Traffic Control Plan.

4. Moving an existing sign to a temporary location is subsidiary to Item 502. Installations with permanent supports at permanent locations will be paid for under the applicable bid item(s).

5. Additional signs, barricades and channelizing devices may be required to maintain traffic during construction, as shown on TCP standards. Additional signs, barricades, etc. (if any), will be subsidiary to Item 502 - "Barricades, Signs and Traffic Handling".

6. Refer to BC(6)-21 Portable Changeable Message Sign (PCMS) Standards for a listing of abbreviated words and two-word phrases that are acceptable for use on PCMS. Submit the suggested message for the board to the Engineer for approval.

7. Place the traffic control devices only while work is actually in progress or a definite need exists. Always have enough barricades, channelizing devices, and signs at all times to replace those damaged.

8. Cover all existing signs that conflict with the Traffic Control Plan and uncover during non-working hours or as directed by the Engineer. Partial coverage of the sign or coverage by material that will not cover the entire sign all the time is not permitted.

9. Vary the spacing of signs to meet traffic conditions or as directed by the Engineer and assure that all traffic control devices and work zone pavement markings are kept in a highly visible condition (clean, upright and at proper location).

10. Maintain the roadway surface and work zone striping within the project while the traffic control plan is in effect. Place and be responsible for all work zone pavement markings in accordance with standard sheets WZ(STPM)-23, BC (11), BC (12) and the TMUTCD.

11. Maintain all existing drainage conditions during all construction phases until the permanent drainage facilities are constructed and ready to use. Handle excavated and stockpiled material in such a way that it will not block drainage.

12. Regulate all construction traffic so as to cause a minimal inconvenience to the traveling public. At the times when it is necessary for trucks to stop, unload or cross roadways under traffic, provide warning signs and flaggers as needed to adequately protect the traveling public.

13. During non-working hours, all drop-offs are to be filled. Refer to standard WZ(UL)-13 for lateral drop-offs and to details shown in plans for longitudinal drop-offs or as directed by the Engineer.

14. Notify the Engineer in writing two weeks prior to shifting of traffic within each phase of the Traffic Control Plan.

15. Verify the location and spacing of signs, barricades, and channelizing devices prior to their placement along vertical curves, horizontal curves, and other geometric constraints to assure visibility to all motorists.

16. During the holiday time frame of December 21st through January 1st, every effort should be taken to ensure that all travel lanes remain open where possible.

18. Use of portable changeable message sign as advance notice of lane closures will be required, as directed by the engineer. For locations that are adjacent to each other, a single sign in advance of the entire work area is acceptable.

19. Place portable changeable message boards at locations requiring lane closures for 2 week(s) before the closures or as directed by the Engineer.

20. If the contractor chooses to work multiple locations simultaneously, with approval from the Engineer, contractor will be responsible for providing all applicable traffic control devices, including portable changeable message boards, and truck mounted attenuators at their own expense.

21. Use truck mounted attenuators as noted on plans,TxDOT traffic control plan standards, or as directed by the engineer. For locations that are adjacent to each other, a single truck mounted attenuator for the entire work area is acceptable.

22. Use plastic drums to channelize traffic when existing pavement markings have been obliterated.

23. Regulatory construction speed limit signs are erected only for the limits of the section of roadway where speed reduction is necessary for the safe operation of traffic and protection of construction personnel. If the regulatory construction speed limit signs are not necessary for the safe operation of traffic during certain construction operations or those days and hours when the contractor is not working, these signs should be made inoperative following guidance in BC(4)-21.

24. Contractor is to construct longitudinal joint at approaches and departures prior to opening to traffic. Refer to "roadway miscellaneous details transition" sheet to be used when opening roadway(s) to traffic.

25. Limit the work to that area of operation that can be completed in one work day in order to allow for traffic at night. Limit the length of lane closures to the proposed segments. Refer to "TCP Sequence of Construction" for further information. Allow for all lanes open to traffic during non-working hours unless otherwise specified in the sequence of construction. Any additional overnight lane closures not specified in the sequence of construction will require approval by the Engineer.

26. Conduct construction operations so as to provide the least possible interference to traffic and to permit the continuous movement of traffic in all allowable directions at all times or as permitted by the sequence of construction. Provide for safe and convenient access to abutting property, highways, public roads, and street crossings except as otherwise shown on the sequence of construction. The contractor will maintain at all times two-way traffic or a minimum of one lane using traffic signal with flaggers

27. Place all stockpiled material, waste material, signs, barricades, channelizing devices and work vehicles not in use, at a minimum of 30 feet from the outer edge of the nearest travel lane.

28. Remove from the work area all loose materials and debris resulting from construction operations at the end of each work day.

29. Maintain a minimum of one through lane open in each direction during working hours except as directed by the Engineer.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP
GENERAL NOTES

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	37

DATE: 4/9/2024 4:31:16 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\2006_SH255_TCP_GN_dgn

CK
DW
CK
DN

SEQUENCE OF CONSTRUCTION

GENERAL INSTRUCTIONS

THE FOLLOWING WORK WILL BE PERFORMED ON THE ROADWAY. REFER TO THE TCP PHASES, TCP GENERAL NOTES AND CORRESPONDING PLAN SHEETS FOR MORE DETAILED INFORMATION.

INSTALL ALL APPLICABLE BARRICADES, SIGNS, WORK ZONE MARKINGS IN ACCORDANCE WITH TCP, BC AND WZ TxDOT STANDARD SHEETS FOR TRAFFIC CONTROL SETUP.

LIMIT THE LENGTH OF LANE CLOSURES AS SHOWN ON" SH 255 TCP SEGMENT PHASING DETAIL" SHEET(S) AT ANY GIVEN TIME WHEN USING ANY TRAFFIC CONTROL SET UP, UNLESS OTHERWISE APPROVED BY THE ENGINEER. PRIOR SEGMENTS MUST BE COMPLETED BEFORE COMMENCING TO NEXT SEGMENT

AT THE END OF EACH WORK DAY, PROVIDE A SMOOTH TRANSITION AT WORK LIMIT ENDS BEFORE OPENING TO TRAFFIC. MAINTAIN A MINIMUM TAPER RATE 50:1 TO TRANSITION FROM CONSTRUCTION ZONE TO EXISTING PAVEMENT. REFER TO "SH 255 TCP CONSTRUCTION JOINT DETAIL" SHEET (S) FOR MORE INFORMATION.

CONTRACTOR IS TO LIMIT THE LENGTH OF CONSTRUCTION WORK TO LENGTH THAT CAN BE RECONSTRUCTED IN A DAY'S OPERATION WITHIN THE SEGMENT AT THE END OF EACH WORKDAY; NO LATERAL DROPOFFS WILL BE PERMITTED UNLESS OTHERWISE APPROVED BY THE ENGINEER.

STRUCTURES EXTENSION NEED TO BE DONE BEFORE COMMENCING ANY ROADWAY WORK UNLESS OTHERWISE APPROVED BY THE ENGINEER

GENERAL SEQUENCE OF CONSTRUCTION

A) INSTALL TEMPORARY EROSION CONTROL DEVICES
B) INSTALL TRAFFIC CONTROL DEVICES
C) UPGRADE STRUCTURES ENDS
D) PLANE EXISTING ROADWAY
E) PERFORM WIDENING WHEN APPLICABLE
F) FOAM TREAT
G) HOT MIX TYPE B
H) SMA TYPE C
F) PERFORM BLADING AND BACKFILL EDGES
G) INSTALL MBGF
H) INSTALL PAVEMENT MARKING/ RUMBLE STRIPS/ SIGNS

PHASE I- STRUCTURE UPGRADES

THE INTENT OF THIS PHASE IS TO CONSTRUCT THE CROSS DRAINAGE STRUCTURES OF THE PROJECT.

FOR EVERY WORK PERFORM ON STRUCTURES USE "CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN PROJECT LIMITS" DETAIL LOCATED ON BC(10)-21 AND "TCP PTB INSTALLATION LAYOUT" SHEET(S).

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS TCP(2-1)-18 TO MAINTAIN A TWO WAY ROADWAY WITH PAVED SHOULDERS TRAFFIC CONTROL WITHIN LIMITS OF CONSTRUCTION.

PERFORM CONSTRUCTION AS FOLLOWS:

1.1 REMOVE EXISTING HEADWALLS AND WINGWALLS FROM STRUCTURES AS SHOWN ON "SH 255 STRUCTURE CROSS SECTION DETAILS" SHEET(S).
1.2 RE-GRADE SIDE SLOPES AND INSTALL PROPOSED UPGRADES
1.3 REMOVE MBGF WHERE APPLICABLE
1.4 ONCE A STRUCTURE/BRIDGE END IS FULLY COMPLETED AT ONE SIDE FOLLOW THE SAME PROCEDURE FOR THE OPPOSITE SIDE OF THE STRUCTURE/ BRIDGE TREATMENTS.

PHASE II - (SEGMENTS 1,2,5 AND 8)

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 FOR TRAFFIC CONTROL SETUP.

PERFORM CONSTRUCTION AS FOLLOWS:

2.1 PLACE TCP
2.2 MILL EXISTING ROADWAY MATERIAL
-MILLING OPERATION WILL NEED TO BE COMPLETED SIMULTANEOUSLY TO AVOID LATERALS DROPS AND OPENING TRAFFIC AT THE END OF THE DAY.
-STOCKPILE MILLINGS TO BE REUSED FOR THE WIDENING SECTIONS ALONG WIDEN LIMITS WHEN APPLICABLE.
2.3 EXCAVATE AND REWORK EXISTING SUBGRADE MATERIAL WHEN APPLICABLE
2.4 PLACE RAP AND FLEXIBLE BASE WHEN APPLICABLE
2.5 REWORK RAP AND FLEXIBLE BASE WHEN APPLICABLE
2.6 FOAM TREAT AND GRADE BASE
-CURE FOAM TREATED BASE FOR A MINIMUM OF 2 HOURS BEFORE OPENING TO TRAFFIC.
2.7 PLACE PRIME COAT ROADWAY
-IF FORECAST SHOWS INDICATION OF POSSIBLE RAIN INSTALL PRIME COAT THE SAME DAY PRIOR TO OPENING TO TRAFFIC.
- MAXIMUM ALLOWED TIME FOR DIRECT TRAFFIC BEFORE PRIME COAT PLACEMENT SHALL TWO (2) WEEKS AFTER FOAM TRATED BASE HAS BEEN INSTALLED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2.8 INSTALL TEMPORARY WORKZONE PAVEMENT MARKING

PHASE II - (SEGMENTS 3,4,6 AND 7)

STAGE 1: SH 255 JEFFERIES (WB & EB) PARTIAL INTERSECTION

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11, TCP (2-6)-18, "SH 255 TCP JEFFERIES (WB & EB) INTERSECTION STAGE 1 LAYOUT", "DETOUR JEFFERIES WESTBOUND STAGE 1 LAYOUT" AND "DETOUR JEFFERIES WESTBOUND STAGE 1 LAYOUT" SHEET(S) FOR ADDITIONAL TCP SIGNAGE AND MORE INFORMATION.

WESTBOUND AND EASTBOUND RAMPS INTERSECTION WILL BE DONE SIMULTANEOUSLY AND AVOID ANY DROPOFFS.

PERFORM CONSTRUCTION AS FOLLOWS:

@ WESTBOUND RAMP INTERSECTION
2.1.1 PLACE TCP
2.1.2 MILL EXISTING ROADWAY ON JEFFERIES CROSS INTERSECTION
2.1.3 PLACE PRIME COAT
2.1.4 LAY FIRST LIFT OF HMA TYPE B
2.1.5 COMPACT HMA
2.1.6 LAY SECOND LIFT OF HMA TYPE B
2.1.7 COMPACT HMA

@ EASTBOUND RAMP INTERSECTION
REPEAT STEPS 2.1.1 THRU 2.1.6 WITHIN STAGE 1

STAGE 2: SH 255 JEFFERIES (WB) PARTIAL INTERSECTION

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND TCP (2-6)-18 INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS. REFER TO "SH 255 TCP JEFFERIES (WB) INTERSECTION STAGE 2 LAYOUT" SHEET(S) FOR ADDITIONAL TCP SIGNAGE AND MORE INFORMATION.

PERFORM CONSTRUCTION AS FOLLOWS:

2.2.1 PLACE TCP
2.2.2 MILL EXISTING ROADWAY ON WESTBOUND JEFFERIES CROSS INTERSECTION
2.2.3 PLACE PRIME COAT
2.2.4 LAY FIRST LIFT OF HMA TYPE B
2.2.5 COMPACT HMA
2.2.6 LAY SECOND LIFT OF HMA TYPE B
2.2.7 COMPACT HMA

STAGE 3: SH 255 JEFFERIES (EB) PARTIAL INTERSECTION

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND TCP (2-6)-18 INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS. REFER TO "SH 255 TCP JEFFERIES (EB) INTERSECTION STAGE 3 LAYOUT" SHEET(S) FOR ADDITIONAL TCP SIGNAGE AND MORE INFORMATION.

PERFORM CONSTRUCTION AS FOLLOWS:

MIRROR STAGE 2

NOTE:
STAGE 2 AND STAGE 3 CAN BE WORKED SIMULTANEOUSLY WITH APPROVAL OF THE ENGINEER.

STAGE 4: SH 255 JEFFERIES (WB) RAMP

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND "TCP JEFFERIES (WB) RAMP STAGE 4 LAYOUT" SHEET(S) FOR ADDITION TCP SIGNAGE AND MORE INFORMATION.

PERFORM CONSTRUCTION AS FOLLOWS:

2.4.1 PLACE TCP
2.4.2 MILL EXISTING ROADWAY MATERIAL
2.4.3 FOAM TREAT AND GRADE BASE
-CURE FOAM TREATED BASE FOR A MINIMUM OF 2 HOURS BEFORE OPENING TO TRAFFIC.
2.4.4 PLACE PRIME COAT ROADWAY
-IF FORECAST SHOWS INDICATION OF POSSIBLE RAIN INSTALL PRIME COAT THE SAME DAY PRIOR TO OPENING TO TRAFFIC.
-MAXIMUM ALLOWED TIME FOR DIRECT TRAFFIC BEFORE PRIME COAT PLACEMENT SHALL TWO (2) WEEKS AFTER FOAM TRATED BASE HAS BEEN INSTALLED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2.4.5 INSTALL TEMPORARY WORKZONE TABS

STAGE 5: SH 255 JEFFERIES (EB) RAMP

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND "TCP JEFFERIES (EB) RAMP STAGE 5 LAYOUT" SHEET(S) FOR ADDITION TCP SIGNAGE AND MORE INFORMATION.

PERFORM CONSTRUCTION AS FOLLOWS:

2.5.1 PLACE TCP
2.5.2 MILL EXISTING ROADWAY MATERIAL
2.5.3 FOAM TREAT AND GRADE BASE
-CURE FOAM TREATED BASE FOR A MINIMUM OF 2 HOURS BEFORE OPENING TO TRAFFIC.
2.5.4 PLACE PRIME COAT ROADWAY
-IF FORECAST SHOWS INDICATION OF POSSIBLE RAIN INSTALL PRIME COAT THE SAME DAY PRIOR TO OPENING TO TRAFFIC.
-MAXIMUM ALLOWED TIME FOR DIRECT TRAFFIC BEFORE PRIME COAT PLACEMENT SHALL TWO (2) WEEKS AFTER FOAM TRATED BASE HAS BEEN INSTALLED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2.5.5 INSTALL TEMPORARY WORKZONE TABS

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP SEQUENCE OF CONSTRUCTION

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	38

DATE: 5/9/2024 2:43:12 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\006soc.dgn

CRC DW: CRC DW:

SEQUENCE OF CONSTRUCTION (CONT.)

PHASE II - (SEGMENTS 6 AND 7)

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TCP ENTRANCE RAMP CLOSURE DETAIL AND TCP EXIT RAMP CLOSURE DETAIL.

THE CONTRACTOR HAS THE OPTION TO DECIDE THE CONSTRUCTION SEQUENCE OF THE STAGES

CONSTRUCTION WORK HAVE TO BE PERFORMED DURING REGULAR WORK HOURS LATE NIGHT WORK NEEDS TO BE APPROVED BY THE ENGINEER

STAGE 1: US 83 DEPARTURE WESTBOUND RAMP

REFER TO DETOUR US 83 WESTBOUND STAGE 1 LAYOUT

PERFORM CONSTRUCTION AS FOLLOWS:

1.1 PLACE TCP
1.2 MILL EXISTING ROADWAY
1.3 SWEEP AREA
1.4 PRIME COAT
1.5 LAY FIRST LIFT OF HMA TYPE B
1.6 COMPACT HMA
1.7 LAY SECOND LIFT OF HMA TYPE B
1.8 COMPACT HMA
1.9 LAY SMA TYPE C

STAGE 2: US 83 ENTRANCE WESTBOUND RAMP

REFER TO "DETOUR US 83 WESTBOUND STAGE 2 LAYOUT" SHEET(S)

PERFORM CONSTRUCTION AS FOLLOWS:

MIRROR STAGE 1

STAGE 3: US 83 EASTBOUND DEPARTURE RAMP

REFER TO "DETOUR US 83 EASTBOUND STAGE 3 LAYOUT" SHEET(S)

PERFORM CONSTRUCTION AS FOLLOWS:

MIRROR STAGE 1

STAGE 4: US 83 ENTRANCE EASTBOUND RAMP

REFER TO "DETOUR US 83 EASTBOUND STAGE 4 LAYOUT" SHEET(S)

PERFORM CONSTRUCTION AS FOLLOWS:

MIRROR STAGE 1

PHASE III - INSTALL INTERMEDIATE SURFACE LAYER(ALL SEGMENTS)

COMMENCE THIS PHASE NO MORE THAN 30 DAYS AFTER FOAM TREATED BASE HAS BEEN INSTALLED OR AS OTHERWISE DIRECTED BY THE ENGINEER

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND TCP (2-1)-18 FOR TRAFFIC CONTROL SETUP.

PERFORM CONSTRUCTION AS FOLLOWS:

3.1 PLACE TCP
3.2 LAY HMA TY B
3.3 SWITCH TRAFFIC ONTO ADJACENT LANE TO AVOID LATERAL DROP-OFFS
3.4 LAY HMA TY B
3.5 INSTALL TEMPORARY WORKZONE TABS

PHASE IV - GUARDRAIL UPGRADES

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (2-1)-18 FOR TRAFFIC CONTROL SETUP AND "TCP- PTB INSTALLATION LAYOUT" SHEET(S) FOR MORE INFORMATION.

REMOVAL OF EXISTING MGBF WILL BE LIMITED TO THAT WHICH CAN BE CONSTRUCTED IN THE SAME DAY. UPON COMPLETING THE PROPOSED MBGF SECTIONS, THE BLUNT EXPOSED END WILL BE TIED- DOWN AND/OR TIED TO THE REMAINING EXISTING MBGF APPURTENANCES (IF THEY ARE STILL IN PLACE) AT THE END OF WORKING DAY

THE CONTRACTOR SHALL INSTALL THE MBGF AT THE PROPER HEIGHT ACCORDING TO STANDARDS AND ACOUNT FOR THE THICKNESS OF THE FINAL RIDING SURFACE, ANY HEIGHT ADJUSTMENTS NEEDED TO THE MBGF AFTER THE FINAL PLACEMENT OF THE FINAL RIDING SURFACE WILL BE THE CONTRACTORS RESPONSIBILITY AND WILL NOT BE PAID FOR. "

MOWSTRIP WILL BE INSTALL ONCE THE RIDING SURFACE HAS BEEN PLACED

PHASE V - INSTALL FINAL SURFACE LAYER (ALL SEGMENTS)

COMMENCE THIS PHASE AFTER HMA TY B (INTERMEDIATE SURFACE LAYER) HAS BEEN INSTALLED ON ALL SERGMENTS OR AS OTHERWISE DIRECTED BY THE ENGINEER

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND TCP (2-1)-18 FOR TRAFFIC CONTROL SETUP.

PERFORM CONSTRUCTION AS FOLLOWS:

4.1 PLACE TCP
4.2 SWEEP AREA
4.3 LAY SMA TYPE C
4.4 SWITCH TRAFFIC ONTO ADJACENT LANE TO AVOID LATERAL DROP-OFFS
4.5 LAY SMA TYPE C
4.6 INSTALL EMBANKMENT MATERIAL ON EDGES

PHASE VI - INSTALLATION OF PAVEMENT MARKING AND RUMBLE STRIPS

INSTALL DRUMS, BARRICADES AND ALL TRAFFIC CONTROL DEVICES AS SHOWN IN THE PLANS.

REFER TO TXDOT STANDARD SHEET TCP (1-7)-11 AND TCP (2-1)-18 FOR RUMBLE STRIP INSTALL

REFER TO TCP (3-1)-13, TCP (3-2)-13 & TCP (3-3)-14 FOR FINAL PAVEMENT MARKINGS.

PERFORM CONSTRUCTION AS FOLLOWS:

4.1 PLACE TCP
4.2 SWEEP AREA
4.3 INSTALL MILL RUMBLE STRIPS
4.4 SWEEP AREA
4.5 INSTALL FINAL PAVEMENT MARKING

PHASE VII - CLEAN-UP

PERFORM FINAL CLEAN AND REMOVE ALL BARRICADES AND WORZONE SIGNS AS DIRECTED BY THE ENGINEER

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

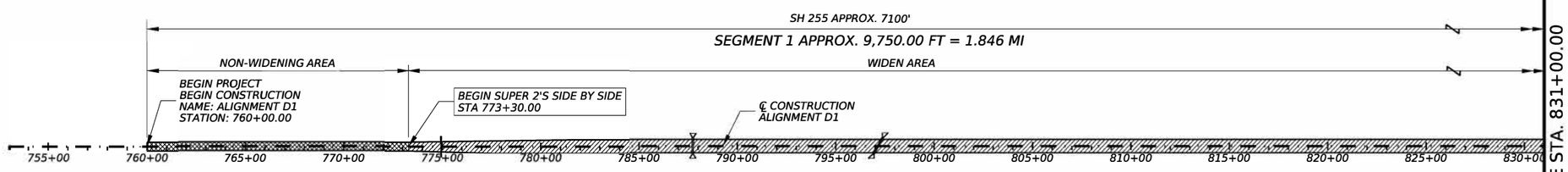
TCP SEQUENCE OF CONSTRUCTION

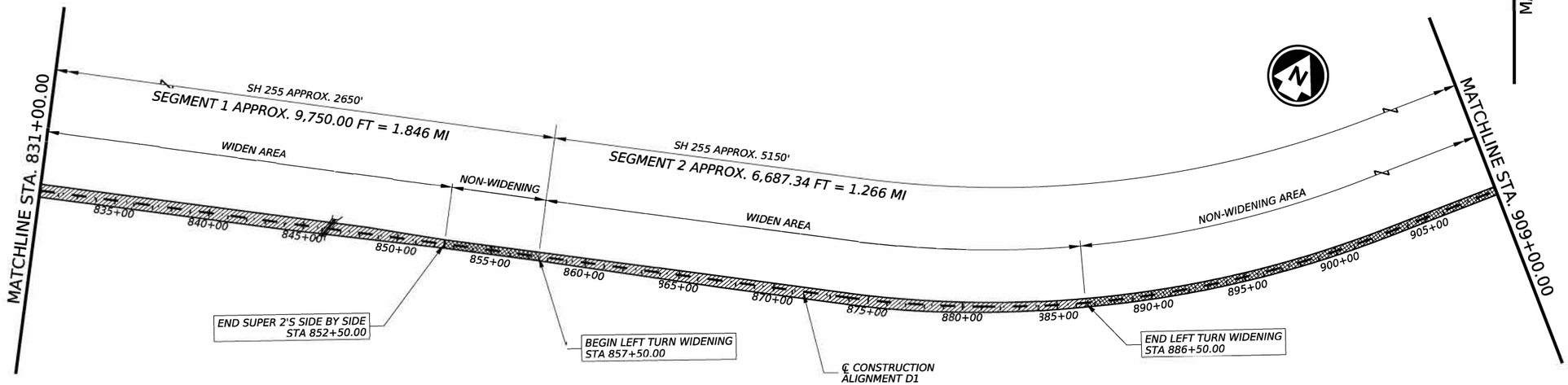
©TxDOT 2024

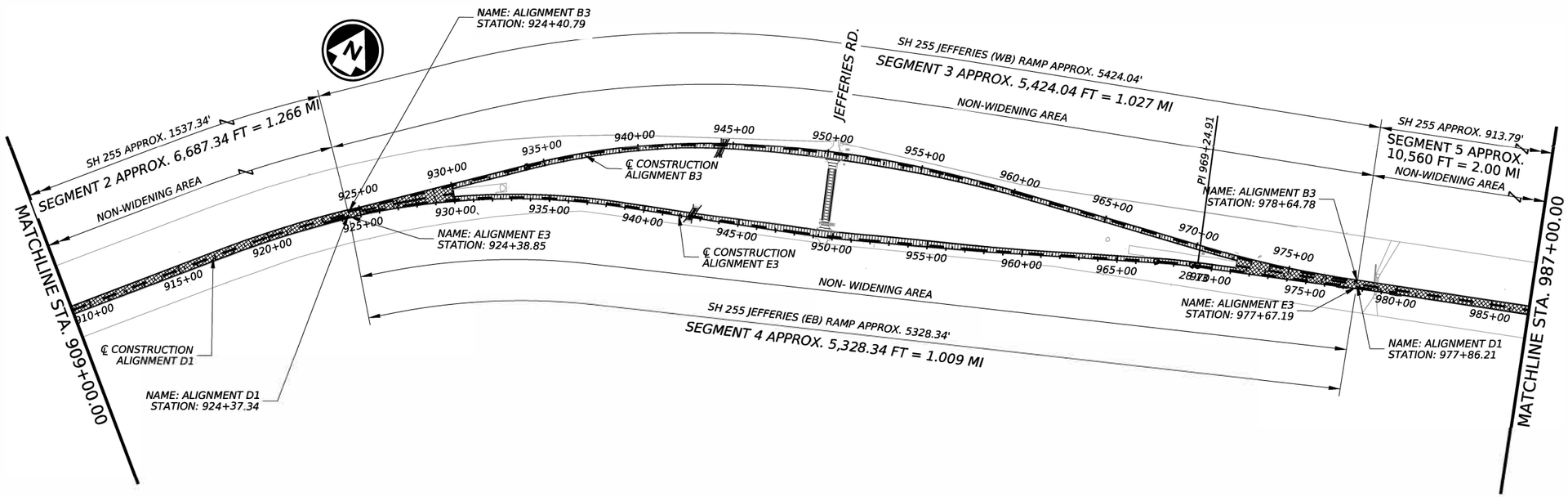
SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		39

DATE: 5/9/2024 2:43:13 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilard0763335\006soc.dgn







STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

Docusigned by:
8EE5B149888F4E9...

0 325 650
SCALE IN FEET

Texas Department of Transportation

SH 255

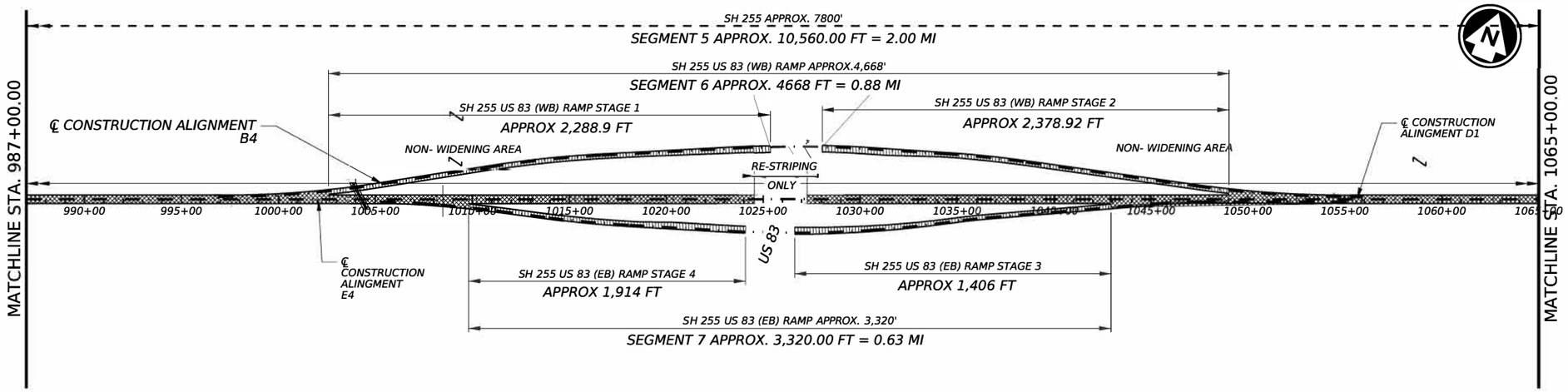
TCP SEGMENT PHASING DETAIL

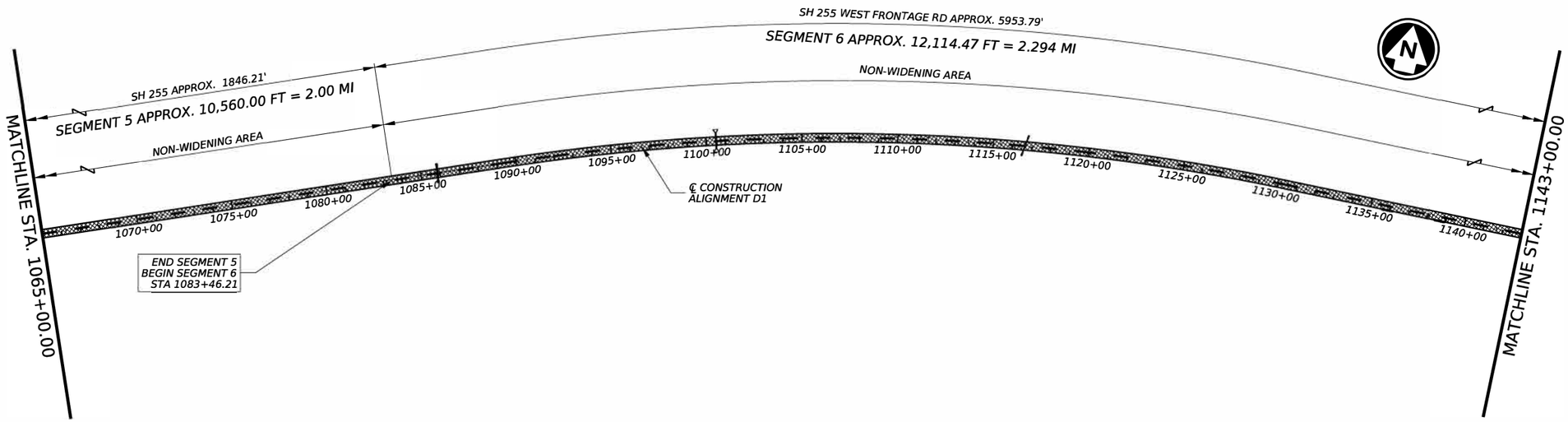
©TxDOT 2024

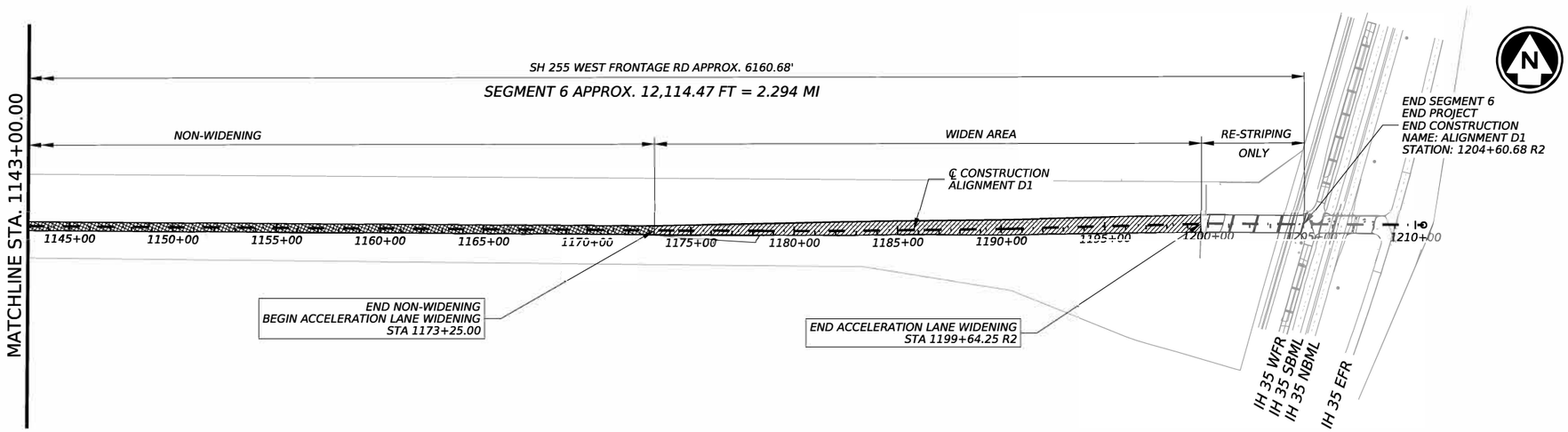
SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	40

DATE: 5/9/2024 2:39:24 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\006 TCP segment 01.dgn







STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

0 325 650
SCALE IN FEET

Texas Department of Transportation

SH 255

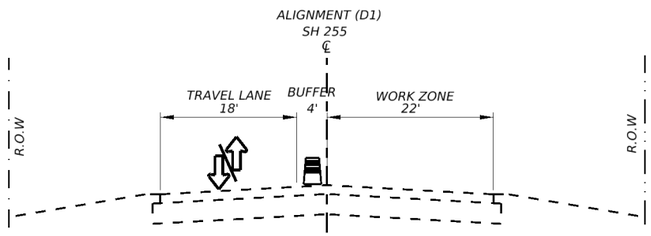
TCP SEGMENT PHASING DETAIL

©TxDOT 2024

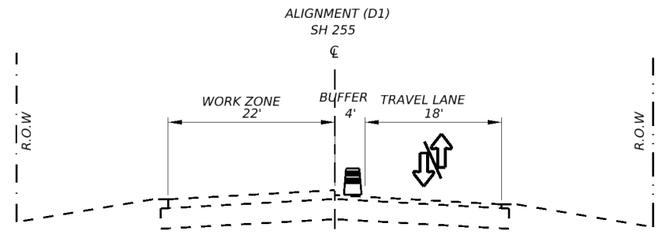
SHEET 2 OF 2

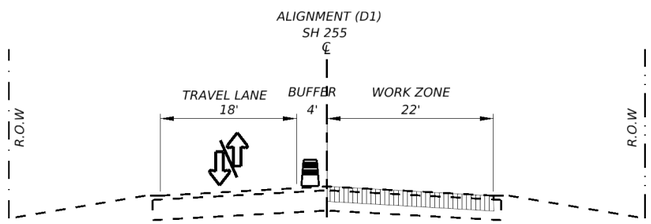
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		41

DATE: 5/9/2024 2:39:41 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\006 TCP segment 02.dgn

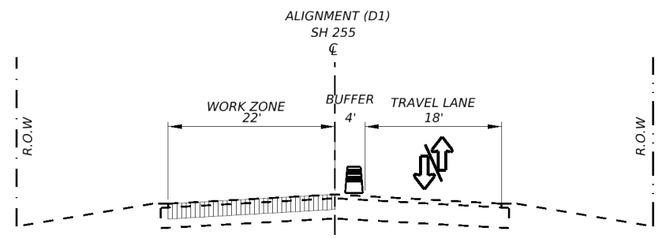


PHASE II
NON WIDENING
MILLING

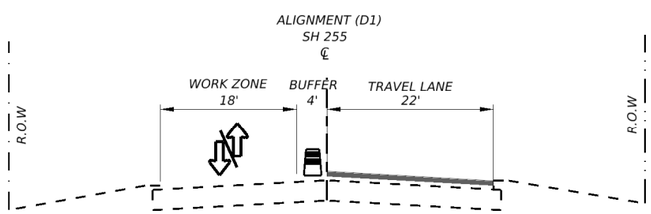




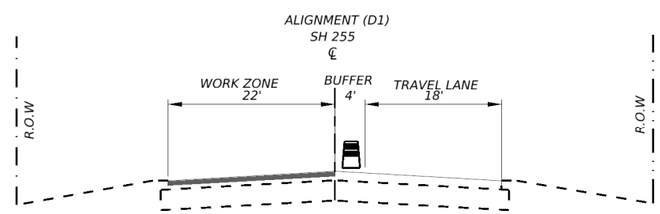
PHASE II
NON WIDENING
FOAM TREAT

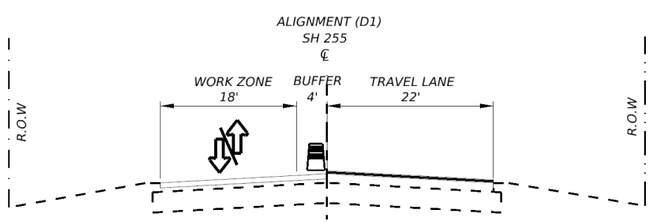


PHASE III
NON WIDENING
STAGE 1 HMA TYP-B

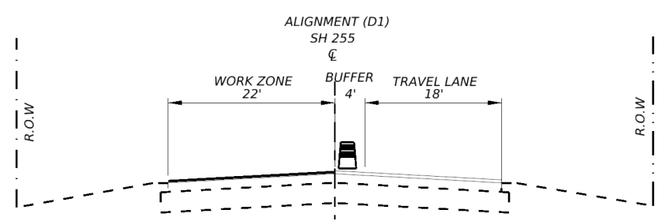


PHASE III
NON WIDENING
HMA TY-B





PHASE V
NON WIDENING
HMA TY-C



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP TYPICAL
PHASE SECTIONS

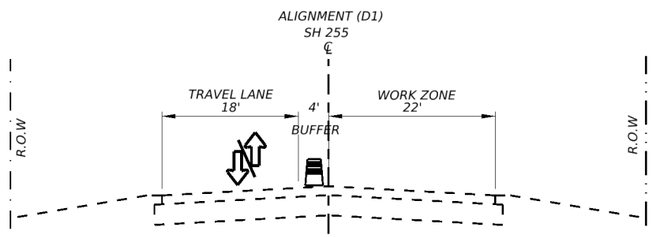
©TxDOT 2024

SHEET 1 OF 3

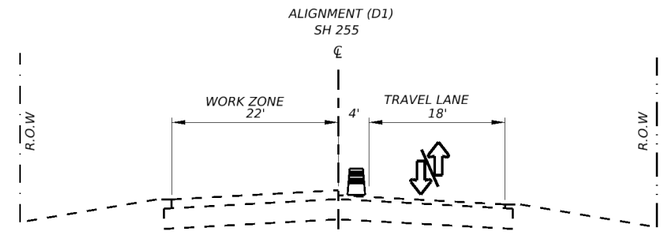
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		42

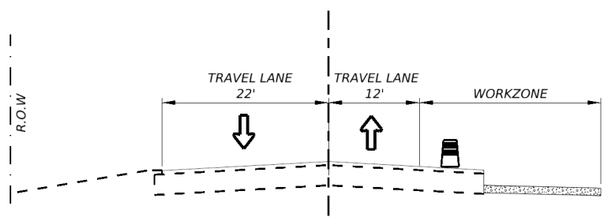
DATE: 4/10/2024 8:56:14 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\TCP PHASES LAYOUT.dgn

DN: CK: DW: CK:

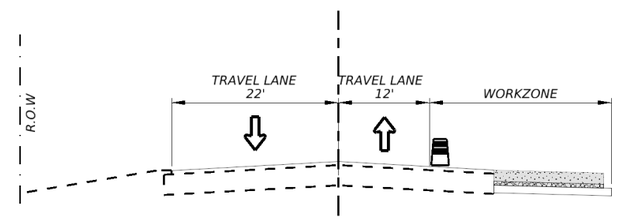


PHASE II
WIDENING
MILLING

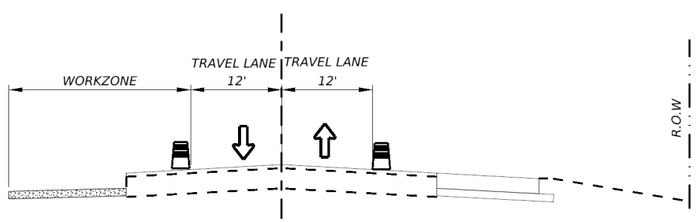




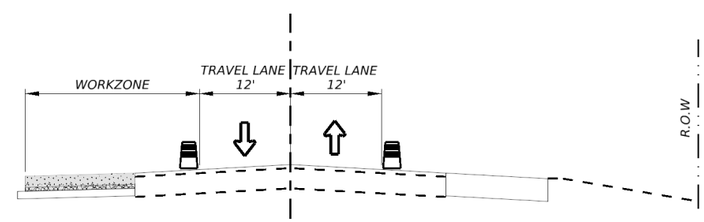
PHASE II
WIDENING
RIGHT LANE REWORK BASE



PHASE II
RIGHT LANE FLEX BASE AND RAP



PHASE II
WIDENING
LEFT LANE REWORK BASE



PHASE II
LEFT LANE FLEX BASE AND RAP

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP TYPICAL
PHASE SECTIONS

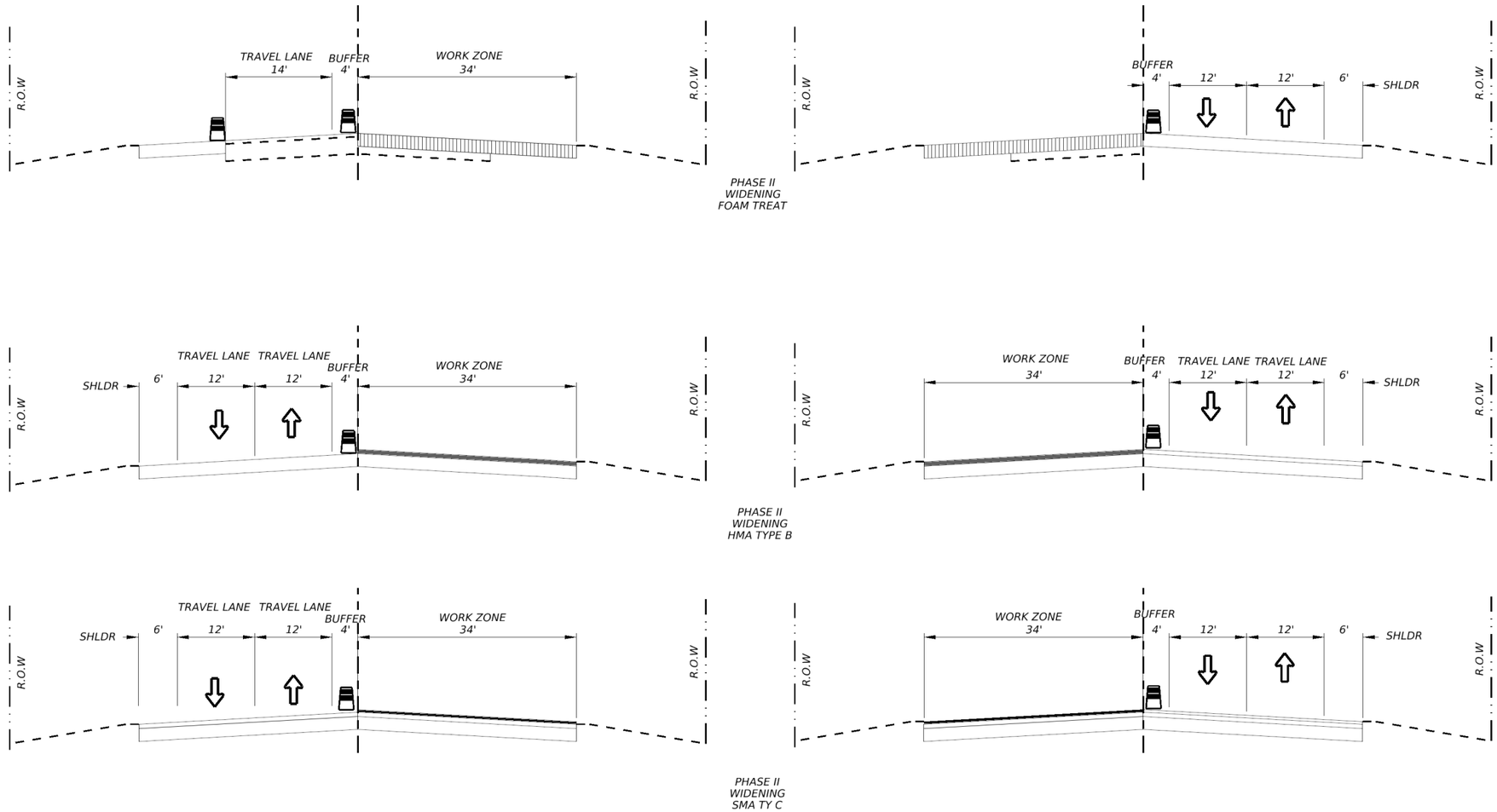
©TxDOT 2024

SHEET 1 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		43

DATE: 4/10/2024 8:56:17 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\TCP PHASES LAYOUT.dgn

CK:
DW:
CK:
DN:



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP TYPICAL
PHASE SECTIONS

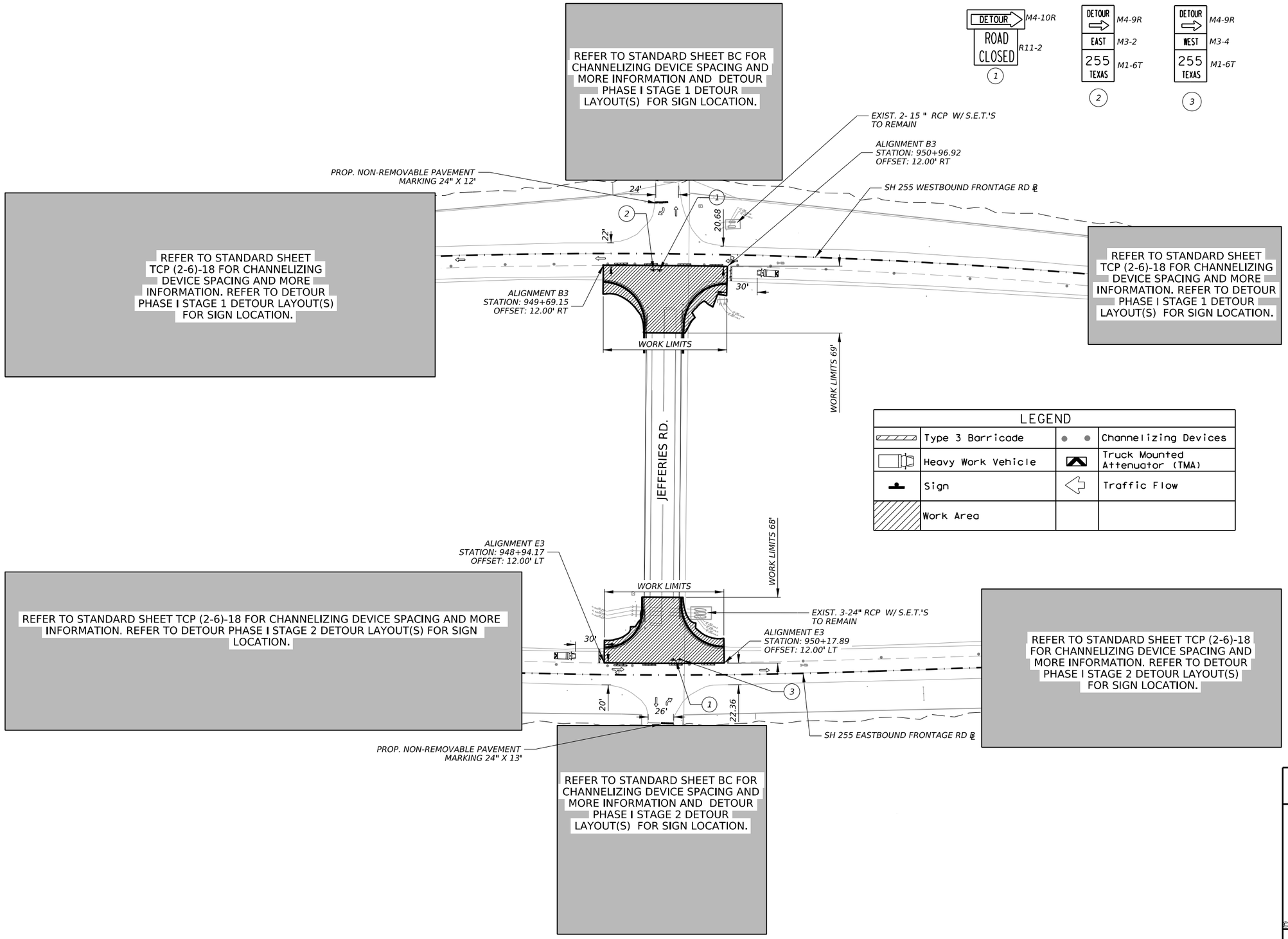
©TxDOT 2024

SHEET 1 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		44

DATE: 4/10/2024 8:56:19 AM
FILE: c:\txdot\pw_onlinelt\txdot5\misael.aguilar\d0763335\TCP PHASES LAYOUT.dgn

CK:
DW:
CK:
DN:



LEGEND			
	Type 3 Barricade	● ●	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Area		

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

Docusigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP JEFFERIES (WB & EB) INTERSECTION STAGE 1 LAYOUT

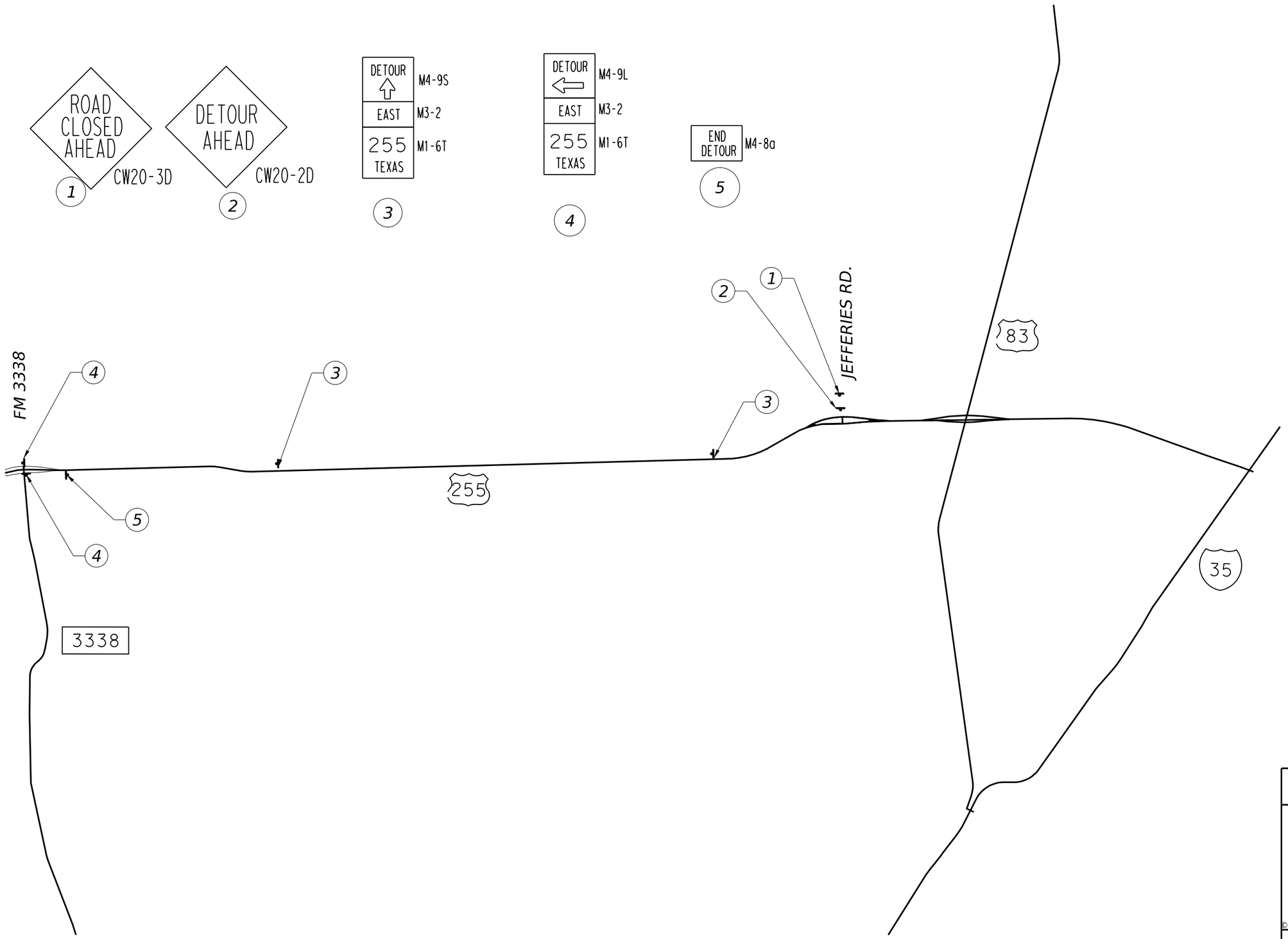
©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	45

DATE: 4/9/2024 4:32:39 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 JEFF INT STAGE 1.dgn

CK: DW: CK: DW:



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

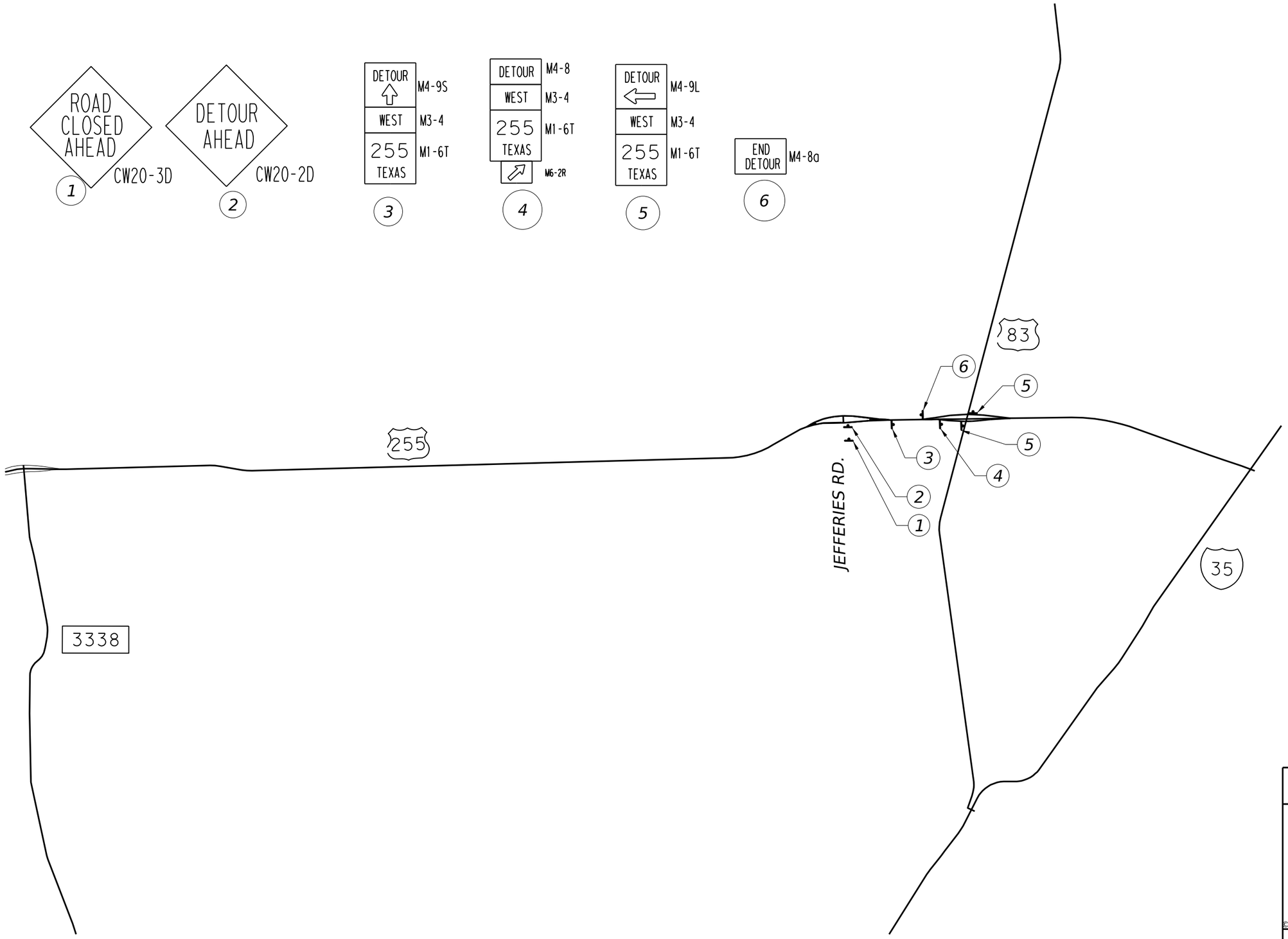
DETOUR JEFFERIES WESTBOUND STAGE 1 LAYOUT

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		46

DATE: 4/9/2024 4:32:57 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 JEFF DET STAGE 1.dgn



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

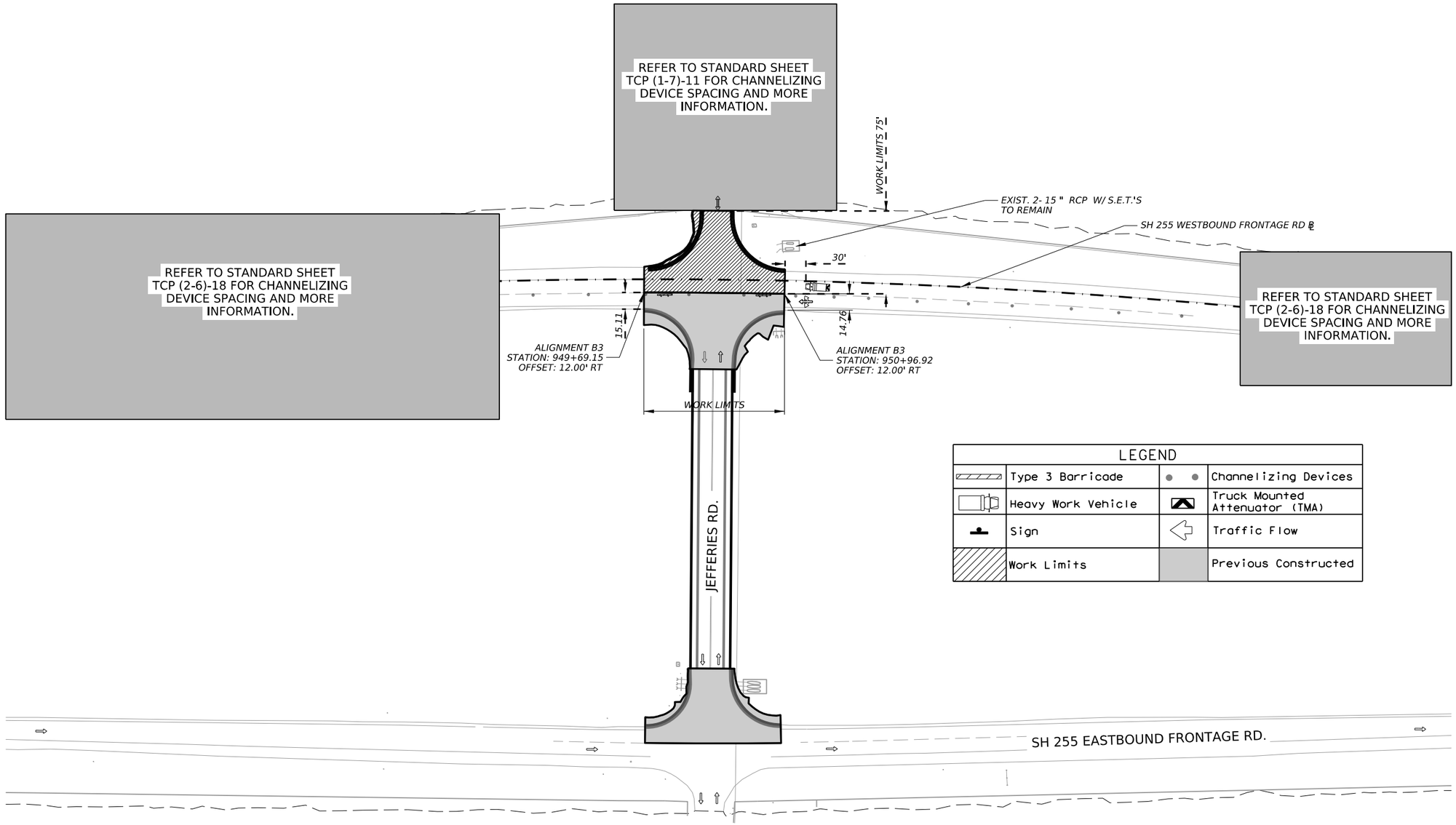
DETOUR JEFFERIES
EASTBOUND STAGE 1
LAYOUT

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		47

DATE: 4/9/2024 4:33:11 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 JEFF DET STAGE 1 2.dgn



LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

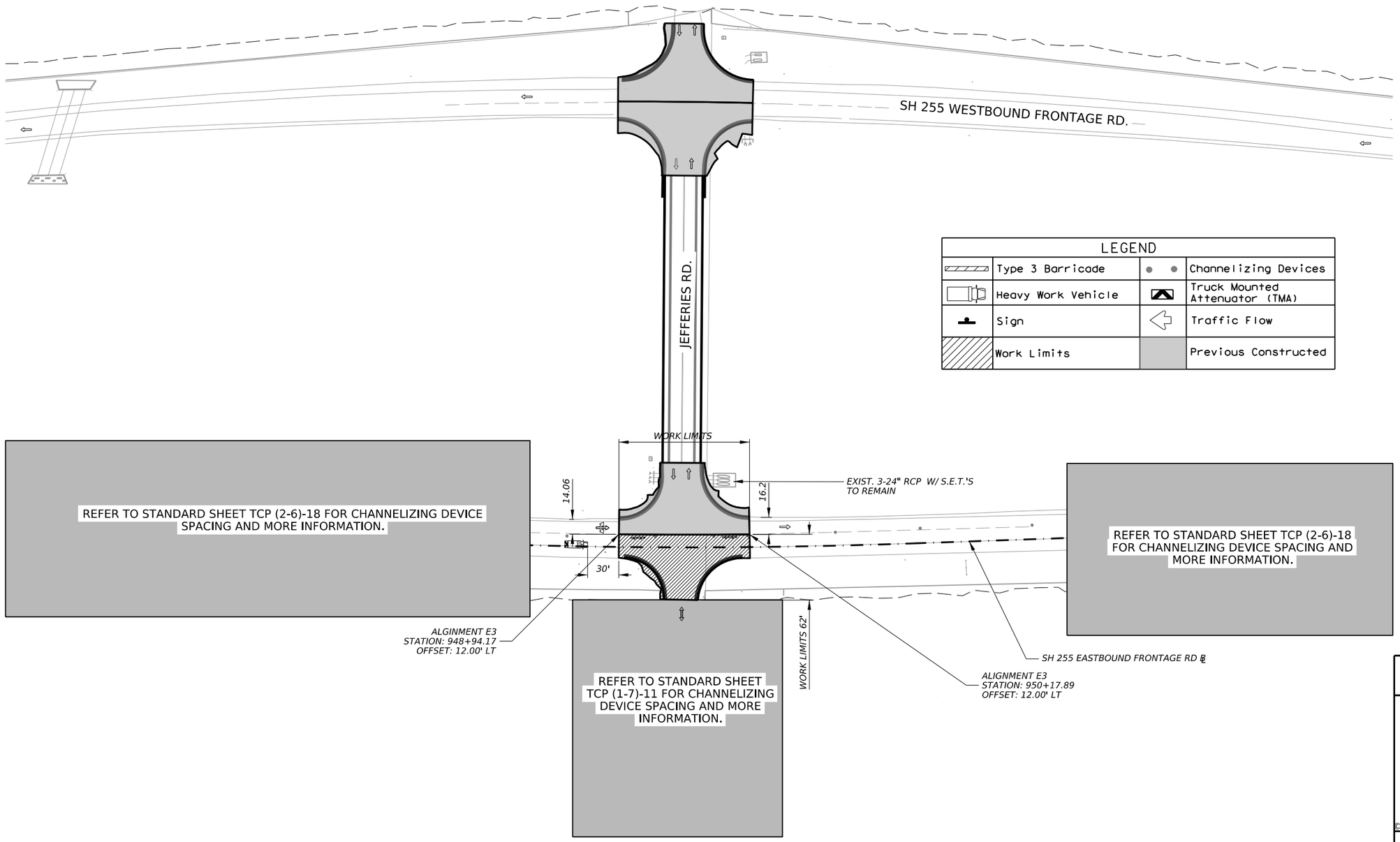
TCP JEFFERIES (WB)
INTERSECTION STAGE 2
LAYOUT

©TxDOT 2024
SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	48

DATE: 4/9/2024 4:33:25 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 JEFF INT STAGE 2.dgn

CK: DW: CK: DW:



LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP JEFFERIES (EB) INTERSECTION STAGE 3 LAYOUT

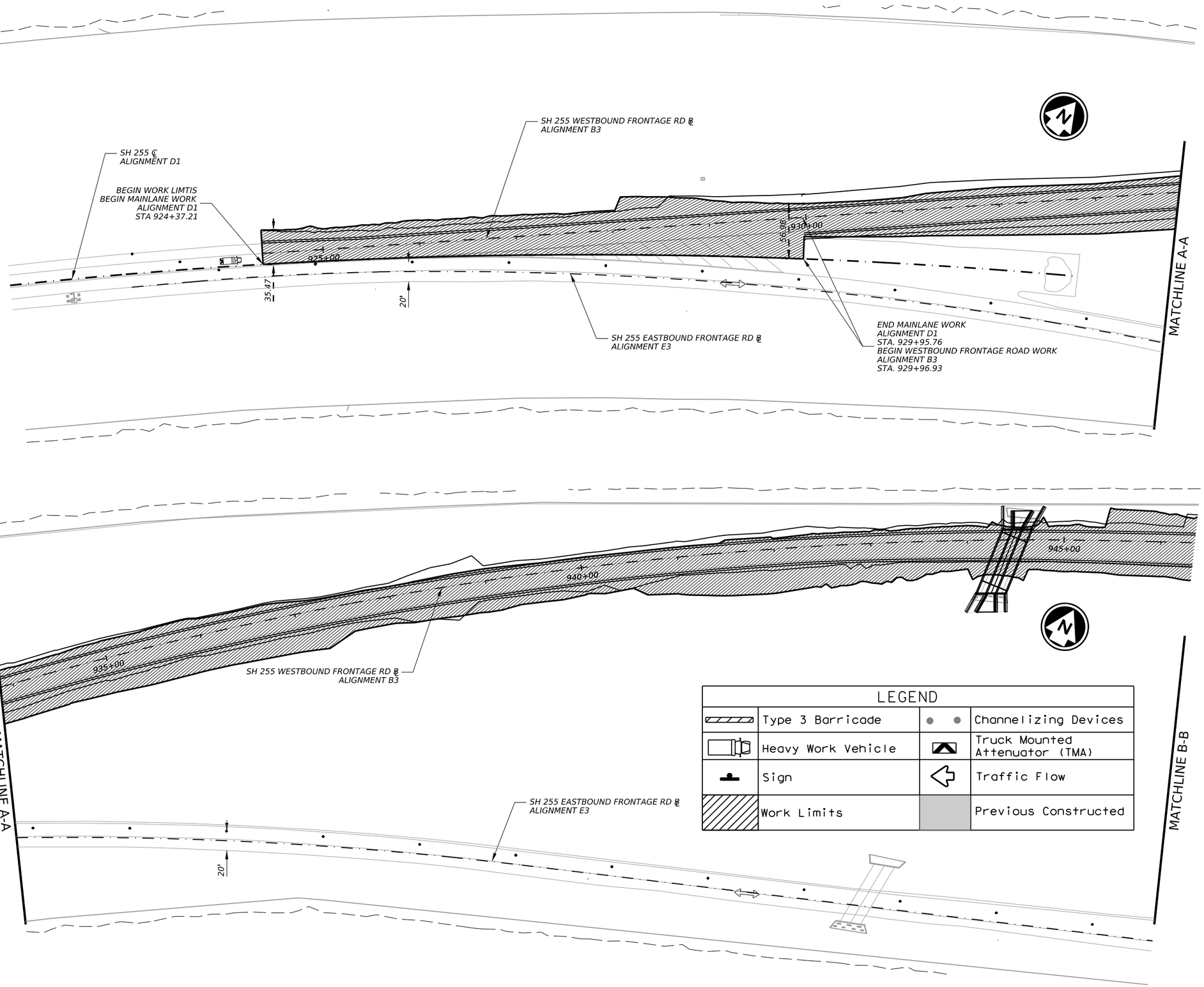
©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		49

DATE: 4/9/2024 4:33:41 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 JEFF INT STAGE 3.dgn

CK: DW: CK: DW:



NOTE:

THE INTENT OF THESE SHEET(S) ARE TO ILLUSTRATE THE ROAD THAT WILL BE USED WHEN TEMPORARY CLOSING THE WESTBOUND FRONTAGE ROAD. REFER TO STANDARD TCP (1-7)-11 FOR SIGN PLACMENT AND CHANNELIZING SPACING.

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

TCP JEFFERIES (WB)
RAMP STAGE 4
LAYOUT

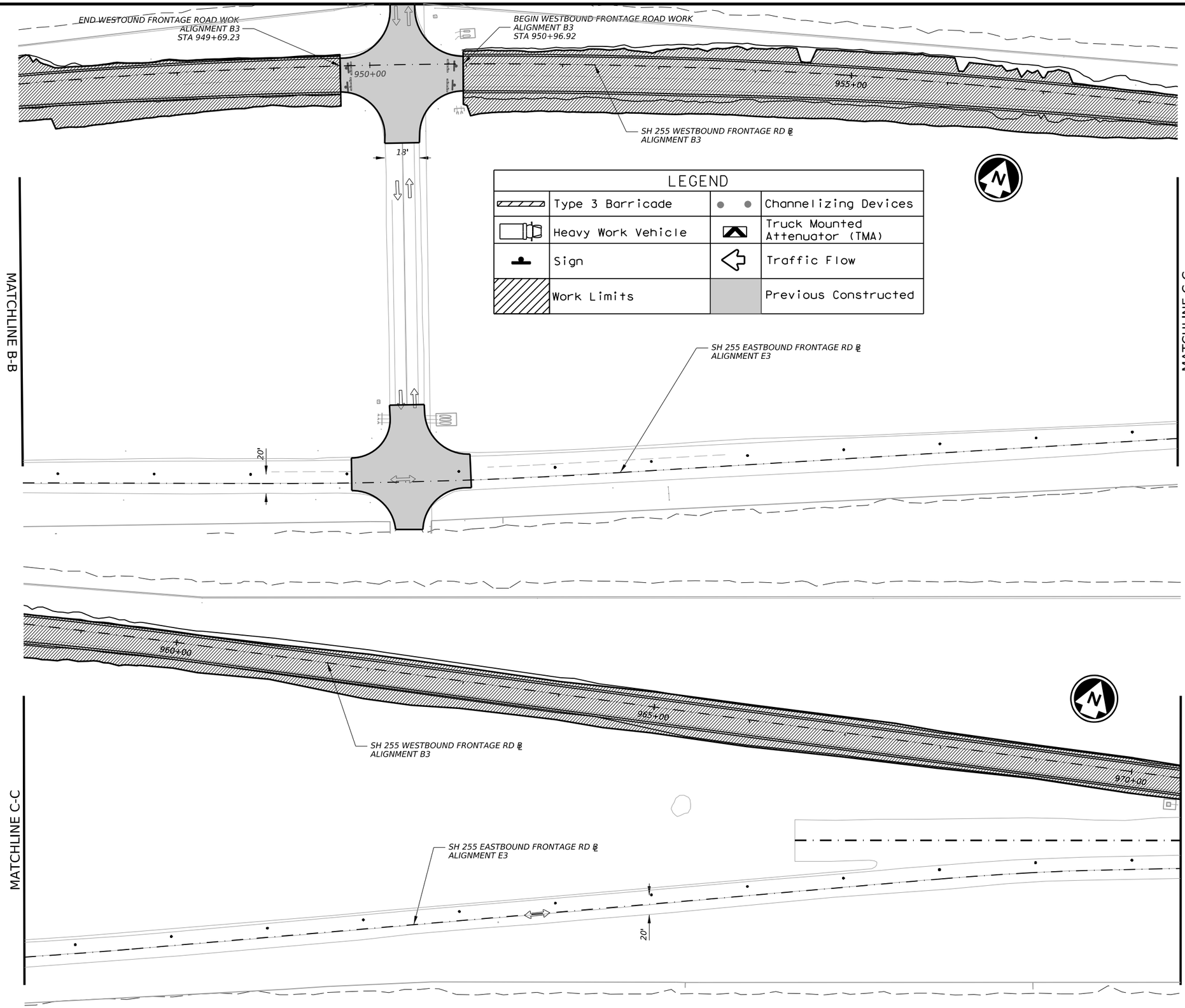
©TxDOT 2024

SHEET 1 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	50

DATE: 4/9/2024 4:33:56 PM
FILE: c:\txdotpw_onlinetxdot5\misael.aguilar\d0763335\SH 255 JEFF WFR STAGE 4.dgn

CK:
DW:
CK:
DW:



LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

NOTE:

THE INTENT OF THESE SHEET(S) ARE TO ILLUSTRATE THE ROAD THAT WILL BE USED WHEN TEMPORARY CLOSING THE WESTBOUND FRONTAGE ROAD. REFER TO STANDARD TCP (1-7)-11 FOR SIGN PLACMENT AND CHANNELIZING SPACING.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

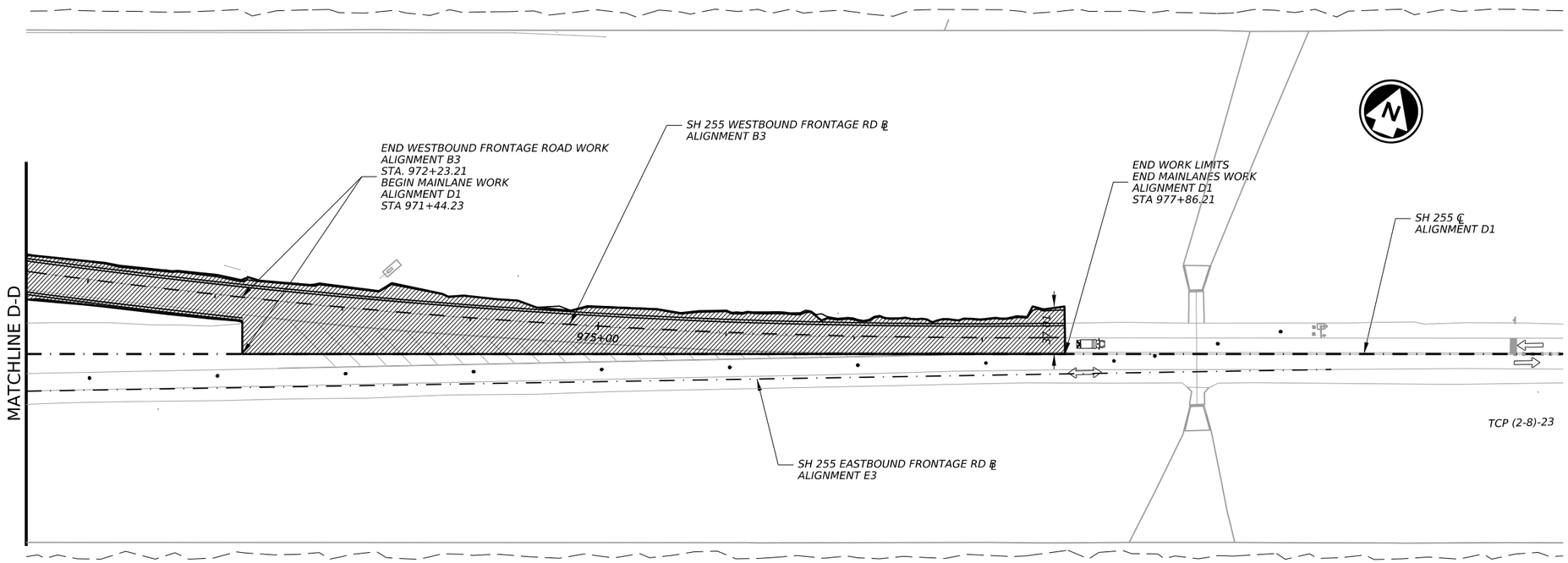
TCP JEFFERIES (WB)
RAMP STAGE 4
LAYOUT

©TxDOT 2024

SHEET 2 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		51

DATE: 4/9/2024 4:33:57 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763335\SH 255 JEFF WFR STAGE 4.dgn



TCP (2-8)-23

NOTE:

THE INTENT OF THESE SHEET(S) ARE TO ILLUSTRATE THE ROAD THAT WILL BE USED WHEN TEMPORARY CLOSING THE WESTBOUND FRONTAGE ROAD. REFER TO STANDARD TCP (1-7)-11 FOR SIGN PLACMENT AND CHANNELIZING SPACING.

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

TCP JEFFERIES (WB)
RAMP STAGE 4
LAYOUT

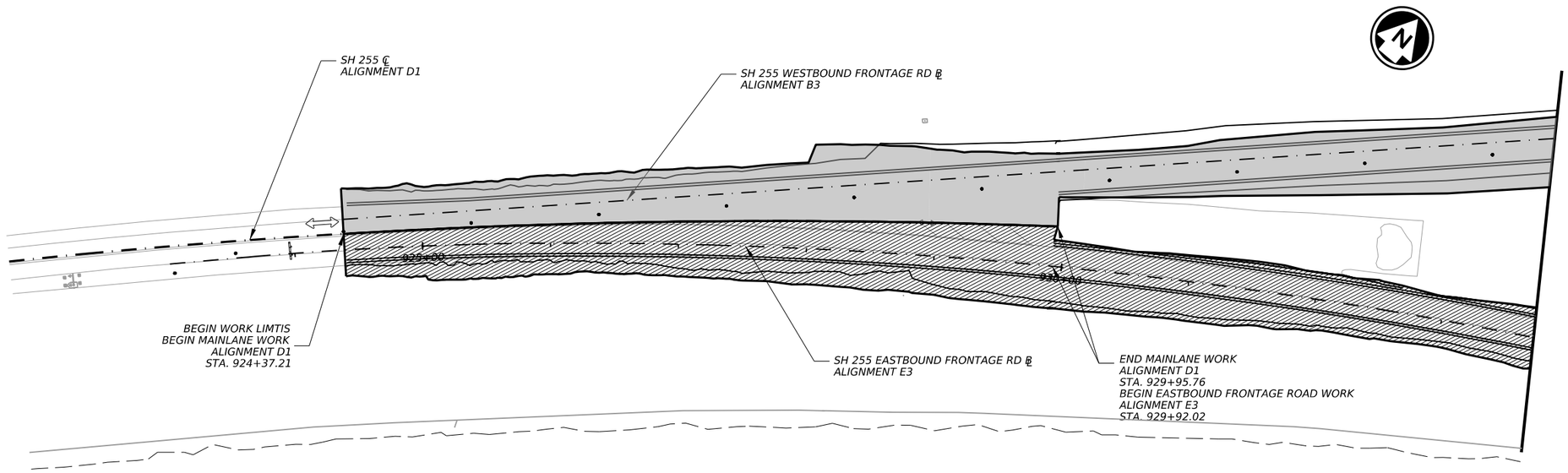
©TxDOT 2024

SHEET 3 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		52

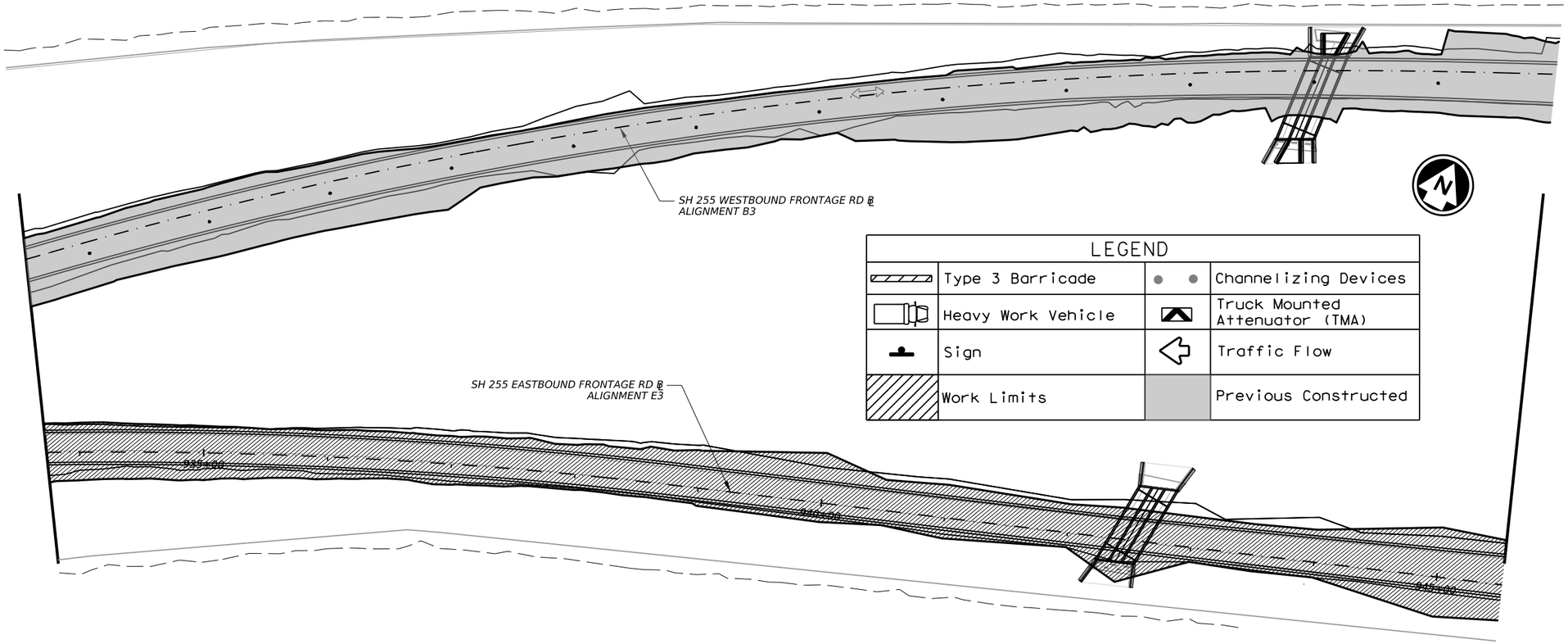
DATE: 4/9/2024 4:33:58 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 JEFF WFR STAGE 4.dgn

CK: DW: CK: DW:



NOTE:

THE INTENT OF THESE SHEET(S) ARE TO ILLUSTRATE THE ROAD THAT WILL BE USED WHEN TEMPORARY CLOSING THE EASTBOUND FRONTAGE ROAD. REFER TO STANDARD TCP (1-7)-11 FOR SIGN PLACMENT AND CHANNELIZING SPACING.



LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

TCP JEFFERIES (EB)
RAMP STAGE 5
LAYOUT

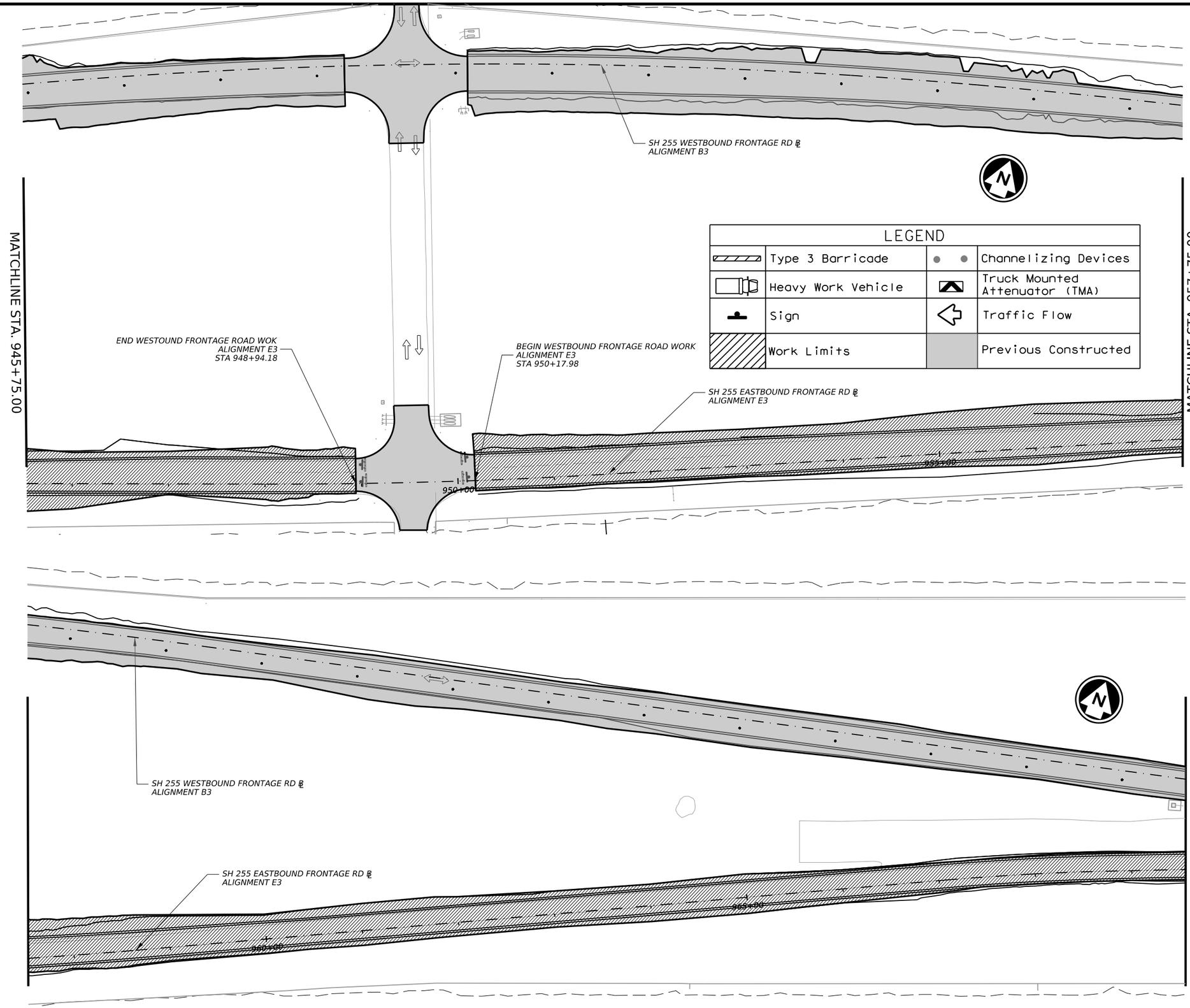
©TxDOT 2024

SHEET 1 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	53

DATE: 4/9/2024 4:34:14 PM
FILE: c:\txdotpw_onlinetxdot5\misael.aguilar\d0763335\SH 255 JEFF EFR STAGE 5.dgn

CK:
DW:
CK:
DW:



LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

NOTE:

THE INTENT OF THESE SHEET(S) ARE TO ILLUSTRATE THE ROAD THAT WILL BE USED WHEN TEMPORARY CLOSING THE EASTBOUND FRONTAGE ROAD. REFER TO STANDARD TCP (1-7)-11 FOR SIGN PLACMENT AND CHANNELIZING SPACING.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

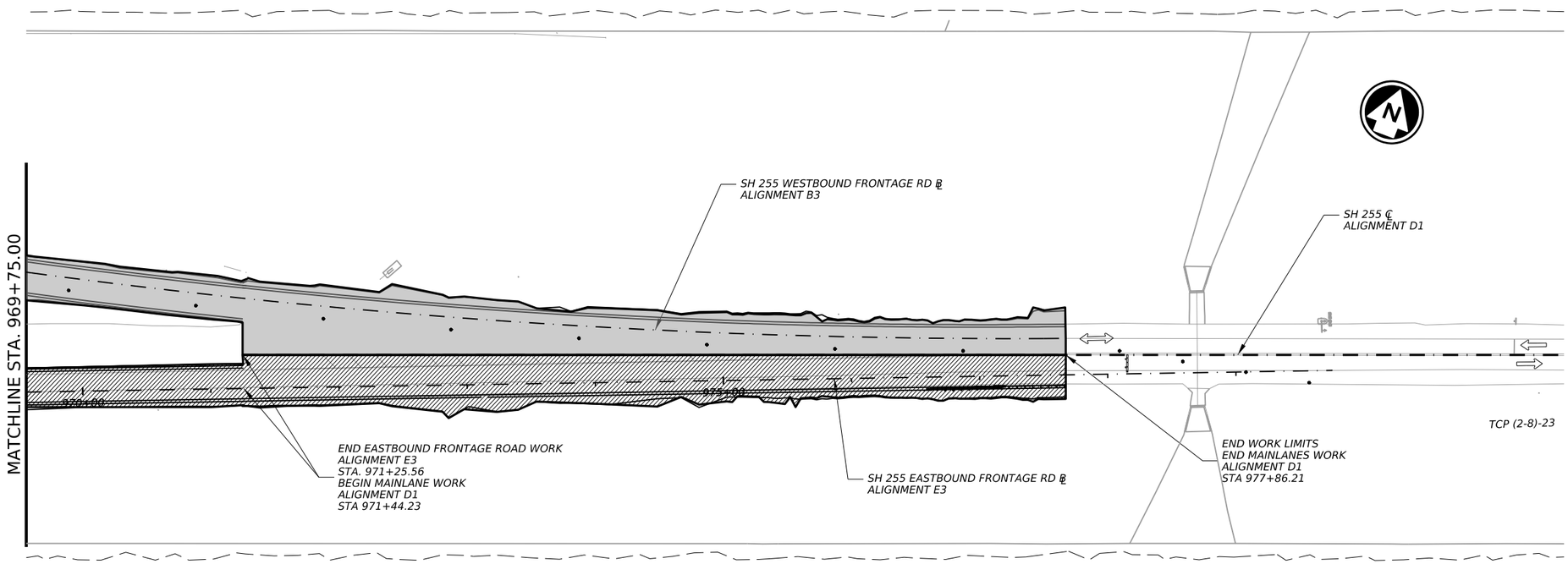
TCP JEFFERIES (EB)
RAMP STAGE 5
LAYOUT

©TxDOT 2024

SHEET 2 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	54

DATE: 4/9/2024 4:34:15 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763335\SH 255 JEFF EFR STAGE 5.dgn



NOTE:

THE INTENT OF THESE SHEET(S) ARE TO ILLUSTRATE THE ROAD THAT WILL BE USED WHEN TEMPORARY CLOSING THE EASTBOUND FRONTAGE ROAD. REFER TO STANDARD TCP (1-7)-11 FOR SIGN PLACMENT AND CHANNELIZING SPACING.

LEGEND			
	Type 3 Barricade	● ●	Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Sign		Traffic Flow
	Work Limits		Previous Constructed

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

TCP JEFFERIES (EB)
RAMP STAGE 5
LAYOUT

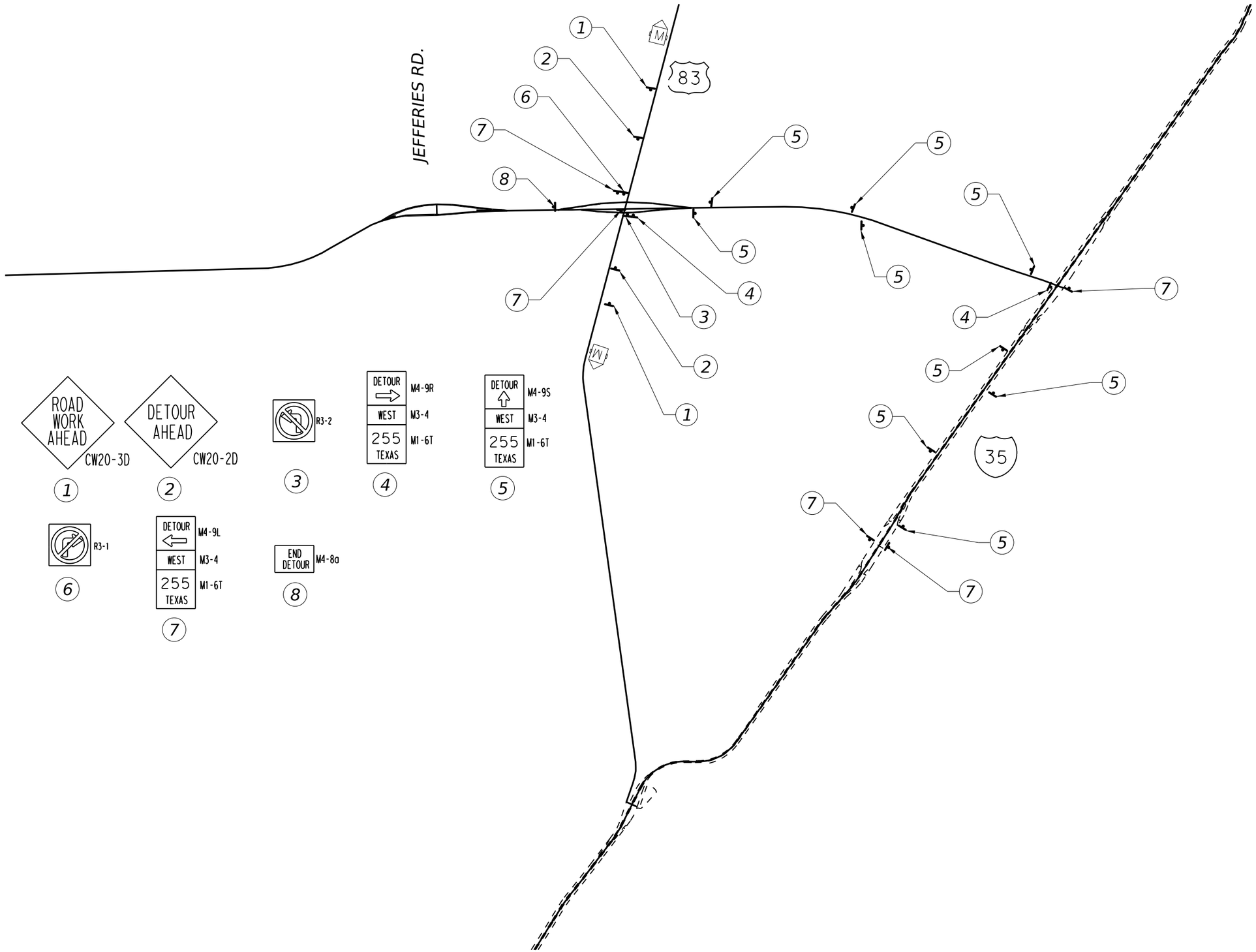
©TxDOT 2024

SHEET 3 OF 3

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		55

DATE: 4/9/2024 5:00:00 PM
FILE: c:\txdot\pw_onlinel\txdot5\misael.aguilar\d0763335\SH 255 JEFF EFR STAGE 5.dgn

CK: DW: CK: DW:



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

DETOUR US 83
WESTBOUND STAGE 1
LAYOUT

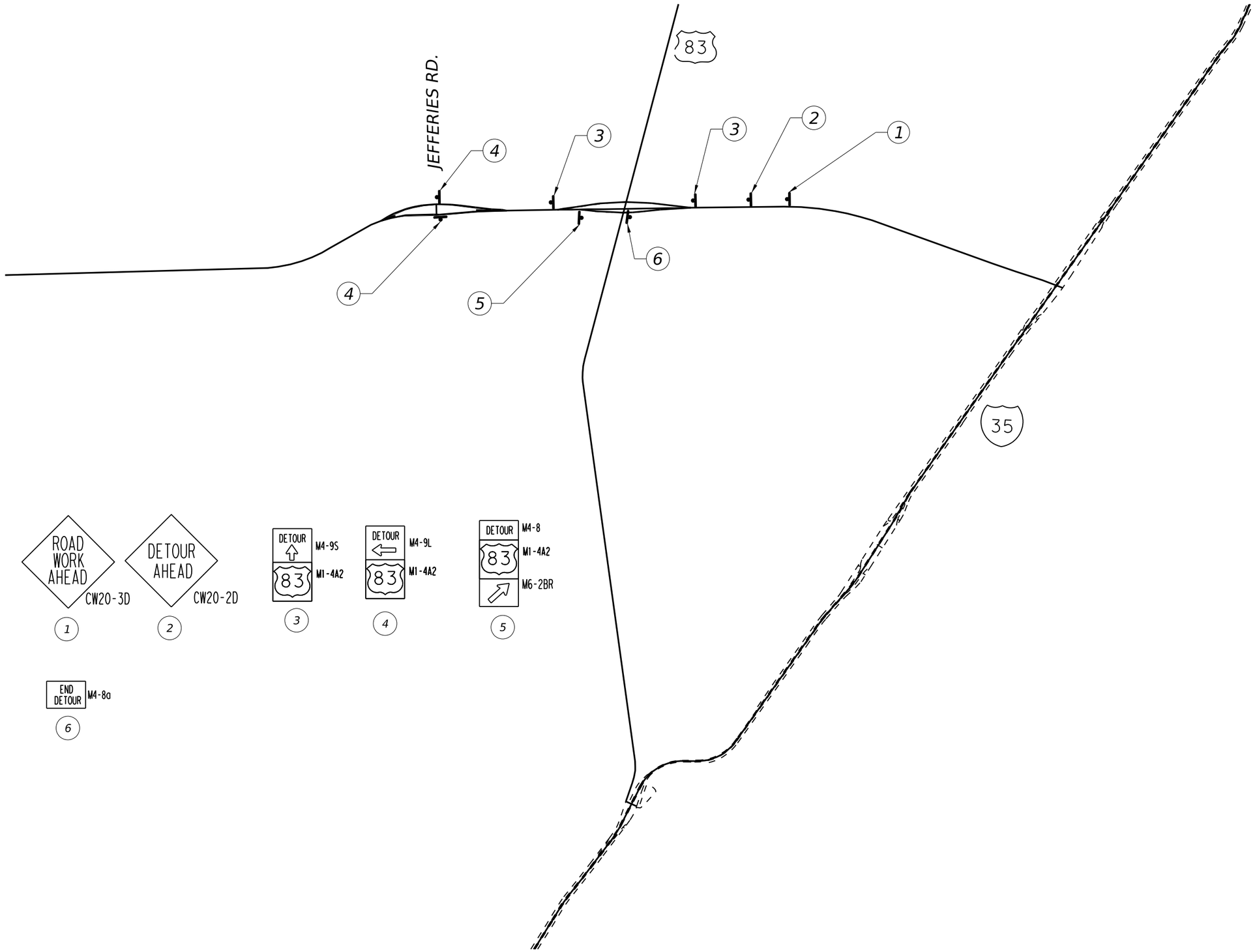
©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		56

DATE: 4/9/2024 7:42:03 PM
FILE: c:\txdot\pw_online\txdot05\misael.aguilar\d0763335\SH 255 US83 DET STAGE 1.dgn

CK
DW
CK
DW



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

DETOUR US 83
WESTBOUND STAGE 2
LAYOUT

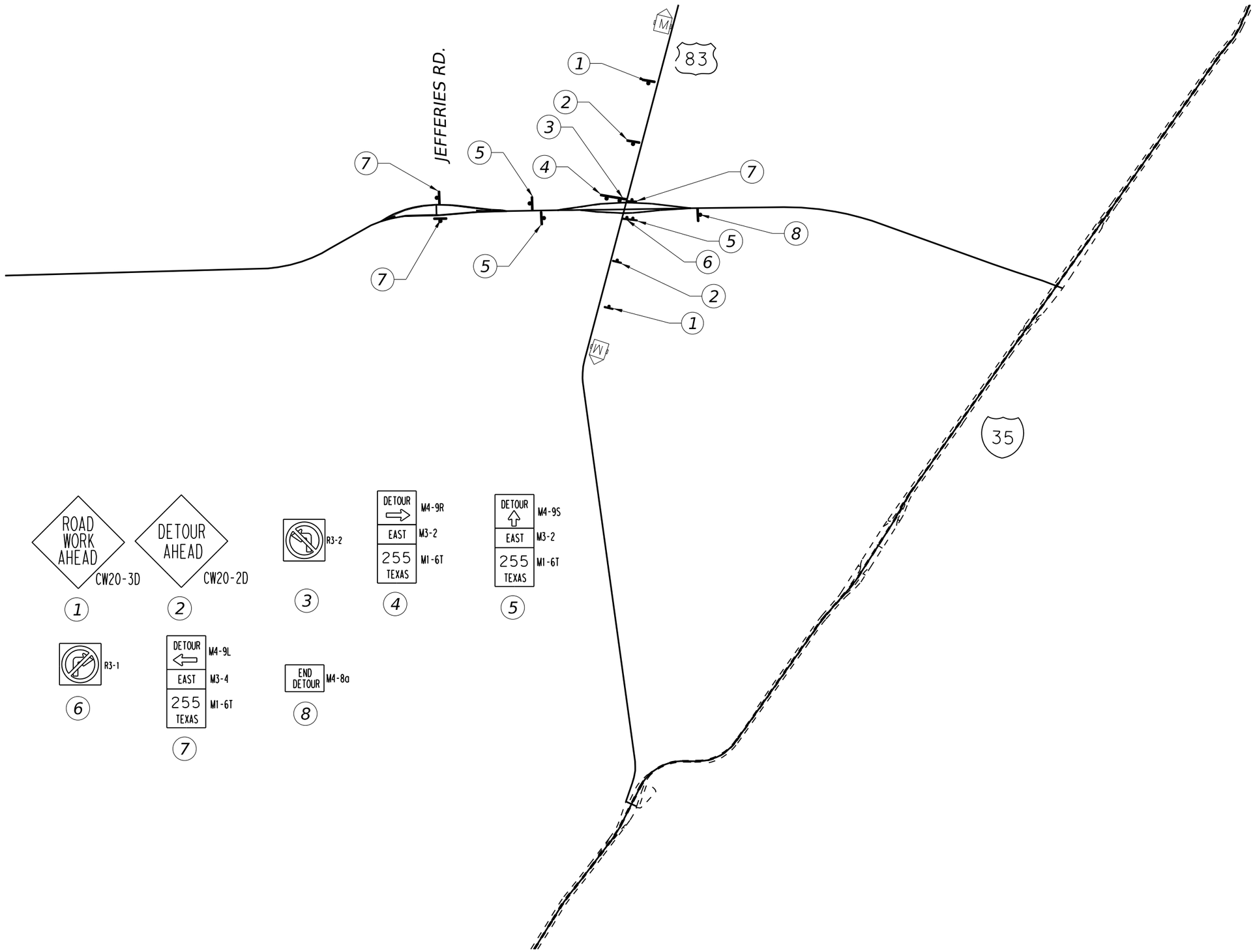
©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		57

DATE: 4/9/2024 7:42:20 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 US83 DET STAGE 2.dgn

CK
DW
CK
DW



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

DETOUR US 83
EASTBOUND STAGE 3
LAYOUT

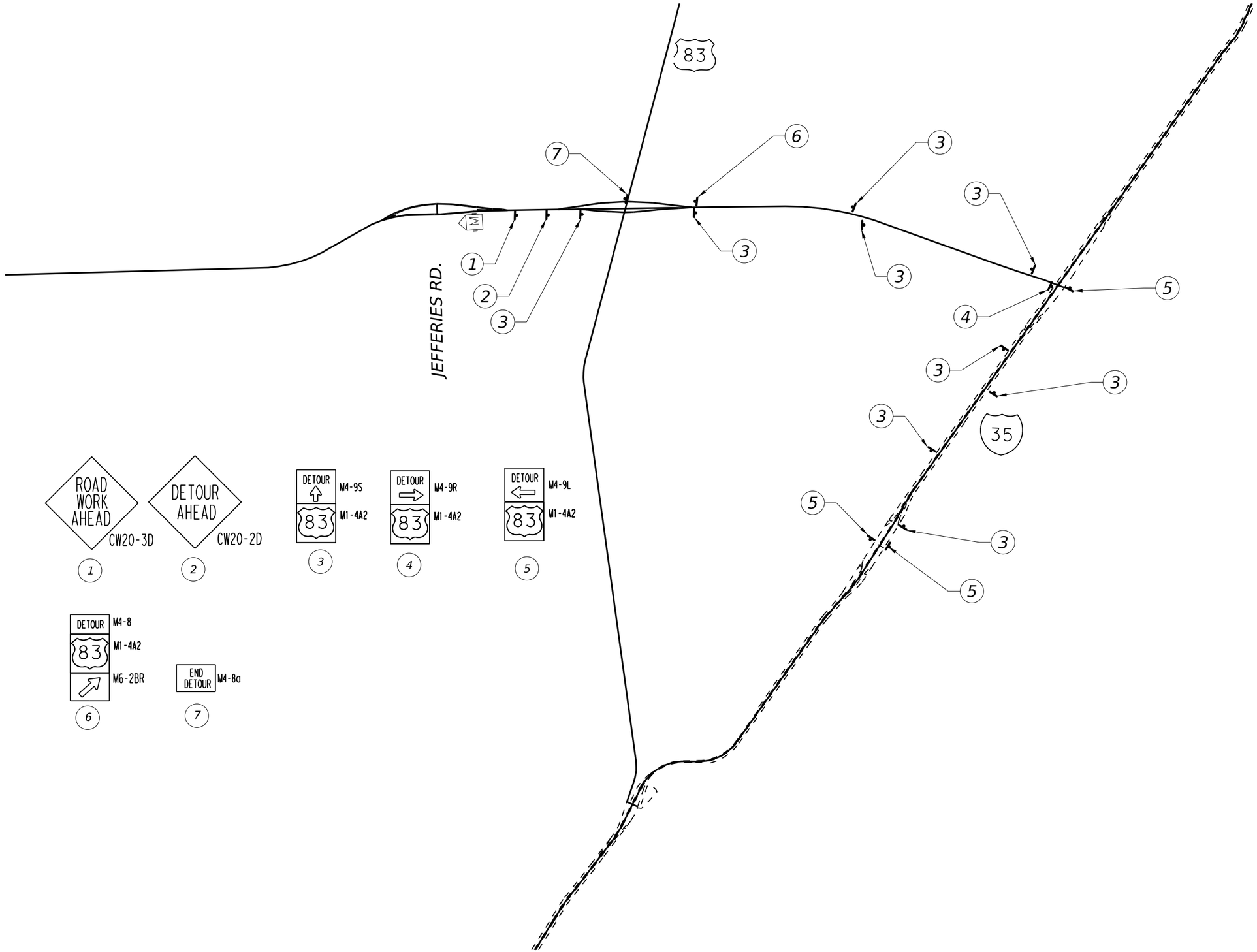
©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		58

DATE: 4/9/2024 7:42:37 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\SH 255 US83 DET STAGE 3.dgn

CK DW CK DW



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

DETOUR US 83
EASTBOUND STAGE 4
LAYOUT

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		59

DATE: 4/9/2024 7:42:55 PM
FILE: c:\txdotpw_online\txdot5\misael.aguilar\d0763335\SH 255 US83 DET STAGE 4.dgn

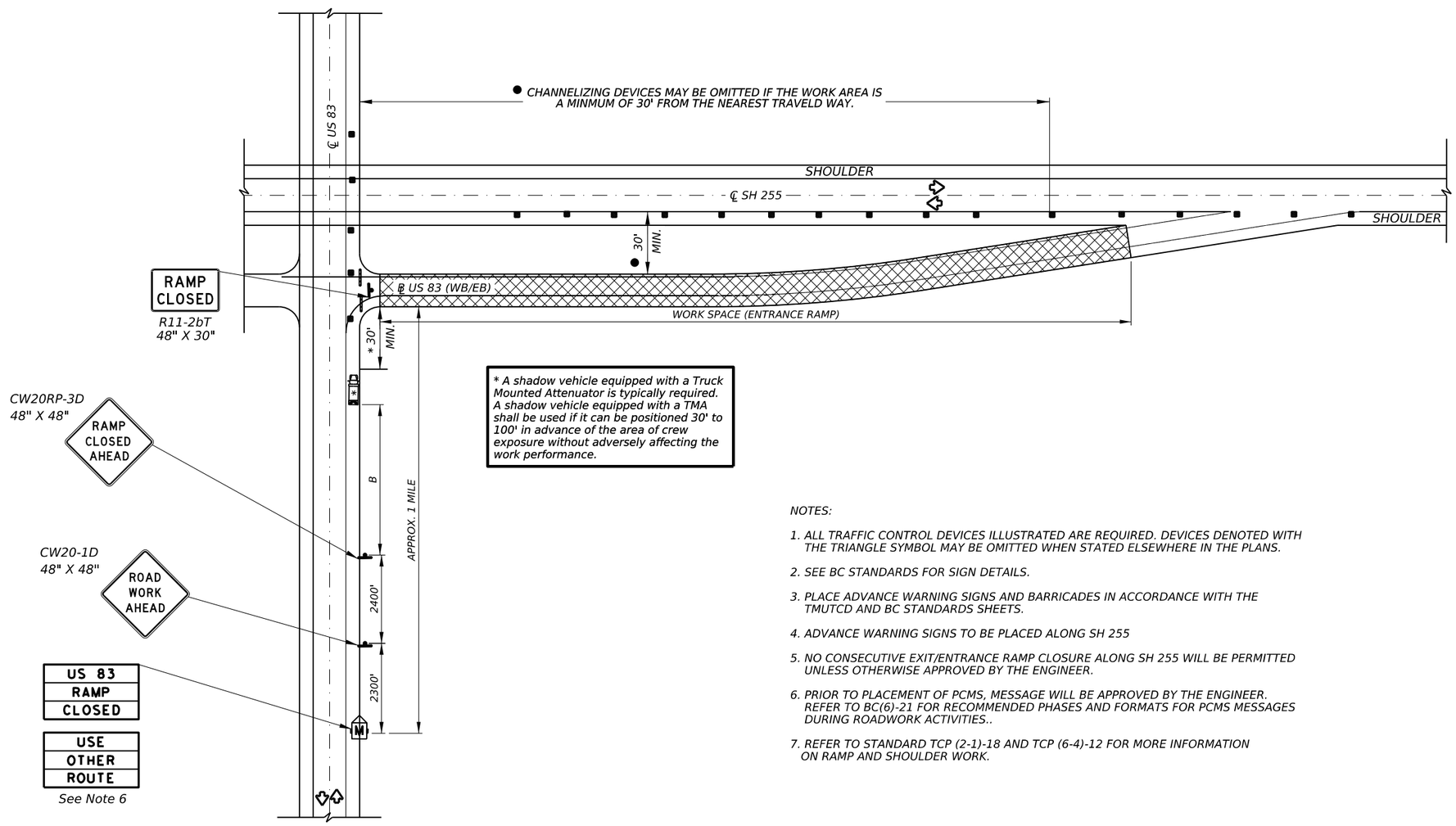
CK DW CK DW

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" * *			Suggested Maximum Spacing of Channelizing Devices		Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

* * Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT)
S=Posted Speed(MPH)

LEGEND

- Channelizing Devices
- Portable changeable Message Sign (PCMS)
- Type 3 Barricade
- Sign
- Traffic Flow
- Work Space
- Truck Mounted Attenuator (TMA))



* A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

NOTES:

1. ALL TRAFFIC CONTROL DEVICES ILLUSTRATED ARE REQUIRED. DEVICES DENOTED WITH THE TRIANGLE SYMBOL MAY BE OMITTED WHEN STATED ELSEWHERE IN THE PLANS.
2. SEE BC STANDARDS FOR SIGN DETAILS.
3. PLACE ADVANCE WARNING SIGNS AND BARRICADES IN ACCORDANCE WITH THE TMUTCD AND BC STANDARDS SHEETS.
4. ADVANCE WARNING SIGNS TO BE PLACED ALONG SH 255
5. NO CONSECUTIVE EXIT/ENTRANCE RAMP CLOSURE ALONG SH 255 WILL BE PERMITTED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. PRIOR TO PLACEMENT OF PCMS, MESSAGE WILL BE APPROVED BY THE ENGINEER. REFER TO BC(6)-21 FOR RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES..
7. REFER TO STANDARD TCP (2-1)-18 AND TCP (6-4)-12 FOR MORE INFORMATION ON RAMP AND SHOULDER WORK.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP US 83 ENTRANCE RAMP CLOSURE DETAIL

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	60

DATE: 4/9/2024 7:43:14 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\TCP ENTRANCE RAMP.dgn

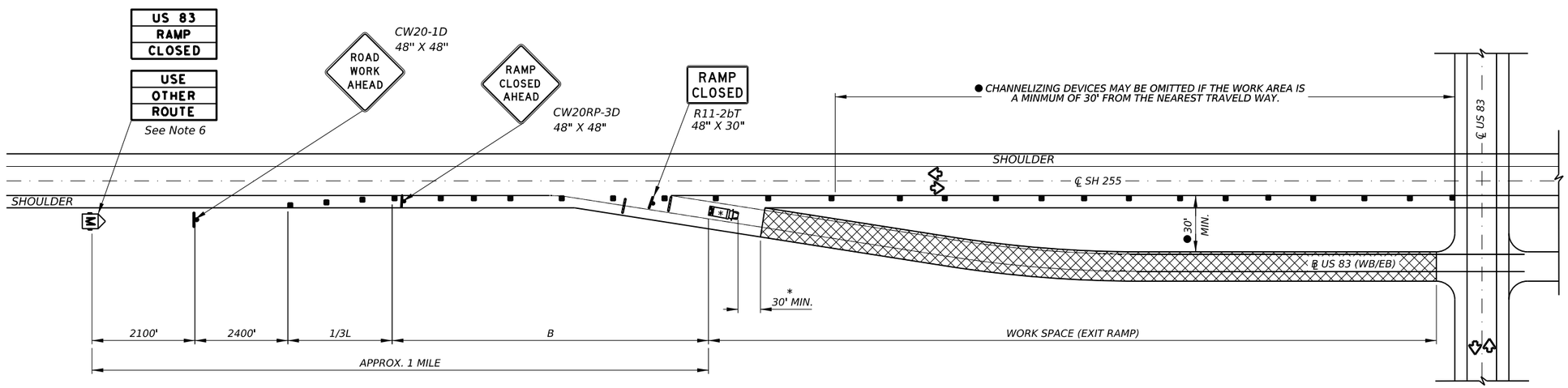
CK DW CK DW

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" * *			Suggested Maximum Spacing of Channelizing Devices		Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

* * Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT)
S=Posted Speed(MPH)

LEGEND

- Channelizing Devices
- Traffic Flow
- Portable changeable Message Sign (PCMS)
- Work Space
- Type 3 Barricade
- Truck Mounted Attenuator (TMA))
- Sign



NOTES:

1. ALL TRAFFIC CONTROL DEVICES ILLUSTRATED ARE REQUIRED. DEVICES DENOTED WITH THE TRIANGLE SYMBOL MAY BE OMITTED WHEN STATED ELSEWHERE IN THE PLANS.
2. SEE BC STANDARDS FOR SIGN DETAILS.
3. PLACE ADVANCE WARNING SIGNS AND BARRICADES IN ACCORDANCE WITH THE TMUTCD AND BC STANDARDS SHEETS.
4. ADVANCE WARNING SIGNS TO BE PLACED ALONG SH 255
5. NO CONSECUTIVE EXIT/ENTRANCE RAMP CLOSURE ALONG SH 255 WILL BE PERMITTED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. PRIOR TO PLACEMENT OF PCMS, MESSAGE WILL BE APPROVED BY THE ENGINEER. REFER TO BC(6)-21 FOR RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES..
7. REFER TO STANDARD TCP (2-1)-18 AND TCP (6-4)-12 FOR MORE INFORMATION ON RAMP AND SHOULDER WORK.

* A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP US 83 EXIT RAMP CLOSURE DETAIL

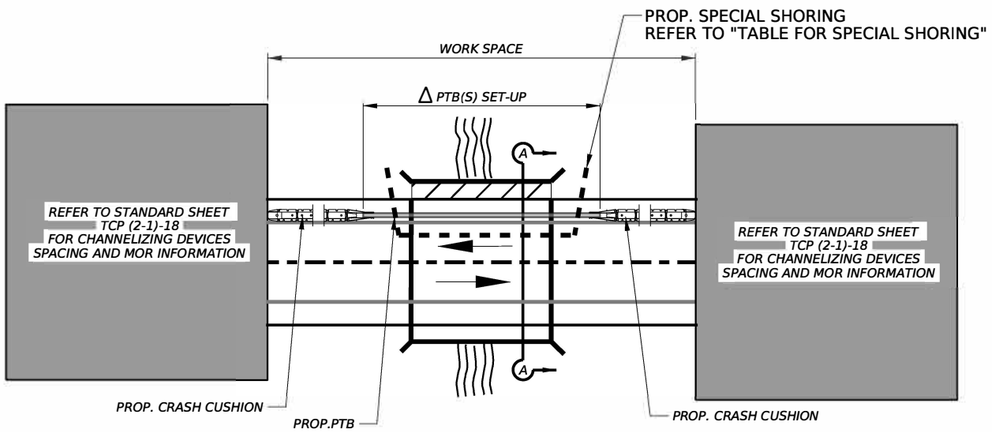
©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	61

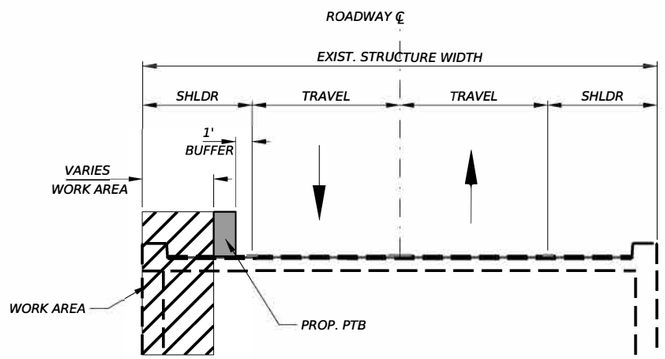
DATE: 4/9/2024 7:43:32 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\TCP EXIT RAMP.dgn

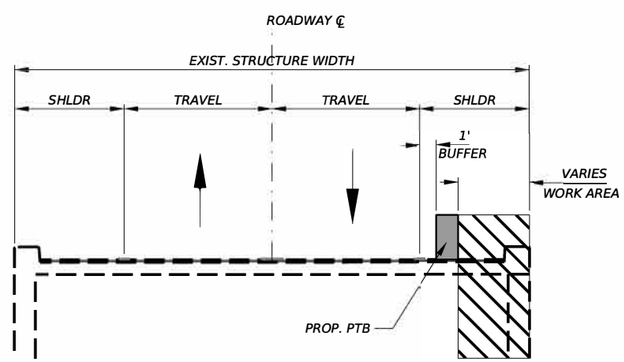
CK: DW: CK: DN:



PHASE I

PTB PLAN VIEW LAYOUT





PHASE I

PTB CROSS SECTION VIEW LAYOUT
SECTION A-A

MIRROR WORK FROM PHASE I ON THE OTHER HALF OF THE ROADWAY WITHIN THE SAME CONSTRUCTION LIMITS.

LEGEND	
	CRASH CUSHION ATTENUATOR
	PORTABLE TRAFFIC BARRIER
	DIRECTIONAL TRAFFIC
	WORK ZONE

PORTABLE TRAFFIC BARRIER QUANTITIES				
PSN NUMBER	SIDE	552		
		A		
		FURNISH & INSTALL	MOVE	REMOVE
		LF	LF	LF
STRUCTURE # 1 @ STA. 774+94.96	LT	90		
STRUCTURE # 1 @ STA. 774+94.96	RT		90	
STRUCTURE # 2 @ STA 787+74.08	LT		90	
STRUCTURE # 2 @ STA 787+74.08	RT		90	
STRUCTURE # 3 @ STA 797+14.81	LT		90	
STRUCTURE # 3 @ STA 797+14.81	RT		90	
STRUCTURE # 4 @ STA 846+29.82 (PSN 22-240-0-3586-02-017)	LT		90	
STRUCTURE # 4 @ STA 846+29.82 (PSN 22-240-0-3586-02-017)	RT		90	
STRUCTURE # 8 @ STA. 942+48.93 (JEFFRIES EB) (PSN 22-240-0-3586-02-018)	LT		90	
STRUCTURE # 8 @ STA. 942+48.93 (JEFFRIES EB) (PSN 22-240-0-3586-02-018)	RT		90	
STRUCTURE # 9 @ STA. 944+47.18 (JEFFRIES WB) (PSN 22-240-0-3586-02-019)	LT		90	
STRUCTURE # 9 @ STA 944+47.18 (JEFFRIES WB) (PSN 22-240-0-3586-02-019)	RT		90	
STRUCTURE # 11 @ STA. 1004+29.64 (PSN 22-240-0-3586-02-020)	LT		90	
STRUCTURE # 11 @ STA. 1004+29.64 (PSN 22-240-0-3586-02-020)	RT		90	
STRUCTURE # 15 @ STA 1085+85.95	LT		90	
STRUCTURE # 15 @ STA 1085+85.95	RT		90	
STRUCTURE # 16 @ STA 1100+50.49	LT		90	
STRUCTURE # 16 @ STA 1100+50.49	RT		90	
STRUCTURE # 17 @ STA 1116+65.61	LT		90	
STRUCTURE # 17 @ STA 1116+65.61	RT		90	
STRUCTURE # 13 @ STA 1025+89.74 (PSN 22-240-0-0037-10-078)	LT	450	90	
STRUCTURE # 13 @ STA 1025+89.74 (PSN 22-240-0-0037-10-078)	RT		540	
STRUCTURE # 19 @ STA 1202+27.84 (PSN 22-240-0-3586-02-021)	LT		260	280
STRUCTURE # 19 @ STA 1202+27.84 (PSN 22-240-0-3586-02-021)	RT		260	260
TOTAL		540	2860	540

NOTES:

REFER TO THE "SUMMARY OF QUANTITIES" PLAN SHEET FOR ADDITIONAL INFORMATION.

REMOVAL OF DRAINAGE STRUCTURE WILL BE LIMITED TO ONE SIDE OF THE ROADWAY AT A TIME, OR AS SPECIFIED BY THE ENGINEER.

REFER TO "BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS" SHEETS FOR ADDITIONAL NOTES

REFER TO STANDARD TCP (2-1)-18 FOR TRAFFIC CONTROL SET-UP, TAPER LENGTHS AND SPACING FOR SIGNS.THE WORK AREA WILL CONSIST OF THE REMOVAL OF BRIDGE RAIL AND GUARDRAIL FOR LT & RT SIDE OF THE ROADWAY.

ALL MATERIALS & WORK REQUIRED TO INSTALL CRASH CUSHION ATTENUATOR WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO ITEM 545 "CRASH CUSHION ATTENUATOR".

Δ FOR CONTRACTORS INFORMATION ONLY, PTB's SET-UP INSTALLATION TO BE PROPOSED.

REFER TO "CRASH CUSHION SUMMARY SHEET" FOR ADDITIONAL INFORMATION NOT SHOWN.

STRUCTURE NUMBER	SPECIAL SHORING		TOTAL
	HW	LW	SF
ST#2 @ STA 787+74.08 L	5	19	195
ST#2 @ STA 787+74.08 R	6	22	276
ST#3 @ STA 797+14.81 L	7	38	462
ST#3 @ STA 797+14.81 R	6	29	318
ST#4 @ STA 846+29.82 L	5	28	240
ST#4 @ STA 846+29.82 R	5	26	230
ST#8 @ STA 942+48.93 L	5	21	205
ST#8 @ STA 942+48.93 R	5	21	205
ST#9 @ STA 944+47.43 L	5	21	205
ST#9 @ STA 944+47.43 R	6	27	306
ST#11 @ STA 1004+29.64 L	5	21	205
ST#11 @ STA 1004+29.64 R	5	21	205
		Total	3052

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP PTB INSTALLATION LAYOUT

©TxDOT 2024

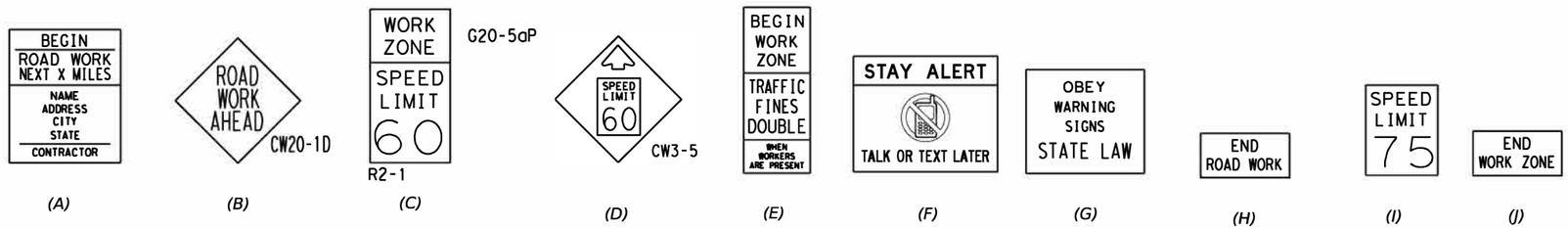
SHEET 1 OF 1

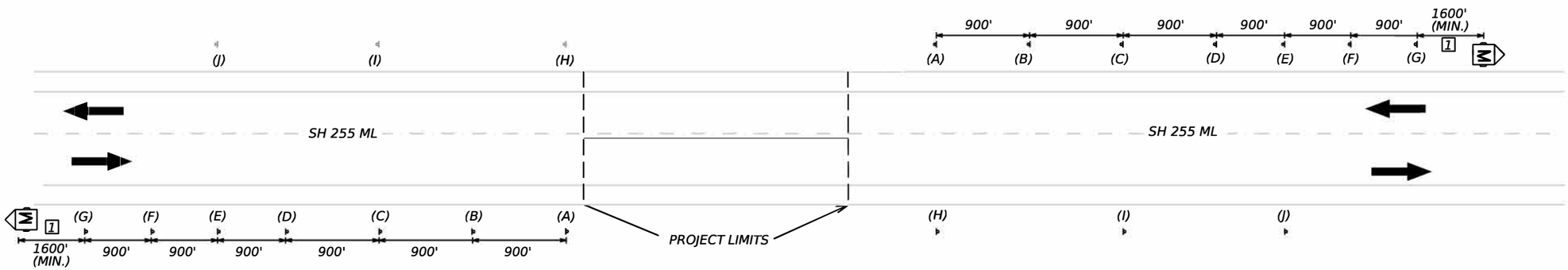
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	62

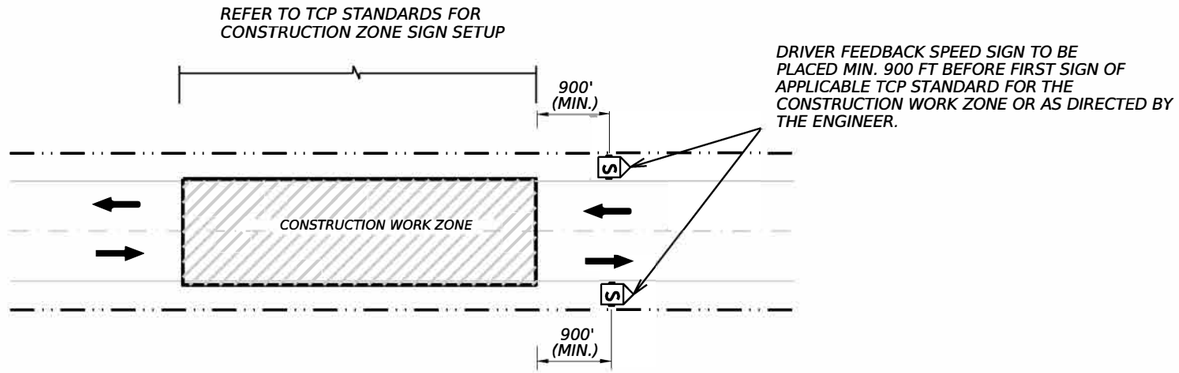
DATE: 5/9/2024 5:23:56 PM
FILE: c:\txdot\pw_onlineltxdot5\misael.aguilar\d0763335\2006 TCP PTB INSTALL LAYOUT.dgn

LEGEND

- Portable Changeable Message Sign (PCMS)
- Traffic Flow
- Sign
- Driver Feedback Speed Sign







NOTES

1. DISTANCE BETWEEN SIGNS SHOULD BE INCREASED AS REQUIRED TO HAVE 1/2 MILE OR MORE ADVANCE WARNING
   REFER TO BC(2)-21 FOR MORE INFORMATION

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

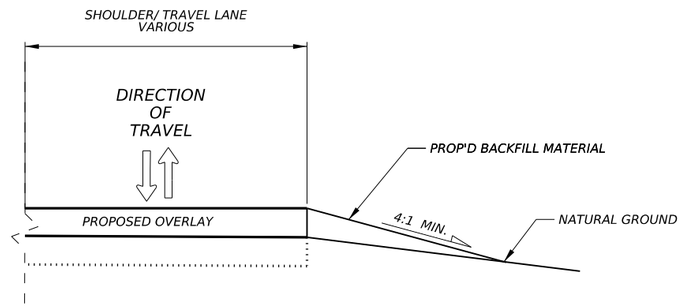
TCP PLACEMENT OF MESSAGE SIGN & TMSP RADAR

©TxDOT

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		63

DATE: 5/9/2024 5:24:10 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763335\006 TCP Messaging Sign & TMSP Radar 1.dgn



CONSTRUCTION LONGITUDINAL JOINT
OVERLAY
(CROSS SECTION)

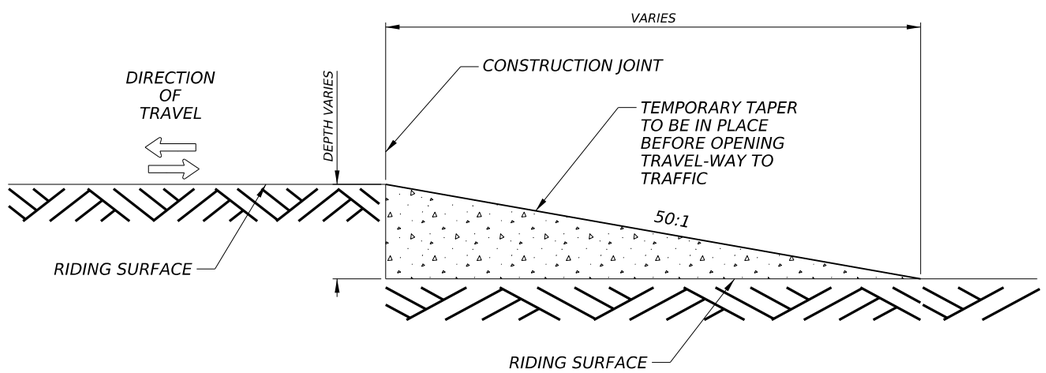
LEGEND

TY-B BACKFILL

NOTES OVERLAY- BACKFILL

1. BACKFILL WILL VARY DUE TO EXISTING NATURAL GROUND CONDITIONS.
2. REFER TO "SUMMARY OF QUANTITIES" SHEET(S) FOR BACKFILL MATERIAL TYPE TO BE PLACED.
3. DURING ALL NON-WORK HOURS ALL PAVEMENT EDGE DROP-OFFS ARE TO BE FILLED TO A 3:1 MAXIMUM SLOPE, UNTIL FINAL BACKFILL MATERIAL CAN BE PLACED.

   NOTE: PLACEMENT AND REMOVAL OF THIS CONSTRUCTION TAPER DURING CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO ITEM 502



TRANSVERSE JOINT TAPER - END OF WORK DAY
(PROFILE)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TCP CONSTRUCTION
JOINT DETAIL

©TxDOT 2024
SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		64

DATE: 4/9/2024 7:44:24 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763335\2006_SH255_TCP_CON_JOINT.dgn

CK
DW
CK
DW

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:44:41 PM
FILE: c:\txdot\pw_online\txdot5\mjsoel.aguilar\d1010254\bc-21.dgn

SHEET 1 OF 12

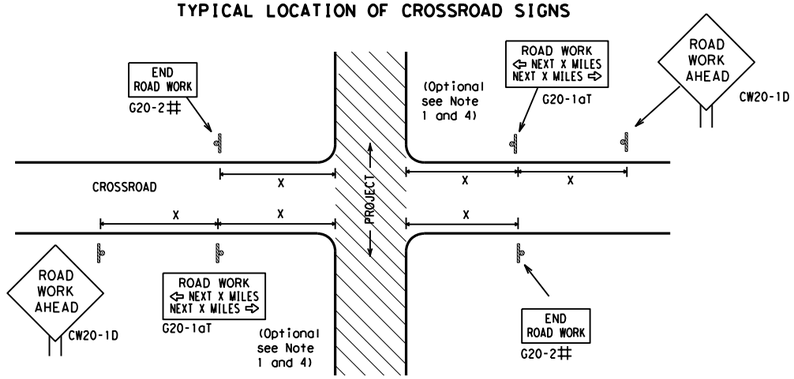
Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-03 7-13 9-07 8-14 5-10 5-21	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	65

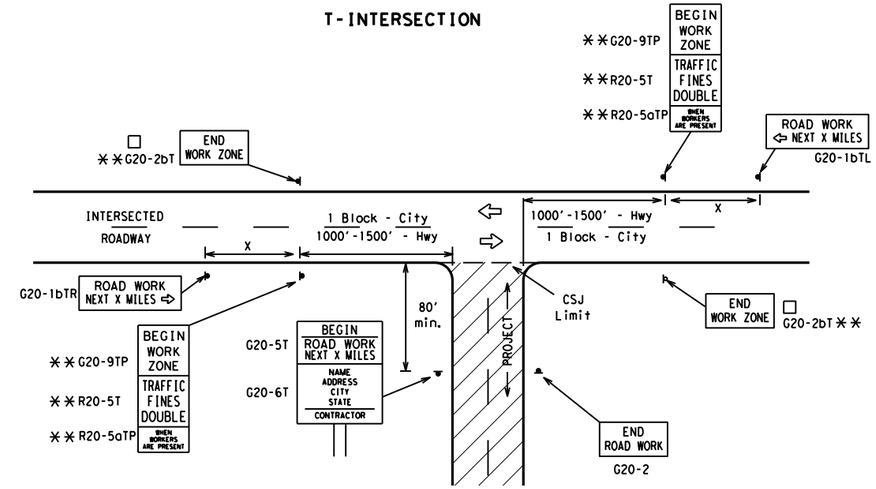
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
✱	✱[3]

✱ For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

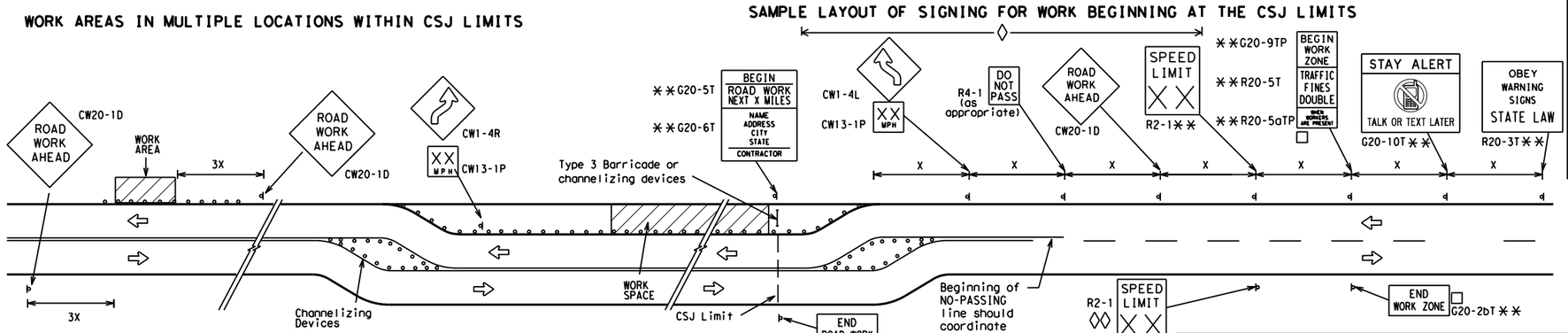
△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

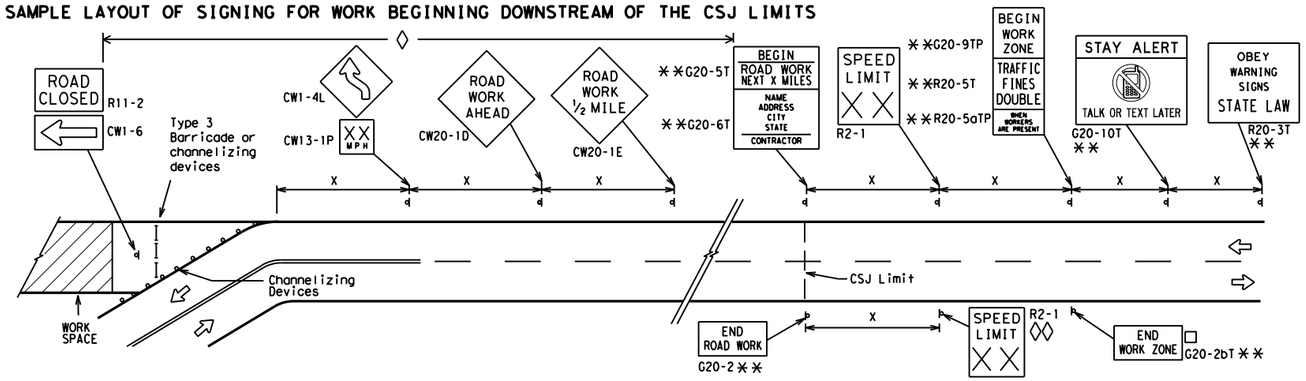
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

✱✱ CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⊢⊣	Type 3 Barricade
○ ○ ○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

SHEET 2 OF 12

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	66

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

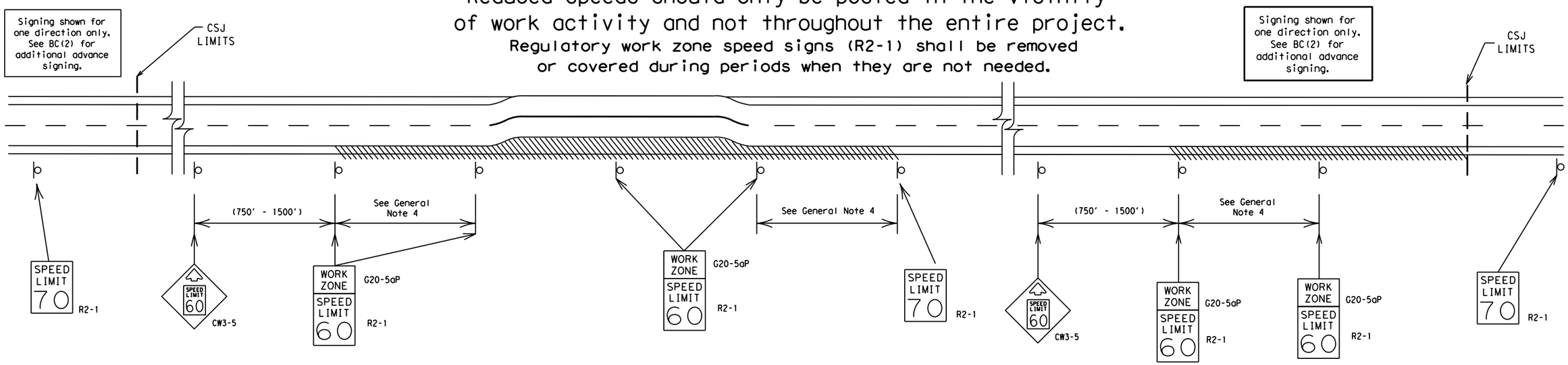
DATE: 4/9/2024 7:44:41 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1010254\bc-21.dgn

TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only.
   Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

SHEET 3 OF 12

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

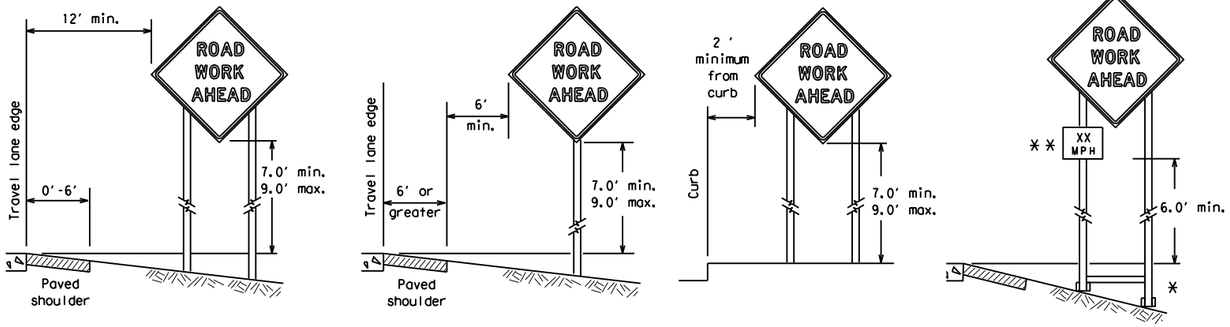
BC(3)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	67

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:44:42 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

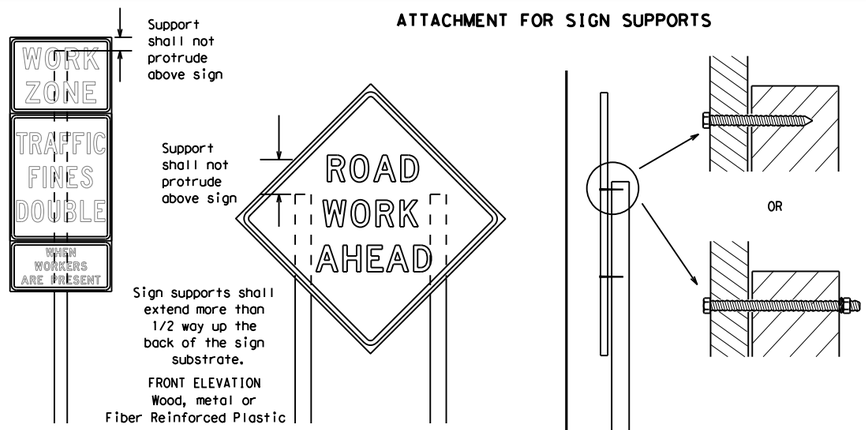
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



✱ When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

✱✱ When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS



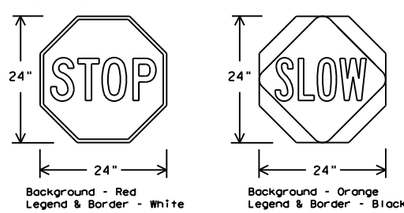
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

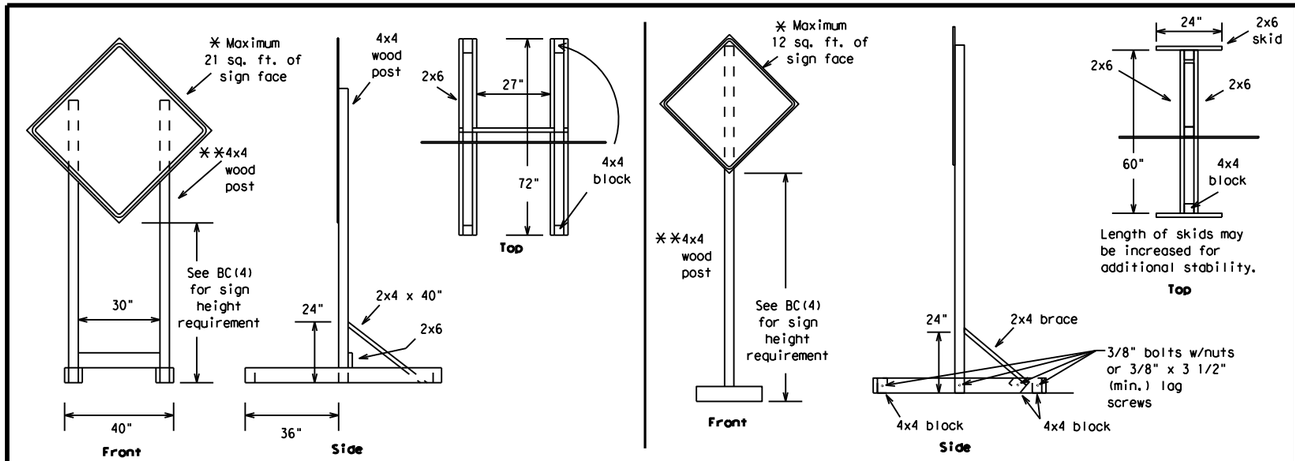
BC(4)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	68

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

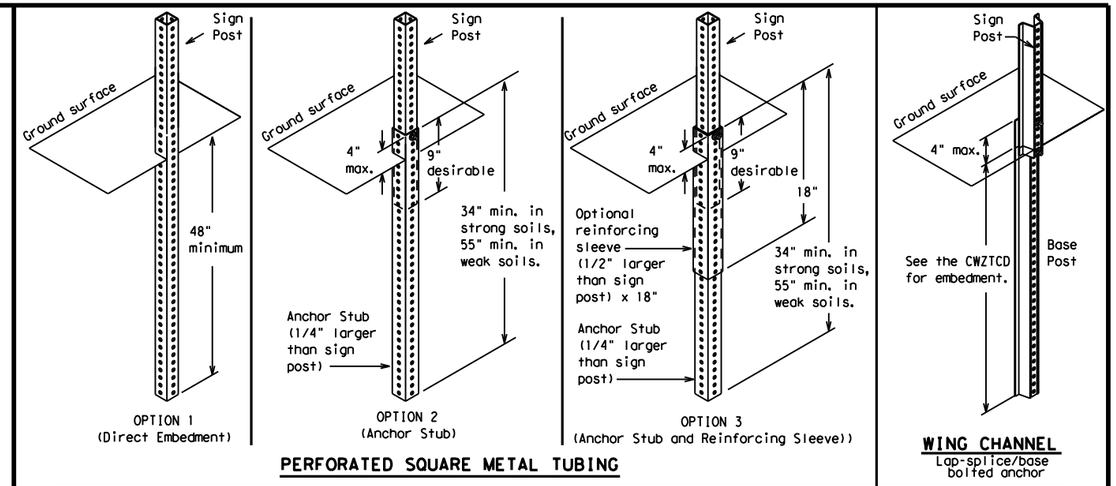
DATE: 4/9/2024 7:44:42 PM
FILE: c:\txdot\pw_online\txdot5\mrisael.aguilar\d1010254\bc-21.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



SKID MOUNTED WOOD SIGN SUPPORTS

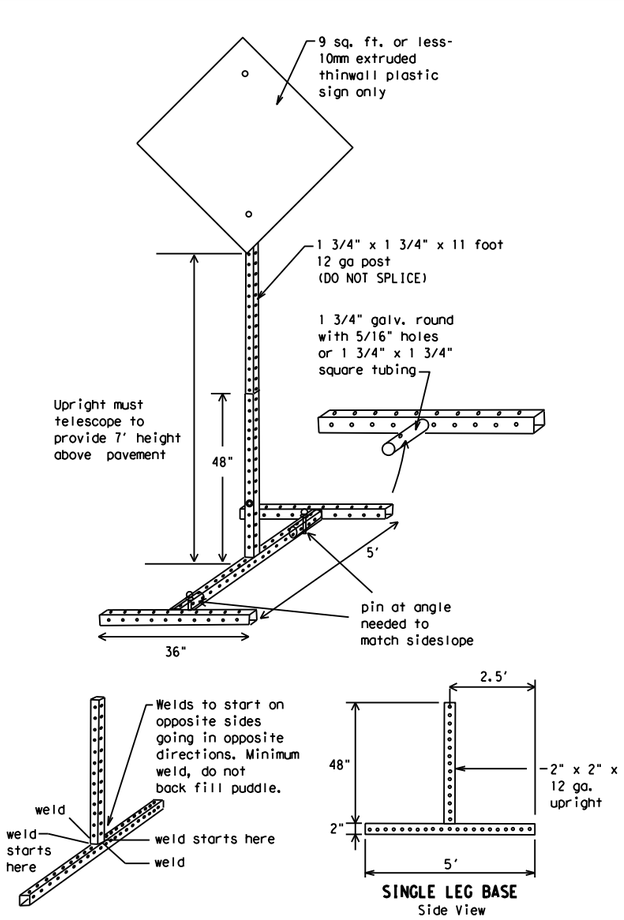
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

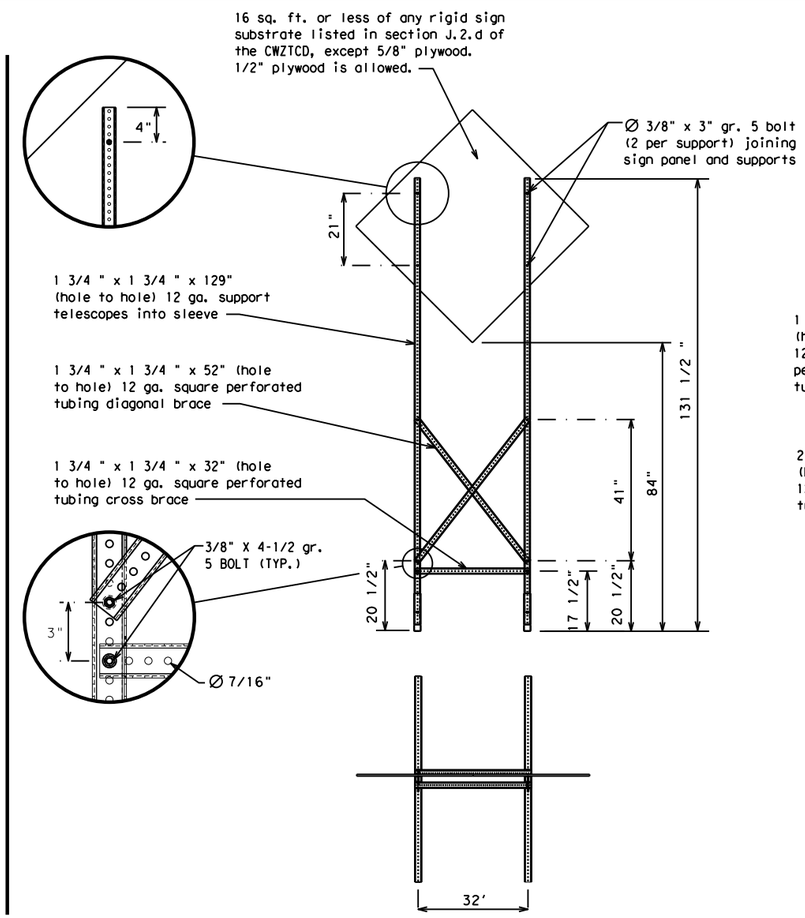


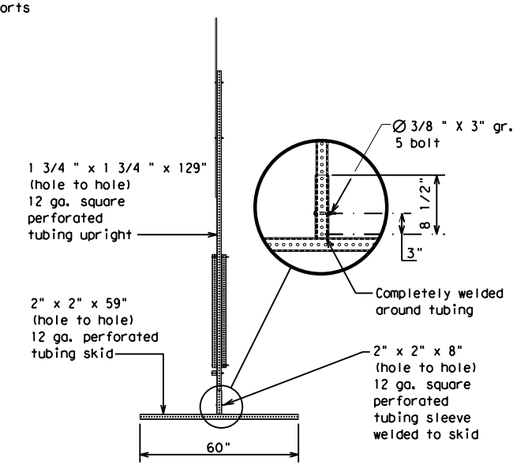
PERFORATED SQUARE METAL TUBING

GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	69

DATE: 4/9/2024 7:44:42 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT

WORD OR PHRASE	ABBREVIATION
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation # IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE	FRONTAGE ROAD CLOSED
ROAD CLOSED AT SH XXX	SHOULDER CLOSED XXX FT
ROAD CLSD AT FM XXXX	RIGHT LN CLOSED XXX FT
RIGHT X LANES CLOSED	RIGHT X LANES OPEN
CENTER LANE CLOSED	DAYTIME LANE CLOSURES
NIGHT LANE CLOSURES	I-XX SOUTH EXIT CLOSED
VARIOUS LANES CLOSED	EXIT XXX CLOSED X MILE
EXIT CLOSED	RIGHT LN TO BE CLOSED
MALL DRIVEWAY CLOSED	X LANES CLOSED TUE - FRI
XXXXXXXX BLVD CLOSED	

Other Condition List

ROADWORK XXX FT	ROAD REPAIRS XXXX FT
FLAGGER XXXX FT	LANE NARROWS XXXX FT
RIGHT LN NARROWS XXXX FT	TWO-WAY TRAFFIC XX MILE
MERGING TRAFFIC XXXX FT	CONST TRAFFIC XXX FT
LOOSE GRAVEL XXXX FT	UNEVEN LANES XXXX FT
DETOUR X MILE	ROUGH ROAD XXXX FT
ROADWORK PAST SH XXXX	ROADWORK NEXT FRI-SUN
BUMP XXXX FT	US XXX EXIT X MILES
TRAFFIC SIGNAL XXXX FT	LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

MERGE RIGHT	FORM X LINES RIGHT
DETOUR NEXT X EXITS	USE XXXXX RD EXIT
USE EXIT XXX	USE EXIT I-XX NORTH
STAY ON US XXX SOUTH	USE I-XX E TO I-XX N
TRUCKS USE US XXX N	WATCH FOR TRUCKS
WATCH FOR TRUCKS	EXPECT DELAYS
EXPECT DELAYS	PREPARE TO STOP
REDUCE SPEED XXX FT	END SHOULDER USE
USE OTHER ROUTES	WATCH FOR WORKERS
STAY IN LANE *	

Location List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXX TO XXXXXXX
US XXX TO FM XXXX

Warning List

SPEED LIMIT XX MPH
MAXIMUM SPEED XX MPH
MINIMUM SPEED XX MPH
ADVISORY SPEED XX MPH
RIGHT LANE EXIT
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE

** Advance Notice List

TUE-FRI XX AM- X PM
APR XX- XX X PM-X AM
BEGINS MONDAY
BEGINS MAY XX
MAY X-X XX PM - XX AM
NEXT FRI-SUN
XX AM TO XX PM
NEXT TUE AUG XX
TONIGHT XX PM- XX AM

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

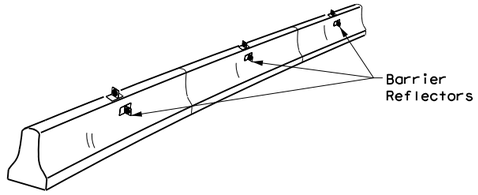
BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	70

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

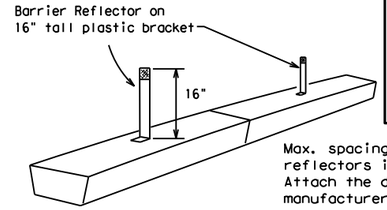
DATE: 4/9/2024 7:44:43 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

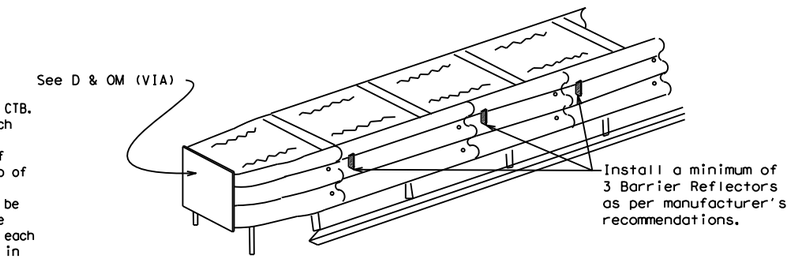


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB)

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

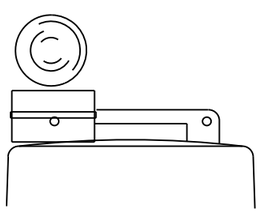


DELINEATION OF END TREATMENTS

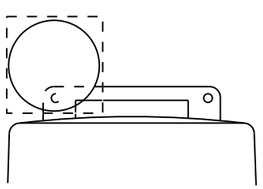
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the apppropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

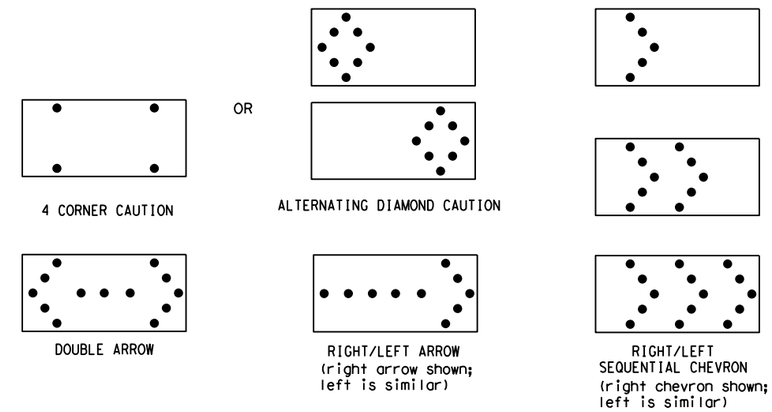
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS

TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	71

101

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:44:43 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

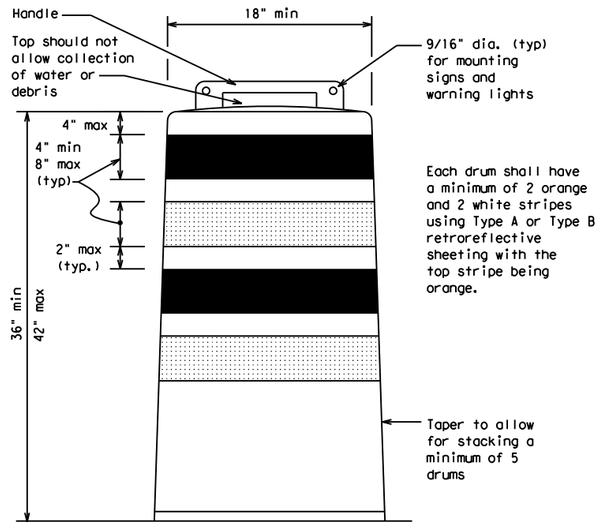
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

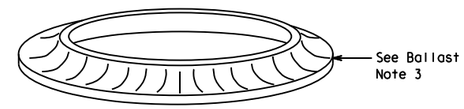
RETROREFLECTIVE SHEETING

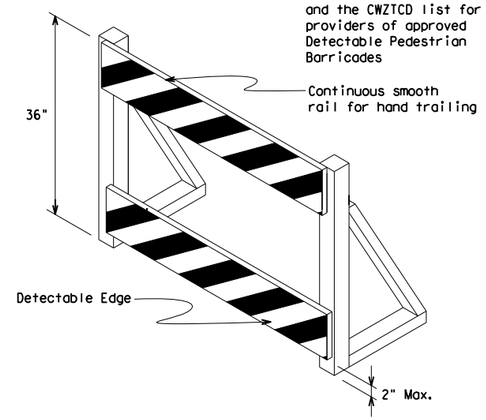
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

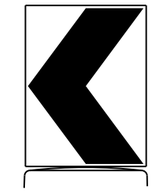




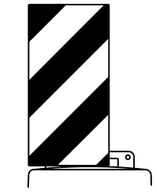


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation — Traffic Safety Division Standard

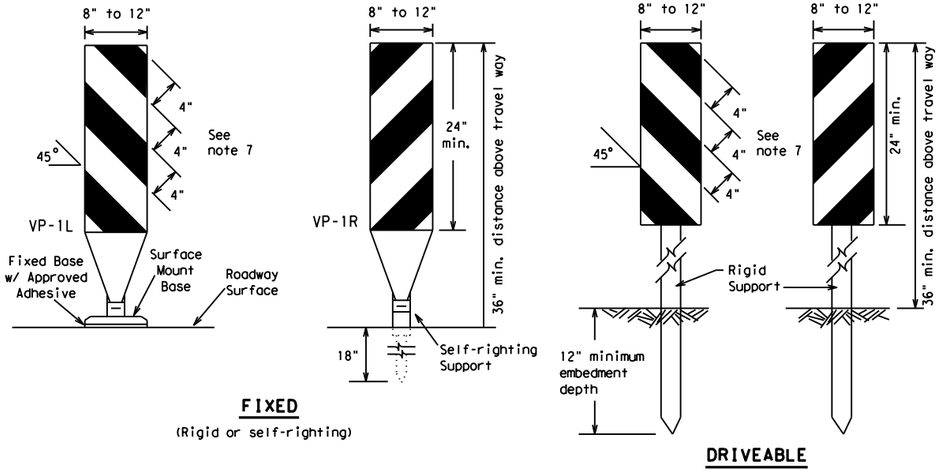
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-03 8-14	DIST		COUNTY	SHEET NO.
9-07 5-21	22		WEBB	72
7-13				

DATE: 4/9/2024 7:44:43 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

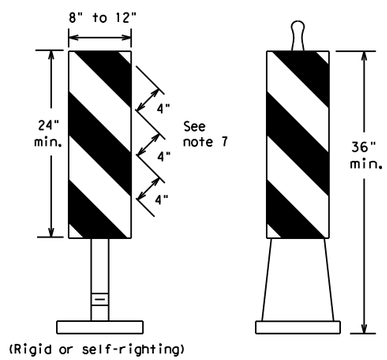
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



FIXED

(Rigid or self-righting)

DRIVEABLE

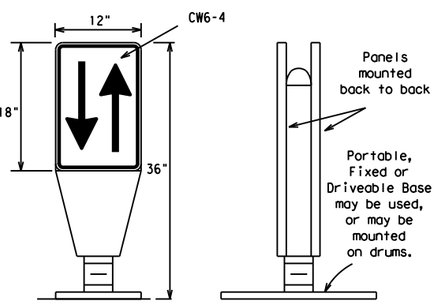


(Rigid or self-righting)

PORTABLE

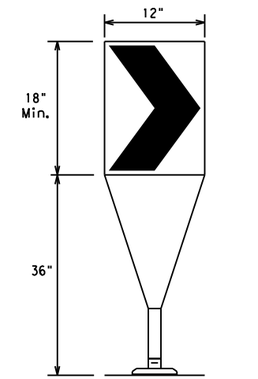
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



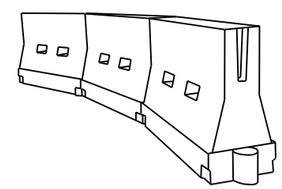
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

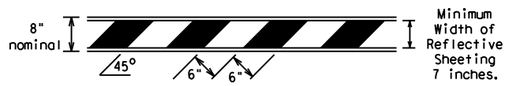
FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	73

DATE: 4/9/2024 7:44:44 PM
FILE: c:\txdot\pw_online\txdot5\mrisael.aguilar\d1010254\bc-21.dgn

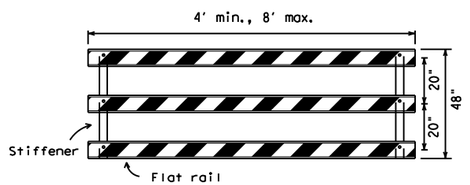
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



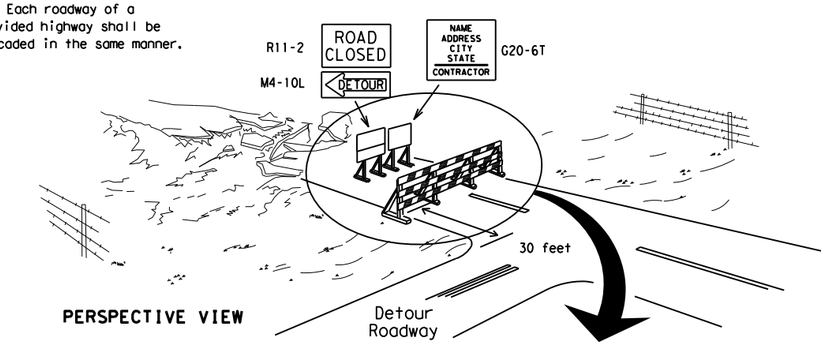
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

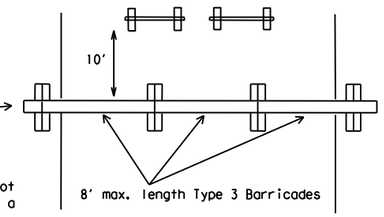
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

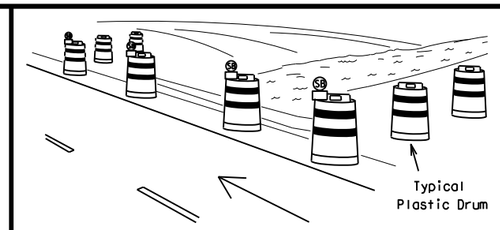
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

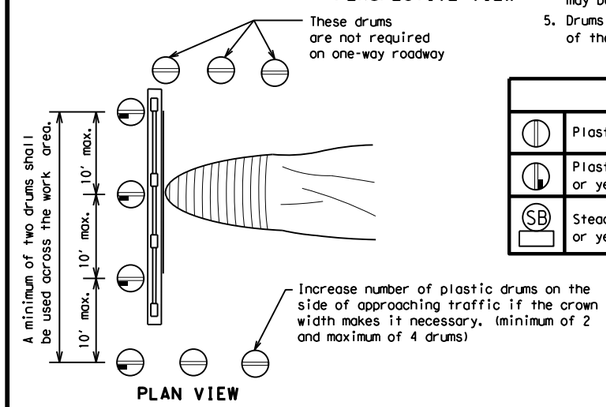
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

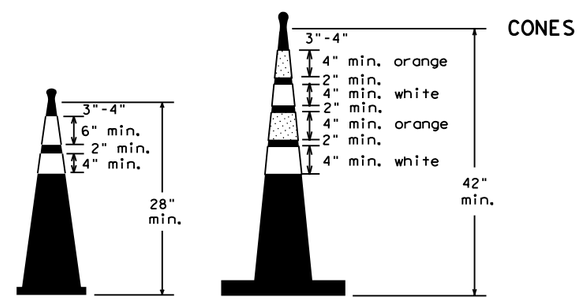
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



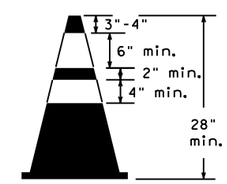
PLAN VIEW

LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

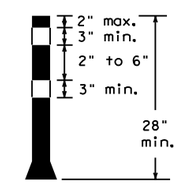
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

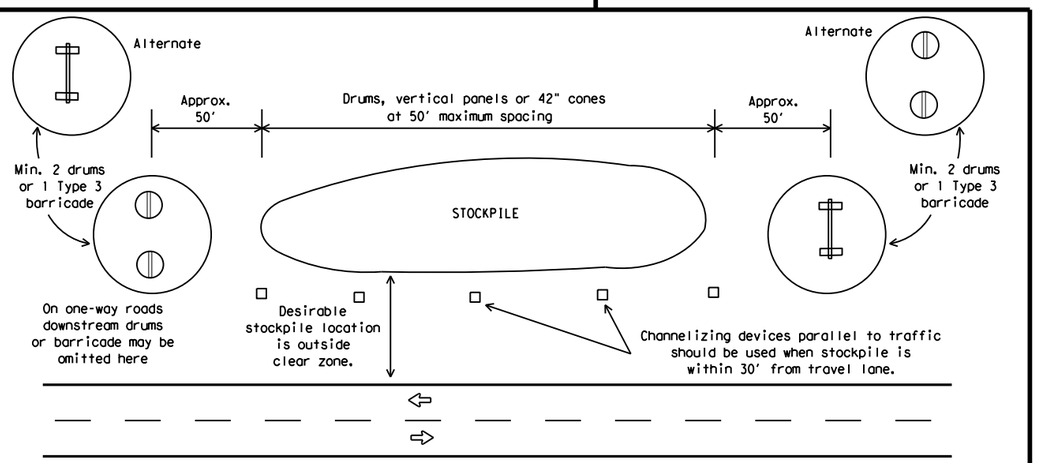


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

SHEET 10 OF 12

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
9-07 8-14	DIST		COUNTY	SHEET NO.
7-13 5-21	22		WEBB	74

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:44:44 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:44:44 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn

WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

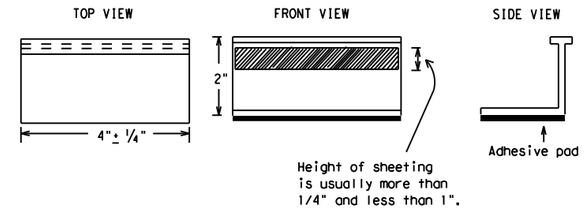
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

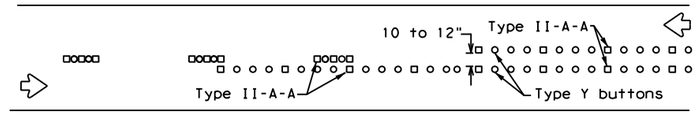
BC(11)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-98 9-07 5-21	3586	02	006	SH 255
1-02 7-13	DIST	COUNTY		SHEET NO.
11-02 8-14	22	WEBB		75

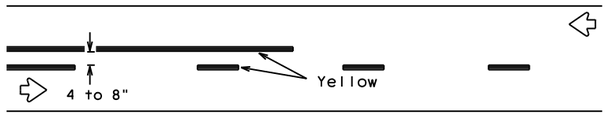
105

PAVEMENT MARKING PATTERNS

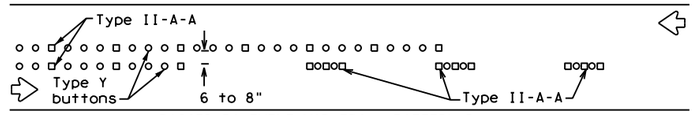
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



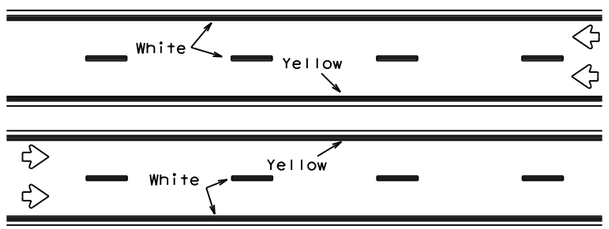
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



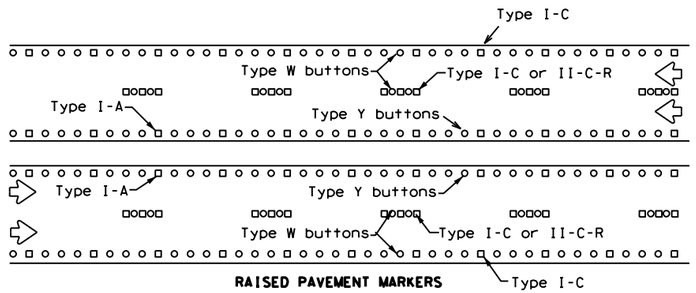
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



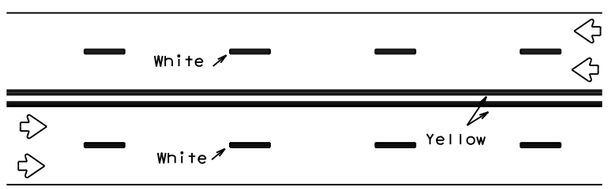
REFLECTORIZED PAVEMENT MARKINGS



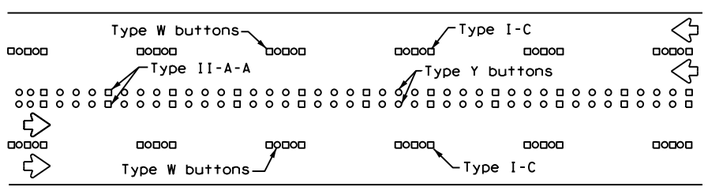
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



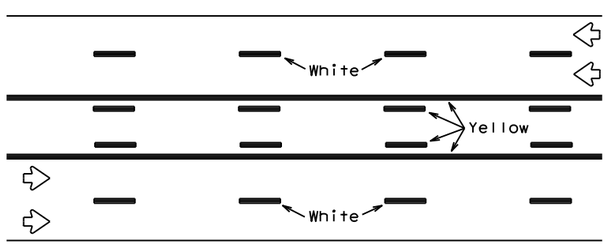
REFLECTORIZED PAVEMENT MARKINGS



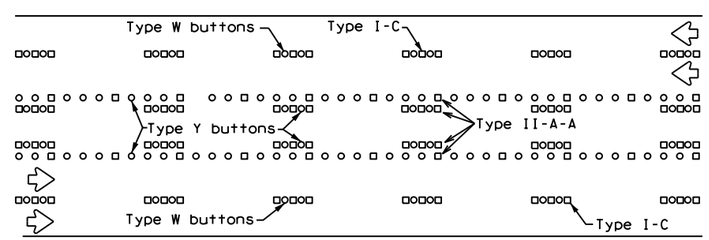
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



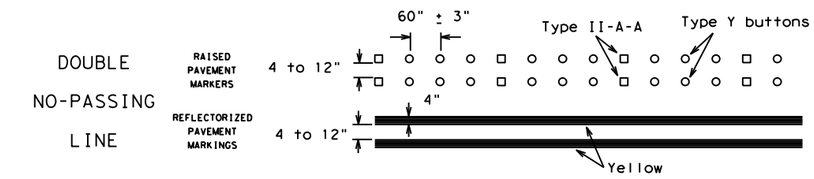
RAISED PAVEMENT MARKERS

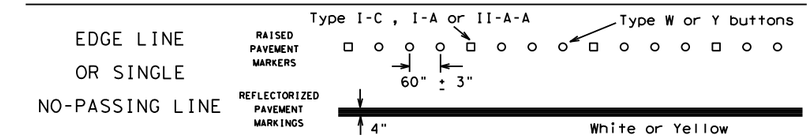
Prefabricated markings may be substituted for reflectorized pavement markings.

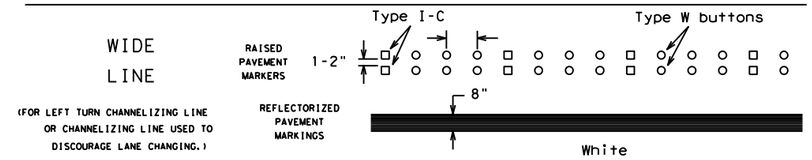
TWO-WAY LEFT TURN LANE

STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

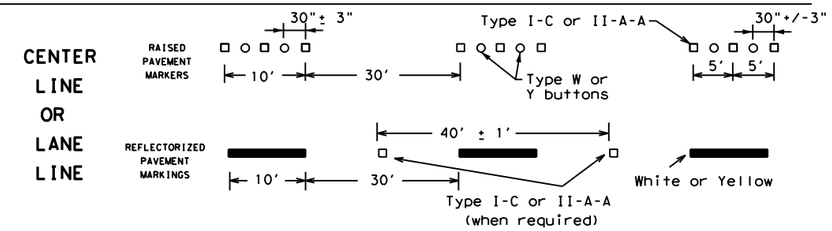
SOLID LINES

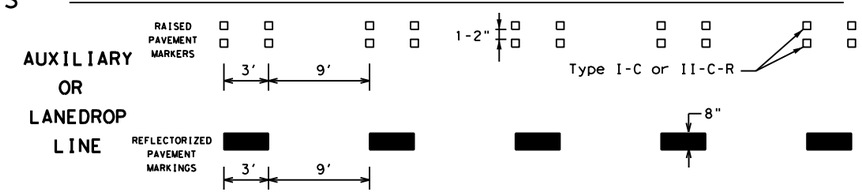






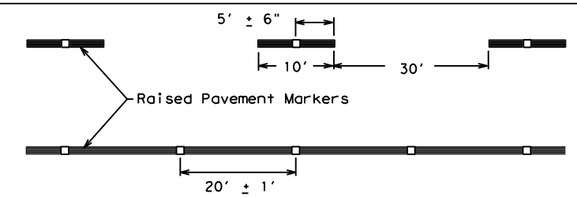
BROKEN LINES





REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

SHEET 12 OF 12

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

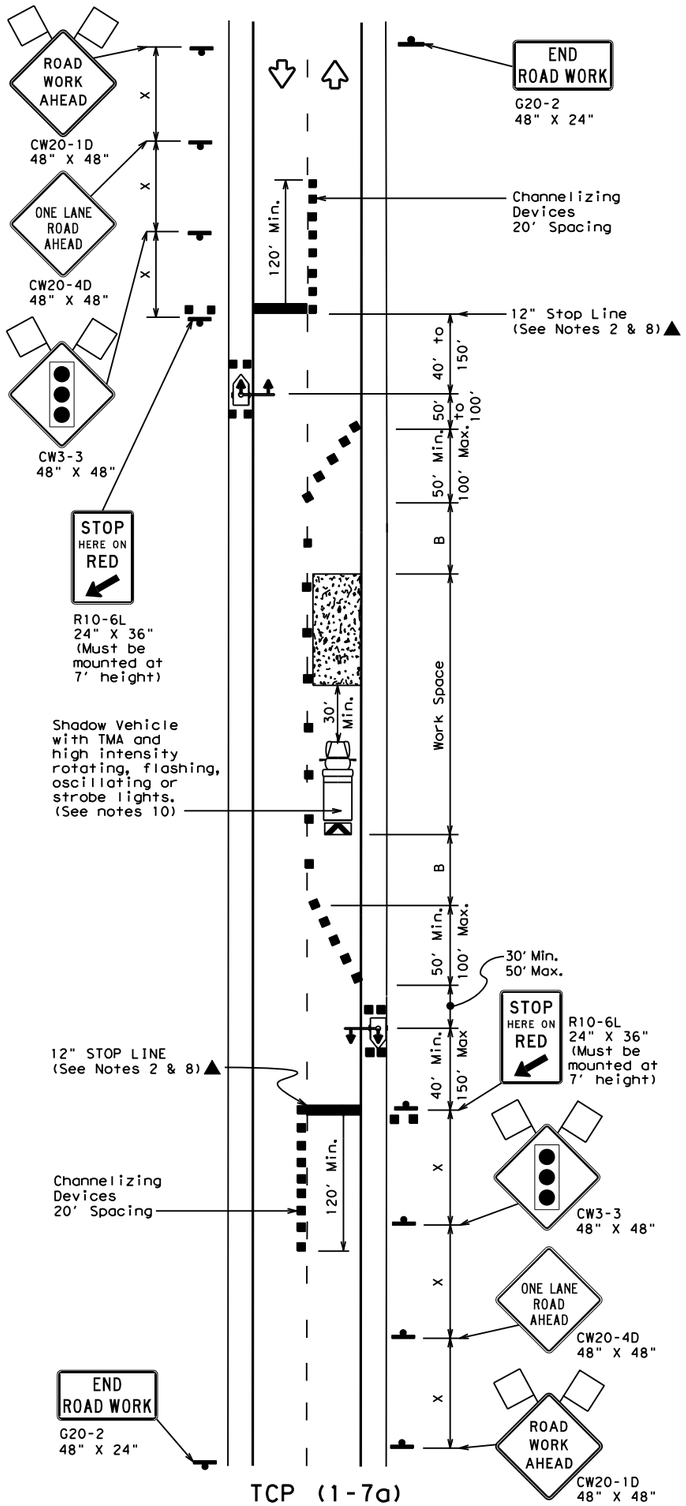
BC(12)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-97 9-07 5-21 2-98 7-13 11-02 8-14	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	76

106

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

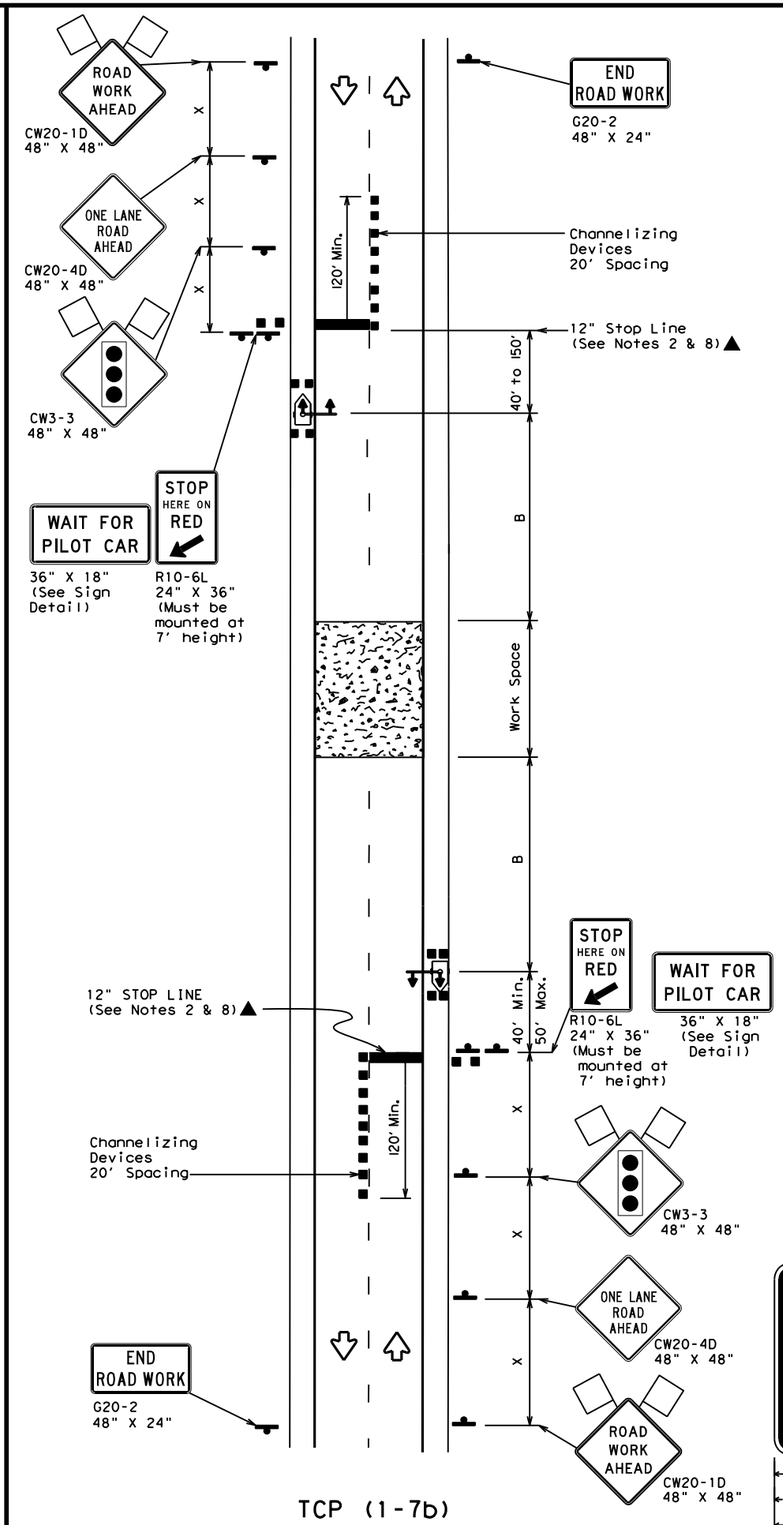
DATE: 4/9/2024 7:44:45 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\bc-21.dgn



TCP (1-7a)

ONE LANE TWO-WAY

TRAFFIC CONTROL WITH TRAFFIC SIGNALS



TCP (1-7b)

FULL WIDTH CLOSURE WITH

TRAFFIC SIGNALS AND PILOT CAR

LEGEND

	Sign		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Temporary or Portable Traffic Signal		Portable Changeable Message Sign (PCMS)
	Flag		Traffic Flow

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

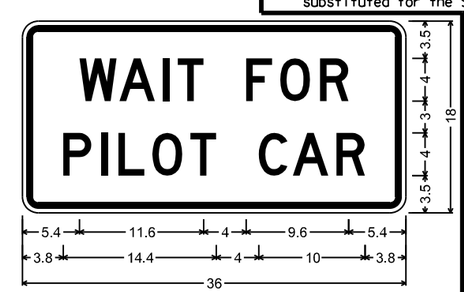
** Taper lengths have been rounded off.

