<table>
<tr><td>FED.RD. DIV.NO.</td><td colspan="3">PROJECT NO.</td><td>SHEET NO.</td></tr>
<tr><td>6</td><td colspan="3">RMC 6463-87-001</td><td>1</td></tr>
<tr><td>STATE</td><td>STATE DIST.</td><td colspan="3">COUNTY</td></tr>
<tr><td>TEXAS</td><td>YKM</td><td colspan="3">VICTORIA, ETC.</td></tr>
<tr><td>CONT.</td><td>SECT.</td><td>JOB</td><td colspan="2">HIGHWAY NO.</td></tr>
<tr><td></td><td></td><td></td><td colspan="2">US 59, ETC.</td></tr>
</table>

SEE SHEET 2 FOR "INDEX OF SHEETS"

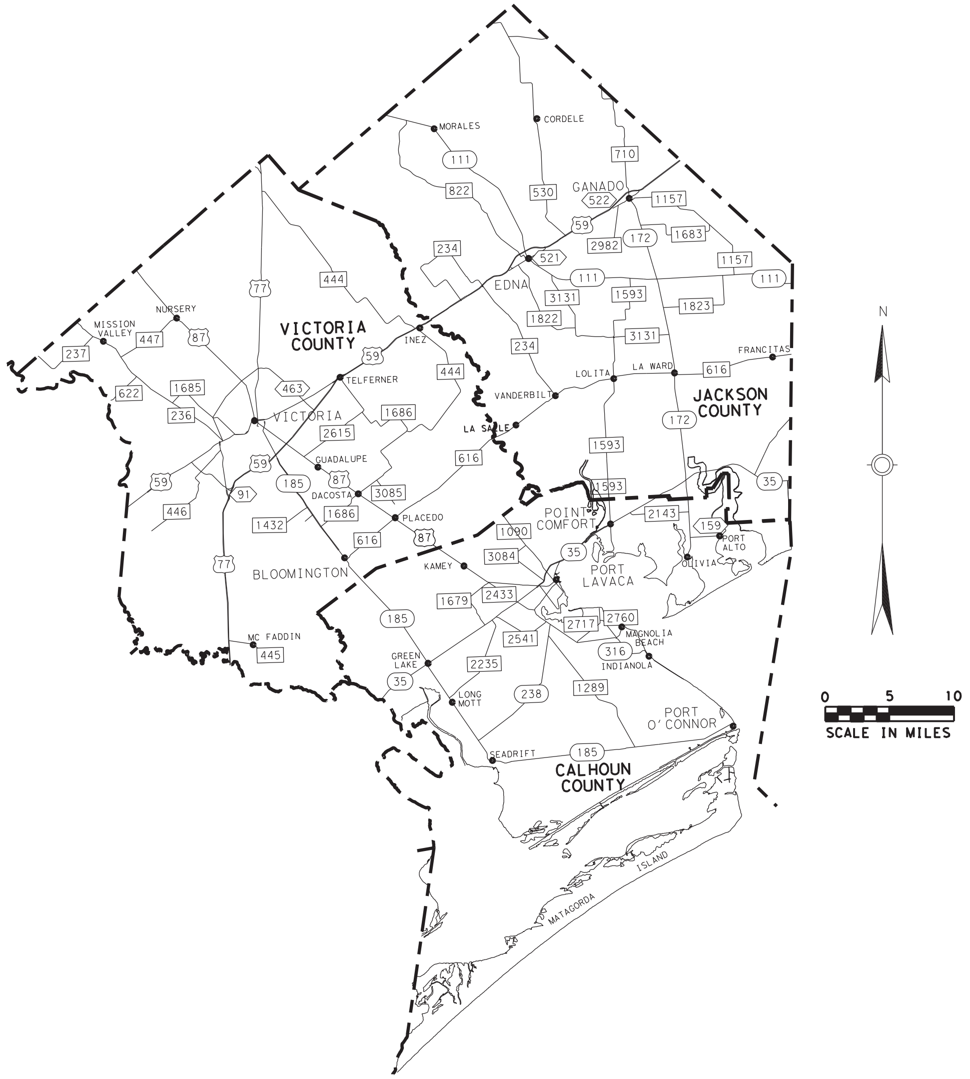
STATE OF TEXAS
TEXAS DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

INSTALLATION OF SMALL SIGNS
STATE PROJECT NO: RMC 6463-87-001
COUNTY: VICTORIA, ETC.
LIMITS: US 59, ETC.

CONTRACTOR: ______________________
DATE OF LETTING: ______________________
DATE WORK BEGAN: ______________________
DATE WORK COMPLETED: ______________________
DATE WORK ACCEPTED: ______________________
FINAL CONTRACT COST: $ ______________________

LIST OF APPROVED FIELD CHANGES:



THIS IS TO CERTIFY THAT THE CONSTRUCTION WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS, CONTRACT AND LISTED FIELD CHANGES.

______________________ *, P. E.* ____________
AREA ENGINEER *DATE*

MICHAEL L. BRZOZOWSKI
115528

SUBMITTED FOR LETTING 5-23-24

Michael Brzozowski PE

DIRECTOR OF OPERATIONS

VICTORIA AREA OFFICE

EXCEPTIONS: NONE

EQUATIONS: NONE

RAILROAD CROSSINGS: NONE

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).

TEXAS DEPARTMENT OF TRANSPORTATION

SHEET NO.	DESCRIPTION
	GENERAL
1	TITLE SHEET
2	INDEX OF SHEETS
3-4	GENERAL NOTES
5	ESTIMATE & QUANTITY SHEET
6	CALHOUN COUNTY LOCATION MAP
7	JACKSON COUNTY LOCATION MAP
8	VICTORIA COUNTY LOCATION MAP
9-11	SUMMARY OF SMALL SIGNS CALHOUN COUNTY
12-20	SUMMARY OF SMALL SIGNS JACKSON COUNTY
21-24	SUMMARY OF SMALL SIGNS VICTORIA COUNTY
	TRAFFIC CONTROL
	STANDARD SHEETS
33-44	BC(1-12)-21
45	TCP(2-1)-18
46	TCP(2-2)-18
47	WZ(RS)-22
	TRAFFIC
	STANDARD SHEETS
48	D & OM(1)-20
49	D & OM(2)-20
50	D & OM(3)-20
51	SMD(GEN)-08
52	SMD(SLIP-1)-08
53	SMD(SLIP-2)-08
54	SMD(SLIP-3)-08
55	SMD(TWT)-08
56	TSR(4)-13
	ENVIRONMENTAL
57	ENVIRONMENTAL PERMITS, ISSUES & COMMITMENTS

KATHRYN CAMILLE MAREK
88469

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

Kathy C. Marek, P.E.
May 23, 2024

INDEX OF SHEETS

Texas Department of Transportation

SHEET 1 OF 1

FED.RD. DIV.NO.		PROJECT NO.	
6		RMC 6463-87-001	
CONT.	SECT.	JOB	HIGHWAY NO.
			US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	2

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_INDEX OF SHEETS.dgn
DATE: 3/22/2024

GENERAL NOTES:

GENERAL:

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

Camille Marek Camille.Marek@txdot.gov
Kelly Rother Kelly.Rother@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 web page 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.

Do not work on the roadway before sunrise or after sunset unless otherwise approved. Leave

all traffic lanes open to traffic during non-working hours unless otherwise approved.

The Department will provide the cylinder testing machine for this project. Deliver the test specimens to the engineer's curing facilities as directed.

Do not clean out concrete trucks within the right of way.

ITEM 7: LEGAL RELATIONS AND RESPONSIBILITIES

The Department has determined that a USACE Nationwide or Individual Permit is not necessary for the project since all work shall be conducted outside the USACE jurisdictional areas. Any impacts to these jurisdictional areas by the Contractor without a USACE permit will be the responsibility of the Contractor. If the Contractor deems it necessary to impact the USACE jurisdictional areas, then it becomes the Contractor's entire responsibility to consult with the USACE pertaining to the need for a Nationwide or Individual Permit. TxDOT will then hold the Contractor responsible for following all conditions of the approved permit.

No significant traffic generator events identified.

ITEM 8: PROSECUTION AND PROGRESS

Provide progress schedule as a Bar Chart.

ITEM 502: BARRICADES, SIGNS, AND TRAFFIC HANDLING

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.

Use WZ(RS)-22 in conjunction with TCP(2-2).

Use TCP(2-2b) for one-lane, two-way traffic control.

When using TCP(2-2b), a pilot car is required to lead traffic through the work space with or without channelizing devices on the center line unless otherwise approved.

When using TCP(2-2b), channelizing devices may be omitted during base, subgrade and seal coat operations unless otherwise directed. Flaggers will be required at public intersections when channelizing devices are omitted.

When using TCP(2-2b), arrow boards, displaying the caution mode, may be used to enhance the flagger stations. If used, place the arrow board in advance of the flagger station a distance of ½X, the sign spacing distance shown on BC(2). Use arrow boards as shown on BC(7).

When using TCP(2-2b), the temporary 24" stop line and the CW16-2P plaques may be omitted.

When using TCP(2-2b), an additional "Road Work Ahead" and "Be Prepared To Stop" signs will be required on each end of the lane closure unless otherwise approved.

Provide suitable warning lights mounted high enough to be visible from all directions on all construction equipment, including pilot vehicles, and operate warning lights when the equipment is within the right of way. Equip other equipment such as trucks, trailers, autos, etc., with emergency flashers and use emergency flashers while within the work area.

Project limit traffic control devices will not be required for this project.

ITEM 506: TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

The storm water pollution prevention plan (SW3P) for this project will consist of utilizing existing vegetation. The disturbed area is less than one acre and use of erosion control measures is not anticipated. If physical conditions encountered at the job site require necessary controls, BMP installation, maintenance, and removal will be paid as extra work on a force account basis per Articles 4.4 and 9.7.

ITEM 644: SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES

Use Class B concrete for all small roadside sign assembly concrete footings.

The exact location of the foundations to be placed will be determined in the field by the Engineer.

Drill the holes in the signs carefully as to not damage the reflective sheeting of the signs.

ITEM 6185: TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA)

Shadow vehicle(s) with TMA are set up for stationary and/or mobile operations. The contractor will be responsible for determining if operations will be ongoing at the same time to determine the total number of TMAs needed for the project.

The TMA/TA used for installation/removal of traffic control for a work area will be subsidiary to the TMA/TA used to perform the work.

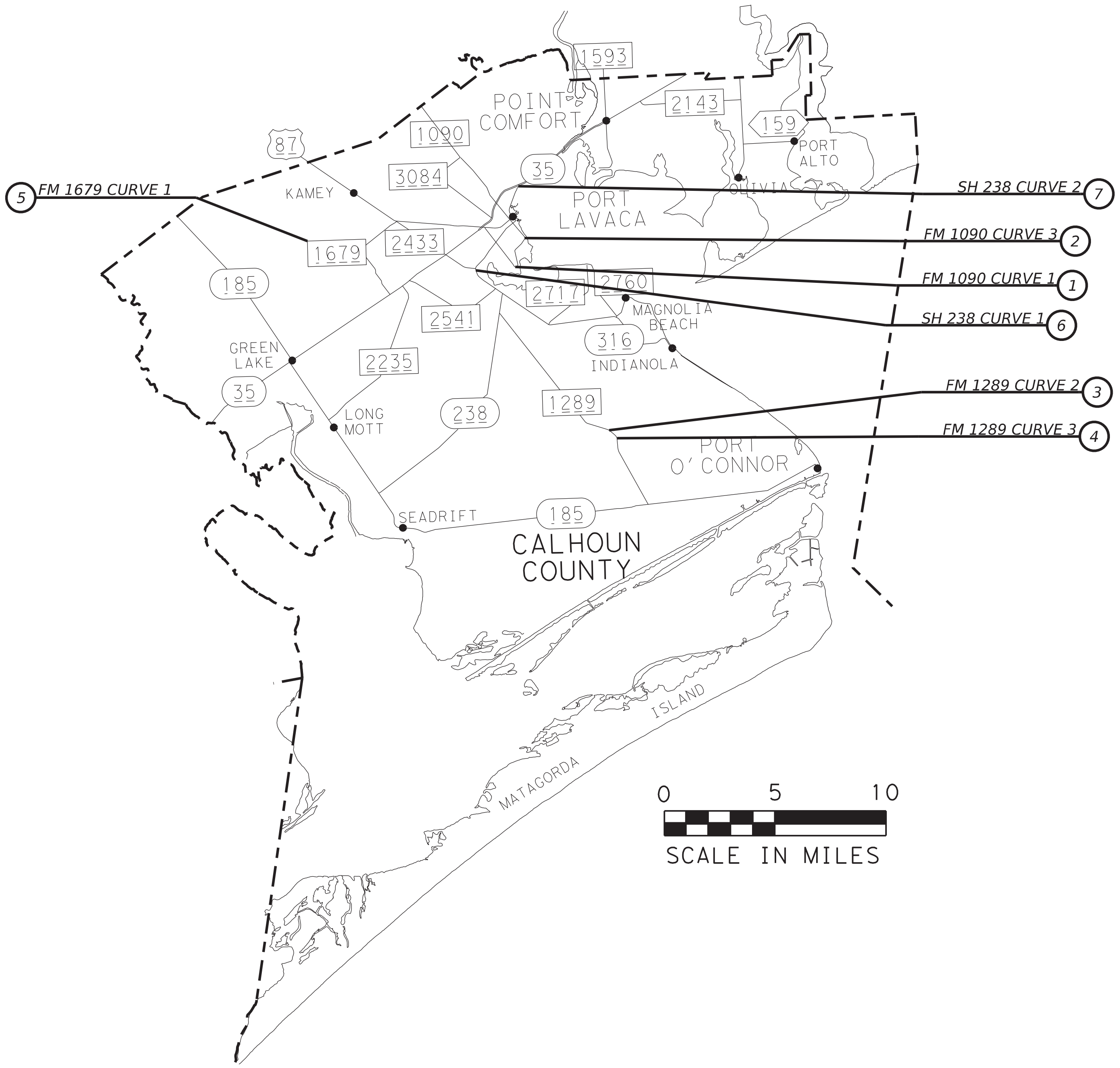
Estimate & Quantity Sheet

CONTROLLING PROJECT ID 6463-87-001

DISTRICT Yoakum
HIGHWAY US0059

COUNTY Victoria

			CONTROL SECTION JOB	**6463-87-001**		TOTAL EST.	TOTAL FINAL
			PROJECT ID	**A00207368**			
			COUNTY	**Victoria**			
			HIGHWAY	**US0059**			
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL		
	500-6001	MOBILIZATION	LS	1.000		1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	3.000		3.000	
	644-6004	IN SM RD SN SUP&AM TY10BWG(1)SA(T)	EA	52.000		52.000	
	644-6061	IN SM RD SN SUP&AM TYTWT(1)WS(T)	EA	117.000		117.000	
	644-6076	REMOVE SM RD SN SUP&AM	EA	52.000		52.000	
	6185-6002	TMA (STATIONARY)	DAY	32.000		32.000	



REFERENCE #	AREA OFFICE	COUNTY	ROAD NAME	LATITUDE	LONGITUDE
①	VICTORIA	CALHOUN	FM 1090 CURVE 1	28.583746	-96.622551
②	VICTORIA	CALHOUN	FM 1090 CURVE 3	28.60267	-96.615708
③	VICTORIA	CALHOUN	FM 1289 CURVE 2	28.475241	-96.558165
④	VICTORIA	CALHOUN	FM 1289 CURVE 3	28.472444	-96.554003
⑤	VICTORIA	CALHOUN	FM 1679 CURVE 1	28.597962	-96.737256
⑥	VICTORIA	CALHOUN	SH 238 CURVE 1	28.583356	-96.652613
⑦	VICTORIA	CALHOUN	SH 238 CURVE 2	28.636292	-96.61685

KATHRYN CAMILLE MAREK
88469

Kath C. Marek, P.E.
May 23, 2024

CALHOUN COUNTY LOCATION MAP & SUMMARY

Texas Department of Transportation

FED.RD. DIV.NO.		PROJECT NO.	
6		RMC 6463-87-001	
CONT.	SECT.	JOB	HIGHWAY NO.
			US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	6

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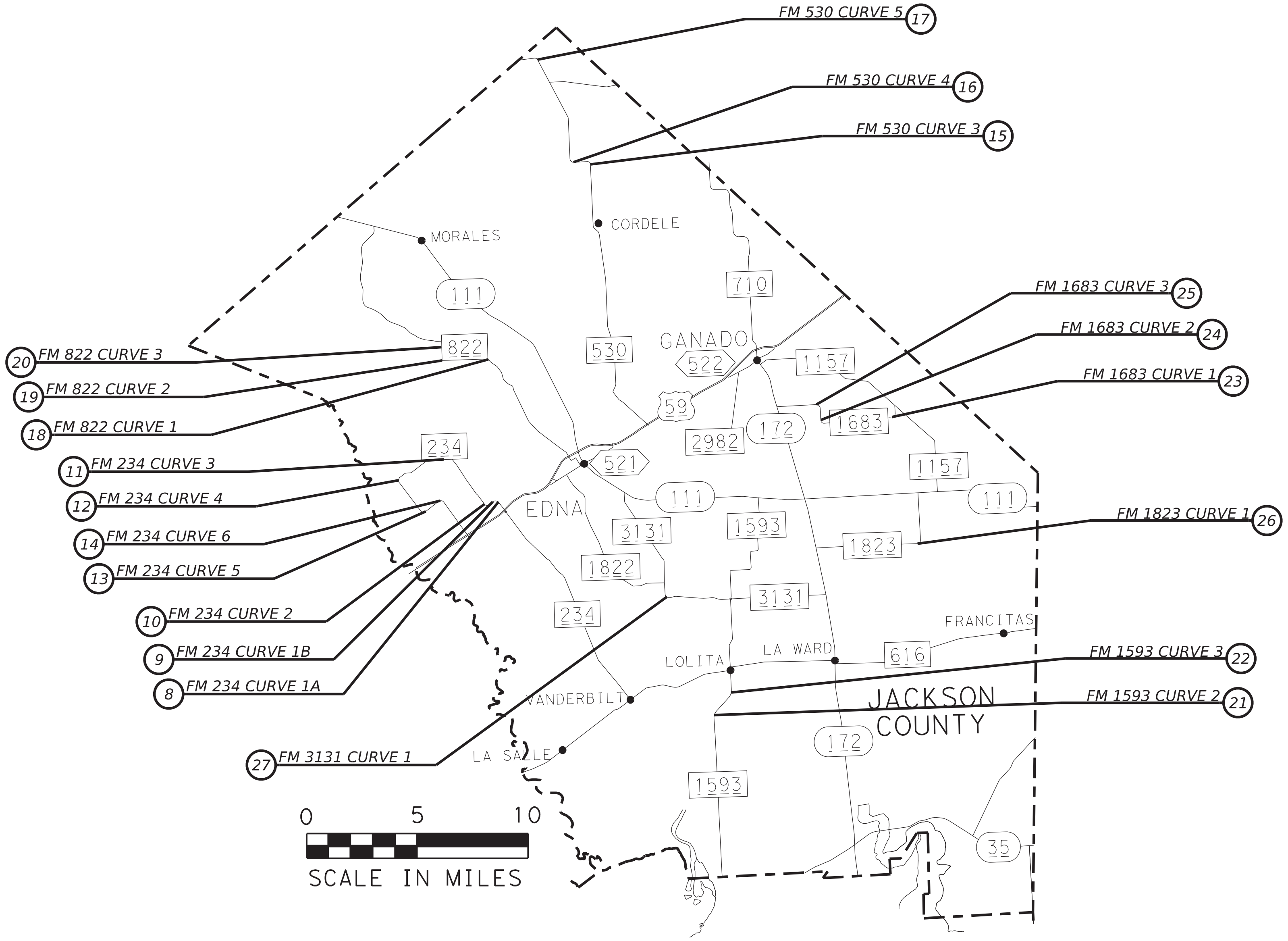
DATE: 3/22/2024



REFERENCE #	AREA OFFICE	COUNTY	ROAD NAME	LATITUDE	LONGITUDE
⑧	VICTORIA	JACKSON	FM 234 CURVE 1A	28.95556042	-96.7121522
⑨	VICTORIA	JACKSON	FM 234 CURVE 1B	28.95581282	-96.71410329
⑩	VICTORIA	JACKSON	FM 234 CURVE 2	28.95312159	-96.72023592
⑪	VICTORIA	JACKSON	FM 234 CURVE 3	28.99072262	-96.75115637
⑫	VICTORIA	JACKSON	FM 234 CURVE 4	28.97128158	-96.78502722
⑬	VICTORIA	JACKSON	FM 234 CURVE 5	28.94996175	-96.76743869
⑭	VICTORIA	JACKSON	FM 234 CURVE 6	28.95696554	-96.75379704
⑮	VICTORIA	JACKSON	FM 530 CURVE 3	29.17521469	-96.63575798
⑯	VICTORIA	JACKSON	FM 530 CURVE 4	29.17657265	-96.64899026
⑰	VICTORIA	JACKSON	FM 530 CURVE 5	29.24412041	-96.67276257
⑱	VICTORIA	JACKSON	FM 822 CURVE 1	29.05700509	-96.72621304
⑲	VICTORIA	JACKSON	FM 822 CURVE 2	29.05804656	-96.72790873
⑳	VICTORIA	JACKSON	FM 822 CURVE 3	29.05860724	-96.73254226
㉑	VICTORIA	CALHOUN	FM 1593 CURVE 2	28.811404	-96.555207
㉒	VICTORIA	CALHOUN	FM 1593 CURVE 3	28.826336	-96.542260
㉓	VICTORIA	JACKSON	FM 1683 CURVE 1	29.00320864	-96.41479753
㉔	VICTORIA	JACKSON	FM 1683 CURVE 2	29.00089997	-96.46860366
㉕	VICTORIA	JACKSON	FM 1683 CURVE 3	29.01182198	-96.47081309
㉖	VICTORIA	JACKSON	FM 1823 CURVE 1	28.91989665	-96.39894628
㉗	VICTORIA	JACKSON	FM 3131 CURVE 1	28.888942	-96.58706725

KATHRYN CAMILLE MAREK
88469

Kathy C. Marek, P.E.
May 23, 2024

JACKSON COUNTY LOCATION MAP & SUMMARY

Texas Department of Transportation

FED.RD. DIV.NO.		PROJECT NO.	
6		RMC 6463-87-001	
CONT.	SECT.	JOB	HIGHWAY NO.
			US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	7

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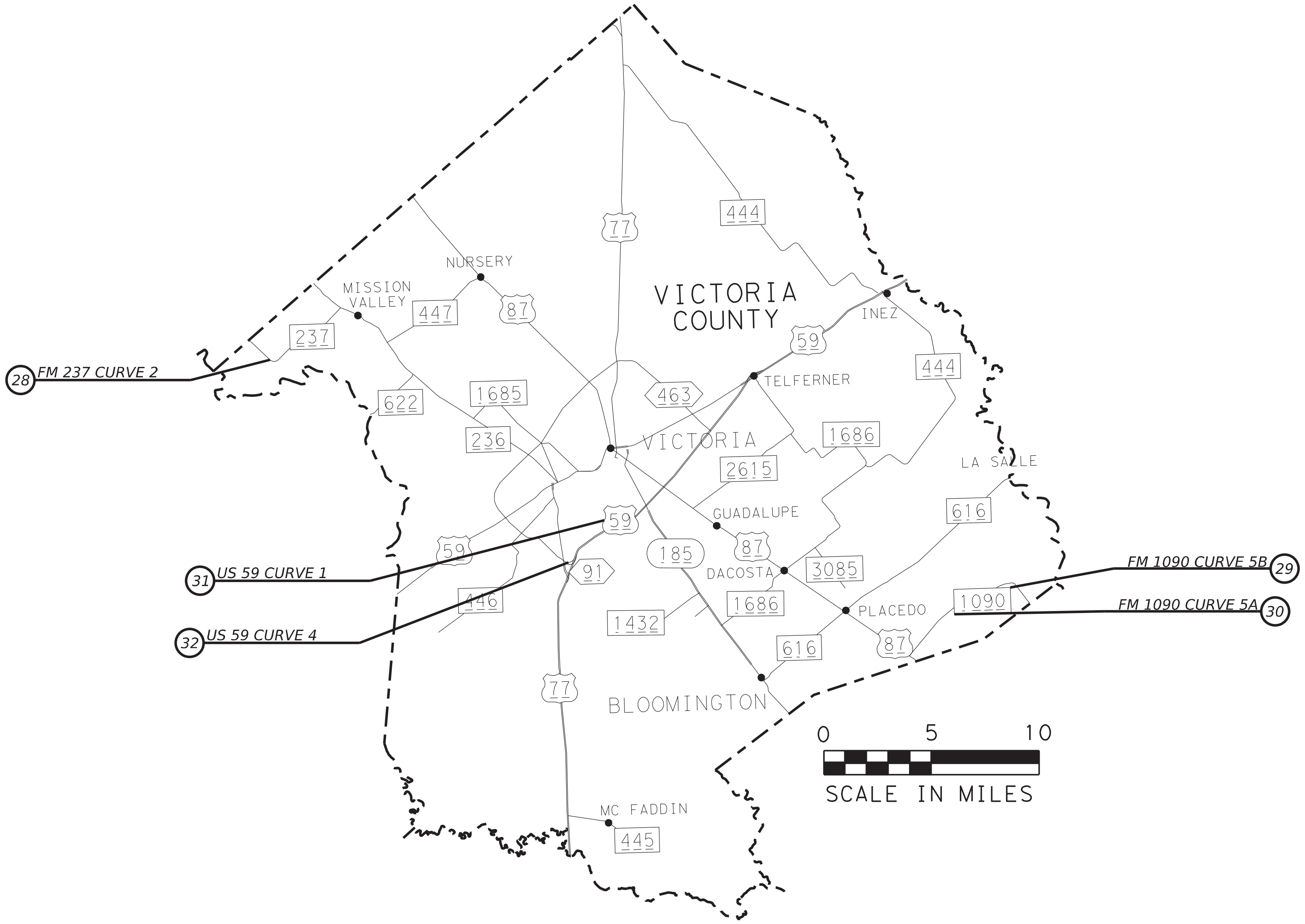
DATE: 3/22/2024



