INDEX OF SHEETS

SEE SHEET 2

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT NUMBER: F 2022(227)

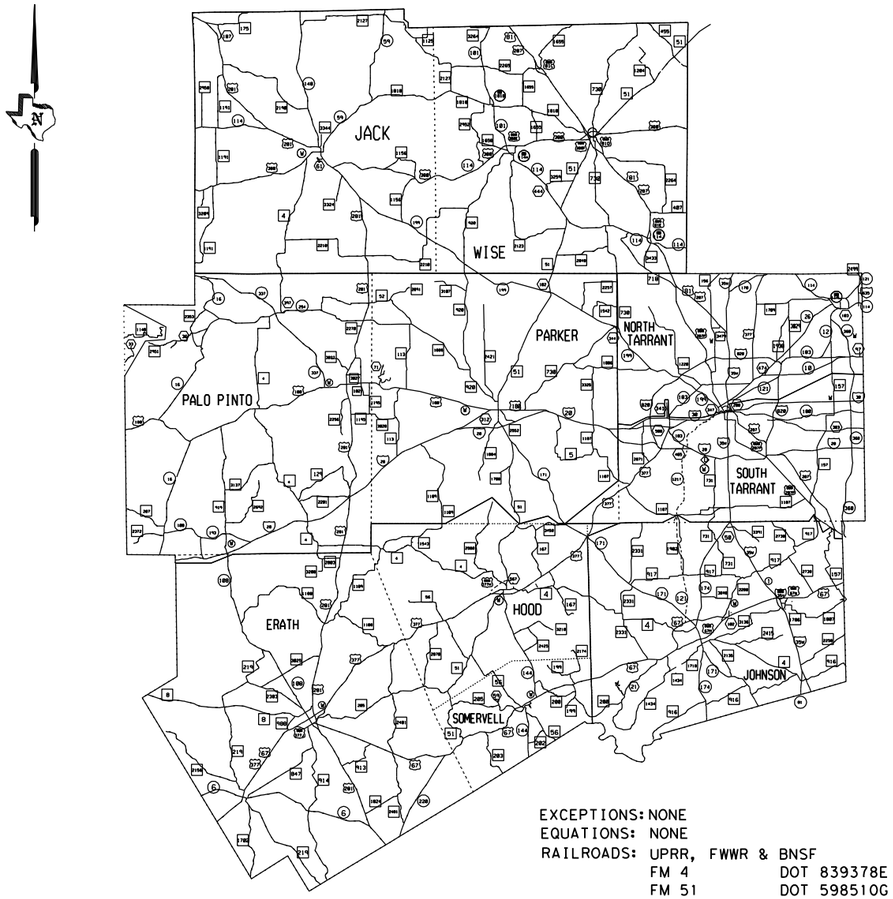
HIGHWAY: US67, ETC.

ERATH, ETC.

NET LENGTH OF PROJECT= 3,024,859.20 FT. = 572.890 MI.

LIMITS: FROM: COUNTY ROAD 386 TO BU 67K, ETC.

FOR THE CONSTRUCTION OF SEAL COAT WORK
CONSISTING OF SEAL COAT AND PAVEMENT MARKINGS



SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT. REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACT (FORM FHWA 1273, MAY 1, 2012).

EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROADS: UPRR, FWWR & BNSF

FM 4	DOT 839378E RRMP 307.530
FM 51	DOT 598510G RRMP 578.530
FM 56	DOT 020907T RRMP 46.150
FM 2264	DOT 274620V RRMP 37.400
FM 2265	DOT 598477J RRMP 558.000
FM 2870	DOT 020911H RRMP 47.220
US 377	DOT 020905E RRMP 45.420

DESIGN	FED.RD. DIV.NO.	FEDERAL PROJECT NO.		SHEET NO.
GRAPHICS	6	F 2022(227)		1
	STATE	STATE DIST.NO.	COUNTY	
CHECKED ,	TEXAS	FTW	ERATH, ETC.	
	CONT.	SECT.	JOB	HIGHWAY NO.
CHECKED ,	0079	05	061	US67, ETC.

ROADWAY CLASSIFICATION:
PRINCIPLE ATERIAL-OTHER

DESIGN SPEED: 60 MPH

CURRENT ADT 2018 = 12,261

LETTING DATE:

CONTRACTOR:

DATE WORK BEGAN:

DATE WORK COMPLETED:

DATE WORK ACCEPTED:

FINAL CONTRACT COST:

Texas Department of Transportation

SUBMITTED FOR LETTING: 9/22/2021 20__

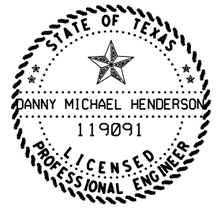
DocuSigned by: Matthew L. Evans
E9AEAF95D42641B...
DIRECTOR OF MAINTENANCE

RECOMMENDED FOR LETTING: 9/28/2021 20__

DocuSigned by:
7879B0B92E5D403...
DIRECTOR OF TP&D

APPROVED FOR LETTING: 9/29/2021 20__

DocuSigned by: Carl L. Johnson, PE
2FE36139F0814C3...
DISTRICT ENGINEER



*THE STANDARD SHEETS SPECIFICALLY IDENTIFIED ABOVE HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

DocuSigned by:
Danny Henderson, PE
F750584E052C45C...
Signature

11/5/2021
Date

INDEX SHEET

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

GENERAL NOTES:

Specification Data:

Basis of Estimate

Item	Description	Rate	Unit
316	Tier I-Asphalt	0.40 gal./sy	gal.
316	Aggregate (TY PB GR 3 SAC-B)	120 sy./cy.	cy.
316	Aggregate (TY PB GR 4 SAC-B)	135 sy./cy.	cy.

Note: The rates of asphalt and aggregate application are for estimating purposes only and may be varied as directed.

Special Notes:

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

Area Engineer: Matt Evans, P.E. Matt.Evans@txdot.gov
Asst. Area Engineer: Danny Henderson, P.E. Danny.Henderson@txdot.gov

Contractor questions will be accepted through email, phone, and in person by the above individuals.

All Contractor questions will be reviewed by the Area Engineer or Assistant Area Engineer. Once a response is developed, it will be posted to TxDOT's Public FTP at the following address: https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/

All questions submitted that generate a response will be posted through this site. The site is organized by District, Project Type (Construction or Maintenance), Letting Date, CCSJ/Project Name

General:

Plans are required for this project. Plans may be obtained from one of the plan companies listed in the "Special Notice to Contractors", or viewed at Texas Department of Transportation's (TxDOTs) Internet site at https://www.txdot.gov/business/letting-bids/plans-online.html

Calculating, Recording and Reporting Test Data - Use appropriate TxDOT Excel templates to calculate and record all test data. These forms are available on the TxDOT website at

Project Number: F 2022(227)

County: ERATH, ETC. **Control:** 0079-05-061, ETC

Highway: US 67, ETC.

http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/forms/site-manager.html under the "Site Manager Forms" heading. Submit test results by email or CD within 24 hours of test completion.

Contract Prosecution: Each contract awarded by the Department stands on its own, and as such, is separate from other contracts. A Contractor awarded multiple contracts must be capable and sufficiently staffed to concurrently process and/or execute all contracts at the same time.

Personnel will be experienced in items of work in contract.

Furnish crew(s) and equipment capable of maintaining work in a continuous manner for the completion of the work listed on the work order.

Project Description - This project consists of **Seal Coat Surface Treatments and Pavement Markings** on sections of highway within the Fort Worth District as shown in the contract and defined in these general notes and specifications. Coordinate all work through the District Maintenance representative listed below:

Chief Inspector
2501 Southwest Loop IH820
Fort Worth, TX 76133
(817) 370-6524

Item 4. Scope of Work.
Reimbursement for project overhead will not be considered.

Item 5. Control of the Work.
For this project establish a rate verification section (rock land) for each individual project referenced. Provide the Engineer with this information prior to the seal coat application. Provide control that is acceptable to the Engineer for yield calculations.

Item 5.5. Cooperation of Contractor.
Designate superintendent in accordance with second paragraph of Article 5.5. Cooperation of Contractor in the Standard Specifications for Construction and Maintenance of Highways, Streets, And Bridges.

Item 7. Legal Relations and Responsibilities.
This contract requires work to be done within railroad right of way. Cooperate with the railroads and comply with all their requirements including obtaining any required training before performing work within railroad right of way.

Submit to the Engineer an original railroad liability insurance policy.

Item 7.2.4. Public Safety and Convenience.
Personal vehicles will not be parked within the right-of-way at any time, including any section closed to the traveling public.

Operations will be curtailed or halted during special events that may result in delays or congestion to the traveling public.

No work that restricts or interferes with traffic shall be allowed from 3:00 pm on the day preceding the Holiday or Event to 9:00 am on the day after the Holiday or Event. The following Holiday/Event lane closure restriction requirements apply to this project:

Holiday Lane Closure Restrictions	
New Year's Eve and New Year's Day (December 31 through January 1)	3 PM December 30 through 9 AM January 2
Easter Holiday Weekend (Friday through Sunday)	3PM Thursday through 9 AM Monday
Memorial Day Weekend (Friday through Monday)	3 PM Thursday through 9 AM Tuesday
Independence Day (July 3 through July 5)	3 PM July 2 through 9 AM July 6
Labor Day Weekend (Friday through Monday)	3 PM Thursday through 9 AM Tuesday
Thanksgiving Holiday (Wednesday through Sunday)	3 PM Tuesday through 9 AM Monday
Christmas Holiday (December 23 through December 26)	3 PM December 22 through 9 AM December 27

No lane closures within approximately 1 mile proximity (based on potential impact) of major retail traffic generators (i.e. malls) (Thanksgiving Day through January 2). This includes the events listed below:

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Highway: US 67, ETC.

Event Lane Closure Restrictions 3 PM the day before Event to 9 AM the day after the Event			
NASCAR Races at Texas Motor Speedway (generally 3 events):	NASCAR Nationwide and Sprint Cup Series (Held in late March/early April)	NASCAR Nationwide and Sprint Cup Series (Held in Late October/early November)	Indy Series Racing and NASCAR Truck Series (Held in June)
Within one mile radius of major retail traffic generators i.e. malls (Thanksgiving Day through January 2)			
Fort Worth Stock Show and Rodeo			
Arlington Entertainment District			
Grapevine Festivals			
May Fest			
Weatherford Peach Festival			

The above list of events is not all inclusive and should be added to or adjusted as needed. When deemed necessary, the Engineer will modify the list of major events when new events develop, existing events are rescheduled, or when warranted.

Modifications to Lane Closure / Work Restrictions:
Submit a request in writing for approval by the Engineer a minimum of 10 days in advance of implementing a change to lane closure restrictions.

When deemed necessary, the Engineer will lengthen, shorten, or otherwise modify lane closure restrictions as traffic conditions warrant.

When deemed necessary, the Engineer will modify the list of major events when new events develop, existing events are rescheduled, or when warranted.

Do not discolor or damage existing curb and curb and gutter during construction operations. In the event of discoloration or damage, clean or repair as directed.

Item 8. Prosecution and Progress
Working days will be computed and charged in accordance with Section 8.3.1.2 Six-day Workweek.

Item 8.3.2. Restricted Work Hours.
Working days will be charged as follows:

Daytime Work
Sunrise – Sunset
Monday – Friday
Saturday – Optional
Excluding National Holidays

Contractor has the option of working on Saturdays or State holidays with 48 hours advance notice. Work on Sundays or National holidays will not be permitted without written permission of the Engineer.

Item 8.5 Project Schedules
Prepare the progress schedule as a bar chart, include all planned work activities and sequences and show contract completion within the number of working days specified. Submit an updated hard copy when changes to the schedule occur or when requested.

Item 210. Rolling
Additional passes may be required by the Engineer for specific locations and/or conditions.

Item 300. Asphalts, Oils, and Emulsions
Do not use any material that has not been tested and approved prior to shipment, as indicated by a current TxDOT laboratory number on the shipping ticket.

Provide (1qt.) clean and dry screw top or friction-lid sampling cans as directed. Furnish at least two samples of each type of asphalt used per individual reference for QA/QC purposes.

Item 316. Seal Coat

The asphalt and aggregate rates shown hereon are for average conditions. The rate may be varied as determined by the Engineer to obtain proper embedment of aggregate.

The Contractor will furnish the distributor nozzles. The nozzles will be furnished such that the nozzles outside the wheel paths of the travel way will place 22 to 32 % more by volume than the nozzles over the wheel paths or as directed. The Contractor will provide the percent difference (by volume) between the largest nozzle used and nozzles one and two steps below the largest nozzle.

Before stockpiling aggregate, the contractor will be required to provide the Department with stockpile locations and a sequence of work for each reference.

As seal coat operations are completed at each location, clean up stockpiles and remove construction debris to the satisfaction of the Engineer. Contractor shall not proceed ahead more than two reference locations before clean-up operations have been accomplished at the previously completed reference locations.

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Highway: US 67, ETC.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.

Item 502. Barricades, Signs, and Traffic Handling
Provide equipment such as trucks, trailers, autos, etc., with highly visible omni-directional warning flashing lights. These lights will be used within the work zone at all times. Provide forward facing arrow panel on lead vehicles when working in a continuous turn lanes. The Engineer will approve all equipment and vehicles prior to use.

Provide signing and traffic control in compliance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD), latest edition, and the appropriate traffic control method as outlined in the TMUTCD, and elsewhere in the plans.

Work zone lengths will be 2 miles or 15-minute maximum round trip interval by the pilot car unless otherwise approved by the Engineer.

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 typically 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.

Existing signs are to remain as long as they do not interfere with construction and they do not conflict with the traffic control plan.

Do not place barricades, signs, or any other traffic control devices where they interfere with sight distance at driveways or side streets. Provide access to all driveways during all phases of construction unless otherwise noted in the plans or as directed.

Equipment and materials will not be left within thirty feet (30') of the travel lane during non-working hours

Item 662. Work Zone Pavement Markings
Temporary tabs will be placed in accordance with TCP (SC-6) and TCP (SC-7) for the seal coat operations.

Temporary tabs will not be placed more than 24 hours prior to the seal coat operations beginning on that road.

Temporary tabs will be completely removed after raised pavement markings are placed and prior to the project being accepted.

Item 672. Raised Pavement Markers.
Furnish RPMs free of rust, scale, dirt, oil, grease, moisture, and contaminants that might adversely affect the adhesive bond.

Place all pavement markers in proper alignment with the guides. The maximum deviation rate in alignment is 1 in. per 200 ft. of roadway. The maximum deviation is to not exceed 2 in or be abrupt.

Removed Raised Pavement Markers and adhesives are property of the Contractor and will be disposed of at a State approved site off Department property. This will not be paid for directly and is considered subsidiary to these items.

Item 677. Eliminating Existing Pavement Markings and Markers.
Use Mechanical Method for the removal of markings.

Item 6047. Prefabricated Pavement Markings for Seal Coat Projects
Sealed roadways will be allowed to cure for 3 days before Prefabricated Pavement Markings are placed unless otherwise directed by the Engineer.

Item 6048. Reflectorized Pavement Markings for Seal Coat Project
Sealed roadways will be allowed to cure for 3 days before TY II Markings are placed unless otherwise directed by the Engineer.

Type II markings must meet the following minimum retro reflectivity values for edge line markings, centerline or no passing barrier-line, and lane lines when measured any time after 3 days, but not later than 10 days after application: White markings: 175 mcd/m2lx, Yellow markings: 100 mcd/m2lx.

Item 6185. Truck Mounted Attenuators (TMA).
The total number of truck mounted attenuators (TMA) required when utilizing the traffic control standards are shown in the tables below

TCP 1 Series	Scenario	Required TMA
(1-1)-18		1
(1-2)-18		1
(1-3)-18	A	1
	B	2
(1-4)-18		1
(1-5)-18		1

Project Number: F 2022(227)

County: ERATH, ETC. **Control:** 0079-05-061, ETC

Highway: US 67, ETC.

TCP 3 Series	Scenario	Required TMA
(3-1)-13	All	2
(3-2)-13	All	3
(3-3)-14	A	2
	B	2
	C	3
	D	2
(3-4)-13	All	1,unless working inside a left turn lane , then 2.

TCP 5 Series	Scenario	Required TMA
(5-1)-18	A	1
	B	2

TCP 6 Series	Scenario	Required TMA
(6-1)-12	A	1
	B	2
(6-2)-12	All	1
(6-3)-12	All	1
(6-4)-12	A	1
	B	2
(6-8)-14	All	1

Shadow vehicles equipped for truck mounted attenuators (TMA) for mobile and stationary operations must be available for use at any time as determined by the Engineer.

The Contractor will be responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMA needed for the project for those times per plan requirements. Additional TMAs used that are not specified in the plans in which the Contractor expects compensation will require prior approval from the Engineer.

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0079-05-061 **DISTRICT** Fort Worth **COUNTY** Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise
HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

				0079-04-053		0079-05-061		0079-08-005		0080-03-059		0134-04-039		0259-04-043	
		CONTROL SECTION JOB													
		PROJECT ID		A00140246		A00139776		A00178580		A00140240		A00140233		A00140232	
		COUNTY		Erath		Erath		Erath		Hood		Jack		Johnson	
		HIGHWAY		US 67		US 67		US 67		US 377		US 380		US 67	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY			1,000.000									
	316-6035	ASPH (TIER I)	TON	89.150		772.040		584.020		471.990		643.680		371.730	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON							2,699.000				2,127.000	
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON	447.000		3,856.000		2,918.000				3,215.000			
	500-6001	MOBILIZATION	LS			1.000									
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA	1.000		1.000		1.000		1.000		1.000		1.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA			2,290.000		783.000		304.000				156.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	247.000						1,537.000		2,067.000		1,120.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF			30,600.000		8,456.000		300.000				1,400.000	
	672-6007	REFL PAV MRKR TY I-C	EA							304.000				156.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	247.000						1,537.000		2,067.000		1,120.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA			3,536.000		783.000							
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF									111,520.000			
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA			6.000									
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF									144.000			
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF					200.000				300.000		60.000	
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA			84.000		16.000						6.000	
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA												
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA			84.000		16.000						4.000	
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA			210.000									
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA					50.000							
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF												
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF			19,077.000		14,664.000		6,080.000				6,290.000	
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF	19,818.000		76,310.000		58,660.000		123,000.000		164,000.000		88,244.000	
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF	1,980.000						32,560.000		22,520.000		31,000.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF	10,904.000		76,310.000		58,660.000		77,901.000		222,512.000		52,985.000	
	6185-6002	TMA (STATIONARY)	DAY			20.000									
	6185-6005	TMA (MOBILE OPERATION)	DAY			180.000									
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS			1.000									

Estimate & Quantity Sheet

Texas Department of Transportation

CONTROLLING PROJECT ID 0079-05-061

DISTRICT Fort Worth

COUNTY Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise

HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

			CONTROL SECTION JOB		0259-11-018		0312-02-018		0312-03-032		0313-01-062		0313-01-063		0314-06-037	
			PROJECT ID		A00176921		A00140363		A00140225		A00140190		A00140224		A00140229	
			COUNTY		Somervell		Denton		Wise		Wise		Wise		Palo Pinto	
			HIGHWAY		FM 200		FM 51		FM 51		FM 51		FM 51		FM 4	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY												
	316-6035	ASPH (TIER I)	TON	113.130		91.720		432.590		211.650		217.860		233.030	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON			527.000		2,474.000		1,213.000		1,247.000		1,334.000	
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON	566.000											
	500-6001	MOBILIZATION	LS												
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA	1.000		1.000		1.000		1.000		1.000		1.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA					217.000		75.000					
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	498.000		483.000		2,035.000		930.000		975.000		1,075.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF							225.000		1,820.000			
	672-6007	REFL PAV MRKR TY I-C	EA					217.000		75.000					
	672-6009	REFL PAV MRKR TY II-A-A	EA	498.000		483.000		2,035.000		930.000		975.000		1,075.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA												
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF												
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA												
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF					240.000							
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF	195.000						260.000		280.000		160.000	
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA							2.000		4.000			
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA									2.000			
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA							2.000		2.000			
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA												
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA												
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF							200.000					
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF					4,355.000		797.000		200.000			
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF	39,860.000		38,716.000		162,840.000		73,160.000		76,980.000		85,960.000	
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF	2,380.000		2,092.000		6,552.000		4,105.000		4,038.000		5,300.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF	30,615.000		26,196.000		127,909.000		53,565.000		56,390.000		74,000.000	
	6185-6002	TMA (STATIONARY)	DAY												
	6185-6005	TMA (MOBILE OPERATION)	DAY												
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0079-05-061