L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
		✓		

GENERAL NOTES

1. Unless otherwise stated in the plans, flags attached to signs are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or, for routine maintenance work, when approved by the Engineer.
3. The BE PREPARED TO STOP sign may be installed after the ONE LANE ROAD AHEAD sign, but proper sign spacing shall be maintained.
4. ROAD WORK AHEAD sign may be repeated if the visibility of the work zone is less than 1500'.
5. If pilot car is used to guide vehicles through traffic control zone, vehicle shall have an identification name displayed and "PILOT CAR, FOLLOW ME" (G20-4) sign or message board mounted in a conspicuous position on rear.
6. Channelizing devices are recommended for all applications. Devices may be offset as needed for Maintenance operations.
7. See "Recommended Work Zone Settings" chart in the control box for preset programming.
8. A temporary STOP line may be used in conjunction with "Stop here on Red" (R10-6).
9. Proper alignment of overhead signal with on-coming lane should be ensured.
10. A Shadow Vehicle with TMA should be used anytime it can be positioned approximately 30 to 100' in advance of workers exposed to traffic without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.



1.5" Radius, 0.625" Border, 0.375" Indent, Black on White;
[WAIT FOR] D; [PILOT CAR] D;
(Must be mounted at 7' height)

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN SHORT TERM TEMPORARY SIGNALS

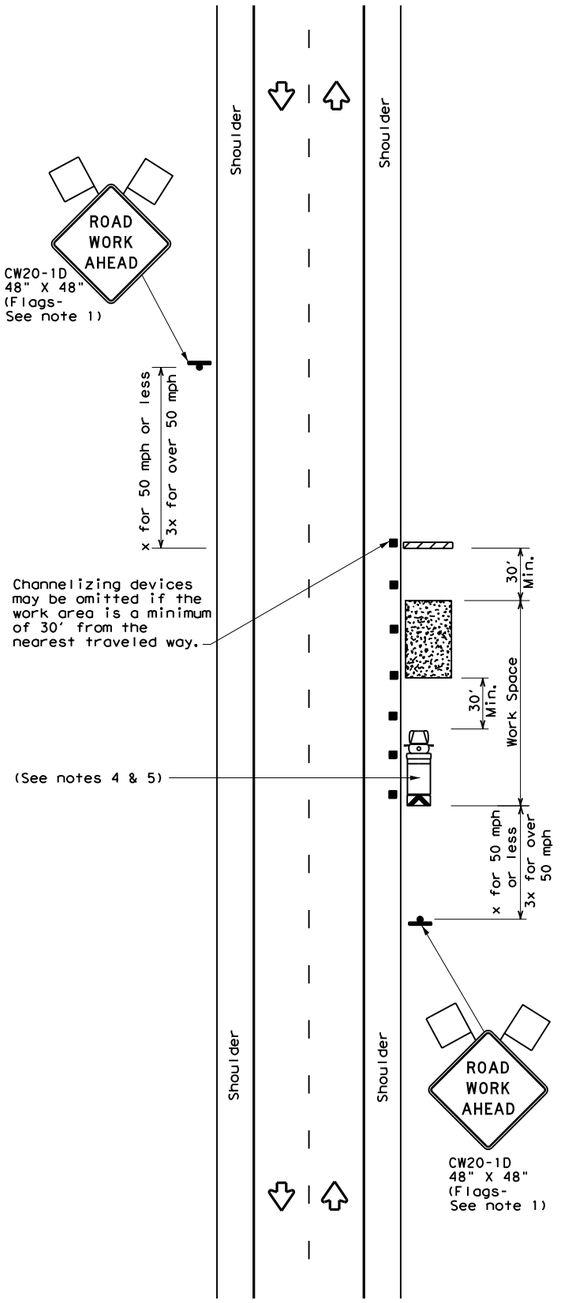
TCP(1-7)-11

FILE: tcp1-7.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	77

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:45:00 PM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010254\tcp1-7.dgn

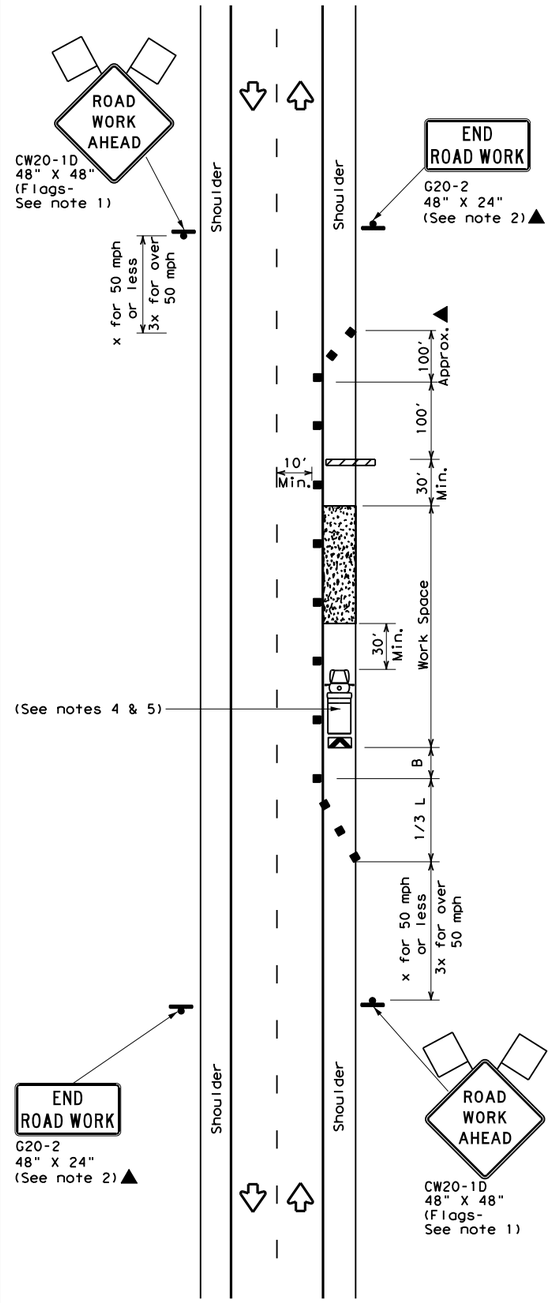
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



TCP (2-1a)

WORK SPACE NEAR SHOULDER

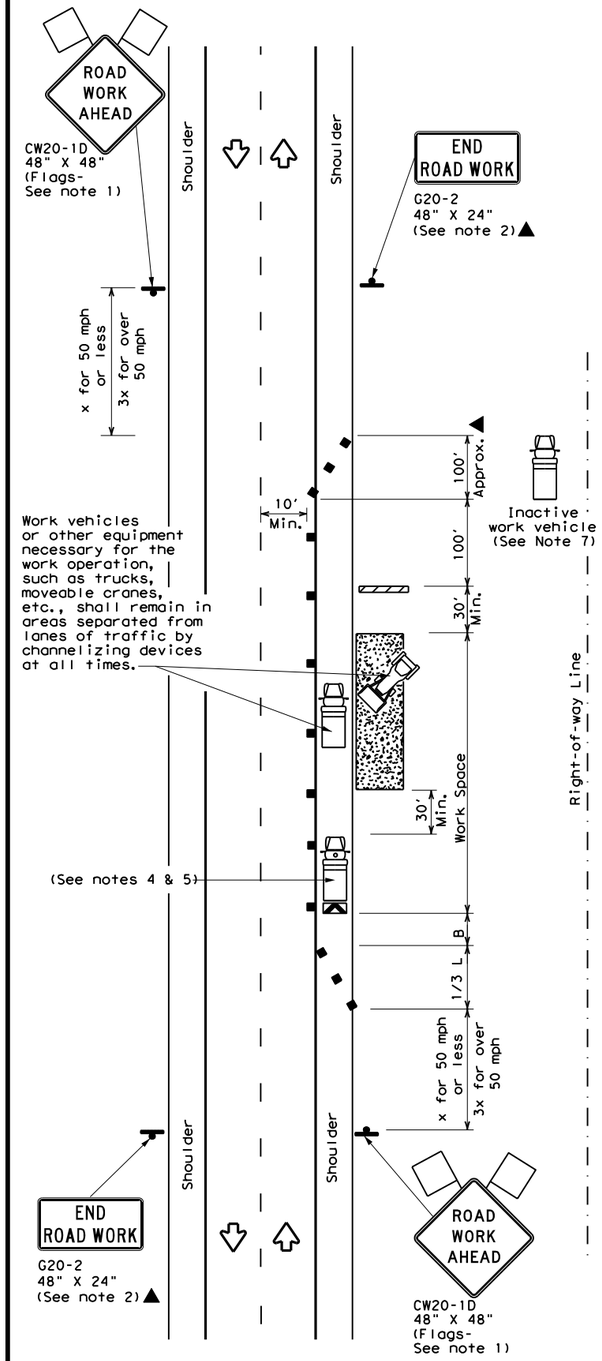
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER

Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER

Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths **			Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent		
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
3. Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
8. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

Traffic Operations Division Standard

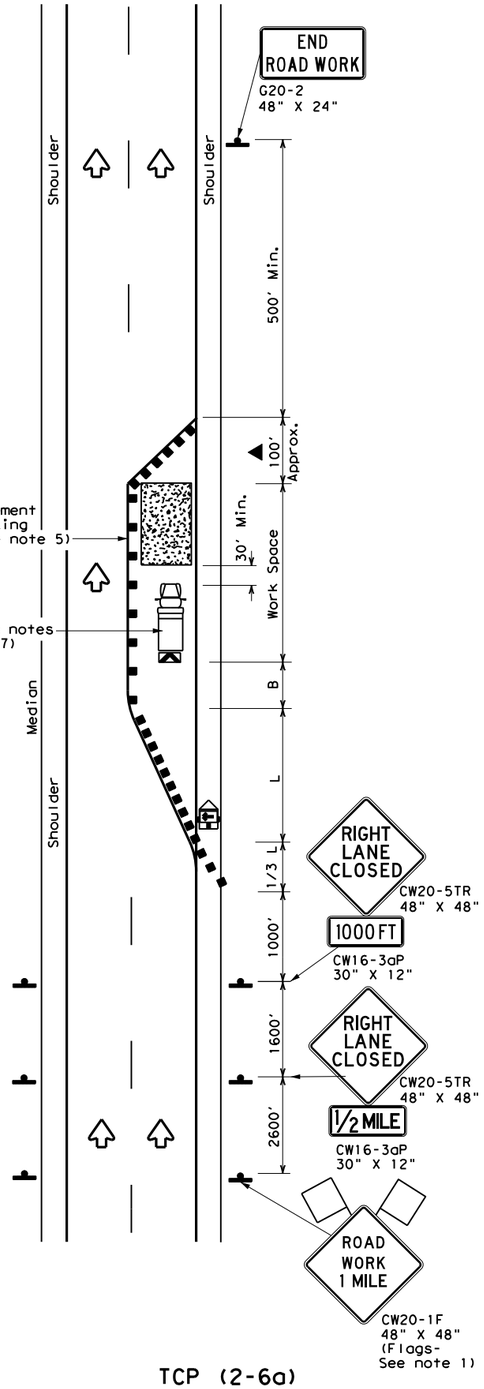
TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(2-1)-18

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
2-94 4-98	DIST		COUNTY	SHEET NO.
8-95 2-12				
1-97 2-18	22		WEBB	78

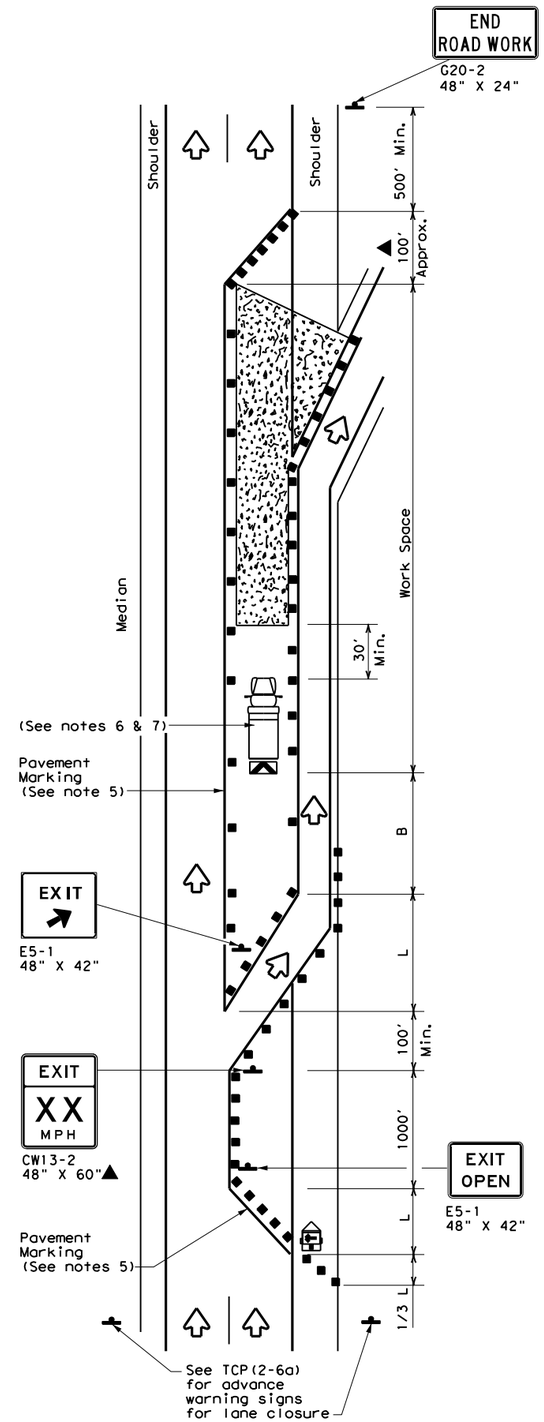
DATE: 4/9/2024 7:45:17 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\tcp2-1-18.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



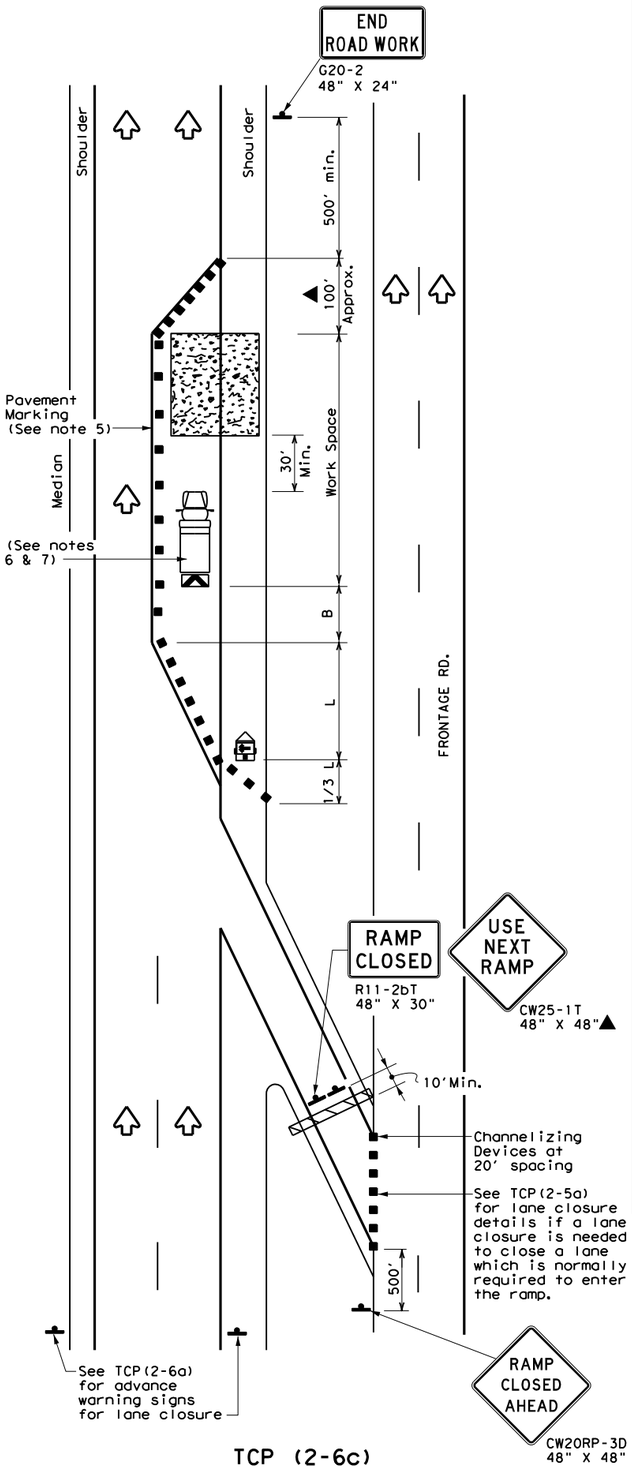
TCP (2-6a)

ONE LANE CLOSURE



TCP (2-6b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (2-6c)

LANE CLOSURE NEAR ENTRANCE RAMPS

LEGEND

	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
			✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. Channelizing devices used along the work space or along tangent sections may be supplemented with vertical panels (VP) placed on everyother channelizing device. If night time conditions make it difficult to see at least two VPs, the VPs may be placed on each channelizing device.
5. The placement of pavement markings may be omitted on Intermediate-term stationary work zones with the approval of the Engineer.
6. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation — Traffic Operations Division Standard

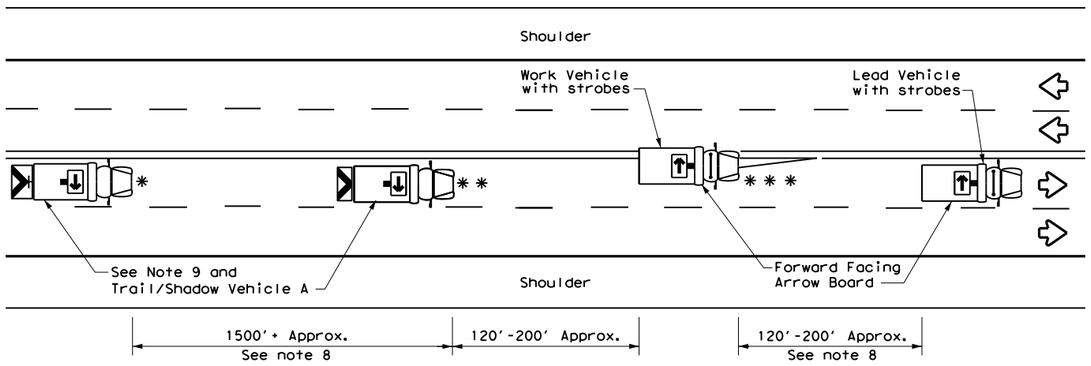
TRAFFIC CONTROL PLAN LANE CLOSURES ON DIVIDED HIGHWAYS

TCP(2-6)-18

FILE: tcp2-6-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
2-94 4-98	DIST		COUNTY	SHEET NO.
8-95 2-12				
1-97 2-18	22		WEBB	79

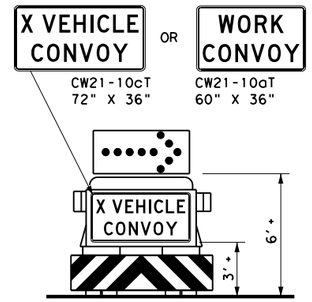
DATE: 4/9/2024 7:45:34 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\tcp2-6-18.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



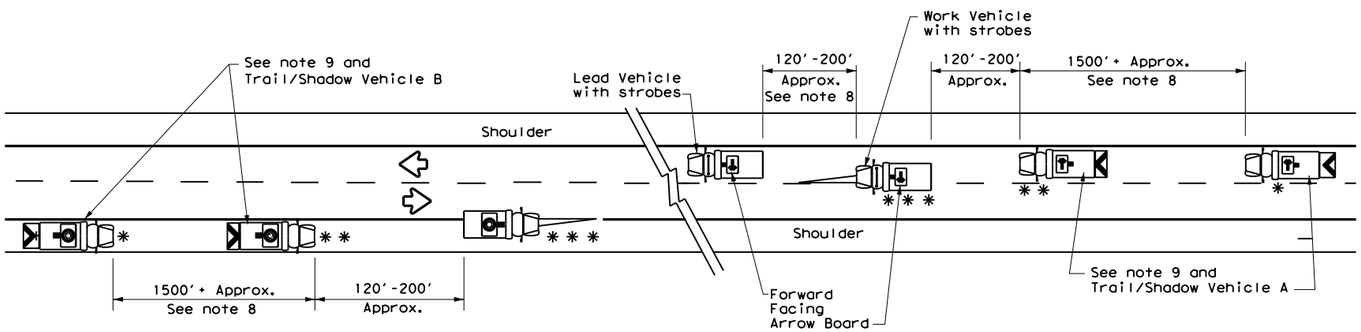
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

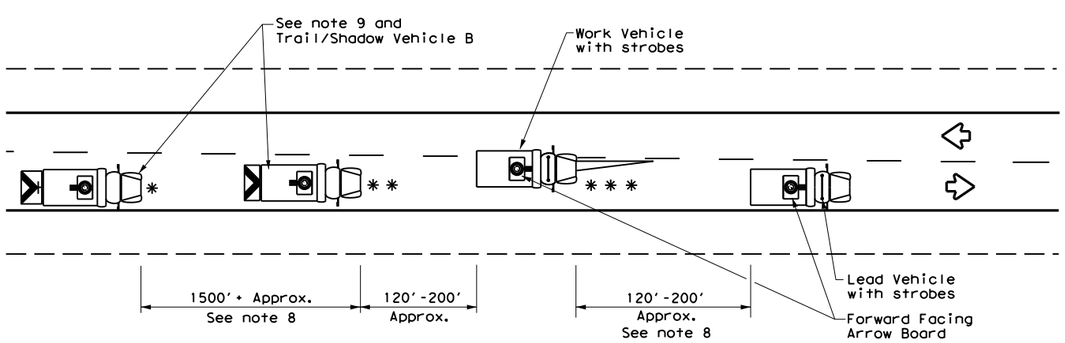


WORK ON SHOULDER

WORK ON TRAVEL LANE

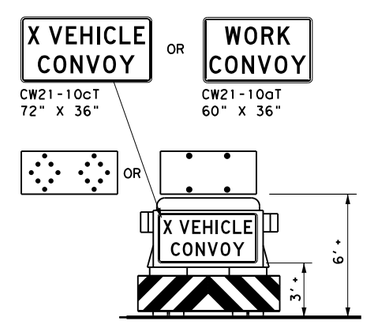
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board in CAUTION display

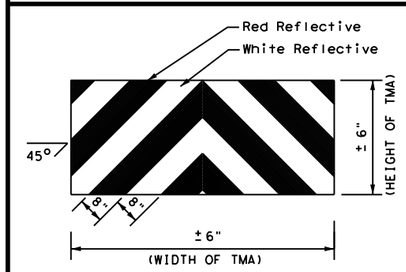
LEGEND

*	Trail Vehicle	ARROW BOARD DISPLAY	
* *	Shadow Vehicle		
* * *	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used the WORK vehicle must be equipped with an arrow board. The Engineer will determine if the LEAD VEHICLE and/or TRAIL VEHICLE are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. "X VEHICLE CONVOY" (CW21-10cT) or "WORK CONVOY" (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" X 48" diamond shaped "WORK CONVOY"(CW21-10T) or "X VEHICLE CONVOY" (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The "X VEHICLE CONVOY" sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a "DO NOT PASS" (R4-1) sign should be placed on the back of the rearmost protection vehicle.



STRIPING FOR TMA

Texas Department of Transportation

Traffic Operations Division Standard

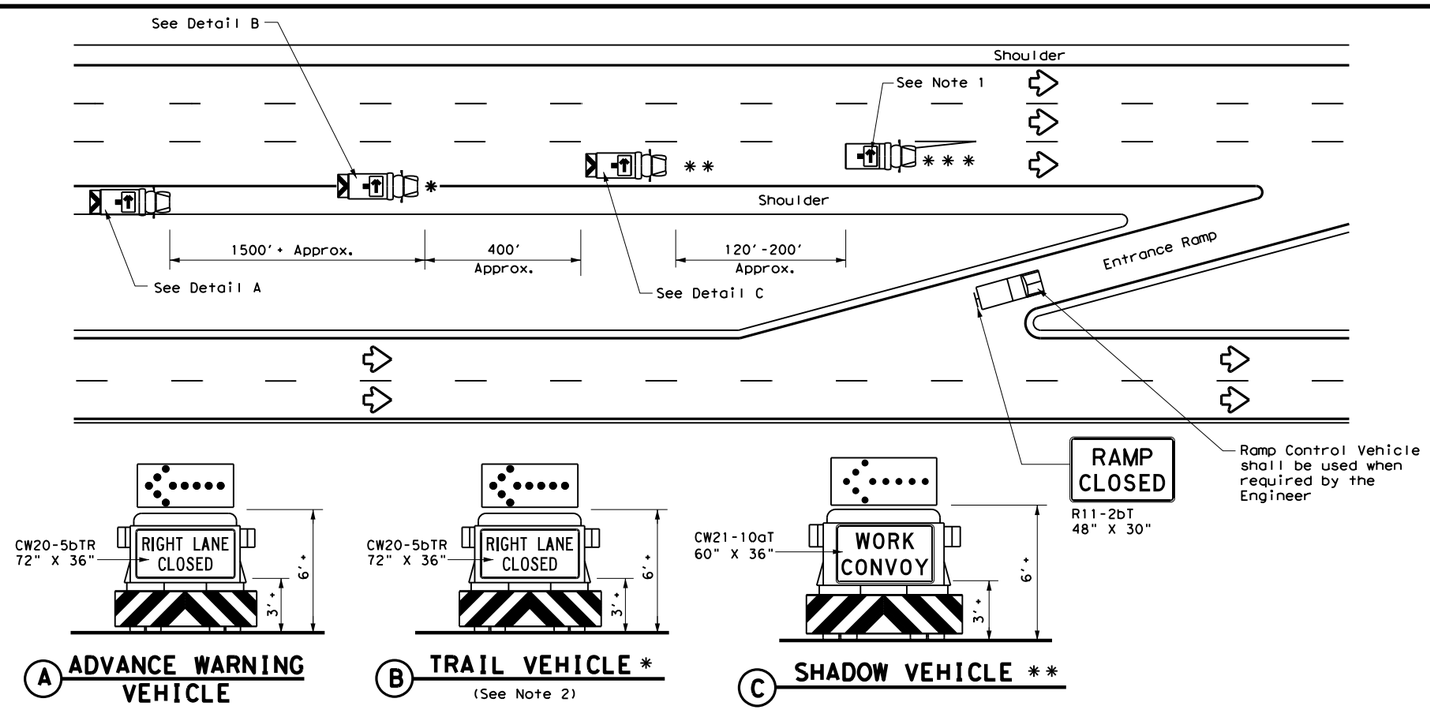
TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

TCP(3-1)-13

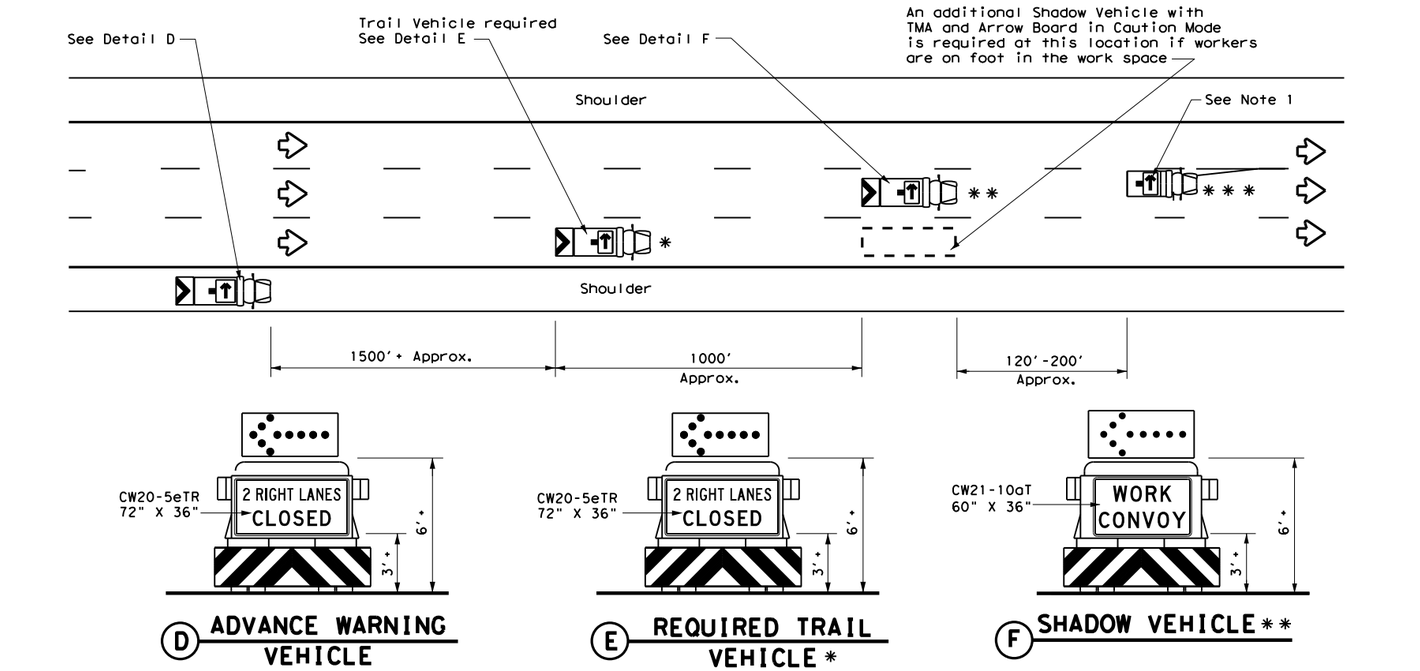
FILE: tcp3-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		80

DATE: 4/9/2024 7:45:51 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\tcp3-1.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



RIGHT LANE CLOSURE ON DIVIDED HIGHWAY - TCP(3-2a)



INTERIOR LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY - TCP(3-2b)

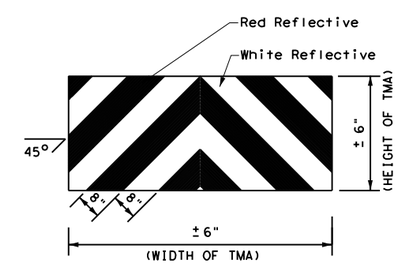
LEGEND

*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. ADVANCE WARNING, TRAIL and SHADOW vehicles shall be equipped with Type B or Type C flashing arrow boards as per the Barricade and Construction (BC) standards. Arrow boards on WORK vehicles will be optional based on the type of work being performed. The arrow boards shall be operated from inside the vehicle.
2. For TCP(3-2a) the Engineer will determine if the TRAIL VEHICLE is required based on prevailing roadway conditions, traffic volume, and sight distance restrictions. All other vehicles shown for both TCP(3-2a) and TCP(3-2b) are required.
3. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
4. The use of truck mounted attenuators (TMA) on the ADVANCE WARNING, SHADOW, and TRAIL vehicles are required.
5. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DMS 8300, Type A.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE may vary according to terrain, work activity and other factors.
9. Standard 48" X 48" diamond shaped warning signs with the same message as those shown may be used where adequate mounting space exists.
10. The signs shown should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or a truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board, must be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
11. Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
12. The principles on this sheet may be used to close lanes from the left side of the roadway considering the number of lanes, shoulder width, sight distance, and ramp frequency.
13. Signs and flashing arrow board modes shall be appropriately altered when implementing left lane closures or interior closures which close the left lanes.
14. The Advance Warning Vehicle may straddle the edgeline when shoulder width makes it necessary.



STRIPING FOR TMA

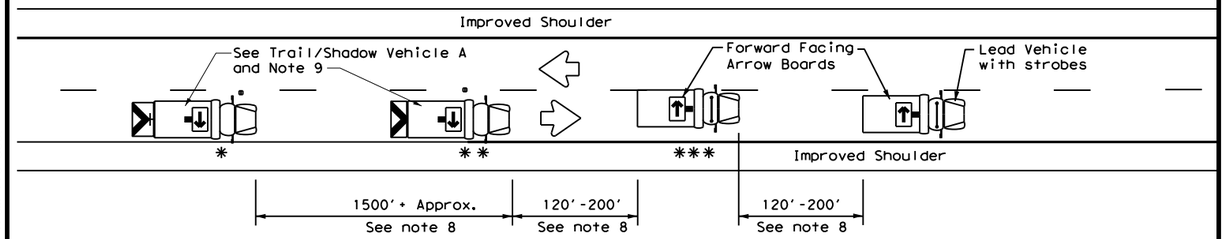
Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS DIVIDED HIGHWAYS

TCP(3-2)-13

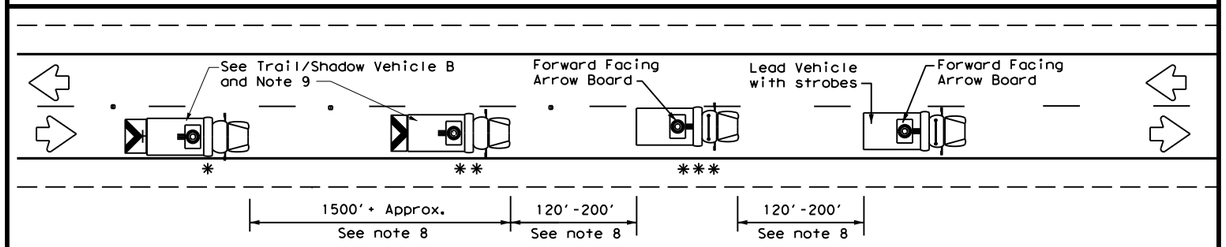
FILE: tcp3-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	81

DATE: 4/9/2024 7:46:08 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\tcp3-2.dgn



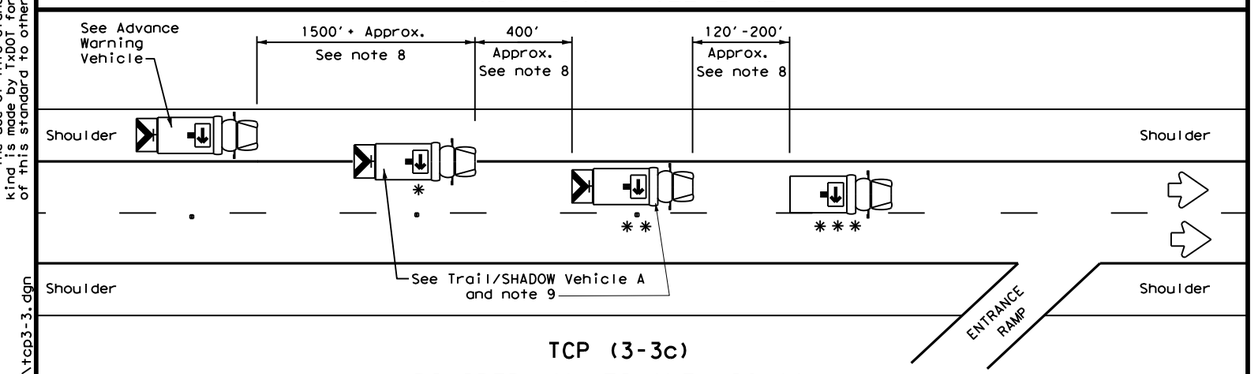
TCP (3-3a)

TWO LANE HIGHWAY WITH PAVED SHOULDERS
(WORK ON TRAVEL LANE)



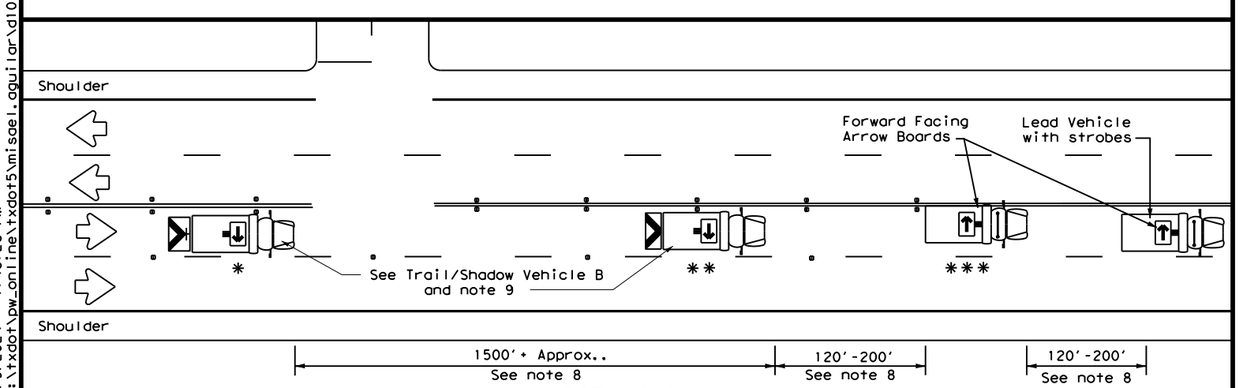
TCP (3-3b)

TWO LANE HIGHWAY WITHOUT PAVED SHOULDERS
(WORK ON TRAVEL LANE)



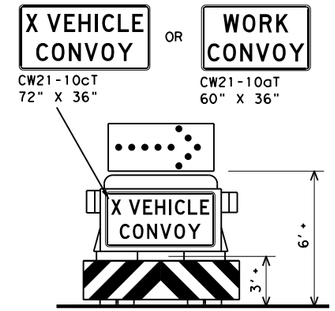
TCP (3-3c)

DIVIDED MULTILANE HIGHWAY



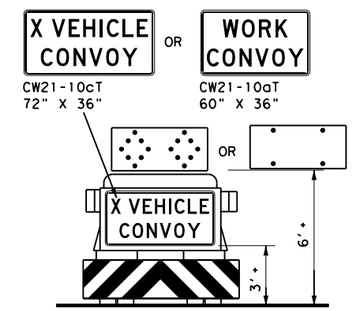
TCP (3-3d)

UNDIVIDED MULTILANE HIGHWAY



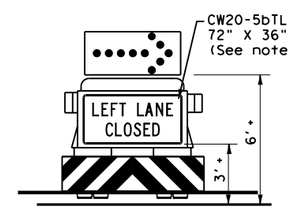
TRAIL/SHADOW VEHICLE A

with RIGHT Directional display
Flashing Arrow Board

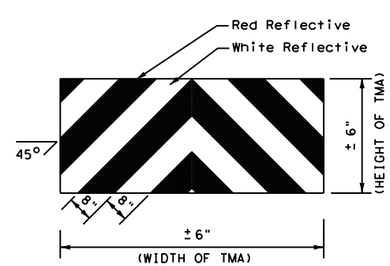


TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board
in Caution Mode



ADVANCE WARNING VEHICLE



STRIPING FOR TMA

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow		CAUTION (Alternating Diamond or 4 Corner Flash)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓				

GENERAL NOTES

1. TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used on two way roads the WORK vehicle must have an arrow board. For divided roadways, the arrow board on the WORK vehicle is optional based on the type of work being performed. The Engineer will determine if the LEAD vehicle and/or TRAIL vehicle are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
2. The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating, or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
3. The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE, ADVANCE WARNING and TRAIL VEHICLE are required.
4. Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
5. Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
6. Each vehicle shall have two-way radio communication capability.
7. When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
8. Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
9. X VEHICLE CONVOY (CW21-10cT) or WORK CONVOY (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" x 48" diamond shaped WORK CONVOY (CW21-10T) or X VEHICLE CONVOY (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The X VEHICLE CONVOY sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
10. For divided highways with two or three lanes in one direction, the appropriate LEFT LANE CLOSED (CW20-5bTL), RIGHT LANE CLOSED (CW20-5bTR), or CENTER LANE CLOSED (CW20-5dT) sign should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board may be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
11. A double arrow shall not be displayed on the arrow board on the Advance Warning Vehicle.
12. For divided highways with three or four lanes in each direction, use TCP(3-2).
13. Standard diamond shape versions of the CW20-5 series signs may be used as an option if the rectangular signs shown are not available.
14. The Advance Warning Vehicle may straddle the edgeline when Shoulder width makes it necessary.
15. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a DO NOT PASS (R4-1) sign should be placed on the back of the rearmost protection vehicle.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL

TCP(3-3)-14

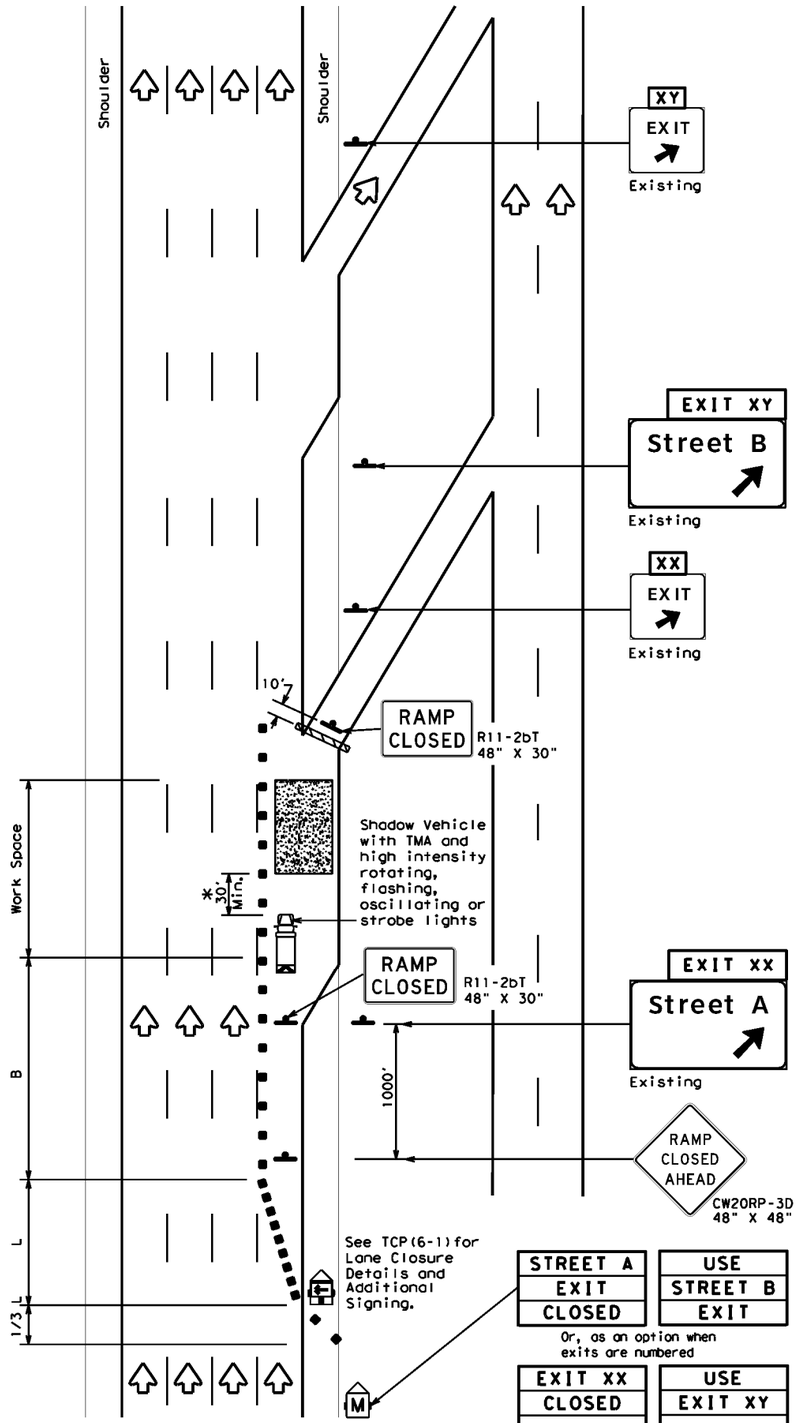
FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
2-94 4-98	DIST		COUNTY	SHEET NO.
8-95 7-13				
1-97 7-14	22		WEBB	82

177

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 7:46:26 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\tcp3-3.dgn

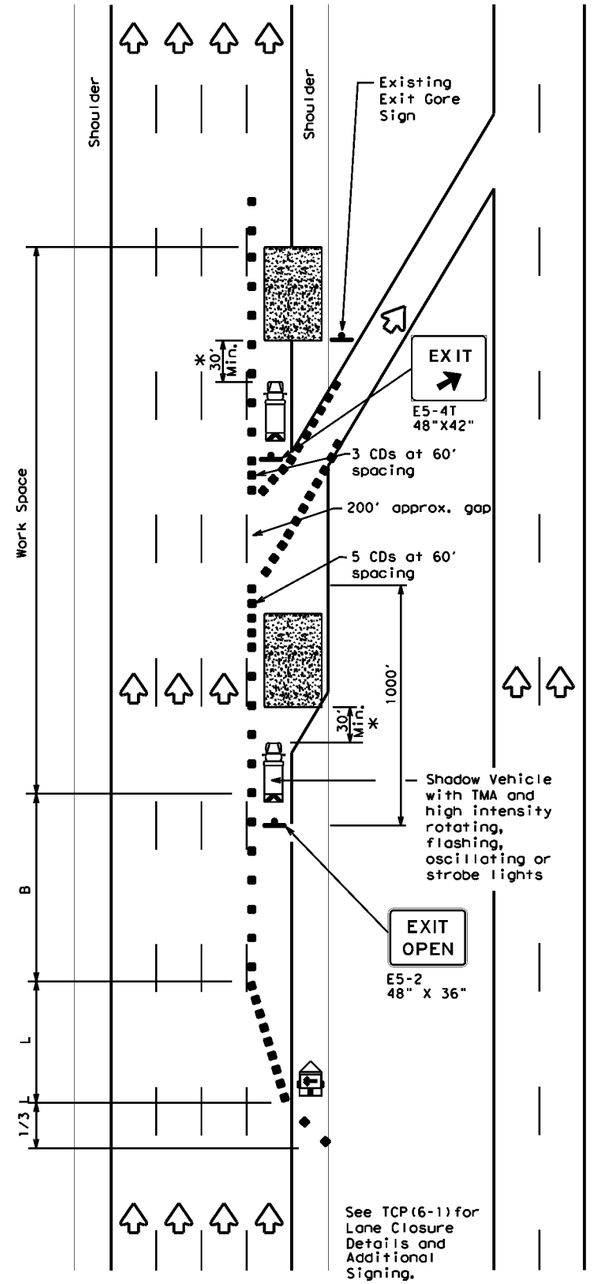
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



TCP (6-4a)

EXIT RAMP CLOSED

TRAFFIC EXITS PAST CLOSED RAMP



TCP (6-4b)

EXIT RAMP OPEN

LEGEND			
	Type 3 Barricade		Channelizing Devices (CDs)
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed	Formula	Minimum Desirable Taper Lengths "L" **			Suggested Maximum Spacing of Channelizing Devices		Suggested Longitudinal Buffer Space "B"
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. See BC Standards for sign details.

*A shadow vehicle equipped with a Truck Mounted Attenuator is typically required. A shadow vehicle equipped with a TMA shall be used if it can be positioned 30' to 100' in advance of the area of crew exposure without adversely affecting the work performance.

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

Texas Department of Transportation
Traffic Operations Division Standard

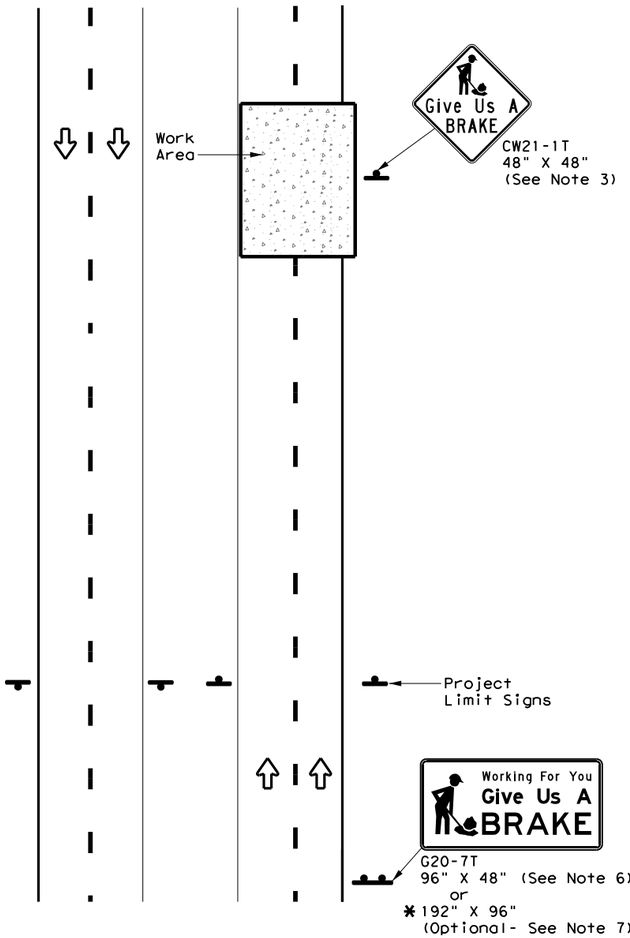
TRAFFIC CONTROL PLAN WORK AREA AT EXIT RAMP

TCP(6-4)-12

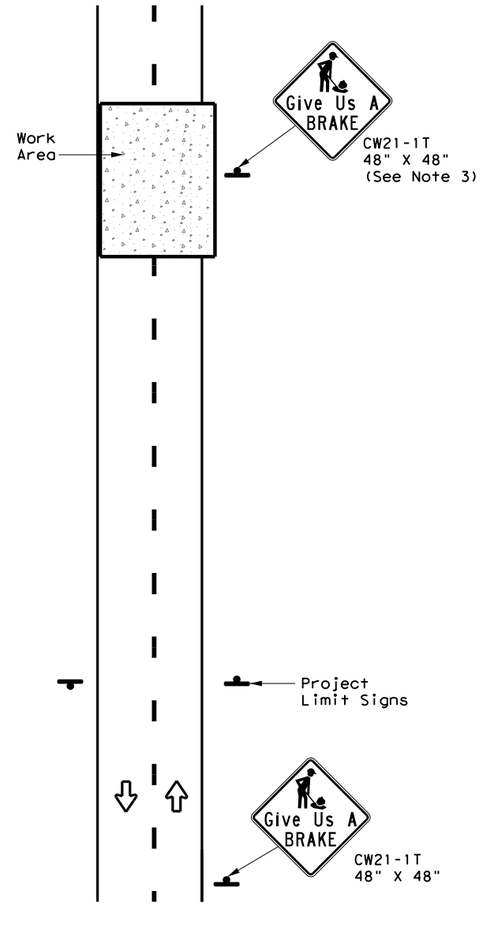
FILE: tcp6-4.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT Feburary 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
1-97 8-98	DIST		COUNTY	SHEET NO.
4-98 8-12	22		WEBB	83

DATE: 4/9/2024 8:01:59 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\tcp6-4.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



DIVIDED HIGHWAY



UNDIVIDED HIGHWAY

SIGNS ARE SHOWN FOR ONE DIRECTION OF TRAVEL

* When the optional larger WORKING FOR YOU GIVE US A BRAKE (G20-7T) 192" x 96" sign is required, the locations shall be noted elsewhere in the plans.

SUMMARY OF LARGE SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN	SIGN DIMENSIONS	REFLECTIVE SHEETING	SQ FT	GALVANIZED STRUCTURAL STEEL Size	GALVANIZED STRUCTURAL STEEL (LF) ①	GALVANIZED STRUCTURAL STEEL (LF) ②	DRILLED SHAFT 24" DIA. (LF)
Orange	G20-7T	Working For You Give Us A BRAKE	96" X 48"	Type B_{FL} or C_{FL}	32	▲	▲	▲	▲
Orange	G20-7T	Working For You Give Us A BRAKE	192" X 96"	Type B_{FL} or C_{FL}	128	W8x18	16	17	12

▲ See Note 6 Below

LEGEND	
	Sign
	Large Sign
	Traffic Flow

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PLYWOOD SIGN BLANKS	DMS-7100
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL}
BLACK	LEGEND & BORDERS	NON-REFLECTIVE ACRYLIC FILM

GENERAL NOTES

1. See BC and SMD sheets for additional sign support details.
2. Sign locations shall be approved by the Engineer.
3. For projects more than two miles in length, Give Us a BRAKE signs should be repeated halfway through the project. The Give Us a Brake (CW21-1T) may be used for this purpose.
4. Work zone speed limits are sometimes used in conjunction with GIVE US A BRAKE signing. See BC(3) for location and spacing of construction speed zone signing when required.
5. Give Us a Brake (CW21-1T) signs and supports shall be considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling."
6. The 96" X 48" Working For You Give Us A BRAKE (G20-7T) may use a 1/2" or 5/8" plywood substrate or 0.125" aluminum sheeting substrate and may be supported by two 4" x 6" wood posts with drilled holes for breakaway as per BC(5) and will be subsidiary to Item 502.
7. The Working For You Give Us A BRAKE (G20-7T) 192" X 96" sign shall be paid for under the following specification items:
   - Item 636 - Aluminum Signs
   - Item 647 - Large Roadside Sign Supports and Assemblies.
   - Item 416 - Drilled Shaft Foundations
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

Texas Department of Transportation

Traffic Operations Division Standard

WORK ZONE "GIVE US A BRAKE" SIGNS

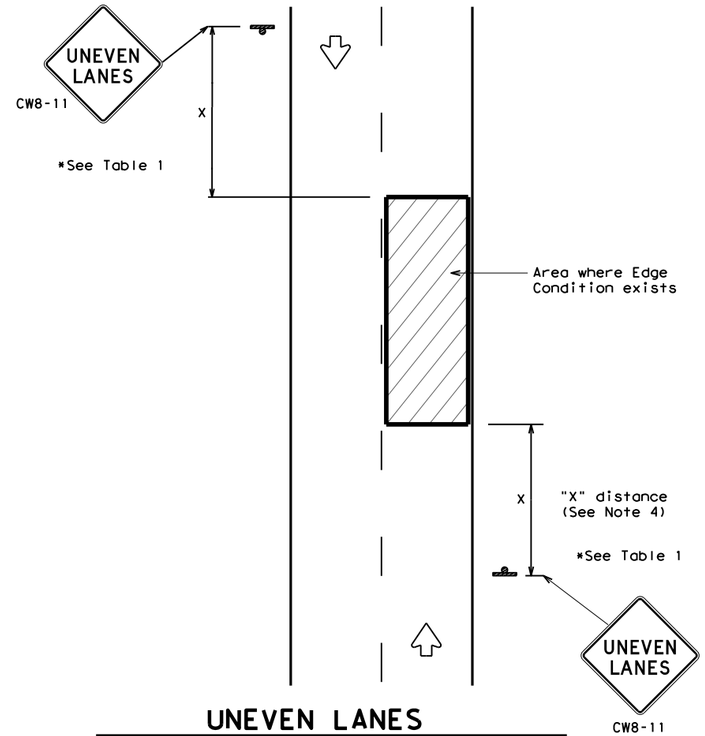
WZ(BRK)-13

FILE: wzbrk-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 1995	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
6-96 5-98 7-13	DIST		COUNTY	SHEET NO.
8-96 3-03	22		WEBB	84

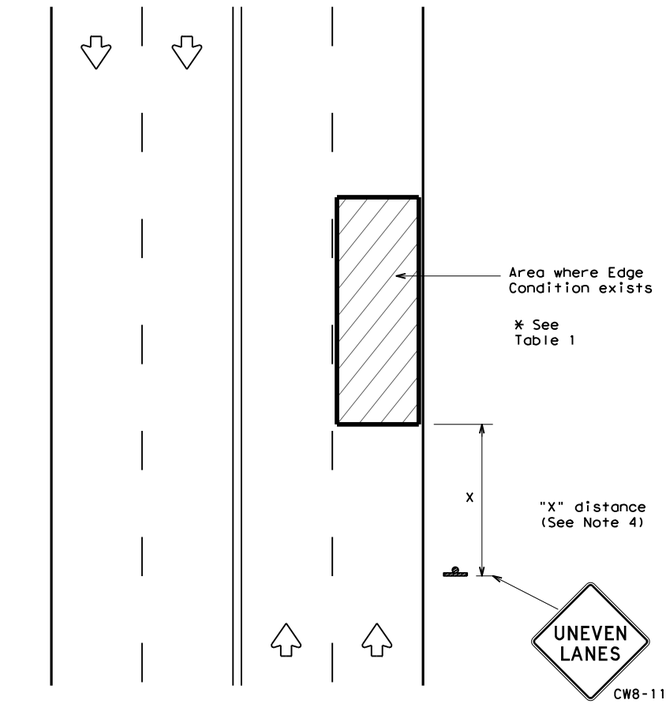
116

DATE: 4/9/2024 7:47:01 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\wzbrk-13.dgn

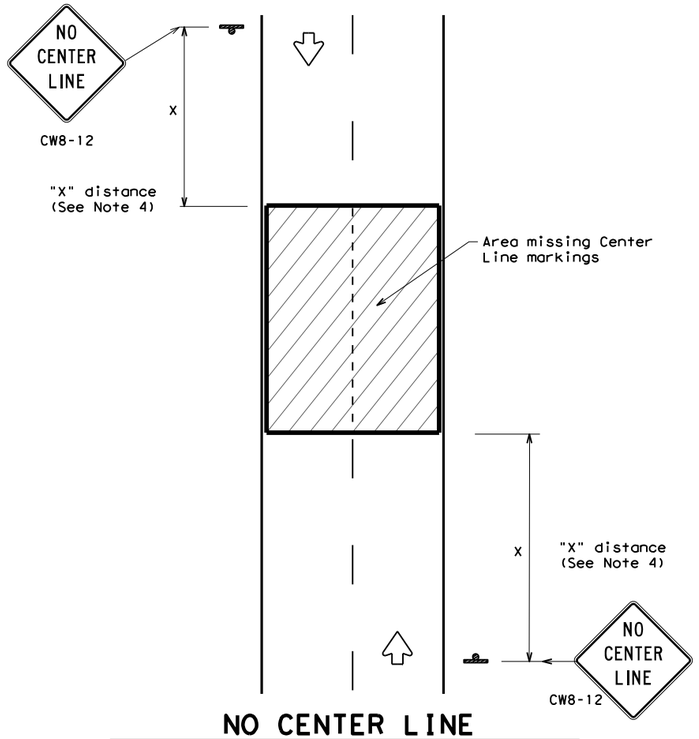
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



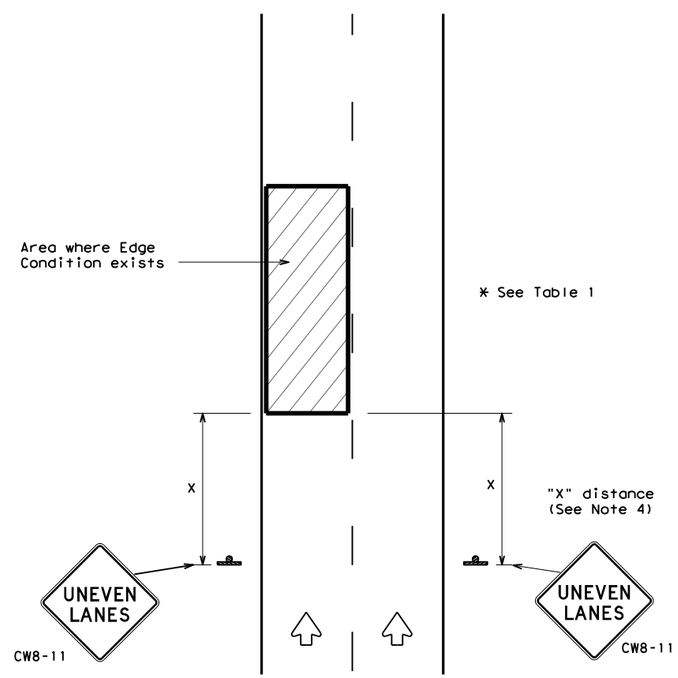
UNEVEN LANES
TWO LANE CONVENTIONAL ROAD



UNEVEN LANES
FOUR LANE CONVENTIONAL ROAD



NO CENTER LINE
TWO LANE CONVENTIONAL ROAD



UNEVEN LANES
DIVIDED ROADWAY

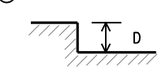
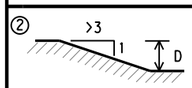
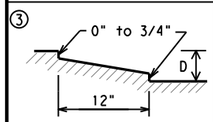
DEPARTMENTAL MATERIAL SPECIFICATIONS	
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY (REMOVABLE) PREFABRICATED PAVEMENT MARKINGS	DMS-8241
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL} SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

GENERAL NOTES

1. If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
2. UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
3. NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
4. Signs shall be spaced at the distances recommended as per BC standards.
5. Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
6. Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
7. Short term markings shall not be used to simulate edge lines.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

TABLE 1

Edge Condition	Edge Height (D)	* Warning Devices
① 	Less than or equal to: 1¼" (maximum-planing) 1½" (typical-overlay)	Sign: CW8-11
	Distance "D" may be a maximum of 1 1/4 " for planing operations and 2" for overlay operations if uneven lanes with edge condition 1 are open to traffic after work operations cease.	
② 	Less than or equal to 3"	Sign: CW8-11
③  Notched Wedge Joint	Distance "D" may be a maximum of 3" if uneven lanes with edge condition 2 or 3 are open to traffic after work operations cease. Uneven lanes should not be open to traffic when "D" is greater than 3".	

TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

MINIMUM WARNING SIGN SIZE	
Conventional roads	36" x 36"
Freeways/expressways, divided roadways	48" x 48"

Texas Department of Transportation — Traffic Operations Division Standard

SIGNING FOR UNEVEN LANES

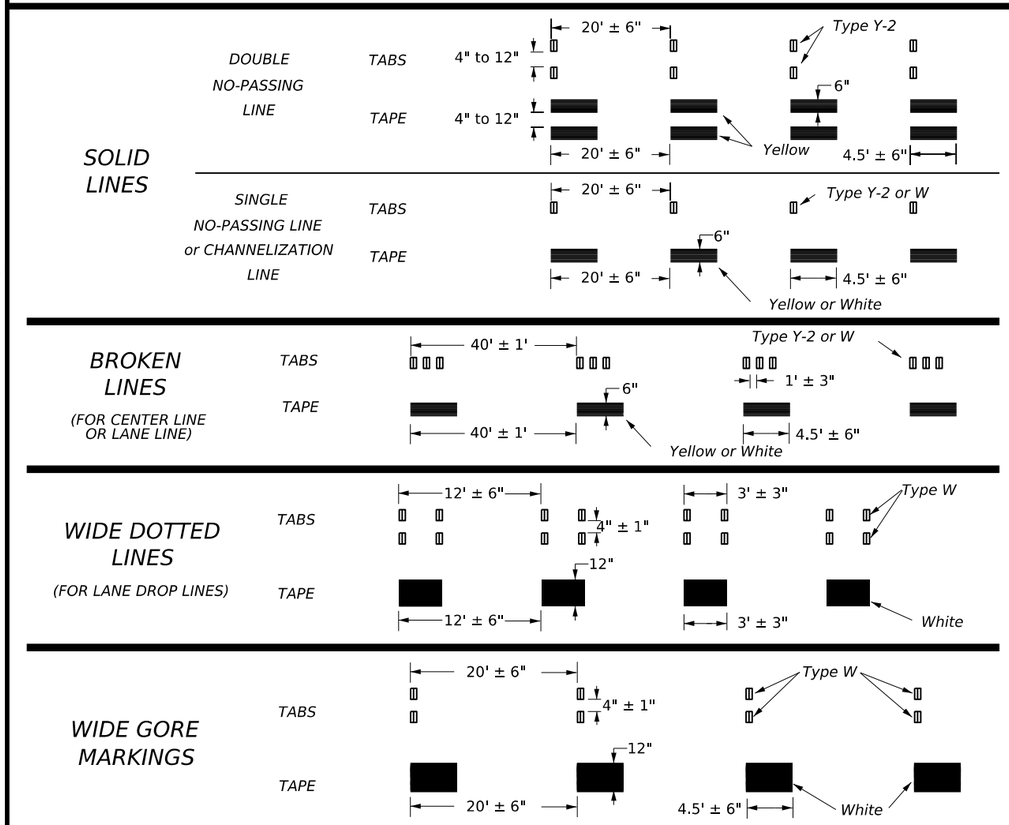
WZ(UL)-13

FILE: wzul-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
8-95 2-98 7-13	DIST		COUNTY	SHEET NO.
1-97 3-03	22		WEBB	85

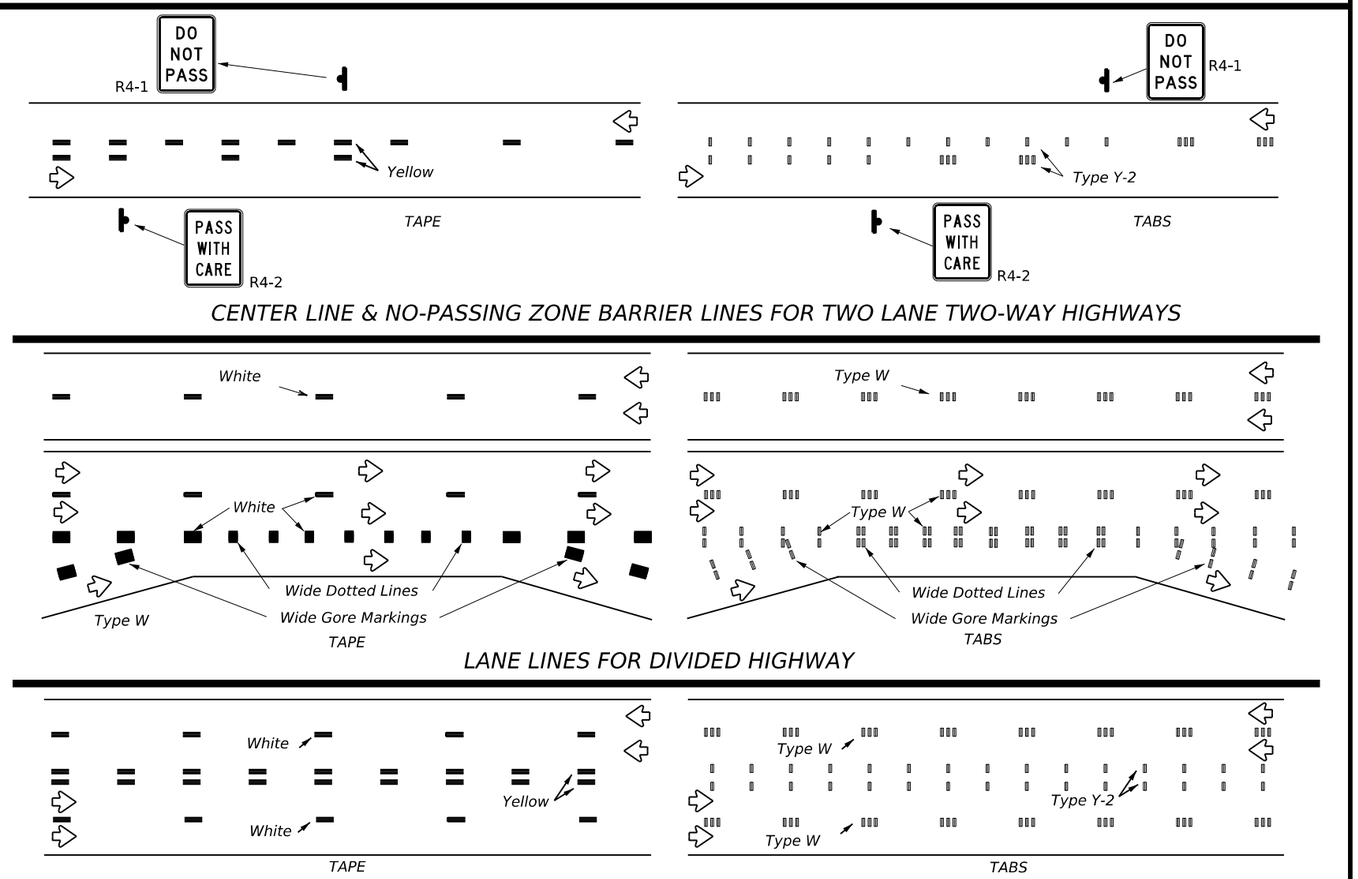
DATE: 4/9/2024 7:47:16 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\wzul-13.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS



WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS

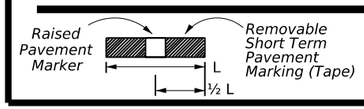


CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS

LANE LINES FOR DIVIDED HIGHWAY

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS

TWO-WAY LEFT TURN LANE



If raised pavement markers are used to supplement REMOVABLE short term markings, the markers shall be applied to the top of the tape at the approximate mid length of the tape. This allows an easier removal of raised markers and tape.

NOTES:

1. *Short term pavement markings may be prefabricated markings (stick down tape) or temporary flexible reflective roadway marker tabs unless otherwise specified elsewhere in plans.*
2. *Short term pavement markings shall NOT be used to simulate edge lines.*
3. *Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.*
4. *Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.*
5. *No segment of roadway open to traffic shall remain without permanent pavement markings for a period greater than 14 calendar days. The Contractor will be responsible for maintaining short term pavement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent pavement markings shall be placed as soon as weather permits.*
6. *For two lane, two-way roadways, DO NOT PASS signs shall be erected to mark the beginning of sections where passing is prohibited and PASS WITH CARE signs shall be erected to mark the beginning of sections where passing is permitted. Signs shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and may be used to indicate the limits of no-passing zones for up to 14 calendar days. Permanent pavement markings should then be placed.*
7. *For low volume two lane, two-way roadways of 4000 ADT or less, no-passing lines may be omitted when approved by the Engineer. DO NOT PASS and PASS WITH CARE signs shall be erected (see note 6).*
8. *For exit gores where a lane is being dropped place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are not allowed for this purpose.*

TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

1. *Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with yellow body); Type Y (one amber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(11).*
2. *Tabs shall meet requirements of Departmental Material Specification DMS-8242.*
3. *When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway geometrics.*
4. *No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 3.*

PREFABRICATED PAVEMENT MARKINGS

1. *Temporary Removable Prefabricated Pavement Markings shall meet the requirements of DMS-8241.*
2. *Non-removable Prefabricated Pavement Markings shall meet the requirements of either DMS-8240 "Permanent Prefabricated Pavement Markings" or DMS-8243 "Temporary Costruction-Grade Prefabricated Pavement Markings."*

RAISED PAVEMENT MARKERS

1. *All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and DMS-4200.*

DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

1. *DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:*

http://www.txdot.gov/business/contractors_consultants/material_specifications/default.htm

Texas Department of Transportation

Traffic Safety Division Standard

WORK ZONE SHORT TERM PAVEMENT MARKINGS

WZ(STPM)-23

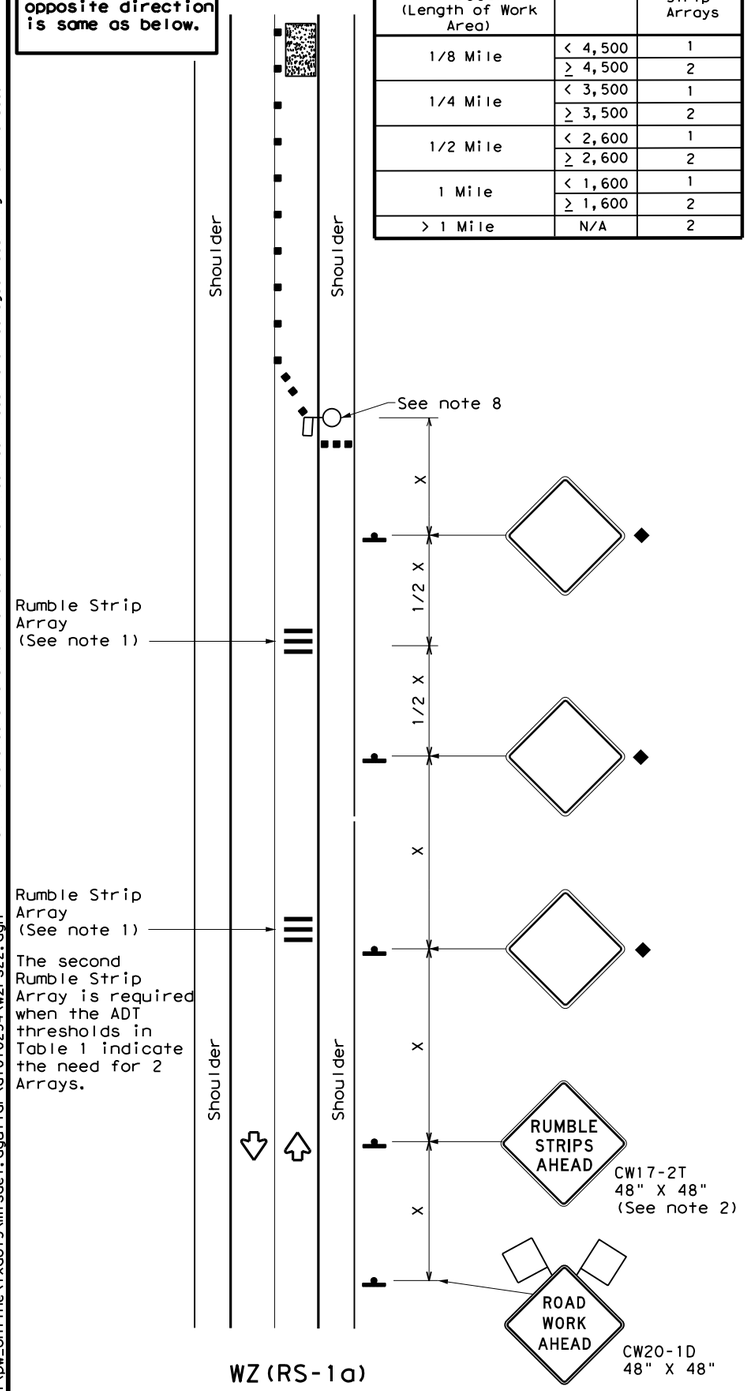
FILE: wzstpm-23.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-92 7-13 1-97 2-23 3-03	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		86

DATE: 4/9/2024 7:47:32 PM
FILE: c:\txdot\pw_online\txdot5\mlsael.aguilar\d1010254\wz(stpm)-23.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

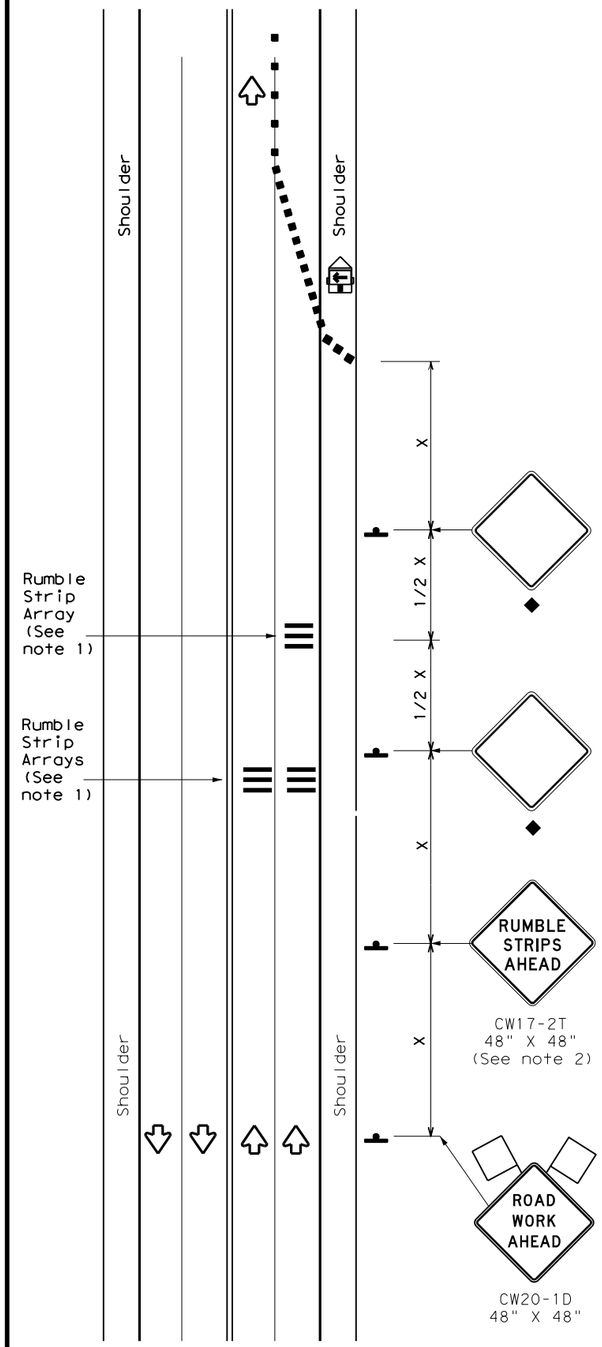
Warning sign and rumble strip sequence in opposite direction is same as below.

TABLE 1		
Flagger to Flagger (Length of Work Area)	ADT	# of Rumble Strip Arrays
1/8 Mile	< 4,500	1
	≥ 4,500	2
1/4 Mile	< 3,500	1
	≥ 3,500	2
1/2 Mile	< 2,600	1
	≥ 2,600	2
1 Mile	< 1,600	1
	≥ 1,600	2
> 1 Mile	N/A	2



WZ(RS-1a)

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ(RS-1b)

RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

1. Each Rumble Strip Array should consist of three rumble strips spaced center to center at the spacing shown in Table 2, placed transverse across the lane at locations shown.
2. The CW17-2T "RUMBLE STRIPS AHEAD" sign should be located after the CW20-1D "ROAD WORK AHEAD sign and spaced as shown. If traffic is observed to be queuing, or is expected to queue beyond the Rumble Strips, the CW17-2T sign and the first Rumble Strip Array may be located upstream of the CW20-1D sign as necessary to provide needed warning.
3. Temporary Rumble Strips will be considered subsidiary to Item 502, and shall be a product listed on the Compliant Work Zone Traffic Control Devices.
4. Remove Temporary Rumble Strips before removing the advanced warning signs.
5. Temporary Rumble Strips should not be used on horizontal curves, loose gravel, soft or bleeding asphalt, heavily rutted pavements or unpaved surfaces.
6. Temporary Rumble Strips shall be installed and maintained as per manufacturer's recommendations.
7. This standard sheet shall be used in conjunction with other appropriate TCP standard, TMUTCD typical application or project specific detail for the project.
8. The one-lane two-way application may utilize a flagger, an Automated Flagger Assistance Device (AFAD) or a Portable Traffic Signal (PTS).
9. Replace defective Temporary Rumble Strips as directed by the Engineer.
10. Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment and written direction from the Engineer.

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Panel		Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed ✱	Formula	Minimum Desirable Taper Lengths ✱✱ 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

✱ Conventional Roads Only

✱✱ Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT)
S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

◆ Signs are for illustrative purposes only. Signs required may vary depending on the TCP, TMUTCD Typical Application, or project specific details for the project.

✱ For posted speeds in excess of 65 MPH, it is recommended that spacing is increased as speed limits increase. Increasing space between rumble strips will improve effectiveness.

TABLE 2	
Speed	Approximate distance between strips in an array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
= 60 MPH	20'
≥ 65 MPH	✱ 35'+

Texas Department of Transportation — Traffic Safety Division Standard

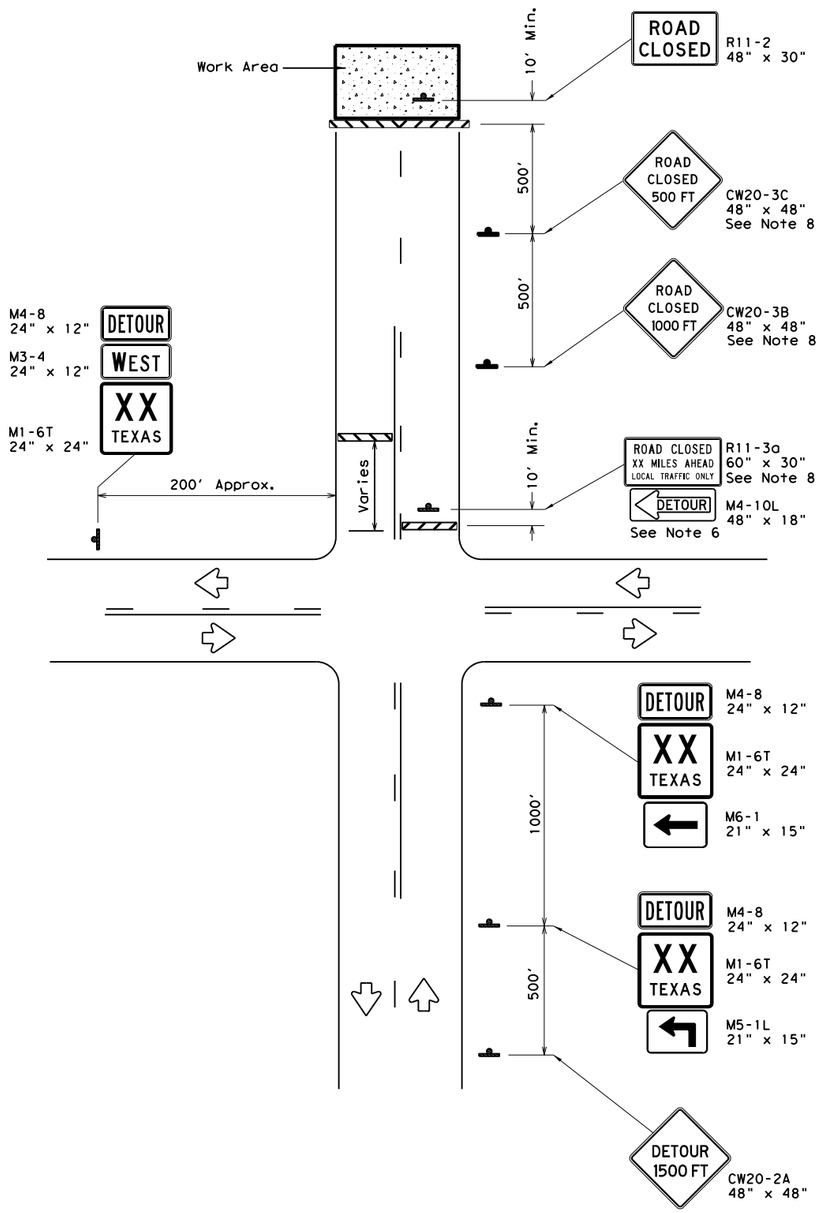
TEMPORARY RUMBLE STRIPS

WZ(RS)-22

FILE: wzrs22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-14 1-22 4-16	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	87

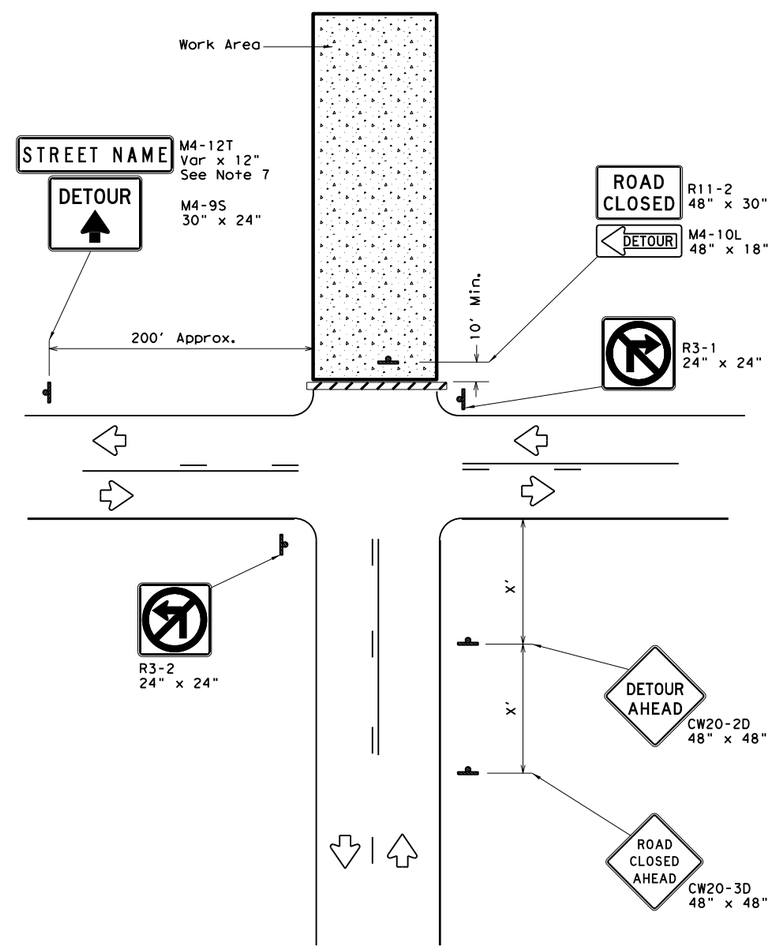
DATE: 4/9/2024 7:47:49 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\wzrs22.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



ROAD CLOSURE BEYOND THE INTERSECTION

Signing for a Numbered Route with an Off-Site Detour



ROAD CLOSURE AT THE INTERSECTION

Signing for an Un-numbered Route with an Off-Site Detour

LEGEND	
	Type 3 Barricade
	Sign

Posted Speed *	Minimum Sign Spacing "X" Distance
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

GENERAL NOTES

1. This sheet is intended to provide details for temporary work zone road closures. For permanent road closure details see the D&OM standards.
2. Barricades used shall meet the requirements shown on Barricade and Construction Standard BC(10) and listed on the Compliant Work Zone Traffic Control Devices list (CWZTCD).
3. Stockpiled materials shall not be placed on the traffic side of barricades.
4. Barricades at the road closure should extend from pavement edge to pavement edge.
5. Detour signing shown is intended to illustrate the type of signing that is appropriate for numbered routes or un-numbered routes as labeled. It does not indicate the full extent of detour signing required. Detour routes should be signed as shown elsewhere in the plans.
6. If the road is open for a significant distance beyond the intersection or there are significant origin/destination points beyond the intersection, the signs and barricades at this location should be located at the edge of the traveled way.
7. The Street Name (M4-12T) sign is to be placed above the DETOUR (M4-9S) sign.
8. For urban areas where there is a shorter distance between the intersection and the actual closure location, the ROAD CLOSED XX MILES AHEAD (R11-3a) sign may be replaced with a ROAD CLOSED TO THRU TRAFFIC (R11-4) sign. If adequate space does not exist between the intersection and the closure a single ROAD CLOSED AHEAD (CW20-3D) sign spaced as per the table above may replace the ROAD CLOSED 1000 FT (CW20-3B) and ROAD CLOSED 500 FT (CW20-3C) signs.
9. Signs and barricades shown shall be subsidiary to Item 502. Locations where these details will be required shall be as shown elsewhere in the plans.

Texas Department of Transportation

Traffic Operations Division Standard

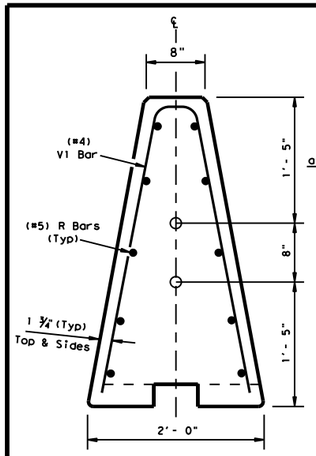
WORK ZONE ROAD CLOSURE DETAILS

WZ(RCD)-13

FILE: wzrcd-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 1995	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
1-97 4-98 7-13	DIST		COUNTY	SHEET NO.
2-98 3-03	22		WEBB	88

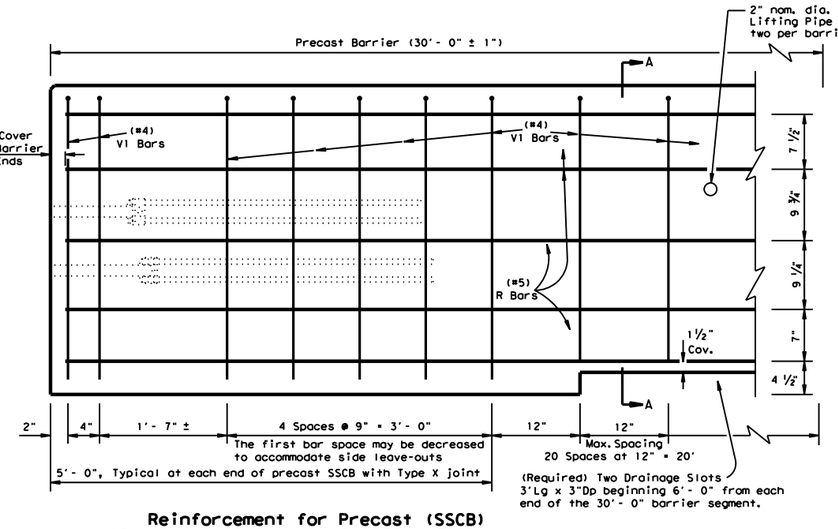
DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\wzrcd-13.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



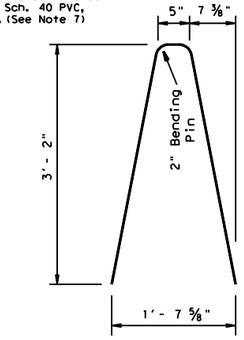
End View
Precast Barrier

Pipe locations for Joint Type X connection



Reinforcement for Precast (SSCB)
Single Slope Concrete Barrier (Type 1)

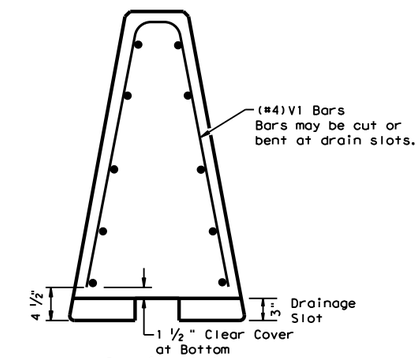
Showing reinforcement for Joint Connection (Type X)



V1 Bar

#4 Rebar

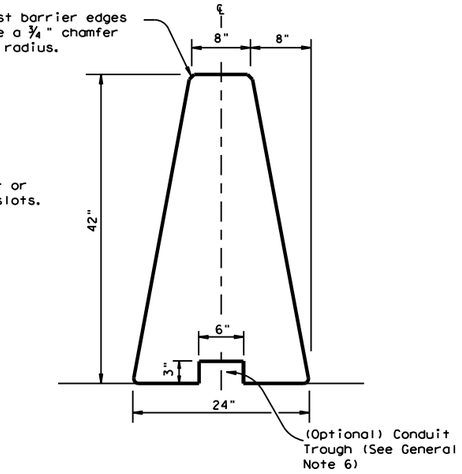
Note:
V1 Bars above the drainage slots may bent to accomadate 1 ½" clear cover as directed by the Engineer.



Section A-A

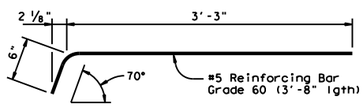
Steel Placement at (Required) Drainage Slots

All precast barrier edges shall have a ¾" chamfer or tooled radius.



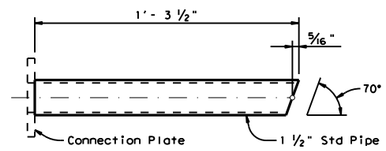
Single Slope Concrete Traffic Barrier

Precast SSCB barrier may be connected to cast-in-place SSBC. The joint connection "Types" may be used in the cast-in-place barrier, to match the precast barrier connection.



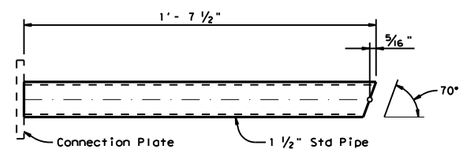
DEFORMED BAR ANCHOR DETAILS

Two (2) Bars required per assembly.
Eight (8) required per Joint.



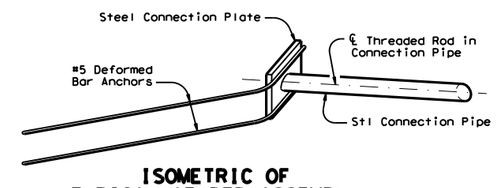
UPPER CONNECTION PIPE DETAILS

One (1) Steel Pipe required per Upper Assembly.
Two (2) required per Joint.



LOWER CONNECTION PIPE DETAILS

One (1) Steel Pipe required per Lower Assembly.
Two (2) required per Joint.

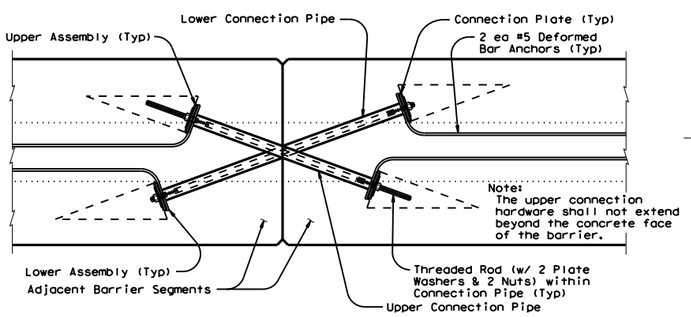


ISOMETRIC OF TYPICAL WELDED ASSEMBLY

Four (4) [2 Upper & 2 Lower] Assemblies required per Joint.

General Notes

1. Concrete shall be Class H with a minimum compressive strength of 3,600 psi.
2. Where used, rebar reinforcement shall be Grade 60 and conform to ASTM A615.
3. Precast barrier length shall be 30 ft. unless otherwise specified on the plans.
4. All precast barrier edges shall have a ¾" chamfer or a tooled radius.
5. All concrete, reinforcement, joint connection systems, grout etc. as shown, are considered as part of the barrier payment.
6. Conduit trough when required shall be shown elsewhere on the plans, or as directed by the Engineer.
7. Regardless of the method of handling, barrier lifting points shall be approx. 7.5 feet from the ends of the barrier. Lifting devices and attachments to barrier sections shall be approved by the Engineer.
8. Surface finishing and grouting (where required) shall be two parts sand one part cement with enough water to make the mixture plastic. Grouting shall be done in a manner that will assure a smooth surface. Surface finishing shall be considered subsidiary to the various bid items.
9. All steel assemblies shall be galvanized after fabrication in accordance with Item 445, "Galvanizing."



TYPE X JOINT INSTALLATION DETAIL

Barrier reinforcing and Type X Joint Leave-Out dimensions not shown for clarity.

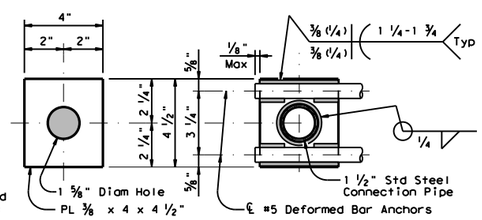
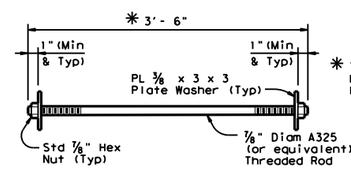


PLATE DIMENSIONS **WELDING DETAILS**

CONNECTION PLATE DETAILS

One (1) Plate required per assembly.
Four (4) required per Joint. All steel fittings for joint Type X shall be galvanized after fabrication in accordance with Item 445.

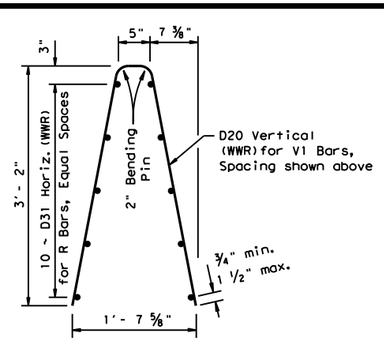


* The connection hardware shall not extend beyond the concrete face of the barrier. Hex head bolts may be provided. The proper length of all hardware should be verified.

CONNECTION BOLT OR THREADED ROD DETAIL

Two (2) Threaded Rods (Or Equivalent Hex Hd. Bolts) (w/ Two (2) PL ⅜ x 3 x 3 Plate Washers & Two (2) Std Hex Nuts) required per Joint.

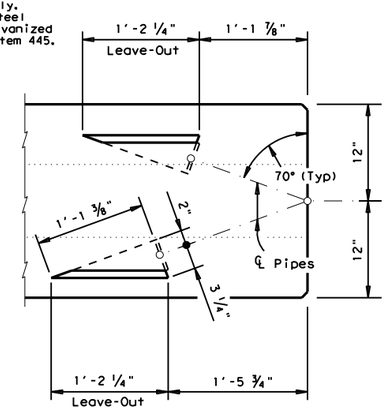
Weight of one precast 30 ft. (SSCB) segment = Approx. 10.5 Tons or 717 lbs per ft.



Welded Wire Reinforcement (WWR) Option for Bars R and V1

(WWR) General Notes

1. Deformed Welded Wire Reinforcement (WWR) shall conform to ASTM A497.
2. Welded wire cage may be cut or bent to accommodate the Type X joint connection and drainage slots, as directed by the Engineer.
3. All reinforcement shall comply with Item 440, "Reinforcing Steel."
4. Combinations of reinforcing steel and WWR will be permitted, as directed by the Engineer. The dimension from the end of the barrier section to the first wire shall not exceed 3".



BARRIER PLAN AT JOINT

Texas Department of Transportation — Design Division Standard

SINGLE SLOPE CONCRETE BARRIER

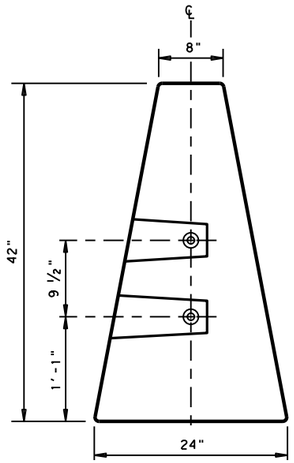
PRECAST BARRIER (TYPE 1)

SSCB(2)-10

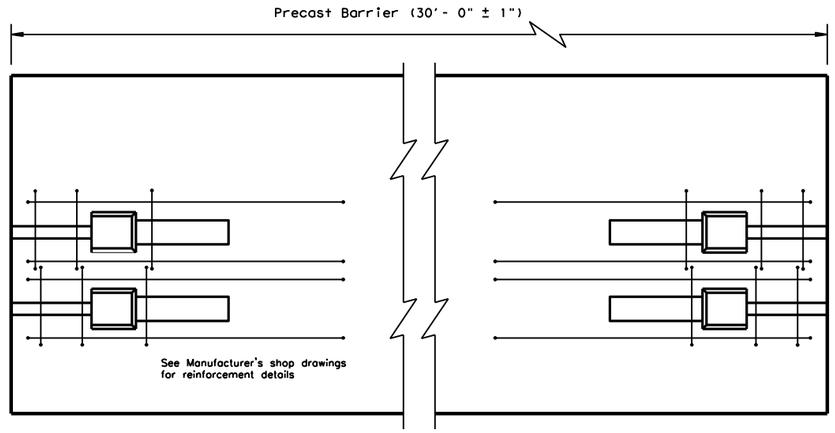
FILE: sscb210.dgn	DN: TxDOT	CK: AM	DW: BD	CK:
©TxDOT December 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	89

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\sscb210.dgn

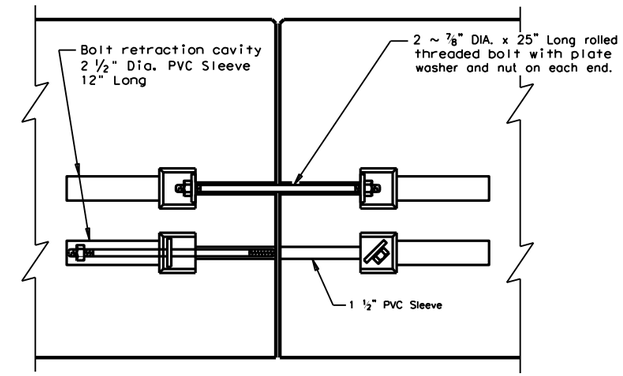
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



END VIEW
"QUICK-BOLT" POCKET LOCATIONS

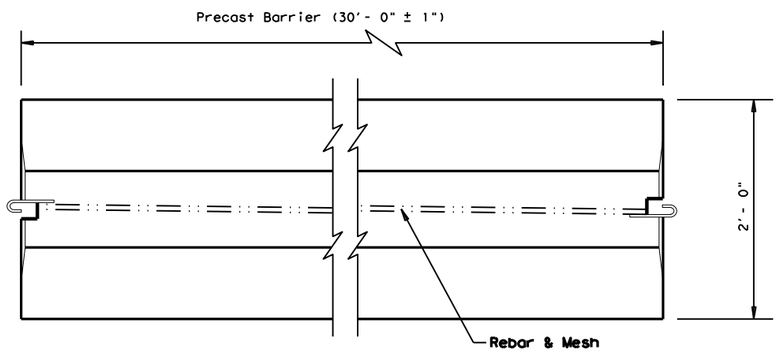


ELEVATION VIEW
"QUICK-BOLT" (SSCB)
See Manufacturer's shop drawing for additional details

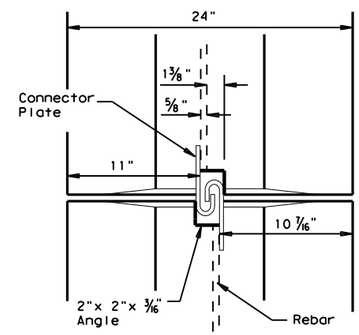


ELEVATION VIEW SHOWING JOINT CONNECTION
"QUICK-BOLT"

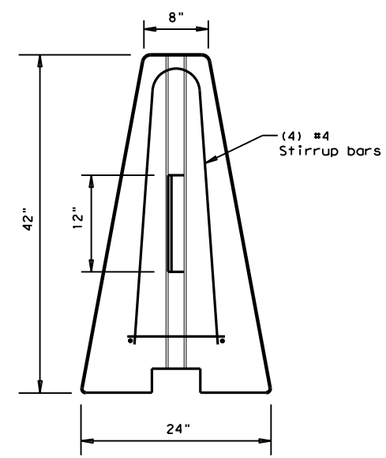
Joint Connection (Type Q)



TOP VIEW
PRECAST (SSCB) WITH J-J HOOKS
See Manufacturer's shop drawing for additional details



VIEW FROM ABOVE
J-J HOOK CONNECTION



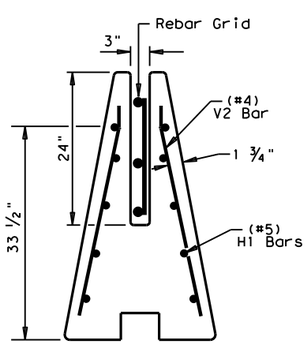
END VIEW

Proprietary Joint Connections (SSCB)

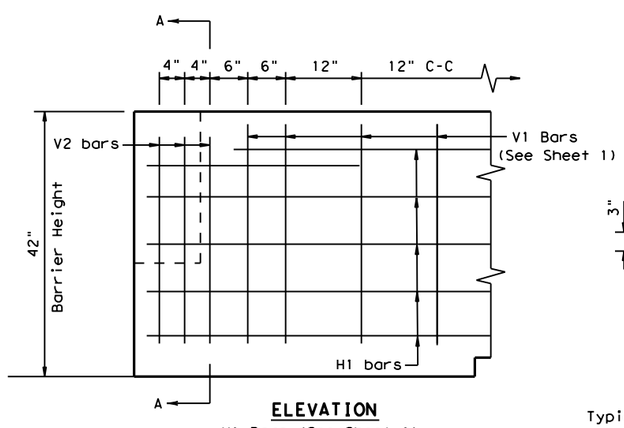
Two proprietary joint connections are acceptable as alternates to the (Type X) connection shown, here on. These joint connections types are:

J-J Hooks by Easi-Set Industries, (800)547-4045
Quick-Bolt by Bexar Concrete, (210)497-3773

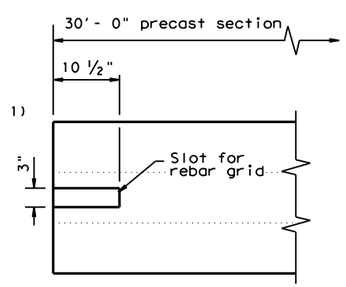
If one of these connection systems are exclusively specified in the plans, prior approval for sole source use must be obtained. Details of the connection components and barrier reinforcement for these systems, will be shown on the manufacturer's shop drawing(s) furnished to the Engineer.



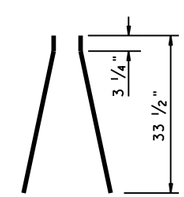
SECTION A-A
Showing (Type R) Rebar Grid



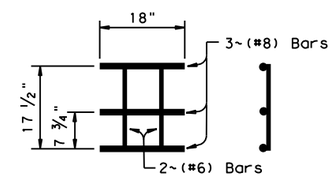
ELEVATION
V1 Bars (See Sheet 1)



TOP VIEW
JOINT CONNECTION
Typical at both ends of barrier segment



(#4) V2 BARS
6 ~ two piece bars per barrier segment



WELDED REBAR GRID

Joint Connection (Type R)

SHEET 2 OF 2

Texas Department of Transportation — Design Division Standard

SINGLE SLOPE CONCRETE BARRIER

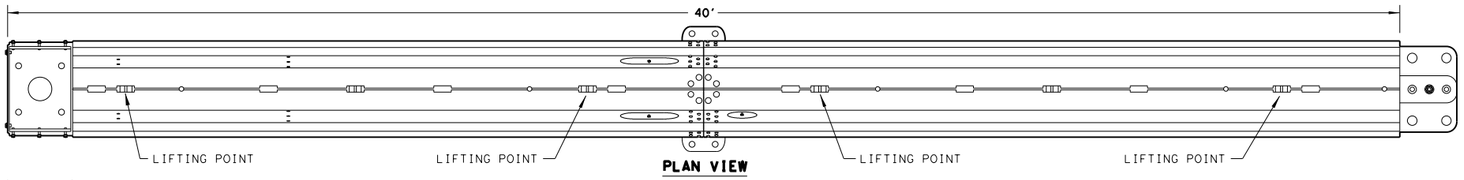
PRECAST BARRIER
(TYPE 1)

SSCB(2)-10

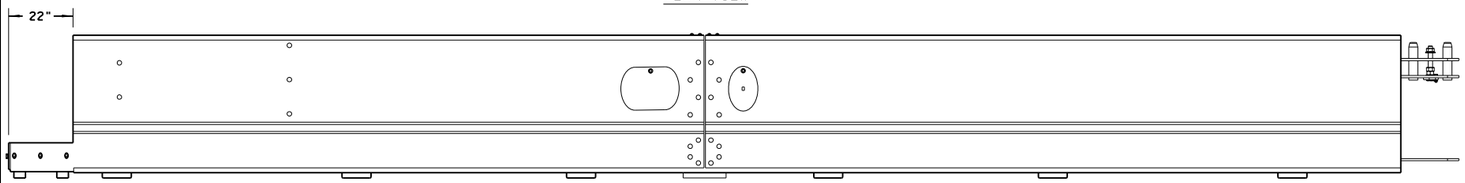
FILE: sscb210.dgn	DN: TxDOT	CK: AM	DW: VP	CK:
©TxDOT December 2010	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	90

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\sscb210.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

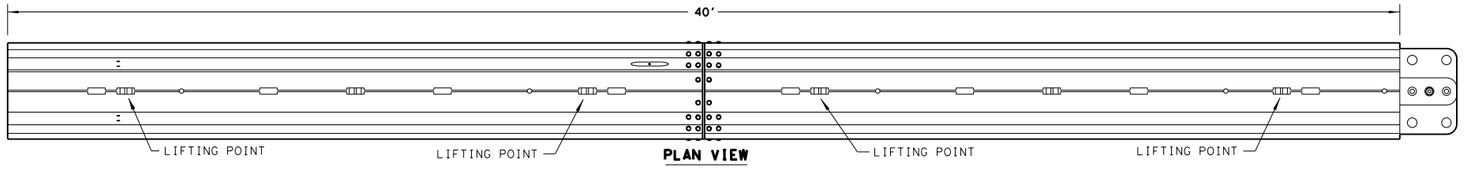


PLAN VIEW

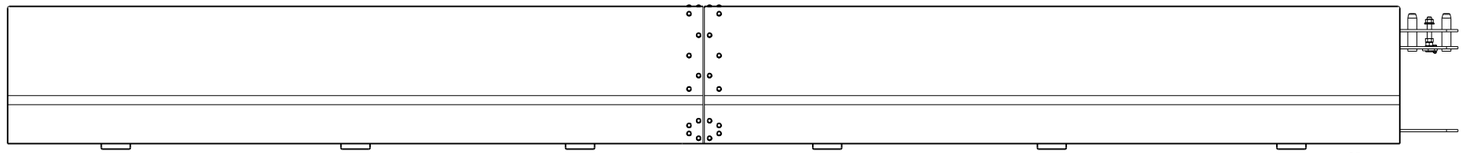


ELEVATION VIEW

BARRIERGUARD END SECTION - 40 FT. MALE OR FEMALE END SECTION

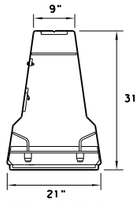


PLAN VIEW

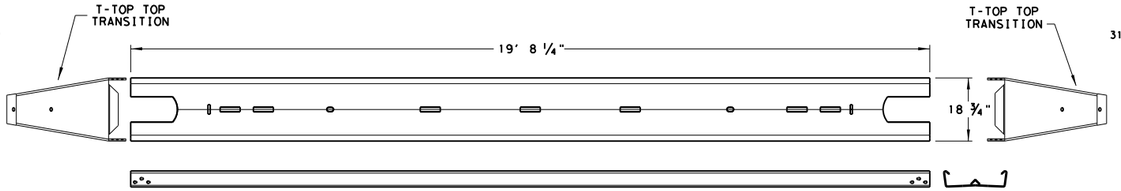


ELEVATION VIEW

BARRIERGUARD STANDARD SECTION - 40 FT.

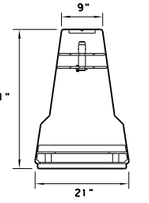


FEMALE END CROSS SECTION

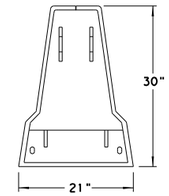


20' T-TOP SECTION

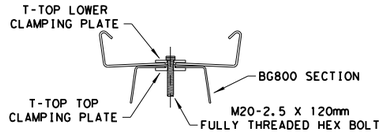
SIDE VIEW



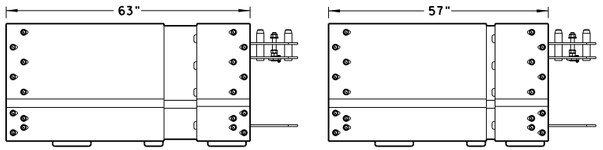
MALE END CROSS SECTION



FULL HEIGHT TERMINAL COVER

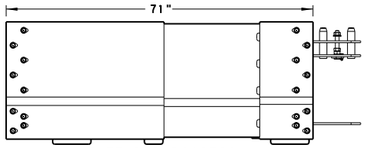


T-TOP MOUNTING DETAIL

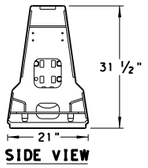


NEUTRAL POSITION

RETRACTED POSITION

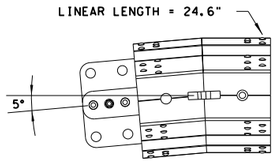


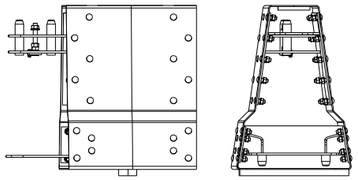
EXTENDED POSITION



SIDE VIEW

VARIABLE LENGTH BARRIER

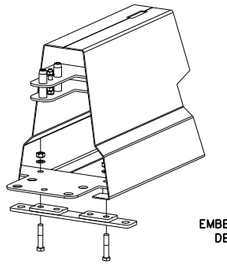




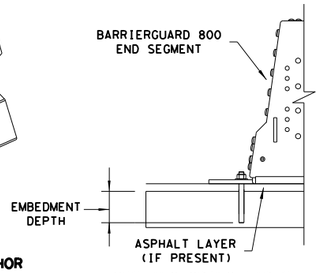
5° (LH) LEFT HAND ANGLE SECTION

NOTE: ADDITIONAL ANGLE SECTION AVAILABLE

5° (RH) RIGHT HAND ANGLE SECTION
10° (LH) LEFT HAND ANGLE SECTION
10° (RH) RIGHT HAND ANGLE SECTION



INTERMEDIATE ANCHOR AT QUICKLINK



SEE ANCHORING TABLE

GENERAL NOTES

1. THE SYSTEM SHOWN ON THIS DRAWING IS A PROPRIETARY BARRIER TRADED AS BARRIERGUARD 800 AND BARRIERGUARD 800 MDS AND HAS BEEN DESIGNED AND MANUFACTURED BY LAURA METAAL ROAD SAFETY INC. FOR TECHNICAL ASSISTANCE AND APPLICATION SUPPORT CONTACT LEE STUART AT LAURA METAAL ROAD SAFETY INC. AT (702) 664-2009 OR lstuart.laurametaal@outlook.com
2. THE BARRIERGUARD 800 SYSTEM HAS BEEN CRASH TESTED TO MASH AND HAS FHWA APPROVAL AS A TL-3 BARRIER. THE DEFLECTION TABLE OUTLINES BASIC SYSTEM PERFORMANCE AND COMPONENT ANCHORING REQUIREMENTS.
3. THIS DRAWING PACKAGE PROVIDES THE RELEVANT INFORMATION AND GENERAL GRAPHICS REQUIRED TO IDENTIFY THE COMPONENT PARTS OF BARRIERGUARD 800 AND THEIR INCORPORATION AS A WHOLE SYSTEM FOR DEPARTMENTAL STANDARD APPLICATIONS.
4. BARRIERGUARD 800 REQUIRES ANCHORING (PINNING) AT EACH END OF THE INSTALLED LENGTH. (INTERMEDIATE ANCHORS CAN BE USED TO REDUCE DEFLECTION).
5. INSTALLATION OF BARRIERGUARD 800 OR BARRIERGUARD 800 MDS, NORMALLY STARTS WITH A MALE TERMINAL SECTION AND IS FINISHED WITH A FEMALE TERMINAL SECTION. STANDARD SECTIONS ARE USED BETWEEN THE TERMINAL SECTIONS TO OBTAIN THE REQUIRED LENGTH OF POSITIVE BARRIER PROTECTION.
6. THE FULL HEIGHT TERMINAL (FHT) SECTIONS MAY BE CAPPED WITH A FHT COVER, HOWEVER IF EXPOSED TO ON-COMING TRAFFIC THE END SHOULD BE PROTECTED WITH A SUITABLE CRASH CUSHION. THE BARRIERGUARD 800 RANGE IS COMPATIBLE WITH MOST COMMONLY USED CRASH CUSHION END TREATMENTS. FOR DETAILS OF BARRIERGUARD 800 CRASH CUSHION CONNECTIONS THAT ARE NOT DETAILED WITHIN THESE DRAWINGS, PLEASE CONTACT LAURA METAAL ROAD SAFETY INC. FOR MORE DETAILS. THE FULL HEIGHT TERMINAL COVER IS SUITABLE FOR THE "DOWN STREAM" END OF A SYSTEM THAT DOES NOT HAVE EXPOSURE TO ON-COMING TRAFFIC.
7. WHEN INSTALLING THE MINIMUM DEFLECTION SYSTEM (MDS),THE SYSTEM CAN BE INSTALLED WITH ADDITIONAL INTERMEDIATE ANCHORS ALONG THE LENGTH OF THE BARRIER RUN AT INTERVALS SHOWN IN THE DEFLECTION TABLE. EACH BARRIER RUN CAN BE MADE UP OF ANY MIXTURE OF THE SYSTEMS BY THE INTRODUCTION OF INTERMEDIATE ANCHORS AND/OR T-TOP AS REQUIRED.
8. THERE ARE SEVERAL METHODS OF ACHIEVING RADIUS IN A LENGTH OF BARRIERGUARD 800. RADIUS CAN BE ACHIEVED USING VARIOUS METHODS AND THUS ALLOWING THE BARRIERGUARD TO FOLLOW THE DESIRED CURVATURE IN THE INSTALLATION, THESE METHODS ARE, THE MOVEMENT IN THE QUICKLINK, ADJUSTABLE 20FT. SECTIONS OR SHORT ANGLED SECTIONS WHICH ALLOW A RADIUS AS LOW AS 12FT. FOR FURTHER INFORMATION AND ADVICE CONTACT LAURA METAAL ROAD SAFETY INC.
9. A BARRIERGUARD 800 VARIABLE LENGTH BARRIER (VLB) SECTION SHOULD BE USED WHEN BARRIERGUARD 800 OR BARRIERGUARD 800 MDS IS ANCHORED ACROSS A BRIDGE EXPANSION JOINT. IF T-TOP IS TO BE USED IN CONJUNCTION WITH THE VLB, THE T-TOP SHOULD BE USED FOR MINIMUM 40FT ON EITHER SIDE OF THE VLB AND TERMINATED WITH TRANSITIONS. THE VLB SECTION PROVIDES APPROXIMATELY 7in OF EXTENSION AND 7in OF CONTRACTION. MULTIPLE VLB'S CAN BE LINKED TOGETHER TO PROVIDE MORE EXPANSION OR CONTRACTION. THE VLB'S SHOULD BE PLACED IN THE VICINITY OF THE EXPANSION JOINT. THE VLB DOES NOT NEED TO BE PLACED DIRECTLY OVER THE EXPANSION JOINT BUT MUST BE BETWEEN THE NEAREST ANCHORS ON EACH SIDE OF THE JOINT. IT IS RECOMMENDED THAT THE VLB IS PLACED WITHIN 40FT OF THE JOINT.
10. THE T-TOP CAN BE INSTALLED EITHER BEFORE OR AFTER THE BARRIERGUARD 800 HAS BEEN FULLY ASSEMBLED AND ANCHORED IN PLACE. T-TOP IS REQUIRED WHEN THE BARRIERGUARD 800 IS USED AS A MDS, ANCHORED EVERY 20FT, GATE SECTIONS AND VARIABLE LENGTH BARRIERS. THE T-TOP SHOULD EXTEND 40FT ON EITHER SIDE OF THESE CONDITIONS AND BE TERMINATED WITH TRANSITIONS.
11. THE BARRIERGUARD 800 RANGE HAS BEEN DESIGNED TO BE USED ON AND HAS BEEN TESTED ANCHORED ON ASPHALT, CONCRETE AND COMPACTED SUBBASE. CONTACT LAURA METAAL ROAD SAFETY INC. FOR FURTHER INFORMATION.
12. BARRIERGUARD 800 COMPONENTS ARE MANUFACTURED IN SI [METRIC] UNITS. ENGLISH UNITS SHOWN ARE APPROXIMATE. ALL COMPONENTS ARE FULLY GALVANIZED.
13. BARRIERGUARD 800 SYSTEMS SHALL BE ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DETAILED DRAWINGS, PROCEDURES AND SPECIFICATIONS. FOR ANY INSTALATIONS OUTSIDE OF THE SCOPE OF THESE DRAWINGS PLEASE CONTACT LAURA METAAL ROAD SAFETY INC. FOR DETAILS.

BARRIERGUARD 800 DEFLECTION TABLE

	STANDARD SYSTEM	MINIMUM DEFLECTION SYSTEMS (MDS)
DESCRIPTION	ONLY ANCHORED AT THE EXTREME ENDS OF THE BARRIER LENGTH	ANCHORED EVERY 20 FT.
DEFLECTION AT MASH TL-3	5'-6"	18 1/2"
T-TOP REQUIREMENTS	NONE REQUIRED	REQUIRED FOR MDS SECTIONS

STANDARD ANCHORING REQUIREMENTS (TABLE)

	RESIN STUD ANCHORS			DRIVEN ANCHORS		Hilti HSL-3 SHALLOW MECHANICAL
	CONCRETE *	UNREINFORCED CONCRETE *	ASPHALT	ASPHALT	SUBBASE/SOIL	CONCRETE
ANCHOR DIAMETER	1 in.	1 in.	1 in.	1-3/16 in.	5-1/2 in.	* *
EMBEDMENT DEPTH	6 in.	8 in.	16 in.	16 in.	32 in.	* *
DRILL DIAMETER	1-1/8 in.	1-1/8 in.	1-1/8 in.	1-3/16 in.	DRIVEN	* *
PULL OUT CAPACITY (MIN)	17500 lb	17500 lb	N/A	N/A	N/A	* *
SHEAR CAPACITY (MIN)	25000 lb	25000 lb	N/A	N/A	N/A	* *

* ALTERNATIVE ANCHORS INCLUDING MECHANICAL ANCHORS FOR CONCRETE MAYBE USED IF THEY MEET THE STRENGTH REQUIREMENTS LISTED, DETAILS WILL BE MANUFACTURER SPECIFIC.
* * CONTACT: LAURA METAAL ROAD SAFETY INC. FOR SPECIFIC APPLICATION.

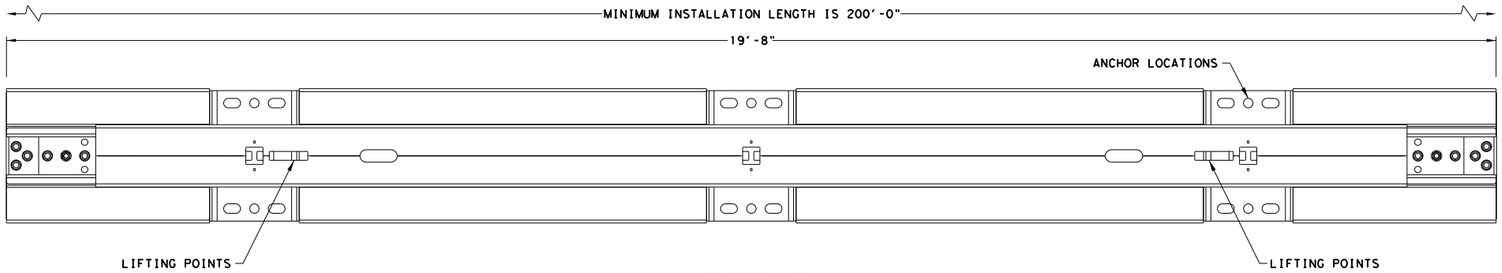
Texas Department of Transportation — Design Division Standard

BARRIERGUARD 800 SYSTEM
STEEL BARRIER
MASH TL-3
BARRIERGUARD-19

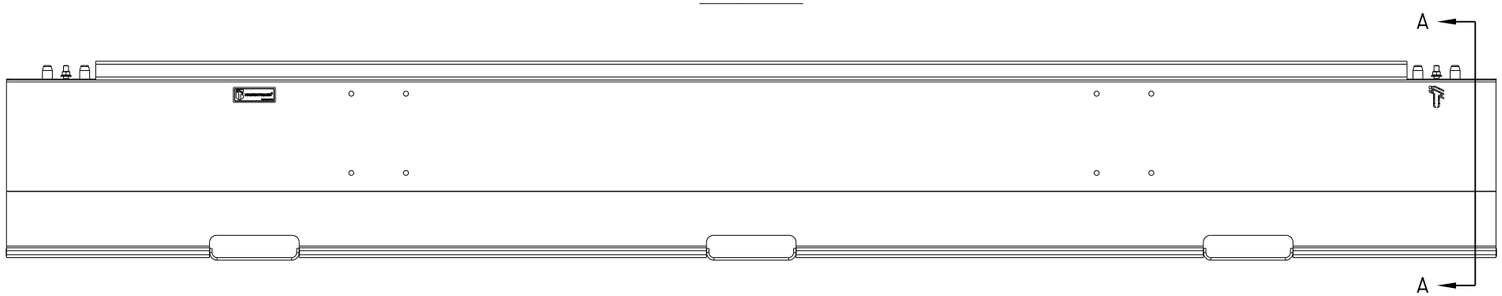
FILE: barrierguard19.dgn	DN: TxDOT	CK: KM	DW: VP	CK:
© TxDOT: JULY 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	91

DATE: 4/9/2024 7:48:40 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\barrierguard19.dgn

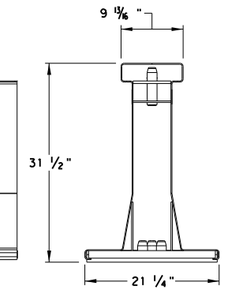
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



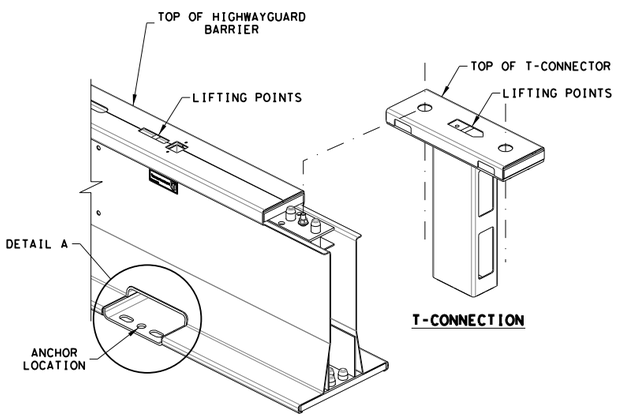
PLAN VIEW



ELEVATION VIEW
LEFT SIDE

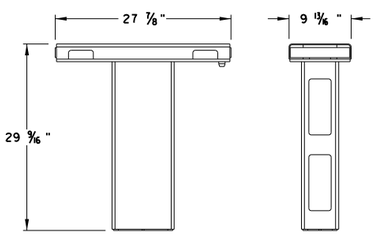


VIEW A-A

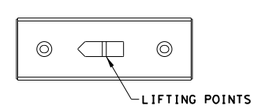


T-CONNECTION

ISOMETRIC VIEW



ELEVATION VIEW SIDE VIEW

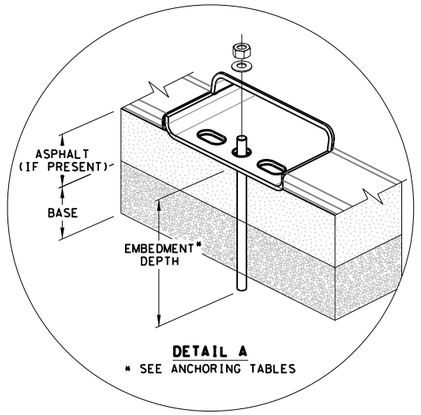


PLAN VIEW

T-CONNECTOR DETAILS

HIGHWAYGUARD BARRIER T-CONNECTOR TABLE *		
METHOD	DESCRIPTION	APPROX. RADIUS (FT)
1	20FT BARRIER SECTION WITH STANDARD T-CONNECTIONS AT MAXIMUM ANGLE	581
2	20FT BARRIER SECTION WITH 2.5° T-CONNECTION	460
3	20FT BARRIER SECTION WITH 5° T-CONNECTION	230
4	20FT BARRIER SECTION WITH 10° T-CONNECTION	115
5	20FT BARRIER SECTION WITH 10° BARRIER SECTION AND STANDARD T-CONNECTION	135
6	10° BARRIER SECTION WITH STANDARD T-CONNECTIONS	22
7	10° BARRIER SECTION WITH 10° T-SECTION	12

* SEE PRODUCT MANUAL OR CONTACT HIGHWAY CARE LTD. FOR MORE INFORMATION ON ANGLE T-CONNECTORS



DETAIL A
* SEE ANCHORING TABLES

STANDARD ANCHORING REQUIREMENTS (ASPHALT)**				
	ANCHOR OPTIONS	ANCHOR LENGTH	EMBEDMENT DEPTH (MIN.)	DRILL DIAMETER
1	1" GALV. RESIN THREADED ANCHOR (WITH 1" GALV. WASHER & NUT)	1'-1"	11 3/4"	1 1/8"
2	1 3/16" GALV. DROP IN PIN (NOT DRIVEN PIN)	1'-2 3/8"	1'-1 3/4"	1 1/4"
3	1" GALV. RESIN THREADED ANCHOR (WITH 1" GALV. WASHER & NUT)	1'-6"	1'-4 1/2"	1 1/4"
4	1" GALV. CHEMICAL THREADED "LEFTY" KELKEN REMOVABLE ANCHOR (WITH 1" GALV. WASHER & NUT)	NA	1'-0"	1 1/4"

** 2" MIN. ASPHALT DEPTH ABOVE AN APPROPRIATELY COMPACTED DGA SUBBASE AND 2" MIN. ASPHALT DEPTH ABOVE A MIN. OF 6" REINFORCED CONCRETE SUBBASE.

NOTE:
ANCHORS ARE TO BE POSITIONED A MINIMUM OF 5 3/4" AWAY FROM THE EDGE OF AN EXCAVATION FOR RESIN ANCHORS OR 7 3/4" FOR DROP IN PINS.

STANDARD ANCHORING REQUIREMENTS (CONCRETE)***				
	ANCHOR OPTIONS	ANCHOR LENGTH	EMBEDMENT DEPTH (MIN.)	DRILL DIAMETER
1	1" GALV. RESIN THREADED ANCHOR (WITH 1" GALV. WASHER & NUT)	9"	6"	1 1/8"
2	1" HILTI HSL-3 MECHANICAL ANCHOR	9 1/4"	****	****
3	1" GALV. CHEMICAL THREADED "LEFTY" KELKEN REMOVABLE ANCHOR (WITH 1" GALV. WASHER & NUT)	NA	6"	1 1/4"
4	1 3/16" GALV. DROP IN PIN (NOT DRIVEN PIN)	1'-2 3/8"	1'-1 3/4"	1 1/4"

*** 7 7/8" MINIMUM REINFORCED CONCRETE DEPTH.
10" MINIMUM UNREINFORCED CONCRETE DEPTH.
**** CONTACT: HIGHWAY CARE LTD. FOR SPECIFIC APPLICATION.

NOTE:
ANCHORS ARE TO BE POSITIONED A MINIMUM OF 11 7/8" FROM THE EDGE OF THE CONCRETE PAD.

GENERAL NOTES

1. THE SYSTEM SHOWN ON THIS DRAWING IS A PROPRIETARY BARRIER TRADED AS HIGHWAYGUARD AND HIGHWAYGUARD LDS AND HAS BEEN DESIGNED AND MANUFACTURED BY HIGHWAY CARE LTD. FOR TECHNICAL ASSISTANCE AND APPLICATION SUPPORT CONTACT AT (888) 323-6374 OR engineering@highwaycare.com
2. THE HIGHWAYGUARD HAS BEEN CRASH TESTED TO MASH AND HAS FHWA APPROVAL AS A TL-3 & TL-4 BARRIER. THE DEFLECTION TABLE OUTLINES BASIC SYSTEM PERFORMANCE AND COMPONENT ANCHORING REQUIREMENTS.
3. THIS DRAWING PACKAGE PROVIDES THE RELEVANT INFORMATION AND GENERAL GRAPHICS REQUIRED TO IDENTIFY THE COMPONENT PARTS OF HIGHWAYGUARD AND THEIR INCORPORATION AS A WHOLE SYSTEM FOR DEPARTMENTAL STANDARD APPLICATIONS.
4. INSTALLATION OF HIGHWAYGUARD BARRIER OR HIGHWAYGUARD LDS BARRIER, NORMALLY STARTS WITH AN END CAP THAT MUST BE PROTECTED WITH A SUITABLE CRASH CUSHION END TREATMENT IF EXPOSED TO ONCOMING TRAFFIC. THE CRASH CUSHION CONNECTIONS ARE NOT DETAILED WITHIN THESE DRAWINGS, PLEASE CONTACT HIGHWAY CARE LTD. FOR MORE DETAILS.
5. THE FULL HEIGHT OF HIGHWAYGUARD BARRIER 20FT SEGMENT IS 31.5". EACH SEGMENT IS LOWERED INTO POSITION WITH THE T-CONNECTION ALREADY ATTACHED TO THE END OF THE BARRIER THAT IS BEING JOINED TO THE RUN OF BARRIER. ENSURE ORIENTATION OF T-CONNECTOR ALLOWS ALIGNMENT PINS TO BE LOWERED ONTO NEXT SECTION. THE T-CONNECTOR ALLOWS THE BARRIER FOR ADJUSTMENTS, QUICK INSTALLATION, QUICK REMOVAL AND REPLACEMENT OF DAMAGED BARRIERS. MINIMUM INSTALLATION LENGTH OF HIGHWAYGUARD BARRIER IS 200'-0".
6. THERE ARE SEVERAL METHODS OF ACHIEVING RADIUS IN A LENGTH OF HIGHWAYGUARD BARRIER. RADIUS CAN BE ACHIEVED USING VARIOUS T-CONNECTORS AND THUS ALLOWING THE HIGHWAYGUARD BARRIER TO FOLLOW THE DESIRED CURVATURE IN THE INSTALLATION, THESE TYPE OF T-CONNECTORS ARE, 2.5°, 5° AND 10° ANGLES. FOR FURTHER INFORMATION AND ADVICE CONTACT HIGHWAY CARE LTD.
7. USING HIGHWAYGUARD BARRIER OR HIGHWAYGUARD BARRIER LDS ON BRIDGE STRUCTURES, POSSIBLE ANCHORING SHOULD TAKE PLACE OFF BRIDGE DECKS. ANY ANCHORING ON BRIDGE DECKS NEEDS TO BE AGREED IN ADVANCE WITH THE TECHNICAL EXPERT RESPONSIBLE FOR THE BRIDGE TO ENSURE IT IS NOT DAMAGED. IF ANCHORING EITHER SIDE OF A BRIDGE DECK EXPANSION JOINT, THEN THIS MOVEMENT MUST BE MIRRORED IN THE BARRIER. FOR FURTHER INFORMATION AND ADVICE CONTACT HIGHWAY CARE LTD.
8. THE HIGHWAYGUARD BARRIER SECTIONS CAN BE EQUIPPED WITH OPTIONAL WHEELSETS THAT ALLOW THE BARRIERS TO BE MANEUVERED WITHOUT LIFTING THE MACHINERY/ EQUIPMENT SUCH AS INSTALLING IN TUNNELS OR AREAS WITH OVERHEAD RESTRICTIONS. THE WHEELSETS CAN BE RAISED AND LOWERED FROM THE TOP OF THE BARRIER USING A MANUAL WRENCH AND 1" SOCKET.
9. THE HIGHWAYGUARD BARRIER HAS BEEN MASH TESTED, USING 1 3/16" DIA. DROP IN PIN ANCHORS AND EMBEDDED 1'-6" INTO ASPHALT. ALTERNATIVE GROUND EMBEDMENT CONDITIONS MAY BE ACCEPTABLE BUT MIGHT REQUIRE DIFFERENT ANCHOR SOLUTIONS, PLEASE CONTACT HIGHWAY CARE LTD. FOR FURTHER INFORMATION.
10. ALL COMPONENTS ARE FULLY GALVANIZED.
11. HIGHWAYGUARD BARRIER SYSTEMS SHALL BE ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DETAILED DRAWINGS, PROCEDURES AND SPECIFICATIONS. FOR ANY INSTALLATIONS OUTSIDE OF THE SCOPE OF THESE DRAWINGS, PLEASE CONTACT HIGHWAY CARE LTD. FOR DETAILS.
12. FOR ANCHORING LAYOUTS FOR HIGHWAYGUARD AND HIGHWAYGUARD LDS, PLEASE SEE MANUFACTURER'S PRODUCT MANUAL OR CONTACT HIGHWAY CAR LTD. FOR INFORMATION.

HIGHWAYGUARD DEFLECTION TABLE		
	STANDARD SYSTEM	MINIMUM DEFLECTION SYSTEMS (LDS)
DESCRIPTION	ONLY ANCHORED AT THE FIRST AND ENDS OF THE BARRIER LENGTH	ANCHORS ARE STAGGERED EVERY 39'-4 1/2"
DEFLECTION AT MASH TL-3	64"	2'-3"
DEFLECTION AT MASH TL-4	71"	2'-7"

NOTE:
SEE PRODUCT MANUAL OR CONTACT HIGHWAY CARE LTD. FOR MORE INFORMATION ON ANCHOR REQUIREMENTS FOR THE LENGTH OF BARRIER.

Texas Department of Transportation — Design Division Standard

HIGHWAYGUARD SYSTEM STEEL BARRIER

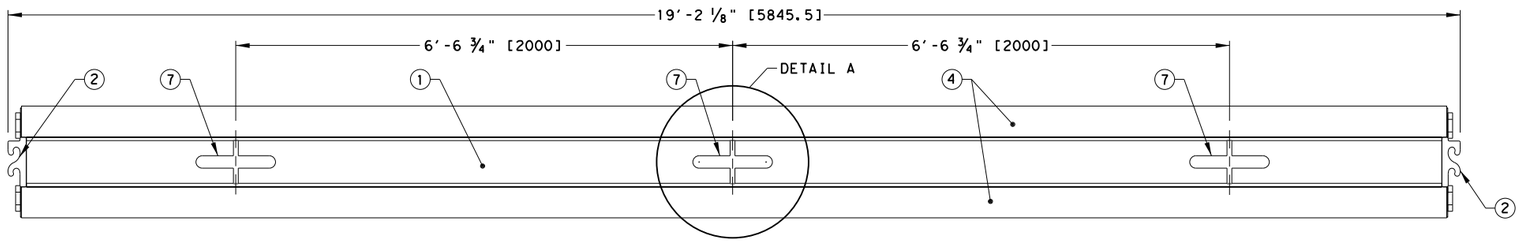
MASH TL-3 & TL-4

HIGHWAYGUARD-21

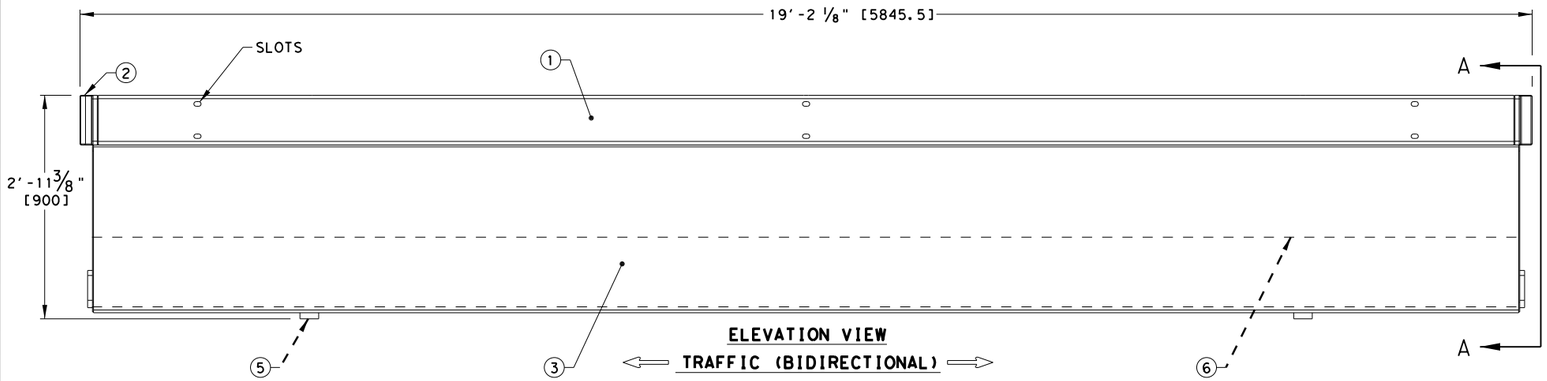
FILE: highwayguard21.dgn	DN: TXDOT	CK: KM	DW: SS	CK: XX
© TxDOT: JULY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	92

DATE: 4/9/2024
FILE: $FILEL$

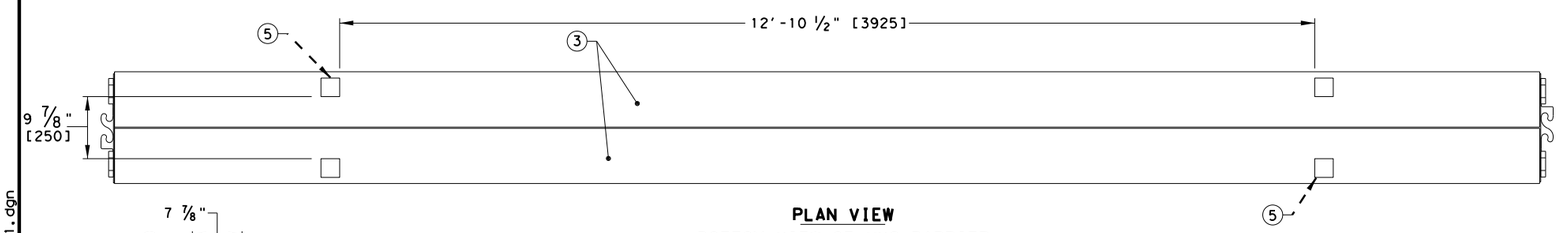
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



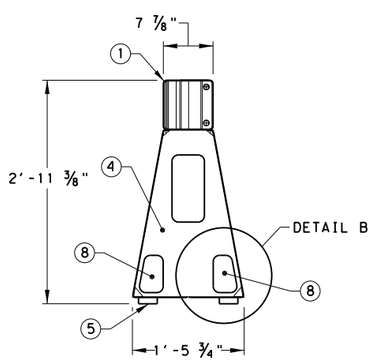
PLAN VIEW
HV2 SQUARE TOP RAIL



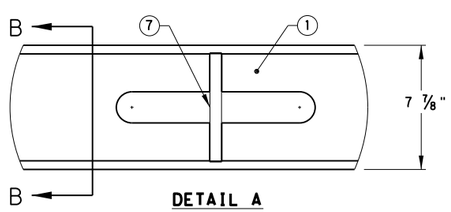
ELEVATION VIEW
TRAFFIC (BIDIRECTIONAL)



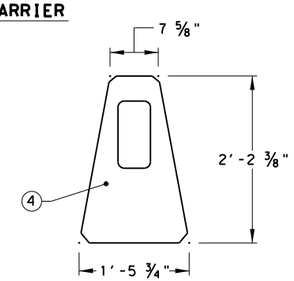
PLAN VIEW
BOTTOM VIEW OF HV2 BARRIER



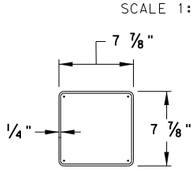
VIEW A-A
SCALE 1:25



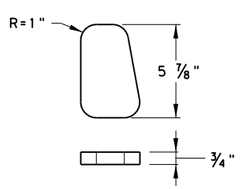
DETAIL A
HV2 LIFTING BAR
SCALE 1:20



HV2 END
SCALE 1:25



VIEW B-B
HV2 SQUARE TOP RAIL
SCALE 1:10



DETAIL B
HV2 SPACER
SCALE 1:5

ITEM NO.	PART NUMBER	DESCRIPTION
1	SRP000036	HV2 SQUARE TOP RAIL
2	SRP000037	CONNECTOR
3	SRP000038	HV2 SKIN
4	SRP000039	HV2 END
5	SRP000040	HV2 FEET
6	SRP000041	CONCRETE BALLAST
7	SRP000043	HV2 LIFTING BAR
8	SRP000048	HV2 SPACER

GENERAL NOTES

1. FOR TECHNICAL AND APPLICATION SUPPORT PLEASE CONTACT SAFEROADS PTY, LTD, AT (859)469-0364, WEBSITE: www.saferoads.com.au OR www.hv2barrier.com.
2. HV2 BARRIER HAS BEEN ACCEPTED BY FHWA AS A MASH TL-4 LONGITUDINAL BARRIER.
3. STANDARD INSTALLATIONS IS A FREE STANDING TEMPORARY LONGITUDINAL BARRIER SYSTEM. HIGH CONTAINMENT AND LOW DEFLECTION INSTALLATIONS REQUIRE NO ANCHORING. NO MODIFICATIONS ARE NECESSARY OTHER THAN FAST DEPLOYMENT AND RETRIEVAL.
4. OVERALL LENGTH PER BARRIER IS 19.2FT. AND WEIGHS 4,600LBS EACH. HV2 SAFETY BARRIER CAN BE DEPLOYED ON A HORIZONTAL RADIUS AS TIGHT AS 255.9FT/78M. HV2 SAFETY BARRIER INSTALLATIONS REQUIRE A MIN. DEPLOYMENT LENGTH OF 323.5FT/98.6M (17NO. HV2 BARRIERS) PLUS THE REQUIRED END TREATMENTS, TO SAFELY CONTAIN AND REDIRECT AT MASH TL3.
5. SAFEROADS HV2 SAFETY BARRIER SHOULD NOT BE INSTALLED IF THERE IS:
   - CURVATURE TIGHTER THAN 262 FT (80m) RADIUS.
   - CROSS SLOPE STEEPER THAN 5%.
   - LONGITUDINAL SLOPE STEEPER THAN 5%.
   - CREST SHARPER THAN 5%.
   - DITCH SHARPER THAN 5%.
   - CURBS OR SIMILAR OBSTACLES RESTRICTING DEFLECTION.
6. SAFEROADS HV2 SAFETY BARRIER COMPONENTS ARE MANUFACTURED IN SI [METRIC] UNITS. ENGLISH UNITS SHOWN ARE APPROXIMATE. ALL COMPONENTS ARE CONSTRUCTED FROM STEEL WITH CONCRETE BALLASTING.
7. WHEN TAPERING HV2 SAFETY BARRIER OUTSIDE THE CLEAR ZONE, THE LENGTH OF NEED BEGINS AND ENDS 74FT/22.5M FROM THE ENDS OF THE SYSTEM FOR A MASH TL-3 DEPLOYMENT AND 164FT/50M FROM THE ENDS OF THE SYSTEM FOR A MASH TL-4 DEPLOYMENT.

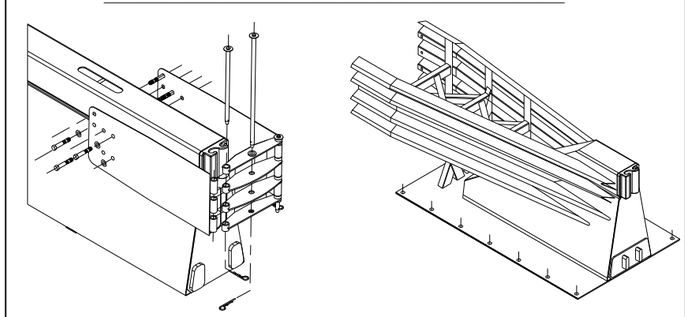
HV2 BARRIER DEFLECTION TABLE (TL-3)

SPEED	25°	20°	15°	10°	5°
62MPH	4'-10" [1.47]	3'-11" [1.18]	2'-11" [0.88]	2'-0" [0.59]	1'-0" [0.30]
56MPH	4'-5" [1.33]	3'-7" [1.07]	2'-8" [0.80]	1'-10" [0.54]	11" [0.27]
50MPH	3'-11" [1.18]	3'-2" [0.95]	2'-4" [0.71]	1'-7" [0.48]	10" [0.24]
43MPH	3'-5" [1.03]	2'-9" [0.83]	2'-1" [0.62]	1'-5" [0.42]	9" [0.21]
37MPH	2'-11" [0.89]	2'-4" [0.71]	1'-9" [0.53]	1'-3" [0.36]	8" [0.18]
31MPH	2'-6" [0.74]	2'-0" [0.59]	1'-6" [0.44]	1'-0" [0.30]	6" [0.15]
25MPH	2'-0" [0.59]	1'-7" [0.48]	1'-3" [0.36]	10" [0.24]	5" [0.12]

HV2 BARRIER DEFLECTION TABLE (TL-4)

SPEED	15°	10°	5°
56MPH	7'-10" [2.37]	5'-3" [1.58]	2'-8" [0.79]
50MPH	7'-0" [2.11]	4'-8" [1.41]	2'-4" [0.71]
43MPH	6'-1" [1.85]	4'-1" [1.23]	2'-1" [0.62]
37MPH	5'-3" [1.58]	3'-6" [1.06]	1'-9" [0.53]
31MPH	4'-4" [1.32]	2'-11" [0.88]	1'-6" [0.44]
25MPH	3'-6" [1.06]	2'-4" [0.71]	1'-2" [0.35]

END TREATMENT TYPES FOR SYSTEM TRANSITIONS*



* NOTE:
REFER TO SAFERROADS HV2 BARRIER MANUFACTURERS MANUAL AND/OR THE APPLICABLE TRANSITION MANUFACTURERS INSTALLATION MANUAL FOR FURTHER TRANSITION DETAILS.

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE SAFEROADS HV2 BARRIER, IT IS NOT INTENDED TO REPLACE THE INSTALLATION INSTRUCTIONS MANUAL.

Texas Department of Transportation — Design Division Standard

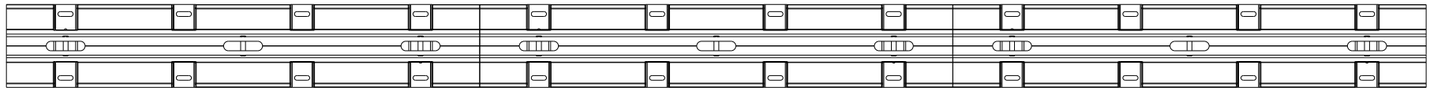
SAFEROADS HV2 SAFETY STEEL BARRIER MASH TL-4

HV2 BARRIER-21

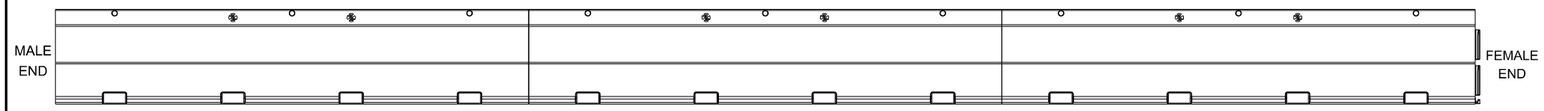
FILE: hv2barrier21.dgn	DN: TxDOT	CK: KM	DW: SS	CK: AG
© TxDOT: JULY 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	93

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\hv2barrier21.dgn

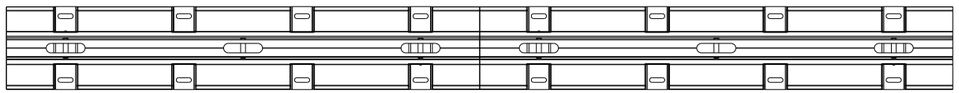
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever.
TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



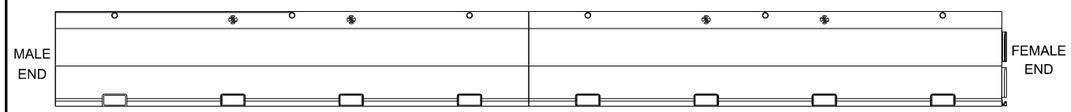
PLAN VIEW



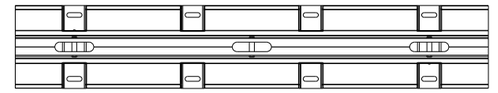
ELEVATION VIEW
ZONEGUARD STANDARD UNIT x 50'-0"



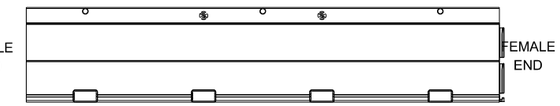
PLAN VIEW



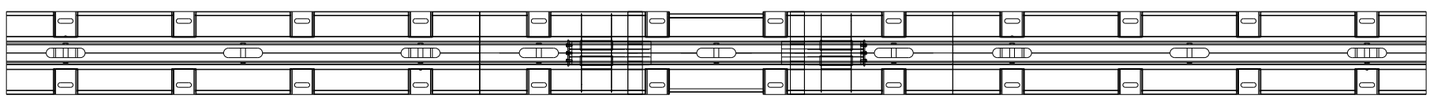
ELEVATION VIEW
ZONEGUARD STANDARD UNIT x 33'-4"



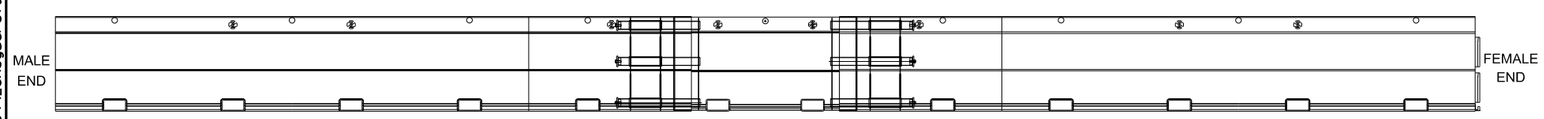
PLAN VIEW



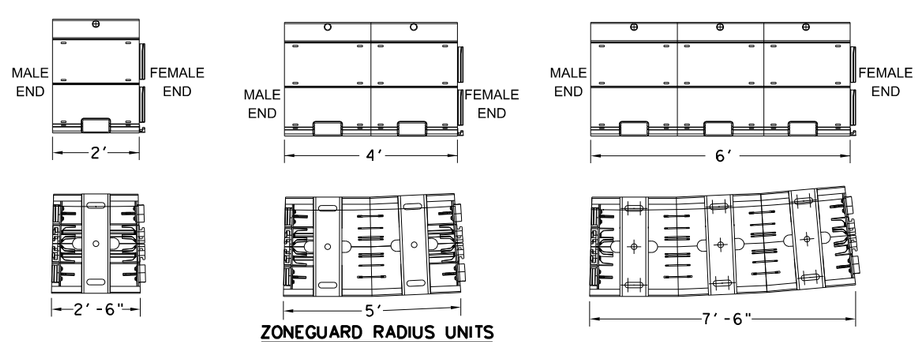
ELEVATION VIEW
ZONEGUARD STANDARD UNIT x 16'-8"



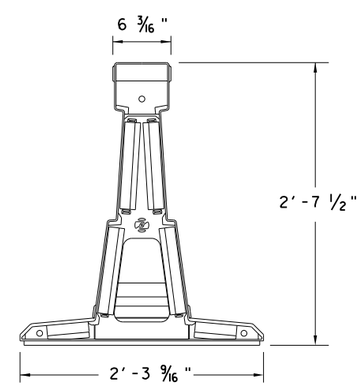
PLAN VIEW



ELEVATION VIEW
ZONEGUARD EXPANSION UNIT x 46'-5½"
(SEE GENERAL NOTE 5)



ZONEGUARD RADIUS UNITS



ZONEGUARD TYPICAL SECTION

GENERAL NOTES

1. FOR TECHNICAL AND APPLICATION SUPPORT PLEASE CONTACT HILL & SMITH INC. AT 614-340-6294.
2. ZONEGUARD HAS BEEN ACCEPTED BY FHWA AS A MASH TL-3 LONGITUDINAL BARRIER.
3. STANDARD INSTALLATIONS REQUIRE ANCHORING AT EACH END OF THE RUN. MINIMUM DEFLECTION INSTALLATIONS REQUIRE ANCHORING AT 33'-4 CENTERS. NO MODIFICATIONS ARE NECESSARY OTHER THAN INCREASED ANCHORING.
4. 50-0' UNITS CAN BE USED TO ACHIEVE DOWN TO AN 800' RADIUS CURVE. 16'-8" UNITS CAN BE USED TO ACHIEVE CURVES DOWN TO 250' RADIUS. SPECIAL SHORT UNITS (SHOWN) IN 2.5 DEGREE INCREMENTS CAN BE USED TO ACHIEVE DIRECTION CHANGES OR AT A FIXED RADIUS OF 47'-0".
5. HILL & SMITH OFFERS AN EXPANSION UNIT THAT CAN BE USED ACROSS A BRIDGE EXPANSION JOINT OR TO ACCOMMODATE THERMAL EXPANSION. THE UNIT IS ANCHORED IN THE MIDDLE, AND ADJUSTED ACCORDING TO THE TEMPERATURE AT THE TIME OF INSTALLATION. THE EXPANSION JOINT CAN BE USED WITH ENGINEER APPROVAL. THE EXPANSION UNIT HAS NOT BEEN ASSESSED TO MASH CRITERIA.
6. ANCHOR PINS ARE 1 ¼" DIAMETER. LENGTH IS 1'-8" FOR ASPHALT AND 1'-0" FOR CONCRETE. SEE ANCHORING TABLE FOR ADDITIONAL DETAILS.

	STANDARD INSTALLATION	MINIMUM DEFLECTION INSTALLATION CONCRETE	MINIMUM DEFLECTION INSTALLATION ASPHALT
	FOUR ANCHORS AT END OF THE RUN	TWO ANCHORS (ONE EACH SIDE) EVERY 33'-4"	TWO ANCHORS (ONE EACH SIDE) EVERY 33'-4"
MASH TL-3 DEFLECTION (2270 KG TRUCK @ 25° & 100 KM/HR)	6'-10"	5"	2'-0"

EXPECTED DEFLECTION TABLE

DESCRIPTION	ASPHALT	CONCRETE
1 1/4" PIN ANCHOR	1'-8" LONG, MINIMUM ASPHALT COVER OF 3"	1'-0" LONG, MINIMUM CONCRETE COVER OF 6"
1 1/4" ALL THREAD ANCHOR	-	1'-0" LONG, MINIMUM EMBEDMENT OF 6"

ANCHORING TABLE

ALTERNATE ANCHORING METHODS CERTIFIED BY HILL & SMITH, INC. ARE AVAILABLE PER FHWA APPROVAL LETTER.

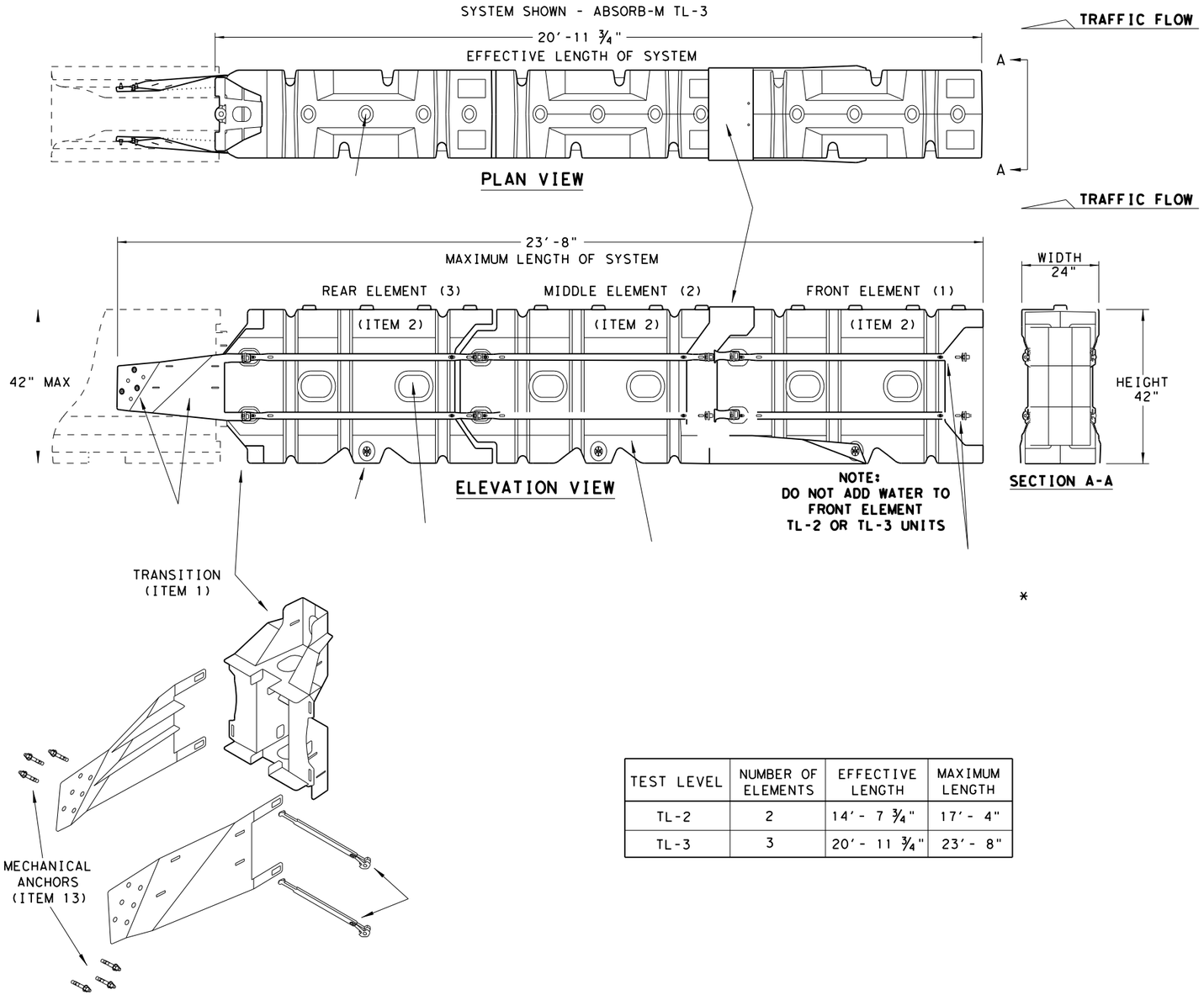
Texas Department of Transportation — Design Division Standard

ZONEGUARD SYSTEM
STEEL BARRIER
MASH TL-3
ZONEGUARD-19

FILE: zoneguard19	DN: TxDOT	CK: KM	DW: VP	CK: CGL
© TxDOT: JULY 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		94

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\zoneguard19.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



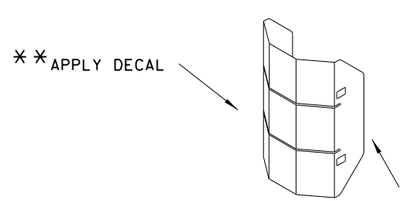
TEST LEVEL	NUMBER OF ELEMENTS	EFFECTIVE LENGTH	MAXIMUM LENGTH
TL-2	2	14'- 7 3/4"	17'- 4"
TL-3	3	20'- 11 3/4"	23'- 8"

GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING THE INSTALLATION AND TECHNICAL GUIDANCE, CONTACT: LINDSAY TRANSPORTATION SOLUTIONS (LTS) - BARRIER SYSTEMS, INC. AT (707) 374-6800. 180 RIVER ROAD, RIO VISTA, CA 94571
2. THE ABSORB-M SYSTEM IS ONLY APPROVED FOR USE IN (TEMPORARY WORK ZONE) LOCATIONS.
3. THE ABSORB-M IS A WATER FILLED NON-REDIRECTIVE, GATING CRASH CUSHION THAT DOES NOT NEED TO BE ATTACHED TO A FOUNDATION AND CAN BE INSTALLED ON TOP OF CONCRETE, ASPHALT, OR ANY SURFACE CAPABLE OF BEARING THE WEIGHT OF THE SYSTEM.
4. MAXIMUM PERMISSIBLE CROSS-SLOPE IS 8%.
5. THE INSTALLATION AREA SHOULD BE FREE FROM CURBS, ELEVATED OBJECTS, OR DEPRESSIONS.
6. THE ABSORB-M SHOULD BE LOCATED APPROXIMATELY PARALLEL WITH THE BARRIER.
7. THE USE OF THE ABSORB-M IS RESTRICTED TO A BARRIER HEIGHT OF UP TO 42 INCHES.
8. DO NOT ADD WATER TO FRONT ELEMENT (TL-2 OR TL-3 UNIT).

BILL OF MATERIALS (BOM) ABSORB-M TL-3 & TL-2 SYSTEMS			QTY	QTY
ITEM #	PART NUMBER	PART DESCRIPTION	TL-2 SYSTEM	TL-3 SYSTEM
1	BSI-1809036-00	TRANSITION-(GALV)	1	1
2	BSI-1808002-00	PRE-ASSEMBLED ABSORBING (ELEMENTS)	2	3
3	BSI-4004598	FILL CAPS	8	12
4	BSI-4004599	DRAIN PLUGS	2	3
5	BSI-1809053-00	TENSION STRAP-(GALV)	8	12
6	BSI-2001998	C-SCR FH 3/8-16 X 1 1/2 GR5 PLT	8	12
7	BSI-2001999	C-SCR FH 3/8-16 X 1 GR5 PLT	8	12
8	BSI-1809035-00	MIDNOSE-(GALV)	1	1
9	BSI-1808014-00	NOSE PLATE	1	1
10	BSI-1809037-00	TRANSITION STRAP (LEFT-HAND)-(GALV)	1	1
11	BSI-1809038-00	TRANSITION STRAP (RIGHT-HAND)-(GALV)	1	1
12	BSI-1808005-00	PIN ASSEMBLY	8	10
13	BSI-2002001	ANC MECH 5/8-11X5 (GALV)	6	6
14	ABSORB-M	INSTALLATION AND INSTRUCTIONS MANUAL	1	1

*COMPONENTS PRE-ASSEMBLED WITH ELEMENT ASSEMBLY



NOSE PLATE

** NOTE: (PROVIDED BY OTHERS)
ENGINEER OR CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURER FOR THE CORRECT DECAL PER TRAFFIC FLOW, LEFT, RIGHT OR BOTH-SIDES.

NOTE:
APPLY A HIGH REFLECTIVE DECAL TO THE NOSE PLATE. DELINEATION DECAL ORIENTATION IS SHOWN ON THE CONSTRUCTION PLAN SET AND SHALL BE IN ACCORDANCE WITH THE TEXAS MUTCD FOR (TRAFFIC CONTROL DEVICES). DECALs ARE AVAILABLE FOR TRAFFIC FLOW ON THE LEFT-SIDE, BOTH -SIDES AND RIGHT-SIDE.

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE ABSORB-M, IT IS NOT INTENDED TO REPLACE THE INSTALLATION INSTRUCTIONS MANUAL.

DELINEATION DECAL PLACEMENT GUIDE

TRAFFIC FLOW LEFT-SIDE BARRIER	TRAFFIC FLOW BOTH-SIDE BARRIER	TRAFFIC FLOW RIGHT-SIDE BARRIER

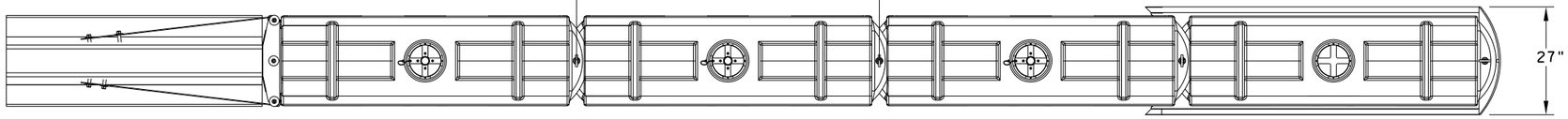
SACRIFICIAL

Texas Department of Transportation — Design Division Standard

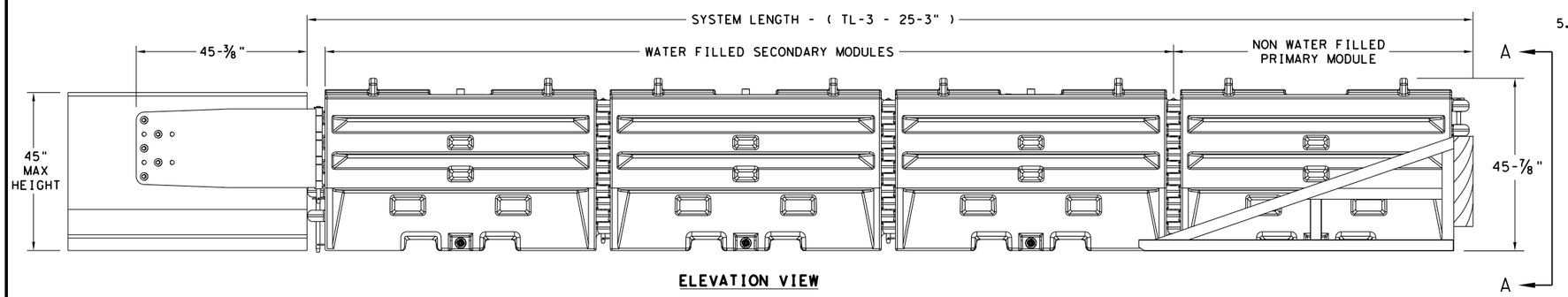
LINDSAY TRANSPORTATION SOLUTIONS
CRASH CUSHION
(MASH TL-3 & TL-2)
TEMPORARY - WORK ZONE
ABSORB(M)-19

FILE: absorbm19	DN: TxDOT	CK: KM	DW: VP	CK:
© TxDOT: JULY 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	95

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\absorbm19.dgn



PLAN VIEW

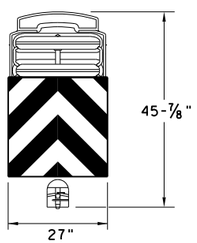


ELEVATION VIEW

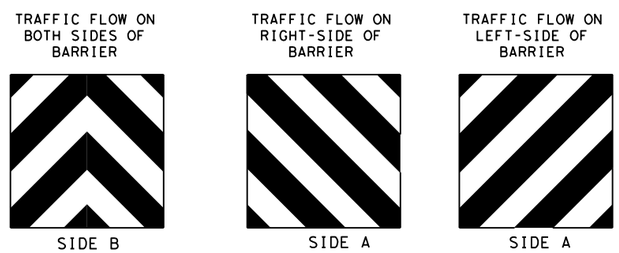
GENERAL NOTES

1. REFER TO THE INSTALLATION MANUAL FOR SPECIFIC SYSTEM ASSEMBLY AND MODULE ORIENTATION. FOR ADDITIONAL INFORMATION, CONTACT TRAFFIX, INC. AT (949) 361-5663.
2. THE SLED SYSTEM IS A MASH APPROVED TEST LEVEL 3 (TL-3) CRASH CUSHION APPROVED FOR USE IN TEMPORARY WORK ZONES. THE SLED SYSTEM IS A NON-REDIRECTIVE, GATING CRASH CUSHION THAT DOES NOT NEED TO BE ATTACHED TO THE GROUND AND CAN BE INSTALLED ON CONCRETE, ASPHALT, GRAVEL OR COMPACTED SOIL.
3. MAXIMUM PERMISSIBLE CROSS SLOPE IS 8° (DEGREES) (14%).
4. THE INSTALLATION AREA SHOULD BE FREE FROM CURBS, ELEVATED OBJECTS, OR DEPRESSIONS.
5. THE SLED SYSTEM CAN BE ATTACHED TO:
   - CONCRETE BARRIER, TEMPORARY OR PERMANENT, 45" MAXIMUM HEIGHT
   - STEEL BARRIER
   - PLASTIC BARRIER
   - CONCRETE BRIDGE ABUTMENTS
   - W-BEAM GUARD RAIL
   - THRIE BEAM GUARD RAIL

TEST LEVEL	NUMBER OF SECONDARY MODULES	SYSTEM LENGTH
TL-3	3	25' 3"



SECTION A-A

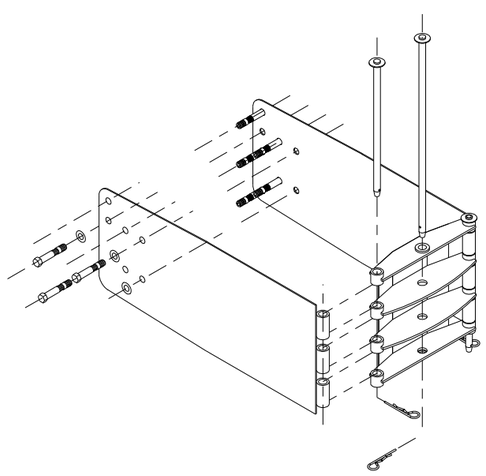


NOSE SHEETING PANEL DELINEATION

NOTE:
SEE INSTALLATION MANUAL FOR CUSTOMIZED DELINEATION NOSE SHEETING FOR DECAL PLACEMENT.

BILL OF MATERIAL

PART NUMBER	DESCRIPTION	QTY: TL-3
45131	TRANSITION FRAME, GALVANIZED	1
45150	TRANSITION PANEL, GALVANIZED	2
45147-CP	TRANSITION SHORT DROP PIN W/ KEEPER PIN, GALVANIZED	2
45148-CP	TRANSITION LONG DROP PIN W/ KEEPER PIN, GALVANIZED	1
45050	ANCHOR BOLTS	9
12060	WASHER, 3/4" ID X 2" OD	9
45044-Y	SLED YELLOW WATER FILLED MODULE	3
45044-YH	SLED YELLOW "NO FILL" MODULE	1
45044-S	CIS (CONTAINMENT IMPACT SLED), GALVANIZED	1
45043-CP	T-PIN W/ KEEPER PIN	4
18009-B-I	FILL CAP W/ "DRIVE BY" FLOAT INDICATOR	3
45033-RC-B	DRAIN PLUG	3
45032-DPT	DRAIN PLUG REMOVAL TOOL	1



SLED TRANSITION COMPONENTS FOR ATTACHMENT TO CMB

NOTE:
SEE MANUFACTURER'S INSTALLATION MANUAL FOR FURTHER DETAILS.

TRANSITION OPTIONS
SLED TRANSITION TO CONCRETE TRAFFIC BARRIER (TEMPORARY OR PERMANENT)
SLED TRANSITION TO STEEL TRAFFIC BARRIER (CONTACT MFGR FOR PROPER TRANSITION)
SLED TRANSITION TO PLASTIC TRAFFIC BARRIER (CONTACT MFGR FOR PROPER TRANSITION)
SLED TRANSITION TO W-BEAM OR THRIE BEAM GUARD RAIL (CONTACT MFGR FOR PROPER TRANSITION)
SLED TRANSITION TO CONCRETE BRIDGE ABUTMENT

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE SLED, IT IS NOT INTENDED TO REPLACE THE INSTALLATION INSTRUCTIONS MANUAL.

SACRIFICIAL

Texas Department of Transportation

Design Division Standard

SLED
CRASH CUSHION
TL-3 MASH COMPLIANT
(TEMPORARY, WORK ZONE)
SLED-19

FILE: sled19.dgn	DN: TxDOT	CK: KM	DW: VP	CK:
© TxDOT: DECEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	96

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010254\sled19.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

ST NO.	TCP PHASE	PLAN SHEET NUMBER	STATION	STA (PSN:)	TEST LEVEL	DIRECTION OF TRAFFIC (UNI/BI)	FOUNDATION PAD		BACKUP SUPPORT			AVAILABLE SITE LENGTH	CRASH CUSHION									
															MOVE / RESET		L	L	R	R	S	S
							PROPOSED MATERIAL	PROPOSED THICKNESS	DESCRIPTION	WIDTH	HEIGHT		INSTALL	REMOVE	MOVE/ RESET	FROM LOC. #	N	W	N	W		W
1	LT	110	STA. 774+94.96	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'	2								X	
1	RT	110	STA. 774+94.96	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	1-LT					X	
2	LT	111	STA. 787+74.08	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	1-RT					X	
2	RT	111	STA. 787+74.08	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	2-LT					X	
3	LT	112	STA. 797+14.81	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	2-RT					X	
3	RT	112	STA. 797+14.81	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	3-LT					X	
4	LT	115	STA. 846+29.82	222400358602017	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	3-RT					X	
4	RT	115	STA. 846+29.82	222400358602017	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	4-LT					X	
8	LT	150	STA. 942+48.93	222400358602018	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	4-RT					X	
8	RT	150	STA. 942+48.93	222400358602018	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	8-LT					X	
9	LT	146	STA. 944+47.18	222400358602019	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	8-RT					X	
9	RT	146	STA. 944+47.18	222400358602019	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	9-LT					X	
11	LT	127	STA. 1004+29.64	222400358602020	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	9-RT					X	
11	RT	127	STA. 1004+29.64	222400358602020	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	11-LT					X	
15	LT	134	STA. 1085+85.95	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	11-RT					X	
15	RT	134	STA. 1085+85.95	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	15-LT					X	
16	LT	135	STA. 1100+50.49	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	15-RT					X	
16	RT	135	STA. 1100+50.49	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	16-LT					X	
17	LT	136	STA. 1116+65.61	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	16-RT					X	
17	RT	136	STA. 1116+65.61	NA	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	17-LT					X	
13	LT	129	STA. 1025+89.74	222400003710078	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	17-RT					X	
13	RT	129	STA. 1025+89.74	222400003710078	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	13-LT					X	
19	LT	143	STA. 1202+27.84	222400358602021	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'			2	13-RT					X	
19	RT	143	STA. 1202+27.84	222400358602021	TL-3	BI	N/A	N/A	PTB	24"-27"	42"-45 7/8"	APPROX. 26'		2	2	19-LT					X	
												TOTALS	2	2	46							

LEGEND:
L=LOW MAINTENANCE
R=REUSABLE
S=SACRIFICIAL
N=NARROW
W=WIDE

FOR DEFINITIONS SEE THE "CRASH CUSHION CATEGORIZATION CHART.PDF" AT THE DESIGN DIVISION (ROADWAY STANDARDS) WEBSITE. USE QUICK LINKS TO ACCESS ATTENUATORS / CRASH CUSHIONS SECTION.
http://www.dot.state.tx.us/insdtdot/orgchart/cmd/cserve/standard/rdwyise.htm

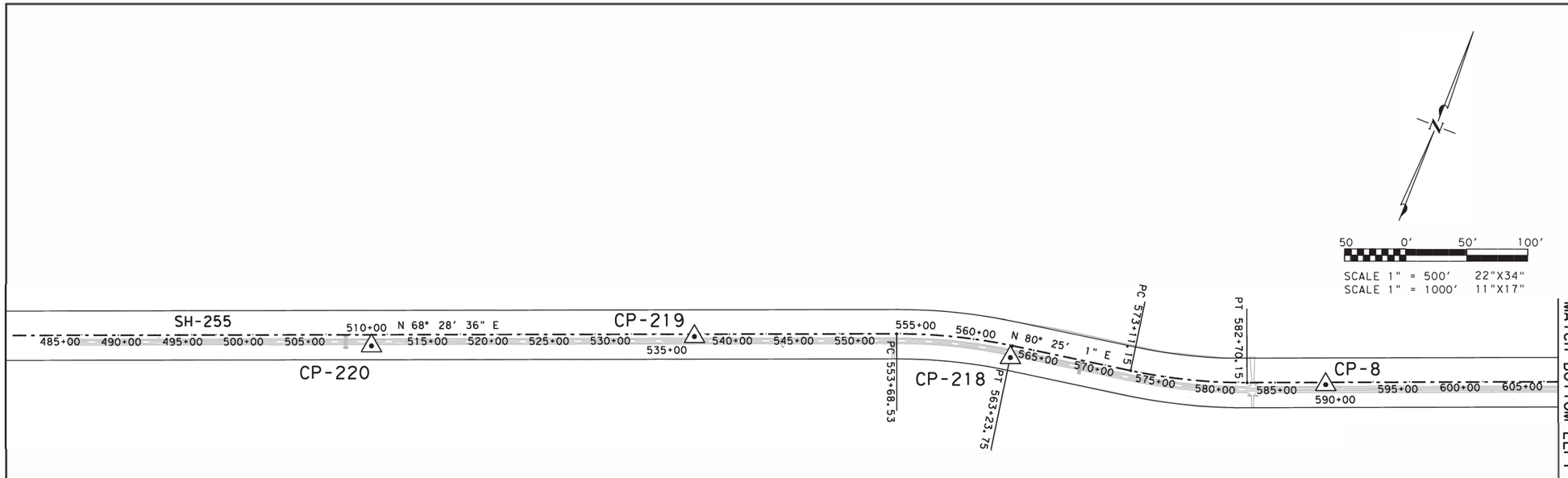
STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

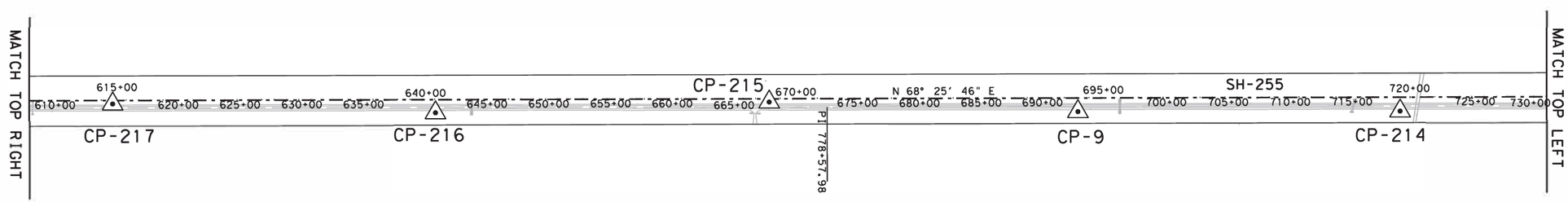
The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

CRASH CUSHION SUMMARY SHEET

FILE: CCSS.dgn	DN: TxDOT	CK: MA	CK: MA
© TxDOT 2024	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST	COUNTY	
	22	WEBB	
	STATE AID PROJECT	SHEET NO.
	C 3586-2-6	97





SURVEY CONTROL POINTS - SURFACE COORDINATES				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
8	17,170,915.78'	632,562.65'	583.78'	TXDOT ALUM. DISK SET IN CONCRETE
9	17,174,652.58'	642,264.55'	638.31'	TXDOT ALUM. DISK SET IN CONCRETE
214	17,175,610.08'	644,691.86'	643.56'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
215	17,173,811.82'	639,908.33'	645.86'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
216	17,172,743.00'	637,424.36'	609.26'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
217	17,171,854.68'	634,963.99'	576.62'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
218	17,170,178.49'	630,079.73'	555.30'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
219	17,169,393.89'	627,610.08'	539.15'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
220	17,168,357.96'	625,177.71'	530.83'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP

SURVEY CONTROL POINTS - GRID COORDINATES				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
8	17,170,400.67'	632,543.68'	583.78'	TXDOT ALUM. DISK SET IN CONCRETE
9	17,174,137.35'	642,245.28'	638.31'	TXDOT ALUM. DISK SET IN CONCRETE
214	17,175,094.82'	644,672.52'	643.56'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
215	17,173,296.62'	639,889.14'	645.86'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
216	17,172,227.84'	637,405.24'	609.26'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
217	17,171,339.54'	634,944.94'	576.62'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
218	17,169,663.40'	630,060.83'	555.30'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
219	17,168,878.82'	627,591.25'	539.15'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
220	17,167,842.92'	625,158.96'	530.83'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP

NOTES:

THIS PROJECT IS REFERENCED, FOR ALL BEARING AND COORDINATE BASIS, TO THE TEXAS COORDINATE SYSTEM, SOUTH ZONE (4205), NORTH AMERICAN DATUM OF 1983 (2011) EPOCH 2010.00.