REFERENCE #	AREA OFFICE	COUNTY	ROAD NAME	LATITUDE	LONGITUDE
㉘	VICTORIA	VICTORIA	FM 237 CURVE 2	28.87006435	-97.25783162
㉙	VICTORIA	VICTORIA	FM 1090 CURVE 5B	28.68237208	-96.73905824
㉚	VICTORIA	VICTORIA	FM 1090 CURVE 5A	28.68171042	-96.74448738
㉛	VICTORIA	VICTORIA	US 59 CURVE 1	28.75460351	-97.00341412
㉜	VICTORIA	VICTORIA	US 59 CURVE 4	28.72904576	-97.03609266

KATHRYN CAMILLE MAREK
88469

Kathryn C. Marek, P.E.
May 23, 2024

VICTORIA COUNTY LOCATION MAP & SUMMARY

Texas Department of Transportation

FED.RD. DIV.NO.	PROJECT NO.		
6	RMC 6463-87-001		
CONT.	SECT.	JOB	HIGHWAY NO.
			US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	8

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FILE: y Sheet Styles.cel
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004 IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	644-6061 IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	644-6076 REMOVE SM RD SN SUP&AM EA
CALHOUN COUNTY									
FM 1090									
①	28.585248	-96.621502	Curve 1	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (35 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (35 MPH)	18 X 18			
FM 1090									
②	28.603372	-96.616053	Curve 3	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (40 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (40 MPH)	18 X 18			
						SHEET TOTALS	4	14	4

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FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS CALHOUN COUNTY

Texas Department of Transportation

SHEET 1 OF 3

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	9

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
CALHOUN COUNTY									
FM 1289									
③	28.475422	-96.558465	Curve 2	W1-4R	RIGHT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
④	28.472395	-96.553918	Curve 3	W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-4L	LEFT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
						SHEET TOTALS	2	12	2

SUMMARY OF SMALL SIGNS CALHOUN COUNTY

Texas Department of Transportation

SHEET 2 OF 3

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	10

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DATE: 3/22/2024

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
CALHOUN COUNTY									
FM 1679									
⑤	28.599115	-96.736703	Curve 1	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (40 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (40 MPH)	18 X 18			
SH 238									
⑥	28.585108	-96.651835	Curve 1	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
SH 238									
⑦	28.636462	-96.616948	Curve 2	W1-1R	RIGHT TURN	36 X 36	1		1
				W13-1P	SPEED ADVISORY (25 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-1L	LEFT TURN	36 X 36	1		1
				W13-1P	SPEED ADVISORY (25 MPH)	18 X 18			
						SHEET TOTALS	6	15	6
						CALHOUN COUNTY TOTALS	12	41	12

SUMMARY OF SMALL SIGNS CALHOUN COUNTY

Texas Department of Transportation

SHEET 3 OF 3

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	11

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004 IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	644-6061 IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	644-6076 REMOVE SM RD SN SUP&AM EA
JACKSON COUNTY									
FM 234									
⑧	28.95366	-96.721468	Curve 2	W1-4L	LEFT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
⑨	28.955473	-96.715213	Curve 1B	W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
⑩	28.954925	-96.710943	Curve 1A	W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-4L	LEFT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
						SHEET TOTALS	2	14	2

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SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 1 OF 8

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	12

SUMMARY OF SMALL SIGNS									
REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004 IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	644-6061 IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	644-6076 REMOVE SM RD SN SUP&AM EA
JACKSON COUNTY									
FM 234									
⑪	28.990458	-96.752625	Curve 3	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
FM 234									
⑫	28.973018	-96.784157	Curve 4	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
						SHEET TOTALS	4	17	4

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SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 2 OF 8

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	13

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
JACKSON COUNTY									
FM 234									
⑬	28.950352	-96.765818	Curve 5	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
FM 234									
⑭	28.956688	-96.755647	Curve 6	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
						SHEET TOTALS	4	15	4

SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 3 OF 8

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	14

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DATE: 3/22/2024

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	REMOVE SM RD SN SUP&AM EA
JACKSON COUNTY									
FM 530									
⑮	29.173827	-96.634993	Curve 3	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
FM 530									
⑯	29.17607	-96.647487	Curve 4	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
						SHEET TOTALS	4	16	4

SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 4 OF 8

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	15

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SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
JACKSON COUNTY									
FM 530									
⑰	29.244335	-96.673132	Curve 5	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
FM 822									
⑱	29.058632	-96.732047	Curve 3	W1-5R	RIGHT WINDING ROAD	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
⑲	29.057905	-96.727533	Curve 2	W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
⑳	29.056867	-96.72553	Curve 1	W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-5L	LEFT WINDING ROAD	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
						SHEET TOTALS	4	13	4

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SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 5 OF 8

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	16

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	REMOVE SM RD SN SUP&AM EA
JACKSON COUNTY									
FM 1593									
㉑	28.812005	-96.555063	Curve 2	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
FM 1593									
㉒	28.825985	-96.542287	Curve 3	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
FM 1683									
㉓	29.002568	-96.416485	Curve 1	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
						SHEET TOTALS	6	14	6

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SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 6 OF 8

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	17

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004 IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	644-6061 IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	644-6076 REMOVE SM RD SN SUP&AM EA
JACKSON COUNTY									
FM 1683									
㉔	29.002432	-96.469445	Curve 2	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
FM 1683									
㉕	29.012372	-96.472407	Curve 3	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (45 MPH)	18 X 18			
						SHEET TOTALS	4	17	4

SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 7 OF 8

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	18

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
JACKSON COUNTY									
FM 1823									
㉖	28.919202	-96.400917	Curve 1	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (50 MPH)	18 X 18			
FM 3131									
㉗	28.888798	-96.58505	Curve 1	W1-4L	LEFT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-4L	LEFT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
						SHEET TOTALS	4	18	4
						JACKSON COUNTY TOTALS	32	124	32

SUMMARY OF SMALL SIGNS JACKSON COUNTY

Texas Department of Transportation

SHEET 8 OF 8

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	19

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
VICTORIA COUNTY									
FM 237									
㉘	28.870833	-97.256000	Curve 2	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
						SHEET TOTALS	2	14	2

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS VICTORIA COUNTY

Texas Department of Transportation

SHEET 1 OF 4

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	20

SUMMARY OF SMALL SIGNS									
REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
VICTORIA COUNTY									
FM 1090									
㉙	28.681275	-96.745508	Curve 5A	W1-4R	RIGHT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
㉚	28.682425	-96.738573	Curve 5B	W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-4L	LEFT REVERSE CURVE	36 X 36	1		1
				W13-1P	SPEED ADVISORY (55 MPH)	18 X 18			
						SHEET TOTALS	2	13	2

SUMMARY OF SMALL SIGNS VICTORIA COUNTY

Texas Department of Transportation

SHEET 2 OF 4

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	21

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS									
							644-6004	644-6061	644-6076
REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	IN SM RD SN SUP&AM TY10BWG(1) SA(T) EA	IN SM RD SN SUP&AM TYTWT(1)WS (T) EA	REMOVE SM RD SN SUP&AM EA
VICTORIA COUNTY									
US 59									
㉛	28.754602	-97.003477	Curve 1	W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (60 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2L	CURVE LEFT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (60 MPH)	18 X 18			
						SHEET TOTALS	2	8	2

PATH: T:\YKMTRAFMAINT\Design Projects\FY 23\Chevrons\DGN\VICTORIA AREA OFFICE\
FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS VICTORIA COUNTY

Texas Department of Transportation

SHEET 3 OF 4

FED.RD. DIV.NO.		PROJECT NO.	
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	22

SUMMARY OF SMALL SIGNS

REFERENCE #	LATITUDE	LONGITUDE	LOCATION	SIGN DESIGNATION	SIGN CONTENT	SIGN DIMENSIONS	644-6004	644-6061	644-6076
							IN SM RD SN SUP&AM TY10BWG(1) SA(T)	IN SM RD SN SUP&AM TYTWT(1)WS (T)	REMOVE SM RD SN SUP&AM
							EA	EA	EA
VICTORIA COUNTY									
US 59									
㉜	28.730685	-97.033942	Curve 4	W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (60 MPH)	18 X 18			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-8L	CHEVRON (BACK TO BACK)	18 X 24		1	
				W1-8R		18 X 24			
				W1-2R	CURVE RIGHT	36 X 36	1		1
				W13-1P	SPEED ADVISORY (60 MPH)	18 X 18			
						SHEET TOTALS	2	17	2
						VICTORIA COUNTY TOTALS	8	52	8
						CALHOUN, JACKSON, AND VICTORIA COUNTY TOTALS	52	117	52

ITEM 6185	QUANTITY (DAY)
TMA (STATIONARY)	32

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FILE: VICTORIA AREA OFFICE_Summary of Small Signs.dgn
DATE: 3/22/2024

SUMMARY OF SMALL SIGNS VICTORIA COUNTY

Texas Department of Transportation

SHEET 4 OF 4

FED.RD. DIV.NO.	PROJECT NO.		
6			
CONT.	SECT.	JOB	HIGHWAY NO.
0	0	RMC 6463-87-001	US 59, ETC.
STATE	DIST.	COUNTY	SHEET NO.
TEXAS	YKM	VICTORIA, ETC.	23

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

WORKER SAFETY NOTES:

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

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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

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

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

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

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	RMC 6463-87-001			US 59, ETC.	
4-03 7-13 9-07 8-14 5-10 5-21	DIST	COUNTY		SHEET NO.	
	VICTORIA	VICTORIA, ETC.		24	

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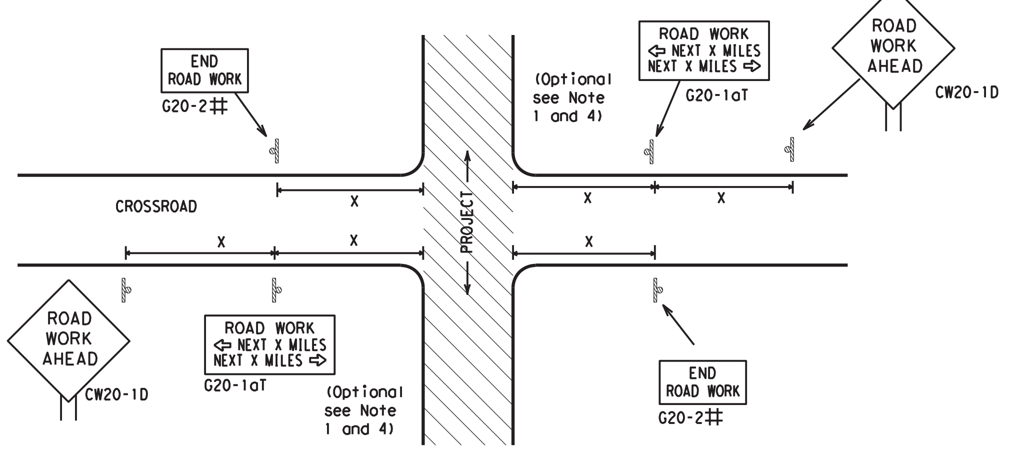
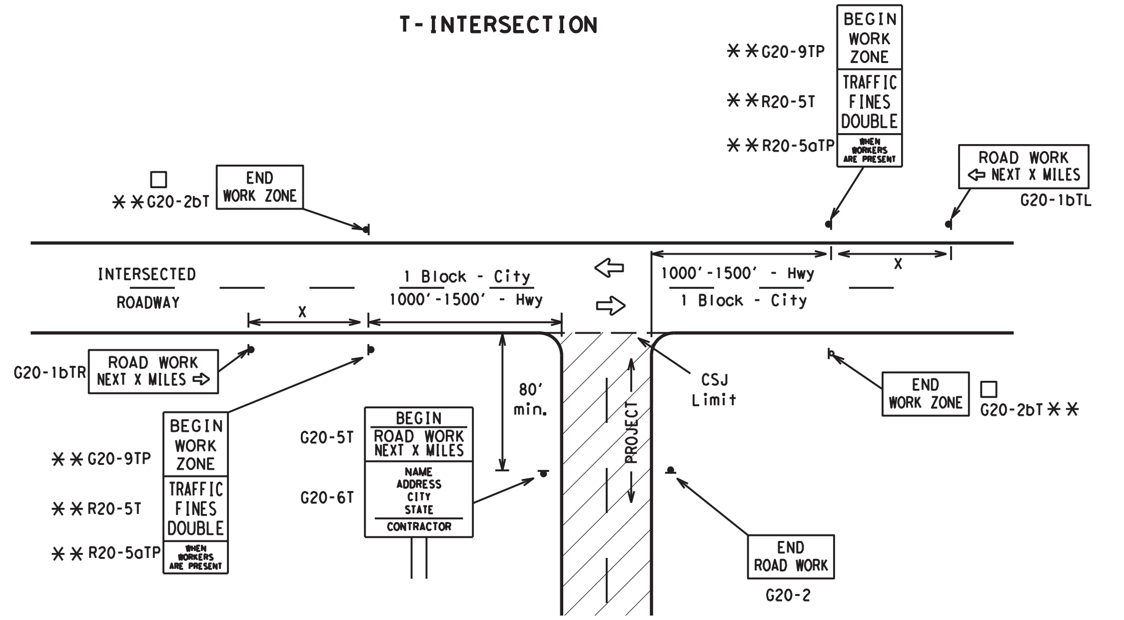
TYPICAL LOCATION OF CROSSROAD SIGNS



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

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

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.

2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

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

SIZE

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

SPACING

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

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

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

GENERAL NOTES

1. Special or larger size signs may be used as necessary.

2. Distance between signs should be increased as required to have 1500 feet advance warning.

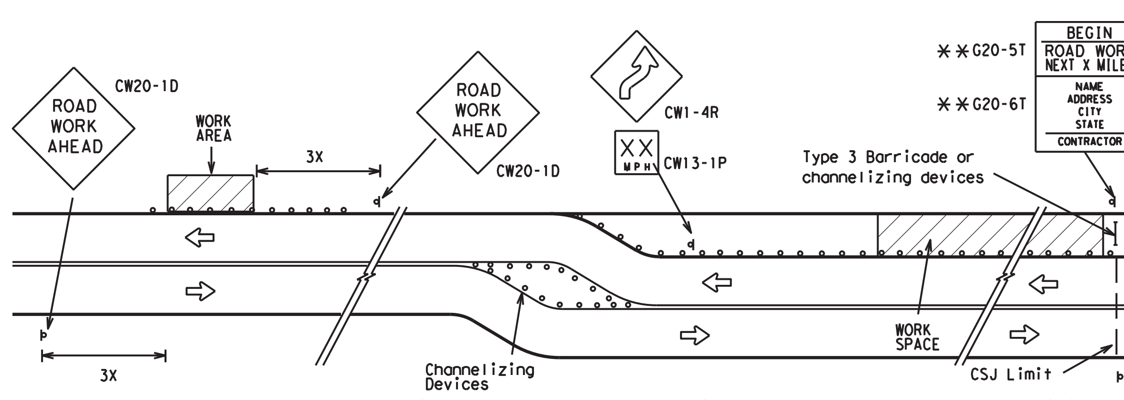
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.

4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".

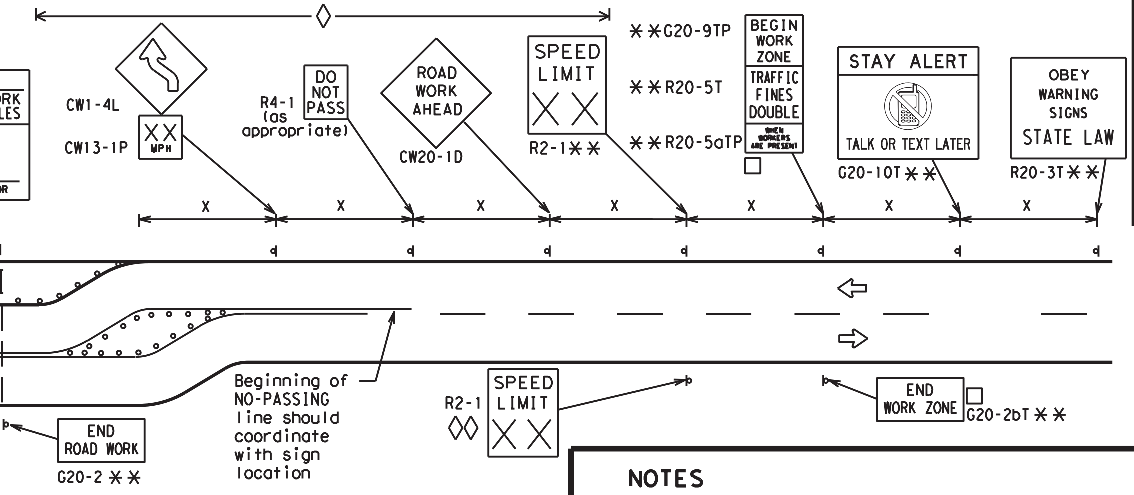
5. Only diamond shaped warning sign sizes are indicated.

6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

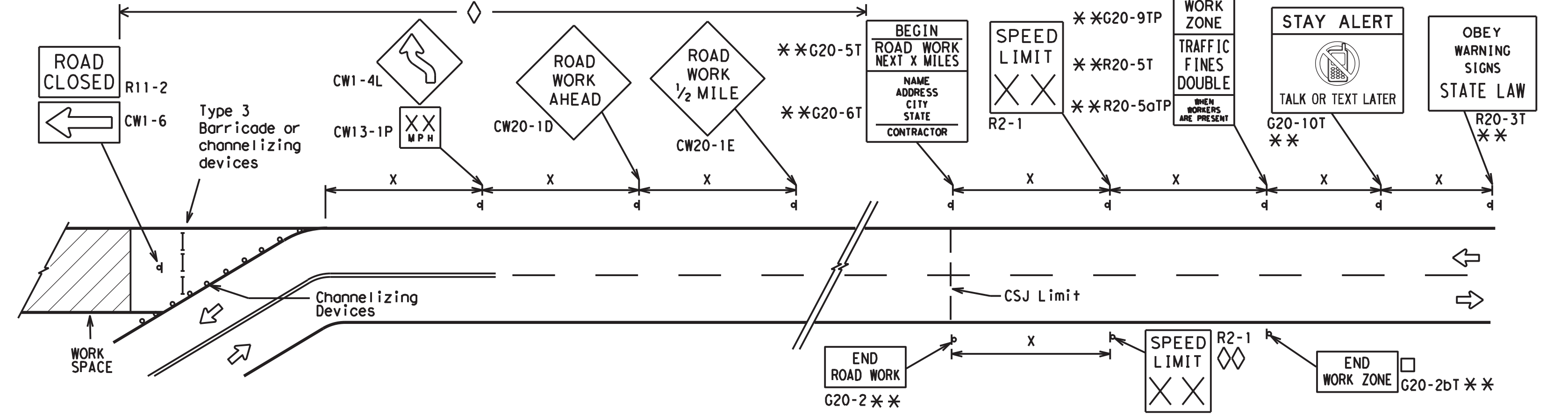


SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS



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	RMC		6463-87-001	US 59, ETC.
9-07 8-14 7-13 5-21	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		25

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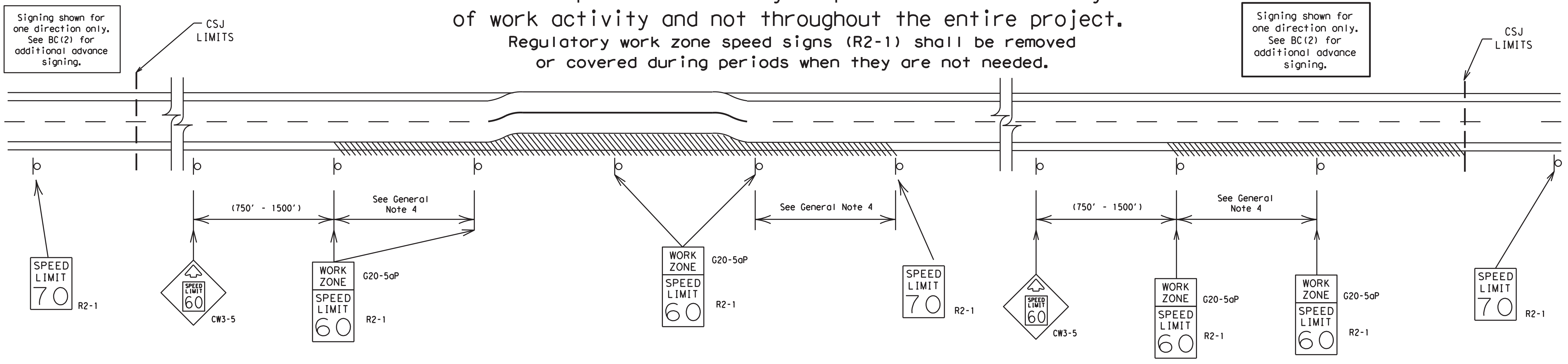
TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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

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

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



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

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

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

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

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

SHORT TERM WORK ZONE SPEED LIMITS

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

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

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:

40 mph and greater	0.2 to 2 miles
35 mph and less	0.2 to 1 mile

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

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Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION
WORK ZONE SPEED LIMIT

BC(3)-21

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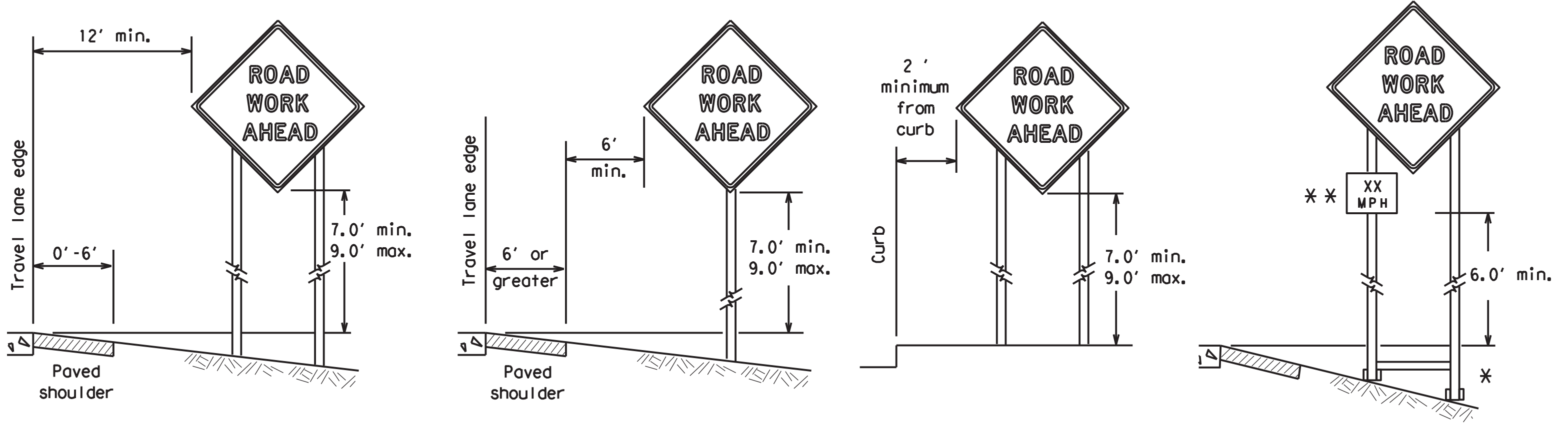
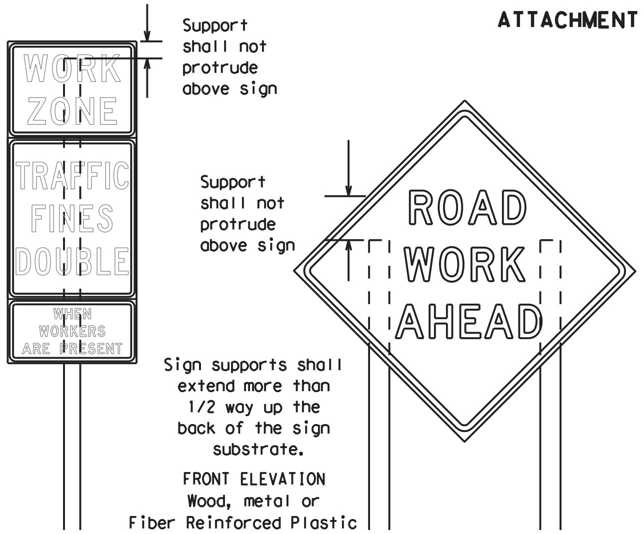
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



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

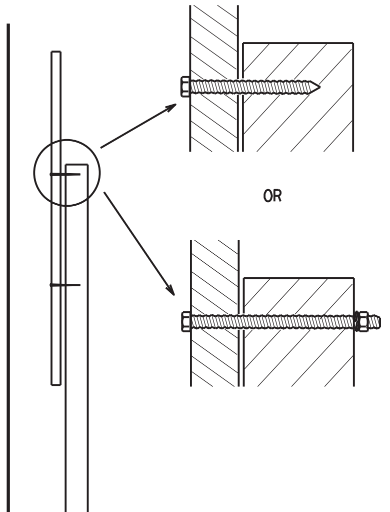
* * When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS



FRONT ELEVATION
Wood, metal or
Fiber Reinforced Plastic

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.