DISTRICT Fort Worth

COUNTY Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise

HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

				0314-06-038		0385-08-008		0391-07-031		0391-08-011		0422-03-083		0649-01-024	
		CONTROL SECTION JOB													
		PROJECT ID		A00140230		A00176918		A00176908		A00176910		A00140231		A00140227	
		COUNTY		Palo Pinto		Somervell		Jack		Palo Pinto		Johnson		Palo Pinto	
		HIGHWAY		FM 4		FM 200		FM 4		FM 4		US 67		FM 52	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY												
	316-6035	ASPH (TIER I)	TON	117.700		70.620		249.220		94.790		114.380		9.050	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON	675.000				1,425.000		542.000		656.000		53.000	
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON			354.000									
	500-6001	MOBILIZATION	LS												
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA	1.000		1.000		1.000		1.000		1.000		1.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA											30.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	610.000		328.000		1,554.000		608.000		420.000		50.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF									3,280.000		275.000	
	672-6007	REFL PAV MRKR TY I-C	EA											30.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	610.000		328.000		1,554.000		608.000		420.000		50.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA												
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF											4,000.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA												
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF												
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF	120.000		75.000		24.000				60.000			
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA									12.000			
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA	2.000											
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA									12.000			
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA												
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA												
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF									2,560.000			
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF												
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF	48,836.000				124,320.000		48,650.000		25,174.000		8,000.000	
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF	13,880.000		952.000		7,187.000		4,918.000				278.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF	31,948.000		21,354.000		88,082.000		20,428.000		28,500.000		1,598.000	
	6185-6002	TMA (STATIONARY)	DAY												
	6185-6005	TMA (MOBILE OPERATION)	DAY												
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0079-05-061

DISTRICT Fort Worth

COUNTY Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise

HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

				0736-01-020		0774-04-015		0777-01-014		0777-02-036		0777-02-037		0780-02-017	
		CONTROL SECTION JOB													
		PROJECT ID		A00176912		A00140245		A00140239		A00140238		A00176903		A00140183	
		COUNTY		Palo Pinto		Erath		Hood		Hood		Hood		Hood	
		HIGHWAY		FM 4		FM 219		FM 56		FM 56		FM 56		FM 51	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY												
	316-6035	ASPH (TIER I)	TON	284.770		327.390		126.840		141.030		176.340		24.470	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON	1,628.000				727.000		808.000					
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON			1,637.000						882.000		123.000	
	500-6001	MOBILIZATION	LS												
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA	1.000		1.000		1.000		1.000		1.000		1.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA												
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	1,700.000		1,327.000		770.000		964.000		547.000		123.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF									500.000			
	672-6007	REFL PAV MRKR TY I-C	EA												
	672-6009	REFL PAV MRKR TY II-A-A	EA	1,700.000		1,327.000		770.000		964.000		547.000		123.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA												
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF												
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA												
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF												
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF	36.000		48.000		24.000		30.000		40.000			
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA									2.000			
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA							2.000					
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA									2.000			
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA												
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA												
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF												
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF												
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF	136,003.000		118,272.000		62,092.000		59,452.000		43,780.000		9,870.000	
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF	11,964.000		8,060.000		3,540.000		3,370.000		1,852.000		3,310.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF	67,656.000		78,009.000		62,092.000		42,842.000		39,331.000		5,369.000	
	6185-6002	TMA (STATIONARY)	DAY												
	6185-6005	TMA (MOBILE OPERATION)	DAY												
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0079-05-061

DISTRICT Fort Worth

COUNTY Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise

HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

		CONTROL SECTION JOB	0780-02-018		1179-01-046		1310-03-028		1597-01-016		1601-02-034		1601-03-016	
		PROJECT ID	A00140237		A00140188		A00140187		A00140244		A00179383		A00140236	
		COUNTY	Hood		Wise		Wise		Erath		Parker		Hood	
		HIGHWAY	FM 51		FM 920		FM 2264		FM 1702		FM 2580		FM 2580	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY												
	316-6035	ASPH (TIER I)	TON	145.790		439.660		441.290		273.020		86.330		229.580	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON			2,514.000						497.000			
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON	730.000				2,205.000		1,365.000				1,148.000	
	500-6001	MOBILIZATION	LS												
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA	1.000		1.000		1.000		1.000		1.000		1.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA											4.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	628.000		2,140.000		1,780.000		1,232.000		368.000		968.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF			650.000		300.000				220.000		220.000	
	672-6007	REFL PAV MRKR TY I-C	EA											4.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA	628.000		2,140.000		1,780.000		1,232.000		368.000		968.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA												
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF												
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA												
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF							60.000					
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF	140.000		620.000		350.000						280.000	
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA					2.000						2.000	
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA			4.000		2.000							
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA					2.000						2.000	
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA			5.000									
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA												
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF												
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF											55.000	
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF	50,296.000		168,540.000		140,780.000		98,620.000		29,418.000			
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF	12,570.000		41,100.000		28,183.000		27,888.000		2,732.000		2,480.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF	37,700.000		119,563.000		97,630.000		98,620.000		17,109.000		67,503.000	
	6185-6002	TMA (STATIONARY)	DAY												
	6185-6005	TMA (MOBILE OPERATION)	DAY												
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0079-05-061

DISTRICT Fort Worth

COUNTY Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise

HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

			CONTROL SECTION JOB	1602-01-009		1606-02-020		1851-01-013		2578-02-008		2738-01-017		2852-01-020	
			PROJECT ID	A00176916		A00140186		A00140242		A00140243		A00140184		A00140235	
			COUNTY	Parker		Wise		Erath		Erath		Wise		Hood	
			HIGHWAY	FM 1708		FM 2123		FM 2481		FM 2481		FM 2265		FM 2870	
ALT	BID CODE	DESCRIPTION	UNIT	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY												
	316-6035	ASPH (TIER I)	TON	43.030		460.480		82.230		130.930		250.950		253.330	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON			2,633.000									
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON	217.000				412.000		655.000		1,254.000		1,268.000	
	500-6001	MOBILIZATION	LS												
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA	1.000		1.000		1.000		1.000		1.000		1.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA												
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA	208.000		2,117.000		465.000		750.000		1,178.000		1,107.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF									200.000			
	672-6007	REFL PAV MRKR TY I-C	EA												
	672-6009	REFL PAV MRKR TY II-A-A	EA	208.000		2,117.000		465.000		750.000		1,178.000		1,107.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA												
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF												
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA												
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF												
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF	160.000		345.000						120.000		240.000	
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA												
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA									2.000		2.000	
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA												
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA												
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA												
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF												
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF												
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF	16,640.000		169,400.000								88,600.000	
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF	1,301.000		46,000.000		8,850.000		13,620.000		22,222.000		23,620.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF	11,206.000		110,864.000		27,173.000		42,744.000		44,580.000		52,015.000	
	6185-6002	TMA (STATIONARY)	DAY												
	6185-6005	TMA (MOBILE OPERATION)	DAY												
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS												

Estimate & Quantity Sheet

Texas Department of Transportation

CONTROLLING PROJECT ID 0079-05-061 **DISTRICT** Fort Worth **COUNTY** Denton, Erath, Hood, Jack, Johnson, Palo Pinto, Parker, Somervell, Wise

HIGHWAY FM 1702, FM 1708, FM 200, FM 2123, FM 219, FM 2264, FM 2265, FM 2481, FM 2580, FM 2870, FM 4, FM 51, FM 52, FM 56, FM 920, RM 2692, US 377, US 380, US 67

				CONTROL SECTION JOB	2852-02-007		2853-01-013		2854-01-012		TOTAL EST.	TOTAL FINAL
				PROJECT ID	A00140241		A00176924		A00140226			
				COUNTY	Erath		Somervell		Palo Pinto			
				HIGHWAY	FM 2870		FM 200		RM 2692			
ALT	BID CODE	DESCRIPTION	UNIT		EST.	FINAL	EST.	FINAL	EST.	FINAL		
	316-6003	AGGR (LOAD HAUL & DISTRIB)	CY								1,000.000	
	316-6035	ASPH (TIER I)	TON		5.520		108.280		150.990		9,070.600	
	316-6511	AGGR (TY-PB GR-4 SAC-B)	TON						865.000		24,644.000	
	316-6515	AGGR(TY-PB GR-3 SAC-B)	TON		28.000		543.000				23,823.000	
	500-6001	MOBILIZATION	LS								1.000	
	502-6025	BARR, SIGNS, TRAFFIC HANDLING	EA		1.000		1.000		1.000		39.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA								3,859.000	
	662-6111	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	EA		24.000		443.000		1,062.000		34,438.000	
	666-6178	REFL PAV MRK TY II (W) 8" (SLD)	LF								48,446.000	
	672-6007	REFL PAV MRKR TY I-C	EA								786.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA		24.000		443.000		1,062.000		34,438.000	
	672-6010	REFL PAV MRKR TY II-C-R	EA								4,319.000	
	677-6028	ELIM EXT PV MRK & MRKS (RUMBLE STRIP)	LF								115,520.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA								6.000	
	6047-6036	PREFB PAV MK TY C (W)12"(SLD)	LF		30.000						474.000	
	6047-6038	PREFB PAV MK TY C (W)24"(SLD)	LF				25.000		60.000		4,252.000	
	6047-6039	PREFB PAV MK TY C (W)(ARROW)	EA								130.000	
	6047-6043	PREFB PAV MK TY C (W)(RR XING)	EA								16.000	
	6047-6047	PREFB PAV MK TY C (W)(WORD)	EA								126.000	
	6047-6048	PREFB PAV MK TY C (W)18"(YLD TRI)	EA								215.000	
	6047-6049	PREFB PAV MK TY C (W)36"(YLD TRI)	EA								50.000	
	6047-6056	PREFB PAV MK TY C (Y)12"(SLD)	LF								2,760.000	
	6048-6009	RE PM W/RET REQ TY II (W)4"(BRK)	LF								51,518.000	
	6048-6010	RE PM W/RET REQ TY II (W)4"(SLD)	LF		1,944.000		35,458.000				2,491,693.000	
	6048-6013	RE PM W/RET REQ TY II (Y)4"(BRK)	LF				2,276.000		24,560.000		429,240.000	
	6048-6014	RE PM W/RET REQ TY II (Y)4"(SLD)	LF		1,920.000		13,010.000		47,692.000		2,144,485.000	
	6185-6002	TMA (STATIONARY)	DAY								20.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY								180.000	
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS								1.000	

SEAL COAT MATERIAL SELECTION TABLE

TIER I: HEAVY USE - USE ONLY THE SELECTED MATERIALS.

TYPE	ASPHALT RUBBER (A-R) ☐ A-R ONLY	ASPHALT CEMENT (AC) ☐ AC ONLY
ASPHALT	☐ A-R TY II ☐ A-R TY III ☐ SP 300-	☒ AC-20-5TR ☒ AC-20XP ☐ AC-15P ☐ SP 300-

TIER II: MODERATE USE - USE THESE MATERIALS OR ANY SELECTED TIER I MATERIAL COMBINATIONS OF THE ALLOWED TYPES.

TYPE	ASPHALT CEMENT (AC) ☐ AC ONLY	ASPHALT EMULSION ☐ EMULSION ONLY
ASPHALT	☐ AC-10-2TR ☐ AC-15P ☐ AC-20XP ☐ AC-10 W/2%SBR ☐ AC-5 W/2%SBR ☐ SP 300-	☐ CHFRS-2P ☐ HFRS-2P ☐ CRS-2P ☐ SP 300-

TIER III: LIGHT USE - USE THESE MATERIALS OR ANY SELECTED TIER I OR TIER II MATERIAL COMBINATIONS OF THE ALLOWED TYPES.

TYPE	ASPHALT CEMENT (AC) ☐ AC ONLY	ASPHALT EMULSION ☐ EMULSION ONLY
ASPHALT	☐ AC-10 ☐ AC-5 ☐ SP 300-	☐ CRS-2 ☐ CRS-2H ☐ HFRS-2 ☐ SP 300-

DISTRICTWIDE SEAL COAT PROJECT SEASONS: REFER TO ITEM 316 FOR TEMPERATURE AND WEATHER RESTRICTIONS.

SEASON 1: AMA, CHS, LBB	MAY 15 TO AUG 31
SEASON 2: ABL, ATL, BWD, DAL, FTW, LFK, ODA, PAR, SJT, TYL, WAC, WFS	MAY 1 TO AUG 31
SEASON 3: AUS, BMT, BRY, ELP, HOU, SAT, YKM	MAY 1 TO SEP 15
SEASON 4: CRP, LRD, PHR	APR 1 TO SEPT 30

NOTE: SEAL COATS ON ROUTINE MAINTENANCE CONTRACTS MUST BE COMPLETED BY AUGUST 31 UNLESS OTHERWISE SHOWN ON THE PLANS.

INSTRUCTIONS TO THE CONTRACTOR:

1. PROVIDE MATERIALS ACCORDING TO THE ALTERNATES SELECTED FOR THE ROADWAY TIER DESIGNATIONS SPECIFIED AT VARIOUS ROADWAY LOCATIONS SHOWN ON THE PLANS;
2. ALTERNATELY, SUPPLY SELECTED BINDERS FROM A HIGHER TIER, BUT ONLY IF THE TYPE OF MATERIAL IS ALLOWED FOR THE DESIGNATED TIER; PAYMENT WILL ONLY BE MADE FOR THE TIER DESIGNATED FOR THE PAVEMENT;
3. SUPPLY THE AGGREGATE TYPE, GRADE AND SURFACE AGGREGATE CLASS SHOWN ON THE PLANS; AND
4. ADHERE TO THE APPLICATION SEASON SELECTED.

STATE OF TEXAS
DANNY MICHAEL HENDERSON
119091
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
Danny Henderson, P.E. 9/23/2021
E769E84E0E2C45C...
Signature Date

SEAL COAT MATERIAL SELECTION TABLE

SCTABLE

FILE: sctable.dgn	DN: TxDOT	CK:	DW:	CK:
© TxDOT: March 2014	CONT 0079	SECT 05	JOB 061	HIGHWAY US67, ETC.
REVISIONS	DIST FTW	COUNTY ERATH, ETC.		SHEET NO. 5

DATE:
FILE:

REF	COUNTY	FUNCTIONAL CLASS	CSJ	ROADWAY	LIMITS		REFERENCE MARKERS		DFO		CENTERLINE MILES	**** ESTIMATED LANE MILES	**** ESTIMATED SQ Yds	RAILROAD	**** INTERSECTIONS
					FROM	TO	FROM	TO	FROM	TO					
1	DENTON	4	0312-02-018	FM 51	COOKE COUNTY LINE	WISE COUNTY LINE	228-0.006	230+1.659	19.015	22.68	3.665	7.33	60,962.73		3
2	ERATH	3	0079-04-053	US 67	BU67K	COMANCHE COUNTY LINE	520+4.75	524+1.825	299.656	301.483	1.827	3.654	46,089.12		0
3	ERATH	3	0079-05-061	US 67	COUNTY ROAD 386	BU 67K	514-1.969	518+1.32	286.961	294.236	7.275	29.1	399,140.00		32
4	ERATH	5	0774-04-015	FM 219	FM 8	US 67	504+.263	514+.522	10.289	20.38	10.091	20.182	169,261.49		28
5	ERATH	5	1597-01-016	FM 1702	FM 219	COMANCHE COUNTY LINE	316-.034	324+1.225	0	9.204	9.204	18.41	141,150.68		3
6	ERATH	5	2578-02-008	FM 2481	US 67	FM1824	310+0.371	314+2.058	14.338	19.999	5.661	11.322	67,687.40		5
7	ERATH	5	1851-01-013	FM 2481	FM1824	SH 220	314+2.058	318+1.583	19.999	23.514	3.515	7.03	42,507.67		5
8	ERATH	5	2852-02-007	FM 2870	HOOD COUNTY LINE	FM 205	304+.017	304+.197	8.387	8.567	0.18	0.36	2,851.20		0
9	ERATH	3	0079-08-005	US 67	BU67K N. OF DUBLIN	BU67K S. OF DUBLIN	518+1.321	520+4.433	294.237	299.339	5.102	20.408	301,936.80		10
10	HOOD	3	0080-03-059	US 377	LP 567	ERATH COUNTY LINE	336+.805	348+.382	130.136	141.649	11.513	23.02	313,733.49	FWWR	12
11	HOOD	5	0777-01-014	FM 56	.2 MI S. OF MUSICK RD	US 377	292	298+.044	0	5.88	5.88	11.76	84,308.40		6
12	HOOD	5	0777-02-036	FM 56	US 377	FM 51	300-1.766	302+1.853	6.203	11.833	5.63	11.26	93,747.13	FWWR	5
13	HOOD	5	0780-02-018	FM 51	FM 56	FM 205	328+1.804	334	110.159	114.984	4.825	9.65	75,368.33		7
14	HOOD	5	1601-03-016	FM 2580 S	PARKER COUNTY LINE	FM 4	282+.788	290+1.445	2.788	10.337	7.549	15.1	118,689.41		14
15	HOOD	5	2852-01-020	FM 2870	US 377	ERATH COUNTY LINE	294-.080	304+.017	0	8.387	8.387	16.77	130,965.71	FWWR	12
16	HOOD	6	0780-02-017	FM 51	FM 205	SOMERVELL COUNTY LINE	334	334+1.599	114.984	115.964	0.98	1.96	12,648.53		1
17	HOOD	5	0777-02-037	FM 56	FM 51	SOMERVELL COUNTY LINE	306-1.456	310+.023	12.536	16.598	4.062	8.124	91,166.48		7
18	JACK	4	0134-04-039	US 380	YOUNG COUNTY LINE	9TH ST IN JACKSBORO	522+.994	538+1.599	288.66	304.237	15.577	31.15	332,781.24		15
19	JACK	5	0391-07-031	FM 4	REF MRK 242	PALO PINTO COUNTY LINE	242+0.003	252+2.610	3.894	15.623	11.729	23.458	165,650.32		2
20	JOHNSON	3	0259-04-043	US 67	PARK ROAD 21	SOMERVELL COUNTY LINE	458+1.164	466+1.717	236.375	244.846	8.471	16.94	247,085.71		4
21	JOHNSON	3	0422-03-083	US 67	LAKE PAT CLEBURNE	PARK ROAD 21	456+1.317	458+1.164	234.354	236.375	2.021	4.46	76,023.75		3
22	PALO PINTO	5	0314-06-038	FM 4	WARD MT. RD. S	IH 0020	284+1.662	290+.404	47.198	51.9	4.702	9.4	78,238.19	UP	8
23	PALO PINTO	5	0314-06-037	FM 4	US 180	WARD MT. RD. S	274-.249	284+1.662	35.323	47.198	11.875	23.75	154,891.67		13
24	PALO PINTO	5	0649-01-024	FM 52	US 281	PARKER COUNTY LINE	512+1.558	514+.012	7.545	7.938	0.393	0.79	6,017.00		1
25	PALO PINTO	5	2854-01-012	RM 2692	FM 919	LAKE POINT DR	496-1.976	502+0.073	0	8.044	8.044	16.09	100,367.08		5
26	PALO PINTO	5	0391-08-011	FM 4	JACK COUNTY LINE	WATHEN ST	254+.002	258+.493	15.623	20.098	4.475	8.95	63,008.00		0
27	PALO PINTO	5	0736-01-020	FM 4	SH 254	US 180	262-1.645	272+1.227	21.947	34.801	12.854	25.708	189,284.33		3
28	PARKER	6	1602-01-009	FM 1708	FM 51	TIN TOP ROAD	528-.041	530+.024	0	1.586	1.586	3.172	22,240.97		7
29	PARKER	5	1601-02-034	FM 2580	TIN TOP ROAD	HOOD COUNTY LINE	280-.056	282+.788	0	2.788	2.788	5.576	57,382.31		7
30	SOMERVELL	6	0385-08-008	FM 200	SH 144	US 67	534-.054	536+.514	0	2.503	2.503	5.006	36,507.24		5
31	SOMERVELL	5	0259-11-018	FM 200	US 67	FM 199	536+0.514	540+0.379	2.503	6.423	3.92	7.84	58,482.60		13
32	SOMERVELL	5	2853-01-013	FM 200	FM 199	JOHNSON COUNTY LINE	542-.970	546+.019	7.073	10.45	3.377	6.754	55,978.85		2
33	WISE	4	0312-03-032	FM 51	DENTON COUNTY LINE	US 380	230+1.667	246+1.739	22.68	38.407	15.727	31.45	287,539.71		6
34	WISE	4	0313-01-063	FM 51	DAVID AVENUE	SH 114	250+.999	258+.315	41.733	49.03	7.297	14.59	144,811.92	UP	14
35	WISE	4	0313-01-062	FM 51	SH 114	PARKER COUNTY LINE	260-.444	268+.082	50.26	57.269	7.009	14.02	140,680.29		13
36	WISE	5	1179-01-046	FM 920	SH 114	SH 199	238-.077	252+1.98	0	15.943	15.943	31.89	292,239.80		31
37	WISE	5	1310-03-028	FM 2264	US 81	FM 407	544-.027	556+1.331	0	13.311	13.311	26.62	228,144.36	BNSF	23
38	WISE	5	1606-02-020	FM 2123	SH 114	FM 51	238-.04	254+.026	0	15.994	15.994	31.99	306,079.69		23
39	WISE	6	2738-01-017	FM 2265	FM 2127	FM 1655	522-.055	530+.959	0	8.923	8.923	17.85	129,740.84	UP	11
												572.89	5,325,390.45		359

**** CONTRACTOR INFORMATION ONLY

FUNCTIONAL CLASSIFICATION

1-Interstate
2-Principal Arterial - (Other Freeways and Expressways)
3-Principal Arterial
4-Minor Arterial
5-Major Collector
6-Minor Collector