ALL COORDINATES SHOWN HEREON ARE SURFACE COORDINATES AND CAN BE ADJUSTED TO GRID BY USING A COMBINED GRID TO SURFACE SCALE FACTOR OF 1.00003.

ALL ELEVATIONS SHOWN HEREON ARE NORTH AMERICAN VERTICAL DATUM (NAVD) 88 AND WERE DERIVED FROM GPS OBSERVATIONS.

UNITS: U.S. SURVEY FEET.

I HEREBY CERTIFY THAT THE HORIZONTAL AND VERTICAL DATA SHOWN HEREON WAS DETERMINED BY STATIC GPS OBSERVATIONS IN DECEMBER 2022.

STATE OF TEXAS REGISTERED CHRIS CONRAD 5623 PROFESSIONAL LAND SURVEYOR

02/28/2023

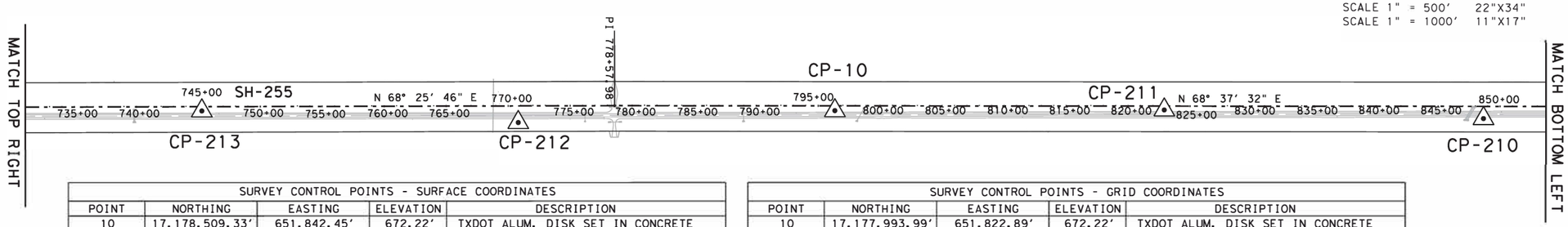
CHRIS I. CONRAD, REG. PROF. LAND SURVEYOR NO. 5623 — DATE

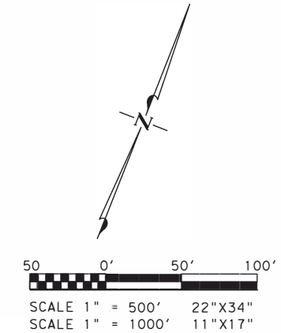
Texas Department of Transportation

McGRAY & McGRAY LAND SURVEYORS, INC.
TBPELS SURVEY FIRM # 10095500
3301 HANCOCK DRIVE #6
AUSTIN, TEXAS 78731
(512) 451-8591
www.mcgray.com

SH-255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET

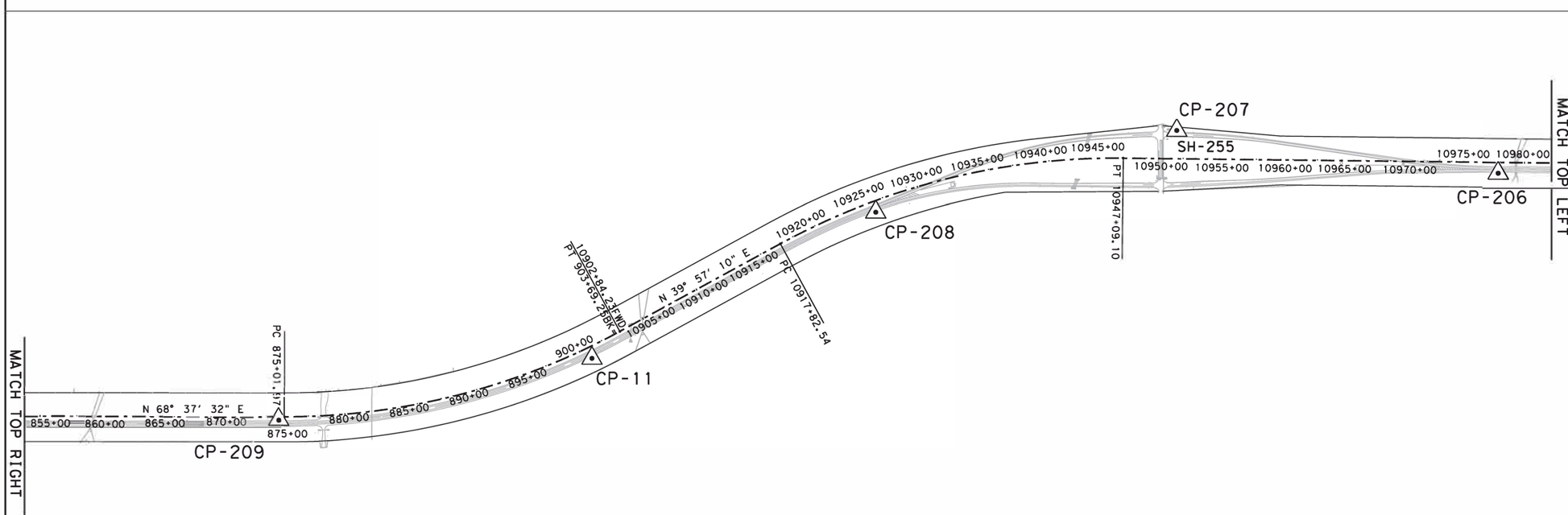
	STATE	STATE AID PROJECT NO.			HIGHWAY NO.
	TEXAS	C 3586-2-6			SH 255
STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB. NO.	SHEET NO.
22	WEBB	3586	02	006	98





SURVEY CONTROL POINTS - SURFACE COORDINATES				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	17,178,509.33'	651,842.45'	672.22'	TXDOT ALUM. DISK SET IN CONCRETE
11	17,182,779.94'	661,327.03'	705.19'	TXDOT ALUM. DISK SET IN CONCRETE
206	17,186,903.89'	667,687.29'	737.79'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
207	17,186,267.16'	665,105.54'	723.80'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
208	17,184,744.22'	663,054.15'	727.38'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
209	17,181,376.58'	659,119.38'	710.75'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
210	17,180,360.90'	656,736.30'	679.78'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
211	17,179,484.77'	654,313.44'	701.57'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
212	17,177,487.56'	649,500.06'	685.13'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
213	17,176,642.39'	647,090.08'	658.10'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP

SURVEY CONTROL POINTS - GRID COORDINATES				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	17,177,993.99'	651,822.89'	672.22'	TXDOT ALUM. DISK SET IN CONCRETE
11	17,182,264.47'	661,307.19'	705.19'	TXDOT ALUM. DISK SET IN CONCRETE
206	17,186,388.30'	667,667.26'	737.79'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
207	17,185,751.59'	665,085.59'	723.80'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
208	17,184,228.70'	663,034.25'	727.38'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
209	17,180,861.15'	659,099.60'	710.75'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
210	17,179,845.50'	656,716.60'	679.78'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
211	17,178,969.40'	654,293.81'	701.57'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
212	17,176,972.25'	649,480.57'	685.13'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
213	17,176,127.11'	647,070.66'	658.10'	5/8" IRON ROD SET W/ TXDOT ALUM. CAP



NOTES:

THIS PROJECT IS REFERENCED, FOR ALL BEARING AND COORDINATE BASIS, TO THE TEXAS COORDINATE SYSTEM, SOUTH ZONE (4205), NORTH AMERICAN DATUM OF 1983 (2011) EPOCH 2010.00.

ALL COORDINATES SHOWN HEREON ARE SURFACE COORDINATES AND CAN BE ADJUSTED TO GRID BY USING A COMBINED GRID TO SURFACE SCALE FACTOR OF 1.00003.

ALL ELEVATIONS SHOWN HEREON ARE NORTH AMERICAN VERTICAL DATUM (NAVD) 88 AND WERE DERIVED FROM GPS OBSERVATIONS.

UNITS: U.S. SURVEY FEET.

I HEREBY CERTIFY THAT THE HORIZONTAL AND VERTICAL DATA SHOWN HEREON WAS DETERMINED BY STATIC GPS OBSERVATIONS IN DECEMBER 2022.

STATE OF TEXAS
REGISTERED
CHRIS CONRAD
5623
PROFESSIONAL
LAND SURVEYOR

02/28/2023

CHRIS I. CONRAD, REG. PROF. LAND SURVEYOR NO. 5623 — DATE

Texas Department of Transportation

McGRAY & McGRAY
LAND SURVEYORS, INC.
TBPELS SURVEY FIRM # 10095500
3301 HANCOCK DRIVE #6
AUSTIN, TEXAS 78731
(512) 451-8591
www.mcgray.com

SH-255
FROM FM-3338 TO IH-35
CONTROL INDEX SHEET

	STATE	STATE AID PROJECT NO.			HIGHWAY NO.
	TEXAS	C 3586-2-6			SH 255
STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
22	WEBB	3586	02	006	99

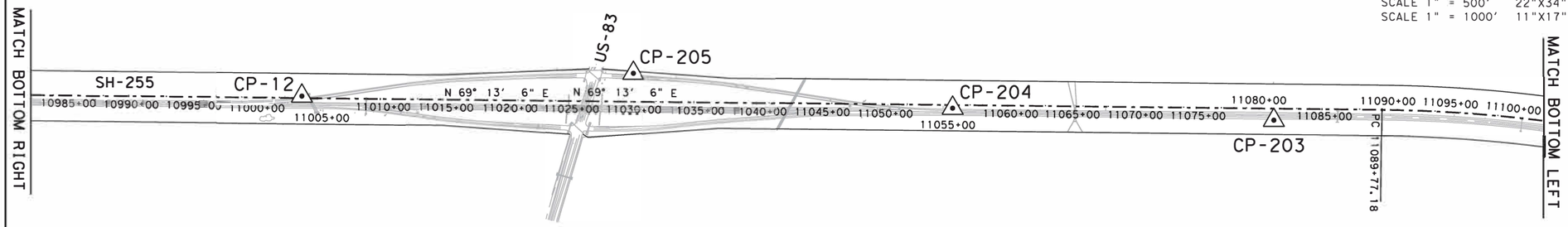
SURVEY CONTROL POINTS - SURFACE COORDINATES				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
12	17,187,922.12′	670,074.94′	728.97′	TXDOT ALUM. DISK SET IN CONCRETE
13	17,191,365.75′	679,852.45′	698.58′	TXDOT ALUM. DISK SET IN CONCRETE
14	17,192,401.65′	690,206.57′	645.77′	TXDOT ALUM. DISK SET IN CONCRETE
200	17,191,707.74′	687,673.20′	641.89′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
201	17,191,623.48′	685,024.23′	669.99′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
202	17,191,684.92′	682,439.29′	692.06′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
203	17,190,567.11′	677,350.66′	719.49′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
204	17,189,723.28′	674,936.70′	734.60′	MAGNAIL SET
205	17,189,053.55′	672,463.58′	741.50′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP

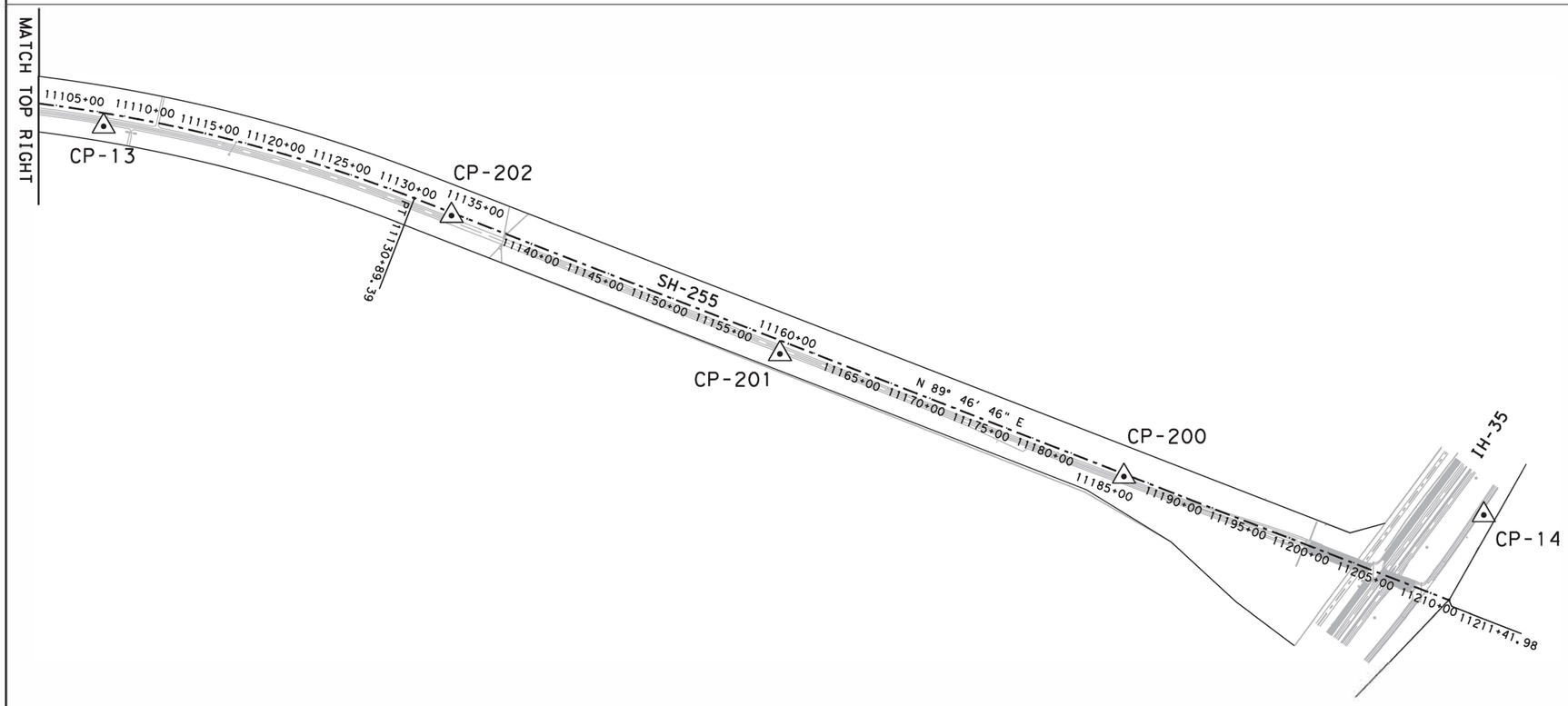
SURVEY CONTROL POINTS - GRID COORDINATES				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
12	17,187,406.50′	670,054.84′	728.97′	TXDOT ALUM. DISK SET IN CONCRETE
13	17,190,850.03′	679,832.06′	698.58′	TXDOT ALUM. DISK SET IN CONCRETE
14	17,191,885.90′	690,185.86′	645.77′	TXDOT ALUM. DISK SET IN CONCRETE
200	17,191,192.01′	687,652.57′	641.89′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
201	17,191,107.74′	685,003.68′	669.99′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
202	17,191,169.18′	682,418.82′	692.06′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
203	17,190,051.40′	677,330.34′	719.49′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP
204	17,189,207.61′	674,916.46′	734.60′	MAGNAIL SET
205	17,188,537.89′	672,443.40′	741.50′	5/8" IRON ROD SET W/ TXDOT ALUM. CAP

N

50 0′ 50′ 100′

SCALE 1" = 500′ 22"X34"
SCALE 1" = 1000′ 11"X17"





NOTES:

THIS PROJECT IS REFERENCED, FOR ALL BEARING AND COORDINATE BASIS, TO THE TEXAS COORDINATE SYSTEM, SOUTH ZONE (4205), NORTH AMERICAN DATUM OF 1983 (2011) EPOCH 2010.00.

ALL COORDINATES SHOWN HEREON ARE SURFACE COORDINATES AND CAN BE ADJUSTED TO GRID BY USING A COMBINED GRID TO SURFACE SCALE FACTOR OF 1.00003.

ALL ELEVATIONS SHOWN HEREON ARE NORTH AMERICAN VERTICAL DATUM (NAVD) 88 AND WERE DERIVED FROM GPS OBSERVATIONS.

UNITS: U.S. SURVEY FEET.

I HEREBY CERTIFY THAT THE HORIZONTAL AND VERTICAL DATA SHOWN HEREON WAS DETERMINED BY STATIC GPS OBSERVATIONS IN DECEMBER 2022.

STATE OF TEXAS
REGISTERED
CHRIS CONRAD
5623
PROFESSIONAL
LAND SURVEYOR

02/28/2023

CHRIS I. CONRAD, REG. PROF. LAND SURVEYOR NO. 5623 — DATE

Texas Department of Transportation

McGRAY & McGRAY
LAND SURVEYORS, INC.
TBPELS SURVEY FIRM # 10095500
3301 HANCOCK DRIVE #6
AUSTIN, TEXAS 78731
(512) 451-8591
www.mcgray.com

SH-255
FROM FM-3338 TO IH-35
CONTROL INDEX SHEET

	STATE	FEDERAL AID PROJECT NO.			HIGHWAY NO.
	TEXAS	C 3586-2-6			SH 255
STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
22	WEBB	3586	02	006	100

SH 255 HORIZONTAL DATA

Alignment Name:	ALIGNMENT D1			
Alignment Description:				
Alignment Style:	Alignment\Baseline			
	Station		Northing	Easting
Element: Linear				
PI	(576+42.40	R1	17170458.87	631506.57
CC	( )		17174903.09	630283.06
PT	(581+26.74	R1	17170637.48	631960.71
Radius:	4583.66			
Delta:	12°09'15.519"	Left		
Degree of Curvature (Arc):	01°15'00.002"			
Length:	972.34			
Tangent:	488			
Chord:	970.52			
Middle Ordinate:	25.76			
External:	25.9			
Back Tangent Direction:	N80°41'05.23"E			
Back Radial Direction:	S09°18'54.77"E			
Chord Direction:	N74°36'27.47"E			
Ahead Radial Direction:	S21°28'10.29"E			
Ahead Tangent Direction:	N68°31'49.71"E			
Element: Linear				
PT	(581+26.74	R1	17170637.48	631960.71
PC	(873+76.61	R1	17181360.18	659174.28
Tangential Direction:	N68°29'40.37"E			
Tangential Length:	29249.87			
Element: Circular				
PC	(873+76.61	R1	17181360.18	659174.28
PI	(888+59.31	R1	17181900.57	660554.99
CC	( )		17186742.23	657067.84
PT	(902+79.40	R1	17183038.9	661505.05
Radius:	5779.58			
Delta:	28°46'36.314"	Left		
Degree of Curvature (Arc):	00°59'28.856"			
Length:	2902.79			
Tangent:	1482.69			
Chord:	2872.37			
Middle Ordinate:	181.28			
External:	187.15			
Back Tangent Direction:	N68°37'31.50"E			
Back Radial Direction:	S21°22'28.50"E			
Chord Direction:	N54°14'13.35"E			
Ahead Radial Direction:	S50°09'04.81"E			
Ahead Tangent Direction:	N39°50'55.19"E			
Element: Linear				
PT	(902+79.40	R1	17183038.9	661505.05
PC	(917+42.83	R1	17184162.43	662442.76
Tangential Direction:	N39°50'55.19"E			
Tangential Length:	1463.43			
Element: Circular				
PC	(917+42.83	R1	17184162.43	662442.76
PI	(932+22.49	R1	17185298.42	663390.87
CC	( )		17180523.17	666803.19
PT	(946+37.80	R1	17185827.4	664772.74
Radius:	5679.58			
Delta:	29°12'16.475"	Right		
Degree of Curvature (Arc):	01°00'31.692"			
Length:	2894.97			
Tangent:	1479.66			
Chord:	2863.73			
Middle Ordinate:	183.46			
External:	189.58			
Back Tangent Direction:	N39°50'55.19"E			
Back Radial Direction:	S50°09'04.81"E			
Chord Direction:	N54°27'03.43"E			
Ahead Radial Direction:	S20°56'48.34"E			
Ahead Tangent Direction:	N69°03'11.66"E			
Element: Linear				
PT	(946+37.80	R1	17185827.4	664772.74
PI	(959+55.72	R1	17186298.56	666003.57
Tangential Direction:	N69°03'11.66"E			
Tangential Length:	1317.92			
Element: Linear				
PI	(959+55.72	R1	17186298.56	666003.57
PC	(1089+35.49	R1	17190904.14	678138.76
Tangential Direction:	N69°13'01.63"E			
Tangential Length:	12979.76			
Element: Circular				

SH 255 HORIZONTAL DATA (CONT.)

PC	(1089+35.49	R1	17190904.14	678138.76
PI	(1110+04.19	R1	17191638.17	680072.86
CC	( )		17180237.36	682187.05
PT	(1130+28.43	R1	17191646.42	682141.55
Radius:	11409.16			
Delta:	20°33'15.894"	Right		
Degree of Curvature (Arc):	00°30'07.888"			
Length:	4092.95			
Tangent:	2068.71			
Chord:	4071.03			
Middle Ordinate:	183.05			
External:	186.03			
Back Tangent Direction:	N69°13'01.63"E			
Back Radial Direction:	S20°46'58.37"E			
Chord Direction:	N79°29'39.58"E			
Ahead Radial Direction:	S00°13'42.47"E			
Ahead Tangent Direction:	N89°46'17.53"E			
Element: Linear				
PT	(1130+28.43	R1	17191646.42	682141.55
PI	(1174+39.61	R1	17191664.01	686552.69
Tangential Direction:	N89°46'17.53"E			
Tangential Length:	4411.17			
Element: Linear				
PI	(1174+39.61	R1	17191664.01	686552.69
PC	(1178+28.31	R1	17191666.78	686941.39
Tangential Direction:	N89°35'31.88"E			
Tangential Length:	388.7			
Element: Circular				
PC	(1178+28.31	R1	17191666.78	686941.39
PI	(1182+31.02	R1	17191669.64	687344.09
CC	( )		17238045.01	686611.28
PT	(1186+33.71	R2	17191679.5	687746.67
Radius:	46379.41			
Delta:	00°59'41.872"	Left		
Degree of Curvature (Arc):	00°07'24.734"			
Length:	805.4			
Tangent:	402.71			
Chord:	805.39			
Middle Ordinate:	1.75			
External:	1.75			
Back Tangent Direction:	N89°35'31.88"E			
Back Radial Direction:	S00°24'28.12"E			
Chord Direction:	N89°05'40.95"E			
Ahead Radial Direction:	S01°24'09.99"E			
Ahead Tangent Direction:	N88°35'50.01"E			
Element: Linear				
PT	(1186+33.71	R2	17191679.5	687746.67
EQNBK	1186+33.71	R1	17191679.5	687746.67
EQNAHD	1186+33.71	R2	17191679.5	687746.67
PI	(1190+31.00	R2	17191689.23	688143.85
Tangential Direction:	N88°35'50.01"E			
Tangential Length:	397.29			
Element: Linear				
PI	(1190+31.00	R2	17191689.23	688143.85
PI	(1199+95.09	R2	17191724.64	689107.29
Tangential Direction:	N87°53'41.85"E			
Tangential Length:	964.09			
Element: Linear				
PI	(1199+95.09	R2	17191724.64	689107.29
POT	(1210+40.09	R2	17191729.3	690152.28
Tangential Direction:	N89°44'40.52"E			
Tangential Length:	1045			

SH 255 VERTICAL DATA

Horizontal Alignment:	ALIGNMENT D1	
Horizontal Description:		
Horizontal Style:	Alignment\Baseline	
Vertical Alignment:	PPR D1	
Vertical Description:		
Vertical Style:	Alignment\Baseline	
	Station	Elevation
Element: Linear		
VPI	759+00.00 R1	673.06
VPT	760+61.25 R1	676.31
Length:	322.5	
Entrance Grade:	0.004	
Exit Grade:	0.02	
r = 100 * (g2 - g1) / L:	0.49	
K = l / (g2 - g1):	206	
Middle Ordinate:	0.63	
Element: Linear		
VPT	760+61.25 R1	676.31
VPC	762+50.00 R1	680.11
Tangent Grade:	0.02	
Tangent Length:	188.75	
Element: Symmetrical Parabola		
VPC	762+50.00 R1	680.11
VPI	766+00.00 R1	687.17
VPT	769+50.00 R1	686.95
VHP	769+28.94 R1	686.95
Length:	700	
Entrance Grade:	0.02	
Exit Grade:	-0.001	
r = 100 * (g2 - g1) / L:	-0.3	
K = l / (g2 - g1):	336.92	
Middle Ordinate:	-1.82	
Element: Linear		
VPT	769+50.00 R1	686.95
VPI	770+00.00 R1	686.92
Tangent Grade:	-0.001	
Tangent Length:	50	
Element: Linear		
VPI	770+00.00 R1	686.92
VPC	774+87.50 R1	686.78
Tangent Grade:	0	
Tangent Length:	487.5	
Element: Symmetrical Parabola		
VPC	774+87.50 R1	686.78
VPI	776+00.00 R1	686.75
VPT	777+12.50 R1	686.45
Length:	225	
Entrance Grade:	0	
Exit Grade:	-0.003	
r = 100 * (g2 - g1) / L:	-0.11	
K = l / (g2 - g1):	943.45	
Middle Ordinate:	-0.07	
Element: Linear		
VPT	777+12.50 R1	686.45
VPC	786+50.00 R1	683.96
Tangent Grade:	-0.003	
Tangent Length:	937.5	
Element: Symmetrical Parabola		
VPC	786+50.00 R1	683.96
VPI	789+00.00 R1	683.29
VPT	791+50.00 R1	679.66
Length:	500	
Entrance Grade:	-0.003	
Exit Grade:	-0.015	
r = 100 * (g2 - g1) / L:	-0.24	
K = l / (g2 - g1):	421.68	
Middle Ordinate:	-0.74	
Element: Linear		
VPT	791+50.00 R1	679.66
VPC	794+25.00 R1	675.67
Tangent Grade:	-0.015	
Tangent Length:	275	
Element: Symmetrical Parabola		
VPC	794+25.00 R1	675.67
VPI	798+25.00 R1	669.86
VPT	802+25.00 R1	679.28
VLP	797+30.09 R1	673.45
Length:	800	
Entrance Grade:	-0.015	
Exit Grade:	0.024	
r = 100 * (g2 - g1) / L:	0.48	
K = l / (g2 - g1):	210.14	
Middle Ordinate:	3.81	
Element: Linear		
VPT	802+25.00 R1	679.28

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	101

DATE: 4/9/2024 7:50:54 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006geodata.dgn

SH 255 VERTICAL DATA (CONT.)

VPC	809+60.00 R1	696.59
Tangent Grade:	0.024	
Tangent Length:	735	
Element: Symmetrical Parabola		
VPC	809+60.00 R1	696.59
VPI	814+60.00 R1	708.37
VPT	819+60.00 R1	705.27
VHP	817+51.76 R1	705.91
Length:	1000	
Entrance Grade:	0.024	
Exit Grade:	-0.006	
r = 100 * (g2 - g1) / L:	-0.3	
K = l / (g2 - g1):	336.18	
Middle Ordinate:	-3.72	
Element: Linear		
VPT	819+60.00 R1	705.27
VPC	824+85.00 R1	702.02
Tangent Grade:	-0.006	
Tangent Length:	525	
Element: Symmetrical Parabola		
VPC	824+85.00 R1	702.02
VPI	828+35.00 R1	699.85
VPT	831+85.00 R1	693.32
Length:	700	
Entrance Grade:	-0.006	
Exit Grade:	-0.019	
r = 100 * (g2 - g1) / L:	-0.18	
K = l / (g2 - g1):	561.06	
Middle Ordinate:	-1.09	
Element: Linear		
VPT	831+85.00 R1	693.32
VPC	835+25.00 R1	686.97
Tangent Grade:	-0.019	
Tangent Length:	340	
Element: Symmetrical Parabola		
VPC	835+25.00 R1	686.97
VPI	837+00.00 R1	683.7
VPT	838+75.00 R1	683.37
Length:	350	
Entrance Grade:	-0.019	
Exit Grade:	-0.002	
r = 100 * (g2 - g1) / L:	0.48	
K = l / (g2 - g1):	208.46	
Middle Ordinate:	0.73	
Element: Linear		
VPT	838+75.00 R1	683.37
VPC	846+11.25 R1	681.99
Tangent Grade:	-0.002	
Tangent Length:	736.25	
Element: Symmetrical Parabola		
VPC	846+11.25 R1	681.99
VPI	848+70.00 R1	681.5
VPT	851+28.75 R1	687.51
VLP	846+49.99 R1	681.95
Length:	517.5	
Entrance Grade:	-0.002	
Exit Grade:	0.023	
r = 100 * (g2 - g1) / L:	0.49	
K = l / (g2 - g1):	206	
Middle Ordinate:	1.63	
Element: Linear		
VPT	851+28.75 R1	687.51
VPC	852+80.00 R1	691.03
Tangent Grade:	0.023	
Tangent Length:	151.25	
Element: Symmetrical Parabola		
VPC	852+80.00 R1	691.03
VPI	856+80.00 R1	700.33
VPT	860+80.00 R1	701.72
Length:	800	
Entrance Grade:	0.023	
Exit Grade:	0.003	
r = 100 * (g2 - g1) / L:	-0.25	
K = l / (g2 - g1):	404.85	
Middle Ordinate:	-1.98	
Element: Linear		
VPT	860+80.00 R1	701.72
VPC	865+11.29 R1	703.22
Tangent Grade:	0.003	
Tangent Length:	431.29	
Element: Symmetrical Parabola		
VPC	865+11.29 R1	703.22
VPI	866+45.00 R1	703.68

SH 255 VERTICAL DATA (CONT.)

VPT	867+78.71 R1	705.89
Length:	267.41	
Entrance Grade:	0.003	
Exit Grade:	0.017	
r = 100 * (g2 - g1) / L:	0.49	
K = l / (g2 - g1):	205.32	
Middle Ordinate:	0.44	
Element: Linear		
VPT	867+78.71 R1	705.89
VPC	869+10.00 R1	708.06
Tangent Grade:	0.017	
Tangent Length:	131.29	
Element: Symmetrical Parabola		
VPC	869+10.00 R1	708.06
VPI	872+95.00 R1	714.41
VPT	876+80.00 R1	713.36
VHP	875+71.01 R1	713.51
Length:	770	
Entrance Grade:	0.017	
Exit Grade:	-0.003	
r = 100 * (g2 - g1) / L:	-0.25	
K = l / (g2 - g1):	400.5	
Middle Ordinate:	-1.85	
Element: Linear		
VPT	876+80.00 R1	713.36
VPC	889+15.89 R1	710
Tangent Grade:	-0.003	
Tangent Length:	1235.89	
Element: Symmetrical Parabola		
VPC	889+15.89 R1	710
VPI	891+00.00 R1	709.5
VPT	892+84.11 R1	706.93
Length:	368.23	
Entrance Grade:	-0.003	
Exit Grade:	-0.014	
r = 100 * (g2 - g1) / L:	-0.31	
K = l / (g2 - g1):	327.07	
Middle Ordinate:	-0.52	
Element: Linear		
VPT	892+84.11 R1	706.93
VPC	893+24.98 R1	706.35
Tangent Grade:	-0.014	
Tangent Length:	40.86	
Element: Symmetrical Parabola		
VPC	893+24.98 R1	706.35
VPI	895+70.00 R1	702.93
VPT	898+15.02 R1	705.33
VLP	896+12.96 R1	704.34
Length:	490.04	
Entrance Grade:	-0.014	
Exit Grade:	0.01	
r = 100 * (g2 - g1) / L:	0.49	
K = l / (g2 - g1):	206	
Middle Ordinate:	1.46	
Element: Linear		
VPT	898+15.02 R1	705.33
VPC	901+60.00 R1	708.72
Tangent Grade:	0.01	
Tangent Length:	344.98	
Element: Symmetrical Parabola		
VPC	901+60.00 R1	708.72
VPI	905+10.00 R1	712.15
VPT	908+60.00 R1	709.7
VHP	905+68.49 R1	710.72
Length:	700	
Entrance Grade:	0.01	
Exit Grade:	-0.007	
r = 100 * (g2 - g1) / L:	-0.24	
K = l / (g2 - g1):	416.44	
Middle Ordinate:	-1.47	
Element: Linear		
VPT	908+60.00 R1	709.7
VPC	909+30.00 R1	709.21
Tangent Grade:	-0.007	
Tangent Length:	70	
Element: Symmetrical Parabola		
VPC	909+30.00 R1	709.21
VPI	911+80.00 R1	707.46
VPT	914+30.00 R1	711.59
VLP	910+78.85 R1	708.69
Length:	500	
Entrance Grade:	-0.007	
Exit Grade:	0.017	
r = 100 * (g2 - g1) / L:	0.47	
K = l / (g2 - g1):	212.64	
Middle Ordinate:	1.47	

SH 255 VERTICAL DATA (CONT.)

Element: Linear		
VPT	914+30.00 R1	711.59
VPI	919+00.00 R1	719.35
Tangent Grade:	0.017	
Tangent Length:	470	
Element: Linear		
VPI	919+00.00 R1	719.35
VPC	923+27.50 R1	726.36
Tangent Grade:	0.016	
Tangent Length:	427.5	
Element: Symmetrical Parabola		
VPC	923+27.50 R1	726.36
VPI	924+40.00 R1	728.2
VPT	925+52.50 R1	729.14
Length:	225	
Entrance Grade:	0.016	
Exit Grade:	0.008	
r = 100 * (g2 - g1) / L:	-0.36	
K = l / (g2 - g1):	278.56	
Middle Ordinate:	-0.23	
Element: Linear		
VPT	925+52.50 R1	729.14
VPC	926+42.50 R1	729.88
Tangent Grade:	0.008	
Tangent Length:	90	
Element: Symmetrical Parabola		
VPC	926+42.50 R1	729.88
VPI	928+25.00 R1	731.4
VPT	930+07.50 R1	730.8
VHP	929+03.72 R1	730.97
Length:	365	
Entrance Grade:	0.008	
Exit Grade:	-0.003	
r = 100 * (g2 - g1) / L:	-0.32	
K = l / (g2 - g1):	314.28	
Middle Ordinate:	-0.53	
Element: Linear		
VPT	930+07.50 R1	730.8
VPC	935+50.00 R1	729.01
Tangent Grade:	-0.003	
Tangent Length:	542.5	
Element: Symmetrical Parabola		
VPC	935+50.00 R1	729.01
VPI	939+00.00 R1	727.85
VPT	942+50.00 R1	735.23
VLP	936+44.73 R1	728.85
Length:	700	
Entrance Grade:	-0.003	
Exit Grade:	0.021	
r = 100 * (g2 - g1) / L:	0.35	
K = l / (g2 - g1):	286.86	
Middle Ordinate:	2.14	
Element: Linear		
VPT	942+50.00 R1	735.23
VPC	942+50.63 R1	735.25
Tangent Grade:	0.021	
Tangent Length:	0.63	
Element: Symmetrical Parabola		
VPC	942+50.63 R1	735.25
VPI	949+00.00 R1	748.95
VPT	955+49.37 R1	740.52
VHP	950+54.68 R1	743.73
Length:	1298.73	
Entrance Grade:	0.021	
Exit Grade:	-0.013	
r = 100 * (g2 - g1) / L:	-0.26	
K = l / (g2 - g1):	381.06	
Middle Ordinate:	-5.53	
Element: Linear		
VPT	955+49.37 R1	740.52
VPC	957+50.64 R1	737.91
Tangent Grade:	-0.013	
Tangent Length:	201.27	
Element: Symmetrical Parabola		
VPC	957+50.64 R1	737.91
VPI	960+00.00 R1	734.67
VPT	962+49.36 R1	737.02
VLP	960+39.48 R1	736.03
Length:	498.73	
Entrance Grade:	-0.013	
Exit Grade:	0.009	
r = 100 * (g2 - g1) / L:	0.45	
K = l / (g2 - g1):	222.5	
Middle Ordinate:	1.4	
Element: Linear		
VPT	962+49.36 R1	737.02
VPC	962+50.50 R1	737.03

SH 255 VERTICAL DATA (CONT.)

Tangent Grade:	0.009	
Tangent Length:	1.14	
Element: Symmetrical Parabola		
VPC	962+50.50 R1	737.03
VPI	966+00.00 R1	740.33
VPT	969+49.50 R1	737.59
VHP	966+32.16 R1	738.83
Length:	699	
Entrance Grade:	0.009	
Exit Grade:	-0.008	
r = 100 * (g2 - g1) / L:	-0.25	
K = l / (g2 - g1):	404.59	
Middle Ordinate:	-1.51	
Element: Linear		
VPT	969+49.50 R1	737.59
VPC	970+07.64 R1	737.13
Tangent Grade:	-0.008	
Tangent Length:	58.14	
Element: Symmetrical Parabola		
VPC	970+07.64 R1	737.13
VPI	971+75.00 R1	735.82
VPT	973+42.36 R1	737.1
VLP	971+77.22 R1	736.47
Length:	334.73	
Entrance Grade:	-0.008	
Exit Grade:	0.008	
r = 100 * (g2 - g1) / L:	0.46	
K = l / (g2 - g1):	216.22	
Middle Ordinate:	0.65	
Element: Linear		
VPT	973+42.36 R1	737.1
VPC	975+65.00 R1	738.8
Tangent Grade:	0.008	
Tangent Length:	222.64	
Element: Symmetrical Parabola		
VPC	975+65.00 R1	738.8
VPI	978+65.00 R1	741.09
VPT	981+65.00 R1	738.69
VHP	978+57.85 R1	739.92
Length:	600	
Entrance Grade:	0.008	
Exit Grade:	-0.008	
r = 100 * (g2 - g1) / L:	-0.26	
K = l / (g2 - g1):	383.43	
Middle Ordinate:	-1.17	
Element: Linear		
VPT	981+65.00 R1	738.69
VPC	987+25.00 R1	734.2
Tangent Grade:	-0.008	
Tangent Length:	560	
Element: Symmetrical Parabola		
VPC	987+25.00 R1	734.2
VPI	988+75.00 R1	733
VPT	990+25.00 R1	732.63
Length:	300	
Entrance Grade:	-0.008	
Exit Grade:	-0.002	
r = 100 * (g2 - g1) / L:	0.19	
K = l / (g2 - g1):	540.44	
Middle Ordinate:	0.21	
Element: Linear		
VPT	990+25.00 R1	732.63
VPC	995+65.00 R1	731.3
Tangent Grade:	-0.002	
Tangent Length:	540	
Element: Symmetrical Parabola		

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

2024 SHEET 2 OF 8

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		102

DATE: 4/9/2024 7:50:55 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006geodata.dgn

SH 255 VERTICAL DATA (CONT.)

VPC	995+65.00 R1	731.3
VPI	997+65.00 R1	730.81
VPT	999+65.00 R1	731.92
VLP	996+87.89 R1	731.15
Length:	400	
Entrance Grade:	-0.002	
Exit Grade:	0.006	
r = 100 * (g2 - g1) / L:	0.2	
K = l / (g2 - g1):	499.64	
Middle Ordinate:	0.4	
Element: Linear		
VPT	999+65.00 R1	731.92
VPC	1000+50.00 R1	732.39
Tangent Grade:	0.006	
Tangent Length:	85	
Element: Symmetrical Parabola		
VPC	1000+50.00 R1	732.39
VPI	1002+50.00 R1	733.5
VPT	1004+50.00 R1	732.55
VHP	1002+65.03 R1	732.99
Length:	400	
Entrance Grade:	0.006	
Exit Grade:	-0.005	
r = 100 * (g2 - g1) / L:	-0.26	
K = l / (g2 - g1):	387.72	
Middle Ordinate:	-0.52	
Element: Linear		
VPT	1004+50.00 R1	732.55
VPI	1006+69.23 R1	731.5
Tangent Grade:	-0.005	
Tangent Length:	219.23	
Element: Linear		
VPI	1006+69.23 R1	731.5
VPC	1008+28.00 R1	731.31
Tangent Grade:	-0.001	
Tangent Length:	158.77	
Element: Symmetrical Parabola		
VPC	1008+28.00 R1	731.31
VPI	1011+78.00 R1	730.9
VPT	1015+28.00 R1	742.25
VLP	1008+52.56 R1	731.3
Length:	700	
Entrance Grade:	-0.001	
Exit Grade:	0.032	
r = 100 * (g2 - g1) / L:	0.48	
K = l / (g2 - g1):	208.21	
Middle Ordinate:	2.94	
Element: Linear		
VPT	1015+28.00 R1	742.25
VPC	1017+18.40 R1	748.43
Tangent Grade:	0.032	
Tangent Length:	190.4	
Element: Symmetrical Parabola		
VPC	1017+18.40 R1	748.43
VPI	1024+65.00 R1	772.65
VPT	1032+11.60 R1	761.14
VHP	1027+30.52 R1	764.85
Length:	1493.21	
Entrance Grade:	0.032	
Exit Grade:	-0.015	
r = 100 * (g2 - g1) / L:	-0.32	
K = l / (g2 - g1):	312	
Middle Ordinate:	-8.93	
Element: Linear		
VPT	1032+11.60 R1	761.14
VPI	1032+40.00 R1	760.7
Tangent Grade:	-0.015	
Tangent Length:	28.4	
Element: Linear		
VPI	1032+40.00 R1	760.7
VPC	1034+60.00 R1	757.32
Tangent Grade:	-0.015	
Tangent Length:	220	
Element: Symmetrical Parabola		
VPC	1034+60.00 R1	757.32
VPI	1036+35.00 R1	754.62
VPT	1038+10.00 R1	753.54
Length:	350	
Entrance Grade:	-0.015	
Exit Grade:	-0.006	
r = 100 * (g2 - g1) / L:	0.26	
K = l / (g2 - g1):	381.1	
Middle Ordinate:	0.4	
Element: Linear		
VPT	1038+10.00 R1	753.54
VPI	1042+92.46 R1	750.55

SH 255 VERTICAL DATA (CONT.)

Tangent Grade:	-0.006	
Tangent Length:	482.46	
Element: Linear		
VPI	1042+92.46 R1	750.55
VPC	1046+60.00 R1	747.96
Tangent Grade:	-0.007	
Tangent Length:	367.54	
Element: Symmetrical Parabola		
VPC	1046+60.00 R1	747.96
VPI	1049+60.00 R1	745.85
VPT	1052+60.00 R1	740
Length:	600	
Entrance Grade:	-0.007	
Exit Grade:	-0.02	
r = 100 * (g2 - g1) / L:	-0.21	
K = l / (g2 - g1):	480.79	
Middle Ordinate:	-0.94	
Element: Linear		
VPT	1052+60.00 R1	740
VPC	1052+75.50 R1	739.69
Tangent Grade:	-0.02	
Tangent Length:	15.5	
Element: Symmetrical Parabola		
VPC	1052+75.50 R1	739.69
VPI	1054+75.00 R1	735.8
VPT	1056+74.50 R1	735.25
Length:	399	
Entrance Grade:	-0.02	
Exit Grade:	-0.003	
r = 100 * (g2 - g1) / L:	0.42	
K = l / (g2 - g1):	238.1	
Middle Ordinate:	0.84	
Element: Linear		
VPT	1056+74.50 R1	735.25
VPC	1062+50.00 R1	733.66
Tangent Grade:	-0.003	
Tangent Length:	575.5	
Element: Symmetrical Parabola		
VPC	1062+50.00 R1	733.66
VPI	1064+00.00 R1	733.25
VPT	1065+50.00 R1	732.42
Length:	300	
Entrance Grade:	-0.003	
Exit Grade:	-0.005	
r = 100 * (g2 - g1) / L:	-0.09	
K = l / (g2 - g1):	1093.6	
Middle Ordinate:	-0.1	
Element: Linear		
VPT	1065+50.00 R1	732.42
VPC	1068+42.50 R1	730.82
Tangent Grade:	-0.005	
Tangent Length:	292.5	
Element: Symmetrical Parabola		
VPC	1068+42.50 R1	730.82
VPI	1069+55.00 R1	730.2
VPT	1070+67.50 R1	730.2
VLP	1070+65.77 R1	730.2
Length:	225	
Entrance Grade:	-0.005	
Exit Grade:	0	
r = 100 * (g2 - g1) / L:	0.25	
K = l / (g2 - g1):	405.94	
Middle Ordinate:	0.16	
Element: Linear		
VPT	1070+67.50 R1	730.2
VPC	1072+55.00 R1	730.21
Tangent Grade:	0	
Tangent Length:	187.5	
Element: Symmetrical Parabola		
VPC	1072+55.00 R1	730.21
VPI	1077+55.00 R1	730.23
VPT	1082+55.00 R1	718.04
VHP	1072+56.75 R1	730.21
Length:	1000	
Entrance Grade:	0	
Exit Grade:	-0.024	
r = 100 * (g2 - g1) / L:	-0.24	
K = l / (g2 - g1):	409.29	
Middle Ordinate:	-3.05	
Element: Linear		
VPT	1082+55.00 R1	718.04
VPC	1083+55.00 R1	715.6
Tangent Grade:	-0.024	
Tangent Length:	100	
Element: Symmetrical Parabola		
VPC	1083+55.00 R1	715.6

SH 255 VERTICAL DATA (CONT.)

VPI	1085+80.00 R1	710.11
VPT	1088+05.00 R1	708.74
Length:	450	
Entrance Grade:	-0.024	
Exit Grade:	-0.006	
r = 100 * (g2 - g1) / L:	0.41	
K = l / (g2 - g1):	246.02	
Middle Ordinate:	1.03	
Element: Linear		
VPT	1088+05.00 R1	708.74
VPC	1098+50.00 R1	702.36
Tangent Grade:	-0.006	
Tangent Length:	1045	
Element: Symmetrical Parabola		
VPC	1098+50.00 R1	702.36
VPI	1100+00.00 R1	701.45
VPT	1101+50.00 R1	701.79
VLP	1100+68.36 R1	701.7
Length:	300	
Entrance Grade:	-0.006	
Exit Grade:	0.002	
r = 100 * (g2 - g1) / L:	0.28	
K = l / (g2 - g1):	358.06	
Middle Ordinate:	0.31	
Element: Linear		
VPT	1101+50.00 R1	701.79
VPC	1104+25.00 R1	702.42
Tangent Grade:	0.002	
Tangent Length:	275	
Element: Symmetrical Parabola		
VPC	1104+25.00 R1	702.42
VPI	1107+75.00 R1	703.22
VPT	1111+25.00 R1	696.91
VHP	1105+03.62 R1	702.51
Length:	700	
Entrance Grade:	0.002	
Exit Grade:	-0.018	
r = 100 * (g2 - g1) / L:	-0.29	
K = l / (g2 - g1):	344.83	
Middle Ordinate:	-1.78	
Element: Linear		
VPT	1111+25.00 R1	696.91
VPC	1113+85.00 R1	692.22
Tangent Grade:	-0.018	
Tangent Length:	260	
Element: Symmetrical Parabola		
VPC	1113+85.00 R1	692.22
VPI	1116+35.00 R1	687.72
VPT	1118+85.00 R1	688.69
VLP	1117+96.62 R1	688.52
Length:	500	
Entrance Grade:	-0.018	
Exit Grade:	0.004	
r = 100 * (g2 - g1) / L:	0.44	
K = l / (g2 - g1):	228.42	
Middle Ordinate:	1.37	
Element: Linear		
VPT	1118+85.00 R1	688.69
VPC	1134+50.00 R1	694.74
Tangent Grade:	0.004	
Tangent Length:	1565	
Element: Symmetrical Parabola		
VPC	1134+50.00 R1	694.74
VPI	1137+75.00 R1	696
VPT	1141+00.00 R1	693.4
VHP	1136+61.89 R1	695.15
Length:	650	
Entrance Grade:	0.004	
Exit Grade:	-0.008	
r = 100 * (g2 - g1) / L:	-0.18	
K = l / (g2 - g1):	547.63	
Middle Ordinate:	-0.96	
Element: Linear		
VPT	1141+00.00 R1	693.4
VPC	1147+35.00 R1	688.32
Tangent Grade:	-0.008	
Tangent Length:	635	
Element: Symmetrical Parabola		
VPC	1147+35.00 R1	688.32
VPI	1148+75.00 R1	687.2
VPT	1150+15.00 R1	685.26
Length:	280	
Entrance Grade:	-0.008	
Exit Grade:	-0.014	
r = 100 * (g2 - g1) / L:	-0.21	
K = l / (g2 - g1):	479.63	

SH 255 VERTICAL DATA (CONT.)

Middle Ordinate:	-0.2	
Element: Linear		
VPT	1150+15.00 R1	685.26
VPC	1156+50.00 R1	676.48
Tangent Grade:	-0.014	
Tangent Length:	635	
Element: Symmetrical Parabola		
VPC	1156+50.00 R1	676.48
VPI	1158+00.00 R1	674.4
VPT	1159+50.00 R1	671.48
Length:	300	
Entrance Grade:	-0.014	
Exit Grade:	-0.019	
r = 100 * (g2 - g1) / L:	-0.19	
K = l / (g2 - g1):	535.33	
Middle Ordinate:	-0.21	
Element: Linear		
VPT	1159+50.00 R1	671.48
VPC	1163+05.00 R1	664.58
Tangent Grade:	-0.019	
Tangent Length:	355	
Element: Symmetrical Parabola		
VPC	1163+05.00 R1	664.58
VPI	1165+30.00 R1	660.21
VPT	1167+55.00 R1	658.28
Length:	450	
Entrance Grade:	-0.019	
Exit Grade:	-0.009	
r = 100 * (g2 - g1) / L:	0.24	
K = l / (g2 - g1):	413.59	
Middle Ordinate:	0.61	
Element: Linear		
VPT	1167+55.00 R1	658.28
VPC	1184+57.50 R1	643.71
Tangent Grade:	-0.009	
Tangent Length:	1702.5	
Element: Symmetrical Parabola		
VPC	1184+57.50 R1	643.71
VPI	1189+20.00 R2	639.75
EQNBK	1186+33.71 R1	
EQNAHD	1186+33.71 R2	
VPT	1193+82.50 R2	652.55
VLP	1186+75.97 R2	642.77
Length:	925	
Entrance Grade:	-0.009	
Exit Grade:	0.028	
r = 100 * (g2 - g1) / L:	0.39	
K = l / (g2 - g1):	255.18	
Middle Ordinate:	4.19	
Element: Linear		
VPT	1193+82.50 R2	652.55
VPC	1194+35.00 R2	654
Tangent Grade:	0.028	
Tangent Length:	52.5	
Element: Symmetrical Parabola		
VPC	1194+35.00 R2	654
VPI	1196+75.00 R2	660.65
VPT	1199+15.00 R2	664.08
Length:	480	
Entrance Grade:	0.028	
Exit Grade:	0.014	
r = 100 * (g2 - g1) / L:	-0.28	
K = l / (g2 - g1):	358.05	
Middle Ordinate:	-0.8	

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		103

DATE: 4/9/2024 7:50:57 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilard0763336\006geodata.dgn

SH 255 VERTICAL DATA (CONT.)

Element: Linear			
VPT	1199+15.00	R2	664.08
POT	1199+63.41	R2	664.77
Tangent Grade:	0.014		
Tangent Length:	48.41		

JEFFRIES WB HORIZONTAL DATA (CONT.)

Alignment Name:	ALIGNMENT B3			
Alignment Description:				
Alignment Style:	Alignment\Baseline			
	Station		Northing	Easting
Element: Linear				
POT	(924+37.17	R1	17184675.32	662911.38
PC	(934+06.49	R1	17185343.28	663613.82
Tangential Direction:	N46°26'29.32"E			
Tangential Length:	969.33			
Element: Circular				
PC	(934+06.49	R1	17185343.28	663613.82
PI	(939+86.64	R1	17185743.06	664034.24
CC	( )		17182575.24	666245.97
PT	(945+58.00	R1	17185999.98	664554.4
Radius:	3819.72			
Delta:	17°16'21.031"	Right		
Degree of Curvature (Arc):	01°29'59.998"			
Length:	1151.5			
Tangent:	580.15			
Chord:	1147.15			
Middle Ordinate:	43.31			
External:	43.81			
Back Tangent Direction:	N46°26'29.32"E			
Back Radial Direction:	S43°33'30.68"E			
Chord Direction:	N55°04'39.84"E			
Ahead Radial Direction:	S26°17'09.65"E			
Ahead Tangent Direction:	N63°42'50.35"E			
Element: Linear				
PT	(945+58.00	R1	17185999.98	664554.4
PC	(945+93.97	R1	17186015.91	664586.66
Tangential Direction:	N63°42'50.35"E			
Tangential Length:	35.98			
Element: Circular				
PC	(945+93.97	R1	17186015.91	664586.66
PI	(951+11.32	R1	17186245.02	665050.51
CC	( )		17180878.8	667124.01
PT	(956+25.88	R1	17186387.34	665547.9
Radius:	5729.58			
Delta:	10°19'08.540"	Right		
Degree of Curvature (Arc):	00°59'59.999"			
Length:	1031.9			
Tangent:	517.35			
Chord:	1030.51			
Middle Ordinate:	23.22			
External:	23.31			
Back Tangent Direction:	N63°42'50.35"E			
Back Radial Direction:	S26°17'09.65"E			
Chord Direction:	N68°52'24.62"E			
Ahead Radial Direction:	S15°58'01.11"E			
Ahead Tangent Direction:	N74°01'58.89"E			
Element: Linear				
PT	(956+25.88	R1	17186387.34	665547.9
PC	(956+43.88	R1	17186392.29	665565.21
Tangential Direction:	N74°01'58.89"E			
Tangential Length:	18.01			
Element: Circular				
PC	(956+43.88	R1	17186392.29	665565.21
PI	(958+34.69	R1	17186444.78	665748.66
CC	( )		17179047.58	667666.7
PT	(960+25.41	R1	17186488.04	665934.49
Radius:	7639.44			
Delta:	02°51'41.296"	Right		
Degree of Curvature (Arc):	00°44'59.999"			
Length:	381.53			
Tangent:	190.8			
Chord:	381.49			
Middle Ordinate:	2.38			
External:	2.38			
Back Tangent Direction:	N74°01'58.89"E			
Back Radial Direction:	S15°58'01.11"E			
Chord Direction:	N75°27'49.54"E			
Ahead Radial Direction:	S13°06'19.81"E			
Ahead Tangent Direction:	N76°53'40.19"E			
Element: Linear				
PT	(960+25.41	R1	17186488.04	665934.49
PC	(970+55.51	R1	17186721.61	666937.76
Tangential Direction:	N76°53'40.19"E			
Tangential Length:	1030.1			
Element: Circular				
PC	(970+55.51	R1	17186721.61	666937.76
PI	(974+52.19	R1	17186811.55	667324.11
CC	( )		17192301.96	665638.61
PT	(978+47.60	R1	17186953.88	667694.37
Radius:	5729.58			

JEFFRIES WB HORIZONTAL DATA (CONT.)

Delta:	07°55'15.134"	Left		
Degree of Curvature (Arc):	00°59'59.999"			
Length:	792.09			
Tangent:	396.68			
Chord:	791.46			
Middle Ordinate:	13.68			
External:	13.72			
Back Tangent Direction:	N76°53'40.19"E			
Back Radial Direction:	S13°06'19.81"E			
Chord Direction:	N72°56'02.62"E			
Ahead Radial Direction:	S21°01'34.94"E			
Ahead Tangent Direction:	N68°58'25.06"E			
Element: Linear				
PT	(978+47.60	R1	17186953.88	667694.37
POT	(978+64.78	R1	17186960.05	667710.41
Tangential Direction:	N68°58'25.06"E			
Tangential Length:	17.18			

JEFFRIES WB VERTICAL DATA

Horizontal Alignment:	ALIGNMENT B3		
Horizontal Description:			
Horizontal Style:	Alignment\Baseline		
Vertical Alignment:	PPR B3		
Vertical Description:			
Vertical Style:	Alignment\Baseline		
	Station		Elevation
Element: Linear			
POT	929+96.63	R1	732.38
VPC	930+18.35	R1	732.33
Tangent Grade:	-0.002		
Tangent Length:	21.72		
Element: Symmetrical Parabola			
VPC	930+18.35	R1	732.33
VPI	932+68.35	R1	731.78
VPT	935+18.35	R1	727.99
Length:	500		
Entrance Grade:	-0.002		
Exit Grade:	-0.015		
r = 100 * (g2 - g1) / L:	-0.26		
K = l / (g2 - g1):	386.1		
Middle Ordinate:	-0.81		
Element: Linear			
VPT	935+18.35	R1	727.99
VPC	935+50.00	R1	727.51
Tangent Grade:	-0.015		
Tangent Length:	31.65		
Element: Symmetrical Parabola			
VPC	935+50.00	R1	727.51
VPI	936+75.00	R1	725.61
VPT	938+00.00	R1	726.28
VLP	937+35.16	R1	726.11
Length:	250		
Entrance Grade:	-0.015		
Exit Grade:	0.005		
r = 100 * (g2 - g1) / L:	0.82		
K = l / (g2 - g1):	122.13		
Middle Ordinate:	0.64		
Element: Linear			
VPT	938+00.00	R1	726.28
VPC	940+37.50	R1	727.54
Tangent Grade:	0.005		
Tangent Length:	237.5		
Element: Symmetrical Parabola			
VPC	940+37.50	R1	727.54
VPI	942+70.00	R1	728.77
VPT	945+02.50	R1	725.95
VHP	941+78.81	R1	727.91
Length:	465		
Entrance Grade:	0.005		
Exit Grade:	-0.012		
r = 100 * (g2 - g1) / L:	-0.38		
K = l / (g2 - g1):	266.17		
Middle Ordinate:	-1.02		
Element: Linear			
VPT	945+02.50	R1	725.95
VPC	947+12.50	R1	723.39
Tangent Grade:	-0.012		
Tangent Length:	210		
Element: Symmetrical Parabola			
VPC	947+12.50	R1	723.39
VPI	949+00.00	R1	721.11
VPT	950+87.50	R1	723.76
VLP	948+85.92	R1	722.34
Length:	375		

JEFFRIES WB VERTICAL DATA (CONT.)

Entrance Grade:	-0.012		
Exit Grade:	0.014		
r = 100 * (g2 - g1) / L:	0.7		
K = l / (g2 - g1):	142.6		
Middle Ordinate:	1.23		
Element: Linear			
VPT	950+87.50	R1	723.76
VPC	957+65.00	R1	733.34
Tangent Grade:	0.014		
Tangent Length:	677.5		
Element: Symmetrical Parabola			
VPC	957+65.00	R1	733.34
VPI	959+90.00	R1	736.52
VPT	962+15.00	R1	737.72
Length:	450		
Entrance Grade:	0.014		
Exit Grade:	0.005		
r = 100 * (g2 - g1) / L:	-0.2		
K = l / (g2 - g1):	512.11		
Middle Ordinate:	-0.49		
Element: Linear			
VPT	962+15.00	R1	737.72
VPC	964+40.00	R1	738.93
Tangent Grade:	0.005		
Tangent Length:	225		
Element: Symmetrical Parabola			
VPC	964+40.00	R1	738.93
VPI	965+80.00	R1	739.68
VPT	967+20.00	R1	738.65
VHP	965+57.84	R1	739.24
Length:	280		
Entrance Grade:	0.005		
Exit Grade:	-0.007		
r = 100 * (g2 - g1) / L:	-0.45		
K = l / (g2 - g1):	220.29		
Middle Ordinate:	-0.44		
Element: Linear			
VPT	967+20.00	R1	738.65
VPC	969+99.85	R1	736.59
Tangent Grade:	-0.007		
Tangent Length:	279.85		
Element: Symmetrical Parabola			
VPC	969+99.85	R1	736.59
VPI	970+99.85	R1	735.85
VPT	971+99.85	R1	735.65
Length:	200		
Entrance Grade:	-0.007		
Exit Grade:	-0.002		
r = 100 * (g2 - g1) / L:	0.27		
K = l / (g2 - g1):	372.64		
Middle Ordinate:	0.13		
Element: Linear			
VPT	971+99.85	R1	735.65
POT	972+23.21	R1	735.6
Tangent Grade:	-0.002		
Tangent Length:	23.36		

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		104

DATE: 4/9/2024 7:50:58 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006geodata.dgn

JEFFRIES EB HORIZONTAL DATA

Alignment Name:	ALIGNMENT E3		
Alignment Description:			
Alignment Style:	Alignment\Baseline		
	Station	Northing	Easting
Element: Linear			
POT	(923+02.00 R1	17184562.2	662829.9
PC	(923+57.76 R1	17184601.52	662869.43
Tangential Direction:	N45°09'20.04"E		
Tangential Length:	55.76		
Element: Circular			
PC	(923+57.76 R1	17184601.52	662869.43
PI	(924+56.98 R1	17184671.49	662939.78
CC	( )	17182570.31	664889.64
PT	(925+56.12 R1	17184736.42	663014.8
Radius:	2864.79		
Delta:	03°58'01.879"	Right	
Degree of Curvature (Arc):	02°00'00.000"		
Length:	198.36		
Tangent:	99.22		
Chord:	198.32		
Middle Ordinate:	1.72		
External:	1.72		
Back Tangent Direction:	N45°09'20.04"E		
Back Radial Direction:	S44°50'39.96"E		
Chord Direction:	N47°08'20.98"E		
Ahead Radial Direction:	S40°52'38.08"E		
Ahead Tangent Direction:	N49°07'21.92"E		
Element: Linear			
PT	(925+56.12 R1	17184736.42	663014.8
PC	(925+57.57 R1	17184737.37	663015.9
Tangential Direction:	N49°07'21.92"E		
Tangential Length:	1.45		
Element: Circular			
PC	(925+57.57 R1	17184737.37	663015.9
PI	(932+33.98 R1	17185178.33	663528.81
CC	( )	17181840.91	665506.04
PT	(938+96.50 R1	17185416.34	664161.96
Radius:	3819.72		
Delta:	20°05'02.439"	Right	
Degree of Curvature (Arc):	01°29'59.998"		
Length:	1338.93		
Tangent:	676.41		
Chord:	1332.09		
Middle Ordinate:	58.52		
External:	59.43		
Back Tangent Direction:	N49°18'49.46"E		
Back Radial Direction:	S40°41'10.54"E		
Chord Direction:	N59°21'20.68"E		
Ahead Radial Direction:	S20°36'08.10"E		
Ahead Tangent Direction:	N69°23'51.90"E		
Element: Linear			
PT	(938+96.50 R1	17185416.34	664161.96
PC	(948+01.16 R1	17185737.4	665007.73
Tangential Direction:	N69°12'47.53"E		
Tangential Length:	904.65		
Element: Circular			
PC	(948+01.16 R1	17185737.4	665007.73
PI	(949+87.15 R1	17185803.62	665181.53
CC	( )	17191091.45	662967.57
PT	(951+73.02 R1	17185880.99	665350.68
Radius:	5729.58		
Delta:	03°43'07.030"	Left	
Degree of Curvature (Arc):	00°59'59.999"		
Length:	371.86		
Tangent:	186		
Chord:	371.8		
Middle Ordinate:	3.02		
External:	3.02		
Back Tangent Direction:	N69°08'26.64"E		
Back Radial Direction:	S20°51'33.36"E		
Chord Direction:	N67°16'53.13"E		
Ahead Radial Direction:	S24°34'40.39"E		
Ahead Tangent Direction:	N65°25'19.61"E		
Element: Linear			
PT	(951+73.02 R1	17185880.99	665350.68
PC	(957+40.86 R1	17186116.12	665867.54
Tangential Direction:	N65°32'16.30"E		
Tangential Length:	567.84		
Element: Circular			
PC	(957+40.86 R1	17186116.12	665867.54
PI	(958+02.46 R1	17186141.55	665923.65
CC	( )	17191334.63	663502.11
PT	(958+64.05 R1	17186168.19	665979.19
Radius:	5729.58		
Delta:	01°13'55.113"	Left	

JEFFRIES EB HORIZONTAL DATA (CONT.)

Degree of Curvature (Arc):	00°59'59.999"		
Length:	123.2		
Tangent:	61.6		
Chord:	123.2		
Middle Ordinate:	0.33		
External:	0.33		
Back Tangent Direction:	N65°36'58.57"E		
Back Radial Direction:	S24°23'01.43"E		
Chord Direction:	N65°00'01.01"E		
Ahead Radial Direction:	S25°36'56.54"E		
Ahead Tangent Direction:	N64°23'03.46"E		
Element: Linear			
PT	(958+64.05 R1	17186168.19	665979.19
PC	(967+06.98 R1	17186534.64	666738.29
Tangential Direction:	N64°13'51.44"E		
Tangential Length:	842.92		
Element: Circular			
PC	(967+06.98 R1	17186534.64	666738.29
PI	(968+01.91 R1	17186575.67	666823.91
CC	( )	17183951.2	667976.38
PT	(968+96.78 R1	17186610.94	666912.05
Radius:	2864.79		
Delta:	03°47'45.806"	Right	
Degree of Curvature (Arc):	01°59'59.997"		
Length:	189.8		
Tangent:	94.94		
Chord:	189.77		
Middle Ordinate:	1.57		
External:	1.57		
Back Tangent Direction:	N64°23'40.07"E		
Back Radial Direction:	S25°36'19.93"E		
Chord Direction:	N66°17'32.98"E		
Ahead Radial Direction:	S21°48'34.12"E		
Ahead Tangent Direction:	N68°11'25.88"E		
Element: Linear			
PT	(968+96.78 R1	17186610.94	666912.05
PI	(969+24.91 R1	17186621.52	666938.11
Tangential Direction:	N67°54'21.71"E		
Tangential Length:	28.13		
Element: Linear			
PI	(969+24.91 R1	17186621.52	666938.11
POT	(979+75.13 R1	17187010.49	667913.64
Tangential Direction:	N68°15'42.72"E		
Tangential Length:	1050.22		

JEFFRIES EB VERTICAL DATA

Horizontal Alignment:	ALIGNMENT E3	
Horizontal Description:		
Horizontal Style:	Alignment\Baseline	
Vertical Alignment:	PPR E3	
Vertical Description:		
Vertical Style:	Alignment\Baseline	
	Station	Elevation
Element: Linear		
POT	929+92.02 R1	729.72
VPC	931+15.00 R1	728.64
Tangent Grade:	-0.009	
Tangent Length:	122.98	
Element: Symmetrical Parabola		
VPC	931+15.00 R1	728.64
VPI	932+20.00 R1	727.72
VPT	933+25.00 R1	726
Length:	210	
Entrance Grade:	-0.009	
Exit Grade:	-0.016	
r = 100 * (g2 - g1) / L:	-0.36	
K = l / (g2 - g1):	274.77	
Middle Ordinate:	-0.2	
Element: Linear		
VPT	933+25.00 R1	726
VPC	933+75.00 R1	725.18
Tangent Grade:	-0.016	
Tangent Length:	50	
Element: Symmetrical Parabola		
VPC	933+75.00 R1	725.18
VPI	936+10.00 R1	721.32
VPT	938+45.00 R1	721.98
VLP	937+76.51 R1	721.88
Length:	470	
Entrance Grade:	-0.016	
Exit Grade:	0.003	
r = 100 * (g2 - g1) / L:	0.41	
K = l / (g2 - g1):	244.6	
Middle Ordinate:	1.13	

JEFFRIES EB VERTICAL DATA (CONT.)

Element: Linear		
VPT	938+45.00 R1	721.98
VPC	940+75.00 R1	722.62
Tangent Grade:	0.003	
Tangent Length:	230	
Element: Symmetrical Parabola		
VPC	940+75.00 R1	722.62
VPI	942+00.00 R1	722.97
VPT	943+25.00 R1	722.66
VHP	942+08.33 R1	722.81
Length:	250	
Entrance Grade:	0.003	
Exit Grade:	-0.002	
r = 100 * (g2 - g1) / L:	-0.21	
K = l / (g2 - g1):	476.19	
Middle Ordinate:	-0.16	
Element: Linear		
VPT	943+25.00 R1	722.66
VPC	946+50.00 R1	721.87
Tangent Grade:	-0.002	
Tangent Length:	325	
Element: Symmetrical Parabola		
VPC	946+50.00 R1	721.87
VPI	948+00.00 R1	721.5
VPT	949+50.00 R1	722.5
VLP	947+30.62 R1	721.77
Length:	300	
Entrance Grade:	-0.002	
Exit Grade:	0.007	
r = 100 * (g2 - g1) / L:	0.3	
K = l / (g2 - g1):	329.07	
Middle Ordinate:	0.34	
Element: Linear		
VPT	949+50.00 R1	722.5
VPC	950+00.00 R1	722.83
Tangent Grade:	0.007	
Tangent Length:	50	
Element: Symmetrical Parabola		
VPC	950+00.00 R1	722.83
VPI	951+75.00 R1	724
VPT	953+50.00 R1	726.62
Length:	350	
Entrance Grade:	0.007	
Exit Grade:	0.015	
r = 100 * (g2 - g1) / L:	0.24	
K = l / (g2 - g1):	422.45	
Middle Ordinate:	0.36	
Element: Linear		
VPT	953+50.00 R1	726.62
VPC	957+45.00 R1	732.52
Tangent Grade:	0.015	
Tangent Length:	395	
Element: Symmetrical Parabola		
VPC	957+45.00 R1	732.52
VPI	959+00.00 R1	734.84
VPT	960+55.00 R1	735.66
Length:	310	
Entrance Grade:	0.015	
Exit Grade:	0.005	
r = 100 * (g2 - g1) / L:	-0.31	
K = l / (g2 - g1):	320.52	
Middle Ordinate:	-0.37	
Element: Linear		
VPT	960+55.00 R1	735.66
VPC	963+00.00 R1	736.95
Tangent Grade:	0.005	
Tangent Length:	245	
Element: Symmetrical Parabola		
VPC	963+00.00 R1	736.95
VPI	964+00.00 R1	737.48
VPT	965+00.00 R1	737.61
Length:	200	
Entrance Grade:	0.005	
Exit Grade:	0.001	
r = 100 * (g2 - g1) / L:	-0.2	
K = l / (g2 - g1):	506.76	
Middle Ordinate:	-0.1	
Element: Linear		
VPT	965+00.00 R1	737.61
VPC	966+80.00 R1	737.85
Tangent Grade:	0.001	
Tangent Length:	180	
Element: Symmetrical Parabola		
VPC	966+80.00 R1	737.85
VPI	967+80.00 R1	737.99
VPT	968+80.00 R1	737.34
VHP	967+14.23 R1	737.88

JEFFRIES EB VERTICAL DATA (CONT.)

Length:	200	
Entrance Grade:	0.001	
Exit Grade:	-0.006	
r = 100 * (g2 - g1) / L:	-0.39	
K = l / (g2 - g1):	256.72	
Middle Ordinate:	-0.19	
Element: Linear		
VPT	968+80.00 R1	737.34
VPC	969+98.81 R1	736.57
Tangent Grade:	-0.006	
Tangent Length:	118.81	
Element: Symmetrical Parabola		
VPC	969+98.81 R1	736.57
VPI	971+50.00 R1	735.6
VPT	973+01.19 R1	736.68
VLP	971+42.48 R1	736.11
Length:	302.38	
Entrance Grade:	-0.006	
Exit Grade:	0.007	
r = 100 * (g2 - g1) / L:	0.45	
K = l / (g2 - g1):	222.5	
Middle Ordinate:	0.51	
Element: Linear		
VPT	973+01.19 R1	736.68
POT	973+72.31 R1	737.18
Tangent Grade:	0.007	
Tangent Length:	71.12	

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	105

DATE: 4/9/2024 7:50:59 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006geodata.dgn

US 83 WB HORIZONTAL DATA

Alignment Name:	ALIGNMENT B4			
Alignment Description:				
Alignment Style:	Alignment\Baseline			
	Station		Northing	Easting
Element: Circular				
PC	(	996+91.02 R1	17187635.2	669491.64
PI	(	1001+17.44 R1	17187786.5	669890.32
CC	( )		17192730.58	667557.83
PT	(	1005+42.13 R1	17187997.98	670260.61
Radius:		5450		
Delta:	08°56'51.683"		Left	
Degree of Curvature (Arc):	01°03'04.675"			
Length:		851.11		
Tangent:		426.42		
Chord:		850.24		
Middle Ordinate:		16.61		
External:		16.66		
Back Tangent Direction:	N69°13'01.63"E			
Back Radial Direction:	S20°46'58.37"E			
Chord Direction:	N64°44'35.79"E			
Ahead Radial Direction:	S29°43'50.05"E			
Ahead Tangent Direction:	N60°16'09.95"E			
Element: Linear				
PT	(	1005+42.13 R1	17187997.98	670260.61
PC	(	1010+93.02 R1	17188271.17	670738.98
Tangential Direction:	N60°16'09.95"E			
Tangential Length:		550.89		
Element: Circular				
PC	(	1010+93.02 R1	17188271.17	670738.98
PI	(	1013+88.20 R1	17188417.56	670995.3
CC	( )		17183295.8	673580.41
PT	(	1016+82.85 R1	17188536.83	671265.31
Radius:		5729.58		
Delta:	05°53'53.862"		Right	
Degree of Curvature (Arc):	00°59'59.999"			
Length:		589.83		
Tangent:		295.18		
Chord:		589.57		
Middle Ordinate:		7.59		
External:		7.6		
Back Tangent Direction:	N60°16'09.95"E			
Back Radial Direction:	S29°43'50.05"E			
Chord Direction:	N63°13'06.88"E			
Ahead Radial Direction:	S23°49'56.19"E			
Ahead Tangent Direction:	N66°10'03.81"E			
Element: Linear				
PT	(	1016+82.85 R1	17188536.83	671265.31
PC	(	1023+82.29 R1	17188819.44	671905.1
Tangential Direction:	N66°10'03.81"E			
Tangential Length:		699.43		
Element: Circular				
PC	(	1023+82.29 R1	17188819.44	671905.1
PI	(	1027+20.37 R1	17188956.05	672214.36
CC	( )		17183578.41	674220.2
PT	(	1030+57.68 R1	17189055.34	672537.54
Radius:		5729.58		
Delta:	06°45'14.085"		Right	
Degree of Curvature (Arc):	00°59'59.999"			
Length:		675.39		
Tangent:		338.09		
Chord:		675		
Middle Ordinate:		9.95		
External:		9.97		
Back Tangent Direction:	N66°10'03.81"E			
Back Radial Direction:	S23°49'56.19"E			
Chord Direction:	N69°32'40.85"E			
Ahead Radial Direction:	S17°04'42.11"E			
Ahead Tangent Direction:	N72°55'17.89"E			
Element: Linear				
PT	(	1030+57.68 R1	17189055.34	672537.54
PC	(	1034+44.52 R1	17189168.95	672907.33
Tangential Direction:	N72°55'17.89"E			
Tangential Length:		386.84		
Element: Circular				
PC	(	1034+44.52 R1	17189168.95	672907.33
PI	(	1036+58.64 R1	17189231.83	673112.01
CC	( )		17183692.02	674589.99
PT	(	1038+72.57 R1	17189279.26	673320.81
Radius:		5729.58		
Delta:	04°16'49.725"		Right	
Degree of Curvature (Arc):	00°59'59.999"			
Length:		428.05		

US 83 WB HORIZONTAL DATA (CONT.)

Tangent:		214.12		
Chord:		427.95		
Middle Ordinate:		4		
External:		4		
Back Tangent Direction:	N72°55'17.89"E			
Back Radial Direction:	S17°04'42.11"E			
Chord Direction:	N75°03'42.76"E			
Ahead Radial Direction:	S12°47'52.38"E			
Ahead Tangent Direction:	N77°12'07.62"E			
Element: Linear				
PT	(	1038+72.57 R1	17189279.26	673320.81
PC	(	1047+56.85 R1	17189475.14	674183.12
Tangential Direction:	N77°12'07.62"E			
Tangential Length:		884.28		
Element: Circular				
PC	(	1047+56.85 R1	17189475.14	674183.12
PI	(	1051+56.75 R1	17189563.72	674573.09
CC	( )		17195062.38	672913.95
PT	(	1055+55.36 R1	17189705.62	674946.98
Radius:		5729.58		
Delta:	07°59'06.475"		Left	
Degree of Curvature (Arc):	00°59'59.999"			
Length:		798.51		
Tangent:		399.9		
Chord:		797.87		
Middle Ordinate:		13.91		
External:		13.94		
Back Tangent Direction:	N77°12'07.62"E			
Back Radial Direction:	S12°47'52.38"E			
Chord Direction:	N73°12'34.38"E			
Ahead Radial Direction:	S20°46'58.86"E			
Ahead Tangent Direction:	N69°13'01.14"E			
Element: Linear				
PT	(	1055+55.36 R1	17189705.62	674946.98
POT	(	1056+20.37 R1	17189728.69	675007.75
Tangential Direction:	N69°13'01.14"E			
Tangential Length:		65.01		

US 83 WB VERTICAL DATA

Horizontal Alignment:	ALIGNMENT B4	
Horizontal Description:		
Horizontal Style:	Alignment\Baseline	
Vertical Alignment:	PPR B4	
Vertical Description:		
Vertical Style:	Alignment\Baseline	
	Station	Elevation
Element: Linear		
POT	1002+59.44 R1	732.15
VPC	1005+85.09 R1	730.98
Tangent Grade:	-0.004	
Tangent Length:	325.65	
Element: Symmetrical Parabola		
VPC	1005+85.09 R1	730.98
VPI	1007+97.59 R1	730.21
VPT	1010+10.09 R1	731.02
VLP	1007+92.01 R1	730.6
Length:	425	
Entrance Grade:	-0.004	
Exit Grade:	0.004	
r = 100 * (g2 - g1) / L:	0.17	
K = l / (g2 - g1):	572.7	
Middle Ordinate:	0.39	
Element: Linear		
VPT	1010+10.09 R1	731.02
VPC	1012+39.53 R1	731.89
Tangent Grade:	0.004	
Tangent Length:	229.44	
Element: Symmetrical Parabola		
VPC	1012+39.53 R1	731.89
VPI	1014+14.53 R1	732.56
VPT	1015+89.53 R1	736.31
Length:	350	
Entrance Grade:	0.004	
Exit Grade:	0.021	
r = 100 * (g2 - g1) / L:	0.5	
K = l / (g2 - g1):	198.27	
Middle Ordinate:	0.77	
Element: Linear		
VPT	1015+89.53 R1	736.31
VPC	1018+32.50 R1	741.53
Tangent Grade:	0.021	
Tangent Length:	242.97	
Element: Symmetrical Parabola		
VPC	1018+32.50 R1	741.53

US 83 WB VERTICAL DATA (CONT.)

VPI	1020+07.50 R1	745.28
VPT	1021+82.50 R1	744.59
VHP	1021+27.98 R1	744.7
Length:	350	
Entrance Grade:	0.021	
Exit Grade:	-0.004	
r = 100 * (g2 - g1) / L:	-0.73	
K = l / (g2 - g1):	137.69	
Middle Ordinate:	-1.11	
Element: Linear		
VPT	1021+82.50 R1	744.59
VPI	1025+48.04 R1	743.14
Tangent Grade:	-0.004	
Tangent Length:	365.54	
Element: Linear		
VPI	1025+48.04 R1	743.14
VPI	1026+46.04 R1	742.89
Tangent Grade:	-0.003	
Tangent Length:	98	
Element: Linear		
VPI	1026+46.04 R1	742.89
VPI	1027+26.77 R1	742.34
Tangent Grade:	-0.007	
Tangent Length:	80.73	
Element: Linear		
VPI	1027+26.77 R1	742.34
VPI	1028+18.77 R1	742.2
Tangent Grade:	-0.001	
Tangent Length:	92	
Element: Linear		
VPI	1028+18.77 R1	742.2
VPC	1028+33.05 R1	742.24
Tangent Grade:	0.003	
Tangent Length:	14.28	
Element: Symmetrical Parabola		
VPC	1028+33.05 R1	742.24
VPI	1030+20.55 R1	742.75
VPT	1032+08.05 R1	743.97
Length:	375	
Entrance Grade:	0.003	
Exit Grade:	0.007	
r = 100 * (g2 - g1) / L:	0.1	
K = l / (g2 - g1):	983.37	
Middle Ordinate:	0.18	
Element: Linear		
VPT	1032+08.05 R1	743.97
VPC	1033+91.79 R1	745.17
Tangent Grade:	0.007	
Tangent Length:	183.74	
Element: Symmetrical Parabola		
VPC	1033+91.79 R1	745.17
VPI	1035+66.79 R1	746.31
VPT	1037+41.79 R1	748.41
Length:	350	
Entrance Grade:	0.007	
Exit Grade:	0.012	
r = 100 * (g2 - g1) / L:	0.16	
K = l / (g2 - g1):	639.38	
Middle Ordinate:	0.24	
Element: Linear		
VPT	1037+41.79 R1	748.41
VPC	1038+11.22 R1	749.24
Tangent Grade:	0.012	
Tangent Length:	69.43	
Element: Symmetrical Parabola		
VPC	1038+11.22 R1	749.24
VPI	1041+11.22 R1	752.84
VPT	1044+11.22 R1	749.87
VHP	1041+39.78 R1	751.21
Length:	600	
Entrance Grade:	0.012	
Exit Grade:	-0.01	
r = 100 * (g2 - g1) / L:	-0.36	
K = l / (g2 - g1):	274.02	
Middle Ordinate:	-1.64	
Element: Linear		
VPT	1044+11.22 R1	749.87
POT	1049+30.56 R1	744.72
Tangent Grade:	-0.01	
Tangent Length:	519.34	

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	106

DATE: 4/9/2024 7:51:00 PM
FILE: c:\txdotpw_onlinetxdot5\misael.aguilar\d0763336\006geodata.dgn

US 83 EB HORIZONTAL DATA

Alignment Name:	Alignment E4		
Alignment Description:			
Alignment Style:	Alignment\Baseline		
	Station	Northing	Easting
Element: Linear			
POT	(1005+24.95 R1	17187908.62	670279.73
PC	(1005+27.93 R1	17187909.68	670282.51
Tangential Direction:	N69°13'01.63"E		
Tangential Length:	2.98		
Element: Circular			
PC	(1005+27.93 R1	17187909.68	670282.51
PI	(1006+41.65 R1	17187950.03	670388.83
CC	( )	17185231.3	671299.02
PT	(1007+55.25 R1	17187981.83	670498.02
Radius:	2864.79		
Delta:	04°32'47.280"	Right	
Degree of Curvature (Arc):	01°59'59.997"		
Length:	227.32		
Tangent:	113.72		
Chord:	227.26		
Middle Ordinate:	2.25		
External:	2.26		
Back Tangent Direction:	N69°13'01.63"E		
Back Radial Direction:	S20°46'58.37"E		
Chord Direction:	N71°29'25.27"E		
Ahead Radial Direction:	S16°14'11.09"E		
Ahead Tangent Direction:	N73°45'48.91"E		
Element: Linear			
PT	(1007+55.25 R1	17187981.83	670498.02
PC	(1008+36.82 R1	17188004.63	670576.33
Tangential Direction:	N73°45'48.91"E		
Tangential Length:	81.56		
Element: Circular			
PC	(1008+36.82 R1	17188004.63	670576.33
PI	(1009+85.15 R1	17188046.11	670718.75
CC	( )	17182503.57	672178.33
PT	(1011+33.42 R1	17188080.16	670863.12
Radius:	5729.58		
Delta:	02°57'57.663"	Right	
Degree of Curvature (Arc):	00°59'59.999"		
Length:	296.6		
Tangent:	148.33		
Chord:	296.57		
Middle Ordinate:	1.92		
External:	1.92		
Back Tangent Direction:	N73°45'48.91"E		
Back Radial Direction:	S16°14'11.09"E		
Chord Direction:	N75°14'47.74"E		
Ahead Radial Direction:	S13°16'13.43"E		
Ahead Tangent Direction:	N76°43'46.57"E		
Element: Linear			
PT	(1011+33.42 R1	17188080.16	670863.12
PC	(1013+95.88 R1	17188140.4	671118.57
Tangential Direction:	N76°43'46.57"E		
Tangential Length:	262.46		
Element: Circular			
PC	(1013+95.88 R1	17188140.4	671118.57
PI	(1016+05.66 R1	17188188.56	671322.76
CC	( )	17193716.99	669803.36
PT	(1018+15.26 R1	17188251.52	671522.87
Radius:	5729.58		
Delta:	04°11'37.803"	Left	
Degree of Curvature (Arc):	00°59'59.999"		
Length:	419.38		
Tangent:	209.79		
Chord:	419.29		
Middle Ordinate:	3.84		
External:	3.84		
Back Tangent Direction:	N76°43'46.57"E		
Back Radial Direction:	S13°16'13.43"E		
Chord Direction:	N74°37'57.67"E		
Ahead Radial Direction:	S17°27'51.23"E		
Ahead Tangent Direction:	N72°32'08.77"E		
Element: Linear			
PT	(1018+15.26 R1	17188251.52	671522.87
PC	(1023+35.06 R1	17188407.52	672018.71
Tangential Direction:	N72°32'08.77"E		
Tangential Length:	519.8		
Element: Circular			
PC	(1023+35.06 R1	17188407.52	672018.71
PI	(1028+67.31 R1	17188567.25	672526.42
CC	( )	17193872.99	670299.2

US 83 WB HORIZONTAL DATA (CONT.)

PT	(1033+96.51 R1	17188817.77	672996.02
Radius:	5729.58		
Delta:	10°36'52.029"	Left	
Degree of Curvature (Arc):	00°59'59.999"		
Length:	1061.45		
Tangent:	532.25		
Chord:	1059.93		
Middle Ordinate:	24.56		
External:	24.67		
Back Tangent Direction:	N72°32'08.77"E		
Back Radial Direction:	S17°27'51.23"E		
Chord Direction:	N67°13'42.76"E		
Ahead Radial Direction:	S28°04'43.26"E		
Ahead Tangent Direction:	N61°55'16.74"E		
Element: Linear			
PT	(1033+96.51 R1	17188817.77	672996.02
PC	(1035+38.12 R1	17188884.42	673120.97
Tangential Direction:	N61°55'16.74"E		
Tangential Length:	141.61		
Element: Circular			
PC	(1035+38.12 R1	17188884.42	673120.97
PI	(1036+00.45 R1	17188913.76	673175.96
CC	( )	17186356.81	674469.38
PT	(1036+62.77 R1	17188940.68	673232.19
Radius:	2864.79		
Delta:	02°29'34.666"	Right	
Degree of Curvature (Arc):	01°59'59.997"		
Length:	124.65		
Tangent:	62.33		
Chord:	124.64		
Middle Ordinate:	0.68		
External:	0.68		
Back Tangent Direction:	N61°55'16.74"E		
Back Radial Direction:	S28°04'43.26"E		
Chord Direction:	N63°10'04.07"E		
Ahead Radial Direction:	S25°35'08.59"E		
Ahead Tangent Direction:	N64°24'51.41"E		
Element: Linear			
PT	(1036+62.77 R1	17188940.68	673232.19
PC	(1045+30.48 R1	17189315.41	674014.81
Tangential Direction:	N64°24'51.41"E		
Tangential Length:	867.71		
Element: Circular			
PC	(1045+30.48 R1	17189315.41	674014.81
PI	(1046+50.62 R1	17189367.3	674123.17
CC	( )	17186731.54	675252
PT	(1047+70.62 R1	17189409.93	674235.49
Radius:	2864.79		
Delta:	04°48'10.224"	Right	
Degree of Curvature (Arc):	01°59'59.997"		
Length:	240.14		
Tangent:	120.14		
Chord:	240.07		
Middle Ordinate:	2.52		
External:	2.52		
Back Tangent Direction:	N64°24'51.41"E		
Back Radial Direction:	S25°35'08.59"E		
Chord Direction:	N66°48'56.52"E		
Ahead Radial Direction:	S20°46'58.37"E		
Ahead Tangent Direction:	N69°13'01.63"E		
Element: Linear			
PT	(1047+70.62 R1	17189409.93	674235.49
POT	(1055+97.59 R1	17189703.36	675008.66
Tangential Direction:	N69°13'01.63"E		
Tangential Length:	826.97		

US 83 WB VERTICAL DATA

Horizontal Alignment:	Alignment E4	
Horizontal Description:		
Horizontal Style:	Alignment\Baseline	
Vertical Alignment:	PPR E4	
Vertical Description:		
Vertical Style:	Alignment\Baseline	
	Station	Elevation
Element: Linear		
POT	1009+86.13 R1	730.89
VPC	1010+84.00 R1	731.12
Tangent Grade:	0.002	
Tangent Length:	97.87	
Element: Symmetrical Parabola		
VPC	1010+84.00 R1	731.12
VPI	1012+96.50 R1	731.63
VPT	1015+09.00 R1	737.21
Length:	425	
Entrance Grade:	0.002	
Exit Grade:	0.026	
r = 100 * (g2 - g1) / L:	0.56	
K = l / (g2 - g1):	177.58	
Middle Ordinate:	1.27	
Element: Linear		
VPT	1015+09.00 R1	737.21
VPC	1016+38.29 R1	740.61
Tangent Grade:	0.026	
Tangent Length:	129.29	
Element: Symmetrical Parabola		
VPC	1016+38.29 R1	740.61
VPI	1018+38.35 R1	745.87
VPT	1020+38.41 R1	743.93
VHP	1019+30.56 R1	744.45
Length:	400.13	
Entrance Grade:	0.026	
Exit Grade:	-0.01	
r = 100 * (g2 - g1) / L:	-0.9	
K = l / (g2 - g1):	111.18	
Middle Ordinate:	-1.8	
Element: Linear		
VPT	1020+38.41 R1	743.93
VPI	1024+15.04 R1	740.28
Tangent Grade:	-0.01	
Tangent Length:	376.63	
Element: Linear		
VPI	1024+15.04 R1	740.28
VPI	1025+15.04 R1	740.09
Tangent Grade:	-0.002	
Tangent Length:	100	
Element: Linear		
VPI	1025+15.04 R1	740.09
VPI	1026+70.73 R1	740.15
Tangent Grade:	0	
Tangent Length:	155.69	
Element: Linear		
VPI	1026+70.73 R1	740.15
VPI	1028+55.31 R1	741.17
Tangent Grade:	0.006	
Tangent Length:	184.58	
Element: Linear		
VPI	1028+55.31 R1	741.17
VPI	1031+26.61 R1	743.58
Tangent Grade:	0.009	
Tangent Length:	271.3	
Element: Linear		
VPI	1031+26.61 R1	743.58
VPC	1036+86.85 R1	750.25
Tangent Grade:	0.012	
Tangent Length:	560.23	
Element: Symmetrical Parabola		
VPC	1036+86.85 R1	750.25
VPI	1038+86.85 R1	752.63
VPT	1040+86.85 R1	751.24
VHP	1039+39.89 R1	751.75
Length:	400	
Entrance Grade:	0.012	
Exit Grade:	-0.007	
r = 100 * (g2 - g1) / L:	-0.47	
K = l / (g2 - g1):	212.65	
Middle Ordinate:	-0.94	
Element: Linear		
VPT	1040+86.85 R1	751.24
POT	1043+06.00 R1	749.73
Tangent Grade:	-0.007	
Tangent Length:	219.15	

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		107

DATE: 4/9/2024 7:51:01 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763336\006geodata.dgn

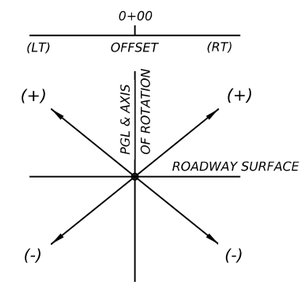
SH 255 MAINLANES CROSS SLOPE & SUPERELEVATION RATES											
LEFT						RIGHT					
BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE	BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE
760+00.00	TO	872+75.30	-2.00%	TO	-2.00%	760+00.00	TO	872+75.30	-2.00%	TO	-2.00%
872+75.30	TO	874+20.00	-2.00%	TO	-3.31%	872+75.30	TO	874+20.00	-2.00%	TO	3.31%
874+20.00	TO	902+35.98	-3.31%	TO	-3.31%	874+20.00	TO	902+35.98	3.31%	TO	3.31%
902+35.98	TO	903+80.70	-3.31%	TO	-2.00%	902+35.98	TO	903+80.70	3.31%	TO	-2.00%
903+80.70	TO	916+36.99	-2.00%	TO	-2.00%	903+80.70	TO	916+36.99	-2.00%	TO	-2.00%
916+36.99	TO	917+88.19	-2.00%	TO	3.60%	916+36.99	TO	917+88.19	-2.00%	TO	-3.60%
917+88.19	TO	945+92.44	3.60%	TO	3.60%	917+88.19	TO	945+92.44	-3.60%	TO	-3.60%
945+92.44	TO	947+43.64	3.60%	TO	-2.00%	945+92.44	TO	947+43.64	-3.60%	TO	-2.00%
947+43.64	TO	1088+56.1	-2.00%	TO	-2.00%	947+43.64	TO	1088+56.1	-2.00%	TO	-2.00%
1088+56.1	TO	1089+69.5	-2.00%	TO	2.20%	1088+56.1	TO	1089+69.5	-2.00%	TO	-2.20%
1089+69.5	TO	1129+94.4	2.20%	TO	2.20%	1089+69.5	TO	1129+94.4	-2.20%	TO	-2.20%
1129+94.4	TO	1131+07.8	2.20%	TO	-2.00%	1129+94.4	TO	1131+07.8	-2.20%	TO	-2.00%
1131+07.8	TO	1199+95.09	-2.00%	TO	-2.00%	1131+07.8	TO	1199+95.09	-2.00%	TO	-2.00%

SH 255 WESTBOUND RAMP CROSS SLOPE & SUPERELEVATION RATES											
LEFT						RIGHT					
BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE	BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE
929+98.00	TO	945+70.45	3.73%	TO	3.73%	929+98.00	TO	945+70.45	-3.73%	TO	-3.73%
945+70.45	TO	947+17.57	3.73%	TO	2.40%	945+70.45	TO	947+17.57	-3.73%	TO	-2.40%
946+04.05	TO	964+13.76	2.40%	TO	2.40%	946+04.05	TO	964+13.76	2.40%	TO	2.40%
964+13.76	TO	965+36.96	2.40%	TO	-2.00%	964+13.76	TO	965+36.96	2.40%	TO	2.00%
965+36.96	TO	972+23.21	-2.00%	TO	-2.00%	965+36.96	TO	972+23.21	2.00%	TO	2.00%

SH 255 EASTBOUND RAMP CROSS SLOPE & SUPERELEVATION RATES											
LEFT						RIGHT					
BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE	BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE
929+95.34	TO	946+32.6	3.73%	TO	3.73%	929+95.34	TO	946+32.6	-3.73%	TO	-3.73%
946+32.6	TO	948+73.4	3.73%	TO	-2.00%	946+32.6	TO	948+73.4	-3.73%	TO	2.00%
948+73.4	TO	957+71.6	-2.00%	TO	-2.00%	948+73.4	TO	957+71.6	2.00%	TO	2.00%
957+71.6	TO	958+83.6	-2.00%	TO	2.00%	957+71.6	TO	958+83.6	2.00%	TO	-2.00%
958+83.6	TO	966+75.62	2.00%	TO	2.00%	958+83.6	TO	966+75.62	-2.00%	TO	-2.00%
966+75.62	TO	967+20.42	2.00%	TO	3.60%	966+75.62	TO	967+20.42	-2.00%	TO	-3.60%
967+20.42	TO	968+83.34	3.60%	TO	3.60%	967+20.42	TO	968+83.34	-3.60%	TO	-3.60%
968+83.34	TO	969+28.14	3.60%	TO	2.00%	968+83.34	TO	969+28.14	-3.60%	TO	-2.00%

US 83 WESTBOUND RAMP CROSS SLOPE & SUPERELEVATION RATES											
LEFT						RIGHT					
BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE	BEGIN STATION	TO	END STATION	BEGIN CROSS SLOPE	TO	END CROSS SLOPE
1002+59.4	TO	1005+11.89	-2.20%	TO	-2.20%	1002+59.4	TO	1005+11.89	2.20%	TO	2.20%
1005+11.89	TO	1006+12.69	-2.20%	TO	-2.00%	1005+11.89	TO	1006+12.69	2.20%	TO	2.00%
1006+12.69	TO	1010+14.62	-2.00%	TO	2.00%	1006+12.69	TO	1010+14.62	2.00%	TO	-2.00%
1010+14.62	TO	1021+50.0	2.00%	TO	-2.00%	1010+14.62	TO	1021+50.0	-2.00%	TO	2.00%
1021+50.0	TO	1023+43.1	-2.00%	TO	-2.00%	1021+50.0	TO	1023+43.1	2.00%	TO	2.00%
1023+43.1	TO	1023+99.1	2.00%	TO	0.00%	1023+43.1	TO	1023+99.1	-2.00%	TO	0.00%
1023+99.1	TO	1027+79.6	0.00%	TO	0.00%	1023+99.1	TO	1027+79.6	0.00%	TO	0.00%
1027+79.6	TO	1028+35.6	0.00%	TO	2.00%	968+83.34	TO	971+25.56	0.00%	TO	-2.00%
1028+35.6	TO	1046+78.5	2.00%	TO	2.00%	1028+35.6	TO	1046+78.5	-2.00%	TO	-2.00%
1046+78.5	TO	1047+90.45	2.00%	TO	-2.00%	1046+78.5	TO	1047+90.45	-2.00%	TO	2.00%
1047+90.45	TO	1049+30.77	-2.00%	TO	-2.00%	1047+90.45	TO	1047+90.45	2.00%	TO	2.00%

US 83 EASTBOUND RAMP CROSS SLOPE & SUPERELEVATION RATES											
LEFT						RIGHT					
BEGIN STATION	TO	END STATION	BEGIN CROSS	TO	END CROSS	BEGIN STATION	TO	END STATION	BEGIN CROSS	TO	END CROSS
1009+84.98	TO	1013+17.48	2.00%	TO	2.00%	1009+84.98	TO	1013+17.48	-2.00%	TO	-2.00%
1013+17.48	TO	1014+29.48	2.00%	TO	-2.00%	1013+17.48	TO	1014+29.48	-2.00%	TO	2.00%
1014+29.48	TO	1017+81.66	-2.00%	TO	-2.00%	1014+29.48	TO	1017+81.66	2.00%	TO	2.00%
1017+81.66	TO	1018+93.66	-2.00%	TO	2.00%	1017+81.66	TO	1018+93.66	2.00%	TO	-2.00%
1018+93.66	TO	1023+75.84	2.00%	TO	2.00%	1018+93.66	TO	1023+75.84	-2.00%	TO	-2.00%
1023+75.84	TO	1024+31.84	2.00%	TO	0.00%	1023+75.84	TO	1024+31.84	-2.00%	TO	0.00%
1024+31.84	TO	1034+71.48	0.00%	TO	0.00%	1024+31.84	TO	1034+71.48	0.00%	TO	0.00%
1034+71.48	TO	1035+66.68	0.00%	TO	-2.00%	1034+71.48	TO	1035+66.68	0.00%	TO	2.00%
1035+66.68	TO	1036+21.74	-2.00%	TO	-2.00%	1035+66.68	TO	1036+21.74	2.00%	TO	2.00%
1036+21.74	TO	1037+58.49	-2.00%	TO	2.00%	1036+21.74	TO	1037+58.49	2.00%	TO	-2.00%
1037+58.49	TO	1043+07.42	2.00%	TO	2.00%	1037+41.2	TO	1043+07.42	-2.00%	TO	-2.00%



SIGN CONVENTION

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

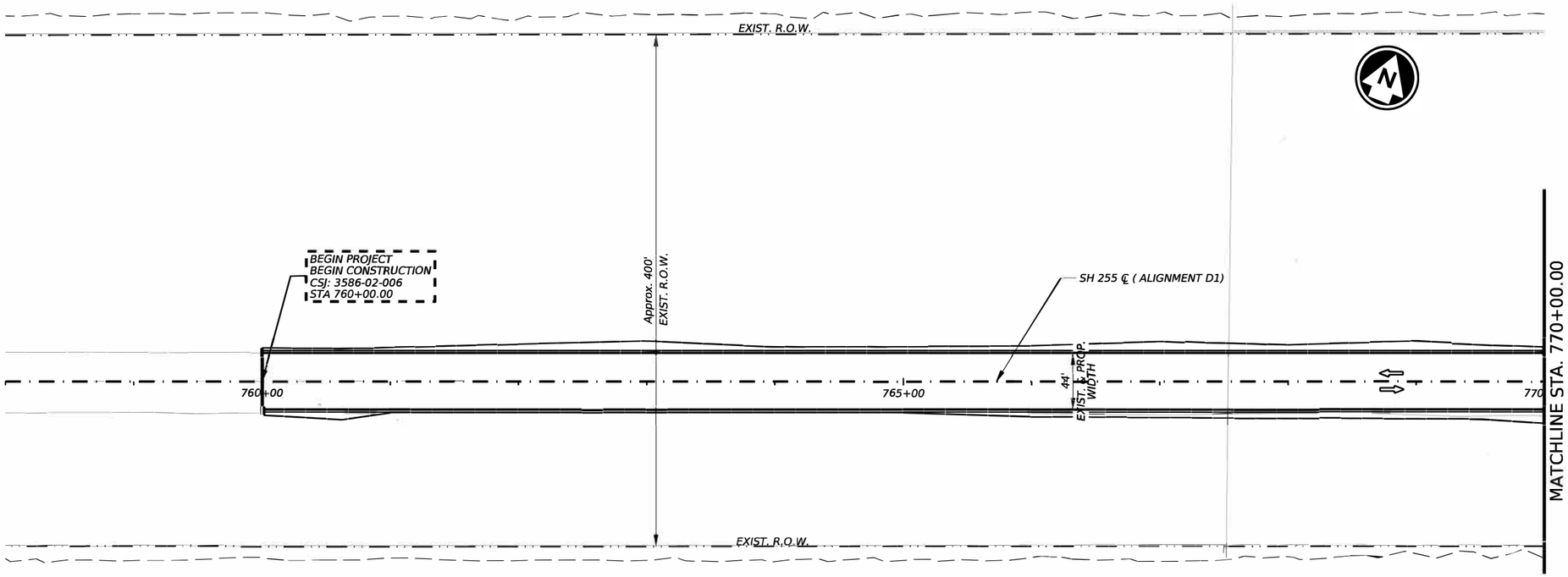
GEOMETRIC DATA SHEET

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	108

DATE: 4/9/2024 7:51:02 PM
FILE: c:\txdot\pw_onlinel\txdot5\misael.aguilar\d0763336\006geodata.dgn

CK: DW: CK: DW:



ROADWAY LEGEND

PGL - PROP. GRADE LINE

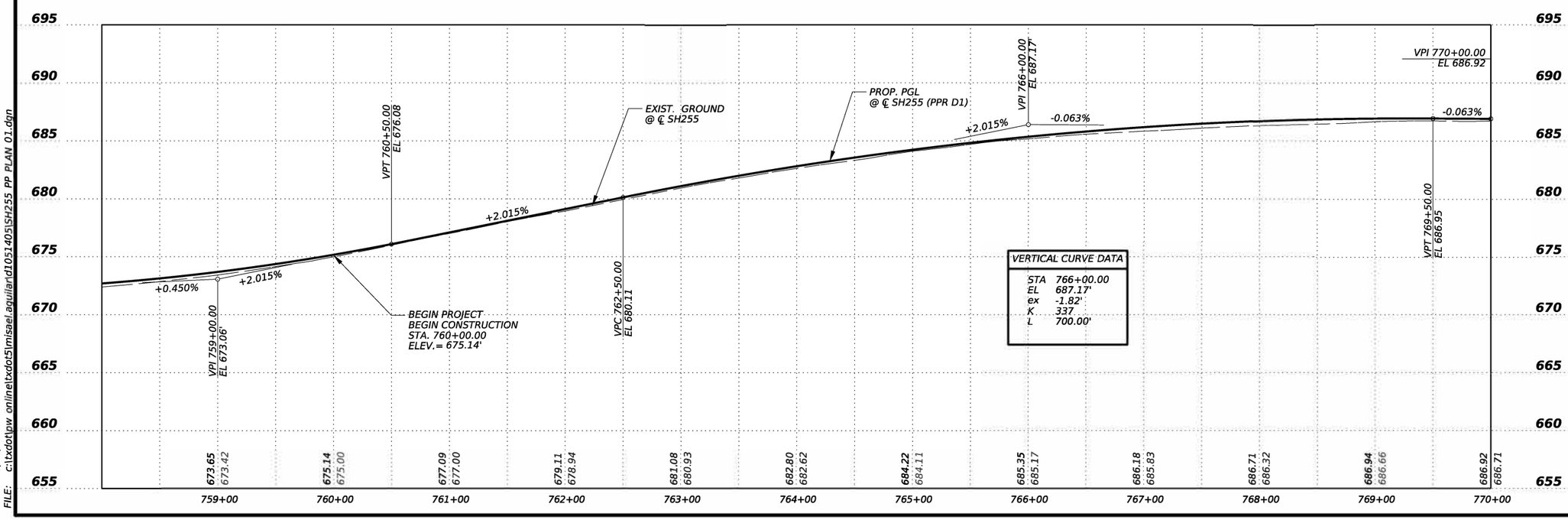
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	766+00.00
EL	687.17'
ex	-1.82'
K	337
L	700.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

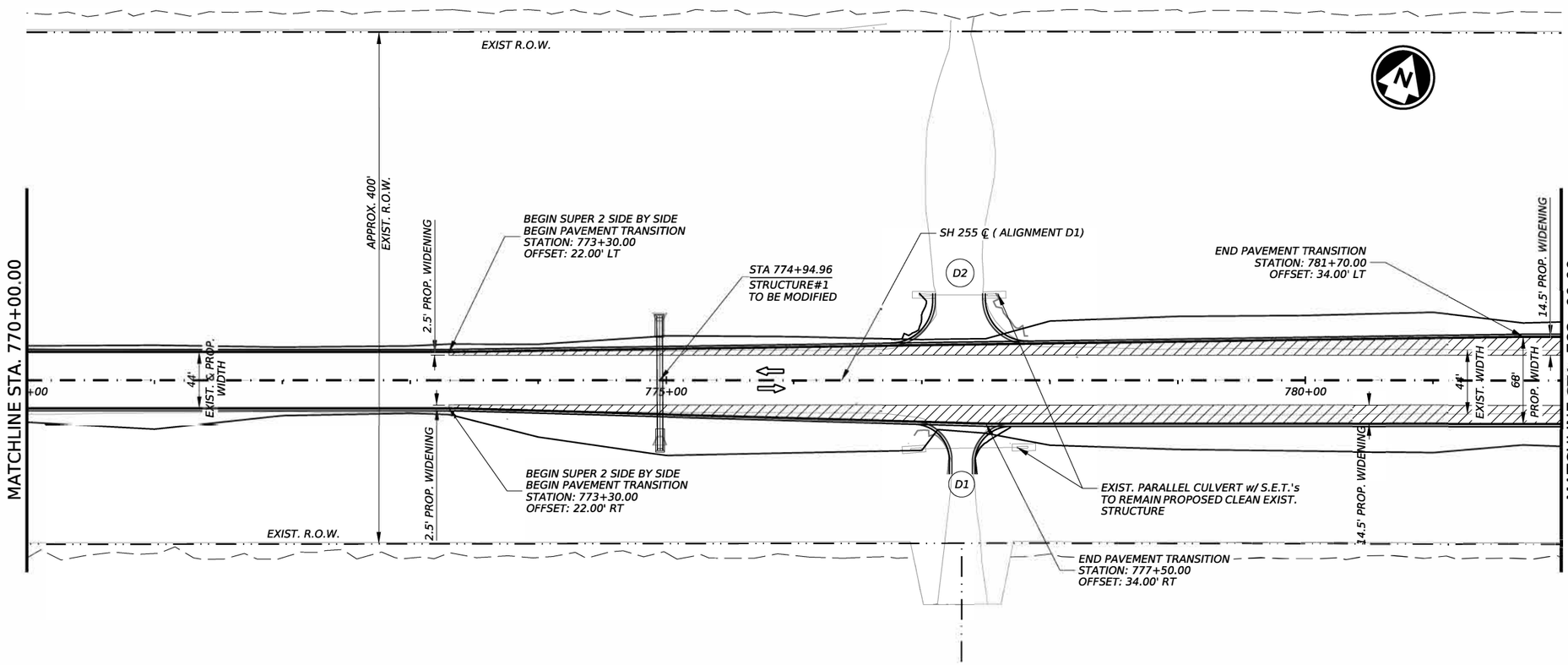
©TxDOT 2024

SHEET 1 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	109

DATE: 5/10/2024 11:41:14 AM
FILE: c:\txdot\pw_onlinet\xdot5\misael.aguilard105140\SH255_PP_PLAN_01.dgn

DW: CK: DW: CK:



ROADWAY LEGEND

PGL	-	PROP. GRADE LINE
⇦	-	PROP. DIRECTION OF TRAFFIC
▨	-	PROPOSED WIDENING
(D#)	-	DRIVEWAY ID NUMBER

NOTES:

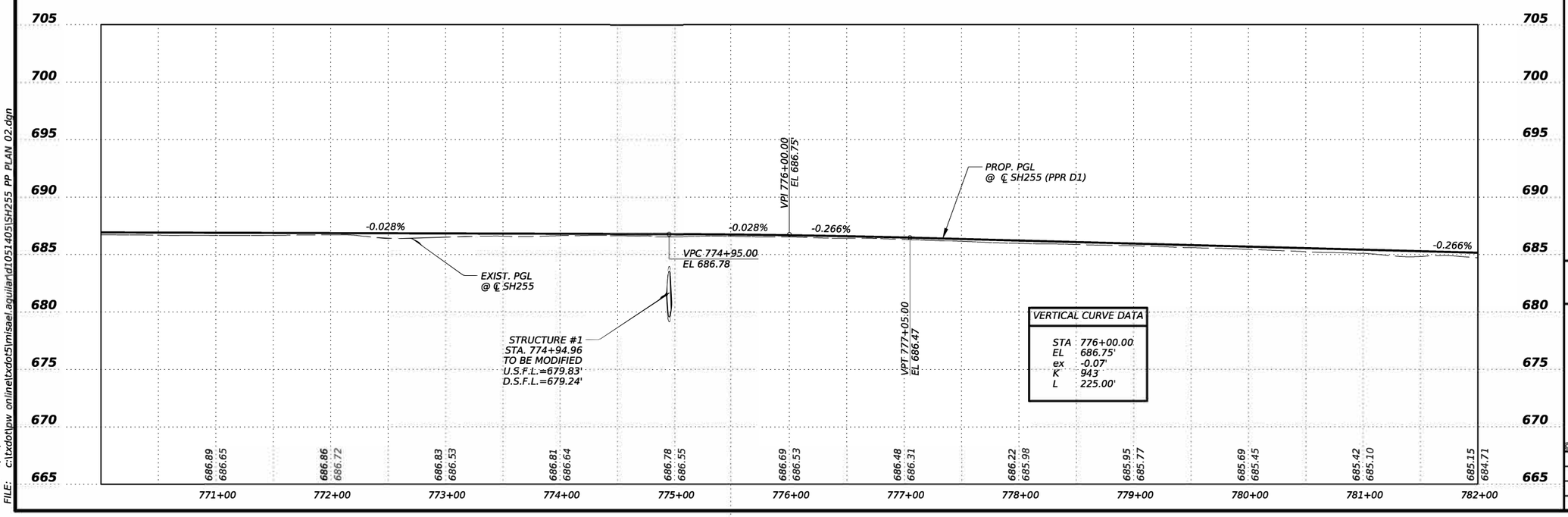
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

SEE "SH 255 DRIVEWAY CROSS SECTION DETAILS" SHEET(S) FOR ADDITIONAL INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA	
STA	776+00.00
EL	686.75'
ex	-0.07'
K	943
L	225.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

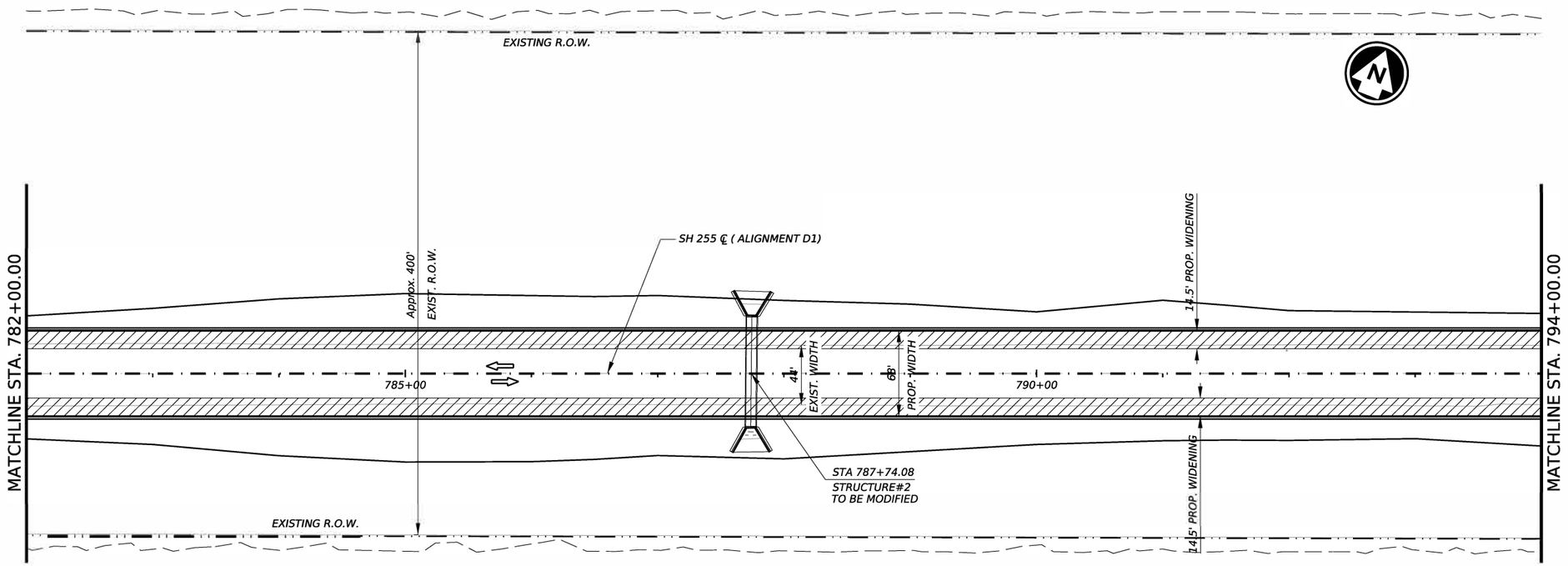
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 2 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	110

DATE: 5/10/2024 11:41:31 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_02.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- PROPOSED WIDENING

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

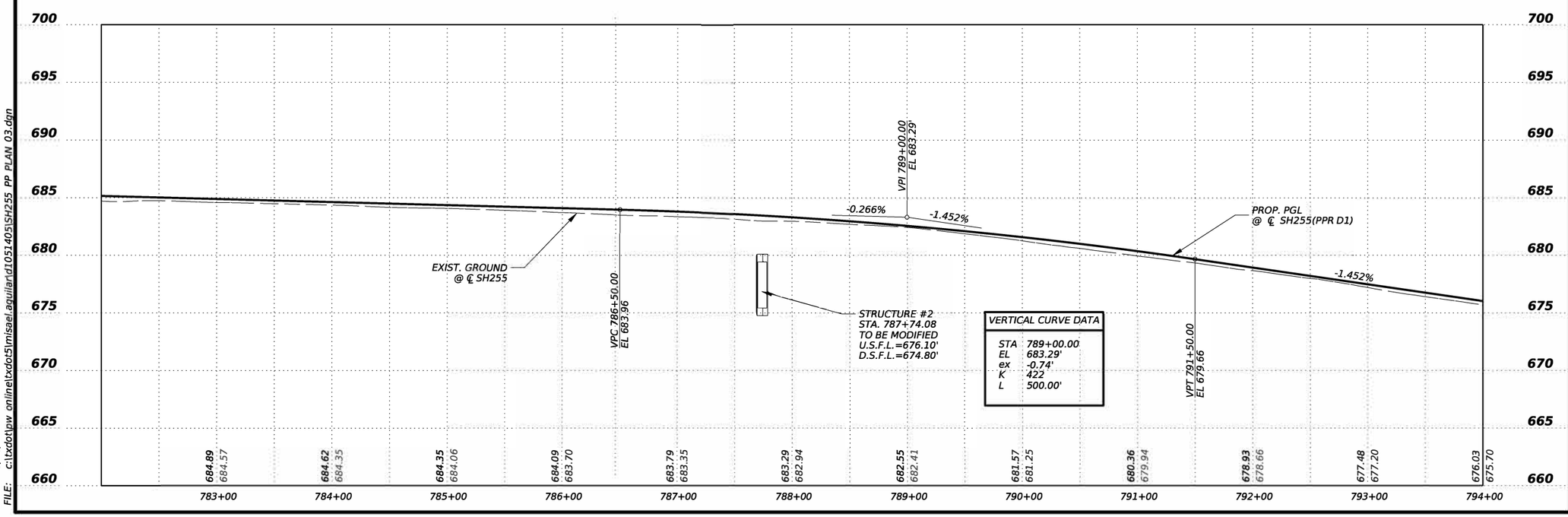
SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA

STA	789+00.00
EL	683.29'
ex	-0.74'
K	422
L	500.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

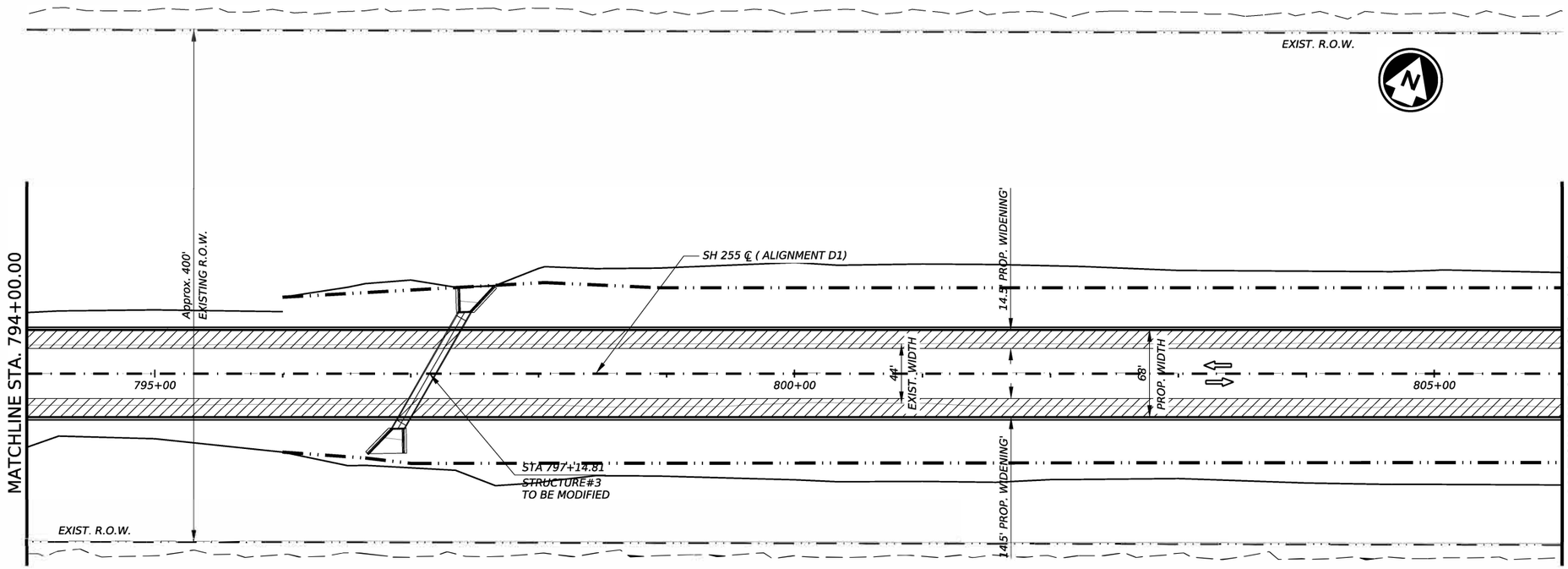
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 3 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	111

DATE: 5/10/2024 11:41:46 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_03.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- PROPOSED WIDENING

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

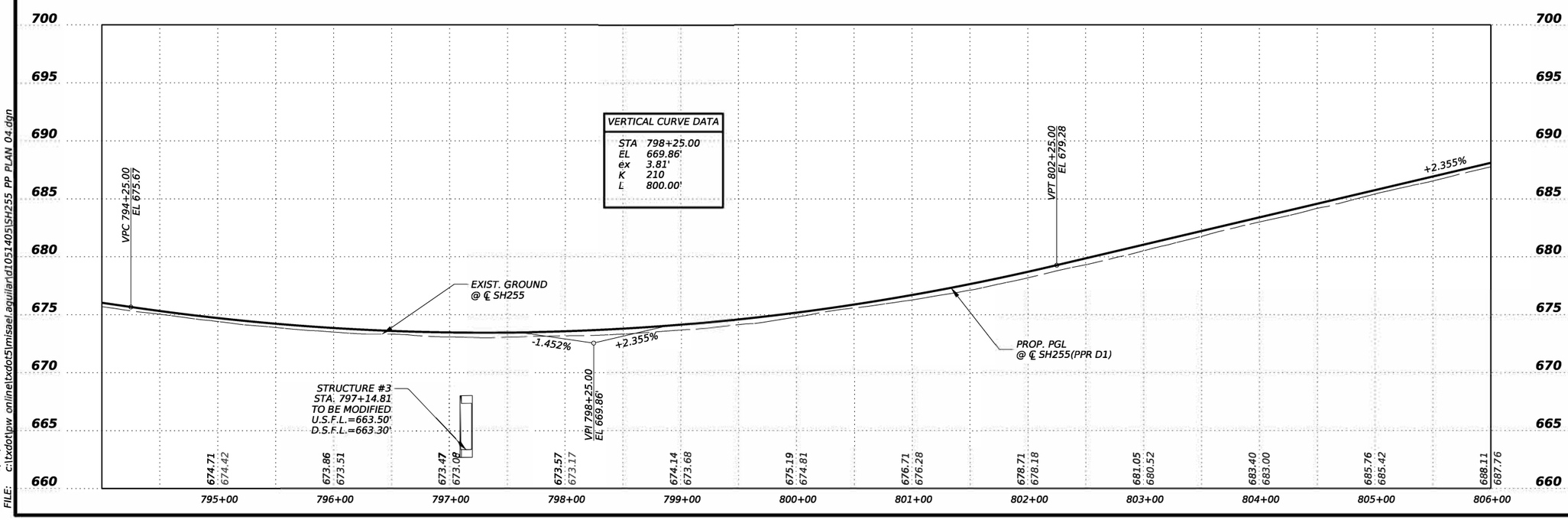
SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

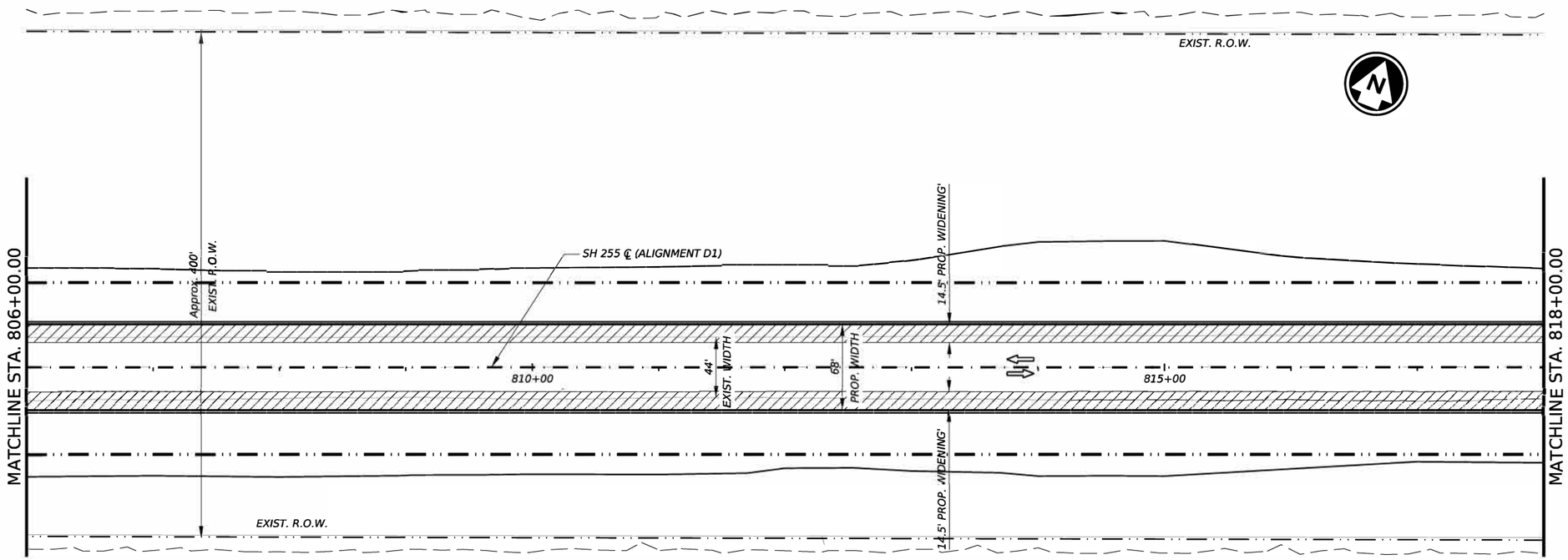
©TxDOT 2024

SHEET 4 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	112

DATE: 5/10/2024 11:42:01 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_04.dgn

DW: CK: DW: CK:



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

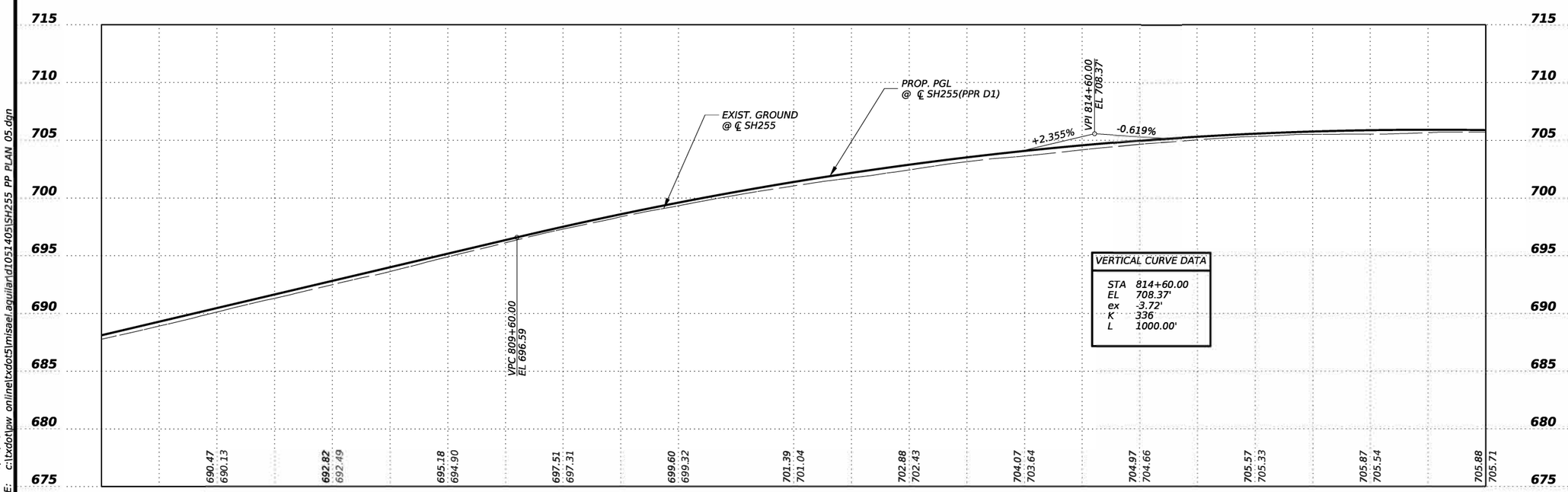
PROPOSED WIDENING

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	814+60.00
EL	708.37'
ex	-3.72'
K	336
L	1000.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

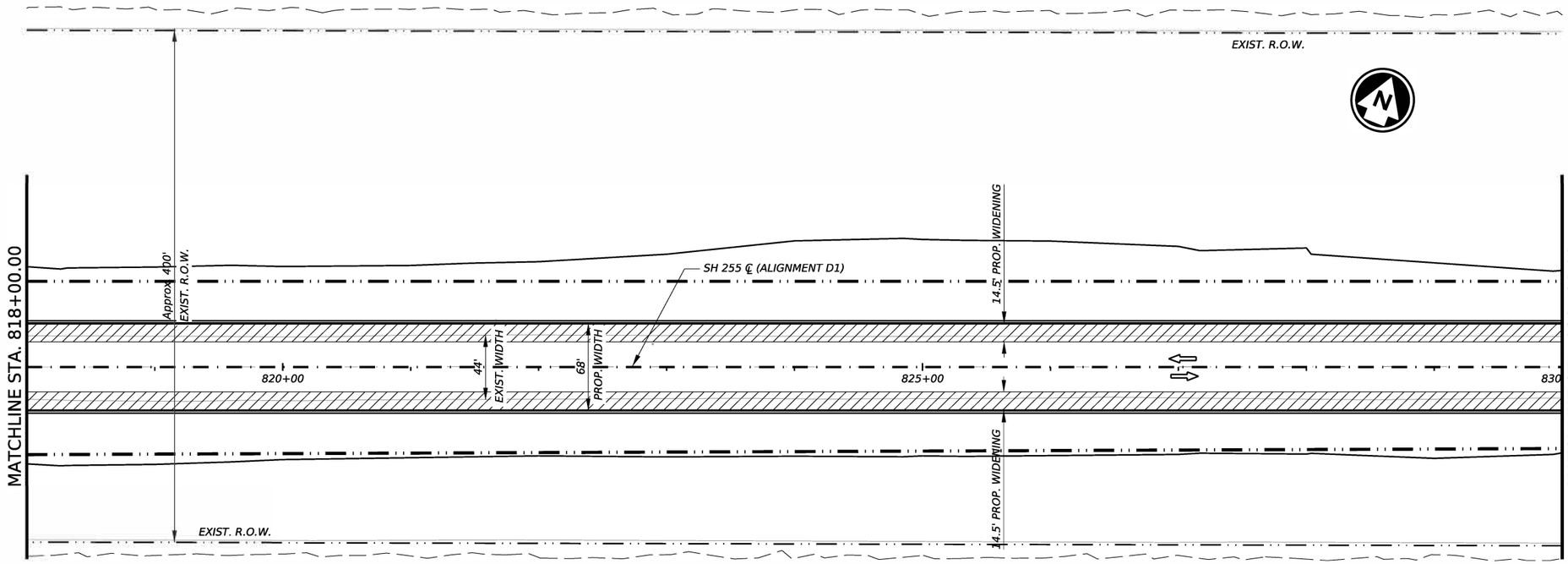
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 5 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	113

DATE: 5/10/2024 11:42:14 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_05.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

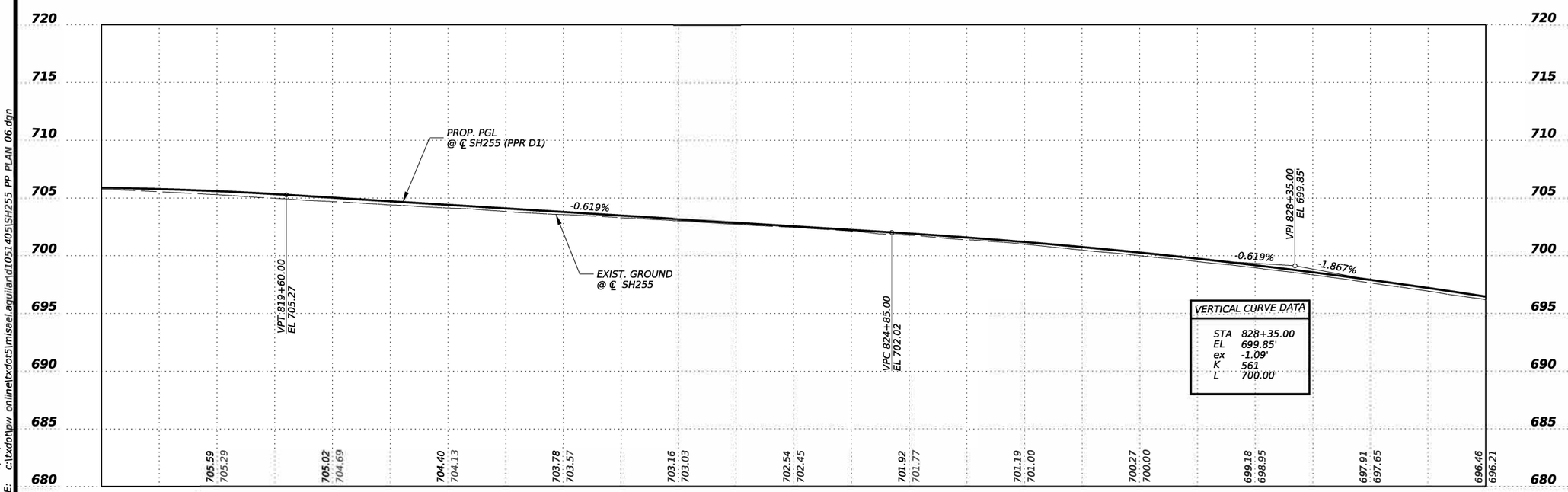
- PROPOSED WIDENING

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

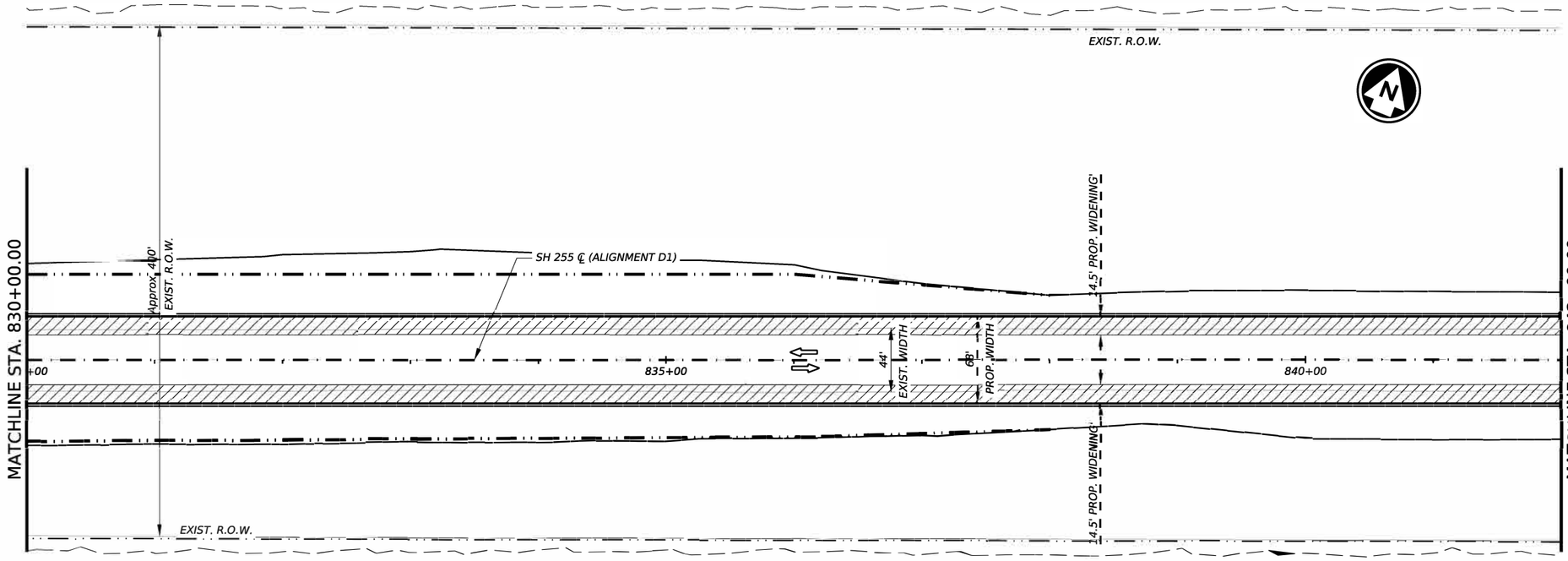
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 6 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	114

DATE: 5/10/2024 11:42:28 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1051405\SH255_PP_PLAN_06.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

PROPOSED WIDENING

NOTES:

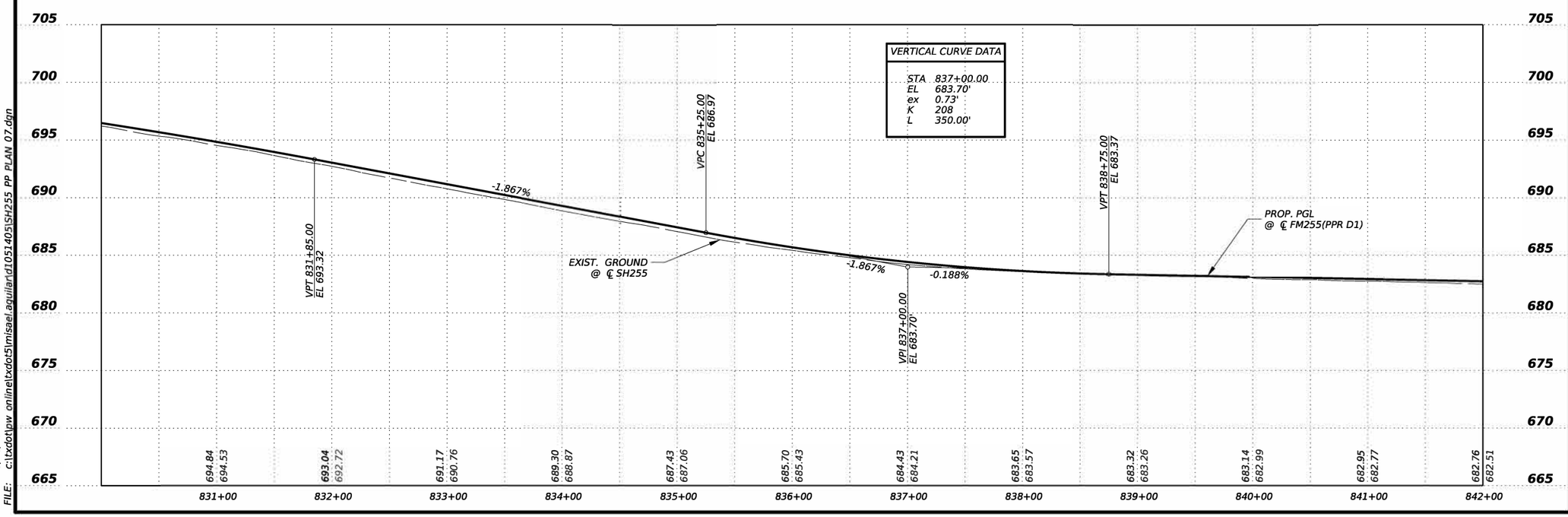
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

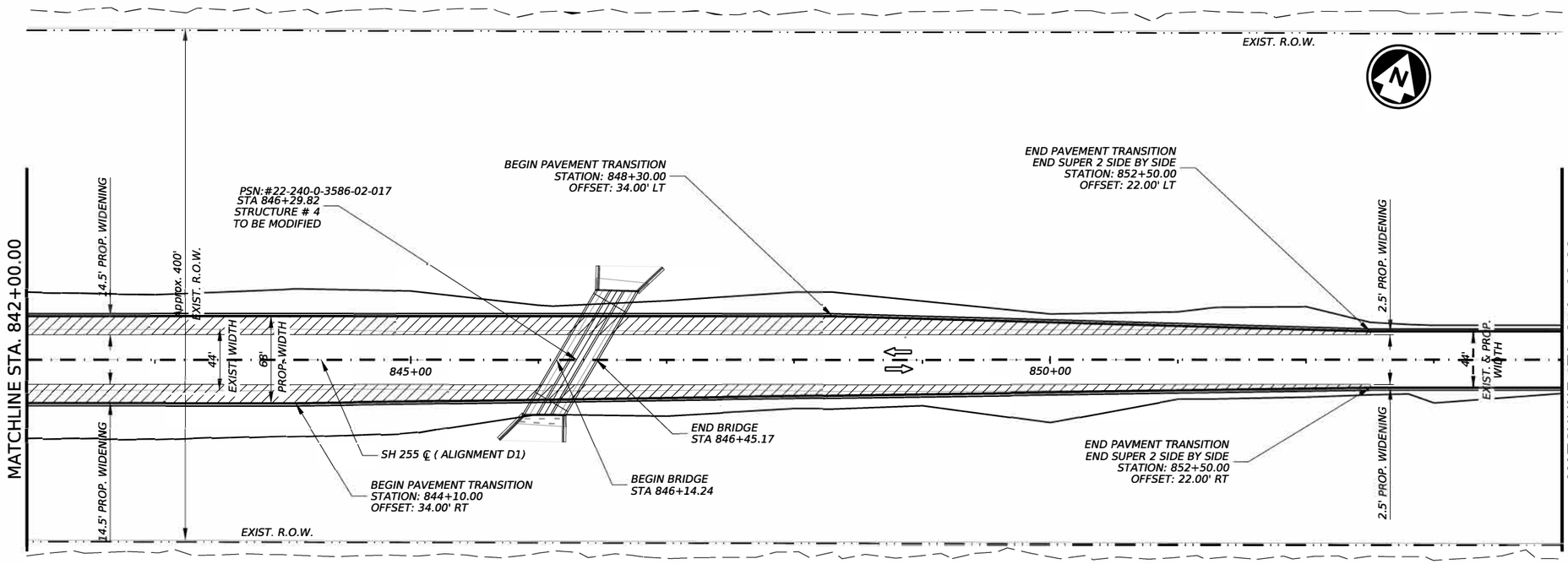
©TxDOT 2024

SHEET 7 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	115

DATE: 5/10/2024 11:42:42 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_07.dgn

DW: CK: DW: CK:



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

PROPOSED WIDENING

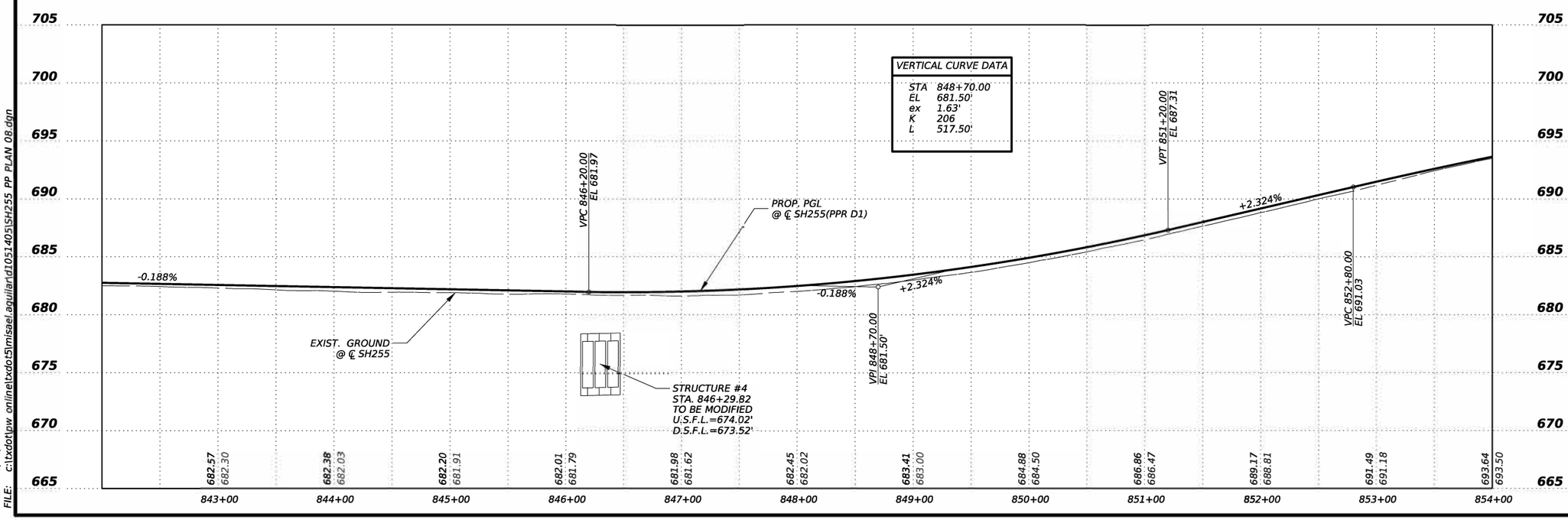
NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

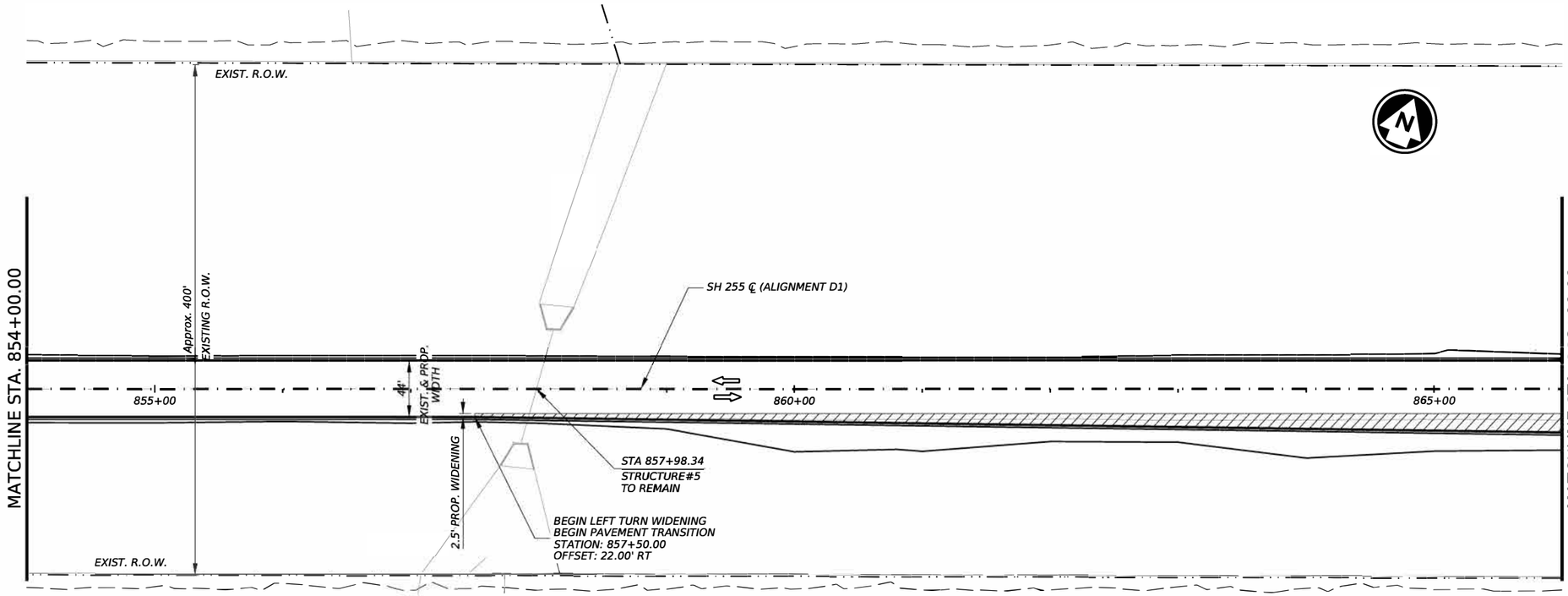
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 8 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	116

DATE: 5/10/2024 11:42:56 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_08.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

PROPOSED WIDENING

NOTES:

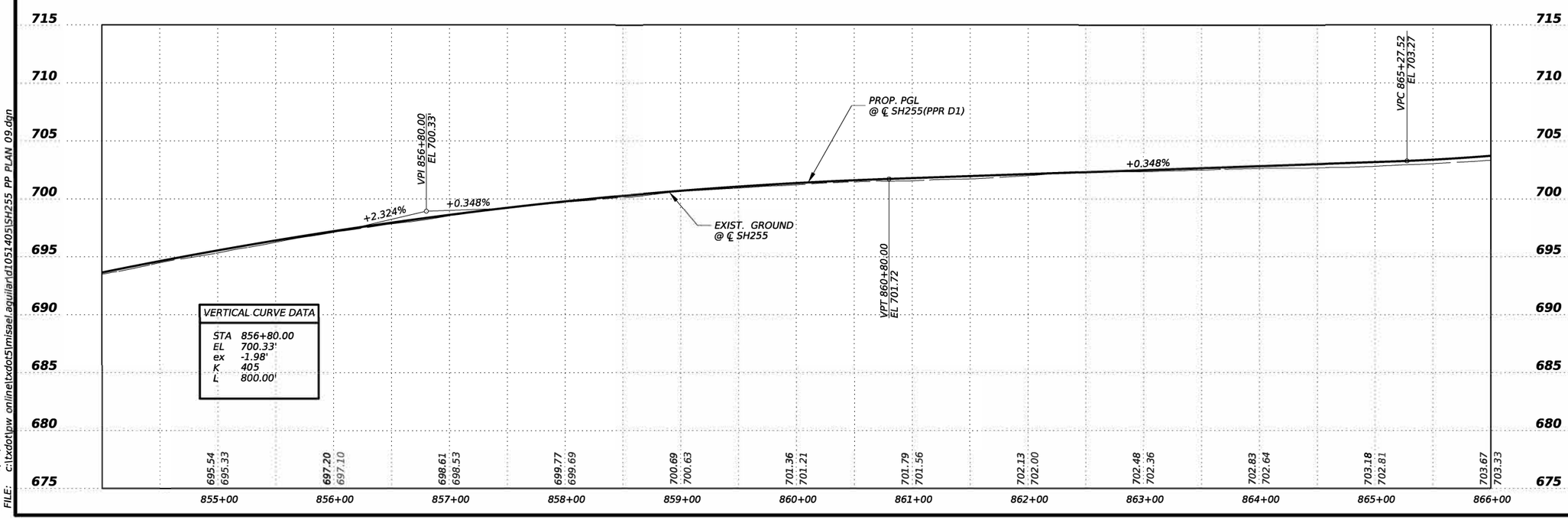
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

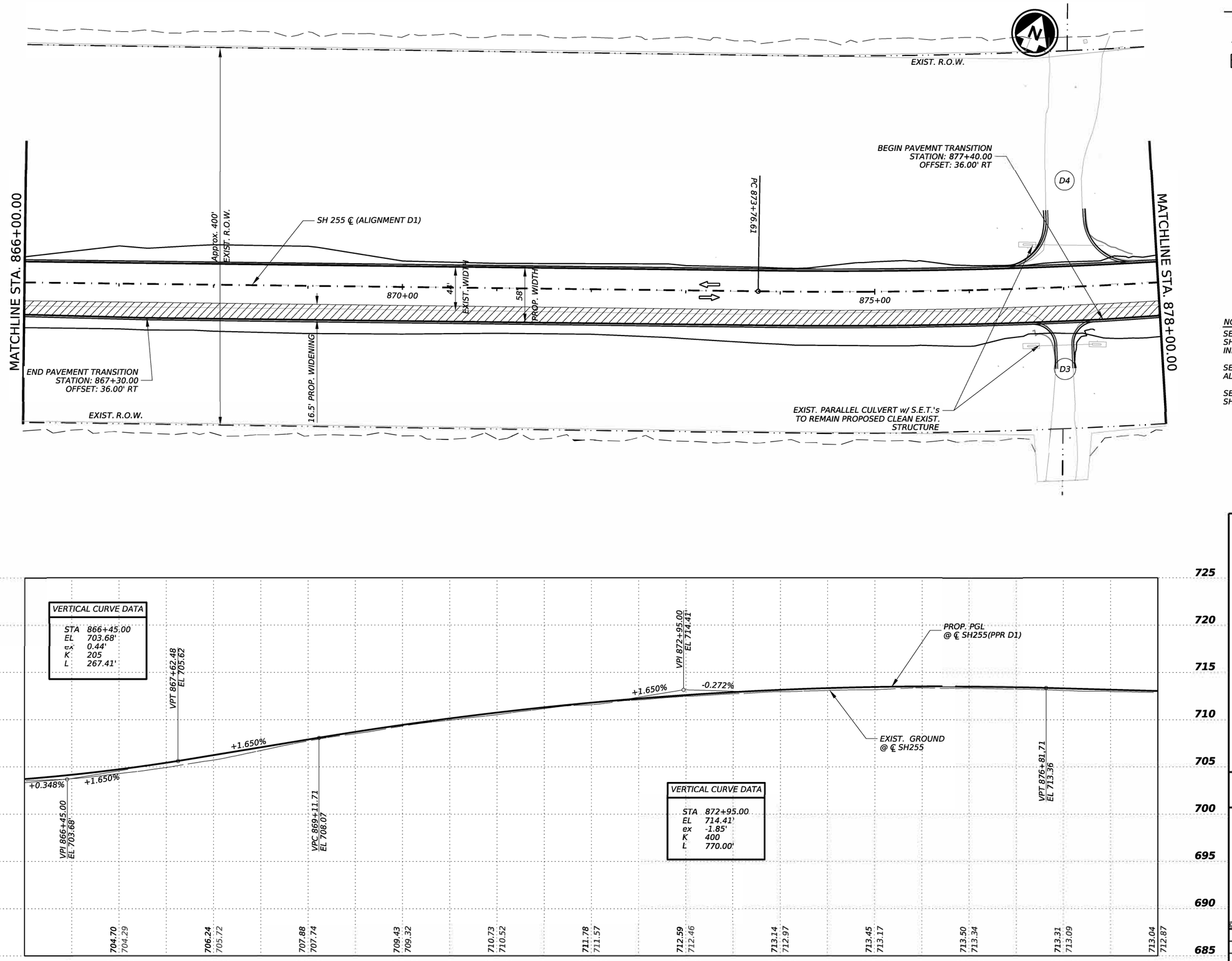
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 9 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	117

DATE: 5/10/2024 11:43:10 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_09.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

▨ - PROPOSED WIDENING

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 DRIVEWAY CROSS SECTION DETAILS" SHEET(S) FOR ADDITIONAL INFORMATION.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

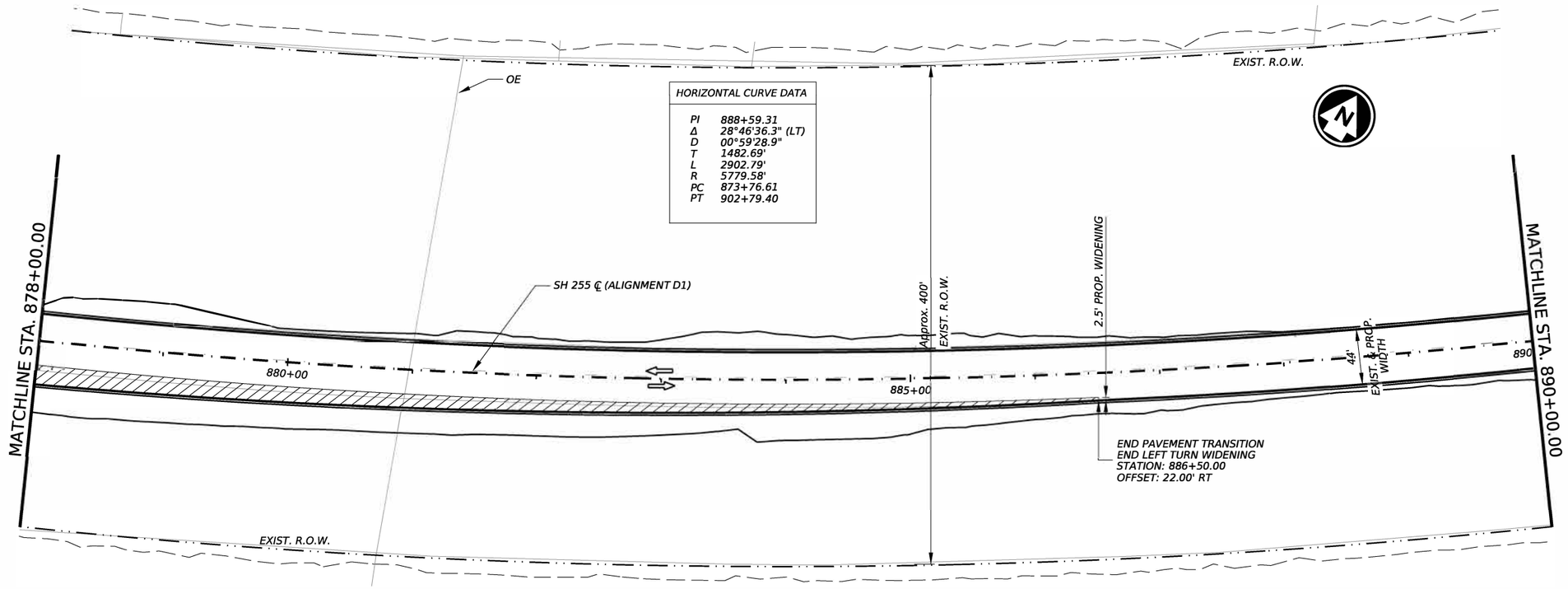
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 10 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	118

DATE: 5/10/2024 11:43:25 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_10.dgn



HORIZONTAL CURVE DATA	
PI	888+59.31
Δ	28°46'36.3" (LT)
D	00°59'28.9"
T	1482.69'
L	2902.79'
R	5779.58'
PC	873+76.61
PT	902+79.40

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

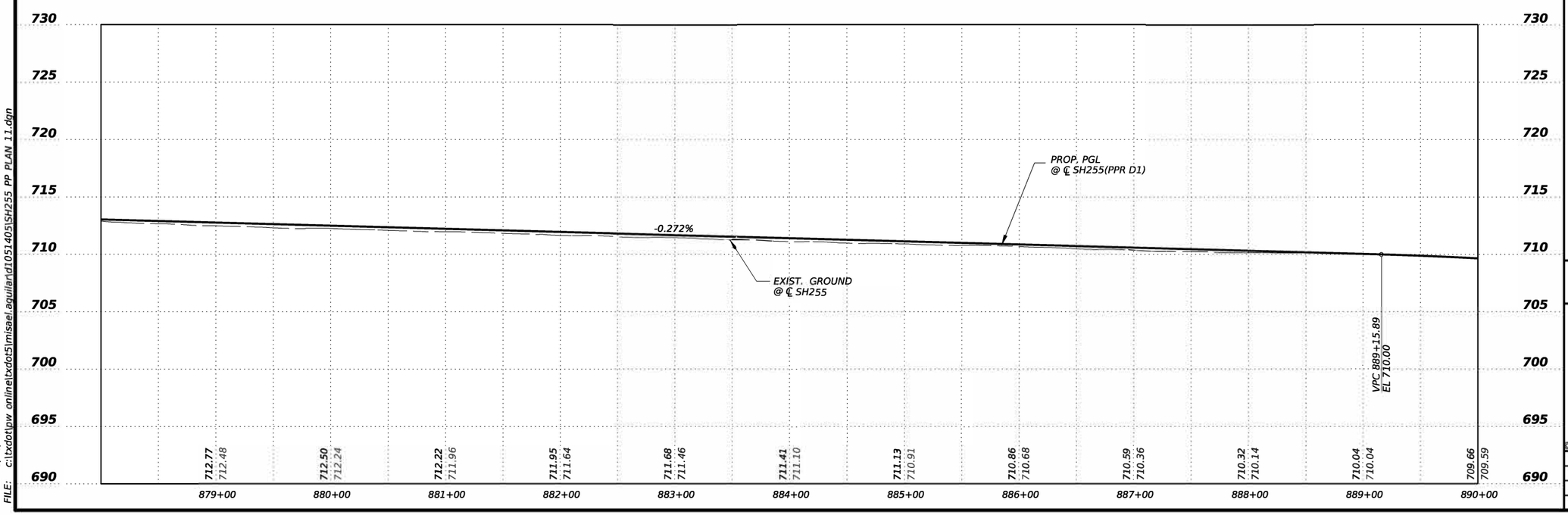
- PROPOSED WIDENING

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 11 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	119

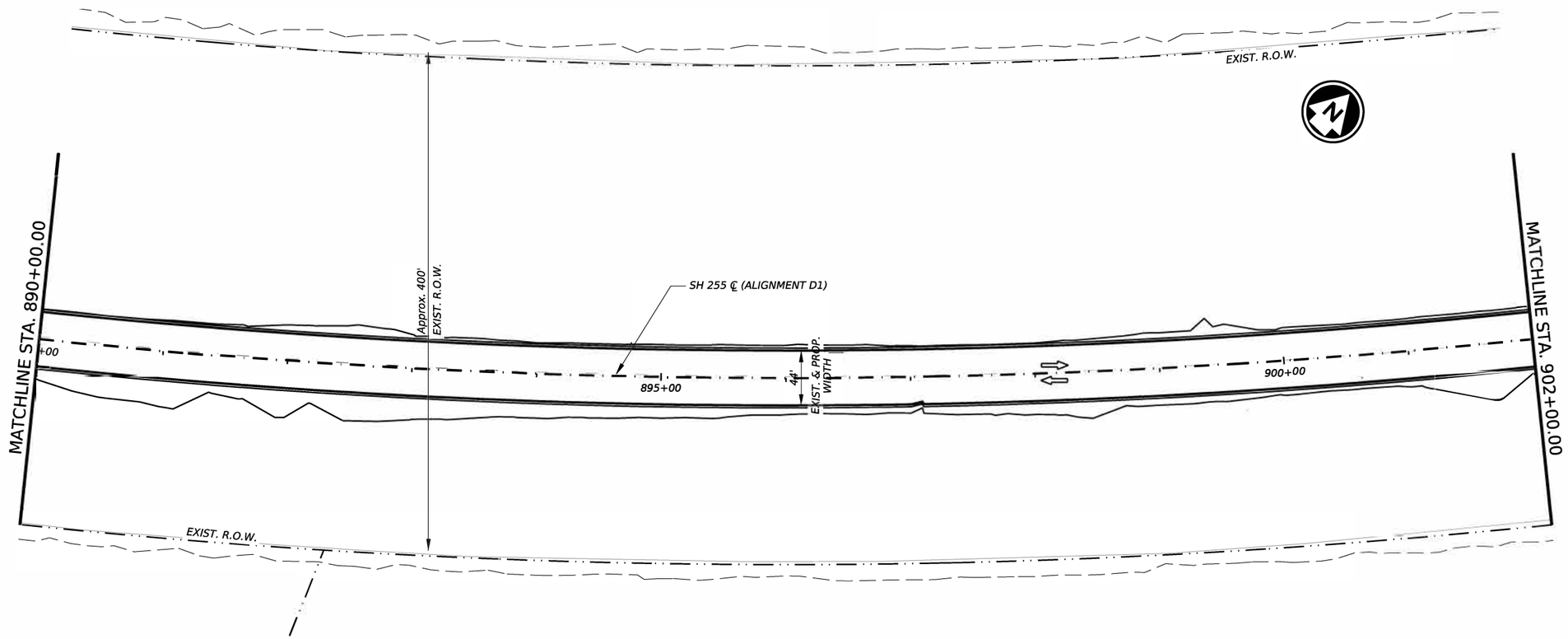
DATE: 5/10/2024 11:43:40 AM
FILE: c:\txdot\pw_onlinel\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_11.dgn

DN: CK: DW: CK:

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

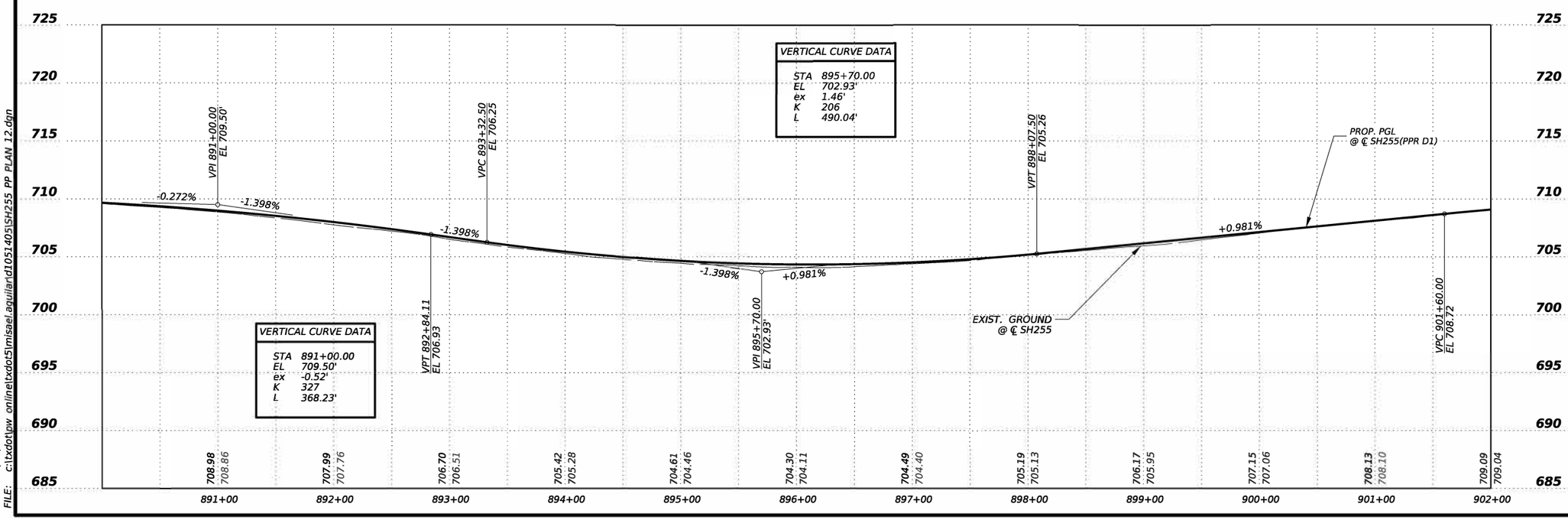


NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

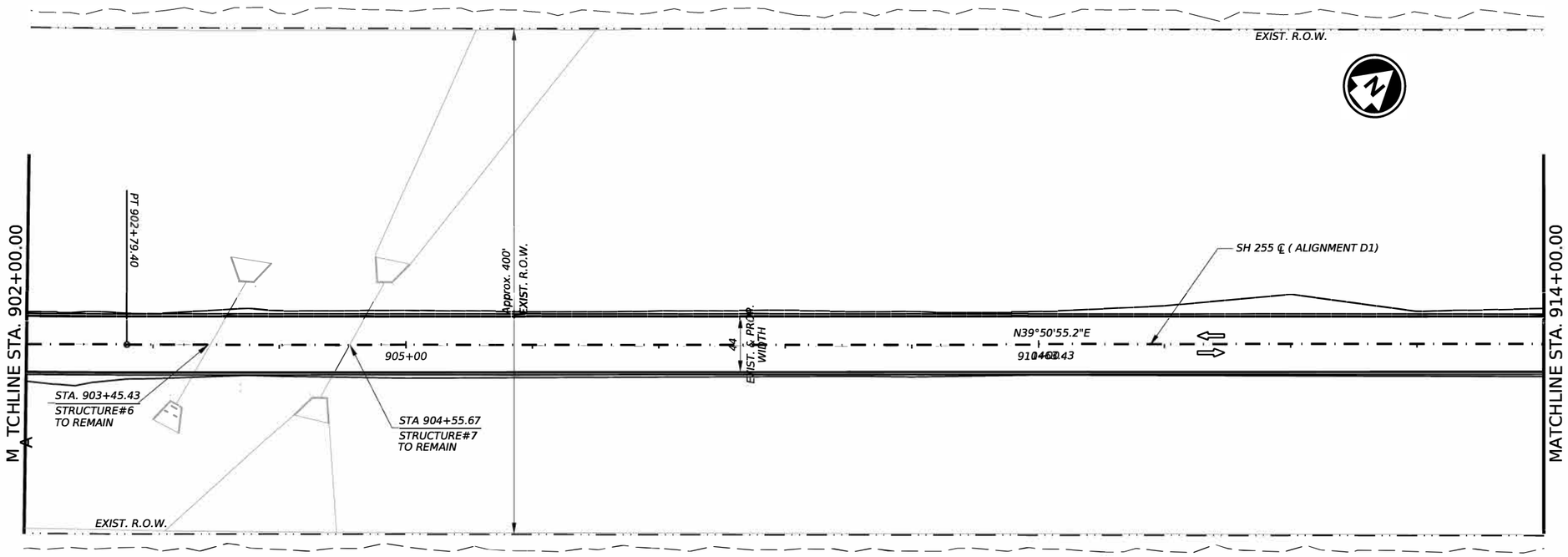
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 12 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		120

DATE: 5/10/2024 11:43:54 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilard105140\SH255_PP_PLAN_12.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

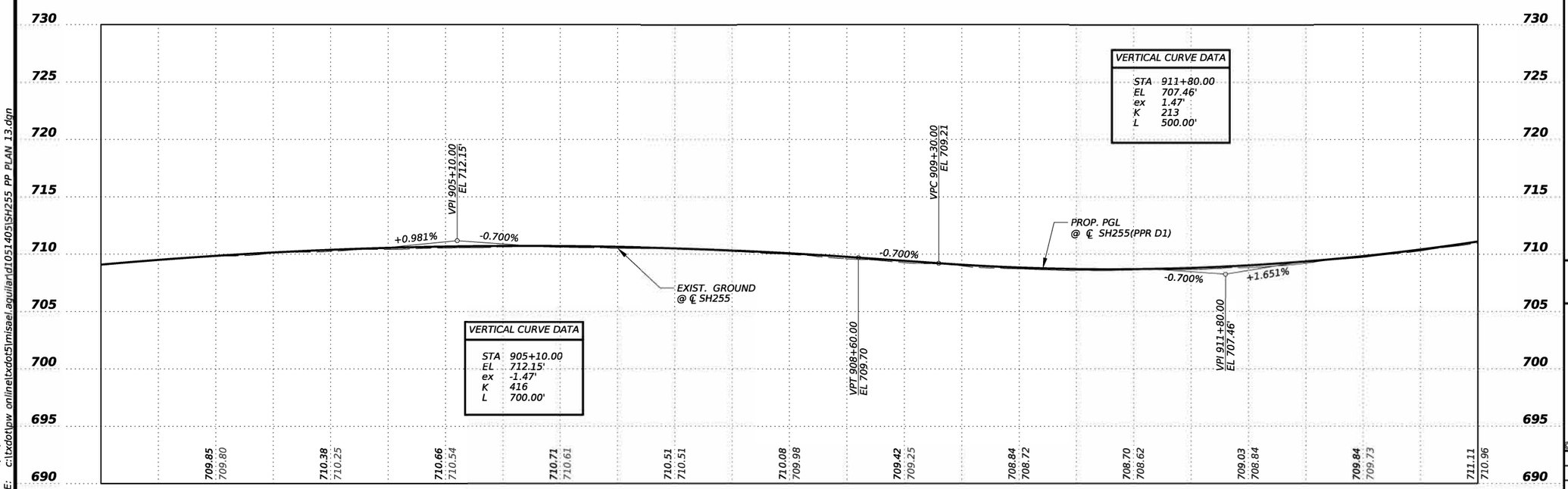
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

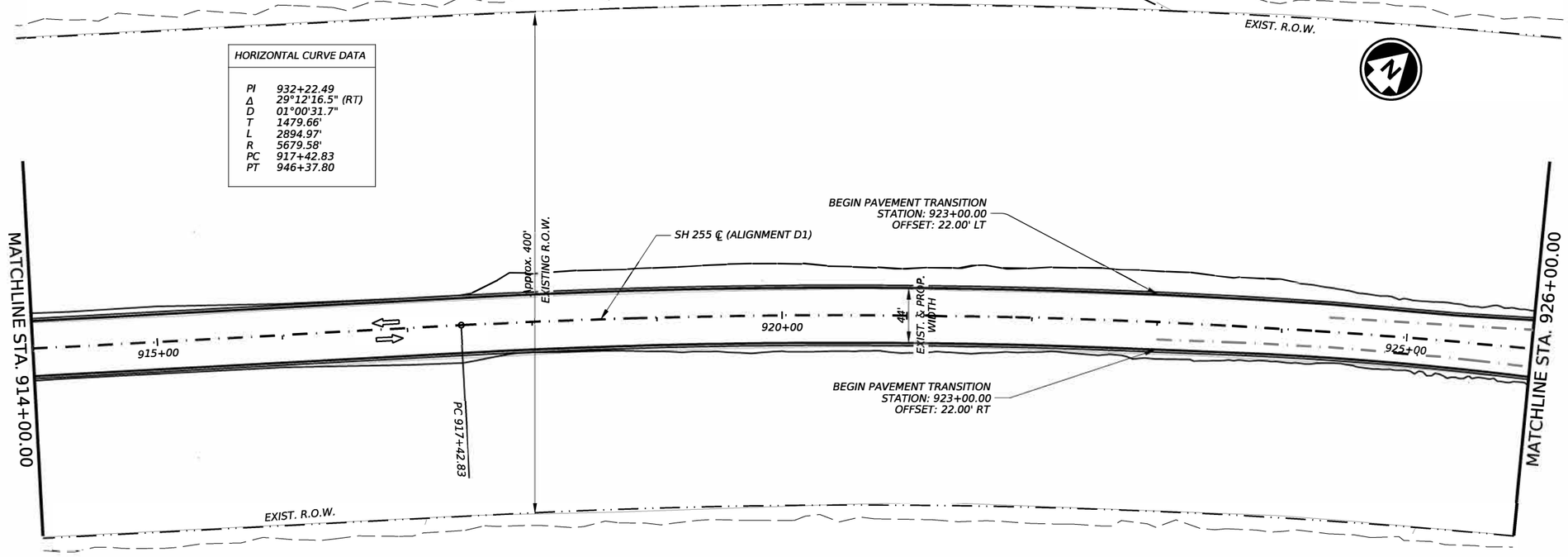
SHEET 13 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	121

DATE: 5/10/2024 11:44:09 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_13.dgn

DW: CK: DW: CK:

HORIZONTAL CURVE DATA	
PI	932+22.49
Δ	29°12'16.5" (RT)
D	01°00'31.7"
T	1479.66'
L	2894.97'
R	5679.58'
PC	917+42.83
PT	946+37.80



ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

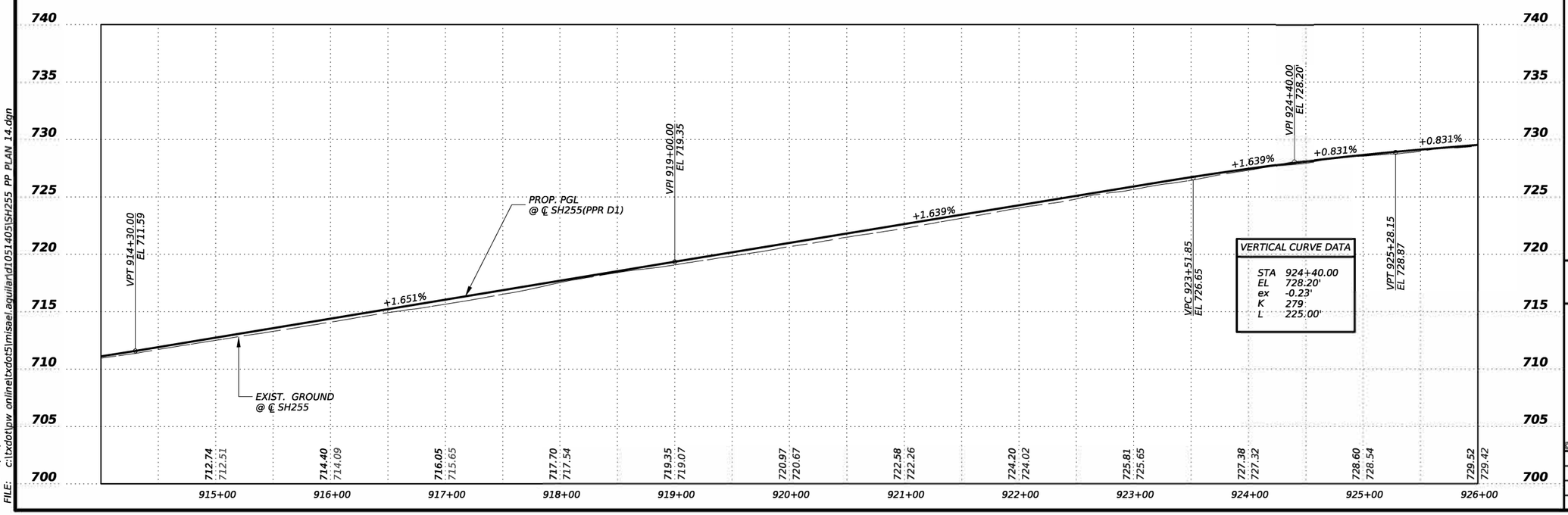
SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA	
STA	924+40.00
EL	728.20'
ex	-0.23'
K	279
L	225.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

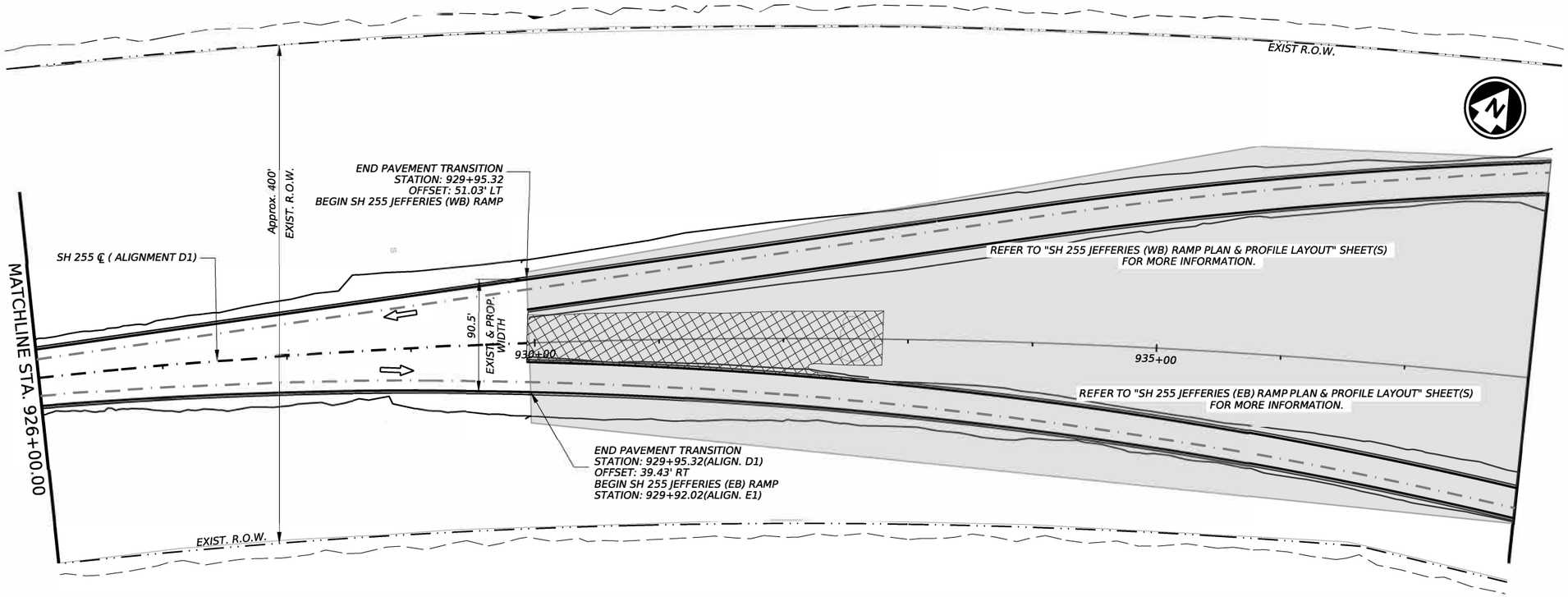
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 14 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	122