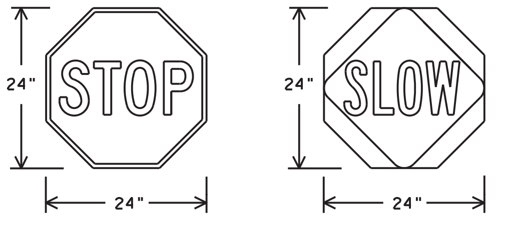
SIDE ELEVATION
Wood

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.

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.



Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

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.

SHEET 4 OF 12

Texas Department of Transportation

Traffic
Safety
Division
Standard

BARRICADE AND CONSTRUCTION
TEMPORARY SIGN NOTES

BC(4)-21

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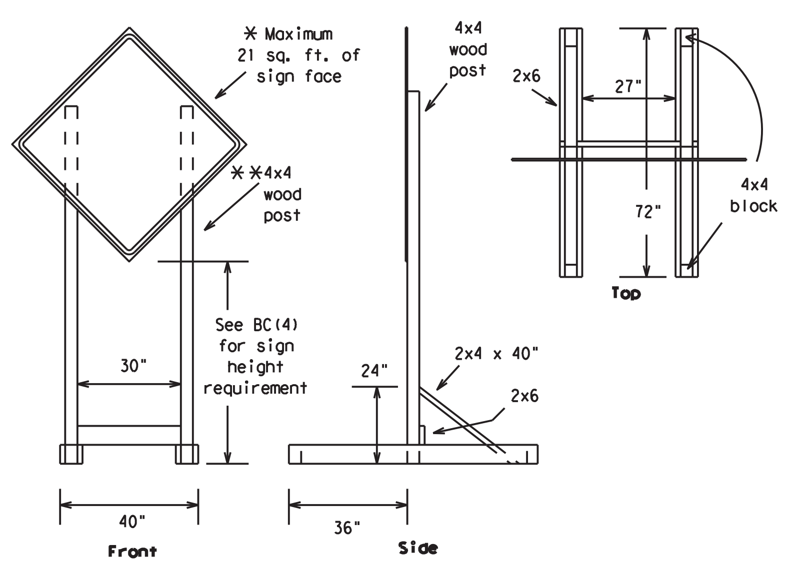
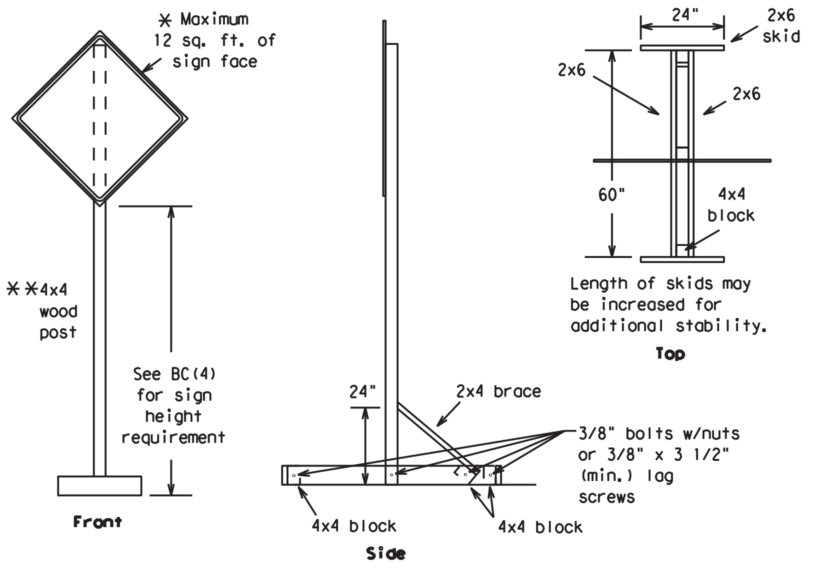
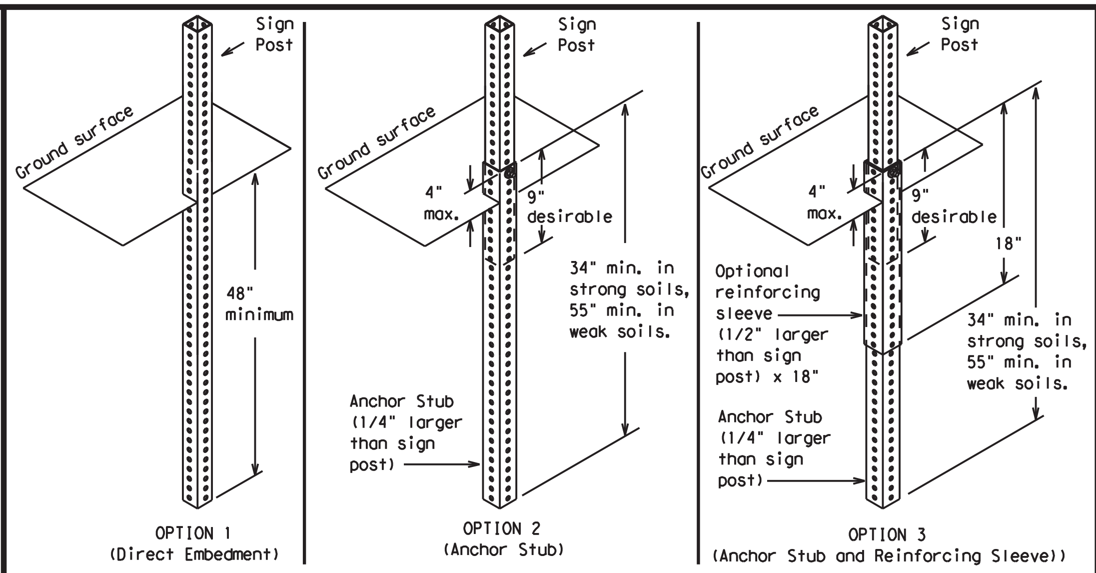


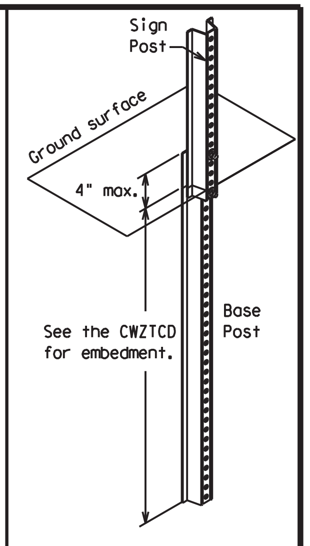


SKID MOUNTED WOOD SIGN SUPPORTS

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



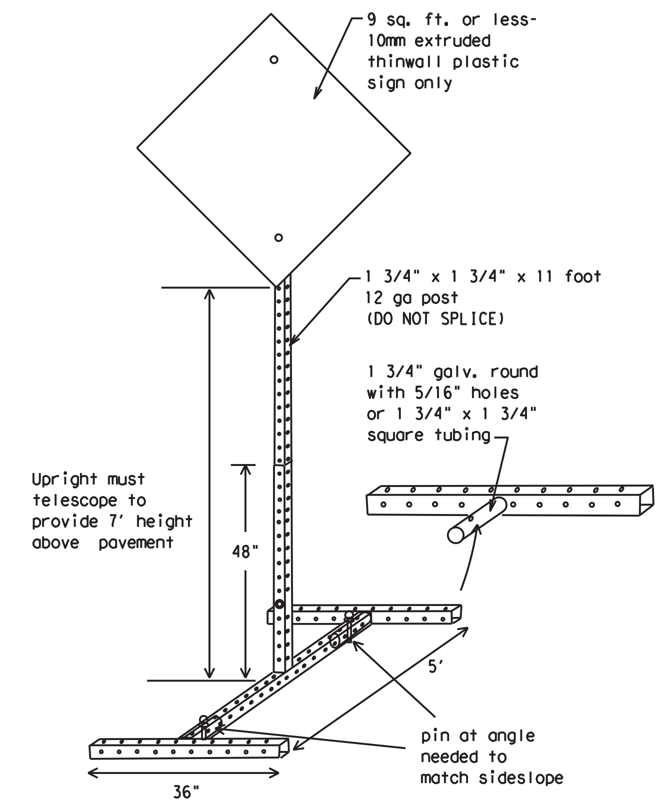
PERFORATED SQUARE METAL TUBING

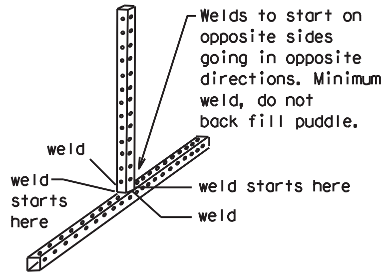


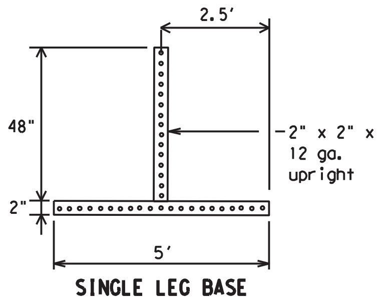
WING CHANNEL
Lap-splice/base bolted anchor

GROUND MOUNTED SIGN SUPPORTS

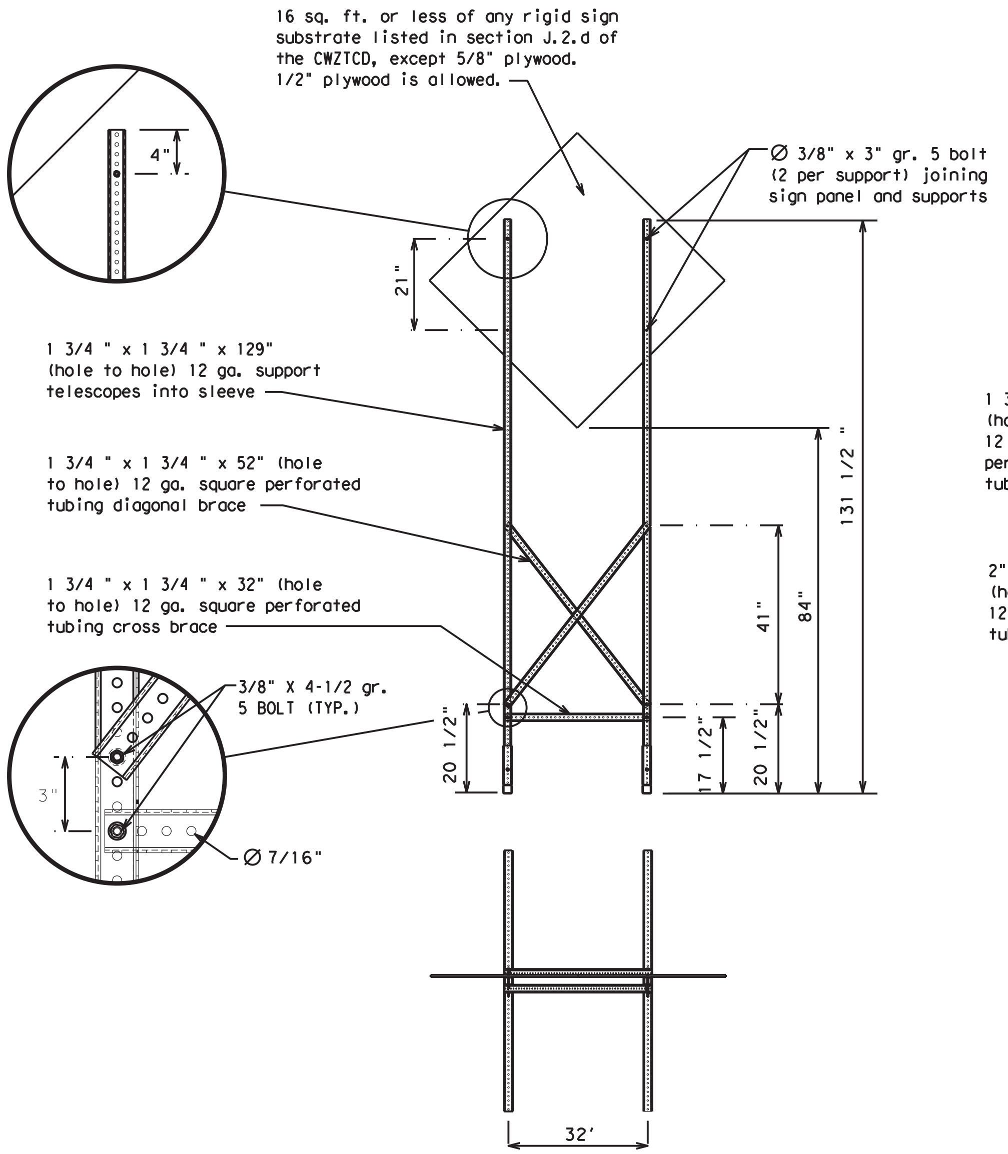
Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.

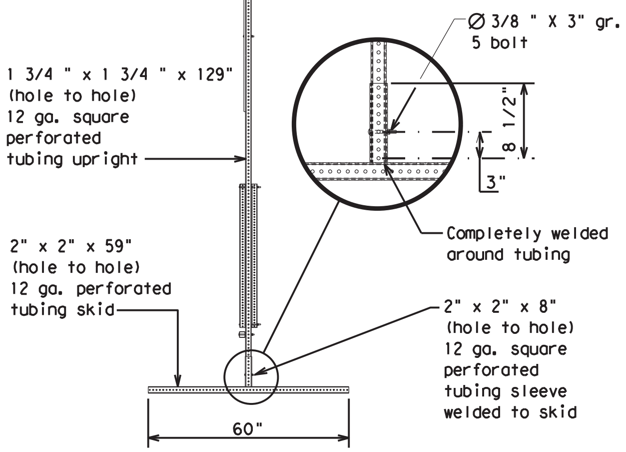






SINGLE LEG BASE
Side View





SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

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

WEDGE ANCHORS

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

OTHER DESIGNS

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

GENERAL NOTES

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

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

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

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

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Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

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

PORTABLE CHANGEABLE MESSAGE SIGNS

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

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

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.

SHEET 6 OF 12

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

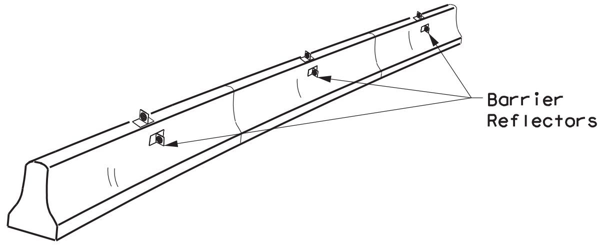
CONT	SECT	JOB	HIGHWAY
RMC	6463-87-001		US 59, ETC.

REVISIONS
9-07 8-14
7-13 5-21

DIST	COUNTY	SHEET NO.
VICTORIA	VICTORIA, ETC.	29

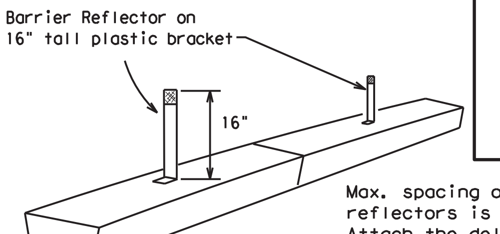
100

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.

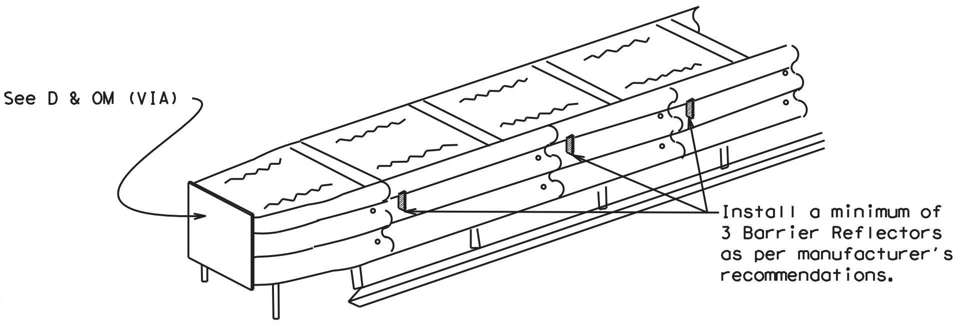


Max. spacing of barrier reflectors is 20 feet.
Attach the delineators as per manufacturer's recommendations.

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.

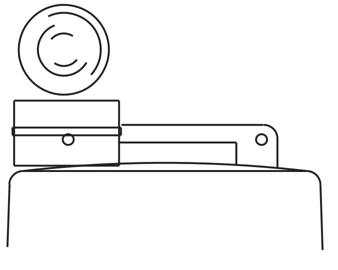


DELINEATION OF END TREATMENTS

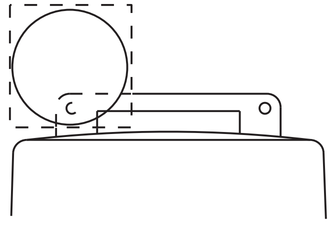
END TREATMENTS FOR CTB'S USED IN WORK ZONES

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

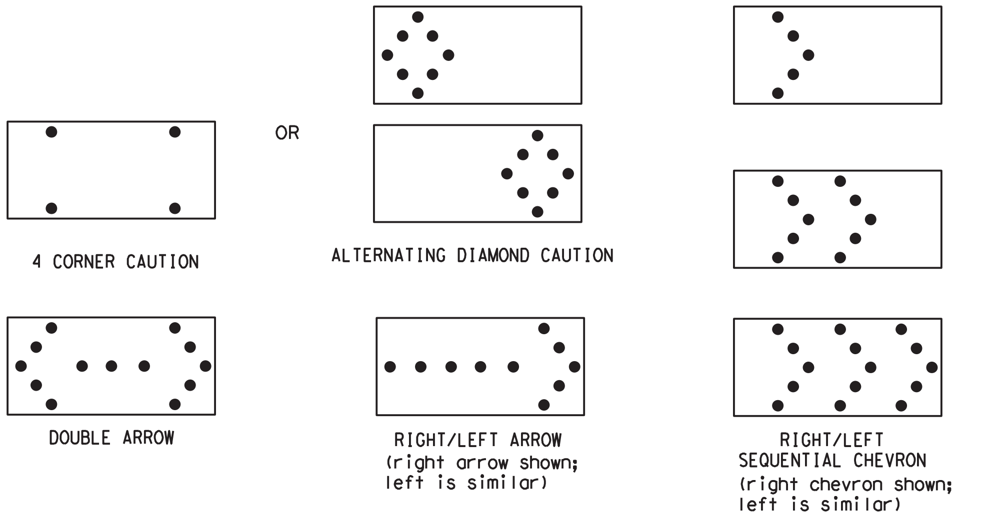
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing 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

SHEET 7 OF 12

TRUCK-MOUNTED ATTENUATORS

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

Texas Department of Transportation

Traffic
Safety
Division
Standard

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

BC(7)-21

FILE: bc-21.dgn
DN: TxDOT CK: TxDOT DW: TxDOT CK: TxDOT

REVISIONS	CONT	SECT	JOB	HIGHWAY
9-07 8-14 7-13 5-21	RMC	6463	87-001	US 59, ETC.

DIST	COUNTY	SHEET NO.
VICTORIA	VICTORIA, ETC.	30

101

DATE: 3/22/2024 10:50:12 AM
FILE: $FILE$

DATE: 3/22/2024 10:50:12 AM
FILE: $FILE$

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:

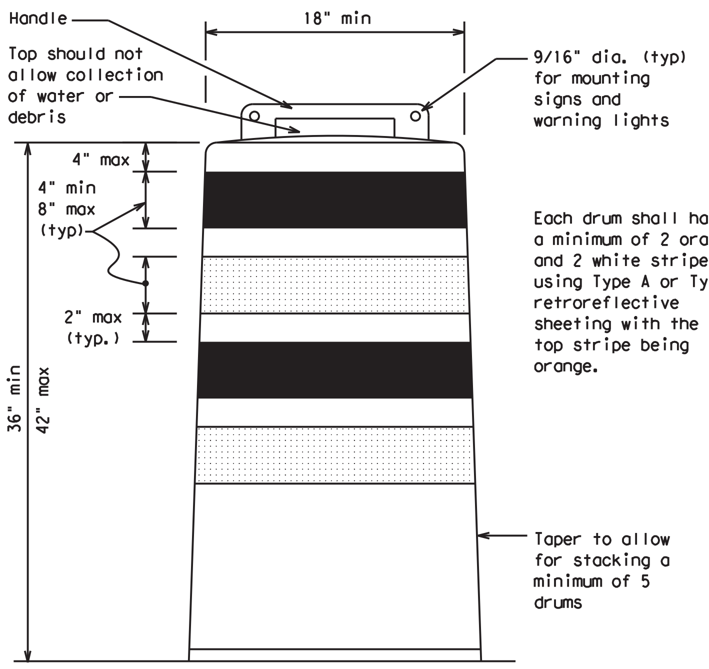
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents 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

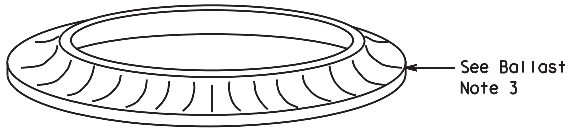
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall 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

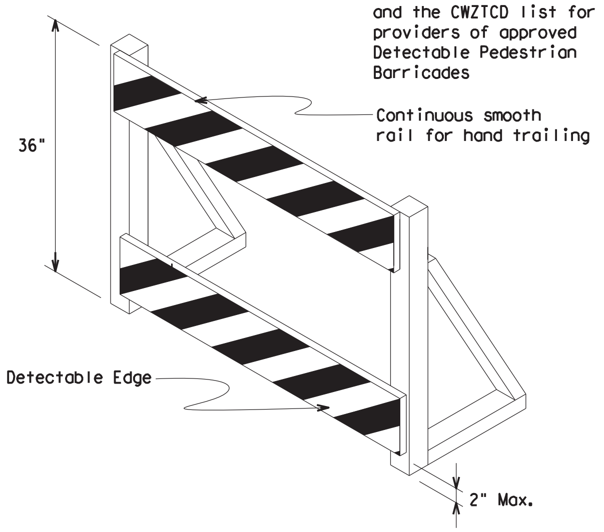
1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other 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.



Each drum shall have a minimum of 2 orange and 2 white stripes using Type A or Type B retroreflective sheeting with the top stripe being orange.

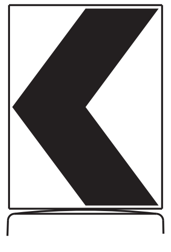


This detail is not intended for fabrication. See note 3 and the CWZTCD list for providers of approved Detectable Pedestrian Barricades

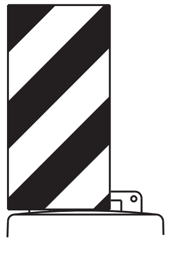


DETECTABLE PEDESTRIAN BARRICADES

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.