SEAL COAT INDEX

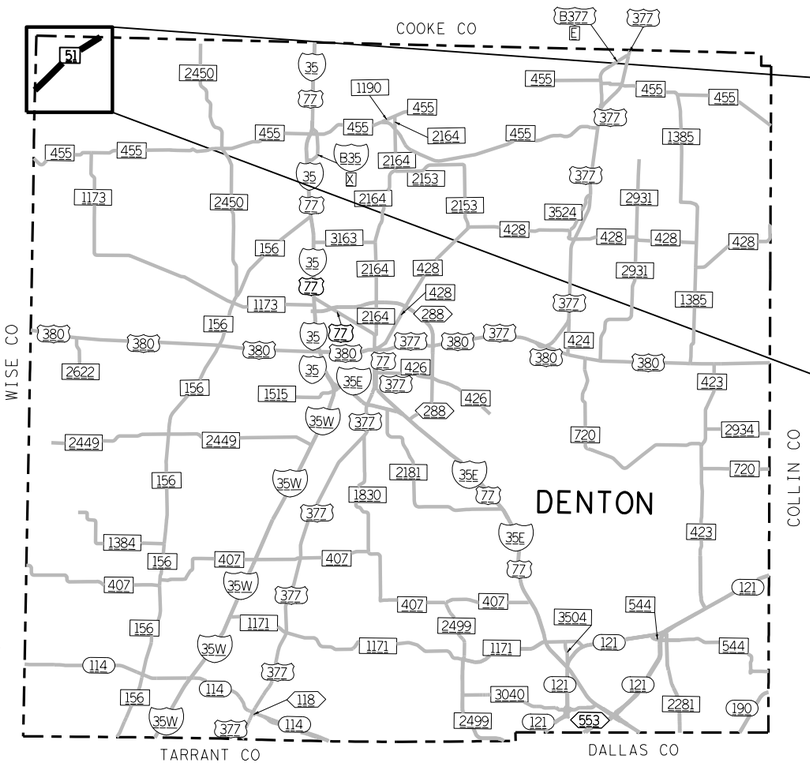
Texas Department of Transportation

SHEET 1 OF 1

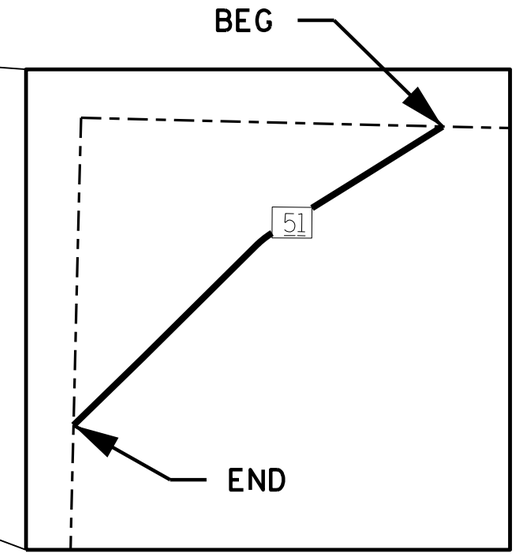
FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		6
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

DATE: $DATE$;
FILE: $FILE$;

SCALE 1" = 34,560'



* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 6,126'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTIONOF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
1	DENTON	0312-02-018	FM 51	FR: COOKE COUNTY LINE TO: WISE COUNTY LINE	19,351.20	24.00	4.00	3.665	TRAVEL LANES SHOULDERS INTERSECTIONS (3)	51,603 8,601 759	4 4 4	18,062 3,011 266	77.64 12.94 1.14	383 64 6	445 75 7
									TOTAL	60,963		21,339	91.72	453	527

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	483	0	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	38,716	2,092	26,196	0	483	0

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FILE:
DATE:

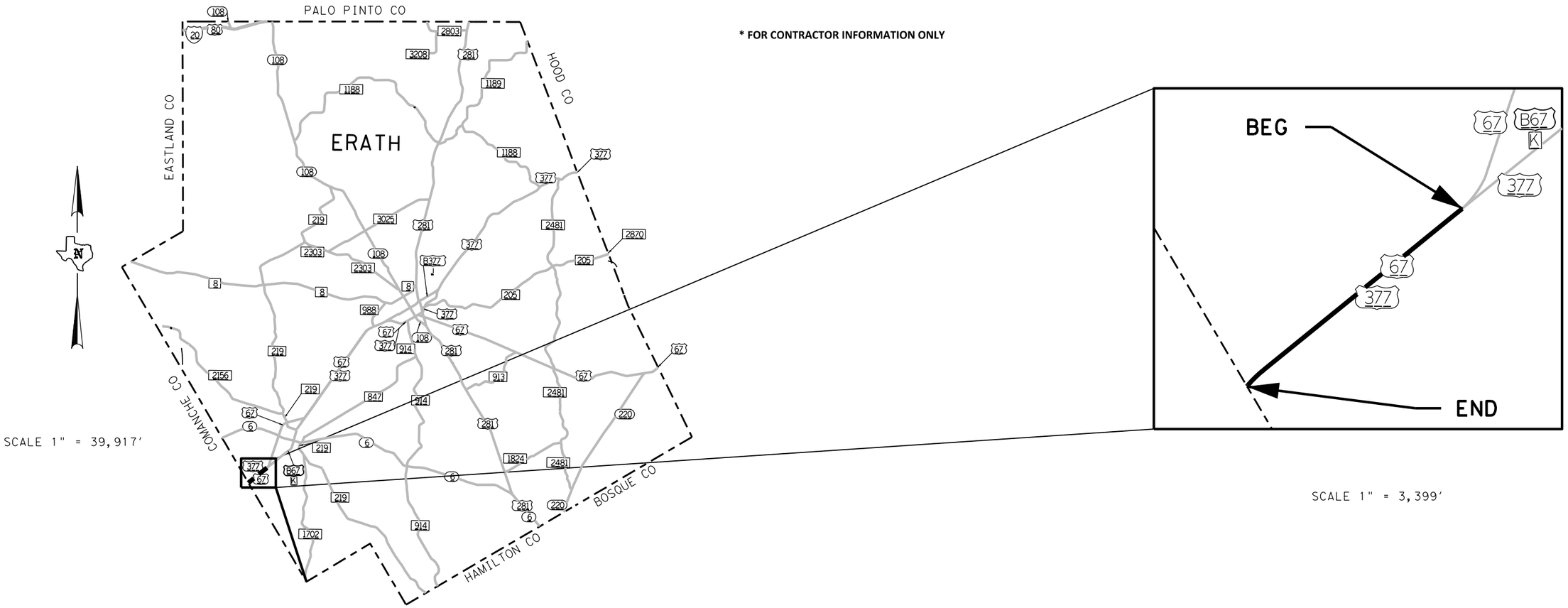
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		7
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0312-02-018



* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTIONOF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
2	ERATH	0079-04-053	US 67	FR: BU 67K TO: COMANCHE COUNTY LINE	9,646.56	24.00	19.00	1.827	TRAVEL LANES SHOULDERS INTERSECTIONS (0) TOTAL	25,724 20,365 0 46,089	3 3 3	11,576 9,165 0 20,741	49.76 39.39 0.00 89.15	215 170 0 385	250 197 0 447

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	247	0	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	19,818	1,980	10,904	0	247	0

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FILE:
DATE:

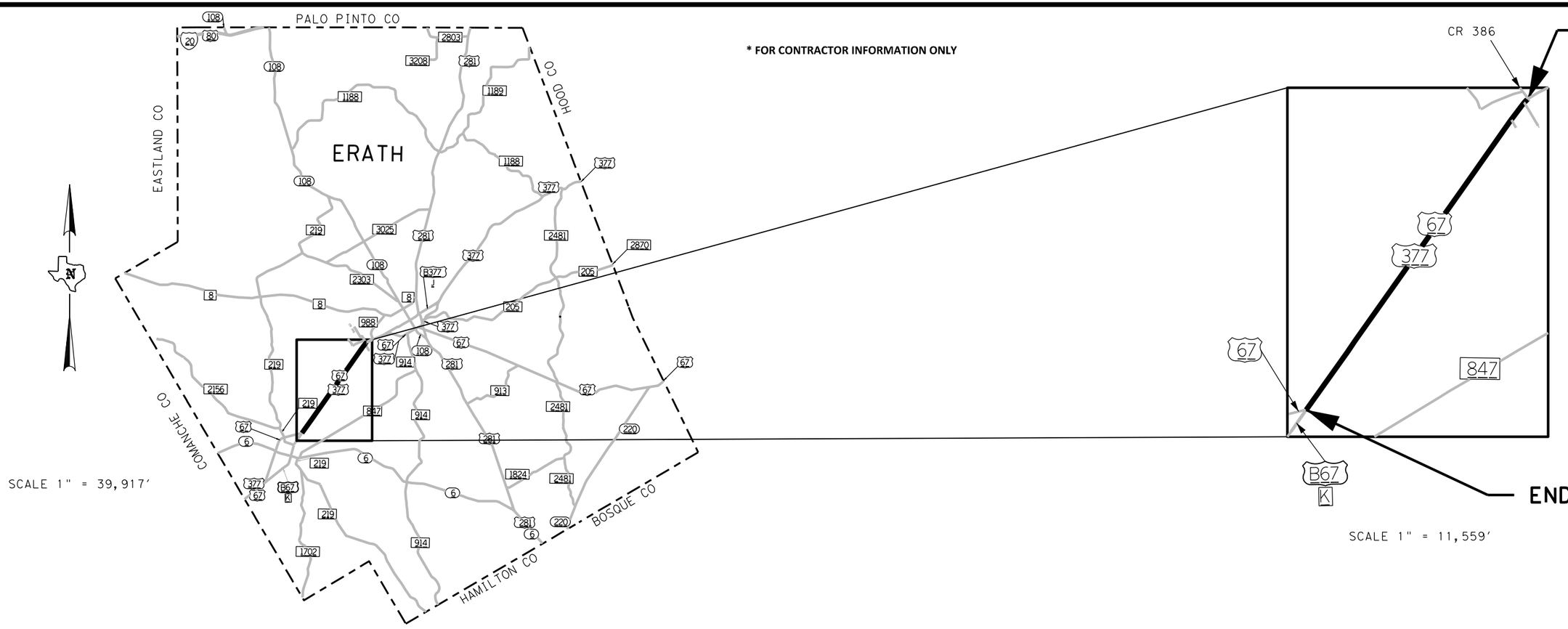
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		8
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0079-04-053



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA SY *	AGGR GR 3 OR GR 4	ASPHALT GAL *	ASPHALT TON	AGGREGATE CY *	AGGREGATE TON
3	ERATH	0079-05-061	US 67	FR: COUNTY ROAD 386 TO: BU 67K	38,412.00	48.00	34.00	7.275	TRAVEL LANES SHOULDERS INTERSECTIONS (32) TOTAL	204,864 145,112 49,164 399,140	3 3 3	92,189 65,301 22,124 179,614	396.26 280.68 95.10 772.04	1,708 1,210 410 3,328	1,979 1,402 475 3,856

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
2,290	0	0	0	84	0	0	84	210	0	0	0	30,600

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
19,077	76,310	0	76,310	0	0	3,536

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FILE:
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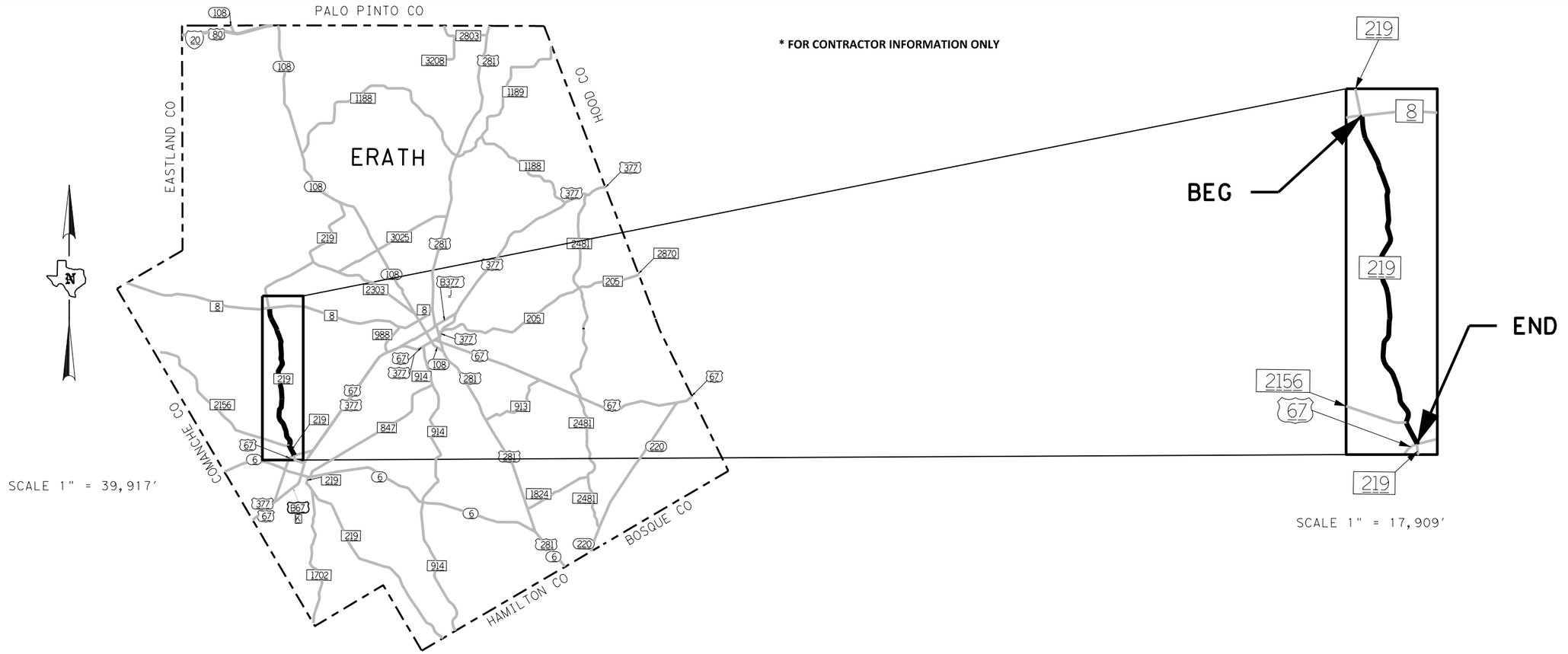
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		9
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0079-05-061



* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
4	ERATH	0774-04-015	FM 219	FR: FM 8 TO: US 67	53,280.48	28.00	0.00	10.091	TRAVEL LANES SHOULDERS INTERSECTIONS (28) TOTAL	165,761 0 3,500 169,261	3 3 3	74,593 0 1,575 76,168	320.62 0.00 6.77 327.39	1,382 0 30 1,412	1,602 0 35 1,637

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,327	0	48	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	118,272	8,060	78,009	0	1,327	0

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FILE:
DATE:

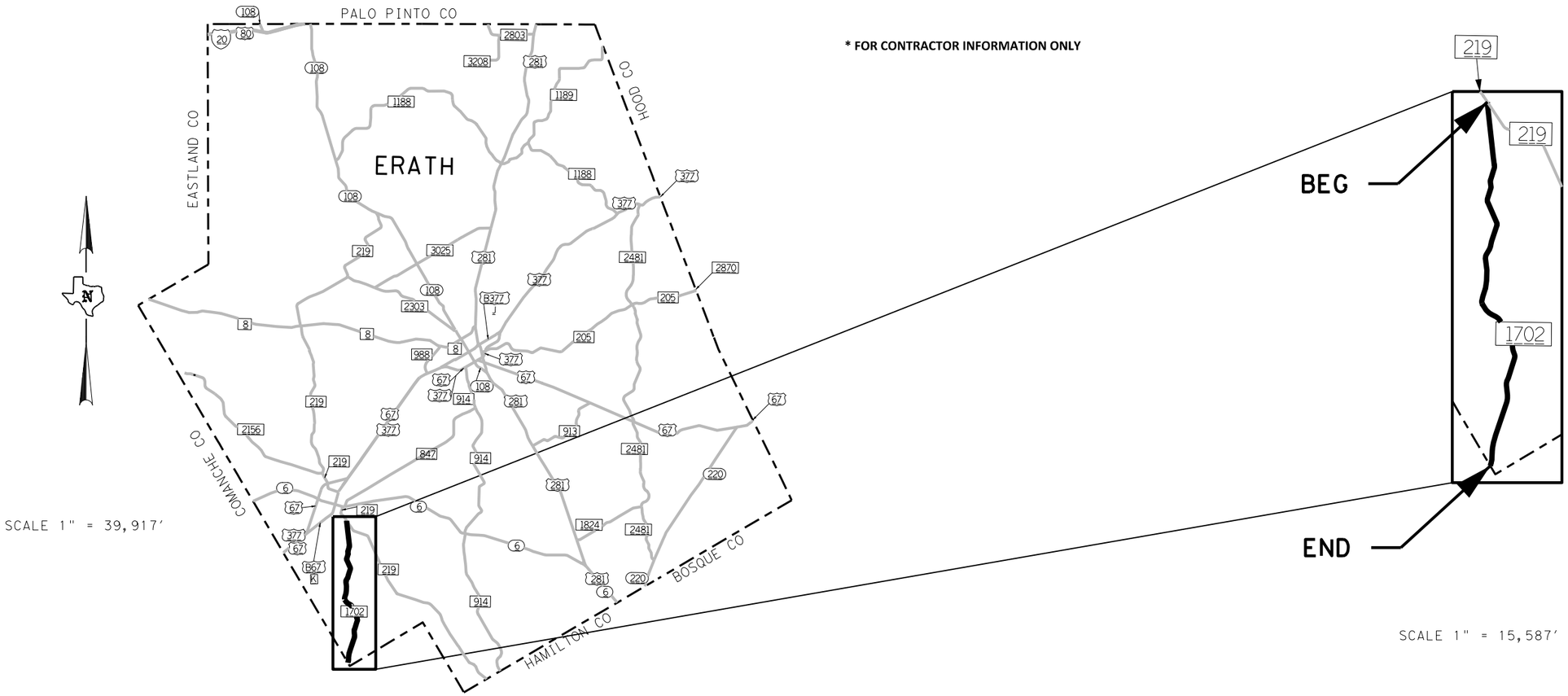
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		10
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0774-04-015



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
5	ERATH	1597-01-016	FM 1702	FR: FM 219 TO: COMANCHE COUNTY LINE	48,597.12	26.00	0.00	9.204	TRAVEL LANES SHOULDERS INTERSECTIONS (3)	140,392 0 759	3 3 3	63,177 0 342	271.55 0.00 1.47	1,170 0 7	1,356 0 9
									TOTAL	141,151		63,519	273.02	1,177	1,365

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,232	60	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	98,620	27,888	98,620	0	1,232	0

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FILE:
DATE:

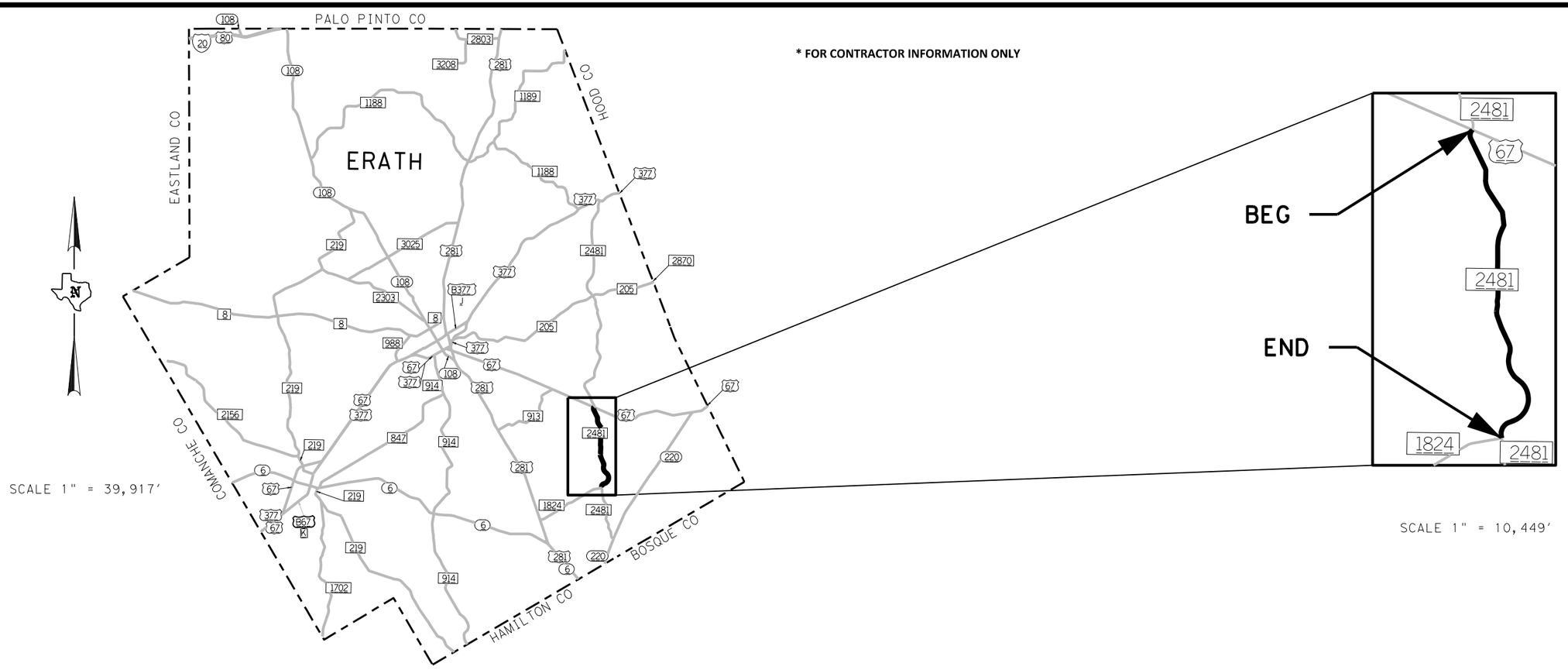
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		11
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 1597-01-016