DATE: 5/10/2024 11:44:24 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_14.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

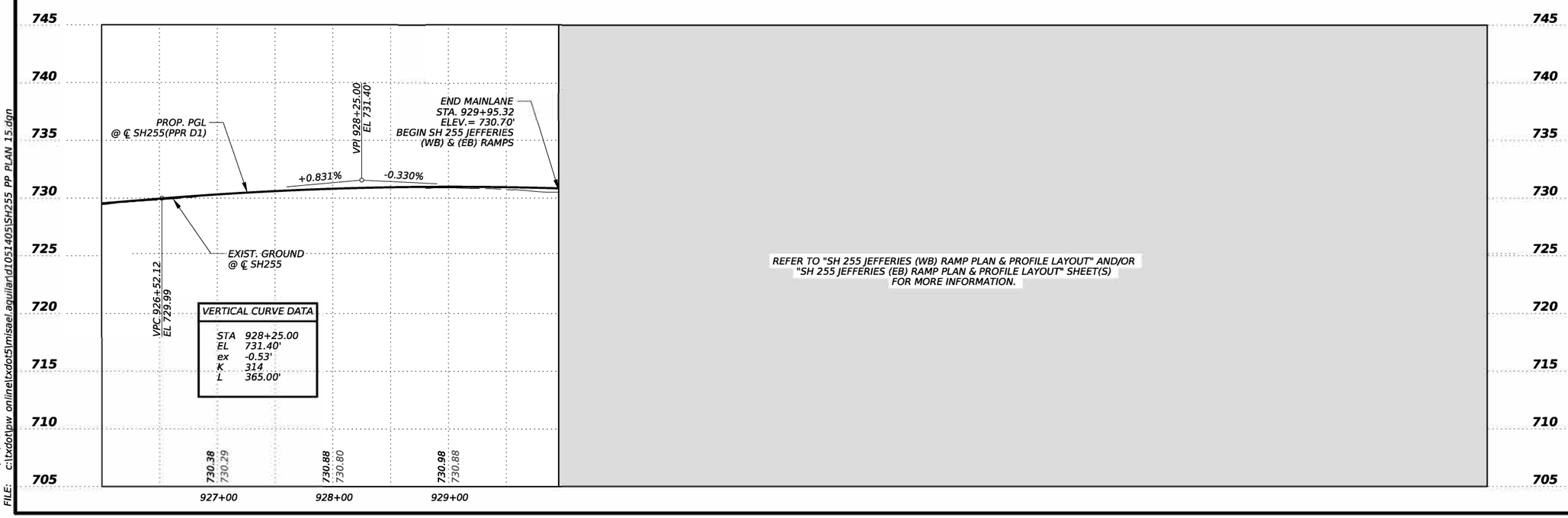
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

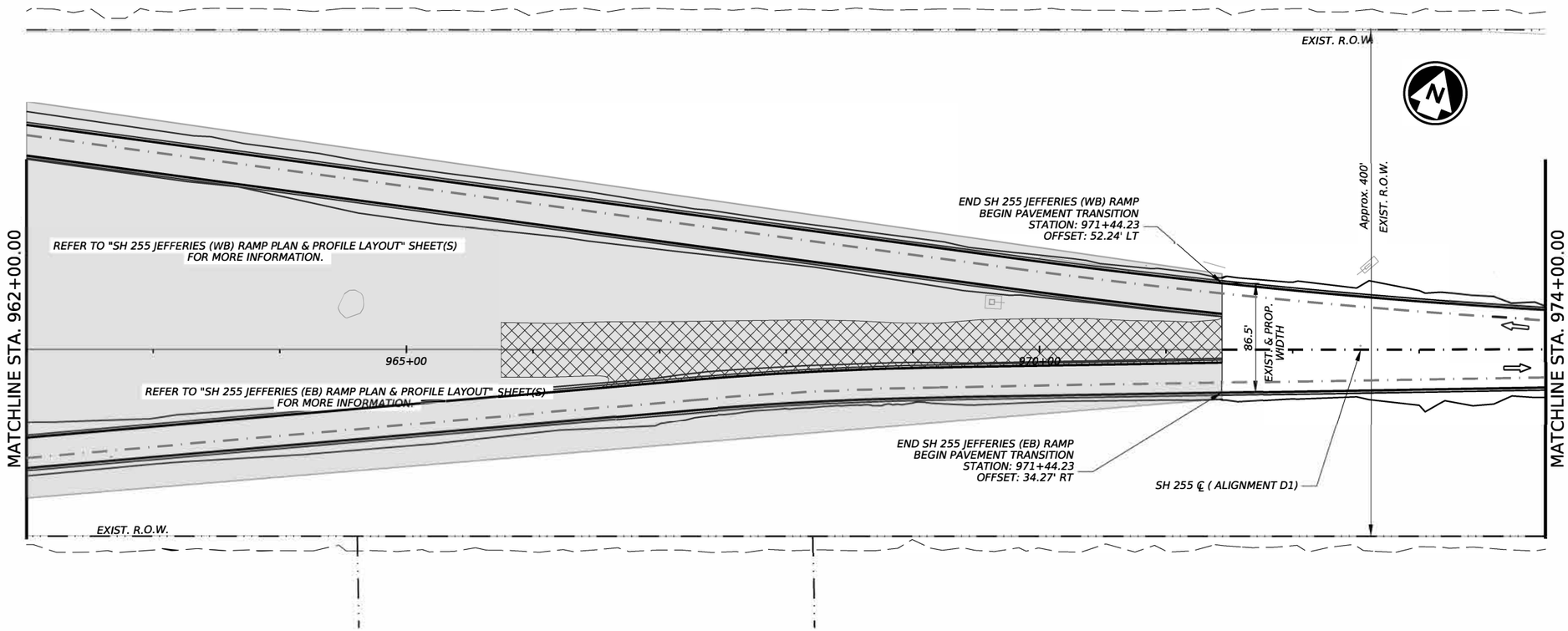
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 15 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	123

DATE: 5/10/2024 11:44:40 AM
FILE: c:\txdot\pw_onlinel\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_15.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

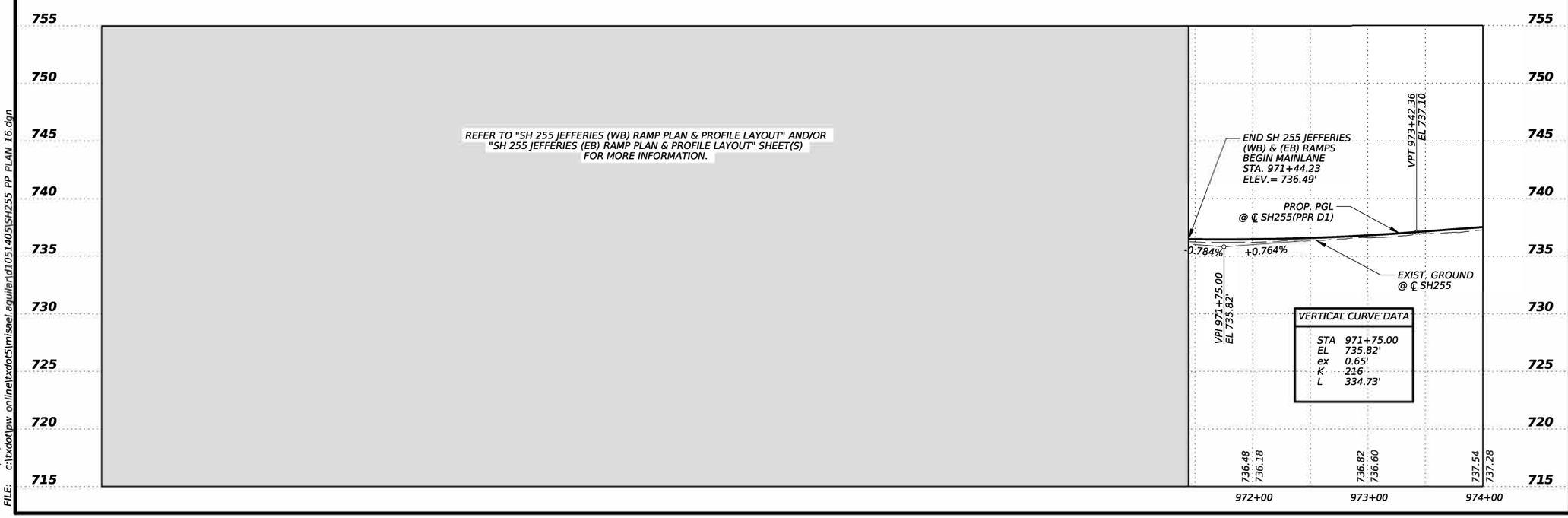
- EXIST. AREA TO REMAIN

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 16 OF 36

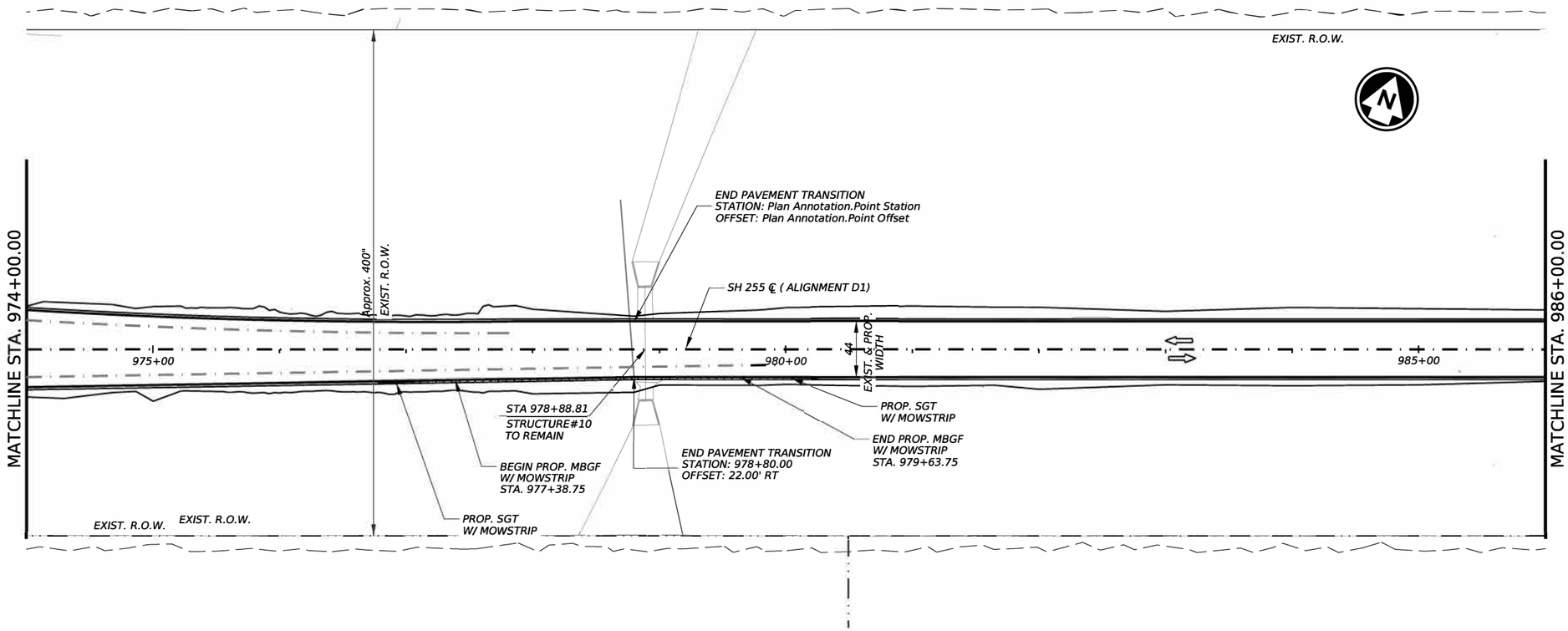
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	124

DATE: 5/10/2024 11:44:53 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1051405\SH255_PP_PLAN_16.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

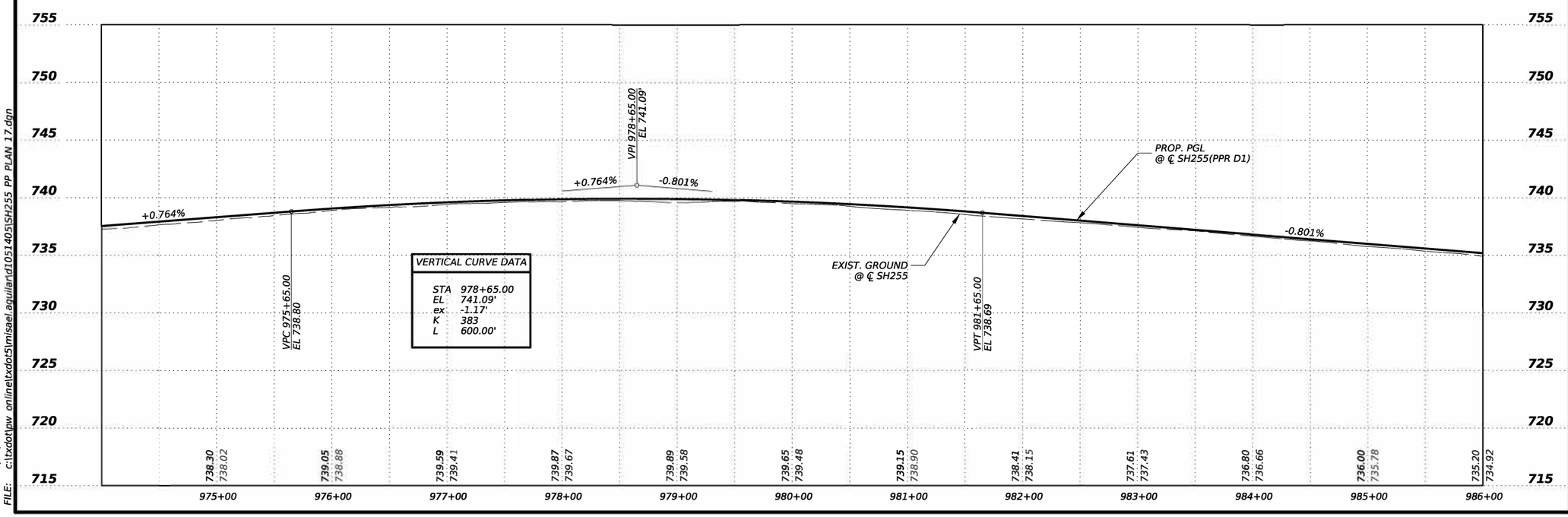


NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 17 OF 36

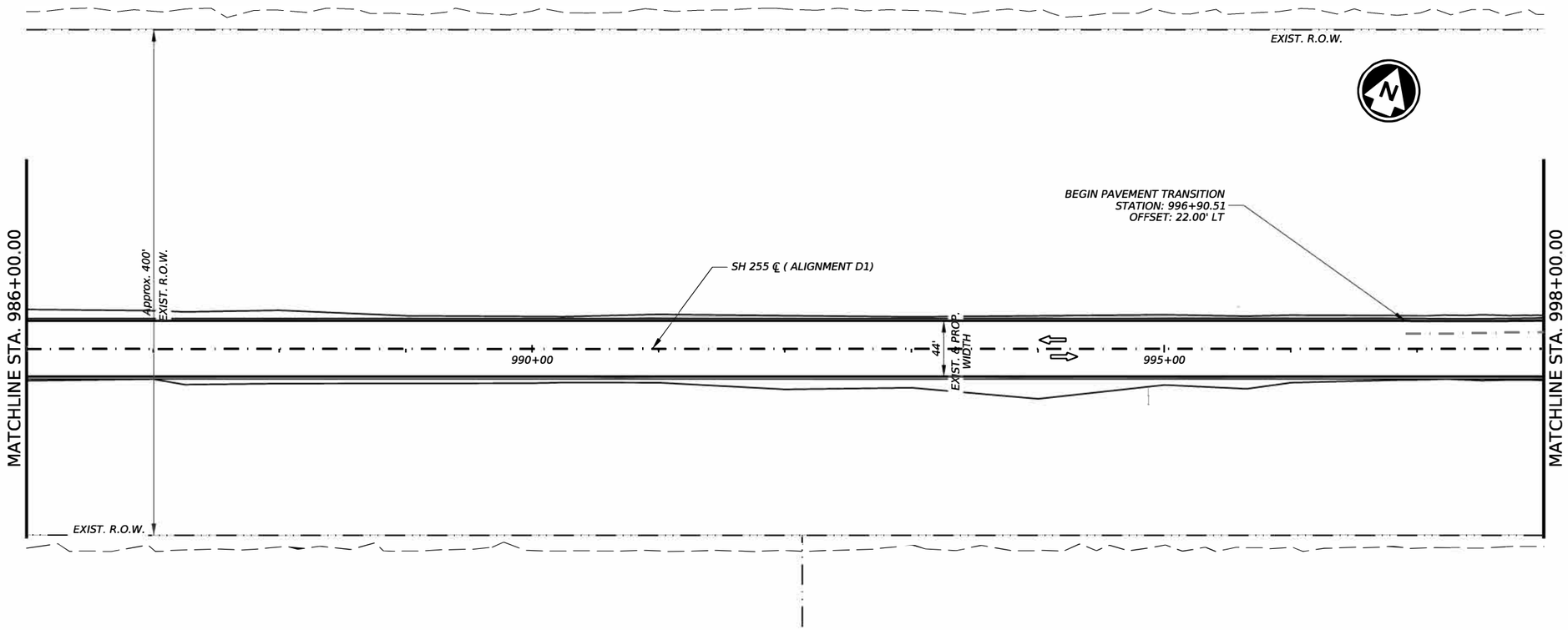
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	125

DATE: 5/10/2024 11:45:08 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_17.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



NOTES:

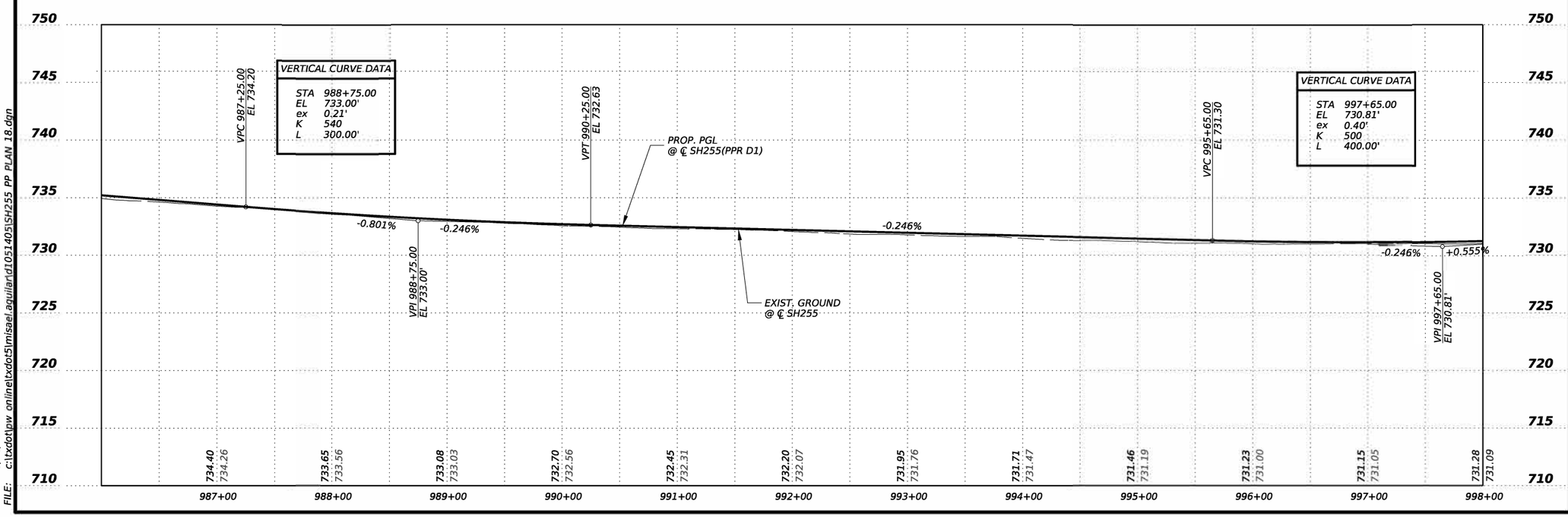
SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

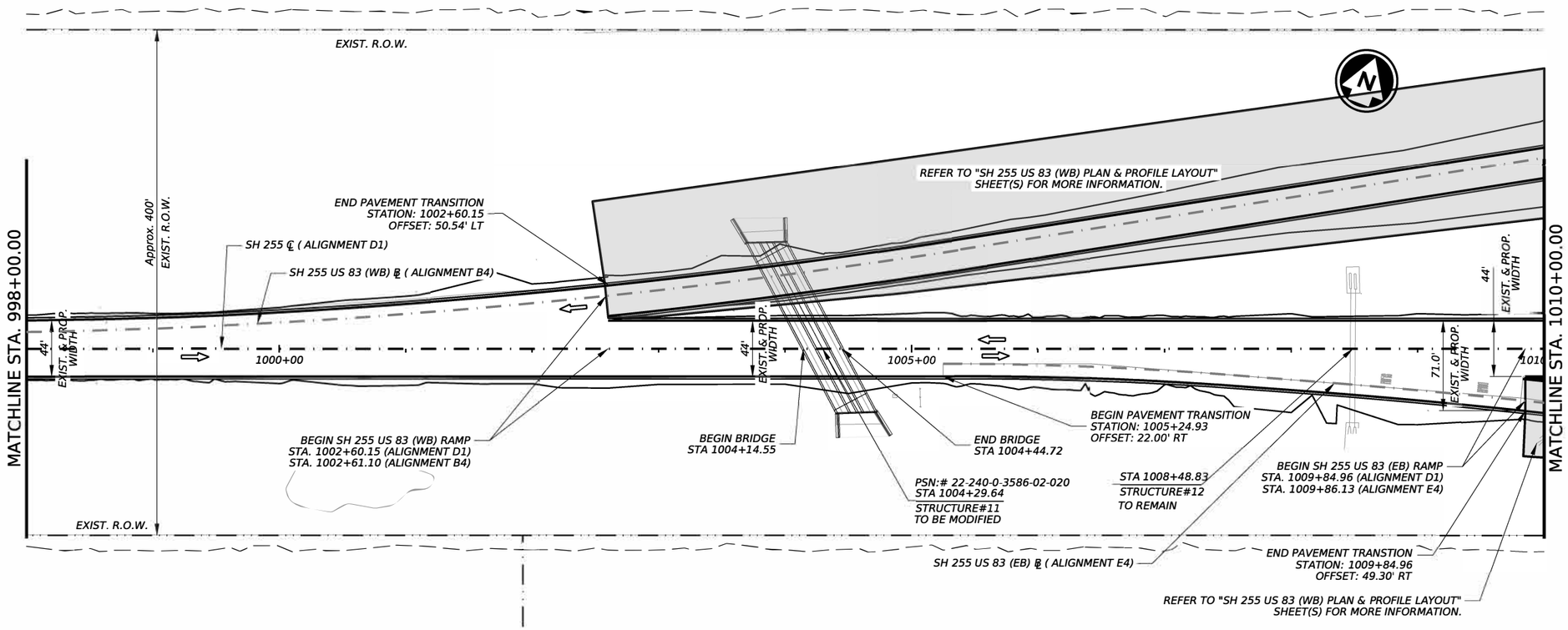
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 18 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	126

DATE: 5/10/2024 11:45:22 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_18.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

EXIST. AREA TO REMAIN

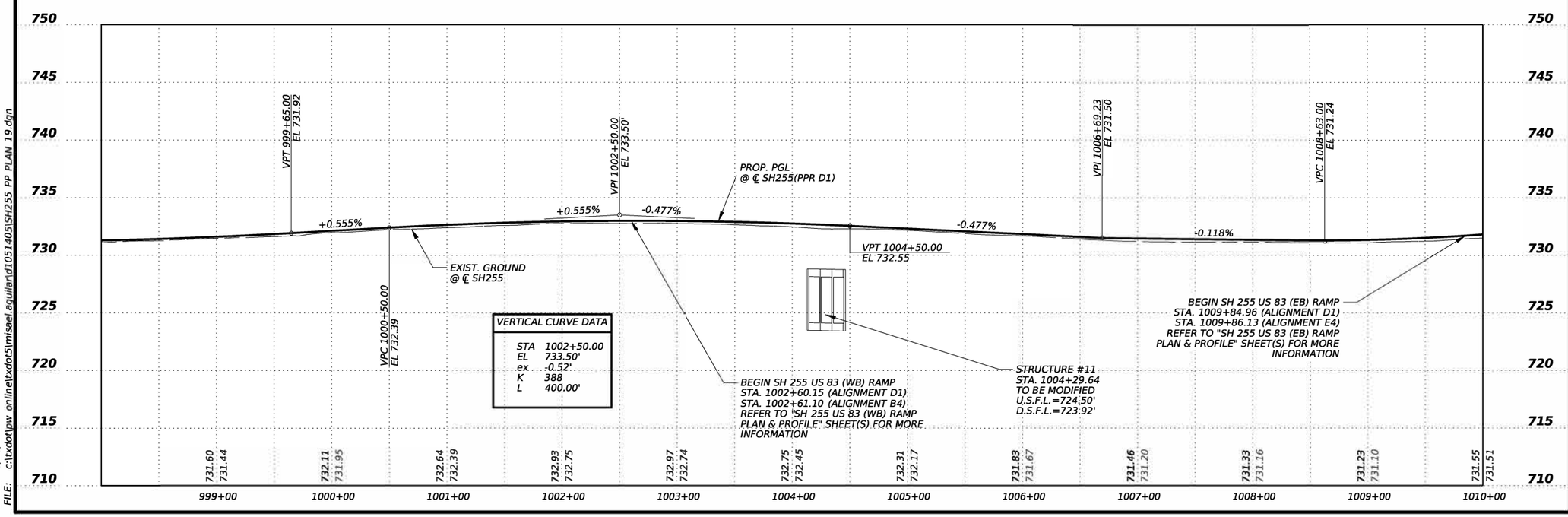
NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

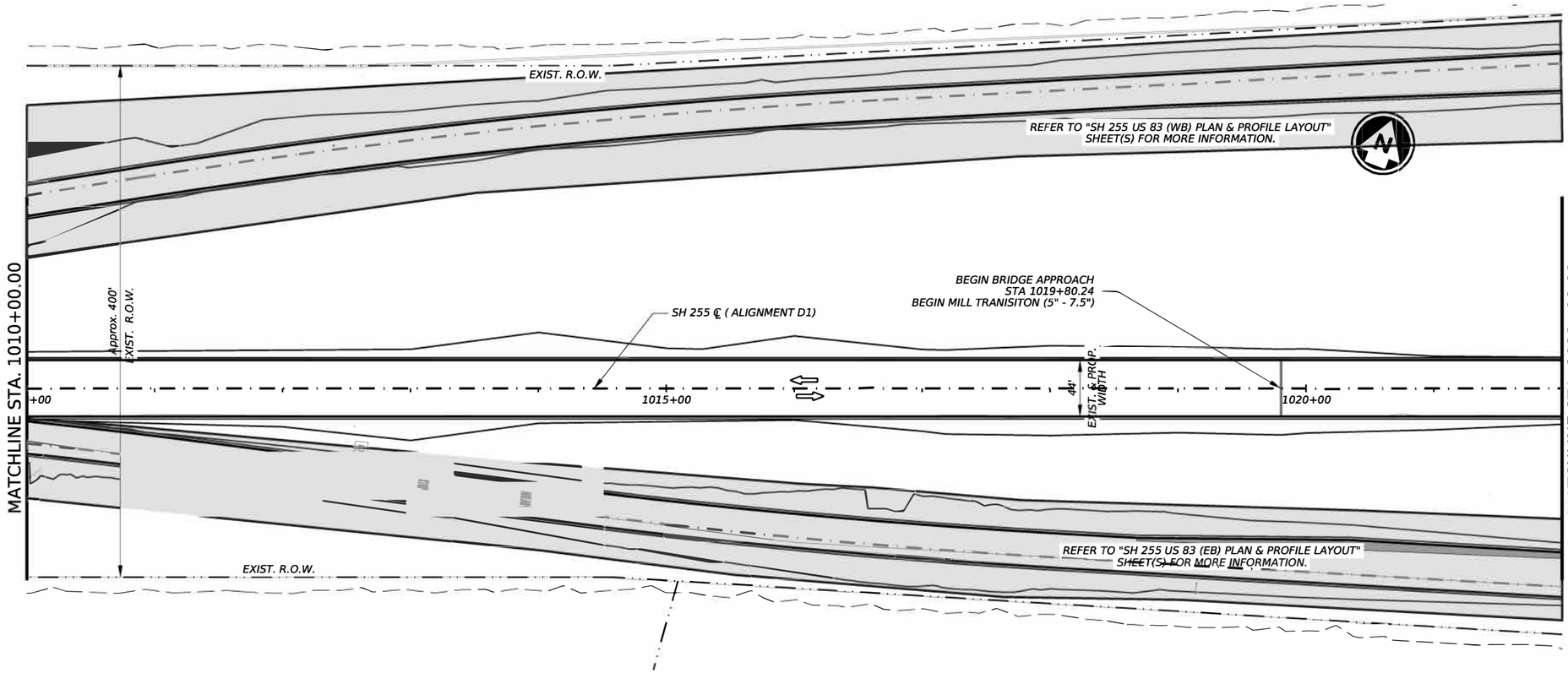
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 19 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	127

DATE: 5/10/2024 11:45:39 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_19.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

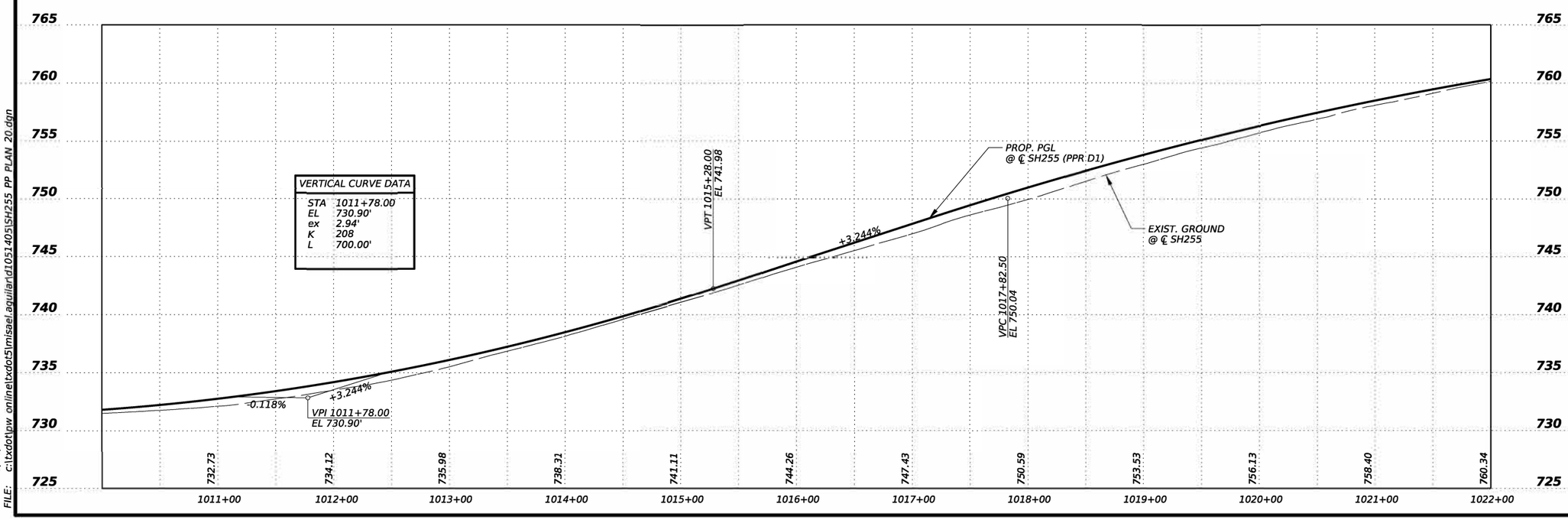
- EXIST. AREA TO REMAIN

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

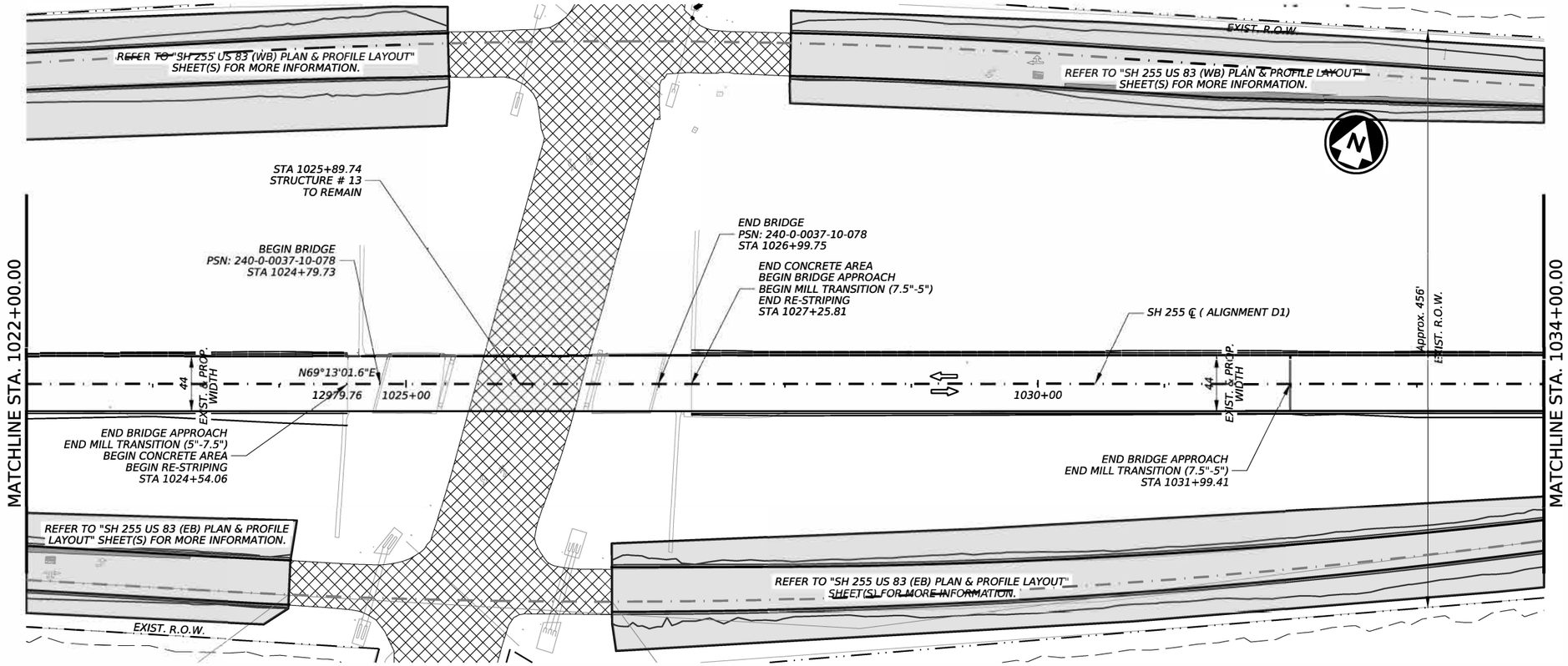
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 20 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	128

DATE: 5/10/2024 11:45:54 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1051405\SH255_PP_PLAN_20.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

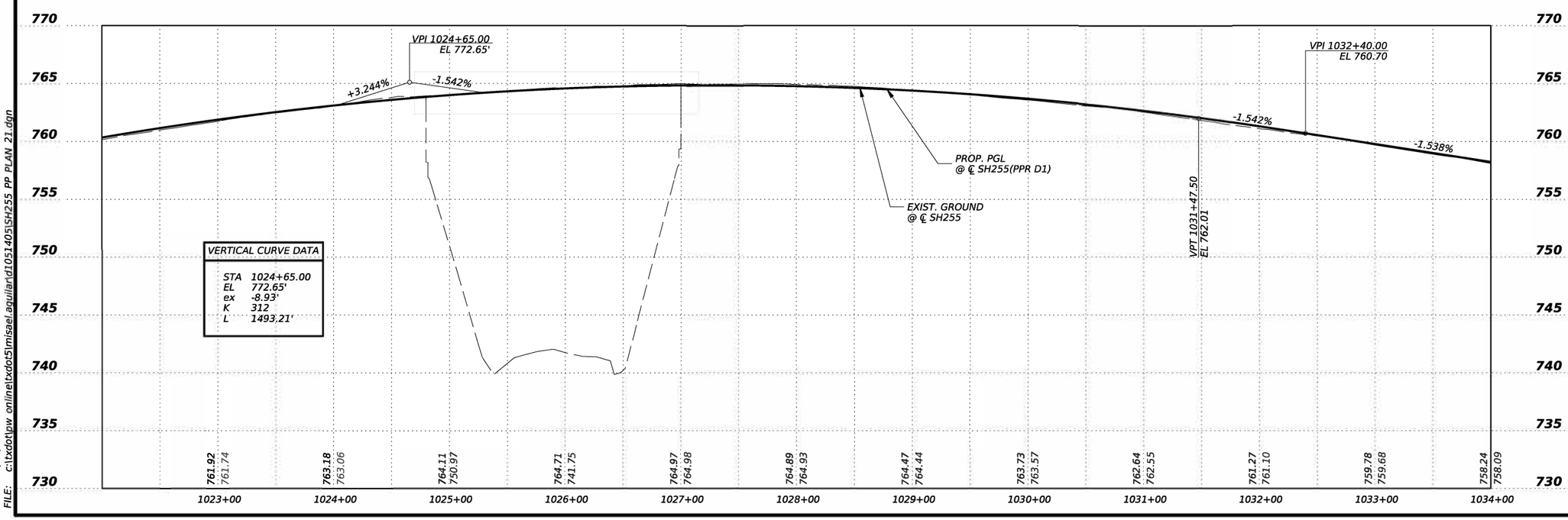
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	1024+65.00
EL	772.65'
ex	-8.93'
K	312
L	1493.21'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

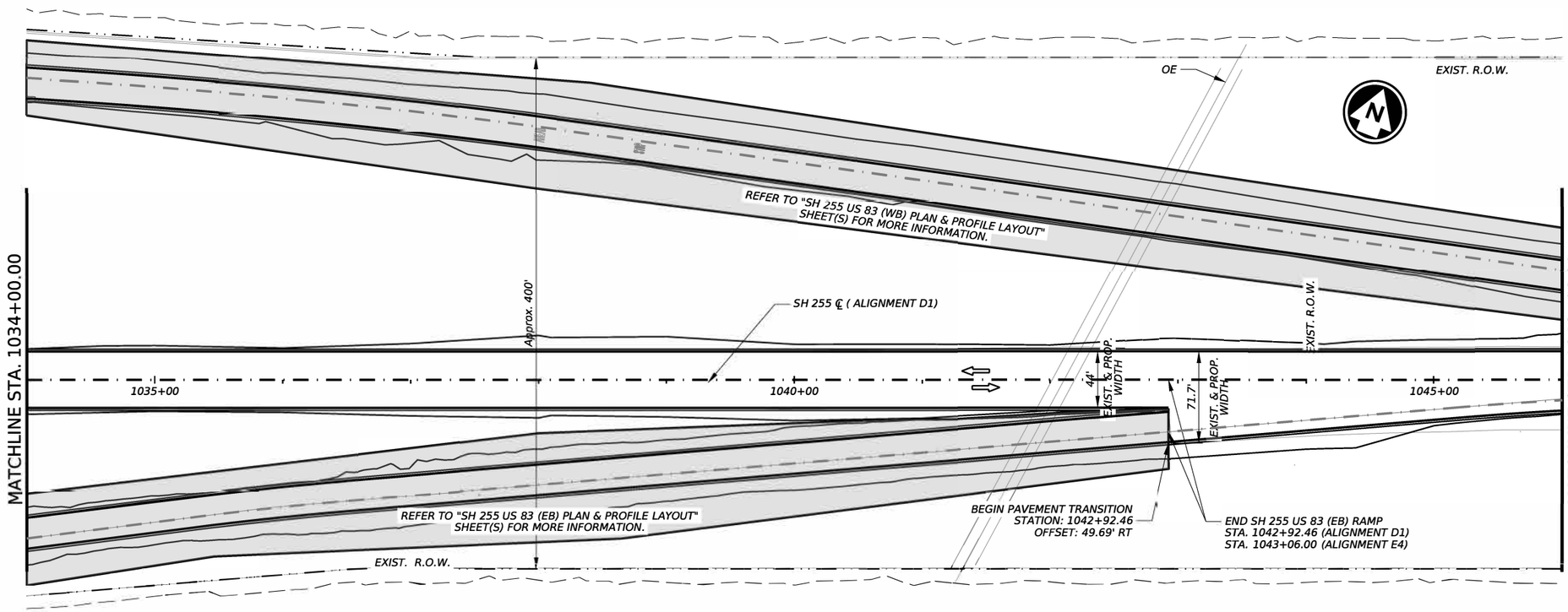
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 21 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	129

DATE: 5/10/2024 11:46:11 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_21.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

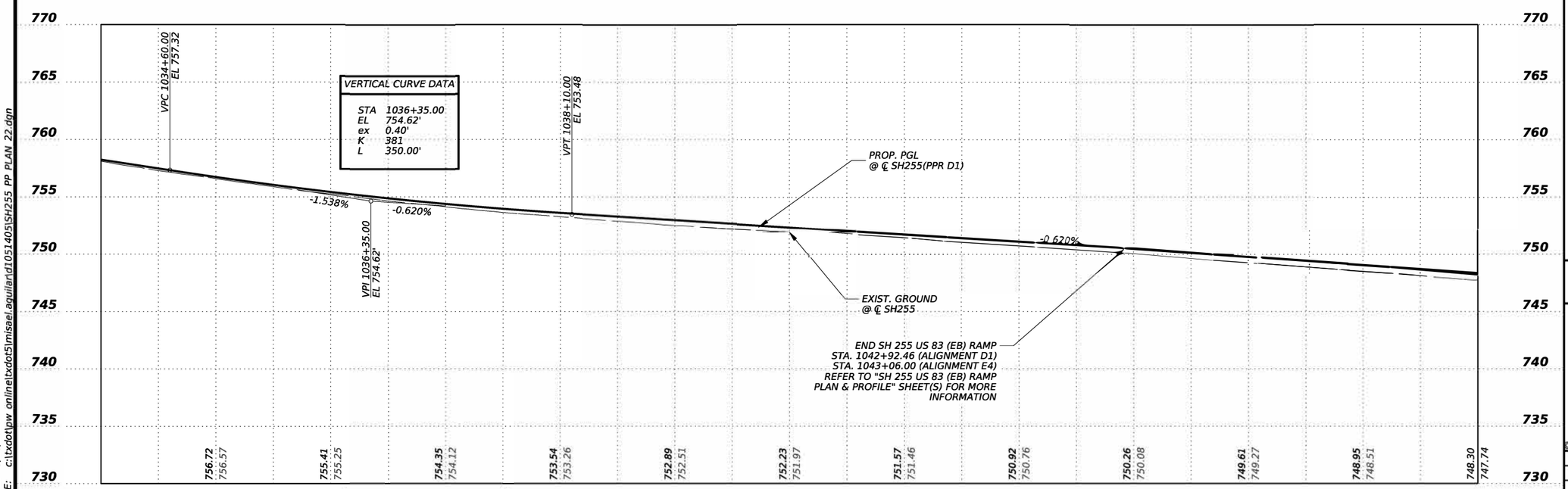
EXIST. AREA TO REMAIN

NOTES:

SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

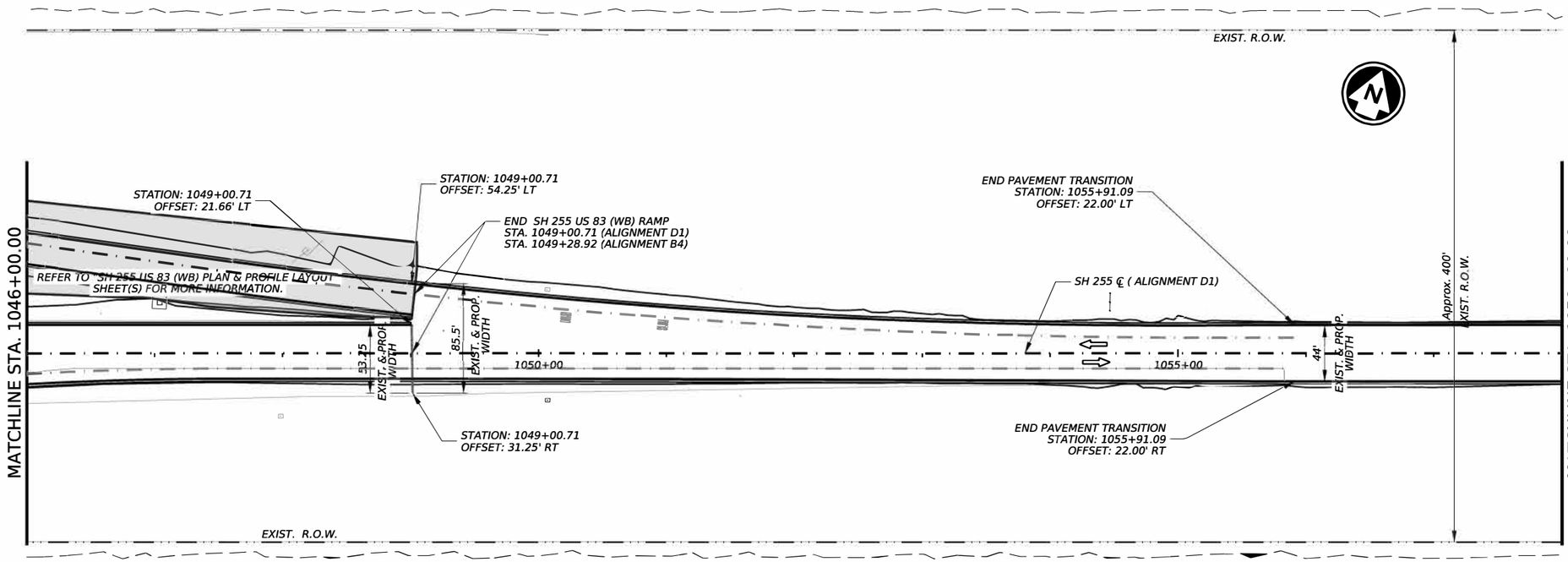
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 22 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	130

DATE: 5/10/2024 11:46:26 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_22.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

EXIST. AREA TO REMAIN

NOTES:

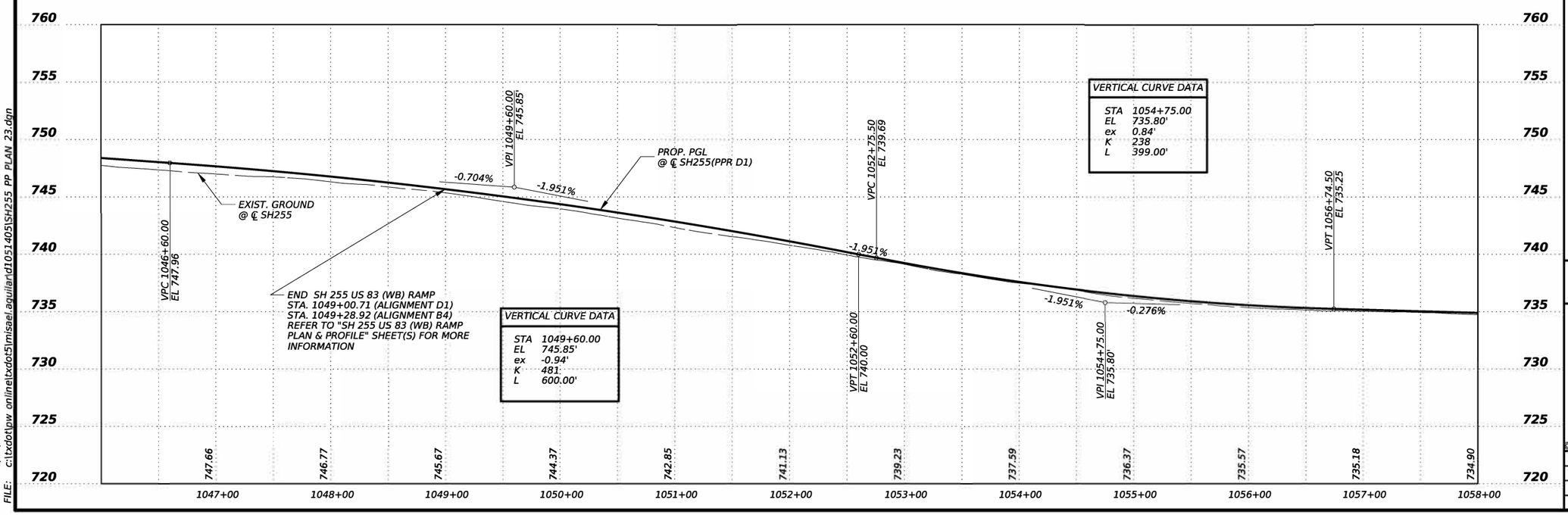
SEE "SH 255 ROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA

STA	1049+60.00
EL	745.85'
ex	-0.94'
K	481
L	600.00'

VERTICAL CURVE DATA

STA	1054+75.00
EL	735.80'
ex	0.84'
K	238
L	399.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

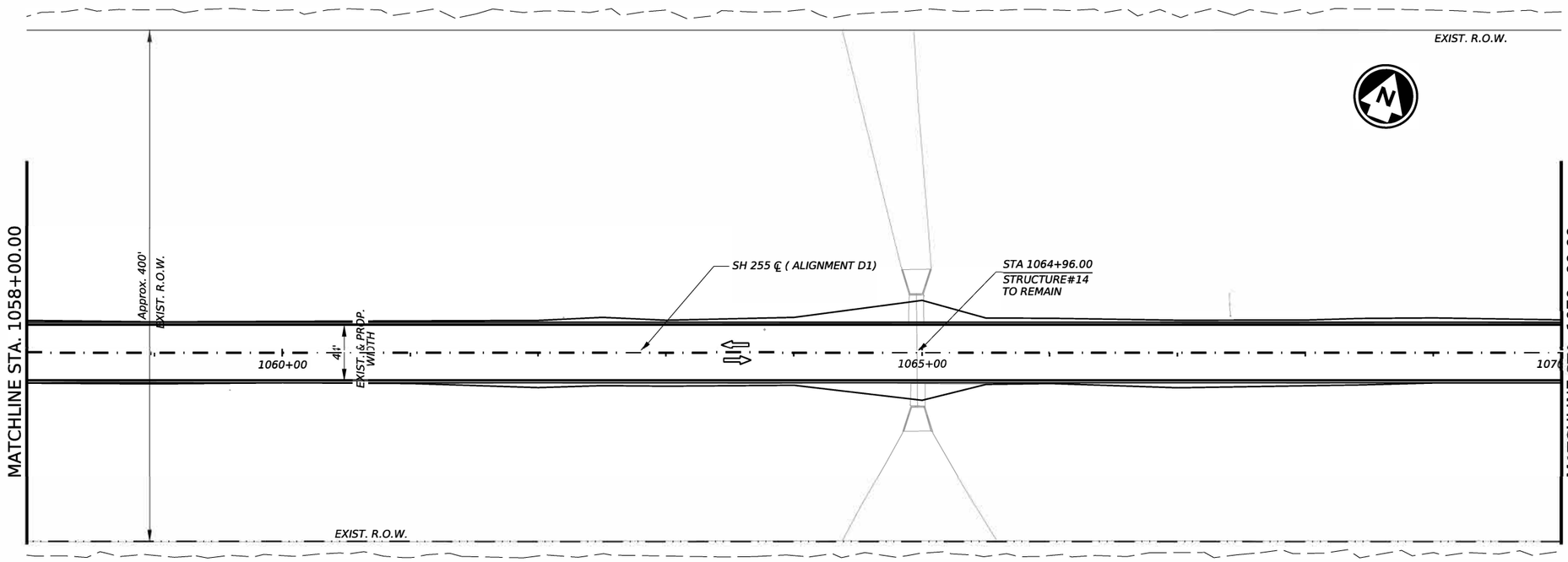
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 23 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	131

DATE: 5/10/2024 11:46:42 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_23.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

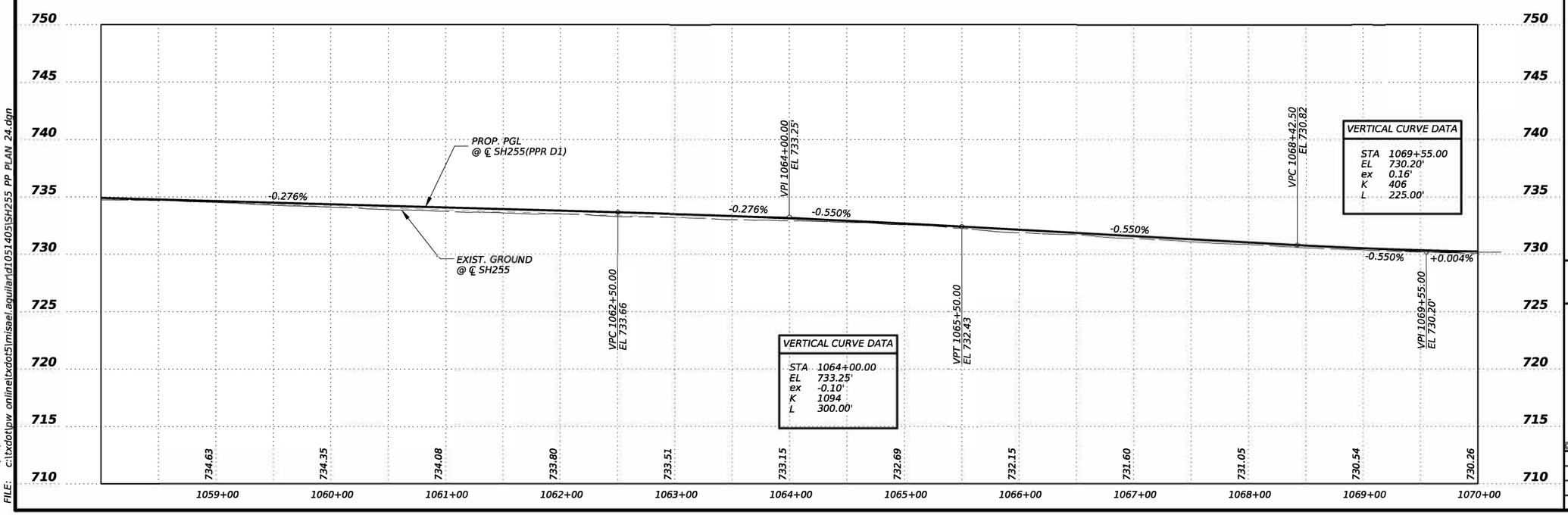
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

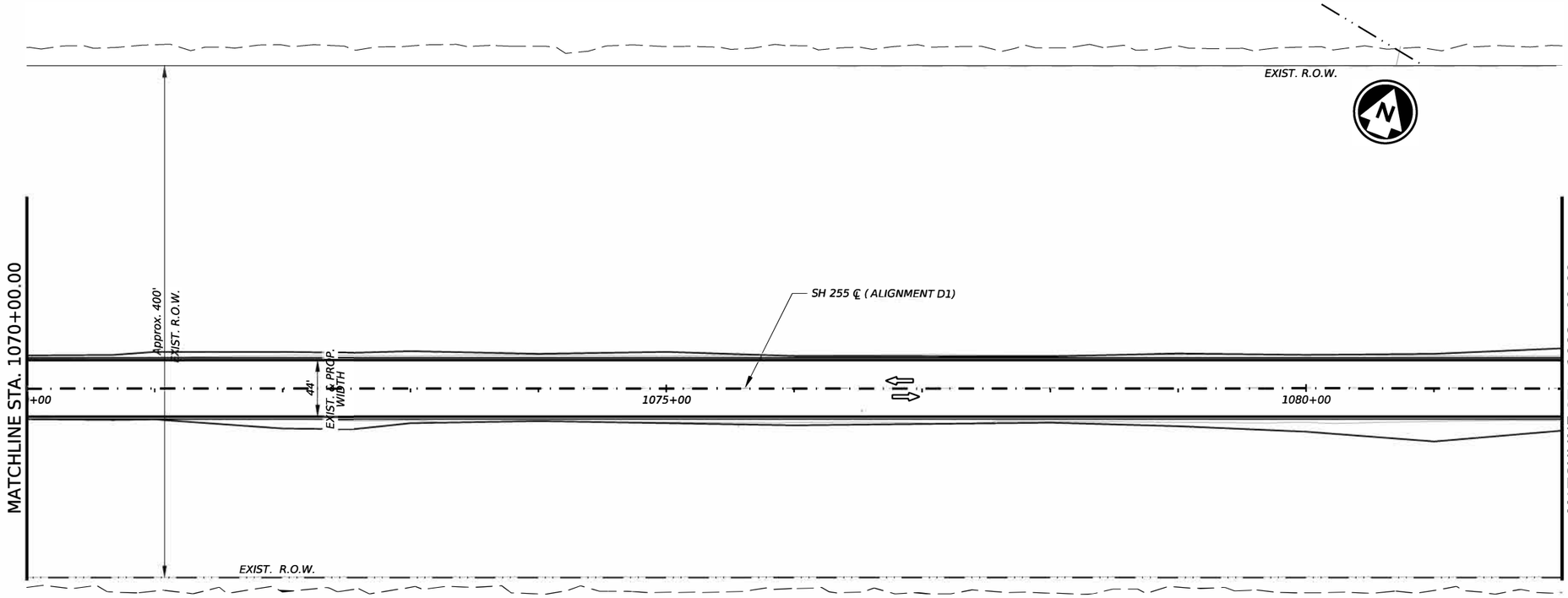
©TxDOT 2024

SHEET 24 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	132

DATE: 5/10/2024 11:46:57 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_24.dgn

DN: CK: DW: CK:



ROADWAY LEGEND

PGL - PROP. GRADE LINE

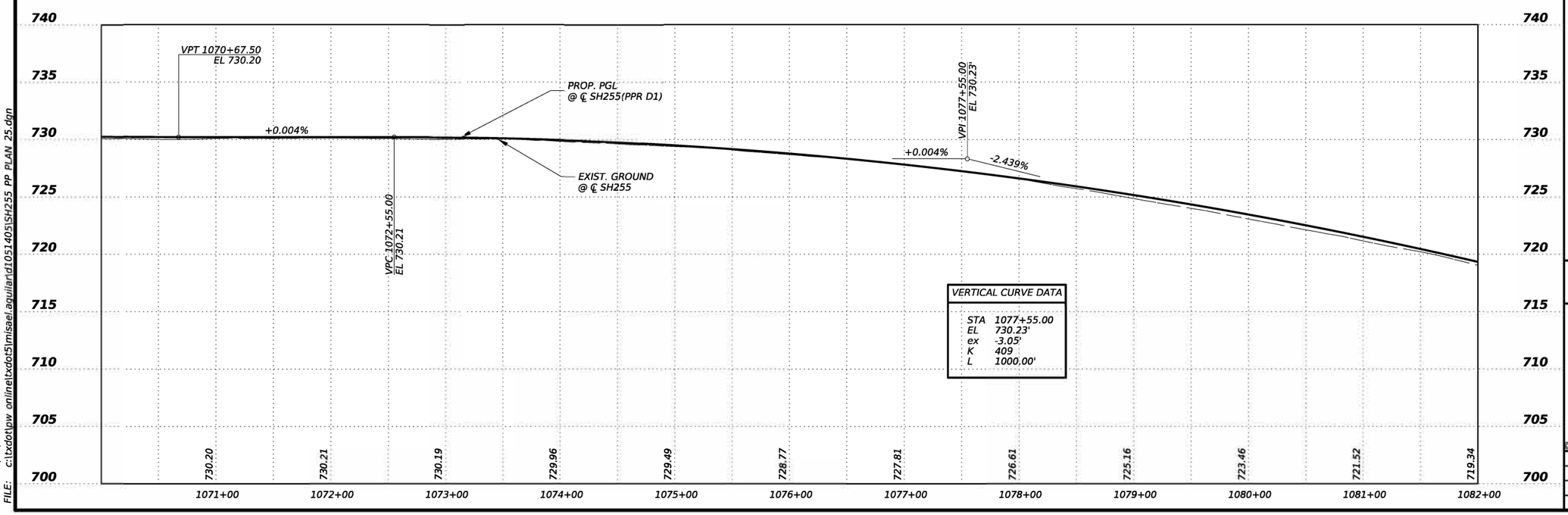
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	1077+55.00
EL	730.23'
ex	-3.05'
K	409
L	1000.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

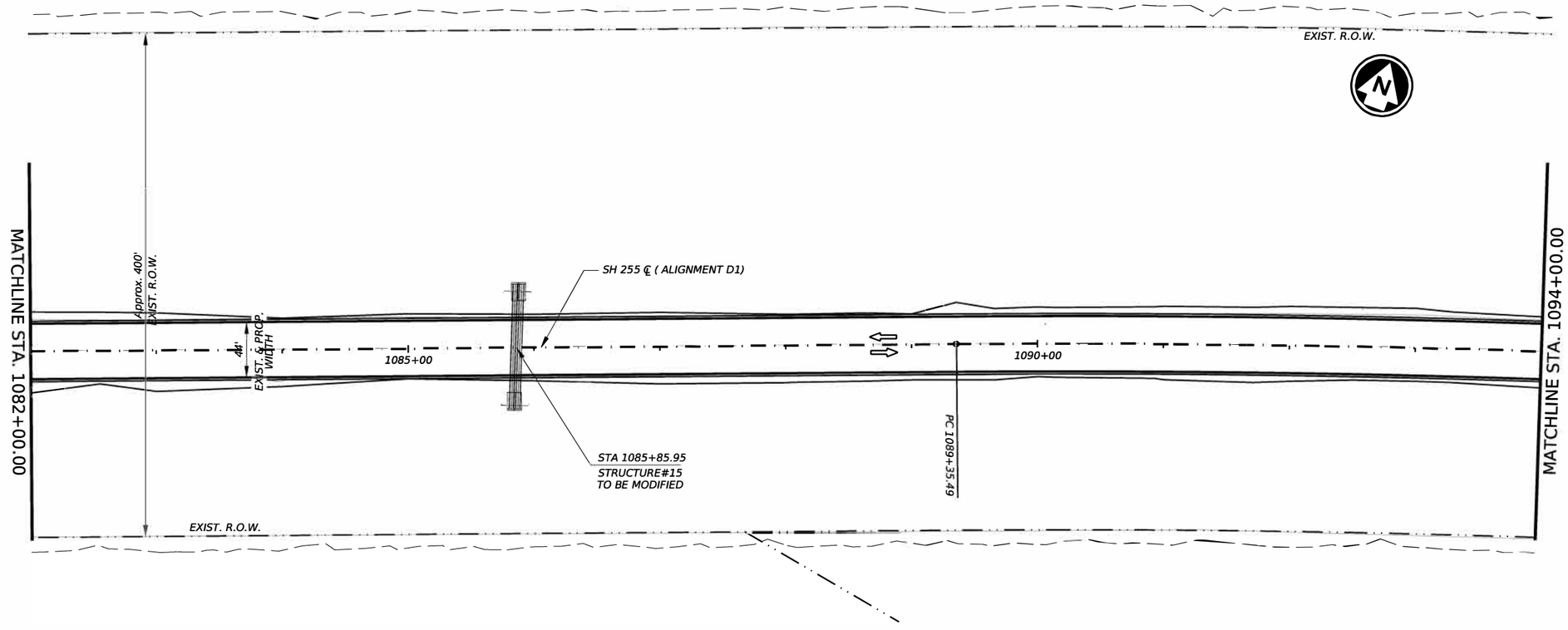
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 25 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	133

DATE: 5/10/2024 11:47:12 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_25.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

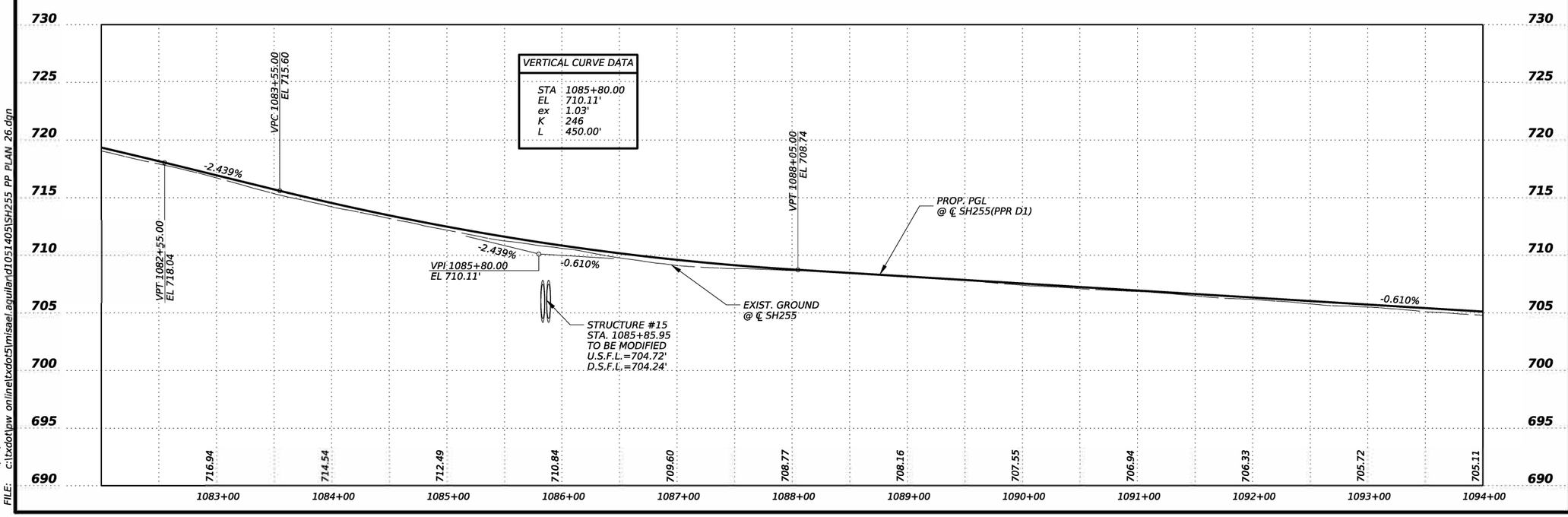
NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

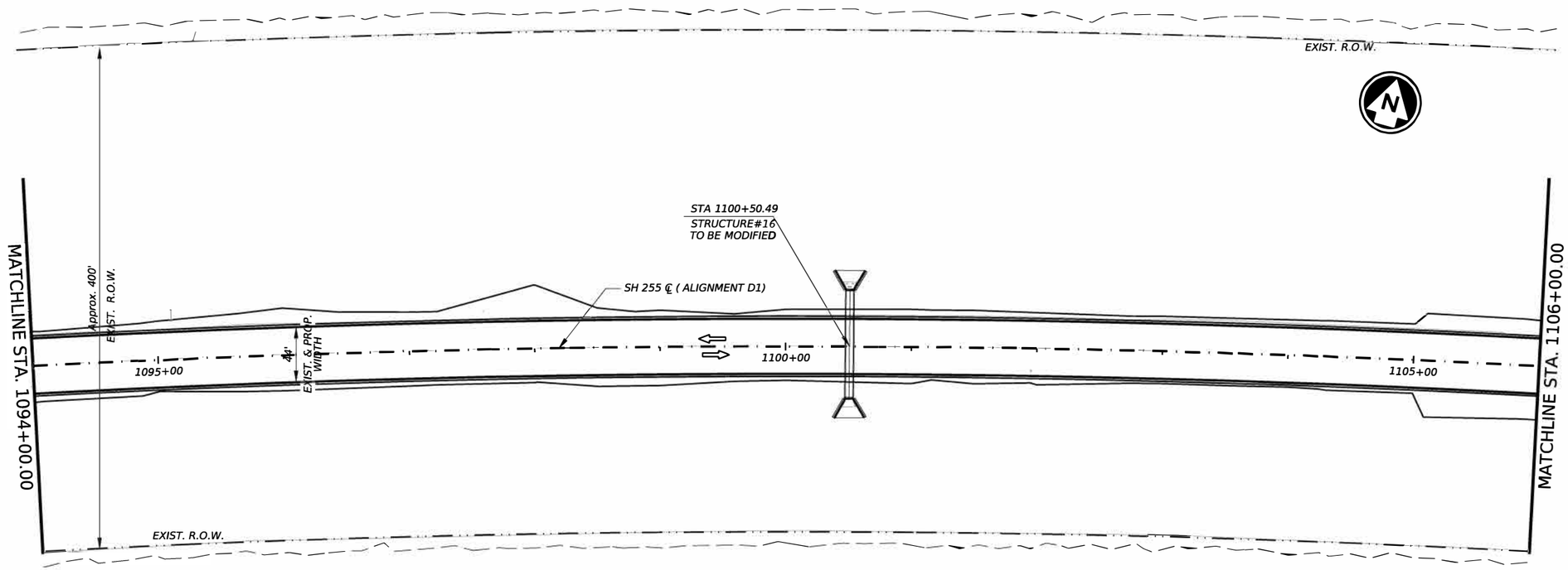
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 26 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	134

DATE: 5/10/2024 11:47:28 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_26.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

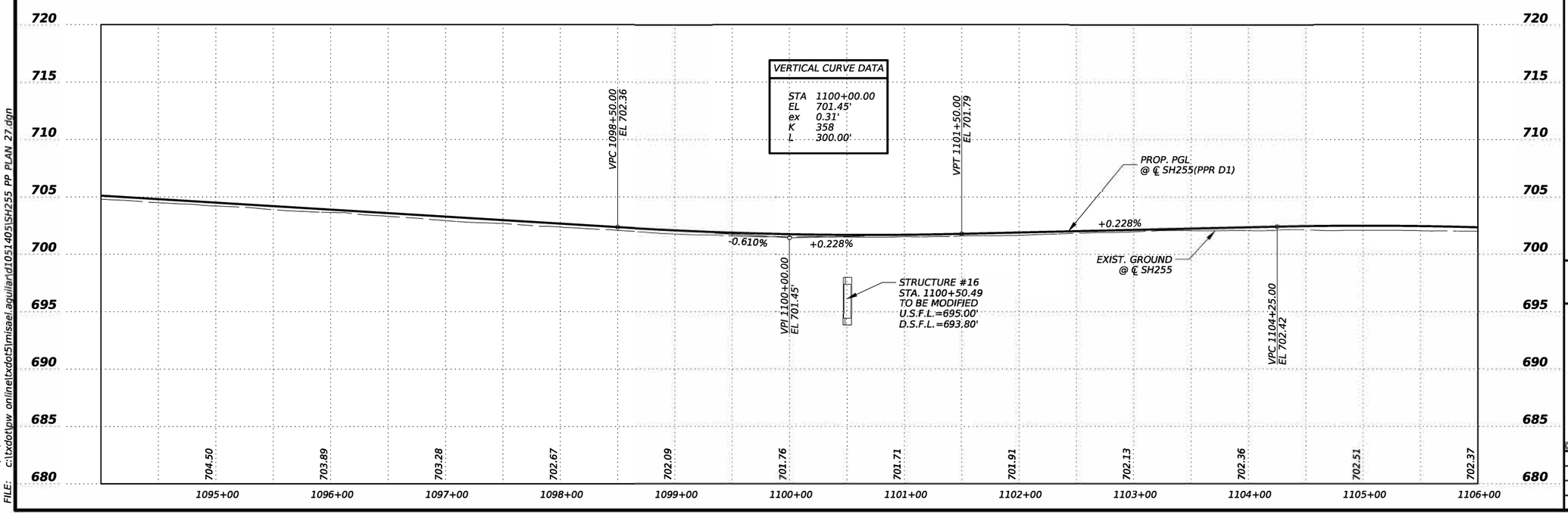
SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

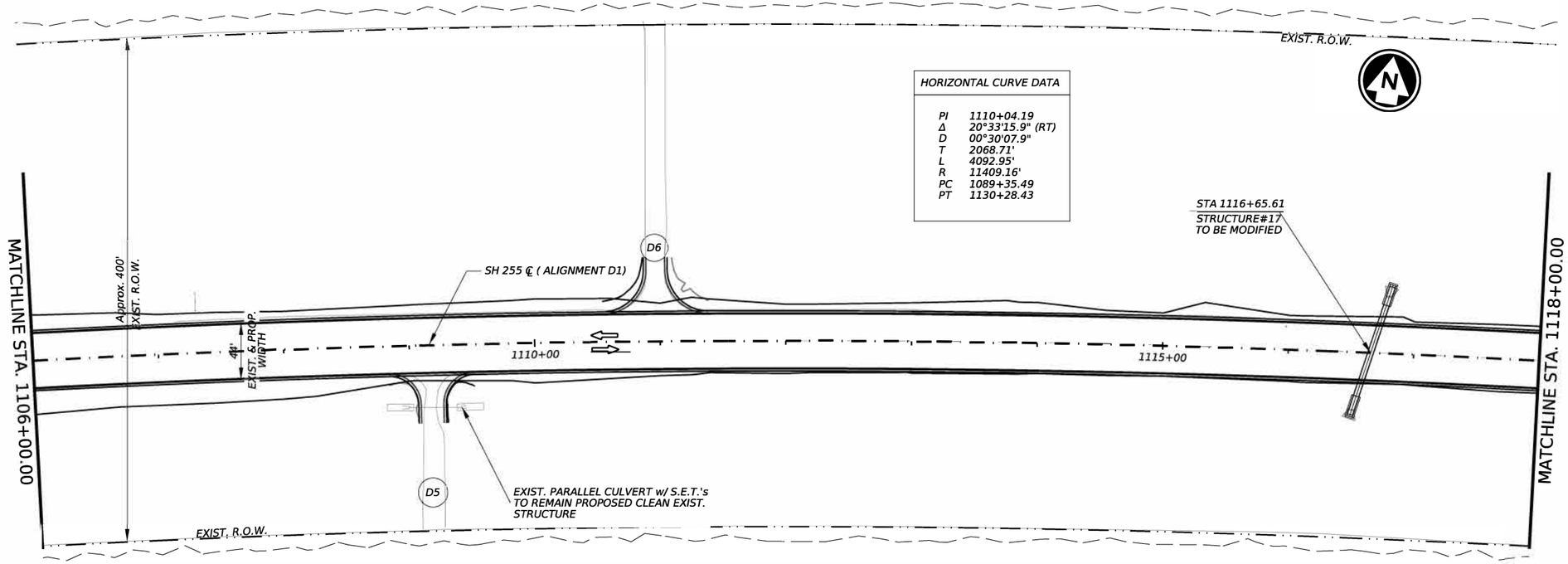
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 27 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	135

DATE: 5/10/2024 11:47:44 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_27.dgn



HORIZONTAL CURVE DATA

PI	1110+04.19
Δ	20°33'15.9" (RT)
D	00°30'07.9"
T	2068.71'
L	4092.95'
R	11409.16'
PC	1089+35.49
PT	1130+28.43

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

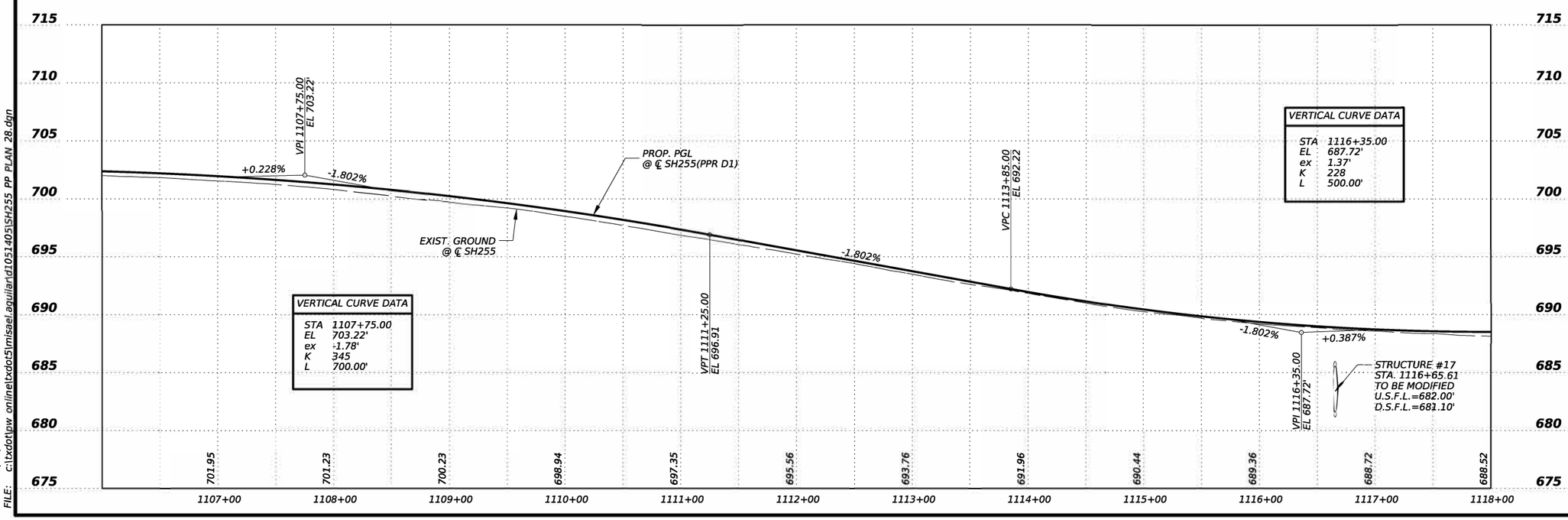
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

SEE "SH 255 DRIVEWAY CROSS SECTION DETAILS" SHEET(S) FOR ADDITIONAL INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	1107+75.00
EL	703.22'
ex	-1.78'
K	345
L	700.00'

VERTICAL CURVE DATA

STA	1116+35.00
EL	687.72'
ex	1.37'
K	228
L	500.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

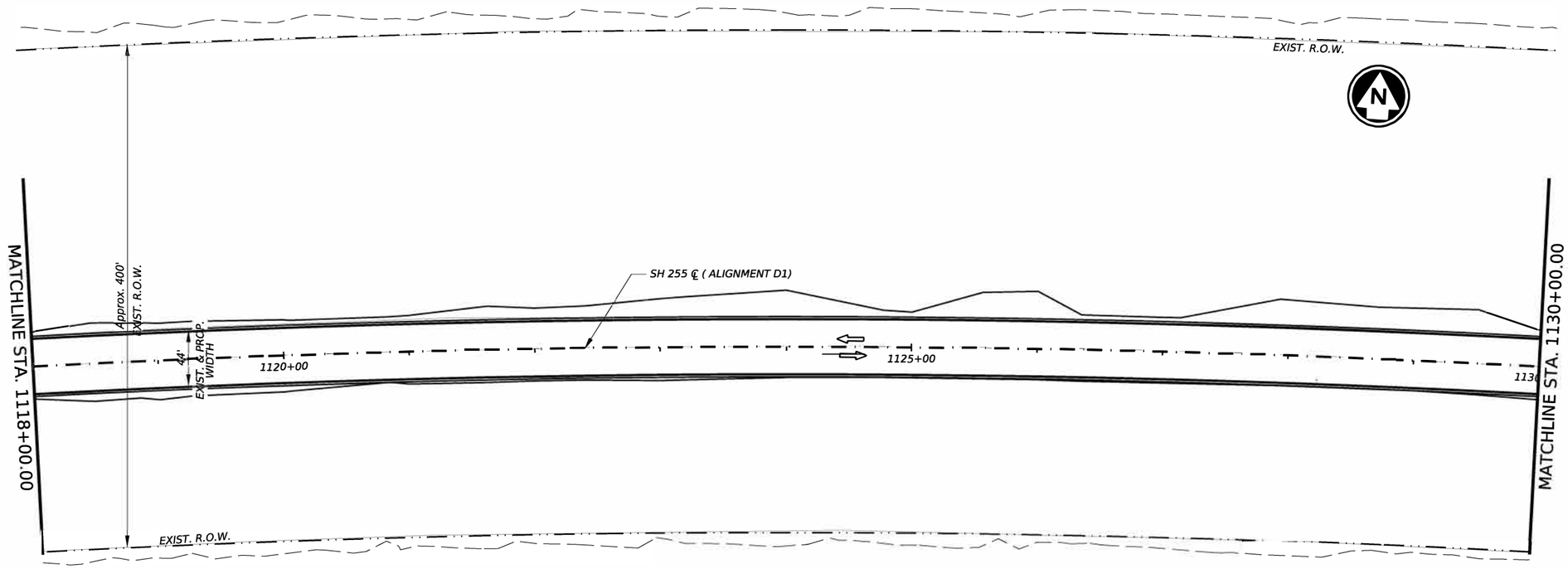
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 28 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	136

DATE: 5/10/2024 11:47:59 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_28.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

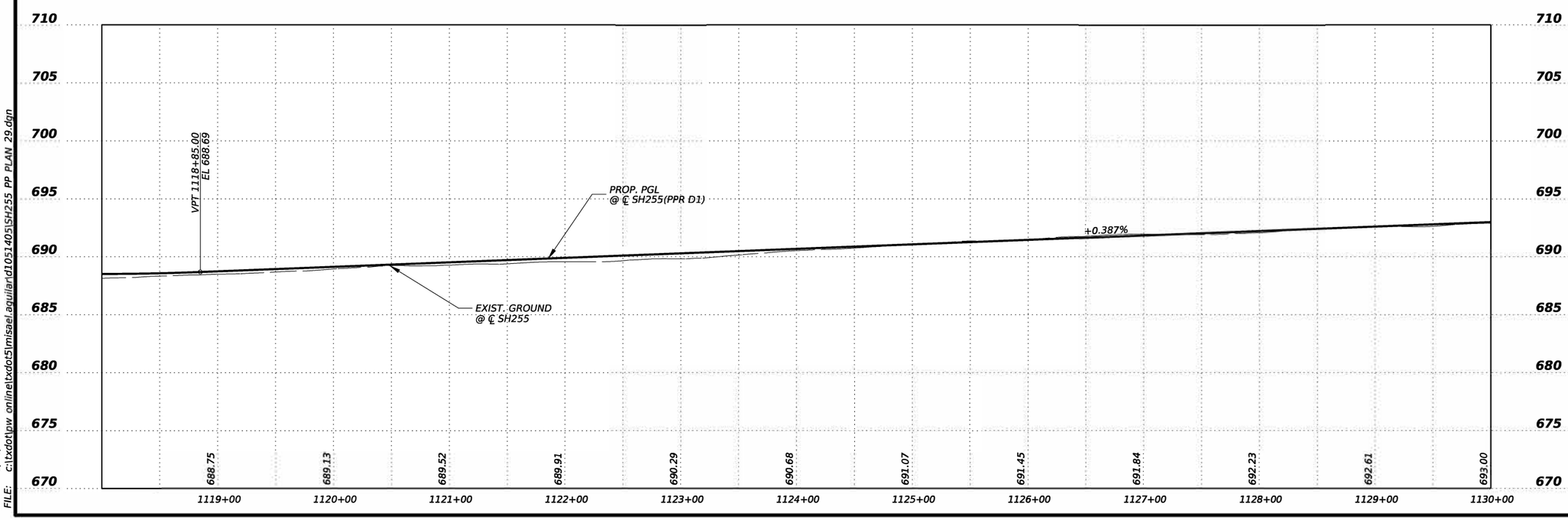
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 29 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	137

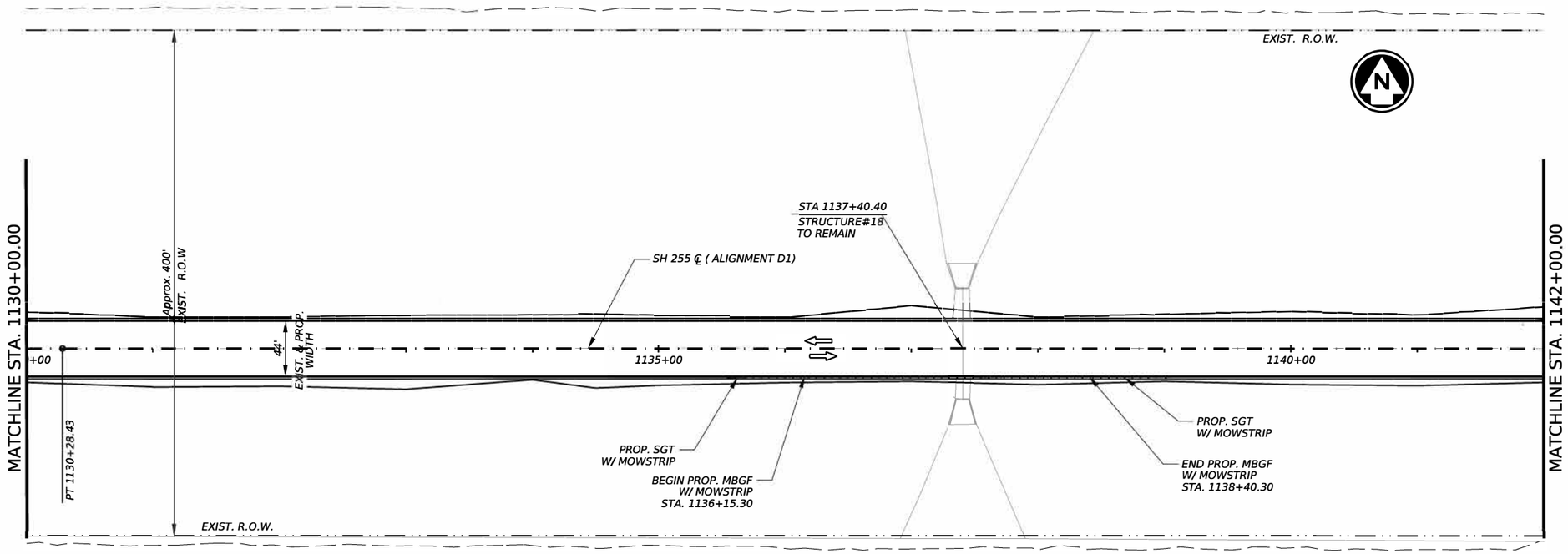
DATE: 5/10/2024 11:48:17 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_29.dgn

DW: CK: DW: CK:

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



NOTES:

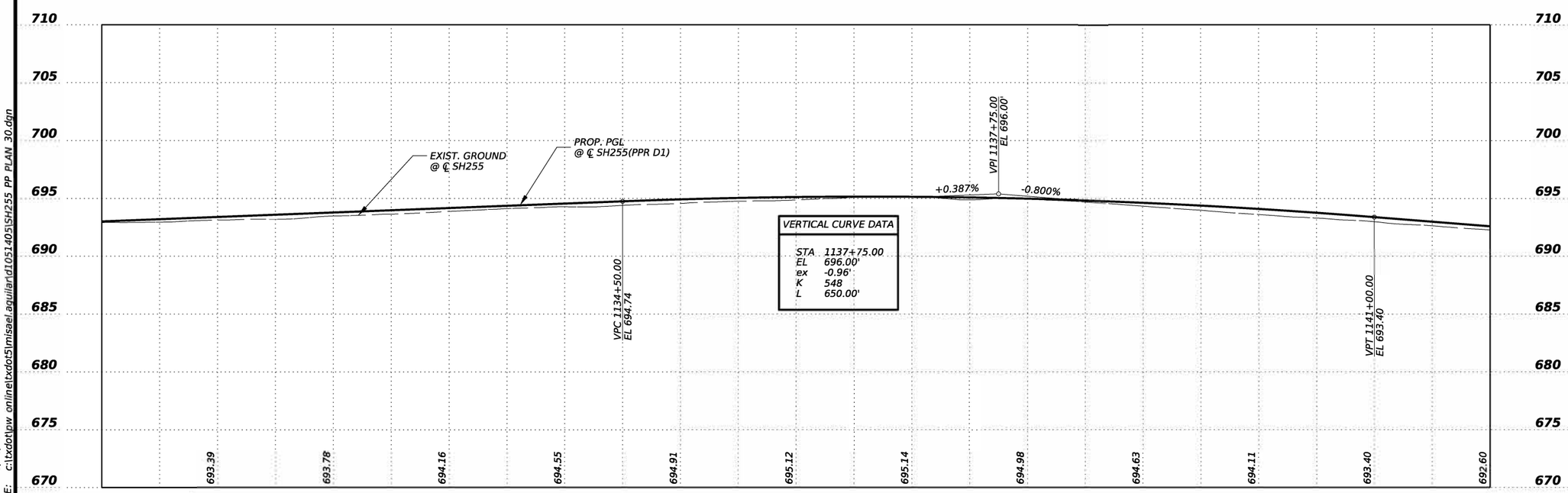
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA

STA	1137+75.00
EL	696.00'
ex	-0.96'
K	548
L	650.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 30 OF 36

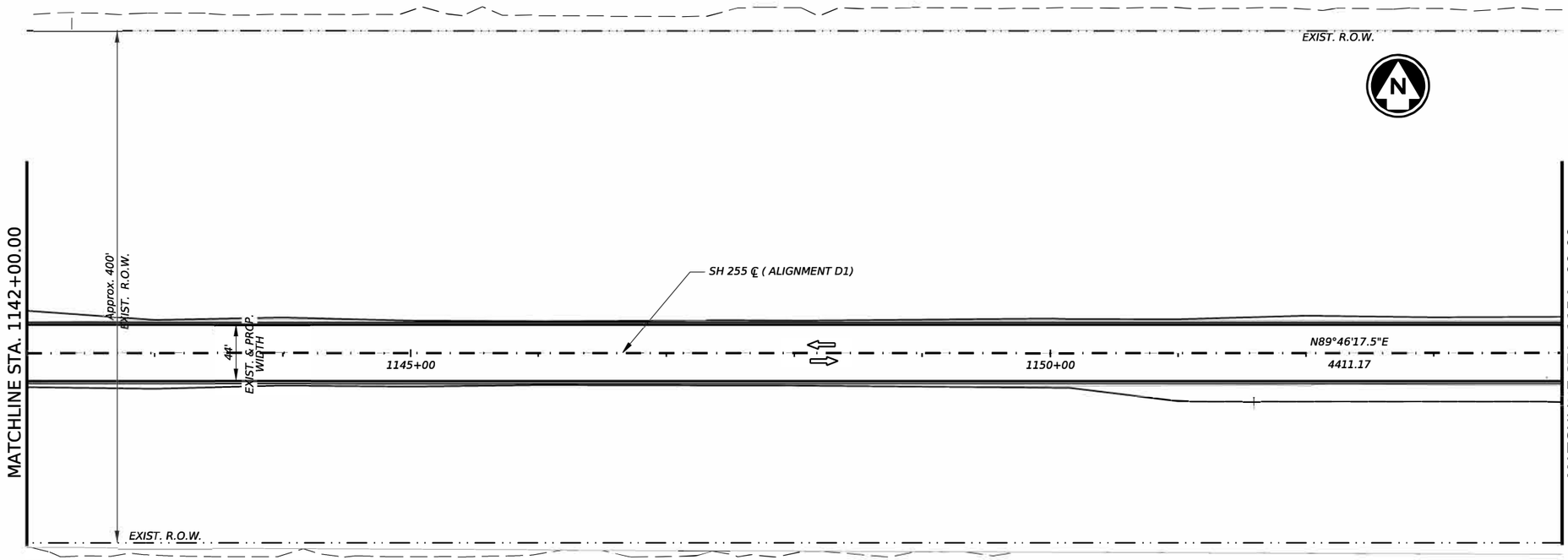
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	138

DATE: 5/10/2024 11:48:32 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1051405\SH255_PP_PLAN_30.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

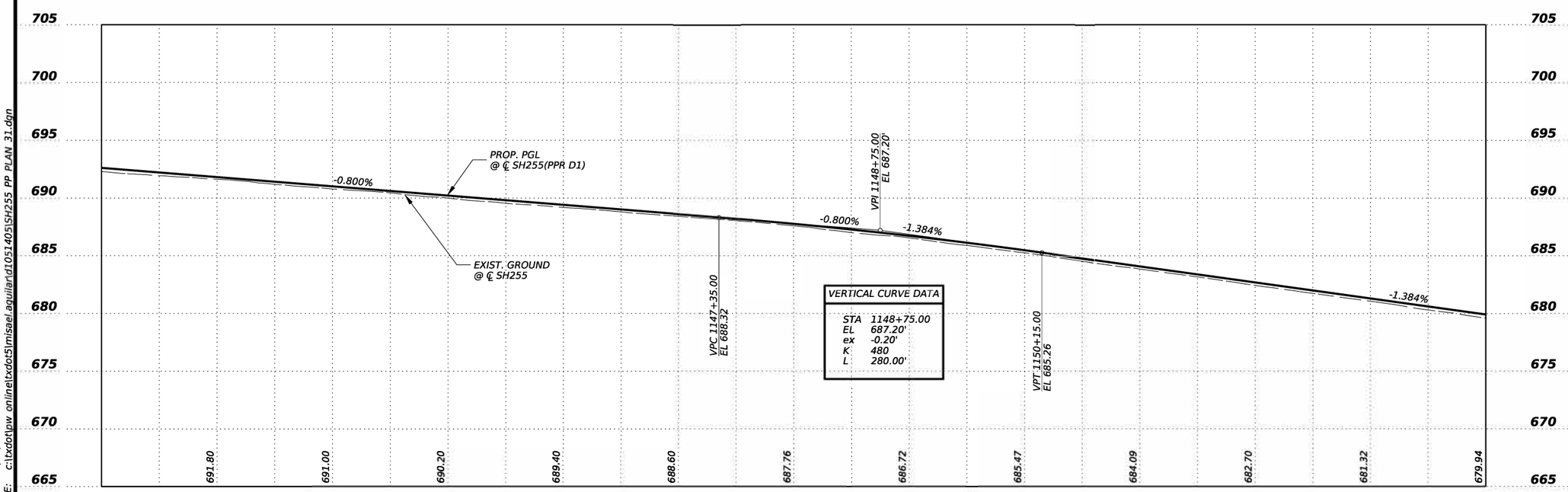


NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	1148+75.00
EL	687.20'
ex	-0.20'
K	480
L	280.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	139

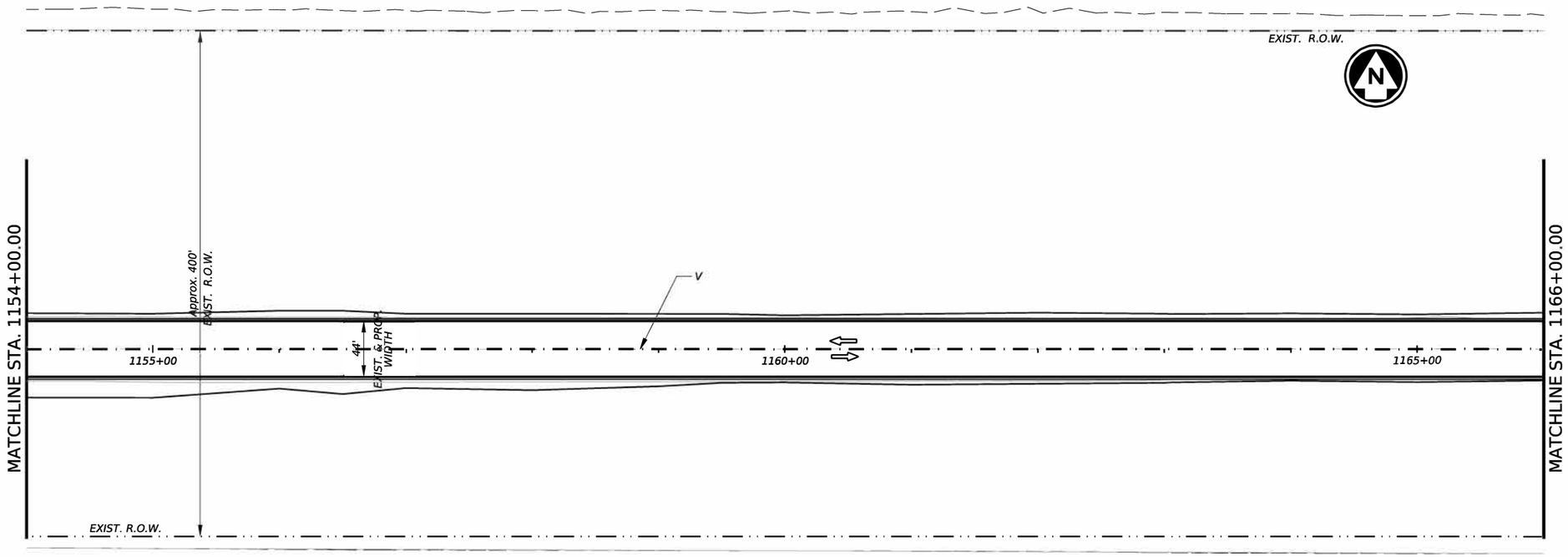
DATE: 5/10/2024 11:48:48 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_31.dgn

CK: DW: CK: DW:

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



NOTES:

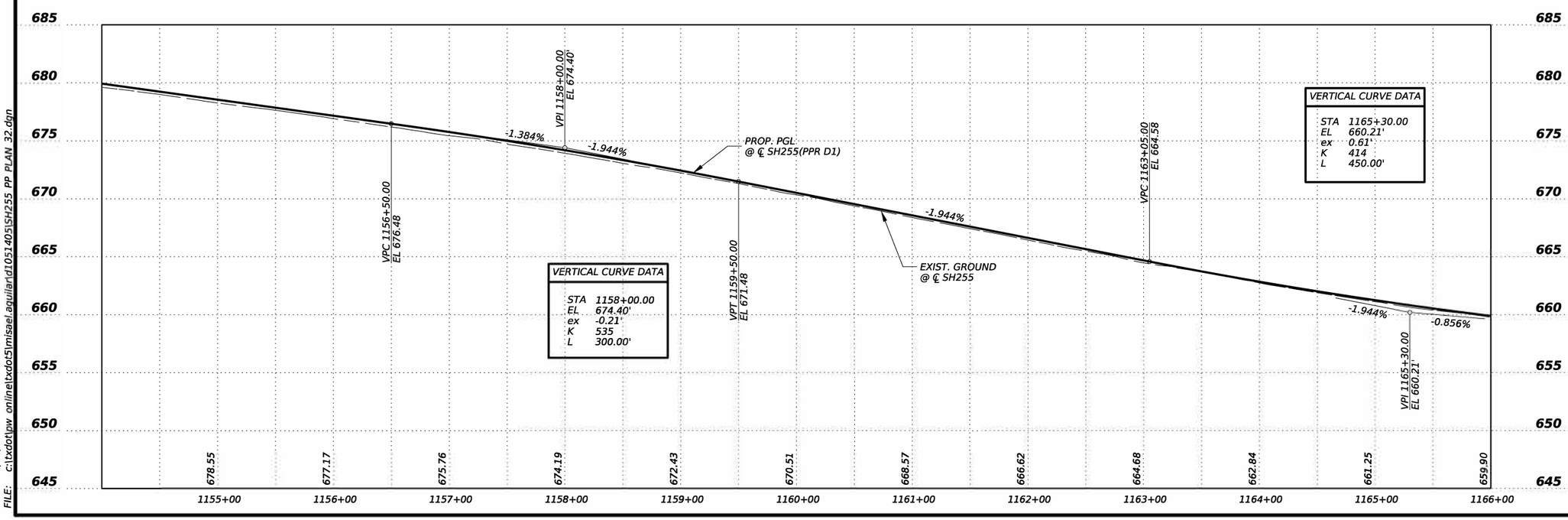
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA

STA	1158+00.00
EL	674.40'
ex	-0.21'
K	535
L	300.00'

VERTICAL CURVE DATA

STA	1165+30.00
EL	660.21'
ex	0.61'
K	414
L	450.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

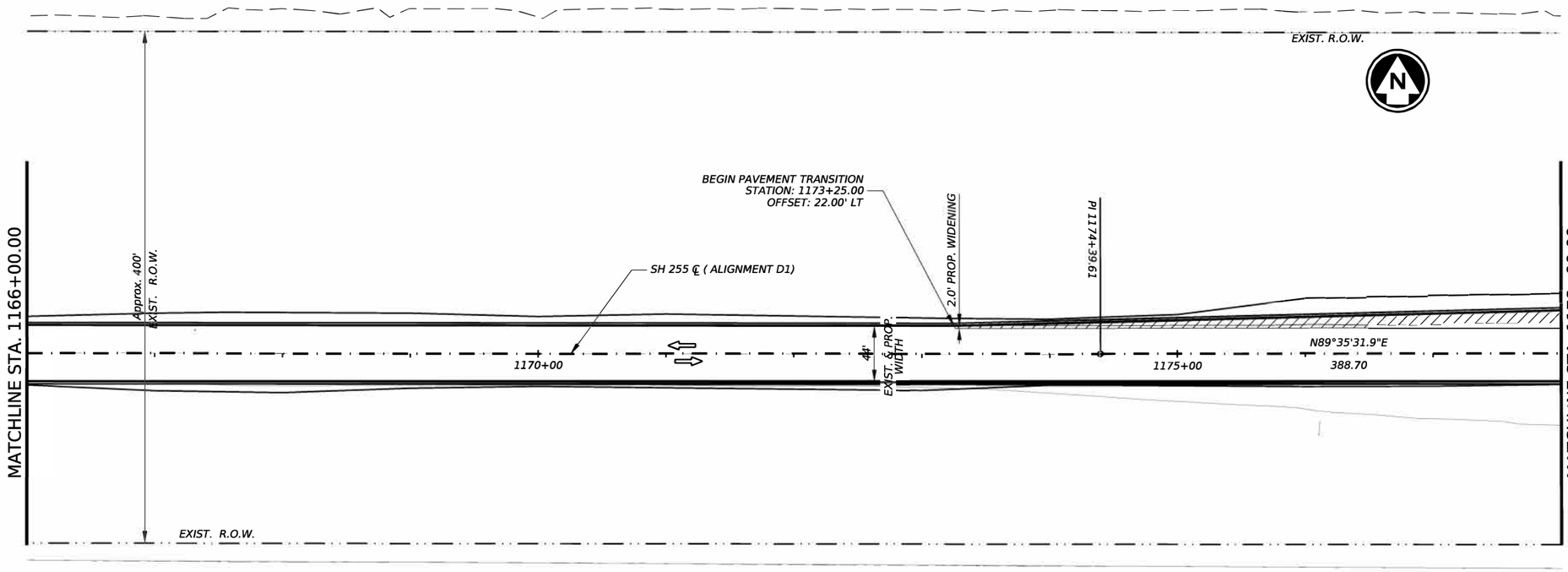
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 32 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	140

DATE: 5/10/2024 11:49:04 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1051405\SH255_PP_PLAN_32.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

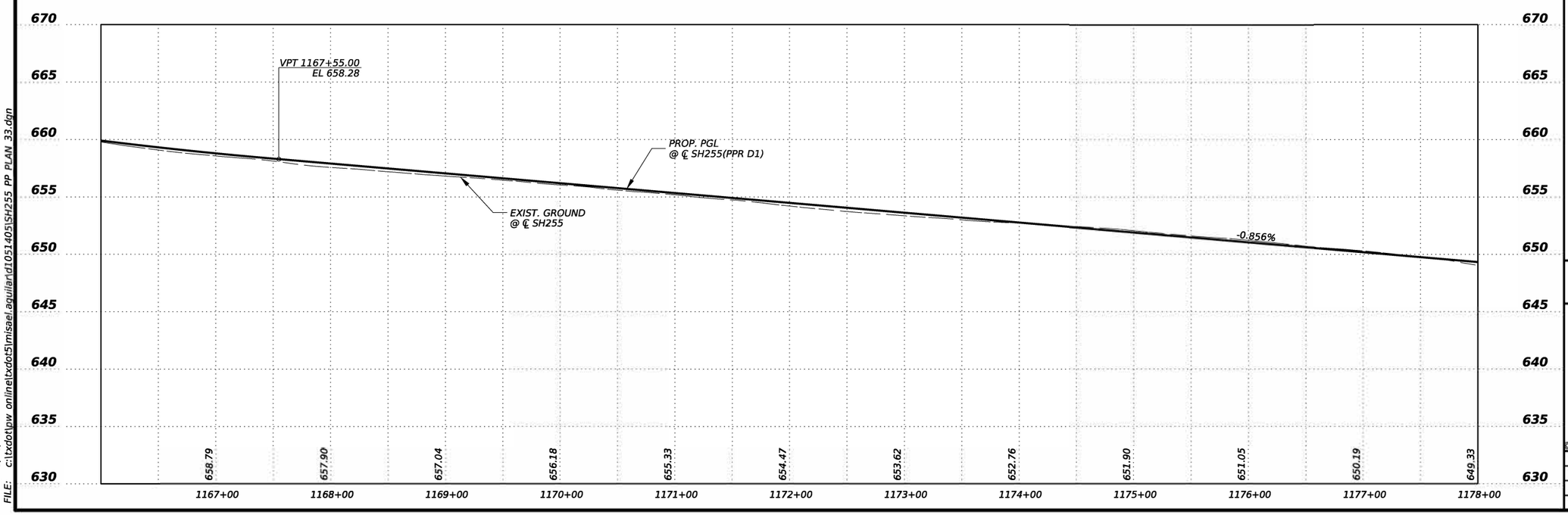
PROPOSED WIDENING

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

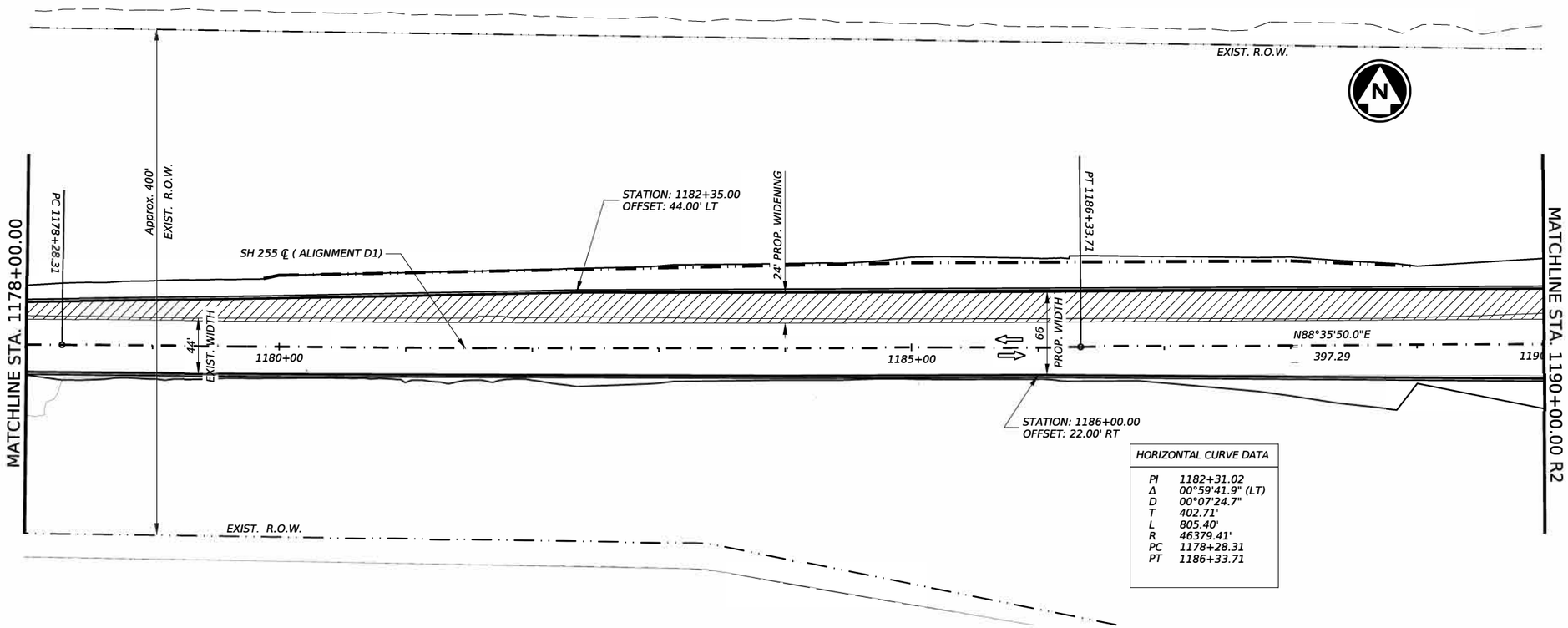
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 33 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	141

DATE: 5/10/2024 11:49:21 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_33.dgn



HORIZONTAL CURVE DATA	
PI	1182+31.02
Δ	00°59'41.9" (LT)
D	00°07'24.7"
T	402.71'
L	805.40'
R	46379.41'
PC	1178+28.31
PT	1186+33.71

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

▨ - PROPOSED WIDENING

NOTES:

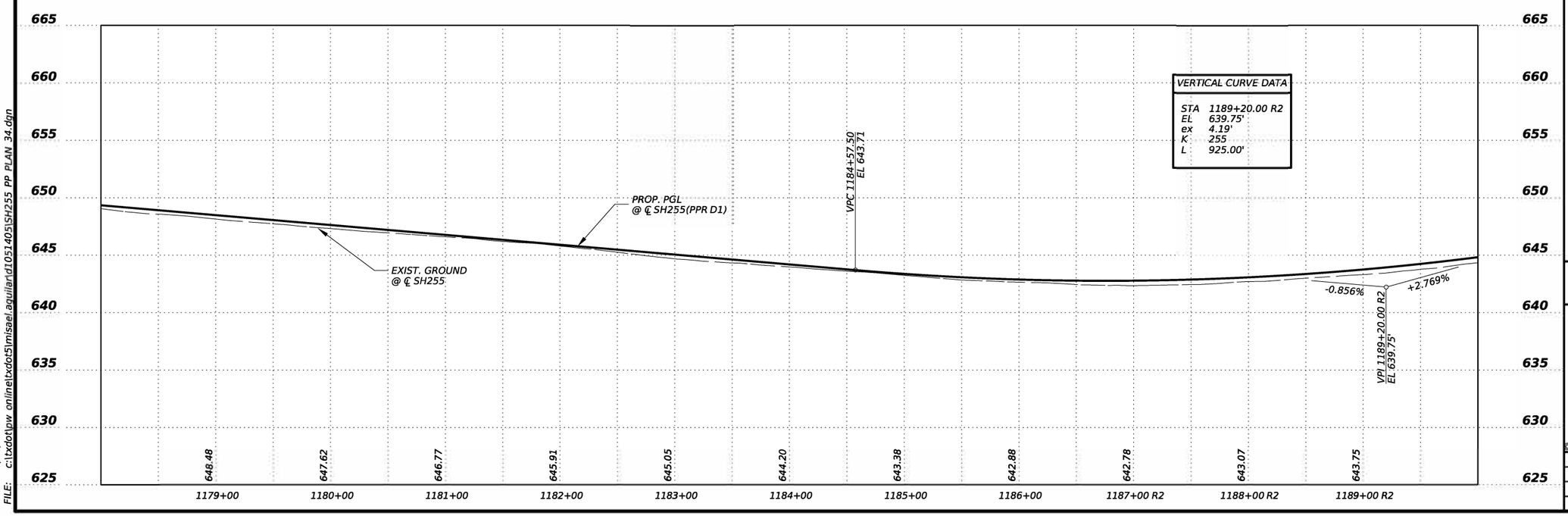
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA	
STA	1189+20.00 R2
EL	639.75'
ex	4.19'
K	255
L	925.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

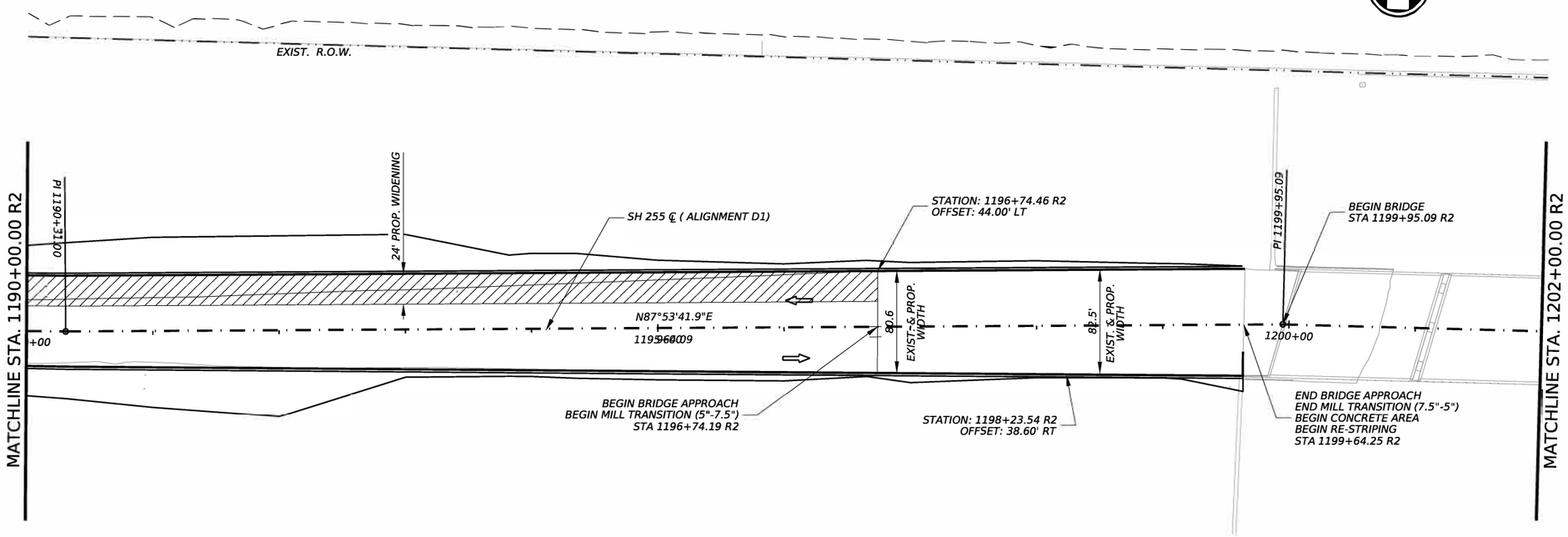
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 34 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	142

DATE: 5/10/2024 11:49:36 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255 PP PLAN 34.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

PROPOSED WIDENING

NOTES:

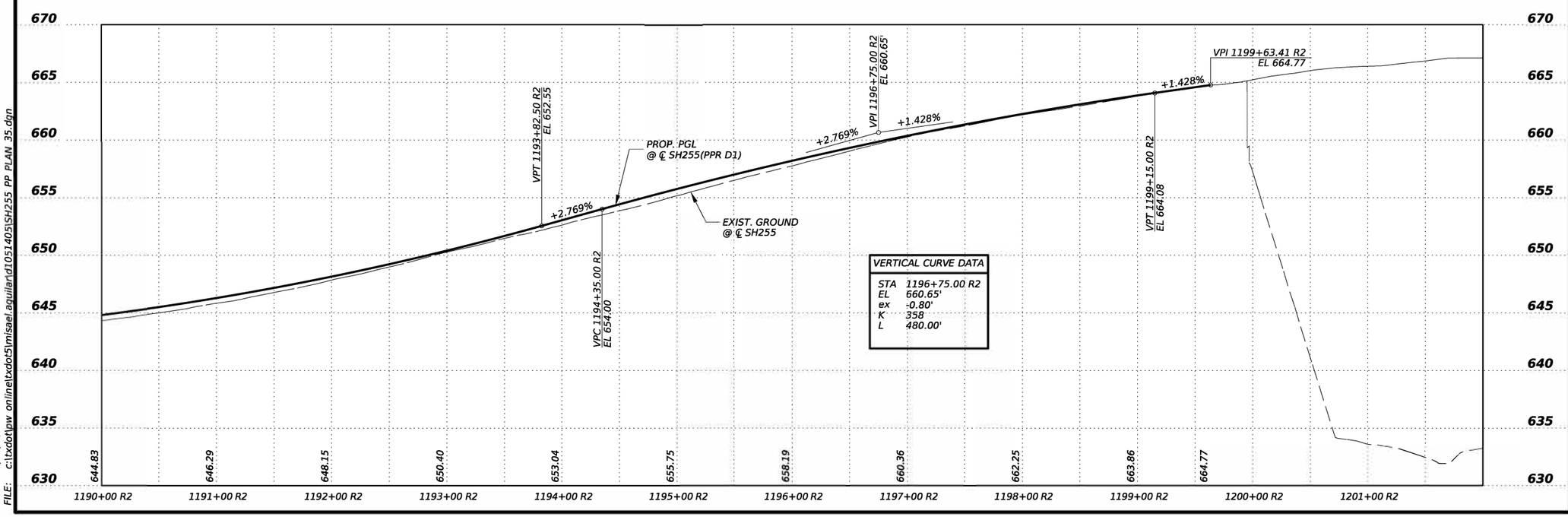
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA

STA	1196+75.00 R2
EL	660.65'
ex	-0.80'
K	358
L	480.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

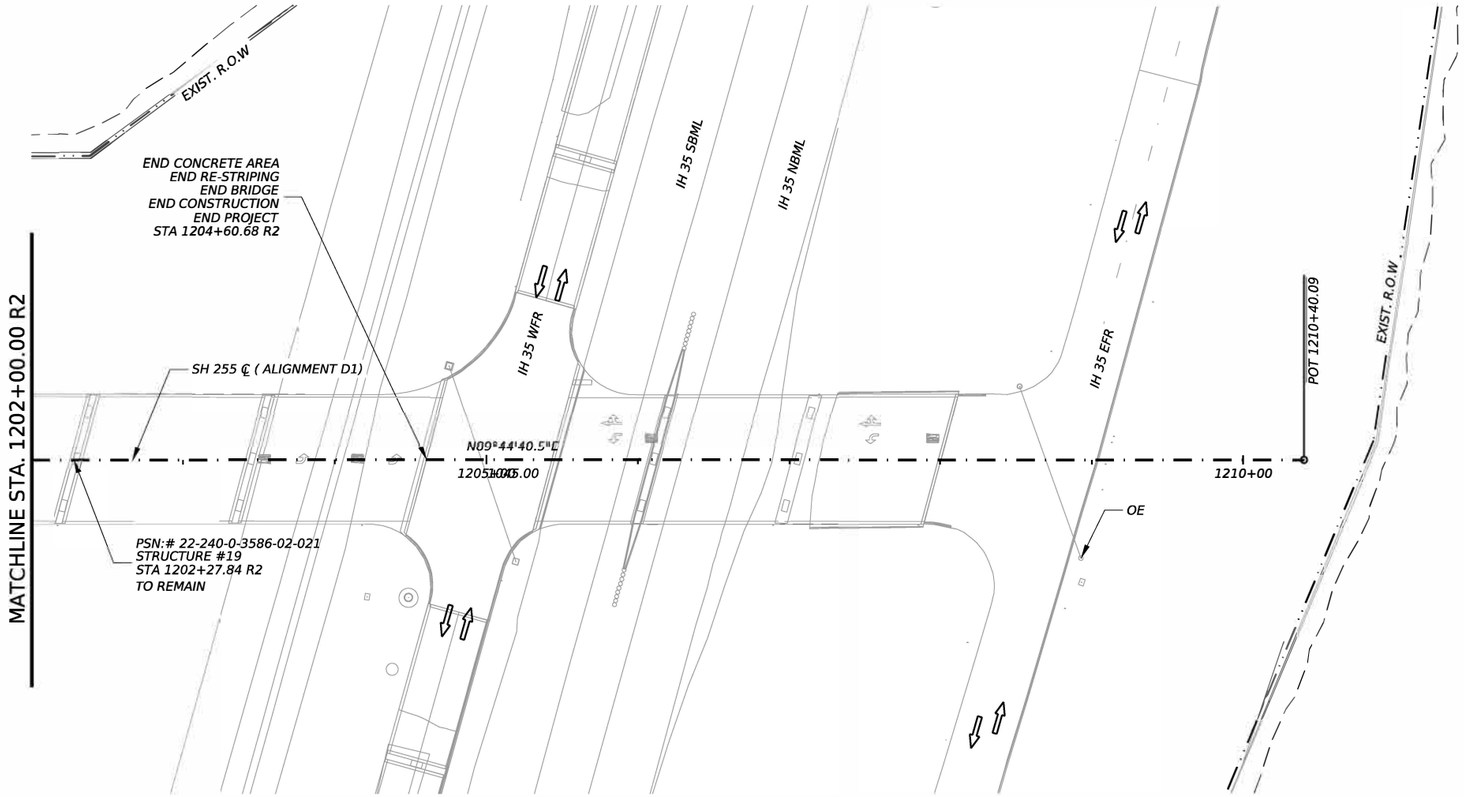
MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 35 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	143

DATE: 5/10/2024 11:49:52 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP PLAN 35.dgn



ROADWAY LEGEND

PGL - PROP. GRADE LINE

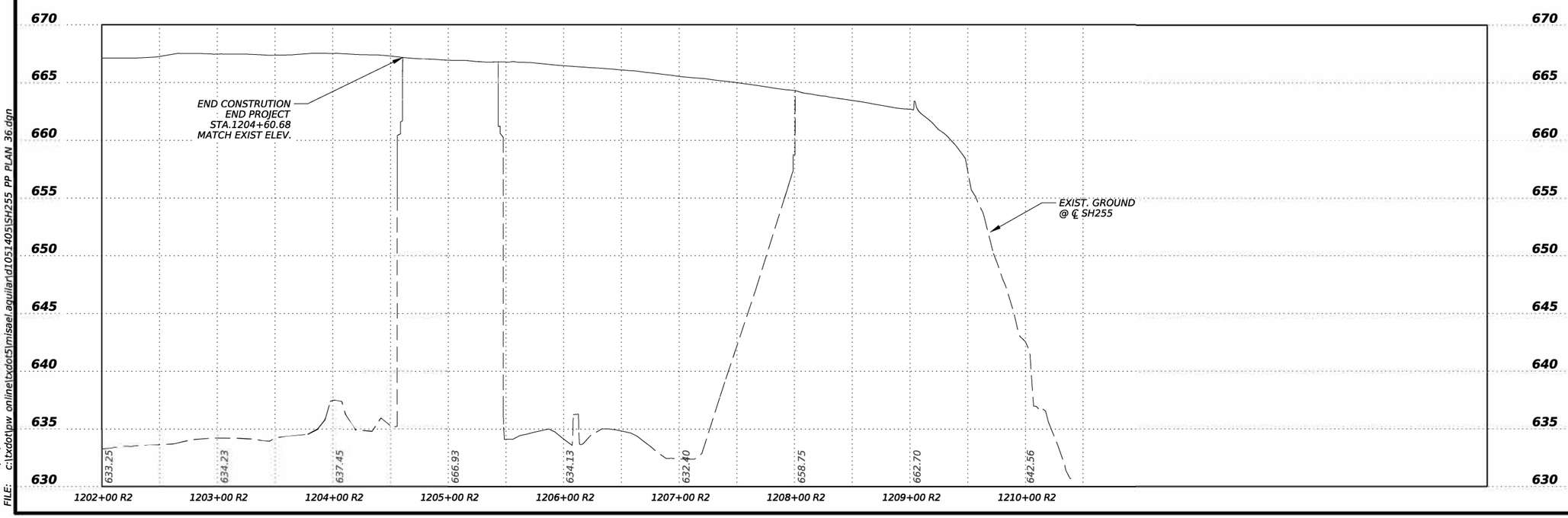
⇦ - PROP. DIRECTION OF TRAFFIC

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

MAINLANES
PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 36 OF 36

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	144

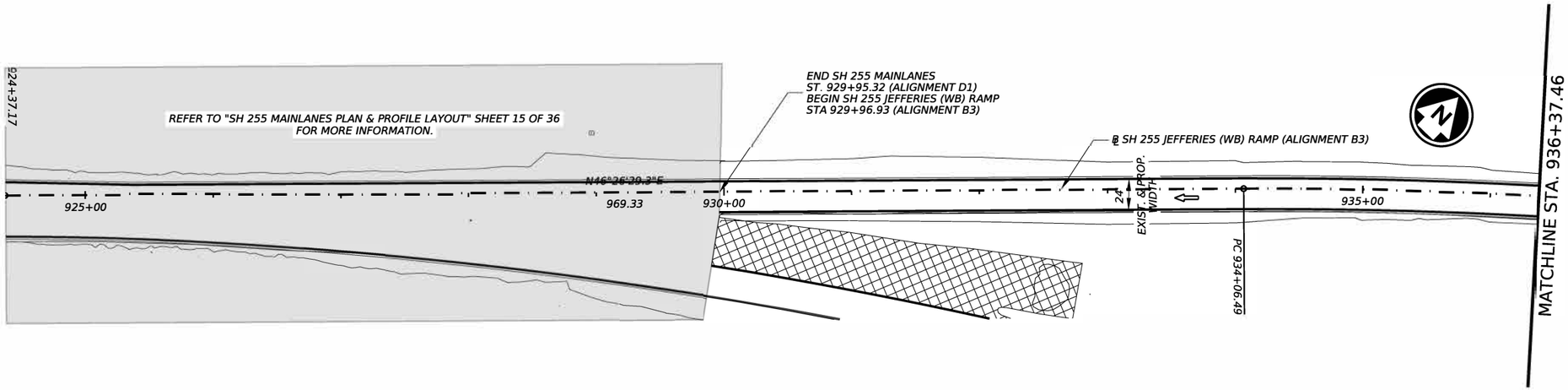
DATE: 5/10/2024 11:50:07 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1051405\SH255_PP_PLAN_36.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- EXIST. AREA TO REMAIN

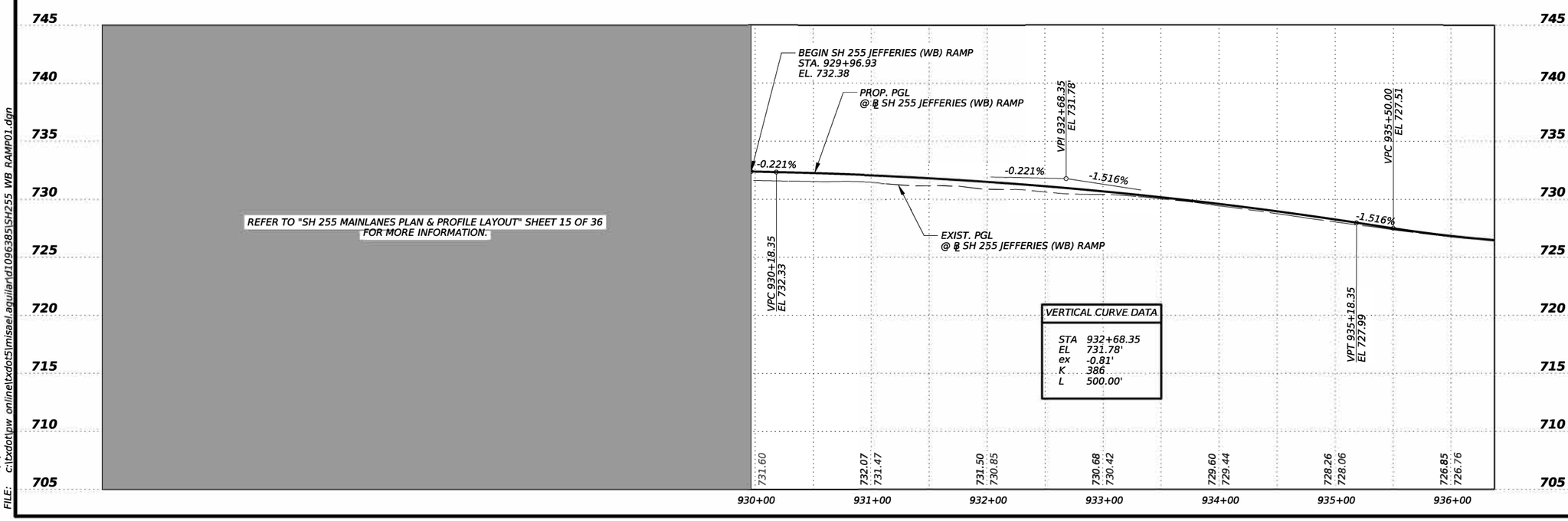


NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (WB) RAMP PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 1 OF 4

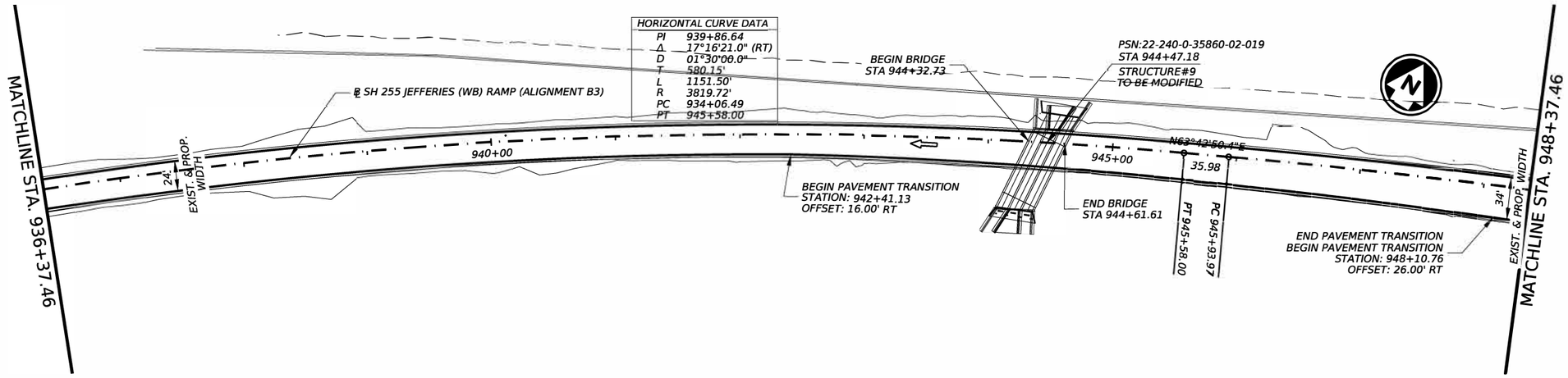
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	145

DATE: 5/9/2024 11:17:58 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH255_WB_RAMP01.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



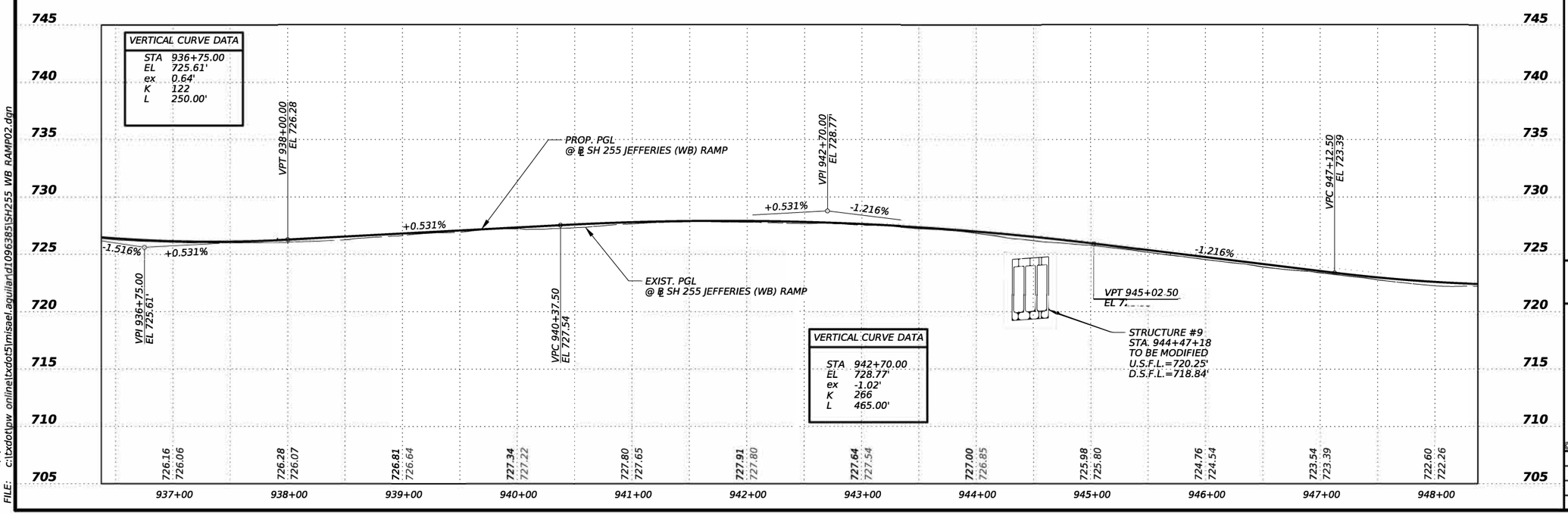
NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (WB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 2 OF 4

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	146

DATE: 5/9/2024 11:18:12 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH255_WB_RAMP02.dgn

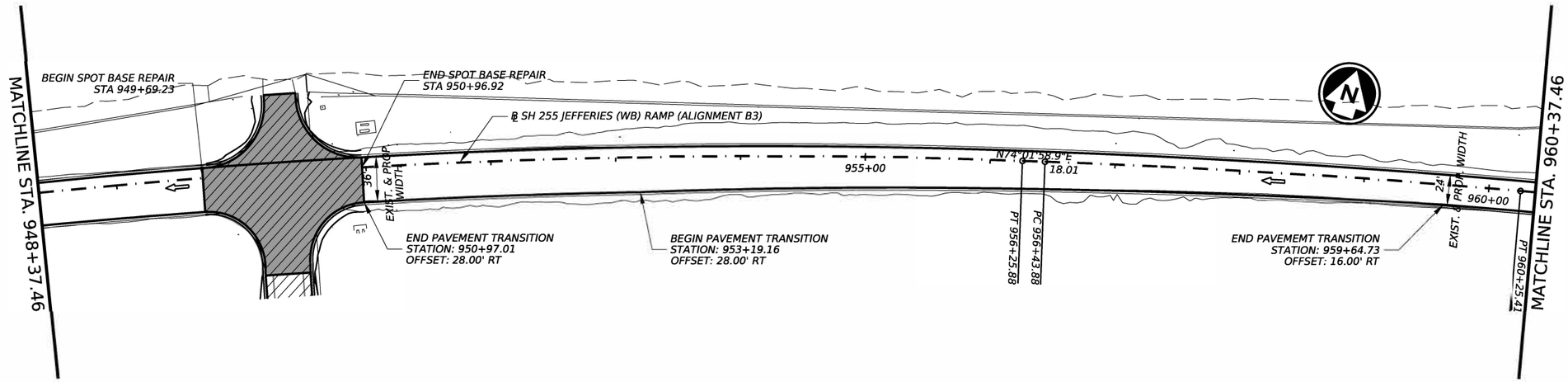
ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- PROPOSED SPOT BASE REPAIR (12.5") (SEE "SH 255 JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL" SHEET(S) FOR MORE INFORMATION.)

- PROPOSED (2.5" OVERLAY) (SEE "SH 255 JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL" SHEET(S) FOR MORE INFORMATION.)



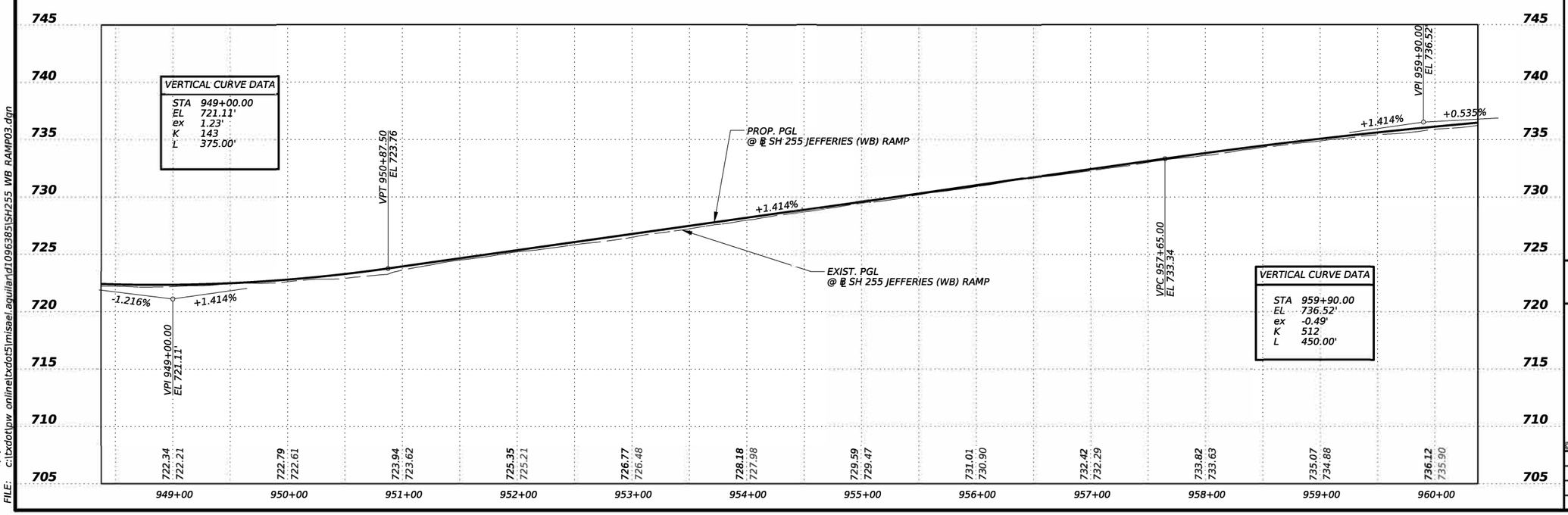
NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 DRIVEWAY CROSS SECTION DETAILS" SHEET(S) FOR ADDITIONAL INFORMATION.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (WB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 3 OF 4

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	147

DATE: 5/9/2024 11:18:25 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1096385\SH255_WB_RAMP03.dgn

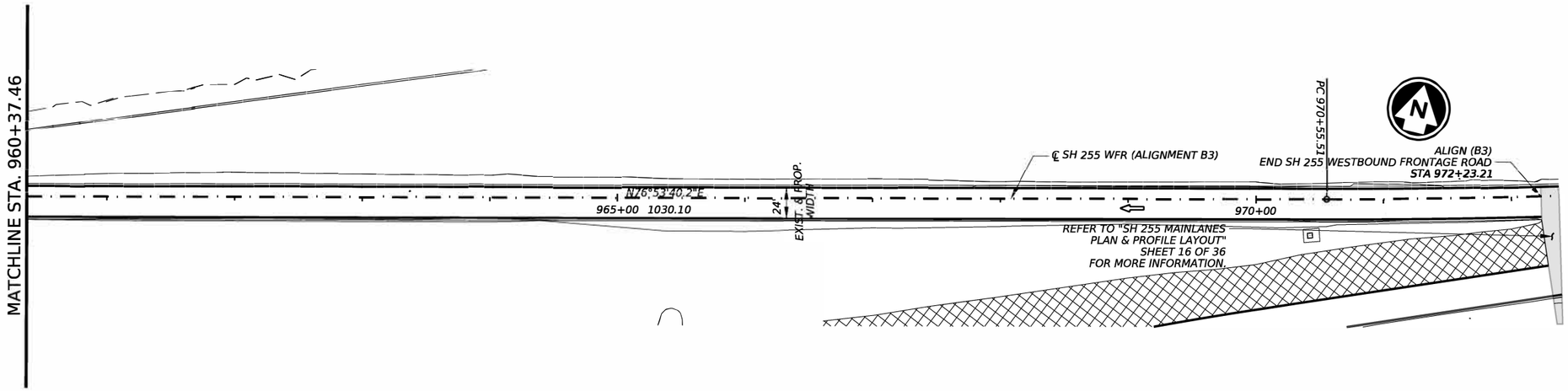
DN: CK: DW: CK:

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- EXIST. AREA TO REMAIN

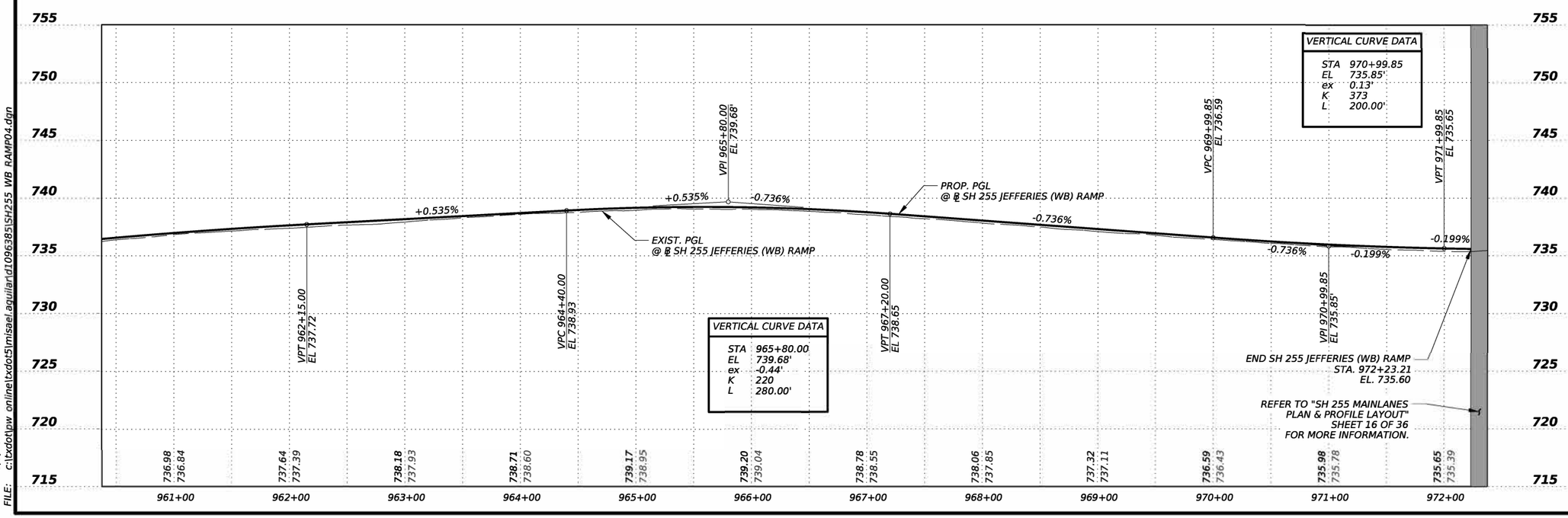


NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	965+80.00
EL	739.68'
ex	-0.44'
K	220
L	280.00'

VERTICAL CURVE DATA

STA	970+99.85
EL	735.85'
ex	0.13'
K	373
L	200.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (WB) RAMP PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 4 OF 4

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	148

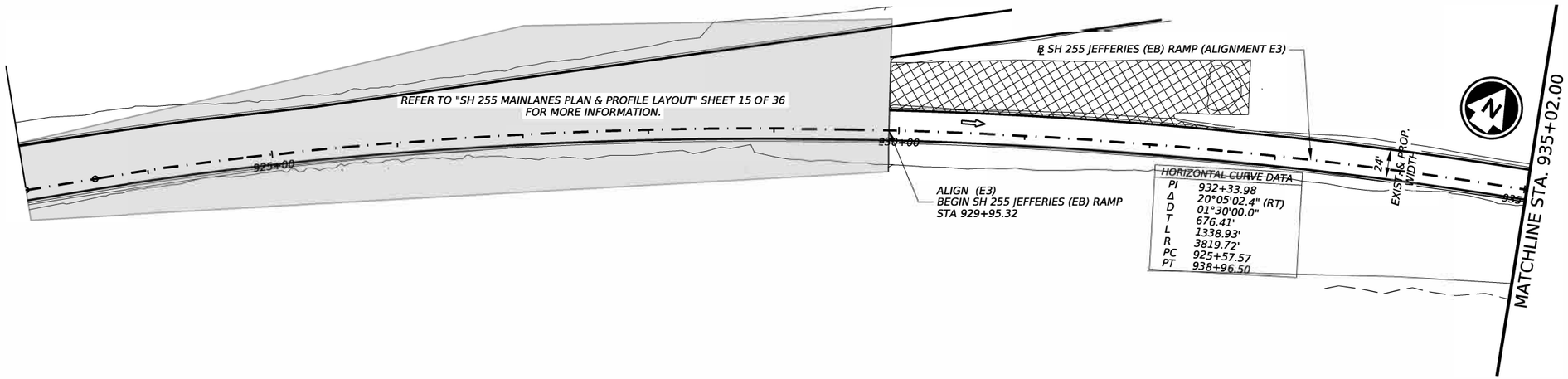
DATE: 5/9/2024 11:18:38 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH255_WB_RAMP04.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- EXIST. AREA TO REMAIN



HORIZONTAL CURVE DATA

PI	932+33.98
Δ	20°05'02.4" (RT)
D	01°30'00.0"
T	676.41'
L	1338.93'
R	3819.72'
PC	925+57.57
PT	938+96.50

NOTES:

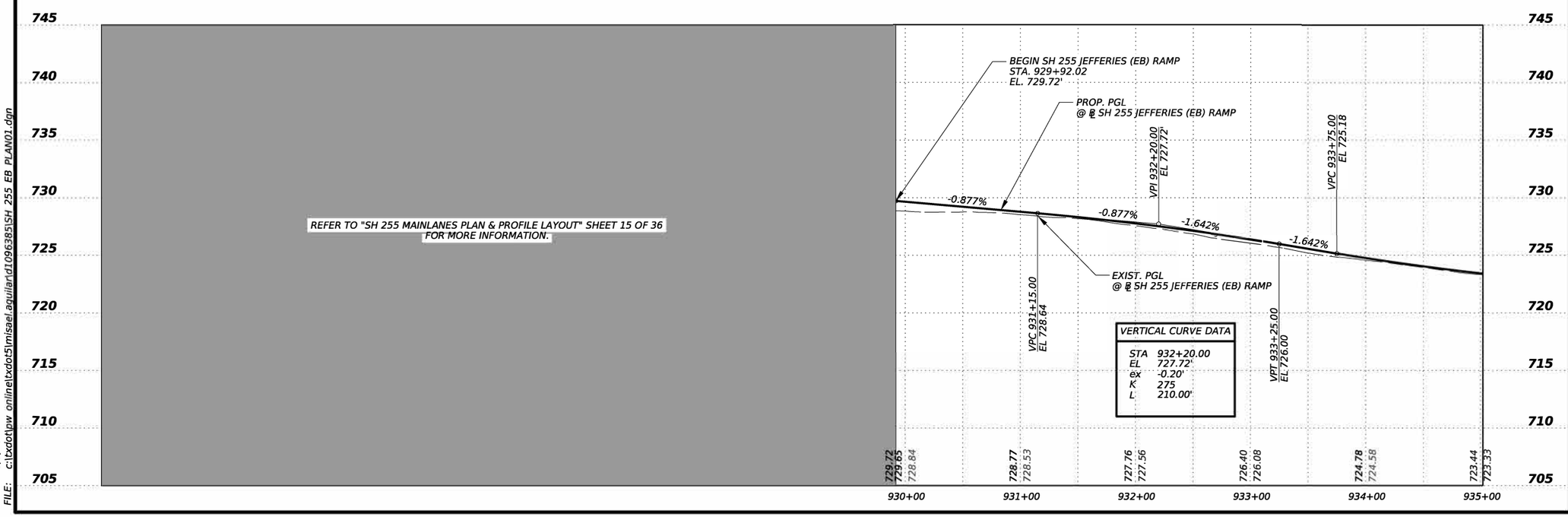
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA

STA	932+20.00
EL	727.72'
ex	-0.20'
K	275
L	210.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (EB) RAMP PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 1 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	149

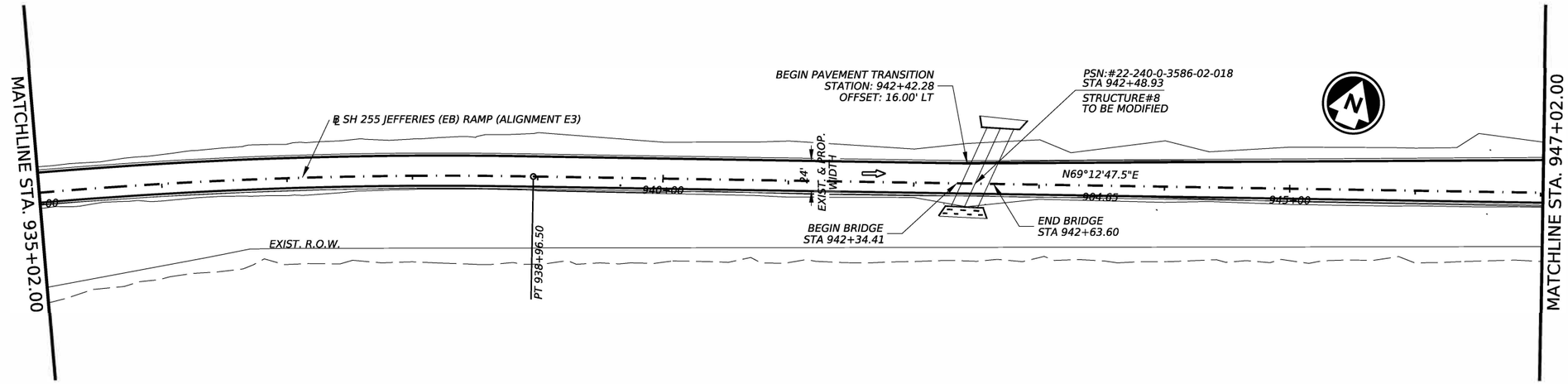
DATE: 5/9/2024 11:18:52 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH_255_EB_PLAN01.dgn

DN: CK: DW: CK:

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

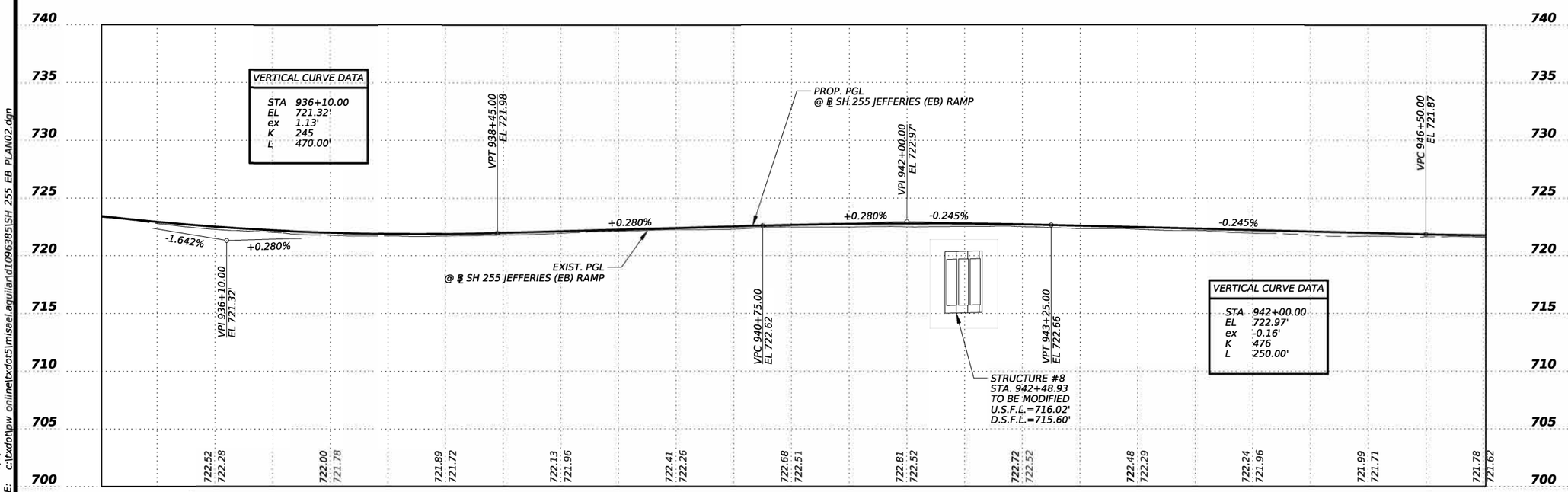
SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

SEE "SH 255 STRUTURE CROSS SECTION DETAILS" SHEET(S) FOR DRAINAGE STRUCTURE INFORMATION.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (EB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 2 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	150

DATE: 5/9/2024 11:19:07 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH 255 EB PLAN02.dgn

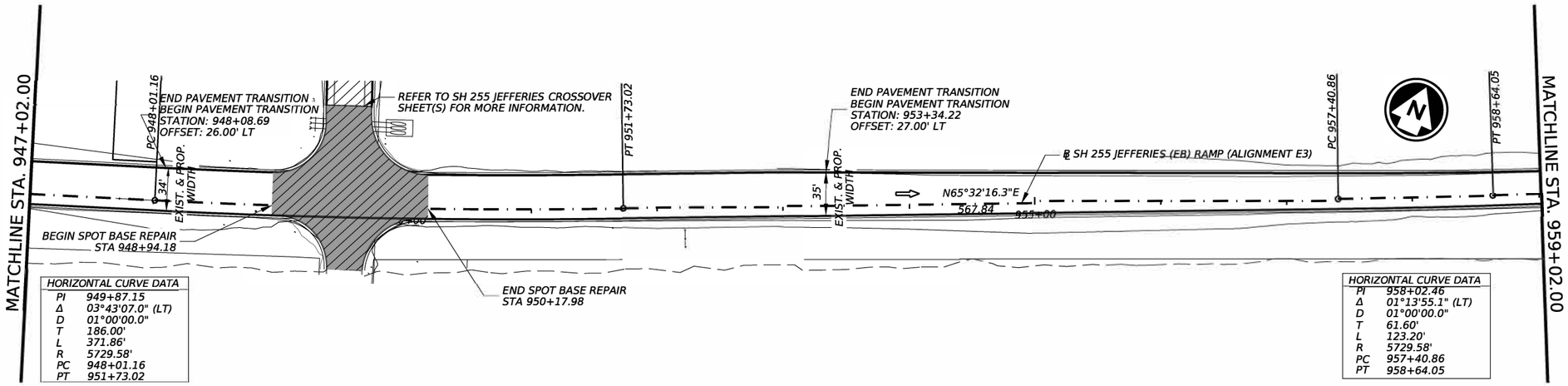
ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

■ - PROPOSED SPOT BASE REPAIR (12.5") SEE "SH 255 JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL" SHEET(S) FOR MORE INFORMATION.

▨ - PROPOSED OVERLAY (2.5") SEE "SH 255 JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL" SHEET(S) FOR MORE INFORMATION.