SHEET 8 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

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	VICTORIA	VICTORIA, ETC.		31

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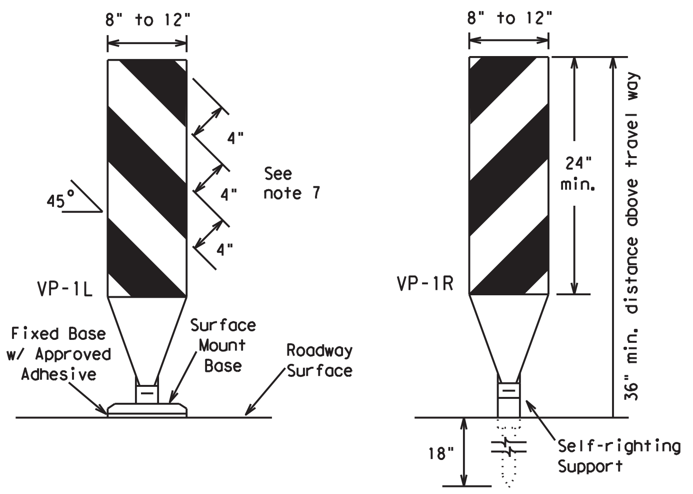
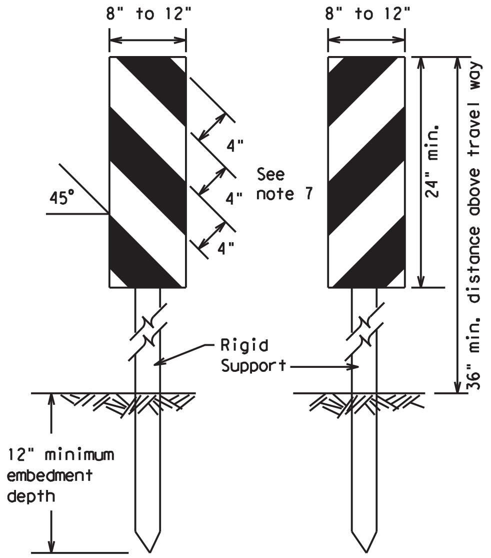
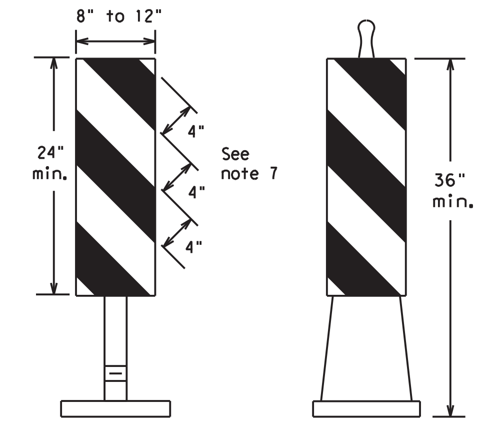


FIXED

(Rigid or self-righting)



DRIVEABLE

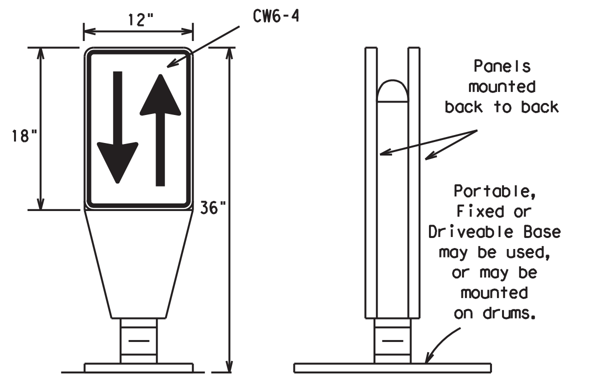


(Rigid or self-righting)

PORTABLE

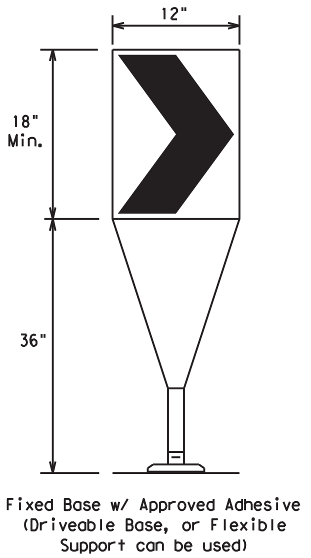
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is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

VERTICAL PANELS (VPs)



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

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

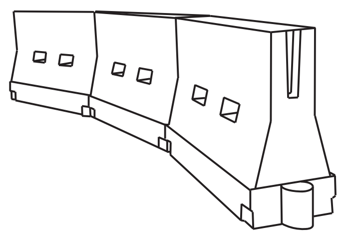


1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of 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

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Texas Department of Transportation
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BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

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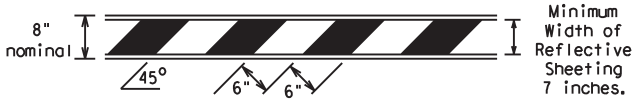
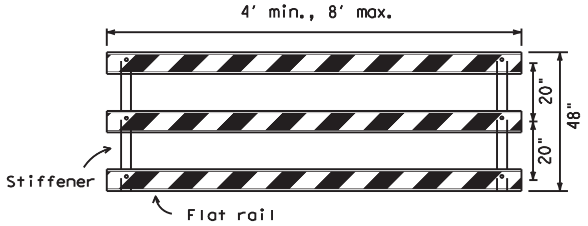
TYPE 3 BARRICADES

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

Barricades shall NOT be used as a sign support.

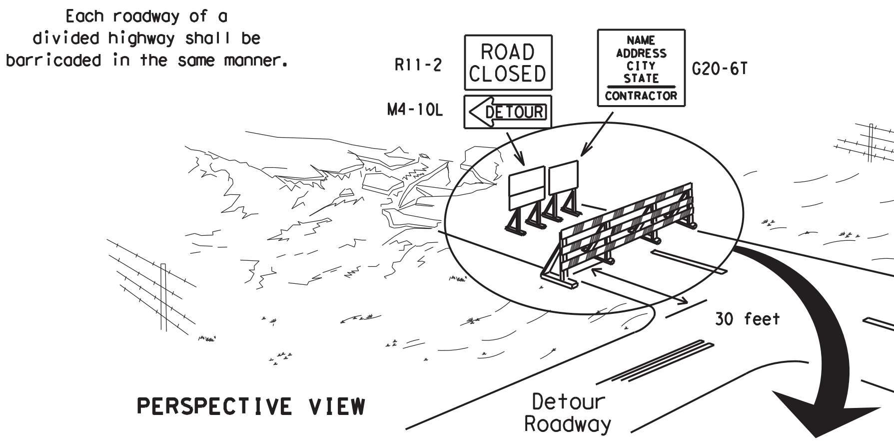


TYPICAL STRIPING DETAIL FOR BARRICADE RAIL

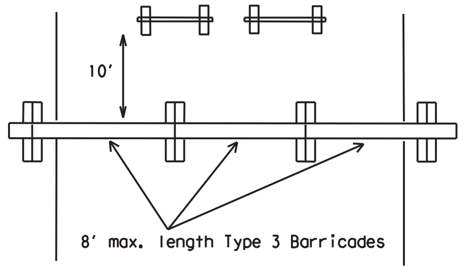


Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



PERSPECTIVE VIEW



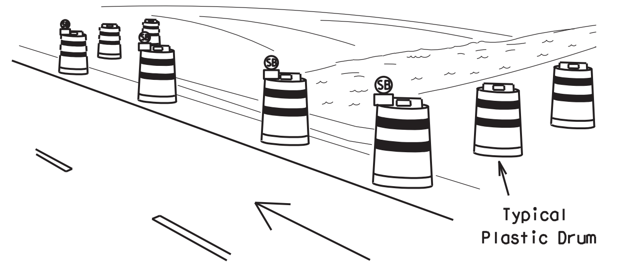
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

Barricade striping should slant downward in the direction of detour.

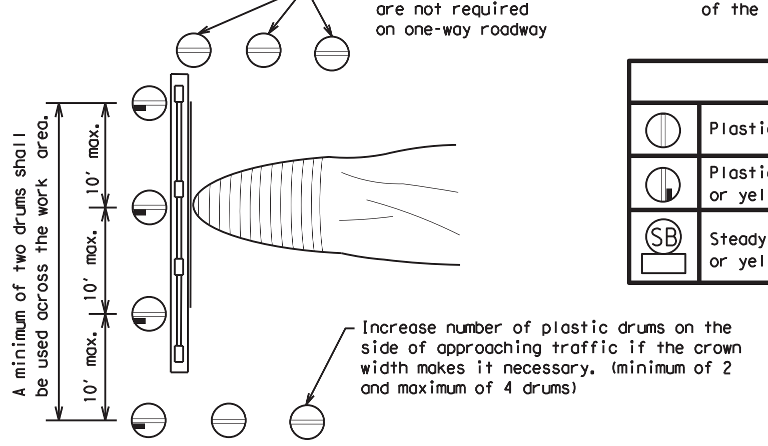
PLAN VIEW

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



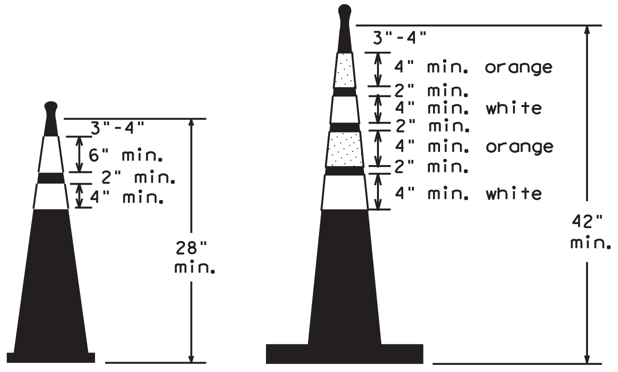
PLAN VIEW

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

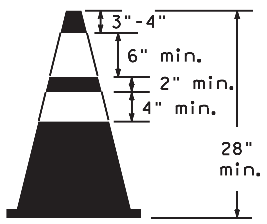
LEGEND	
◐	Plastic drum
◐	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS

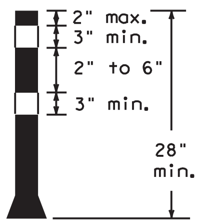
CONES



Two-Piece cones



One-Piece cones

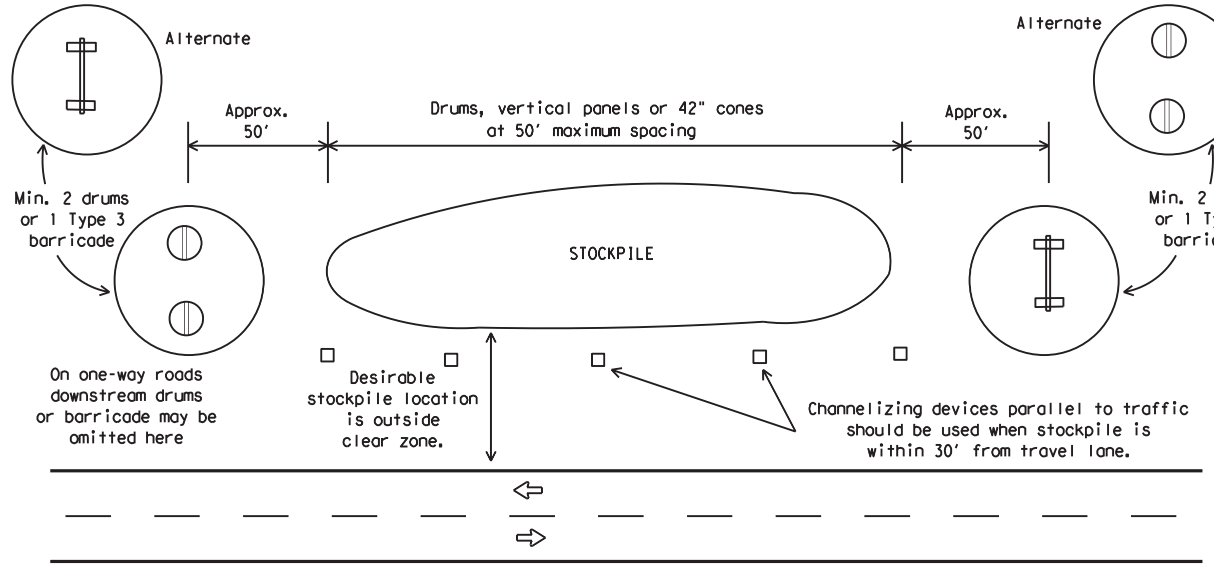


Tubular Marker

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

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Texas Department of Transportation
Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

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WORK ZONE PAVEMENT MARKINGS

GENERAL

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

RAISED PAVEMENT MARKERS

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

PREFABRICATED PAVEMENT MARKINGS

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

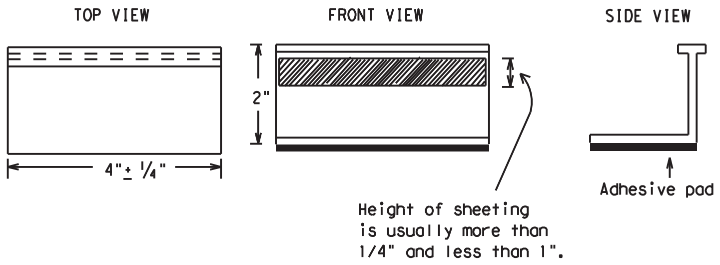
MAINTAINING WORK ZONE PAVEMENT MARKINGS

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

REMOVAL OF PAVEMENT MARKINGS

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

Temporary Flexible-Reflective Roadway Marker Tabs



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

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

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

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

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

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

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

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BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

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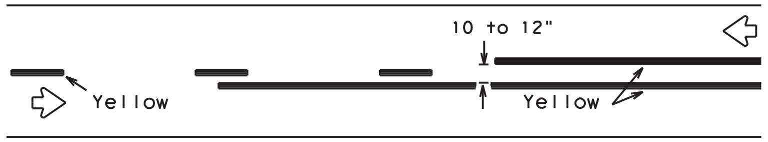
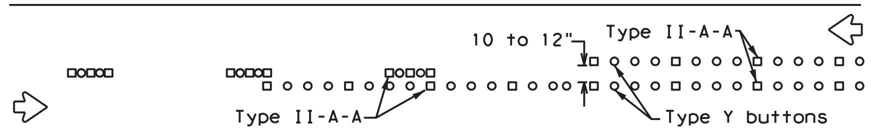
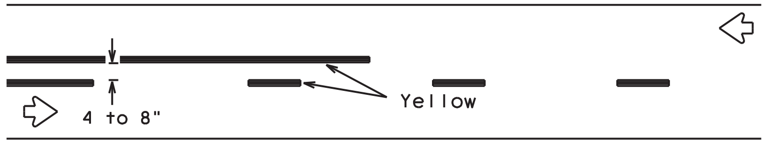
PAVEMENT MARKING PATTERNS



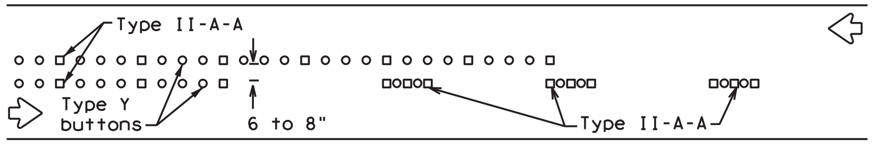
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



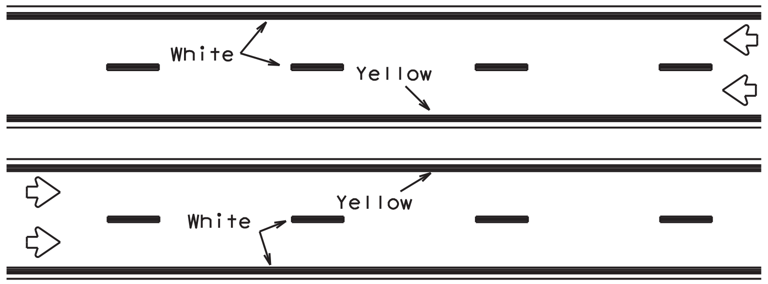
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



RAISED PAVEMENT MARKERS - PATTERN B

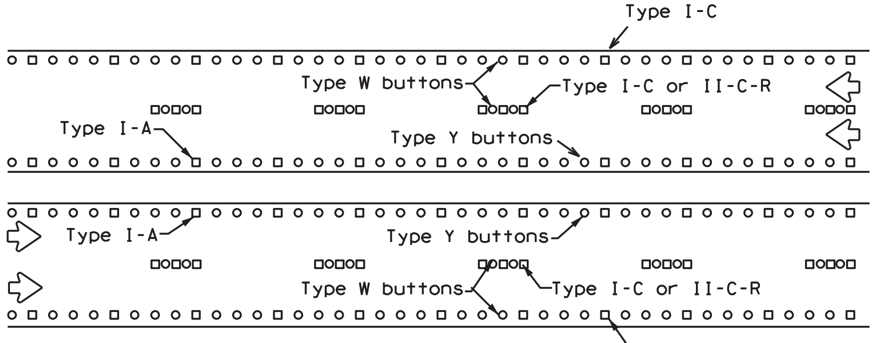
Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

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



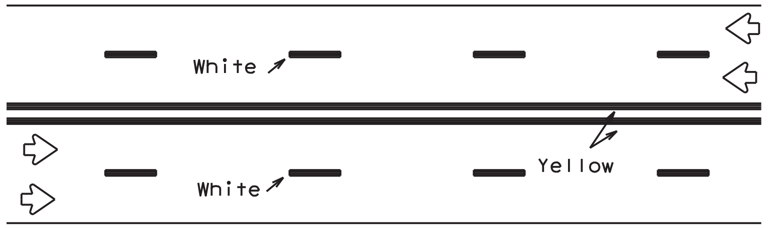
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectorized pavement markings.



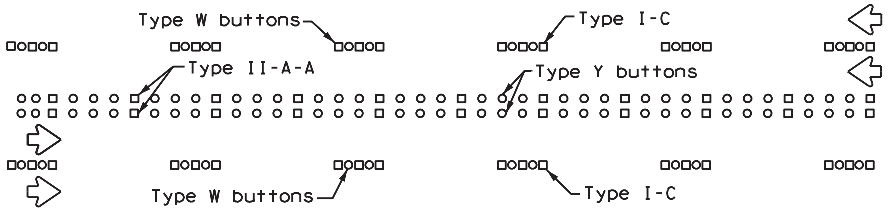
RAISED PAVEMENT MARKERS

EDGE & LANE LINES FOR DIVIDED HIGHWAY



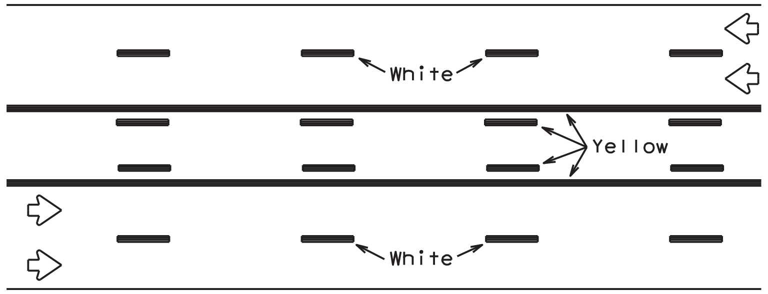
REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectorized pavement markings.



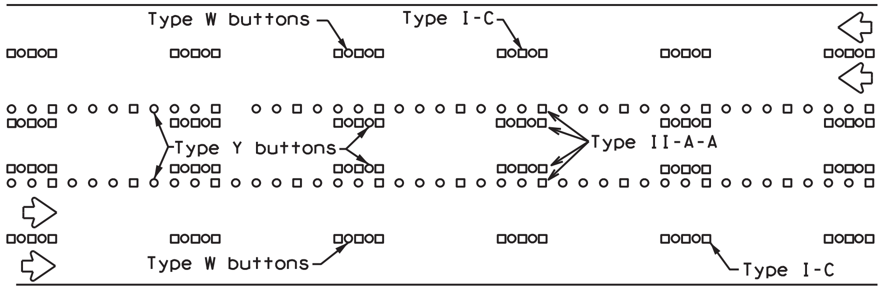
RAISED PAVEMENT MARKERS

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS

Prefabricated markings may be substituted for reflectorized pavement markings.



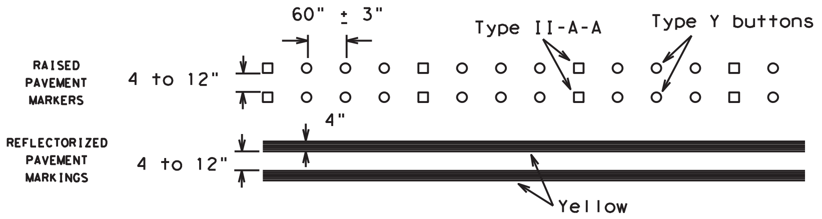
RAISED PAVEMENT MARKERS

TWO-WAY LEFT TURN LANE

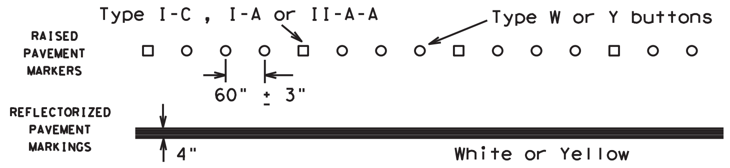
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

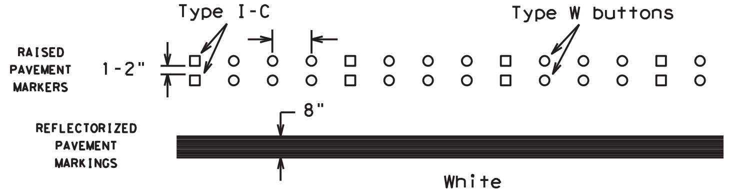


EDGE LINE OR SINGLE NO-PASSING LINE



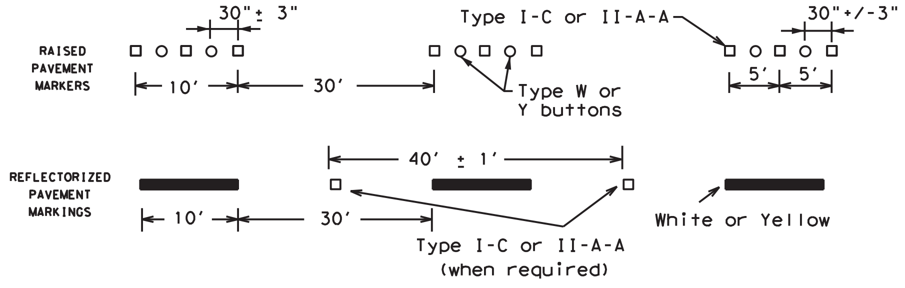
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