SCALE 1" = 39,917'

SCALE 1" = 10,449'

* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
6	ERATH	2578-02-008	FM 2481	FR: US 67 TO: FM 1824	29,890.08	20.00	0.00	5.661	TRAVEL LANES SHOULDERS INTERSECTIONS (5)	66,422 0 1,265	3 3 3	29,891 0 570	128.48 0.00 2.45	554 0 11	642 0 13
									TOTAL	67,687		30,461	130.93	565	655

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	750	0	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	0	13,620	42,744	0	750	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

PROJECT LOCATION MAP

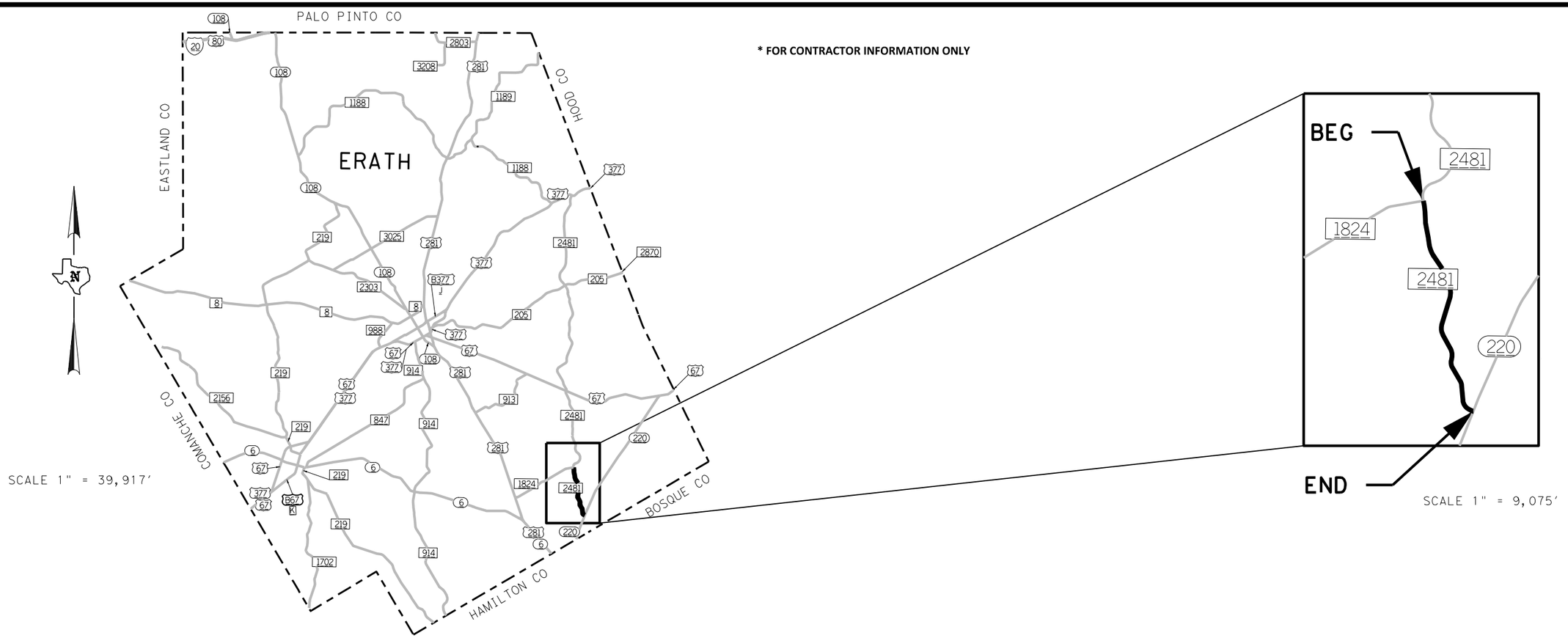
Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		12
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 2578-02-008

FILE:
DATE:



*** FOR CONTRACTOR INFORMATION ONLY**

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
7	ERATH	1851-01-013	FM 2481	FR: FM 1824 TO: SH 220	18,559.20	20.00	0.00	3.515	TRAVEL LANES SHOULDERS INTERSECTIONS (5) TOTAL	41,243 0 1,265 42,508	3 3 3	18,560 0 570 19,130	79.78 0.00 2.45 82.23	344 0 11 355	399 0 13 412

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	465	0	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	0	8,850	27,173	0	465	0

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FILE:
DATE:

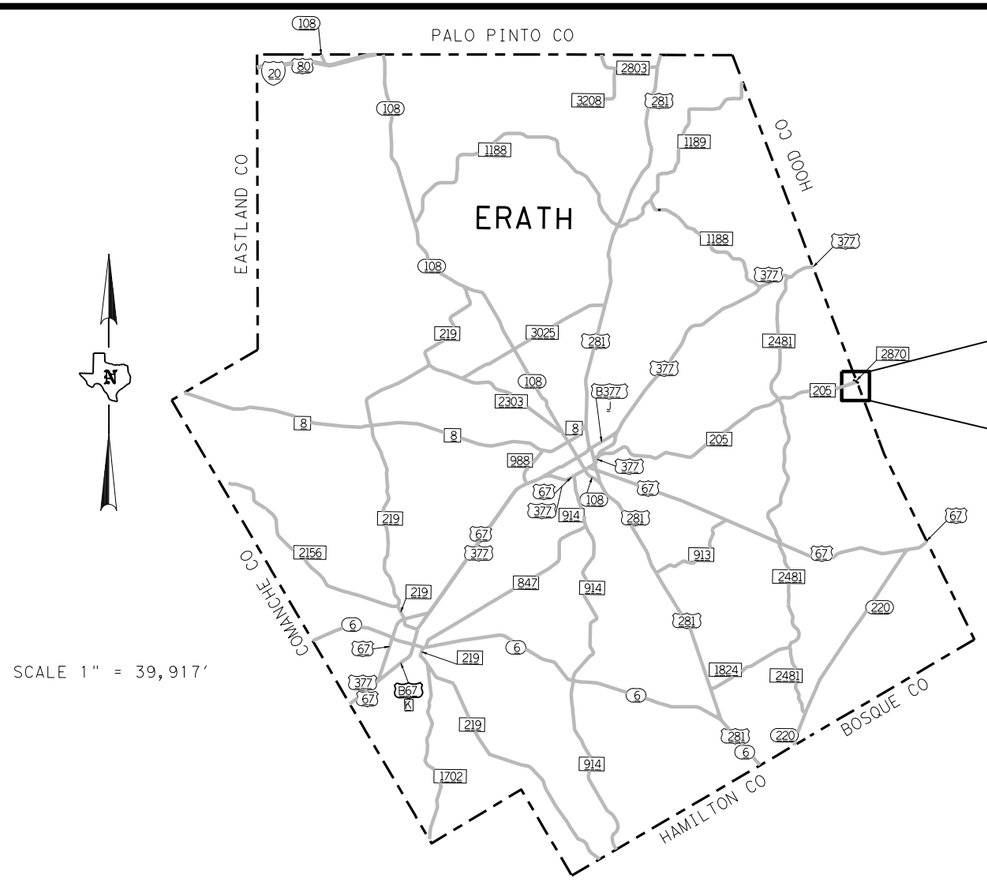
PROJECT LOCATION MAP

Texas Department of Transportation

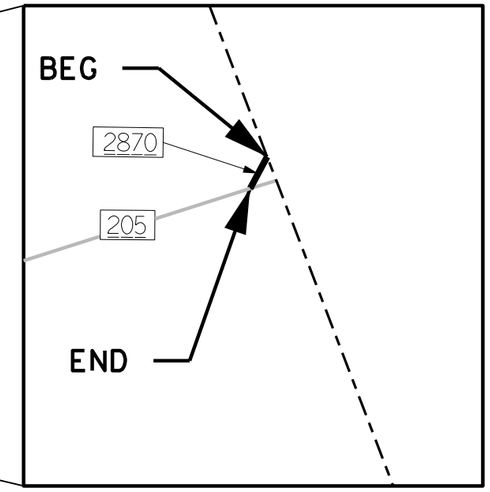
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		13
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 1851-01-013



* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 2,419'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
8	ERATH	2852-02-007	FM 2870	FR: HOOD COUNTY LINE TO: FM 205	950.40	27.00	0.00	0.180	TRAVEL LANES SHOULDERS INTERSECTIONS (0) TOTAL	2,851 0 0 2,851	3 3 3	1,284 0 0 1,284	5.52 0.00 0.00 5.52	24 0 0 24	28 0 0 28

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	24	30	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	1,944	0	1,920	0	24	0

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FILE:
DATE:

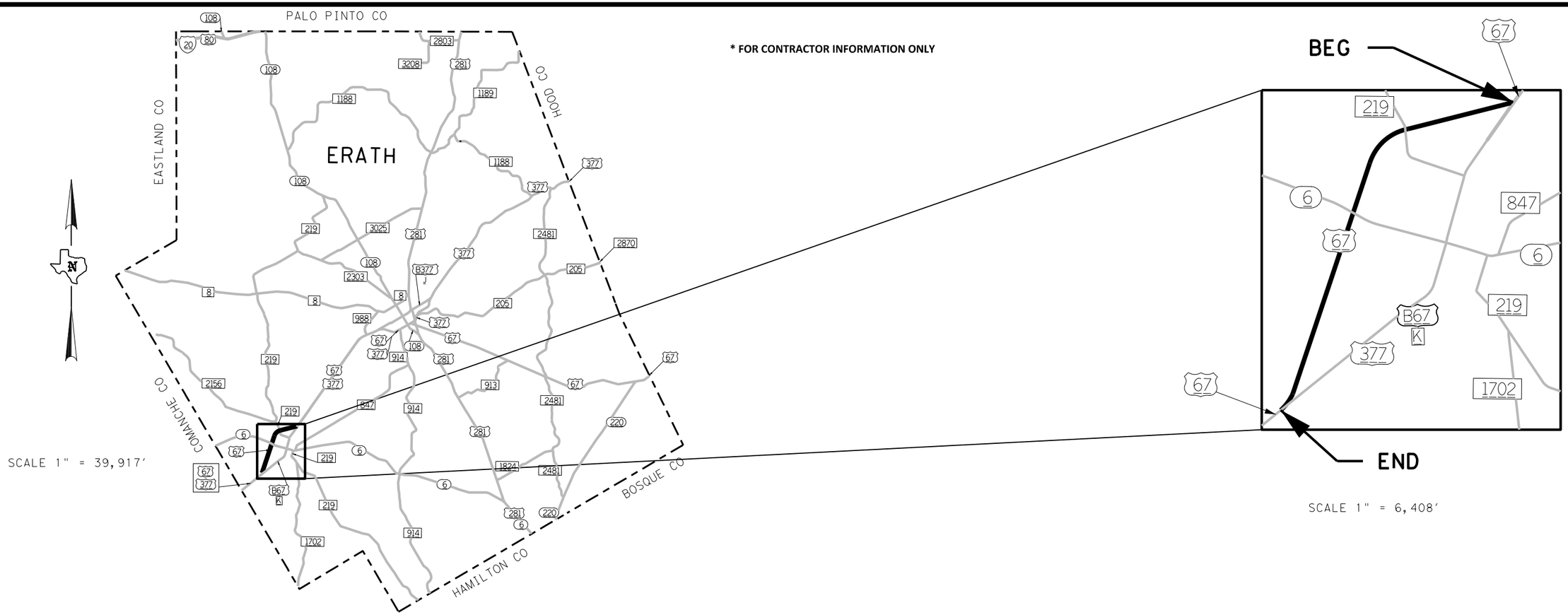
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		14
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 2852-02-007



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
9	ERATH	0079-08-005	US 67	FR: BU 67K NORTH OF DUBLIN TO: BU 67K SOUTH OF DUBLIN	26,938.56	48.00	34.50	5.102	TRAVEL LANES	143,672	3	64,653	277.90	1,198	1,388
									SHOULDERS	103,264	3	46,470	199.74	861	998
									INTERSECTIONS (10)	55,000	3	24,750	106.38	459	532
									TOTAL	301,937		135,873	584.02	2,518	2,918

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
783	0	0	200	16	0	0	16	0	50	0	0	8,456

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
14,664	58,660	0	58,660	0	0	783

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FILE:
DATE:

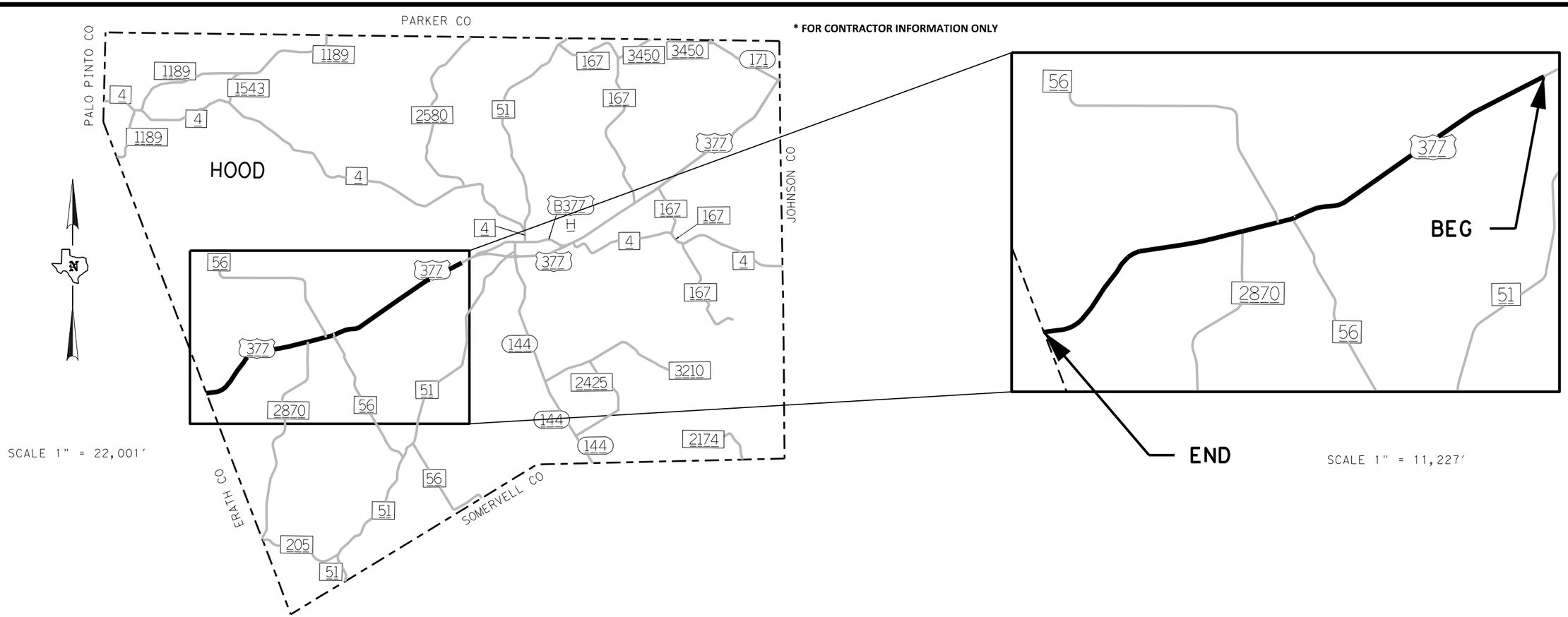
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		15
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0079-08-005



* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
10	HOOD	0080-03-059	US 377	FR: LP 567 TO: ERATH COUNTY LINE	60,788.64	24.00	22.00	11.513	TRAVEL LANES SHOULDERS INTERSECTIONS (12) TOTAL	162,103 148,594 3,036 313,733	4 4 4	56,737 52,009 1,063 109,809	243.87 223.55 4.57 471.99	1,201 1,101 23 2,325	1,394 1,278 27 2,699

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
304	1,537	0	0	0	0	0	0	0	0	0	0	300

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
6,080	123,000	32,560	77,901	304	1,537	0

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FILE:
DATE:

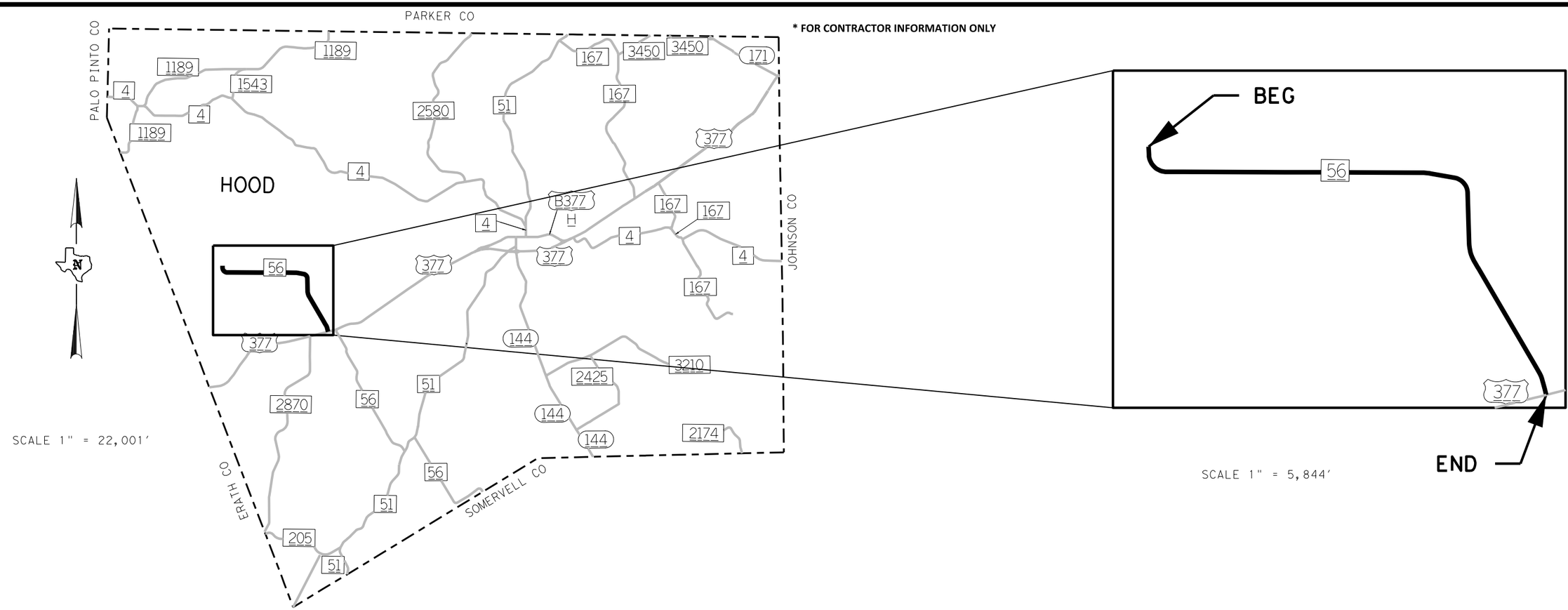
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		16
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0080-03-059



*** FOR CONTRACTOR INFORMATION ONLY**

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
11	HOOD	0777-01-014	FM 56	FR: 0.2 MI S. OF MUSICK RD TO: US 377	31,046.40	24.00	0.00	5.880	TRAVEL LANES SHOULDERS INTERSECTIONS (6) TOTAL	82,790 0 1,518 84,308	4 4 4	28,977 0 532 29,509	124.55 0.00 2.29 126.84	614 0 12 626	713 0 14 727

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	770	0	24	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	62,092	3,540	62,092	0	770	0

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FILE:
DATE:

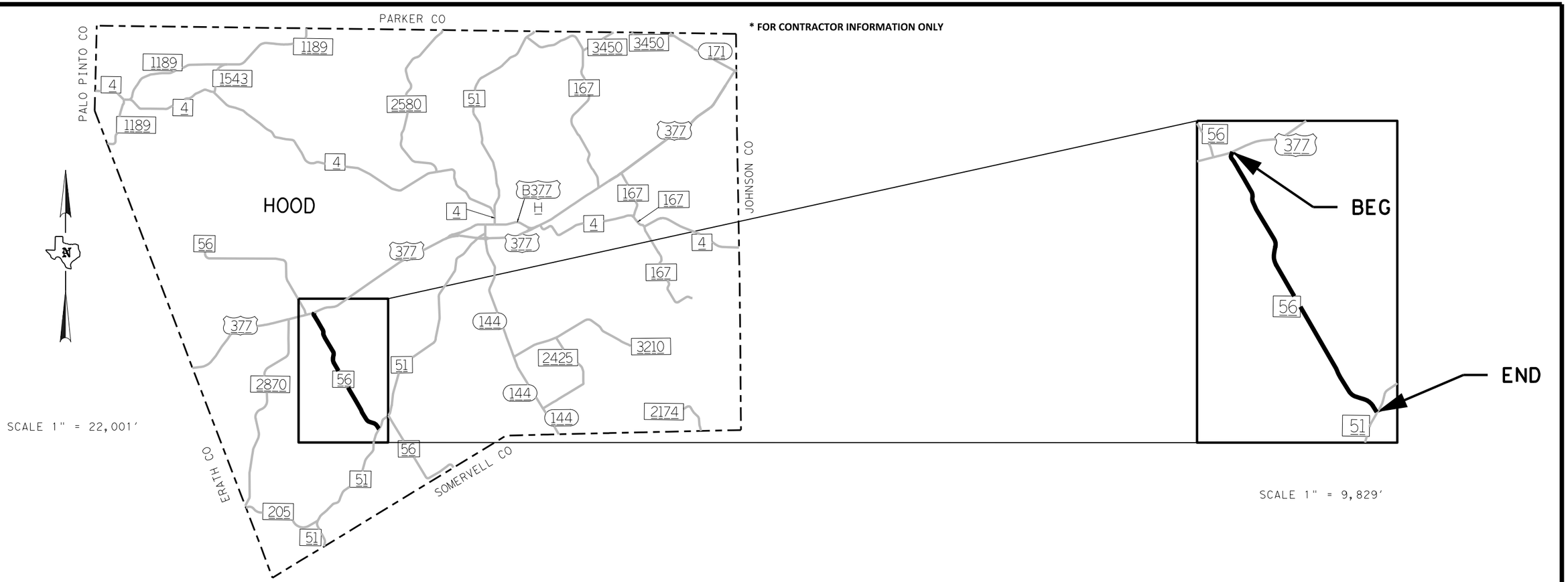
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		17
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0777-01-014