HORIZONTAL CURVE DATA	
PI	949+87.15
Δ	03°43'07.0" (LT)
D	01°00'00.0"
T	186.00'
L	371.86'
R	5729.58'
PC	948+01.16
PT	951+73.02

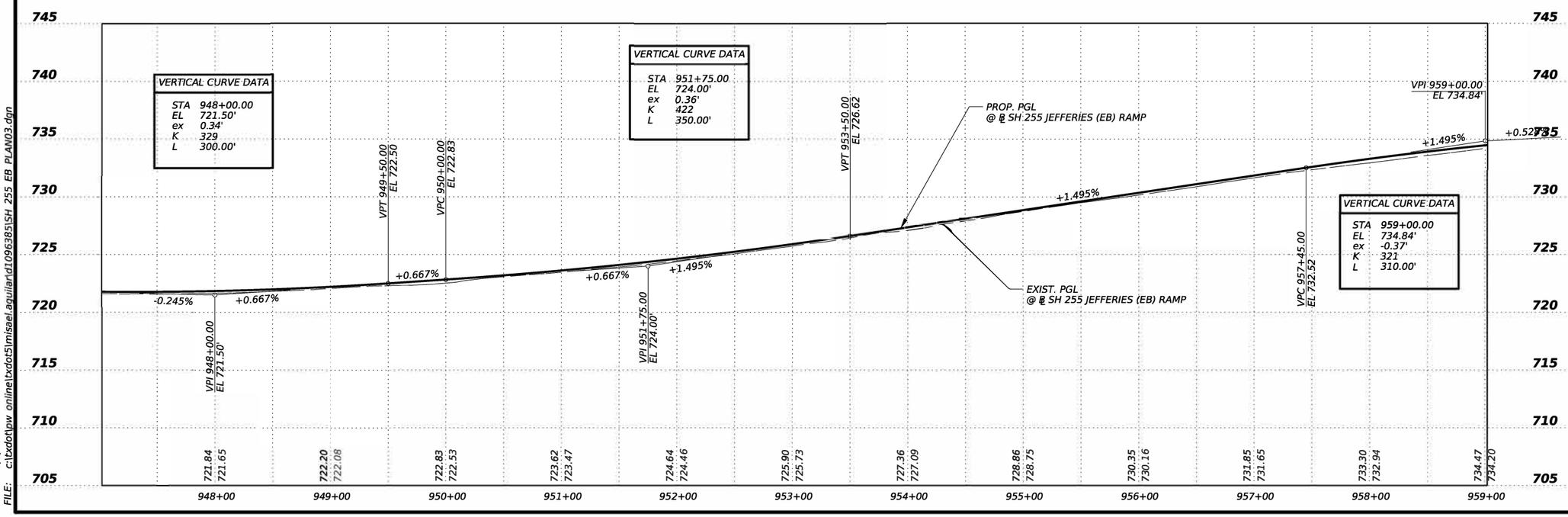
HORIZONTAL CURVE DATA	
PI	958+02.46
Δ	01°13'55.1" (LT)
D	01°00'00.0"
T	61.60'
L	123.20'
R	5729.58'
PC	957+40.86
PT	958+64.05

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (EB) RAMP PLAN & PROFILE LAYOUT

©TxDOT 2024

SHEET 3 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	151

DATE: 5/9/2024 11:19:19 AM
FILE: c:\txdot\pw_online\txdot15\misael.aguilar\d1096385\SH 255 EB PLAN03.dgn

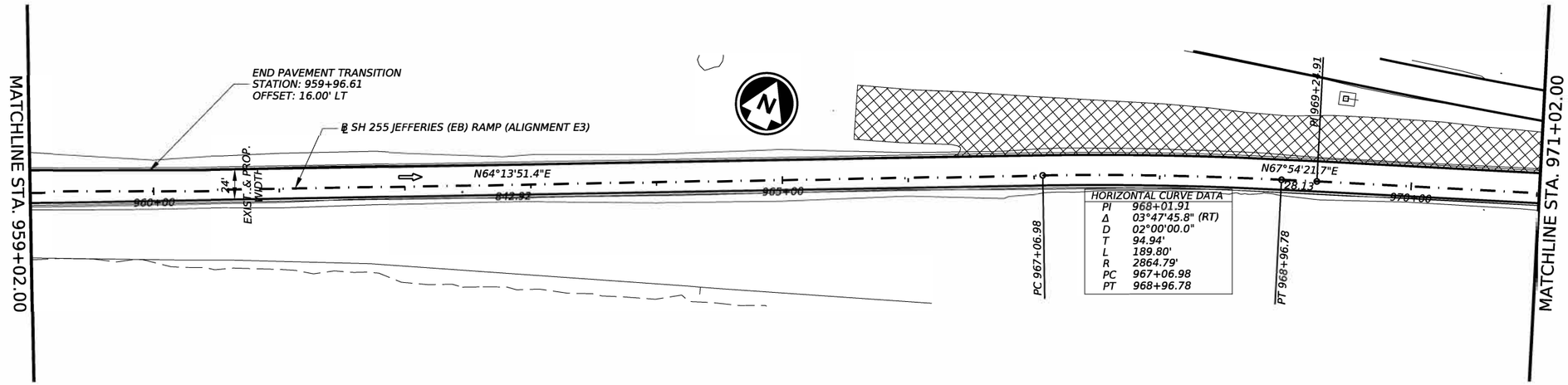
CK: DW: CK: DW:

ROADWAY LEGEND

PGL - PROP. GRADE LINE

PROP. DIRECTION OF TRAFFIC

EXIST. AREA TO REMAIN



HORIZONTAL CURVE DATA	
PI	968+01.91
Δ	03°47'45.8" (RT)
D	02°00'00.0"
T	94.94'
L	189.80'
R	2864.79'
PC	967+06.98
PT	968+96.78

NOTES:

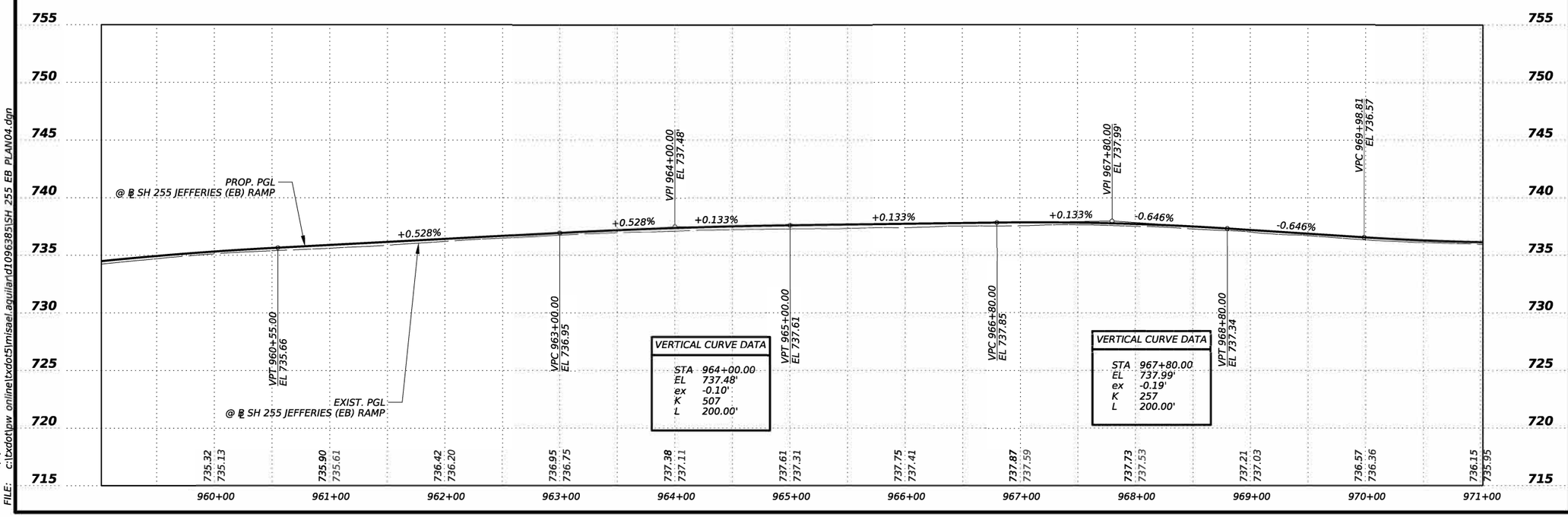
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA	
STA	964+00.00
EL	737.48'
ex	-0.10'
K	507
L	200.00'

VERTICAL CURVE DATA	
STA	967+80.00
EL	737.99'
ex	-0.19'
K	257
L	200.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

JEFFERIES (EB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 4 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	152

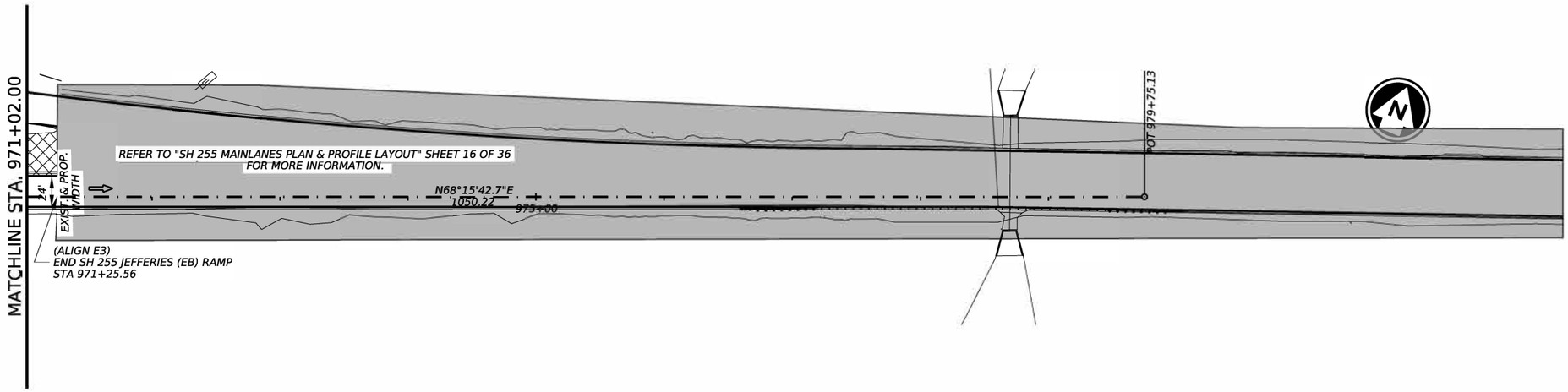
DATE: 5/9/2024 11:19:32 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH 255 EB PLAN04.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- EXIST. AREA TO REMAIN

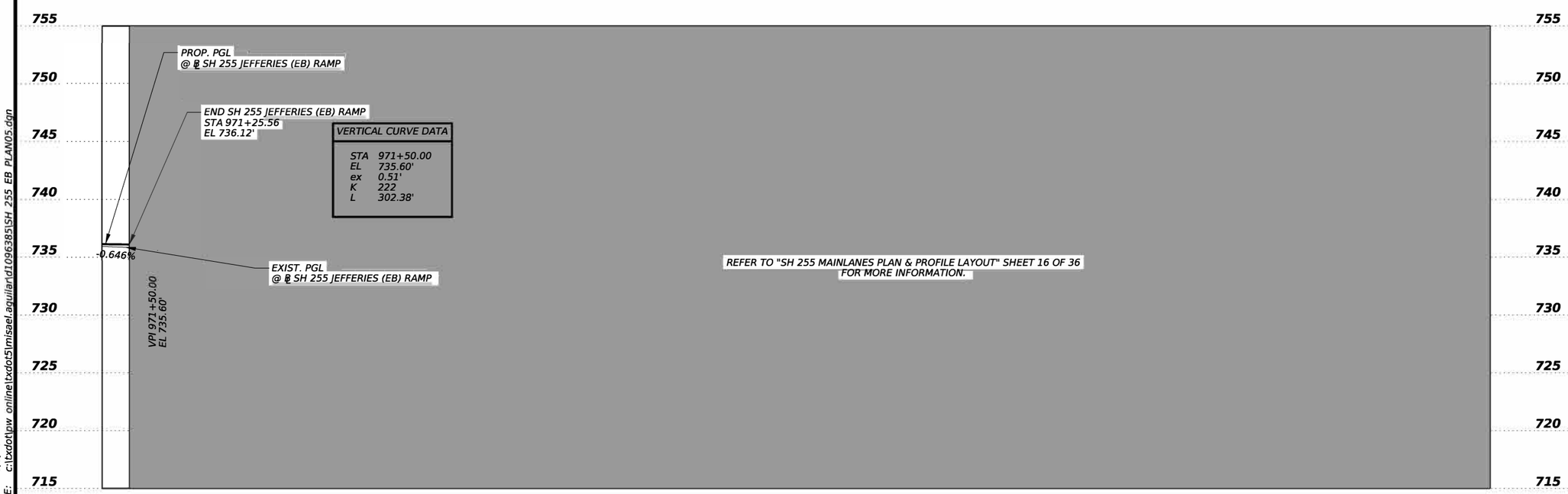


NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	971+50.00
EL	735.60'
ex	0.51'
K	222
L	302.38'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

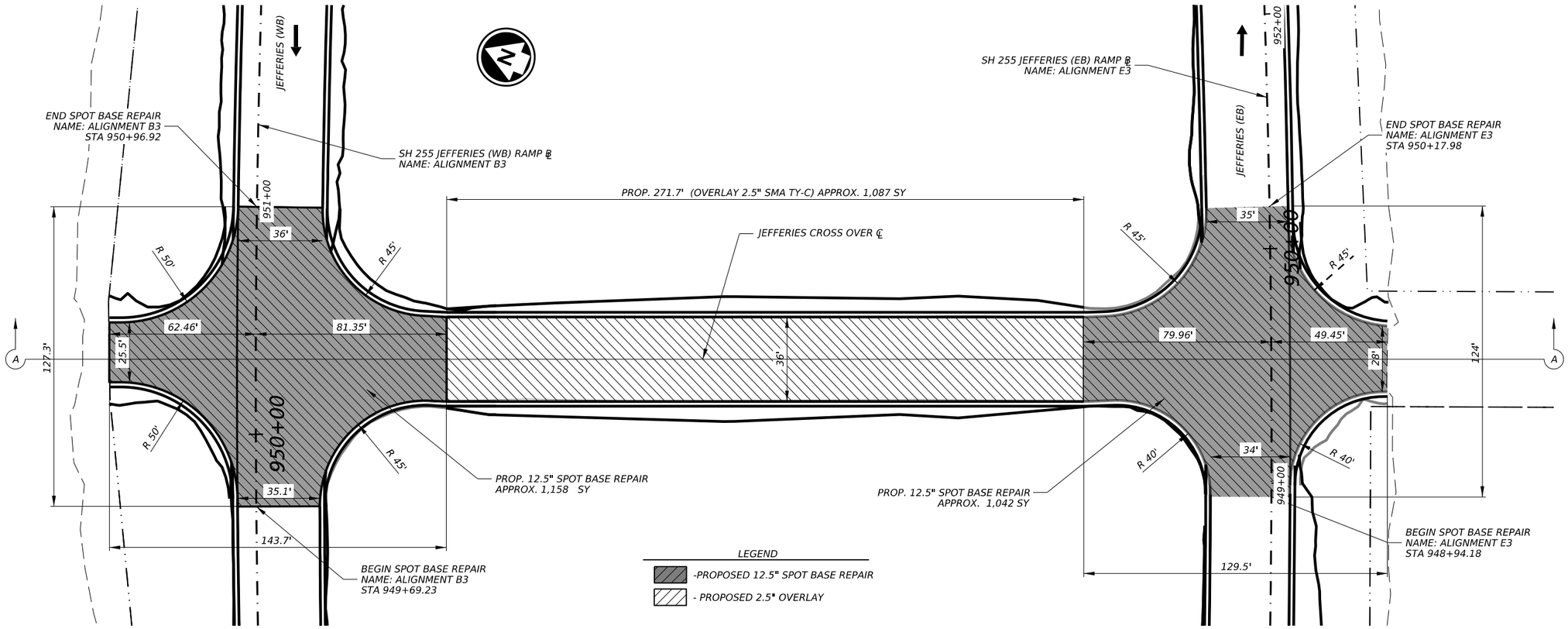
JEFFERIES (EB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 5 OF 5

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	153

DATE: 5/9/2024 11:19:46 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1096385\SH 255 EB PLAN05.dgn



RATES OF APPLICATION

SPOT BASE REPAIR (12.5"): STONE MATRIX ASPHALT (2.5"): -SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN BONDING COURSE REFER TO GENERAL NOTES HOT-MIX ASPHALT (10"): -D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN PRIME COAT: -AGGR (TY-PB GR-5 SAC-B) - 120 SY/CY -ASPH (AC-15P) - 0.20 GAL/SY MILL EXISTING MATERIAL (12.5")
OVERLAY: STONE MATRIX ASPHALT (2.5"): -SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN BONDING COURSE REFER TO GENERAL NOTES

NOTES:

REFER TO "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR PROFILE ELEVATIONS AND "SH 255 DRIVEWAY CROSS SECTION DETAILS" FOR INTERSECTION DETAILS ALONG JEFFEREIES WB AND EB.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B129888F4E9...50

0 50
SCALE IN FEET

Texas Department of Transportation

SH 255

JEFFERIES (WB & EB) RAMPS CROSSOVER DETAIL

©TxDOT 2024

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		154

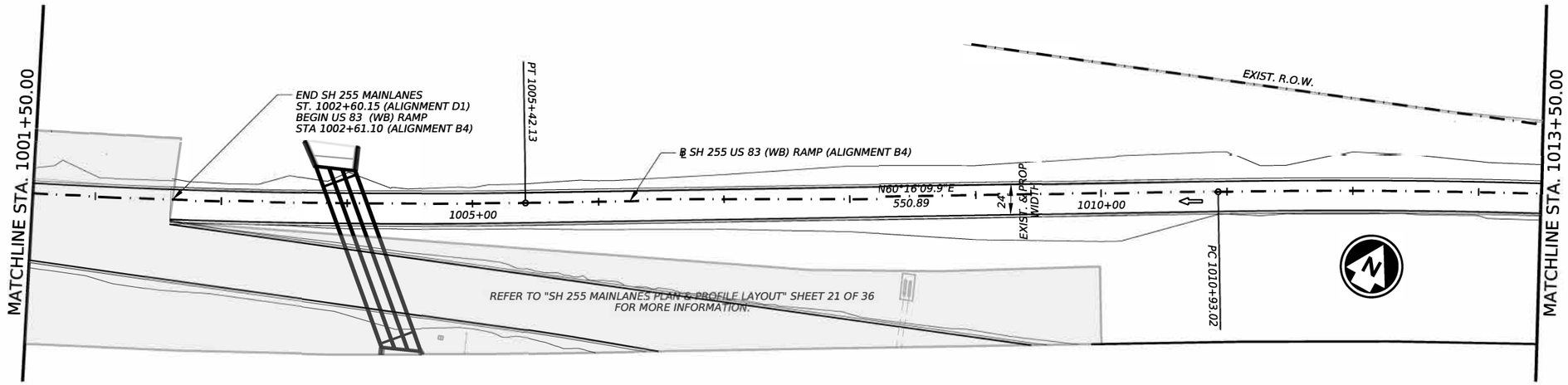
DATE: 4/9/2024 9:33:00 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006jeffcrossdet.dgn

CK
DW
CK
DN

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

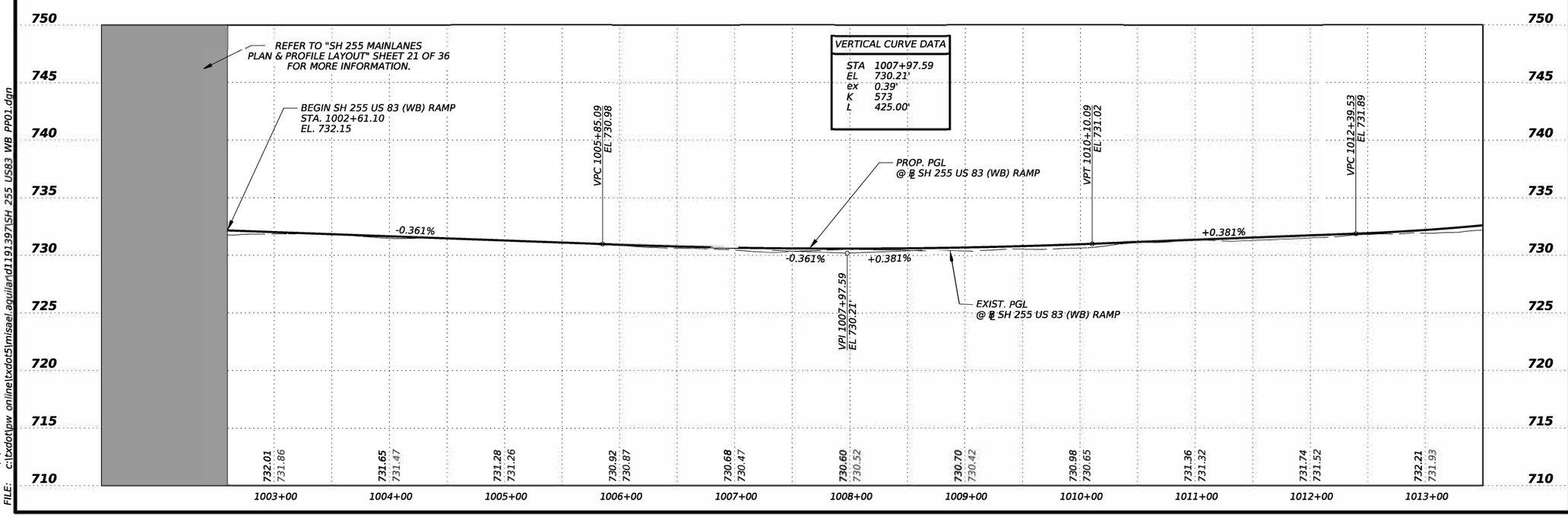


NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (WB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 1 OF 4

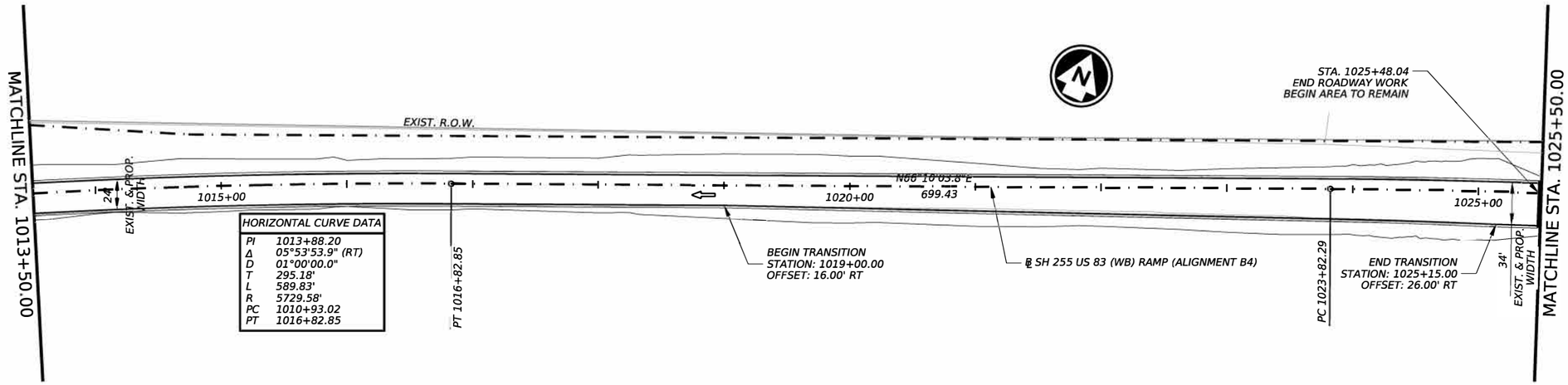
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	155

DATE: 5/9/2024 11:52:19 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1191397\SH 255 US83 WB PP01.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



HORIZONTAL CURVE DATA	
PI	1013+88.20
Δ	05°53'53.9" (RT)
D	01°00'00.0"
T	295.18'
L	589.83'
R	5729.58'
PC	1010+93.02
PT	1016+82.85

NOTES:

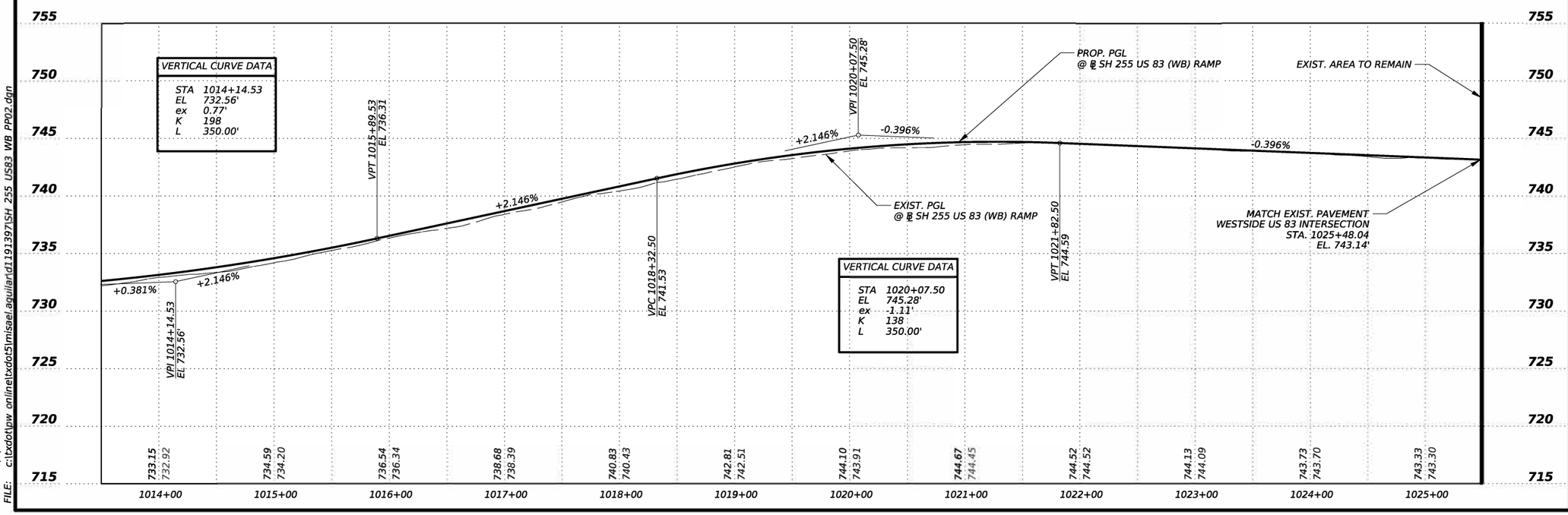
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA	
STA	1014+14.53
EL	732.56'
ex	0.77'
K	198
L	350.00'

VERTICAL CURVE DATA	
STA	1020+07.50
EL	745.28'
ex	-1.11'
K	138
L	350.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

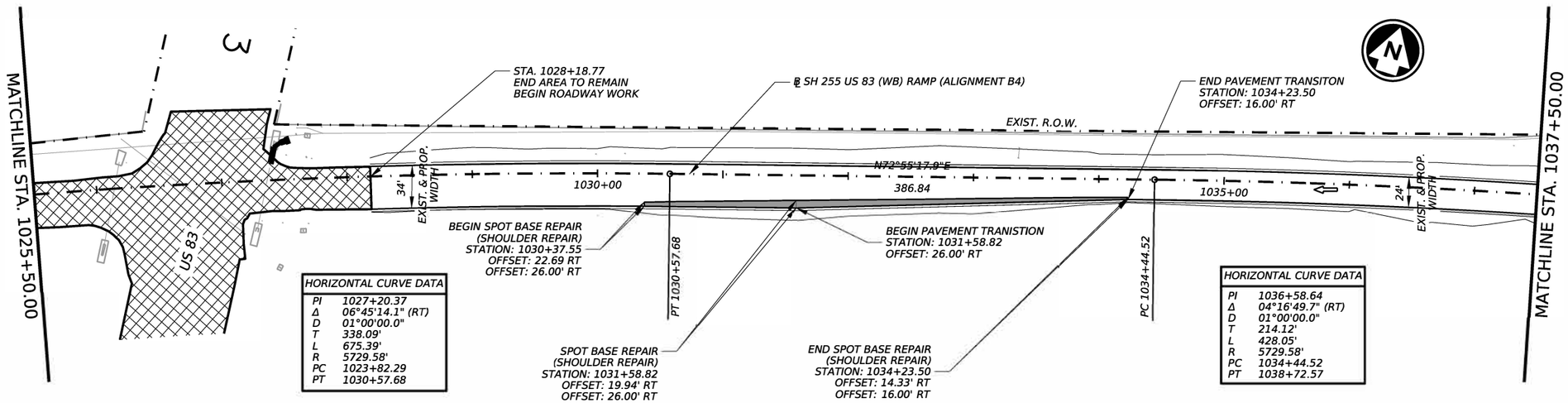
US 83 (WB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 2 OF 4

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	156

DATE: 5/9/2024 11:52:35 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d119139?\SH 255 US83 WB PP02.dgn



HORIZONTAL CURVE DATA	
PI	1027+20.37
Δ	06°45'14.1" (RT)
D	01°00'00.0"
T	338.09'
L	675.39'
R	5729.58'
PC	1023+82.29
PT	1030+57.68

HORIZONTAL CURVE DATA	
PI	1036+58.64
Δ	04°16'49.7" (RT)
D	01°00'00.0"
T	214.12'
L	428.05'
R	5729.58'
PC	1034+44.52
PT	1038+72.57

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- EXIST. AREA TO REMAIN

SPOT BASE REPAIR (12.5"):

SPOT BASE WILL CONSIST OF THE FOLLOWING:
STONE MATRIX ASPHALT (2.5"):
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT (10"):
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 120 SY/CY
-ASPH (AC-15P) - 0.20 GAL/SY

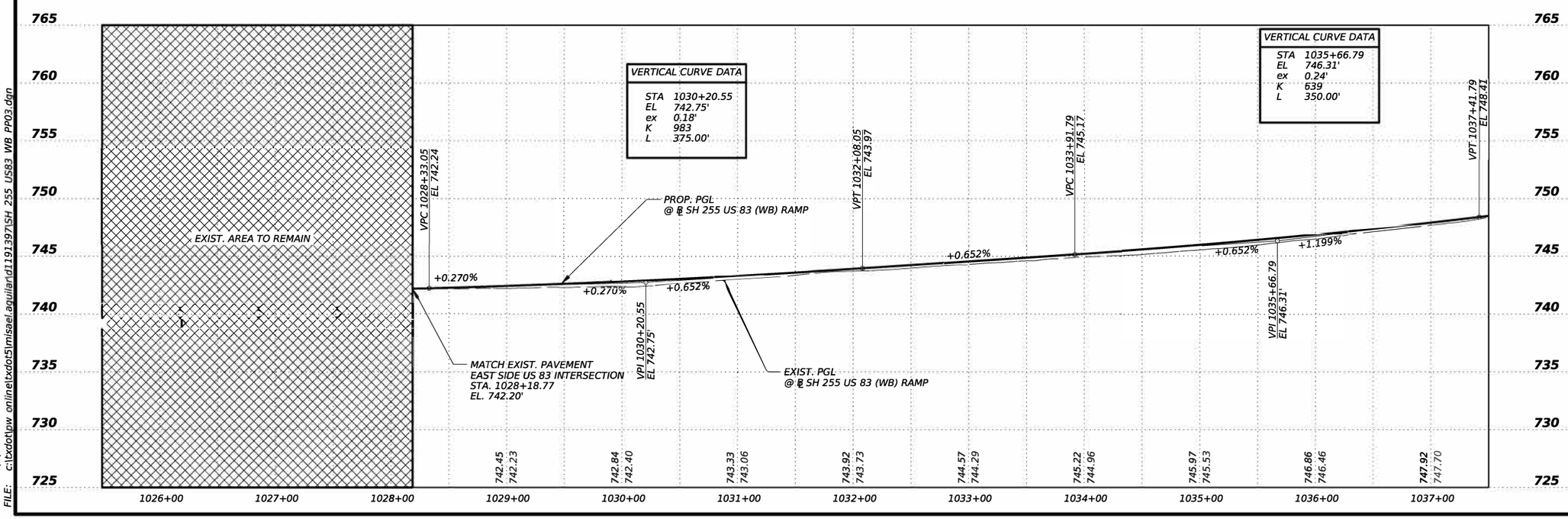
MILL EXISTING MATERIAL (12.5")

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET'' SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA	
STA	1030+20.55
EL	742.75'
ex	0.18'
K	983
L	375.00'

VERTICAL CURVE DATA	
STA	1035+66.79
EL	746.31'
ex	0.24'
K	639
L	350.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (WB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 3 OF 4

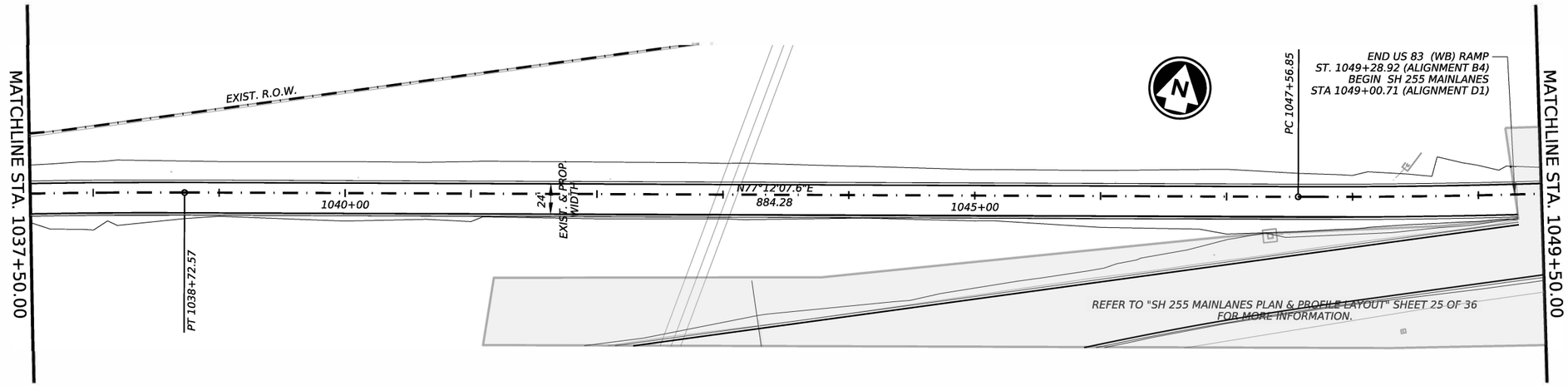
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	157

DATE: 5/9/2024 11:52:53 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1191397\SH_255_US83_WB_PP03.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC

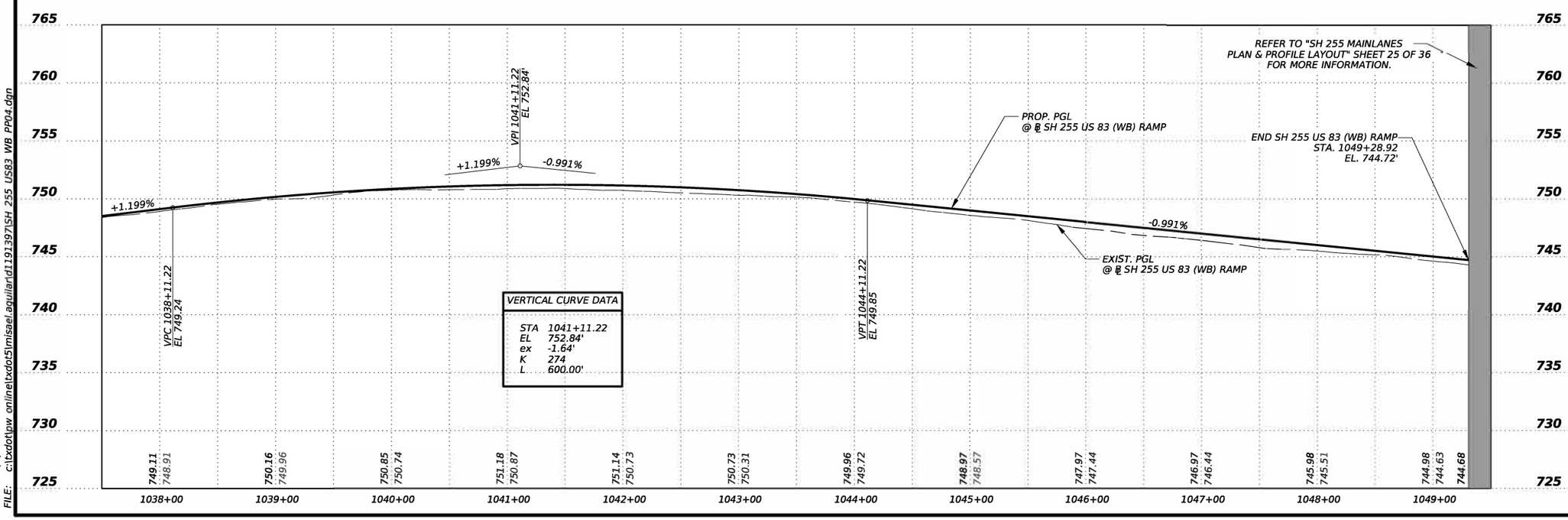


NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA

STA	1041+11.22
EL	752.84'
ex	-1.64'
K	274
L	600.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (WB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 4 OF 4

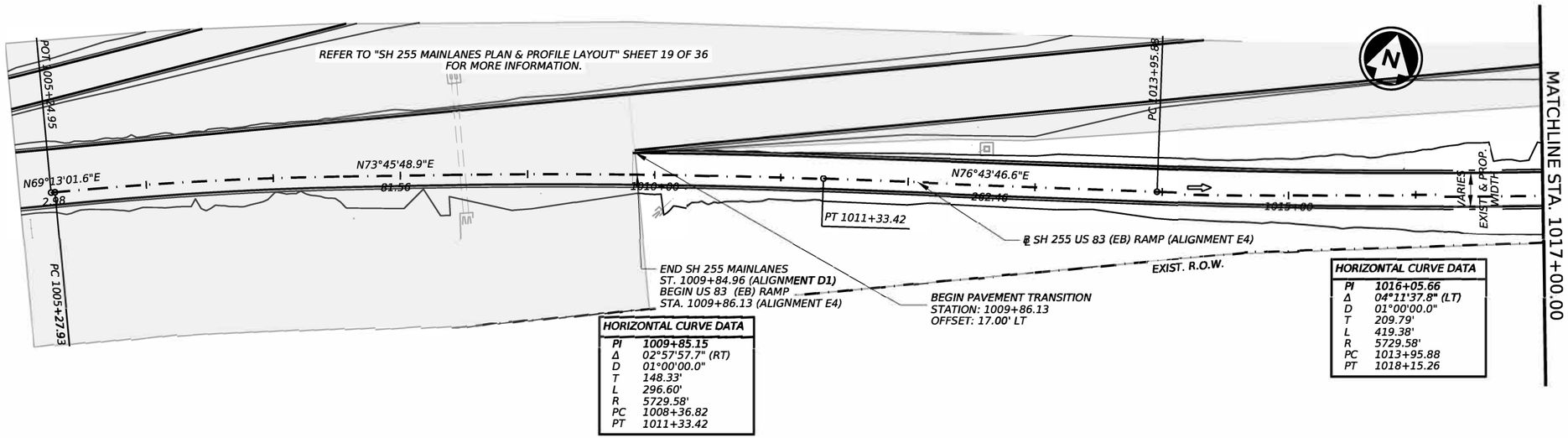
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	158

DATE: 5/9/2024 11:53:07 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilard119397\SH 255 US83 WB PP04.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



HORIZONTAL CURVE DATA	
PI	1009+85.15
Δ	02°57'57.7" (RT)
D	01°00'00.0"
T	148.33'
L	296.60'
R	5729.58'
PC	1008+36.82
PT	1011+33.42

HORIZONTAL CURVE DATA	
PI	1016+05.66
Δ	04°11'37.8" (LT)
D	01°00'00.0"
T	209.79'
L	419.38'
R	5729.58'
PC	1013+95.88
PT	1018+15.26

NOTES:

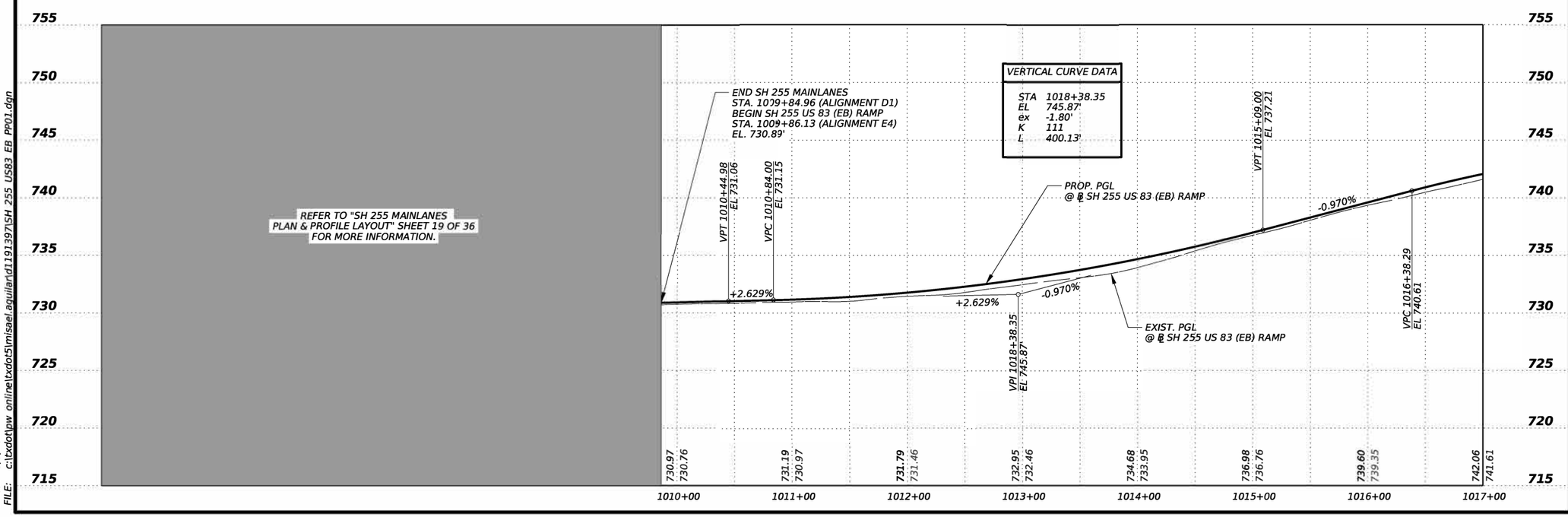
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA	
STA	1018+38.35
EL	745.87'
ex	-1.80'
K	111
L	400.13'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (EB) RAMP PLAN & PROFILE LAYOUT

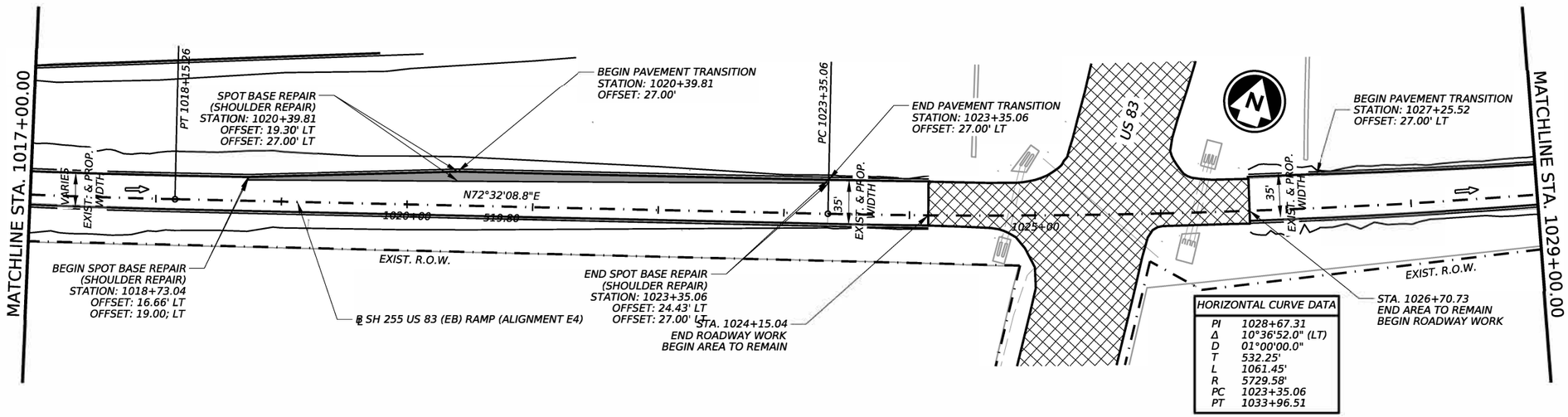
©TxDOT 2024

SHEET 1 OF 4

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	159

DATE: 5/9/2024 11:53:23 AM

FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1191397\SH 255 US83 EB PP01.dgn



HORIZONTAL CURVE DATA	
PI	1028+67.31
Δ	10°36'52.0" (LT)
D	01°00'00.0"
T	532.25'
L	1061.45'
R	5729.58'
PC	1023+35.06
PT	1033+96.51

ROADWAY LEGEND

PGL - PROP. GRADE LINE

- PROP. DIRECTION OF TRAFFIC

- EXIST. AREA TO REMAIN

SPOT BASE REPAIR (12.5"):

SPOT BASE WILL CONSIST OF THE FOLLOWING:
STONE MATRIX ASPHALT (2.5"):
-SMA TY-C PG 76-22 SAC-A 115 LBS/SY/IN

BONDING COURSE REFER TO GENERAL NOTES

HOT-MIX ASPHALT (10"):
-D-GR HMA TY-B PG70-22 SAC-B- 120 LBS/SY/IN

PRIME COAT:
-AGGR (TY-PB GR-5 SAC-B) - 120 SY/CY
-ASPH (AC-15P) - 0.20 GAL/SY

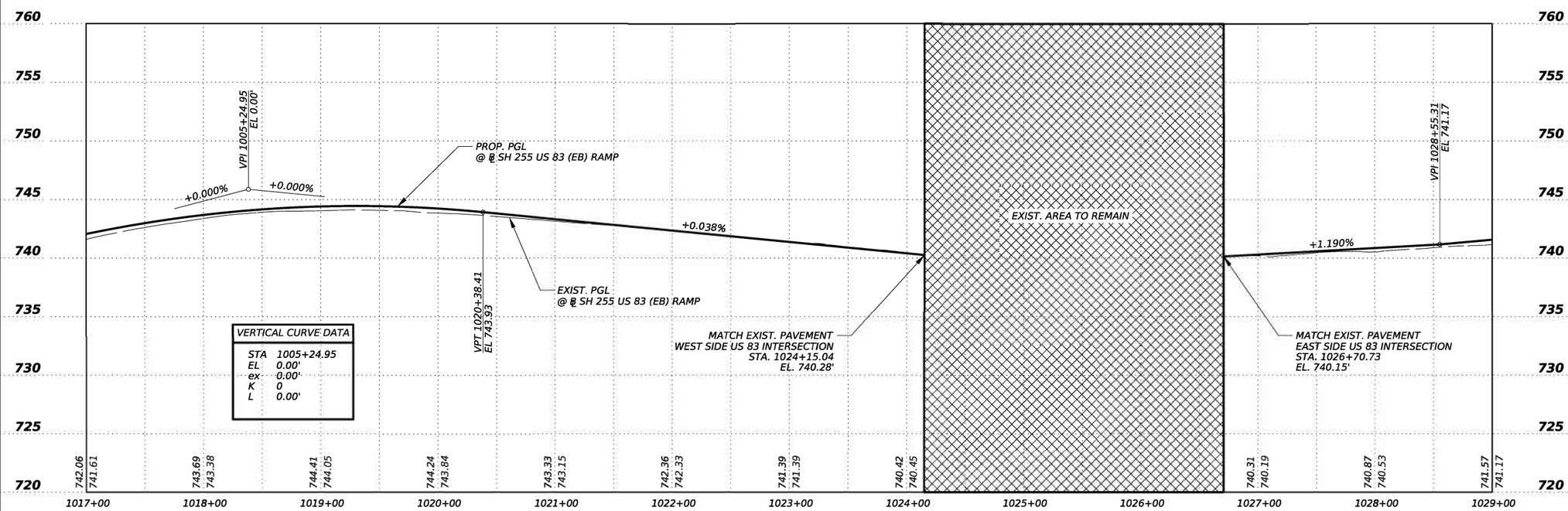
MILL EXISTING MATERIAL (12.5")

NOTES:

SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100
VERT. 0 5 10
SCALE IN FEET



VERTICAL CURVE DATA	
STA	1005+24.95
EL	0.00'
ex	0.00'
K	0
L	0.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (EB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 2 OF 4

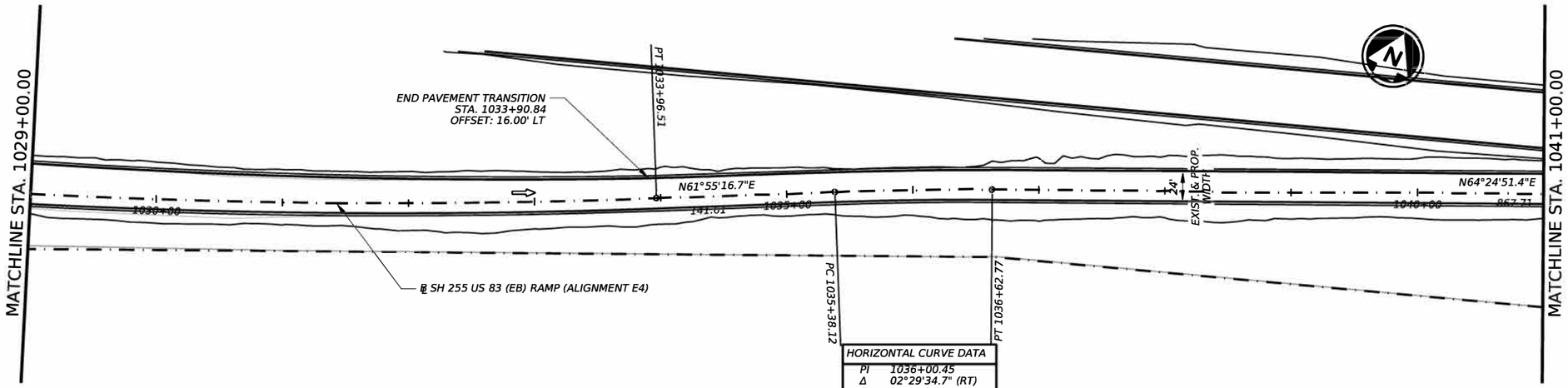
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	160

DATE: 5/9/2024 11:53:39 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1191397\SH_255_US83_EB_PP02.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



HORIZONTAL CURVE DATA	
PI	1036+00.45
Δ	02°29'34.7" (RT)
D	02°00'00.0"
T	62.33'
L	124.65'
R	2864.79'
PC	1035+38.12
PT	1036+62.77

NOTES:

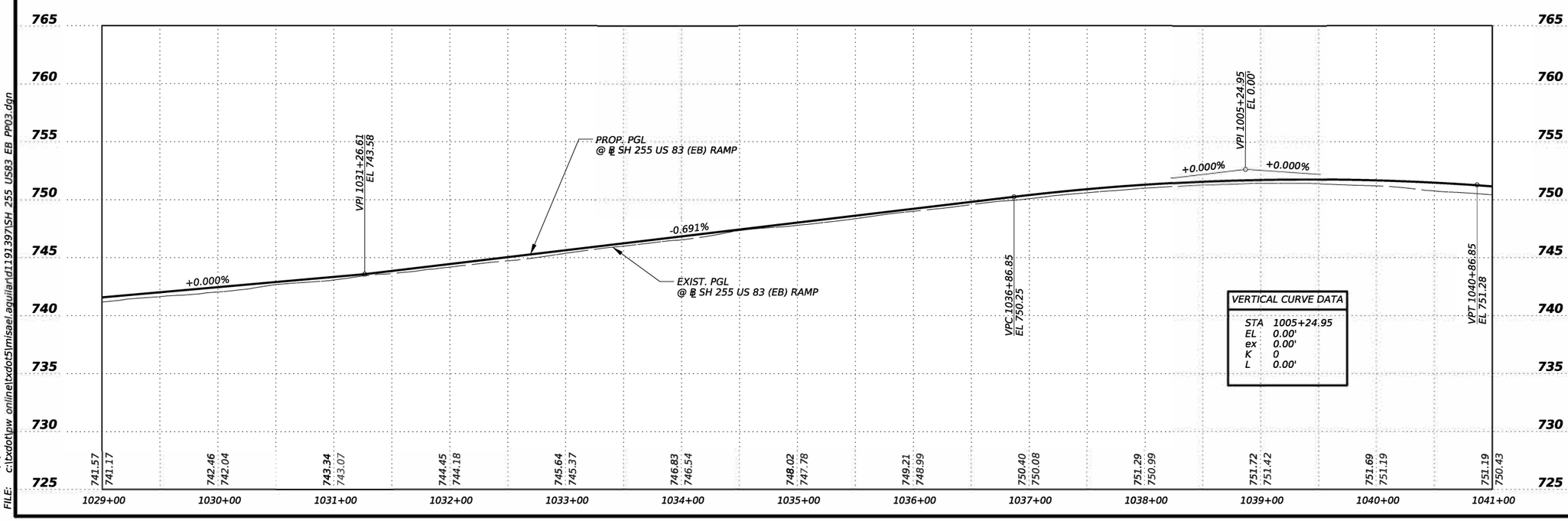
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



VERTICAL CURVE DATA	
STA	1005+24.95
EL	0.00'
ex	0.00'
K	0
L	0.00'

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (EB) RAMP
PLAN & PROFILE
LAYOUT

©TxDOT 2024

SHEET 3 OF 4

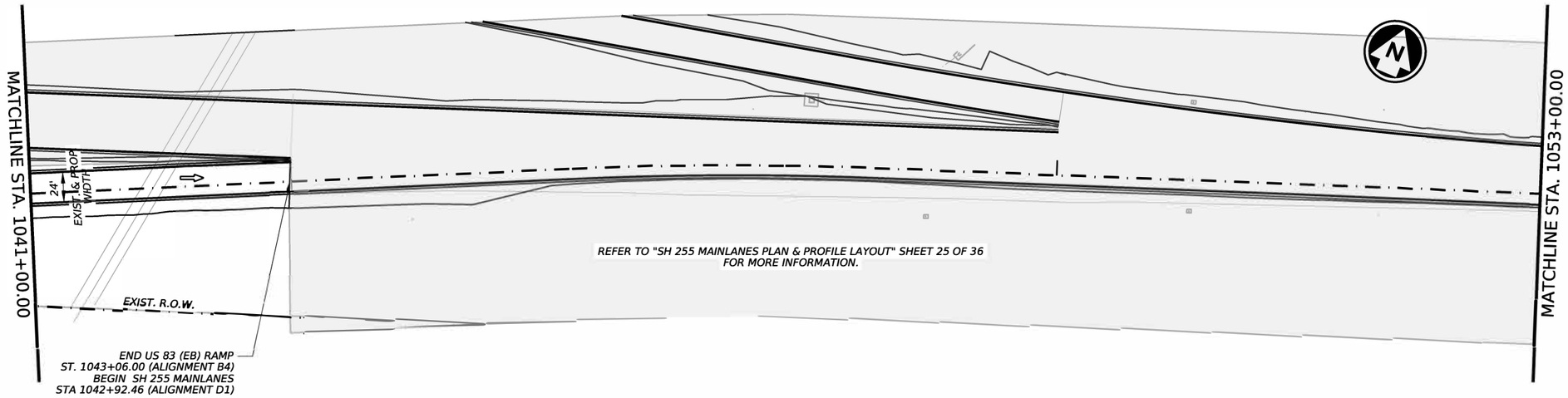
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	161

DATE: 5/9/2024 11:53:54 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1191397\SH 255 US83 EB PP03.dgn

ROADWAY LEGEND

PGL - PROP. GRADE LINE

⇦ - PROP. DIRECTION OF TRAFFIC



NOTES:

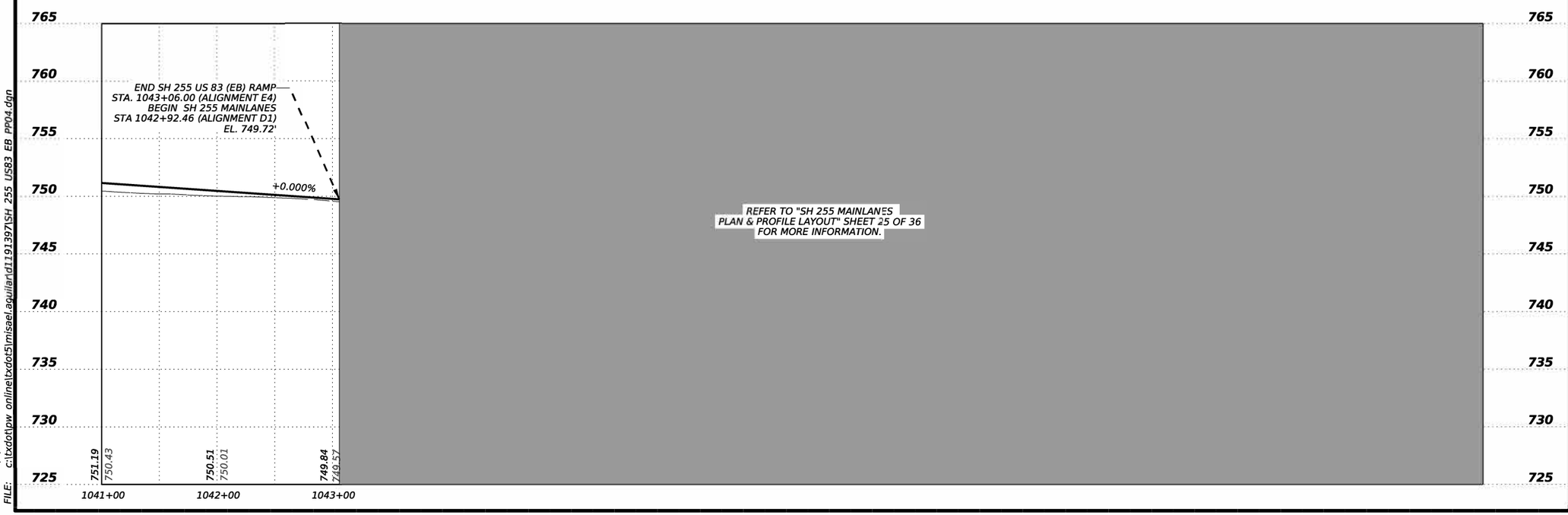
SEE "SH 255 FROM FM-3338 TO IH-35 CONTROL INDEX SHEET" SHEET(S) FOR MORE SURVEY CONTROL INFORMATION.

SEE "SH 255 GEOMETRIC DATA SHEET" SHEET(S) FOR ALIGNMENT, CROSS SLOPE & SUPERELEVATION DATA.

HORIZ. 0 50 100

VERT. 0 5 10

SCALE IN FEET



STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE5B149888F4E9...

Texas Department of Transportation

SH 255

US 83 (EB) RAMP
PLAN & PROFILE
LAYOUT

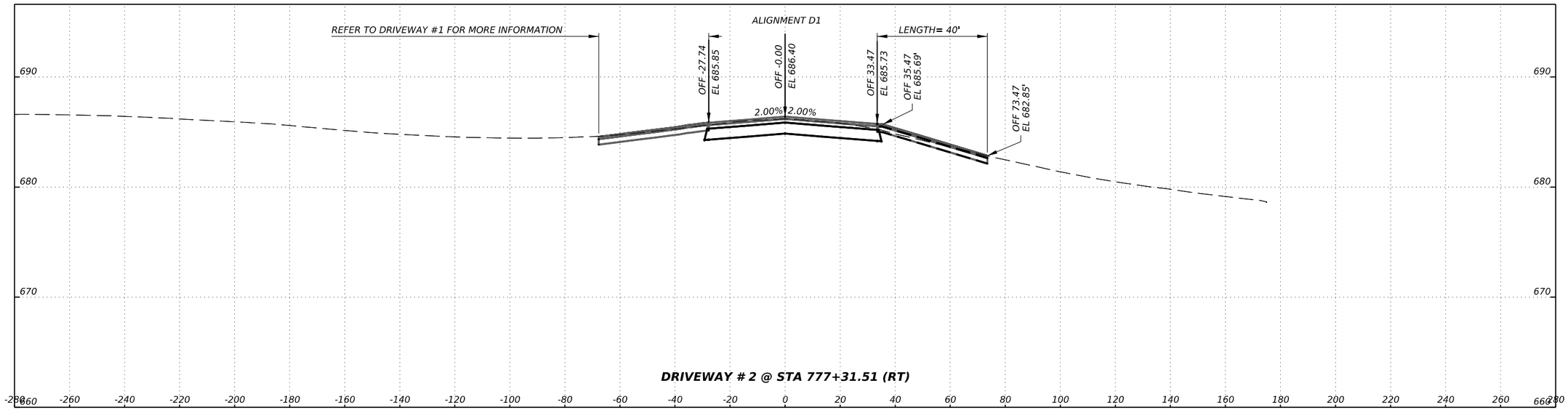
©TxDOT 2024

SHEET 4 OF 4

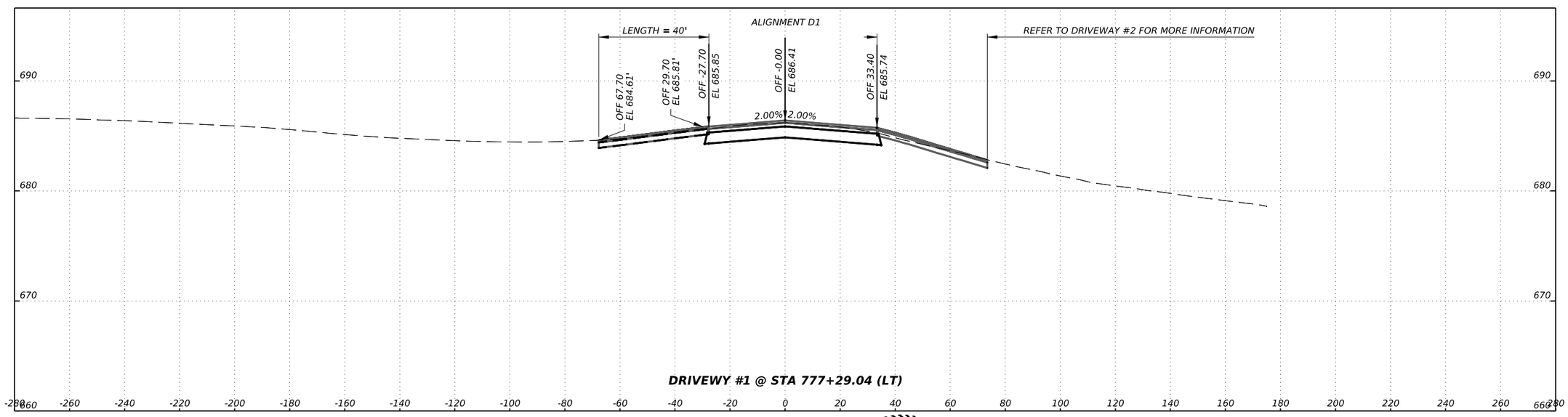
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	162

DATE: 5/9/2024 11:54:10 AM
FILE: c:\txdot\pw_online\txdot15\misael.aguilar\d1191397\SH 255 US83 EB PP04.dgn

CK: DW: CK: DW:



DRIVEWAY # 2 @ STA 777+31.51 (RT)



DRIVEWY #1 @ STA 777+29.04 (LT)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888E4E9...

SH 255

DRIVEWAY CROSS SECTION DETAILS

Texas Department of Transportation

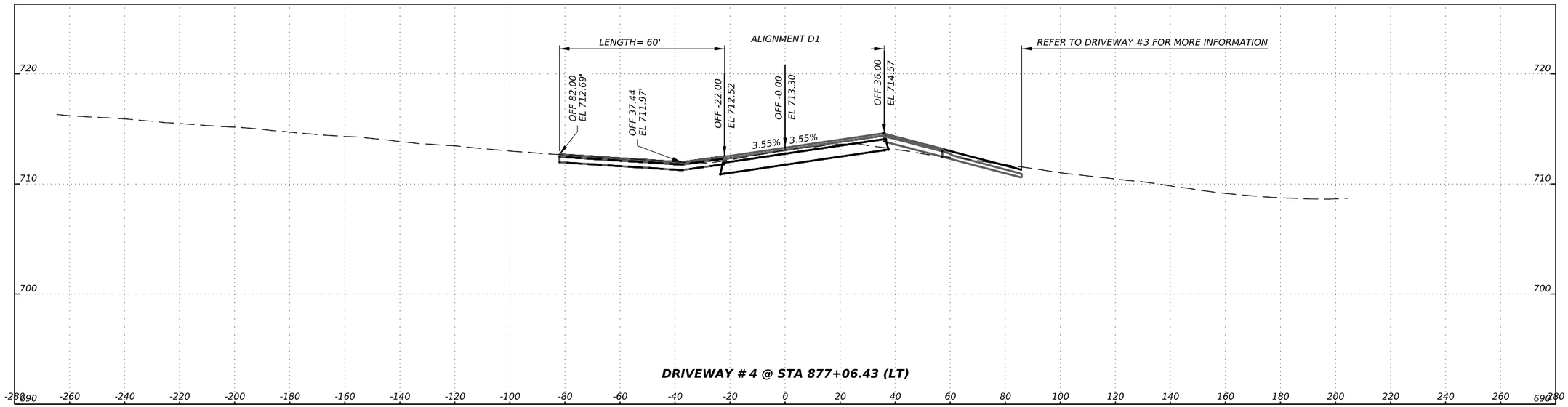
©TxDOT 2024

SHEET 1 OF 3

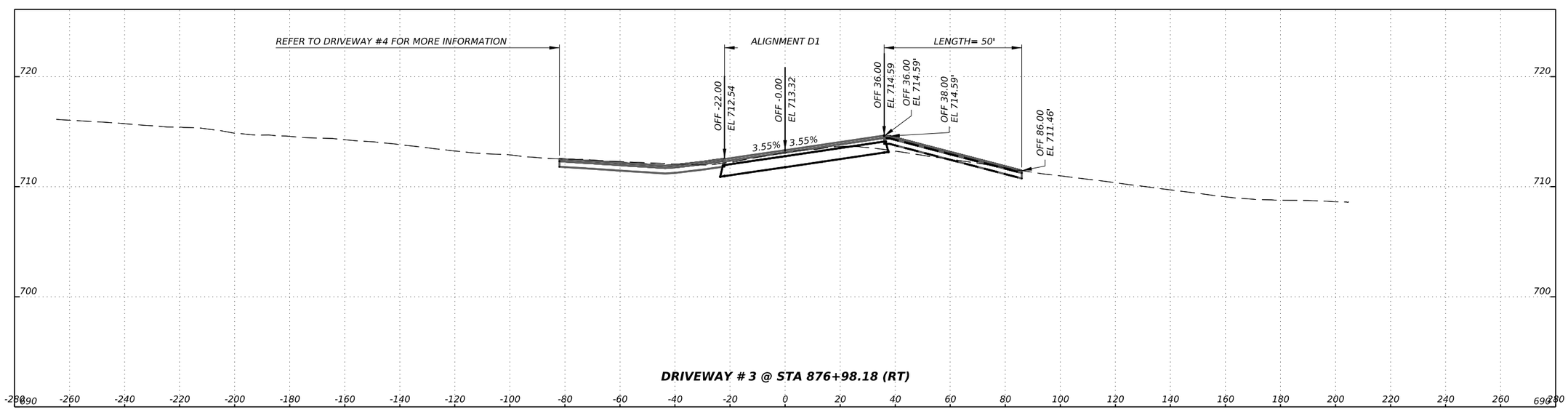
CONT	SECT	JOB	HIGHWAY	DIST	COUNTY	SHEET NO.
3586	02	006	SH 255	22	WEBB	163

DATE: 4/10/2024 2:16:00 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006_drwyxsecl\layout.dgn

CK: DW: CK: DW:



DRIVEWAY # 4 @ STA 877+06.43 (LT)



DRIVEWAY # 3 @ STA 876+98.18 (RT)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8FE5B149888F4E9...

SH 255

DRIVEWAY CROSS SECTION DETAILS

Texas Department of Transportation

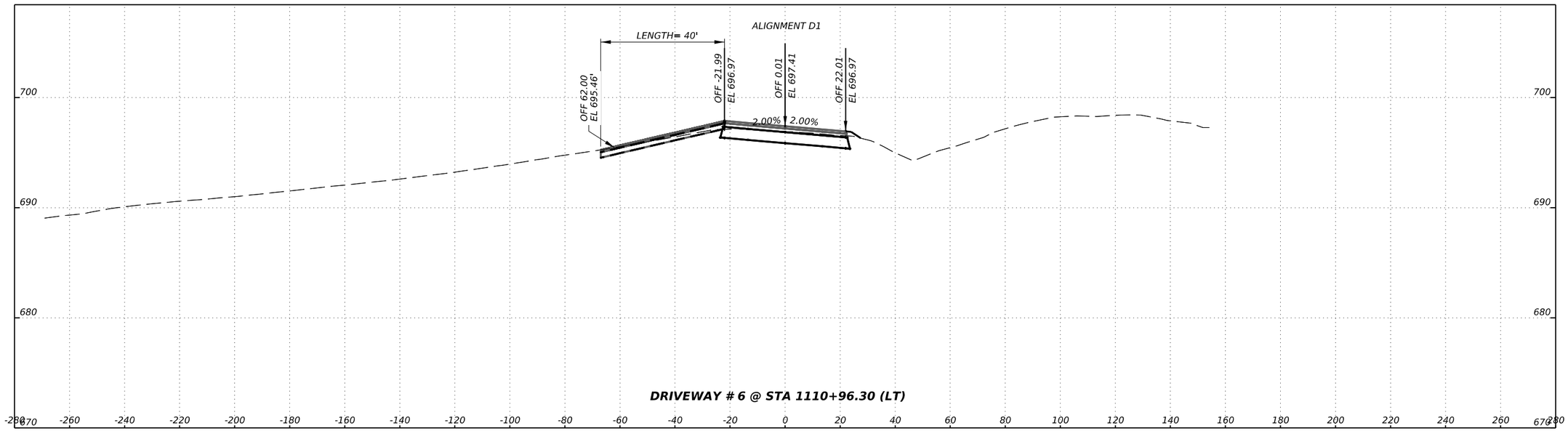
©TxDOT 2024

SHEET 2 OF 3

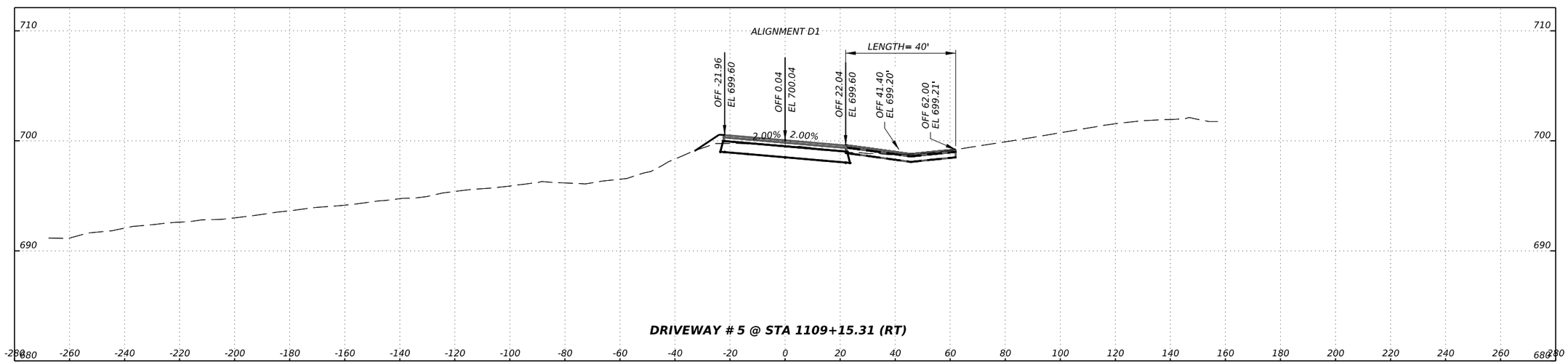
CONT	SECT	JOB	HIGHWAY	DIST	COUNTY	SHEET NO.
3586	02	006	SH 255	22	WEBB	164

DATE: 4/10/2024 2:16:13 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006_drwyxsecl\layout.dgn

CK: DW: CK: DW:



DRIVEWAY # 6 @ STA 1110+96.30 (LT)



DRIVEWAY # 5 @ STA 1109+15.31 (RT)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SH 255

DRIVEWAY CROSS SECTION DETAILS

Texas Department of Transportation

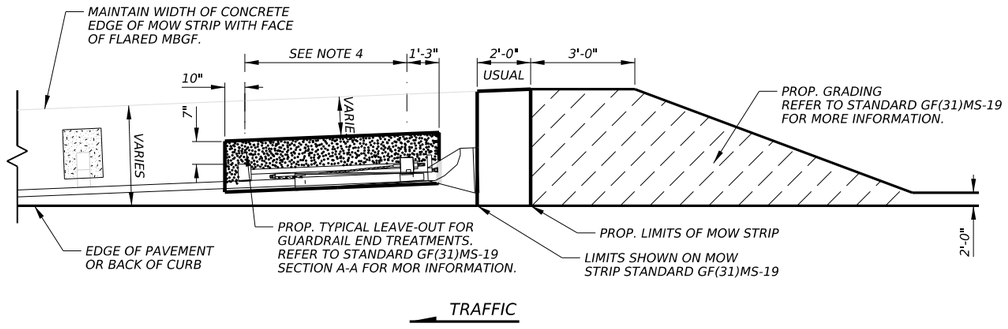
©TxDOT 2024

SHEET 3 OF 3

CONT	SECT	JOB	HIGHWAY	DIST	COUNTY	SHEET NO.
3586	02	006	SH 255	22	WEBB	165

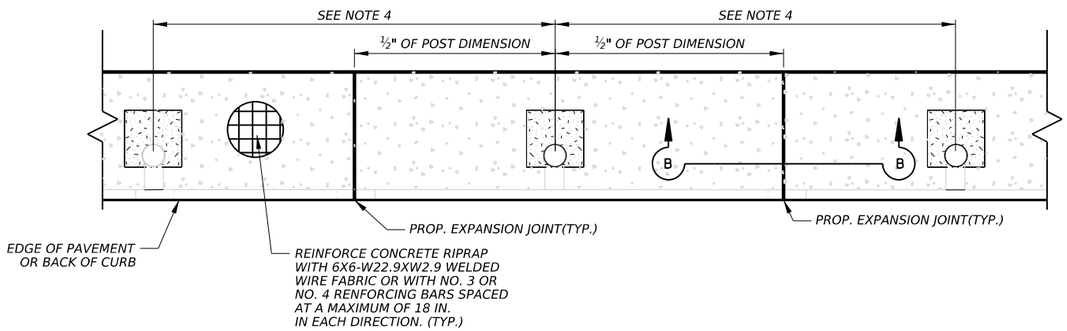
DATE: 4/10/2024 2:16:22 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006_drwyxsecl.layout.dgn

CK
DW
CK
DN



TYPICAL GUARDRAIL END TREATMENT MOW STRIP DETAIL

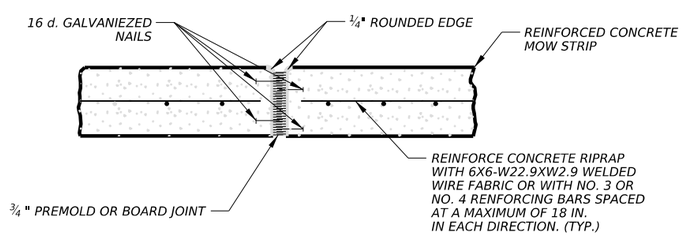
N.T.S.



TYPICAL GUARDRAIL END TREATMENT MOW STRIP EXPANSION JOINT DETAIL

-

N.T.S.



SECTION B-B

N.T.S.

NOTES

1. PLACE CONCRETE MOW STRIPS AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH ITEM 432 "RIPRAP". USE CLASS B REINFORCED CONCRETE.

2. PLACE THE MOW STRIP THE ENTIRE LENGTH OF THE GUARD FENCE PLUS ANY DOWNSTREAM ANCHOR TERMINAL (DAT) OR SINGLE GUARDRAIL TERMINAL (SGT) TO 2' BEYOND THE FACE OF THE OBJECT MARKER AT THE END OF THE TERMINAL. DO NOT ALLOW CONCRETE TO ADHERE TO THE GROUND LINE STRUT SHOWN ON THE SGT STANDARD SHEET.

3. MOWSTRIP TO BE CONVENTIONALLY FORMED CONCRETE. PROVIDE MOWSTRIP SECTIONS SEPARATED BY PREMOLD OR BOARD JOINT OF THE THICKNESS SHOWN ON THE PLANS IN LENGTHS GREATER THAN 8 FT. BUT LESS THAN OR EQUAL TO 12.5 FT, UNLESS OTHERWISE DIRECTED. TERMINATE WORKDAY PRODUCTION AT AN EXPANSION JOINT.

4. REFER TO TXDOT STANDARD GF(31)-19, GF(31)TRTL3-20, GF(31)MS-19, SGT(10S)31-16, SGT(11S)31-18, SGT(12S)31-18, SGT(15)31-20 SHEET(S) IF APPLICABLE FOR INSTALLATION, DIMENSIONS AND OTHER INFORMATION.

5. MOWSTRIP EXPANSION JOINT SPACING SHALL BE MINIMUM 24 FT. AND NO MORE THAN 40 FT.

MOWSTRIP QUANTITY CALCULATIONS

FOR ESTIMATION PURPOSES

EVERY THRIE-BEAM TRANS = 0.81 CY (7.29 SY)
EVERY 25 FT. OF MBGF = 1.08 CY (9.72 SY)
EVERY GET SYSTEM = 2.85 CY (25.74 SY)
EVERY DAT SYSTEM = 0.56 CY (5.0 SY)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

ROADWAY MISCELLANEOUS DETAIL MOWSTRIP

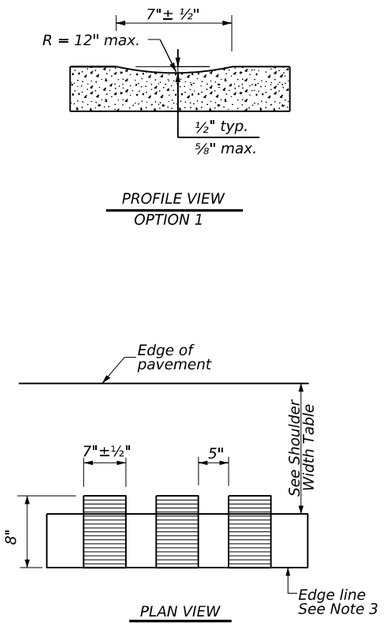
©TxDOT 2024

SHEET 1 OF 1

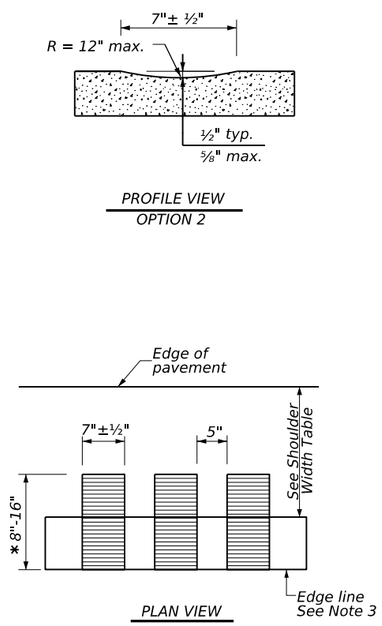
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		166

DATE: 4/9/2024 9:36:37 PM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d0763336\006 Mowstrip.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

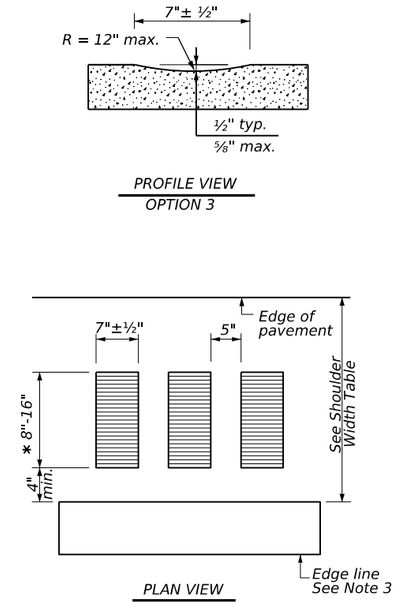


CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)



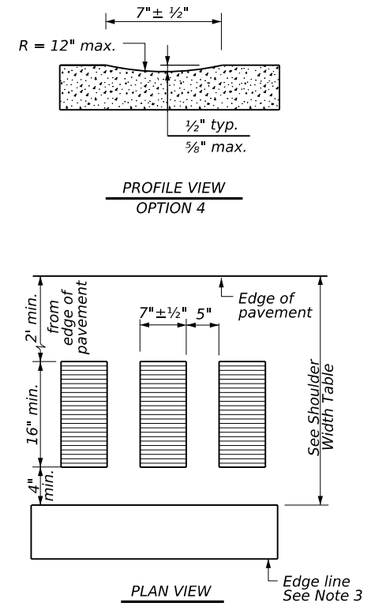
∗ This distance may vary based on width of shoulder

CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)

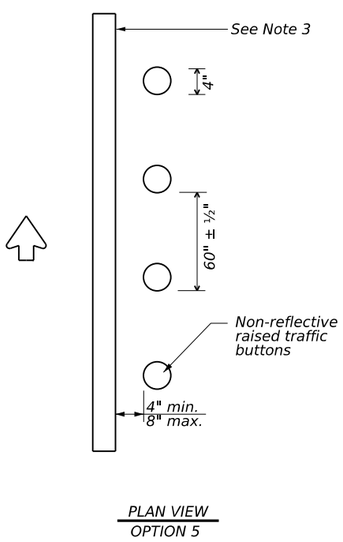


∗ This distance may vary based on width of shoulder

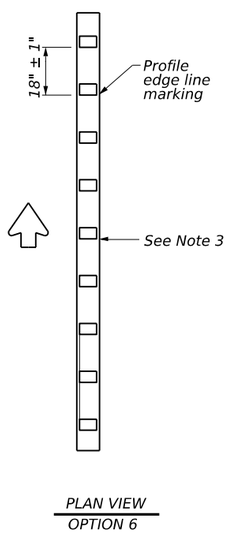
CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)



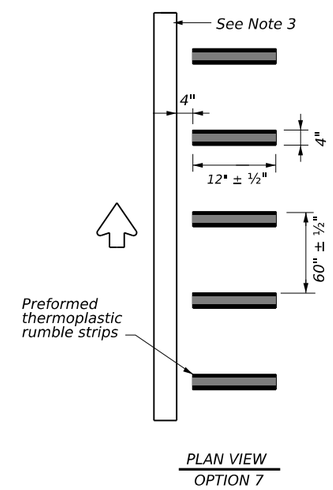
CONTINUOUS MILLED DEPRESSIONS (Rumble Strips)



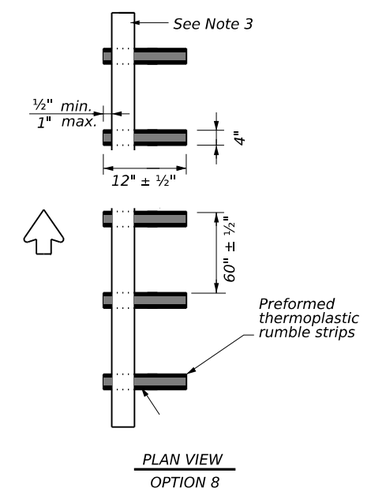
RAISED EDGE LINE (Rumble Strips)



PROFILE EDGE LINE MARKINGS (Rumble Strips)



PREFORMED THERMOPLASTIC EDGE LINE (Rumble Strips)



PREFORMED THERMOPLASTIC EDGE LINE (Rumble Strips)

SHOULDER WIDTH TABLE		
EQUAL TO OR LESS THAN 2 FEET	GREATER THAN 2 FEET LESS THAN 4 FEET	EQUAL TO OR GREATER THAN 4 FEET
Option 1, 5, 6 or 8	Option 1, 2, 3 5, 6 or 7	Option 2, 4, 5 6 or 7

GENERAL NOTES

1. Rumble strips and profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
2. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
3. Use Standard Sheet PM(2) and FPM(1) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings, and profile markings.
4. See the Shoulder Width Table below for determining what options may be used for edge line rumble strips.
5. Breaks in edge line rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections, or driveways with high usage of large trucks when installed on conventional highways.
6. Rumble strips shall not be placed across exit or entrance ramps, acceleration or deceleration lanes, crossovers, gore areas, or intersections with other roadways.
7. Consideration should be given to noise levels when edgeline rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING MILLED DEPRESSION EDGE LINE RUMBLE STRIPS:

9. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Safety Division.
10. Pavement markings can be applied over milled shoulder rumble strips to create an edge line rumble strip.

WHEN INSTALLING RAISED OR PROFILE EDGE LINE RUMBLE STRIPS:

11. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per the manufacturer's recommendations.
12. Non-reflective traffic buttons shall be placed adjacent to the pavement marking delineating the edge line when used as a rumble strip. The color of the button should match the color of the adjacent edge line marking (white or yellow). The buttons will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
13. Non-reflective traffic buttons shall not be placed across exit or entrance ramps, acceleration and deceleration lanes, crossovers, gore areas or intersections with other roadways.
14. The minimum distance between the edge line and the buttons should be used if the shoulder is less than 8 feet in width.
15. Raised profile thermoplastic markings used as edge lines may substitute for buttons.

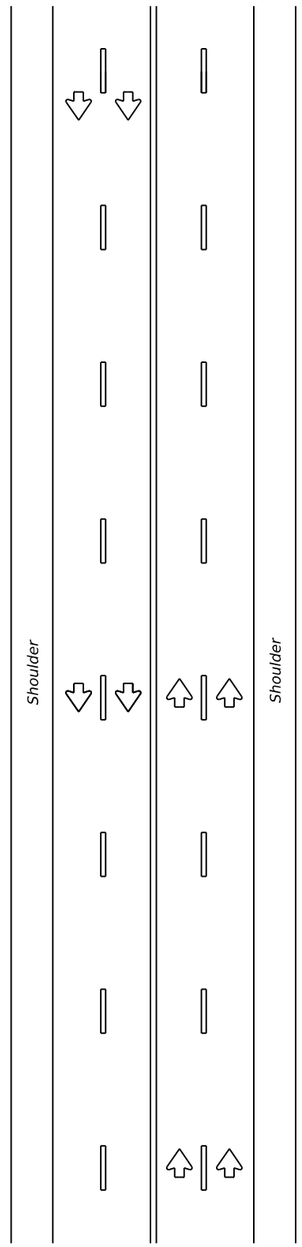
Texas Department of Transportation — Traffic Safety Division Standard

EDGE LINE RUMBLE STRIPS ON UNDIVIDED OR TWO LANE HIGHWAYS RS(2)-23

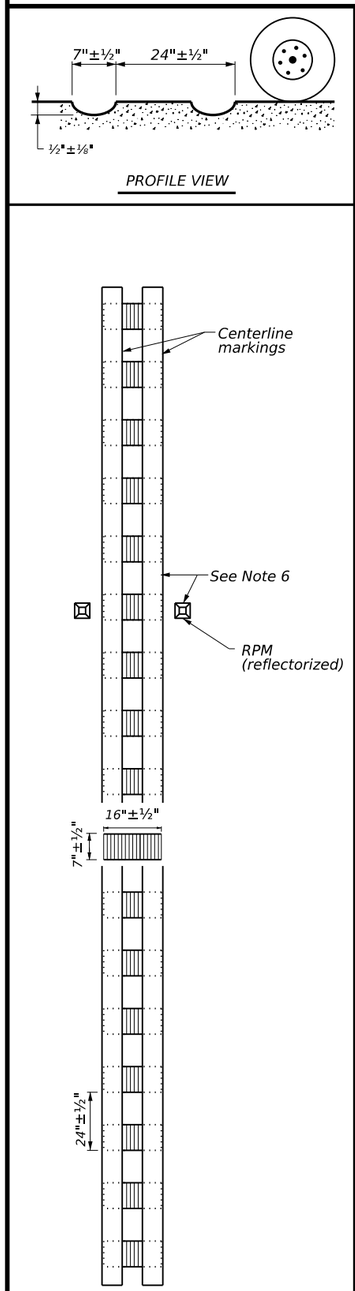
FILE: rs(2)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
10-13 1-23	DIST		COUNTY	SHEET NO.
	22		WEBB	167

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\rs(2)-23.dgn

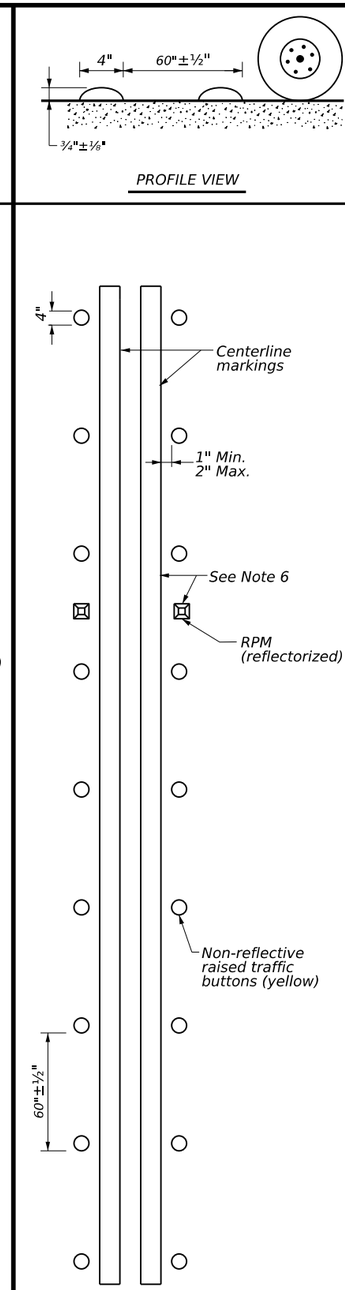
CENTERLINE RUMBLE STRIPS



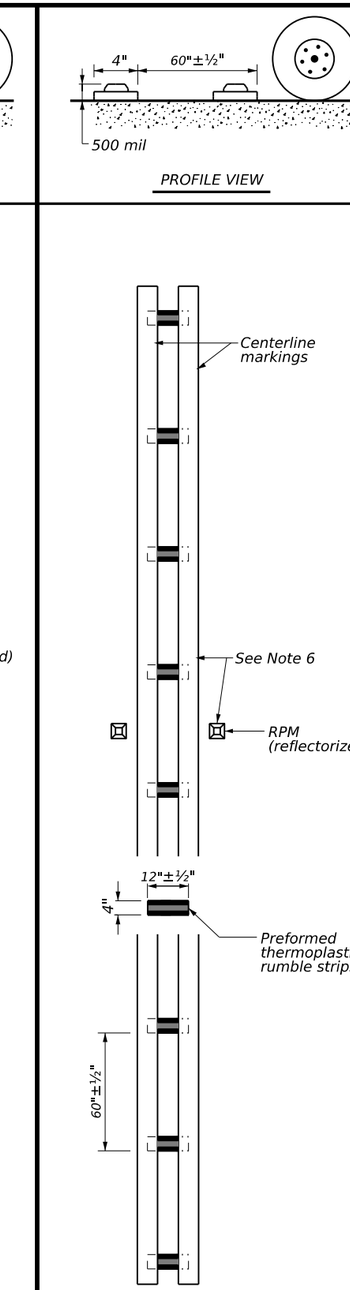
MULTILANE UNDIVIDED HIGHWAY WITH SHOULDER



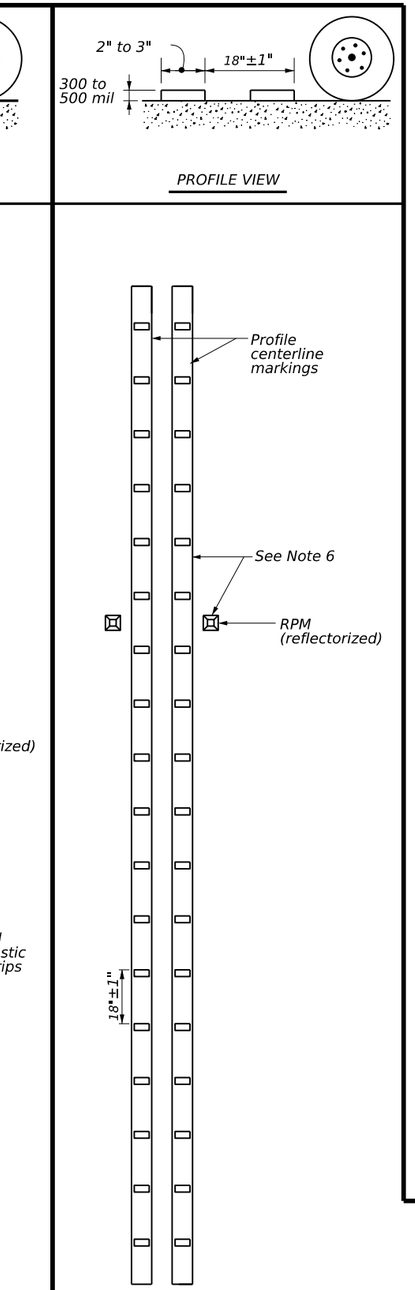
MILLED CENTERLINE RUMBLE STRIPS



RAISED CENTERLINE RUMBLE STRIPS



PREFORMED THERMOPLASTIC RUMBLE STRIPS



PROFILE CENTERLINE MARKINGS

GENERAL NOTES

1. This standard sheet provides guidelines for installing centerline rumble strips on multilane undivided highways.
2. Centerline and edge line rumble strips or profile markings shall not be placedon roadways with a posted speed limit of 45 MPH or less.
3. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
4. See dimensions for milled rumble strips. Other shapes and dimensions may beused if approved by the Traffic Safety Division.
5. Breaks in milled centerline rumble strips shall occur at least 50 feet and nomore than 150 feet in advance of bridges, railroad crossing, intersections ordriveways with high usage of large trucks.
6. Use standard sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings and profile markings.
7. Consideration should be given to noise levels when centerline rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Pavement markings must be applied over milled centerline rumble strips for normal centerline spacing. For wider medians, specify in the plans the exact placement of the rumble strips. Place the rumble strips under each centerline marking or centered in the middle of the median.

WHEN INSTALLING CENTERLINE RUMBLE STRIPS:

9. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per manufacturer's recommendations.
10. When using non-reflective raised traffic buttons as a centerline rumble strip, the button shall be placed adjacent to the pavement marking delineating the centerline. The color of the button should be yellow for a continuous no passing roadway. The button will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
11. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING EDGE LINE RUMBLE STRIPS WITH OR WITHOUT CENTERLINE RUMBLE STRIPS ON UNDIVIDED HIGHWAYS:

12. See standard sheet RS(2).

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:37:08 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\rs(3)-23.dgn

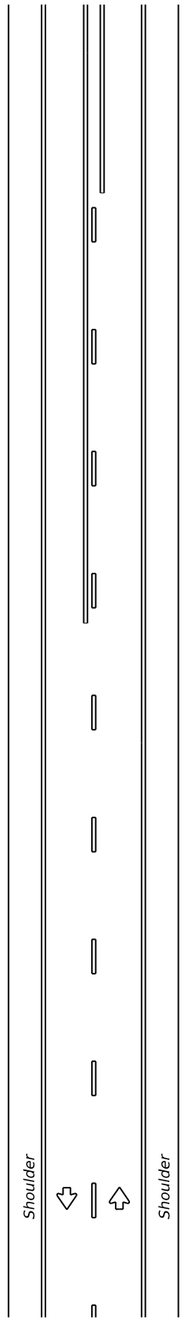
Texas Department of Transportation

Traffic Safety Division Standard

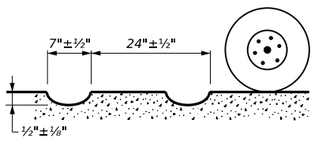
CENTERLINE RUMBLE STRIPS ON MULTILANE UNDIVIDED HIGHWAYS RS(3)-23

FILE: rs(3)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
10-13	DIST		COUNTY	SHEET NO.
1-23	22		WEBB	168

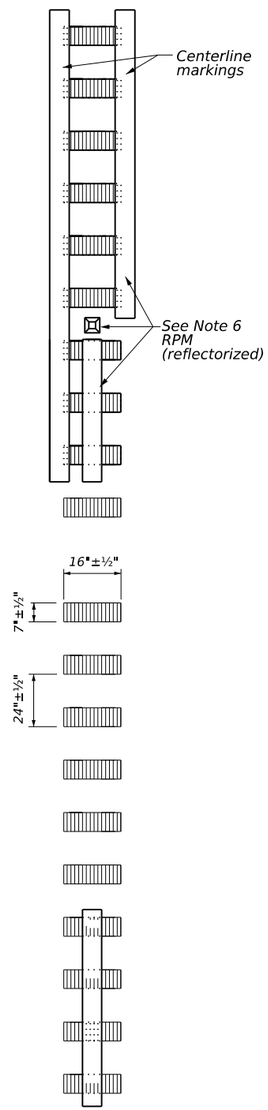
CENTERLINE RUMBLE STRIPS



TWO LANE TWO-WAY HIGHWAYS

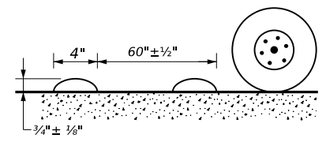


PROFILE VIEW

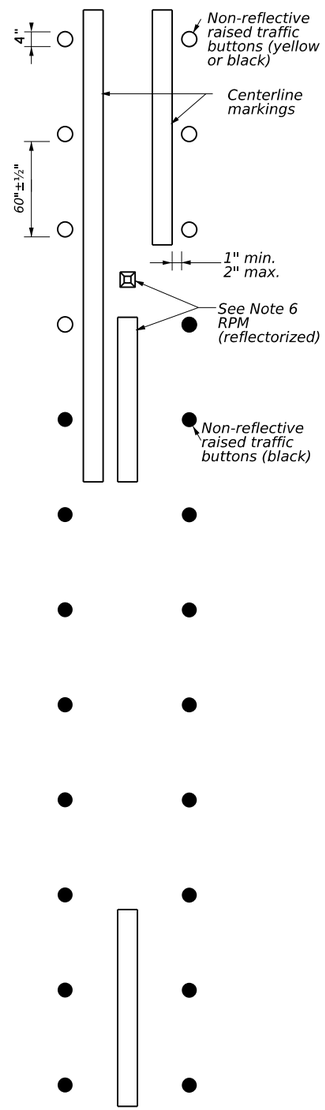


PLAN VIEW
OPTION 1

MILLED CENTERLINE RUMBLE STRIPS

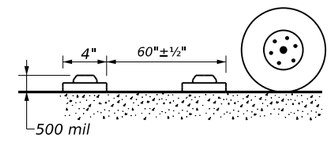


PROFILE VIEW

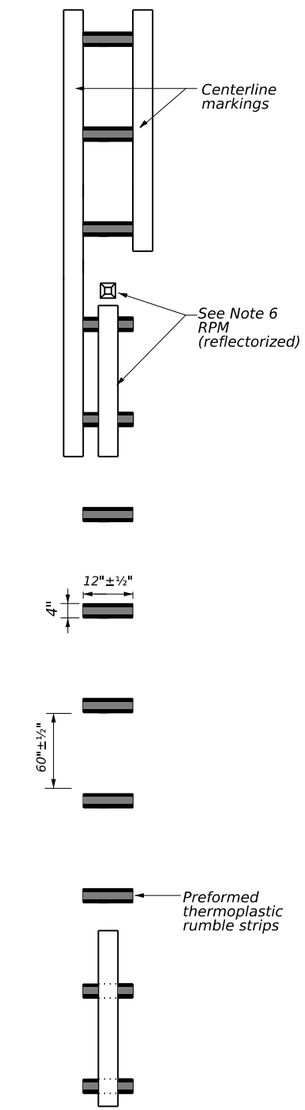


PLAN VIEW
OPTION 2

RAISED CENTERLINE RUMBLE STRIPS

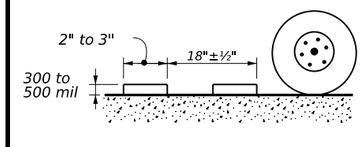


PROFILE VIEW

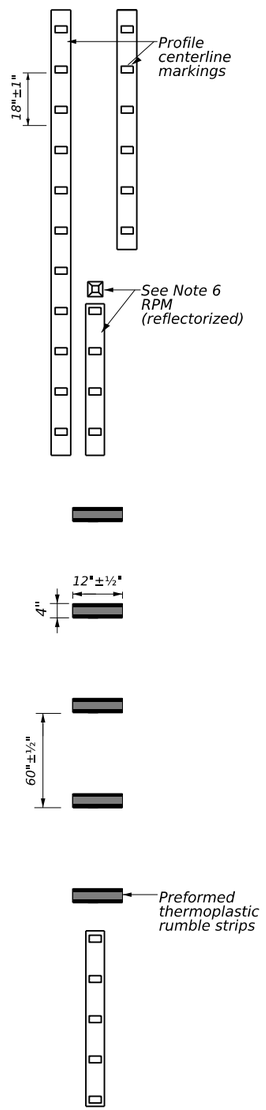


PLAN VIEW
OPTION 3

PREFORMED THERMOPLASTIC RUMBLE STRIPS



PROFILE VIEW



PLAN VIEW
OPTION 4

PROFILE CENTERLINE MARKINGS AND PREFORMED THERMOPLASTIC RUMBLE STRIPS

GENERAL NOTES

1. This standard sheet provides guidelines for installing centerline rumble strips on two-lane highways with or without shoulders.
2. Centerline and edge line rumble strips or profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.
3. Milled rumble strips are preferred when adequate pavement depth is available. If pavement thickness is less than 2 inches, milled rumble strips shall not be used. Rumble strips shall not be milled or depressed into bridge decks.
4. See dimensions for milled rumble strips. Other shapes and dimensions may be used if approved by the Traffic Safety Division.
5. Breaks in milled centerline rumble strips shall occur at least 50 feet and no more than 150 feet in advance of bridges, railroad crossings, intersections or driveways with high usage of large trucks.
6. Use standard sheet PM(2) for positioning, dimensioning, and spacing of all reflective raised pavement markers, pavement markings and profile markings.
7. Consideration should be given to noise levels when centerline rumble strips are to be installed near residential areas, schools, churches, etc. A 3/8 inch deep (minimum) milled rumble strip may be considered in these areas.
8. Pavement markings must be applied over milled centerline rumble strips.

WHEN INSTALLING CENTERLINE RUMBLE STRIPS:

9. Raised rumble strips consisting of non-reflective raised traffic buttons may be used. Non-reflective raised traffic buttons can be affixed to asphalt or concrete with bitumen or adhesives, as per manufacturer's recommendations.
10. When using non-reflective raised traffic buttons as a centerline rumble strip, the button shall be placed adjacent to the pavement marking delineating the centerline. The buttons will be paid for under Item 672, "Raised Pavement Markers." Non-reflective traffic buttons must meet the requirements of DMS-4300.
11. The color of the button should be yellow for a continuous no passing roadway. Black buttons should be used in areas where passing is allowed.
12. Consideration shall be given to bicyclists. See RS(6).

WHEN INSTALLING EDGE LINE RUMBLE STRIPS WITH OR WITHOUT CENTERLINE RUMBLE STRIPS ON UNDIVIDED HIGHWAYS:

13. See standard sheet RS(2).

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

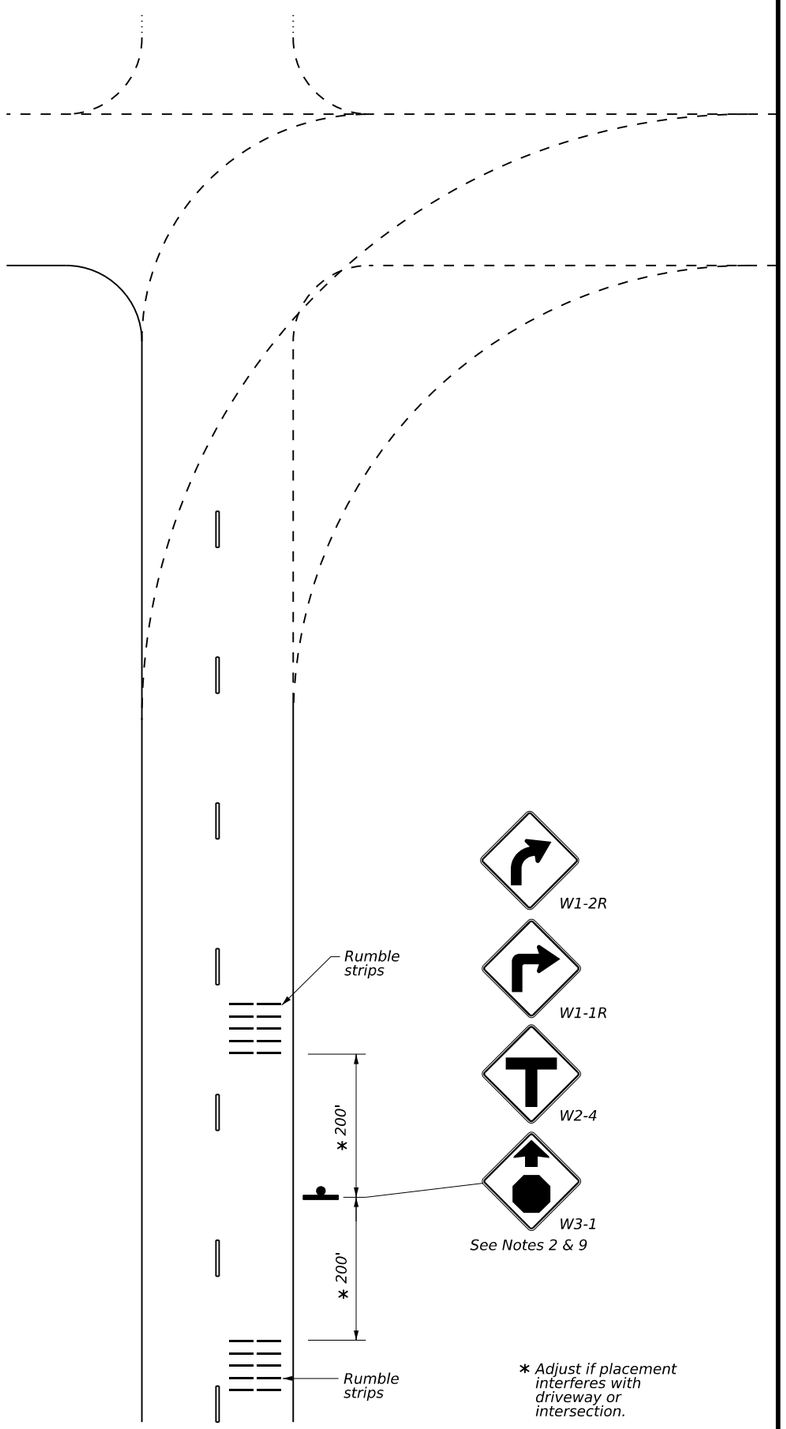
DATE: 4/9/2024 9:37:23 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\rs(4)-23.dgn

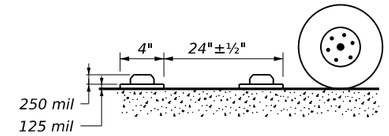
Texas Department of Transportation
Traffic Safety Division Standard

CENTERLINE RUMBLE STRIPS ON TWO LANE TWO-WAY HIGHWAYS RS(4)-23

FILE: rs(4)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS 10-13 1-23	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	169

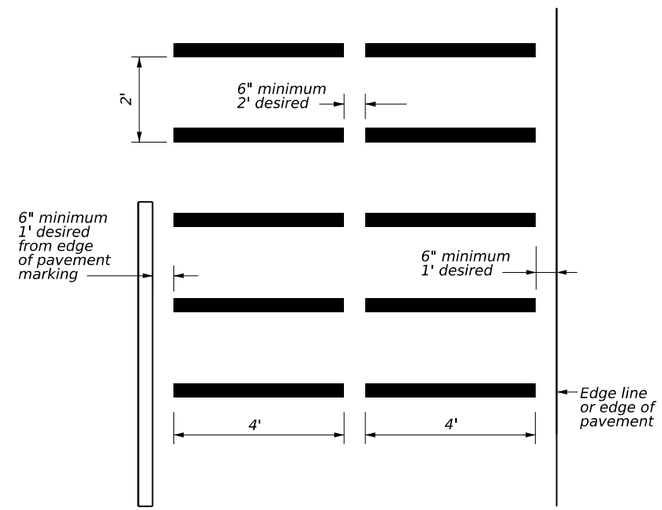
RUMBLE STRIP TYPICAL APPLICATION





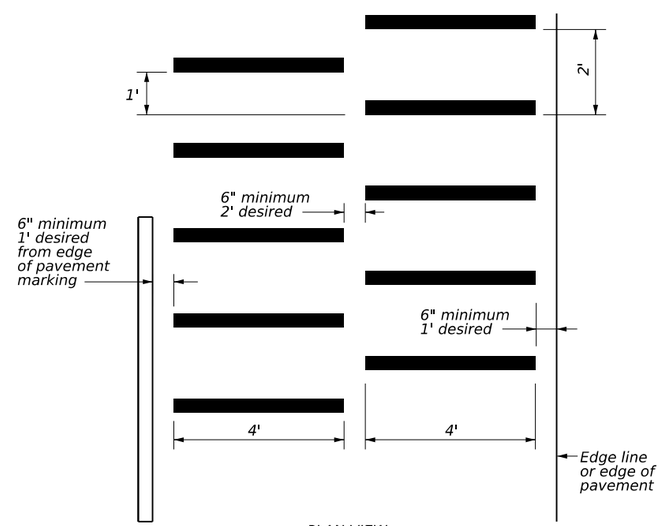
PROFILE VIEW

RUMBLE STRIP STANDARD PATTERN



PLAN VIEW

RUMBLE STRIP ALTERNATIVE PATTERN



PLAN VIEW

GENERAL NOTES

1. Transverse or in-lane rumble strips should only be used at high incident and special geometric locations. These special geometric locations may include: approaches to rural, high speed signalized or stop-controlled intersections with sight restrictions and/or high crash rates, approaches to unexpected urban intersections, approaches to newly installed stop or signalized controlled intersections, approaches to toll plazas, approaches to hazardous horizontal curves, and approaches to railroad grade crossings.
2. When used, the rumble strips shall be placed 200 feet upstream and downstream of the warning sign.
3. The use of rumble strips should not be widespread or indiscriminate.
4. Preformed black raised rumble strips should be used. They should be installed in accordance with the manufacturer's recommendations.
5. Please reference the TxDOT Material Producers List for approved rumble strips (transverse): http://www.txdot.gov/
6. Consideration should be given to noise levels when in-lane or transverse rumble strips are to be installed near residential areas, schools, churches, etc.
7. The RUMBLE STRIPS AHEAD (W17-2T) sign may be used in advance of in-lane or transverse rumble strips, based on engineering judgement. This sign is typically not necessary for rumble strip installations built to the guidelines on this standard sheet. When used, this sign should be spaced in advance of the rumble strips based on the Guidelines for Advance Placement of Warning Signs table of the Texas Manual on Uniform Traffic Control Devices.

W17-2T

8. Consideration shall be given to bicyclists. See RS(6).
9. Other signs can be used as conditions warrant.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:37:39 PM
FILE: c:\txdot\pw_online\txdot5\mjsael aguilar\d1010228\rs(5)-23.dgn

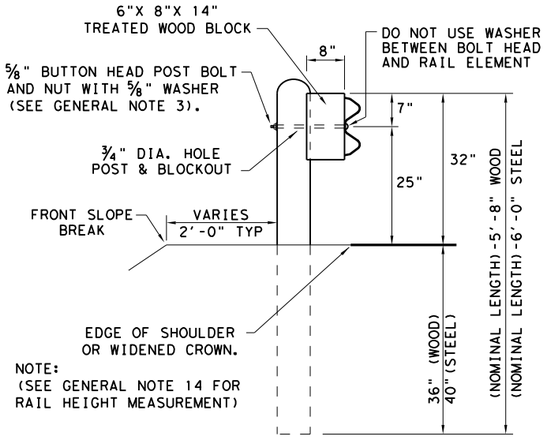
Texas Department of Transportation — Traffic Safety Division Standard

TRANSVERSE OR IN-LANE RUMBLE STRIPS

RS(5)-23

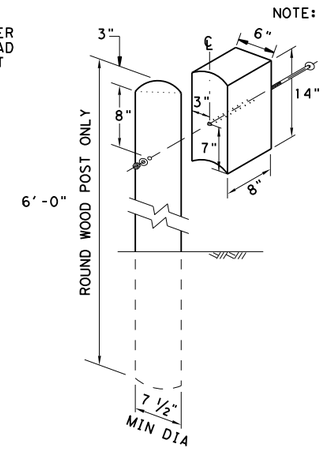
FILE: rs(5)-23.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT January 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-06 1-12 2-10 10-13	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	170

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



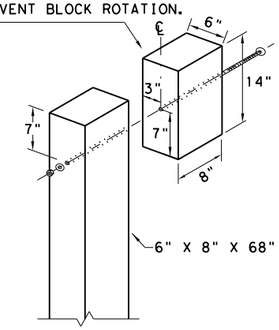
NOTE:
(SEE GENERAL NOTE 14 FOR RAIL HEIGHT MEASUREMENT)

TYPICAL POST PLACEMENT

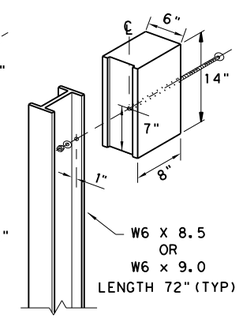


WOOD BLOCK TO ROUND WOOD POST

NOTE: TOENAIL WITH ONE 16D GALV. NAIL TO PREVENT BLOCK ROTATION.

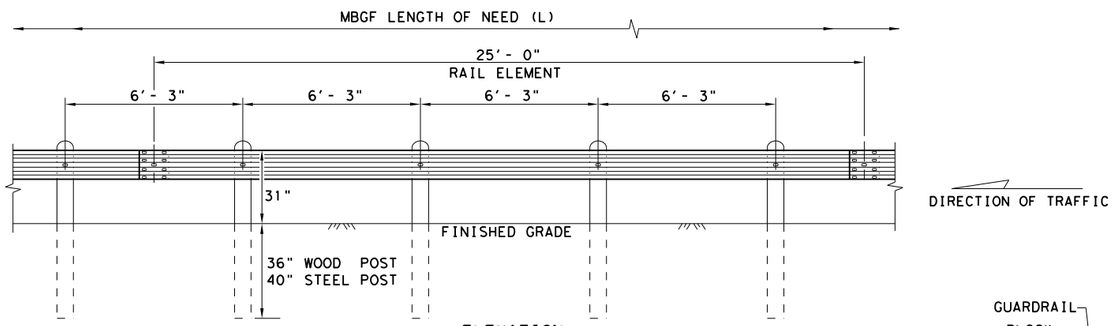


WOOD BLOCK TO RECTANGULAR WOOD POST



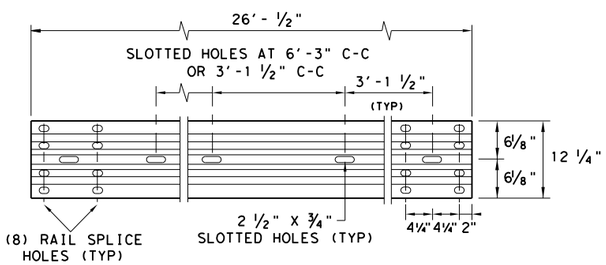
ROUTED WOOD BLOCK TO I-BEAM STEEL POST

NOTE: ** "WOOD" INDICATES DIMENSIONS FOR BOTH ROUND AND RECTANGULAR WOOD POST SYSTEMS.



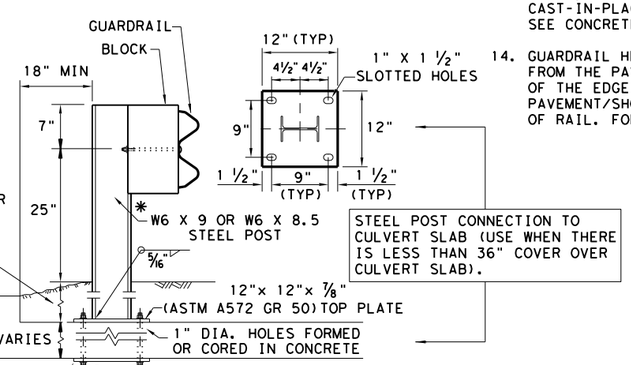
ELEVATION
MID-SPAN RAIL SPLICE

SHOWING A 25'- 0" SECTION OF W-BEAM RAIL. (SEE GENERAL NOTE 2)



ELEVATION 25'- 0" (NOM.) W-BEAM SECTION

NOTES: SEE GENERAL NOTE 2 FOR ALLOWABLE RAIL TYPES.
SEE RAIL SPLICE DETAIL FOR REQUIRED HARDWARE.



*POST(S) MAY REQUIRE FIELD MODIFICATION TO ENSURE PROPER GUARDRAIL HEIGHT.

STEEL POST CONNECTION TO CULVERT SLAB (USE WHEN THERE IS LESS THAN 36" COVER OVER CULVERT SLAB).

12" X 12" X 1/4" (ASTM A36) STEEL BOTTOM PLATE WITH 1" DIA. HOLES REQUIRED WITH BOLT-THROUGH INSTALLATION.

LOW FILL CULVERT POST

NOTE: TWO INSTALLATION OPTIONS.

1. BOLT-THROUGH OPTION: REQUIRES A 6" MIN. SLAB THICKNESS. 7/8" DIA (ASTM A449) HEAVY HEX BOLTS WITH TWO HARDENED WASHER EACH AND HEAVY HEX NUTS.
   NOTE: BOLT LENGTH = SLAB PLUS 2 1/4" MIN.

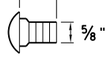
2. EPOXY ANCHOR OPTION: THIS OPTION MAY ONLY BE USED IF THE CULVERT SLAB IS 9" MIN. THICK. THREADED ANCHOR RODS MUST BE 7/8" DIA. ASTM A449 OR A193 GRADE B7 WITH HEAVY HEX NUT, AND ONE HARDENED WASHER EACH. EMBED ANCHOR RODS 6" WITH HILTI HIT RE 500 EPOXY ADHESIVE. OTHER TYPE III CLASS C EPOXY ADHESIVES MEETING THE REQUIREMENTS OF DMS-6100, "EPOXIES AND ADHESIVES", MAY BE USED IF IT CAN BE DEMONSTRATED THAT THEY MEET OR EXCEED THE STRENGTH OF HILTI HIT RE 500 WITH THE SAME EMBEDMENT DEPTH AND THREADED ROD DIA. FOLLOW THE MANUFACTURER'S REQUIREMENTS FOR INSTALLING EPOXIED THREADED RODS. EXTEND RODS 1/4" MIN. BEYOND NUT.

NOTE: CULVERTS OF 25 FT. OR LESS, SEE GF(31)LS STANDARD FOR "LONG SPAN" OPTION.

NOTE:
FOUR TYPES OF BUTTON-HEAD GUARD RAIL BOLTS COME WITH A RECCESSED NUT.

SPLICE BOLT LENGTH — VARIES

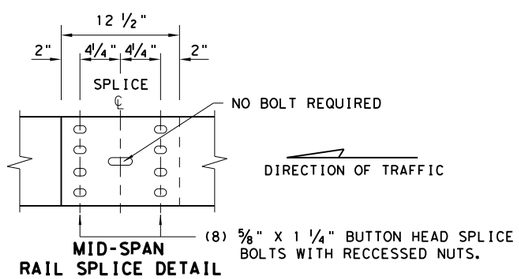
FBB01 = 1 1/4"
FBB02 = 2"



POST & BLOCK LENGTH
FBB03 = 10"
FBB04 = 18"

BUTTON HEAD BOLT

NOTE: SEE GENERAL NOTE 3 FOR SPLICE & POST BOLT DETAILS.



MID-SPAN RAIL SPLICE DETAIL

NOTE: GF(31), MID-SPAN RAIL SPLICES ARE REQUIRED WITH 6'-3" POST SPACINGS.

GENERAL NOTES

1. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST, OR STEEL POST) WILL BE AS SHOWN IN THE PLANS. THE EXACT POSITION OF MBGF SHALL BE SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER. STEEL POSTS TO BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING."
2. RAIL ELEMENTS SHALL MEET THE REQUIREMENTS OF ITEM 540, "METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED IN THE PLANS. THE CONTRACTOR MAY FURNISH RAIL ELEMENTS OF 25'- 0", OR 12'- 6" (NOM.) LENGTHS. RAIL ELEMENTS MAY HAVE SLOTTED HOLES AT 3'-1 1/2" C-C OR 6'-3" C-C. A SPECIAL LENGTH OF RAIL MAY BE MANUFACTURED TO ACCOMMODATE THE DOWNSTREAM ANCHOR TERMINAL (DAT) AND THE TRANSITION SECTIONS OF GUARDRAIL.
3. BUTTON HEAD "POST BOLTS & NUTS" SHALL MEET THE REQUIREMENTS OF (ASTM A307), AND SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND 5/8" WASHER (FWC16a) AND NOT MORE THAN 1" BEYOND IT. TRIM REMAINING BOLT LENGTH TO MEET REQUIRED LENGTH.
4. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING." FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
5. CROWN SHALL BE WIDENED TO ACCOMMODATE THE METAL BEAM GUARD FENCE.
6. THE LATERAL APPROACH TO THE GUARD FENCE, SHALL HAVE A MAXIMUM SLOPE OF 1V:10H.
7. IF SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER, THE GUARD FENCE MAY BE FLARED AT A RATE OF 25:1 OR FLATTER.
8. UNLESS OTHERWISE SHOWN IN THE PLANS, GUARD FENCE PLACED IN THE VICINITY OF CURBS SHALL BE POSITIONED SO THAT THE FACE OF CURB IS LOCATED DIRECTLY BELOW OR BEHIND THE FACE OF THE RAIL. RAIL PLACED OVER CURBS SHALL BE INSTALLED SO THAT THE POST BOLT IS LOCATED APPROXIMATELY 25 INCHES ABOVE THE GUTTER PAN OR EDGE OF SHOULDER.
9. APPLICATIONS IN SOLID ROCK ARE ONLY ALLOWED WITH STEEL POSTS. IF SOLID ROCK IS ENCOUNTERED WITHIN 0 TO 18" OF THE FINISHED GRADE, DRILL A 24" DIA. HOLE, 24" INTO THE ROCK. IF SOLID ROCK IS ENCOUNTERED BELOW 18", DRILL A 12" DIA. HOLE, 12" INTO THE ROCK OR TO THE STANDARD EMBEDMENT DEPTH, WHICHEVER MAYBE LESS. ANY EXCESS POST LENGTH, AFTER MEETING THESE DEPTHS, MAY BE FIELD CUT TO ENSURE PROPER GUARDRAIL MOUNTING HEIGHT. BACKFILL WITH COARSE AGGREGATE MATERIAL.
10. POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.
11. SPECIAL FABRICATION WILL BE REQUIRED AT INSTALLATION LOCATIONS HAVING A CURVATURE OF LESS THAN 150 FT. RADIUS.
12. UNLESS OTHERWISE SHOWN IN THE PLANS, A COMPOSITE MATERIAL BLOCK THAT MEETS THE REQUIREMENTS OF DMS-7210, "COMPOSITE MATERIAL POSTS AND BLOCKS FOR METAL BEAM GUARD FENCE" MAY BE SUBSTITUTED FOR BLOCKS OF SIMILAR DIMENSIONS. THE CONSTRUCTION DIVISION, TXDOT MAINTAINS A MATERIAL PRODUCER LIST (MPL) FOR PRODUCERS OF MATERIALS CONFORMING TO DMS-7210 ONLY PRODUCERS ON THE MPL MAY FURNISH COMPOSITE MATERIAL BLOCKS.
13. FOR THE LOW FILL CULVERT OPTION, POSTS LOCATED PARTIALLY OR WHOLLY BETWEEN PRECAST BOX CULVERT UNITS, THE USE OF A CAST-IN-PLACE CONCRETE CLOSURE BETWEEN BOXES IS REQUIRED. THE LENGTH OF THE CAST-IN-PLACE CONCRETE CLOSURE SHALL ACCOMMODATE THE PLACEMENT OF THE LOW FILL CULVERT OPTION. SEE CONCRETE CLOSURE DETAILS ON BRIDGE STANDARD SCP-MD.
14. GUARDRAIL HEIGHT MEASUREMENT: WHEN THE GUARDRAIL IS LOCATED ABOVE PAVEMENT, MEASURE THE HEIGHT FROM THE PAVEMENT TO THE TOP OF THE W-BEAM RAIL. WHEN THE GUARDRAIL IS LOCATED UP TO 2 FT. OFF OF THE EDGE OF PAVEMENT OR FOR A PAVEMENT OVERLAY, USE A 10-FOOT STRAIGHTEDGE TO EXTEND THE PAVEMENT/SHOULDER SLOPE TO THE BACK OF RAIL, MEASURE FROM THE BOTTOM OF STRAIGHTEDGE TO THE TOP OF RAIL. FOR GUARDRAIL LOCATED DOWN A 10:1 SLOPE, MEASURE FROM THE NOMINAL TERRAIN.

NOTE: TRANSISTIONS TO BRIDGE RAILS OR TRAFFIC BARRIERS.
SEE GF(31)TL3 TR STANDARD FOR HIGH-SPEED TL-3 TRANSITIONS.
SEE GF(31)TL2 TR STANDARD FOR LOW-SPEED TL-2 TRANSITIONS.

Texas Department of Transportation — Design Division Standard

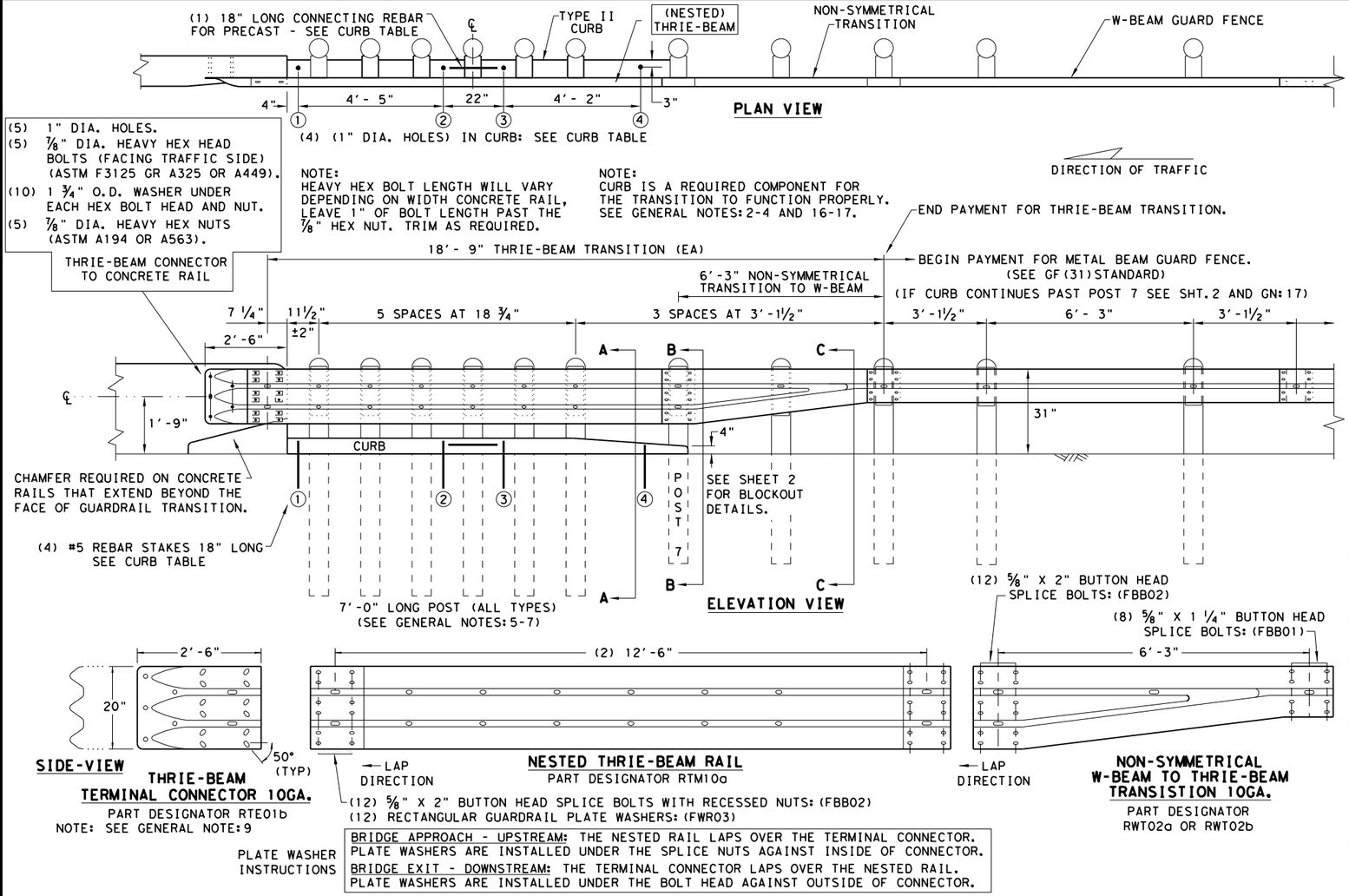
METAL BEAM GUARD FENCE TL-3 MASH COMPLIANT

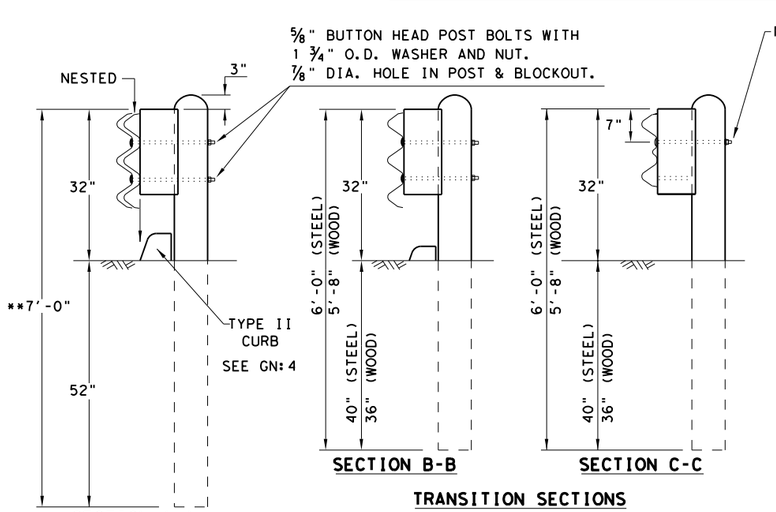
GF(31)-19

FILE: gf3119.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL/AG
©TxDOT: NOVEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	171

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\miscel.aguilar\d1010228\gf3119.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.





NOTE: ** "WOOD" INDICATES DIMENSIONS FOR BOTH ROUND AND RECTANGULAR WOOD POST SYSTEMS.

GENERAL NOTES

1. CONTACT THE DESIGN DIVISION FOR DRAINAGE CUT OUT OPTIONS NEEDED WITHIN THE CURB SECTION OF THE THRIE-BEAM TRANSITION. (512) 416-2678
2. CONCRETE CURB MAY BE CAST-IN-PLACE OR PRECAST AS SHOWN ON THIS SHEET. WHEN USED IN CONJUNCTION WITH THE THRIE-BEAM TRANSITIONS, CURB SHALL BE TYPE II (5- 3/4" HEIGHT); SEE CURRENT CCCG STANDARD SHEET FOR FURTHER DETAILS. IF OTHER CURB HEIGHTS ARE SHOWN IN THE PLANS IN CONJUNCTION WITH THE TRANSITION, THE CURB HEIGHT MAY BE FROM 4" TO 8" WITH A RELATIVELY VERTICAL FACE. CONCRETE CURB SHALL BE CONTINUOUS TO THE SEVENTH POST UNLESS OTHERWISE SHOWN IN THE PLANS. SEE GENERAL NOTE: 17 FOR CIRCUMSTANCES WHERE CURB CONTINUES PAST POST 7.
3. CONCRETE CURB TYPE II SUBSIDIARY TO "METAL BEAM GUARD FENCE TRANSITION". IF NO ADDITIONAL CURB IS INDICATED BEYOND THE TRANSITION, THEN ANY CURB HEIGHT GREATER THAN 4" WILL BE TAPERED DOWN BEGINNING AT THE LAST 7 FT. POST TO A MAXIMUM HEIGHT OF 4" AT POST 7. IF SHOWN ELSEWHERE IN THE PLANS, ADDITIONAL CURB UNDERNEATH GUARDRAIL WILL BE PAID FOR BY THE LINEAR FOOT.
4. UNLESS OTHERWISE SHOWN IN THE PLANS, TRANSITIONS SHALL BE PLACED WITH THE BLOCKOUT FACE IN FRONT OF OR DIRECTLY ABOVE THE CURB FACE. SEE SECTION A-A.
5. FOR ROUND WOOD POST SYSTEMS, ALL ROUND WOOD POSTS SHALL BE 7 1/2" DIA. MINIMUM THROUGHOUT THE THRIE-BEAM TRANSITION.
6. THE TYPE OF POST (ROUND WOOD POST, RECTANGULAR WOOD POST OR STEEL POST) WILL BE AS SHOWN IN THE PLANS. REFER TO GF(31) STANDARD SHEET.
7. THE POST LENGTH SHALL BE MARKED ON ALL 7'- 0" LONG POSTS BY THE MANUFACTURER. THE MARK SHALL BE LOCATED WITHIN THE TOP 1 FT. REGION OF THE POST, AT LEAST 5/8" IN HEIGHT, AND VISIBLE AFTER INSTALLATION. WOODEN POSTS SHALL BE MARKED WITH A BRAND, AND STEEL POSTS WITH A STENCIL BEFORE GALVANIZING.
8. POSTS SHALL NOT BE SET IN CONCRETE, OF ANY DEPTH.
9. RAIL ELEMENTS SHALL MEET THE REQUIREMENTS OF ITEM 540, "METAL BEAM GUARD FENCE" EXCEPT AS MODIFIED ON THE PLANS. THE THRIE-BEAM TERMINAL CONNECTOR AND THE THRIE-BEAM TRANSITION TO W-BEAM SHALL BE OF THE SAME MATERIAL, BUT SHALL NOT BE LESS THAN 10 GAUGE. CONTRACTOR SHALL VERIFY THAT THE LOCATIONS OF BOLT HOLES MATCH THOSE IN THE THRIE-BEAM TERMINAL CONNECTOR PRIOR TO ORDERING MATERIALS.
10. BUTTON HEAD "POST BOLTS & NUTS" SHALL MEET THE REQUIREMENTS OF (ASTM A307), AND SHALL BE OF SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND 5/8" WASHER (FWC16a) AND NOT MORE THAN 1" BEYOND IT. TRIM REMAINING BOLT LENGTH TO MEET REQUIRED LENGTH.
11. FITTINGS (BOLTS, NUTS, AND WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
12. CROWN SHALL BE WIDENED TO ACCOMMODATE TRANSITIONS.
13. WHERE SOLID ROCK IS ENCOUNTERED, CONTACT THE DESIGN DIVISION FOR ADDITIONAL GUIDANCE. (512) 416-2678
14. UNLESS OTHERWISE SHOWN IN THE PLANS, A COMPOSITE MATERIAL BLOCK THAT MEETS THE REQUIREMENTS OF DMS-7210, "COMPOSITE MATERIAL POSTS AND BLOCKS FOR METAL BEAM GUARD FENCE" MAY BE SUBSTITUTED FOR BLOCKS OF SIMILAR DIMENSIONS. TXDOT'S MATERIALS AND TESTS DIVISION MAINTAINS A MATERIAL PRODUCER LIST (MPL) FOR PRODUCERS OF MATERIALS CONFORMING TO DMS-7210. ONLY PRODUCERS ON THE MPL CAN FURNISH COMPOSITE MATERIAL BLOCKS.
15. REFER TO GF(31) STANDARD SHEET & BRIDGE RAILING DETAILS FOR ADDITIONAL DETAILS.
16. THE INSTALLATION OF THE TYPE II CURB IS CRITICAL FOR THE PERFORMANCE OF THE THRIE-BEAM TRANSITION SYSTEM. THE CURB PREVENTS (VEHICLE WHEEL SNAGGING) AT THE CONCRETE RAIL AND IS REQUIRED TO MEET MASH CRASH TEST CRITERIA.
17. IF CURB EXTENDS BEYOND POST 7, 25' OF NESTED W-BEAM GUARDRAIL SHALL BE INSTALLED BEYOND THE PAY LIMITS OF THRIE-BEAM TRANSITION SECTION, (SEE SHT. 2). PAYMENT FOR THIS 25' SECTION WILL BE BY LINEAR FOOT, PAY ITEM "0540 6XXX MTL W-BEAM GD FEN (NESTED)(TIM POST)" OR "540 6XXX MTL W-BEAM GD FEN (NESTED)(STEEL POST)" AS APPLICABLE FOR POST TYPE. SEE SHT. 2 FOR ADDITIONAL INFORMATION.

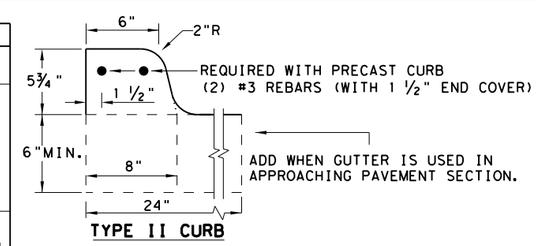
THRIE-BEAM TERMINAL - CURB TABLE

PRECAST CURB FULL LENGTH EQUALS 12'- 2"
THE PRECAST CURB MAY BE FORMED INTO TWO SECTIONS.

CURB (1) LENGTH 5'- 8"
CURB (2) LENGTH 6'- 6"
TAPER CURB (2) TO A HEIGHT OF 4" AT POST 7

CONNECTING PRECAST CURB SECTIONS (1) & (2):
FORM OR CORE 1" DIA. HOLE 9" LONG INTO EACH CURB END. USE (1) #5 GR.60 REBAR 18" LONG TO CONNECT BOTH CURBS.

SECURING PRECAST OR CAST-IN-PLACE TO FINISHED GRADE *:
FORM OR CORE (4) 1" DIA. HOLES, SEE PLAN AND ELEVATION VIEWS FOR HOLE LOCATIONS. DRIVE (4) #5 GR.60 REBAR STAKES 18" LONG INTO THE GROUND AND 1/2" BELOW TOP OF CURB.
FILL HOLES WITH APPROVED GROUT MIXTURE.



NOTE: OPTIONS FOR TYPE II CURB:
1. PRECAST
2. CAST-IN-PLACE

* NOTES: NOT NEEDED FOR CAST-IN-PLACE.
SEE TYPE II CURB DETAIL FOR REBAR AND COVER REQUIREMENTS.
PERCUSSION DRILLING IS NOT PERMITTED WITH:
TYPE II CURB, BRIDGE RAIL OR CONCRETE TRAFFIC RAIL.

TYPE II CURB DETAILS

HIGH-SPEED TRANSITION

SHEET 1 OF 2

Texas Department of Transportation — Design Division Standard

METAL BEAM GUARD FENCE THRIE-BEAM TRANSITION TL-3 MASH COMPLIANT

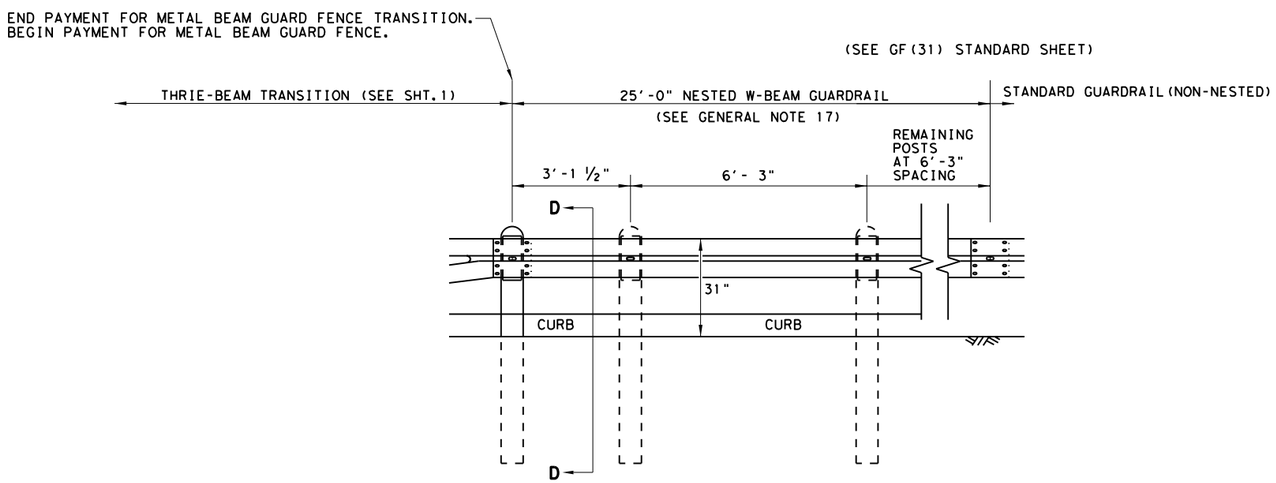
GF(31)TR TL3-20

FILE: gf31tr1320.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL/AG
©TxDOT: NOVEMBER 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	172

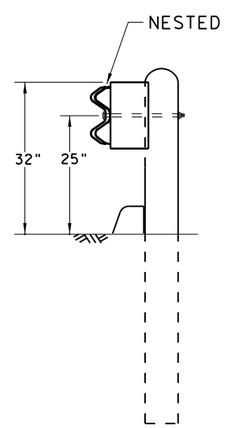
DATE: 5/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\gf31tr1320.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER.
TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

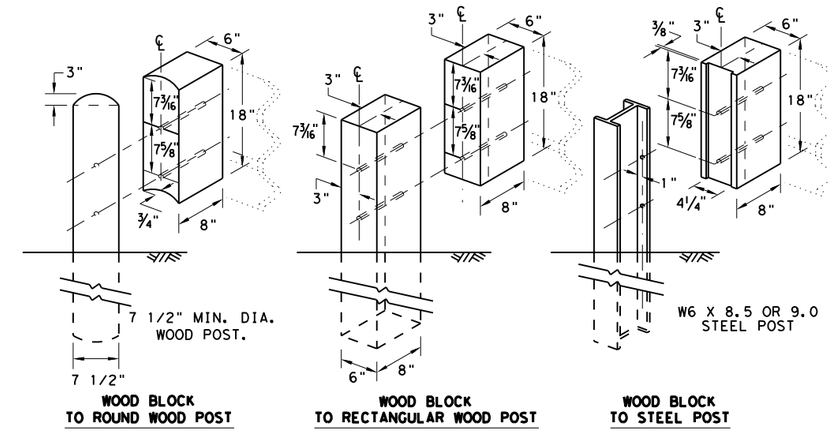
REQUIRED ALTERNATIVE FOR CONTINUOUS CURB EXTENDING PAST POST 7 (SEE SHT. 1 GENERAL NOTE 17)



ELEVATION VIEW



SECTION D-D



THRIE BEAM TRANSITION BLOCKOUT DETAILS

HIGH-SPEED TRANSITION

SHEET 2 OF 2

Texas Department of Transportation — Design Division Standard

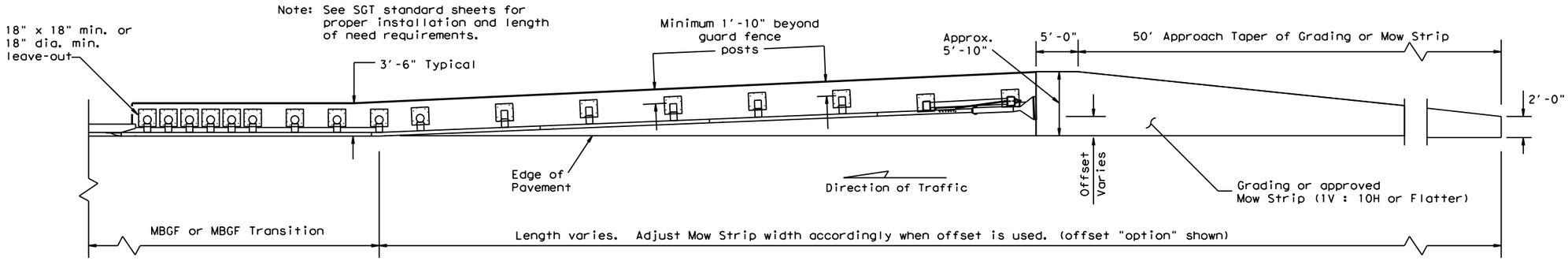
METAL BEAM GUARD FENCE THRIE-BEAM TRANSITION TL-3 MASH COMPLIANT

GF(31)TR TL3-20

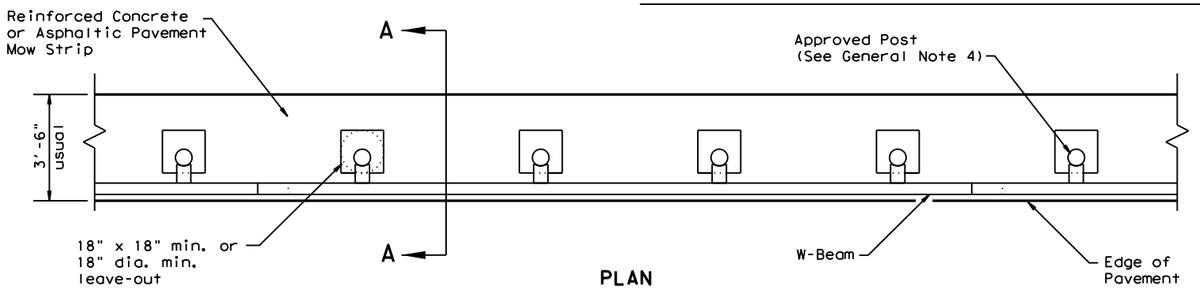
FILE: gf31trtl320.dgn	DN: TxDOT	CK: KM	DW: KM	CK: CGL/AG
©TxDOT: NOVEMBER 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	173

DATE: 5/9/2024
FILE: c:\txdot\pw_online\txdot5\mlsoel.aguilar\d1010228\gf31trtl320.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER.
TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



GRADING AND MOW STRIP AT GUARDRAIL END TREATMENTS



PLAN

GF(31) shown with Mow Strip (See GF(31) standard sheet for proper installation)

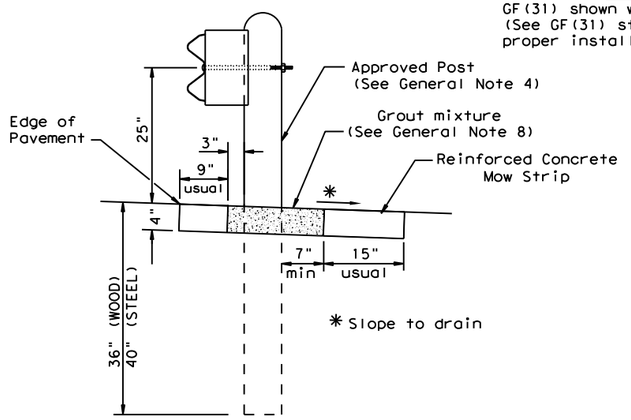
Note: Site Condition(s)

Site conditions may exist where grading is required for the proper installation of metal guard fence and end treatments.

Approach grading or mow strip may be decreased or eliminated, as directed by the Engineer.

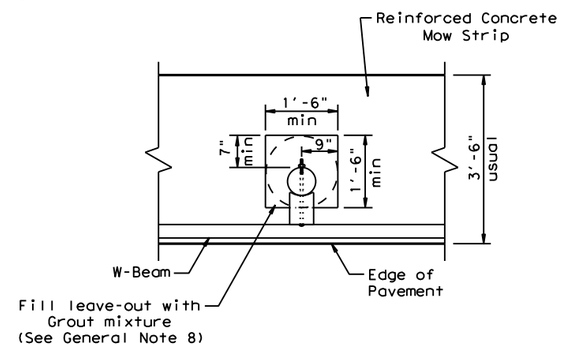
GENERAL NOTES

1. This mow strip design is for use with metal beam guard fence, guard fence transitions, and guard fence end treatments. See applicable GF(31) MBGF or GF(31) Transition Standard sheet for additional information.
2. Mow strips shall be reinforced concrete with (wire mesh or synthetic fiber), as shown on the plans and will be paid for under the pertinent bid item. Reinforced concrete shall be placed in accordance with Item 432, "Riprap." The use of the synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Material Producer List (MPL), maintained by TxDOT, Construction Division.
3. The leave-out behind the post shall be a minimum of 7".
4. Only steel (W6 x 8.5 or W6 x 9.0), or 7 ½" Dia. round wood posts are acceptable for use in the mow strip. See GF(31) Standard for additional details.
5. Other curb placement options may be used. Curbs are not considered part of the mow strip and will be paid for under other pertinent bid item.
6. Thickness of the mow strip will be 4".
7. The limits of payment for reinforced concrete will include leave-outs for the posts.
8. The leave-outs shall be filled with a Grout mixture consisting of: 2719 pounds sand, 188 pounds Type 1 or II cement, and 550 pounds of water per cubic yard, with a 28-day compressive strength of approximately 230 psi or less. Provide grout with a consistency that will flow into and completely fill all voids. Due to auger size, larger leave-out dimensions are acceptable from both an impact performance and maintenance repair standpoint (Suggested Maximum leave-out of 20"). Payment for furnishing and placing the grout mixture will be subsidiary to the pay item of riprap mow strip.



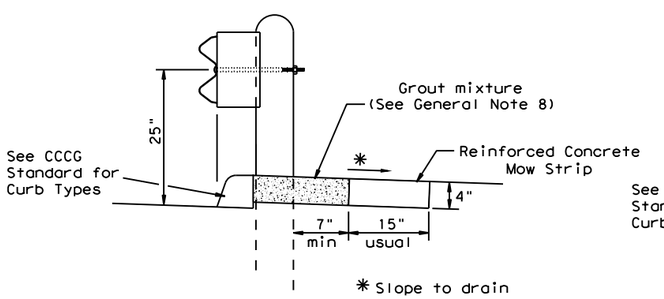
SECTION A-A

Typical



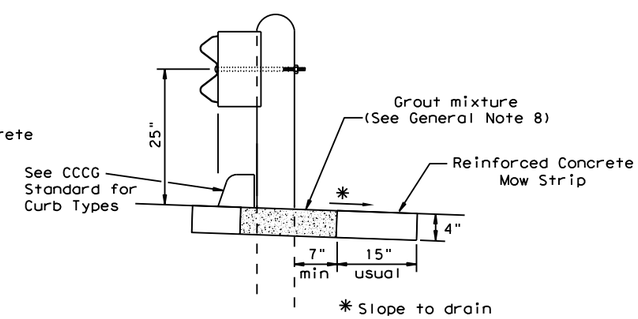
MOW STRIP DETAIL

Reinforced Concrete Mow Strip with 18" x 18" Square or 18" Dia. minimum leave-out.



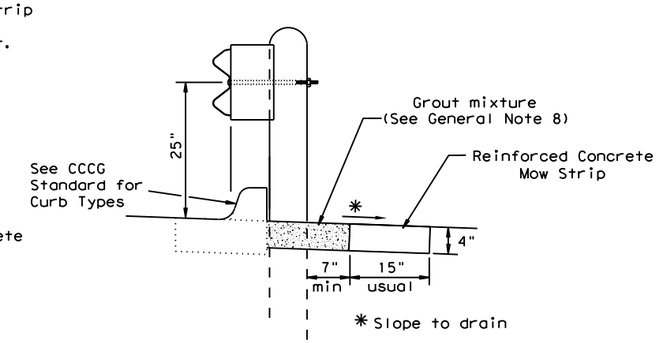
CURB OPTION (1)

This option will increase the post embedment throughout the system.



CURB OPTION (2)

Curb shown on top of mow strip



CURB OPTION (3)

Texas Department of Transportation — Design Division Standard

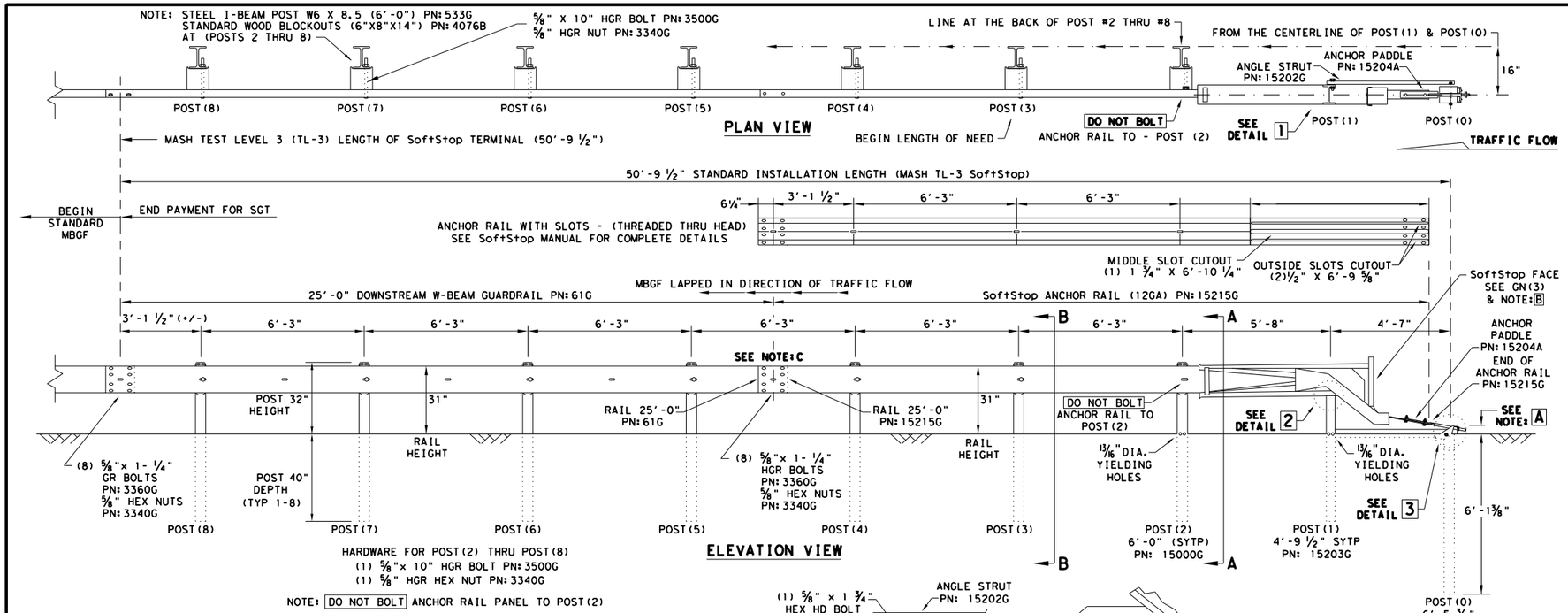
METAL BEAM GUARD FENCE (MOW STRIP) TL-3 MASH COMPLIANT

GF(31)MS-19

FILE: gf31ms19.dgn	DN: TxDOT	CK: KM	DW: VP	CK: CGL/AG
©TxDOT: NOVEMBER 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	174

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d010228\gf31ms19.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: TRINITY HIGHWAY AT 1(888)323-6374. 2525 N. STEMMONS FREEWAY, DALLAS, TX 75207
2. FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE; SoftStop END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL. PN:620237B
3. APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
5. HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
6. A COMPOSITE MATERIAL BLOCKOUT THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
7. IF SOLID ROCK IS ENCOUNTERED SEE THE MANUFACTURER'S INSTALLATION MANUAL AND REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
8. POSTS SHALL NOT BE SET IN CONCRETE.
9. IT IS ACCEPTABLE TO INSTALL THE SoftStop IMPACT HEAD PARALLEL TO THE GRADE LINE OR WITH AN UPWARD TILT.
10. DO NOT ATTACH THE SoftStop SYSTEM DIRECTLY TO A RIGID BARRIER.
11. UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE SoftStop SYSTEM BE CURVED.
12. A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCROACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.

NOTE: A	THE INSTALLATION HEIGHT OF FULLY ASSEMBLED ANCHOR POST WILL VARY FROM 3-3/4" MIN. TO 4" MAX. ABOVE FINISHED GRADE.
NOTE: B	PART PN:5852B RIGHT-SIDE (HIGH INTENSITY REFLECTIVE SHEETING) PART PN:5851B LEFT-SIDE (HIGH INTENSITY REFLECTIVE SHEETING)
NOTE: C	W-BEAM SPLICE LOCATED BETWEEN LINE POST(4) AND LINE POST(5) GUARDRAIL PANEL 25'-0" PN:61G ANCHOR RAIL 25'-0" PN:15215G LAP GUARDRAIL IN DIRECTION OF TRAFFIC FLOW.

PART	QTY	MAIN SYSTEM COMPONENTS
620237B	1	PRODUCT DESCRIPTION ASSEMBLY MANUAL (LATEST REV.)
15208A	1	SoftStop HEAD (SEE MANUAL FOR RIGHT-LEFT APPROACH)
15215G	1	SoftStop ANCHOR RAIL (12GA) WITH CUTOUT SLOTS
61G	1	SoftStop DOWNSTREAM W-BEAM RAIL (12GA) (25'- 0")
15205A	1	POST #0 - ANCHOR POST (6'- 5 7/8")
15203G	1	POST #1 - (SYTP) (4'- 9 1/2")
15000G	1	POST #2 - (SYTP) (6'- 0")
533G	6	POST #3 THRU #8 - I-BEAM (W6 x 8.5) (6'- 0")
4076B	7	BLOCKOUT - WOOD (ROUTED) (6" x 8" x 14")
6777B	7	BLOCKOUT - COMPOSITE (4" x 7 1/2" x 14")
15204A	1	ANCHOR PADDLE
15207G	1	ANCHOR KEEPER PLATE (24 GA)
15206G	1	ANCHOR PLATE WASHER (1/2" THICK)
15201G	2	ANCHOR POST ANGLE (10" LONG)
15202G	1	ANGLE STRUT
		HARDWARE
4902G	1	1" ROUND WASHER F436
3908G	1	1" HEAVY HEX NUT A563 GR.DH
3717G	2	3/4" x 2 1/2" HEX BOLT A325
3701G	4	3/4" ROUND WASHER F436
3704G	2	3/4" HEAVY HEX NUT A563 GR.DH
3360G	16	5/8" x 1 1/4" W-BEAM RAIL SPLICE BOLTS HGR
3340G	25	5/8" W-BEAM RAIL SPLICE NUTS HGR
3500G	7	5/8" x 10" HGR POST BOLT A307
3391G	1	5/8" x 1 3/4" HEX HD BOLT A325
4489G	1	5/8" x 9" HEX HD BOLT A325
4372G	4	5/8" WASHER F436
105285G	2	5/16" x 2 1/2" HEX HD BOLT GR-5
105286G	1	5/16" x 1 1/2" HEX HD BOLT GR-5
3240G	6	5/16" ROUND WASHER (WIDE)
3245G	3	5/16" HEX NUT A563 GR.DH
5852B	1	HIGH INTENSITY REFLECTIVE SHEETING - SEE NOTE:B

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE SoftStop END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

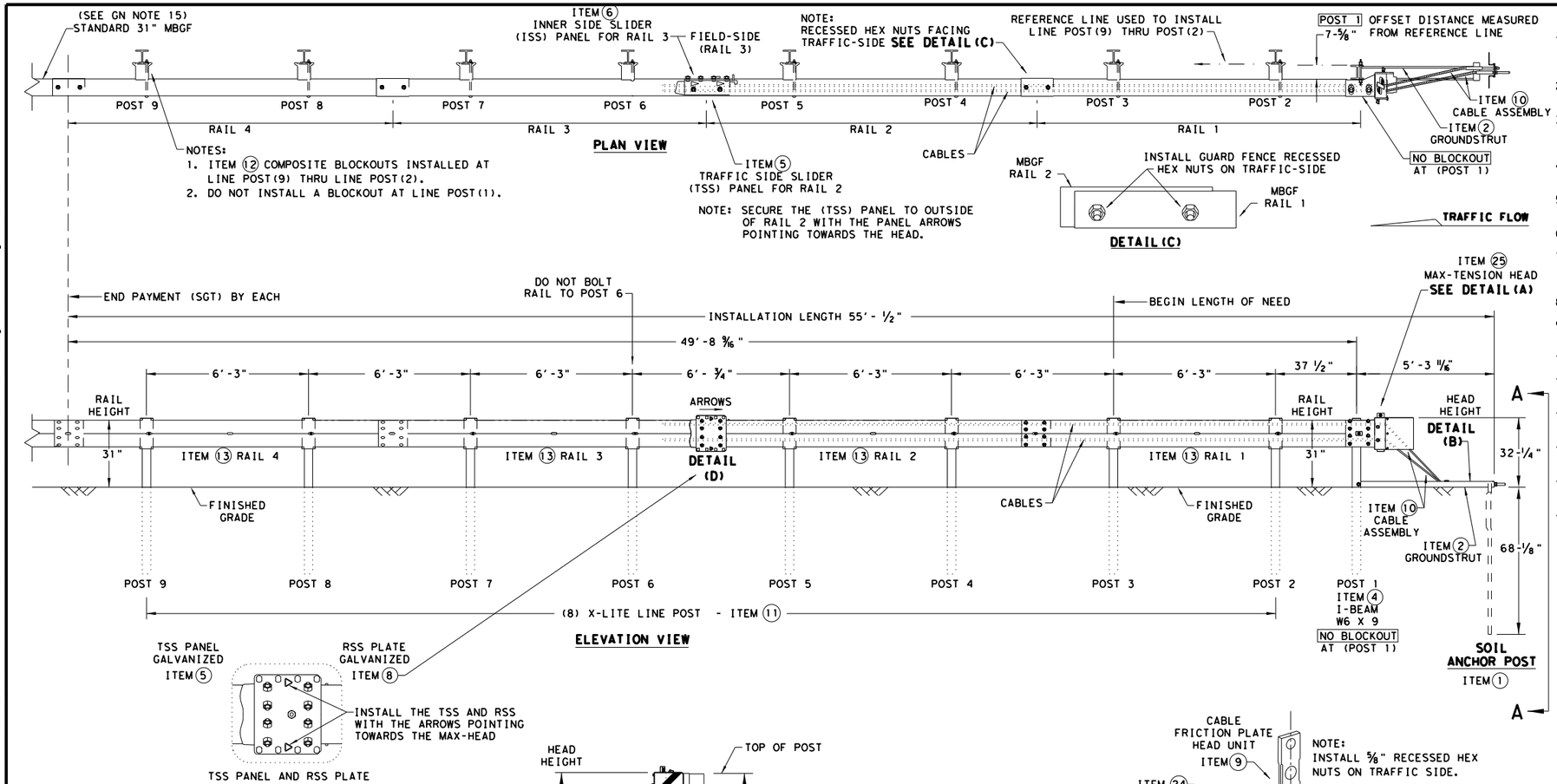
Texas Department of Transportation — Design Division Standard

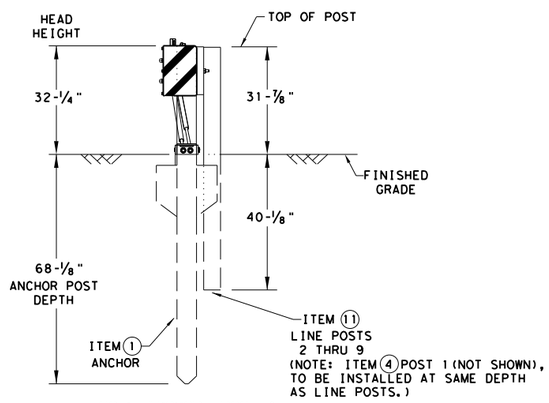
TRINITY HIGHWAY SOFTSTOP END TERMINAL MASH - TL-3

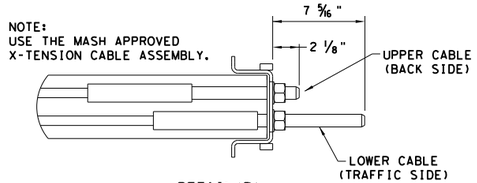
SGT(10S)31-16

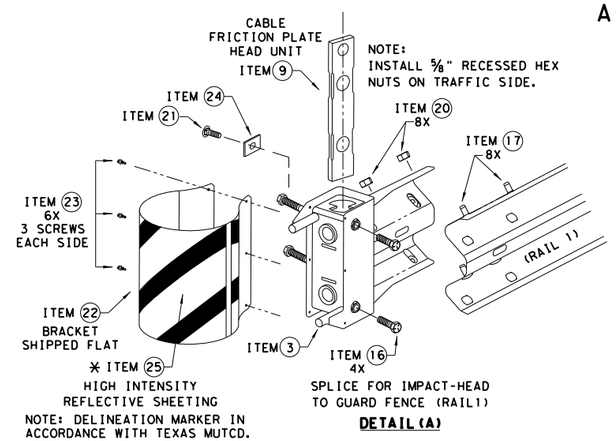
FILE: sgt10s3116	DN: TxDOT	CK: KM	DW: VP	CK: MB/VP
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	175

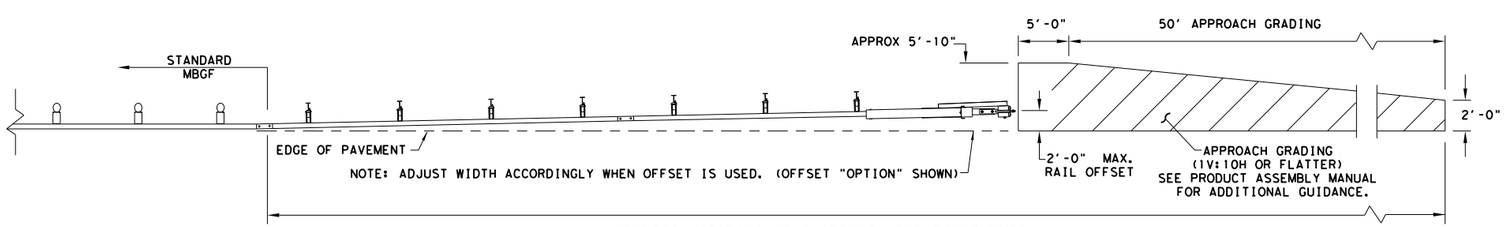
DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\sgt10s3116.dgn











NOTE: TXDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

APPROACH GRADING AT GUARDRAIL END TREATMENTS

GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: LINDSAY TRANSPORTATION SOLUTIONS (LTS) - BARRIER SYSTEMS, INC. AT (707) 374-6800
2. FOR INSTALLATION, REPAIR, & MAINTENANCE REFER TO THE; MAX-TENSION INSTALLATION INSTRUCTION MANUAL. P/N MANMAX REV D (ECN 3516).
3. APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURE'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
5. ALL STEEL COMPONENTS ARE GALVANIZED PER ASTM A123 OR EQUIVALENT UNLESS OTHERWISE STATED.
6. SYSTEM SHOWN USING STEEL WIDE FLANGE POST WITH COMPOSITE BLOCKOUTS.
7. COMPOSITE MATERIAL BLOCKOUT THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST(MPL)FOR CERTIFIED PRODUCERS.
8. REFER TO INSTALLATION MANUAL FOR SPECIFIC PANEL LAPPING GUIDANCE.
9. IF SOLID ROCK IS ENCOUNTERED SEE THE MANUFACTURER'S INSTALLATION MANUAL FOR INSTALLATION GUIDANCE.
10. POSTS SHALL NOT BE SET IN CONCRETE.
11. A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POST TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST.
12. MAX-TENSION SYSTEM SHALL NEVER BE INSTALLED WITHIN A CURVED SECTION OF GUARDRAIL.
13. IF A DELINEATION MARKER IS REQUIRED, MARKER SHALL BE IN ACCORDANCE WITH TEXAS MUTCD.
14. THE SYSTEM IS SHOWN WITH 12'-6" MBGF PANELS, 25'-0" MBGF PANELS ARE ALSO ALLOWED.
15. A MINIMUM OF 12'-6" OF 12GA. MBGF IS REQUIRED IMMEDIATELY DOWNSTREAM OF THE MAX-TENSION SYSTEM.

	ITEM #	PART NUMBER	DESCRIPTION	QTY
	1	BSI-1610060-00	SOIL ANCHOR - GALVANIZED	1
	2	BSI-1610061-00	GROUND STRUT - GALVANIZED	1
	3	BSI-1610062-00	MAX-TENSION IMPACT HEAD	1
	4	BSI-1610063-00	W6x9 I-BEAM POST 6FT.-GALVANIZED	1
	5	BSI-1610064-00	TSS PANEL - TRAFFIC SIDE SLIDER	1
	6	BSI-1610065-00	ISS PANEL - INNER SIDE SLIDER	1
	7	BSI-1610066-00	TOOTH - GEOMET	1
	8	BSI-1610067-00	RSS PLATE - REAR SIDE SLIDER	1
	9	B061058	CABLE FRICTION PLATE - HEAD UNIT	1
	10	BSI-1610069-00	CABLE ASSEMBLY - MASH X-TENSION	2
	11	BSI-1012078-00	X-LITE LINE POST-GALVANIZED	8
	12	B090534	8" W-BEAM COMPOSITE-BLOCKOUT XT110	8
	13	BSI-4004386	12'-6" W-BEAM GUARD FENCE PANELS 12GA.	4
	14	BSI-1102027-00	X-LITE SQUARE WASHER	1
	15	BSI-2001886	5/8" X 7" THREAD BOLT HH (GR.5)GEOMET	1
	16	BSI-2001885	3/4" X 3" ALL-THREAD BOLT HH (GR.5)GEOMET	4
	17	4001115	5/8" X 1 1/4" GUARD FENCE BOLTS (GR.2)MGAL	48
	18	2001840	5/8" X 10" GUARD FENCE BOLTS MGAL	8
	19	2001636	5/8" WASHER F436 STRUCTURAL MGAL	2
	20	4001116	5/8" RECESSED GUARD FENCE NUT (GR.2)MGAL	59
	21	BSI-2001888	5/8" X 2" ALL THREAD BOLT (GR.5)GEOMET	1
	22	BSI-1701063-00	DELINEATION MOUNTING (BRACKET)	1
	23	BSI-2001887	1/4" X 3/4" SCREW SD HH 410SS	7
	24	4002051	GUARDRAIL WASHER RECT AASHTO FWR03	1
*	25	SEE NOTE BELOW	HIGH INTENSITY REFLECTIVE SHEETING	1
**	26	4002337	8" W-BEAM TIMBER-BLOCKOUT, PDB01B	8
**	27	BSI-4004431	25' W-BEAM GUARDRAIL PANEL,8-SPACE,12GA.	2
	28	MANMAX Rev-(D)	MAX-TENSION INSTALLATION INSTRUCTIONS	1

* TO BE PROVIDED BY DISTRIBUTOR OR CONTRACTOR.

** ALTERNATIVE ITEMS NOT SHOWN.
ITEM(26) 8" WOOD-BLOCKOUTS
ITEM(27) 25'GUARD FENCE PANELS

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE MAX-TENSION END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

Texas Department of Transportation — Design Division Standard

MAX-TENSION END TERMINAL
MASH - TL-3

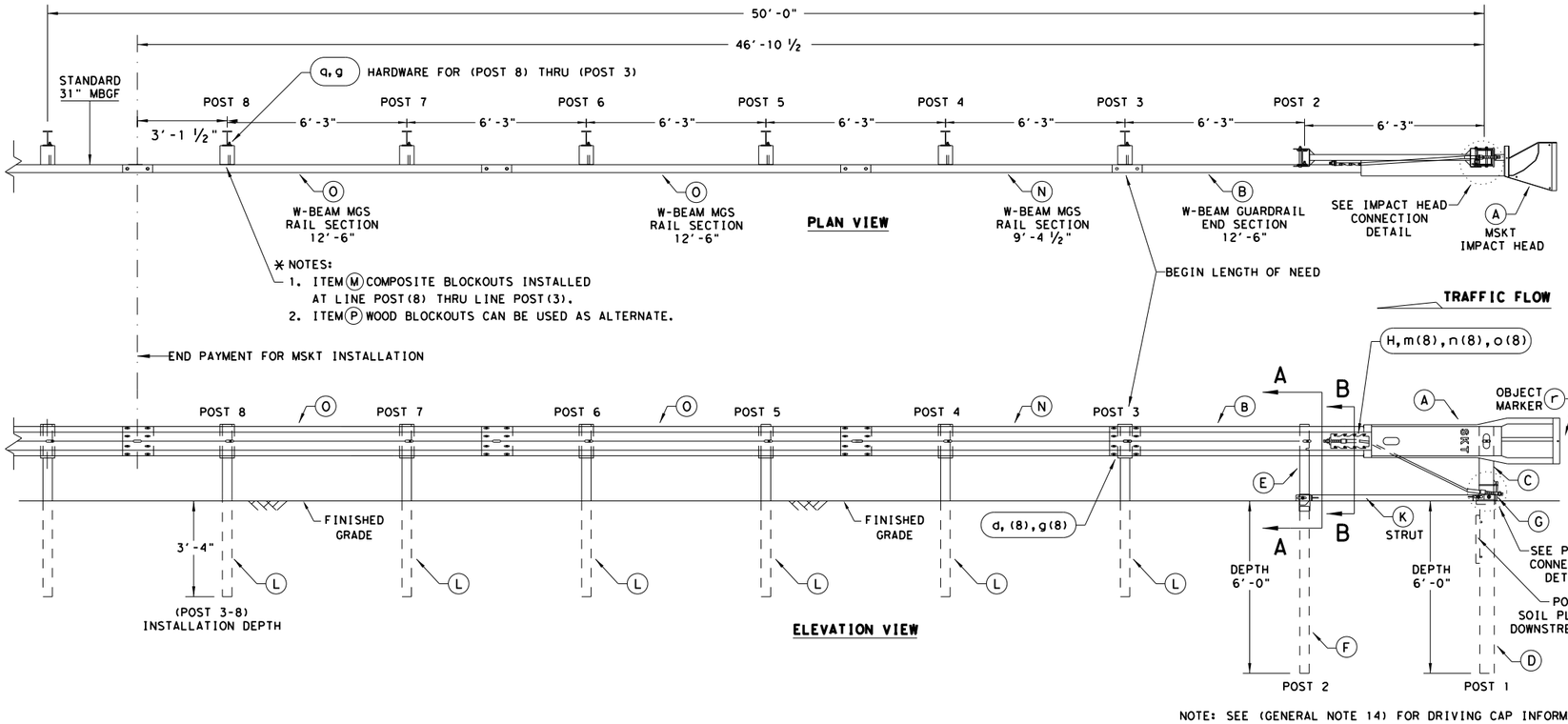
SGT(11S)31-18

FILE: sgt11s3118.dgn	DN: TxDOT	CK: KM	DW: TxDOT	CK: CL
© TxDOT: FEBRUARY 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	176

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\sgt11s3118.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSIONOF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.



NOTE: SEE (GENERAL NOTE 14) FOR DRIVING CAP INFORMATION.

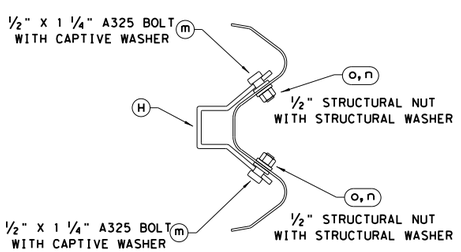
GENERAL NOTES

1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: ROAD SYSTEMS, INC. (432)263-2435. 3616 OLD HOWARD COUNTY AIRPORT, BIG SPRING, TX 79720
2. FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE; MSKT END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL (PUBLICATION~062717).
3. APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" ON THE FRONT FACE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
5. HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445, "GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
6. SYSTEM SHOWN USING STEEL WIDE FLANGE POSTS WITH COMPOSITE BLOCKOUTS.
7. A COMPOSITE MATERIAL BLOCKOUTS THAT MEETS THE REQUIREMENTS OF DMS-7210, MAY BE SUBSTITUTED FOR BLOCKOUTS OF SIMILAR DIMENSIONS. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
8. IF SOLID ROCK IS ENCOUNTERED IN THE AREA OF (POST 1) AND / OR (POST 2) CONTACT THE MANUFACTURER, & REFER TO THE LATEST ROADWAY MBGF STANDARD FOR INSTALLATION GUIDANCE.
9. POSTS SHALL NOT BE SET IN CONCRETE.
10. SYSTEM MUST BE ATTACHED TO STANDARD 31" MBGF.
11. UNDER NO CIRCUMSTANCES SHALL THE GUARDRAIL WITHIN THE MSKT SYSTEM BE CURVED.
12. A FLARE RATE OF UP TO 25:1 MAY BE USED TO PREVENT THE TERMINAL HEAD FROM ENCROACHING ON THE SHOULDER. THE FLARE MAY BE DECREASED OR ELIMINATED FOR SPECIFIC INSTALLATIONS, IF DIRECTED BY THE ENGINEER.
13. THE SYSTEM IS SHOWN WITH TWO 12'-6" MBGF PANELS, ONE 25'-0" MBGF PANEL IS ALSO ALLOWED IN THEIR PLACE.
14. A DRIVING CAP WITH A TIMBER OR PLASTIC INSERT SHALL BE USED WHEN DRIVING POSTS 3-8 TO PREVENT DAMAGE TO THE GALVANIZING ON TOP OF THE POST. SPECIAL DRIVING CAP TO BE USED ON LOWER POSTS 1 & 2 TO PREVENT DAMAGE TO THE WELDED PLATES.

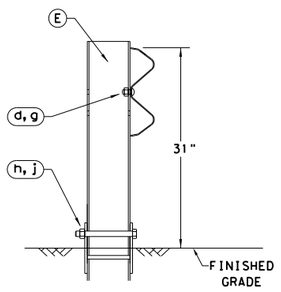
SEE NOTES: ✱

ALTERNATIVE ITEMS NOT SHOWN. ✱✱
✱ ITEM(P) 8" WOOD-BLOCKOUT
✱✱ ITEM(Q) 25'GUARD FENCE PANEL

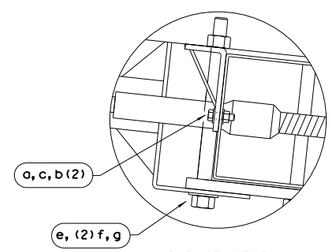
ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM NUMBERS
A	1	MSKT IMPACT HEAD	MS3000
B	1	W-BEAM GUARDRAIL END SECTION, 12 Ga.	SF1303
C	1	POST 1 - TOP (6" X 6" X ⅛" TUBE)	MTPHP1A
D	1	POST 1 - BOTTOM (6' W6X15)	MTPHP1B
E	1	POST 2 - ASSEMBLY TOP	UHP2A
F	1	POST 2 - ASSEMBLY BOTTOM (6' W6X9)	HP2B
G	1	BEARING PLATE	E750
H	1	CABLE ANCHOR BOX	S760
J	1	BCT CABLE ANCHOR ASSEMBLY	E770
K	1	GROUND STRUT	MS785
L	6	W6x9 OR W6x8.5 STEEL POST	P621
M	6	COMPOSITE BLOCKOUTS	CBSP-14
N	1	W-BEAM MGS RAIL SECTION (9'-4 ½")	G12025
O	2	W-BEAM MGS RAIL SECTION (12'-6")	G1203A
P	6	WOOD BLOCKOUT 6" X 8" X 14"	P675
Q	1	W-BEAM MGS RAIL SECTION (25'-0")	G1209
		SMALL HARDWARE	
a	2	5/16" x 1" HEX BOLT (GRD 5)	B5160104A
b	4	5/16" WASHER	W0516
c	2	5/16" HEX NUT	N0516
d	25	5/8" Dia. x 1 ¼" SPLICE BOLT (POST 2)	B580122
e	2	5/8" Dia. x 9" HEX BOLT (GRD A449)	B580904A
f	3	5/8" WASHER	W050
g	33	5/8" Dia. H.G.R NUT	N050
h	1	¾" Dia. x 8 ½" HEX BOLT (GRD A449)	B340854A
j	1	¾" Dia. HEX NUT	N030
k	2	1 ANCHOR CABLE HEX NUT	N100
l	2	1 ANCHOR CABLE WASHER	W100
m	8	½" x 1 ¼" A325 BOLT WITH CAPTIVE WASHER	SB12A
n	8	½" STRUCTURAL NUTS	N012A
o	8	1 1/16" O.D. x 9/16" I.D. STRUCTURAL WASHERS	W012A
p	1	BEARING PLATE RETAINER TIE	CT-100ST
q	6	5/8" x 10" H.G.R. BOLT	B581002
r	1	OBJECT MARKER 18" X 18"	E3151



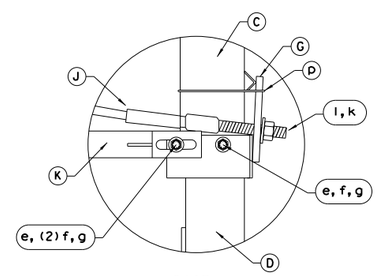
SECTION B-B
ANCHOR BRACKET



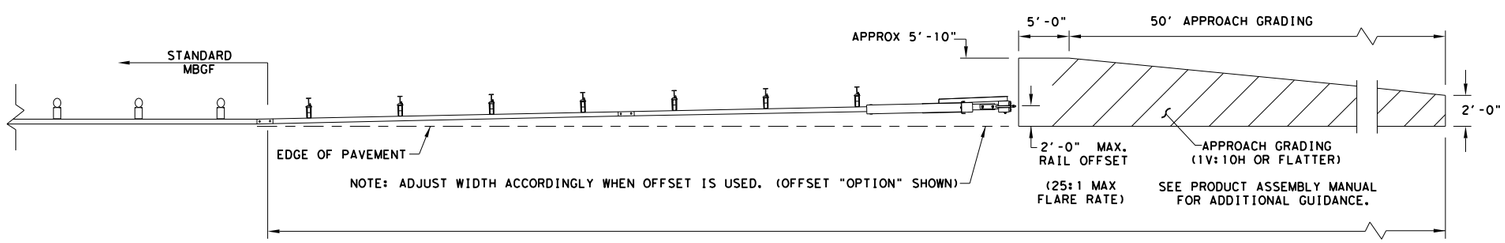
POST 2
SECTION A-A



IMPACT HEAD
CONNECTION DETAIL



POST 1
CONNECTION DETAIL



NOTE: ADJUST WIDTH ACCORDINGLY WHEN OFFSET IS USED. (OFFSET "OPTION" SHOWN)

APPROACH GRADING AT GUARDRAIL END TREATMENTS

NOTE: TXDOT GENERIC APPROACH GRADING LAYOUT USED FOR ALL TANGENT TYPE END TREATMENTS.

NOTE: THIS STANDARD IS A BASIC REPRESENTATION OF THE MSKT END TERMINAL, IT IS NOT INTENDED TO REPLACE THE PRODUCT DESCRIPTION ASSEMBLY MANUAL.

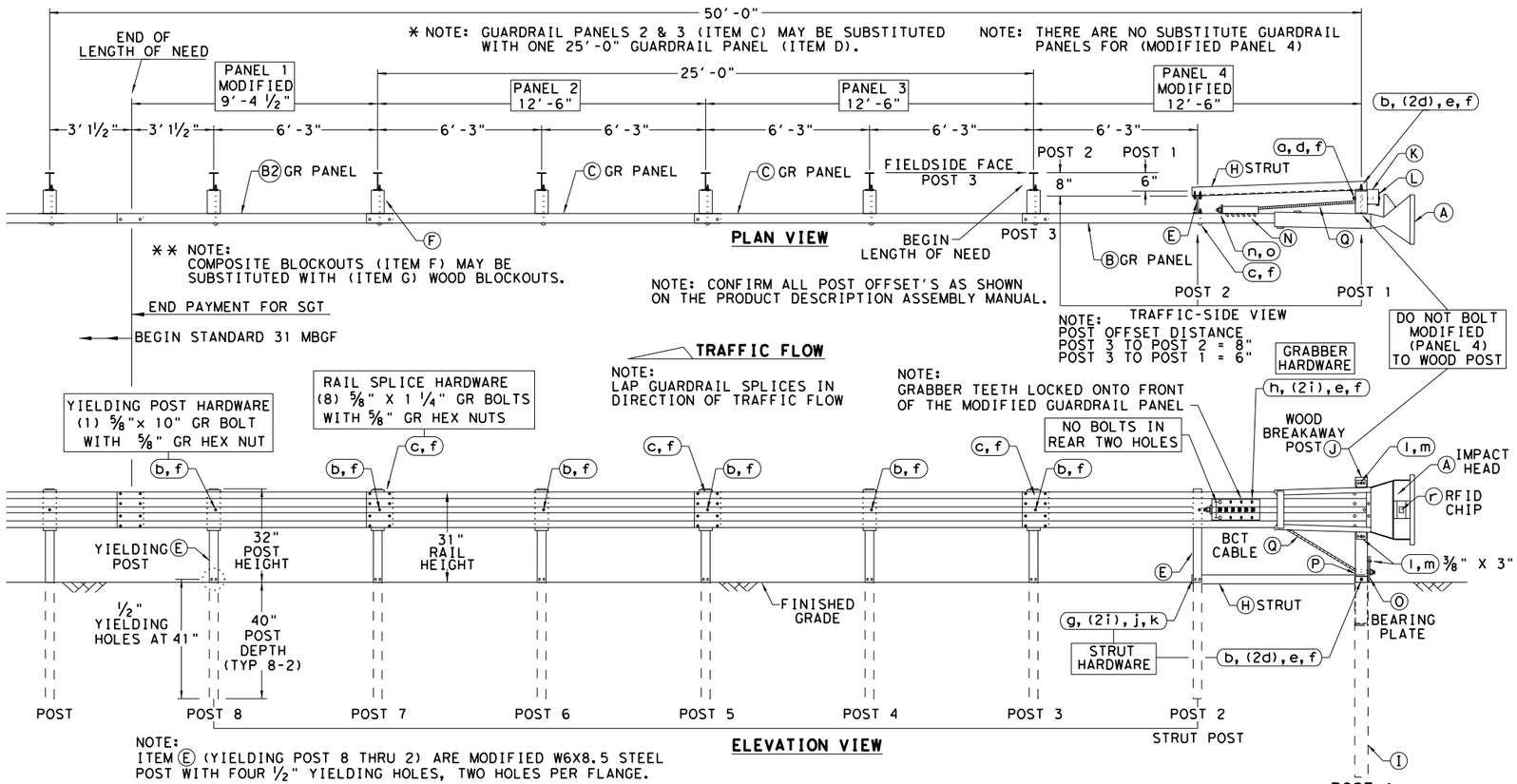
Texas Department of Transportation — Design Division Standard

SINGLE GUARDRAIL TERMINAL
MSKT-MASH-TL-3
SGT(12S)31-18

FILE: sgt12s3118.dgn	DN: TxDOT	CK: KM	DW: VP		CK: CL
© TxDOT: APRIL 2018	CONT	SECT	JOB	HIGHWAY	
REVISIONS	3586	02	006	SH 255	
	DIST	COUNTY		SHEET NO.	
	22	WEBB		177	

DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\sgt12s3118.dgn

DISCLAIMER:
THE USE OF THIS STANDARD IS GOVERNED BY THE "TEXAS ENGINEERING PRACTICE ACT". NO WARRANTY OF ANY KIND IS MADE BY TXDOT FOR ANY PURPOSE WHATSOEVER. TXDOT ASSUMES NO RESPONSIBILITY FOR THE CONVERSION OF THIS STANDARD TO OTHER FORMATS OR FOR INCORRECT RESULTS OR DAMAGES RESULTING FROM ITS USE.

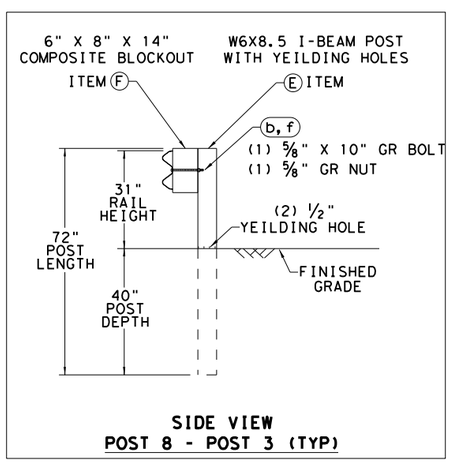


GENERAL NOTES

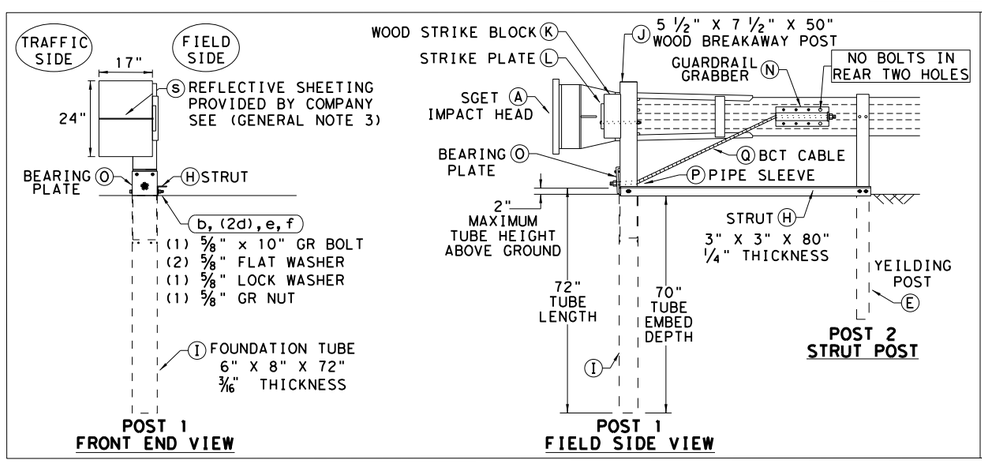
1. FOR SPECIFIC INFORMATION REGARDING INSTALLATION AND TECHNICAL GUIDANCE OF THE SYSTEM, CONTACT: SPIG INDUSTRY, INC. AT 1(267) 644-9510. 14675 INDUSTRIAL PARK RD; BRISTOL, VA 24202
2. FOR INSTALLATION, REPAIR AND MAINTENANCE REFER TO THE MANUFACTURER'S; SGET END TERMINAL, PRODUCT DESCRIPTION ASSEMBLY MANUAL.
3. MANUFACTURER WILL APPLY HIGH INTENSITY REFLECTIVE SHEETING, "OBJECT MARKER" TO THE FACE PLATE OF THE DEVICE PER MANUFACTURER'S RECOMMENDATIONS. THE OBJECT MARKER SHALL CONFORM TO THE STANDARDS REQUIRED IN TEXAS MUTCD.
4. THE NOMINAL HEIGHT OF THE GUARDRAIL BEAM IS 31 INCHES WITH A TOLERANCE OF +/- ONE INCH.
5. FOR POST (LEAVE-OUT) INSTALLATION AND GUIDANCE SEE TXDOT'S LATEST ROADWAY MOW STRIP STANDARD.
6. (POST 2 THROUGH POST 8) ARE MODIFIED STEEL-YIELDING POSTS WITH YIELDING HOLES AT GROUND LEVEL. THERE ARE NO SUBSTITUTE POSTS.
7. POSTS SHALL NOT BE SET IN CONCRETE.
8. IF SOLID ROCK IS ENCOUNTERED FOR ANY OF THE POSTS IN THE SYSTEM, CONTACT THE MANUFACTURER FOR SPECIFIC INSTALLATION GUIDANCE.
9. HARDWARE (BOLTS, NUTS, & WASHERS) SHALL BE GALVANIZED IN ACCORDANCE WITH ITEM 445,"GALVANIZING". FITTINGS SHALL BE SUBSIDIARY TO THE BID ITEM.
10. A COMPOSITE MATERIAL BLOCKOUT THAT MEETS DMS-7210 REQUIREMENTS MAY BE SUBSTITUTED FOR AN APPROVED WOOD BLOCKOUT. SEE CONSTRUCTION DIVISION MATERIAL PRODUCER LIST (MPL) FOR CERTIFIED PRODUCERS.
11. THE ENTIRE SYSTEM MUST BE INSTALLED IN A STRAIGHT LINE WITHOUT ANY CURVE. HOWEVER, THE SYSTEM CAN BE OFFSET BY TWO FEET AS SHOWN ON THE APPROACH GRADING DETAIL TO HELP OFF-SET THE IMPACT HEAD FROM SHOULDER OF THE ROAD.

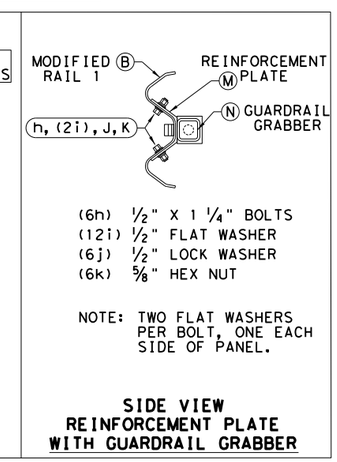
ITEM	QTY	MAIN SYSTEM COMPONENTS	ITEM #
A	1	SGET IMPACT HEAD	SIH1A
B	1	MODIFIED GUARDRAIL PANEL 12'-6" 12GA	126SPZGP
B2	1	MODIFIED GUARDRAIL PANEL 9'-4 1/2" 12GA	GP94
C	2	STANDARD GUARDRAIL PANEL 12'-6" 12GA	GP126
D	1	STANDARD GUARDRAIL PANEL 25'-0" 12GA	GP25
E	7	MODIFIED YIELDING I-BEAM POST W6x8.5	YP6MOD
F	6	COMPOSITE BLOCKOUT 6" X 8" X 14"	CBO8
G	6	WOOD BLOCKOUT 6" X 8" X 14"	WBO8
H	1	STRUT 3" X 3" X 80" x 1/4" A36 ANGLE	STR80
I	1	FOUNDATION TUBE 6" X 8" X 72" x 3/16"	FNDT6
J	1	WOOD BREAKAWAY POST 5 1/2" x 7 1/2" x 50"	WBRK50
K	1	WOOD STRIKE BLOCK	WSBLK14
L	1	STRIKE PLATE 1/4" A36 BENT PLATE	SPLT8
M	1	REINFORCEMENT PLATE 12 GA. GR55	REPLT17
N	1	GUARDRAIL GRABBER 2 1/2" X 2 1/2" X 16 1/2"	GGR17
O	1	BEARING PLATE 8" X 8 5/8" X 5/8" A36	BPLT8
P	1	PIPE SLEEVE 4 1/4" X 2 3/8" O.D. (2 1/8" I.D.)	PSLV4
Q	1	BCT CABLE 3/4" X 81" LENGTH	CBL81
		SMALL HARDWARE	
a	1	5/8" X 12" GUARDRAIL BOLT 307A HDG	12GRBLT
b	7	5/8" X 10" GUARDRAIL BOLT 307A HDG	10GRBLT
c	33	5/8" X 1 1/4" GR SPLICE BOLTS 307A HDG	1GRBLT
d	3	5/8" FLAT WASHER F436 A325 HDG	58FW436
e	1	5/8" LOCK WASHER HDG	58LW
f	39	5/8" GUARDRAIL HEX NUT HDG	58HN563
g	2	1/2" X 2" STRUT BOLT A325 HDG	2BLT
h	6	1/2" X 1 1/4" PLATE BOLT A325 HDG	125BLT
i	16	1/2" FLAT WASHER F436 A325 HDG	12FWF436
j	8	1/2" LOCK WASHER HDG	12LW
k	8	1/2" HEX NUT A563 HDG	12HN563
l	4	3/8" X 3" HEX LAG SCREW GR5 HDG	38LS
m	4	3/8" FLAT WASHER F436 A325 HDG	38FW844
n	2	1" FLAT WASHER F436 A325 HDG	1FWF436
o	2	1" HEX NUT A563DH HDG	1HN563
p	1	18" TO 24" LONG ZIP TIE RATED 175-200LB	ZPT18
q	1	1 1/2" X 4" SCH-40 PVC PIPE	PSPCR4
r	1	RFID CHIP RATED MIL-STD-810F	RFID810F
s	1	IMPACT HEAD REFLECTIVE SHEETING	RS30M

ALTERNATIVE ITEMS * **
NOTE: SEE PLAN VIEW

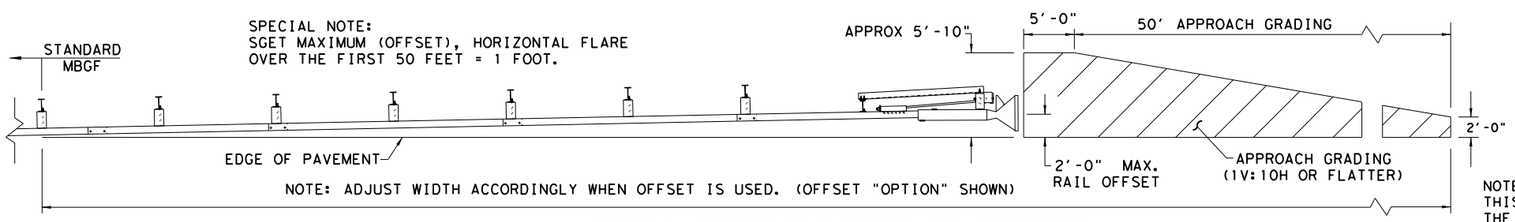


SIDE VIEW
POST 8 - POST 3 (TYP)





SIDE VIEW
REINFORCEMENT PLATE
WITH GUARDRAIL GRABBER



APPROACH GRADING AT GUARDRAIL END TREATMENTS

NOTE:
THIS STANDARD IS A BASIC REPRESENTATION OF THE SGET TERMINAL SYSTEM AND IS NOT INTENDED TO REPLACE THE MANUFACTURER'S ASSEMBLY MANUAL.

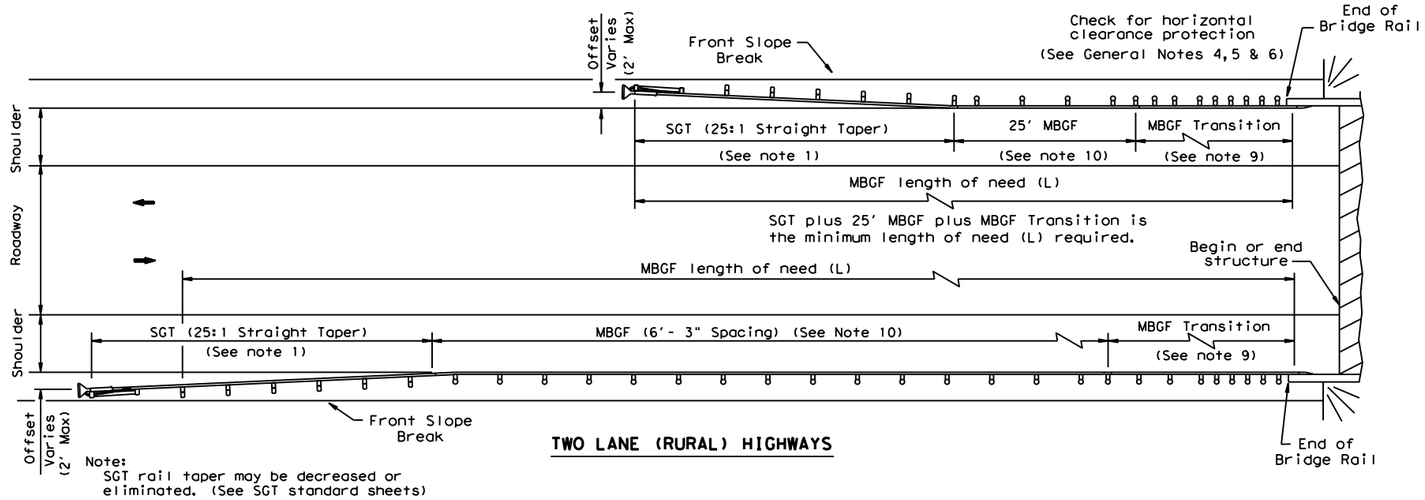
Texas Department of Transportation — Design Division Standard

SPIG INDUSTRY, LLC
SINGLE GUARDRAIL TERMINAL
SGET - TL-3 - MASH
SGT(15)31-20

FILE: sgt153120.dgn	DN: TxDOT	CK: KM	DW: VP	CK: VP
© TxDOT: APRIL 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	178

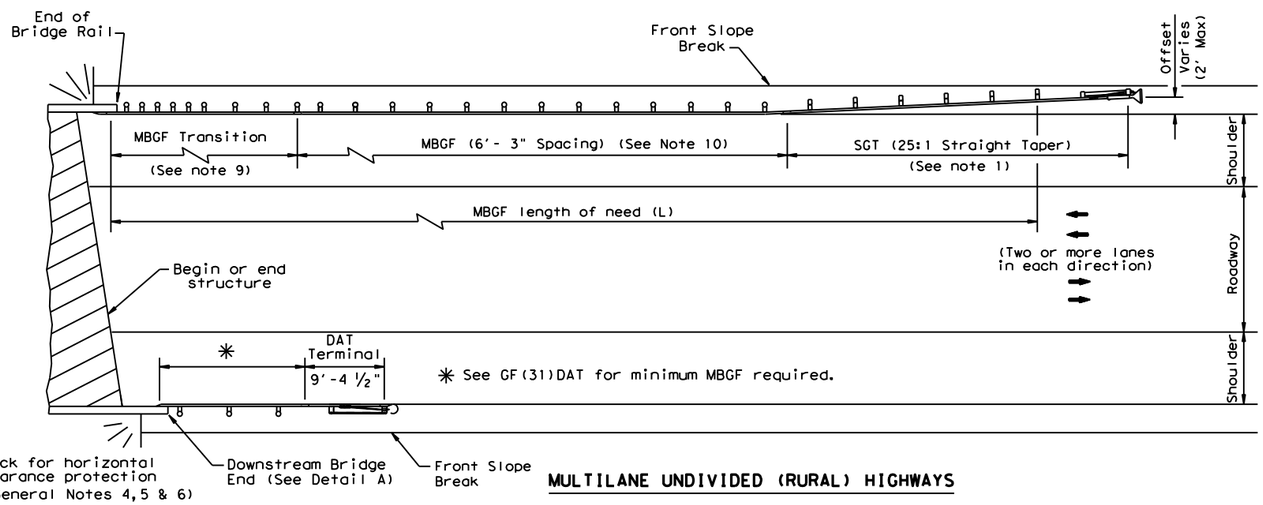
DATE: 4/9/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\sgt153120.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever.
TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

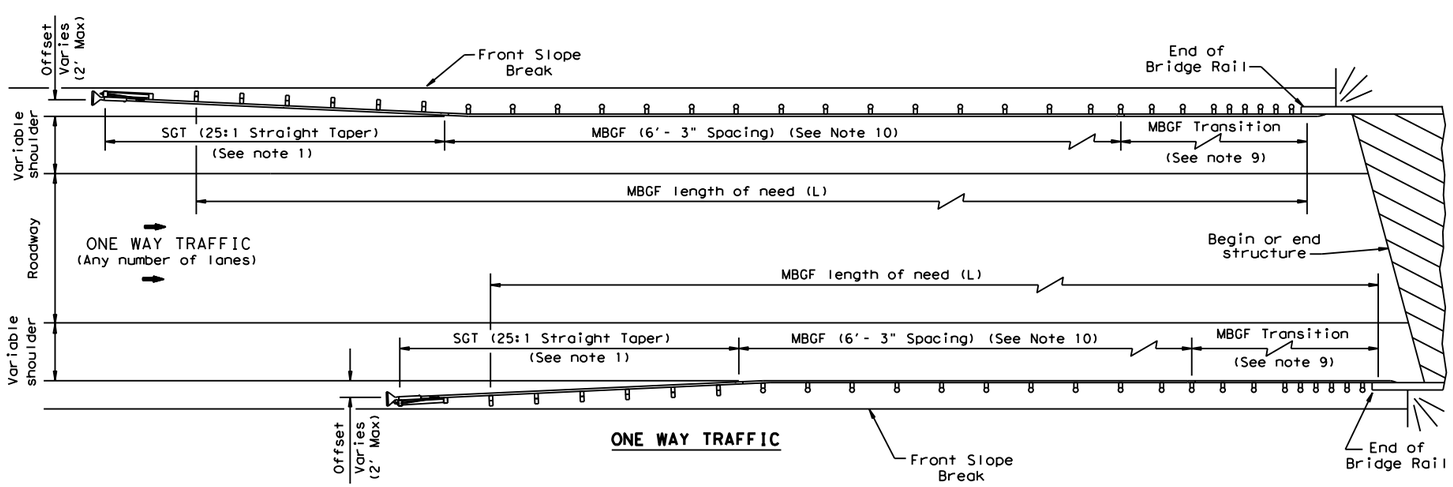


Note:
SGT rail taper may be decreased or eliminated. (See SGT standard sheets)

TWO LANE (RURAL) HIGHWAYS



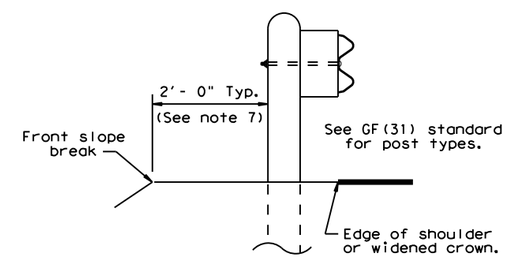
MULTILANE UNDIVIDED (RURAL) HIGHWAYS



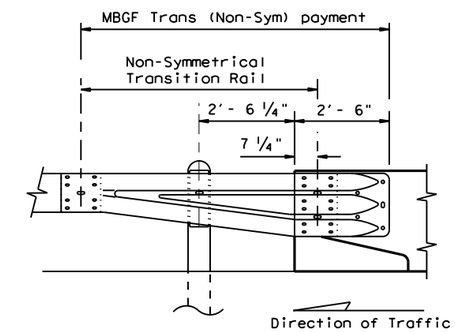
ONE WAY TRAFFIC

GENERAL NOTES

1. For more detail: See GF(31), SGT( )31, GF(31)TR, and GF(31)TL2 standard sheets.
2. Quantities of metal beam guard fence (MBGF) at individual bridge ends are as shown in the plans.
3. Use average daily traffic (ADT) for the current year to determine MBGF length of need in accordance with the Roadway Design Manual unless otherwise specified. Where significant traffic volume growth is anticipated on low volume (0-750 ADT) highways, use length determinations for the higher volume category.
4. MBGF may not be required to shield departure end of bridge unless other obstacles within the horizontal clearance limits or opposing traffic indicate a MBGF consideration.
5. Downstream anchor terminals (DAT) are only for downstream end anchorage use, outside the horizontal clearance area of opposing traffic.
6. Direct connection of MBGF to concrete rails are only for downstream rail connections outside the horizontal clearance area of opposing traffic. (This requires a minimum of three standard line posts plus the DAT terminal, See Detail A)
7. The crown shall be widened to accommodate MBGF. Typically the "front slope" break should be 2'- 0" from the back of the MBGF post. This applies to new construction on new alignment or where existing roadway cross section is to be widened to increase roadway width. This does not apply to rehabilitation work where existing roadway crown width is to be retained (See Typical Cross Section at MBGF).
8. For restrictive bridge widths: The MBGF should be properly transitioned from the existing bridge rail to the adjoining MBGF (See MBGF Transition Standards). Metal beam guard fence at these bridge location(s) shall be flared at the rate of 25:1 or flatter, and be of the length necessary to locate the terminal end at the 2 ft."maximum" offset from the shoulder edge in the approach direction.
9. Transition length and post spacing will vary depending on the transition type. Transition type will be shown elsewhere in the plans.
10. A minimum 25' length of MBGF will be required.