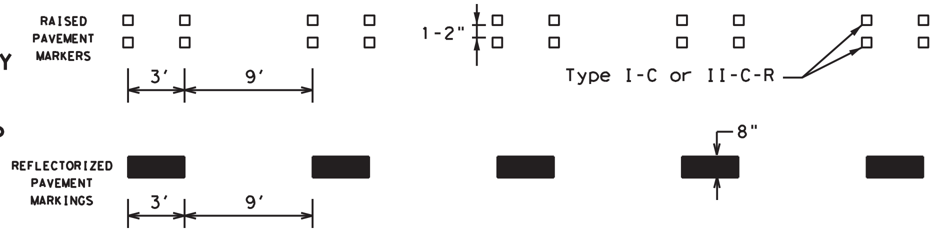


BROKEN LINES

CENTER LINE OR LANE LINE

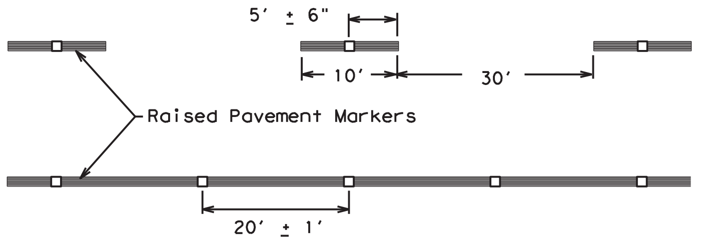


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

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



Centerline only - not to be used on edge lines

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

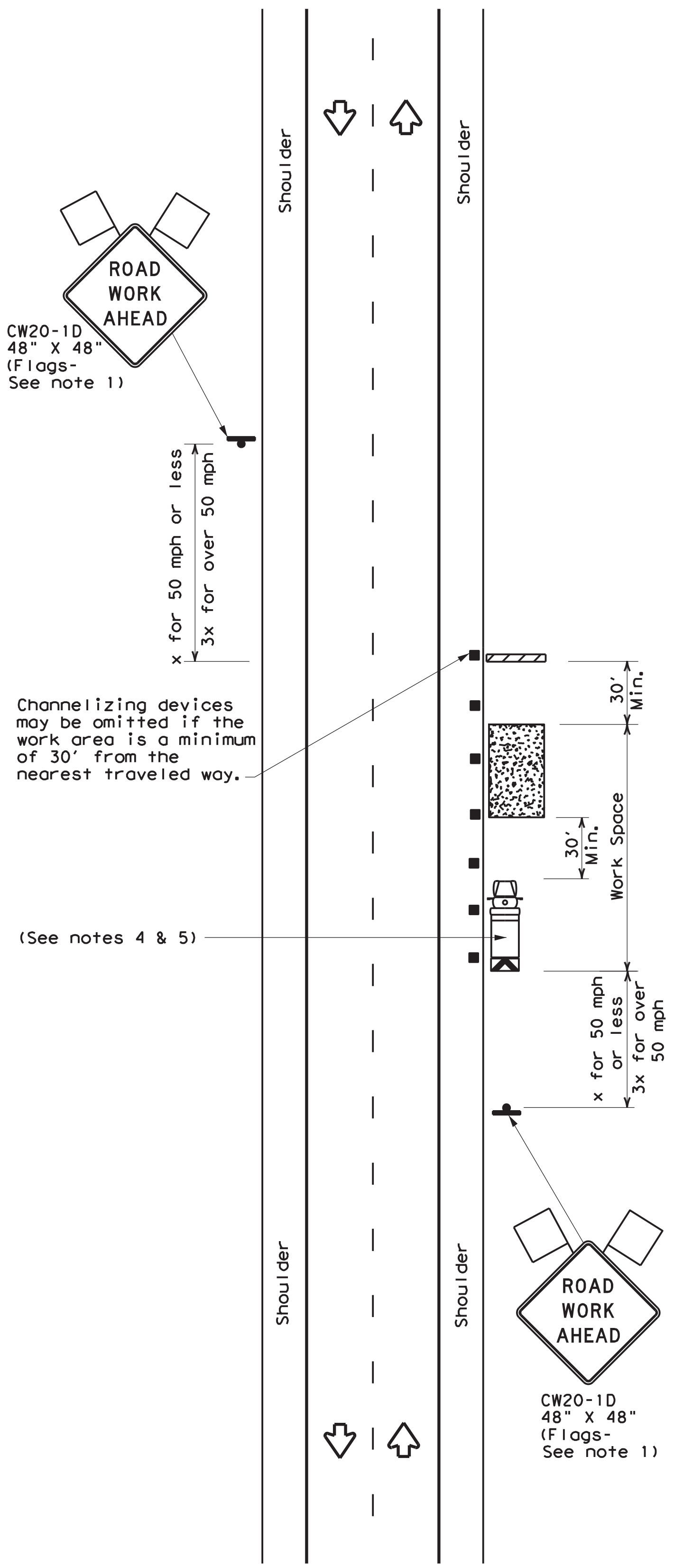
BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

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	RMC	6463	87-001	US 59, ETC.
	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		35

106

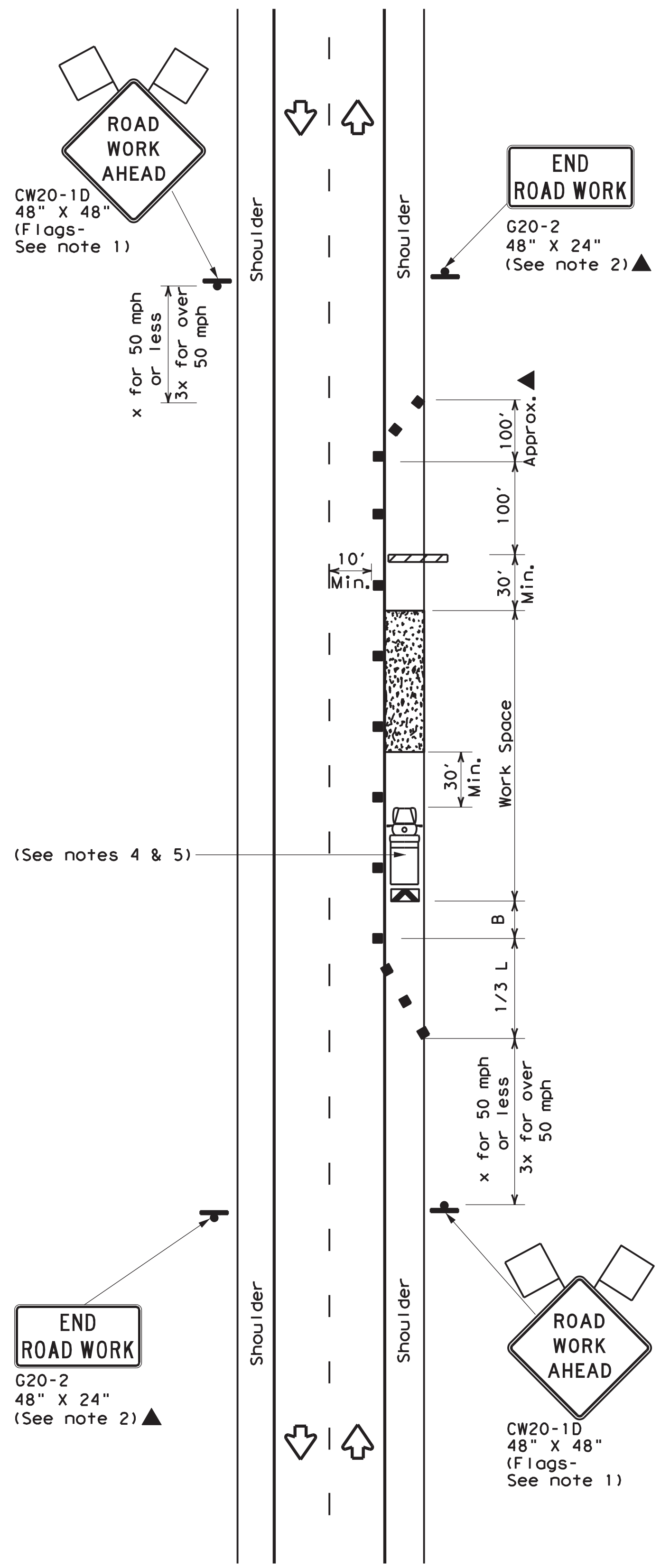
DATE: 3/22/2024 10:50:14 AM
FILE: $FILE$



TCP (2-1a)

WORK SPACE NEAR SHOULDER

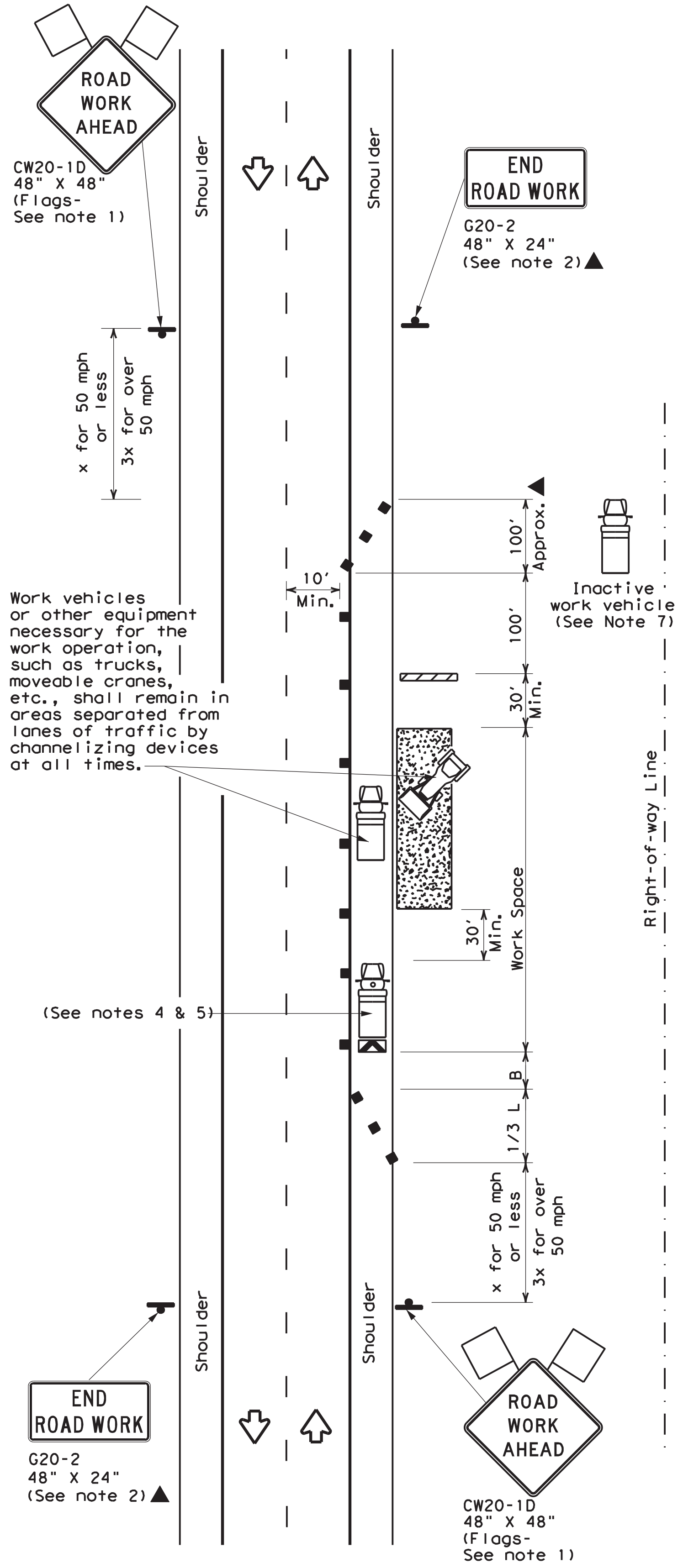
Conventional Roads



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	M	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 2-94 4-98 8-95 2-12 1-97 2-18	RMC		6463-87-001	US 59, ETC.
	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		36

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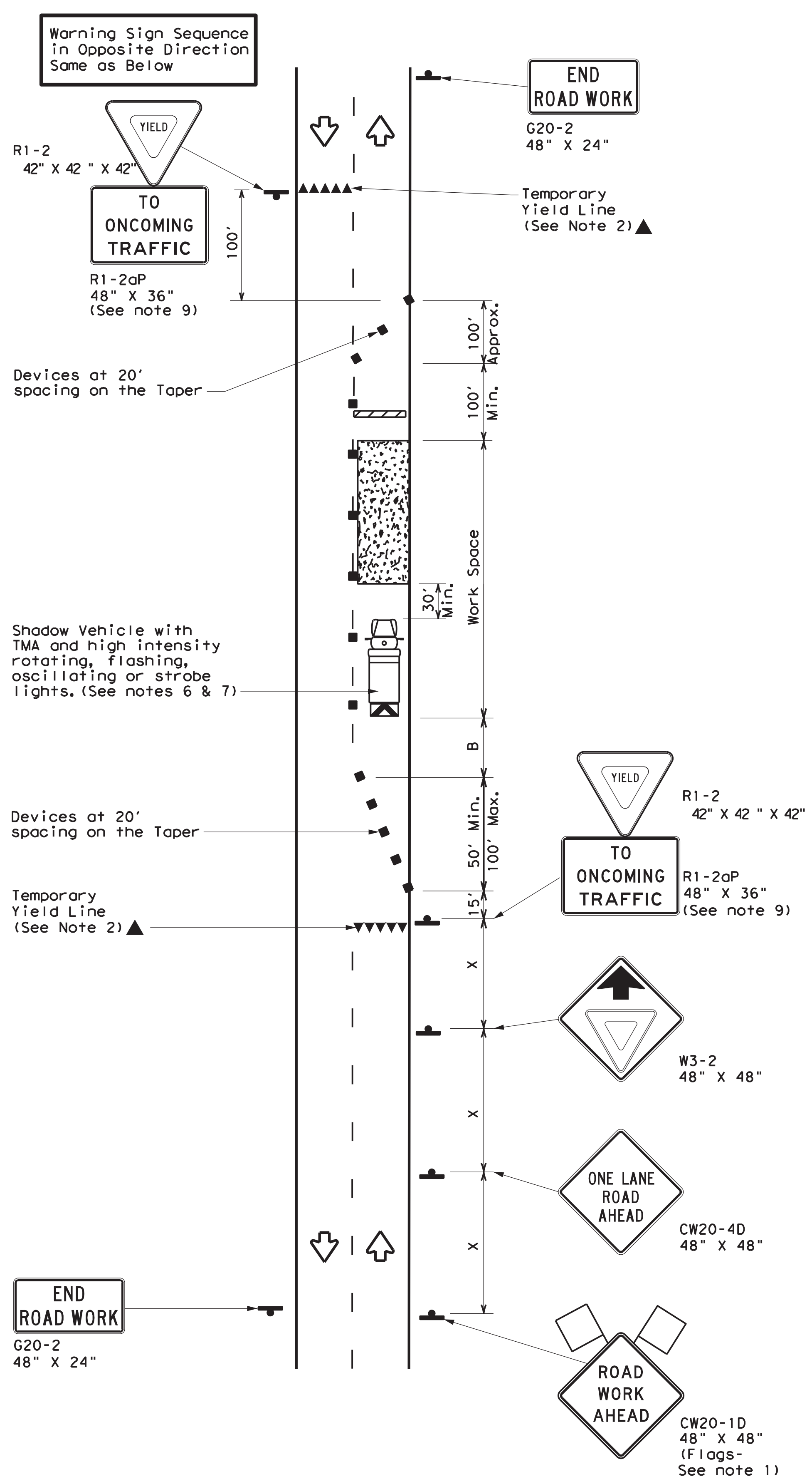
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 3/22/2024 10:50:14 AM
FILE: $FILE$



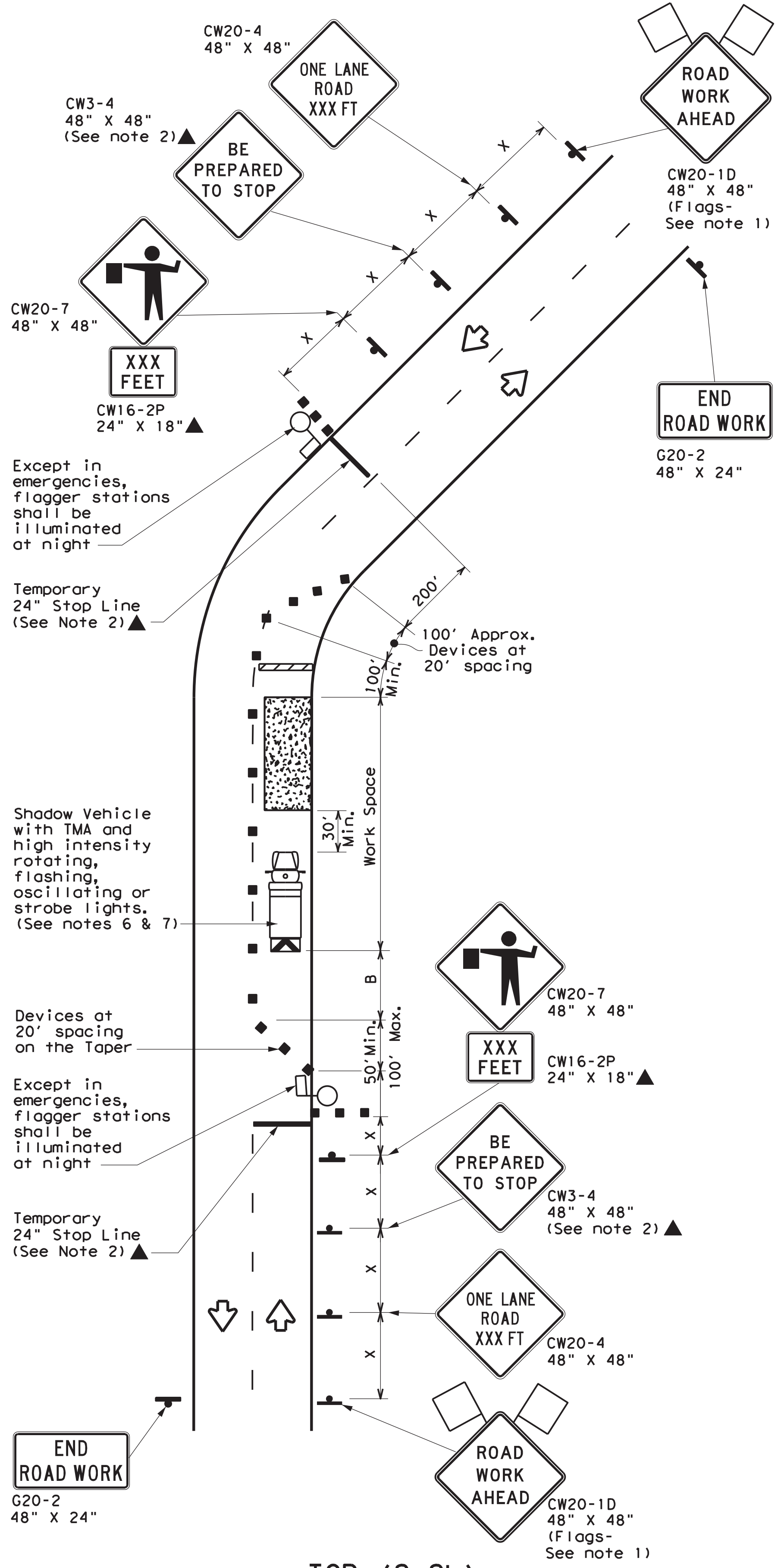
TCP (2-2a)

2-LANE ROADWAY WITHOUT PAVED SHOULDERS

ONE LANE TWO-WAY

CONTROL WITH YIELD SIGNS

(Less than 2000 ADT - See Note 9)



TCP (2-2b)

2-LANE ROADWAY WITHOUT PAVED SHOULDERS

ONE LANE TWO-WAY

CONTROL WITH FLAGGERS

LEGEND

▨	Type 3 Barricade	■ ■	Channelizing Devices
▭	Heavy Work Vehicle	▲	Truck Mounted Attenuator (TMA)
⇦	Trailer Mounted Flashing Arrow Board	Ⓜ	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"	Stopping Sight Distance
		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'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
4. Flaggers should use two-way radios or other methods of communication to control traffic.
5. Length of work space should be based on the ability of flaggers to communicate.
6. 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 off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)

8. The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
9. The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

TCP (2-2b)

10. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
12. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situtations.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(2-2)-18

FILE: tcp2-2-18.dgn	DN:	CK:	DW:	CK:

© TxDOT December 1985

CONT	SECT	JOB	HIGHWAY
RMC		6463-87-001	US 59, ETC.

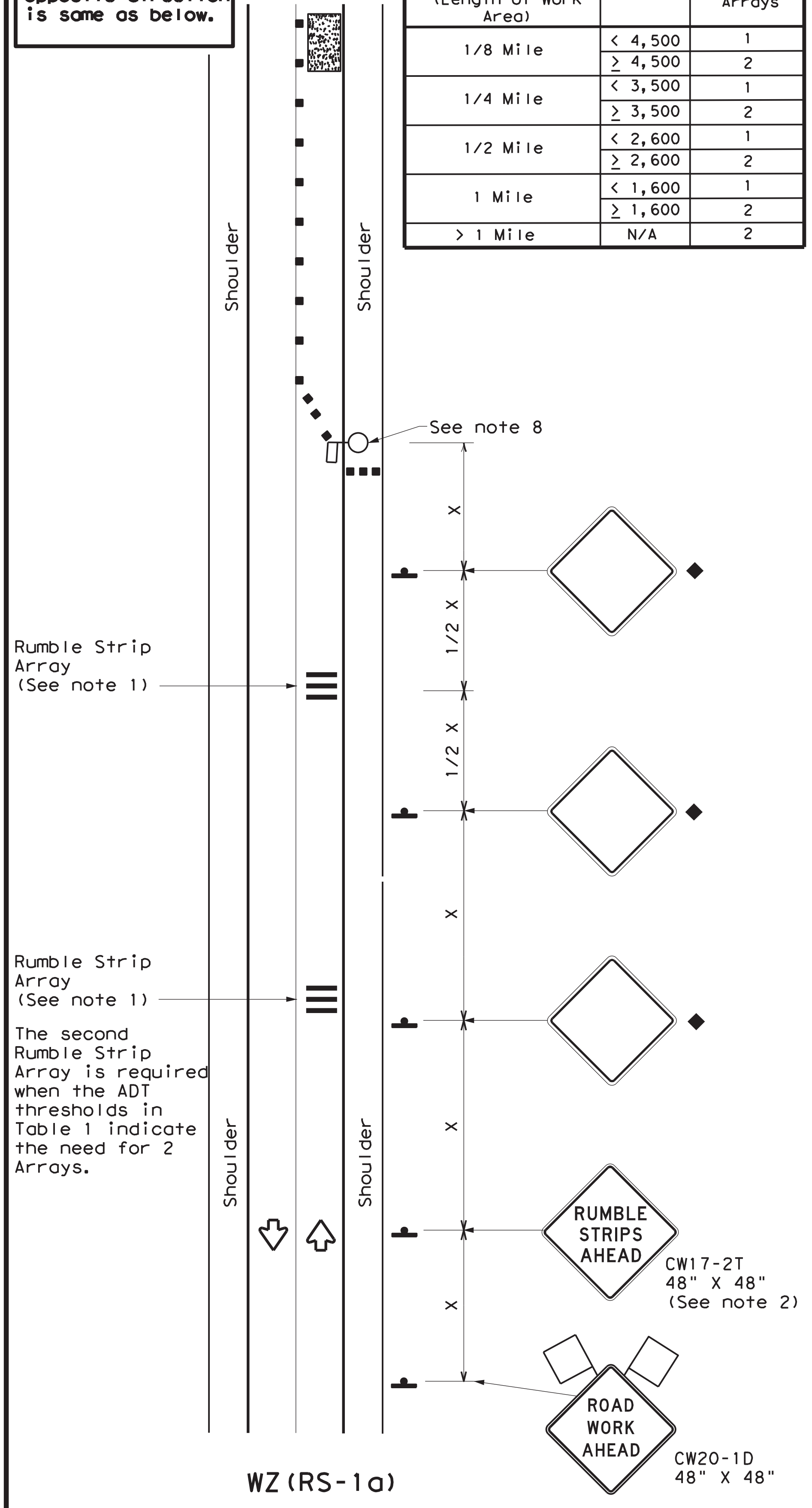
REVISIONS
8-95 3-03
1-97 2-12
4-98 2-18

DIST	COUNTY	SHEET NO.
VICTORIA	VICTORIA, ETC.	37

DATE: 3/22/2024 10:50:15 AM
FILE: $FILE$

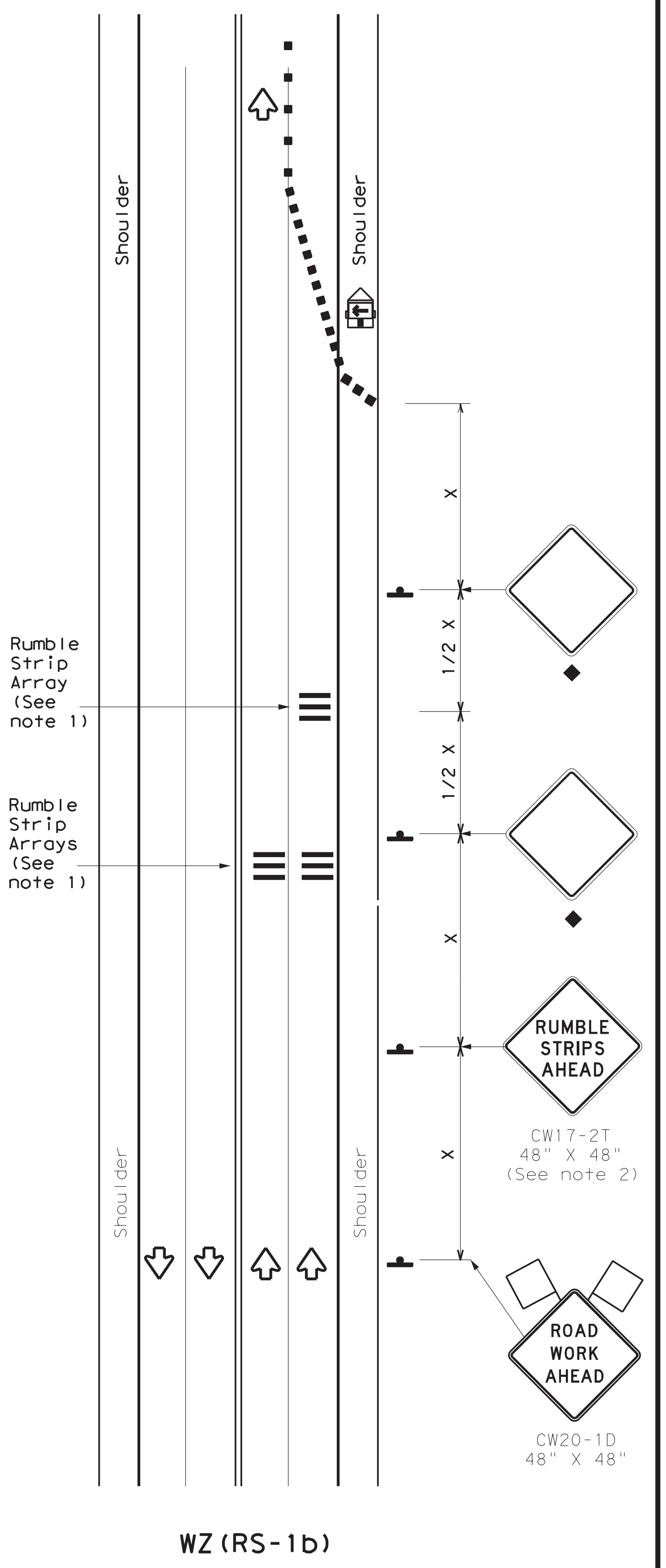
Warning sign and rumble strip sequence in opposite direction is same as below.