SCALE 1" = 22,001'

SCALE 1" = 9,829'

*** FOR CONTRACTOR INFORMATION ONLY**

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
12	HOOD	0777-02-036	FM 56	FR: US 377 TO: FM 51	29,726.40	28.00	0.00	5.630	TRAVEL LANES SHOULDERS INTERSECTIONS (5) TOTAL	92,482 0 1,265 93,747	4 4 4	32,369 0 443 32,812	139.13 0.00 1.90 141.03	686 0 10 696	796 0 12 808

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	964	0	30	0	0	2	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	59,452	3,370	42,842	0	964	0

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FILE:
DATE:

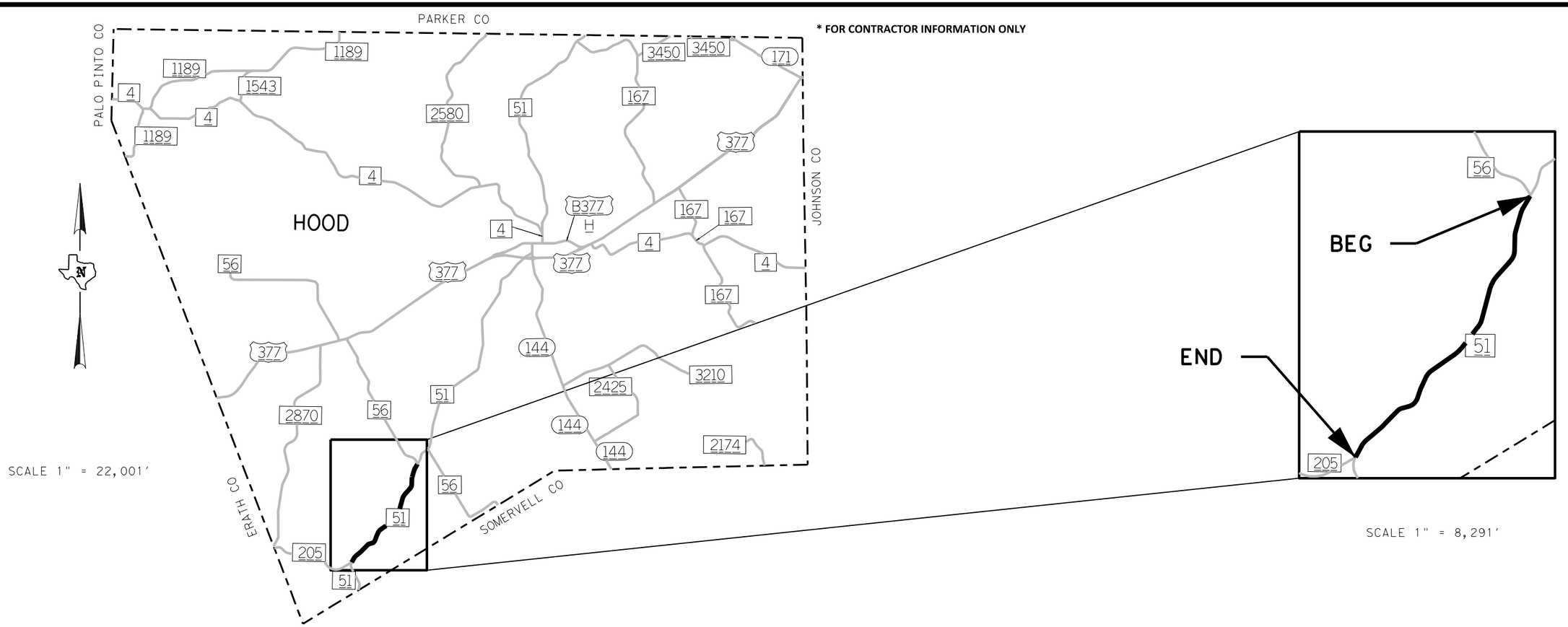
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		18
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0777-02-036



* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
13	HOOD	0780-02-018	FM 51	FR: FM 56 TO: FM 205	25,476.00	26.00	0.00	4.825	TRAVEL LANES SHOULDERS INTERSECTIONS (7) TOTAL	73,597 0 1,771 75,368	3 3 3	33,119 0 797 33,916	142.36 0.00 3.43 145.79	614 0 15 629	712 0 18 730

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	628	0	140	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	50,296	12,570	37,700	0	628	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

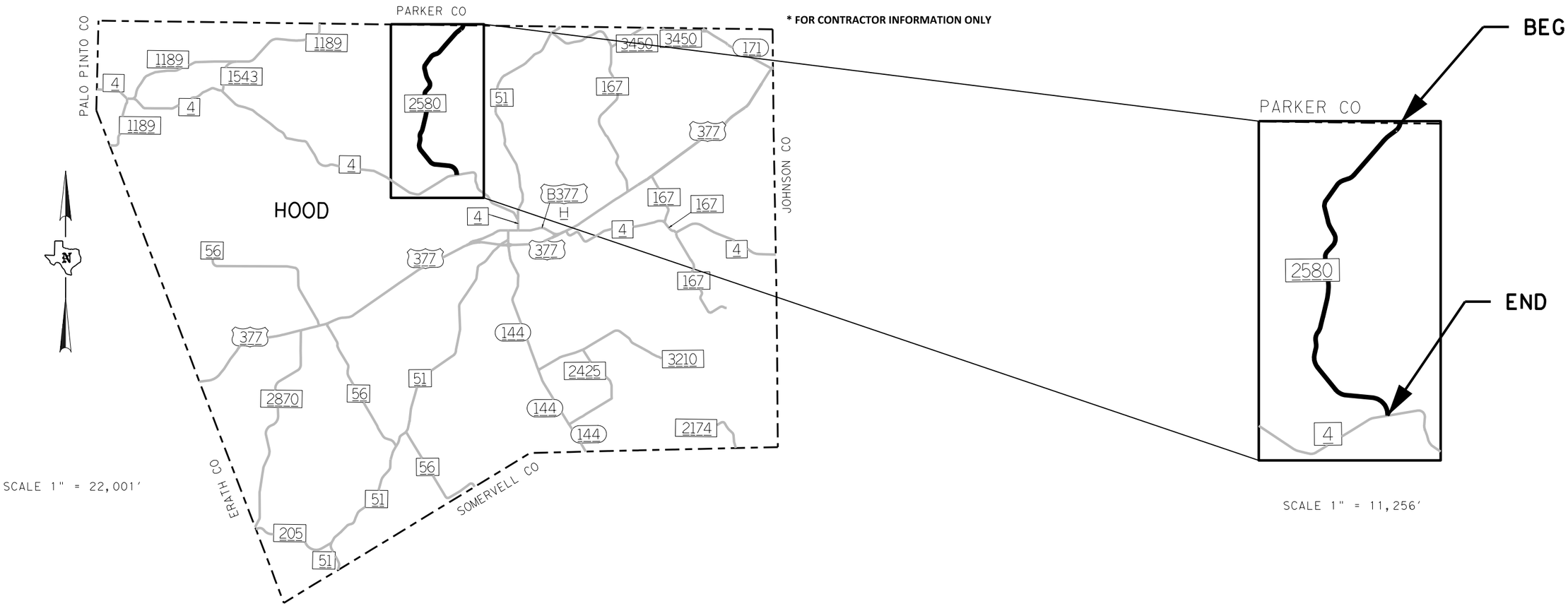
CSJ: 0780-02-018

PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		19
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA SY *	AGGR GR 3 OR GR 4	ASPHALT GAL *	ASPHALT TON	AGGREGATE CY *	AGGREGATE TON
14	HOOD	1601-03-016	FM 2580 S	FR: PARKER COUNTY LINE TO: FM 4	39,858.72	26.00	0.00	7.549	TRAVEL LANES SHOULDERS INTERSECTIONS (14) TOTAL	115,147 0 3,542 118,689	3 3 3	51,817 0 1,594 53,411	222.73 0.00 6.85 229.58	960 0 30 990	1,113 0 35 1,148

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
4	968	0	280	2	0	0	2	0	0	0	0	220

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
55	0	2,480	67,503	4	968	0

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FILE:
DATE:

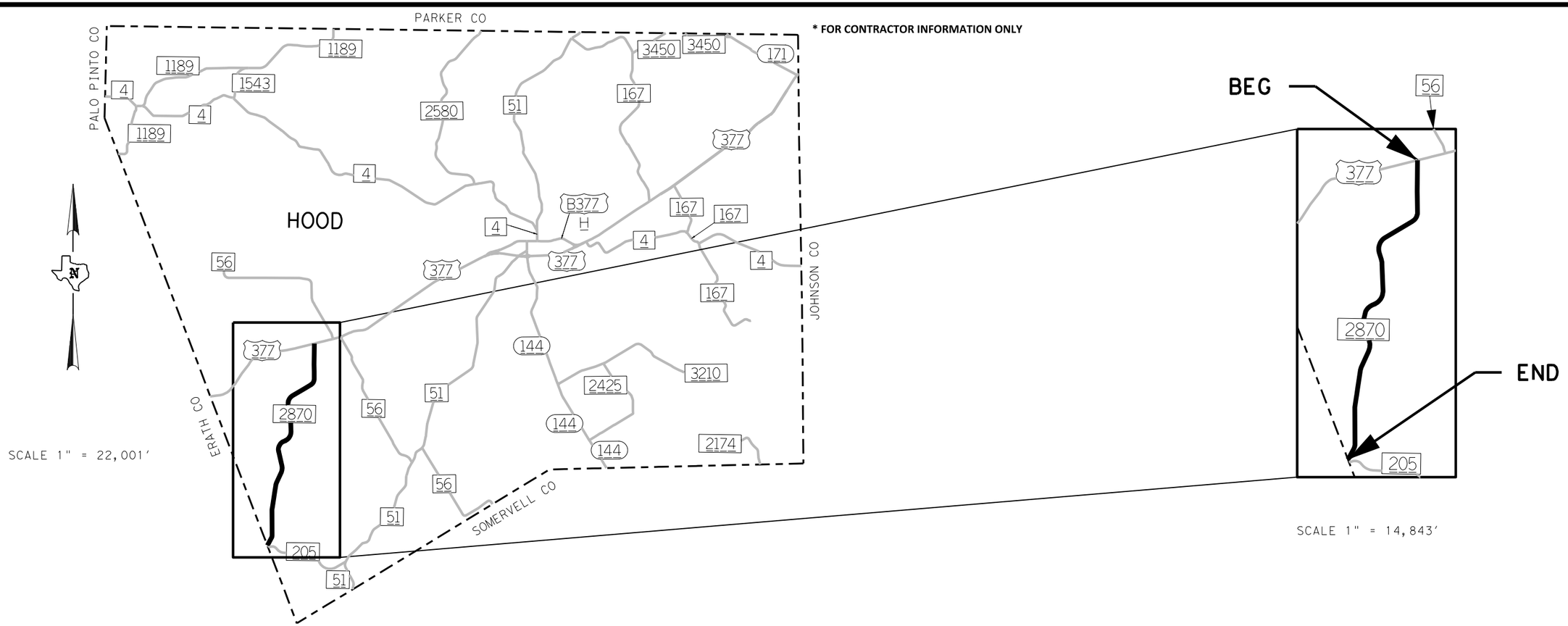
CSJ: 1601-03-016

PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		20
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061



* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA SY *	AGGR GR 3 OR GR 4	ASPHALT GAL *	ASPHALT TON	AGGREGATE CY *	AGGREGATE TON
15	HOOD	2852-01-020	FM 2870	FR: US 377 TO: ERATH COUNTY LINE	44,283.36	26.00	0.00	8.387	TRAVEL LANES SHOULDERS INTERSECTIONS (12) TOTAL	127,930 0 3,036 130,966	3 3 3	57,569 0 1,367 58,936	247.45 0.00 5.88 253.33	1,067 0 26 1,093	1,237 0 31 1,268

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,107	0	240	0	0	2	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	88,600	23,620	52,015	0	1,107	0

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FILE:
DATE:

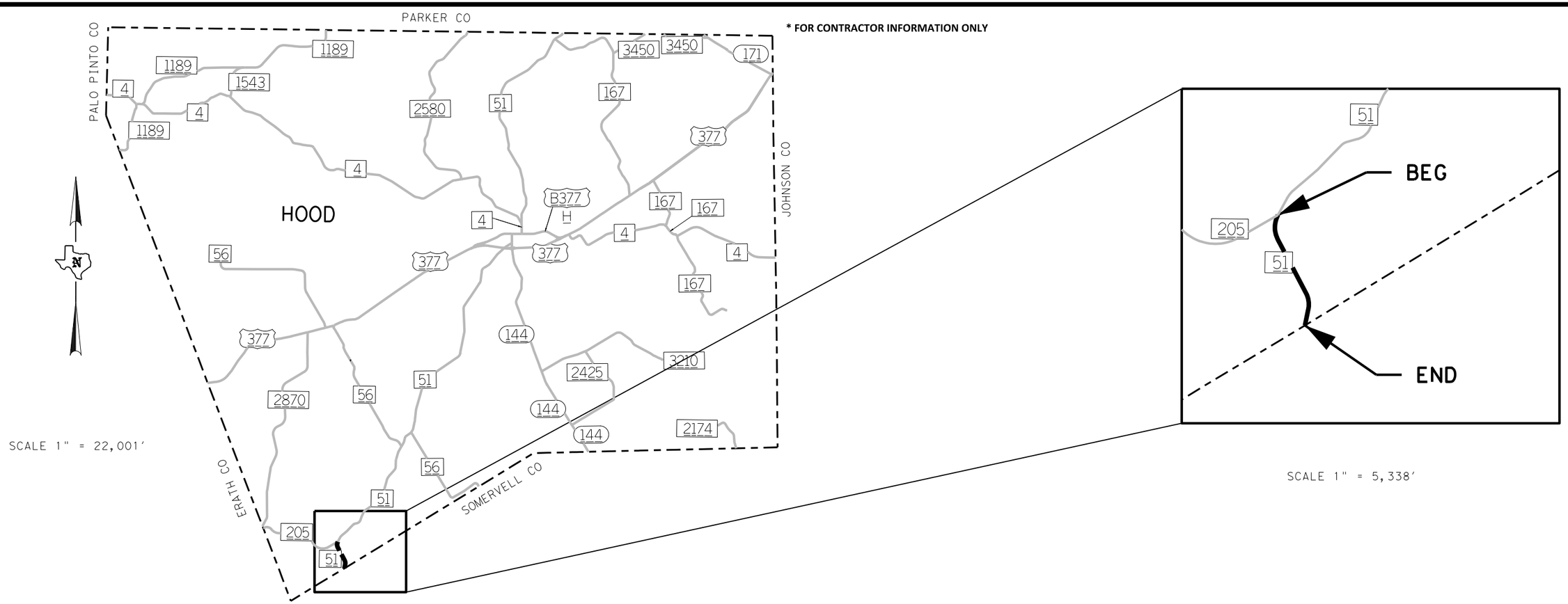
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		21
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 2852-01-020



*** FOR CONTRACTOR INFORMATION ONLY**

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA SY *	AGGR GR 3 OR GR 4	ASPHALT GAL *	ASPHALT TON	AGGREGATE CY *	AGGREGATE TON
16	HOOD	0780-02-017	FM 51	FR: FM 205 TO: SOMERVELL COUNTY LINE	5,174.40	22.00	0.00	0.980	TRAVEL LANES	12,649	3	5,692	24.47	106	123
									SHOULDERS	0	3	0	0.00	0	0
									INTERSECTIONS (1)	0	3	0	0.00	0	0
									TOTAL	12,649		5,692	24.47	106	123

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	123	0	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	9,870	3,310	5,369	0	123	0

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FILE:
DATE:

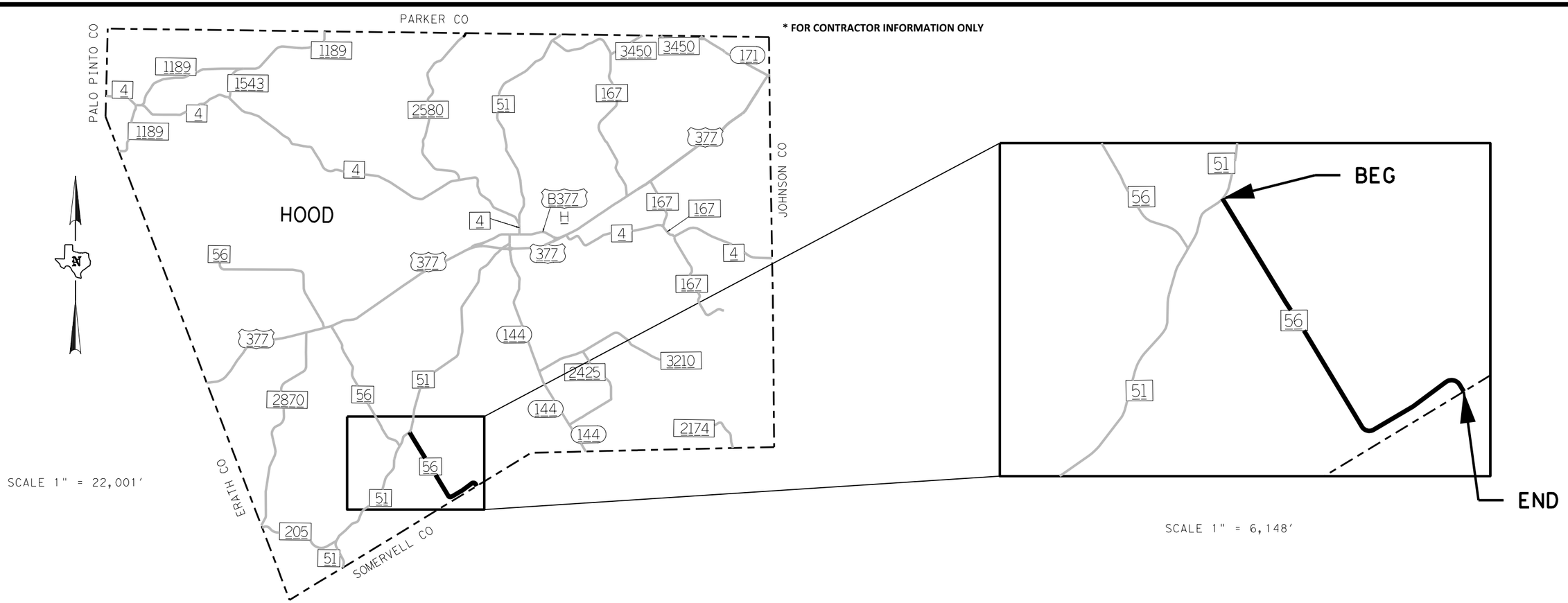
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		22
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0780-02-017



*** FOR CONTRACTOR INFORMATION ONLY**

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
17	HOOD	0777-02-037	FM 56	FR: FM 51 TO: SOMERVELL COUNTY LINE	21,447.36	25.00	12.00	4.062	TRAVEL LANES SHOULDERS INTERSECTIONS (7) TOTAL	59,576 28,596 2,994 91,166	3 3 3	26,810 12,869 1,348 41,027	115.24 55.31 5.79 176.34	497 239 25 761	576 277 29 882

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	547	0	40	2	0	0	2	0	0	0	0	500

REF PAV MRK TY II					RAISED PAV MRKR	
6048					672	
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	43,780	1,852	39,331	0	547	0

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FILE:
DATE:

PROJECT LOCATION MAP

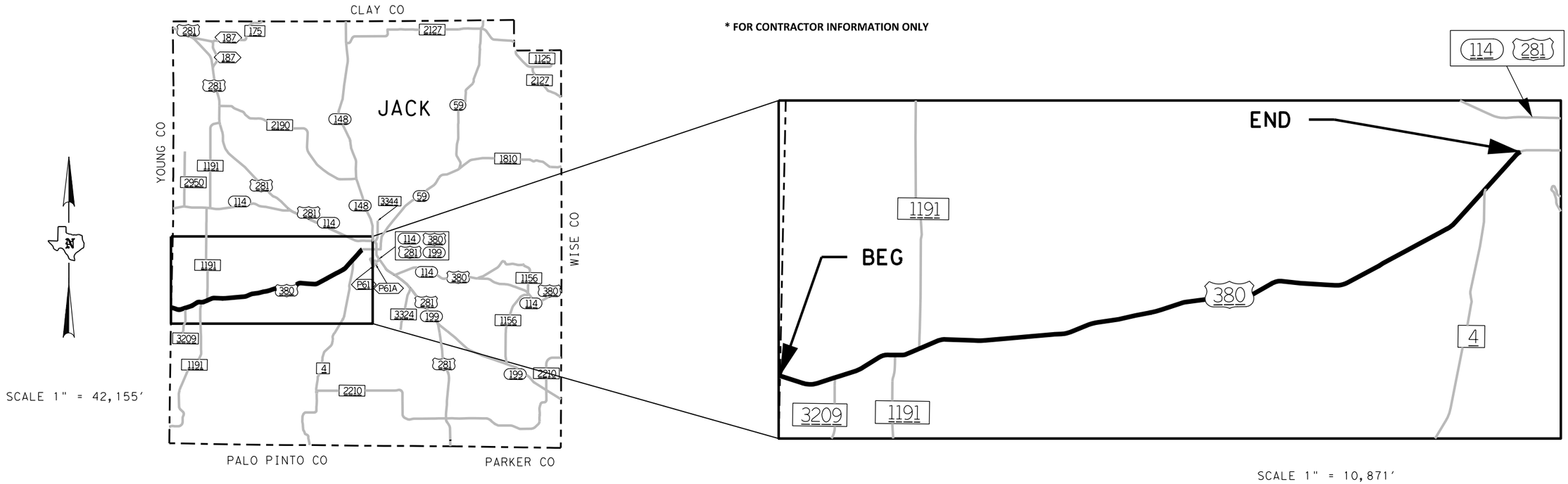
Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

23

CSJ: 0777-02-037



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
18	JACK	0134-04-039	US 380	FR: YOUNG COUNTY LINE TO: 9TH STREET IN JACKSBORO	82,246.56	24.00	12.00	15.577	TRAVEL LANES SHOULDERS INTERSECTIONS (15) TOTAL	219,324 109,662 3,795 332,781	3 3 3	98,696 49,348 1,708 149,752	424.23 212.11 7.34 643.68	1,828 914 32 2,774	2,118 1,059 38 3,215

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	2,067	144	300	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR			ELIM
6048				672			677
6009	6010	6013	6014	6007	6009	6010	6028
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R	ELIM EXT PV MRK & MRKS (RUMPLE STRIP)
LF	LF	LF	LF	EA	EA	EA	LF
0	164,000	22,520	222,512	0	2,067	0	111,520

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FILE:
DATE:

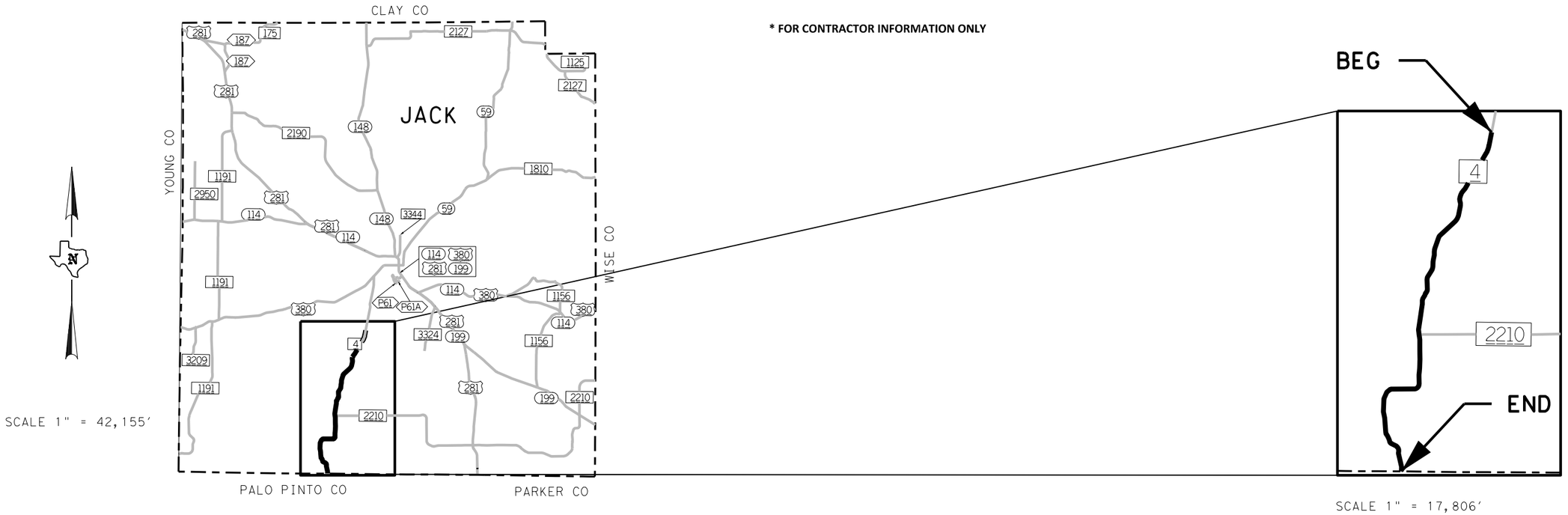
CSJ: 0134-04-039

PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		24
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061



* FOR CONTRACTOR INFORMATION ONLY

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
19	JACK	0391-07-031	FM 4	FR: REF MRK 242 TO: PALO PINTO COUNTY LINE	61,929.12	24.00	0.00	11.729	TRAVEL LANES SHOULDERS INTERSECTIONS (2)	165,144 0 506	4 4 4	57,801 0 178	24,845 0.00 0.77	1,224 0 4	1,420 0 5
									TOTAL	165,650		57,979	249.22	1,228	1,425

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,554	0	24	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	124,320	7,187	88,082	0	1,554	0

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FILE:
DATE:

CSJ: 0391-07-031

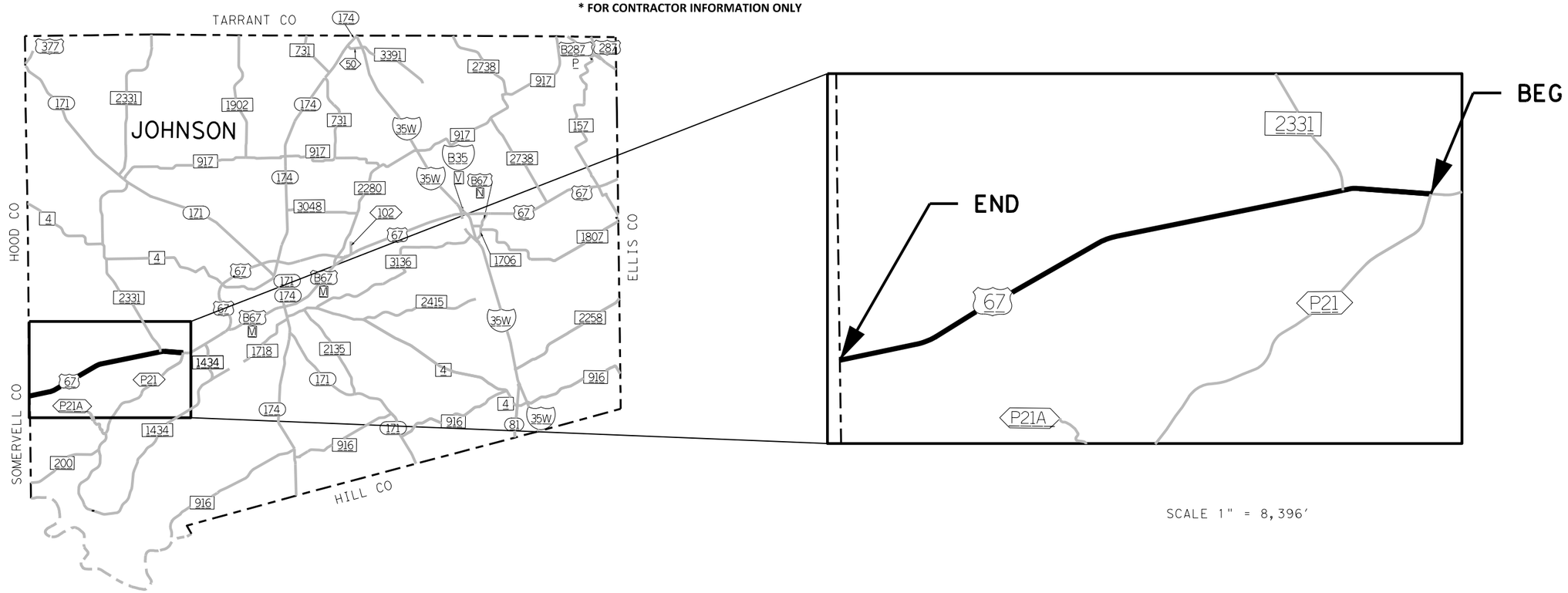
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		25
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 32,306'

SCALE 1" = 8,396'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
20	JOHNSON	0259-04-043	US 67	FR: PARK ROAD 21 TO: SOMERVELL COUNTY LINE	44,726.88	27.00	20.00	8.471	TRAVEL LANES SHOULDERS INTERSECTIONS (4) TOTAL	134,181 99,393 13,512 247,086	4 4 4	46,964 34,788 4,730 86,482	201.87 149.53 20.33 371.73	994 737 101 1,832	1,154 855 118 2,127

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
156	1,120	0	60	6	0	0	4	0	0	0	0	1,400

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
6,290	88,244	31,000	52,985	156	1,120	0

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FILE:
DATE:

PROJECT LOCATION MAP

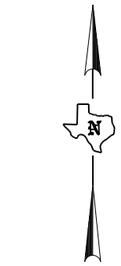
Texas Department of Transportation

SHEET 1 OF 1

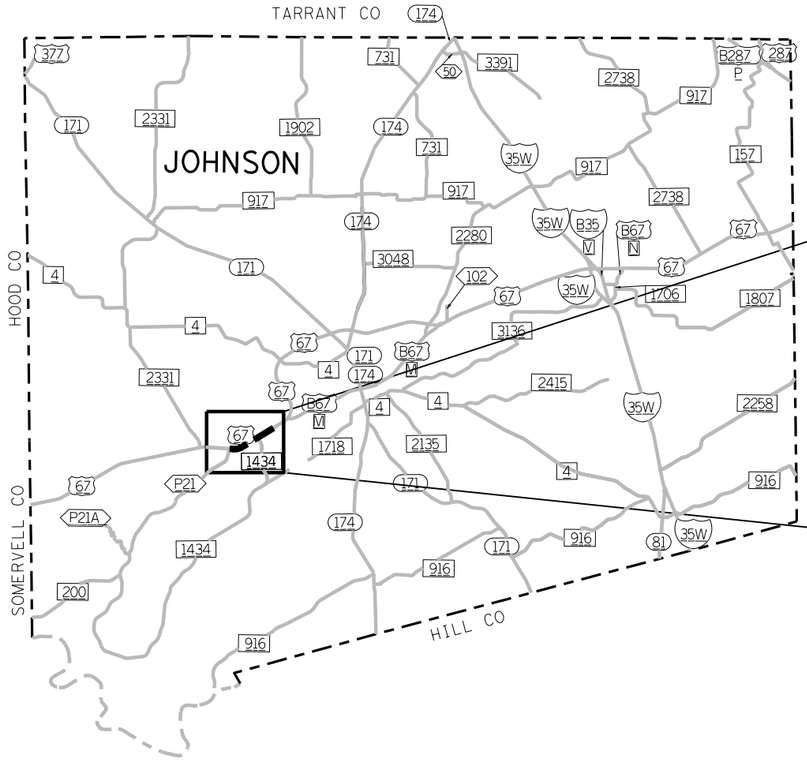
FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		26
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

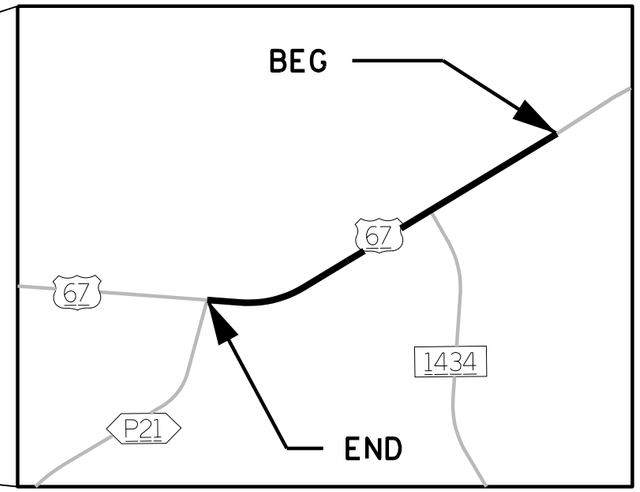
CSJ: 0259-04-043

*** FOR CONTRACTOR INFORMATION ONLY**



SCALE 1" = 32,306'





SCALE 1" = 4,045'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
21	JOHNSON	0422-03-083	US 67	FR: LAKE PAT CLEBURNE TO: PARK ROAD 21	10,670.88	24.00	20.00	2.021	TRAVEL LANES SHOULDERS INTERSECTIONS (3)	28,456 23,713 23,855	4 4 4	9,960 8,300 8,350	42.81 35.68 35.89	211 176 177	245 205 206
									TOTAL	76,024		26,610	114.38	564	656

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	420	0	60	12	0	0	12	0	0	2,560	0	3,280

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	25,174	0	28,500	0	420	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

PROJECT LOCATION MAP

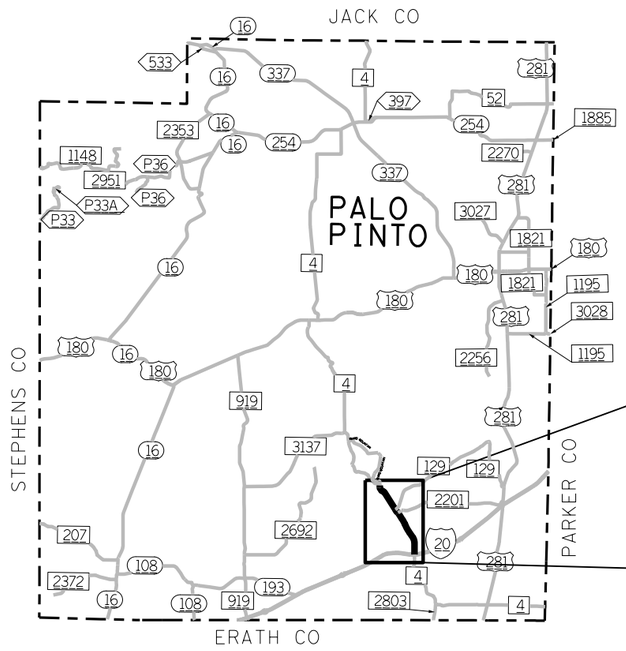
Texas Department of Transportation

SHEET 1 OF 1

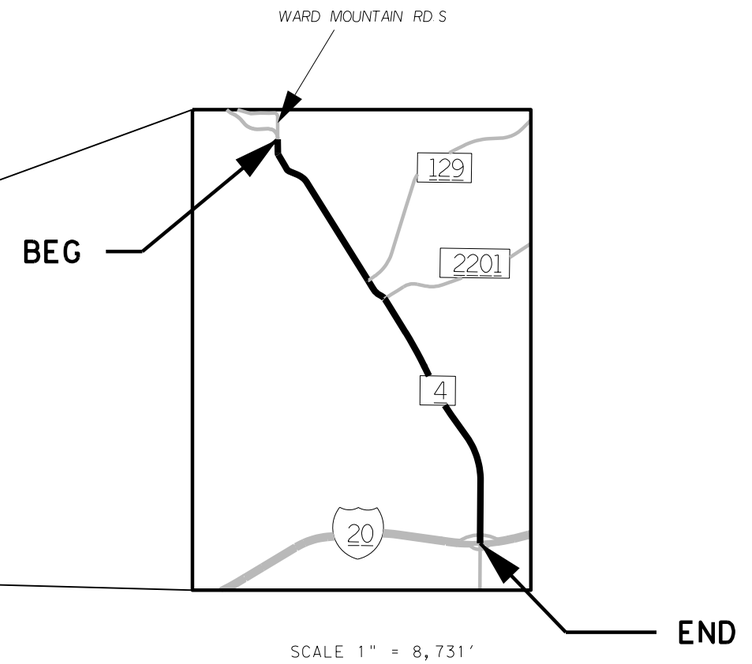
FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		27
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0422-03-083

SCALE 1" = 46,816'



*** FOR CONTRACTOR INFORMATION ONLY**



SCALE 1" = 8,731'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
22	PALO PINTO	0314-06-038	FM 4	FR: WARD MT. RD. S TO: IH 20	24,826.56	28.00	0.00	4.702	TRAVEL LANES SHOULDERS INTERSECTIONS (8) TOTAL	77,238 0 1,000 78,238	4 4 4	27,034 0 350 27,384	116.20 0.00 1.50 117.70	573 0 8 581	665 0 10 675

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	610	0	120	0	0	2	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	48,836	13,880	31,948	0	610	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

CSJ: 0314-06-038

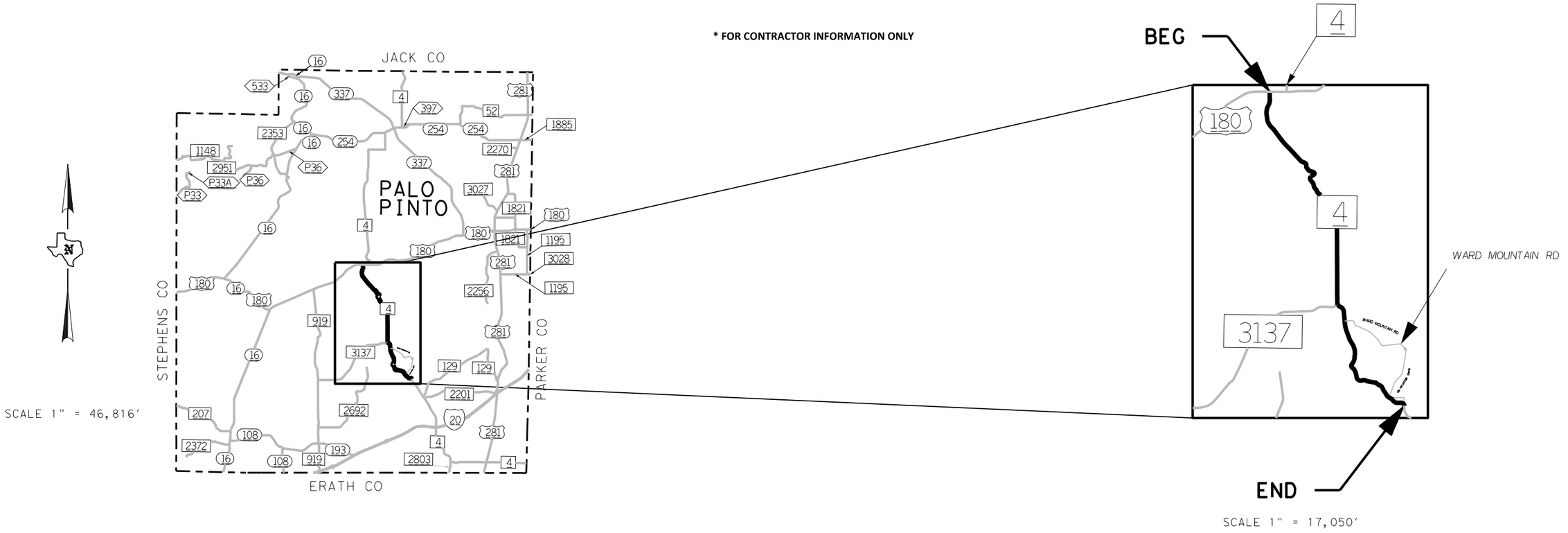
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		28
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
23	PALO PINTO	0314-06-037	FM 4	FR: US 180 TO: WARD MT. RD. S	62,700.00	22.00	0.00	11.875	TRAVEL LANES SHOULDERS INTERSECTIONS (13)	153,267 0 1,625	4 4 4	53,644 0 569	230.58 0.00 2.45	1,136 0 13	1,318 0 16
									TOTAL	154,892		54,213	233.03	1,149	1,334

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,075	0	160	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	85,960	5,300	74,000	0	1,075	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