TYPICAL CROSS SECTION AT MBGF



Note:
All rail elements shall be lapped in the direction of adjacent traffic.

DETAIL A

Showing Downstream Rail Attachment

Texas Department of Transportation — Design Division Standard

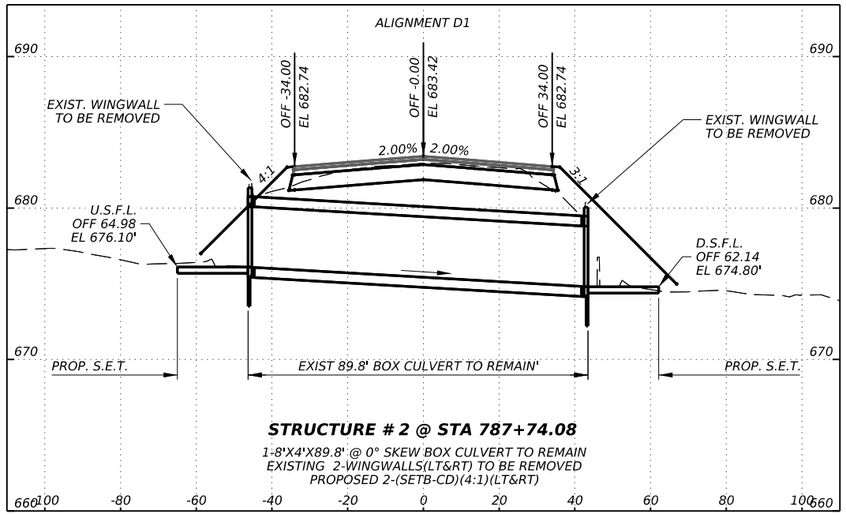
BRIDGE END DETAILS

(METAL BEAM GUARD FENCE APPLICATIONS TO RIGID RAILS)

BED-14

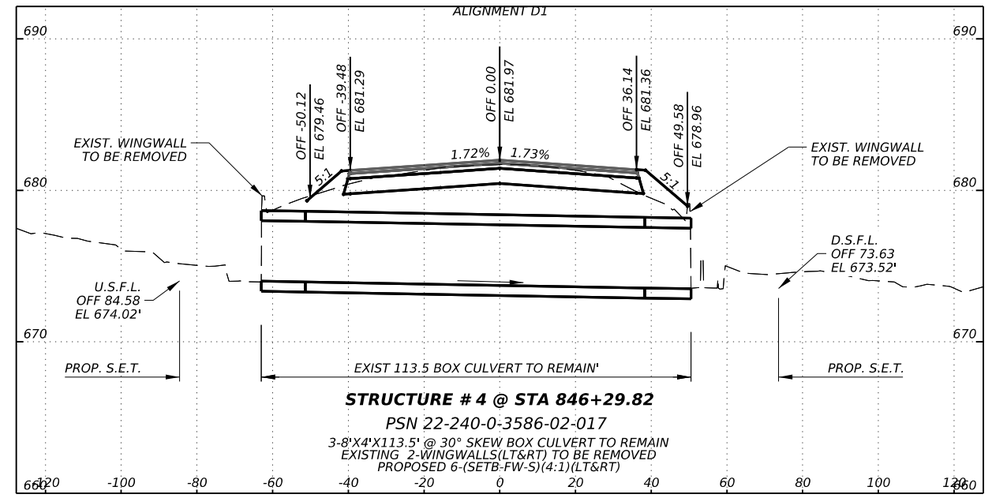
FILE: bed14.dgn	DN: TxDOT	CK: AM	DW: BD/VP	CK: CGL
© TxDOT: December 2011	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	179

DATE: 4/9/2024 9:39:45 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010228\bed14.dgn



STRUCTURE # 2 @ STA 787+74.08

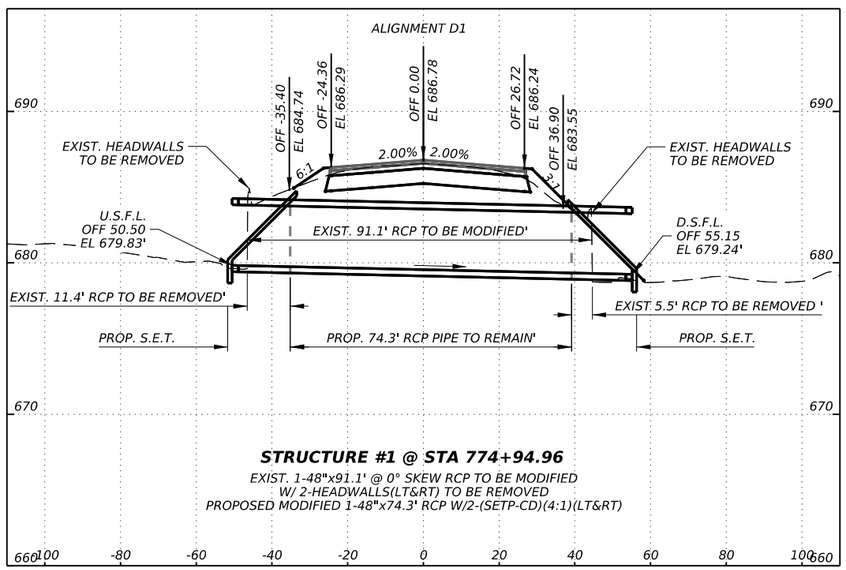
1-8'X4'X89.8' @ 0° SKEW BOX CULVERT TO REMAIN
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 2-(SETB-CD)(4:1)(LT&RT)



STRUCTURE # 4 @ STA 846+29.82

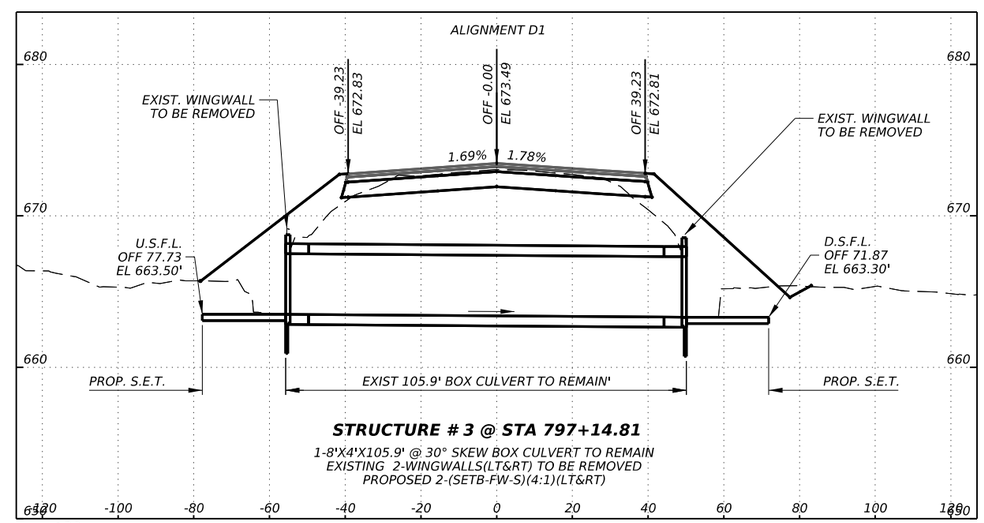
PSN 22-240-0-3586-02-017

3-8'X4'X113.5' @ 30° SKEW BOX CULVERT TO REMAIN
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 6-(SETB-FW-S)(4:1)(LT&RT)



STRUCTURE #1 @ STA 774+94.96

EXIST. 1-48"x91.1' @ 0° SKEW RCP TO BE MODIFIED
W/ 2-HEADWALLS(LT&RT) TO BE REMOVED
PROPOSED MODIFIED 1-48"x74.3' RCP W/2-(SETP-CD)(4:1)(LT&RT)



STRUCTURE # 3 @ STA 797+14.81

1-8'X4'X105.9' @ 30° SKEW BOX CULVERT TO REMAIN
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 2-(SETB-FW-S)(4:1)(LT&RT)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:

8EE6B140888E4E9...

SH 255

STRUCTURE CROSS SECTION DETAILS

Texas Department of Transportation

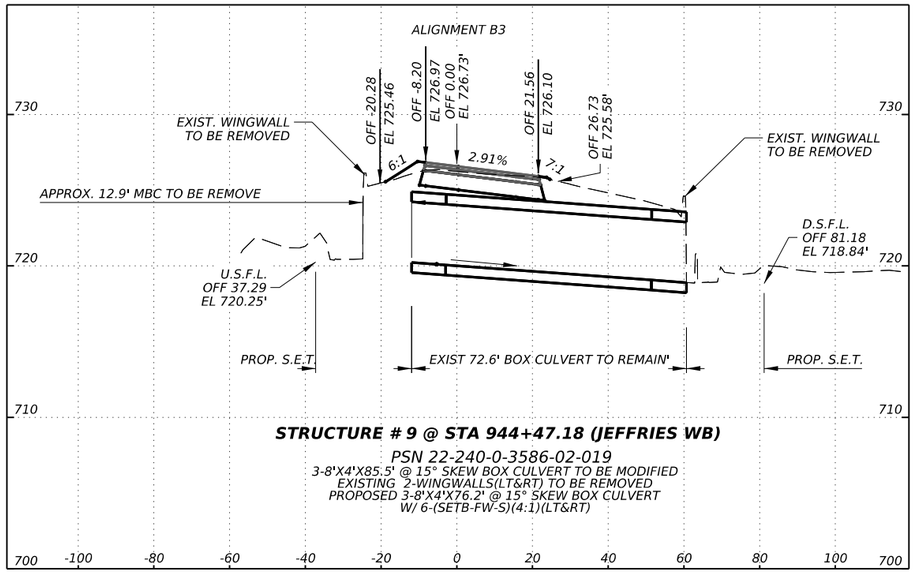
©TxDOT 2024

SHEET 1 OF 3

CONT	SECT	JOB	HIGHWAY	DIST	COUNTY	SHEET NO.
3586	02	006	SH 255	22	WEBB	180

DATE: 4/9/2024 9:40:20 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763338\006_culvlayouts.dgn

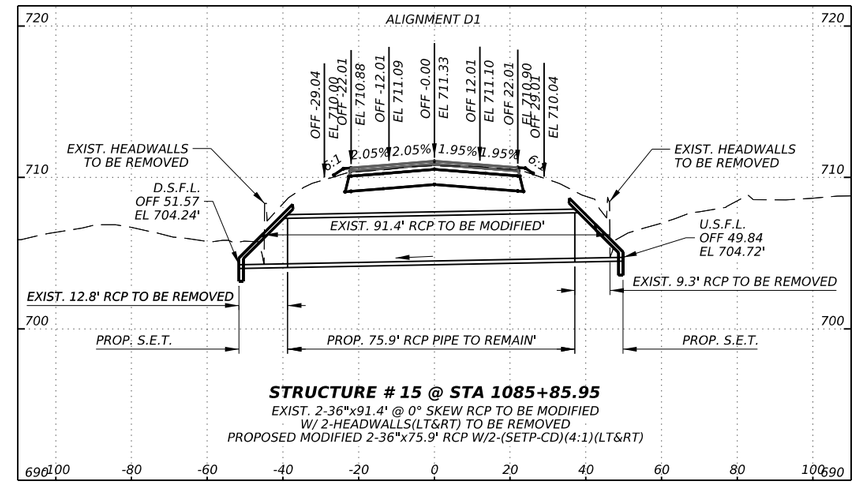
DN: CK: DW: CK:



STRUCTURE # 9 @ STA 944+47.18 (JEFFRIES WB)

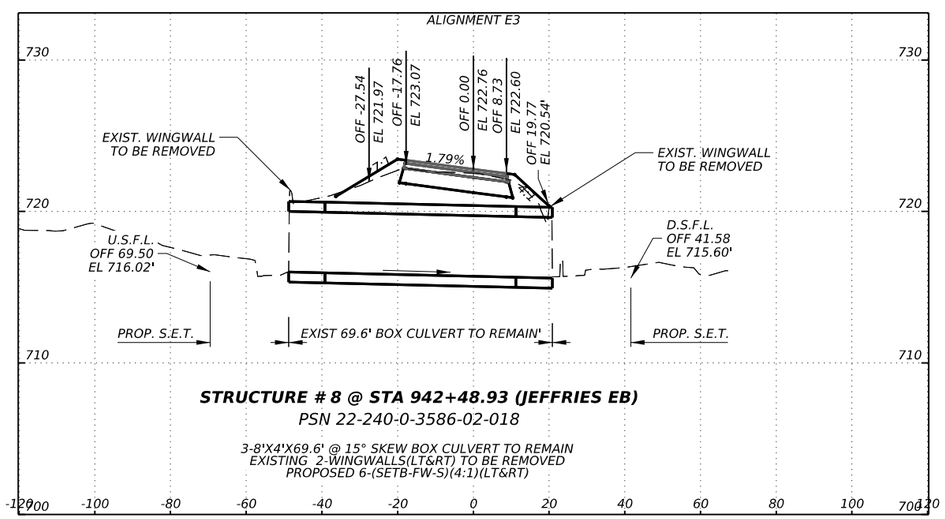
PSN 22-240-0-3586-02-019

3-8'X4'X85.5' @ 15° SKEW BOX CULVERT TO BE MODIFIED
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 3-8'X4'X76.2' @ 15° SKEW BOX CULVERT
W/ 6-(SETB-FW-S)(4:1)(LT&RT)



STRUCTURE # 15 @ STA 1085+85.95

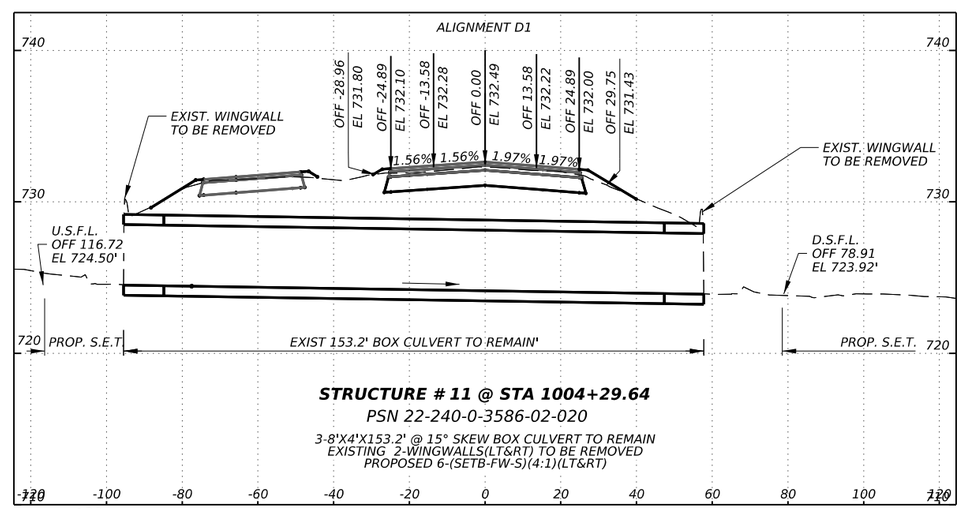
EXIST. 2-36"x91.4' @ 0° SKEW RCP TO BE MODIFIED
W/ 2-HEADWALLS(LT&RT) TO BE REMOVED
PROPOSED MODIFIED 2-36"x75.9' RCP W/2-(SETP-CD)(4:1)(LT&RT)



STRUCTURE # 8 @ STA 942+48.93 (JEFFRIES EB)

PSN 22-240-0-3586-02-018

3-8'X4'X69.6' @ 15° SKEW BOX CULVERT TO REMAIN
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 6-(SETB-FW-S)(4:1)(LT&RT)



STRUCTURE # 11 @ STA 1004+29.64

PSN 22-240-0-3586-02-020

3-8'X4'X153.2' @ 15° SKEW BOX CULVERT TO REMAIN
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 6-(SETB-FW-S)(4:1)(LT&RT)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8FE5B149888E4E9...

SH 255

STRUCTURE CROSS SECTION DETAILS

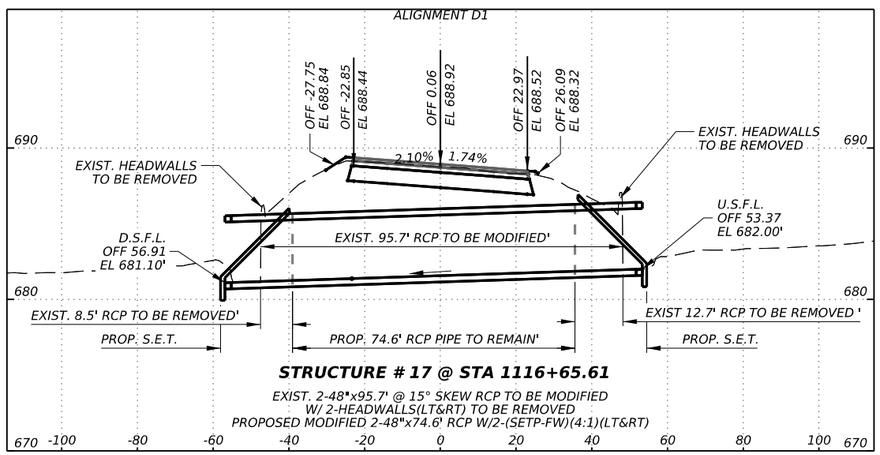
Texas Department of Transportation

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY	DIST	COUNTY	SHEET NO.
3586	02	006	SH 255	22	WEBB	181

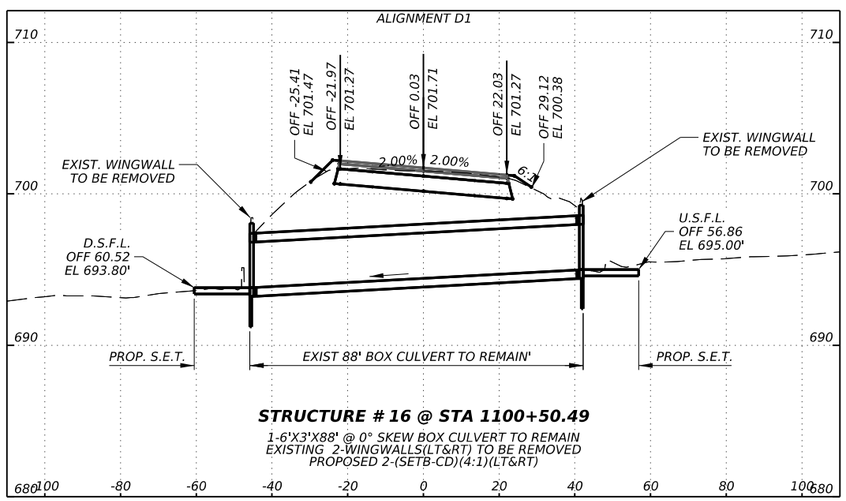
DATE: 4/9/2024 9:40:47 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763338\006_culvlayouts.dgn

CK: DW: CK: DW:



STRUCTURE # 17 @ STA 1116+65.61

EXIST. 2-48"x95.7' @ 15° SKEW RCP TO BE MODIFIED
W/ 2-HEADWALLS(LT&RT) TO BE REMOVED
PROPOSED MODIFIED 2-48"x74.6' RCP W/2-(SETP-FW)(4:1)(LT&RT)



STRUCTURE # 16 @ STA 1100+50.49

1-6'X3'X88' @ 0° SKEW BOX CULVERT TO REMAIN
EXISTING 2-WINGWALLS(LT&RT) TO BE REMOVED
PROPOSED 2-(SETB-CD)(4:1)(LT&RT)

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EF5B149888E4E9...

SH 255

STRUCTURE CROSS SECTION DETAILS

Texas Department of Transportation

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY	DIST	COUNTY	SHEET NO.
3586	02	006	SH 255	22	WEBB	182

DATE: 4/9/2024 9:41:10 PM
FILE: c:\txdotpw_onlinetxdot5\misael.aguilar\d0763338\006_culvlayouts.dgn

CK: DW: CK: DW:

Culvert Station and/or Creek Name followed by applicable end (Lt, Rt or Both)	Description of Box Culvert No. Spans ~ Span X Height	Max Fill Height (Ft)	Applicable Box Culvert Standard (4)	Applicable Wingwall or End Treatment Standard	Skew Angle (0°,15°, 30° or 45°)	Side Slope or Channel Slope Ratio (SL:1)	T Culvert Top Slab Thickness (In)	U Culvert Wall Thickness (In)	C Estimated Curb Height (Ft)	Hw (1) Height of Wingwall (Ft)	A Curb to End of Wingwall (Ft)	B Offset of End of Wingwall (Ft)	Lw Length of Longest Wingwall (Ft)	Ltw Culvert Toewall Length (Ft)	Atw Anchor Toewall Length (Ft)	Riprap Apron (CY)	Class "C" Conc (Curb) (CY) (2)	Class "C" Conc (Wingwall) (CY) (3)	Total Wingwall Area (SF)
STA. 787+74.08 (ALGN D) (R+)	1 ~ 8′x 4′	1′	SCC-8	SETB-CD	0°	4:1	8"	7"	0.583′	5.000′	N/A	N/A	18.667′	N/A	9.167′	0.0	0.2	6.1	N/A
STA. 787+74.08 (ALGN D) (L+)	1 ~ 8′x 4′	1′	SCC-8	SETB-CD	0°	4:1	8"	7"	1.400′	5.813′	N/A	N/A	21.917′	N/A	9.167′	0.0	0.5	7.5	N/A
STA. 797+14.81 (ALGN D) (R+)	1 ~ 8′x 4′	1′	SCC-8	SETB-FW-S	30°	4:1	8"	7"	2.600′	7.021′	26.750′	26.750′	37.830′	N/A	35.988′	7.3	1.0	18.1	N/A
STA. 797+14.81 (ALGN D) (L+)	1 ~ 8′x 4′	1′	SCC-8	SETB-FW-S	30°	4:1	8"	7"	1.023′	5.438′	20.417′	20.417′	28.874′	N/A	29.654′	5.0	0.4	10.8	N/A
STA. 846+29.82 (ALGN D) (R+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	30°	4:1	8"	7"	0.833′	5.250′	19.667′	19.667′	27.813′	N/A	48.727′	10.4	0.9	11.9	N/A
STA. 846+29.82 (ALGN D) (L+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	30°	4:1	8"	7"	0.500′	4.917′	18.333′	18.333′	25.927′	N/A	47.393′	9.4	0.6	10.9	N/A
STA. 942+48.93(ALGN E) (R+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	15°	4:1	8"	7"	0.500′	4.917′	18.333′	10.585′	21.170′	N/A	36.639′	7.7	0.5	9.3	N/A
STA. 942+48.93(ALGN E) (L+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	15°	4:1	8"	7"	0.500′	4.917′	18.333′	10.585′	21.170′	N/A	36.639′	7.7	0.5	9.3	N/A
STA. 944+47.43(ALGN B) (R+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	15°	4:1	8"	7"	0.500′	4.917′	18.333′	10.585′	21.170′	N/A	36.639′	7.7	0.5	9.3	N/A
STA. 944+47.43(ALGN B) (L+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	15°	4:1	8"	7"	1.800′	6.208′	23.500′	13.568′	27.135′	N/A	39.622′	10.4	1.8	13.2	N/A
STA. 1004+29.64 (ALGN D) (R+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	15°	4:1	8"	7"	0.500′	4.917′	18.333′	10.585′	21.170′	N/A	36.639′	7.7	0.5	9.3	N/A
STA. 1004+29.64 (ALGN D) (L+)	3 ~ 8′x 4′	1′	MC-8-13	SETB-FW-S	15°	4:1	8"	7"	0.500′	4.917′	18.333′	10.585′	21.170′	N/A	36.639′	7.7	0.5	9.3	N/A
STA. 1100+50.49 (ALGN D) (R+)	1 ~ 6′x 3′	1′	SCC-5&6	SETB-CD	0°	4:1	8"	7"	0.500′	3.917′	N/A	N/A	14.333′	N/A	7.167′	0.0	0.1	3.7	N/A
STA. 1100+50.49 (ALGN D) (L+)	1 ~ 6′x 3′	1′	SCC-5&6	SETB-CD	0°	4:1	8"	7"	0.500′	3.917′	N/A	N/A	14.333′	N/A	7.167′	0.0	0.1	3.7	N/A

NOTES:
Skew = 0° on SW-0, FW-0, SETB-CD, SETB-SW-0, and SETB-FW-0 standard sheets;
30° maximum for safety end treatment

SL:1 = Horizontal : 1 Vertical
· Side slope at culvert for flared or straight wingwalls.
· Channel slope for parallel wingwalls.
· Slope must be 3:1 or flatter for safety end treatments.

T = Box culvert top slab thickness. Dimension can be found on the applicable box culvert standard sheet.

U = Box culvert wall thickness. Dimension can be found on the applicable box culvert standard sheet.

C = Curb height

See applicable wing or end treatment standard sheets for calculations of Hw, A, B, Lw, Ltw, Atw, and Total Wingwall Area.

Hw = Height of wingwall

A = Distance from face of curb to end of wingwall (not applicable to parallel or straight wingwalls)

B = Offset of end of wingwall (not applicable to parallel or straight wingwalls)

Lw = Length of longest wingwall.

Ltw = Length of culvert toewall (not applicable when using riprap apron)

Atw = Length of anchor toewall (applicable to safety end treatment only)
Total Wingwall Area = Wingwall area in sq. ft. for two wingwalls (one structure end) if Lt or Rt.
Area for four wingwalls (two structure ends) if Both.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

(1) Round the wall heights shown to the nearest foot for bidding purposes.

(2) Concrete volume shown is for box culvert curb only. For curbs using the Box Culvert Rail Mounting Details (RAC) standard sheet quantities shown must be increased by a factor of 2.25. If Class S concrete is required for the top slab of the culvert, also provide Class S concrete for the curb. Curb concrete is considered part of the Box Culvert for payment.

(3) Concrete volume shown is total of wings, footings, culvert toewall (if any), anchor toewalls (if any) and wingwall toewalls. Riprap aprons, culverts, and curb quantities are not included.

(4) Regardless of the type of culvert shown on this sheet, the Contractor has the option of furnishing cast-in-place or precast culverts unless otherwise shown elsewhere on the plans. If the Contractor elects to provide culverts of a different type than those shown on this sheet, it is the Contractor's responsibility to make the necessary adjustments to the dimensions and quantities shown.

SPECIAL NOTE:

This sheet is a supplement to the box culvert standards. It is to be filled out by the culvert specifier and provides dimensions for the construction of the box culvert wingwalls and safety end treatments.

An Excel 2010 spreadsheet to assist in completing this table can be downloaded from the Bridge Standards (English) web page on the TxDOT web site. The completed sheet must be signed, sealed, and dated by a licensed Professional Engineer.

Texas Department of Transportation

Bridge Division Standard

BOX CULVERT SUPPLEMENT
WINGS AND END TREATMENTS

BCS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	183

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:41:38 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-BCS-20.dgn

TABLE OF DIMENSIONS AND REINFORCING STEEL
(Wings for One Structure End)

Dimensions					Variable Reinforcing				Estimated Quantities per ft of wing length (Two~Wings) (3)	
Maximum Wingwall Height (10) Hw	W	X	Y	Z	Bars J1 Size	Bars J1 Spa	Bars J2 Size	Bars J2 Spa	Reinf (Lb/Ft)	Conc (CY/Ft)
2'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	33.73	0.248
3'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.07	0.261
3'-6"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	37.74	0.273
4'-0"	2'-5"	1'-0"	9"	7"	#4	1'-0"	#4	1'-0"	38.41	0.285
4'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	41.75	0.330
5'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.09	0.343
5'-6"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	45.75	0.355
6'-0"	3'-2"	1'-6"	1'-0"	7"	#4	1'-0"	#4	1'-0"	46.42	0.367
7'-0"	3'-8"	1'-9"	1'-3"	7"	#4	1'-0"	#4	1'-0"	52.77	0.414
8'-0"	4'-2"	2'-0"	1'-6"	8"	#5	1'-0"	#4	1'-0"	60.19	0.486
9'-0"	4'-8"	2'-3"	1'-9"	8"	#4	6"	#4	6"	81.49	0.535
10'-0"	5'-2"	2'-6"	2'-0"	8"	#5	6"	#4	6"	97.25	0.584
11'-0"	5'-8"	2'-9"	2'-3"	8"	#6	6"	#5	6"	133.65	0.634
12'-0"	6'-2"	3'-0"	2'-6"	9"	#7	6"	#5	6"	162.29	0.721

TABLE OF WINGWALL REINFORCING (Two~Wings)

Bar	Size	No.	Spa
DL & DS	#5	~	1'-0"
E	#4	~	1'-0"
F	#4	~	1'-0"
G	#6	4	~
M	#4	4	~
P	#4	~	1'-0"
RL	#5	3	~
RS	#5	3	~
V	#4	~	1'-0"

TABLE OF ESTIMATED CULVERT TOEWALL QUANTITIES

Bar	Size	No.	Spa
L	#4	~	1'-6"
Q	#4	1	~
Reinf (Lb/Ft)			2.45
Conc (CY/Ft)			0.037

TABLE OF ESTIMATED ANCHOR TOEWALL QUANTITIES

Bar	Size	No.	Spa
K	#4	~	1'-0"
N	#5	6	~
OL	#4	3	~
OS	#4	3	~
Reinf (Lb/Ft)			9.82
Conc (CY/Ft)			0.074

1. Extend Bars P 3'-0" Min into bottom slab of box culvert.
2. Adjust to fit as necessary to maintain 11#2" clearcover and 4" Min between bars.
3. Quantities shown are based on an average wing height for two wings (one structure end). To determine total quantities for two wings multiply the tabulated values by 0.5 (A Lw). +
4. Recommended values of slope are: 3:1, 4:1, and 6:1. Provide 3:1 or flatter slope.
5. When shown elsewhere on the plans, construct 5" deep concrete riprap. Payment for riprap is as required by Item 432, "Riprap." Unless otherwise shown on the plans or directed by the Engineer, extend construction joints or grooved joints, oriented in the direction of flow, across the full distance of the riprap, at intervals of approximately 20'. When such riprap is provided, the culvert toewall shown in SECTION B-B is not required.
6. At Contractor's option, end the culvert toewall flush with wingwall toewall. Adjust reinforcing as needed.
7. 3" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures without railing and curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet.
8. For vehicle safety, reduce curb heights, if necessary, to provide a maximum 3" projection above finished grade. No changes will be made in quantities and no additional compensation will be allowed for this work.
9. Culvert skew (limit to 15° or 30°)
10. See Table of Maximum Wing Heights for various slopes. Height is limited based on a 33'-6" maximum safety pipe runner length.
11. Typical wingwall angle for all skews.

TABLE OF MAXIMUM WING HEIGHTS (10)

Side Slope	Hw Max
3:1	11'- 5"
4:1	8'-10"
6:1	6'- 1"

WING DIMENSION CALCULATIONS:

Formulas:

Hw = H + T + C - 0.250' (10)

A = (Hw - 0.333') (SL)

B = (A) [tan (θ + 15°)]

Lw = (A) ÷ [cos (θ + 15°)]

For cast-in-place culverts:

Ltw = [(N) (S) + (N + 1) (U)] ÷ (cos θ)

For precast culverts:

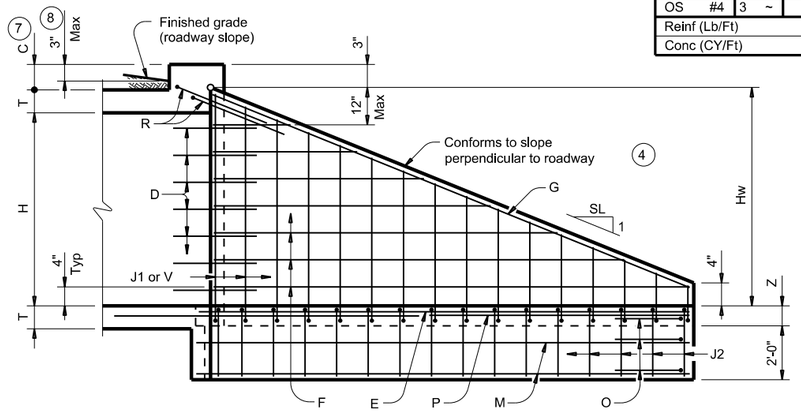
Ltw = [(N) (2U + S) + (N - 1) (0.500')] ÷ (cos θ)

Lc = (Ltw) - (2U) ÷ (cos θ)

Atw = (Lc) + (B)

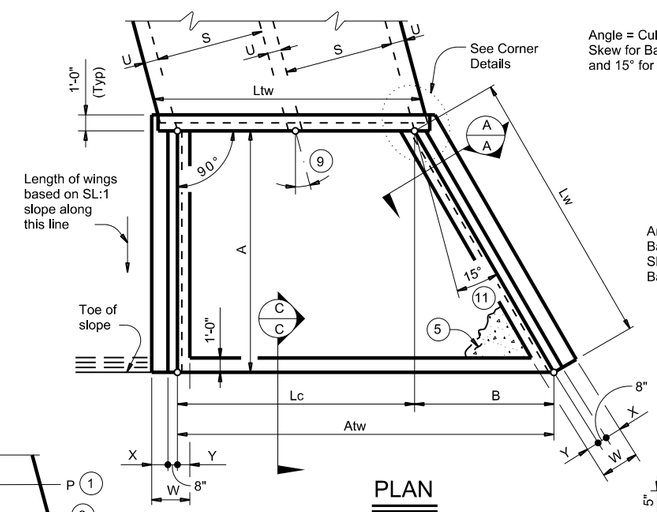
Total Wingwall Area (two wings ~ S.F.)
= (0.5) (Hw 0.333') (Lw + A)

Hw = Height of wingwall (feet)
SL:1 = Side slope ratio (horizontal : 1 vertical)
Lw = Length of wingwall (feet)
Ltw = Culvert toewall length (feet)
Lc = Culvert curb between wings (feet)
Atw = Anchor toewall length (feet)
N = Number of culvert spans
θ = Culvert skew
See applicable box culvert standard for H, S, T, and U values.
See Table of Maximum Wall Heights for limits on Hw.



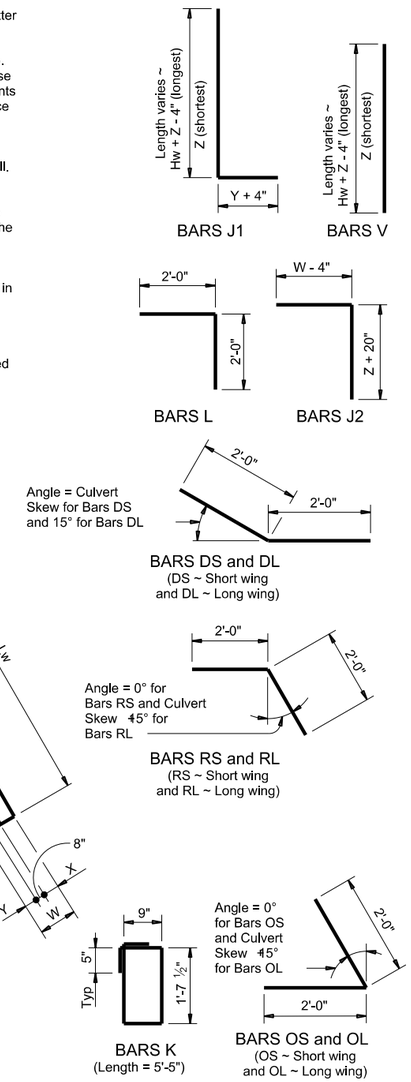
INSIDE ELEVATION OF WINGWALL

(Showing reinforcing. Culvert and culvert toewall reinforcing not shown for clarity.)



PLAN

(Showing dimensions and 15° skew.)



MATERIAL NOTES:

Provide Grade 60 reinforcing steel.

Provide galvanized reinforcing steel if required elsewhere in the plans.

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Provide Class "C" concrete (f'c = 3,600 psi).

Adjust reinforcing as necessary to provide a minimum clear cover of 1 ½".

Provide pipe runners and anchor pipes meeting the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.

Provide ASTM A307 bolts and nuts.

Provide ASTM A36 steel plates.

Galvanize all steel components, except reinforcing unless required elsewhere in the plans, after fabrication.

Repair galvanizing damaged during transport or construction in accordance with the Item 445, "Galvanizing."

For optional adhesive anchors, install adhesive anchorages in accordance with the manufacturer's instructions including hole size, drilling equipment and method, hole cleaning equipment and method, mixing and dispensing adhesive, and anchor insertion. Do not alter the manufacturer's mixing nozzle or dispenser. Provide anchorage rods that are clean and free of grease, oil, or any other foreign material. Demonstrate hole cleaning method to the Engineer for approval and continue the approved process for all anchorage locations. Test adhesive anchors in accordance with Item 450.3.3, "Tests." Test 3 anchors per 100 anchors installed.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.

The safety end treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.

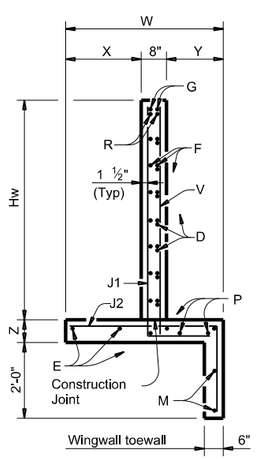
Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

When structure is founded on solid rock, depth of toewalls for culverts and wingwalls may be reduced or eliminated as directed by the Engineer.

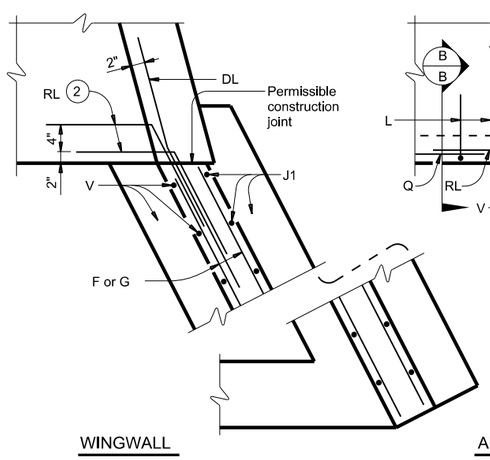
All bolts, nuts, washers, brackets, angles, and pipe runners are considered parts of the safety end treatment for payment

The quantities for pipe runners, reinforcing steel, and concrete, resulting from the formulas given herein are for Contractor's information only.

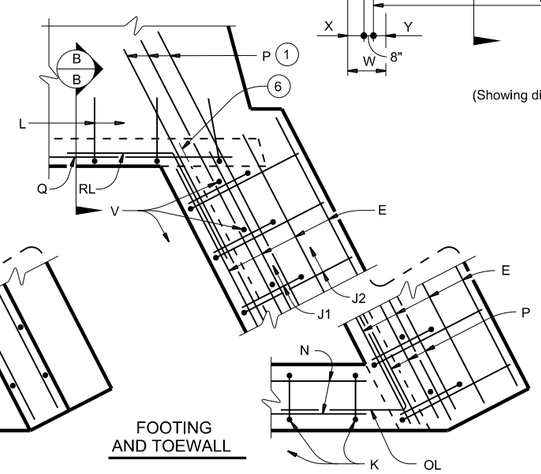
See Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.



SECTION A-A



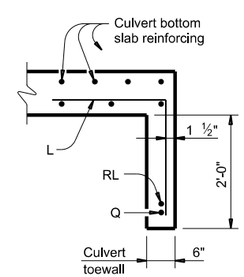
WINGWALL



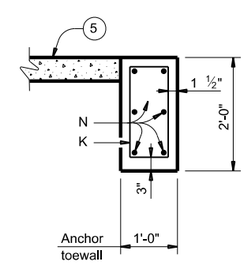
FOOTING AND TOEWALL

CORNER DETAILS

(Culvert and culvert toewall reinforcing not shown for clarity.)



SECTION B-B (5)



SECTION C-C

SHEET 1 OF 3

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT WITH FLARED WINGS

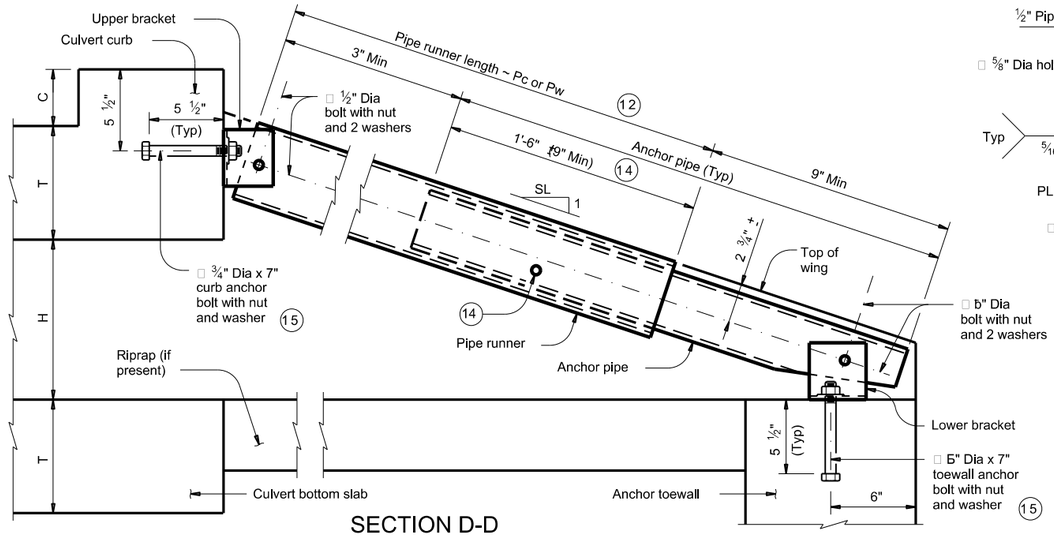
FOR 15° & 30° SKEW BOX CULVERTS TYPE I ~ CROSS DRAINAGE

SETB-FW-S

FILE:	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	184

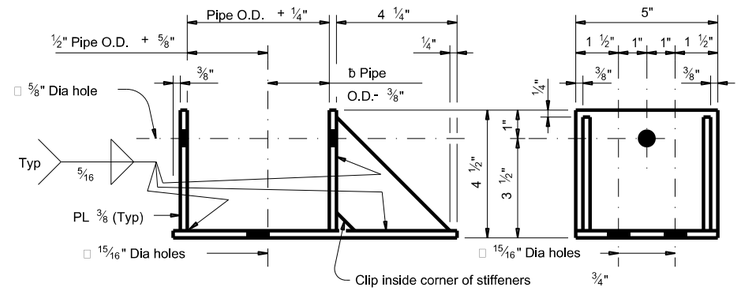
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:41:54 PM
FILE: c:\txdot\pw_online\txdot5\miscel.aguilar\d1010231\CD-SETB-FWS-20.dgn



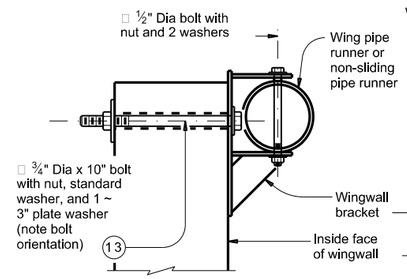
SECTION D-D

(Showing curb pipe runner. Except for upper bracket, wingwall pipe runners are similar.)



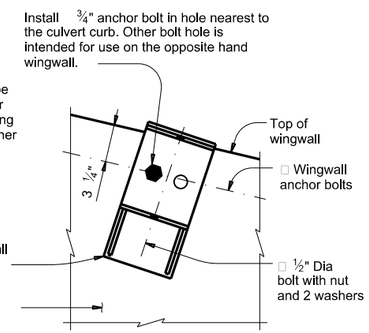
ELEVATION

SIDE VIEW



SECTION E-E

(Showing installed bracket.)

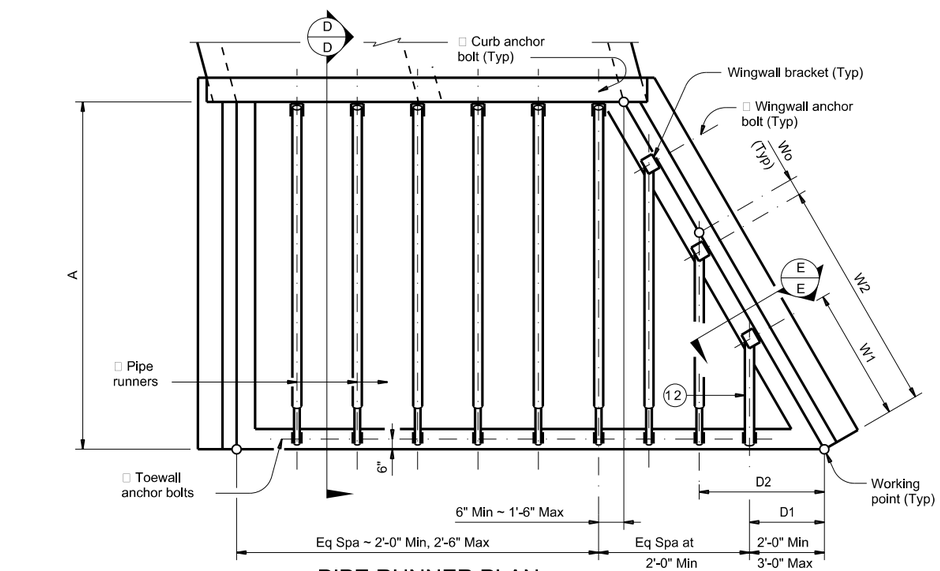


ELEVATION

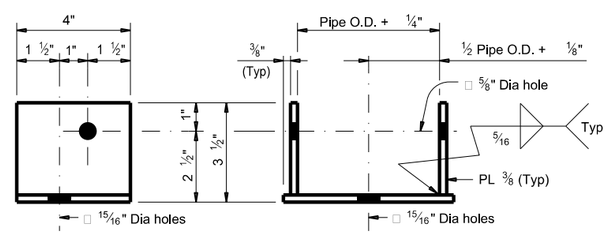
(Showing installed bracket normal to wall. Pipe not shown for clarity.)

Note: Match wingwall bracket to the upper curb bracket size.

WINGWALL BRACKET DETAILS



PIPE RUNNER PLAN



SIDE VIEW

ELEVATION

Note: Match upper and lower brackets, except for the brackets used with non-sliding pipe runners, to the required pipe diameters as shown in the table.

UPPER AND LOWER BRACKET DETAILS

MAXIMUM PIPE RUNNER LENGTHS AND REQUIRED PIPE RUNNER AND ANCHOR PIPE SIZES

Maximum Pipe Runner Length (Pc or Pw)	Required Pipe Runner Size			Required Anchor Pipe Size		
	Pipe Size	Pipe O.D.	Pipe I.D.	Pipe Size	Pipe O.D.	Pipe I.D.
9'-4"	3" STD	3.500"	3.068"	2" STD	2.375"	2.067"
19'-0"	4" STD	4.500"	4.026"	3" STD	3.500"	3.068"
33'-6"	5" STD	5.563"	5.047"	4" STD	4.500"	4.026"

(12) If pipe runner length (Pw) is 1'-9" or less, replace the normal pipe runner and anchor pipe with a single non-sliding pipe runner. See Non-Sliding Pipe Runner Details for additional information.

(13) At Contractor's option, ⅞" diameter hole may be formed or cored drilled. Percussion drilling is not permitted. Adjust placement of reinforcing steel as necessary to avoid bolt holes.

(14) After installation of pipe runner, use the ½" inspection hole to ensure that the lap of the anchor pipe with the pipe runner is adequate.

(15) At Contractor's option, an adhesive anchor may be used. Provide ¾" Dia adhesive anchors that meet the requirements of ASTM A307, Gr A fully threaded rods. Embed threaded rods into curb, wingwalls, and toewall using a Type III, Class C, D, E, or F anchor adhesive. Minimum embedment depth is 5 ½". Provide anchor adhesive able to achieve a basic bond strength in tension, Nba, of 20 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use.

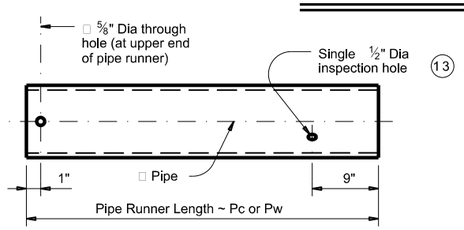
PIPE RUNNER DIMENSION CALCULATIONS:

Wn = (K3) (Dn) - (Wo)
Pwn = (Dn) (K2) - (2.063')
Pw1 Non-Sliding Pipe Runner (If required)
= (D1) (K2) - (0.563')
Pc = (A) (K1) - (1.688')

Wn = Distance from working point to centerline anchor bolt measured along bottom inside face of wing (feet)
Dn = Distance from working point to centerline pipe runner measured along outside face of anchor toewall (feet)
Pw = Wingwall pipe runner length (feet)
Pc = Curb pipe runner length (feet)
K = Constant values for use in formulas

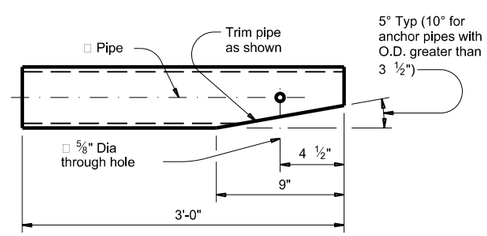
Slope SL:1	K1	K2~15° Skew	K2~30° Skew
3:1	1.054	1.826	1.054
4:1	1.031	1.785	1.031
6:1	1.014	1.756	1.014

K3 = 15° Skew ~ 2.000
30° Skew ~ 1.414
n = Wing pipe runner number
Wo = 15° Skew ~ 5"
30° Skew ~ 2 b"

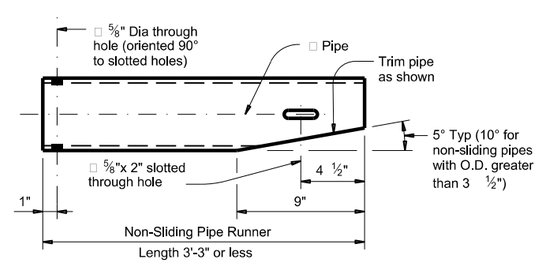


Note: Use pipe diameter required for curb pipe runner for wingwall pipe runner.

PIPE RUNNER DETAILS



ANCHOR PIPE DETAILS



Note: Pipe size is the same as required for curb pipe runner. Adjust the corresponding lower bracket accordingly.

NON-SLIDING PIPE RUNNER DETAILS

SHEET 2 OF 3

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT WITH FLARED WINGS

FOR 15° & 30° SKEW BOX CULVERTS TYPE I ~ CROSS DRAINAGE

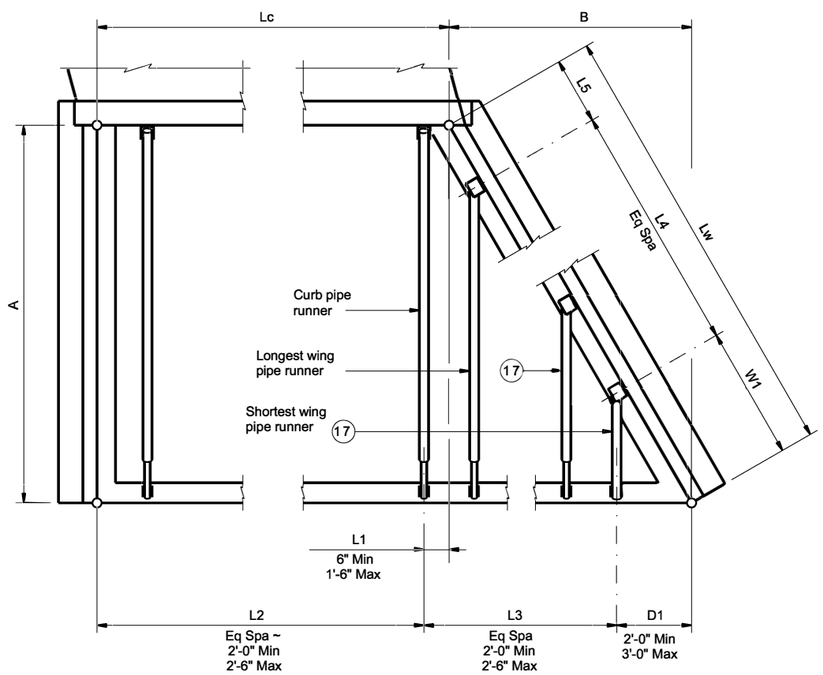
SETB-FW-S

FILE:	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	185

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:41:54 PM
FILE: c:\txdot\pw_online\txdot5\mjsoel.aguilar\d1010231\CD-SETB-FWS-20.dgn

Culvert Station and/or Creek name followed by applicable end (Lt, Rt or Both) (16)	Lc (Ft)	L1 (Ft)	L2 No. Spa	L2 Spa at (Ft)	L2 Overall Length (Ft)	D1 (Ft)	L3 No. Spa	L3 Spa at (Ft)	L3 Overall Length (Ft)	W1 (Ft)	L4 No. Spa	L4 Spa at (Ft)	L4 Overall Length (Ft)	L5 (Ft)	Curb Pipe Runner (Pc) No.	Curb Pipe Runner (Pc) Length (Ft)	Longest Wing Pipe Runner (Pw) (Ft)	Shortest Wing Pipe Runner (Pw) (Ft)	Non-Sliding Wing Pipe Runner (if applicable) (Ft)	Curb, Wing, and/or Non-Sliding Pipe Runners Size (3",4" or 5")	Curb, Wing, and/or Non-Sliding Pipe Runners Total Length (16) (Ft)	3'-0" Anchor Pipe Size (2",3" or 4")	3'-0" Anchor Pipe Total Length (16) (Ft)
STA. 797+14.81 (ALGN D) (Rt)	9.238'	0.500'	4	2.184'	8.738'	3.000'	10	2.425'	24.250'	4.034'	9	3.429'	30.861'	2.936'	4	25.896'	23.542'	3.521'	2.521'	5"	227.885'	4"	39.000'
STA. 797+14.81 (ALGN D) (Lt)	9.238'	0.500'	4	2.184'	8.738'	3.000'	8	2.240'	17.917'	4.034'	7	3.167'	22.167'	2.672'	4	19.354'	17.188'	3.333'	2.521'	5"	151.760'	4"	33.000'
STA. 846+29.82 (ALGN D) (Rt)	29.060'	0.500'	12	2.380'	28.560'	3.000'	7	2.452'	17.167'	4.034'	6	3.468'	20.806'	2.973'	12	18.583'	16.208'	3.563'	2.521'	4"	284.833'	3"	54.000'
STA. 846+29.82 (ALGN D) (Lt)	29.060'	0.500'	12	2.380'	28.560'	3.000'	7	2.262'	15.833'	4.034'	6	3.198'	19.190'	2.704'	12	17.208'	15.021'	3.354'	2.521'	4"	264.146'	3"	54.000'
STA. 942+48.93(ALGN E) (Rt)	26.054'	0.500'	11	2.323'	25.554'	3.000'	4	2.021'	8.085'	5.583'	3	4.042'	12.127'	3.459'	11	17.208'	14.125'	3.292'	N/A	4"	224.125'	3"	45.000'
STA. 942+48.93(ALGN E) (Lt)	26.054'	0.500'	11	2.323'	25.554'	3.000'	4	2.021'	8.085'	5.583'	3	4.042'	12.127'	3.459'	11	17.208'	14.125'	3.292'	N/A	4"	224.125'	3"	45.000'
STA. 944+47.43(ALGN B) (Rt)	26.054'	0.500'	11	2.323'	25.554'	3.000'	4	2.021'	8.085'	5.583'	3	4.042'	12.127'	3.459'	11	17.208'	14.125'	3.292'	N/A	4"	224.125'	3"	45.000'
STA. 944+47.43(ALGN B) (Lt)	26.054'	0.500'	11	2.323'	25.554'	3.000'	5	2.214'	11.068'	5.583'	4	4.427'	17.708'	3.844'	11	22.542'	19.104'	3.292'	N/A	5"	303.948'	4"	48.000'
STA. 1004+29.64 (ALGN D) (Rt)	26.054'	0.500'	11	2.323'	25.554'	3.000'	4	2.021'	8.085'	5.583'	3	4.042'	12.127'	3.459'	11	17.208'	14.125'	3.292'	N/A	4"	224.125'	3"	45.000'
STA. 1004+29.64 (ALGN D) (Lt)	26.054'	0.500'	11	2.323'	25.554'	3.000'	4	2.021'	8.085'	5.583'	3	4.042'	12.127'	3.459'	11	17.208'	14.125'	3.292'	N/A	4"	224.125'	3"	45.000'



PIPE RUNNER LAYOUT

Note: Right forward culvert skew shown, actual culvert skew may be opposite hand.

(16) Quantities shown are for one structure end if Lt or Rt. Quantities shown are for two structure ends if Both.

(17) If the outermost wing pipe runner is a non-sliding pipe runner, consider the next outermost wing pipe runner as the shortest.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SHEET 3 OF 3

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT WITH FLARED WINGS

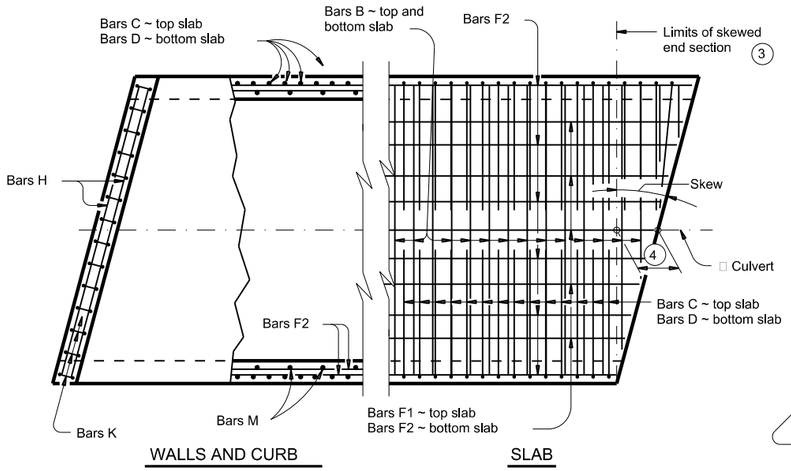
FOR 15° & 30° SKEW BOX CULVERTS TYPE I ~ CROSS DRAINAGE

SETB-FW-S

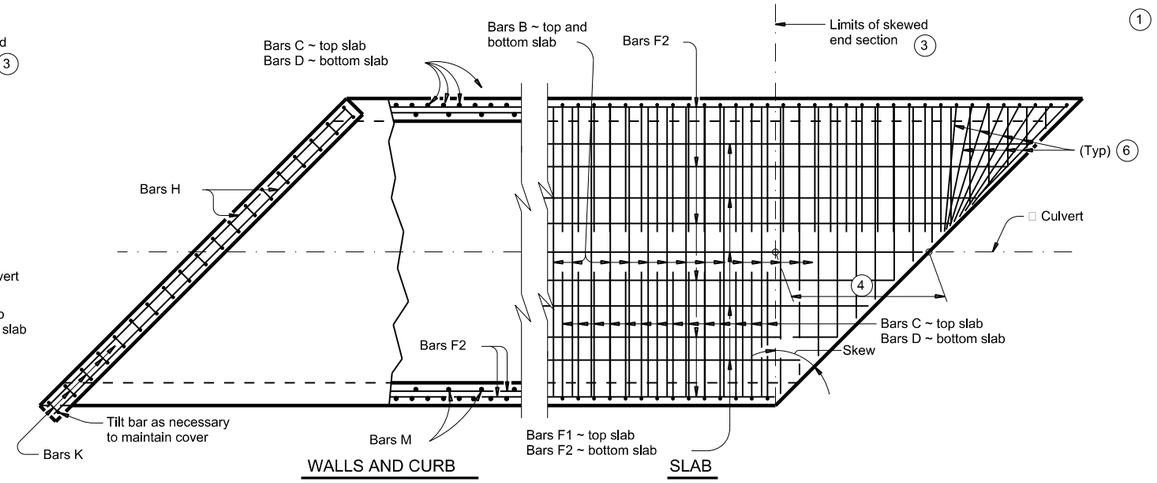
FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT.	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	186

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

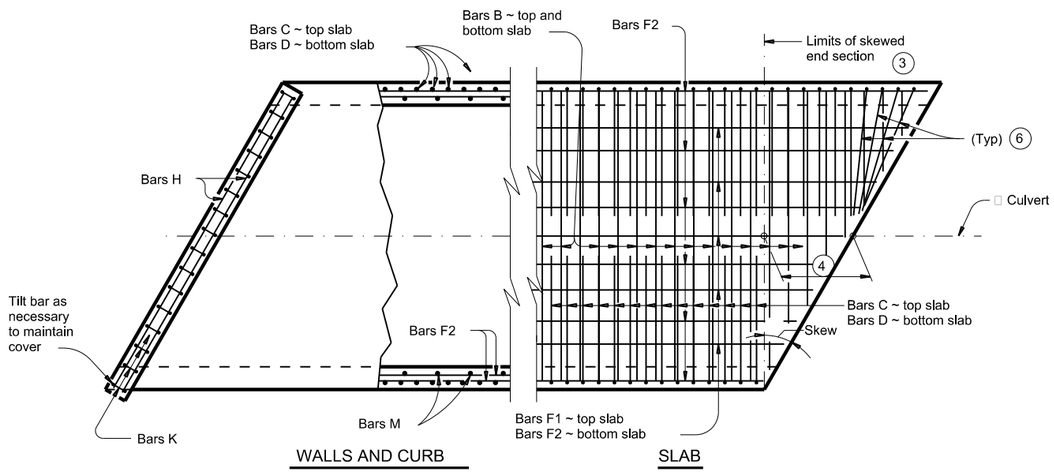
DATE: 5/2/2024 10:44:26 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SETB-FWS-20.dgn



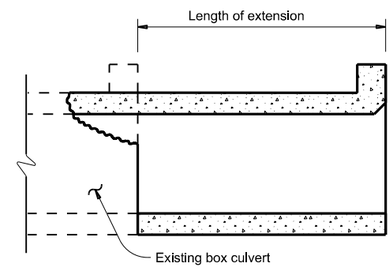
PLAN OF SKEWED ENDS ~ FROM 0° TO 15° (7)



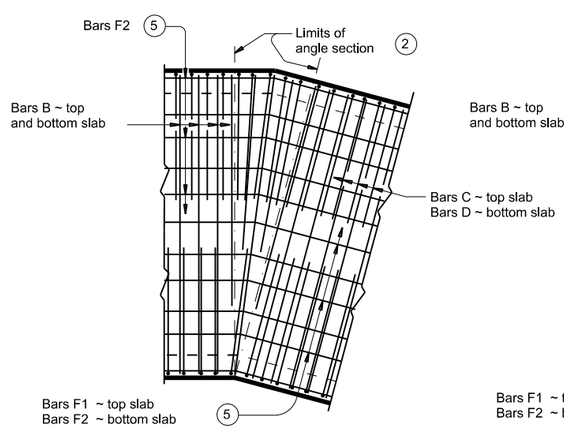
PLAN OF SKEWED ENDS ~ OVER 30° TO 45°



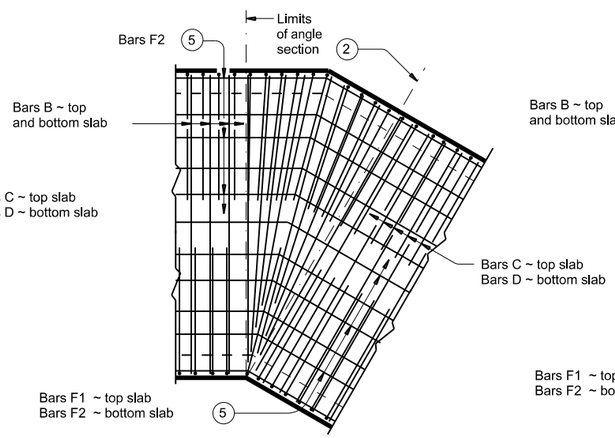
PLAN OF SKEWED ENDS ~ OVER 15° TO 30°



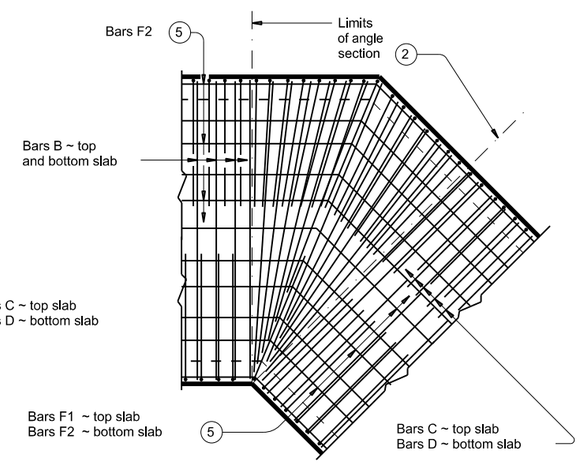
LENGTHENING DETAIL (1)



PLAN OF ANGLE SECTION ~ FROM 0° TO 15°



PLAN OF ANGLE SECTION ~ OVER 15° TO 30°



PLAN OF ANGLE SECTION ~ OVER 30° TO 45°

(1) For skewed box culverts with less than 2'-0" of fill, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension.

For non-skewed box culverts with less than 2'-0" of fill and for skewed or non-skewed culverts with a fill depth of 2'-0" or greater, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension. Alternatively, if the box is non-skewed, embed #6 anchor bars with a Type III, C, D , E, or F anchor adhesive into the existing walls, top and bottom slab at 1'-6" center-to-center spacing. Minimum embedment depth is 8". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, Nba, of 26.4 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing." Test adhesive anchors in accordance with Item 450.3.3, "Tests." Test 3 anchors per 100 anchors installed.

Break back wings and apron as necessary to install the extension. Clean and extend the exposed wingwall and apron reinforcing into the extension. When lengthening existing box culverts with dimensions different than current standard dimensions, form horizontal and vertical transitions as directed by the Engineer. Match bottom slabs to maintain an uninterrupted flow line. Field bend existing and new reinforcing into transitions and maintain specified cover requirements. For top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface, adjust the "H" dimension to provide a smooth riding surface.

(2) When the spacing between Bars B becomes less than half of the normal spacing, cut bars to avoid conflict.

(3) The length of Bars B vary in the skewed end sections.

(4) [One half of overall width] x [tangent of the skew angle]

(5) Place Bars F1 and F2 continuously through the angle section. Bend Bars F1 and F2 to remain parallel to the walls of the box culvert.

(6) When necessary to avoid conflict in acute corners, shorten the slab extension leg of Bars C and Bars D to a minimum of 1'-6" for skews of 30° thru 45°.

(7) At the Contractor's option, for skews of 15° or less, place Bars B, C, and D parallel to the skewed end while maintaining spacing along centerline of box. Increase lengths of Bars B shown on the Single Box Culverts Cast-In-Place (SCC) standards sheets to accommodate the skew.

CONSTRUCTION NOTES:

Do not use permanent forms.
When required, lap Bars H 1'-8" for uncoated or galvanized bars.
Provide a minimum of 1 ½" clear cover.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel, if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) with these exceptions:
provide Class S concrete (f'c = 4,000 psi) for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.

Refer to Single Box Culverts Cast-in-Place (SCC) standard sheets for details of straight sections of culvert.

For skewed sections and angle sections, refer to Single Box Culverts Cast-in-Place (SCC) standard sheets for slab and wall dimensions, bar sizes, maximum bar spacing, and any other details not shown.

For skewed ends with curbs, adjust length of Bars H, number of Bars K, curb concrete volume, and reinforcing steel weight by dividing the values shown on the culvert Single Box Culverts Cast-In-Place (SCC) standard sheets by the cosine of the skew angle.

Cover dimensions are clear dimensions, unless noted otherwise.

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE MISCELLANEOUS DETAILS

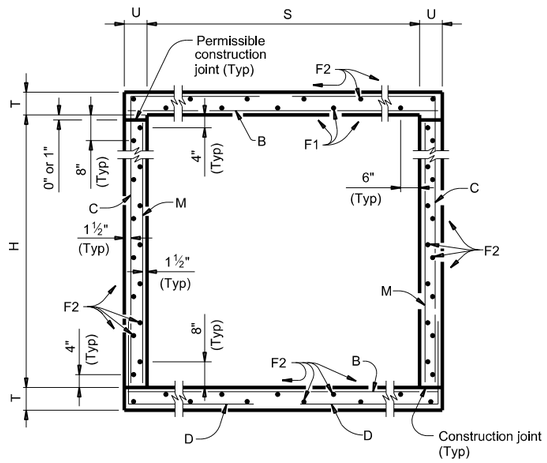
SCC-MD

FILE: CD-SCC-MD-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	187

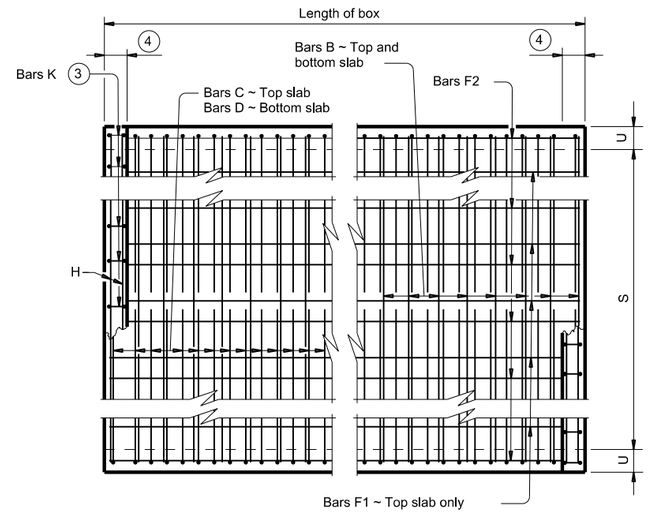
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:42:12 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SCC-MD-20.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



TYPICAL SECTION



PLAN OF REINF STEEL

1. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

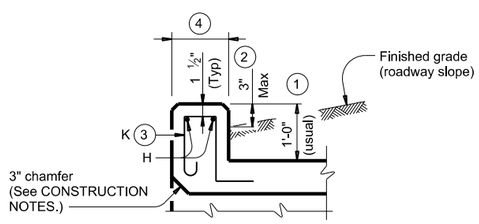
2. For vehicle safety, the following requirements must be met:
   · For structures without bridge rail, construct curbs no more than 3" above finished grade.
   · For structures with bridge rail, construct curbs flush with finished grade.
   Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

3. For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.

4. 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR.
Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).



SECTION THRU CURB

CONSTRUCTION NOTES:

Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed.

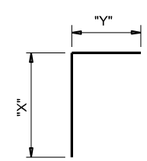
MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of:
· culverts with overlay,
· culverts with 1-to-2 course surface treatment, or
· culverts with the top slab as the final riding surface.
Provide bar laps, where required, as follows:
· Uncoated or galvanized ~ #4 = 1'-8" Min
· Uncoated or galvanized ~ #5 = 2'-1" Min
· Uncoated or galvanized ~ #6 = 2'-6" Min

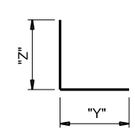
GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Single Box Culverts Cast-In-Place Miscellaneous Detail (SCC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

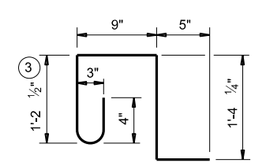
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.



BARS C



BARS D



BARS K (#4)
(Spa = 1'-0" Max)
(Length = 4'-2")

HL93 LOADING — SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE
0' TO 30' FILL

SCC-5 & 6

FILE: CD-SCC56-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
04/2021 Updated X values.	DIST	COUNTY		SHEET NO.
	22	WEBB		188

DATE: 4/9/2024 9:42:26 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SCC56-21.dgn

SECTION DIMENSIONS				(5) FILL HEIGHT	BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																																QUANTITIES					
					Bars B					Bars C							Bars D							Bars M ~ #4				Bars F1 ~ #4 at 18" Spa			Bars F2 ~ #4 at 18" Spa			Bars H 4 ~ #4		Bars K		Per Foot of Barrel		Curb		Total	
S	H	T	U		No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	" X "	" Y "	No.	Size	Spa	Length	Weight	" Y "	" Z "	No.	Spa	Length	Weight	No.	Length	Wt	No.	Length	Weight	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
5' - 0"	2' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	6' - 3"	704	2' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	2' - 0"	144	4	39' - 9"	106	22	39' - 9"	584	5' - 11"	16	14	39	0.391	80.5	0.5	55	16.1	3,276
5' - 0"	2' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	6' - 4"	713	2' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	2' - 0"	144	4	39' - 9"	106	22	39' - 9"	584	5' - 11"	16	14	39	0.429	81.0	0.5	55	17.6	3,294
5' - 0"	3' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	7' - 3"	817	3' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	3' - 0"	216	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.434	87.8	0.5	55	17.8	3,567
5' - 0"	3' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	7' - 4"	826	3' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	3' - 0"	216	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.472	88.3	0.5	55	19.3	3,585
5' - 0"	4' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	8' - 3"	929	4' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	4' - 0"	289	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.477	92.4	0.5	55	19.5	3,752
5' - 0"	4' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	8' - 4"	939	4' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	4' - 0"	289	4	39' - 9"	106	26	39' - 9"	690	5' - 11"	16	14	39	0.515	92.9	0.5	55	21.1	3,771
5' - 0"	5' - 0"	8"	7"	26'	108	#6	9"	5' - 11"	960	108	#5	9"	9' - 3"	1,042	5' - 6"	3' - 9"	108	#5	9"	6' - 5"	723	3' - 9"	2' - 8"	108	9"	5' - 0"	361	4	39' - 9"	106	30	39' - 9"	797	5' - 11"	16	14	39	0.521	99.7	0.5	55	21.3	4,044
5' - 0"	5' - 0"	9"	7"	30'	108	#6	9"	5' - 11"	960	108	#5	9"	9' - 4"	1,051	5' - 7"	3' - 9"	108	#5	9"	6' - 6"	732	3' - 9"	2' - 9"	108	9"	5' - 0"	361	4	39' - 9"	106	30	39' - 9"	797	5' - 11"	16	14	39	0.559	100.2	0.5	55	22.8	4,062
6' - 0"	2' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	6' - 7"	742	2' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	2' - 0"	144	5	39' - 9"	133	25	39' - 9"	664	6' - 11"	18	16	45	0.440	89.1	0.5	63	18.1	3,628
6' - 0"	2' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	6' - 8"	1,126	2' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	2' - 0"	144	5	39' - 9"	133	25	39' - 9"	664	6' - 11"	18	16	45	0.485	108.6	0.5	63	19.9	4,407
6' - 0"	2' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	6' - 10"	1,155	2' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	2' - 0"	110	5	39' - 9"	133	25	39' - 9"	664	7' - 1"	19	18	50	0.551	109.9	0.5	69	22.6	4,463
6' - 0"	3' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	7' - 7"	854	3' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	3' - 0"	216	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.484	96.4	0.5	63	19.9	3,918
6' - 0"	3' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	7' - 8"	1,295	3' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	3' - 0"	216	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.528	117.3	0.5	63	21.6	4,754
6' - 0"	3' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	7' - 10"	1,324	3' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	3' - 0"	164	5	39' - 9"	133	29	39' - 9"	770	7' - 1"	19	18	50	0.601	118.1	0.5	69	24.6	4,792
6' - 0"	4' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	8' - 7"	967	4' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	4' - 0"	289	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.527	101.0	0.5	63	21.6	4,104
6' - 0"	4' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	8' - 8"	1,464	4' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	4' - 0"	289	5	39' - 9"	133	29	39' - 9"	770	6' - 11"	18	16	45	0.571	123.3	0.5	63	23.4	4,996
6' - 0"	4' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	8' - 10"	1,493	4' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	4' - 0"	219	5	39' - 9"	133	29	39' - 9"	770	7' - 1"	19	18	50	0.650	123.7	0.5	69	26.5	5,016
6' - 0"	5' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	9' - 7"	1,080	5' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	5' - 0"	361	5	39' - 9"	133	33	39' - 9"	876	6' - 11"	18	16	45	0.570	108.3	0.5	63	23.3	4,395
6' - 0"	5' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	9' - 8"	1,633	5' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	5' - 0"	361	5	39' - 9"	133	33	39' - 9"	876	6' - 11"	18	16	45	0.614	132.0	0.5	63	25.1	5,343
6' - 0"	5' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	9' - 10"	1,661	5' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	5' - 0"	274	5	39' - 9"	133	33	39' - 9"	876	7' - 1"	19	18	50	0.700	131.9	0.5	69	28.5	5,345
6' - 0"	6' - 0"	8"	7"	20'	108	#6	9"	6' - 11"	1,122	108	#5	9"	10' - 7"	1,192	6' - 6"	4' - 1"	108	#5	9"	6' - 9"	760	4' - 1"	2' - 8"	108	9"	6' - 0"	433	5	39' - 9"	133	37	39' - 9"	982	6' - 11"	18	16	45	0.613	115.6	0.5	63	25.0	4,685
6' - 0"	6' - 0"	9"	7"	26'	108	#6	9"	6' - 11"	1,122	162	#5	6"	10' - 8"	1,802	6' - 7"	4' - 1"	162	#5	6"	6' - 10"	1,155	4' - 1"	2' - 9"	108	9"	6' - 0"	433	5	39' - 9"	133	37	39' - 9"	982	6' - 11"	18	16	45	0.657	140.7	0.5	63	26.8	5,690
6' - 0"	6' - 0"	10"	8"	30'	108	#6	9"	7' - 1"	1,149	162	#5	6"	10' - 10"	1,830	6' - 8"	4' - 2"	162	#5	6"	7' - 0"	1,183	4' - 2"	2' - 10"	82	12"	6' - 0"	329	5	39' - 9"	133	37	39' - 9"	982	7' - 1"	19	18	50	0.749	140.2	0.5	69	30.5	5,675

(5) For direct traffic culverts (fill height ≤ 2 ft.), identify the required box size and select the option with the minimum fill height.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:42:27 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SCC56-21.dgn

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE

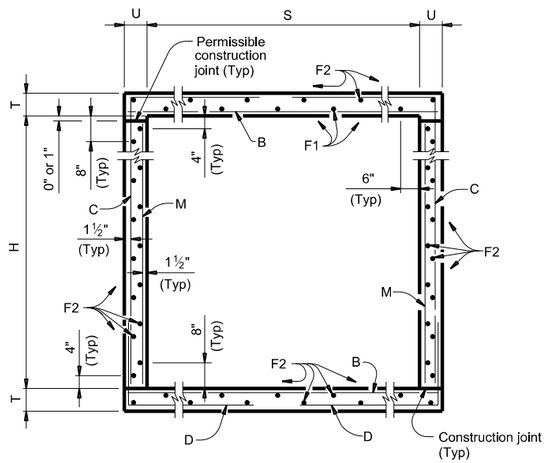
0' TO 30' FILL

SCC-5 & 6

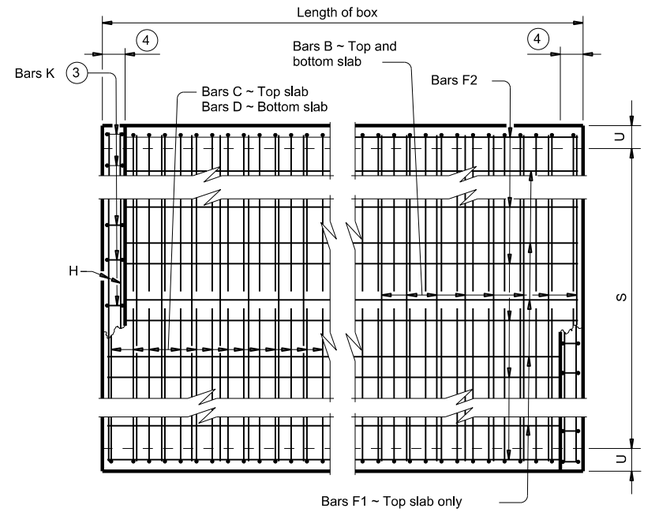
FILE: CD-SCC56-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
04/2021 Updated X values.	DIST	COUNTY		SHEET NO.
	22	WEBB		189

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

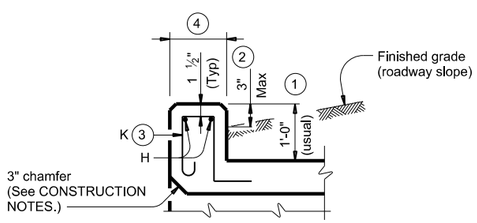
DATE: 4/9/2024 9:42:43 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\dl010231\CD-SCC08-21.dgn



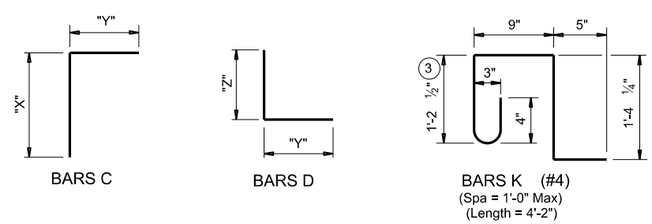
TYPICAL SECTION



PLAN OF REINF STEEL



SECTION THRU CURB



1. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

2. For vehicle safety, the following requirements must be met:
   - For structures without bridge rail, construct curbs no more than 3" above finished grade.
   - For structures with bridge rail, construct curbs flush with finished grade.

   Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

3. For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.

4. 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR.
Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

CONSTRUCTION NOTES:

Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of:
- culverts with overlay,
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

Provide bar laps, where required, as follows:
- Uncoated or galvanized ~ #4 = 1'-8" Min
- Uncoated or galvanized ~ #5 = 2'-1" Min
- Uncoated or galvanized ~ #6 = 2'-6" Min

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Single Box Culverts Cast-In-Place Miscellaneous Detail (SCC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE

0' TO 30' FILL

SCC-8

FILE: CD-SCC08-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
04/2021 Updated X values.	DIST		COUNTY	SHEET NO.
	22		WEBB	190

SECTION DIMENSIONS				(5) FILL HEIGHT	BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																																QUANTITIES					
					Bars B					Bars C							Bars D							Bars M ~ #4				Bars F1 ~ #4 at 18" Spa			Bars F2 ~ #4 at 18" Spa			Bars H 4 ~ #4		Bars K		Per Foot of Barrel		Curb		Total	
S	H	T	U		No.	Size	Spa	Length	Weight	No.	Size	Spa	Length	Weight	" X "	" Y "	No.	Size	Spa	Length	Weight	" Y "	" Z "	No.	Spa	Length	Weight	No.	Length	Wt	No.	Length	Weight	Length	Wt	No.	Wt	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)	Conc (CY)	Reinf (Lb)
8' - 0"	3' - 0"	8"	7"	13'	162	#6	6"	8' - 11"	2,170	108	#6	9"	8' - 8"	1,406	3' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	3' - 0"	216	6	39' - 9"	159	32	39' - 9"	850	8' - 11"	24	20	56	0.582	153.5	0.7	80	24.0	6,219
8' - 0"	3' - 0"	8"	7"	16'	162	#6	6"	8' - 11"	2,170	108	#6	9"	8' - 8"	1,406	3' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	3' - 0"	216	6	39' - 9"	159	32	39' - 9"	850	8' - 11"	24	20	56	0.582	153.5	0.7	80	24.0	6,219
8' - 0"	3' - 0"	10"	8"	20'	162	#6	6"	9' - 1"	2,210	108	#6	9"	8' - 10"	1,433	3' - 8"	5' - 2"	108	#6	9"	8' - 5"	1,365	5' - 2"	3' - 3"	82	12"	3' - 0"	164	6	39' - 9"	159	32	39' - 9"	850	9' - 1"	24	22	61	0.724	154.5	0.7	85	29.6	6,266
8' - 0"	3' - 0"	11"	8"	23'	162	#6	6"	9' - 1"	2,210	108	#6	9"	8' - 11"	1,446	3' - 9"	5' - 2"	108	#6	9"	8' - 6"	1,379	5' - 2"	3' - 4"	82	12"	3' - 0"	164	6	39' - 9"	159	32	39' - 9"	850	9' - 1"	24	22	61	0.782	155.2	0.7	85	32.0	6,293
8' - 0"	3' - 0"	13"	9"	30'	162	#6	6"	9' - 3"	2,251	108	#6	9"	9' - 2"	1,487	3' - 11"	5' - 3"	108	#6	9"	8' - 9"	1,419	5' - 3"	3' - 6"	108	9"	3' - 0"	216	6	39' - 9"	159	32	39' - 9"	850	9' - 3"	25	22	61	0.929	159.6	0.7	86	37.9	6,468
8' - 0"	4' - 0"	8"	7"	13'	162	#6	6"	8' - 11"	2,170	108	#6	9"	9' - 8"	1,568	4' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	4' - 0"	289	6	39' - 9"	159	32	39' - 9"	850	8' - 11"	24	20	56	0.626	159.4	0.7	80	25.7	6,454
8' - 0"	4' - 0"	8"	7"	16'	162	#6	6"	8' - 11"	2,170	108	#6	9"	9' - 8"	1,568	4' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	4' - 0"	289	6	39' - 9"	159	32	39' - 9"	850	8' - 11"	24	20	56	0.626	159.4	0.7	80	25.7	6,454
8' - 0"	4' - 0"	10"	8"	20'	162	#6	6"	9' - 1"	2,210	108	#6	9"	9' - 10"	1,595	4' - 8"	5' - 2"	108	#6	9"	8' - 5"	1,365	5' - 2"	3' - 3"	82	12"	4' - 0"	219	6	39' - 9"	159	32	39' - 9"	850	9' - 1"	24	22	61	0.774	160.0	0.7	85	31.6	6,483
8' - 0"	4' - 0"	11"	8"	23'	162	#6	6"	9' - 1"	2,210	108	#6	9"	9' - 11"	1,609	4' - 9"	5' - 2"	108	#6	9"	8' - 6"	1,379	5' - 2"	3' - 4"	82	12"	4' - 0"	219	6	39' - 9"	159	32	39' - 9"	850	9' - 1"	24	22	61	0.831	160.7	0.7	85	33.9	6,511
8' - 0"	4' - 0"	13"	9"	30'	162	#6	6"	9' - 3"	2,251	108	#6	9"	10' - 2"	1,649	4' - 11"	5' - 3"	108	#6	9"	8' - 9"	1,419	5' - 3"	3' - 6"	108	9"	4' - 0"	289	6	39' - 9"	159	32	39' - 9"	850	9' - 3"	25	22	61	0.985	165.4	0.7	86	40.1	6,703
8' - 0"	5' - 0"	8"	7"	13'	162	#6	6"	8' - 11"	2,170	108	#6	9"	10' - 8"	1,730	5' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	5' - 0"	361	6	39' - 9"	159	36	39' - 9"	956	8' - 11"	24	20	56	0.669	167.9	0.7	80	27.4	6,794
8' - 0"	5' - 0"	8"	7"	16'	162	#6	6"	8' - 11"	2,170	108	#6	9"	10' - 8"	1,730	5' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	5' - 0"	361	6	39' - 9"	159	36	39' - 9"	956	8' - 11"	24	20	56	0.669	167.9	0.7	80	27.4	6,794
8' - 0"	5' - 0"	10"	8"	20'	162	#6	6"	9' - 1"	2,210	108	#6	9"	10' - 10"	1,757	5' - 8"	5' - 2"	108	#6	9"	8' - 5"	1,365	5' - 2"	3' - 3"	82	12"	5' - 0"	274	6	39' - 9"	159	36	39' - 9"	956	9' - 1"	24	22	61	0.823	168.0	0.7	85	33.6	6,806
8' - 0"	5' - 0"	11"	8"	23'	162	#6	6"	9' - 1"	2,210	108	#6	9"	10' - 11"	1,771	5' - 9"	5' - 2"	108	#6	9"	8' - 6"	1,379	5' - 2"	3' - 4"	82	12"	5' - 0"	274	6	39' - 9"	159	36	39' - 9"	956	9' - 1"	24	22	61	0.881	168.7	0.7	85	35.9	6,834
8' - 0"	5' - 0"	13"	9"	30'	162	#6	6"	9' - 3"	2,251	108	#6	9"	11' - 2"	1,811	5' - 11"	5' - 3"	108	#6	9"	8' - 9"	1,419	5' - 3"	3' - 6"	108	9"	5' - 0"	361	6	39' - 9"	159	36	39' - 9"	956	9' - 3"	25	22	61	1.040	173.9	0.7	86	42.3	7,043
8' - 0"	6' - 0"	8"	7"	13'	162	#6	6"	8' - 11"	2,170	108	#6	9"	11' - 8"	1,893	6' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	6' - 0"	433	6	39' - 9"	159	40	39' - 9"	1,062	8' - 11"	24	20	56	0.712	176.4	0.7	80	29.2	7,135
8' - 0"	6' - 0"	8"	7"	16'	162	#6	6"	8' - 11"	2,170	108	#6	9"	11' - 8"	1,893	6' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	6' - 0"	433	6	39' - 9"	159	40	39' - 9"	1,062	8' - 11"	24	20	56	0.712	176.4	0.7	80	29.2	7,135
8' - 0"	6' - 0"	10"	8"	20'	162	#6	6"	9' - 1"	2,210	108	#6	9"	11' - 10"	1,920	6' - 8"	5' - 2"	108	#6	9"	8' - 5"	1,365	5' - 2"	3' - 3"	82	12"	6' - 0"	329	6	39' - 9"	159	40	39' - 9"	1,062	9' - 1"	24	22	61	0.872	176.1	0.7	85	35.6	7,130
8' - 0"	6' - 0"	11"	8"	23'	162	#6	6"	9' - 1"	2,210	108	#6	9"	11' - 11"	1,933	6' - 9"	5' - 2"	108	#6	9"	8' - 6"	1,379	5' - 2"	3' - 4"	82	12"	6' - 0"	329	6	39' - 9"	159	40	39' - 9"	1,062	9' - 1"	24	22	61	0.930	176.8	0.7	85	37.9	7,157
8' - 0"	6' - 0"	13"	9"	30'	162	#6	6"	9' - 3"	2,251	108	#6	9"	12' - 2"	1,974	6' - 11"	5' - 3"	108	#6	9"	8' - 9"	1,419	5' - 3"	3' - 6"	108	9"	6' - 0"	433	6	39' - 9"	159	40	39' - 9"	1,062	9' - 3"	25	22	61	1.096	182.5	0.7	86	44.5	7,384
8' - 0"	7' - 0"	8"	7"	13'	162	#6	6"	8' - 11"	2,170	108	#6	9"	12' - 8"	2,055	7' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	7' - 0"	505	6	39' - 9"	159	40	39' - 9"	1,062	8' - 11"	24	20	56	0.755	182.2	0.7	80	30.9	7,369
8' - 0"	7' - 0"	8"	7"	16'	162	#6	6"	8' - 11"	2,170	162	#6	6"	12' - 8"	3,082	7' - 6"	5' - 2"	162	#6	6"	8' - 3"	2,007	5' - 2"	3' - 1"	108	9"	7' - 0"	505	6	39' - 9"	159	40	39' - 9"	1,062	8' - 11"	24	20	56	0.755	224.6	0.7	80	30.9	9,065
8' - 0"	7' - 0"	10"	8"	20'	162	#6	6"	9' - 1"	2,210	162	#6	6"	12' - 10"	3,123	7' - 8"	5' - 2"	162	#6	6"	8' - 5"	2,048	5' - 2"	3' - 3"	82	12"	7' - 0"	383	6	39' - 9"	159	40	39' - 9"	1,062	9' - 1"	24	22	61	0.922	224.6	0.7	85	37.6	9,070
8' - 0"	7' - 0"	11"	8"	23'	162	#6	6"	9' - 1"	2,210	162	#6	6"	12' - 11"	3,143	7' - 9"	5' - 2"	162	#6	6"	8' - 6"	2,068	5' - 2"	3' - 4"	82	12"	7' - 0"	383	6	39' - 9"	159	40	39' - 9"	1,062	9' - 1"	24	22	61	0.979	225.6	0.7	85	39.8	9,110
8' - 0"	7' - 0"	13"	9"	30'	162	#6	6"	9' - 3"	2,251	162	#6	6"	13' - 2"	3,204	7' - 11"	5' - 3"	162	#6	6"	8' - 9"	2,129	5' - 3"	3' - 6"	108	9"	7' - 0"	505	6	39' - 9"	159	40	39' - 9"	1,062	9' - 3"	25	22	61	1.151	232.8	0.7	86	46.7	9,396
8' - 0"	8' - 0"	8"	7"	13'	162	#6	6"	8' - 11"	2,170	108	#6	9"	13' - 8"	2,217	8' - 6"	5' - 2"	108	#6	9"	8' - 3"	1,338	5' - 2"	3' - 1"	108	9"	8' - 0"	577	6	39' - 9"	159	44	39' - 9"	1,168	8' - 11"	24	20	56	0.798	190.7	0.7	80	32.6	7,709
8' - 0"	8' - 0"	8"	7"	16'	162	#6	6"	8' - 11"	2,170	162	#6	6"	13' - 8"	3,325	8' - 6"	5' - 2"	162	#6	6"	8' - 3"	2,007	5' - 2"	3' - 1"	108	9"	8' - 0"	577	6	39' - 9"	159	44	39' - 9"	1,168	8' - 11"	24	20	56	0.798	235.2	0.7	80	32.6	9,486
8' - 0"	8' - 0"	10"	8"	20'	162	#6	6"	9' - 1"	2,210	162	#6	6"	13' - 10"	3,366	8' - 8"	5' - 2"	162	#6	6"	8' - 5"	2,048	5' - 2"	3' - 3"	108	9"	8' - 0"	577	6	39' - 9"	159	44	39' - 9"	1,168	9' - 1"	24	22	61	0.971	238.2	0.7	85	39.5	9,613
8' - 0"	8' - 0"	11"	8"	23'	162	#6	6"	9' - 1"	2,210	162	#6	6"	13' - 11"	3,386	8' - 9"	5' - 2"	162	#6	6"	8' - 6"	2,068	5' - 2"	3' - 4"	162	6"	8' - 0"	866	6	39' - 9"	159	44	39' - 9"	1,168	9' - 1"	24	22	61	1.029	246.4	0.7	85	41.8	9,942
8' - 0"	8' - 0"	13"	9"	30'	162	#6	6"	9' - 3"	2,251	162	#6	6"	14' - 2"	3,447	8' - 11"	5' - 3"	162	#6	6"	8' - 9"	2,129	5' - 3"	3' - 6"	162	6"	8' - 0"	866	6	39' - 9"	159	44	39' - 9"	1,168	9' - 3"	25	22	61	1.207	250.5	0.7	86	49.0	10,106

(5) For direct traffic culverts (fill height ≤ 2 ft.), identify the required box size and select the option with the minimum fill height.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:42:44 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SCC08-21.dgn

HL93 LOADING SHEET 2 OF 2

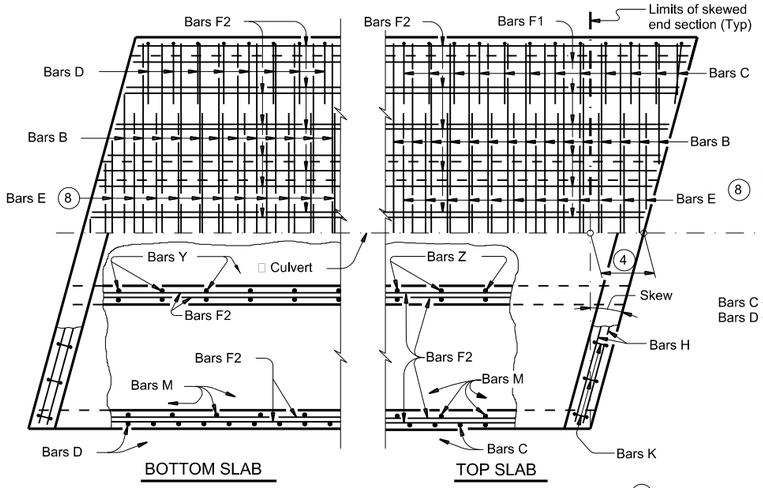
Texas Department of Transportation — Bridge Division Standard

SINGLE BOX CULVERTS CAST-IN-PLACE

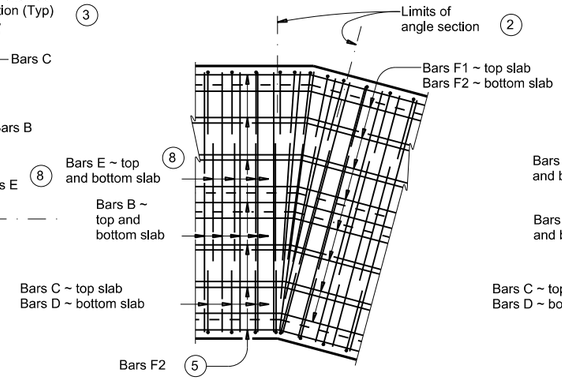
0' TO 30' FILL

SCC-8

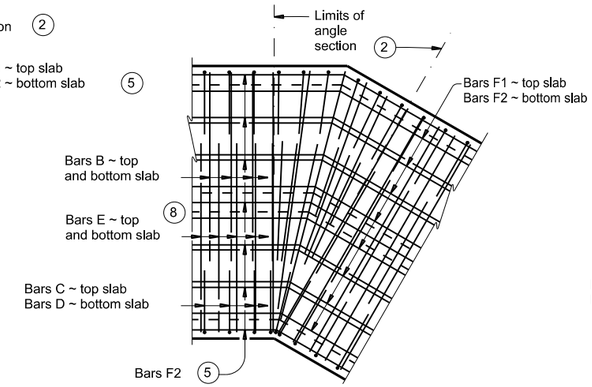
FILE: CD-SCC08-21.dgn	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
04/2021 Updated X values.	DIST	COUNTY		SHEET NO.
	22	WEBB		191



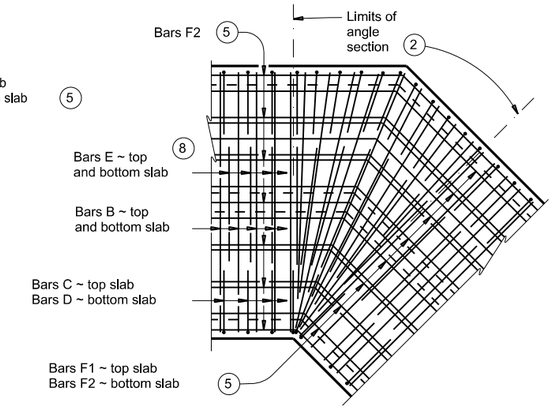
PLAN OF SKEWED ENDS ~ FROM 0° TO 15° (7)



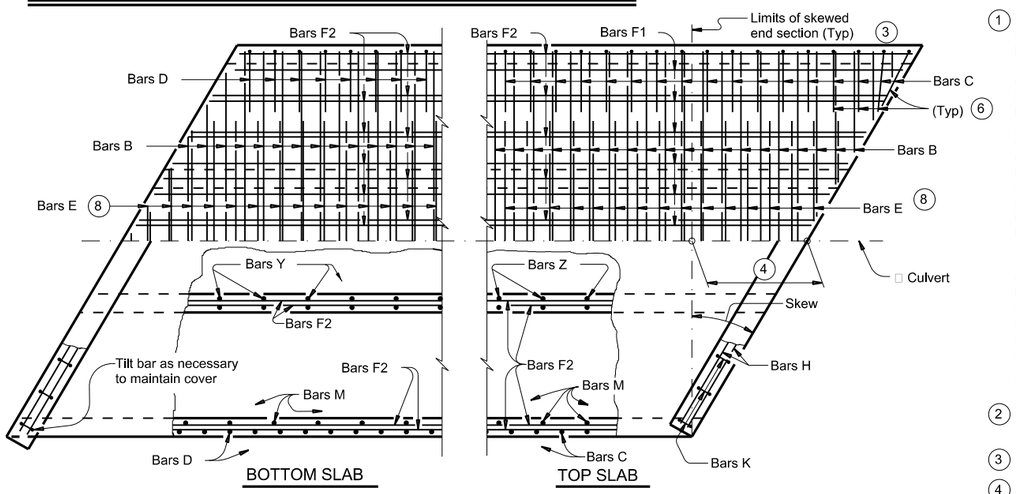
PLAN OF ANGLE SECTION ~ FROM 0° TO 15°



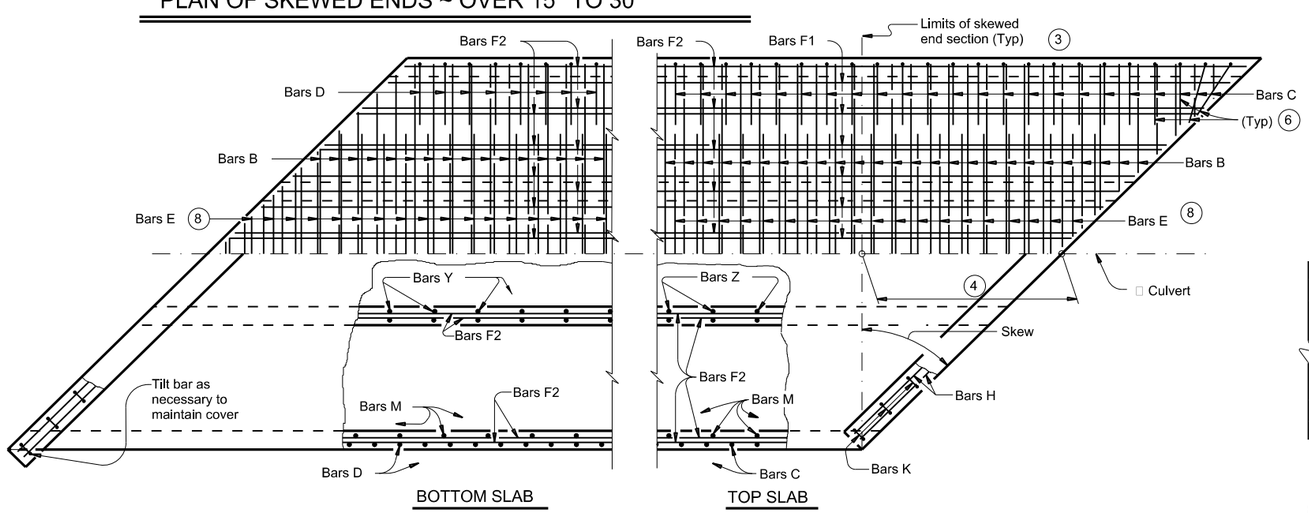
PLAN OF ANGLE SECTION ~ OVER 15° TO 30°



PLAN OF ANGLE SECTION ~ OVER 30° TO 45°



PLAN OF SKEWED ENDS ~ OVER 15° TO 30°



PLAN OF SKEWED ENDS ~ OVER 30° TO 45°

(1) For skewed box culverts with less than 2'-0" of fill, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension.

For non-skewed box culverts with less than 2'-0" of fill and for skewed or non-skewed culverts with a fill depth of 2'-0" or greater, break back the top slab to provide a 1'-10" minimum lap of the existing longitudinal bars with the longitudinal bars in the extension. Alternatively, if the box is non-skewed, embed #6 anchor bars with a Type III, Class C, D, E, or F anchor adhesive into the existing walls, top and bottom slab at 1'-6" center-to-center spacing. Minimum embedment depth is 8". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, Nba, of 26.4 kips. Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use. Anchor installation, including hole size, drilling, and clean out, must be in accordance with Item 450, "Railing." Test adhesive anchors in accordance with Item 450.3.3, "Tests." Test 3 anchors per 100 anchors installed.

Break back wings and apron as necessary to install the extension. Clean and extend the exposed wingwall and apron reinforcing into the extension. When lengthening existing box culverts with dimensions different than current standard dimensions, form horizontal and vertical transitions as directed by the Engineer. Match bottom slabs to maintain an uninterrupted flow line. Field bend existing and new reinforcing into transitions and maintain specified cover requirements. For top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface, adjust the "H" dimension to provide a smooth riding surface.

(2) When the spacing between Bars B or Bars E becomes less than half of the normal spacing, cut bars to avoid conflict.

(3) The length of Bars B and Bars E will vary in the skewed end sections.

(4) [One half of overall width] x [tangent of the skew angle]

(5) Place Bars F1 and F2 continuously through the angle section. Bend Bars F1 and F2 to remain parallel to the walls of the box culvert.

(6) When necessary to avoid conflict in acute corners, shorten the slab extension leg of Bars C and Bars D to a minimum of 1'-6" for skews of 30° thru 45°.

(7) At the Contractor's option, for skews of 15° or less, place Bars B, C, D, and E parallel to the skewed end while maintaining spacing along centerline of box. Increase lengths of Bars B and Bars E shown on the Multiple Box Culverts Cast-In-Place (MC) standard sheets to accommodate the skew.

(8) Extend Bars E as shown on the MC standard sheet for direct traffic culverts.

CONSTRUCTION NOTES:

Do not use permanent forms.
When required, lap Bars H 1'-8" for uncoated or galvanized bars.
Provide a minimum of 1 ½" clear cover.

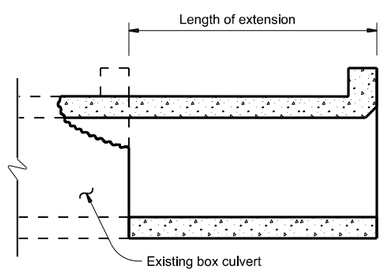
MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel, if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) with these exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of culverts with overlay, with 1-to-2 course surface treatment, or with the top slab as the final riding surface.

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
Refer to Multiple Box Culverts Cast-in-Place (MC) standard sheets for details of straight sections of culvert.
For skewed sections and angle sections, refer to Multiple Box Culverts Cast-in-Place (MC) standard sheets for slab and wall dimensions, bar sizes, maximum bar spacing, and any other details not shown.
For skewed ends with curbs, adjust length of Bars H, number of Bars K, curb concrete volume, and reinforcing steel weight by dividing the values shown on the Multiple Box Culverts Cast-In-Place (MC) standard sheets by the cosine of the skew angle.

Cover dimensions are clear dimensions, unless noted otherwise.



LENGTHENING DETAIL (1)

HL93 LOADING

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE MISCELLANEOUS DETAILS

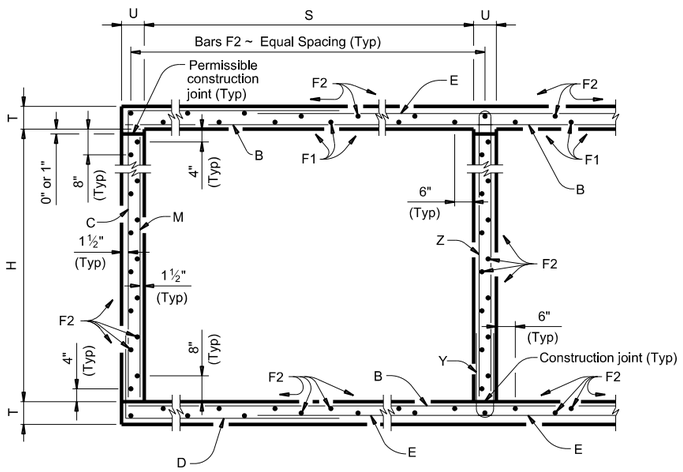
MC-MD

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	192

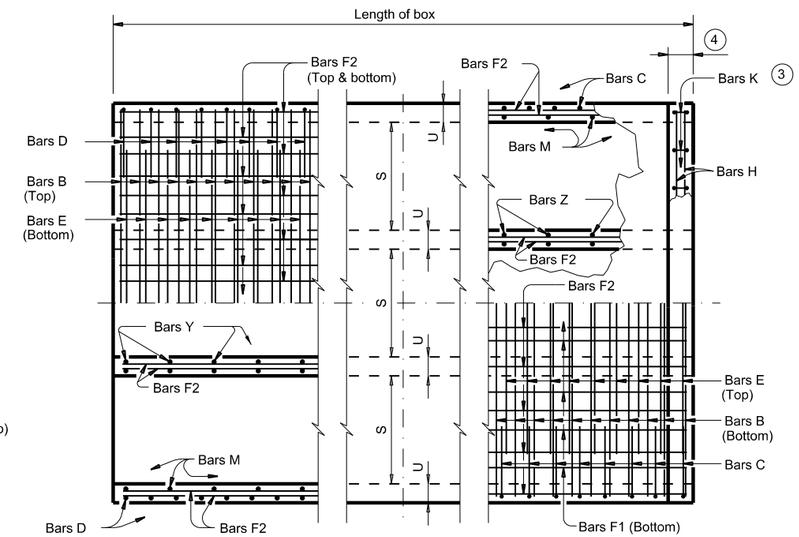
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:42:59 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-MC-MD-20.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



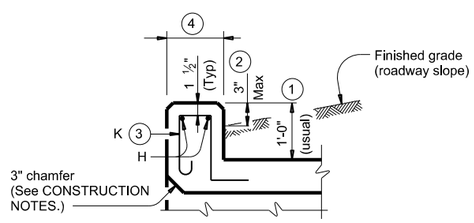
TYPICAL SECTION



BOTTOM SLAB

TOP SLAB

PART PLANS



SECTION THRU CURB

TABLE OF BAR DIMENSIONS		
H	"X"	"Y"
3'-0"	3'-6 ½"	5'-1"
4'-0"	4'-6 ½"	5'-1"
5'-0"	5'-6 ½"	5'-1"
6'-0"	6'-6 ½"	5'-1"
7'-0"	7'-6 ½"	5'-1"
8'-0"	8'-6 ½"	5'-1"

(1) 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures with pedestrian rail or curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet. For structures with T631 or T631LS bridge rail, refer to the Mounting Details for T631 & T631LS Rails (T631-CM) standard sheet. Refer to the Rail Anchorage Curb (RAC) standard sheet for structures with bridge rail other than T631 or T631LS.

(2) For vehicle safety, the following requirements must be met:
- For structures without bridge rail, construct curbs no more than 3" above finished grade.
- For structures with bridge rail, construct curbs flush with finished grade.

Reduce curb heights, if necessary, to meet the above requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.

(3) For curbs less than 1'-0" high, tilt Bars K or reduce bar height as necessary to maintain cover. For curbs less than 3" high, Bars K may be omitted.

(4) 1'-0" typical. 2'-3" when the Rail Anchorage Curb (RAC) standard sheet is referred to elsewhere in the plans.

The Contractor may replace Bars B, C, D, E, F1, F2, M, Y, and/or Z with deformed welded wire reinforcement (WWR) meeting the requirements of ASTM A1064. The area of required reinforcement may be reduced by the ratio of 60 ksi / 70 ksi. Spacing of WWR is limited to 4" Min and 18" Max. When required, provide lap splices in the WWR of the same length required for the equivalent bar size, rounded up for wire sizes between conventional bar sizes. The lap length required for WWR is never less than the lap length required for uncoated #4 bars.

Example conversion: Replacing No. 6 Gr 60 at 6" Spacing with WWR
Required WWR = (0.44 sq. in. per 0.5 ft.) x (60 ksi / 70 ksi) = 0.755 sq. in. per ft.
If D30.6 wire is used to meet the 0.755 sq. in. per ft. requirement in this example, the required spacing = (0.306 sq. in.) / (0.755 sq. in. per ft.) x (12 in. per ft.) = 4.86" Max spacing. Required lap length for the provided D30.6 wire is 2'-1" (the same minimum lap length required for uncoated #5 bars, as listed under MATERIAL NOTES).

CONSTRUCTION NOTES:

Do not use permanent forms.
Chamfer the bottom edge of the top slab 3" at the entrance.
Optionally, raise construction joints shown at the flow line by a maximum of 6". If this option is taken, Bars M may be cut off or raised, Bars C and D may be reversed, and Bars Y and Z may be reversed.

MATERIAL NOTES:

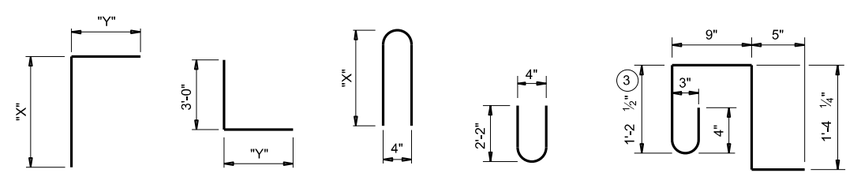
Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Provide Class C concrete (f'c = 3,600 psi) for culvert barrel and curb, with the following exceptions: provide Class S concrete (f'c = 4,000 psi) for top slabs of:
- culverts with overlay,
- culverts with 1-to-2 course surface treatment, or
- culverts with the top slab as the final riding surface.

Provide bar laps, where required, as follows:
- Uncoated or galvanized ~ #4 = 1'-8" Min
- Uncoated or galvanized ~ #5 = 2'-1" Min
- Uncoated or galvanized ~ #6 = 2'-6" Min

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications for the range of fill heights shown.
See the Multiple Box Culverts Cast-In-Place Miscellaneous Detail (MC-MD) standard sheet for details pertaining to skewed ends, angle sections, and lengthening.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.



BARS C | BARS D | BARS Z | BARS Y | BARS K (#4) (Spa = 1'-0" Max) (Length = 4'-2")

HL93 LOADING

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE

8'-0" SPAN
0' TO 13' FILL

MC-8-13

FILE:	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	193

DATE: 4/9/2024 9:43:13 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-MC813-20.dgn

NUMBER OF SPANS	SECTION DIMENSIONS				BILLS OF REINFORCING STEEL (For Box Length = 40 feet)																																								QUANTITIES					
					Bars B					Bars C & D							Bars E					Bars F1 ~ #4				Bars F2 ~ #4				Bars M ~ #4				Bars Y & Z ~ #4								Bars H 4 ~ #4		Bars K		Per Foot of Barrel		Curb		Total	
	S	H	T	U	No.	Size	Spa	Length	Wt	No.	Size	Spa	Bars C Length	Bars C Wt	Bars D Length	Bars D Wt	No.	Size	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Length	Wt	No.	Spa	Bars Y Length	Bars Y Wt	Bars Z Length	Bars Z Wt	Length	Wt	No.	Wt	Conc (CY)	Renf (Lb)	Conc (CY)	Renf (Lb)	Conc (CY)	Renf (Lb)
2	8' - 0"	3' - 0"	8"	7"	162	#6	6"	17' - 6"	4,258	108	#6	9"	8' - 8"	1,406	8' - 2"	1,325	162	#6	6"	12' - 9"	3,102	12	18"	39' - 9"	319	56	18"	39' - 9"	1,487	108	9"	3' - 0"	216	54	9"	4' - 7"	165	7' - 3"	262	17' - 6"	47	38	106	1.071	313.5	1.3	153	44.2	12,693
3	8' - 0"	3' - 0"	8"	7"	162	#6	6"	26' - 1"	6,347	108	#6	9"	8' - 8"	1,406	8' - 2"	1,325	162	#6	6"	21' - 4"	5,191	18	18"	39' - 9"	478	80	18"	39' - 9"	2,124	108	9"	3' - 0"	216	108	9"	4' - 7"	331	7' - 3"	523	26' - 1"	70	56	156	1.560	448.5	1.9	226	64.3	18,167
4	8' - 0"	3' - 0"	8"	7"	162	#6	6"	34' - 8"	8,435	108	#6	9"	8' - 8"	1,406	8' - 2"	1,325	162	#6	6"	29' - 11"	7,279	24	18"	39' - 9"	637	104	18"	39' - 9"	2,762	108	9"	3' - 0"	216	162	9"	4' - 7"	496	7' - 3"	785	34' - 8"	93	72	200	2.048	583.5	2.6	293	84.5	23,634
5	8' - 0"	3' - 0"	8"	7"	162	#6	6"	43' - 3"	10,524	108	#6	9"	8' - 8"	1,406	8' - 2"	1,325	162	#6	6"	38' - 6"	9,368	30	18"	39' - 9"	797	128	18"	39' - 9"	3,399	108	9"	3' - 0"	216	216	9"	4' - 7"	661	7' - 3"	1,046	43' - 3"	116	90	251	2.537	718.6	3.2	367	104.7	29,109
6	8' - 0"	3' - 0"	8"	7"	162	#6	6"	51' - 10"	12,612	108	#6	9"	8' - 8"	1,406	8' - 2"	1,325	162	#6	6"	47' - 1"	11,457	36	18"	39' - 9"	956	152	18"	39' - 9"	4,036	108	9"	3' - 0"	216	270	9"	4' - 7"	827	7' - 3"	1,308	51' - 10"	138	106	295	3.026	853.6	3.8	433	124.9	34,576
2	8' - 0"	4' - 0"	8"	7"	162	#6	6"	17' - 6"	4,258	108	#6	9"	9' - 8"	1,568	8' - 2"	1,325	162	#6	6"	12' - 9"	3,102	12	18"	39' - 9"	319	56	18"	39' - 9"	1,487	108	9"	4' - 0"	289	54	9"	4' - 7"	165	9' - 3"	334	17' - 6"	47	38	106	1.136	321.2	1.3	153	46.8	13,000
3	8' - 0"	4' - 0"	8"	7"	162	#6	6"	26' - 1"	6,347	108	#6	9"	9' - 8"	1,568	8' - 2"	1,325	162	#6	6"	21' - 4"	5,191	18	18"	39' - 9"	478	80	18"	39' - 9"	2,124	108	9"	4' - 0"	289	108	9"	4' - 7"	331	9' - 3"	667	26' - 1"	70	56	156	1.646	458.0	1.9	226	67.8	18,546
4	8' - 0"	4' - 0"	8"	7"	162	#6	6"	34' - 8"	8,435	108	#6	9"	9' - 8"	1,568	8' - 2"	1,325	162	#6	6"	29' - 11"	7,279	24	18"	39' - 9"	637	104	18"	39' - 9"	2,762	108	9"	4' - 0"	289	162	9"	4' - 7"	496	9' - 3"	1,001	34' - 8"	93	72	200	2.156	594.8	2.6	293	88.8	24,085
5	8' - 0"	4' - 0"	8"	7"	162	#6	6"	43' - 3"	10,524	108	#6	9"	9' - 8"	1,568	8' - 2"	1,325	162	#6	6"	38' - 6"	9,368	30	18"	39' - 9"	797	128	18"	39' - 9"	3,399	108	9"	4' - 0"	289	216	9"	4' - 7"	661	9' - 3"	1,335	43' - 3"	116	90	251	2.667	731.7	3.2	367	109.9	29,633
6	8' - 0"	4' - 0"	8"	7"	162	#6	6"	51' - 10"	12,612	108	#6	9"	9' - 8"	1,568	8' - 2"	1,325	162	#6	6"	47' - 1"	11,457	36	18"	39' - 9"	956	152	18"	39' - 9"	4,036	108	9"	4' - 0"	289	270	9"	4' - 7"	827	9' - 3"	1,668	51' - 10"	138	106	295	3.177	868.5	3.8	433	130.9	35,171
2	8' - 0"	5' - 0"	8"	7"	162	#6	6"	17' - 6"	4,258	108	#6	9"	10' - 8"	1,730	8' - 2"	1,325	162	#6	6"	12' - 9"	3,102	12	18"	39' - 9"	319	62	18"	39' - 9"	1,646	108	9"	5' - 0"	361	54	9"	4' - 7"	165	11' - 3"	406	17' - 6"	47	38	106	1.201	332.8	1.3	153	49.4	13,465
3	8' - 0"	5' - 0"	8"	7"	162	#6	6"	26' - 1"	6,347	108	#6	9"	10' - 8"	1,730	8' - 2"	1,325	162	#6	6"	21' - 4"	5,191	18	18"	39' - 9"	478	88	18"	39' - 9"	2,337	108	9"	5' - 0"	361	108	9"	4' - 7"	331	11' - 3"	812	26' - 1"	70	56	156	1.733	472.8	1.9	226	71.3	19,138
4	8' - 0"	5' - 0"	8"	7"	162	#6	6"	34' - 8"	8,435	108	#6	9"	10' - 8"	1,730	8' - 2"	1,325	162	#6	6"	29' - 11"	7,279	24	18"	39' - 9"	637	114	18"	39' - 9"	3,027	108	9"	5' - 0"	361	162	9"	4' - 7"	496	11' - 3"	1,217	34' - 8"	93	72	200	2.264	612.7	2.6	293	93.1	24,800
5	8' - 0"	5' - 0"	8"	7"	162	#6	6"	43' - 3"	10,524	108	#6	9"	10' - 8"	1,730	8' - 2"	1,325	162	#6	6"	38' - 6"	9,368	30	18"	39' - 9"	797	140	18"	39' - 9"	3,717	108	9"	5' - 0"	361	216	9"	4' - 7"	661	11' - 3"	1,623	43' - 3"	116	90	251	2.796	752.7	3.2	367	115.1	30,473
6	8' - 0"	5' - 0"	8"	7"	162	#6	6"	51' - 10"	12,612	108	#6	9"	10' - 8"	1,730	8' - 2"	1,325	162	#6	6"	47' - 1"	11,457	36	18"	39' - 9"	956	166	18"	39' - 9"	4,408	108	9"	5' - 0"	361	270	9"	4' - 7"	827	11' - 3"	2,029	51' - 10"	138	106	295	3.328	892.6	3.8	433	137.0	36,138
2	8' - 0"	6' - 0"	8"	7"	162	#6	6"	17' - 6"	4,258	108	#6	9"	11' - 8"	1,893	8' - 2"	1,325	162	#6	6"	12' - 9"	3,102	12	18"	39' - 9"	319	68	18"	39' - 9"	1,806	108	9"	6' - 0"	433	54	9"	4' - 7"	165	13' - 3"	478	17' - 6"	47	38	106	1.265	344.5	1.3	153	51.9	13,932
3	8' - 0"	6' - 0"	8"	7"	162	#6	6"	26' - 1"	6,347	108	#6	9"	11' - 8"	1,893	8' - 2"	1,325	162	#6	6"	21' - 4"	5,191	18	18"	39' - 9"	478	96	18"	39' - 9"	2,549	108	9"	6' - 0"	433	108	9"	4' - 7"	331	13' - 3"	956	26' - 1"	70	56	156	1.819	487.6	1.9	226	74.7	19,729
4	8' - 0"	6' - 0"	8"	7"	162	#6	6"	34' - 8"	8,435	108	#6	9"	11' - 8"	1,893	8' - 2"	1,325	162	#6	6"	29' - 11"	7,279	24	18"	39' - 9"	637	124	18"	39' - 9"	3,293	108	9"	6' - 0"	433	162	9"	4' - 7"	496	13' - 3"	1,434	34' - 8"	93	72	200	2.372	630.6	2.6	293	97.5	25,518
5	8' - 0"	6' - 0"	8"	7"	162	#6	6"	43' - 3"	10,524	108	#6	9"	11' - 8"	1,893	8' - 2"	1,325	162	#6	6"	38' - 6"	9,368	30	18"	39' - 9"	797	152	18"	39' - 9"	4,036	108	9"	6' - 0"	433	216	9"	4' - 7"	661	13' - 3"	1,912	43' - 3"	116	90	251	2.926	773.7	3.2	367	120.3	31,316
6	8' - 0"	6' - 0"	8"	7"	162	#6	6"	51' - 10"	12,612	108	#6	9"	11' - 8"	1,893	8' - 2"	1,325	162	#6	6"	47' - 1"	11,457	36	18"	39' - 9"	956	180	18"	39' - 9"	4,780	108	9"	6' - 0"	433	270	9"	4' - 7"	827	13' - 3"	2,390	51' - 10"	138	106	295	3.479	916.8	3.8	433	143.0	37,106
2	8' - 0"	7' - 0"	8"	7"	162	#6	6"	17' - 6"	4,258	108	#6	9"	12' - 8"	2,055	8' - 2"	1,325	162	#6	6"	12' - 9"	3,102	12	18"	39' - 9"	319	68	18"	39' - 9"	1,806	108	9"	7' - 0"	505	54	9"	4' - 7"	165	15' - 3"	550	17' - 6"	47	38	106	1.330	352.1	1.3	153	54.5	14,238
3	8' - 0"	7' - 0"	8"	7"	162	#6	6"	26' - 1"	6,347	108	#6	9"	12' - 8"	2,055	8' - 2"	1,325	162	#6	6"	21' - 4"	5,191	18	18"	39' - 9"	478	96	18"	39' - 9"	2,549	108	9"	7' - 0"	505	108	9"	4' - 7"	331	15' - 3"	1,100	26' - 1"	70	56	156	1.905	497.0	1.9	226	78.1	20,107
4	8' - 0"	7' - 0"	8"	7"	162	#6	6"	34' - 8"	8,435	108	#6	9"	12' - 8"	2,055	8' - 2"	1,325	162	#6	6"	29' - 11"	7,279	24	18"	39' - 9"	637	124	18"	39' - 9"	3,293	108	9"	7' - 0"	505	162	9"	4' - 7"	496	15' - 3"	1,650	34' - 8"	93	72	200	2.480	641.9	2.6	293	101.8	25,968
5	8' - 0"	7' - 0"	8"	7"	162	#6	6"	43' - 3"	10,524	108	#6	9"	12' - 8"	2,055	8' - 2"	1,325	162	#6	6"	38' - 6"	9,368	30	18"	39' - 9"	797	152	18"	39' - 9"	4,036	108	9"	7' - 0"	505	216	9"	4' - 7"	661	15' - 3"	2,200	43' - 3"	116	90	251	3.056	786.8	3.2	367	125.5	31,838
6	8' - 0"	7' - 0"	8"	7"	162	#6	6"	51' - 10"	12,612	108	#6	9"	12' - 8"	2,055	8' - 2"	1,325	162	#6	6"	47' - 1"	11,457	36	18"	39' - 9"	956	180	18"	39' - 9"	4,780	108	9"	7' - 0"	505	270	9"	4' - 7"	827	15' - 3"	2,750	51' - 10"	138	106	295	3.631	931.7	3.8	433	149.1	37,700
2	8' - 0"	8' - 0"	8"	7"	162	#6	6"	17' - 6"	4,258	108	#6	9"	13' - 8"	2,217	8' - 2"	1,325	162	#6	6"	12' - 9"	3,102	12	18"	39' - 9"	319	74	18"	39' - 9"	1,965	108	9"	8' - 0"	577	54	9"	4' - 7"	165	17' - 3"	622	17' - 6"	47	38	106	1.395	363.8	1.3	153	57.1	14,703
3	8' - 0"	8' - 0"	8"	7"	162	#6	6"	26' - 1"	6,347	108	#6	9"	13' - 8"	2,217	8' - 2"	1,325	162	#6	6"	21' - 4"	5,191	18	18"	39' - 9"	478	104	18"	39' - 9"	2,762	108	9"	8' - 0"	577	108	9"	4' - 7"	331	17' - 3"	1,244	26' - 1"	70	56	156	1.992	511.8	1.9	226	81.6	20,698
4	8' - 0"	8' - 0"	8"	7"	162	#6	6"	34' - 8"	8,435	108	#6	9"	13' - 8"	2,217	8' - 2"	1,325	162	#6	6"	29' - 11"	7,279	24	18"	39' - 9"	637	134	18"	39' - 9"	3,558	108	9"	8' - 0"	577	162	9"	4' - 7"	496	17' - 3"	1,867	34' - 8"	93	72	200	2.588	659.8	2.6	293	106.1	26,684
5	8' - 0"	8' - 0"	8"	7"	162	#6	6"	43' - 3"	10,524	108	#6	9"	13' - 8"	2,217	8' - 2"	1,325	162	#6	6"	38' - 6"	9,368	30	18"	39' - 9"	797	164	18"	39' - 9"	4,355	108	9"	8' - 0"	577	216	9"	4' - 7"	661	17' - 3"	2,489	43' - 3"	116	90	251	3.185	807.8	3.2	367	130.6	32,680
6	8' - 0"	8' - 0"	8"	7"	162	#6	6"	51' - 10"	12,612	108	#6	9"	13' - 8"	2,217	8' - 2"	1,325	162	#6	6"	47' - 1"	11,457	36	18"	39' - 9"	956	194	18"	39' - 9"	5,151	108	9"	8' - 0"	577	270	9"	4' - 7"	827	17' - 3"	3,111	51' - 10"	138	106	295	3.782	955.8	3.8	433	155.1	38,666

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:43:13 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-MC813-20.dgn

HL93 LOADING

Texas Department of Transportation

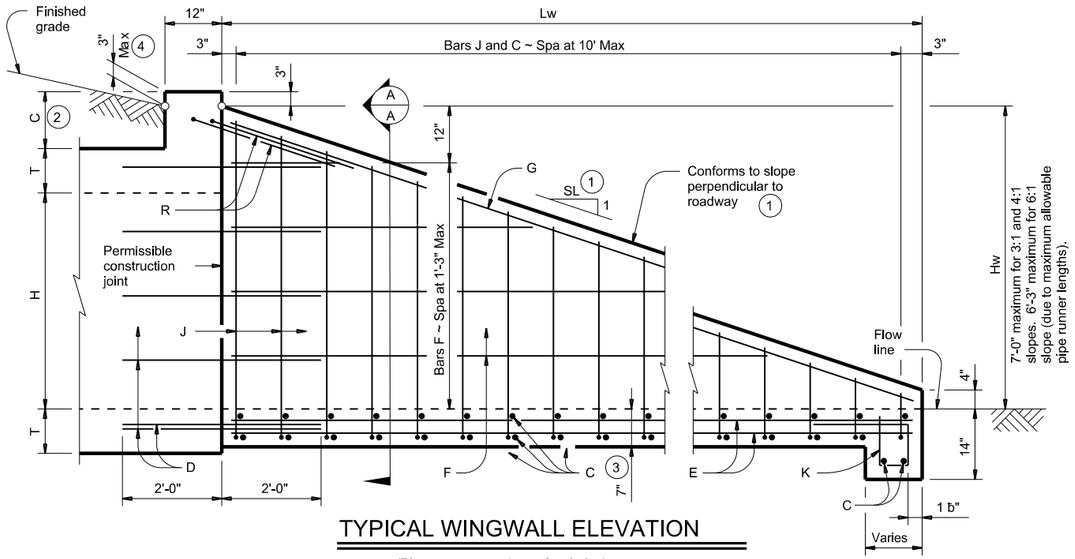
Bridge Division Standard

MULTIPLE BOX CULVERTS CAST-IN-PLACE

8'-0" SPAN
0' TO 13' FILL

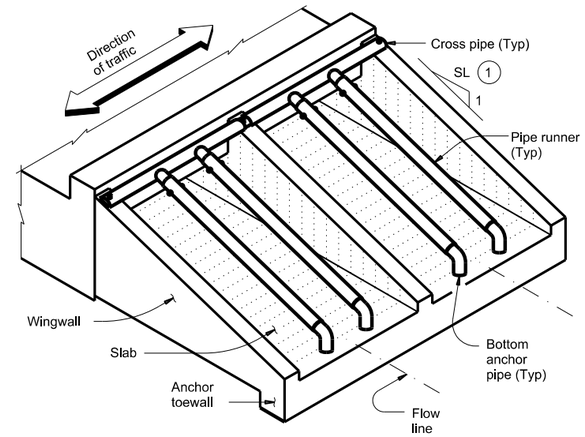
MC-8-13

FILE:	DN: TBE	CK: BMP	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	194

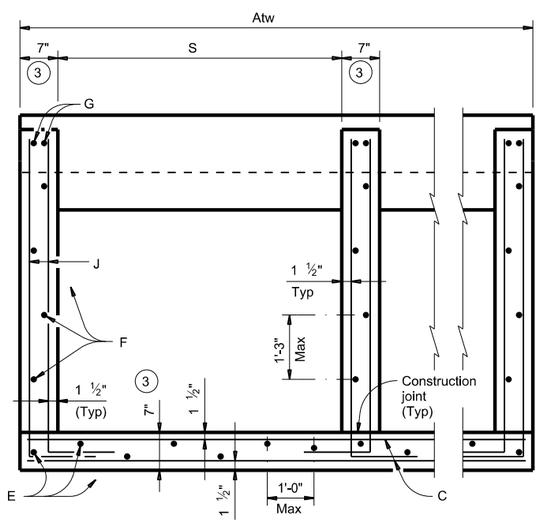


TYPICAL WINGWALL ELEVATION

(Pipe runners not shown for clarity.)

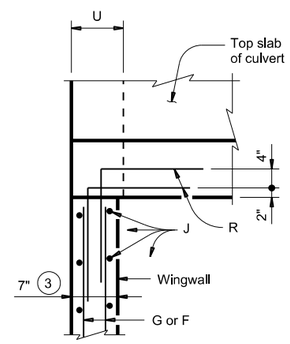


ISOMETRIC VIEW OF TYPICAL INSTALLATION



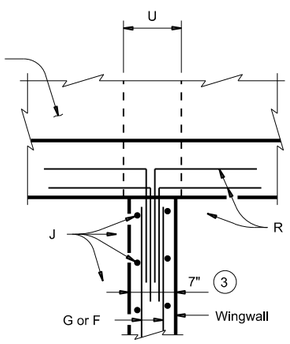
SECTION A-A

(Showing typical wingwall and wing slab reinforcing. Pipe runners not shown for clarity.)



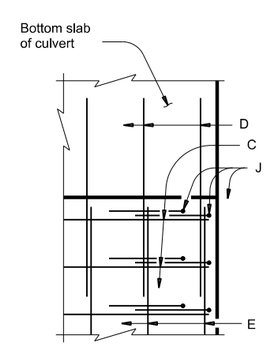
AT TOP OF EXTERIOR WINGWALL

(Cast-in-place culvert)



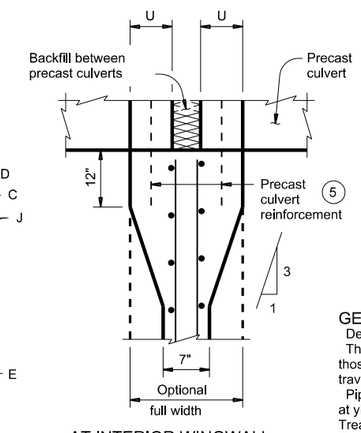
AT TOP OF INTERIOR WINGWALL

(Cast-in-place culvert)



AT OUTSIDE OF BOTTOM SLAB

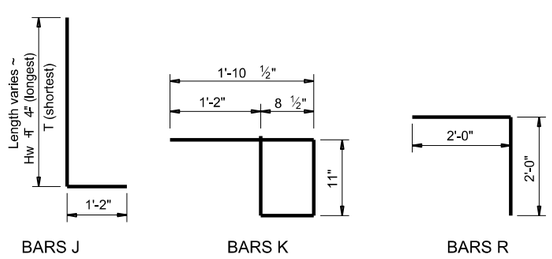
(Cast-in-place culvert)



AT INTERIOR WINGWALL

(Precast culvert)

PLAN VIEWS OF CORNER DETAILS



BARS J

BARS K
(Length = 4'-3")

BARS R

TABLE OF REINFORCING BAR SIZES AND SPACING

Bar	Size	Spacing
C	#4	10" Max
D	#4	Match F and E
E	#4	1'-0" Max
F	#4	1'-3" Max
G	#6	As shown
J	#4	10" Max
K	#4	1'-0" Max
R	#4	As shown

1. Recommended values of slope are: 3:1, 4:1, and 6:1. Provide 3:1 or flatter slope.
2. 0" Min to 5'-0" Max. Estimated curb heights are shown elsewhere in the plans. For structures without railing and curbs taller than 1'-0", refer to the Extended Curb Details (ECD) standard sheet.
3. Wingwall and slab thicknesses may be the same as the adjacent culvert wall and slab thicknesses (7" minimum). If thicknesses greater than the minimum (7") are used, no changes will be made in quantities and no additional compensation will be allowed.
4. For vehicle safety, reduce curb height, if necessary, to provide a maximum 3" projection. No changes will be made in quantities and no additional compensation will be allowed for this work.
5. For culverts with C = 0", the precast culvert reinforcing may extend 1'-0" minimum into wingwall. Wingwall Bars D and R may be omitted. Otherwise, refer to the Wingwall Connection detail on the Box Culvert Precast Miscellaneous Details (SCP-MD) standard sheet.

WING DIMENSION CALCULATIONS:

Hw = H + T + C - 0.250'
Lw = (Hw - 0.333') (SL)

For cast-in-place culverts:
Atw = (N) (S) + (N + 1) (U)
For precast culverts:
Atw = (N) (2U + S) + (N - 1) (0.500')

Total Wingwall Area (SF)
= (0.5) (Hw + 0.333') (Lw) (N + 1)
Total Concrete Volume (CY)
= [(Wingwall Area) (0.583') +
(Lw) (Atw) (0.583') +
(Atw) (1.167') (1.167' - 0.583')] ÷ (27)

PIPE RUNNER DIMENSION CALCULATIONS:

Pipe Runner Length
= (Lw) (K1) (1.917')
Total Reinforcing (Lb)
= (1.55) (Lw) (Atw) +
(4.43) (Atw) +
(K2) (Hw) (N + 1) (Lw) √

C = Height of curb above top of top slab (feet)
Hw = Height of wingwall (feet)
K = Constant value for use in formulas

Slope SL:1	K1	K2
3:1	~ 1.054 ~	7.45
4:1	~ 1.031 ~	8.49
6:1	~ 1.014 ~	10.30

Atw = Anchor toewall length (feet)
Lw = Length of wingwall (feet)
N = Number of culvert barrels
SL:1 = Side slope ratio (horizontal : 1 vertical)

See applicable box culvert standard for H, S, T, and U values.

MATERIAL NOTES:

Provide Grade 60 reinforcing steel.
Provide galvanized reinforcing steel if required elsewhere in the plans.
Adjust reinforcing as necessary to provide a minimum clear cover of 1 ½".
Provide Class "C" concrete (f'c = 3,600 psi).
Provide pipe runners, cross pipes, and anchor pipes meeting the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.
Provide ASTM A307 bolts.
Galvanize all steel components, except the concrete reinforcing, unless required elsewhere in the plans, after fabrication.
Repair galvanizing damaged during transport or construction in accordance with the Item 445, "Galvanizing."

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
The safety end treatments shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.
Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.
The quantities for pipe runners, reinforcing steel, and concrete resulting from the formulas given herein are for Contractor's information only.
See the Box Culvert Supplement (BCS) standard sheet for additional dimensions and information.
Alternate design drawings bearing the seal of a professional engineer will be acceptable for precast construction of the safety end treatments.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing dimensions are out-to-out of bars.

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

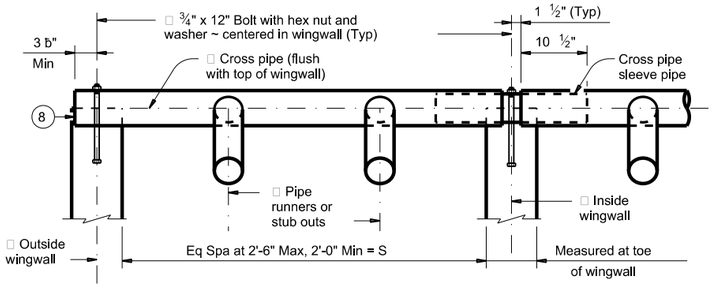
SAFETY END TREATMENT
FOR 0° SKEW BOX CULVERTS
(MAXIMUM Hw = 7'-0")
TYPE I ~ CROSS DRAINAGE

SETB-CD

FILE:	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	195

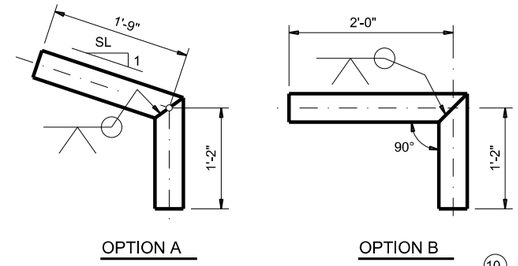
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:43:28 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SETBCD-20.dgn

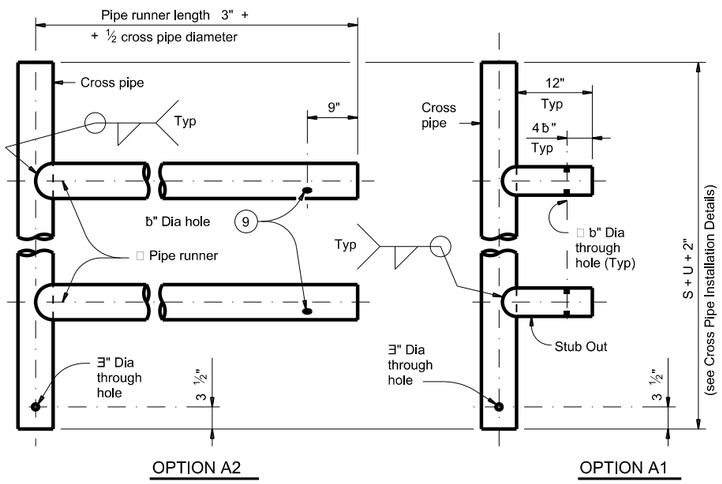


NOTE: At Contractor's option, make the cross pipe continuous across the inside wingwalls. If option is selected, omit the sleeve pipe and make a 3" diameter through hole in the cross pipe to accept the anchor bolt at the centerline of each inside wingwall.

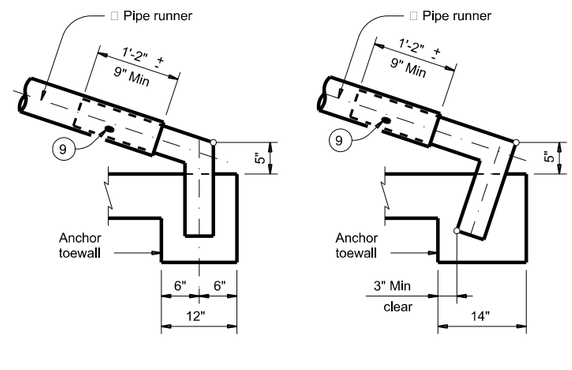
CROSS PIPE INSTALLATION DETAILS



BOTTOM ANCHOR PIPE DETAILS

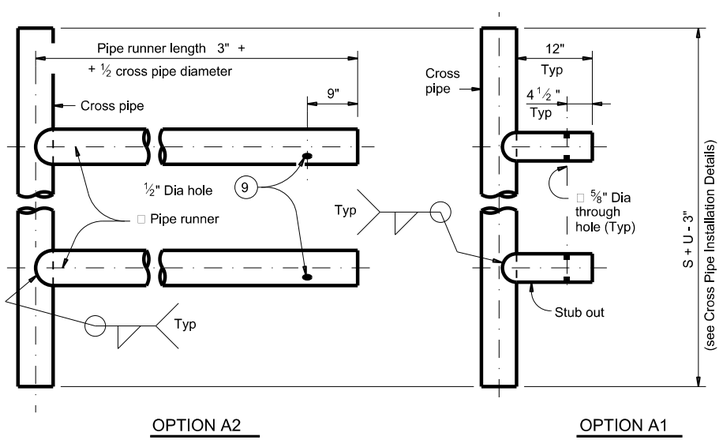


FOR USE IN OUTSIDE CULVERT BAY



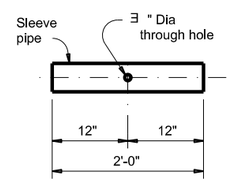
BOTTOM ANCHOR TOEWALL DETAILS

(Wingwall not shown for clarity.)

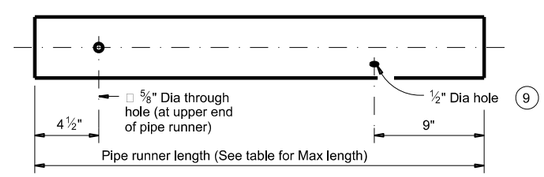


FOR USE IN INSIDE CULVERT BAY

CROSS PIPE AND CONNECTIONS DETAILS



CROSS PIPE SLEEVE PIPE DETAILS



NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

6 Cross pipe is the same size as the pipe runner. Cross pipe stub out is the same size as the anchor pipe.

7 Note that actual slope of safety pipe runner may vary slightly from side slope.

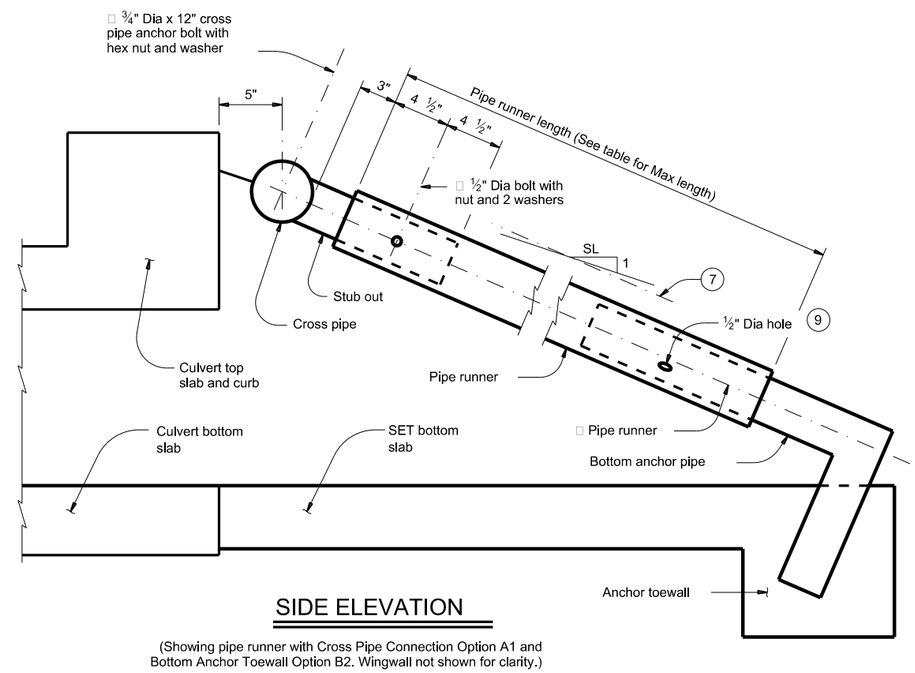
8 Take care to ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.

9 After installation, inspect the 1#2" hole to ensure that the lap of the safety pipe runner with the bottom anchor pipe is adequate.

10 At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

MAXIMUM PIPE RUNNER LENGTHS AND REQUIRED PIPE RUNNER AND ANCHOR PIPE SIZES (6)

Maximum Pipe Runner Length	Required Pipe Runner Size			Required Anchor Pipe Size		
	Pipe Size	Pipe O.D.	Pipe I.D.	Pipe Size	Pipe O.D.	Pipe I.D.
10'- 0"	3" STD	3.500"	3.068"	2" STD	2.375"	2.067"
19'- 8"	4" STD	4.500"	4.026"	3" STD	3.500"	3.068"
34'- 2"	5" STD	5.563"	5.047"	4" STD	4.500"	4.026"



SIDE ELEVATION

(Showing pipe runner with Cross Pipe Connection Option A1 and Bottom Anchor Toewall Option B2. Wingwall not shown for clarity.)

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

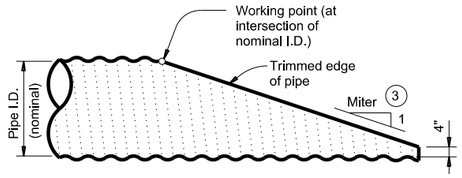
SAFETY END TREATMENT
FOR 0° SKEW BOX CULVERTS
(MAXIMUM Hw = 7'-0")
TYPE I ~ CROSS DRAINAGE

SETB-CD

FILE:	DN: GAF	CK: CAT	DW: TxDOT	CK: TxDOT
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	196

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

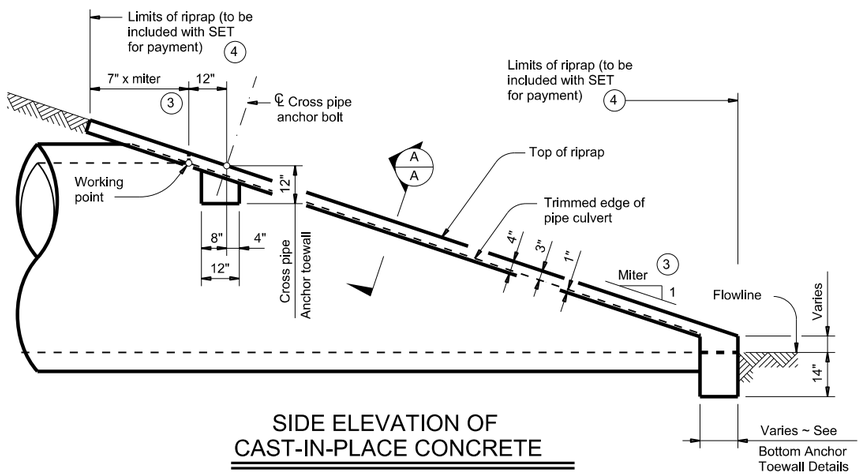
DATE: 4/9/2024 9:43:28 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SETBCD-20.dgn



NOTE: All pipe runners, calculations, and dimensions are based on the pipe culverts mitered as shown in this detail. Alternate styles of mitered ends will require that appropriate adjustments be made to the values presented on this standard.

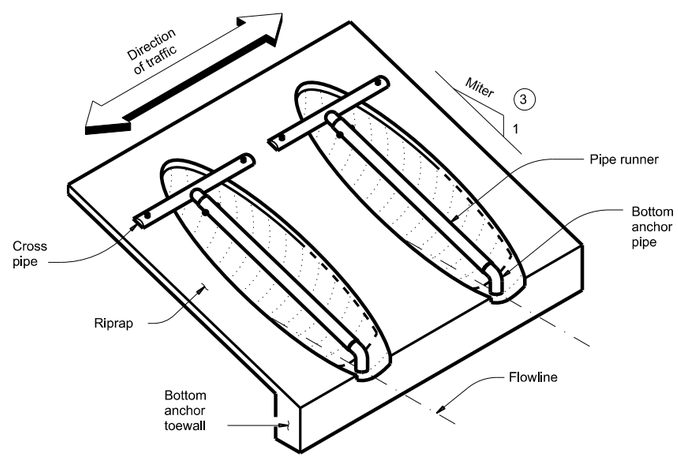
SIDE ELEVATION OF TYPICAL PIPE CULVERT MITER

(Showing corrugated metal pipe (CMP) culvert. Details of reinforced concrete pipe (RCP) culvert are similar.)



SIDE ELEVATION OF CAST-IN-PLACE CONCRETE

(Showing reinforced concrete pipe (RCP) culvert. Details of corrugated metal pipe (CMP) culvert are similar. Pipe runners not shown for clarity)



ISOMETRIC VIEW OF TYPICAL INSTALLATION

(Showing installation with no skew.)

CROSS PIPE LENGTHS AND PIPE RUNNER LENGTHS 1 2

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length											
			3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1' - 7"	3' - 5"	N/A	N/A	N/A	5' - 10"	N/A	N/A	N/A	8' - 1"	N/A	N/A	N/A	12' - 9"
27"	1' - 8"	3' - 8"	N/A	N/A	5' - 5"	6' - 11"	N/A	N/A	7' - 7"	9' - 7"	N/A	N/A	11' - 11"	14' - 11"
30"	1' - 10"	3' - 11"	N/A	N/A	6' - 4"	8' - 0"	N/A	N/A	8' - 9"	11' - 0"	N/A	N/A	13' - 8"	17' - 0"
33"	1' - 11"	4' - 2"	6' - 2"	6' - 5"	7' - 3"	9' - 1"	8' - 6"	8' - 10"	10' - 0"	12' - 5"	13' - 3"	13' - 9"	15' - 5"	19' - 2"
36"	2' - 1"	4' - 5"	6' - 11"	7' - 3"	8' - 2"	10' - 2"	9' - 6"	9' - 11"	11' - 2"	13' - 10"	14' - 9"	15' - 3"	17' - 2"	21' - 3"
42"	2' - 4"	4' - 11"	8' - 6"	8' - 10"	9' - 11"	12' - 4"	11' - 7"	12' - 0"	13' - 6"	16' - 8"	17' - 9"	18' - 5"	20' - 8"	25' - 7"
48"	2' - 7"	5' - 5"	10' - 1"	10' - 5"	11' - 9"	N/A	13' - 7"	14' - 2"	15' - 10"	N/A	20' - 9"	21' - 6"	24' - 2"	N/A
54"	3' - 0"	5' - 11"	11' - 8"	12' - 1"	N/A	N/A	15' - 8"	16' - 3"	N/A	N/A	23' - 10"	24' - 8"	N/A	N/A
60"	3' - 3"	6' - 5"	13' - 3"	N/A	N/A	N/A	17' - 9"	N/A	N/A	N/A	26' - 10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS 3

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3:1	3.106:1	3.464:1	4.243:1
4:1	4:1	4.141:1	4.619:1	5.657:1
6:1	6:1	6.212:1	6.928:1	8.485:1

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED 2

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal (no skew)	Always required
42" thru 60"	Always required	Always required

STANDARD PIPE SIZES AND MAX PIPE RUNNER LENGTHS 1

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10' - 0"
4" STD	4.500"	4.026"	19' - 8"
5" STD	5.563"	5.047"	34' - 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) 5

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.2
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.1	1.3
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.2	1.4
30"	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.2	1.2	1.2	1.3	1.6
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.5	1.7
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.2	1.4	1.4	1.5	1.6	1.8
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.7	1.8	2.1
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.5	N/A	1.9	1.9	2.1	N/A
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	2.1	2.1	N/A	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	2.3	N/A	N/A	N/A

1. Provide pipe runner of the size shown in the tables. Provide cross pipe of the same size as the pipe runner. Provide cross pipe stub out and bottom anchor pipe of the next smaller size pipe as shown in the Standard Pipe Sizes and Max Pipe Runner Lengths table.

2. This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear opening to be traversed by an errant vehicle, the following conditions must be met:

   For 60" culvert pipes, the skew must not exceed 0°.
   For 54" culvert pipes, the skew must not exceed 15°.
   For 48" culvert pipes, the skew must not exceed 30°.
   For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

   If the above conditions cannot be met, the designer should consider using a safety end treatment with flared wings. For further information, refer to the TxDOT Roadway Design Manual.

3. Miter = slope of mitered end of pipe culvert.

4. Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."

5. Quantities shown are for one end of one reinforced concrete pipe (RCP) culvert. For multiple pipe culverts or for corrugated metal pipe (CMP) culverts, quantities will need to be adjusted. Riprap quantities are for Contractor's information only.

SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE
SETP-CD

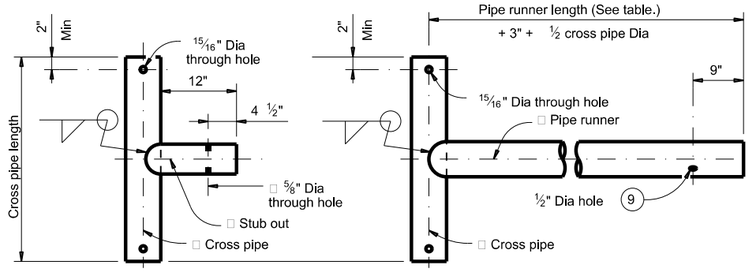
FILE:	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		197

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

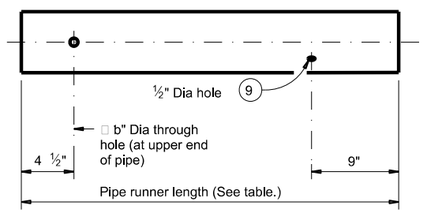
DATE: 4/9/2024 9:43:45 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SETP-CD-20.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:43:46 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010231\CD-SETP-CD-20.dgn

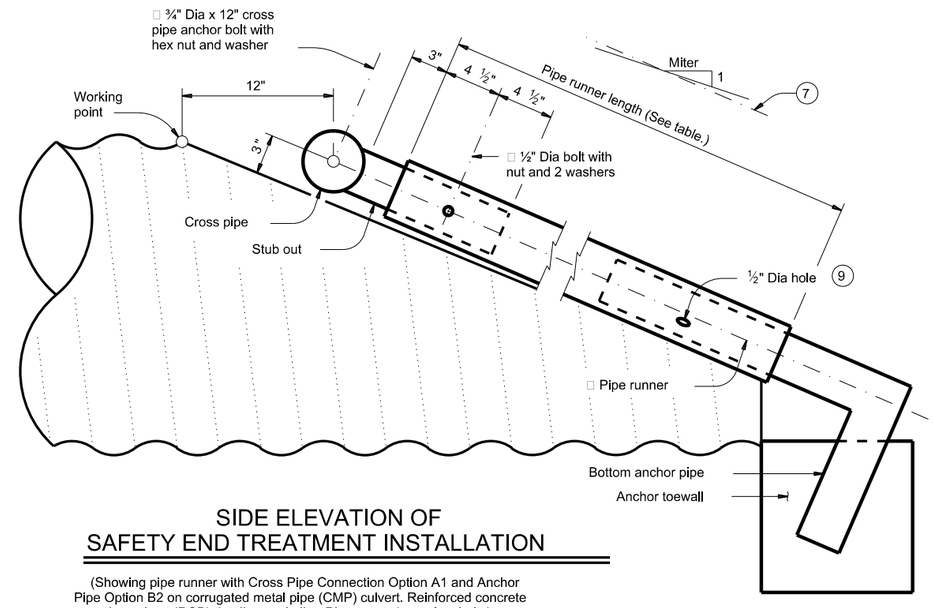


CROSS PIPE AND CONNECTIONS DETAILS



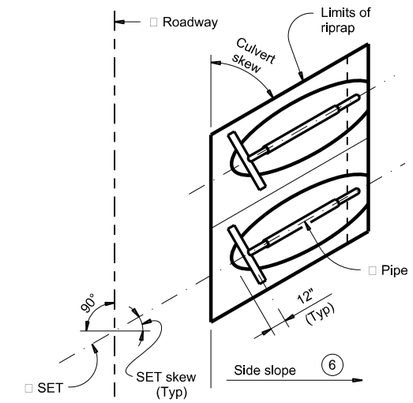
NOTE: The separate pipe runner shown is required when Cross Pipe Connection Option A1 is used.

PIPE RUNNER DETAILS

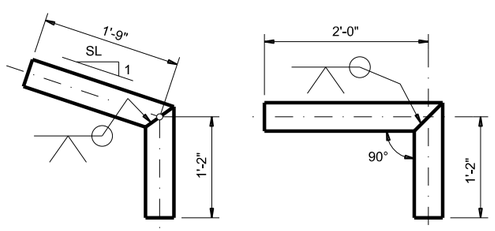


SIDE ELEVATION OF SAFETY END TREATMENT INSTALLATION

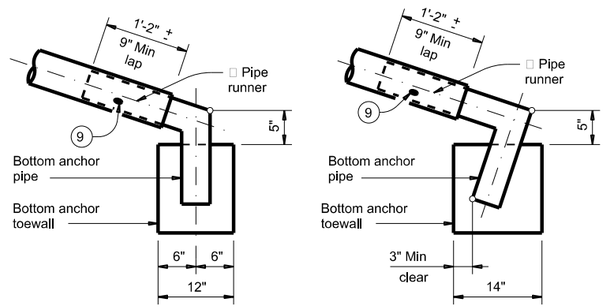
(Showing pipe runner with Cross Pipe Connection Option A1 and Anchor Pipe Option B2 on corrugated metal pipe (CMP) culvert. Reinforced concrete pipe culvert (RCP) details are similar. Riprap not shown for clarity)



PLAN OF SKEWED INSTALLATION

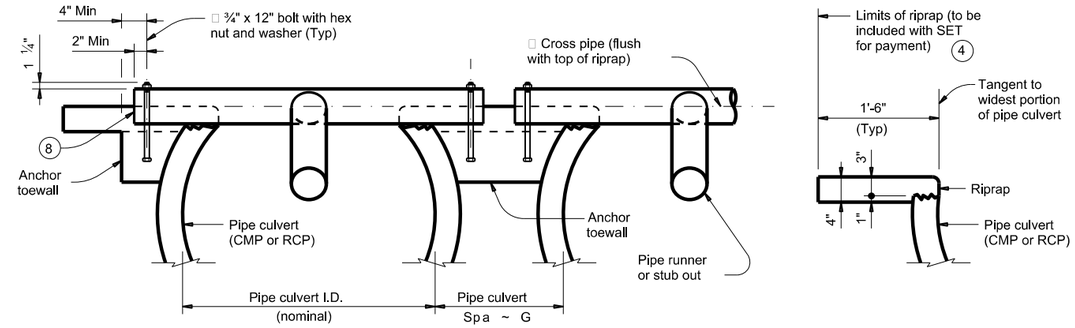


BOTTOM ANCHOR PIPE DETAILS (10)



BOTTOM ANCHOR TOEWALL DETAILS

(Culvert and riprap not shown for clarity.)



SHOWING CROSS PIPE AND ANCHOR TOEWALL

SHOWING TYPICAL PIPE CULVERT AND RIPRAP

SECTION A-A

(4) Riprap placed beyond the limits shown will be paid for as concrete riprap in accordance with Item 432, "Riprap."

(6) Recommended values of side slope are 3:1, 4:1, and 6:1. All quantities, calculations, and dimensions shown herein are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.

(7) Note that actual slope of pipe runner may vary slightly from side slope of riprap and trimmed culvert pipe edge.

(8) Ensure that riprap concrete does not flow into the cross pipe so as to permit disassembly of the bolted connection to allow cleanout access.

(9) After installation, inspect the ½" hole to ensure that the lap of the pipe runner with the bottom anchor pipe is adequate.

(10) At fabricator's option, a heat bend to a smooth 5" radius or a manufactured elbow (of the same material as the runner) may be substituted for the mitered and welded joint in the bottom anchor pipe.

MATERIAL NOTES:

Synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) may be used in lieu of steel reinforcing in riprap concrete unless noted otherwise.

Provide pipe runners, cross pipes, and anchor pipes conforming to the requirements of ASTM A53 (Type E or S, Gr B), ASTM A500 Gr B, or API 5LX52.

Provide ASTM A307 bolts and nuts.

Galvanize all steel components, except concrete reinforcing, after fabrication.

Repair galvanizing damaged during transport or construction in accordance with the specifications.

GENERAL NOTES:

Pipe runners are designed for a traversing load of 1,800 pounds at yield as recommended by Research Report 280-1, "Safety Treatment of Roadside Cross-Drainage Structures", Texas Transportation Institute, March 1981.

Safety end treatments (SET) shown herein are intended for use in those installations where out of control vehicles are likely to traverse the openings approximately perpendicular to the pipe runners.

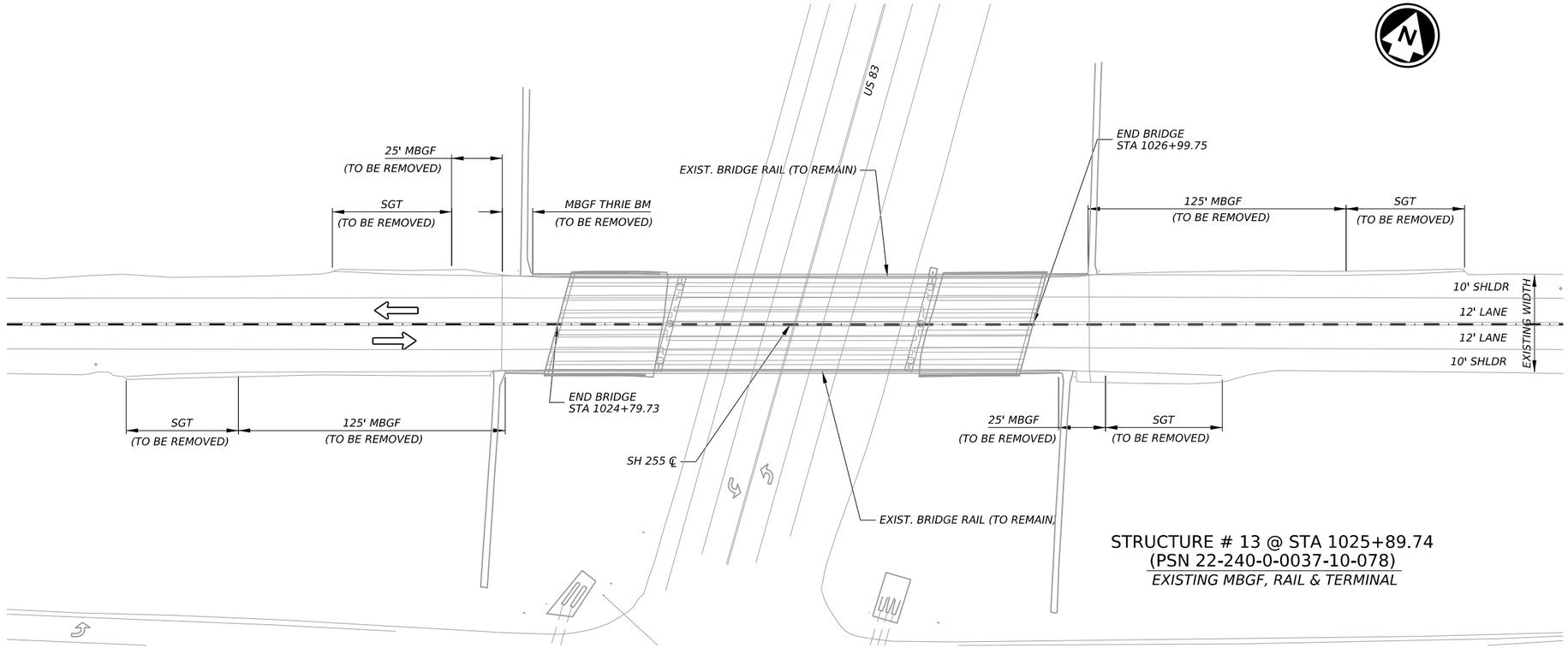
Payment for riprap and toewall is included in the price bid for each safety end treatment.

Construct concrete riprap and all necessary inverts in accordance with the requirements of Item 432, "Riprap."

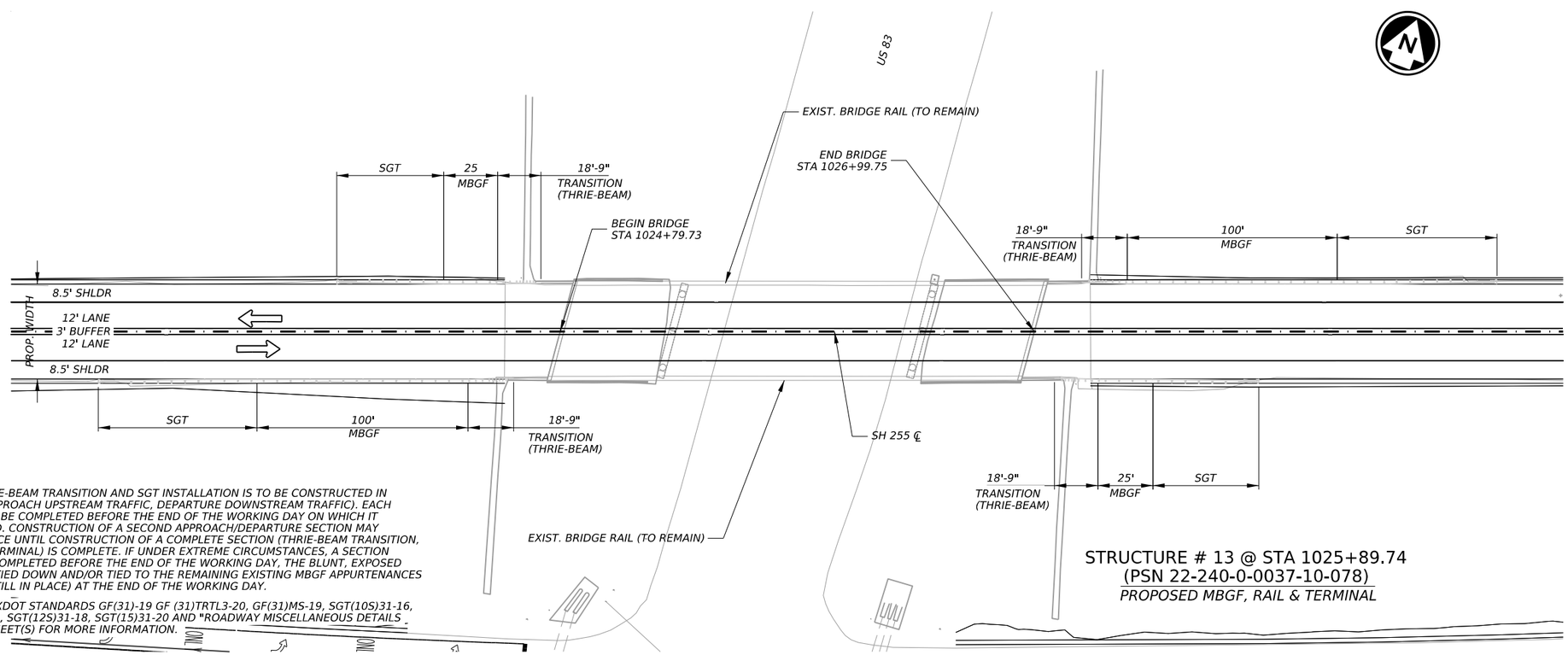
Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE
SETP-CD

FILE:	DN: GAF	CK: CAT	DW: JRP	CK: GAF
©TxDOT February 2020	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	198



STRUCTURE # 13 @ STA 1025+89.74
(PSN 22-240-0-0037-10-078)
EXISTING MBGF, RAIL & TERMINAL



STRUCTURE # 13 @ STA 1025+89.74
(PSN 22-240-0-0037-10-078)
PROPOSED MBGF, RAIL & TERMINAL

NOTES

1. MBGF, THRIE-BEAM TRANSITION AND SGT INSTALLATION IS TO BE CONSTRUCTED IN SECTIONS (APPROACH UPSTREAM TRAFFIC, DEPARTURE DOWNSTREAM TRAFFIC). EACH SECTION WILL BE COMPLETED BEFORE THE END OF THE WORKING DAY ON WHICH IT WAS INITIATED. CONSTRUCTION OF A SECOND APPROACH/DEPARTURE SECTION MAY NOT COMMENCE UNTIL CONSTRUCTION OF A COMPLETE SECTION (THRIE-BEAM TRANSITION, MBGF, AND TERMINAL) IS COMPLETE. IF UNDER EXTREME CIRCUMSTANCES, A SECTION CAN NOT BE COMPLETED BEFORE THE END OF THE WORKING DAY, THE BLUNT, EXPOSED END WILL BE TIED DOWN AND/OR TIED TO THE REMAINING EXISTING MBGF APPURTENANCES (IF THE ARE STILL IN PLACE) AT THE END OF THE WORKING DAY.

2. REFER TO TXDOT STANDARDS GF(31)-19 GF (31)TRTL3-20, GF(31)MS-19, SGT(10S)31-16, SGT(11S)31-18, SGT(12S)31-18, SGT(15)31-20 AND "ROADWAY MISCELLANEOUS DETAILS MOWSTRIP" SHEET(S) FOR MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=60'

Texas Department of Transportation

SH 255

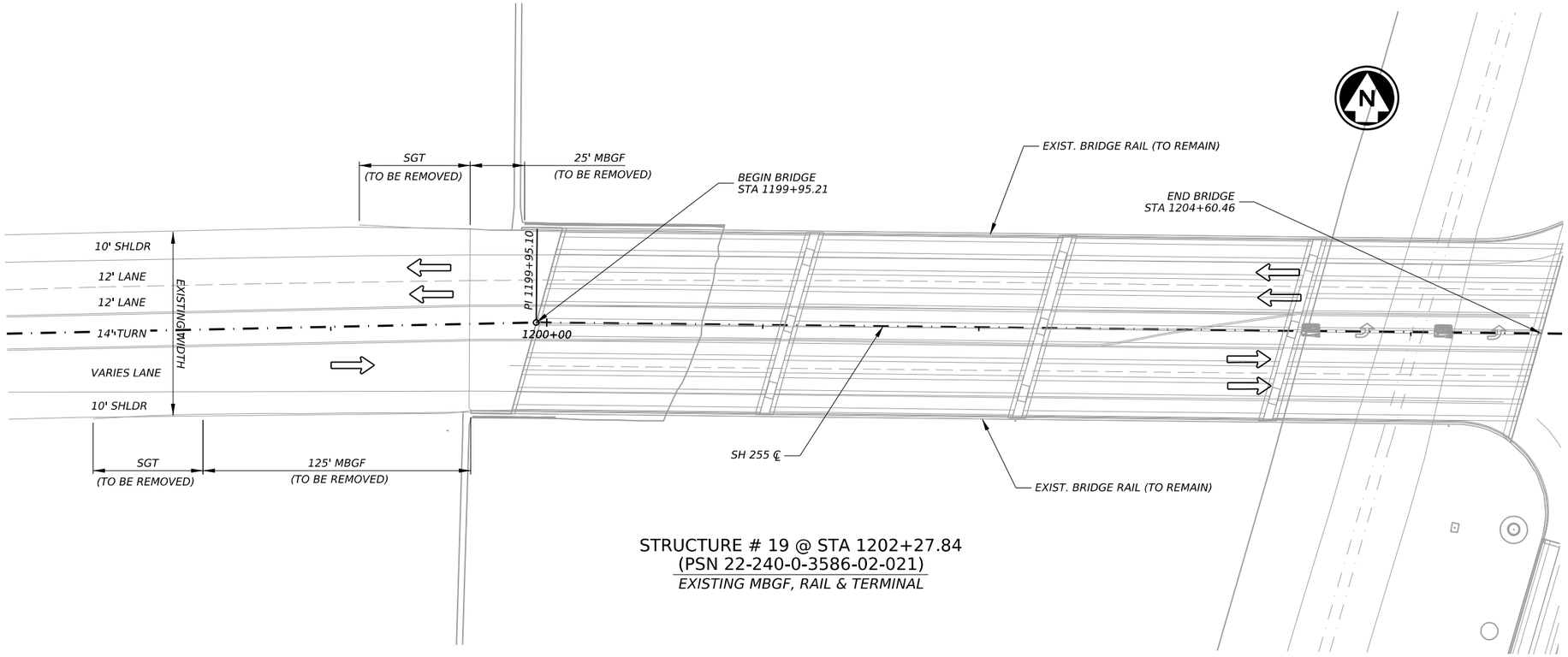
BRIDGE PROTECTION INSTALLATION LAYOUT

©TxDOT 2024

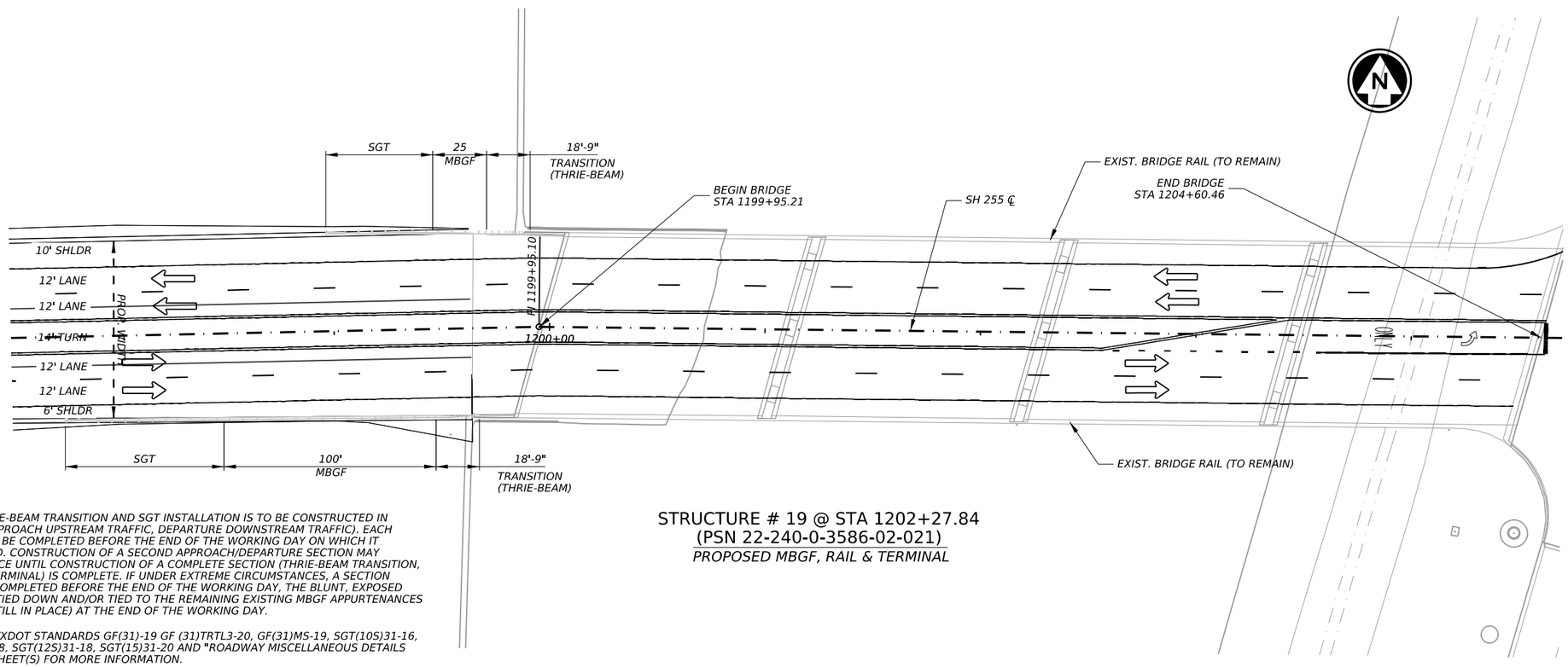
SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		199

DATE: 4/9/2024 9:44:05 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006_rail_upgrade01.dgn



STRUCTURE # 19 @ STA 1202+27.84
(PSN 22-240-0-3586-02-021)
EXISTING MBGF, RAIL & TERMINAL



STRUCTURE # 19 @ STA 1202+27.84
(PSN 22-240-0-3586-02-021)
PROPOSED MBGF, RAIL & TERMINAL

NOTES

1. MBGF, THRIE-BEAM TRANSITION AND SGT INSTALLATION IS TO BE CONSTRUCTED IN SECTIONS (APPROACH UPSTREAM TRAFFIC, DEPARTURE DOWNSTREAM TRAFFIC). EACH SECTION WILL BE COMPLETED BEFORE THE END OF THE WORKING DAY ON WHICH IT WAS INITIATED. CONSTRUCTION OF A SECOND APPROACH/DEPARTURE SECTION MAY NOT COMMENCE UNTIL CONSTRUCTION OF A COMPLETE SECTION (THRIE-BEAM TRANSITION, MBGF, AND TERMINAL) IS COMPLETE. IF UNDER EXTREME CIRCUMSTANCES, A SECTION CAN NOT BE COMPLETED BEFORE THE END OF THE WORKING DAY, THE BLUNT, EXPOSED END WILL BE TIED DOWN AND/OR TIED TO THE REMAINING EXISTING MBGF APPURTENANCES (IF THE ARE STILL IN PLACE) AT THE END OF THE WORKING DAY.