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



The second Rumble Strip Array is required when the ADT thresholds in Table 1 indicate the need for 2 Arrays.

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



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 ✱✱			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
	✓	✓		

◆ **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		RMC		6463-87-001		US 59, ETC.	
		DIST	COUNTY			SHEET NO.	
		VICTORIA	VICTORIA, ETC.			38	

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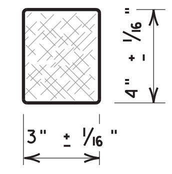
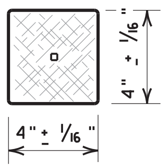
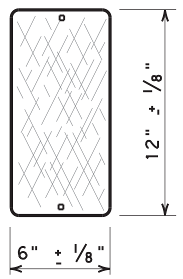
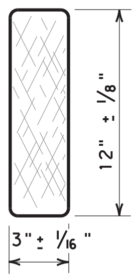
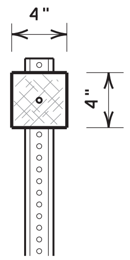
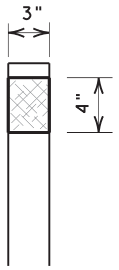
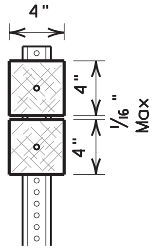
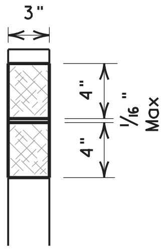
REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS

	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

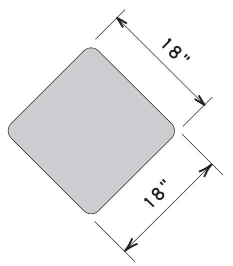
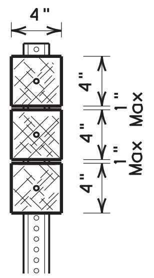
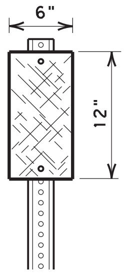
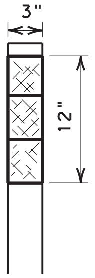
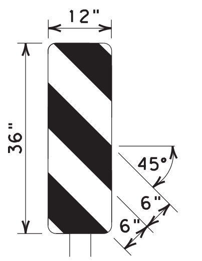
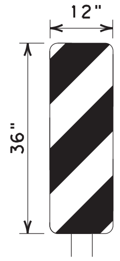
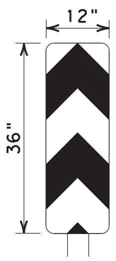
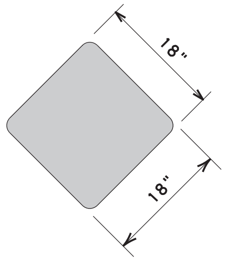
NUMBER OF REFLECTORS OR DIRECTION
X = 3-Size 2 reflector units (Type 2 only)
Y = 1-Size 3 reflector unit (Type 2 only)
Z = 3-Size 1 or 1-Size 4 reflector unit(s)(Type 2 only)
L = Left Side (Type 3 Object Marker only)
R = Right Side (Type 3 Object Marker only)
C = Center (Type 3 Object Marker only)

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

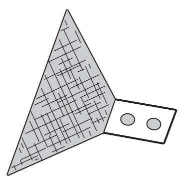
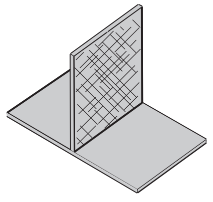
OBJECT MARKERS

	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

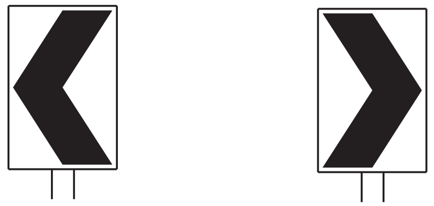
DEPARTMENTAL MATERIAL SPECIFICATIONS

FLEXIBLE DELINEATOR & OBJECT MARKER POSTS (EMBEDDED & SURFACE MOUNT TYPES)	DMS-4400
SIGN FACE MATERIALS	DMS-8300
DELINEATORS, OBJECT MARKERS AND BARRIER REFLECTORS	DMS-8600

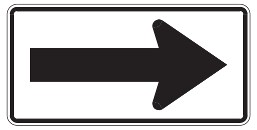
BARRIER REFLECTORS (BRF)

	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	

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

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).

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	RMC	6463-87-001		US 59, ETC.
10-09 3-15 4-10 7-20	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		39

20A

DATE: 3/22/2024 10:50:15 AM
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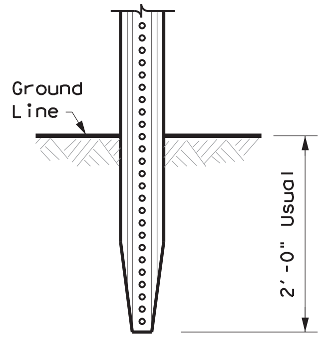
DATE: 3/22/2024 10:50:15 AM
FILE: $FILE$

POST TYPE AND SUPPORT FOUNDATION DETAILS

WING CHANNEL (WC)

GND

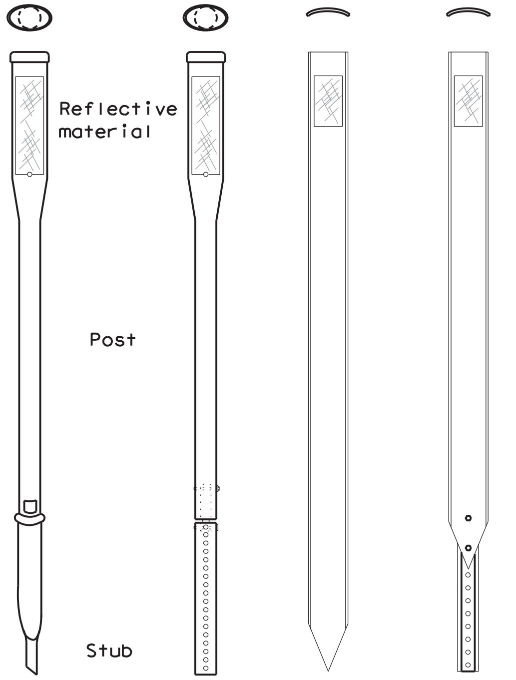


NOTES

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.

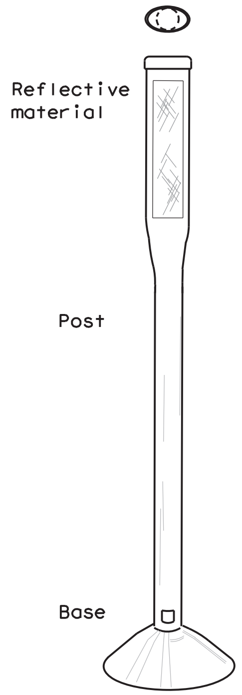
FLEXIBLE POSTS (YFLX, WFLX)

GND



EMBEDDED

SRF



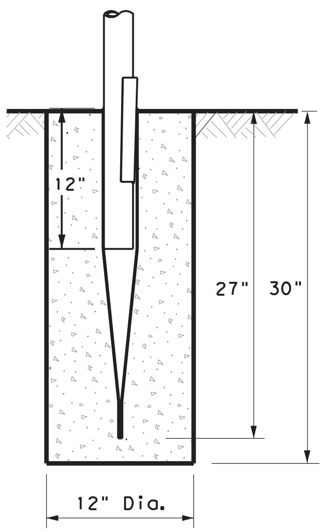
SURFACE MOUNT

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.

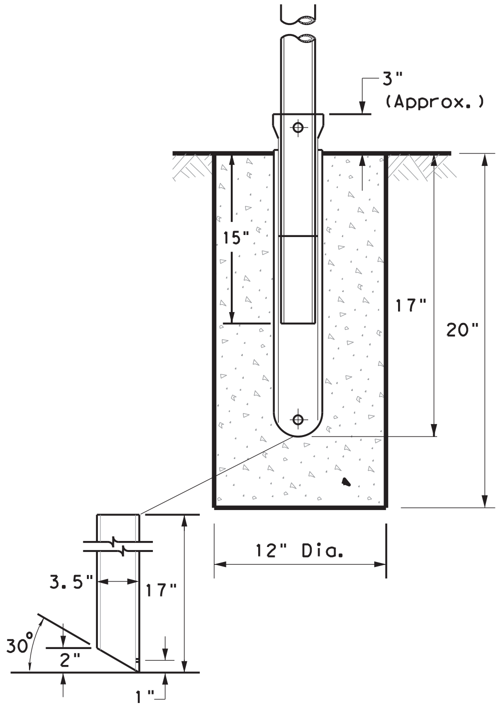
WEDGE ANCHOR SYSTEMS

WAS



STEEL

WAP



PLASTIC

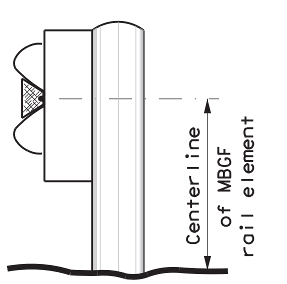
NOTE

1. Install per manufacturer's recommendations.

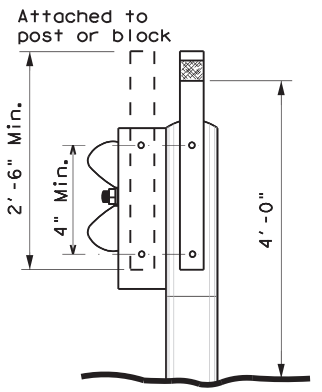
TYPE OF BARRIER MOUNTS

GUARD FENCE ATTACHMENT

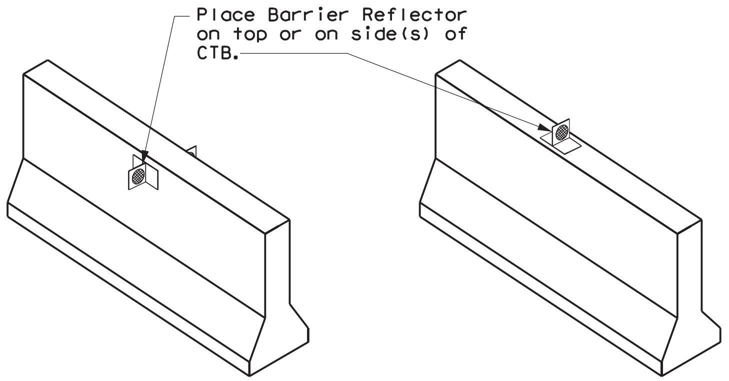
GF1



GF2



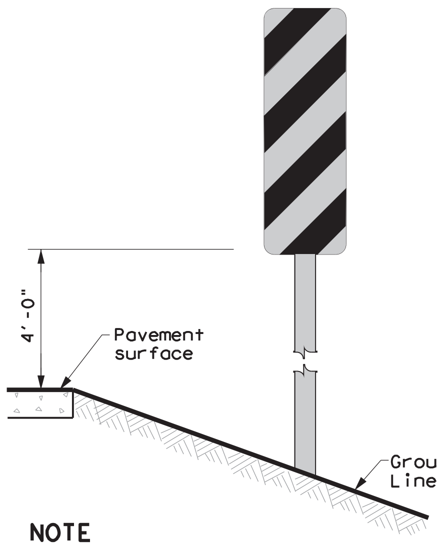
CONCRETE TRAFFIC BARRIER (CTB)



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.

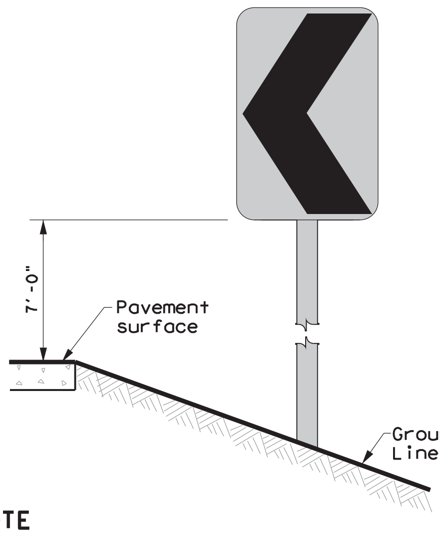
TYPES 1, 3, AND 4 OBJECT MARKERS AND CHEVRONS



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)

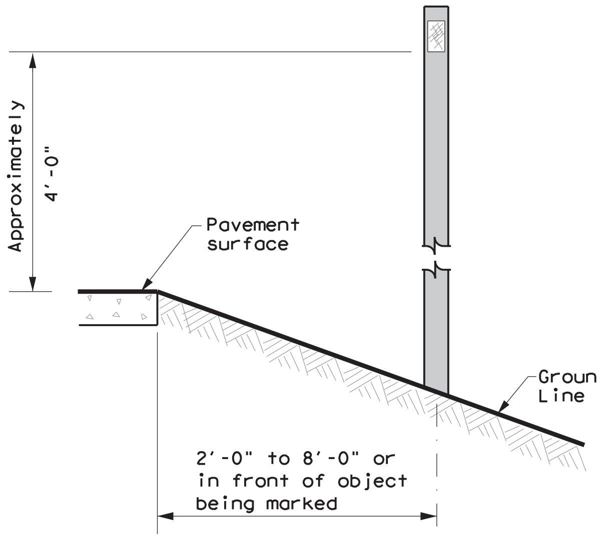
CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN



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	RMC		6463-87-001	US 59, ETC.	
10-09 3-15	DIST	COUNTY		SHEET NO.	
4-10 7-20	VICTORIA	VICTORIA, ETC.		40	

20B

DATE: 3/22/2024 10:50:18 AM
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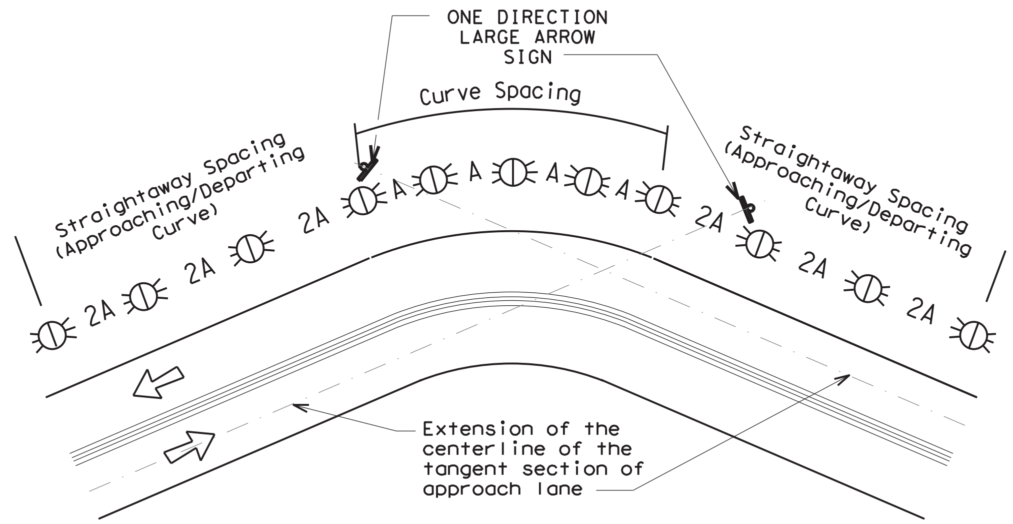
MINIMUM WARNING DEVICES AT CURVES WITH ADVISORY SPEEDS

Amount by which Advisory Speed is less than Posted Speed	Curve Advisory Speed	
	Turn (30 MPH or less)	Curve (35 MPH or more)
5 MPH & 10 MPH	● RPMs	● RPMs
15 MPH & 20 MPH	● RPMs and One Direction Large Arrow sign	● RPMs and Chevrons; or ● RPMs and One Direction Large Arrow sign where geometric conditions or roadside obstacles prevent the installation of chevrons.
25 MPH & more	● RPMs and Chevrons; or ● RPMs and One Direction Large Arrow sign where geometric conditions or roadside obstacles prevent the installation of chevrons	● RPMs and Chevrons

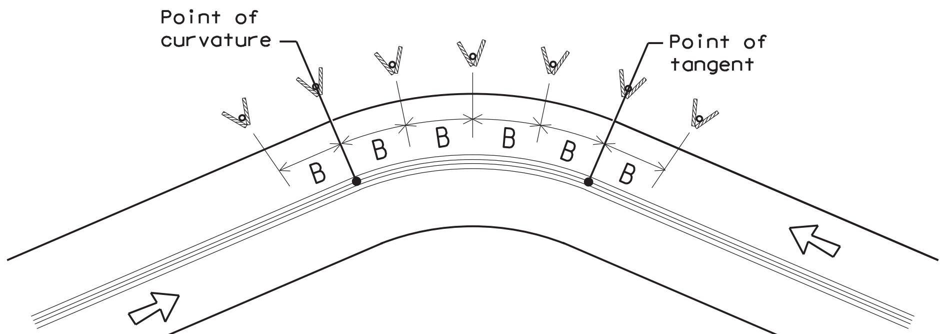
SUGGESTED SPACING FOR DELINEATORS ON HORIZONTAL CURVES



NOTE

ONE DIRECTION LARGE ARROW (W1-6) sign should be located at approximately and perpendicular to the extension of the centerline of the tangent section of approach lane.

SUGGESTED SPACING FOR CHEVRONS ON HORIZONTAL CURVES



NOTE

At least one chevron pair is installed beyond the point of tangent in tangent section.

DELINEATOR AND CHEVRON SPACING

WHEN DEGREE OF CURVE OR RADIUS IS KNOWN

Degree of Curve	FEET			
	Radius of Curve	Spacing in Curve	Spacing in Straightaway	Chevron Spacing in Curve
		A	2A	B
1	5730	225	450	—
2	2865	160	320	—
3	1910	130	260	200
4	1433	110	220	160
5	1146	100	200	160
6	955	90	180	160
7	819	85	170	160
8	716	75	150	160
9	637	75	150	120
10	573	70	140	120
11	521	65	130	120
12	478	60	120	120
13	441	60	120	120
14	409	55	110	80
15	382	55	110	80
16	358	55	110	80
19	302	50	100	80
23	249	40	80	80
29	198	35	70	40
38	151	30	60	40
57	101	20	40	40

Curve delineator approach and departure spacing should include 3 delineators spaced at 2A. This spacing should be used during design preparation or when the degree of curve is known.

DELINEATOR AND CHEVRON SPACING

WHEN DEGREE OF CURVE OR RADIUS IS NOT KNOWN

Advisory Speed (MPH)	Spacing in Curve	Spacing in Straightaway	Chevron Spacing in Curve
	A	2xA	B
65	130	260	200
60	110	220	160
55	100	200	160
50	85	170	160
45	75	150	120
40	70	140	120
35	60	120	120
30	55	110	80
25	50	100	80
20	40	80	80
15	35	70	40

If the degree of curve is not known, delineator spacing may be determined based on the Advisory Speed of the curve. Use the delineator curve spacing for each Advisory Speed (MPH).

DELINEATOR AND OBJECT MARKER APPLICATION AND SPACING

CONDITION	REQUIRED TREATMENT	MINIMUM SPACING
Frwy./Exp. Tangent	RPMs	See PM-series and FPM-series standard sheets
Frwy./Exp. Curve	Single delineators on right side	See delineator spacing table
Frwy/Exp. Ramp	Single delineators on at least one side of ramp (should be on outside of curves) (see Detail 3 on D&OM(4))	100 feet on ramp tangents Use delineator spacing table for ramp curves ("straightway spacing" does not apply to ramp curves)
Acceleration/Deceleration Lane	Double delineators (see Detail 3 on D&OM(4))	100 feet (See Detail 3 on D & OM (4))
Truck Escape Ramp	Single red delineators on both sides	50 feet
Bridge Rail (steel or concrete) and Metal Beam Guard Fence	Bi-Directional Delineators when undivided with one lane each direction Single Delineators when multiple lanes each direction	Equal spacing (100'max) but not less than 3 delineators
Concrete Traffic Barrier (CTB) or Steel Traffic Barrier	Barrier reflectors matching the color of the edge line	Equal spacing 100' max
Cable Barrier	Reflectors matching the color of the edge line	Every 5th cable barrier post (up to 100'max)
Guard Rail Terminus/Impact Head	Divided highway - Object marker on approach end Undivided 2-lane highways - Object marker on approach and departure end	Requires reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end See D & OM (5) and D & OM (6)
Bridges with no Approach Rail	Type 3 Object Marker (OM-3) at end of rail and 3 single delineators approaching rail	See D & OM(5)
Reduced Width Approaches to Bridge Rail	Type 2 and Type 3 Object Markers (OM-3) and 3 single delineators approaching bridge	Requires reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end See D & OM (5)
Culverts without MBGF	Type 2 Object Markers	See Detail 2 on D & OM(4)
Crossovers	Double yellow delineators and RPMs	See Detail 1 on D & OM (4)
Pavement Narrowing (lane merge) on Freeways/Expressway	Single delineators adjacent to affected lane for full length of transition	100 feet

NOTES

1. Unless indicated otherwise, the delineator or barrier reflector color shall conform to the color of the pavement edge line on the side of the road where the delineators or barrier reflectors are placed.
2. Barrier reflectors may be used to replace required delineators.
3. Single red delineators may be mounted on the back side of delineator posts for wrong way driver applications

LEGEND

☼	Bi-directional Delineator
♁	Delineator
▲	Sign

Texas Department of Transportation

Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

D & OM(3)-20

FILE: dom3-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS 3-15 8-15 8-15 7-20	RMC		6463-87-001	US 59, ETC.
	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		41

20C

DATE: 3/22/2024 10:50:18 AM
FILE: $FILE$

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)

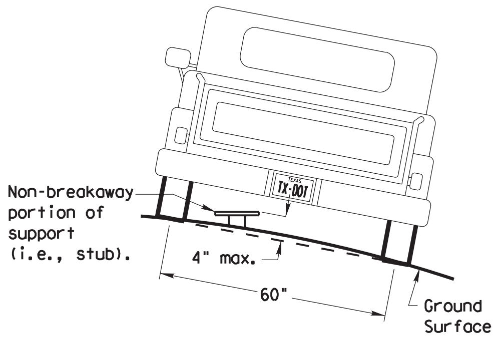
Anchor Type

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

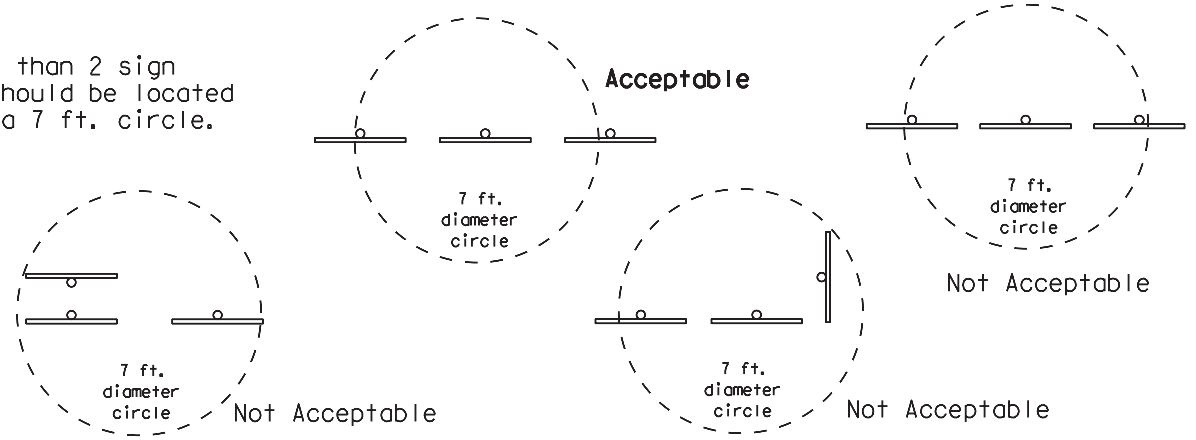
P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
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



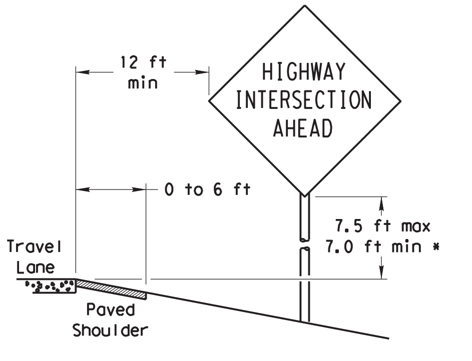
To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

No more than 2 sign posts should be located within a 7 ft. circle.