CSJ: 0314-06-037

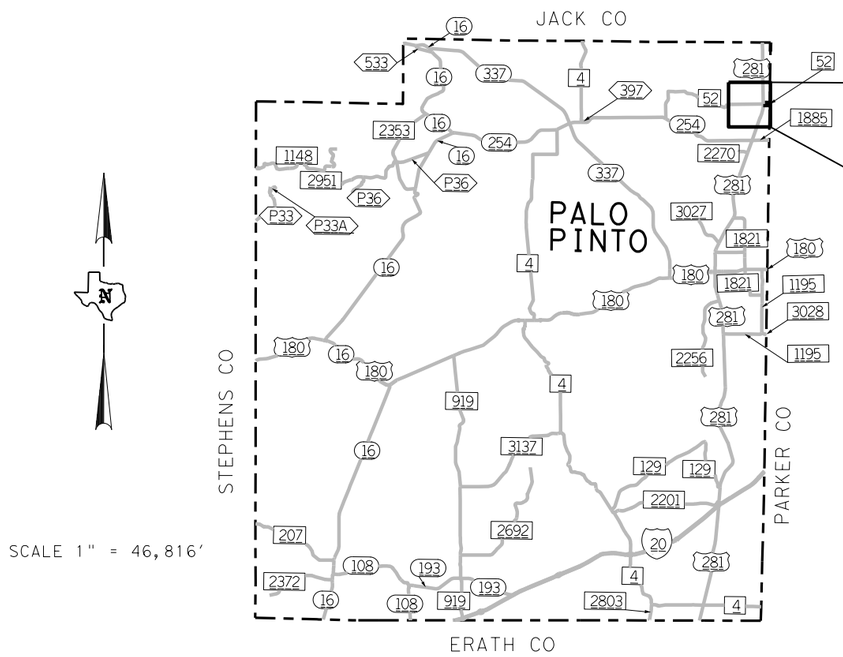
PROJECT LOCATION MAP

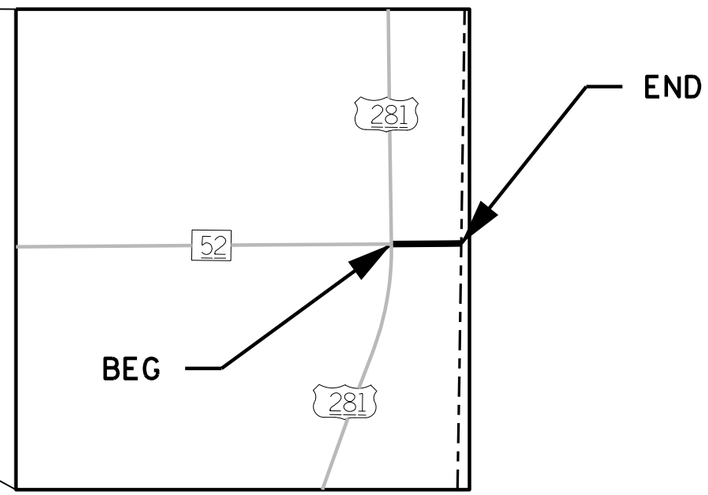
Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		29
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY





REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
24	PALO PINTO	0649-01-024	FM 52	FR: US 281 TO: PARKER COUNTY LINE	2,075.04	25.00	0.00	0.393	TRAVEL LANES SHOULDERS INTERSECTIONS (1) TOTAL	5,764 0 253 6,017	4 4 4	2,018 0 89 2,107	8.67 0.00 0.38 9.05	43 0 2 45	50 0 3 53

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
30	50	0	0	0	0	0	0	0	0	0	0	275

REF PAV MRK TY II					RAISED PAV MRKR		ELIM
6048					672		677
6009	6010	6013	6014	6007	6009	6010	6028
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R	ELIM EXT PV MRK & MRKS (RUMPLE STRIP)
LF	LF	LF	LF	EA	EA	EA	LF
0	8,000	278	1,598	30	50	0	4,000

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PROJECT LOCATION MAP

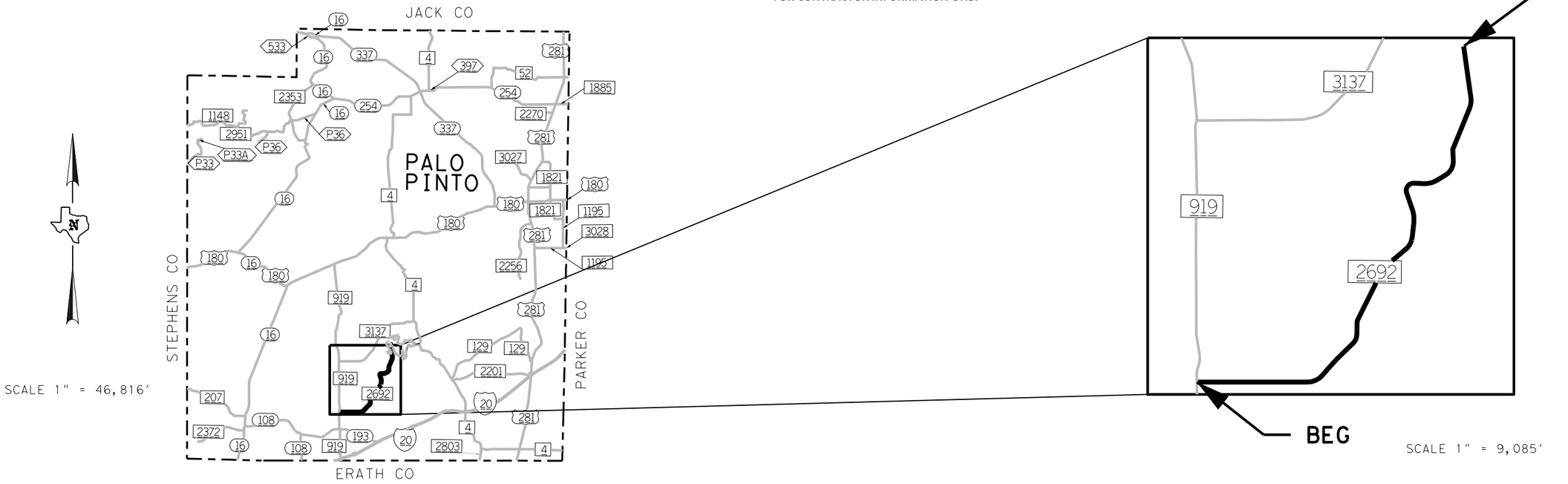
Texas Department of Transportation

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67,ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH,ETC.		30
DISTRICT	CONTROL	SECTION	JOB
	0079	05	061

CSJ: 0649-01-024

FILE:
DATE:

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
25	PALO PINTO	2854-01-012	RM 2692	FR: FM 919 TO: LAKE POINT DR	42,472.32	21.00	0.00	8.044	TRAVEL LANES SHOULDERS INTERSECTIONS (5) TOTAL	99,102 0 1,265 100,367	4 4 4	34,686 0 443 35,129	149.09 0.00 1.90 150.99	735 0 10 745	853 0 12 865

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,062	0	60	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	0	24,560	47,692	0	1,062	0

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FILE:
DATE:

CSJ: 2854-01-012

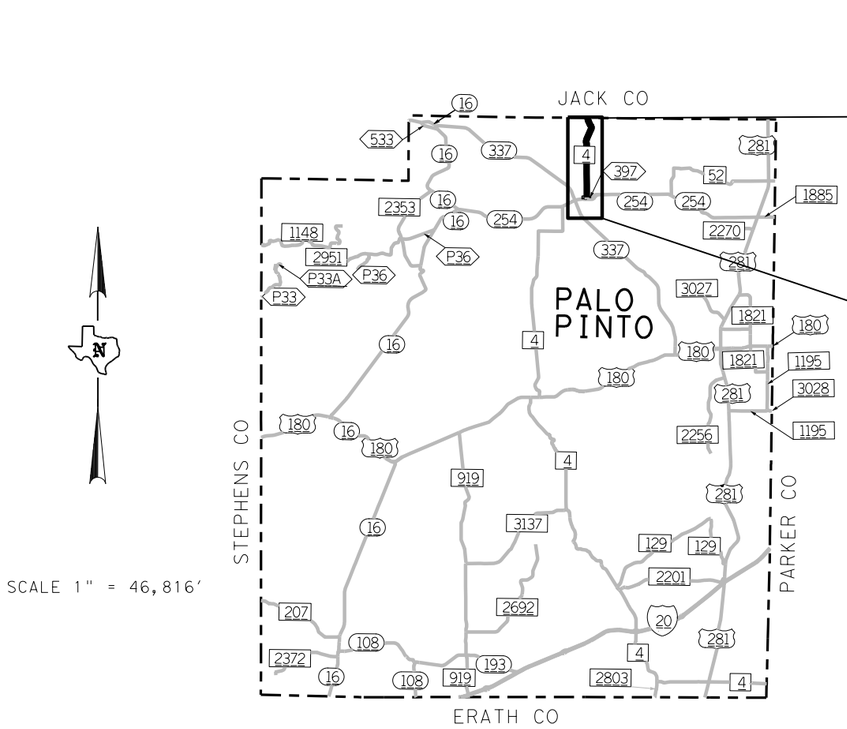
PROJECT LOCATION MAP

Texas Department of Transportation

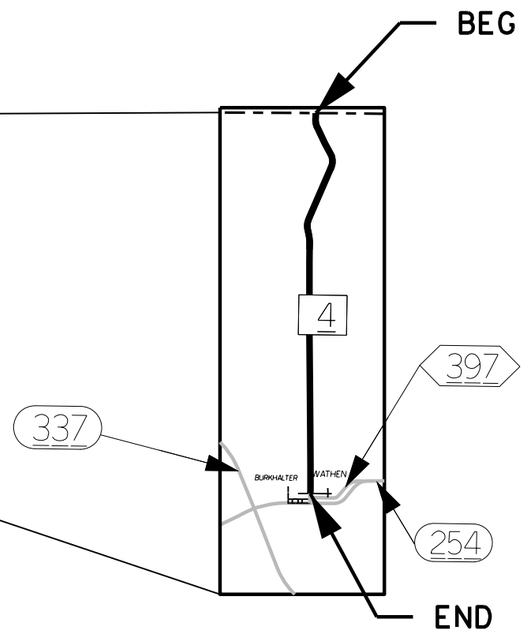
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		31
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 46,816'



SCALE 1" = 9,767'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
26	PALO PINTO	0391-08-011	FM 4	FR: JACK COUNTY LINE TO: WATHEN ST.	23,628.00	24.00	0.00	4.475	TRAVEL LANES SHOULDERS INTERSECTIONS (0) TOTAL	63,008 0 0 63,008	4 4 4	22,053 0 0 22,053	94.79 0 0 94.79	467 0 0 467	542 0 0 542

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	608	0	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	48,650	4,918	20,428	0	608	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

CSJ: 0391-08-011

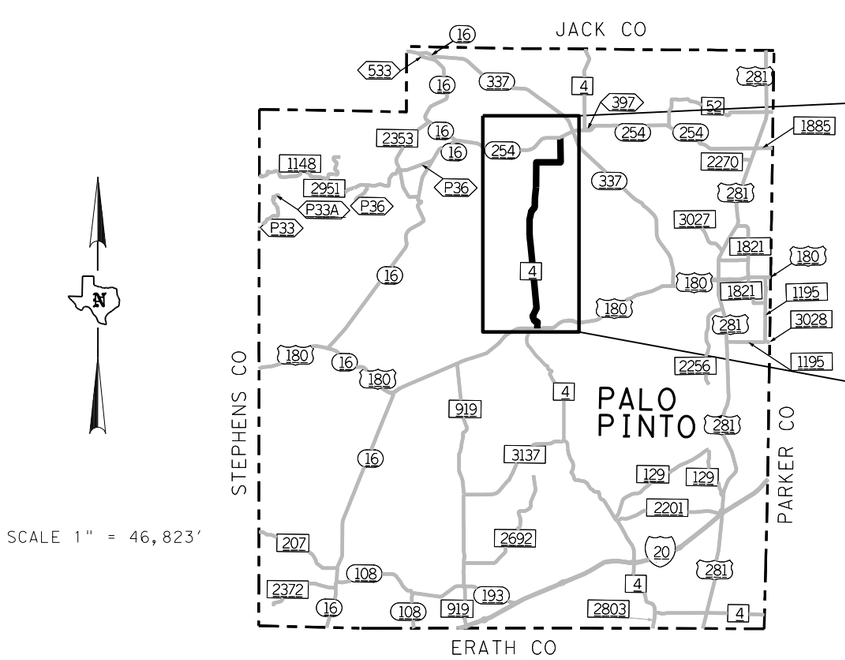
PROJECT LOCATION MAP

Texas Department of Transportation

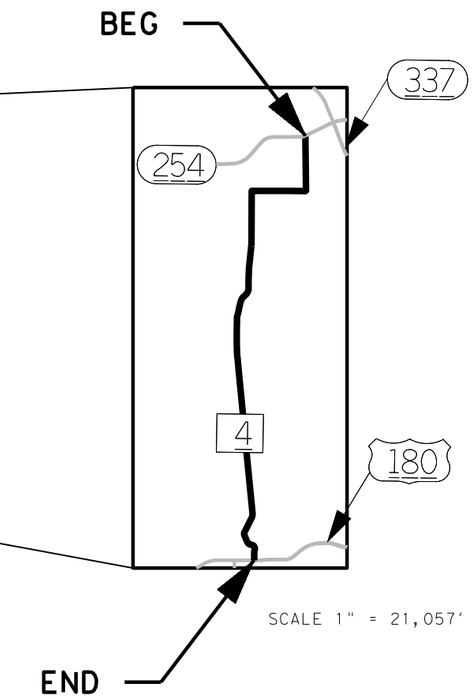
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		32
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 46,823'



SCALE 1" = 21,057'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
27	PALO PINTO	0736-01-020	FM 4	FR: SH 254 TO: SH 180	67,869.12	22.00	3.00	12.854	TRAVEL LANES SHOULDERS INTERSECTIONS (3) TOTAL	165,902 22,623 759 189,284	4 4 4	58,066 7,919 266 66,251	249.59 34.04 1.14 284.77	1,229 168 6 1,403	1,426 195 7 1,628

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,700	0	36	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	136,003	11,964	67,656	0	1,700	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

CSJ: 0736-01-020

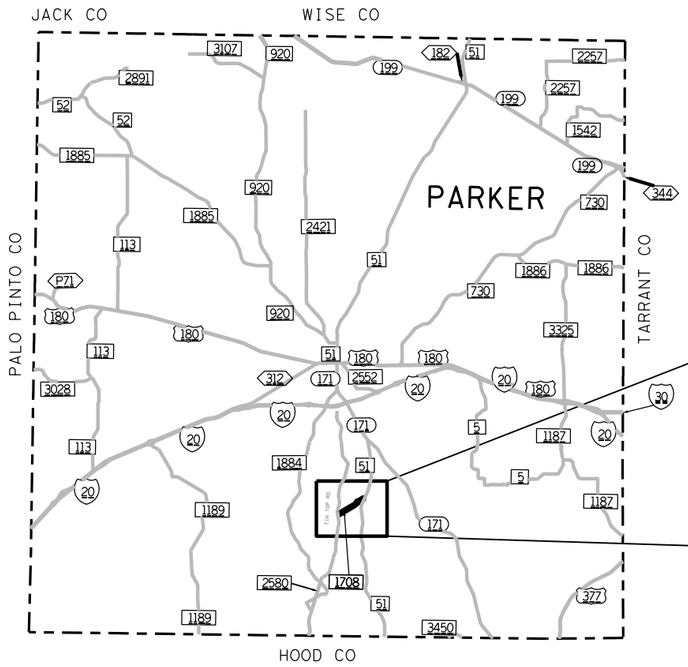
PROJECT LOCATION MAP

Texas Department of Transportation

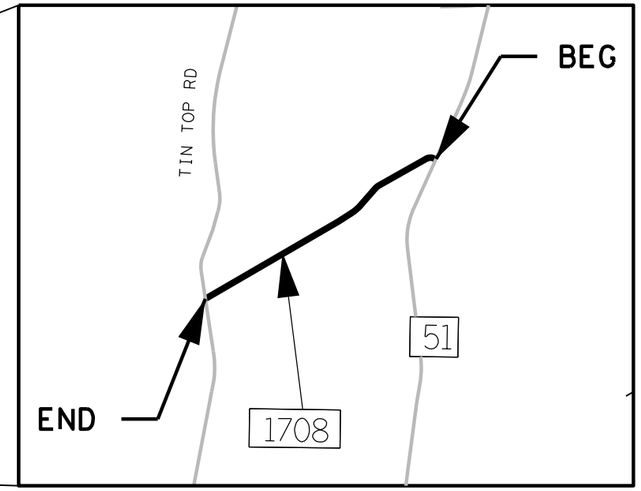
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		33
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 40,525′



SCALE 1" = 4,668′

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
28	PARKER	1602-01-009	FM 1708	FR: FM 51 TO: TIN TOP ROAD	8,374.08	22.00	0.00	1.586	TRAVEL LANES SHOULDERS INTERSECTIONS (7) TOTAL	20,470 0 1,771 22,241	3 3 3	9,212 0 797 10,009	39.60 0.00 3.43 43.03	171 0 15 186	199 0 18 217

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	208	0	160	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	16,640	1,301	11,206	0	208	0

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FILE:
DATE:

CSJ: 1602-01-009

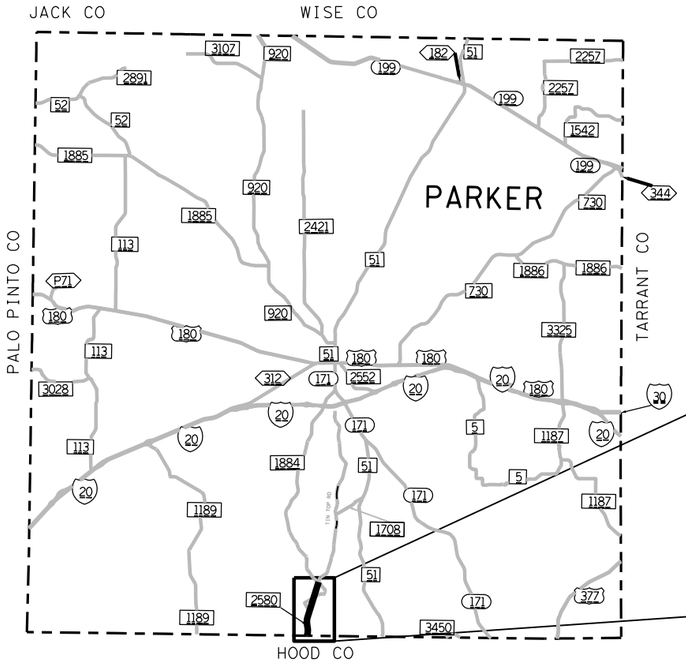
PROJECT LOCATION MAP

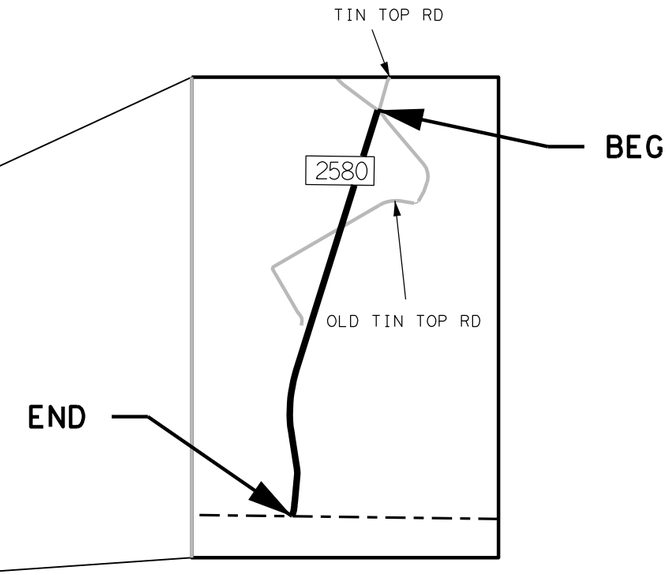
Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		34
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY





REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
29	PARKER	1601-02-034	FM 2580	FR: TIN TOP ROAD TO: HOOD COUNTY LINE	14,720.64	24.00	10.00	2.788	TRAVEL LANES SHOULDERS INTERSECTIONS (7) TOTAL	39,255 16,356 1,771 57,382	3 3 3	13,740 5,725 620 20,085	59.06 24.61 2.66 86.33	291 122 14 427	338 142 17 497

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	368	0	0	0	0	0	0	0	0	0	0	220

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	29,418	2,732	17,109	0	368	0

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PROJECT LOCATION MAP

Texas Department of Transportation

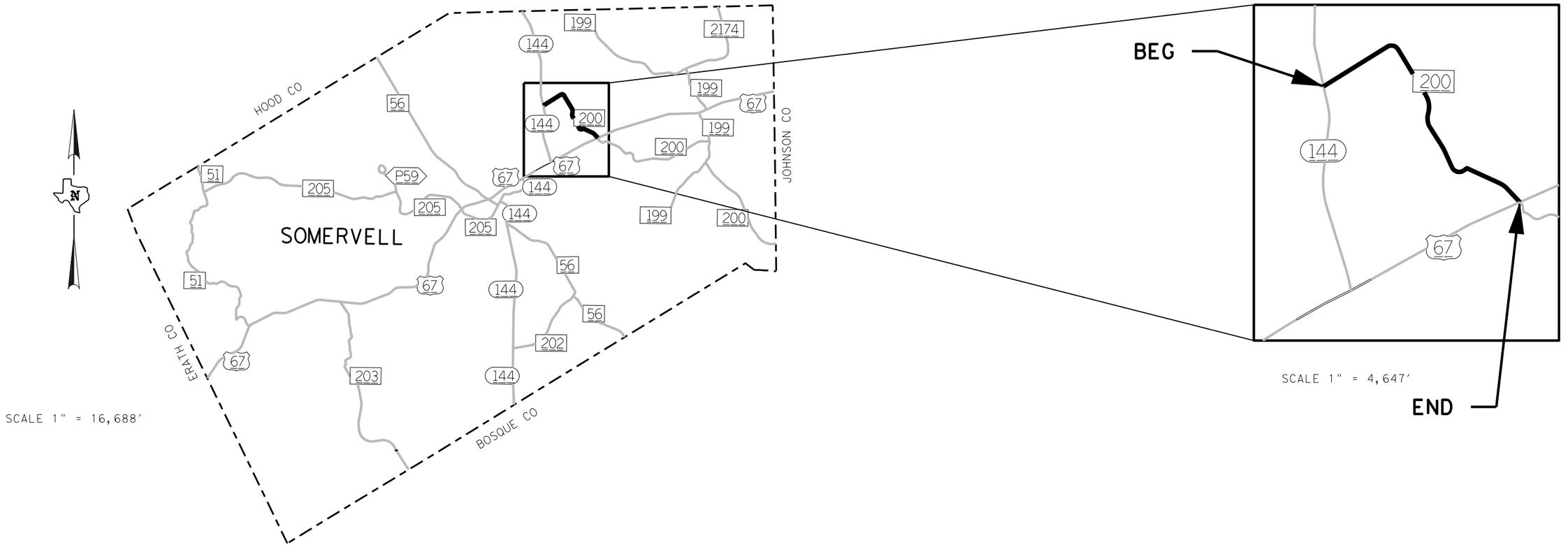
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		35
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 1601-02-034