2. REFER TO TXDOT STANDARDS GF(31)-19 GF (31)TRTL3-20, GF(31)MS-19, SGT(10S)31-16, SGT(11S)31-18, SGT(12S)31-18, SGT(15)31-20 AND "ROADWAY MISCELLANEOUS DETAILS MOWSTRIP" SHEET(S) FOR MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=60'

Texas Department of Transportation

SH 255

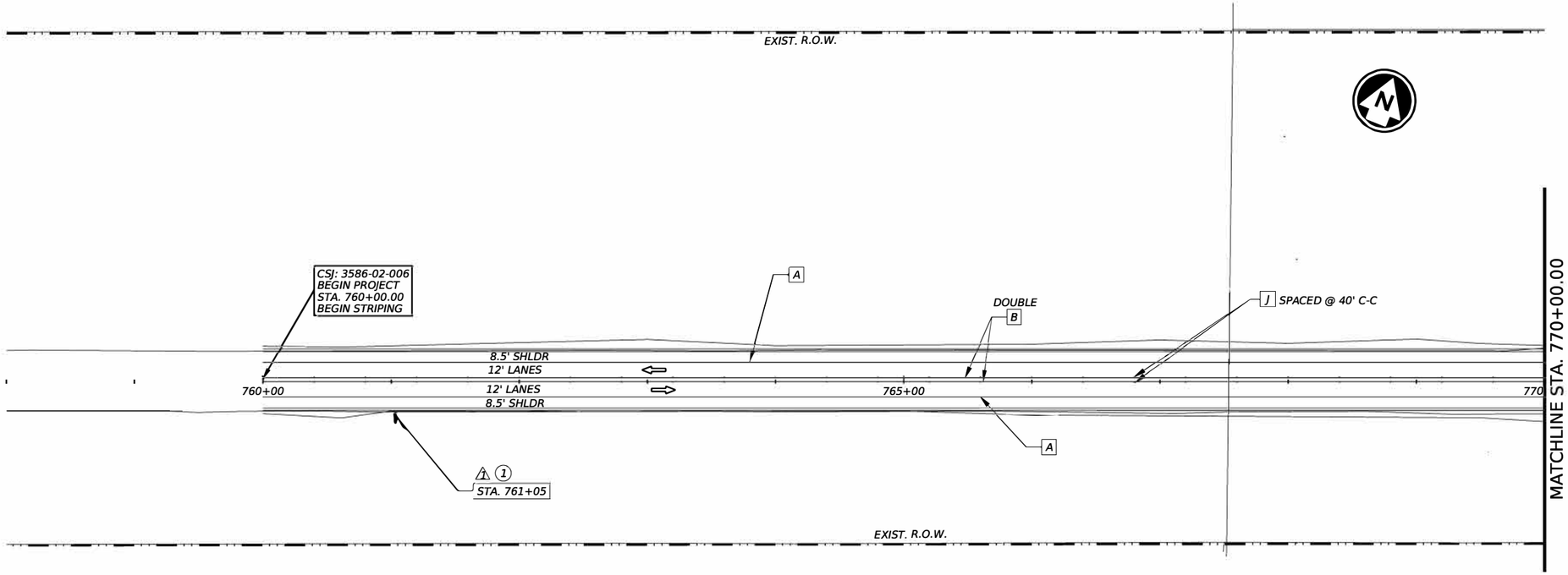
BRIDGE PROTECTION INSTALLATION LAYOUT

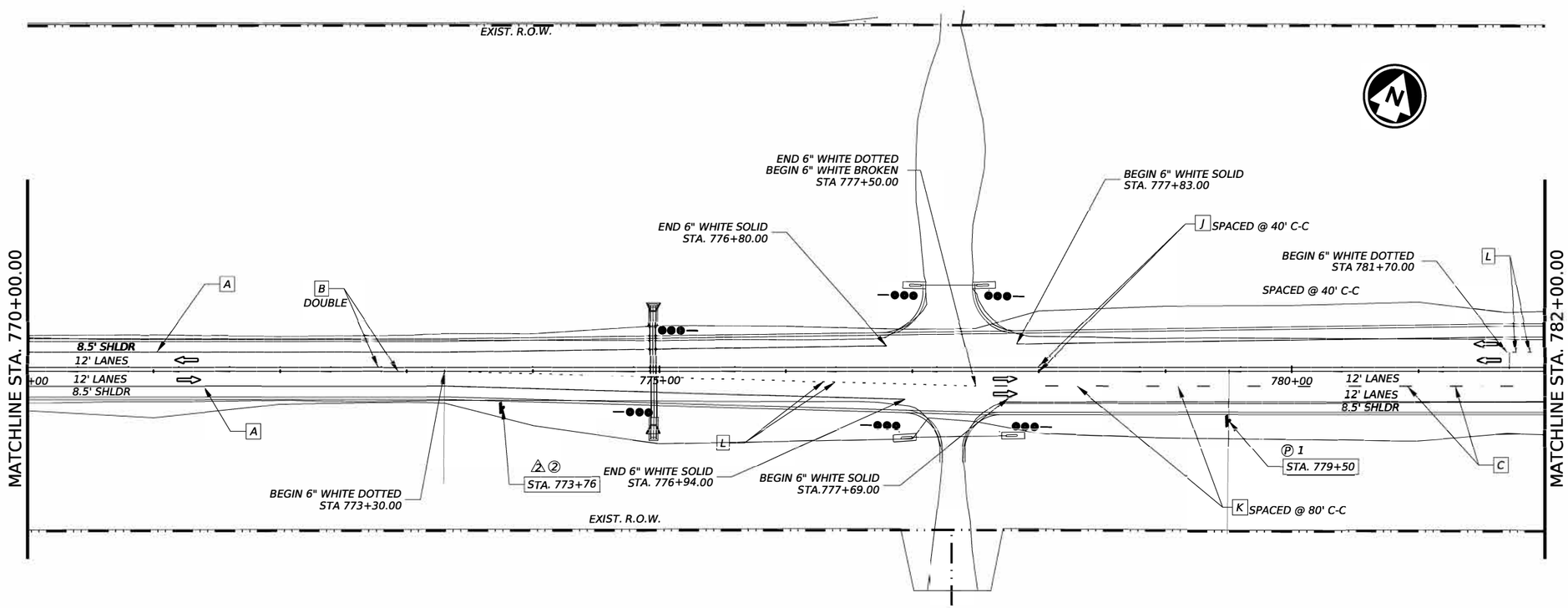
©TxDOT 2024

SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		200

DATE: 4/9/2024 9:44:23 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763336\006_rail_upgrade02.dgn





PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

PAVEMENT MARKING & SIGNING LAYOUT

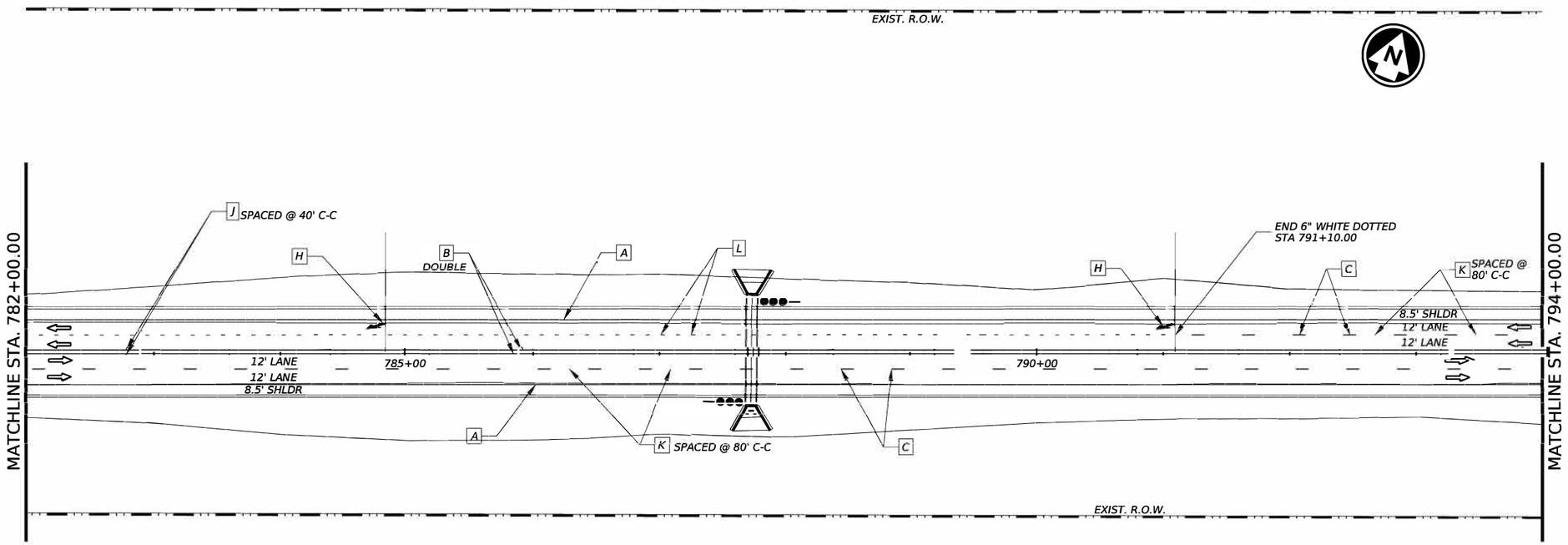
©TxDOT 2024

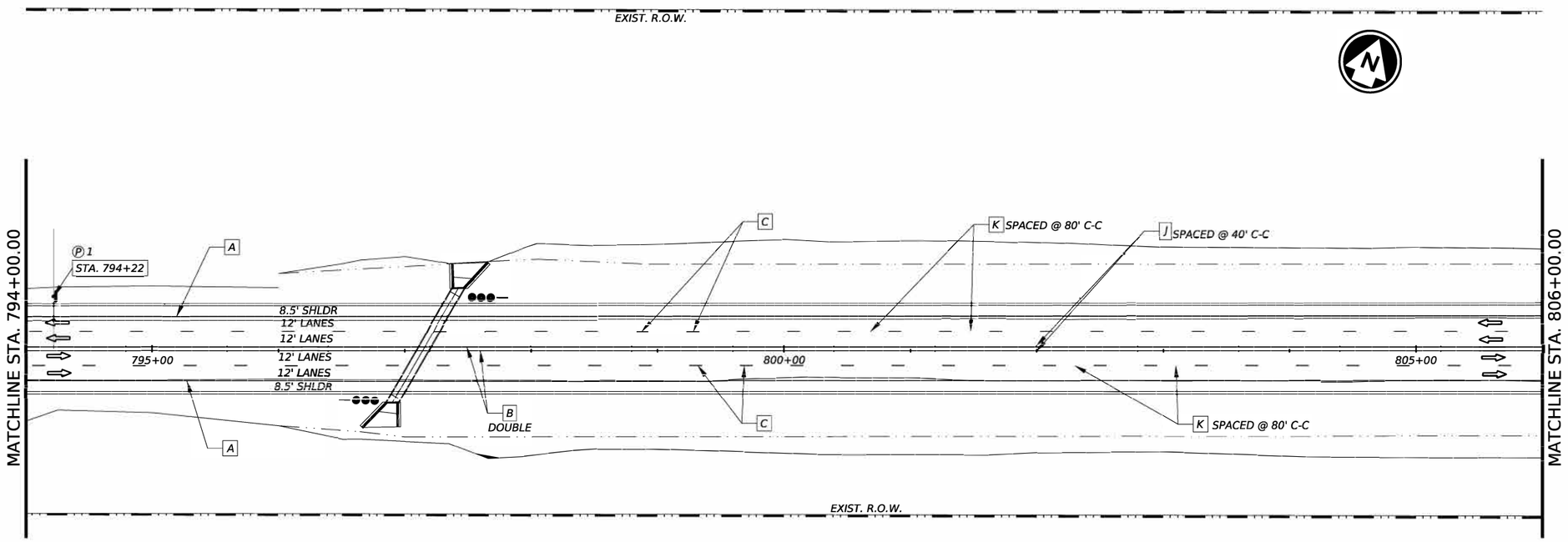
SHEET 1 OF 19

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	201

DATE: 5/10/2024 6:21:20 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 01.dgn

CK: DW: CK: DW:





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

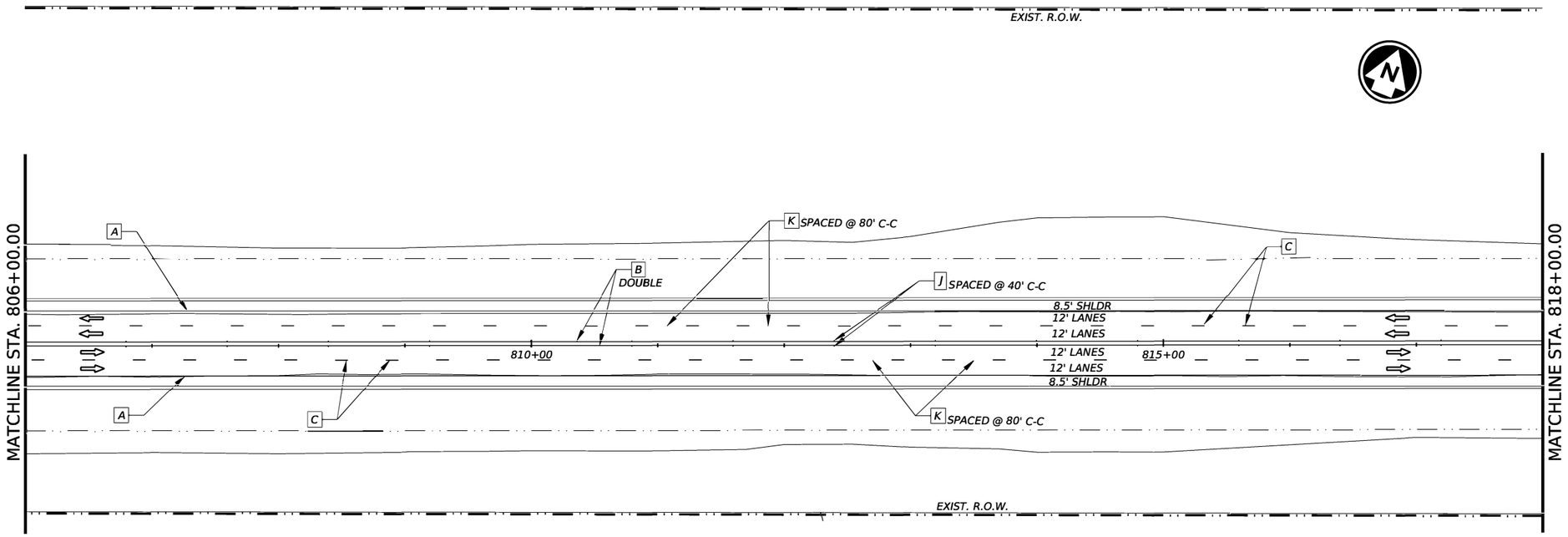
SH 255

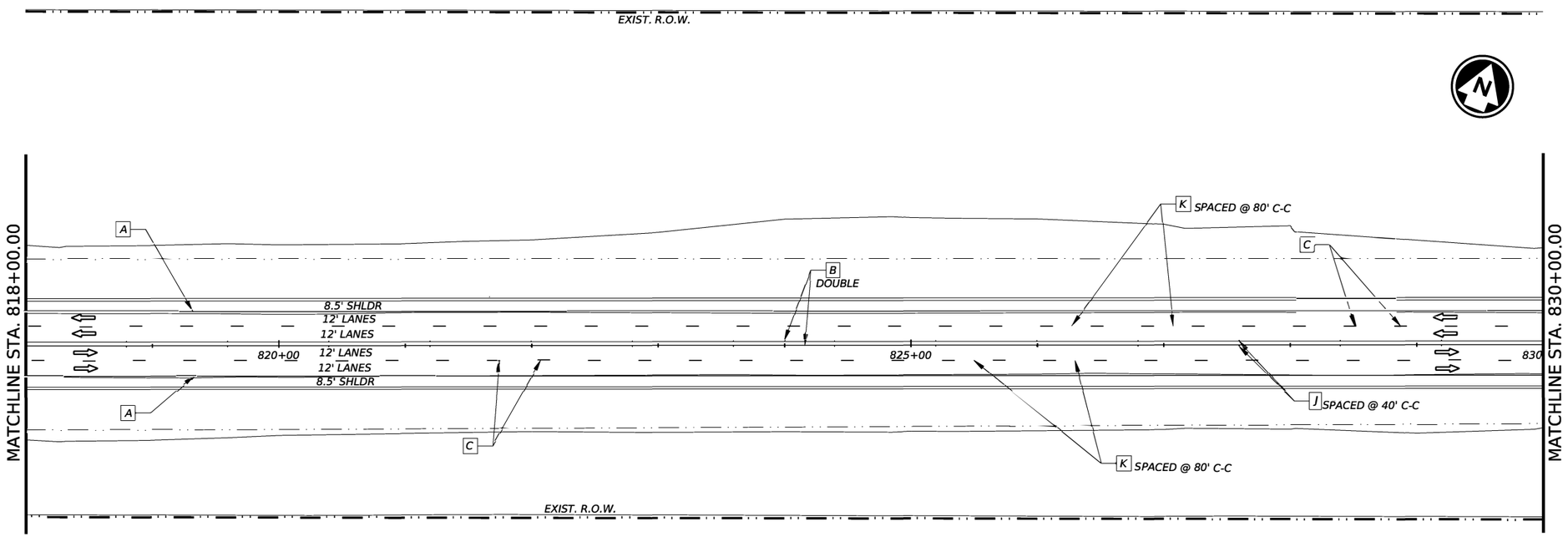
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	202

DATE: 5/10/2024 6:21:36 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 03.dgn





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

PAVEMENT MARKING & SIGNING LAYOUT

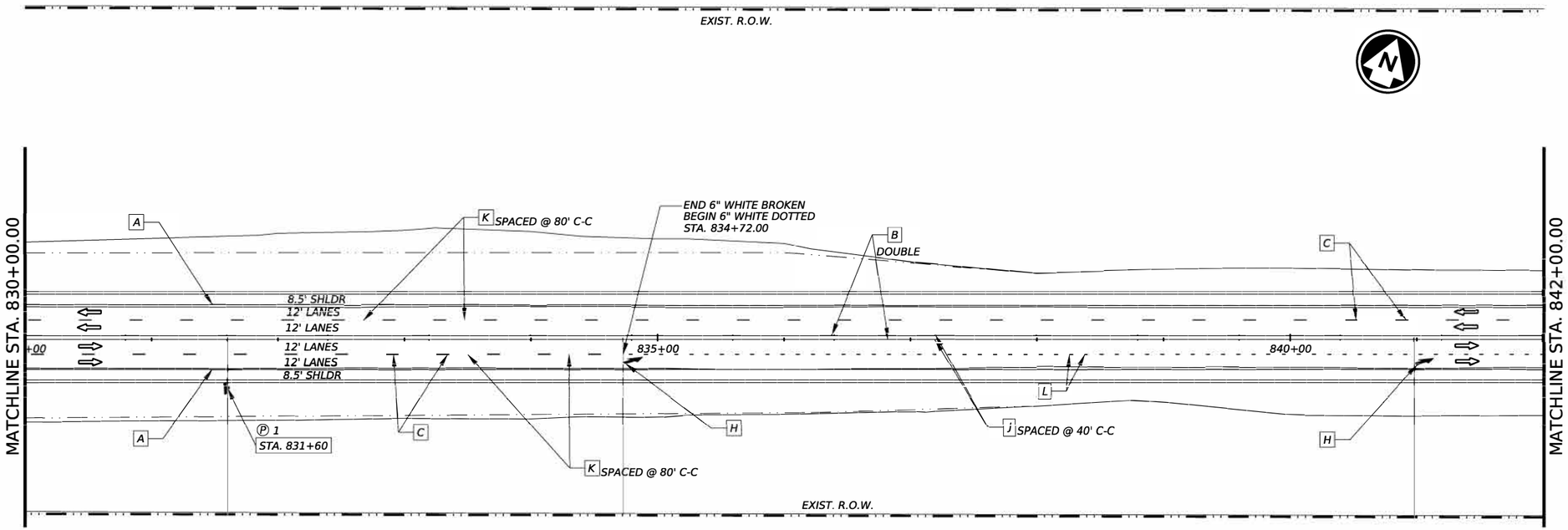
©TxDOT 2024

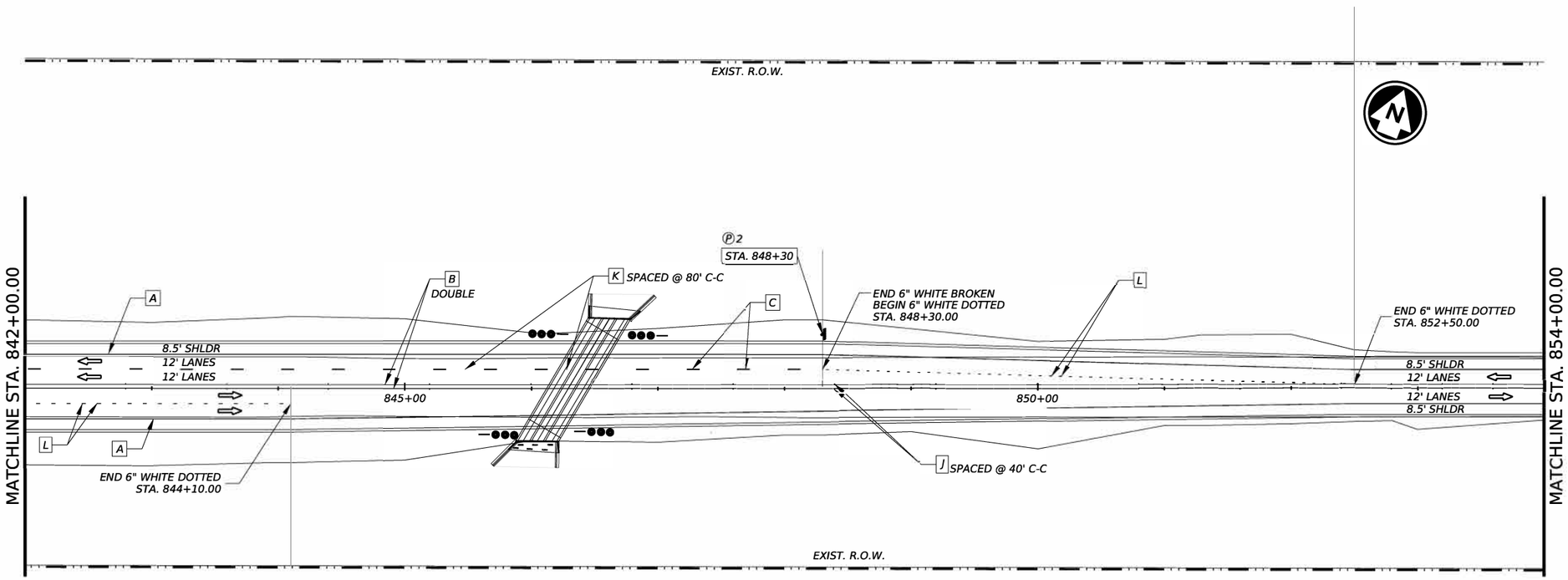
SHEET 3 OF 19

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		203

DATE: 5/10/2021 6:21:52 AM
FILE: c:\bentley\workspace\temp\pw_temp\pw_temp\59\PW_WORKING\TxDOT_Traffic\PVMT MARKING LAYOUT\SH255_PVMT_LAYOUT 5.dgn

DN: CK: DW: CK:





PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

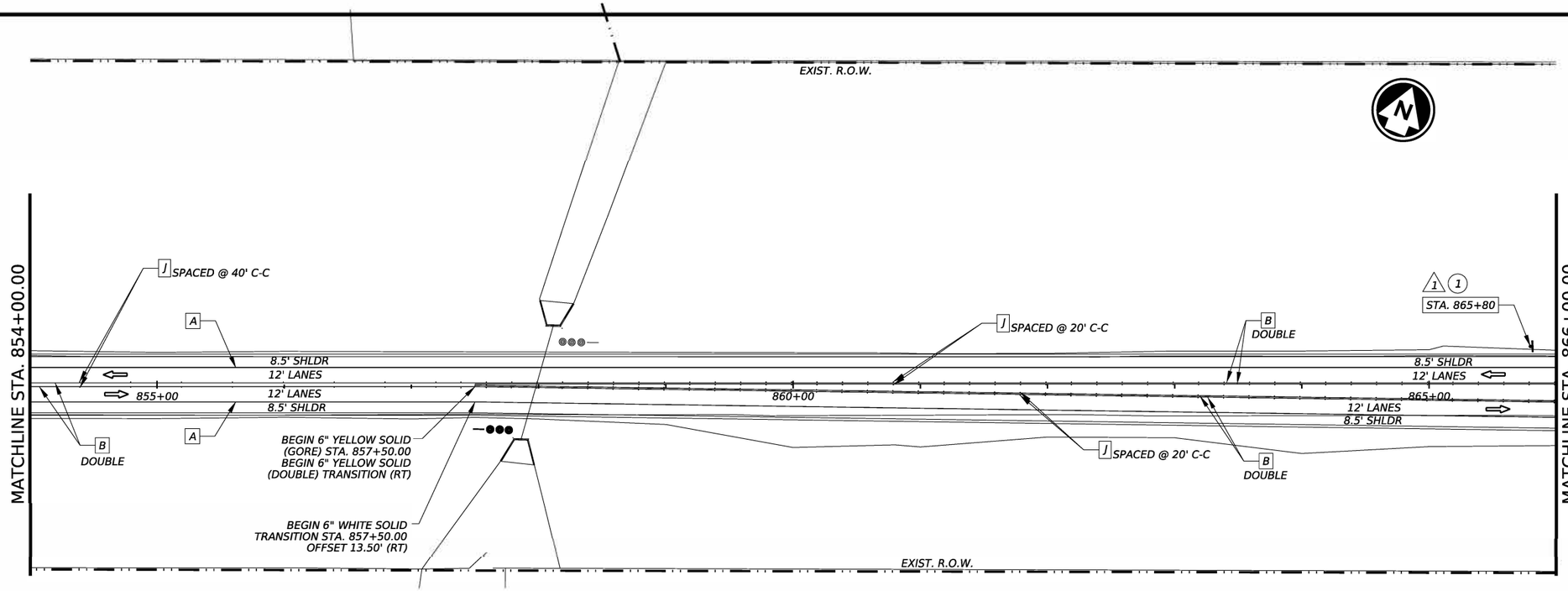
PAVEMENT MARKING & SIGNING LAYOUT

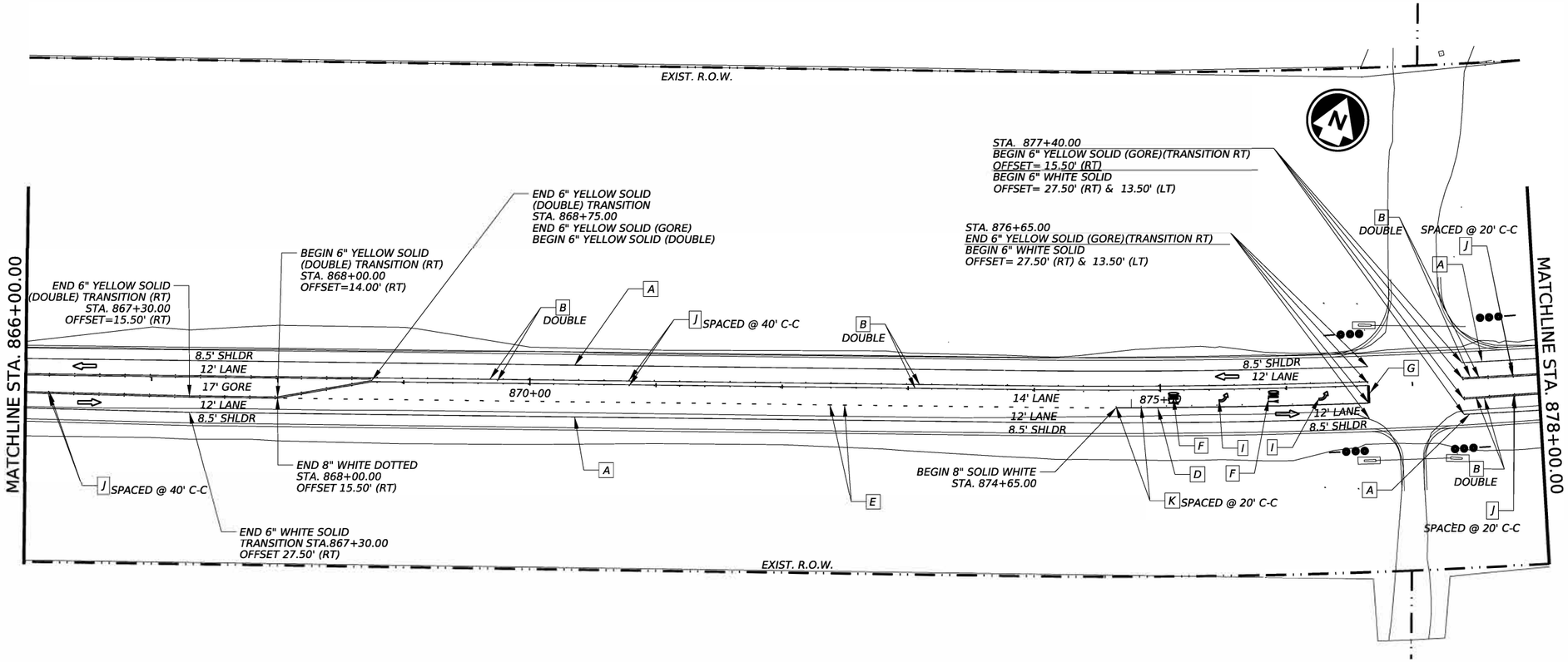
©TxDOT 2024

SHEET 4 OF 19

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		204

DATE: 5/10/2024 6:22:09 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 07.dgn





PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

PAVEMENT MARKING & SIGNING LAYOUT

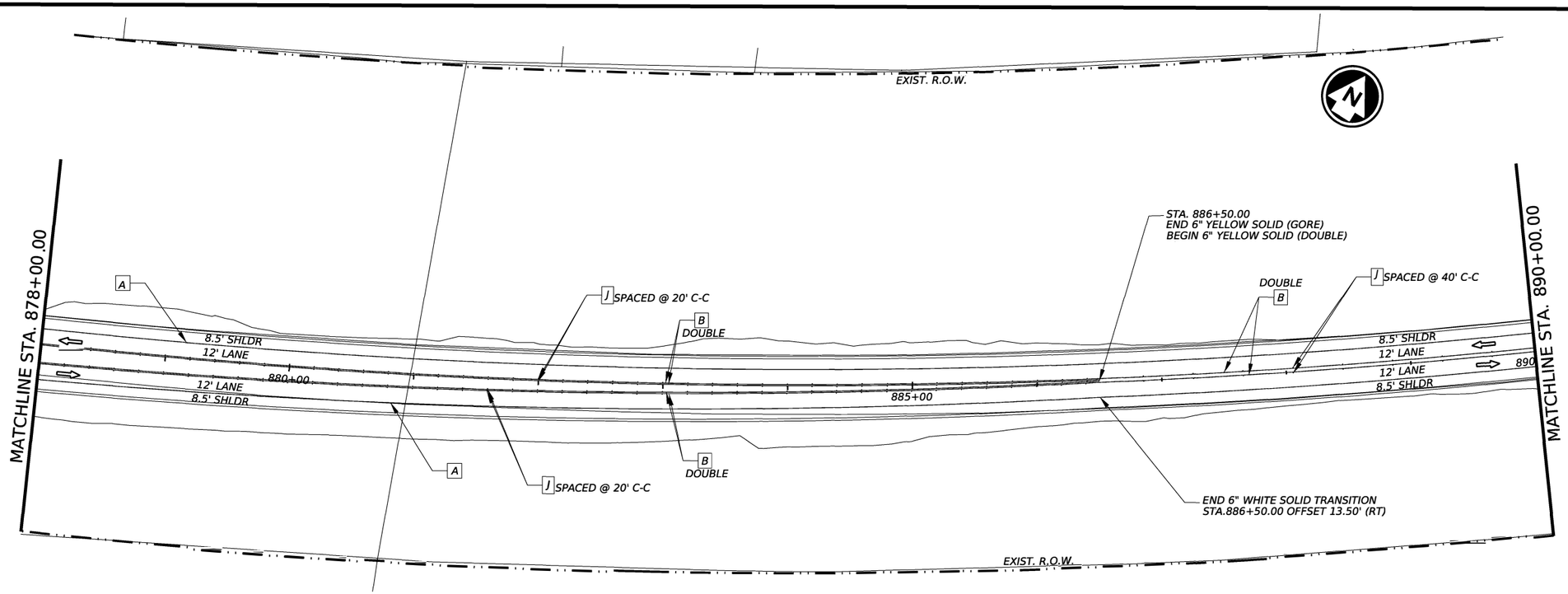
©TxDOT 2024

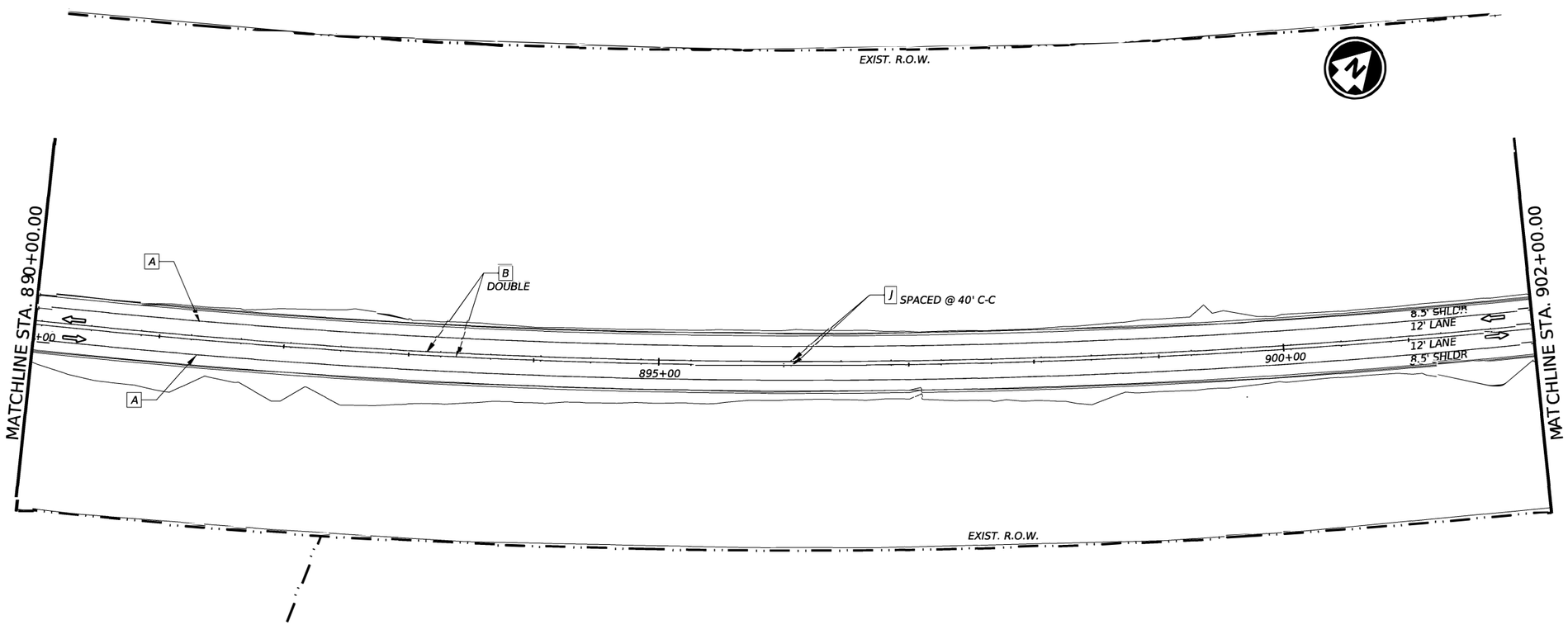
SHEET 5 OF 19

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	205

DATE: 5/10/2024 6:22:24 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255_PVMT LAYOUT 09.dgn

CK: DW: CK: DW:





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

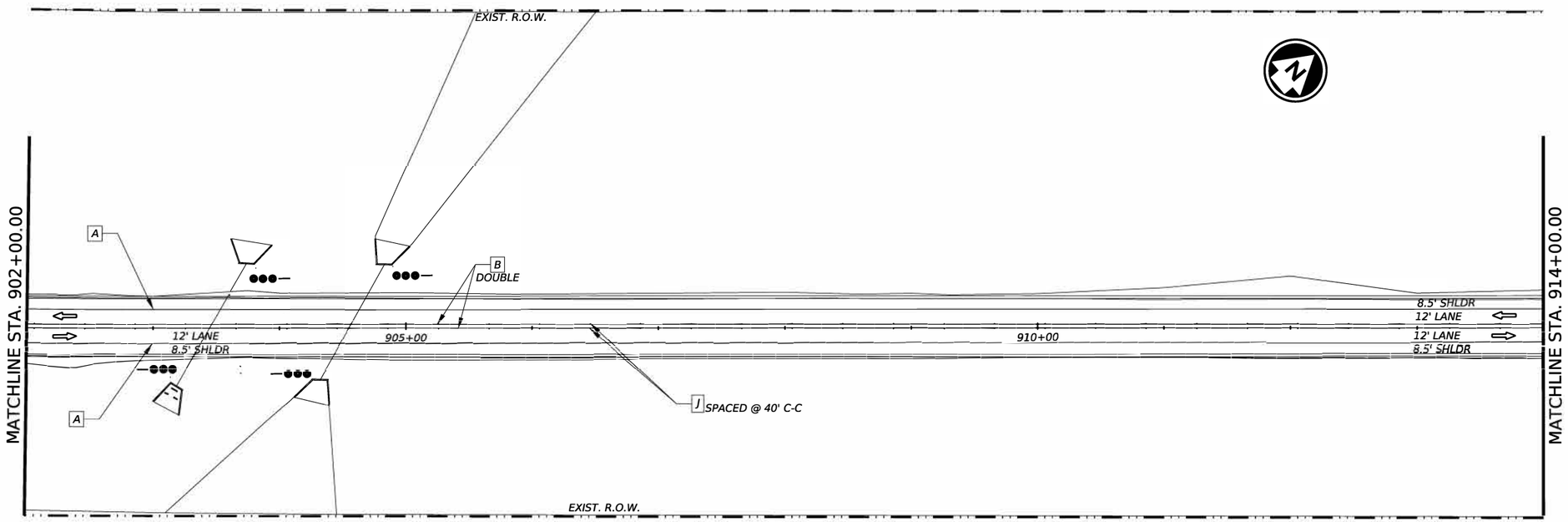
PAVEMENT MARKING & SIGNING LAYOUT

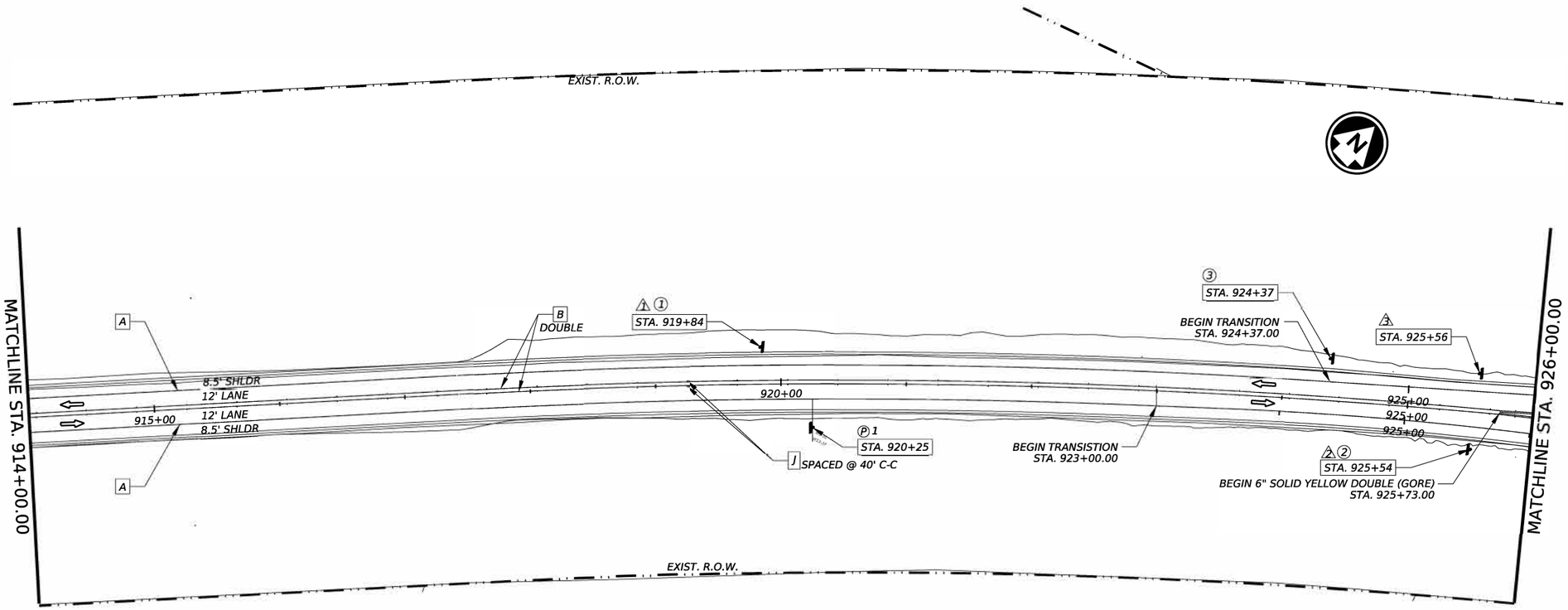
© TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	206

DATE: 5/10/2024 6:22:41 AM
FILE: c:\txdot\pw_online\txda5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 11.dgn

CK:
DW:
CK:
DN:





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329 on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

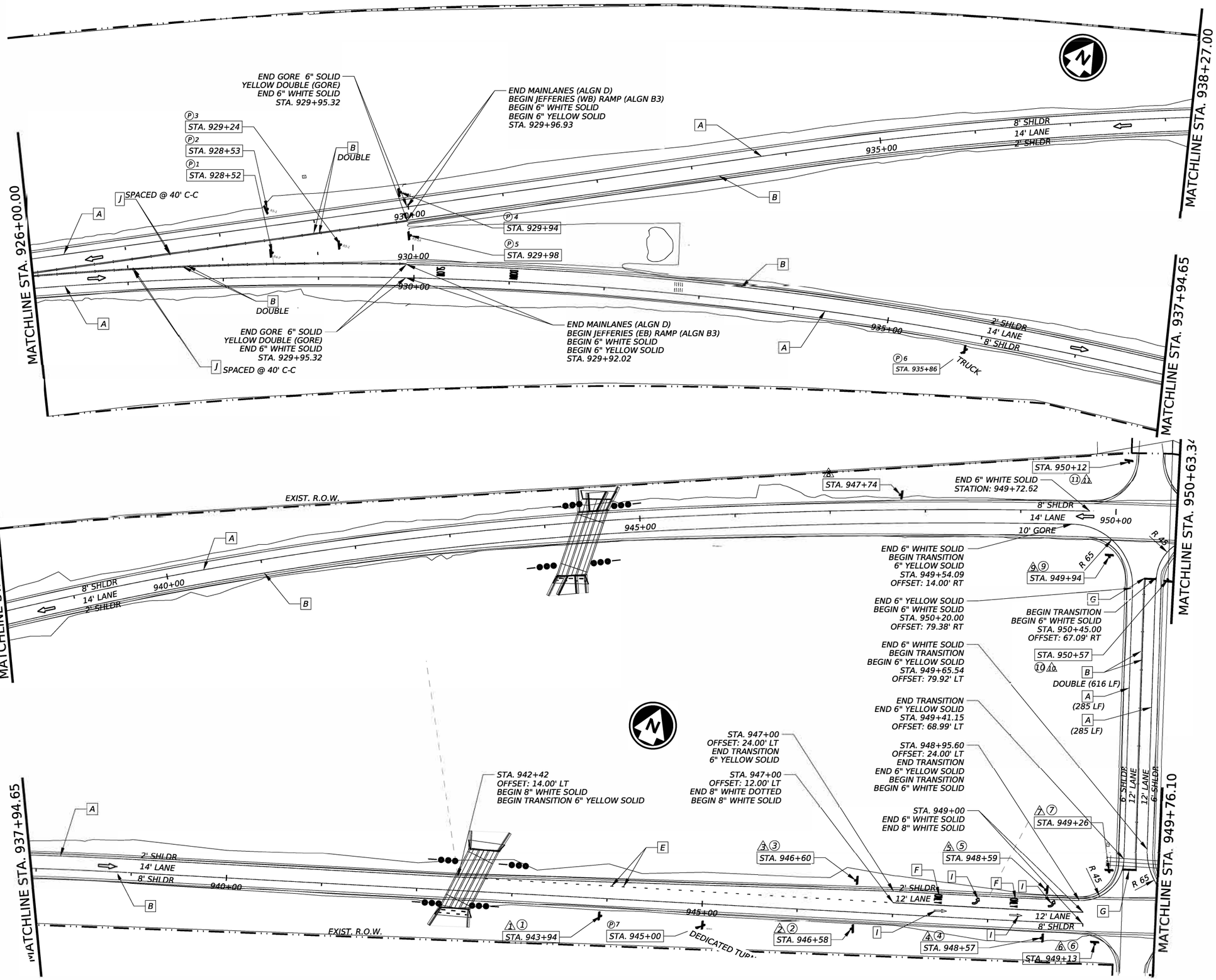
SH 255

PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		207

DATE: 5/10/2024 6:22:59 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255_PVMT_LAYOUT_13.dgn



PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

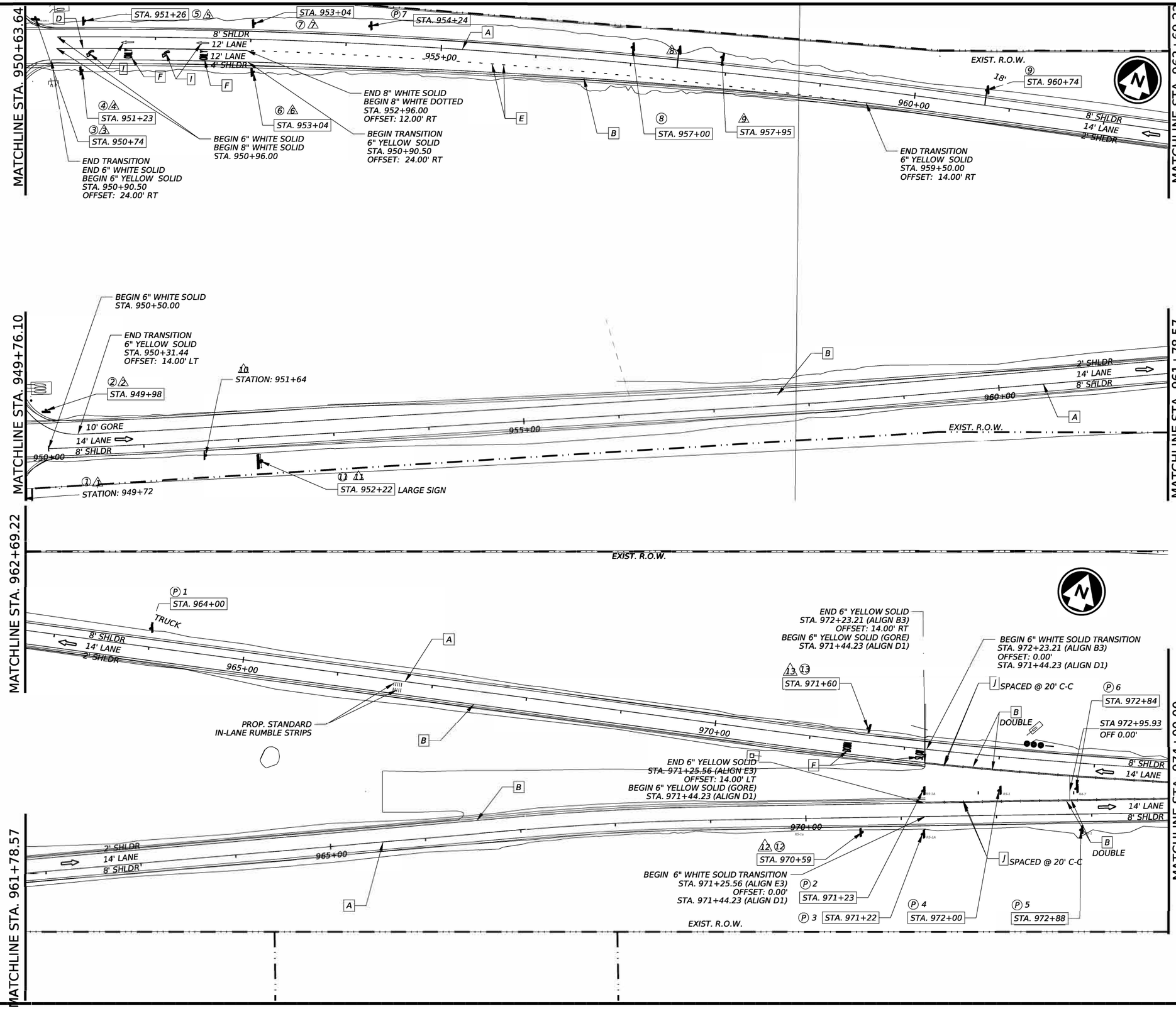
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

SHEET 8 OF 19

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	208

DATE: 5/10/2024 6:23:19 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255_PVMT_LAYOUT_15.dgn



PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

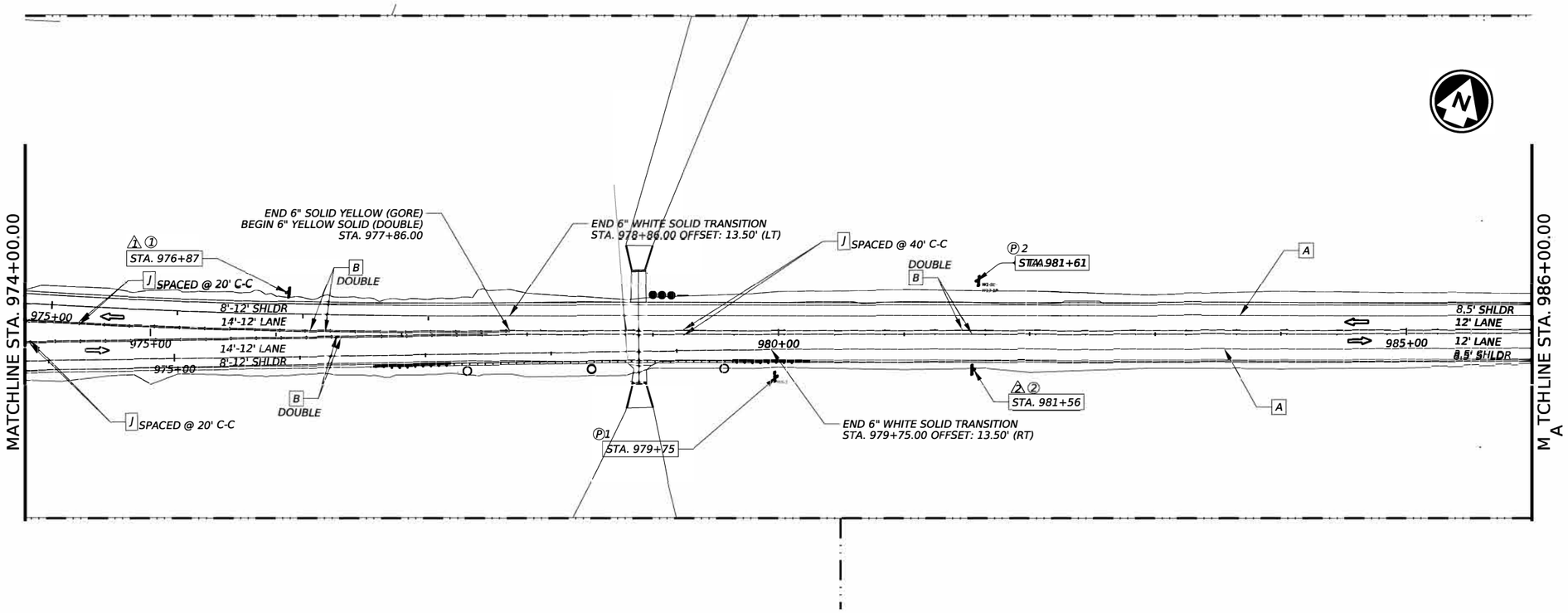
PAVEMENT MARKING & SIGNING LAYOUT

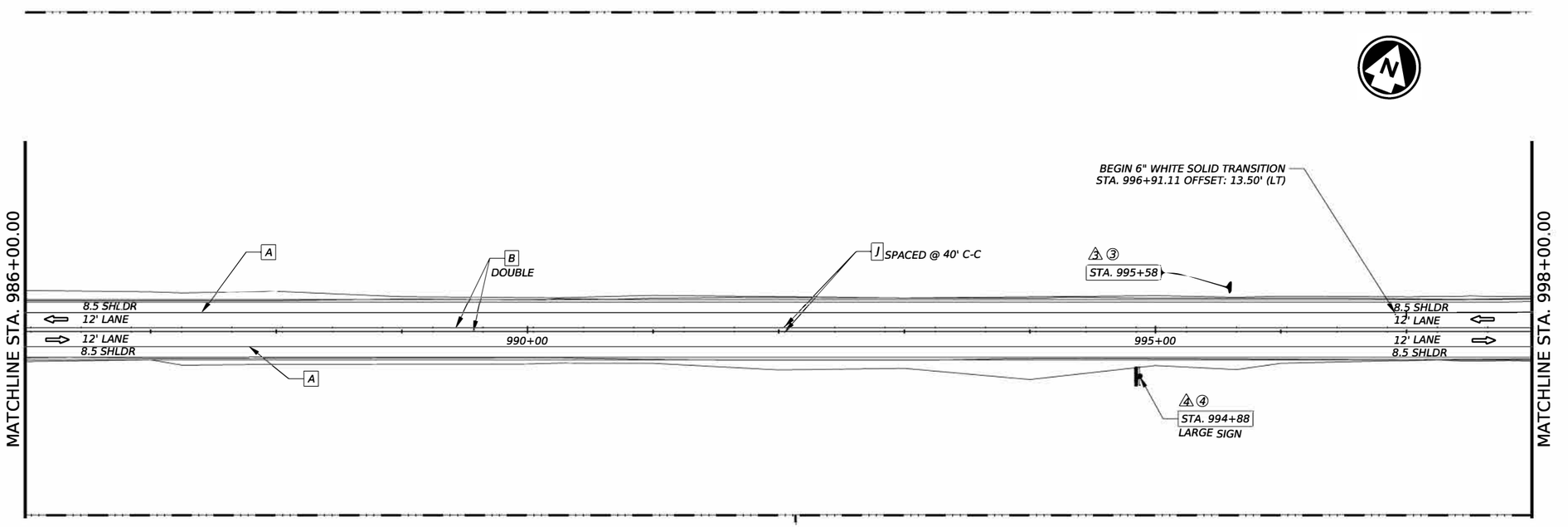
©TxDOT 2024

SHEET 9 OF 19

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	209

DATE: 5/10/2024 6:23:36 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255_PVMT LAYOUT 17.dgn





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

PAVEMENT MARKING & SIGNING LAYOUT

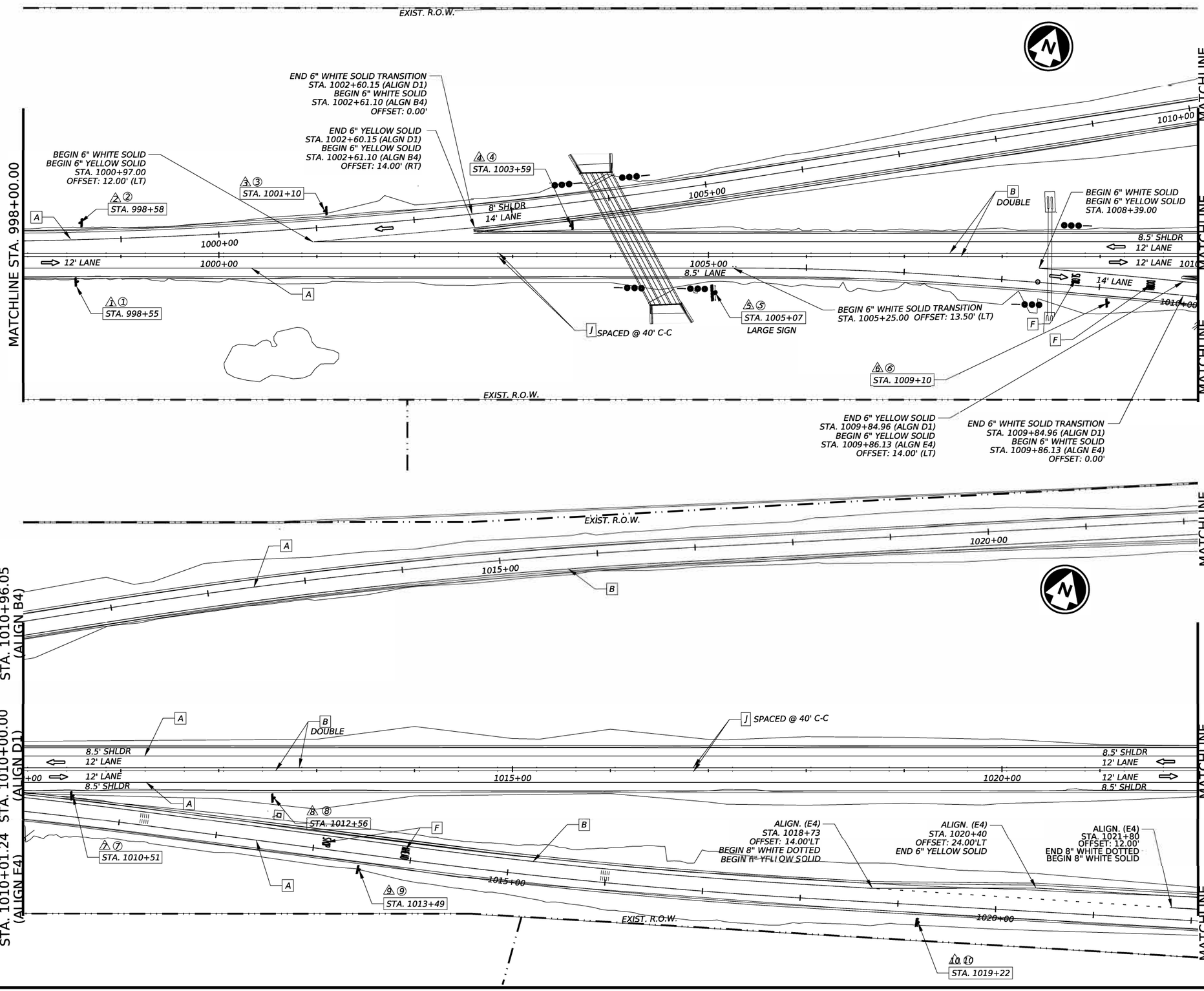
©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		210

DATE: 5/10/2024 6:23:52 AM
FILE: c:\pwworking\dot\d0186602\d0186602006_sht_001.dgn

DW: CK: DW: CK:

PVMT MARKING LAYOUT\SH255_PVMT_LAYOUT 19.dgn



PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

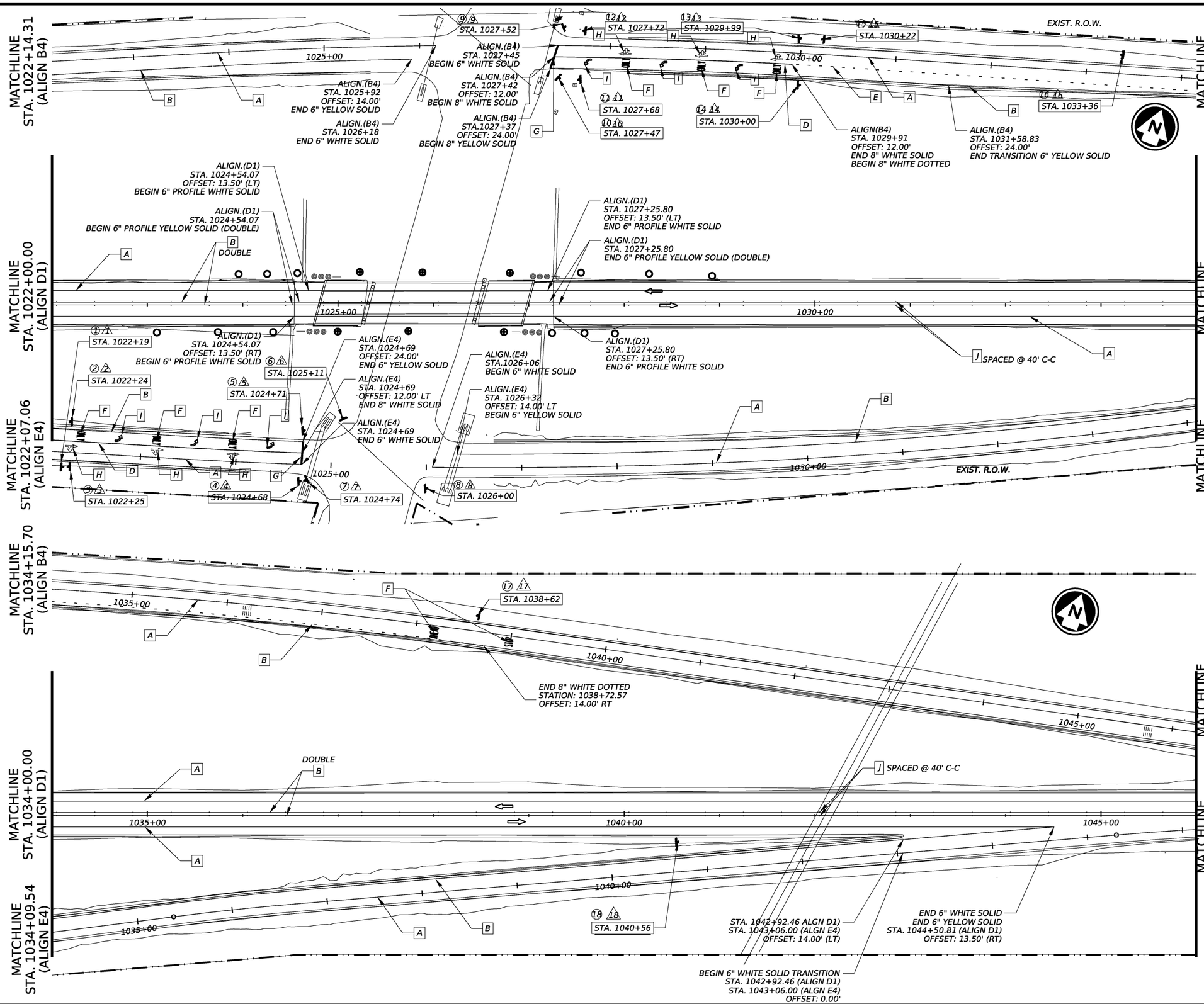
SH 255

PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		211

DATE: 5/10/2024 6:24:07 AM
FILE: C:\Users\c-mcintosh\Desktop\Microsoft Teams Files\TxDOT\Projects\SH255 RDWY\03_Design\Plan Set_Traffic\PVMT MARKING LAYOUT\SH255_PVMT_LAYOUT_21.dgn



PAVEMENT MARKING LEGEND

⇒ - DIRECTION OF TRAFFIC

- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

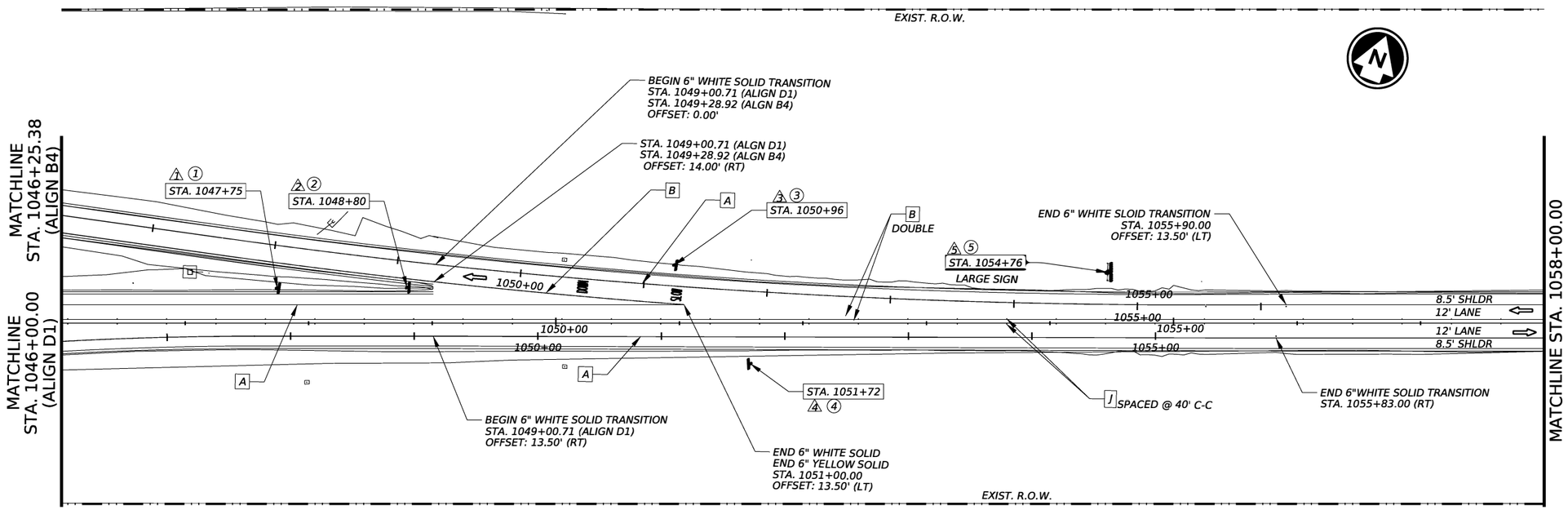
SH 255

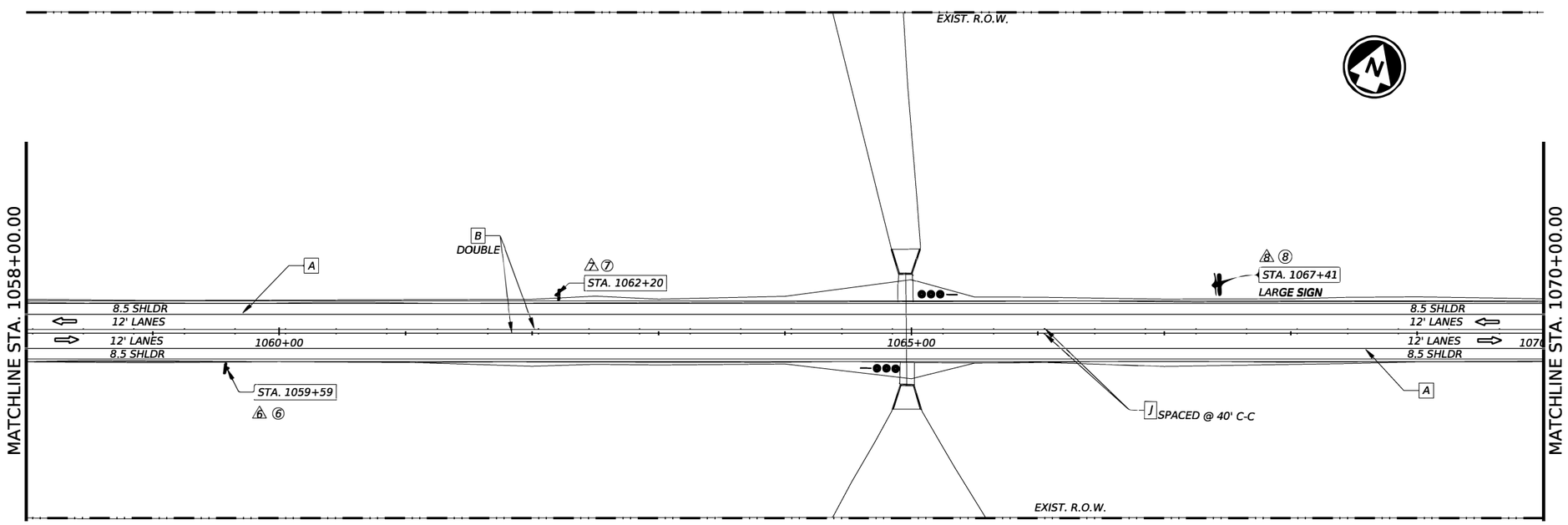
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	212

DATE: 5/10/2024 6:24:27 AM
FILE: c:\txdot\pw_online\txdotSimisael.aguilard1092823\SH255_PVMT_LAYOUT_23.dgn





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

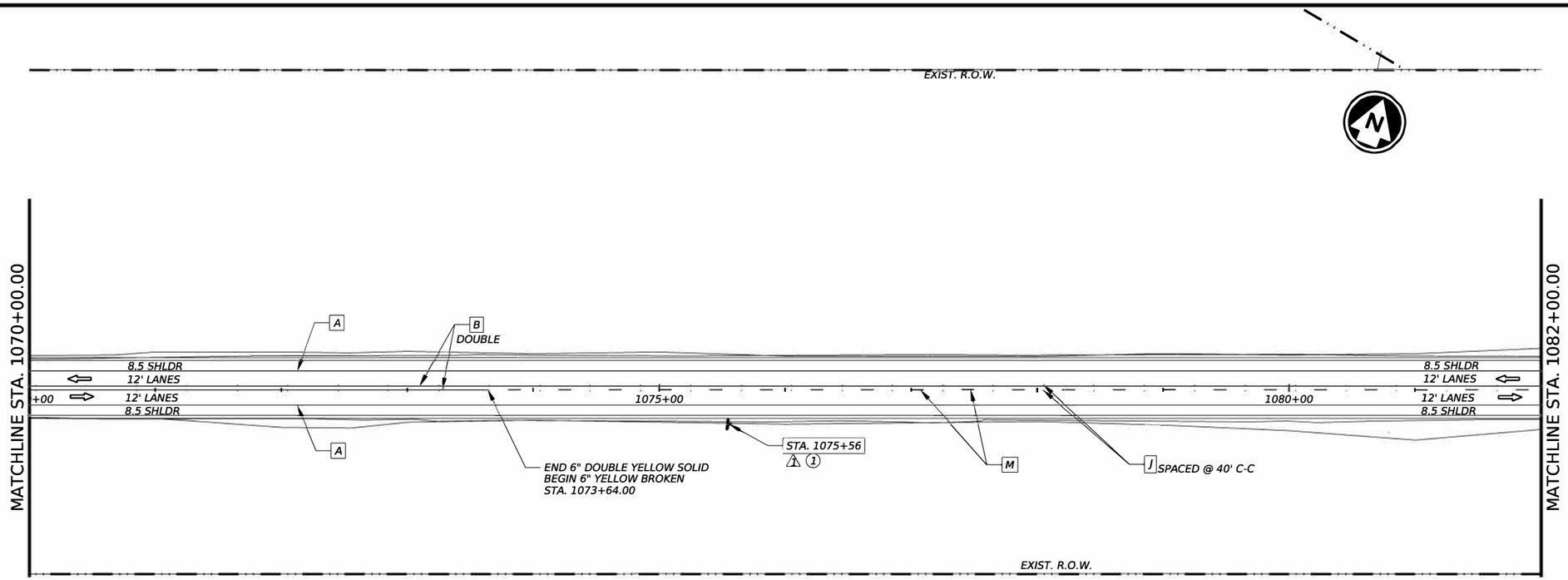
PAVEMENT MARKING & SIGNING LAYOUT

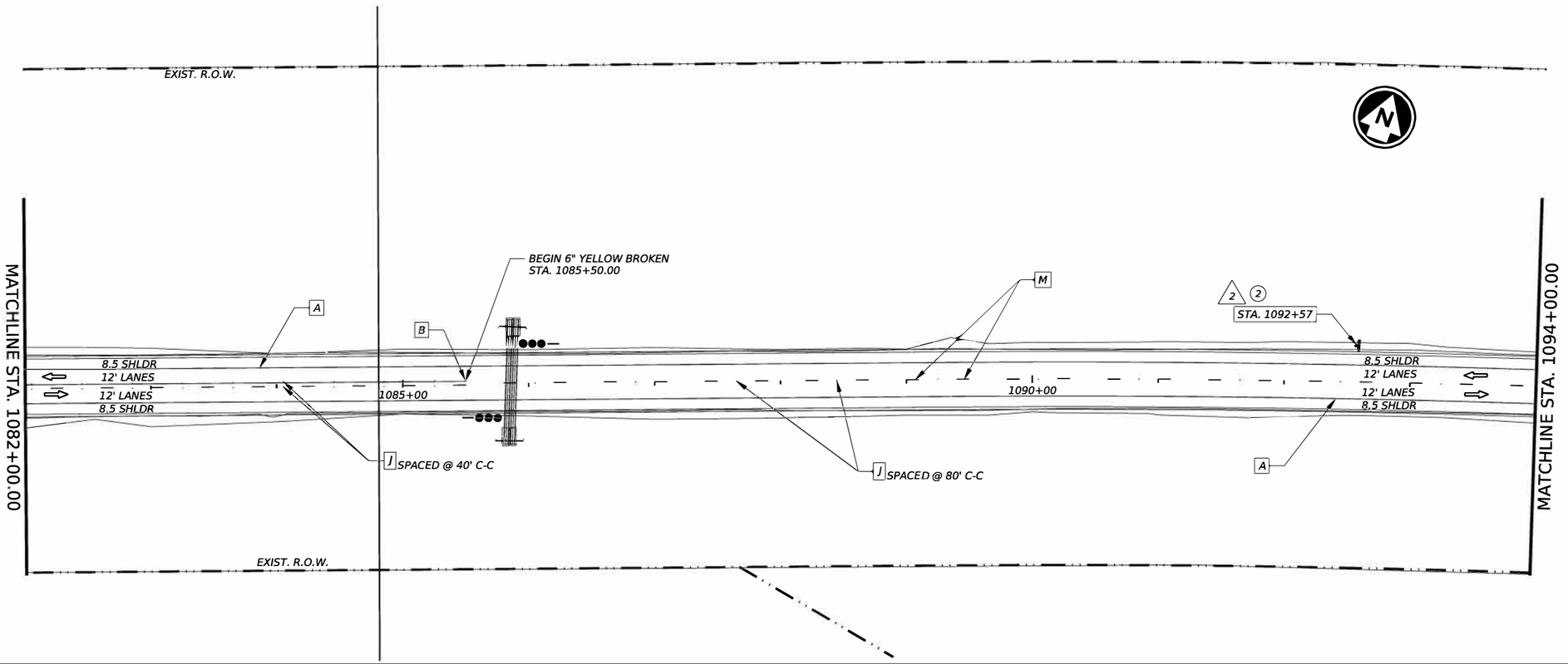
©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		213

DATE: 5/10/2024 6:24:44 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 25.dgn

CC
DW:
CC
DW:





PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

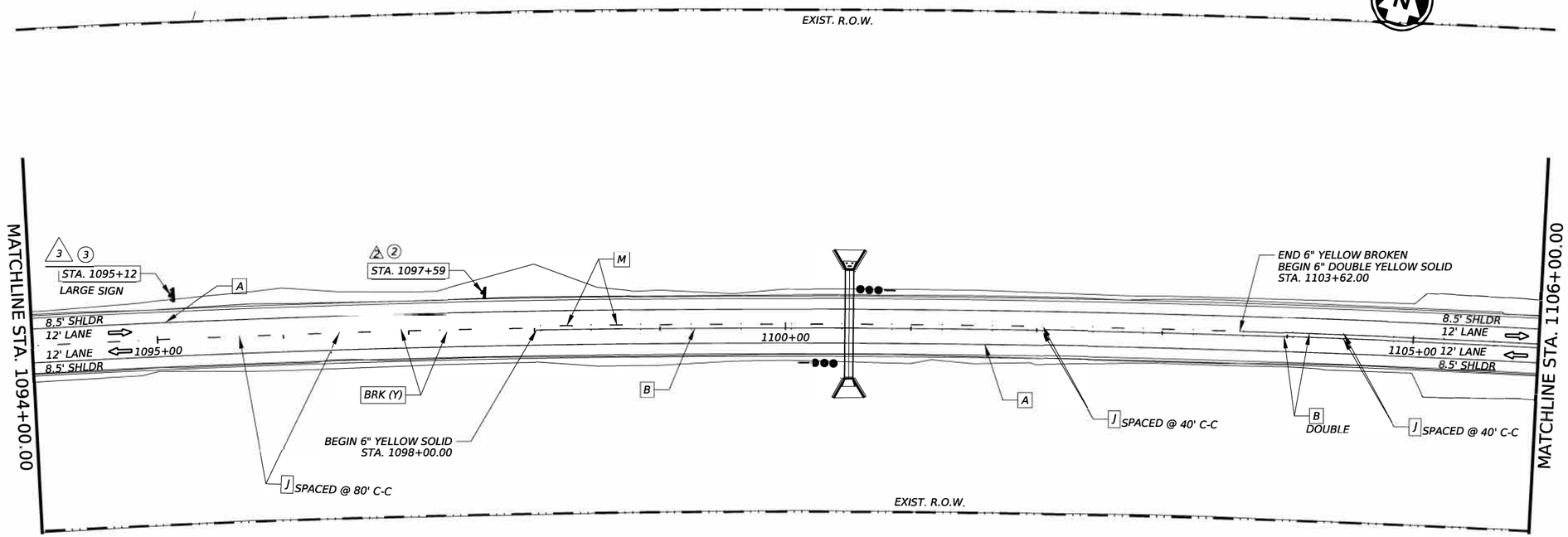
PAVEMENT MARKING & SIGNING LAYOUT

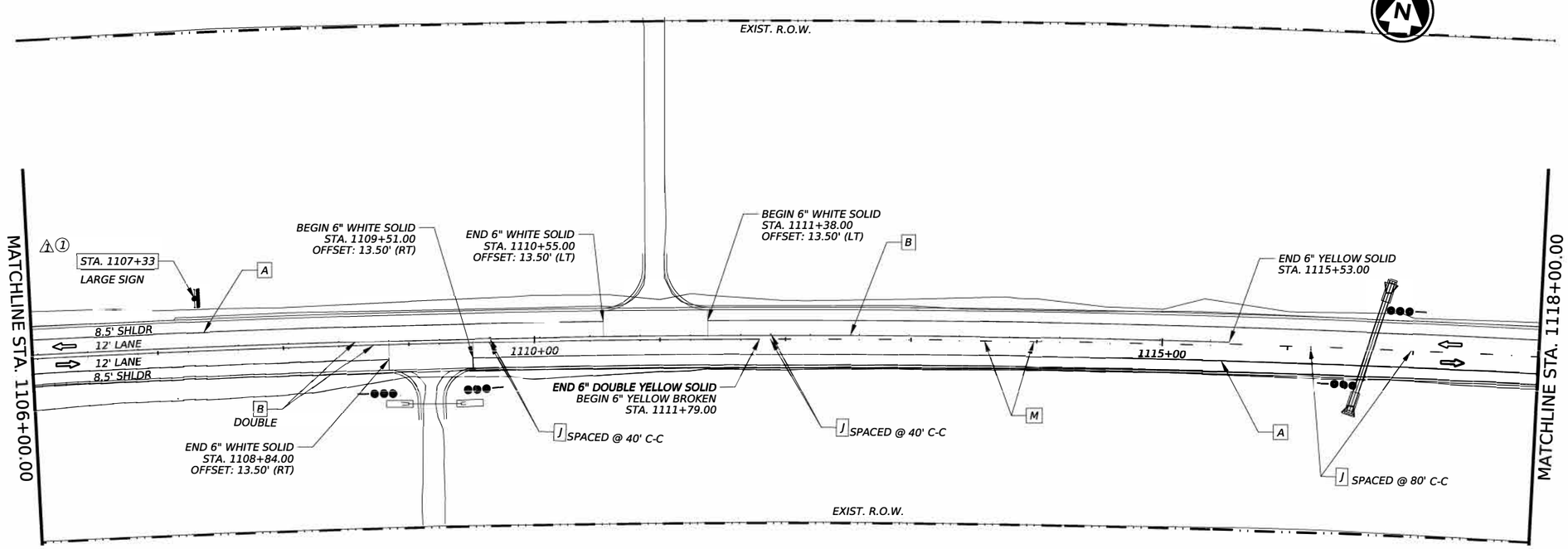
©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	214

DATE: 5/10/2024 6:25:00 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 27.dgn

CK: DW: CK: DW:





PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

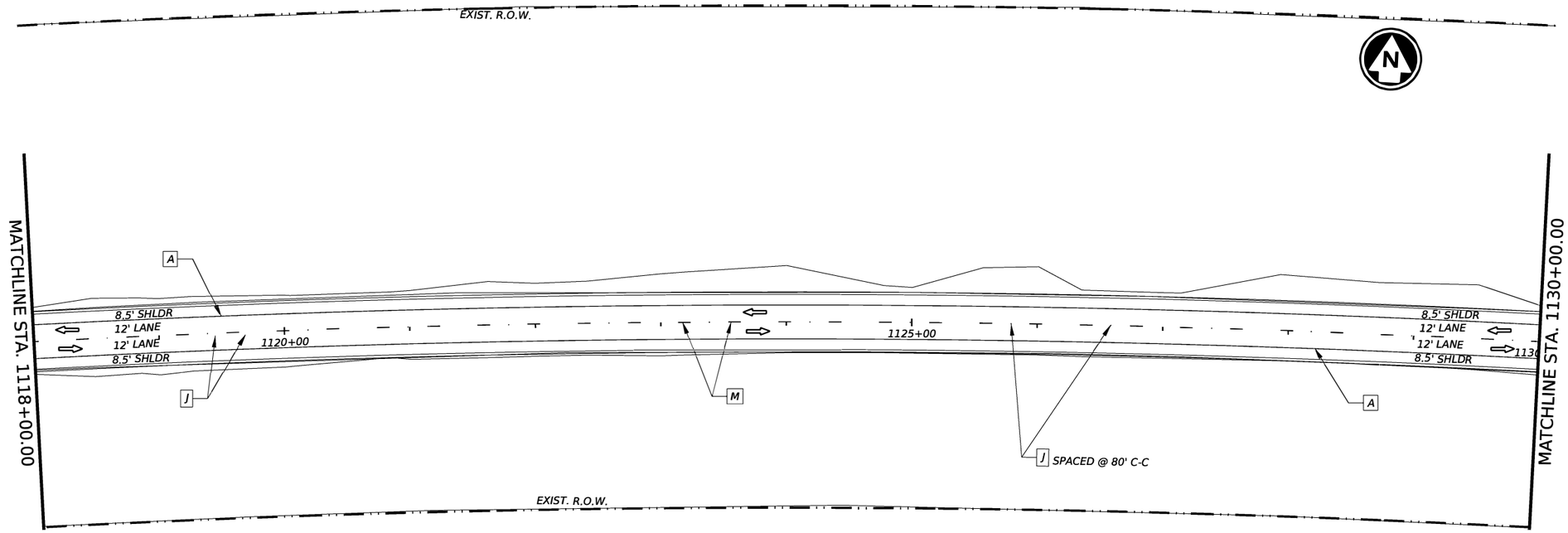
SH 255

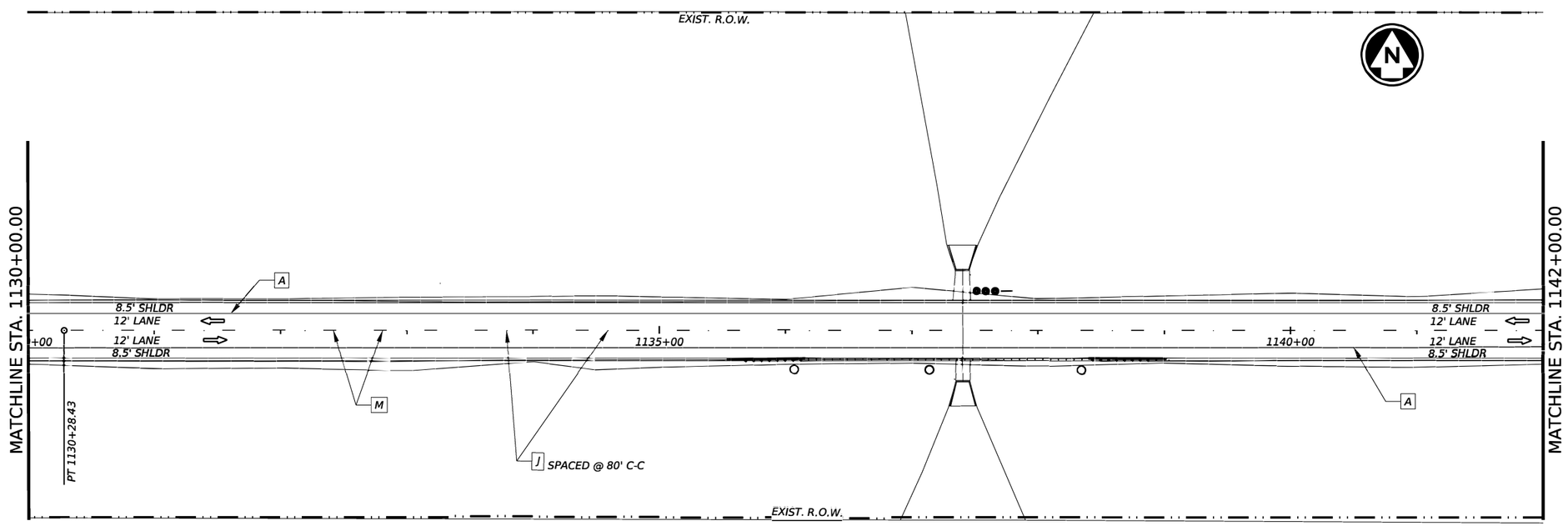
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		215

DATE: 5/10/2024 6:25:14 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 29.dgn





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)
- PROPOSED DELINEATOR (D-SW)SZ 1(BRF)GF2

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

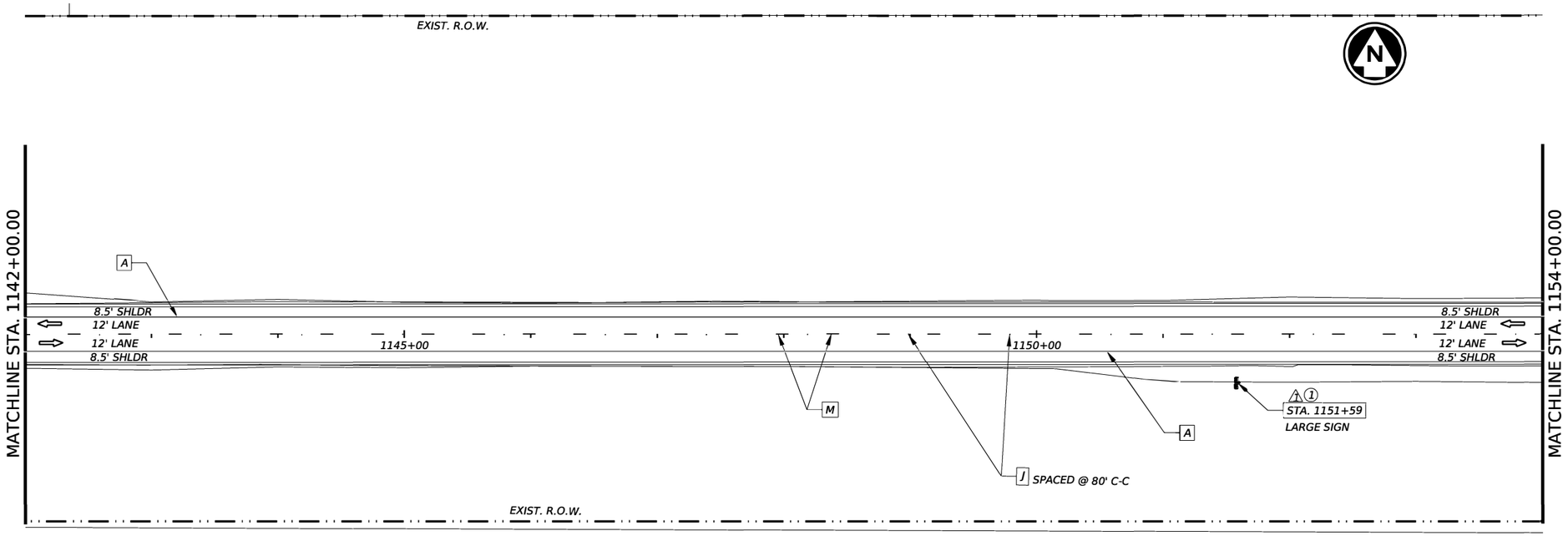
SH 255

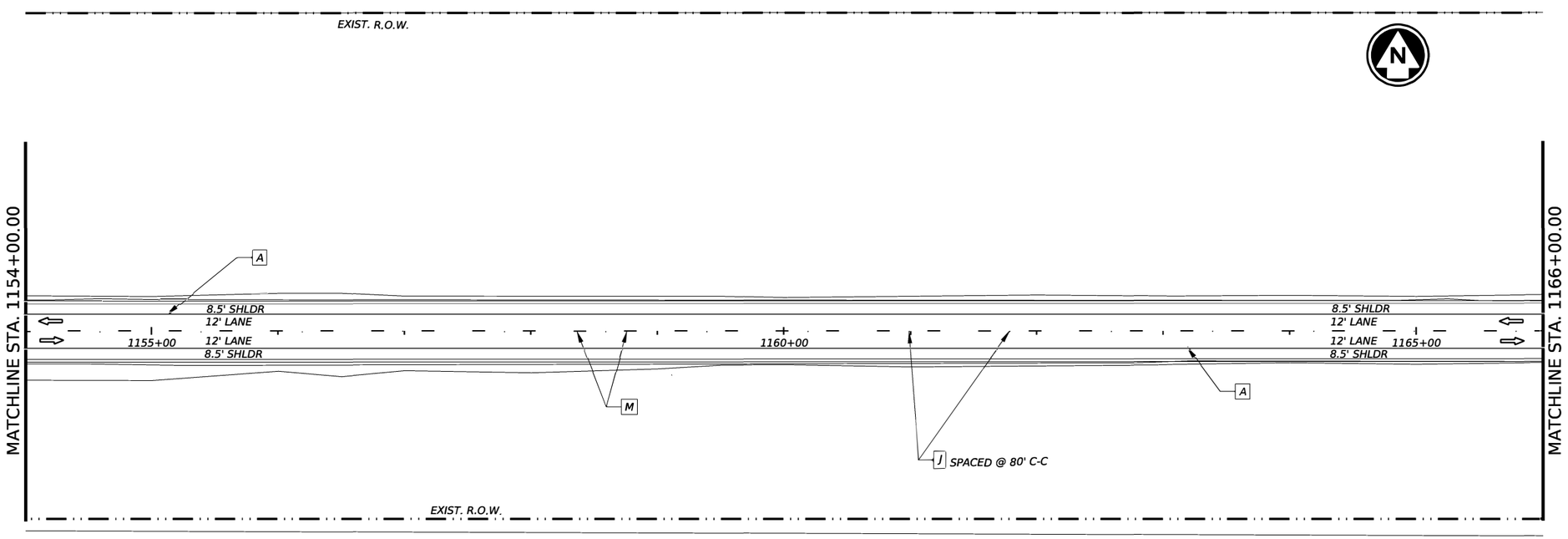
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		216

DATE: 5/10/2024 6:25:31 AM
FILE: c:\bwcf\c\dgn\projects\wksets\bmscamtx\Projects\06TX01D6202A2A25\SH255RD\06SH255_PVMT_MKG_LAYOUT_31.dgn
DN: CK: DW: CK:





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

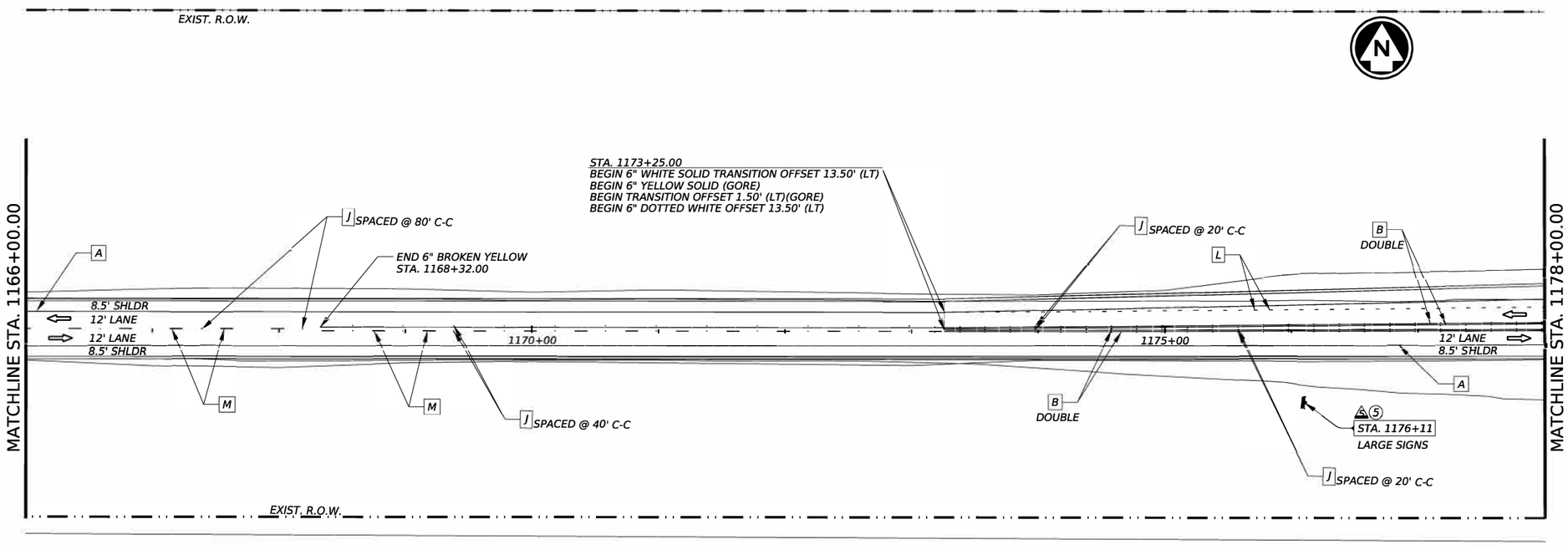
PAVEMENT MARKING & SIGNING LAYOUT

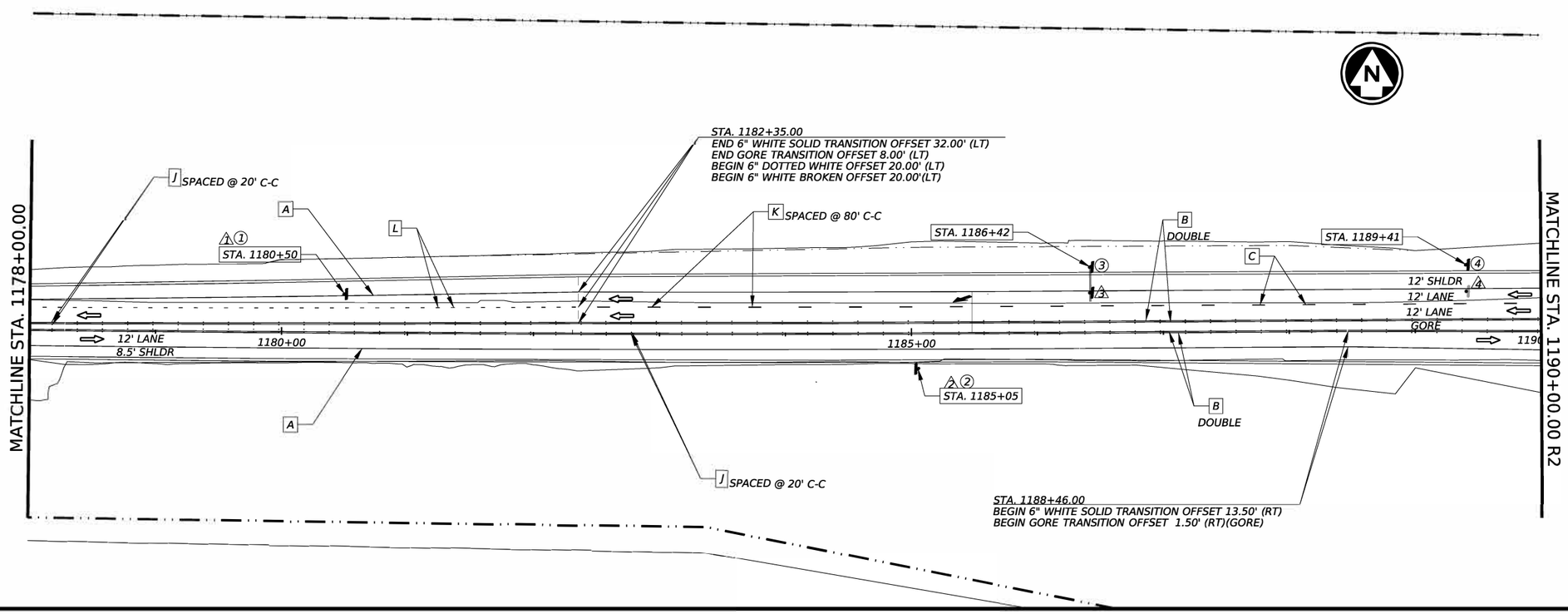
©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		217

DATE: 5/10/2024 6:25:47 AM
FILE: c:\txdot\pw_onlinetxdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 33.dgn

CK: DW: CK: DW:





PAVEMENT MARKING LEGEND

- DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

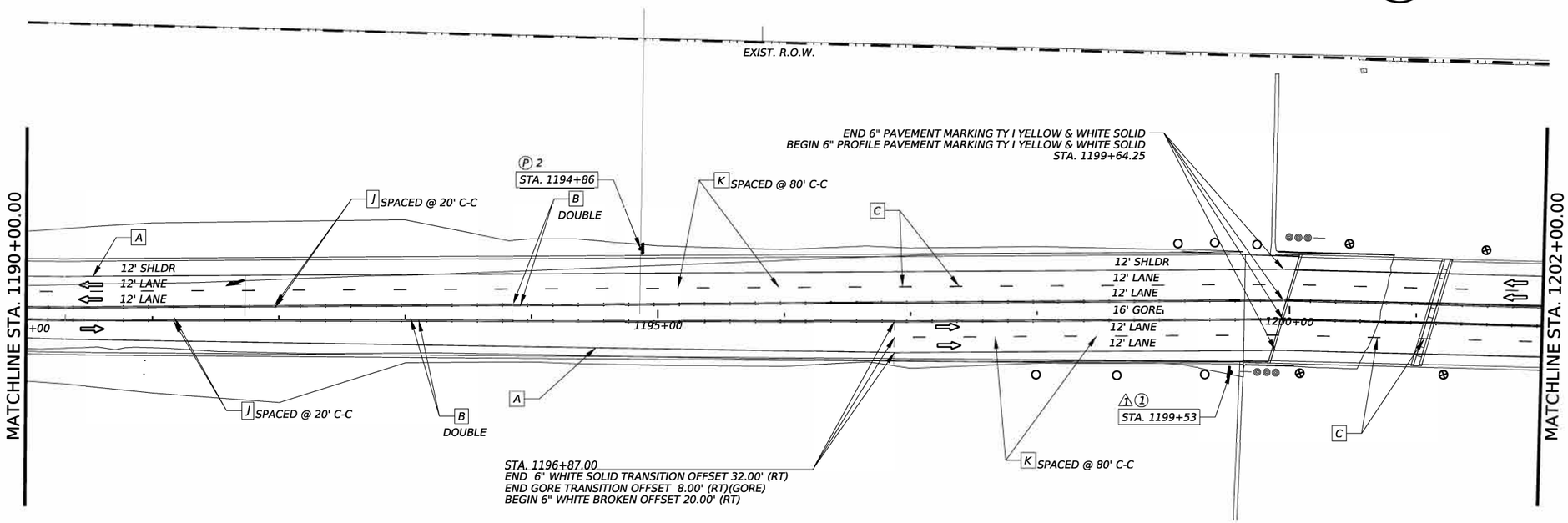
SH 255

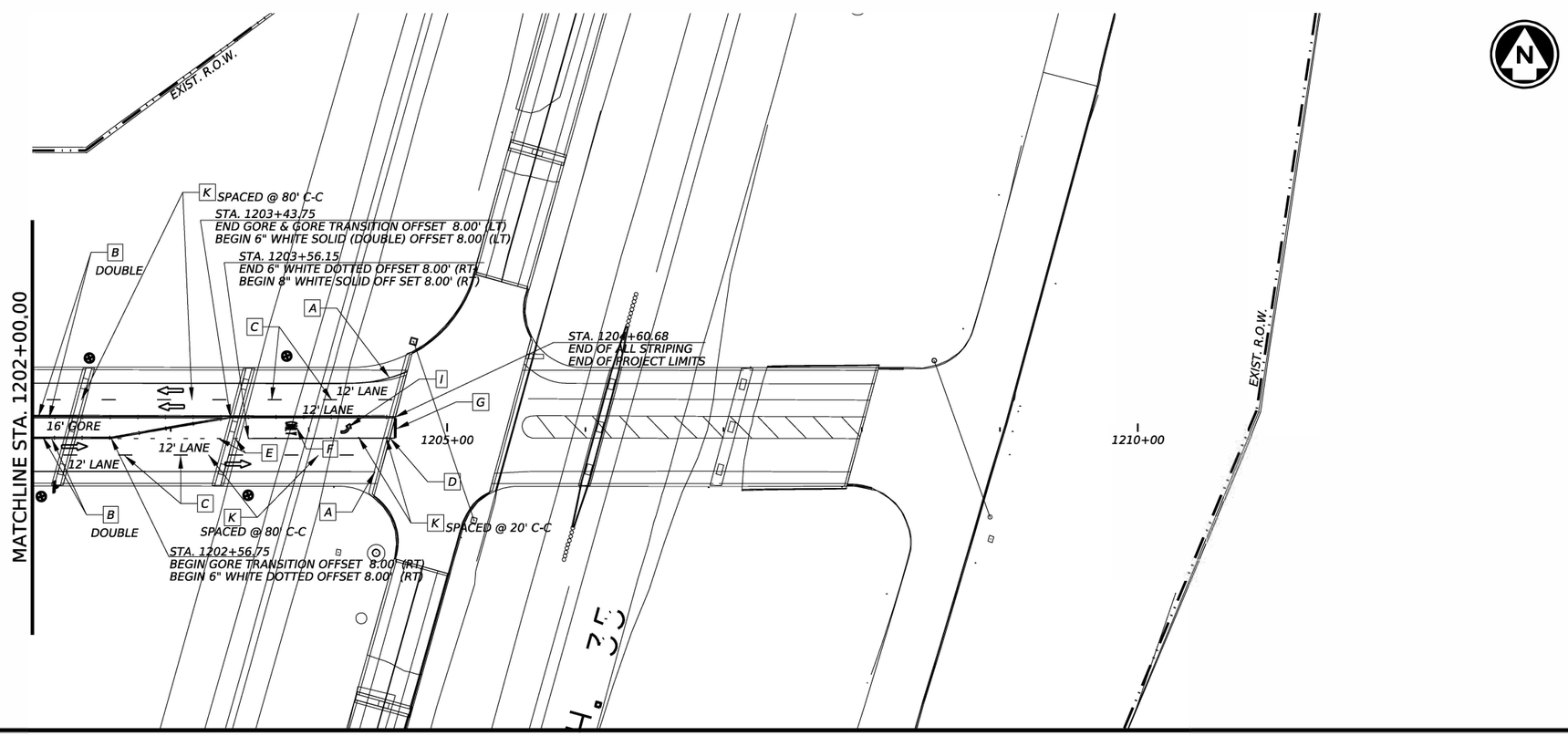
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		218

DATE: 5/10/2024 6:26:04 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 35.dgn





PAVEMENT MARKING LEGEND

- ⇨ - DIRECTION OF TRAFFIC
- A - REFL PAV MRK W/ RET TY I (W) 6" (SLD) (100MIL)
- B - REFL PAV MRK W/ RET TY I (Y) 6" (SLD) (100MIL)
- C - REFL PAV MRK W/ RET TY I (W) 6" (BRK) (100MIL)
- D - REFL PAV MRK TY I (W) 8" (SLD) (100MIL)
- E - REFL PAV MRK TY I (W) 8" (DOT) (100MIL)
- F - REFL PAV MRK TY I (W)(WORD)(100MIL)
- G - REF PAV MRK TY I(W)18"(YLD TRI)(100MIL)
- H - REFL PAV MRK TY I(W)(LNDP ARW)(100MIL)
- I - REFL PAV MRK TY I (W)(ARROW)(100MIL)
- J - RAISED PAVEMENT MARKER (RPM) TY II A-A
- K - RAISED PAVEMENT MARKER (RPM) TY I I-C
- L - REFL PAV MRK TY I (W) 6" (DOT) (100MIL)
- M - REFL PAV MRK W/ RET TY I (Y) 6" (BRK) (100MIL)

SIGNING LEGEND

- SIGN POST
- # - PROPOSED SMALL SIGN NUMBER
- # - EXISTING SMALL SIGN NUMBER TO BE REMOVED
- PROPOSED OBJECT MARKER (OM-2Z)(WFLX)(GND)(BI)

NOTE:
THE INTENT OF THESE SHEET(S) IS TO SHOW THE PAVEMENT MARKINGS, SIGNS AND DELINEATORS INSTALLMENT DETAILS. REFER TO APPROPRIATE TRAFFIC STANDARDS FOR ADDITIONAL INFORMATION.

REFER TO "SUMMARY OF SMALL SIGNS" AND "SUMMARYOF LARGE SIGNS" SHEET(S) FOR DETAILED INFORMATION ON SIGN, POLE TYPE, BASE TYPE, AND/OR ADDITIONAL DESIGN INFORMATION

CENTERLINE AND SHOULDER MILLED RUMBLE STRIPS ARE PROPOSED THROUGHT THE ENTIRE LIMITS REFER TO CLB(2)23 STANDARD FOR INSTALLATION DETAILS AND MORE INFORMATION.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

SCALE: 1"=100'

Texas Department of Transportation

SH 255

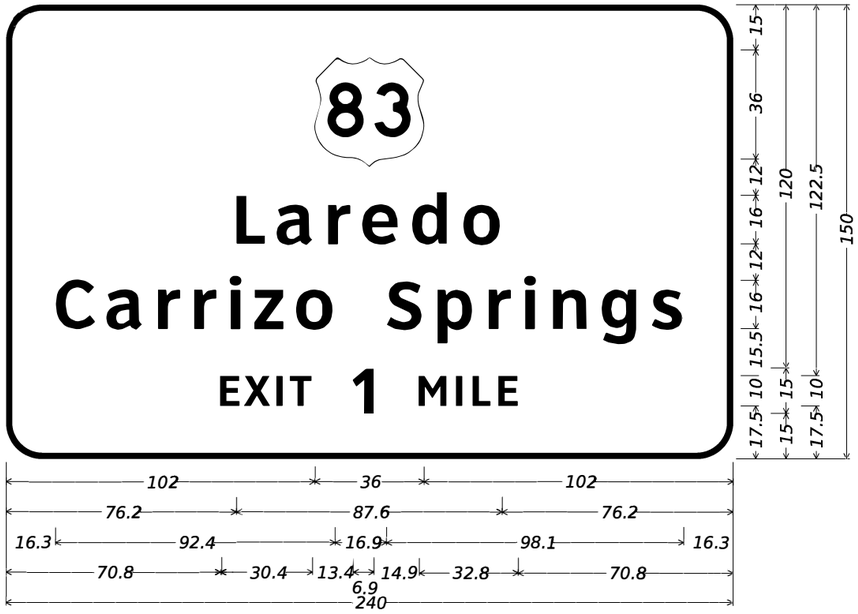
PAVEMENT MARKING & SIGNING LAYOUT

©TxDOT 2024

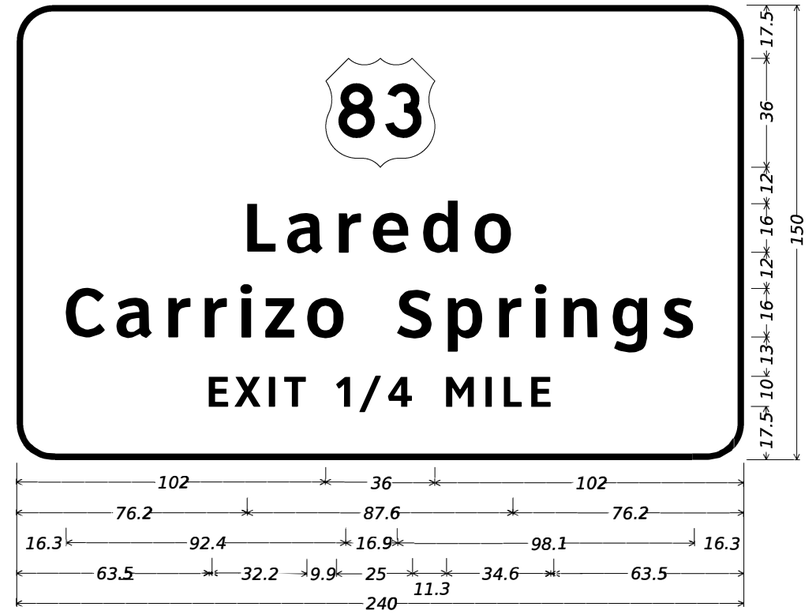
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	219

DATE: 5/10/2024 6:26:21 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1092823\SH255 PVMT LAYOUT 37.dgn

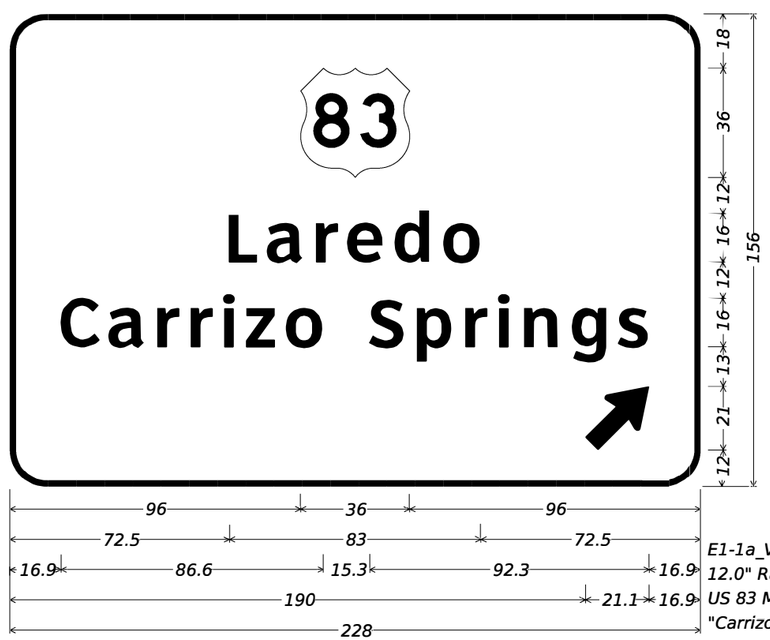
CK: DW: CK: DW:



E1-1a_VARx150;
12.0" Radius, 2.0" Border, White on Green;
"Laredo", ClearviewHwy-5-W; "Carrizo Springs", ClearviewHwy-5-W;
"EXIT"ClearviewHwy-5-W-R " 1 "ClearviewHwy-5-W "MILE", ClearviewHwy-5-W-R;



E1-1a_VARx150;
12.0" Radius, 2.0" Border, White on Green;
"Laredo", ClearviewHwy-5-W; "Carrizo Springs", ClearviewHwy-5-W;
"EXIT 1/4 MILE", ClearviewHwy-5-W;



E1-1a_VARx150;
12.0" Radius, 2.0" Border, White on Green;
US 83 M1-4; "Laredo", ClearviewHwy-5-W-R;
"Carrizo Springs", ClearviewHwy-5-W-R; Standard Arrow Custom 26.8" X 16.1" 45°;

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 6/03/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SPECIAL SIGNS

©TxDOT 2024

SHEET 1 OF 2

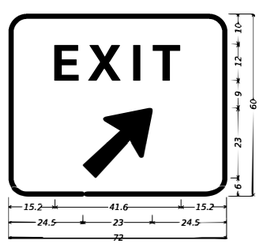
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		220

DATE: 5/2/2024 9:50:14 AM
FILE: c:\txdot\pw_online\txdot15\misael.aguilard07633412\2006 SPECIALSIGN.dgn

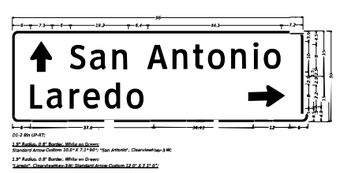
DN: CC: DW: CK:

E1-1a_VARx150;
12.0" Radius, 2.0" Border, White on Green;
State Name 35 M1-1; "San Antonio", ClearviewHwy-5-W;
"Laredo", ClearviewHwy-5-W; "1 MILE", ClearviewHwy-5-W-R;

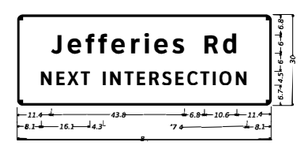
E1-1a_VARx150;
12.0" Radius, 2.0" Border, White on Green;
State Name 35 M1-1; "San Antonio", ClearviewHwy-5-W;
"Laredo", ClearviewHwy-5-W;
" 1/2 "ClearviewHwy-5-W "MILE", ClearviewHwy-5-W-R;



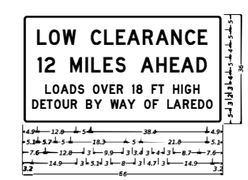
E5-1_72x60;
6.0" Radius, 1.5" Border, White on Green;
"EXIT", ClearviewHwy-6-W; Arrow A-2 - 29.3" 45";



D1-2 Bm UP-RT;
1.5" Radius, 0.6" Border, White on Green;
Standard Arrow Outline: 10.0" X 7.1"-90°; "San Antonio", ClearviewHwy-3-W;
1.5" Radius, 0.6" Border, White on Green;
"Laredo", ClearviewHwy-3-W; Standard Arrow Outline: 12.0" X 7.1"-0°;



D3-2(1)_VARx30;
1.9" Radius, 0.8" Border, White on Green;
"Jefferies Rd", ClearviewHwy5-W;
"NEXT INTERSECTION", ClearviewHwy-4-W;



W12-4T_VARx36;
1.5" Radius, 0.6" Border, 0.4" Indent, Black on Yellow;
"LOW CLEARANCE", D; "12 MILES AHEAD", D;
"LOADS OVER 18 FT HIGH", D;
"DETOUR BY WAY OF LAREDO", D;

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 6/03/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

SPECIAL SIGNS

©TxDOT 2024

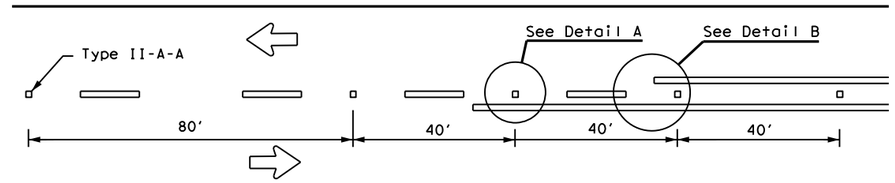
SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		2.21

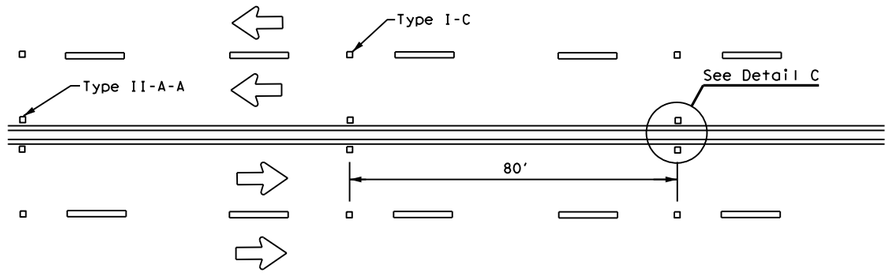
DATE: 5/2/2024 9:50:14 AM
FILE: c:\txdotpw_onlinetxdot5\misael.aguilar\d0763341\2006 SPECIALSIGN.dgn

DN: CC: DW: CC:

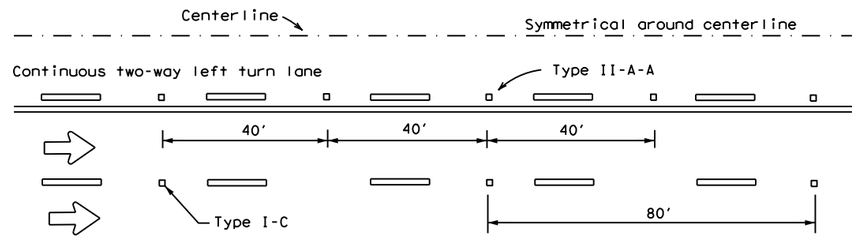
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE



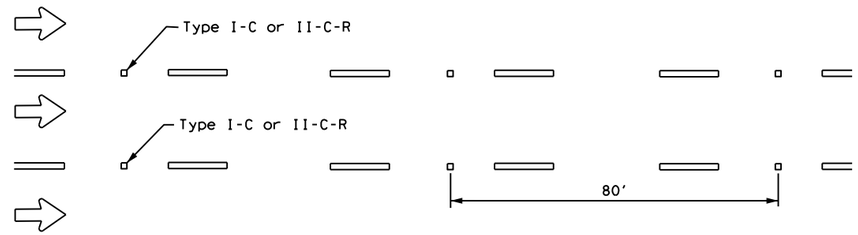
CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS



CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS



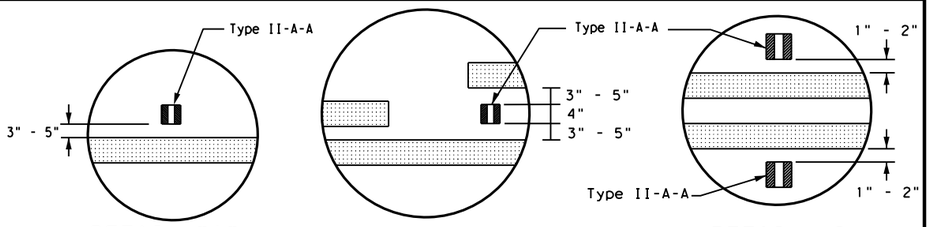
CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

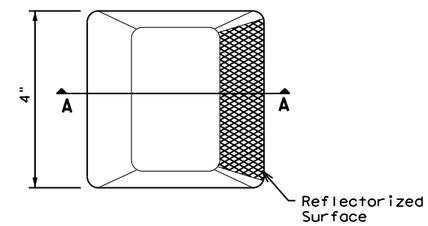
See Note 3.



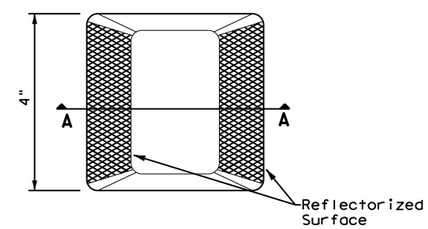
DETAIL "A" DETAIL "B" DETAIL "C"

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

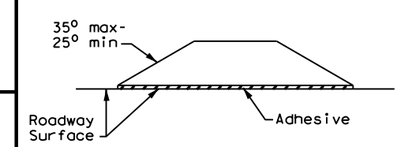
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

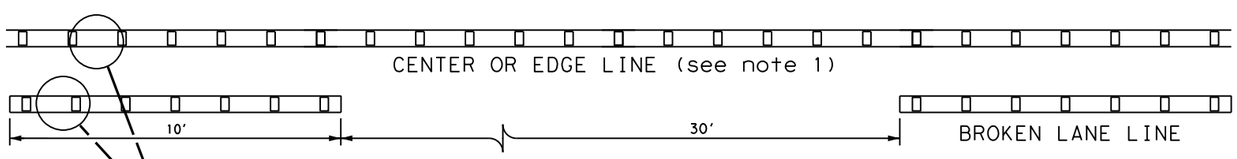


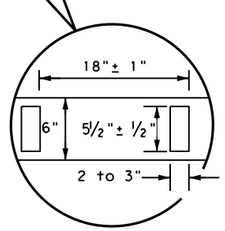
Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

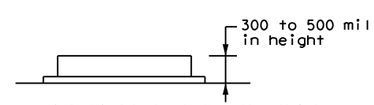




6" EDGE LINE, 6" CENTERLINE OR 6" LANE LINE

REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

Texas Department of Transportation — Traffic Safety Division Standard

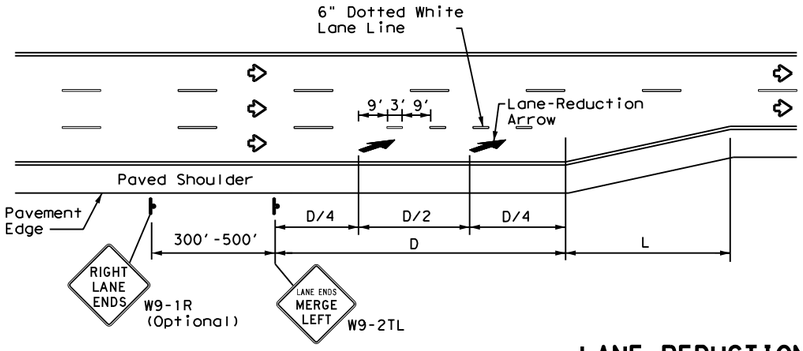
POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS PM(2)-22

FILE: pm2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-77 8-00 6-20 4-92 2-10 12-22 5-00 2-12	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		222

22B

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:57:08 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\pm2-22.dgn



LANE REDUCTION

NOTES

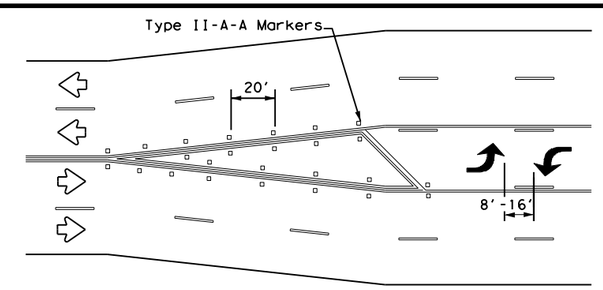
1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)

Posted Speed	D (ft)	L (ft)
30 MPH	460	$L = \frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

GENERAL NOTES

1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.



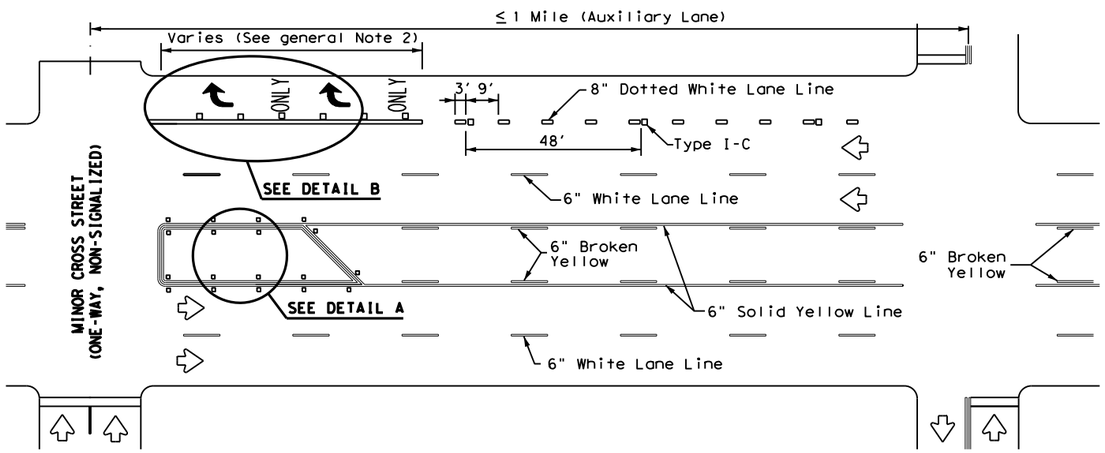
A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

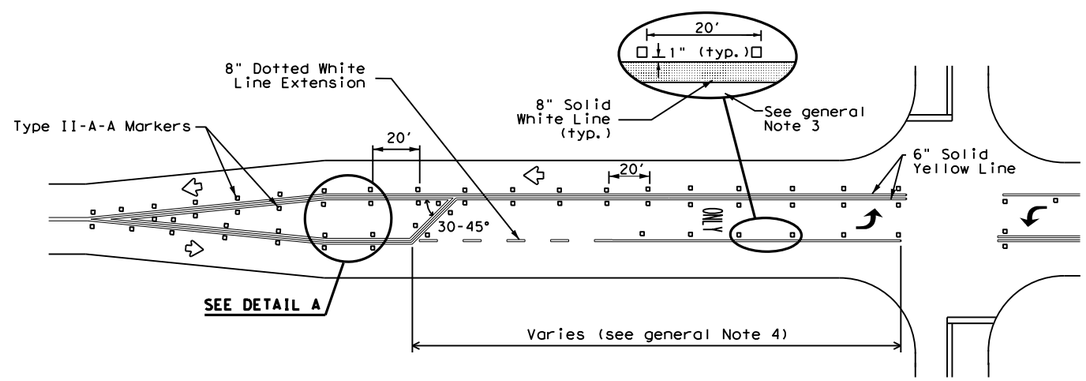
MATERIAL SPECIFICATIONS

PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

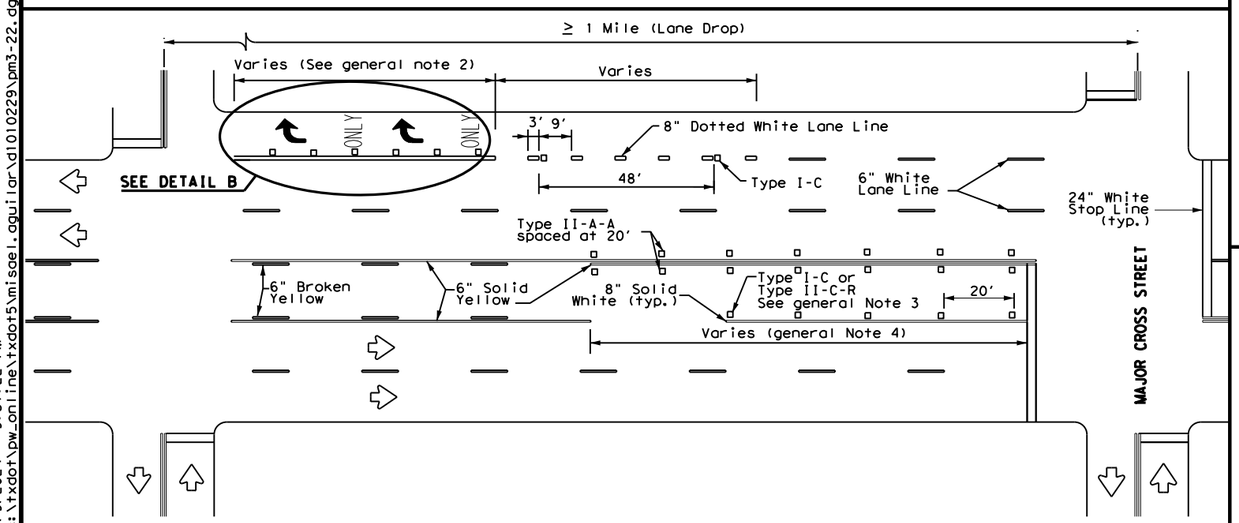
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



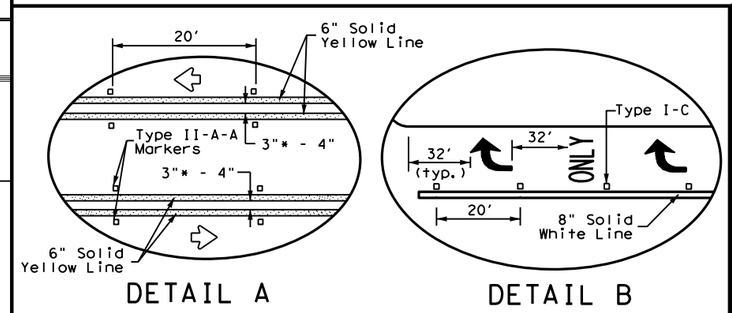
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



DETAIL A DETAIL B

* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation — Traffic Safety Division Standard

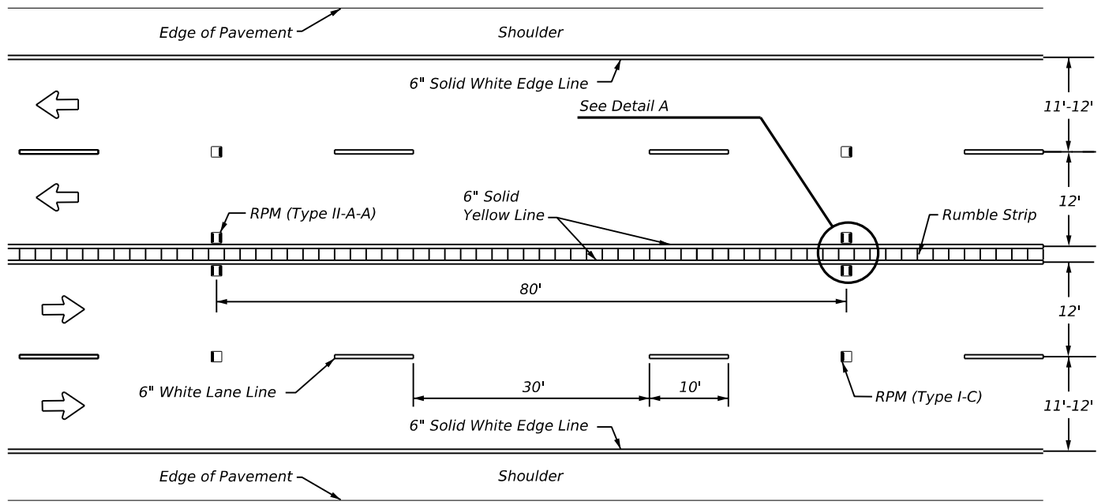
TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3)-22

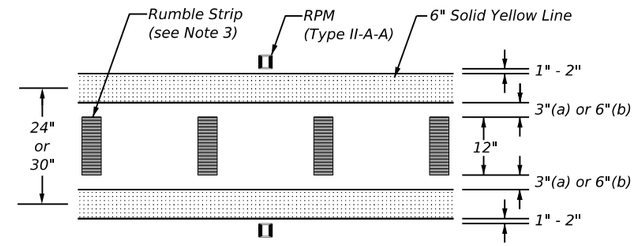
FILE: pm3-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-98 3-03 6-20	3586	02	006	SH 255
5-00 2-10 12-22	DIST		COUNTY	SHEET NO.
8-00 2-12	22		WEBB	223

22C

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:57:22 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\pm3-22.dgn

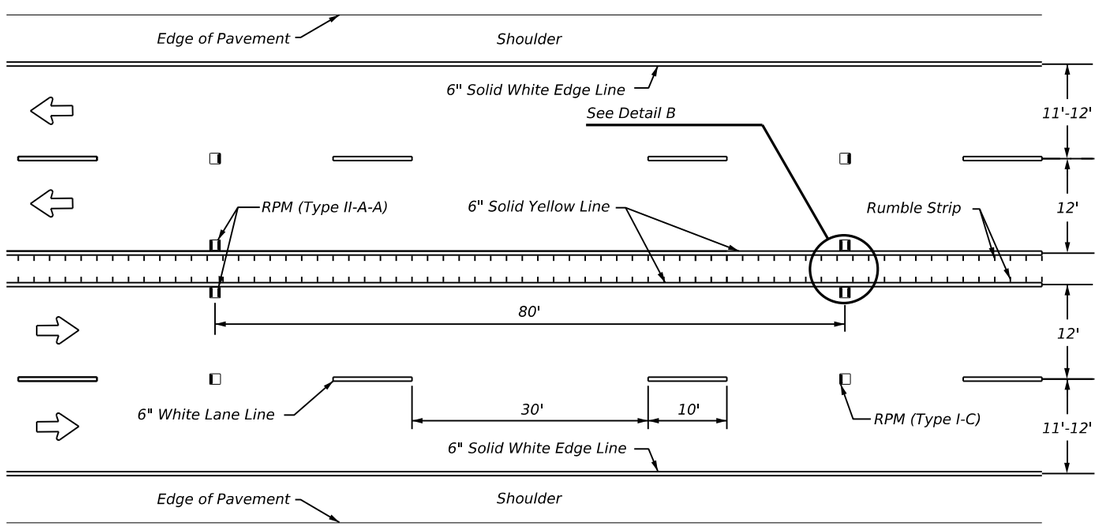


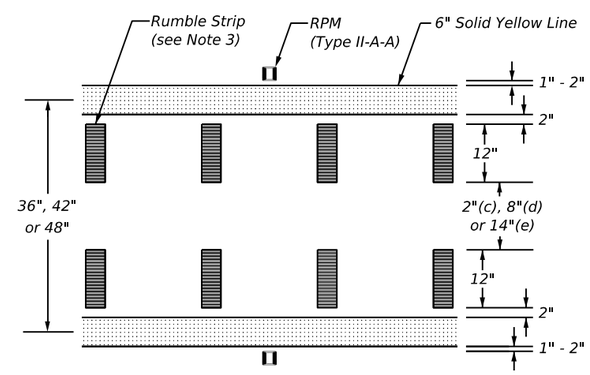


DETAIL "A"

CENTERLINE BUFFER FOR MULTI-LANE UNDIVIDED ROADWAYS

FOR BUFFER WIDTHS OF 24 INCHES(a) OR 30 INCHES(b)





DETAIL "B"

WIDE CENTERLINE BUFFER FOR MULTI-LANE UNDIVIDED ROADWAYS

FOR BUFFER WIDTHS OF 36 INCHES(c), 42 INCHES(d) OR 48 INCHES(e)

GENERAL NOTES:

1. A buffer shall not be implemented if it will require reducing the width of inside travel lanes to be less than 12 feet.
2. See standard sheet PM(2) for additional details regarding retroreflectorized raised pavement markers (RPMs).
3. This sheet shows the application of milled rumble strips, though other types may be used. See the Rumble Strips (RS) standard for installation details.
4. Dimension notations (a) through (e) correspond to the following buffer widths: a = 24 inches; b = 30 inches; c = 36 inches; d = 42 inches; and e = 48 inches.
5. The Engineer must consider bicycle accomodation during the planning and implementation of all construction and rehabilitation projects. See standard sheet RS(6) and the TxDOT Roadway Design Manual (RDM) Bicycle Facilities section for applicable policies, references and guidance.

MATERIAL SPECIFICATIONS	
Pavement Markers (Reflectorized)	DMS-4200
Epoxies and Adhesives	DMS-6100
Bituminous Adhesive for Pavement Markers	DMS-6130
Traffic Paint	DMS-8200
Hot Applied Thermoplastic	DMS-8220
Permanent Prefabricated Pavement Markings	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications.

Texas Department of Transportation

Traffic Safety Division Standard

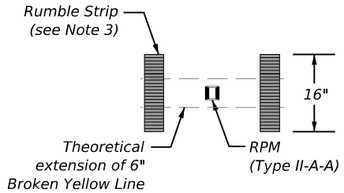
CENTERLINE BUFFER MULTI-LANE ROADWAYS

CLB(1)-23

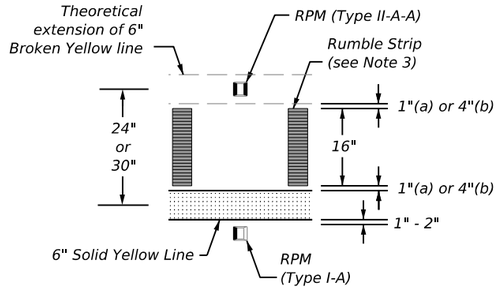
FILE: clb1-23.dgn	DN:	CK:	DW:	CK:
© TxDOT September 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	224

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

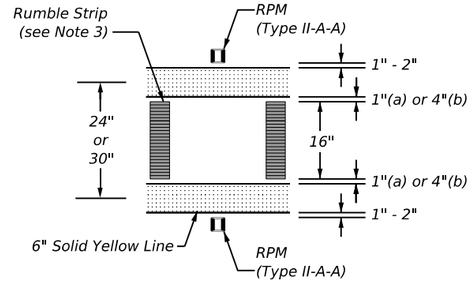
DATE: 4/9/2024 9:57:37 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\clb1-23.dgn



DETAIL "A"



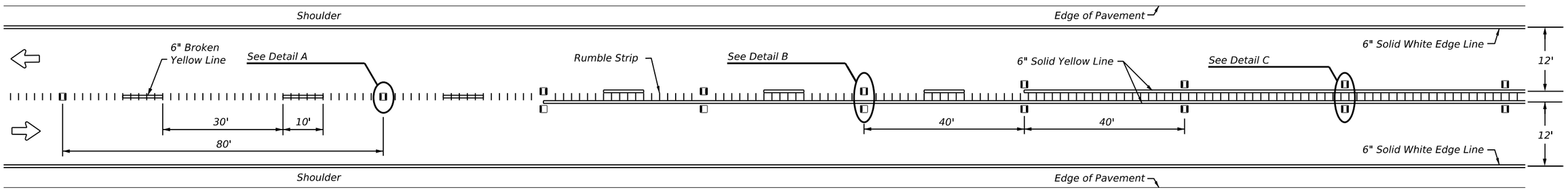
DETAIL "B"



DETAIL "C"

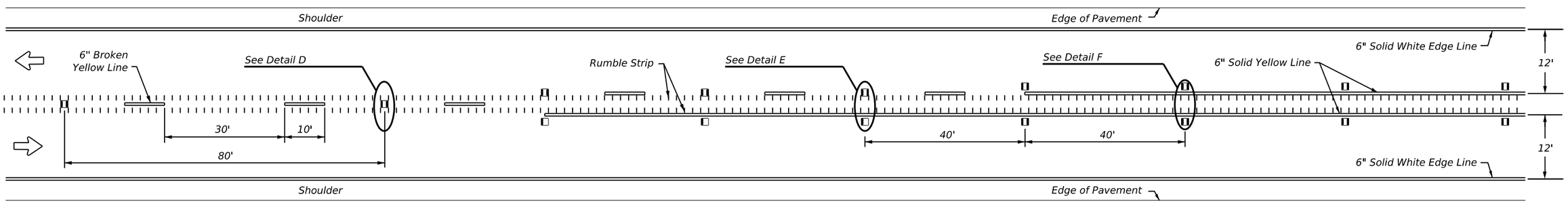
GENERAL NOTES:

1. A buffer shall not be implemented if it will require the width of travel lanes to be less than 12 feet.
2. See standard sheet PM(2) for additional details regarding retroreflectorized raised pavement markers (RPMs).
3. This sheet shows the application of milled rumble strips, though other types may be used. See the Rumble Strips (RS) standard for installation details.
4. Dimension notations (a) through (e) correspond to the following buffer widths: a = 24 inches; b = 30 inches; c = 36 inches; d = 42 inches; and e = 48 inches.
5. The Engineer must consider bicycle accomodation during the planning and implementation of all construction and rehabilitation projects. See standard sheet RS(6) and the TxDOT Roadway Design Manual (RDM) Bicycle Facilities section for applicable policies, references and guidance.



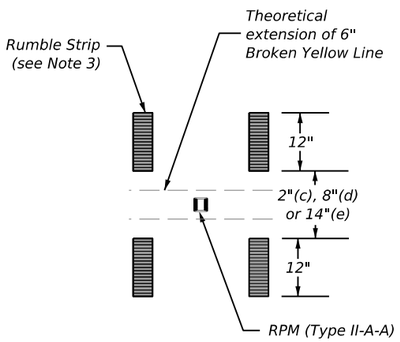
CENTERLINE BUFFER FOR TWO-LANE UNDIVIDED ROADWAYS

FOR BUFFER WIDTHS OF 24 INCHES(a) or 30 INCHES(b)

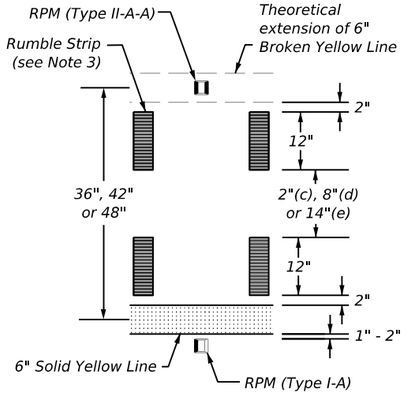


WIDE CENTERLINE BUFFER FOR TWO-LANE UNDIVIDED ROADWAYS

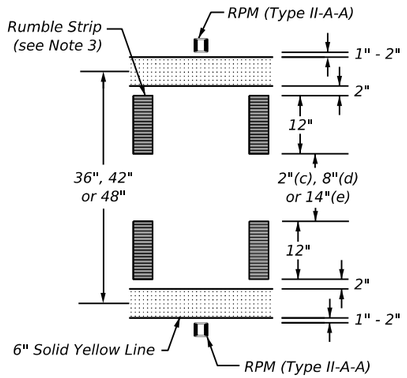
FOR BUFFER WIDTHS OF 36 INCHES(c), 42 INCHES(d) OR 48 INCHES(e)



DETAIL "D"



DETAIL "E"



DETAIL "F"

MATERIAL SPECIFICATIONS	
Pavement Markers (Reflectorized)	DMS-4200
Epoxies and Adhesives	DMS-6100
Bituminous Adhesive for Pavement Markers	DMS-6130
Traffic Paint	DMS-8200
Hot Applied Thermoplastic	DMS-8220
Permanent Prefabricated Pavement Markings	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications.

Texas Department of Transportation

Traffic Safety Division Standard

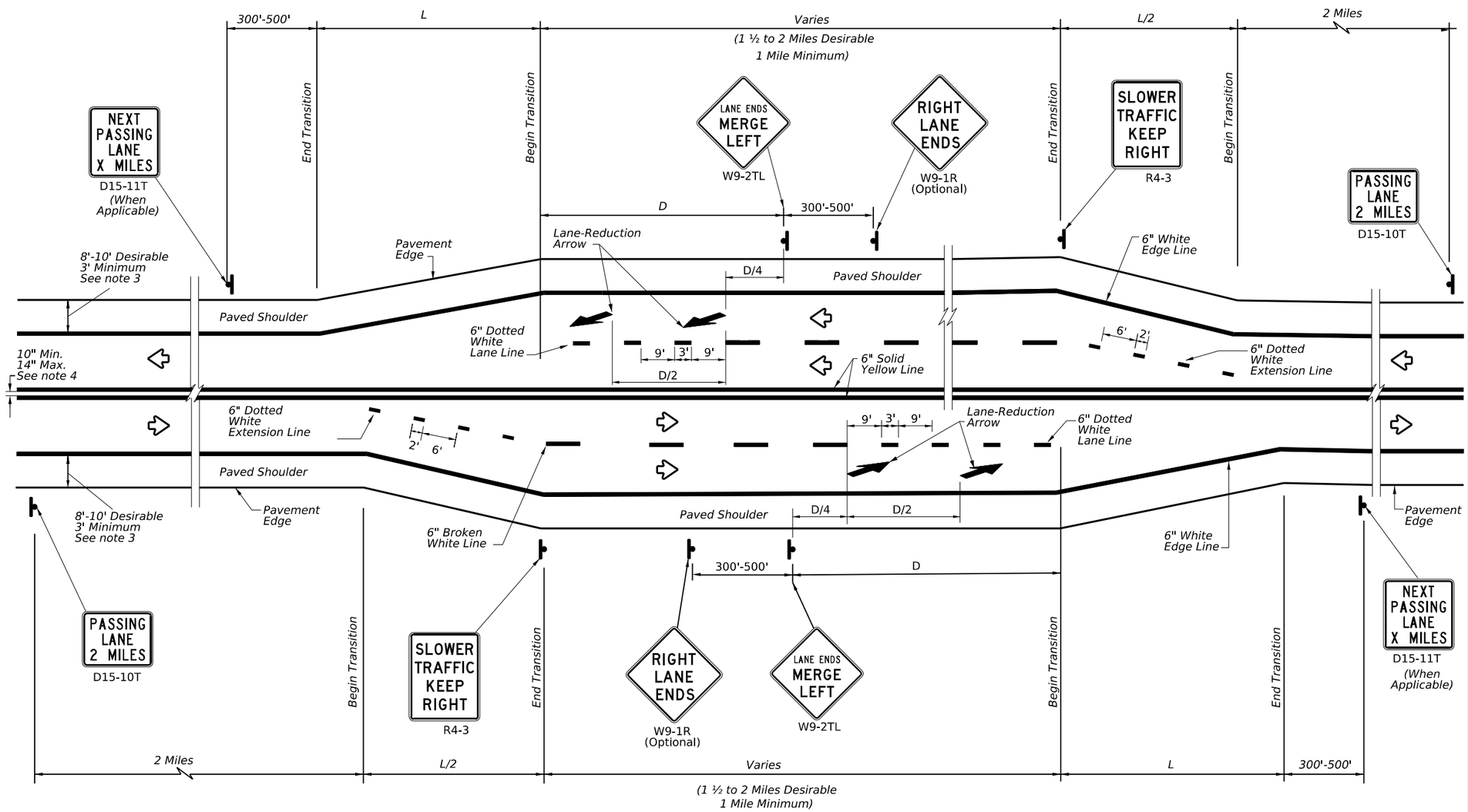
CENTERLINE BUFFER TWO-LANE ROADWAYS

CLB(2)-23

FILE: clb2-23.dgn	DN:	CK:	DW:	CK:
©TxDOT September 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		225

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:57:51 PM
FILE: c:\txdot\pw_online\txdot5\mlsael.aguilar\d1010229\clb2-23.dgn



SIDE BY SIDE PASSING LANES

LEGEND	
	Sign
	Traffic Flow

TYPICAL TAPER LENGTH (L)	
Formula *	L = WS

* Transition length should be rounded up to nearest 5 foot increment.

L=Length of Transition (FT)
W=Width of Offset (FT)
S=Posted Speed (MPH)

EXAMPLE

A 12 foot lane is added on a 70 mph roadway. The length of the transition should be:

L=12x70=840 ft

TABLE 1 ADVANCE WARNING SIGN DISTANCE (D)	
Posted Speed	D (FT)
40	670
45	775
50	885
55	990
60	1100
65	1200
70	1250
75	1350

GENERAL NOTES

1. For minimum and desirable design details, see the Roadway Design Manual, Chapter 4, Section 6, Super 2 Highways.
2. For Raised Pavement Markers (RPM) details, see Pavement Markings Standard sheet, PM(2) - Centerline for All Two Lane Two-Way Roadways. Note that RPMs are not recommended on the 6" dotted white extension lines.
3. For rumble strip options available for the designed shoulder width, see Rumble Strip Standard sheet RS(2).
4. For pavement marking details, see Pavement Marking Standard sheet PM(1).

Texas Department of Transportation

Traffic Safety Division Standard

TEXAS SUPER 2 PASSING LANES

TS2(PL-2)-23

FILE: ts2-2-23.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2023	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
5-10 3-18 2-12 2-23 3-12	DIST		COUNTY	SHEET NO.
	22		WEBB	226

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:58:08 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\ts2-2-23.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
1	1	M3-4	WEST	24"x 12"			10BWG	1	SA	P		
		M1-6T	255 TEXAS	24"x 24"								
		D10-7AT	430	3"x 10"								
1	2	W6-3		36"x 36"			10BWG	1	SA	T		
5	1	M3-4	WEST	24"x 12"			10BWG	1	SA	P		
		M1-6T	255 TEXAS	24"x 24"								
		D10-7AT	432	3"x 10"								
7	1	R2-1	SPEED LIMIT 70	30"x 36"			10BWG	1	SA	P		
7	2	W6-1		36"x 36"			10BWG	1	SA	T		
7	3	W6-3		36"x 36"			10BWG	1	SA	T		
8	1	D3-2	Jefferies Rd NEXT INTERSECTION	84" x 30"			10BWG	1	SA	T		
8	2	R5-1a	WRONG WAY	42"x 30"			10BWG	1	SA	P		
8	3	R5-1a	WRONG WAY	42"x 30"			10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

1 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	227

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:13 AM
FILE: c:\txdot\pw_onlinex\txdot5\misael.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
8	4	R5-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		
8	5	R5-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		
8	6	R6-1L	ONE WAY	54"x 18"			10BWG	1	SA	P		
8	7	R6-1R	ONE WAY	54"x 18"			10BWG	1	SA	P		
8	8	W9-2TL(R)	LANE ENDS MERGE LEFT REMOVE SIGN	36"x 36"			10BWG	1	SA	P		
8	9	R1-1	STOP	48"x 48"			10BWG	1	RFBA	P		
8	10	R1-1	STOP	48"x 48"			10BWG	1	RFBA	P		
8	11	R1-1	STOP	48"x 48"			10BWG	1	RFBA	P		
9	1	R1-1	STOP	48"x 48"			10BWG	1	RFBA	P		
9	2	R6-1L	ONE WAY	54"x 18"			10BWG	1	SA	P		
9	3	R5-1	ONE WAY	54"x 18"			10BWG	1	SA	P		
9	4	R6-1R	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:14 AM
FILE: c:\txdot\pw_online\txdot5\mjsoel.aguilar\d1010229\sums16.dgn

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16	DIST		COUNTY	SHEET NO.
8-16	22		WEBB	228

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
9	5	R5-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		
9	6	R5-1A	WRONG WAY	42"x 30"			10BWG	1	SA	P		
9	7	R5-1A	WRONG WAY	42"x 30"			10BWG	1	SA	P		
9	8	D3-2	Jefferies Rd NEXT INTERSECTION	84" x 30"			10BWG	1	SA	T		
9	9	W12-2 (18FT0IN)	18FT0IN	36"x 36"			10BWG	1	SA	T		
9	10	W9-2TL (R)	LANE ENDS MERGE RIght REMOVE SIGN	36"x 36"			10BWG	1	SA	P		
9	12	M3-2 M1-6 D10-7AT	EAST 255 TEXAS 4 3 4	24"x 12" 24"x 24" 3"x 10"			10BWG	1	SA	P		
9	13	M3-4 M1-6 D10-7AT	WEST 255 TEXAS 4 3 4	24"x 12" 24"x 24" 3"x 10"			10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:16 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

Texas Department of Transportation — Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

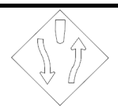
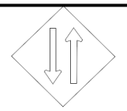
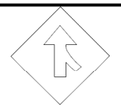
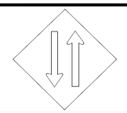
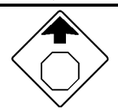
3 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	229

18

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
10	1	W6-1		36"x 36"			10BWG	1	SA	T		
10	2	R2-1		30"x 36"			10BWG	1	SA	P		
10	3	R2-1		30"x 36"			10BWG	1	SA	P		
11	1	W6-3		36"x 36"			10BWG	1	SA	T		
11	2	W8-13aT	BRIDGE * MAY ICE WITH COLD WEATHER	36"x 36"			10BWG	1	SA	P		
11	3	R1-2		36"x 36"			10BWG	1	SA	P		
11	4	W4-1R(L)		36"x 36"			10BWG	1	SA	P		
11	6	W13-2		24"x 30"			10BWG	1	SA	T		
11	7	E5-1		72"x 60"			10BWG	1	SA	T		
11	8	W6-3		36"x 36"			10BWG	1	SA	T		
11	9	R3-8LK		36"x 36"			10BWG	1	SA	U		
11	10	D1-2	← Carrizo Springs Laredo →	120"x 30"			10BWG	2	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	230

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:17 AM
FILE: c:\txdot\pw_online\txdot5\mjsoel.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
13	6	R2-1	SPEED LIMIT 70	30"x 36"			10BWG	1	SA	P		
13	7	W8-13aT	WATCH FOR ICE ON BRIDGES	36"x 36"			10BWG	1	SA	P		
14	1	M3-2	EAST	24"x 12"			10BWG	1	SA	P		
		M1-6	255 TEXAS	24"x 24"								
		D10-7AT	X X X	3"x 10"								
14	2	W6-3	⇩⇧	36"x 36"			10BWG	1	SA	T		
15	2	R2-1	SPEED LIMIT 70	30"x 36"			10BWG	1	SA	T		
18	1	M3-4	WEST	24"x 12"			10BWG	1	SA	P		
		M1-6	255 TEXAS	24"x 24"								
		D10-7AT	4 3 8	3"x 10"								
18	2	W8-13aT	WATCH FOR ICE ON BRIDGES BRIDGE MAY ICE WITH COLD WEATHER *	36"x 36"			10BWG	1	SA	P		
18	3	W6-3	⇩⇧	36"x 36"			10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

5 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	231

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:18 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
18	4	R2-1	SPEED LIMIT 70	30"x 36"			10BWG	1	SA	T		
19	1	D1-2	↑ San Antonio Laredo →	96"x 30"			10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

6 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST	COUNTY		SHEET NO.
	22	WEBB		232

18

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:20 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO. (P)	SIGN NOMENCLATURE	SIGNS NOT THERE (PROP) SIGN JEFFERIES	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
7	1	W1-5L W13-1P		36" x 36" 18" x 18"			10BWG	1	SA	T		
8	1	R4-7		18"x 30"			10BWG	1	SA	P		
8	2	R5-1		36"x 36"			10BWG	1	SA	P		
8	3	R5-1		36"x 36"			10BWG	1	SA	P		
8	4	R5-1A		42"x 30"			10BWG	1	SA	P		
8	5	R5-1A		42"x 30"			10BWG	1	SA	P		
8	6	W11-10L		36" x 36"			10BWG	1	SA	T		
8	7	R3-8LS		36"x 30"			10BWG	1	SA	T		
9	7	R3-8LS		36"x 30"			10BWG	1	SA	T		
9	1	W11-10L		36" x 36"			10BWG	1	SA	T		
9	2	R5-1A		42"x 30"			10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

7 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST	COUNTY		SHEET NO.
	22	WEBB		233

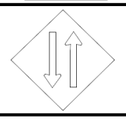
18

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:21 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO. Ⓟ	SIGN NOMENCLATURE	SIGNS NOT THERE (PROP) SIGN JEFFERIES	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
9	3	R5-1A		42"x 30"			10BWG	1	SA	P		
9	4	R5-1		36"x 36"			10BWG	1	SA	P		
9	5	R5-1		36"x 36"			10BWG	1	SA	P		
9	6	R4-7		18"x 30"			10BWG	1	SA	P		
10	1	W6-3		36"x 36"			10BWG	1	SA	P		
10	2	W1-5L W13-1P		36" x 36" 18" x 18"			10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	234

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:22 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO. Ⓟ	SIGN NOMENCLATURE	SIGNS NOT THERE (PROP) SIGN SUPER TWO	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE (FRP = Fiberglass, TWT = Thin-Wall, 10BWG = 10 BWG, S80 = Sch 80)	POSTS (1 or 2)	ANCHOR TYPE (UA=Universal Conc, UB=Universal Bolt, SA=Slipbase-Conc, SB=Slipbase-Bolt, WS=Wedge Steel, WP=Wedge Plastic)	MOUNTING DESIGNATION: PREFABRICATED (P = "Plain", T = "T", U = "U")	MOUNTING DESIGNATION: 1EXT or 2EXT = # of Ext, BM = Extruded Wind Beam, WC = 1.12 #/ft Wing Channel, EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE (TY N, TY S)
1	1	R4-3	SLOWER TRAFFIC KEEP RIGHT	24"x 30"			10BWG	1	SA	P		
2	1	W9-2TL	LANE ENDS MERGE LEFT	36"x 36"			10BWG	1	SA	T		
4	1	W9-2TL	LANE ENDS MERGE LEFT	36"x 36"			10BWG	1	SA	T		
4	2	R4-3	SLOWER TRAFFIC KEEP RIGHT	24"x 30"			10BWG	1	SA	P		
19	2	W9-2TL	LANE ENDS MERGE LEFT	36"x 36"			10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:24 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

Texas Department of Transportation — Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

9 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-16 8-16	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		235

18

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
12	1	R3-8LK		36"x 30"			10BWG	1	SA	T		
12	2	R5-1A	WRONG WAY	42"x 30"			10BWG	1	SA	P		
12	3	R5-1A	WRONG WAY	42"x 30"			10BWG	1	SA	P		
12	4	R1-1	STOP	48"x 48"			10BWG	1	SA	U		
12	5	R1-1	STOP	48"x 48"			10BWG	1	SA	U		
12	6	R5-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		
12	7	R5-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		
12	8	M3-1 M3-3 M1-4 M6-1	NORTH SOUTH 83 83 ← →	12"X 6" 24"X 24" 12"X 9"			10BWG	1	SA	U		
12	9	R2-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		
12	10	R2-1	DO NOT ENTER	36"x 36"			10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

10 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	236

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:25 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	MOUNTING DESIGNATION 1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
12	11	R1-1	STOP	48"x 48"			10BWG	1	SA	U		
12	12	R1-1	STOP	48"x 48"			10BWG	1	SA	U		
12	13	R5-1A	WRONG WAY	42"x 30"			10BWG	1	SA	P		
12	14	R5-1A	WRONG WAY	42"x 30"			10BWG	1	SA	P		
12	15	R3-8LK	ONLY	36"x 30"			10BWG	1	SA	T		
12	16	D1-2	← Laredo Carrizo Springs →	120"x 30"			10BWG	2	SA	P		
12	17	R3-8LK		36"x 36"			10BWG	1	SA	U		
12	18	W4-1R(L)		36"x 36"			10BWG	1	SA	P		
13	1	W6-3		36"x 36"			10BWG	1	SA	T		
13	2	E5-1	EXIT	72"x 60"			10BWG	1	SA	T		
13	3	W13-2	EXIT 45 M.P.H.	24"x 30"			10BWG	1	SA	T		
13	4	W6-3		36"x 36"			10BWG	1	SA	T		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

11 OF 11

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-16 8-16	DIST		COUNTY	SHEET NO.
	22		WEBB	237

18

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:07:26 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\sums16.dgn

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

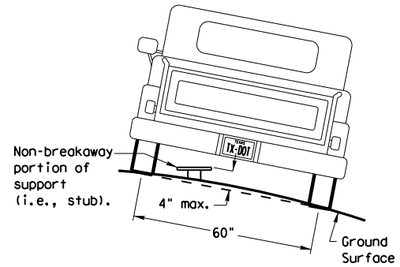
Anchor Type

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WS = Wedge Anchor Steel - (see SMD(TWT))
WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation

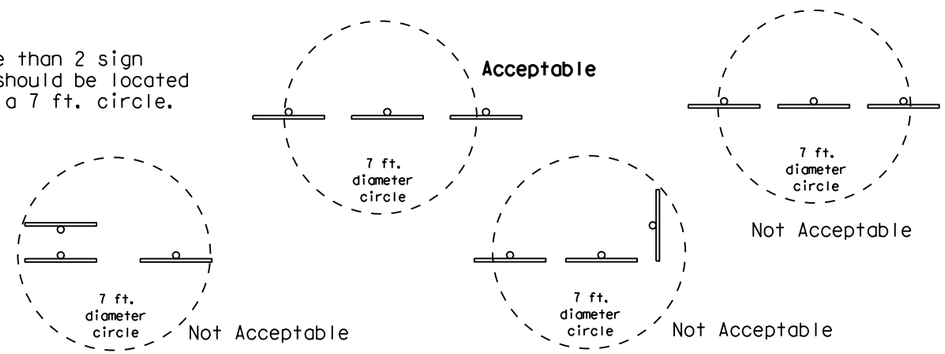
P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-3))

REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



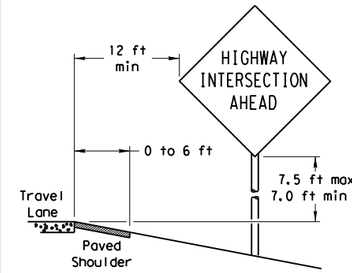
To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

No more than 2 sign posts should be located within a 7 ft. circle.



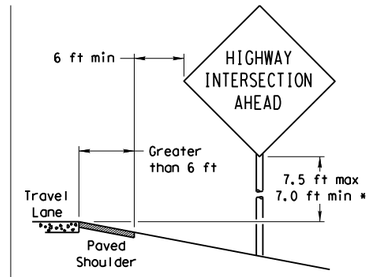
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

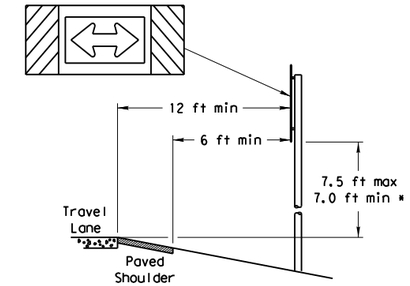
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



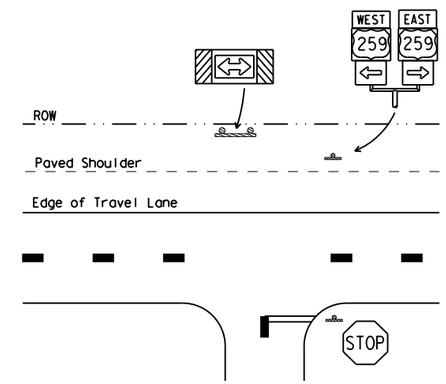
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

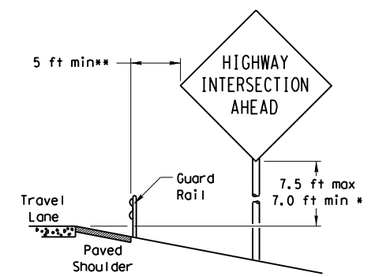
T-INTERSECTION



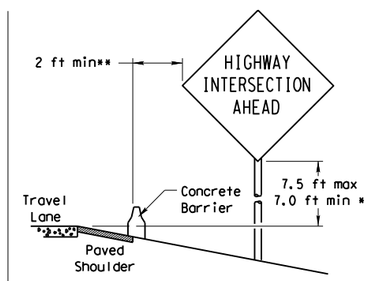
When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER



BEHIND GUARDRAIL



BEHIND CONCRETE BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or

(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

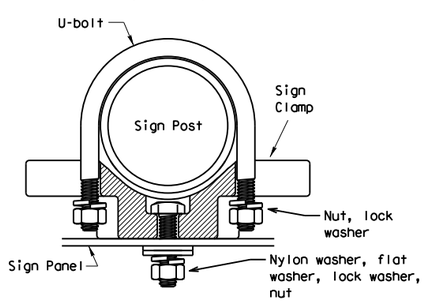
The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
http://www.txdot.gov/publications/traffic.htm

TYPICAL SIGN ATTACHMENT DETAIL

Single Signs

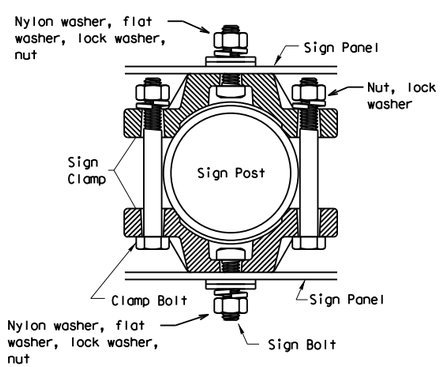


Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

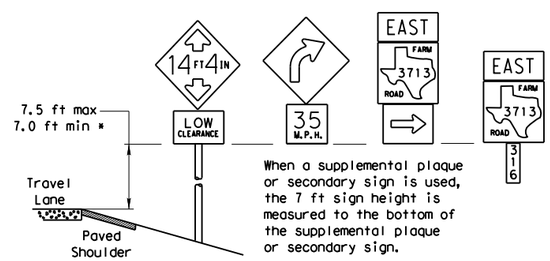
Sign clamps may be either the specific size clamp or the universal clamp.

Back-to-Back Signs



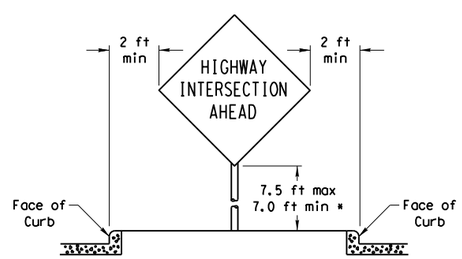
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



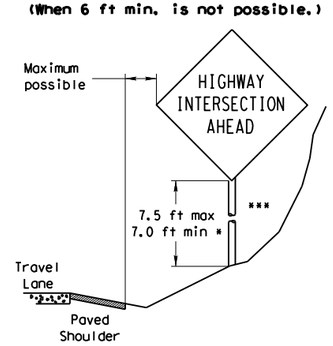
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

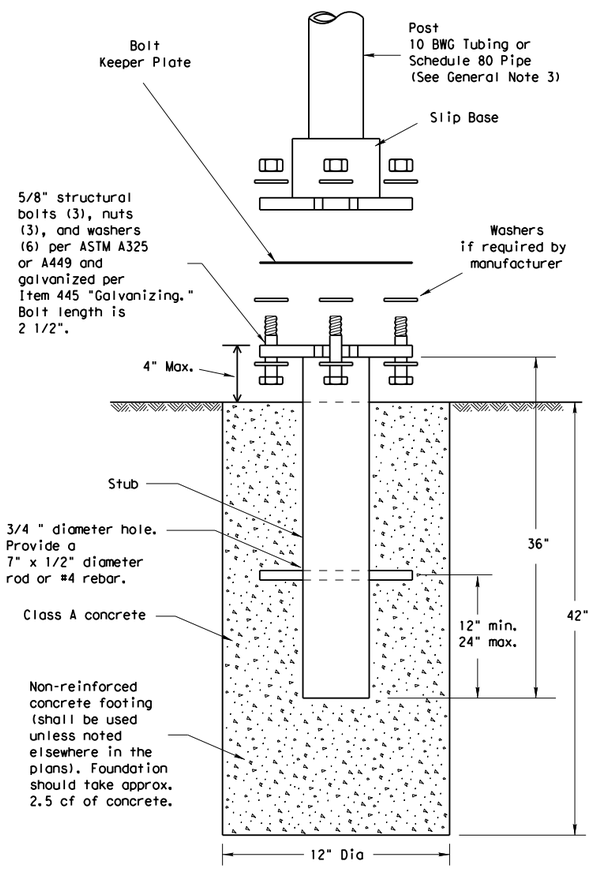
SMD(GEN)-08

©TxDOT July 2002

9-08 REVISIONS	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
	CONT	SECT	JOB	HIGHWAY
	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	238

DATE: 4/9/2024 9:58:40 PM
FILE: c:\txdot\pwonline\txdot5\misael.aguilar\d1010229\smdgen.dgn

TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   - 0.134" nominal wall thickness
   - Seamless or electric-resistance welded steel tubing or pipe
   - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   - Other steels may be used if they meet the following:
     - 55,000 PSI minimum yield strength
     - 70,000 PSI minimum tensile strength
     - 20% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.

   Schedule 80 Pipe (2.875" outside diameter)
   - 0.276" nominal wall thickness
   - Steel tubing per ASTM A500 Gr C
   - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
     - 46,000 PSI minimum yield strength
     - 62,000 PSI minimum tensile strength
     - 21% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   - Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is:
   http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

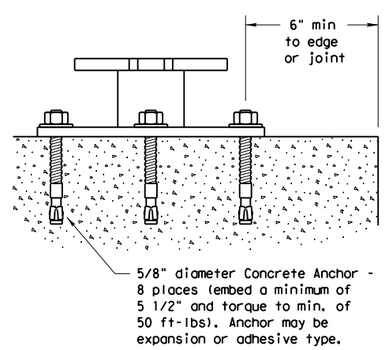
Foundation

1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support

1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

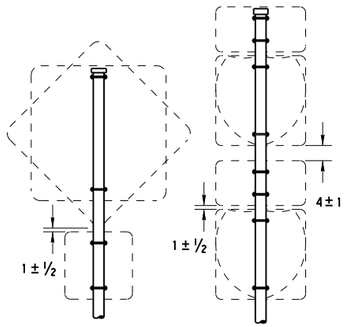
SMD(SLIP-1)-08

©TxDOT July 2002	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	239

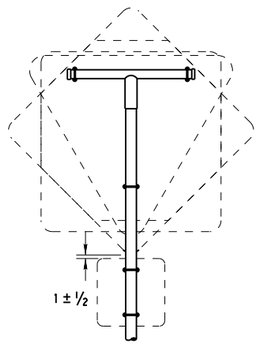
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 9:58:54 PM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010229\smdsl.dgn

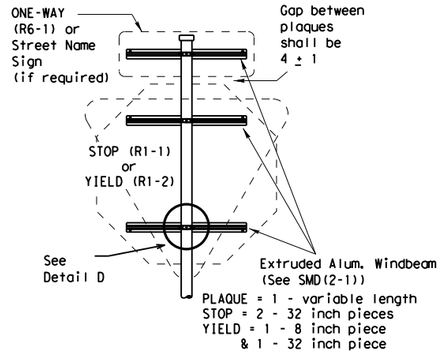
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



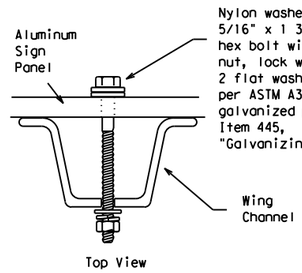
SM RD SGN ASSM TY XXXXX(1)XX(P)



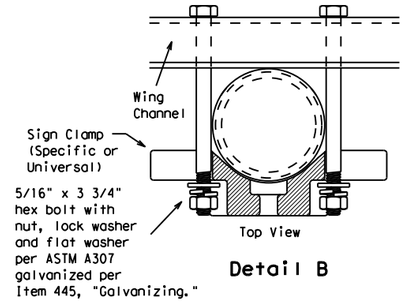
SM RD SGN ASSM TY XXXXX(1)XX(T)



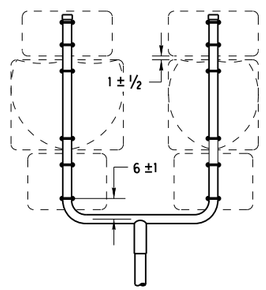
SM RD SGN ASSM TY XXXXX(1)XX(P-BM)



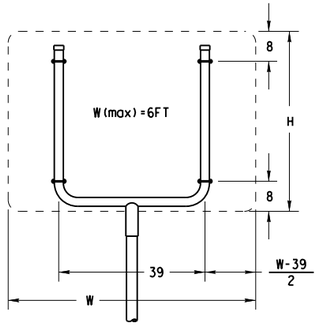
Detail A



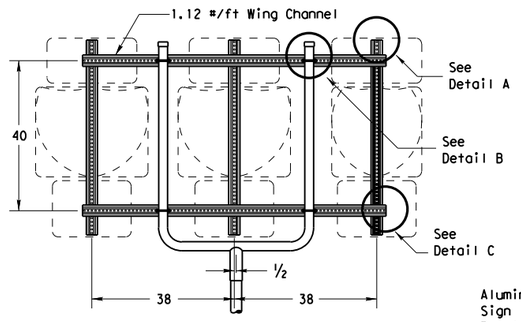
Detail B



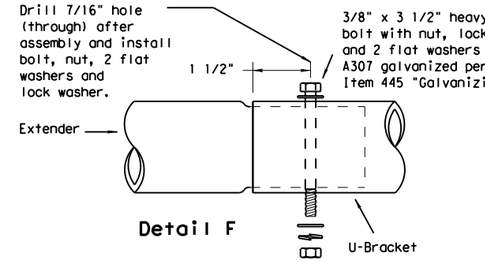
SM RD SGN ASSM TY XXXXX(1)XX(U)



SM RD SGN ASSM TY XXXXX(1)XX(U)

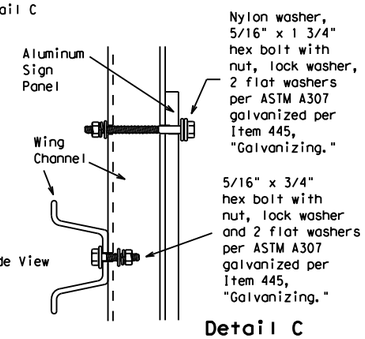


SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)



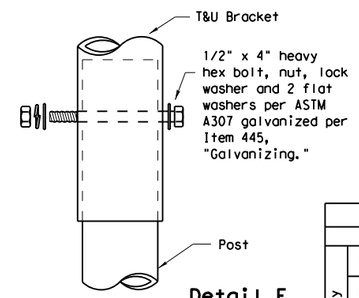
Detail F

Splices shall only be allowed behind the sign substrate.

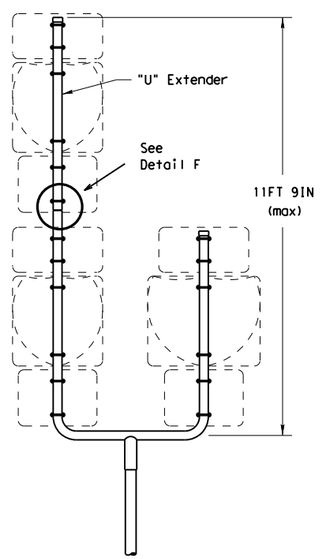


SIDE VIEW

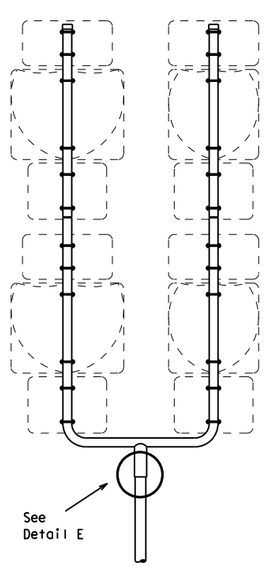
Detail C



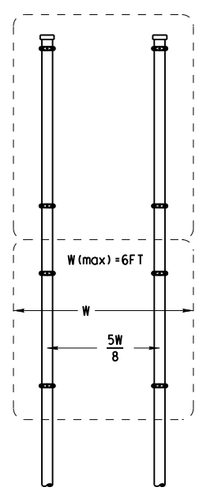
Detail E



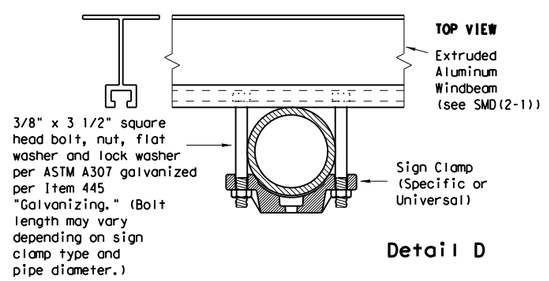
SM RD SGN ASSM TY S80(1)XX(U-1EXT)



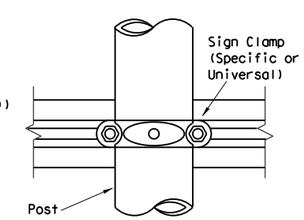
SM RD SGN ASSM TY S80(1)XX(U-2EXT)



SM RD SGN ASSYM TY XXXXX(2)XX(P)



Detail D



GENERAL NOTES:

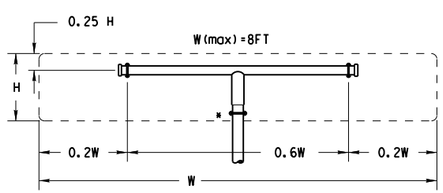
1.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.

REQUIRED SUPPORT

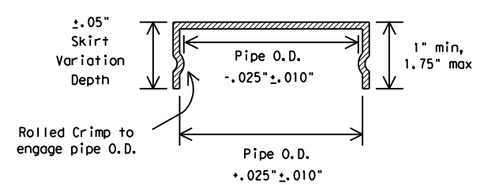
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
Regulatory	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
Warning	48x60-inch signs	TY S80(1)XX(T)
Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
Warning	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
Warning	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)



All dimensions are in english unless detailed otherwise.

SM RD SGN ASSM TY XXXXX(1)XX(T)
(* - See Note 12)

FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

©TxDOT July 2002

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

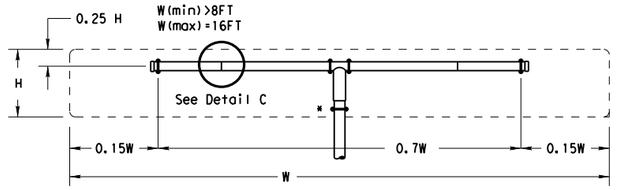
REVISIONS 9-08

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255

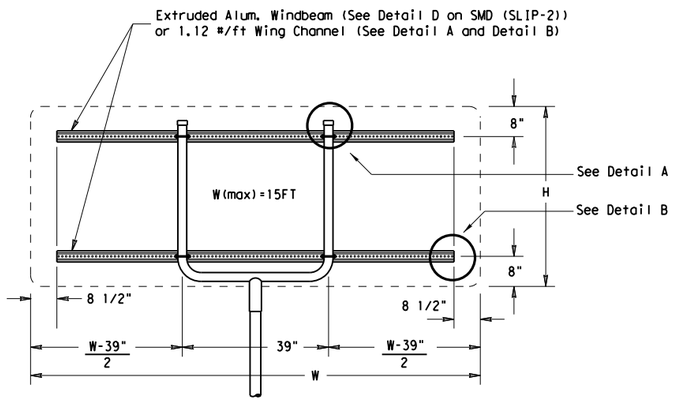
DIST	COUNTY	SHEET NO.
22	WEBB	240

DATE: 4/9/2024 9:59:09 PM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010229\smds2.dgn

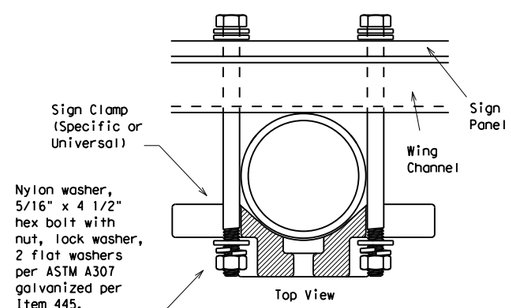
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



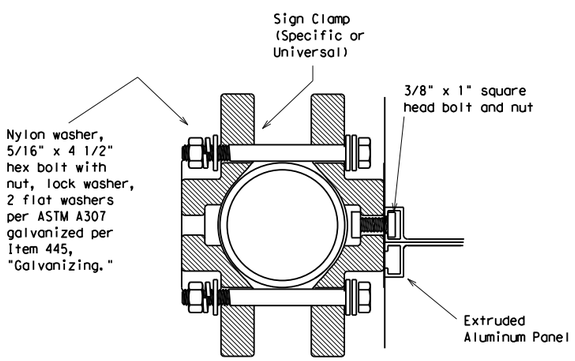
SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)



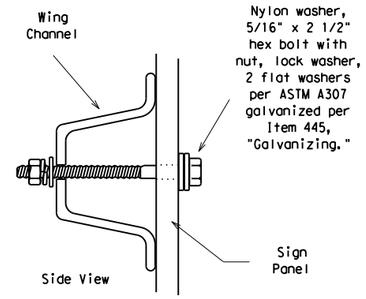
SM RD SGN ASSM TY XXXXX(1)XX(U-XX)



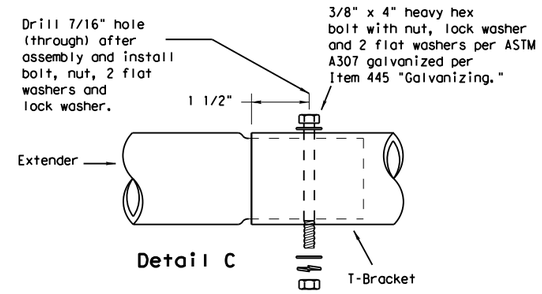
Detail A



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET

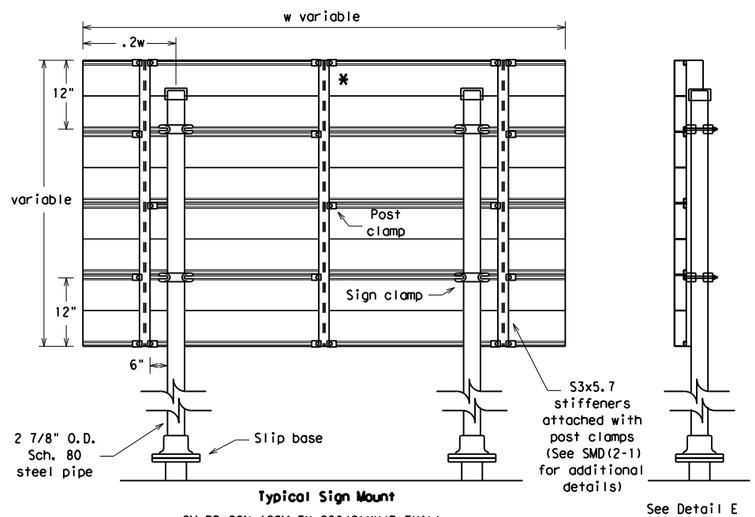


Detail B



Detail C

Splices shall only be allowed behind the sign substrate.

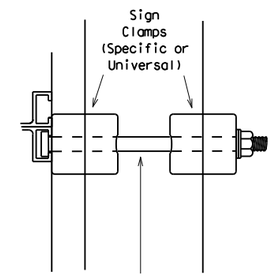


Typical Sign Mount

SM RD SGN ASSM TY S80(2)XX(P-EXAL)

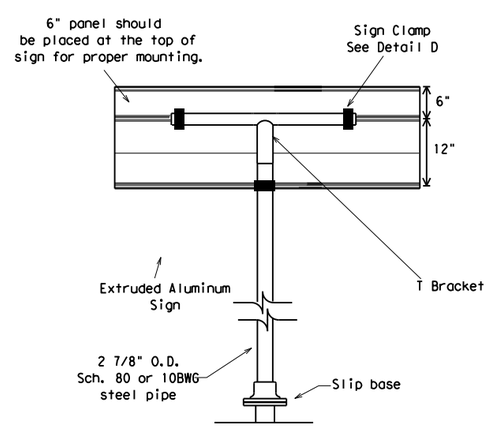
* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

See Detail E
for clamp installation

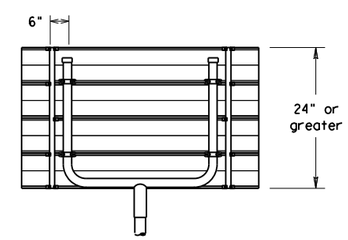


3/8" x 4 1/2"
square head
bolt, nut,
flat washer
and lock washer per
ASTM A307 galvanized
per Item 445,
"Galvanizing."

Detail E



Extruded Aluminum Sign
With T Bracket



Use Extruded Alum. Windbeam as stiffeners
See SMD (2-1) for additional details

See Detail E
for clamp installation

GENERAL NOTES:

1.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Sign blanks shall be the sizes and shapes shown on the plans.
11. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.