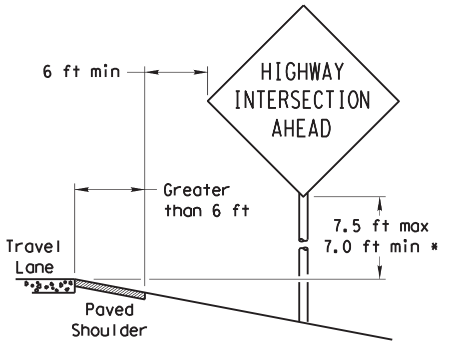
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

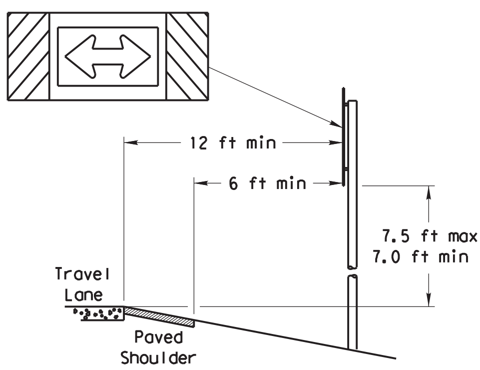
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



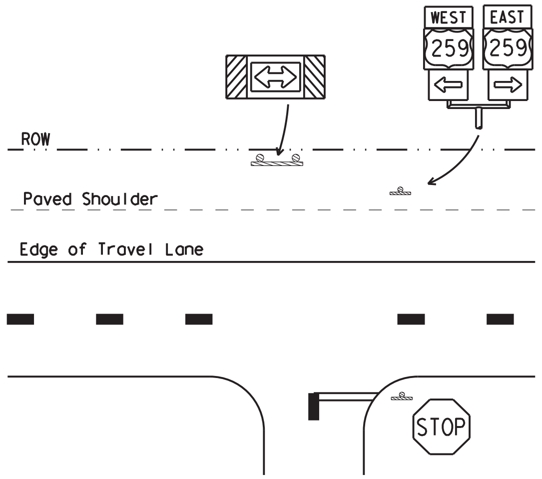
GREATER THAN 6 FT. WIDE

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.

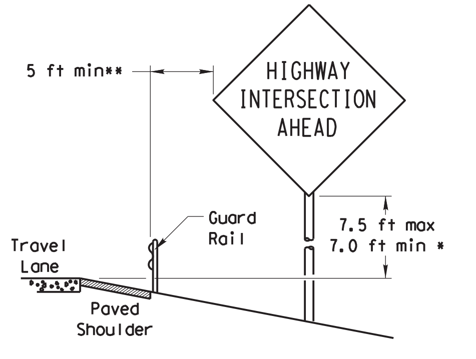
T-INTERSECTION



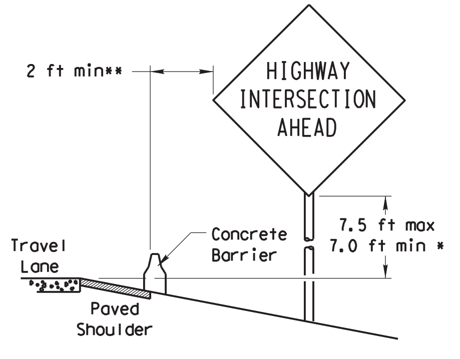
When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



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.

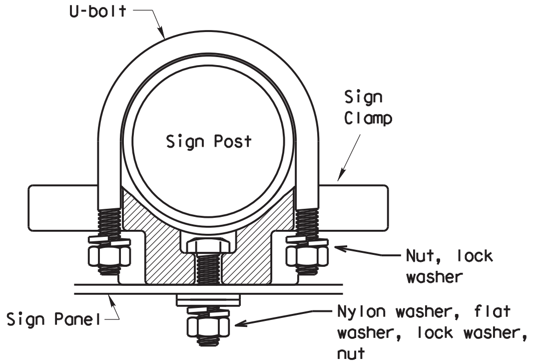
The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

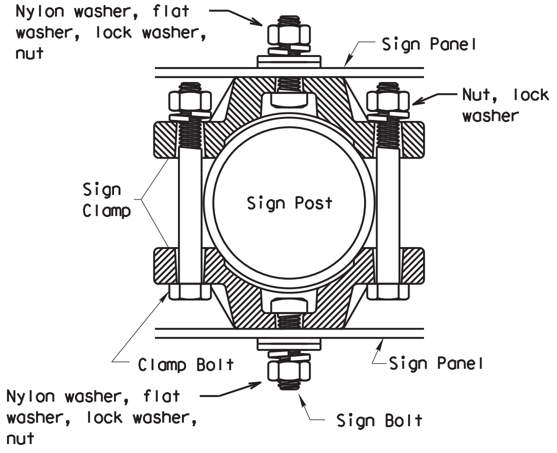
The website address is:
http://www.txdot.gov/publications/traffic.htm

TYPICAL SIGN ATTACHMENT DETAIL

Single Signs



Back-to-Back Signs



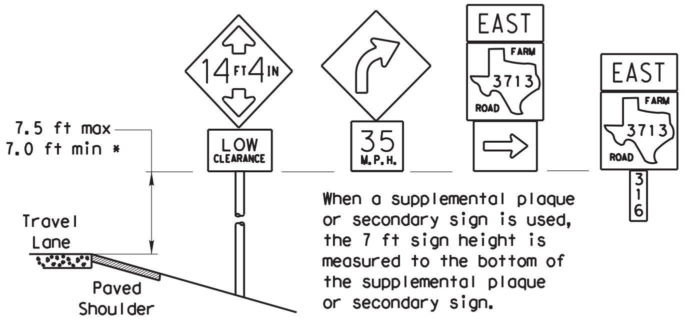
Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

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.

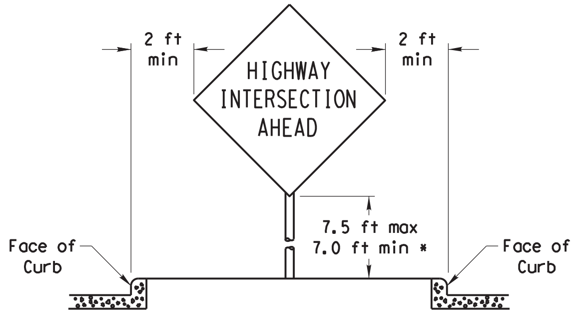
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



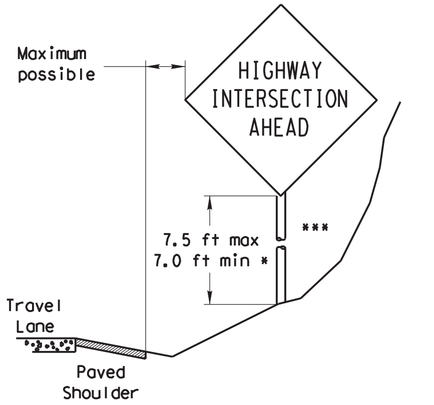
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

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

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT	
CONT	SECT	JOB	HIGHWAY	
RMC		6463-87-001	US 59, ETC.	
DIST	COUNTY		SHEET NO.	
VICTORIA	VICTORIA, ETC.		42	

9-08 REVISIONS

26A

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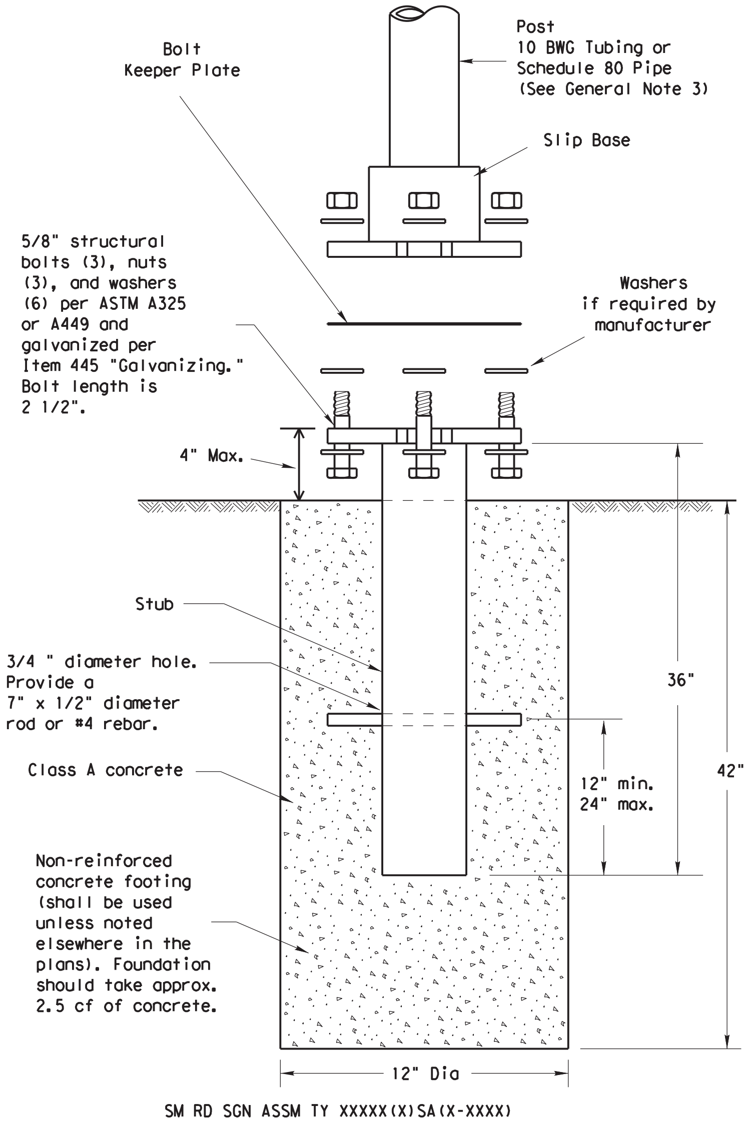
TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



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

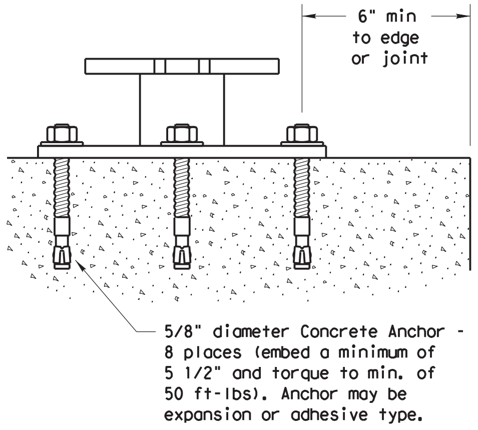
Foundation

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

	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT	
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY	
	RMC	6463-87-001		US 59, ETC.	
	DIST	COUNTY		SHEET NO.	
	VICTORIA	VICTORIA, ETC.		43	

26B

DATE: 3/22/2024 10:50:19 AM
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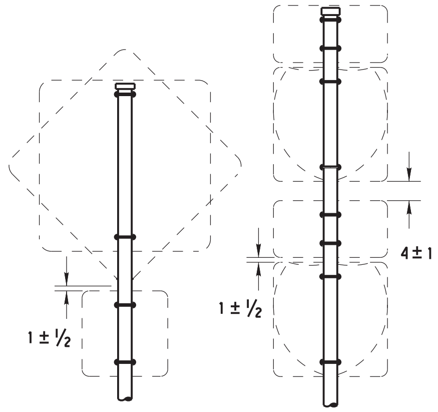
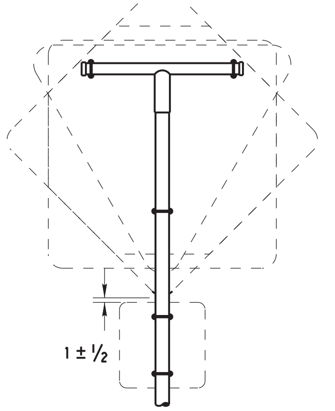


SM RD SGN ASSM TY XXXXX(1)XX(P)



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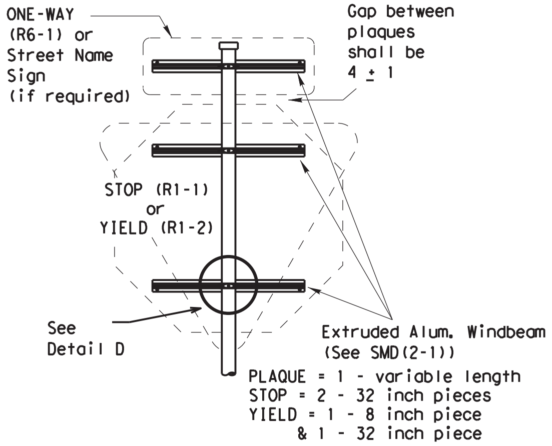

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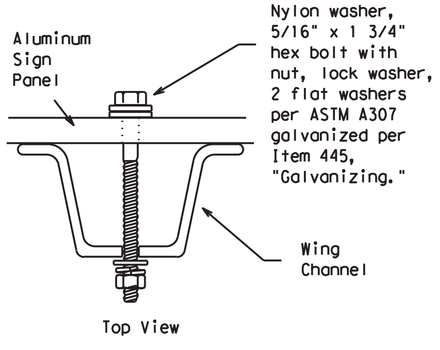
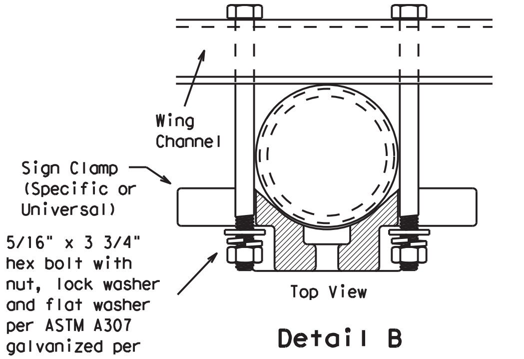
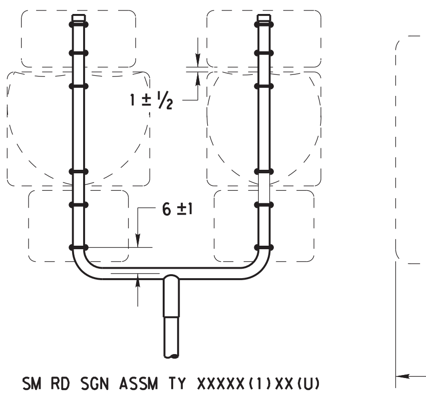


Detail A



Detail B



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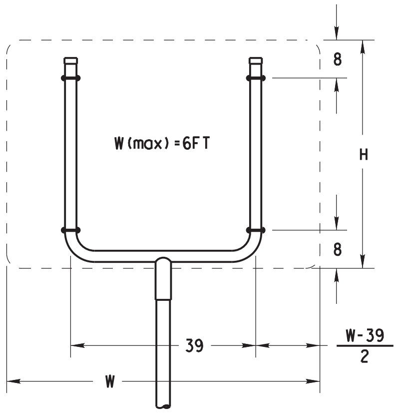

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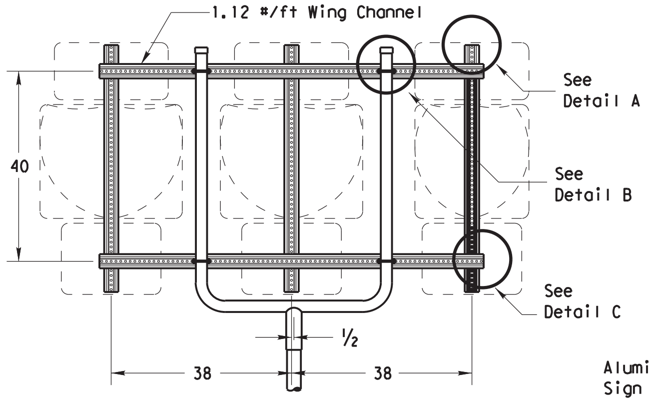
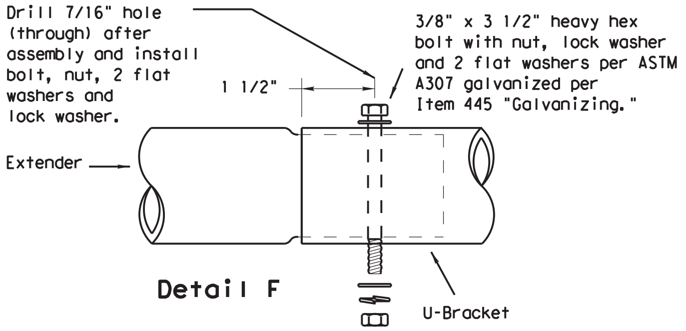
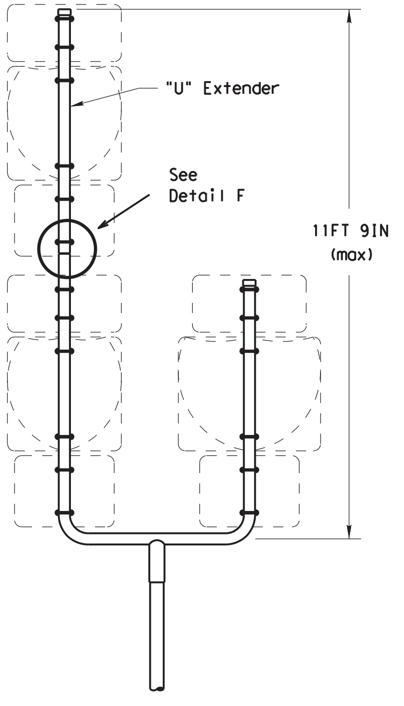


SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)

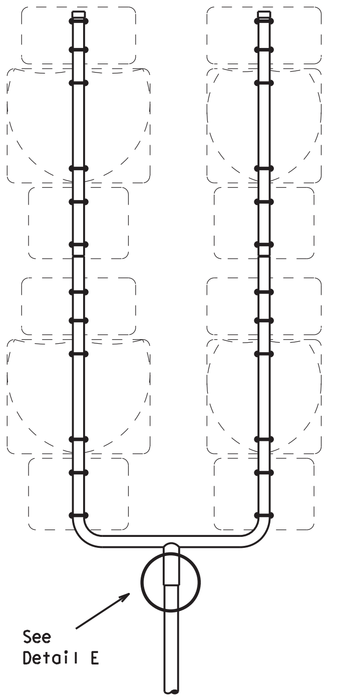


Detail F

Splices shall only be allowed behind the sign substrate.



SM RD SGN ASSM TY S80(1)XX(U-1EXT)



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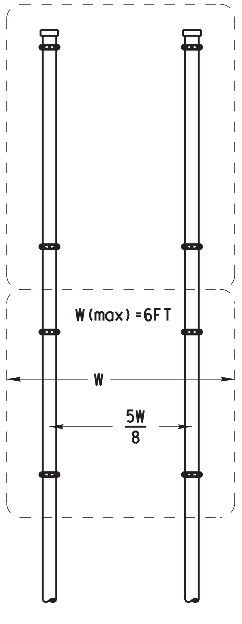
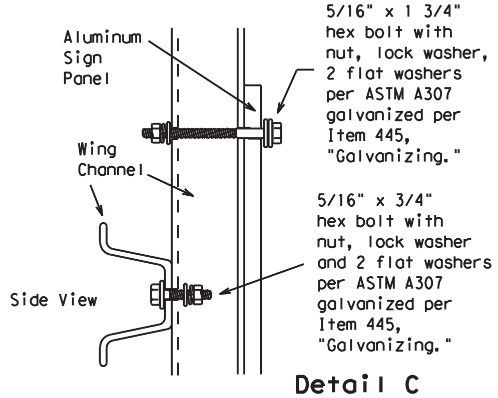
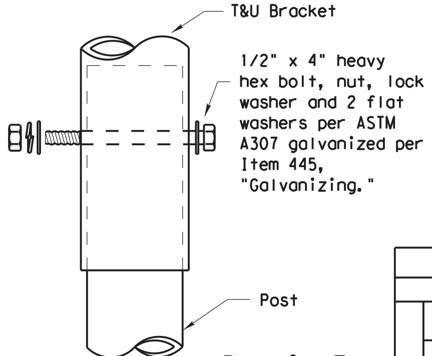


SM RD SGN ASSYM TY XXXXX(2)XX(P)

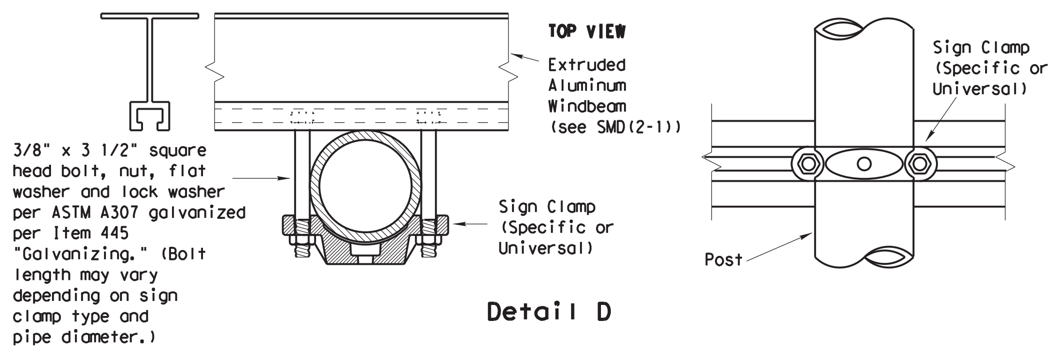


Detail C

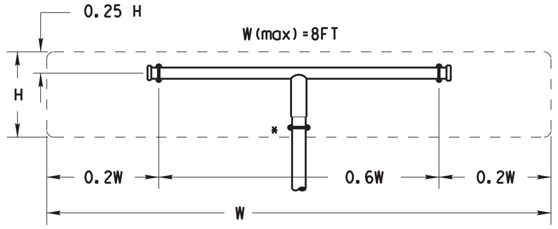


Detail E

SIDE VIEW



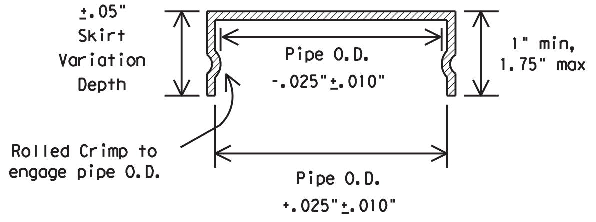
Detail D



SM RD SGN ASSM TY XXXXX(1)XX(T)
(* - See Note 12)

All dimensions are in english
unless detailed otherwise.

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.