REQUIRED SUPPORT

	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
Regulatory	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
Regulatory	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
Warning	48x60-inch signs	TY S80(1)XX(T)
Warning	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
Warning	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
Warning	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

© TxDOT July 2002

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
9-08

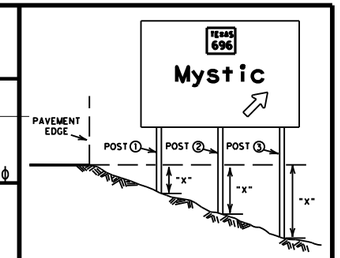
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255

DIST	COUNTY	SHEET NO.
22	WEBB	241

DATE: 4/9/2024 9:59:25 PM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010229\smds3.dgn

SUMMARY OF LARGE SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN BACK-GROUND COLOR	SIGN TEXT	SIGN DIMENSIONS	PLAQUES, & OTHER ATTACHMENTS: DIRECT APPLY	PLAQUES, & OTHER ATTACHMENTS: ✳ ALUMINUM (TYPE A)	BACKGROUND SUBSTRATE (SQ FT): GROUND MOUNT (TYPE G)	BACKGROUND SUBSTRATE (SQ FT): OVERHEAD (TYPE O)	TYPE OF MOUNT	"X" DIMENSION ◒: post 1	"X" DIMENSION ◒: post 2	"X" DIMENSION ◒: post 3	GALVANIZED STRUCTURAL STEEL: SIZE	GALVANIZED STRUCTURAL STEEL: LINEAR FEET post 1	GALVANIZED STRUCTURAL STEEL: LINEAR FEET post 2	GALVANIZED STRUCTURAL STEEL: LINEAR FEET post 3	GALVANIZED STRUCTURAL STEEL: TOTAL WEIGHT LBS.	DRILLED SHAFT: LINEAR FEET NON-REINF 12"ϕ	DRILLED SHAFT: LINEAR FEET REINFORCED 24"ϕ	DRILLED SHAFT: LINEAR FEET REINFORCED 30"ϕ	DRILLED SHAFT: LINEAR FEET REINFORCED 36"ϕ
9	11	GREEN	83 Laredo Carrizo Spring EXIT 1 MILE STA. 952+21.93 (ALGN E3)	20'0"x 12'6"	7.9		250		W6X15	0.89	1.385	1.55	330	20.39	20.885	21.05	988.275		10.5		
10	4	GREEN	83 Laredo Carrizo Spring EXIT 1/4 MILE STA. 994+87.50 (ALGN D1)	20'0"x 12'6"	7.9		250		W6X15	1.26	2.19	3.03	330	20.76	21.69	22.53	1028.1		10.5		
11	5	GREEN	83 Laredo Carrizo Spring ↗ STA. 1005+06.76 (ALGN D1)	19'0"x 13'0"	7.9		247		W6X15	1.235	2.285	3.51	330	21.235	22.285	23.51	1058.85		10.5		
13	5	GREEN	83 Laredo Carrizo Spring ↗ STA. 1054+46.31 (ALGN D1)	19'0"x 13'0"	7.9		247		W6X15	0.98	1.985	2.31	330	20.98	21.985	22.31	1032.525		10.5		
13	8	GREEN	83 Laredo Carrizo Spring EXIT 1/4 MILE STA. 1067+40.65 (ALGN D1)	20'0"x 12'6"	7.9		250		W6X15	1.08	1.695	1.885	330	20.58	21.195	21.385	1000.8		10.5		
15	1	GREEN	83 Laredo Carrizo Spring EXIT 1 MILE STA. 1107+30.85 (ALGN D1)	20'0"x 12'6"	7.9		250		W6X15	0.8	1.375	2.43	330	20.3	20.875	21.93	999.975		10.5		
15	3	YELLOW	OVERHEAD STRUCTURE 12 MILES AHEAD LOAD OVER 18FT. HIGH NEED UPDATE DETOUR BY WAY OF LAREDO STA. 1095+11.65 (ALGN D1)	5'6" x 3'			16.5		S3x5.7	0.995	1.675		320	10.995	11.675		187.019	7			
18	5	GREEN	35 San Antonio Laredo 1/2 MILE STA. 1176+10.59 (ALGN D1)	16'6"x 11'6"	3.19		189.75		W8X18	0.11	0.65		320	18.61	19.15		723.28		7		
17	1	GREEN	35 San Antonio Laredo 1 MILE STA. 1151+59.20 (ALGN D1)	16'6"x 11'6"	3.19		189.75		W8X18	1.225	2.555		320	19.725	21.055		777.64		7		
				PAGE TOTALS		n/a	1890	n/a						PAGE TOTALS			7796.5	7	77		



◒ The "X" dimension is the elevation difference at the post between the ground and the edge of pavement or top of curb.

Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.

The post lengths listed here are approximations, The corrected post lengths will be furnished by the Contractor after the stud posts are placed.

Tower heights shall be verified with the Engineer before fabrication.

✳ This column is for aluminum Type A and not direct apply. Direct apply is subsidiary to the sign.

SIGN TYPE

SIGN TYPE 1 3 0

- Wind Design Zone
- Series No.
  - 0 Aluminum/Fiberglass
  - 1 Aluminum
  - 2 Fiberglass
- No. of Posts

See sheet SMD(BW1)

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/10/2024 6:18:49 AM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010229\sum108.dgn

SUMMARY OF LARGE SIGNS

SOLS

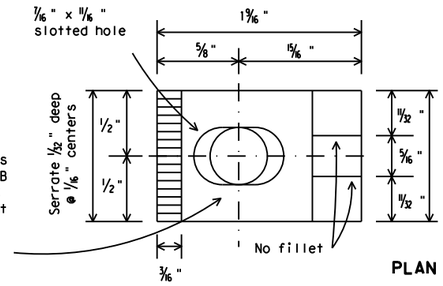
© TxDOT May 1987

		REVISIONS
DN.: TxDOT	11-93	1-04
CK.: TxDOT	8-95	9-08
DW.: TxDOT	5-01	
CK.: TxDOT		

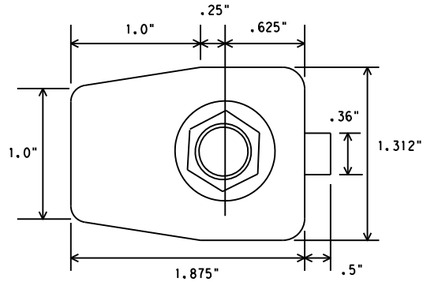
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	242

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

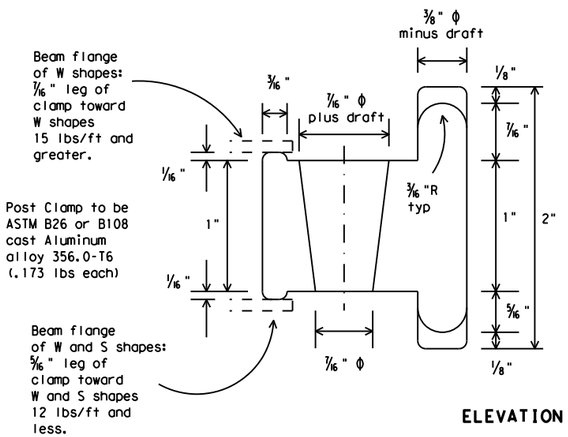
NOTE: centerline of hole for 3/8" diameter squarehead bolt x 2 1/4" long with a flat washer and self-locking nut, or lock washer and hex. nut. Bolt head dimensions shall be in accordance with ANSI B 18.2.1 as referred to in the AISC Manual of steel construction. Bolt assembly shall be galvanized.



PLAN

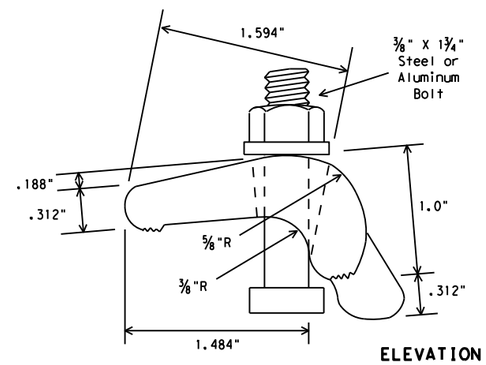


PLAN



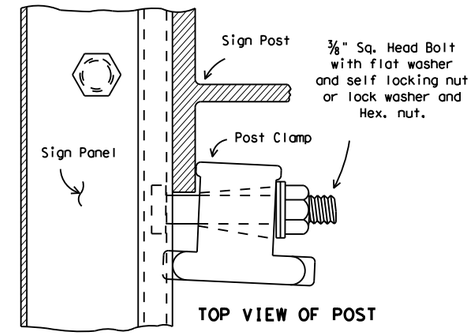
ELEVATION

POST CLAMP DETAIL

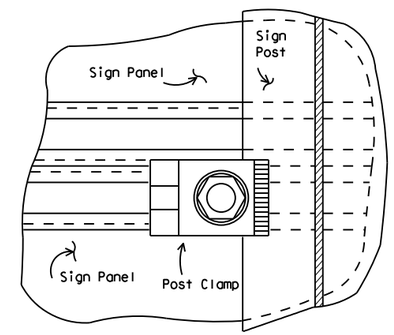


ELEVATION

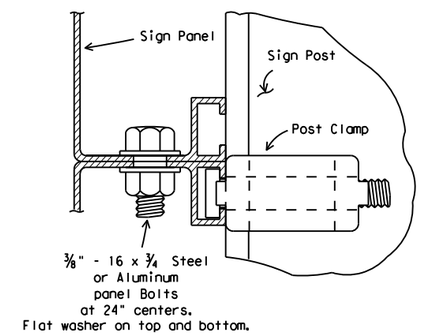
ALTERNATE POST CLAMP DETAIL



TOP VIEW OF POST



TOP VIEW OF CLAMP



SIDE VIEW OF PANELS

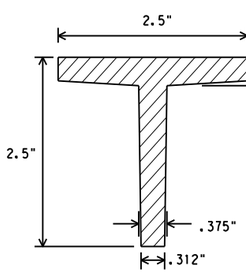
CONNECTION DETAILS

DEPARTMENTAL MATERIAL SPECIFICATIONS

SIGN HARDWARE DMS-7120

GENERAL NOTES:

1. Design conforms with AASHTO Specifications for the design and construction of structural supports for highway signs.
2. Materials and fabrication shall conform to the requirements of the Department material specifications.
3. Structural steel shall be "low-alloy steel" for non-bridge structures per Item 442, "Metal For Structures."
4. For fiberglass substrate connection details, see manufacturer's recommendations.

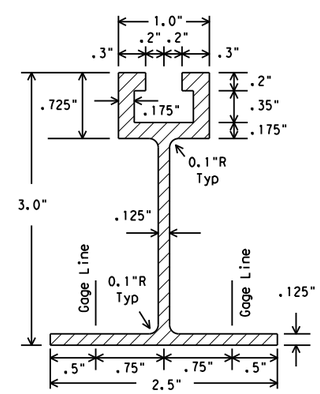


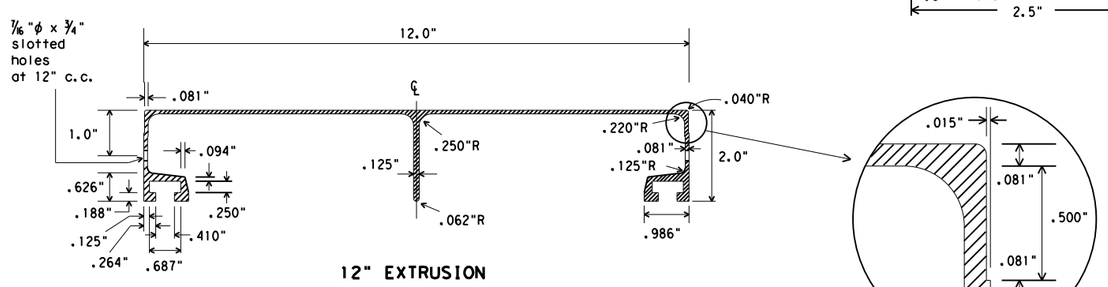
1.912 lbs/ft

ALUMINUM T SECTION OR APPROVED ALTERNATIVE

WINDBEAM CROSS SECTION

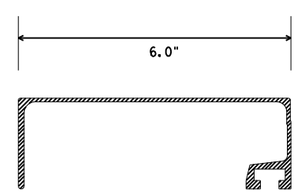
Windbeam to be extruded aluminum (1.175 lbs/ft) or approved alternative



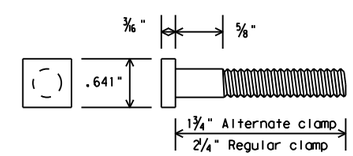


12" EXTRUSION

ALUMINUM SIGN PANEL EXTRUSION DETAILS



6" EXTRUSION



POST CLAMP BOLT DETAIL

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS- EXTRUDED ALUMINUM SIGN PANELS & HARDWARE

SMD(2-1)-08

© TxDOT 2001

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

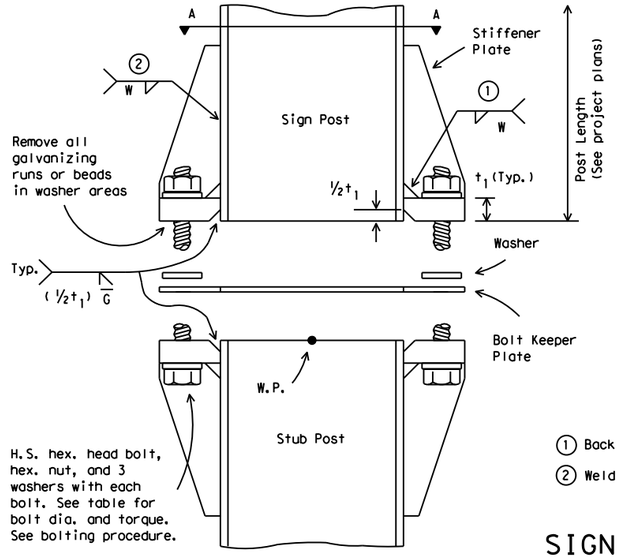
9-08 REVISIONS

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	243

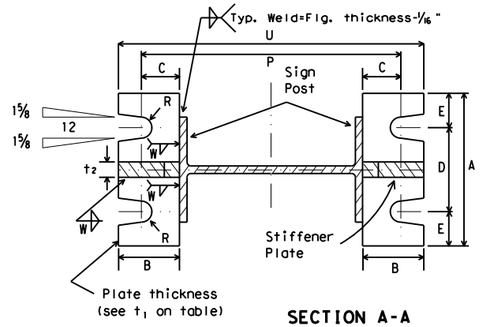
27A

DATE: 4/9/2024 9:59:56 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\smd21-08.dgn

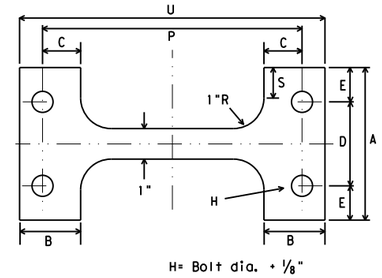
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



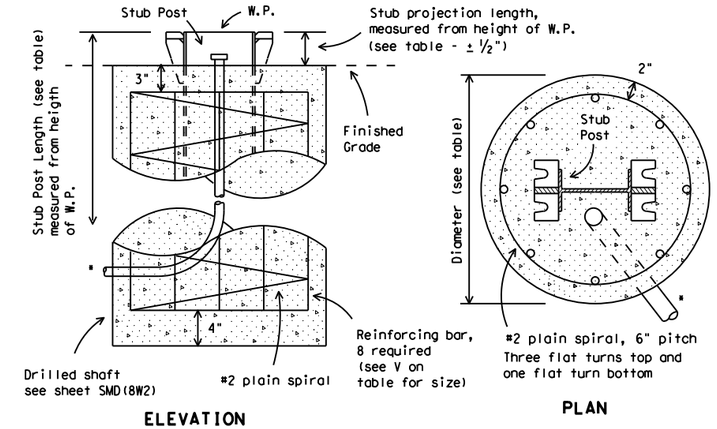
ELEVATION



SECTION A-A



BOLT KEEPER PLATE
30 Ga galv. sheet steel



ELEVATION

PLAN

FOUNDATION DETAIL

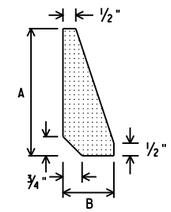
*Note: For signs with electrical apparatus, see ED(10) for conduit required in founation.

① Back up weld to be made before installing stiffener plate

② Weld W may be continued across clips to seal joint

SIGN POST AND STUB POST

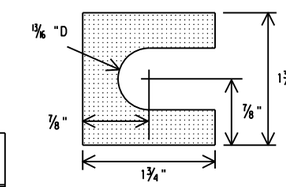
(For W Shapes)



STIFFENER PLATE DETAIL

Steel Plate (thickness = t_2)

(See table for dimensions)



SHIM DETAIL

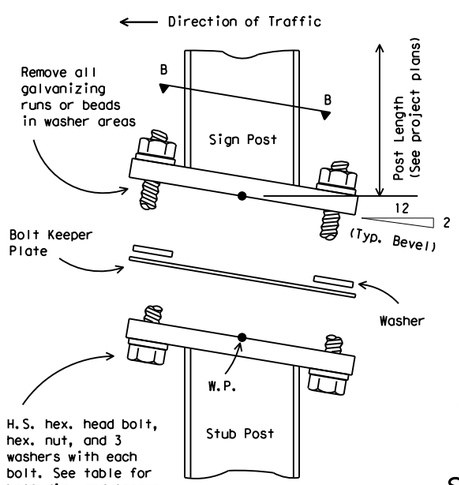
Furnish two .012"+ thick and two .032"+ thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to ASTM B36.

BOLTING PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

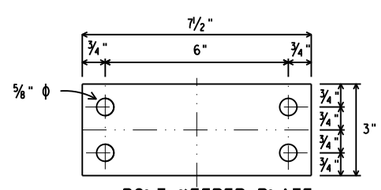
1. Assemble sign post, BOLT KEEPER PLATE and stub post with bolts and three flat washers per bolt as shown.
2. Shim as required to plumb post.
3. Tighten all bolts the maximum possible with a 12 to 15 inch wrench to clean bolt threads and to bed washers and shims.
4. Loosen each bolt in sequence and retighten bolts in a systematic order to the prescribed torque. Do not overtighten.
5. To prevent nut loosening, burr threads of bolt at junction with nut using a center punch.

Dimensions / Post Size	Base Connection Data Table: Bolt Size & Torque	A	B	C	D	E	t_1	t_2	W	R	Perforated Fuse Plate Data Table: F	G	J	K	M	d_1	d_2	t_3	Bolt Dia.	Wt. (ea.) (lbs.)	Bolt length	Bolt Keeper Data: P	S	U	Foundation Data: Stub length	Stub projection	Dr. Shaft diameter	Bar V Size
W6x9	⅝"ϕ x 2¾" 440-450 inch pounds 36-38 foot pounds	5"	2"	1¼"	2¾"	1⅛"	¾"	½"	¼"	11/32"	4¼"	2"	4"	2¼"	1"	9/16"	¾"	¼"	½"	1.01	1½"	8⅜"	1"	9⅞"	2'-0"	3"	24"	#5
W6x12																						8½"		10"	2'-0"	3"		#5
W6x15											5"	2½"	6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"	2.51	2¼"	8½"		10"	2'-6"	3"		#6
W8x18											5"	2½"	5¼"	2¾"	1¼"	11/16"	1 1/16"	⅜"	⅝"	2.26	2¼"	10⅝"		12⅛"	2'-6"	3"		#7
W8x21	¾"ϕ x 3½" 740-750 inch pounds 62-63 foot pounds	6"	2¼"	1⅜"	3½"	1¼"	1"	¾"	5/16"	13/32"	5½"	2½"	5¼"	2¾"	1¼"	13/16"	1"	½"	¾"	3.35	2¼"	11"	1½"	12¾"	3'-0"	2½"		#8
W10x22											6"	3"	5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾"	4.03	2¼"	12⅞"		14⅝"	3'-0"	2½"		#9
W10x26																						13⅛"		14⅞"	3'-0"	2½"		#10
W12x26											6"	3"	6½"	3½"	1⅝"	13/16"	1 5/16"	½"	¾"	4.47	2¼"	15"		16¾"	3'-0"	2½"		#11
S3x5.7	½"ϕ x 2½" 440-450 inch pounds 36-38 foot pounds	See Detail Below									3¾"	1½"	2⅝"	1½"	⅝"	9/16"	⅜"	¼"	½"	0.60	1½"	See Detail Below			3'-3½"	3½"	12"	Non-reinforced ③
S4x7.7																												

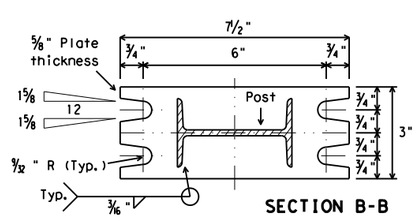
③ Foundation design shall be Type G Mount, see SMD (TY G).



ELEVATION



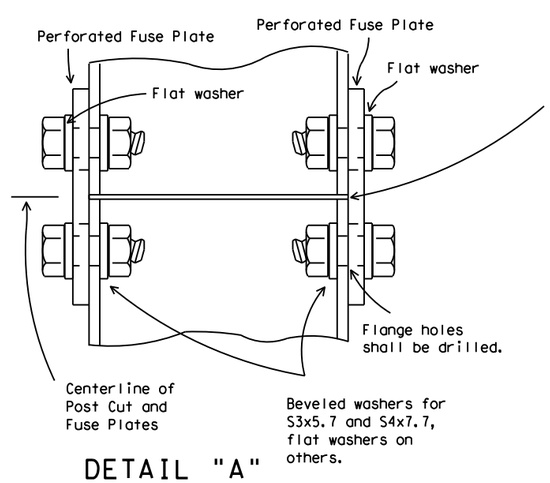
BOLT KEEPER PLATE
30 Ga galv. sheet steel



SECTION B-B

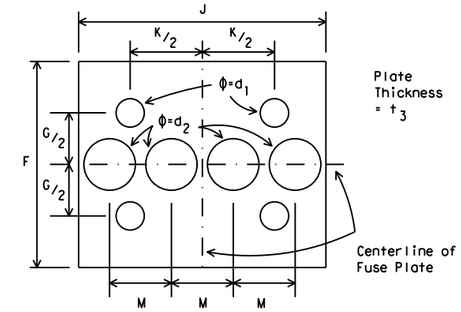
SIGN POST AND STUB POST

(For S4x7.7 and S3x5.7)



DETAIL "A"

Parts shall be saw cut either before galvanizing and the galvanized cut cleaned of zinc build-up, or saw cut after galvanizing and the cut surface repaired per Item 445, "Galvanizing."



PERFORATED FUSE PLATE DETAIL

Use H.S. hex head bolts, hex head nut and bevel or flat washer (where req'd) under nut. All holes shall be drilled, sub-punched and reamed. All plate cuts shall preferably be saw cuts. However, flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be permitted. Steel fuse plates shall conform to the requirements of ASTM A36. ASTM A572 Grade 50 or ASTM A588 may be substituted for A36 at the option of the fabricator. Mill test reports shall be submitted for Fuse Plates. Steel used shall have an ultimate tensile strength not to exceed 80 KSI. For alternative Fuse Plate contact Traffic Operations Division.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS- LARGE ROADSIDE SIGNS FOUNDATION & STUB

SMD(2-2)-08

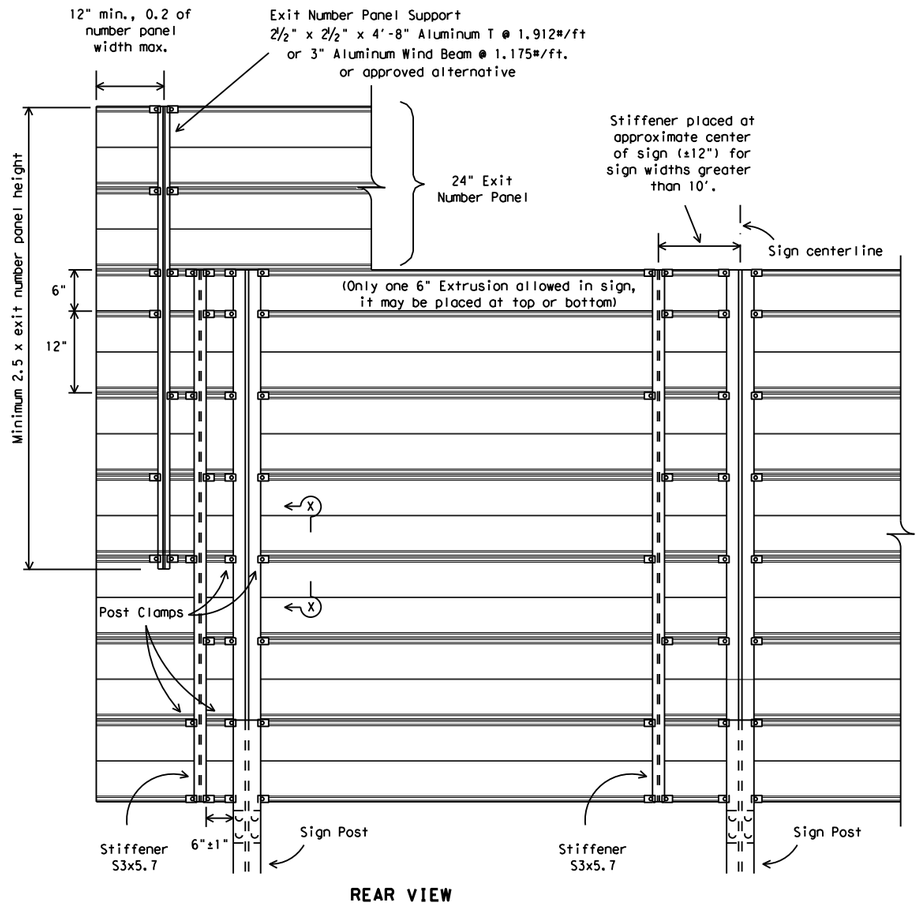
© TxDOT August 1995

REVISIONS
4-98
9-08

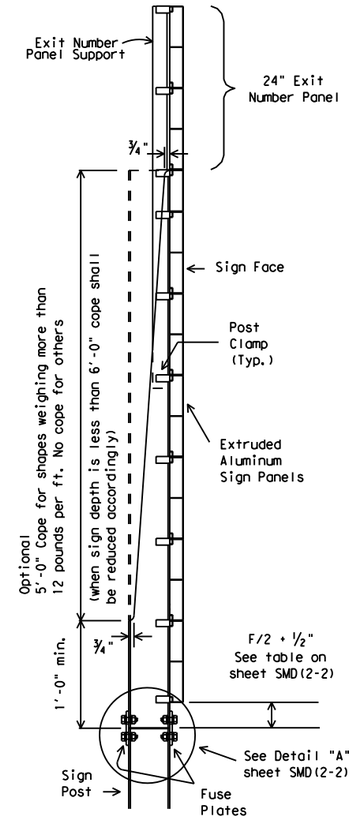
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	244

DATE: 4/9/2024 10:00:10 PM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010229\smd22-08.dgn

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

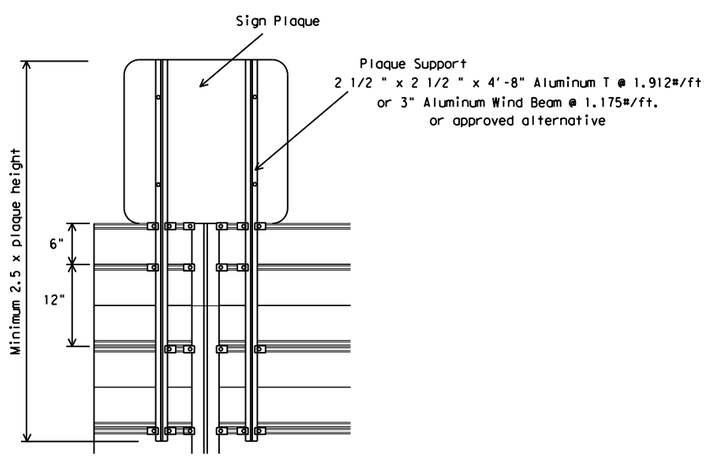


REAR VIEW

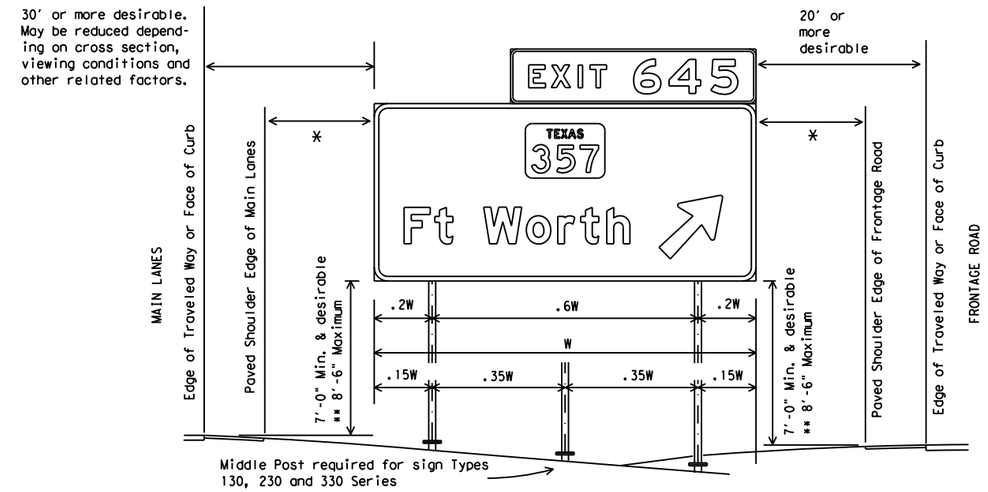


SIDE VIEW

ALUMINUM PARENT SIGN & EXIT NUMBER PANEL MOUNTING DETAILS



SIGN PLAQUE MOUNTING DETAIL TO ALUMINUM PARENT SIGN



TYPICAL SIGN INSTALLATION AND LOCATION

LATERAL CLEARANCE NOTES:

Lateral clearances of signs mounted on median side of main lanes are the same as shown above where space will permit.

Where a sign is to be located behind guardrail, an allowable minimum clearance of five feet may be used, measured from the face of the guardrail to the near edge of sign.

* - 6' minimum and desirable may be used only in areas of limited lateral clearance and when approved by the Engineer.

POST SPACING NOTES:

Post spacing on a two post sign may vary a maximum of plus or minus 10% of total sign width to fit field conditions.

Post spacing on a three post sign may vary a maximum of plus or minus 5% of total sign width to fit field conditions.

SIGN HEIGHT NOTES:

** The 8' 6" maximum may be exceeded when placing signs on extreme slopes. In these conditions, a 7' minimum from natural ground to bottom of sign must be maintained.

DEPARTMENTAL MATERIAL SPECIFICATIONS

ALUMINUM SIGN BLANKS	DMS-7110
SIGN HARDWARE	DMS-7120

GENERAL NOTES:

1. Exit number panel shall be mounted to the right hand side of the parent sign for right exits and to the left hand side for left exits. The number panel shall be mounted with two uprights so its right edge is even with the right edge of the parent sign or vice-versa for left hand exits.
2. Exit number panel support shall be symmetrical about number panel centerline.
3. Exit number panel support shall be ASTM A36 structural steel galvanized after fabrication, or ASTM B221 aluminum alloy 6061-T6 or approved alternative.
4. All bolts, nuts and washers shall be galvanized per ASTM Designation: B695 Class 50, or A153 Class C or D.
5. Posts, parent sign panels, and exit number panels shall comply with notes on sheets SMD(2-1) and SMD(2-2).
6. Signs (such as exit number panels) attached above a parent sign shall be made of the same type material as the parent sign. General Service and Routing signs may be fabricated from flat sheet aluminum.
7. Exit number panel support and other connection hardware required to fasten exit number panel to parent sign shall be subsidiary to "Aluminum Signs" or "Fiberglass Signs."
8. For fiberglass sign installation details, see manufacturer's recommendations.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS-LARGE ROADSIDE SIGNS

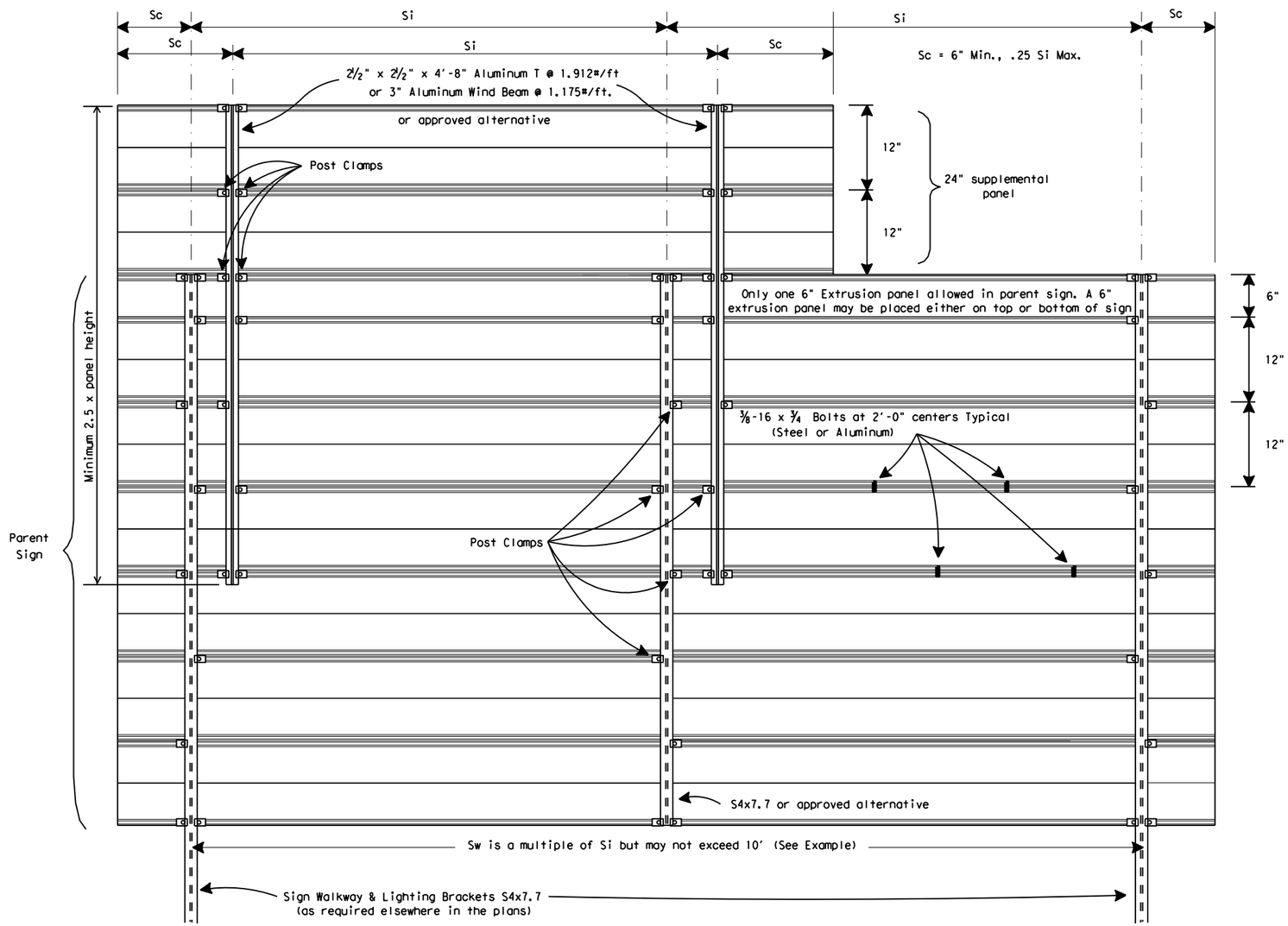
SMD(2-3)-08

© TxDOT August 1995

REVISIONS	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-08	CONT	SECT	JOB	HIGHWAY
	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	245

DATE: 4/9/2024 10:00:26 PM
FILE: c:\txdot\pw*online\txdot5\misael.aguilar\d1010229\smd23-08.dgn

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

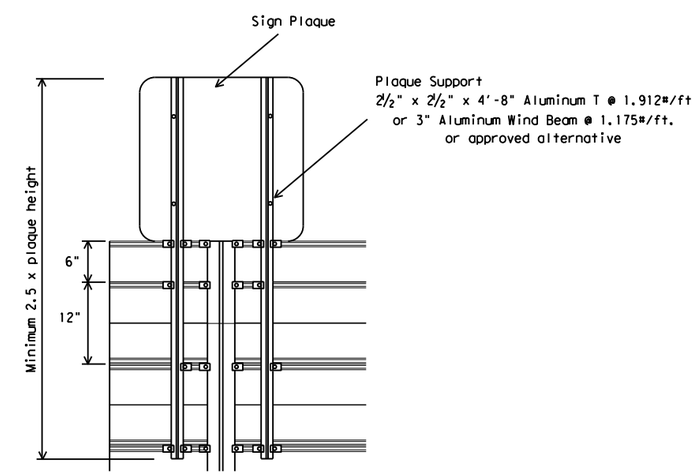


REAR VIEW

EXAMPLES (FOR DETERMINING Si and Sw)

NO.	ZONE	"d"	EXIT PANEL	WALKWAY	Si	Sw	COMMENT
1	1	15.0	YES	YES	4.5	9.0	Sw=2x(Si)
2	2	14.0	YES	NO	7.5	7.5	Sw = Si
3	1	15.0	NO	NO	8.5	8.5	Sw = Si
4	3	14.0	NO	YES	10.0	10.0	Sw = Si

Values shown for Si are maximum values. Si may be varied for different sign lengths and Truss mounting conditions. Sw should not exceed two times Si(Max.) or 10 feet.



SIGN PLAQUE MOUNTING DETAIL

MAXIMUM SIGN SUPPORT SPACING "Si" (FEET)

"d" Deepest Sign in Group (Ft.)	EXTRUDED ALUMINUM SIGN PANELS															
	WITH EXIT NUMBER PANELS								WITHOUT EXIT NUMBER PANELS							
	WITH WALKWAYS				WITHOUT WALKWAYS				WITH WALKWAYS				WITHOUT WALKWAYS			
	WIND ZONE				WIND ZONE				WIND ZONE				WIND ZONE			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
15	4.5	7	8	10	5	7	8	10	7	8	9	10	8.5	10	10	10
14	6	7.5	9.5	10	6	7.5	9.5	10	8	9	10	10	10	10	10	10
13	7.5	9	10	10	7.5	9	10	10	9	10	10	10	10	10	10	10
12	8.5	10	10	10	8.5	10	10	10	10	10	10	10	10	10	10	10
11 or less	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

For fiberglass sign installations, see manufacturer's recommendations.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS- OVERHEAD SIGNS EXTRUDED ALUMINUM

SMD(2-4)-08

©TxDOT December 1995

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

9-08 REVISIONS

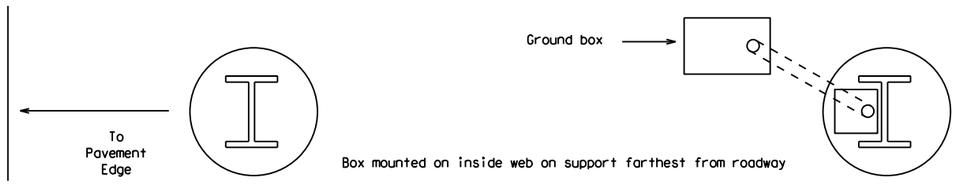
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255

DIST	COUNTY	SHEET NO.
22	WEBB	246

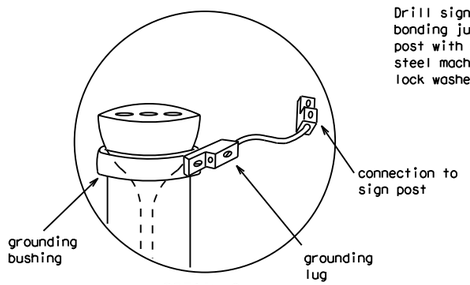
27D

DATE: 4/9/2024 10:00:41 PM
FILE: c:\txdot\pw onlinel\txdot5\misael.aguilar\d1010229\smd24-08.dgn

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

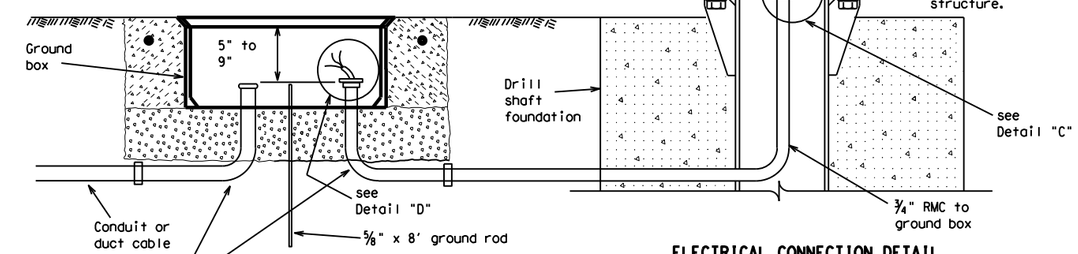


PLAN VIEW



DETAIL C

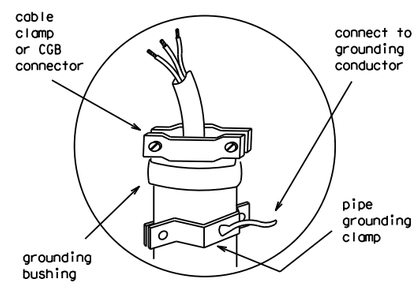
2 Pull connector down tight against conduit then clamp in ground box. See Detail "D"



ELECTRICAL CONNECTION DETAIL

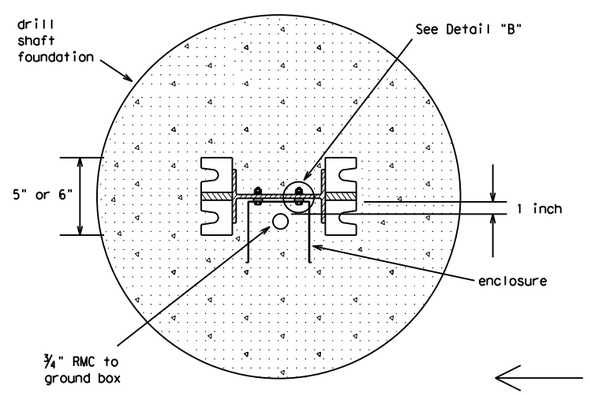
Enclosure cover not shown for clarity

Detail shows channel greater than 4 inches. Less than 4 inches similar, see Detail A.



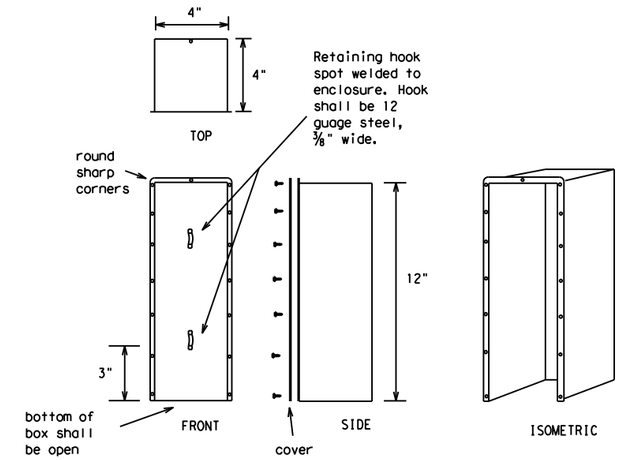
DETAIL D

Pull cable so opposite end connector is tight against conduit end, clamp cable at top of conduit as shown.



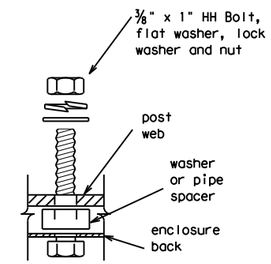
SECTION A-A

Stub-post connection conduit, bolts and enclosure (cover not shown)



ENCLOSURE

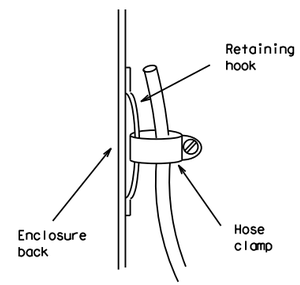
make from 12 gauge galvanized sheet metal



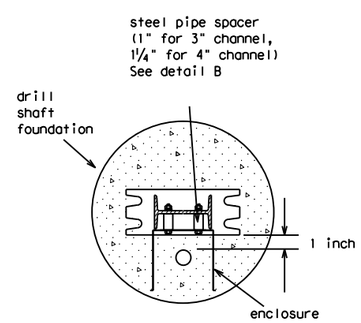
DETAIL B

enclosure connection (4 places)

(use 2 inch bolt for 3 and 4 inch channels)



DETAIL E



DETAIL A

Stub-post connection conduit, bolts and enclosure for 3 and 4 inch channel (cover not shown)

direction of traffic

NOTES:

1. Breakaway connector shall be rated for 300 VAC, 30 amps and shall be waterproof. Connector shall be a three pole (two line conductors and neutral) polarized elastomer connector made from thermosetting synthetic polymer which remains fexible over the temperature range of -40 degrees C to 90 degrees C. The pins on the connector shall be overmolded 1 ¼" from the face of the connector toward the tips of the pins with the same material used in the construction of the connector body. This overmolding of the pins shall provide a non-conductive double taper which prevents the intrusion of water into the connection when the connectors are fully engaged. The pin receptors shall have current carrying barrels recessed 1 ½" from the face of the connector and surrounded by beryllium copper spring sleeves. The plug/receptacle combination shall be listed by an approved testing facility (UL or Factory Mutual) as suitable for outdoor use and shall have passed a rain test and a watertight (immersion) test as approved by the Engineer.
2. The female connector shall be integrally molded to a 13' length of type SO cord containing three number 10 or number 8 AWG conductors. The male connector shall be integrally molded to a 20" length of Type SO cord containing three number 10 or number 8 AWG conductors. Cord conductors shall have colored insulation, two black and one white, or shall be taped or painted to be two black and one white. Tape or paint marking shall cover entire exposed length. The contractor shall make a brochure submittal on cord connectors. Breakaway connector and cord shall not be paid for separately, but shall be subsidiary to the various items.
3. The contractor shall install in-line waterproof fuseholders for each line conductor in the ground box. Fuses shall be fast-acting 5 amp (Bussman KTK5, Gould ATM5, Littlefuse KLK5 or equal).
4. 1 Conduit shall convert to ¾" liquidtight flexible metalic conduit below the fuse plate or knee joint and shall revert to ¾" RMC above the fuse plate or knee joint. The length of liquidtight flexible metal conduit shall not exceed 6".
5. Ground rod clamp shall be Blackburn GG 5/8H, Weaver W5.8 or equal.
6. Ground rod to be driven to a depth to leave between 2 to 4 inches of rod above the gravel placed under the ground box. See ED(2) standard sheet for ground box details.

11-01 Revision

1 Liquidtight conduit size corrected.
2 Editing of minor notes.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS-LARGE ROADSIDE SIGNS ELECTRICAL CONNECTION

SMD(2-6)-01

©TxDOT April 1998

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS 11-98 11-01

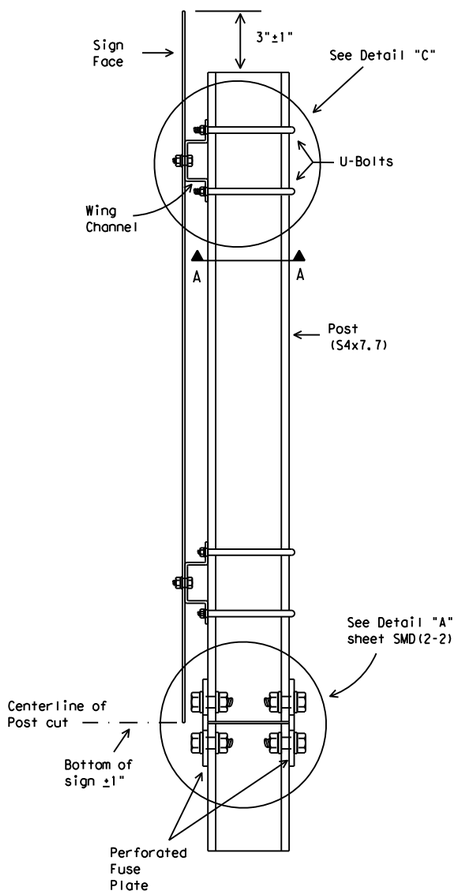
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255

DIST	COUNTY	SHEET NO.
22	WEBB	247

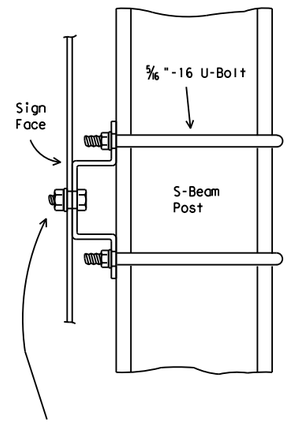
27F

DATE: 4/9/2024 10:00:56 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\smd26-01.dgn

WING CHANNEL CLAMP DETAIL FOR TYPE G MOUNT

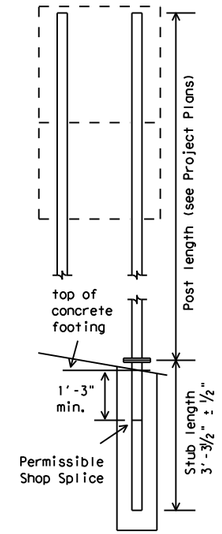


SIDE VIEW

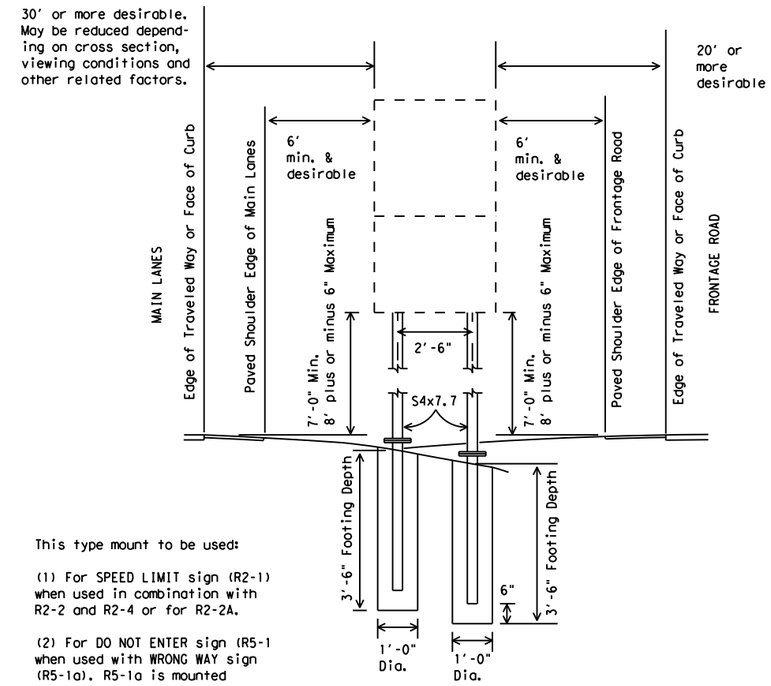


Galvanized steel or aluminum self-locking hex. head nut. 3/8 " - 16 x 3/4 " hex. head bolt for sheet metal. 3/8 " - 16 x 1 1/4 " hex. head bolt for plywood. 3/8 " galvanized medium washer.

DETAIL "C"



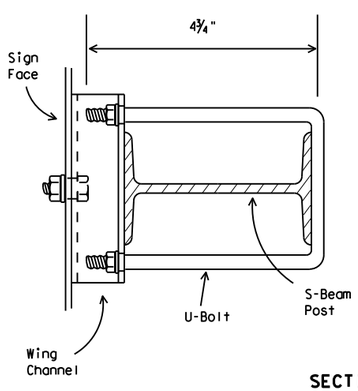
The weight of one S4x7.7 post is equal to 112.2 lbs. plus 7.7 lbs./ft x (post length in feet minus 10 ft). The weight of 112.2 lbs. includes 10 feet of post length, post foundation stub, related connection plates, friction fuse plate, and all high strength bolts, nuts and washers.



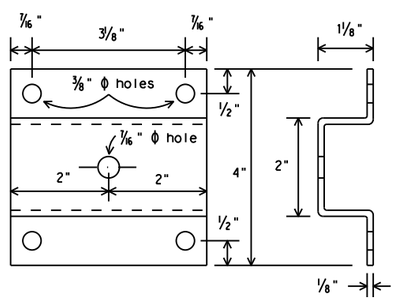
This type mount to be used:

(1) For SPEED LIMIT sign (R2-1) when used in combination with R2-2 and R2-4 or for R2-2A.

(2) For DO NOT ENTER sign (R5-1 when used with WRONG WAY sign (R5-1a). R5-1a is mounted above R5-1.



SECTION A-A



WING CHANNEL

Wing channel, 4" width x 1 1/8" depth x 1/8" thickness, shall be aluminum (ASTM B221 6061-T6 or B308 6061-T6), galvanized steel (ASTM A36) or stainless steel (ASTM A167 type 304, No. 2B finish).

DEPARTMENTAL MATERIAL SPECIFICATIONS
SIGN HARDWARE DMS-7120

GENERAL NOTES:

1. Design conforms with AASHTO Specifications for the design and construction of structural supports for highway signs.
2. Materials and fabrication shall conform to the requirements of the Department material specifications.
3. Structural steel shall be "Low-Alloy Steel" for non-bridge structures per Item 442, "Metal For Structures."
4. Parts shall be saw cut either before galvanizing and the galvanized cut cleaned of zinc build-up, or saw cut after galvanizing and the cut surface repaired per Item 445, "Galvanizing." (Cut surface will not be treated until plate is installed and all bolts fully tightened.)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS, TYPE G SUPPORT

SMD(TY G)-08

© TxDOT August 1995

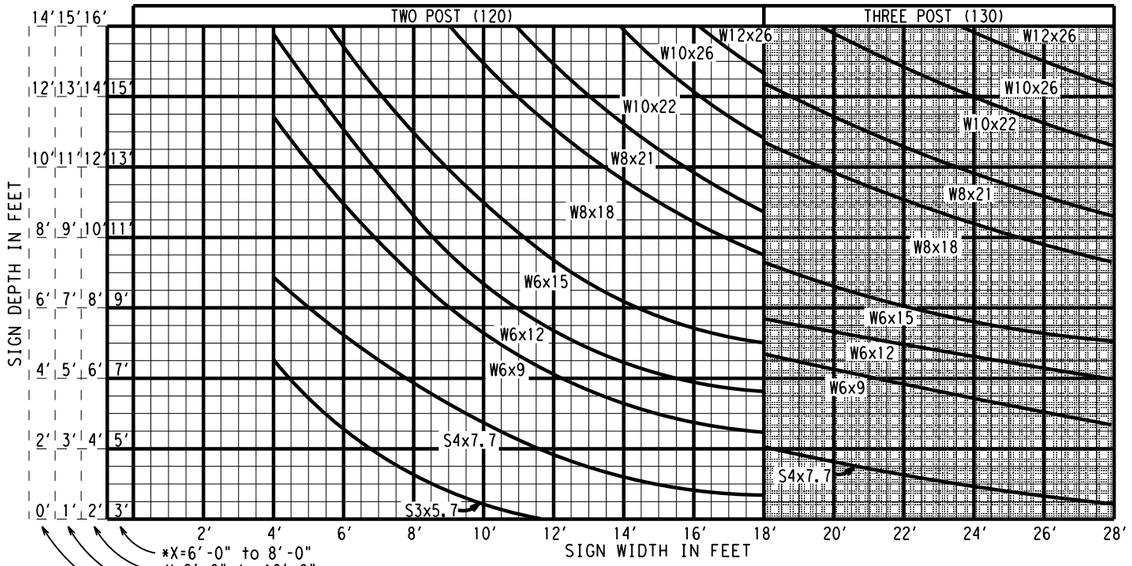
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
1-97
9-08

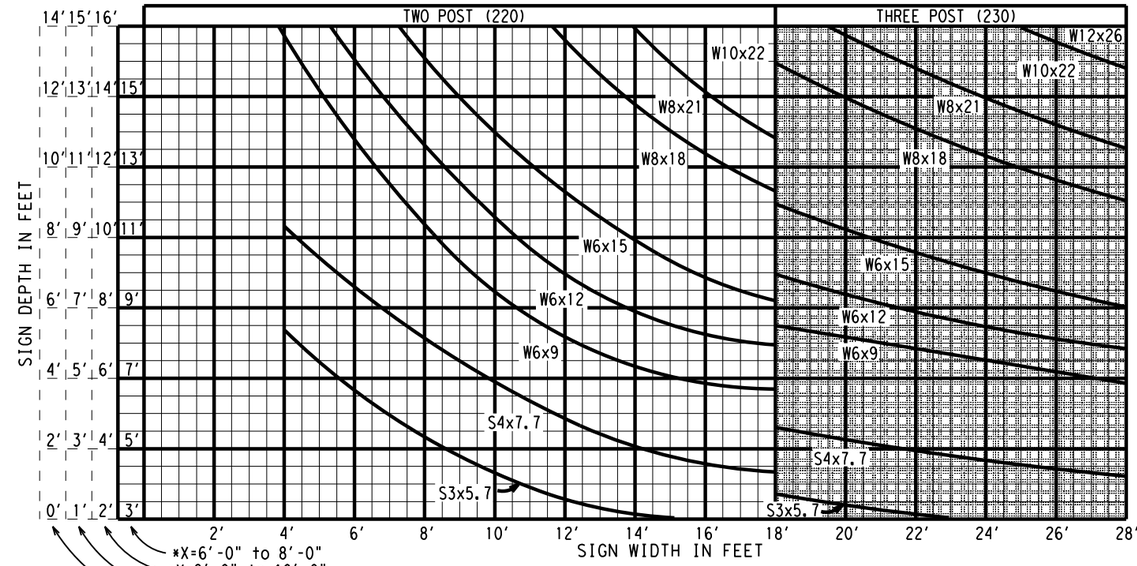
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	248

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

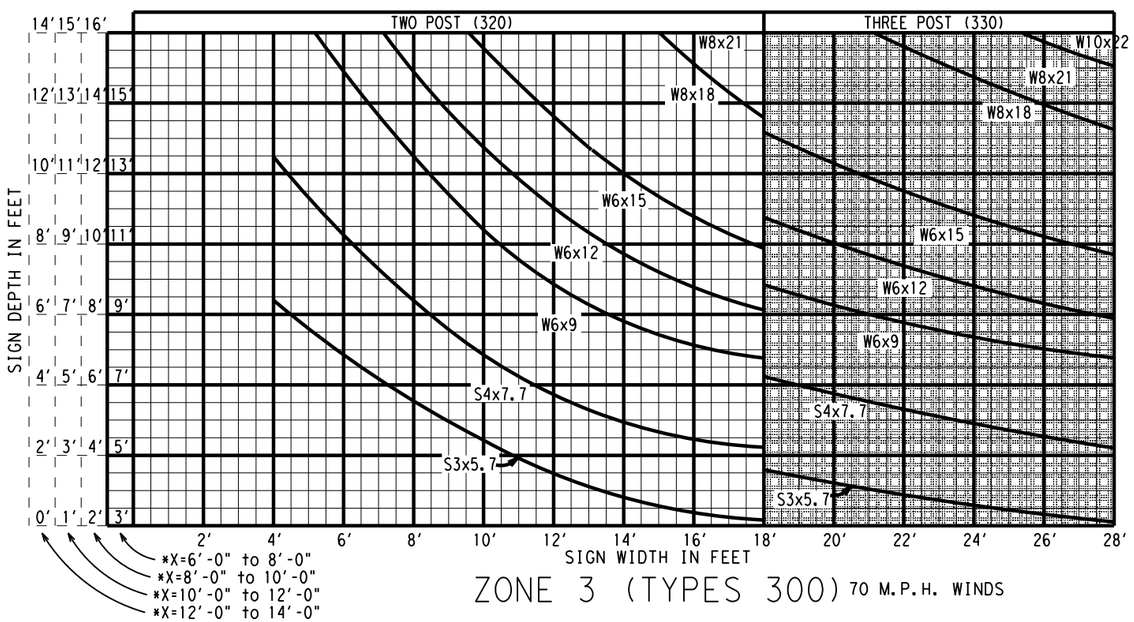
DATE: 4/9/2024 10:01:11 PM
FILE: c:\txdot\pw_online\txdot5\mlsael.aguilar\d1010229\smdtyg08.dgn



ZONE 1 (TYPES 100) 90 M.P.H. WINDS



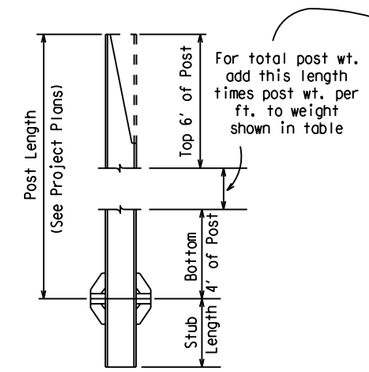
ZONE 2 (TYPES 200) 80 M.P.H. WINDS



ZONE 3 (TYPES 300) 70 M.P.H. WINDS

* NOTE: "X" EQUALS THE AVERAGE HEIGHT FROM THE GROUND LINE TO THE BOTTOM EDGE OF THE SIGN.

SHADED AREA DENOTES 3 POST SUPPORTS



POST WEIGHT DATA

POST SIZE	WEIGHT OF ONE POST (#)	WEIGHT OF TWO POSTS (#)	WEIGHT OF THREE POSTS (#)
W6x9*	123.2	246.4	369.6
W6x12*	160.3	320.6	480.9
W6x15*	167.8	335.6	503.4
W8x18*	201.8	403.6	605.4
W8x21*	254.7	509.4	764.1
W10x22*	266.0	532.0	798.0
W10x26*	308.0	616.0	924.0
W12x26*	308.6	617.2	925.8
S3x5.7*	85.9	171.8	257.7
S4x7.7*	112.2	224.4	336.6

*LAST FIGURES=POST WT. PER FT.

Weight Data is the weight of items shown for one, two or three posts - (includes top 6' of post, bottom 4' of post, post foundation stub, related base connection plates and stiffeners, friction fuse plate and all high strength bolts, nuts and washers).

SIGN TYPE

SIGN TYPE 1 3 0

- Wind Design Zone
- Series No.
  - 0 Aluminum/Fiberglass
  - 1 Aluminum
  - 2 Fiberglass
- No. of Posts

Note: Footings for S3x5.7 and S4x7.7 post sizes shall be non-reinforced with Class A concrete, while footing for all other post sizes shall be reinforced with Class C concrete.

Texas Department of Transportation
Traffic Operations Division

LARGE ROADSIDE SIGN SUPPORTS POST SELECTION WORKSHEET

SMD(8W1)-08

©TxDOT July 1978

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
1-82
5-01
9-08

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255

DIST	COUNTY	SHEET NO.
22	WEBB	249

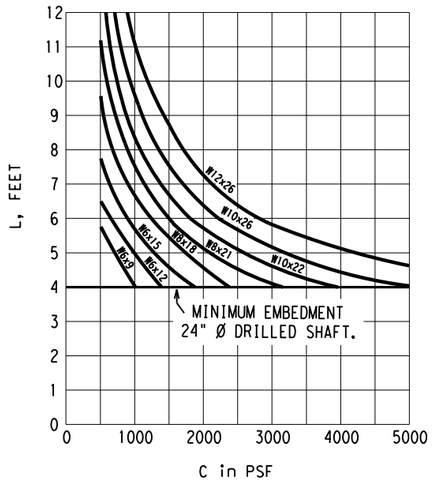
29A

DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:01:32 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\smd8-08.dgn

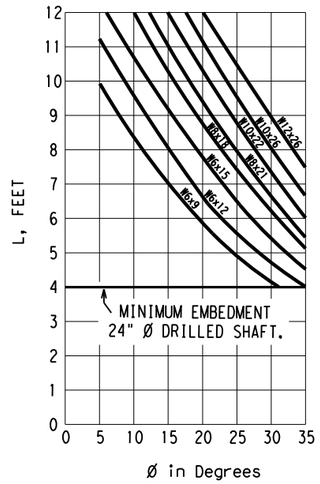
DISCLAIMER: The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

I



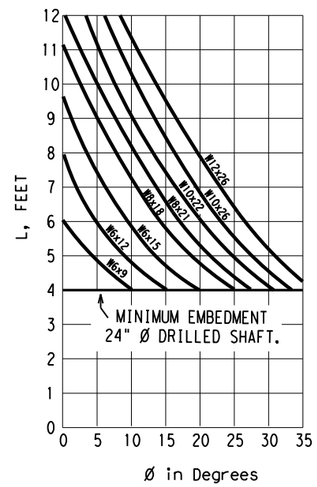
Ø = 0 Degrees

II



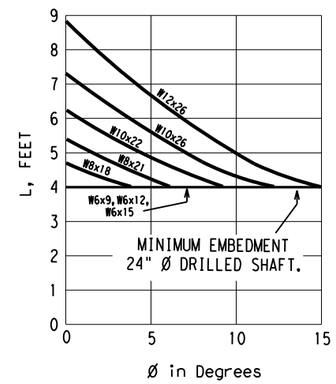
C = 0 PSF

III



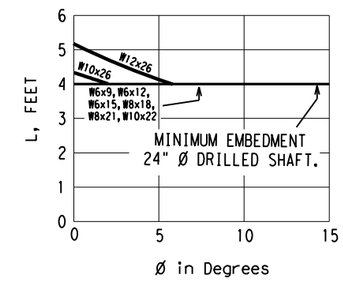
C = 500 PSF

IV



C = 2000 PSF

V



C = 4000 PSF

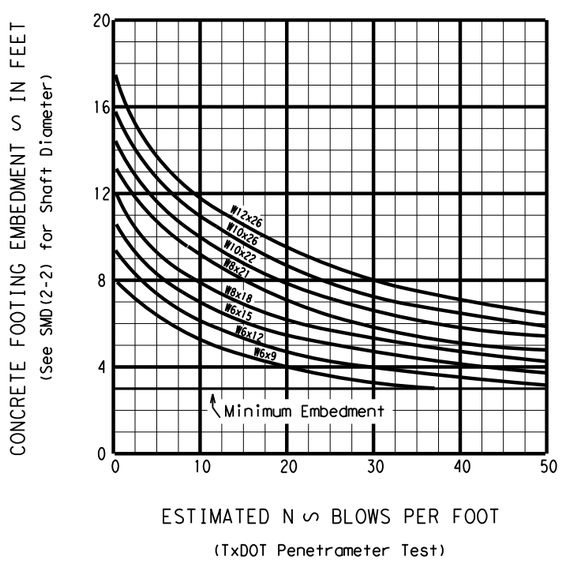
LEGEND:

L = Required embedment of concrete drilled shaft, in feet
C = Cohesive shear strength of soil, in psf
Ø = Angle of internal friction of soil, in degrees

For values of C and Ø which are intermediate to those on the charts, embedments may be determined by straight - line interpolation.

DRILLED CONCRETE FOOTING DEPTH CHART
(COHFRIC DESIGN)

NOTE: THESE CHARTS MAY BE USED AS AN ALTERNATE TO THE CHART BELOW, PROVIDED THAT SOIL COHESION AND INTERNAL FRICTION (COHFRIC) DATA ARE AVAILABLE.



DRILLED CONCRETE FOOTING DEPTH CHART
(TxDOT PENETROMETER DESIGN)

NOTE: ESTIMATED N SHOULD BE BASED AT APPROXIMATELY THE UPPER ONE-THIRD POINT OF THE DRILLED CONCRETE FOOTING BELOW THE GROUND LINE

Note:
1. Curves shown on this sheet are applicable for reinforced concrete footings only.

Texas Department of Transportation
Traffic Operations Division

LARGE ROADSIDE SIGN SUPPORTS FOUNDATION WORKSHEET

SMD(8W2)-08

© TxDOT July 1972

REVISIONS
5-74
4-78
9-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255

DIST	COUNTY	SHEET NO.
22	WEBB	250

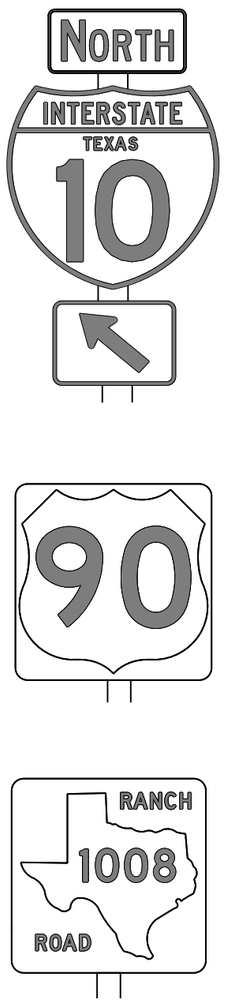
DATE: 4/9/2024 10:01:32 PM
FILE: c:\txdot\pw_online\txdot15\nisael.aguilar\d1010229\smd8-08.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:26:21 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\tsr3-13.dgn

REQUIREMENTS FOR INDEPENDENT MOUNTED ROUTE SIGNS

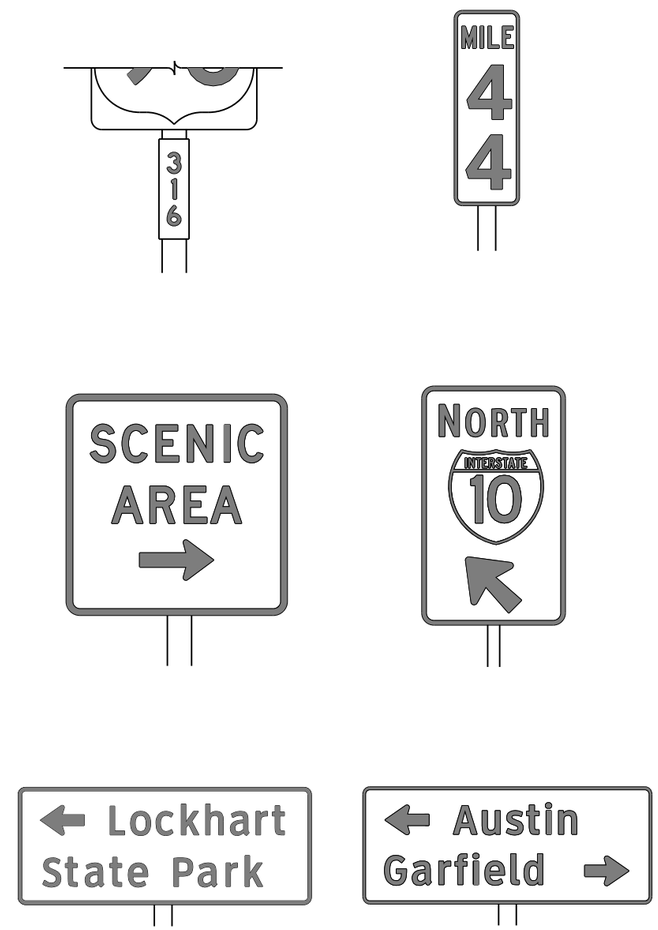
SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE A SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & BORDERS	ALL OTHERS	TYPE B or C SHEETING



TYPICAL EXAMPLES

REQUIREMENTS FOR BLUE, BROWN & GREEN D AND I SERIES GUIDE SIGNS

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	ALL	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE D SHEETING
LEGEND, SYMBOLS & BORDERS	ALL OTHERS	TYPE B OR C SHEETING



TYPICAL EXAMPLES

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. White legend shall use the Clearview Alphabet. The following Clearview fonts shall be used to replace the existing white Federal Highway Administration (FHWA) Standard Highway Alphabets, when not specified in the SHSD, or in the plans.

B	CV-1W
C	CV-2W
D	CV-3W
E	CV-4W
Emod	CV-5WR
F	CV-6W

3. Route sign legend (ie. IH, US, SH and FM shields) shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets B, C, D, E, Emod or F).
4. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
5. Independent mounted route sign with white or colored legend and borders shall be applied by screening process with transparent color ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof. White legend, symbols and borders on all other signs shall be cut-out white sheeting applied to colored background sheeting.
6. Information regarding borders and radii for signs is found in the "Standard Highway Sign Designs for Texas". Dimensions shown and described for borders and corner radii on parent sign are nominal. Borders may vary in width as much as 1/2 inch. Corner radii above 3 inches may vary in width as much as 1 inch. Borders and corner radii within a parent sign must be of matching widths. The sign area outside the corner radius should be trimmed or rounded.
7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
8. Mounting details of roadside signs are shown in the "SMD series" Standard Plan Sheets.

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

TSR(3)-13

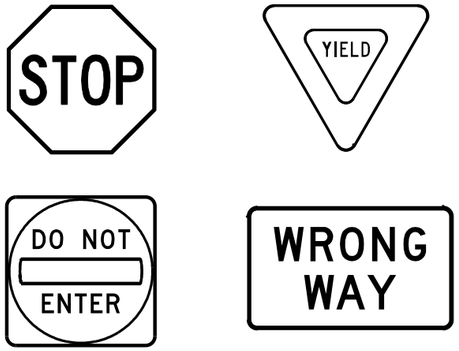
FILE: tsr3-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
12-03 7-13	DIST		COUNTY	SHEET NO.
9-08	22		WEBB	251

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:26:36 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\tsr4-13.dgn

REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS

(STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



REQUIREMENTS FOR FOUR SPECIFIC SIGNS ONLY

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS

(EXCLUDING STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND, BORDERS AND SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
3. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
4. Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to background sheeting, or combination thereof.
5. White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
6. Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
8. Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

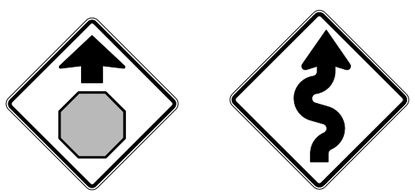
ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

REQUIREMENTS FOR WARNING SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLOURESCENT YELLOW	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR SCHOOL SIGNS

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLOURESCENT YELLOW GREEN	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

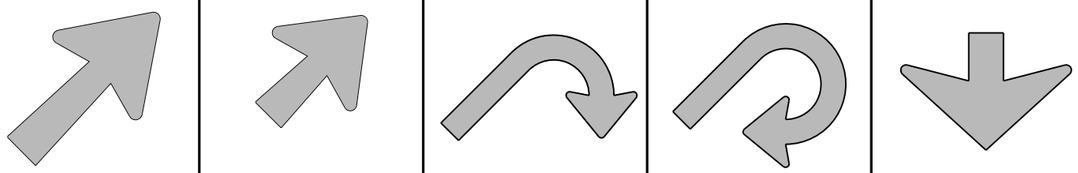
TSR(4)-13

FILE: tsr4-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS 12-03 7-13 9-08	3586	02	006	SH 255
	DIST	COUNTY		SHEET NO.
	22	WEBB		252

4

ARROW DETAILS

for Large Ground-Mounted and Overhead Guide Signs



Type A | Type B | E-3 | E-4 | Down Arrow

TYPE	LETTER SIZE	USE
A-1	10.67" U/L and 10" Caps	Single Lane Exits
A-2	13.33" U/L and 12" Caps	
A-3	16" & 20" U/L	
B-1	10.67" U/L and 10" Caps	Multiple Lane Exits
B-2	13.33" U/L and 12" Caps	
B-3	16" & 20" U/L	

CODE	USED ON SIGN NO.
E-3	E5-1aT
E-4	E5-1bT

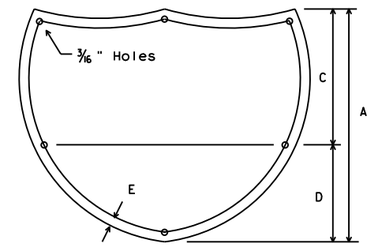
NOTE

Arrow dimensions are shown in the "Standard Highway Sign Designs for Texas" manual.

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

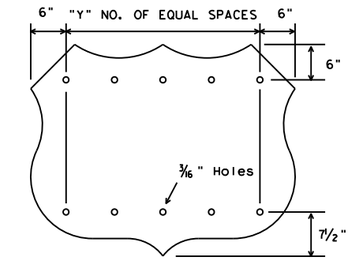
http://www.txdot.gov/

SIGN BLANK PUNCHING DETAILS FOR ATTACHMENTS WHEN SPECIFIED TO BE TYPE A ALUMINUM SIGNS (FOR MOUNTING TO GUIDE SIGN FACE)



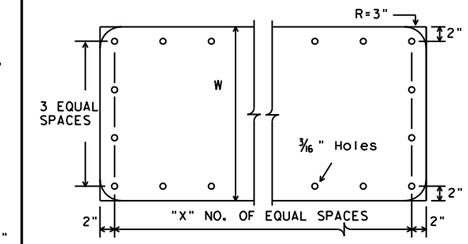
INTERSTATE ROUTE MARKERS

A	C	D	E
36	21	15	1 1/2
48	28	20	1 3/4



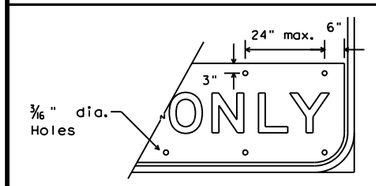
U.S. ROUTE MARKERS

Sign Size	"Y"
24x24	2
30x24	3
36x36	3
45x36	4
48x48	4
60x48	5



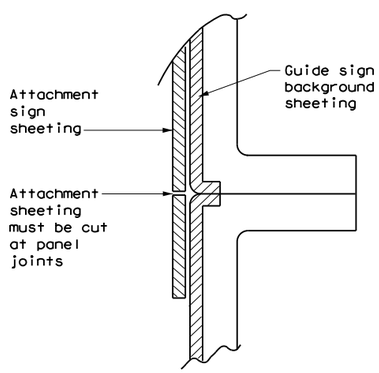
STATE ROUTE MARKERS

No. of Digits	W	X
4	24	4
4	36	5
4	48	6
3	24	3
3	36	4
3	48	5



EXIT ONLY PANEL

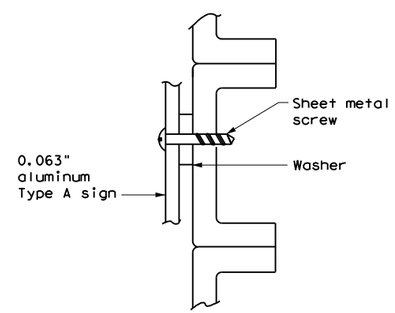
MOUNTING DETAILS OF ATTACHMENTS TO GUIDE SIGN FACE ("EXIT ONLY" AND "LEFT EXIT" PANELS, ROUTE MARKERS AND OTHER ATTACHMENTS)



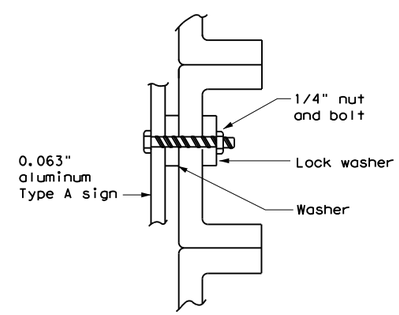
DIRECT APPLIED ATTACHMENT

NOTE:

1. Sheeting for legend, symbols, and borders must be cut at panel joints.
2. Direct applied attachment signs will be subsidiary to "Aluminum Signs" or "Fiberglass Signs".



SCREW ATTACHMENT



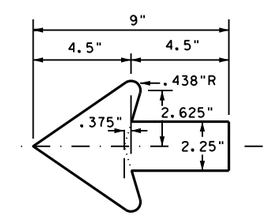
NUT/BOLT ATTACHMENT

NOTE:

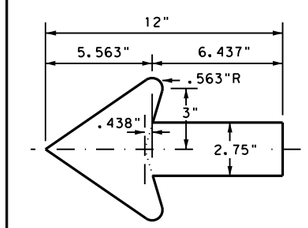
Furnish Type A aluminum sign attachments only when specified in the plans. These signs will be paid for under "Aluminum Signs".

ARROW DETAILS

for Destination Signs (Type D)



Standard arrow to be used with 6 inch letters.



Standard arrow to be used with 8 inch letters.

Texas Department of Transportation — Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

TSR(5)-13

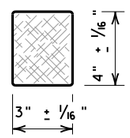
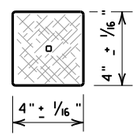
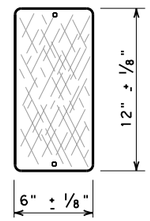
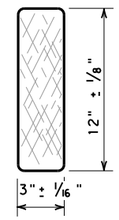
FILE: tsr5-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
12-03 7-13	DIST		COUNTY	SHEET NO.
9-08	22		WEBB	253

5

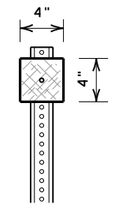
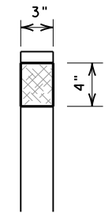
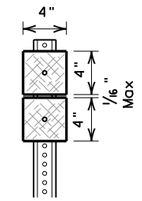
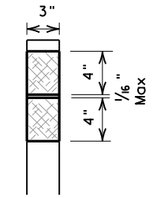
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:26:50 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\tsr5-13.dgn

REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS

	SIZE 1	SIZE 2	SIZE 3	SIZE 4
DEVICE				
SHEETING	Yellow, White or Red Type B or C reflective sheeting			
NOTE	1. Size 1 and 4 - Direct applied reflective sheeting for use on flexible post (flx). 2. Size 2 and 3 - For use on wing channel (wc) post only. Use approved metal, plastic or fiberglass backplate with 17/64" mounting holes.			

DELINEATORS

	SINGLE		DOUBLE	
DEVICE				
	1-Size 2 reflector unit	1-Size 1 reflector unit	2-Size 2 reflector units	2-Size 1 reflector units
SHEETING	Yellow, White or Red Type B or C Reflective Sheeting			
POST TYPE	WC	YFLX, WFLX	WC	YFLX, WFLX
MOUNT TYPE	GND	GND, SRF	GND	GND, SRF

D & OM DESCRIPTIVE CODES

INSTL DEL ASSM (D-XX)SZ X (XXXX)XXX(XX)

NUMBER OF REFLECTORS
- S = Single
- D = Double

COLOR OF REFLECTORS
- W = White
- Y = Yellow
- R = Red

REFLECTOR UNIT SIZE
- 1 or 2

TYPE OF POST OR DELINEATOR
- WC = Wing Channel Post
- YFLX = Yellow Flexible Post
- WFLX = White Flexible Post
- BRF = Barrier Reflector

TYPE OF MOUNT
- GND = Embedded (drivable or set in concrete)
- CTB = Concrete Barrier Mount
- GF1 or GF2 = Guard Fence Attachment
- SRF = Surface Mount

DIRECTION
- If Required
- BI = Bi-Directional
- BR = Bi-Directional with red on back

INSTL OM ASSM (OM-XX) (XXXX)XXX(XX)

TYPE OF OBJECT MARKER
- 1, 2, 3, or 4

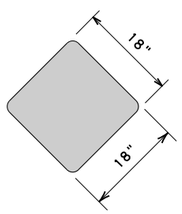
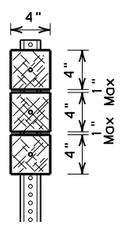
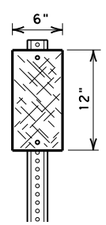
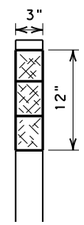
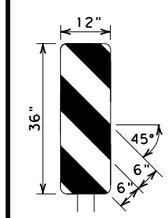
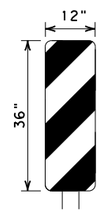
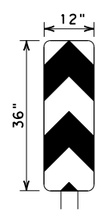
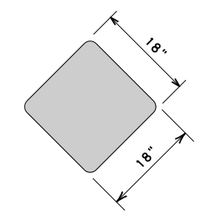
NUMBER OF REFLECTORS OR DIRECTION
- X = 3-Size 2 reflector units (Type 2 only)
- Y = 1-Size 3 reflector unit (Type 2 only)
- Z = 3-Size 1 or 1-Size 4 reflector unit(s)(Type 2 only)
- L = Left Side (Type 3 Object Marker only)
- R = Right Side (Type 3 Object Marker only)
- C = Center (Type 3 Object Marker only)

TYPE OF POST
- WC = Wing Channel Post
- WFLX = White Flexible Post
- TWT = Thin Walled Tubing

TYPE OF MOUNT
- GND = Embedded (drivable)
- SRF = Surface Mount
- WAS = Wedge Anchor Steel
- WAP = Wedge Anchor Plastic

DIRECTION
- If Required
- BI = Bi-Directional

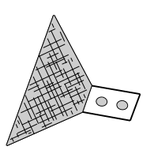
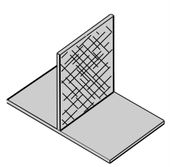
OBJECT MARKERS

	Type 1 (OM-1)	Type 2 (OM-2)			Type 3 (OM-3)			Type 4 (OM-4)
	OM-1	OM-2X	OM-2Y	OM-2Z	OM-3L	OM-3R	OM-3C	OM-4
DEVICE								
		3-Size 2 reflector units	1-Size 3 reflector unit	3-Size 1 reflector units or 1-Size 4 reflector unit				
SHEETING	Yellow-Type B_{FL} or C_{FL} Sheeting	Yellow - Type B or C Sheeting			Alternating acrylic black and retroflective yellow - Type B_{FL} or C_{FL} Sheeting			Red -Type B_{FL} or C_{FL} Sheeting
POST TYPE	TWT	WC	WC	WFLX	TWT			TWT
MOUNT TYPE	WAS, WAP	GND	GND	GND, SRF	WAS, WAP			WAS, WAP

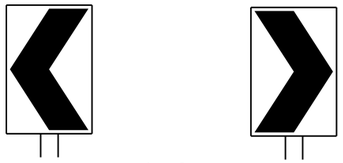
DEPARTMENTAL MATERIAL SPECIFICATIONS

FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (EMBEDDED & SURFACE MOUNT TYPES)	DMS-4400
SIGN FACE MATERIALS	DMS-8300
DELINEATORS, OBJECT MARKERS AND BARRIER REFLECTORS	DMS-8600

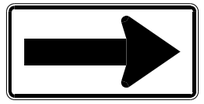
BARRIER REFLECTORS (BRF)

	GF1	GF2	CTB
DEVICE			
	1. Barrier reflectors shall meet the requirements of DMS 8600. 2. Approved Barrier Reflectors are listed on the "Barrier Reflectors" Material Producer List at: www.txdot.gov.		
SHEETING	Yellow, White, Red		
NOTE	1. Reflective sheeting shall have a minimum dimension of 3 inches and minimum surface area of 9 square inches.		

CHEVRONS

DEVICE	 W1-8			
SIZE (W x L)	18"x 24" (Conventional)	24"x 30" (Conventional Oversize)	30"x 36" (Expressway)	36" x 48" (Freeway)
MOUNTING HEIGHT	4'-0" or 7'-0"		7'-0" Only	
NOTE	1. CHEVRON (W1-8) signs and ONE DIRECTION LARGE ARROW (W1-6) Signs shall be installed per Sign Mounting Details (SMD) Standard Sheets and paid under Item 644 (Small Roadside Sign Assemblies). 2. When there is a need to increase conspicuity, the Texas version of the ONE DIRECTION LARGE ARROW sign (W1-9T) may be used instead of the ONE DIRECTION LARGE ARROW (W1-6).			

ONE DIRECTION LARGE ARROW

DEVICE	 W1-6	
SIZE (W x L)	48" x 24" (Conventional)	60" x 30" (Expressway & Freeway)
MOUNTING HEIGHT	7'-0"	

NOTE:

Delineator and object marker substrates and sign substrates shall be 0.080" Aluminum sign blank to conform to ASTM B-209 Alloy 6061-T6 or approved alternative.

Texas Department of Transportation — Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER MATERIAL DESCRIPTION

D & OM(1)-20

FILE: dom1-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
10-09 3-15	DIST		COUNTY	SHEET NO.
4-10 7-20	22		WEBB	254

20A

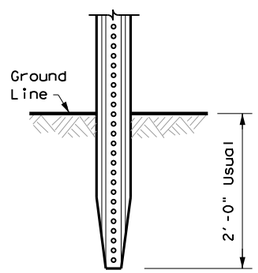
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:27:05 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\dom1-20.dgn

POST TYPE AND SUPPORT FOUNDATION DETAILS

WING CHANNEL (WC)

GND

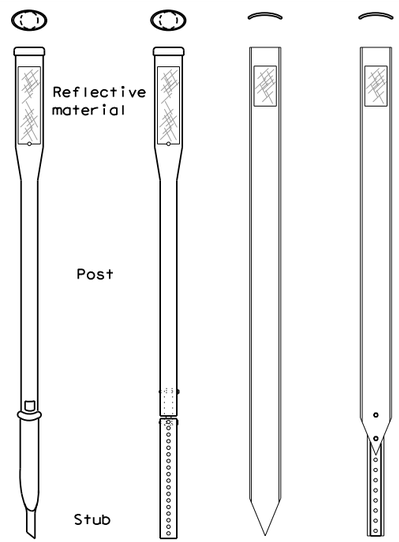


NOTES

1. Embedded Wing Channel (WC) post option may be used for Type 2 Object Markers and Delineators only.
2. 1.12 lbs/ft steel per ASTM A 1011 SS Gr. 50, or ASTM A499.

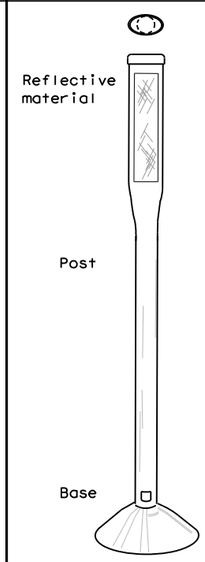
FLEXIBLE POSTS (YFLX, WFLX)

GND



EMBEDDED

SRF



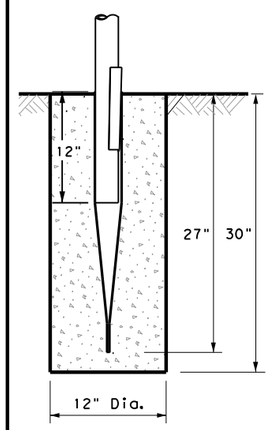
SURFACE MOUNT

NOTES

1. See "Flexible Delineator and Object Marker Posts" Material Producer List for approved devices.
2. Install per manufacturer's recommendations.
3. Post length may vary to meet field conditions.
4. When using yellow delineators with flexible posts to separate opposing direction of travel, such as centerline or median use, the flexible posts shall be yellow.

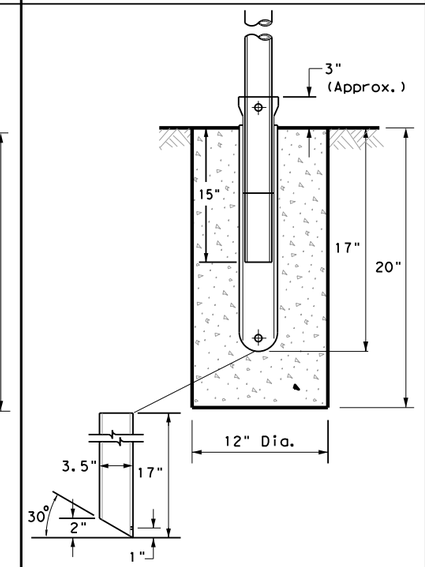
WEDGE ANCHOR SYSTEMS

WAS



STEEL

WAP



PLASTIC

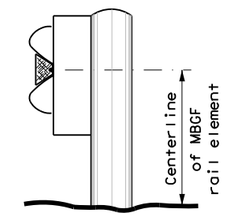
NOTE

1. Install per manufacturer's recommendations.

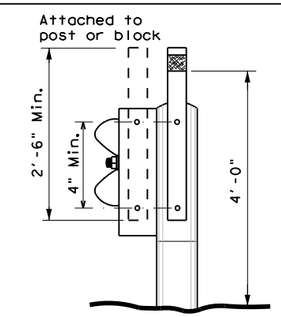
TYPE OF BARRIER MOUNTS

GUARD FENCE ATTACHMENT

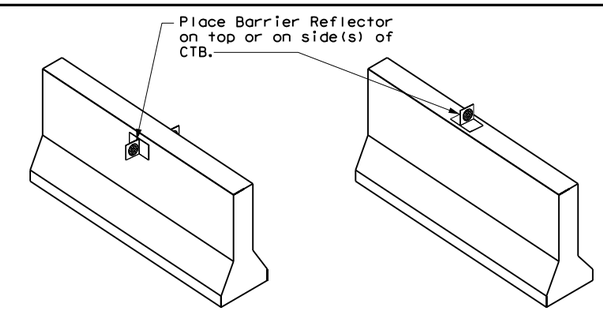
GF1



GF2



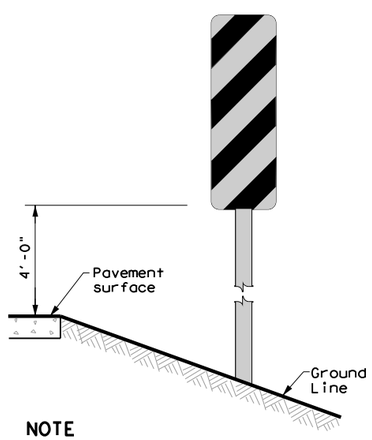
CONCRETE TRAFFIC BARRIER (CTB)



GENERAL NOTES

1. Place delineators on a section of roadway at a consistent distance from the edge of pavement.
2. Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction.
3. When Type 2 object markers and delineators are more than 8'-0" from the edge of the pavement, it may not be possible to maintain a height of approximately 4'-0". If this is the case, place the object marker or delineator as close to the desired height as possible.
4. Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation.
5. Barrier reflectors should be installed a minimum of 18 inches above the edge of the pavement surface.
6. Diagonal stripes on Type 3 object markers shall slope down toward the intended travel lane.

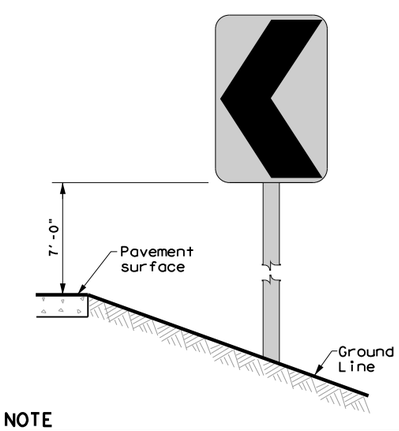
TYPES 1, 3, AND 4 OBJECT MARKERS AND CHEVRONS



NOTE

Mounting at 4 feet to the bottom of the chevron is permitted for chevrons that will not exceed a height of 6'-6" to the top of the chevron (sizes 24" x 30" and smaller)

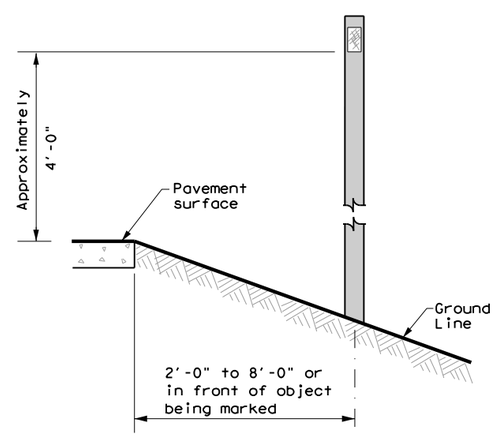
CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN



NOTE

Chevrons 30" x 36" and larger shall be mounted at a height of 7' to the bottom of the chevron. Chevron sign and ONE DIRECTION LARGE ARROW sign (W1-9T) shall be installed per SMD standard sheets and paid under item 644.

DELINEATORS AND TYPE 2 OBJECT MARKERS



See general notes 1, 2 and 3.

Texas Department of Transportation — Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER INSTALLATION

D & OM(2)-20

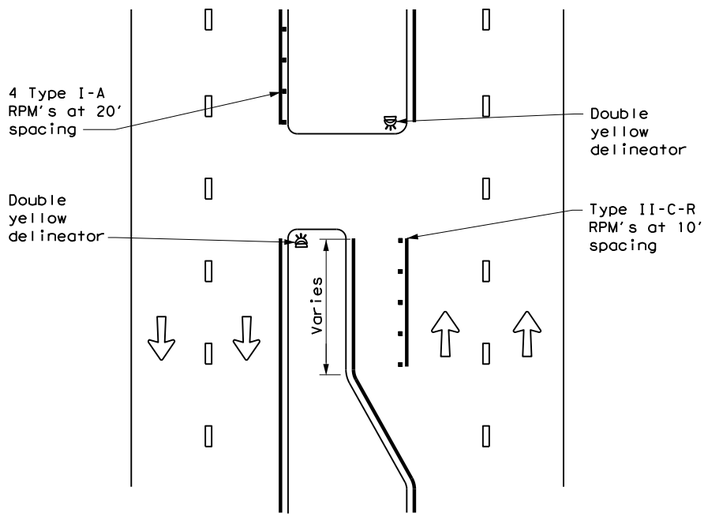
FILE: dom2-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
10-09 3-15	DIST		COUNTY	SHEET NO.
4-10 7-20	22		WEBB	255

20B

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

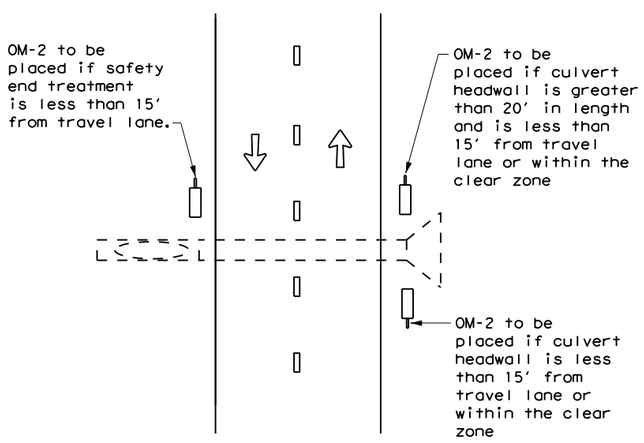
DATE: 4/9/2024 10:27:20 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\dom2-20.dgn

CROSSOVERS



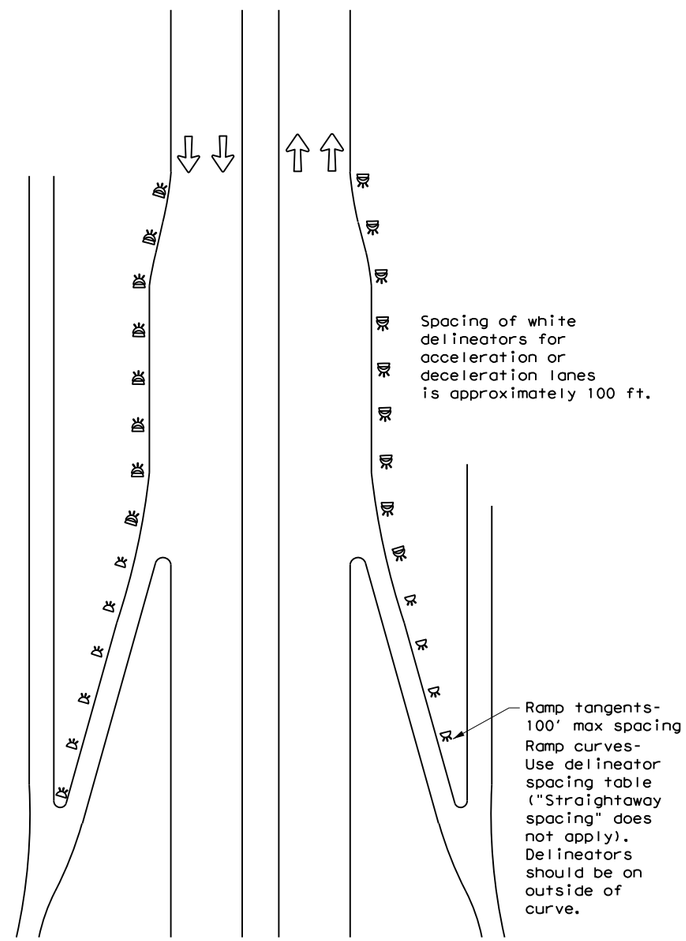
DETAIL 1

FOR CULVERTS WITHOUT MBGF



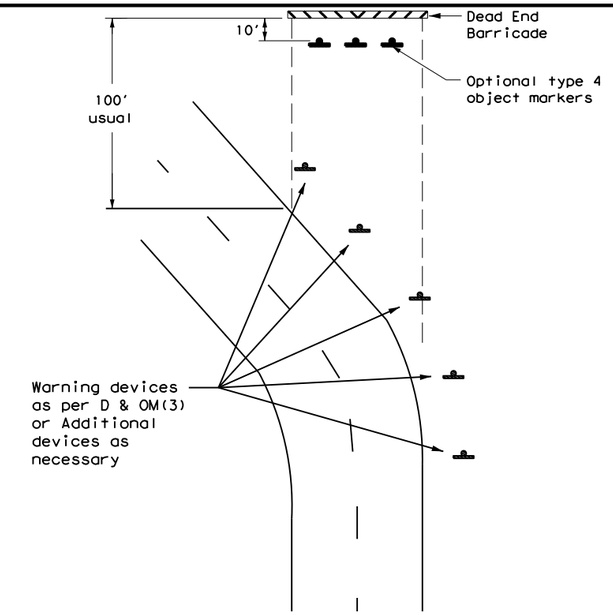
DETAIL 2

FREEWAY DELINEATION FOR RAMPS AND ACCELERATION/DECELERATION LANES



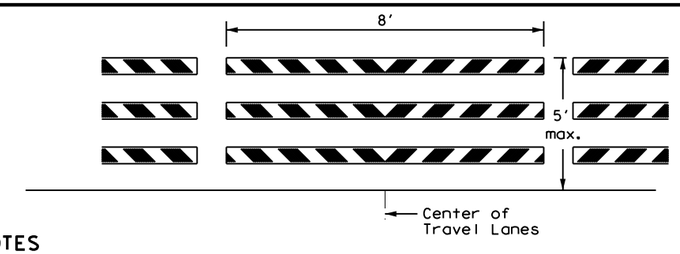
DETAIL 3

TYPICAL APPLICATION OF DEAD END BARRICADE



DETAIL 4

TYPICAL DEAD END BARRICADE INSTALLATION



NOTES

1. Barricade striping shall be red and white reflective sheeting for all permanent road closures.
2. Barricade striping is red and white sloping toward the center of the roadway.
3. Type 3 Barricade Supports should be anchored to soil or pavement as described in compliant Work Zone Traffic Control Devices List, section D.2.f and D.2.g.

DETAIL 5

LEGEND

	Bidirectional Delineator
	Delineator
	OM-3
	Barricade
	Sign
	OM-2
	Double Delineator

Texas Department of Transportation — Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

D & OM(4)-20

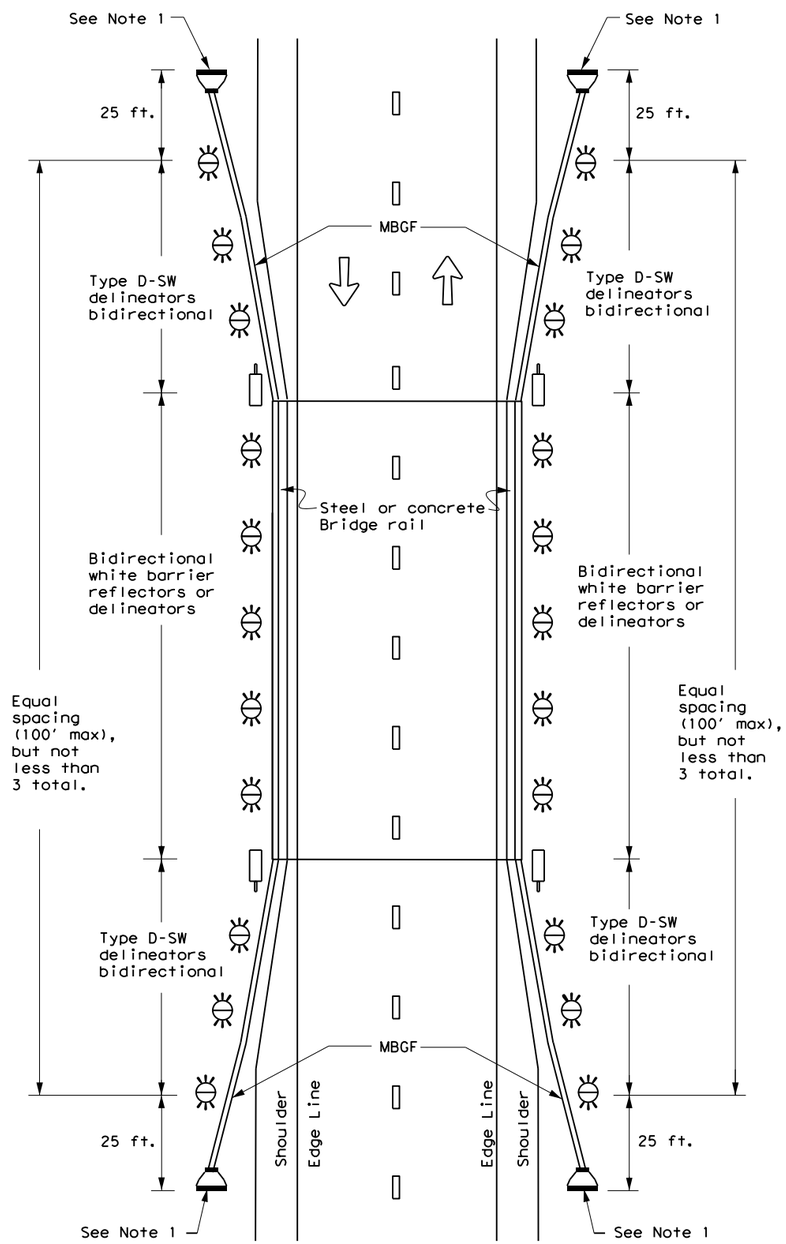
FILE: dom4-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS 3-15 7-20	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	256

20D

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:27:36 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\dom4-20.dgn

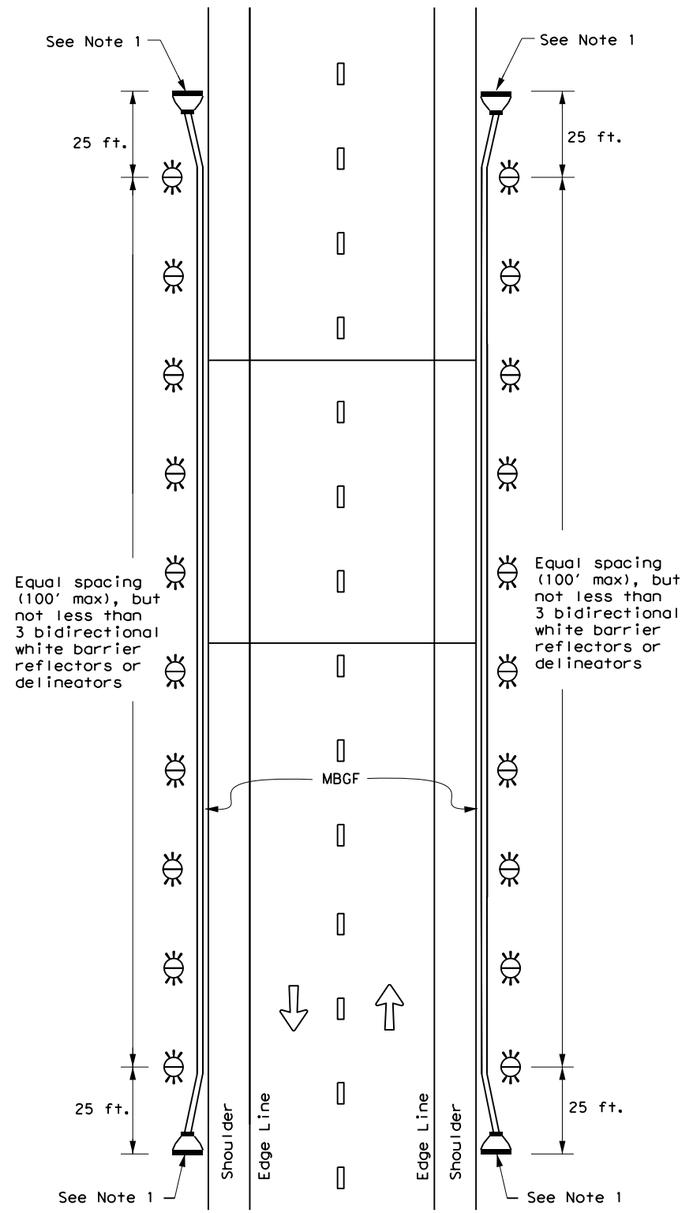
TWO-WAY, TWO LANE ROADWAY WITH REDUCED WIDTH APPROACH RAIL



NOTE:

1. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

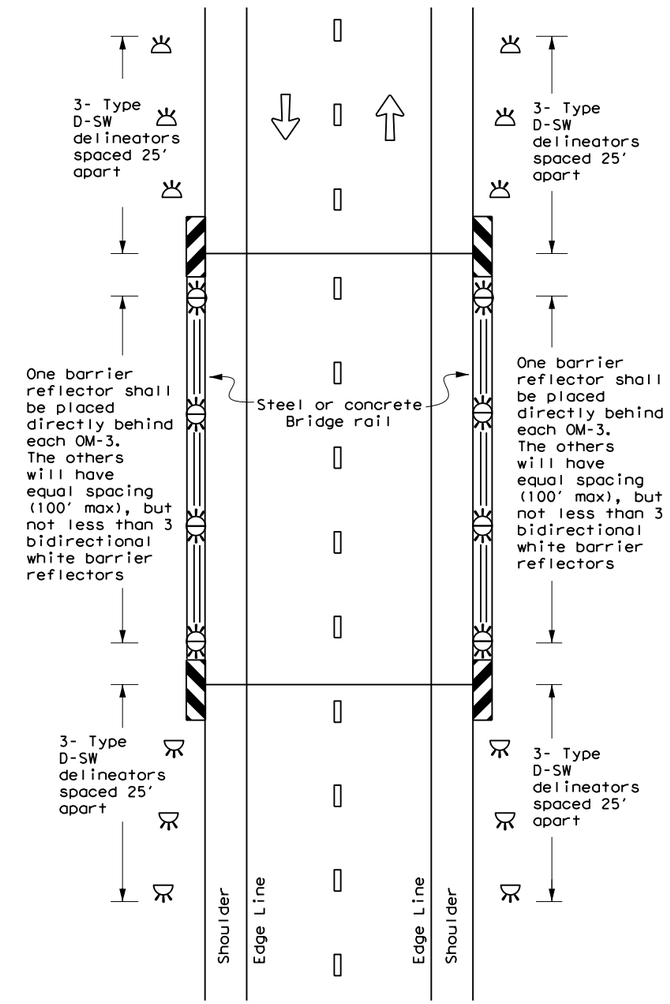
TWO-WAY, TWO LANE ROADWAY WITH METAL BEAM GUARD FENCE (MBGF)



NOTE:

1. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

TWO-WAY, TWO LANE ROADWAY BRIDGE WITH NO APPROACH RAIL



LEGEND

	Bidirectional Delineator
	Delineator
	OM-3
	OM-2
	Terminal End
	Traffic Flow

Texas Department of Transportation — Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

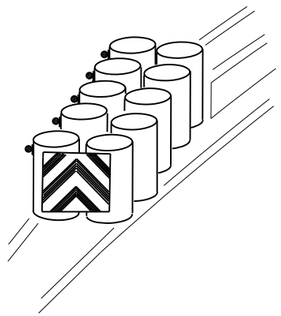
D & OM(5)-20

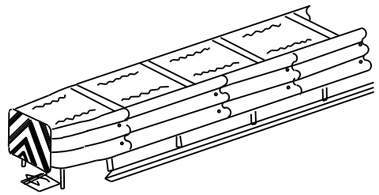
FILE: dom5-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
7-20	DIST		COUNTY	SHEET NO.
	22		WEBB	257

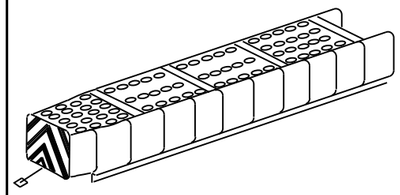
20E

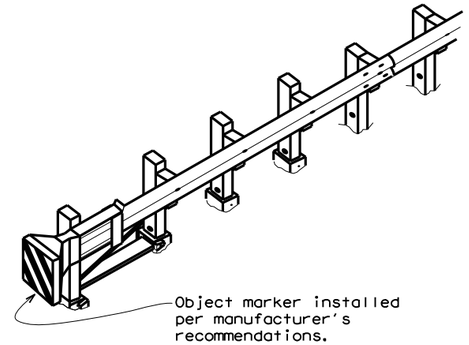
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

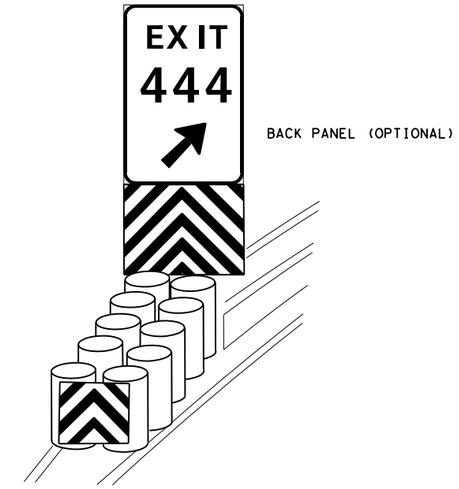
DATE: 4/9/2024 10:27:51 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\dom5-20.dgn

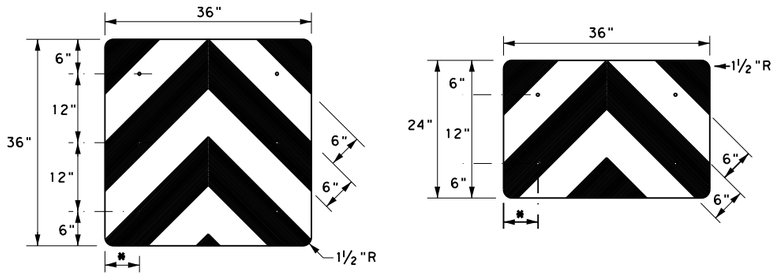




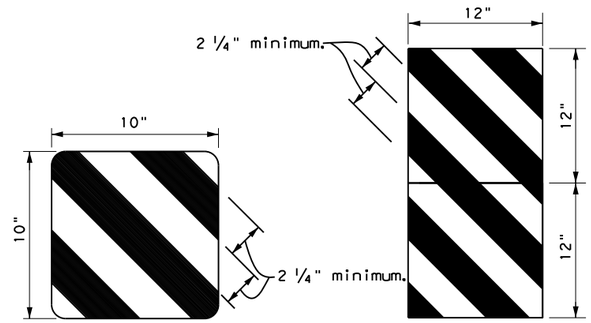




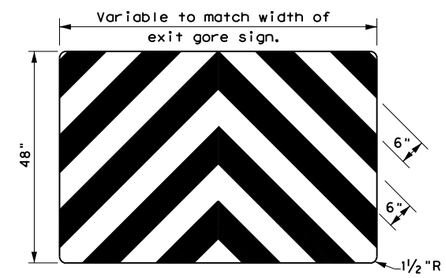


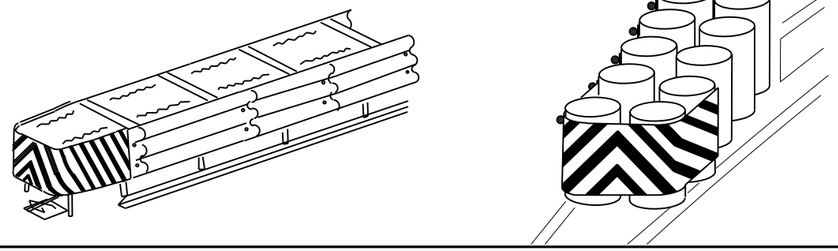


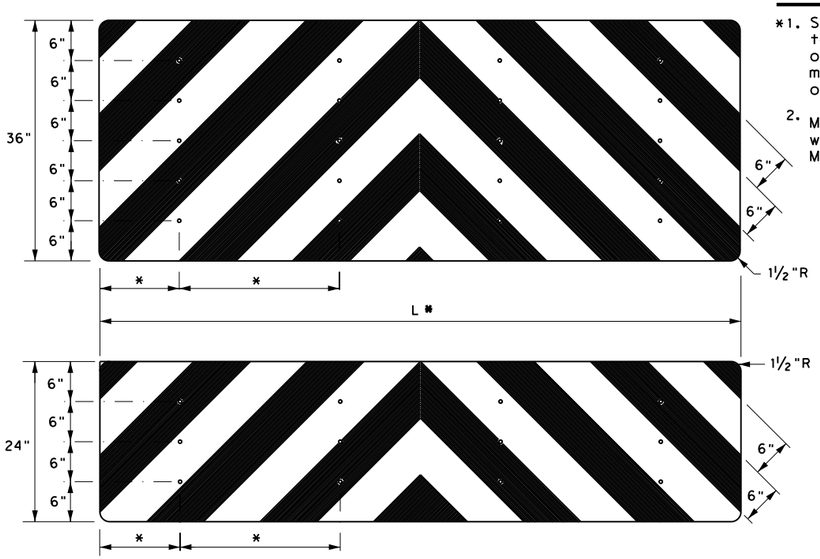
* Adjust to fit attenuator per manufacturer's recommendation, or as directed by the Engineer



OBJECT MARKERS SMALLER THAN 3 FT^2







NOTES

*1. Spacing should be adjusted to attach through centerline of drum, per attenuator manufacturers recommendation, or as directed by the Engineer.

2. Mounting should be flush with top of attenuator. Minimum size 96" x 24".

NOTES

1. Object Markers shall conform to the Texas MUTCD and meet the color and reflectivity requirement of Department Material Specification DMS 8300. Background shall be yellow reflective sheeting (Type B or C) and Chevron shall be black.

2. Object Markers may be fabricated from adhesive backed reflective sheeting applied directly to guardrail end treatment, or applied directly to an "end cap" as per the manufacturer's recommendation. Direct applied sheeting shall provide a smooth surface and have no wrinkles, air bubbles, cuts or tears. A radius at the corners is not required for direct applied sheeting.

3. Object Marker size may be reduced to fit smaller devices. Width of alternating black and yellow stripes are typically 6". Object Markers smaller than 3ft may have reduced width stripes of a minimum of 2 ¼".

4. Pop rivets, screws, or nuts and bolts may be used to attach object markers and reflectors. Holes, slots or other openings may be cut or drilled through object markers to allow cable or other attachments.

5. Object Marker at nose of attenuator is subsidiary to the attenuator.

6. See D & OM (1-4) for required barrier reflectors.

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 4/9/2024 10:28:07 PM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010229\domvia-20.dgn

Texas Department of Transportation — Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER FOR VEHICLE IMPACT ATTENUATORS

D & OM(VIA)-20

FILE: domvia20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT December 1989	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
4-92 8-04	DIST		COUNTY	SHEET NO.
8-95 3-15				
4-98 7-20	22		WEBB	258

20G

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE:
FILE:

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1.

2.

☐ No Action Required ☒ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)

☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1.

2.

3.

4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

Erosion	Sedimentation	Post-Construction TSS
☒ Temporary Vegetation	☒ Silt Fence	☒ Vegetative Filter Strips
☐ Blankets/Matting	☒ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☐ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☐ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☒ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	☐ Grassy Swales

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

Action No.

1.

2.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.
Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

4.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☐ No Action Required ☒ Required Action

Action No.

1. Texas Horned Lizard - The Contractor will avoid harvester ant mound in the selection of PSLs where feasible
2. Texas Tortoise -The Contractor should cover utility trenches overnight, and should visually inspect all trenches before filling.
3. Reticulated Collared Lizard - This lizard may potentially occur in the project area. The Contractor shall avoid harming or handeling this species.
4. Texas Indigo Snake - This snake may potentially occur in the project area. The Contractor shall avoid harming or handeling this species.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

LIST OF ABBREVIATIONS

BMP:	Best Management Practice	SPCC:	Spill Prevention Control and Countermeasure
CGP:	Construction General Permit	SW3P:	Storm Water Pollution Prevention Plan
DSHS:	Texas Department of State Health Services	PCN:	Pre-Construction Notification
FHWA:	Federal Highway Administration	PSL:	Project Specific Location
MOA:	Memorandum of Agreement	TCEQ:	Texas Commission on Environmental Quality
MOU:	Memorandum of Understanding	TPDES:	Texas Pollutant Discharge Elimination System
MS4:	Municipal Separate Stormwater Sewer System	TPWD:	Texas Parks and Wildlife Department
MBTA:	Migratory Bird Treaty Act	TxDOT:	Texas Department of Transportation
NOT:	Notice of Termination	T&E:	Threatened and Endangered Species
NWP:	Nationwide Permit	USACE:	U.S. Army Corps of Engineers
NOI:	Notice of Intent	USFWS:	U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

☐ Yes ☒ No

If "No", then no further action is required.
If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

☐ Yes ☒ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

Texas Department of Transportation — Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: epic.dgn	DN: TxDOT	CK: RG	DW: VP	CK: AR
©TxDOT: February 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
12-12-2011 (DS) 05-07-14 ADDED NOTE SECTION IV. 01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.	DIST	COUNTY		SHEET NO.
		WEBB		259

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with the TPDES Construction General Permit TXR150000 (CGP). The Texas Department of Transportation (TxDOT) ensures that project specifications include adequate best management practices (BMPs) for this project.

This SWP3 is consistent with requirements specified in applicable stormwater plans and the projects environmental permits, issues, and commitments (EPICs). A copy of the CGP is included in Attachment 2.12 of the SWP3 binder.

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):

3586-02-006

1.2 PROJECT LIMITS:

From: 6.054 MILES EAST OF FM 3338

To: IH 35

1.3 PROJECT COORDINATES:

BEGIN: (Lat) 27.7880503 ,(Long) -99.5382087

END: (Lat) 27.8288698 ,(Long) -99.4117928

1.4 TOTAL PROJECT AREA (Acres): 326

1.5 TOTAL AREA TO BE DISTURBED (Acres): 34.5

1.6 NATURE OF CONSTRUCTION ACTIVITY:

WINDROW TOPSOIL AT WIDEN AREAS SHOWN IN PLANS (APPROX. 5 AC) INSTALL S.E.T.'S, FOAM TREAT EXISTING PAVEMENT MATERIAL & MATCHING SIDE SLOPES @ 4:1 TYPICAL SLOPE RATE

1.7 MAJOR SOIL TYPES:

Soil Type	Description
BrB	Brystal fine sandy loam, 0 to 3 % slopes
CaB	Catarina clay, 0 to 2 % slopes
CpB	Copita fine sandy loam, 0 to 3 % slopes
DsB	Dilley fine sandy loam, 0 to 3 % slopes
DvB	Duval very fine sandy loam, 0 to 3 % slopes
MCE	Maverick-Catarina complex, gently rolling
PaB	Palafox clay loam, 0 to 3 % slopes
Te	Tela sandy clay loam, 0 to 1 % slopes, frequently flooded

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

- X PSLs determined during preconstruction meeting
- ☐ PSLs determined during construction
- ☐ No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.5.)

- X Mobilization
- X Install sediment and erosion controls
- X Blade existing topsoil into windrows, prep ROW, clear and grub
- X Remove existing pavement
- X Grading operations, excavation, and embankment
- X Excavate and prepare subgrade for proposed pavement widening
- ☐ Remove existing culverts, safety end treatments (SETs)
- X Remove existing metal beam guard fence (MBGF), bridge rail
- X Install proposed pavement per plans
- X Install culverts, culvert extensions, SETs
- X Install mow strip, MBGF, bridge rail
- X Place flex base
- X Rework slopes, grade ditches
- X Blade windrowed material back across slopes
- ☐ Revegetation of unpaved areas
- ☐ Achieve site stabilization and remove sediment and erosion control measures
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

- X Sediment laden stormwater from stormwater conveyance over disturbed area
- X Fuels, oils, and lubricants from construction vehicles, equipment, and storage
- X Solvents, paints, adhesives, etc. from various construction activities
- X Transported soils from offsite vehicle tracking
- X Construction debris and waste from various construction activities
- X Contaminated water from excavation or dewatering pump-out water
- X Sanitary waste from onsite restroom facilities
- X Trash from various construction activities/receptacles
- X Long-term stockpiles of material and waste
- X
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

- X Development of plans and specifications
- X Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
- X Post Construction Site Notice
- X Submit NOI/CSN to local MS4
- X Perform SWP3 inspections
- X Maintain SWP3 records and update to reflect daily operations
- X Complete and submit Notice of Termination to TCEQ
- X Maintain SWP3 records for 3 years
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

- X Day To Day Operational Control
- X Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
- X Post Construction Site Notice
- X Submit NOI/CSN to local MS4
- X Maintain schedule of major construction activities
- X Install, maintain and modify BMPs
- X Complete and submit Notice of Termination to TCEQ
- X Maintain SWP3 records for 3 years
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

1.14 LOCAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OPERATOR COORDINATION:

MS4 Entity

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

© 2023

July 2023 Sheet 1 of 2

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

Texas Department of Transportation

			SHEET NO. 260
STATE	STATE DIST.	COUNTY	
TEXAS	22	WEBB	
CONT.	SECT.	JOB	HIGHWAY NO.
3586	02	006	SH 255

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- X X Temporary Seeding
- ☐ ☐ Permanent Planting, Sodding or Seeding
- ☐ ☐ Biodegradable Erosion Control Logs
- X ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☐ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- X ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Sediment control BMPs requiring design capacity calculations (See SWP3 Attachment 1.3.):

T / P

- ☐ ☐ Sediment Trap
  - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
  - ☐ 3,600 cubic feet of storage per acre drained
- ☐ ☐ Sedimentation Basin
  - ☐ Not required (<10 acres disturbed)
  - ☐ Required (>10 acres) and implemented.
    - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
    - ☐ 3,600 cubic feet of storage per acre drained
  - ☐ Required (>10 acres), but not feasible due to:
    - ☐ Available area/Site geometry
    - ☐ Site slope/Drainage patterns
    - ☐ Site soils/Geotechnical factors
    - ☐ Public safety
    - ☐ Other: _____

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- X Loaded haul trucks to be covered with tarpaulin
- X Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- X Concrete and Materials Waste Management
- X Debris and Trash Management
- X Dust Control
- X Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- X Fire hydrant flushings
- X Irrigation drainage
- X Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- X Potable water sources
- X Springs
- X Uncontaminated groundwater
- X Water used to wash vehicles or control dust
- X Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

When dewatering activities are present, a daily inspection will be conducted once per day during those activities and documented in accordance with CGP and TxDOT requirements.

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 4/10/2024

DocuSigned by:
8EE5B149888F4E9...

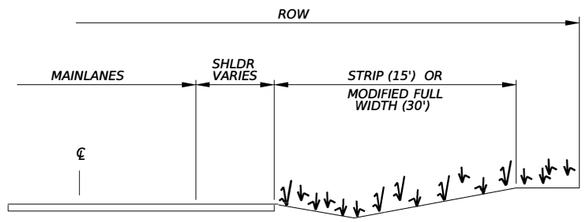
STORMWATER POLLUTION PREVENTION PLAN (SWP3)

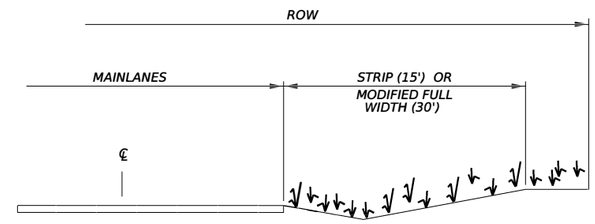
© 2023

July 2023 Sheet 2 of 2

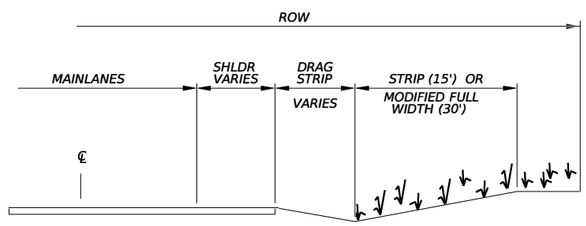
Texas Department of Transportation

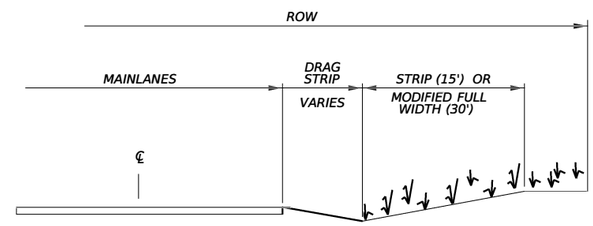
			SHEET NO. 261
STATE	STATE DIST.	COUNTY	
TEXAS	22	WEBB	
CONT.	SECT.	JOB	HIGHWAY NO.
3586	02	006	SH 255





TYPICAL SECTION A





TYPICAL SECTION B

GENERAL NOTES

- MOW FROM EDGE OF PAVEMENT, APPLIES TO STRIP.

-MOW FROM EDGE OF DRAG STRIP.

-DRAG STRIP IS BARREN GROUND (CALICHE, GRAVEL, OR UNVEGETATED GROUND).

STATE OF TEXAS
MISAEL AGUILAR
150329
LICENSED
PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by MISAEL AGUILAR P.E. 150329, on 5/30/2024

DocuSigned by:
8EE5B149888F4E9...

NOT TO SCALE

Texas Department of Transportation

SH 255

TYPICAL SECTIONS
RIGHT OF WAY
MOWING ON HIGHWAYS

©TxDOT 2024
SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	262

DATE: 5/30/2024 11:21:59 AM
FILE: c:\txdot\pw_online\txdot51\misael.aguilar\d0763342\006MOW.dgn

CK: DW: CK: DW:

CK
DW
CK
DW

DRILL SEEDING WITH STRAW/HAY MULCH
PREFERRED RURAL/SMALL URBAN SEEDING METHOD

RECOMMENDED USES:
PERMANENT SEEDING (BARE SOIL)
(YEAR-ROUND)

REQUIRED BID ITEMS:

164 6001 DRILL SEEDING (PERM) (RURAL) (SANDY)
OR
164 6003 DRILL SEEDING (PERM) (RURAL) (CLAY)
OR
164 6005 DRILL SEEDING (PERM) (URBAN) (SANDY)
OR
164 6007 DRILL SEEDING (PERM) (URBAN) (CLAY)
AND
164 6045 STRAW OR HAY MULCHING
AND

CONSTRUCTION SEQUENCE:

- Refer to Items 162 & 164 of the Texas Standard Specifications for Construction of Highways, Streets, and Bridges 2014 for specifications, dimensions, volumes and measurements that have been modified or not shown.

1. Distribute topsoil
   Refer to Item 160 for instructions and requirements. Uniformly distribute topsoil at a thickness of 6 inches unless otherwise specified in the plans.
2. Prepare seed bed
   Refer to section 164.3 for instructions.
3. Apply seed mixture
   Refer to Item 164 for instructions. Refer to "Seed Mix" shown on sheet 2 of 2 for a list of species and rates.
4. Apply fertilizer
   Refer to Item 166 for instructions.
5. Apply straw/hay mulch & emulsion
   Refer to section 164.3.E for instructions.
   Anchor mulch with emulsion (SS-1, CSS-1, MS-2, CMS-2); undiluted, at the following rates:
   Hay - 0.15 gallons/sy
   Straw - 0.30 gallons/sy

*Vegetative watering is not required unless otherwise specified in the general notes under Item 168.

STRAW/HAY MULCH SEEDING
PREFERRED RURAL/SMALL URBAN SEEDING METHOD

RECOMMENDED USES:
- PERMANENT SEEDING (BARE SOIL)(YEAR-ROUND)
- TEMPORARY SEEDING (BARE SOIL)(YEAR-ROUND)

REQUIRED BID ITEMS:

164 6013 STRAW / HAY MLCH SEED (PERM) (RURAL) (SANDY)
OR
164 6015 STRAW / HAY MLCH SEED (PERM) (RURAL) (CLAY)
OR
164 6017 STRAW / HAY MLCH SEED (PERM) (URBAN) (SANDY)
OR
164 6019 STRAW / HAY MLCH SEED (PERM) (URBAN) (CLAY)
OR
164 6029 STRAW / HAY MLCH SEED (TEMP) (WARM)
OR
164 6031 STRAW / HAY MLCH SEED (TEMP) (COOL)
AND

CONSTRUCTION SEQUENCE:

- Refer to Items 162 & 164 of the Texas Standard Specifications for Construction of Highways, Streets, and Bridges 2014 for specifications, dimensions, volumes and measurements that have been modified or not shown.

1. Distribute topsoil
   Refer to Item 160 for instructions and requirements. Uniformly distribute topsoil at a thickness of 6 inches unless otherwise specified in the plans.
2. Prepare seed bed
   Refer to section 164.3 for instructions.
3. Apply seed mixture
   Refer to Item 164 for instructions. Refer to "Seed Mix" shown on sheet 2 of 2 for a list of species and rates.
4. Apply fertilizer
   Refer to Item 166 for instructions.
5. Apply straw/hay mulch & emulsion
   Refer to section 164.3.B for instructions.
   Anchor mulch with emulsion (SS-1, CSS-1, MS-2, CMS-2); undiluted, at the following rates:
   Hay - 0.15 gallons/sy
   Straw - 0.30 gallons/sy

*Vegetative watering is not required unless otherwise specified in the general notes under Item 168.

CELLULOSE FIBER MULCH SEEDING
PREFERRED LARGE URBAN SEEDING METHOD

RECOMMENDED USES:
- TEMPORARY SEEDING (BARE SOIL)(COOL ONLY)
- OVERSEEDING PERMANENT GRASSES INTO TEMP GRASSES (YEAR-ROUND)

REQUIRED BID ITEMS:

164 6031 CELL FBR MLCH SEED (TEMP) (COOL)
OR
164 6021 CELL FBR MLCH SEED (PERM) (RURAL) (SANDY)
OR
164 6023 CELL FBR MLCH SEED (PERM) (RURAL) (CLAY)
OR
164 6025 CELL FBR MLCH SEED (PERM) (URBAN) (SANDY)
OR
164 6027 CELL FBR MLCH SEED (PERM) (URBAN) (CLAY)

CONSTRUCTION SEQUENCE:

- Refer to Items 162 & 164 of the Texas Standard Specifications for Construction of Highways, Streets, and Bridges 2014 for specifications, dimensions, volumes and measurements that have been modified or not shown.

1. Distribute topsoil
   Refer to Item 160 for instructions and requirements. Uniformly distribute topsoil at a thickness of 6 inches unless otherwise specified in the plans.
2. Prepare seed bed
   Refer to section 164.3 for instructions.
   Prior to seeding:
   - If seeding into bare ground - till soil to a 4 inch depth.
   - If seeding into temporary vegetation cover - mow at a height range of 4-7 inches.
3. Apply seed, fertilizer, mulch mixture & emulsion
   Refer to Items 164 and 166 for instructions.
   Refer to "Seed Mix" shown on sheet 2 of 2 for a list of species and rates.
   Use the 2-step method in which the seed and less than 10% of the required mulch is applied in the first application. The remainder of the mulch and is then applied in the subsequent applications.
4. Begin vegetative watering
   Initiate vegetative watering as follows:
   Cool temporary vegetation - within 5 days of placing the seed.
   Permanent vegetation - delay watering until after next rainfall of 1/2" or greater or as directed by the Area Engineer.

BROADCAST SEEDING

RECOMMENDED USES:
- TEMPORARY SEEDING (BARE SOIL)(COOL ONLY)
- OVERSEEDING PERMANENT GRASSES INTO TEMP GRASSES (YEAR-ROUND)

REQUIRED BID ITEMS:

164 6011 BROADCAST SEED (TEMP) (COOL)
OR
164 6001 BROADCAST SEED (PERM) (RURAL) (SANDY)
OR
164 6003 BROADCAST SEED (PERM) (RURAL) (CLAY)
OR
164 6005 BROADCAST SEED (PERM) (URBAN) (SANDY)
OR
164 6007 BROADCAST SEED (PERM) (URBAN) (CLAY)

CONSTRUCTION SEQUENCE:

- Refer to Items 162 & 164 of the Texas Standard Specifications for Construction of Highways, Streets, and Bridges 2014 for specifications, dimensions, volumes and measurements that have been modified or not shown.

1. Distribute topsoil
   Refer to Item 160 for instructions and requirements. Uniformly distribute topsoil at a thickness of 6 inches unless otherwise specified in the plans.
2. Prepare seed bed
   Refer to section 164.3 for instructions.
   Prior to seeding:
   - If seeding into bare ground - till soil to a 4 inch depth.
   - If seeding into temporary vegetation cover - mow at a height range of 4-7 inches.
3. Apply seed mixture
   Refer to Items 164 and 166 for instructions.
   Refer to "Seed Mix" shown on sheet 2 of 2 for a list of species and rates.
4. Apply fertilizer
   Refer to Item 166 for instructions.
5. Begin vegetative watering
   Initiate vegetative watering as follows:
   Cool temporary vegetation - within 5 days of placing the seed.
   Permanent vegetation - delay watering until after next rainfall of 1/2" or greater or as directed by the Area Engineer.

DRILL SEEDING
PREFERRED RURAL/URBAN OVER-SEEDING METHOD

RECOMMENDED USES:
- OVERSEEDING PERMANENT GRASSES INTO TEMP GRASSES (YEAR-ROUND)

REQUIRED BID ITEMS:

164 6034 DRILL SEEDING (PERM) (RURAL) (SANDY)
OR
164 6036 DRILL SEEDING (PERM) (RURAL) (CLAY)
OR
164 6038 DRILL SEEDING (PERM) (URBAN) (SANDY)
OR
164 6040 DRILL SEEDING (PERM) (URBAN) (CLAY)

CONSTRUCTION SEQUENCE:

- Refer to Items 162 & 164 of the Texas Standard Specifications for Construction of Highways, Streets, and Bridges 2014 for specifications, dimensions, volumes and measurements that have been modified or not shown.

1. Distribute topsoil
   Refer to Item 160 for instructions and requirements. Uniformly distribute topsoil at a thickness of 6 inches unless otherwise specified in the plans.
2. Prepare seed bed
   Refer to section 164.3 for instructions.
   Prior to seeding:
   - If seeding into bare ground - till soil to a 4 inch depth.
   - If seeding into temporary vegetation cover - mow at a height range of 4-7 inches.
3. Apply seed mixture
   Refer to Items 164 and 166 for instructions.
   Refer to "Seed Mix" shown on sheet 2 of 2 for a list of species and rates.
4. Apply fertilizer
   Refer to Item 166 for instructions.
5. Begin vegetative watering
   Initiate vegetative watering as follows:
   Cool temporary vegetation - within 5 days of placing the seed.
   Permanent vegetation - delay watering until after next rainfall of 1/2" or greater.

NOT TO SCALE

DATE: 5/30/2024 11:22:13 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763342\LAREDO REVEGETATION NOTES .dgn

Texas Department of Transportation

SH 255

LAREDO DISTRICT
REVEGETATION
NOTES AND
SPECIFICATIONS

©TxDOT 2024
SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST		COUNTY	SHEET NO.
22		WEBB	263

PERMANENT SOIL STABILIZATION

PERMANENT SEED MIX

January 15 thru May 1

RURAL

Clay Soils *

Green Sprangletop (Van Horn)	1.0
Sideoats Grama (South Texas)	1.0
Texas Grama (Atascosa)	1.0
Slender Grama (Dilley)	1.0
Shortspike Windmillgrass (Welder)	0.2
Pink Pappusgrass (Maverick)	0.6
Halls Panicum (Oso)	0.2
Plains Bristlegrass(Catarina Blend)	0.2
False Rhodes Grass (Kinney)	0.1
Hooded Windmillgrass (Mariah)	0.2
Arizona Cottontop (La Salle)	0.2

Sandy Soils *

Green Sprangletop (Van Horn)	1.0
Slender Grama (Dilley)	1.0
Shortspike Windmillgrass (Welder)	0.2
Pink Pappusgrass (Maverick)	0.6
Halls Panicum (Oso)	0.2
Plains Bristlegrass(Catarina Blend)	0.2
False Rhodes Grass (Kinney)	0.1
Hooded Windmillgrass (Mariah)	0.2
Arizona Cottontop (La Salle)	0.2

URBAN

Clay Soils *

Green Sprangletop (Van Horn)	0.3
Sideoats Grama (South Texas)	4.5
Buffalograss (Texoka)	1.6
Bermudagrass	1.8

Sandy Soils *

Green Sprangletop (Van Horn)	0.3
Buffalograss (Texoka)	1.6
Bermudagrass	3.6
Sand Dropseed	0.4

May 2 thru August 31

RURAL

Clay Soils *

Green Sprangletop (Van Horn)	0.3
Sideoats Grama (South Texas)	3.6
Plains Bristlegrass(Catarina Blend)	1.2
Buffalograss (Texoka)	1.6
Bermudagrass	1.2
Illinois Bundleflower	1.0
Foxtail Millet	9.0

Sandy Soils *

Green Sprangletop (Van Horn)	0.3
Bermudagrass	0.6
Sand Dropseed	0.4
Lehmans Lovegrass	0.2
Purple Prairieclover	0.5
Foxtail Millet	9.0

URBAN

Clay Soils *

Green Sprangletop (Van Horn)	0.3
Sideoats Grama (South Texas)	4.5
Buffalograss (Texoka)	1.6
Bermudagrass	1.2
Foxtail Millet	9.0

Sandy Soils *

Green Sprangletop (Van Horn)	0.3
Bermudagrass	0.8
Buffalograss (Texoka)	3.2
Sand Dropseed	0.3
Foxtail Millet	9.0

September 1 thru January 14

RURAL

Clay Soils *

Green Sprangletop (Van Horn)	0.3
Sideoats Grama (South Texas)	3.6
Plains Bristlegrass(Catarina Blend)	0.2
Buffalograss (Texoka)	1.6
Bermudagrass	1.2
Illinois Bundleflower	1.0
Oats	40.0

Sandy Soils *

Green Sprangletop (Van Horn)	1.0
Bermudagrass	0.6
Sand Dropseed	0.2
Lehmans Lovegrass	0.2
Purple Prairieclover	0.5
Oats	40.0

URBAN

Clay Soils *

Green Sprangletop (Van Horn)	0.3
Sideoats Grama (South Texas)	4.5
Buffalograss (Texoka)	1.6
Bermudagrass	1.8
Oats	40.0

Sandy Soils *

Green Sprangletop (Van Horn)	0.3
Bermudagrass	0.8
Buffalograss (Texoka)	3.2
Sand Dropseed	0.3
Oats	40.0

* SEED QUANTITIES ARE POUNDS PURE LIVE SEED (PLS) PER ACRE.

TEMPORARY SOIL STABILIZATION

TEMPORARY SEED MIX

February 15 thru September 31

WARM SEASON

Foxtail Millet	34.0 Lbs PLS/Acre

October 1 thru February 14

COOL SEASON

Oats	72.0

VEGETATIVE WATERING FOR SEED AND SOD

ITEM 168---VEGETATIVE WATERING

RURAL---NO VEGETATIVE WATERING

URBAN---TEMPORARY IRRIGATION---REFER TO IRRIGATION PLAN SHEETS FOR ZONE TIME.

URBAN---TRUCK IRRIGATION---REFER TO WATERING SCHEDULE BELOW:

WATERING SCHEDULE	DAYS 1-14	DAYS 15-28	DAYS 29-42	TOTAL CYCLES
Seeded Sites	Twice per day	Twice per day	Once per day	70
Sodded Sites	Twice per day	Once per day	————	42

Standard watering rate is 1/4 inch per cycle. However, rate and frequency may be adjusted, with the approval of the engineer, to meet site conditions.

NOT TO SCALE

SEEDING NOTES:

1. All seed shall meet labeling, delivery, analysis, and testing requirements as described in Item 164.2.
2. All drill seeding shall be accomplished using a pasture or rangeland type drill seeder. Grain drills or Brillion seeders are not acceptable. Seedbed prep is required, even for no-till drill seeders, when seeding into bare soil.
3. All seed shall be drilled to a depth of 1/4 inch to 1/3 inch.
4. Seeding with compost:
   - Prior to seeding, one inch of compost shall be applied to the soil followed by an application of fertilizer. Refer to Item 166 Fertilizer for specifications and application rate.
   - Compost/fertilizer shall be tilled into the soil to a depth of four inches. Seed into prepared seedbed.
5. Where drill seeding is specified, and site conditions prevent it, broadcast seeding is permitted as approved by the engineer.
6. CELL FIBER MULCH SEEDING shall only be used where site conditions prevent drill seeding (refer to plan sheets for type of seeding). Seeding shall be a two-step process as detailed above.
7. Vegetative watering shall be paid for under Item 168. Watering rate and specifications shall be as shown on sheet 2 of 2 under Item 168.

Texas Department of Transportation

SH 255

LAREDO DISTRICT
REVEGETATION
NOTES AND
SPECIFICATIONS

©TxDOT 2024 SHEET 2 OF 2

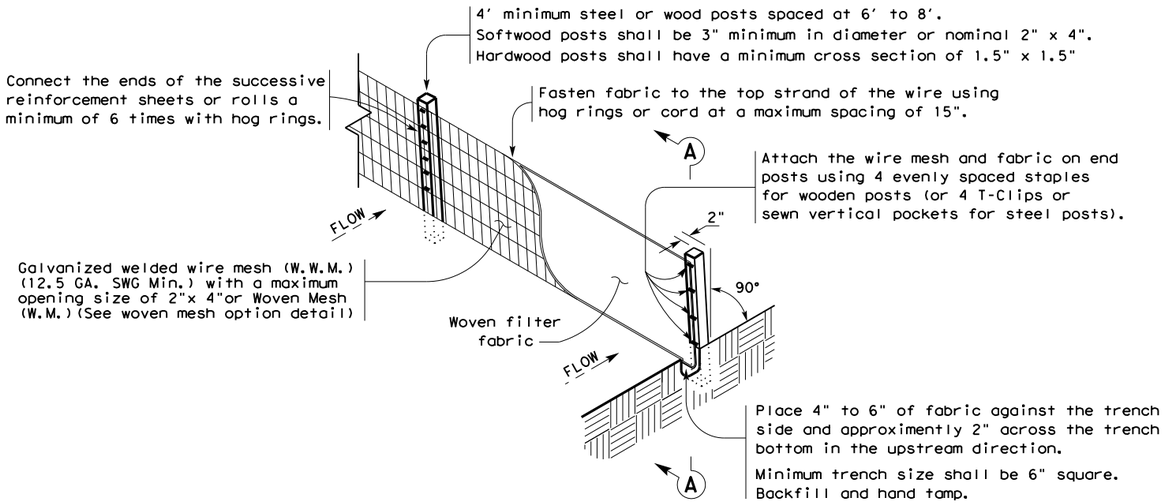
CONT	SECT	JOB	HIGHWAY
3586	02	006	SH 255
DIST	COUNTY		SHEET NO.
22	WEBB		264

DATE: 5/30/2024 11:22:14 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763342\LAREDO REVEGETATION NOTES.dgn

CK
DW
CK
DN

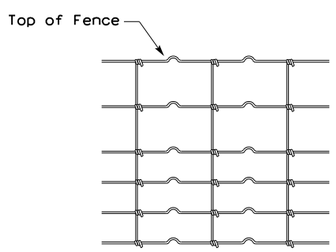
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

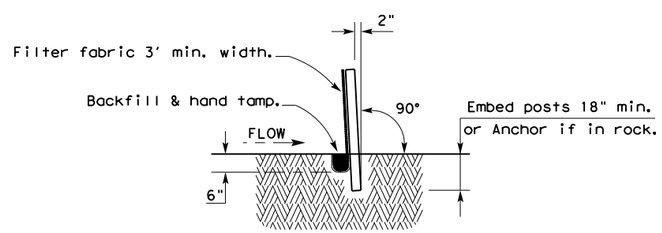
5/30/2024
c:\txdot\pw_online\txdot5\misael.aguilar\d1010230\ec116.dgn



TEMPORARY SEDIMENT CONTROL FENCE

SCF





SECTION A-A

HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

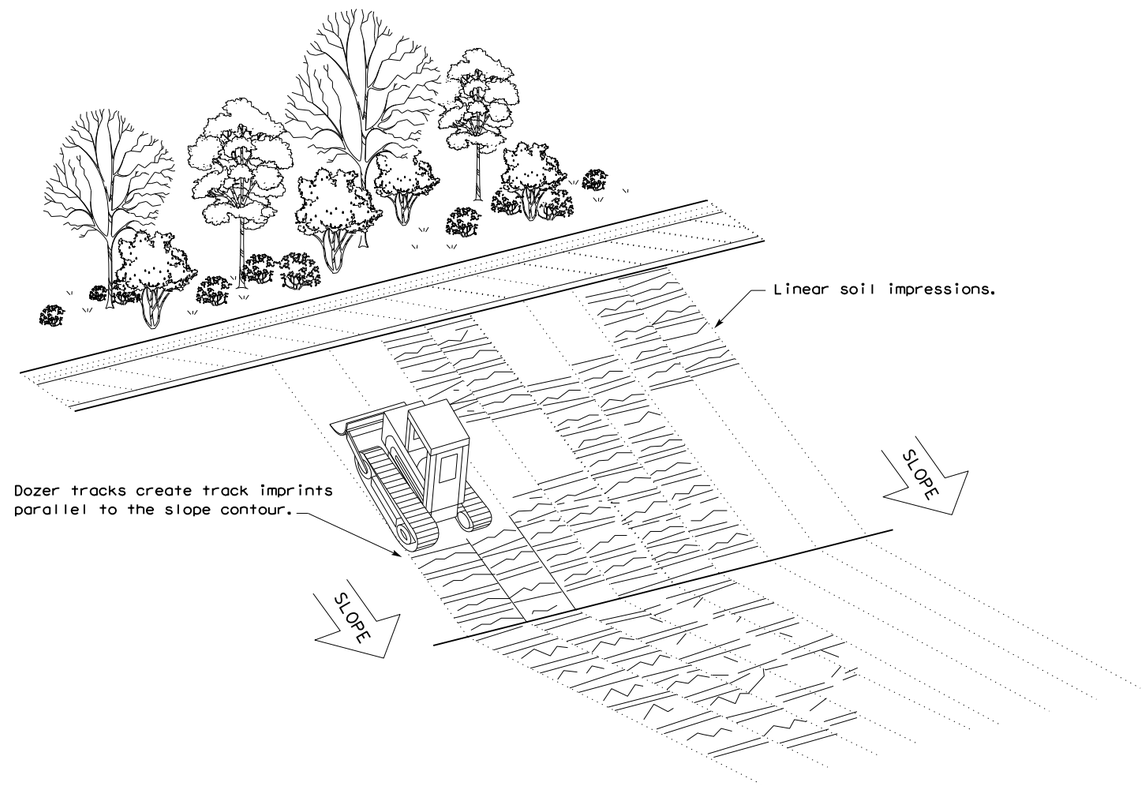
LEGEND

Sediment Control Fence

SCF

GENERAL NOTES

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



VERTICAL TRACKING

Texas Department of Transportation

Design Division Standard

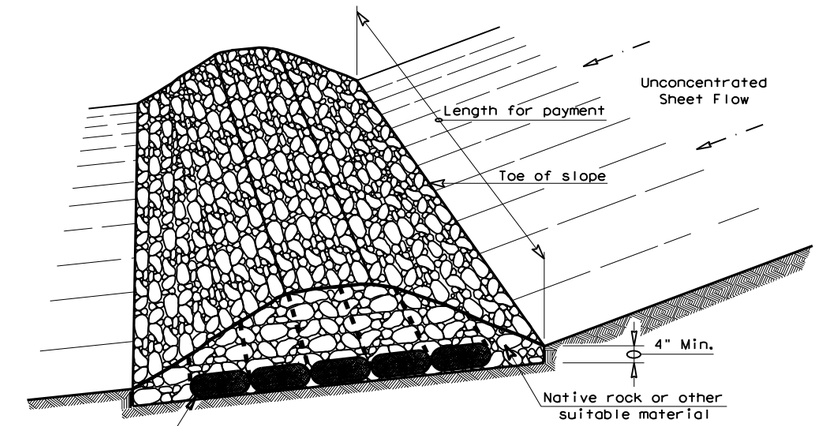
TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & VERTICAL TRACKING

EC(1)-16

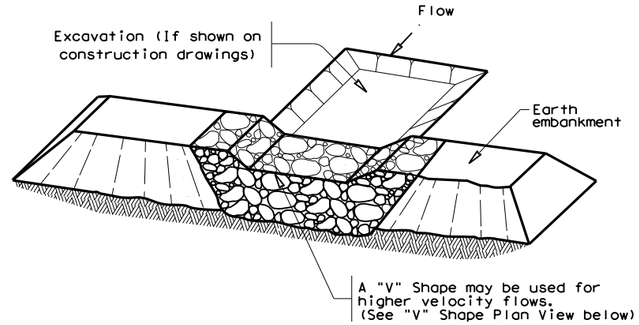
FILE: ec116	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	265

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.



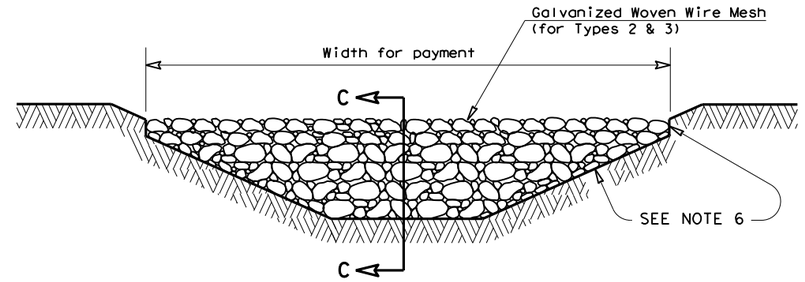
FILTER DAM AT TOE OF SLOPE

RFD1



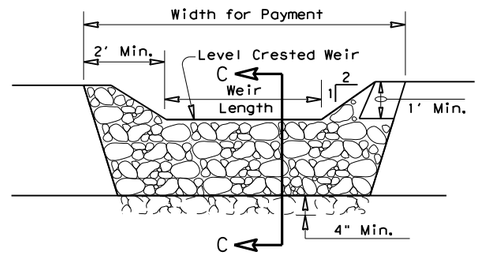
FILTER DAM AT SEDIMENT TRAP

RFD1 OR RFD2

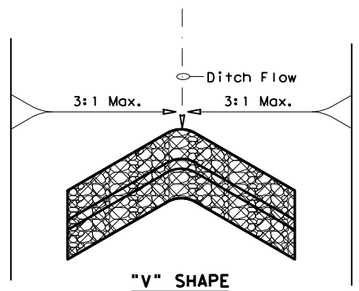


FILTER DAM AT CHANNEL SECTIONS

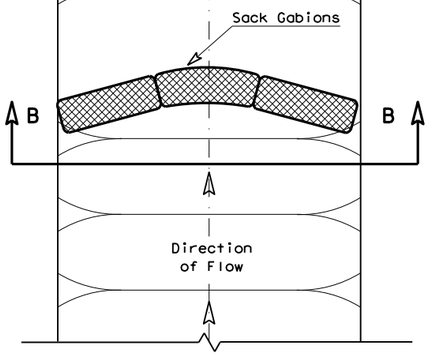
RFD1 OR RFD2 OR RFD3



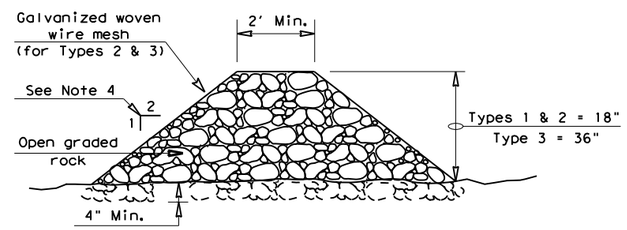
PROFILE



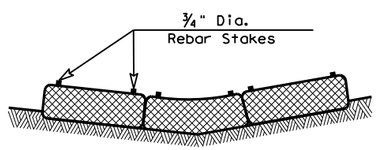
"V" SHAPE
PLAN VIEW



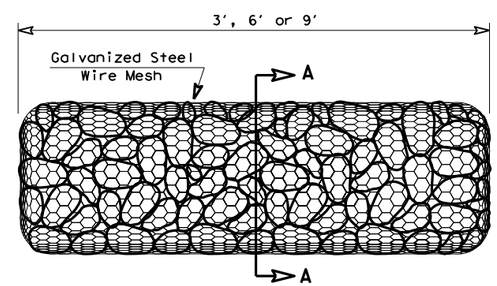
PLAN VIEW



SECTION C-C

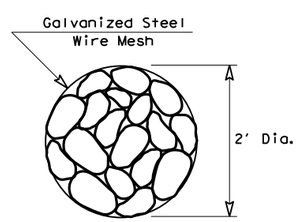


SECTION B-B



TYPE 4 (SACK GABIONS)

RFD4



SECTION A-A

GENERAL NOTES

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified.
   The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with ¾" dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 ½" x 3 ¼"
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT^2 of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximently 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh) (4" to 8" aggregate): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions) (3" to 6" aggregate): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.

PLAN SHEET LEGEND

Type 1 Rock Filter Dam	RFD1
Type 2 Rock Filter Dam	RFD2
Type 3 Rock Filter Dam	RFD3
Type 4 Rock Filter Dam	RFD4

Texas Department of Transportation — Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

ROCK FILTER DAMS

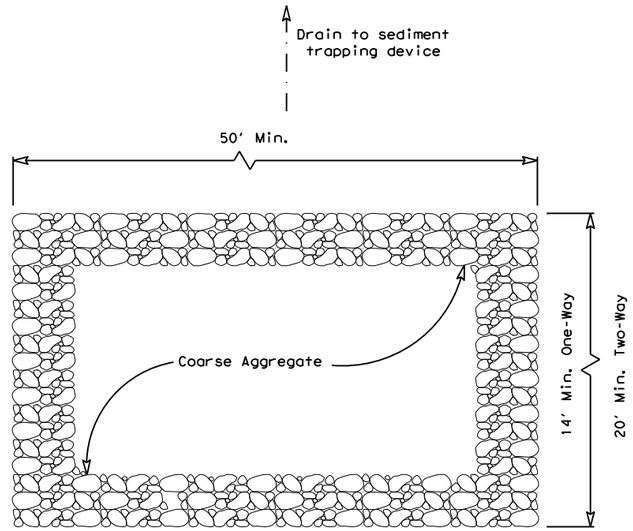
EC(2)-16

FILE: ec216	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	266

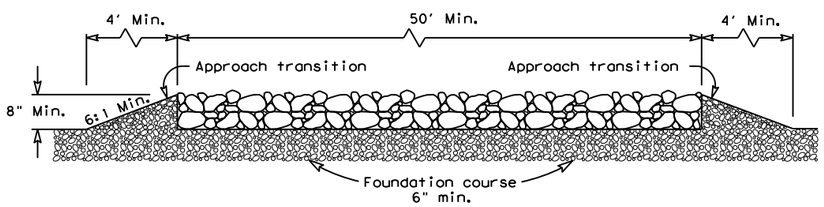
DATE: 5/30/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010230\ec216.dgn

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 5/30/2024
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d1010230\ec316.dgn



PLAN VIEW



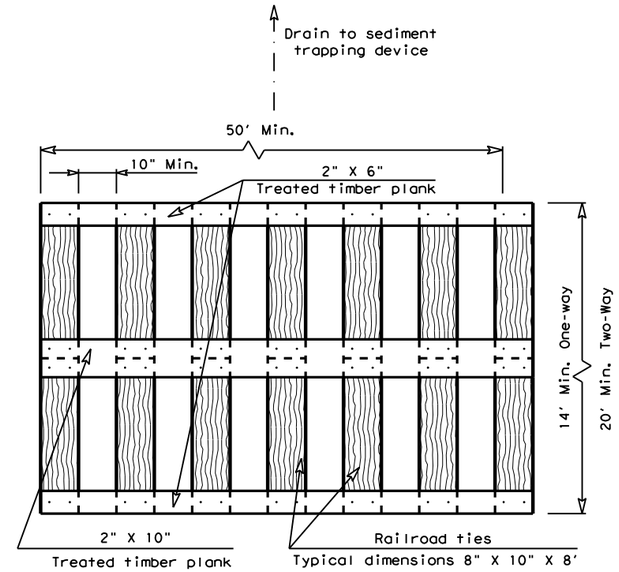
ELEVATION VIEW

CONSTRUCTION EXIT (TYPE 1)

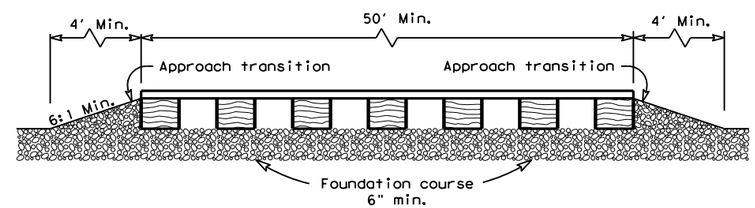
ROCK CONSTRUCTION (LONG TERM)

GENERAL NOTES (TYPE 1)

1. The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
2. The coarse aggregate should be open graded with a size of 4" to 8".
3. The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
4. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other materialas approved by the Engineer.
5. The construction exit shall be graded to allow drainage to a sediment trapping device.
6. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
7. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



PLAN VIEW



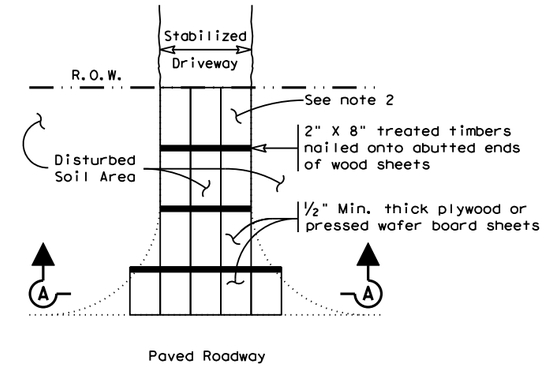
ELEVATION VIEW

CONSTRUCTION EXIT (TYPE 2)

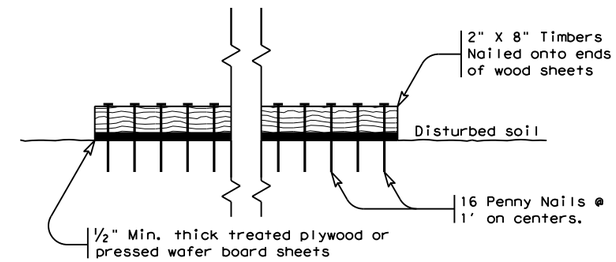
TIMBER CONSTRUCTION (LONG TERM)

GENERAL NOTES (TYPE 2)

1. The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50'.
2. The treated timber planks shall be attached to the railroad ties with ½"x 6" min. lag bolts. Other fasteners may be used as approved by the Engineer.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer.
5. The construction exit foundation course shall be flexible base, bituminous concrete, portland cement concrete or other material as approved by the Engineer.
6. The construction exit should be graded to allow drainage to a sediment trapping device.
7. The guidelines shown hereon are suggestions only and may be modified by the Engineer.
8. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.



PLAN VIEW



SECTION A-A

CONSTRUCTION EXIT (TYPE 3)

SHORT TERM

GENERAL NOTES (TYPE 3)

1. The length of the type 3 construction exit shall be as shown on the plans, or as directed by the Engineer.
2. The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a min. of 4" thick to the limits shown on the plans.
3. The treated timber planks shall be #2 grade min., and should be free from large and loose knots.
4. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

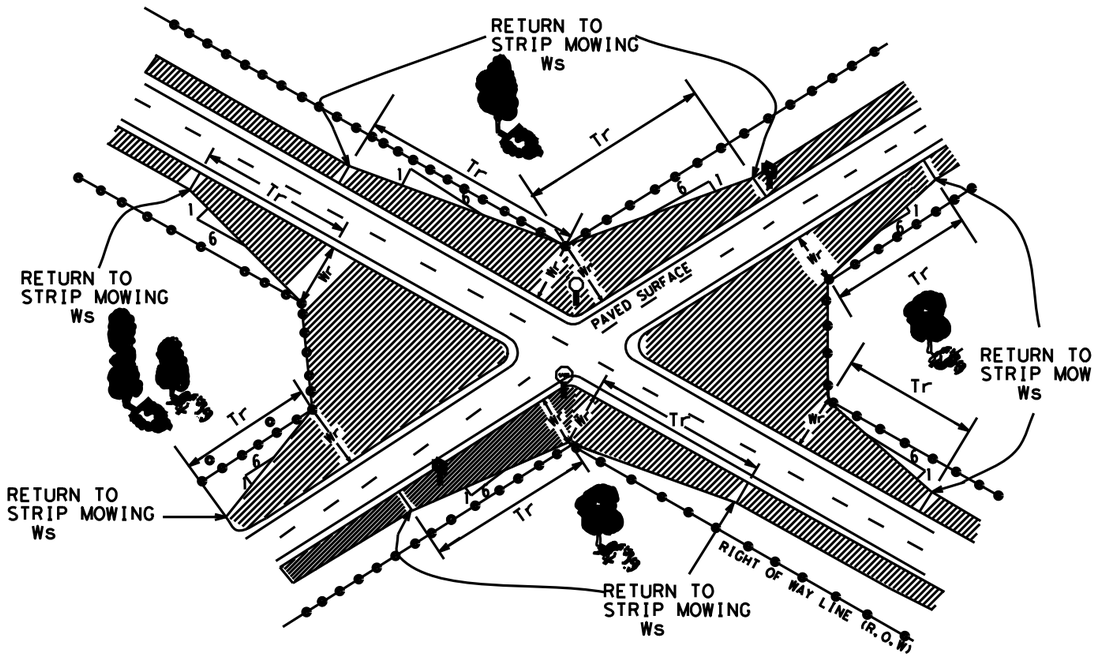
Texas Department of Transportation — Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

CONSTRUCTION EXITS

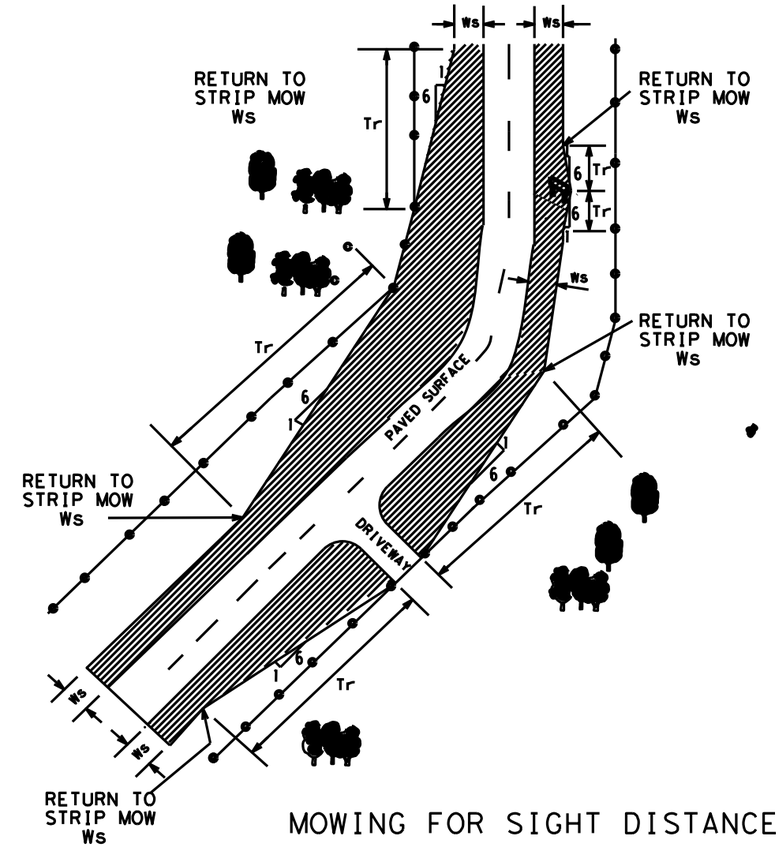
EC(3)-16

FILE: ec316	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS
©TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	267



MOWING FOR SIGHT DISTANCE

WITH TRANSITION FROM INTERSECTION
BACK TO STRIP MOWING



MOWING FOR SIGHT DISTANCE

TRANSITIONS AT DRIVEWAYS,
SIGNS, AND CURVES

GENERAL NOTES:

1. THE NORMAL WIDTH FOR STRIP MOWING IS 15' UNLESS OTHERWISE SHOWN ON THE PLANS.
2. MOW TO THE R.O.W. LINE IN FRONT OF BUSINESSES, RESIDENCES, CHURCHES, OR CULTIVATED FIELDS UNLESS OTHERWISE SHOWN ON THE PLANS.
3. TRANSITION FOR SIGHT DISTANCE TO R.O.W LINE OR AROUND SIGNS AS SHOWN ON THIS SHEET UNLESS OTHERWISE SHOWN ON THE PLANS.

RIGHT OF WAY LINE

MOWING LOCATION

Wr - R.O.W. WIDTH (AT START OF TRANSITION)

Ws - STRIP MOWING WIDTH

Tr - TRANSITION

Texas Department of Transportation

Maintenance Division
Standard Plans

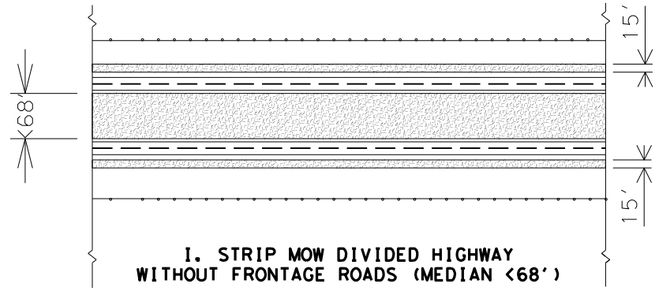
STRIP MOWING NON-DIVIDED HIGHWAYS

SHEET 1 OF 1 — STRIP-MOW-ND-04 — NOT TO SCALE

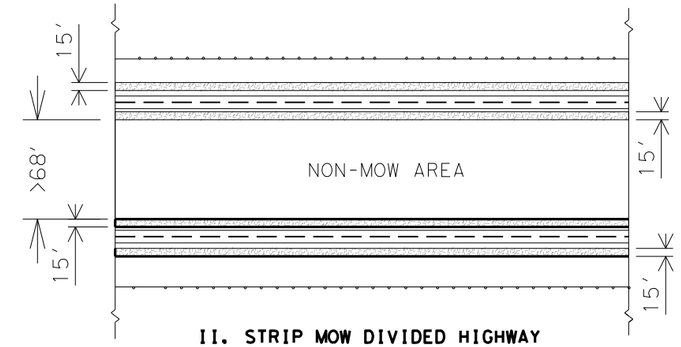
FILE: SMOWND04.DGN	DN: LJB	CK: JG	DW: -	CK: -	NEG NO.:		
© TxDOT 2004		STATE DISTRICT	FEDERAL REGION	STATE AID PROJECT			SHEET
REVISED: 5/18/2004	LJB	22	N/A	C 3586-2-6			268
REVISED:		COUNTY		CONTROL	SECTION	JOB	HIGHWAY
REVISED:		WEBB		3586	02	006	SH 255

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

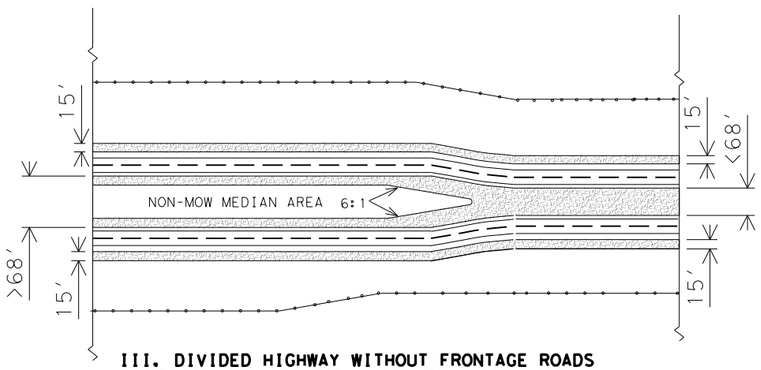
LEVELS DISPLAYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
49 50 51 52 53 54 55 56 57 58 59 60 61 62 63



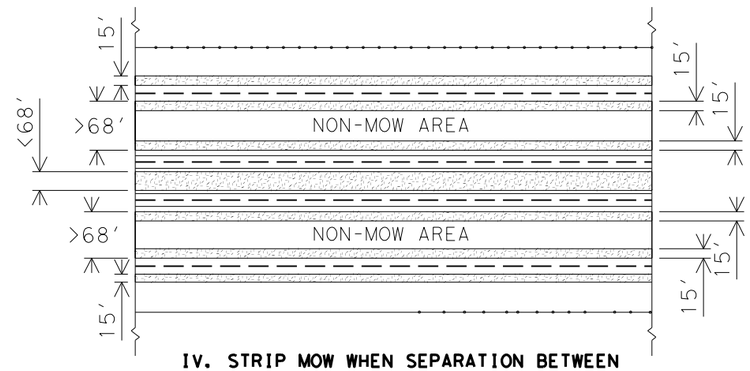
I. STRIP MOW DIVIDED HIGHWAY
WITHOUT FRONTAGE ROADS (MEDIAN <68')



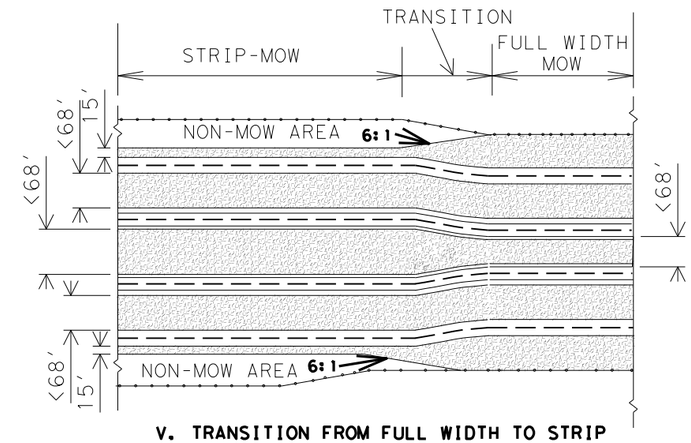
II. STRIP MOW DIVIDED HIGHWAY
WITHOUT FRONTAGE ROADS (MEDIAN >68')



III. DIVIDED HIGHWAY WITHOUT FRONTAGE ROADS
MEDIAN CHANGES FOR > 68' TO < 68' WIDE



IV. STRIP MOW WHEN SEPARATION BETWEEN
MAIN LANE AND FRONTAGE ROADS IS
WIDER THAN 68'



V. TRANSITION FROM FULL WIDTH TO STRIP
MOWING DIVIDED HIGHWAY WITH FRONTAGE ROADS
(MEDIAN <68' WIDE)

GENERAL NOTES:

1. MOW THE ENTIRE WIDTH OF MEDIANS AND OUTER SEPARATIONS (AREAS BETWEEN MAIN LANES, RAMPS, AND FRONTAGE ROAD) EXCEPT FOR NON-MOW AREAS.
2. MOW FULL-WIDTH ALL MEDIANS AND OUTER SEPARATIONS 68' OR LESS FROM PAVEMENT EDGE TO PAVEMENT EDGE.
3. FOR MEDIANS AND OUTER SEPARATIONS GREATER THAN 68' MOW A 15' ALONG EACH PAVEMENT EDGE.
4. NON-MOW AREAS IN MEDIANS & OUTER SEPARATIONS WILL BE CONSIDERED THE AREA IN MEDIANS AND OUTER SEPARATIONS GREATER THAN 68' BETWEEN THE 15' STRIP MOW AREAS.
5. OTHER NON-MOW AREA'S WILL BE SHOWN ELSEWHERE ON PLANS OR MARKED ON THE RIGHT OF WAY.

KEY

MOW AREA

PAVED ROADWAY

RIGHT-OF-WAY LINE

Texas Department of Transportation

Maintenance Division
Standard Plans

STRIP MOWING (DIVIDED HIGHWAYS)

STRIP-MOW-D-04

SHEET 1 OF 1

NOT TO SCALE

FILE: SMOWD04.DGN		DN: LJB	CK: JG	DW: -	CK: -		NEG NO.:	
© TxDOT JUNE 2004		STATE DISTRICT	FEDERAL REGION	STATE AID PROJECT				SHEET
REVISED: 6/03/2004		22	N/A	C 3586-2-6				269
REVISED:		COUNTY			CONTROL	SECTION	JOB	HIGHWAY
REVISED:		WEBB			3586	02	006	SH 255

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

LEVELS DISPLAYED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act." No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

☐ This project is adjacent or parallel work, not within RR ROW:

DOT No.: 849042K
Crossing Type: Public
RR Company Operating Track at Crossing: Union Pacific Railroad Company
RR Company Owning Track at Crossing: Union Pacific Railroad Company
RR MP: 388.720
RR Subdivision: Laredo
City: Laredo
County: Webb
CSJ at this Crossing: 3586-02-006
Latitude: 27.8289073
Longitude: -99.4119406

Scope of Work, including any TCP, to be performed by State Contractor:

scope of work will be stripping the roadway on the bridge structure along SH255 going over the railroad tracks. Mobile Traffic control will be used during the stripping work along this roadway and will not interfere with rail operations.

Scope of Work to be performed by Railroad Company:

none

II. FLAGGING & INSPECTION

No. of Days of Railroad Flagging Expected: 1 day

On this project, night or weekend flagging is:

☑ Expected
☐ Not Expected

Flagging services will be provided by:

☐ Railroad Company: 1) Txdot will pay flagging invoices. Flagging Agreement with railroad will be needed or, 2) Permitted crossing. Railroad company to provide flagging.
☑ Outside Party: Contractor will pay flagging invoices to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30-day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☑ **UPRR** UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
UP.request@nrssinc.net
Call Center 877-984-6777

☐ **BNSF** BNSFinfo@railprosfs.com
Call Center 877-315-0513, Select #1 for flagging

☐ **CPKCR** KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS:

Contractor must incorporate railroad construction inspection into anticipated construction schedule.

☑ Not Required
☐ Required. Contact Information for Construction Inspection:

III. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

☐ Required.
☑ Not Required
Railroad Point of Contact: _____

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

IV. RAILROAD INSURANCE REQUIREMENTS

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies and corresponding certificates of insurance must be issued by the contractor on behalf of the Railroad. Separate insurance policies and certificates are required when more than one Railroad Company is operating on the same right of way, or when several Railroad Companies are involved and operate on their own separate right of ways.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Escalated Limits

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000

Railroad Protective Liability Limits

☐ Not Required	
☑ Non - Bridge/Typical Maintenance Projects. Includes repairs to overpass/underpass and culvert structures	$2,000,000 / $6,000,000
☐ Bridge Structure Projects. Includes new construction or replacement of overpass/ underpass structures	$5,000,000 / $10,000,000
☐ Other: _____	

V. CONTRACTOR'S RIGHT OF ENTRY (CROE)

☐ Not Required
☑ Required: UPRR Maintenance Consent Letter. TxDOT to assist
☐ Required: TxDOT to assist in obtaining the UPRR CROE
☐ Required: Contractor to obtain
- ☐ BNSF: _____
  https://bnsf.railpermitting.com
- ☐ CPKCR
  https://jllrpg.360works.com/fmi/webd/rpo_web_kcs.fmp12
- ☐ Other Railroads: _____

To view previously approved CROE templates agreed upon between the State and Railroad, see: https://www.txdot.gov/business/resources/railroad-highway-crossing/sample-right-of-entry-agreements.html

Approved CROE templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed CROE between the Contractor and the Railroad if required on project.

VI. RAILROAD COORDINATION MEETING

A Railroad Coordination Meeting is required. See item 5, Article 8.1, of the Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges Manual for more details.

VII. RAILROAD SAFETY ORIENTATION

A. Complete the Railroad's course "Orientation for Contractor's Safety," and maintain registration prior to working on the Railroad's property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

UPRR, BNSF, CPKCR will not accept on-track safety training certificates from other Railroads. Refer to each Railroad's specific contractor right of entry for training information.

Know and follow the Contractor's Right of Entry Agreement EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are subject to the same insurance requirements as the Prime Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call: Union Pacific Railroad Company
Railroad Emergency Line at: 1-800-848-8715
Location: DOT 849042K
RR Milepost: 338.720
Subdivision: Laredo

RRD Review Only
Initials: _____
Date: 12/04/2023

Texas Department of Transportation — Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: rr-scope-of-work.pdf	DN: TxDOT	CK:	DW:	CK:	
© TxDOT June 2014	CONT	SECT	JOB	HIGHWAY	
REVISIONS 6/2023	3586	02	006	SH255	
	DIST	COUNTY		SHEET NO.	
	LRD	WEBB		270	

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the right of way and/or properties of the Railroad and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right of Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right of Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right of Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, Federal Railroad Administration (FRA), and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of railroad train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with Railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

F. Railroad requirements do not allow work within 50 feet of track centers when a train passes the work site and all personnel must clear the area within 50 feet of the track centerline and secure all equipment. Additional allowances may be pursued as outlined in 3.02 and 3.03.

G. All permanent clearances shall be verified before project closing.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the contract site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a railroad flag person will be required. At the direction of the railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right of Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right of Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right of Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.15 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right of Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right of Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on railroad property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other railroads. Refer to Railroad specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right of Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF)(UPRR) and 14'-0" (KCS) horizontal from centerline of track
B. 22' (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement without receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

Texas Department of Transportation — Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	271

DATE: 5/30/2024 11:23:18 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763332\non-bridge-projects.dgn

3.09 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right of Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractors's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the project site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.10 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
1. Pre-construction meetings.
2. Pile driving/drilling of caissons or drilled shafts.
3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
4. Erection of precast concrete or steel bridge superstructure.
5. Placement of waterproofing (prior to placing ballast on bridge deck).
6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.11 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger railroad facilities or operations.

D. During any Contractor's operations when, in the opinion of the Railroad Designated Representative, railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.12 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.13 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around railroad facilities with the Railroad Designated Representative.

3.14 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

UPRR 1-800-336-9193
7:00 AM to 9:00 PM CST Monday-Friday except holidays,
staffed 24 hrs/day for emergencies
48 hrs notice required

BNSF 1-800-533-2891
24 hour number
5 working days notice required

KCS 1-800-344-8377
Texas One Call, a 24 hour number
48 hrs notice required, excluding weekends and holidays

If a telecommunications system is buried anywhere on or near railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of 1/4 inch vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.15 RAILROAD FLAGGING

Per the Right of Entry Agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor's work and at least 30 working days in advance of any Contractor's work in which any person or equipment will be within 25 feet of nearest rail or as specified in the Contractor Right of Entry (CROE).

3.16 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right of Way and leave the right of Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation — Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	3586	02	006	SH 255
	DIST		COUNTY	SHEET NO.
	22		WEBB	272

DATE: 5/30/2024 11:23:18 AM
FILE: c:\txdot\pw_online\txdot5\misael.aguilar\d0763332\non-bridge-projects.dgn