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)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

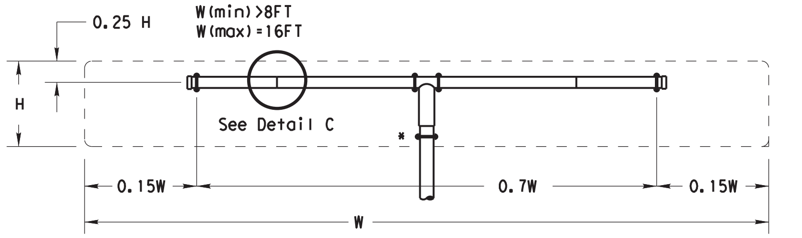
Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

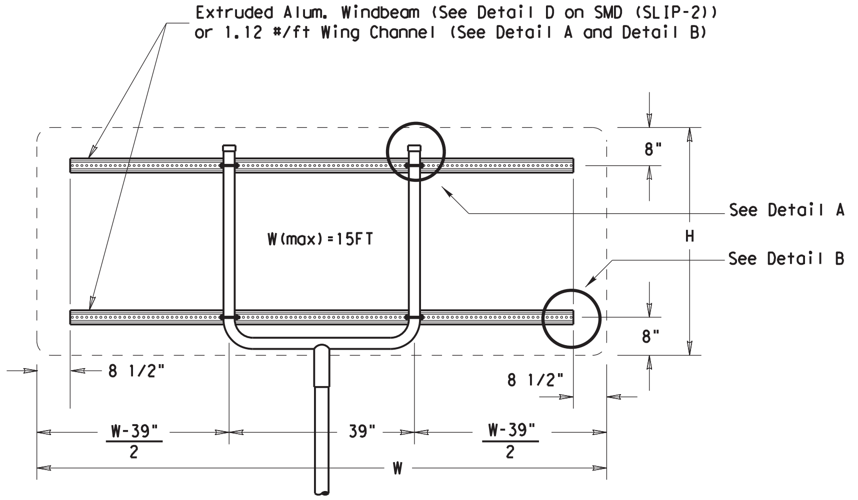
SMD(SLIP-2)-08

© TxDOT July 2002	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-08 REVISIONS	CONT	SECT	JOB	HIGHWAY
	RMC	6463-87-001		US 59, ETC.
	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		44

26C



SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)



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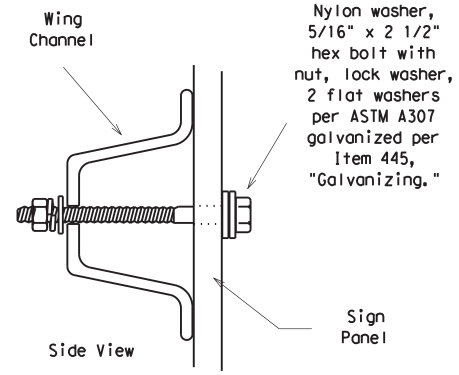
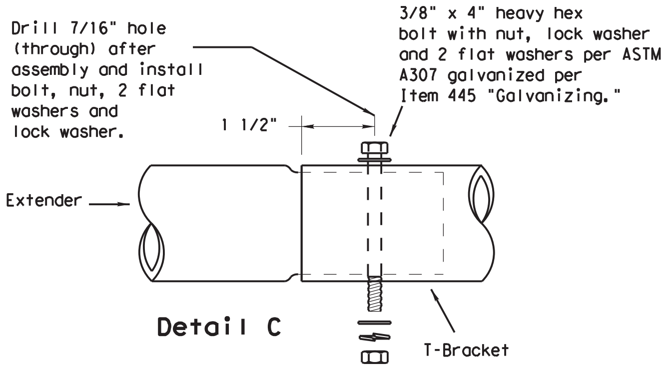


Detail B



Detail C

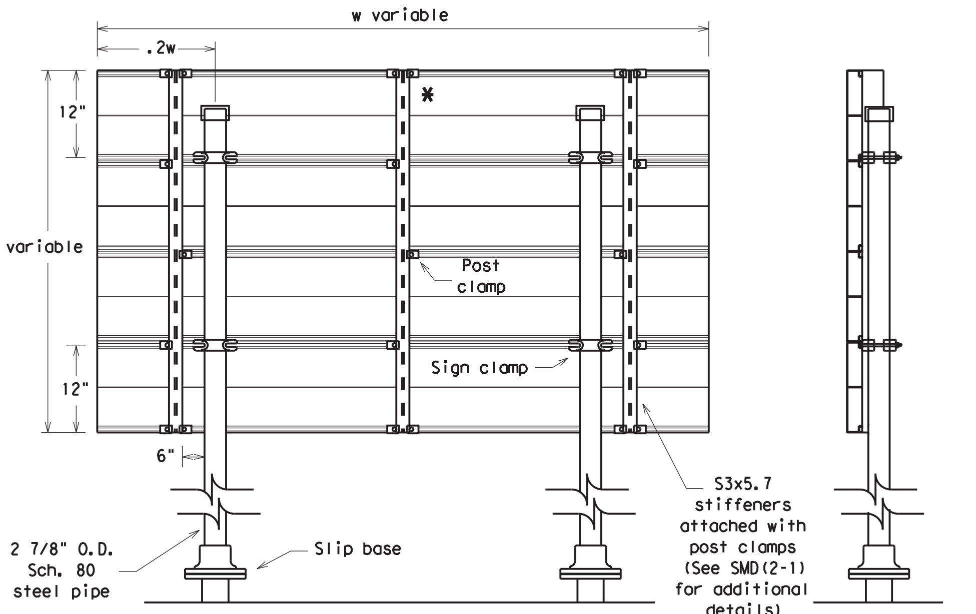
Splices shall only be allowed behind the sign substrate.

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.

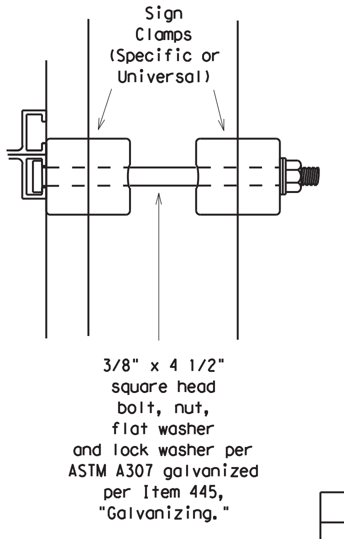


Typical Sign Mount

SM RD SGN ASSM TY S80(2)XX(P-EXAL)

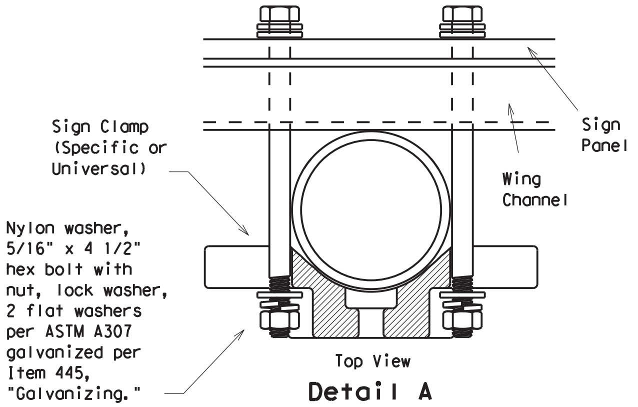
✱ Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

See Detail E for clamp installation

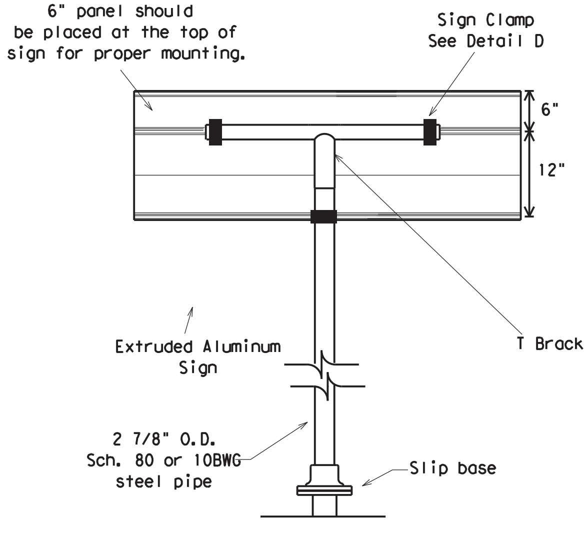


Detail E

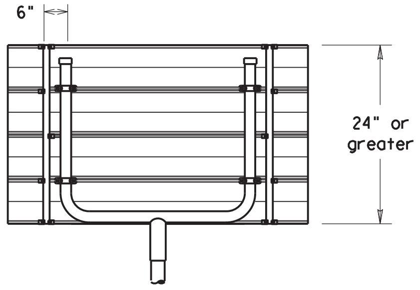
REQUIRED SUPPORT		
SIGN DESCRIPTION		SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)



Detail A

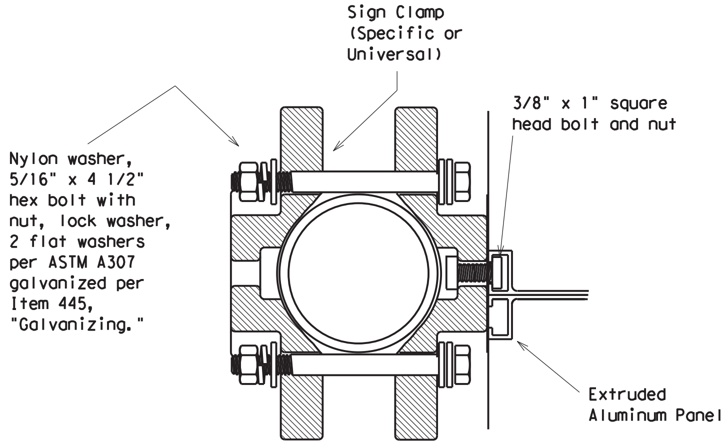


Extruded Aluminum Sign
With T Bracket



Use Extruded Alum. Windbeam as stiffeners
See SMD (2-1) for additional details

See Detail E
for clamp installation



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

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REVISIONS	CONT	SECT	JOB	HIGHWAY
9-08	RMC 6463-87-001			US 59, ETC.
	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		45

26D

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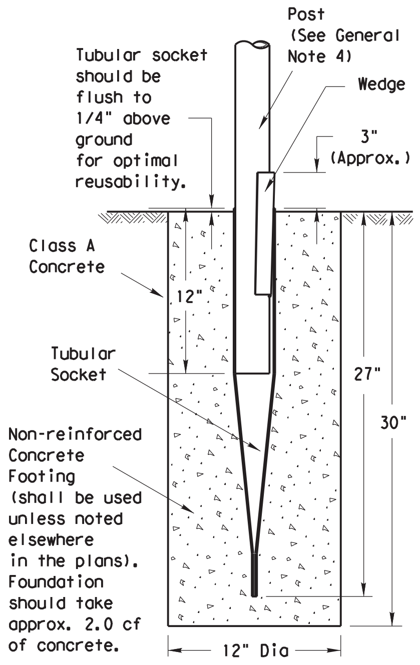
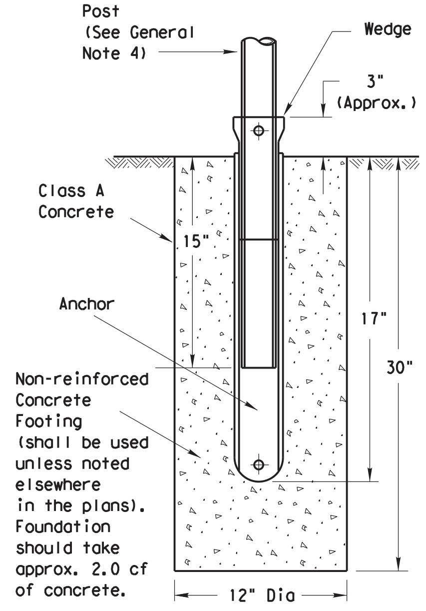
Wedge Anchor Steel System



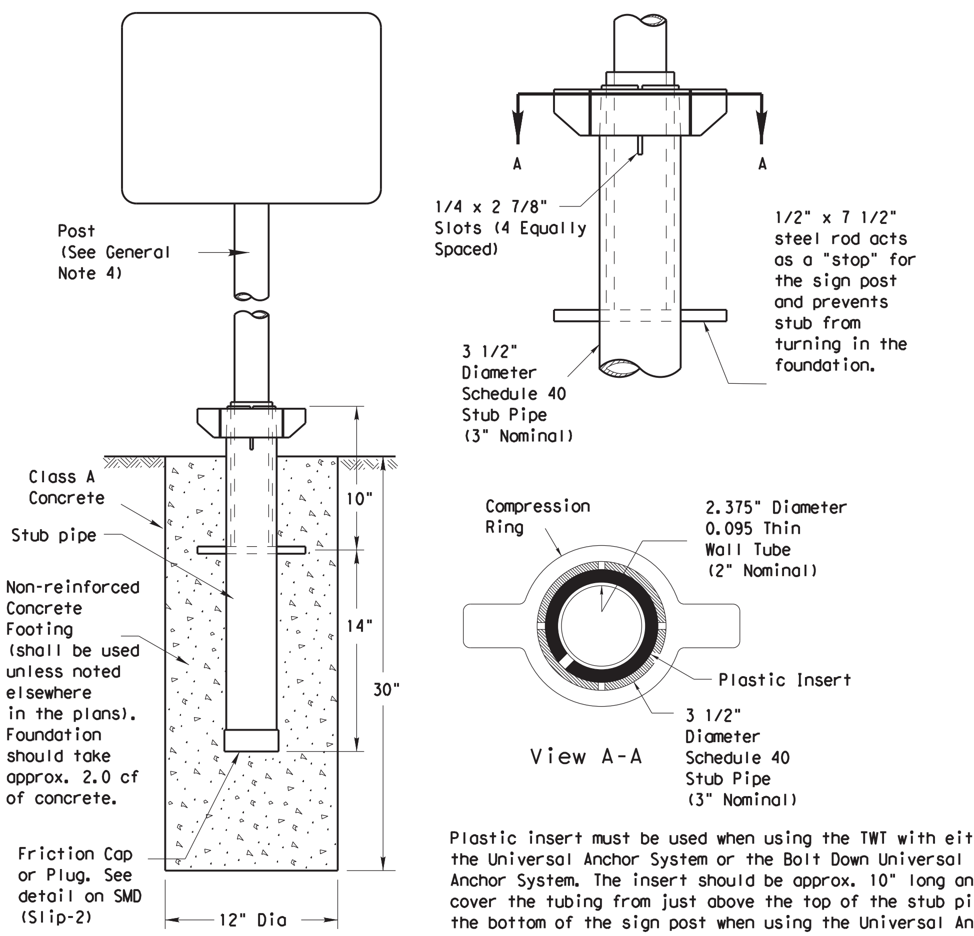
SM RD SGN ASSM TY TWT(X)WS(X)

Wedge Anchor High Density Polyethylene (HDPE) System



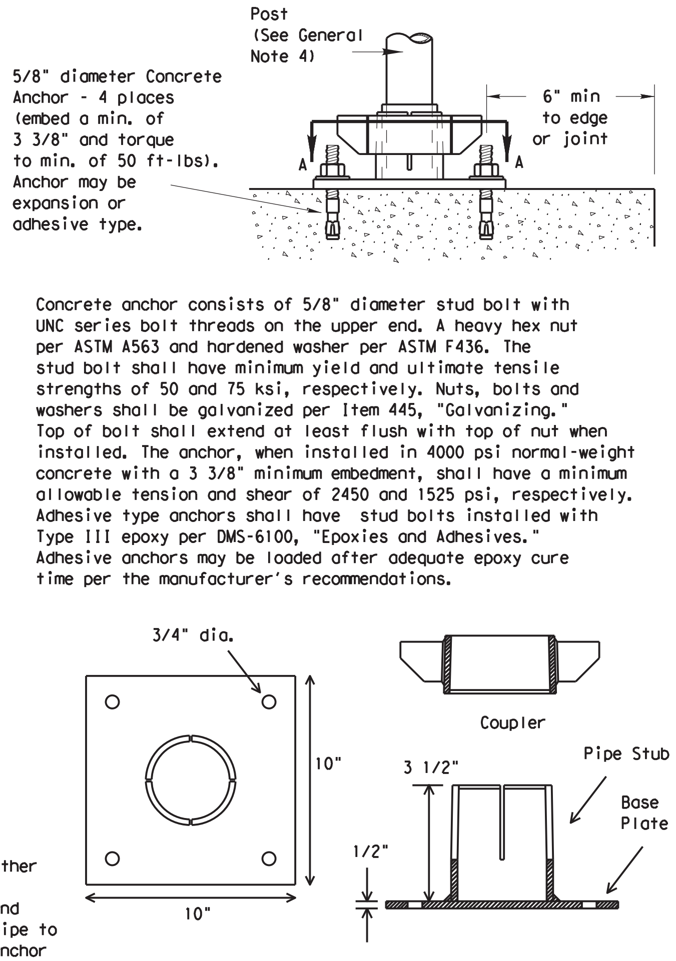
SMD RD SGN ASSM TY TWT(X)WP(X)

Universal Anchor System with Thin-Walled Tubing Post



Plastic insert must be used when using the TWT with either the Universal Anchor System or the Bolt Down Universal Anchor System. The insert should be approx. 10" long and cover the tubing from just above the top of the stub pipe to the bottom of the sign post when using the Universal Anchor System. The insert should be cut to approx. 4 1/2" when used with the Bolt Down Universal Anchor System.

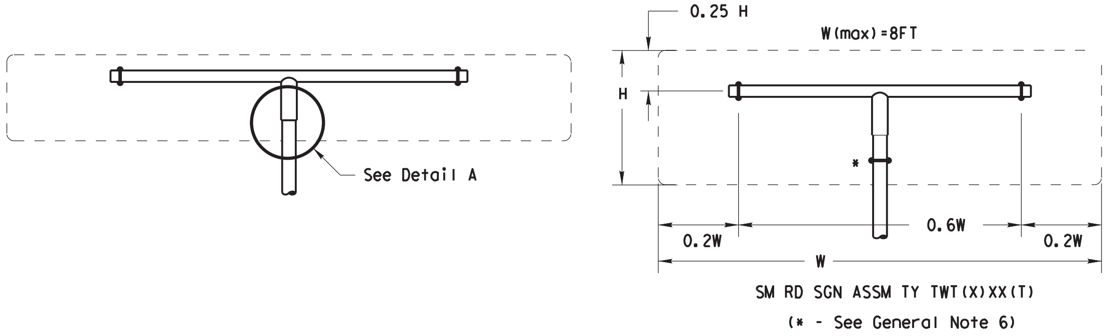
SM RD SGN ASSM TY TWT(X)UA(P)



Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. A heavy hex nut per ASTM A563 and hardened washer per ASTM F436. The stud bolt shall have minimum yield and ultimate tensile strengths of 50 and 75 ksi, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Top of bolt shall extend at least flush with top of nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 3 3/8" minimum embedment, shall have a minimum allowable tension and shear of 2450 and 1525 psi, respectively. 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.

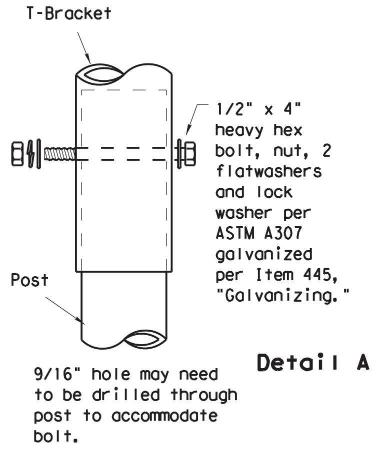
SM RD SGN ASSM TY TWT(X)UB(P)

Sign Installation Using a Prefabricated T-Bracket for Thin-Wall Tubing Post



SM RD SGN ASSM TY TWT(X)XX(T)

(* - See General Note 6)



Detail A

NOTE

The devices shall be installed per manufacturer's recommendations.
Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. The Wedge Anchor System and the Universal Anchor System with thin wall tubing post may be used to support up to 10 square feet of sign area.
2. The tubular socket, wedge and prefabricated T-bracket shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to the approval of the TxDOT Traffic Standards Engineer.
3. Except for posts (13 BWG Tubing), clamps, nuts and bolts, all components shall be prequalified. A list of prequalified vendors may be obtained from the Material Producer List web page. The website address is: http://www.txdot.gov/business/producer list.htm
4. Material used as post with this system shall conform to the following specifications:
   13 BWG Tubing (2.375" outside diameter) (TWT)
   - 0.095" nominal wall thickness
   - Seamless or electric-resistance welded steel tubing
   - 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
     - 18% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of .083" to .099"
   - Outside diameter (uncoated) shall be within the range of 2.369" to 2.381"
   - Galvanization per ASTM 123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
5. Sign blanks shall be the sizes and shapes shown on the plans.
6. Additional sign clamp required on the "T-bracket" post for 24" high signs. Place clamp at least 3" above bottom of sign when possible.
7. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
8. See the Traffic Operations Division website for detailed drawings of sign clamps and Wedge Anchor System components. The website address is: http://www.txdot.gov/publications/traffic.htm

WEDGE ANCHOR SYSTEM INSTALLATION PROCEDURE

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
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. Place concrete into hole until it is approximately flush with the ground. Concrete shall be Class A.
3. Insert tubular socket into concrete until top of socket is approximaely 1/4 " above the concrete footing.
4. Plumb the socket. Allow a minimum 4 days for concrete to set, unless otherwise directed by Engineer..
5. Attach the sign to the sign post.
6. Insert the sign post into socket and align sign face with roadway.
7. Drive the wedge into the socket to secure post. This will leave approximately 3 inches of the wedge exposed.

UNIVERSAL ANCHOR SYSTEM INSTALLATION PROCEDURE

1. Dig foundation hole. Where solid rock is encountered at ground level, the foundation shall be a minimum depth of 18". When solid rock is encountered below ground level, the foundation shall extend in the solid rock a minimum depth of 18" or provide a minimum foundation depth of 30". If solid rock is encountered, the socket/stub may be reduced in length as required to a minimum length of 18". Any material removed from the socket/stub shall be from the bottom and the clearance requirements given on SMD(GEN) must be followed. The inner surfaces of the socket/stub must remain free of concrete or other debris.
2. Insert base post in hole to depths shown and backfill hole with concrete.
3. Level and plumb the base post using a torpedo level and allow concrete adequate time to set. The bottom of the slots provided in the stub pipe shall remain above the top of the concrete foundation.
4. Attach the sign to the sign post.
5. Install plastic insert around bottom of post.
6. Insert sign post into base post. Lower until the post comes to rest on steel rod.
7. Seat compression ring using a hammer. Typically, the top of compression ring will be approximately level with top of stub post when optimally installed.
8. Check sign post by hand to ensure it is unable to turn. If loose, increase the tightening of the compression ring.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
WEDGE & UNIVERSAL ANCHOR
WITH THIN WALL TUBING POST

SMD(TWT)-08

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REVISIONS	CONT	SECT	JOB	HIGHWAY
9-08	RMC	6463-87-001		US 59, ETC.
	DIST	COUNTY		SHEET NO.
	VICTORIA	VICTORIA, ETC.		46

26E

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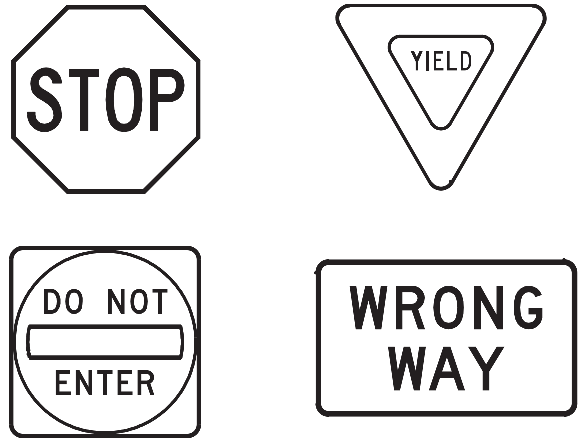
REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS

(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

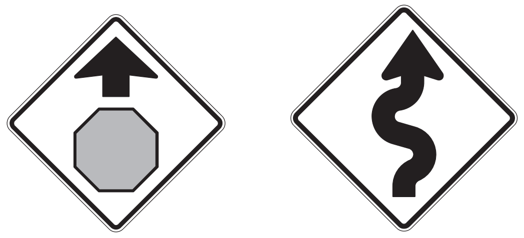
REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS

(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

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

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/

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	RMC	6463-87-001		US 59, ETC.		
	DIST	COUNTY		SHEET NO.		
	VICTORIA	VICTORIA, ETC.		47		

4

DATE: 3/22/2024
FILE: $FILE$

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

☐ Temporary Vegetation
☐ Blankets/Matting
☐ Mulch
☐ Sodding
☐ Interceptor Swale
☐ Diversion Dike
☐ Erosion Control Compost
☐ Mulch Filter Berm and Socks
☐ Compost Filter Berm and Socks

Sedimentation

☐ Silt Fence
☐ Rock Berm
☐ Triangular Filter Dike
☐ Sand Bag Berm
☐ Straw Bale Dike
☐ Brush Berms
☐ Erosion Control Compost
☐ Mulch Filter Berm and Socks
☐ Compost Filter Berm and Socks
☐ Stone Outlet Sediment Traps
☐ Sediment Basins

Post-Construction TSS

☐ Vegetative Filter Strips
☐ Retention/Irrigation Systems
☐ Extended Detention Basin
☐ Constructed Wetlands
☐ Wet Basin
☐ Erosion Control Compost
☐ Mulch Filter Berm and Socks
☐ Compost Filter Berm and Socks
☐ Vegetation Lined Ditches
☐ Sand Filter Systems
☐ 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.

3.

4.

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.

2.

3.

4.

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 12-12-2011 (DS)	RMC		6463-87-001	US 59, ETC.	
05-07-14 ADDED NOTE SECTION IV.	DIST	COUNTY		SHEET NO.	
01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.	VICTORIA	VICTORIA, ETC.		48	