FILE:
DATE:

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 16,688′

SCALE 1" = 4,647′

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
30	SOMERVELL	0385-08-008	FM 200	FR: SH 144 TO: US 67	13,215.84	24.00	0.00	2.503	TRAVEL LANES SHOULDERS INTERSECTIONS (5) TOTAL	35,242 0 1,265 36,507	3 3 3	15,860 0 570 16,430	68.17 0.00 2.45 70.62	294 0 11 305	341 0 13 354

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	328	0	75	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II					RAISED PAV MRKR	
6048					672	
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	0	952	21,354	0	328	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

CSJ: 0385-08-008

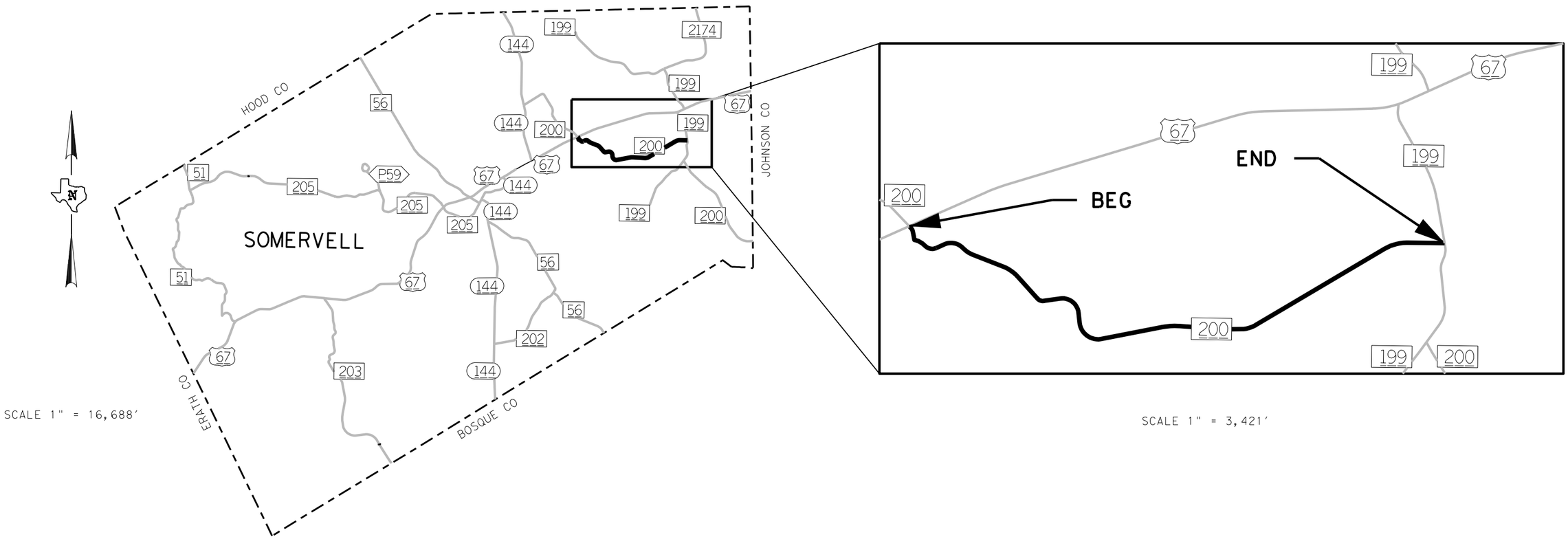
PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		36
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
31	SOMERVELL	0259-11-018	FM 200	FR: US 67 TO: FM 199	20,697.60	24.00	0.00	3.920	TRAVEL LANES	55,194	3	24,838	106.76	460	533
									SHOULDERS	0	3	0	0	0	0
									INTERSECTIONS (13)	3,289	3	1,481	6.37	28	33
									TOTAL	58,483		26,319	113.13	488	566

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	498	0	195	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	39,860	2,380	30,615	0	498	0

Any work within 500 feet of TxDOT traffic signal, illumination system, and/or ITS system will require the Contractor to contact the TxDOT Fort Worth Signal Shop at (817) 370-6505.

FILE:
DATE:

CSJ: 0259-11-018

PROJECT LOCATION MAP

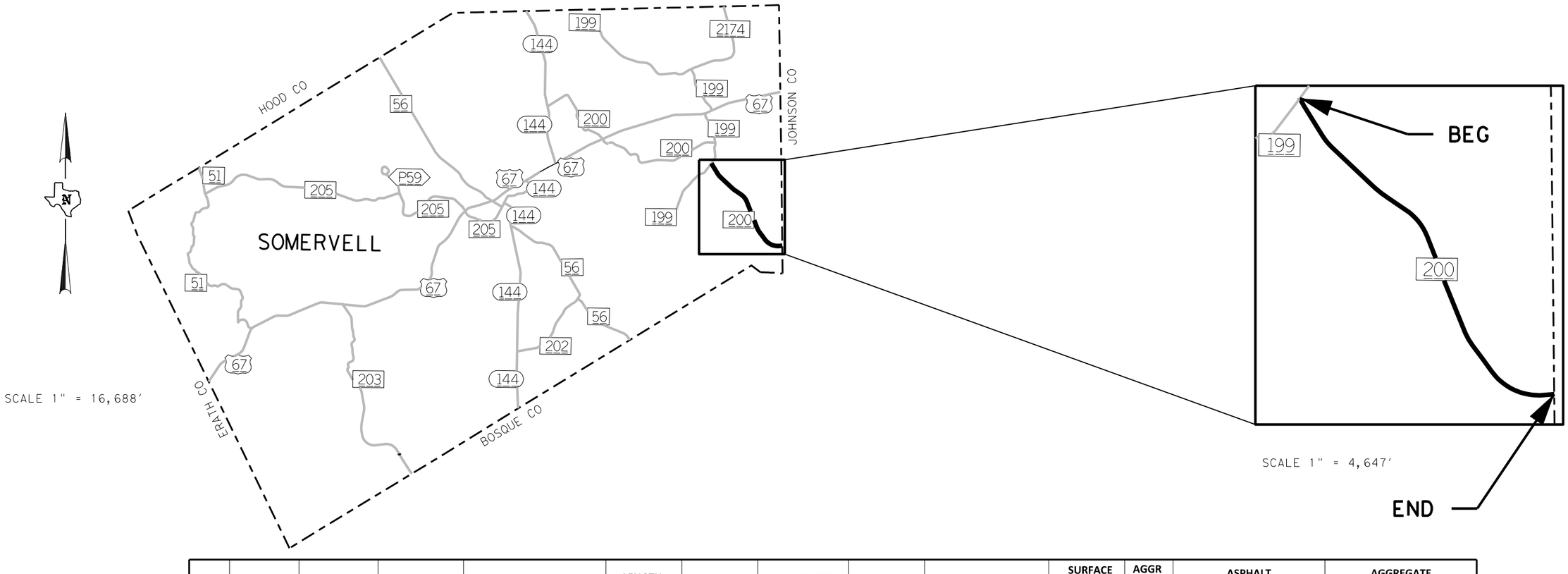
Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

37

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
32	SOMERVELL	2853-01-013	FM 200	FR: FM 199 TO: JOHNSON COUNTY LINE	17,830.56	28	0.00	3.377	TRAVEL LANES SHOULDERS INTERSECTIONS (2)	55,473 0 506	3 3 3	24,963 0 228	107.30 0 0.98	463 0 5	537 0 6
									TOTAL	55,979		25,191	108.28	468	543

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	443	0	25	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II					RAISED PAV MRKR	
6048					672	
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	35,458	2,276	13,010	0	443	0

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FILE:
DATE:

PROJECT LOCATION MAP

Texas Department of Transportation

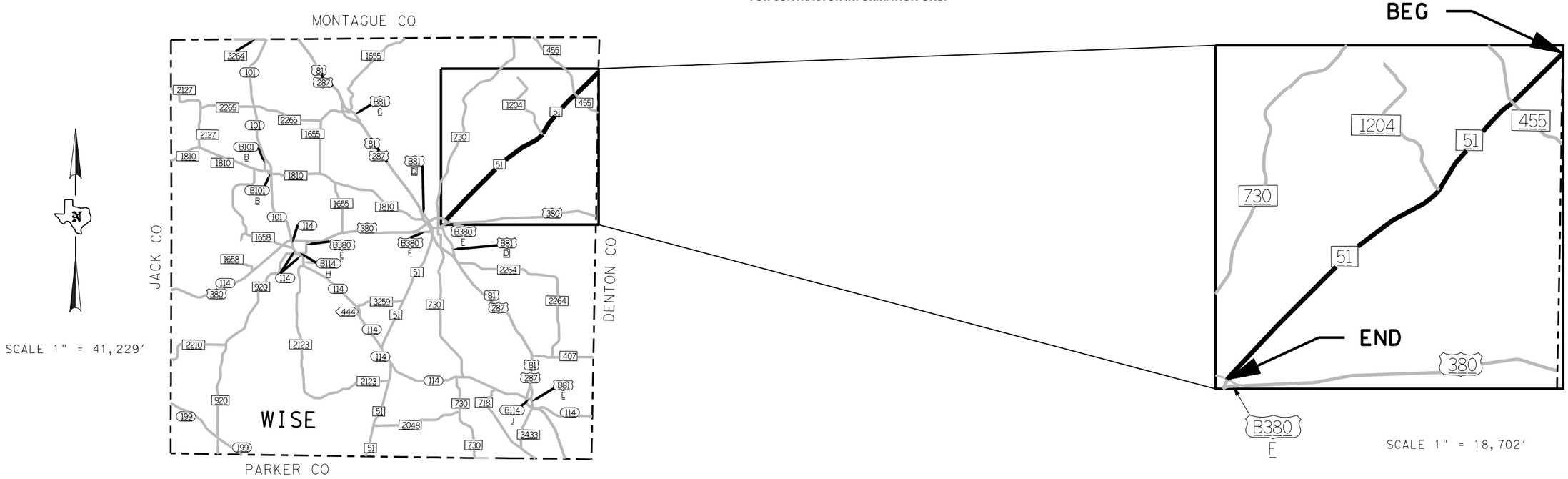
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67,ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH,ETC.		
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

38

CSJ: 2853-01-013

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
33	WISE	0312-03-032	FM 51	FR: DENTON COUNTY LINE TO: US 380	83,038.56	27.00	4.00	15.727	TRAVEL LANES SHOULDERS INTERSECTIONS (6)	249,116 36,906 1,518	4 4 4	87,191 12,918 532	374.77 55.53 2.29	1,846 274 12	2,142 318 14
									TOTAL	287,540		100,641	432.59	2,132	2,474

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
217	2,035	240	0	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
4,355	162,840	6,552	127,909	217	2,035	0

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PROJECT LOCATION MAP

Texas Department of Transportation

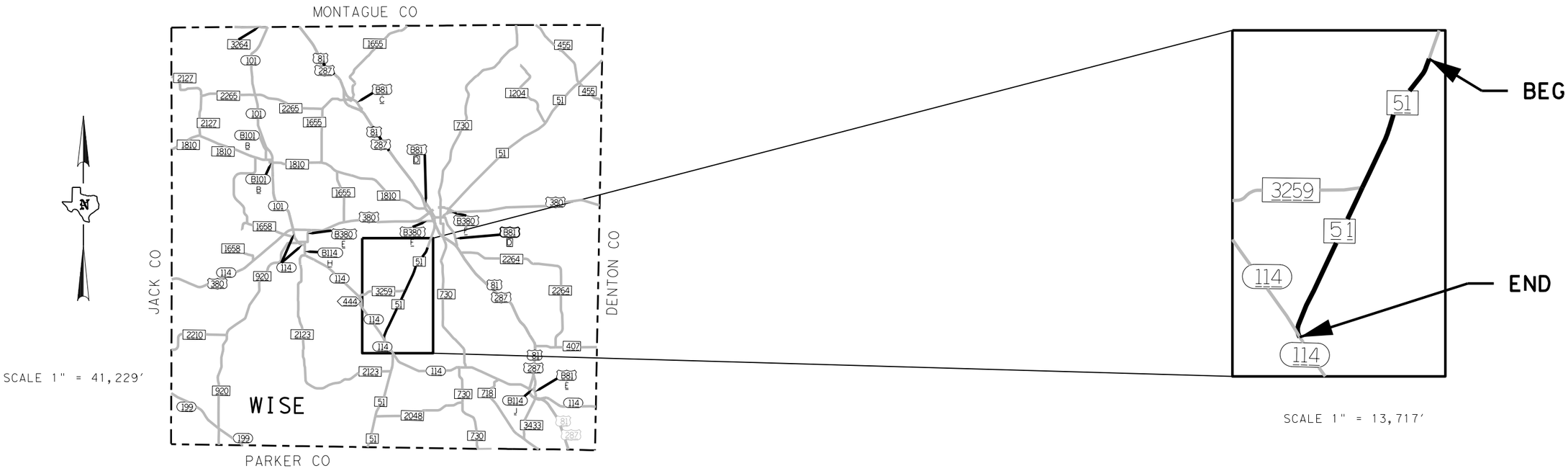
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		39
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0312-03-032

FILE:
DATE:

*** FOR CONTRACTOR INFORMATION ONLY**



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
34	WISE	0313-01-063	FM 51	FR: DAVID AVENUE TO: SH 114	38,528.16	25.00	8.00	7.297	TRAVEL LANES SHOULDERS INTERSECTIONS (14) TOTAL	107,023 34,247 3,542 144,812	4 4 4	37,458 11,987 1,240 50,685	161.01 51.52 5.33 217.86	793 254 27 1,074	920 295 32 1,247

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	975	0	280	4	0	2	2	0	0	0	0	1,820

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
200	76,980	4,038	56,390	0	975	0

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FILE:
DATE:

PROJECT LOCATION MAP

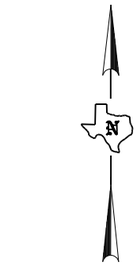
Texas Department of Transportation

SHEET 1 OF 1

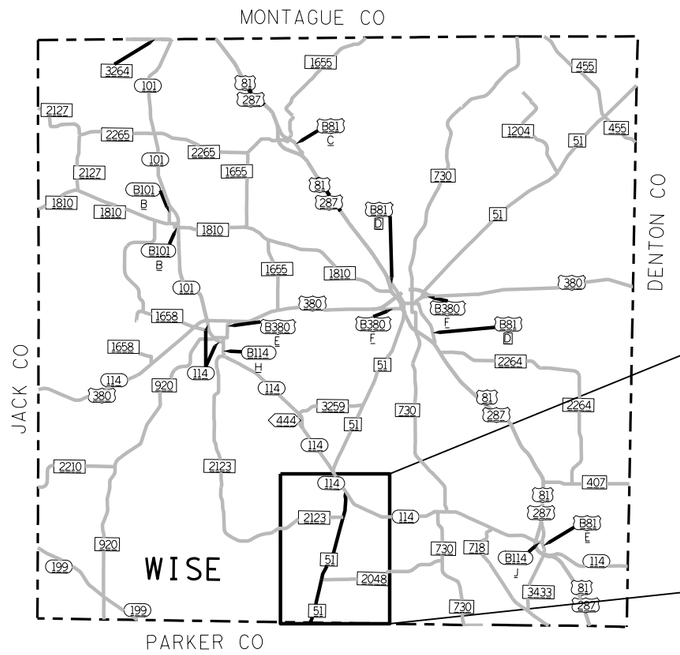
FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		40
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

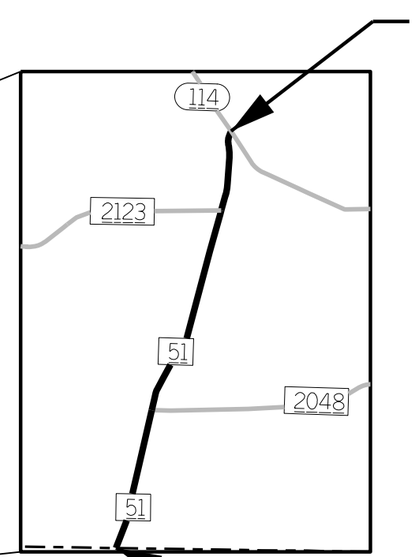
CSJ: 0313-01-063

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 41,229'





SCALE 1" = 12,863'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
35	WISE	0313-01-062	FM 51	FR: SH 114 TO: PARKER COUNTY LINE	37,007.52	24.00	8.00	7.009	TRAVEL LANES	98,687	4	34,541	148.47	732	850
									SHOULDERS	32,896	4	11,514	49.49	244	284
									INTERSECTIONS (13)	9,098	4	3,185	13.69	68	79
									TOTAL	140,680		49,240	211.65	1,044	1,213

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
75	930	0	260	2	0	0	2	0	0	200	0	225

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
797	73,160	4,105	53,565	75	930	0

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PROJECT LOCATION MAP

Texas Department of Transportation

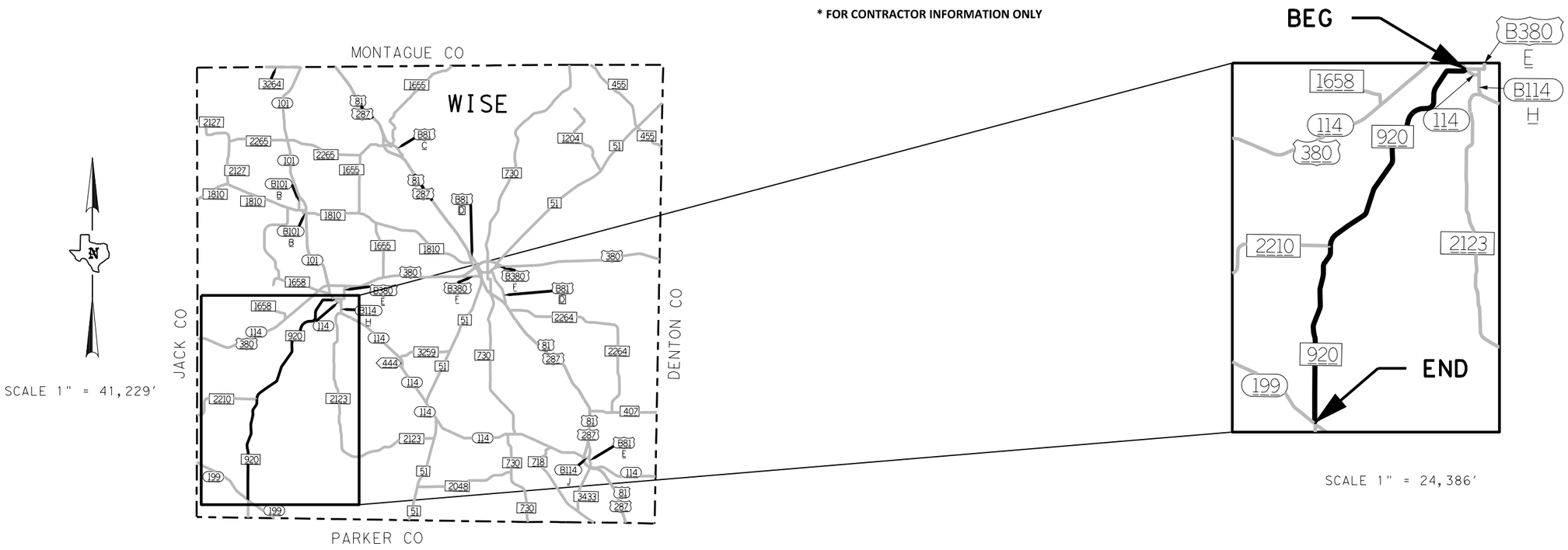
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		41
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 0313-01-062

FILE:
DATE:

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
36	WISE	1179-01-046	FM 920	FR: SH 114 TO: SH 199	84,179.04	24.00	6.00	15.943	TRAVEL LANES SHOULDERS INTERSECTIONS (31) TOTAL	224,477 56,119 11,643 292,240	4 4 4	78,568 19,642 4,076 102,286	337.71 84.43 17.52 439.66	1,663 416 87 2,166	1,930 483 101 2,514

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	2,140	0	620	0	0	4	0	5	0	0	0	650

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	168,540	41,100	119,563	0	2,140	0

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PROJECT LOCATION MAP

Texas Department of Transportation

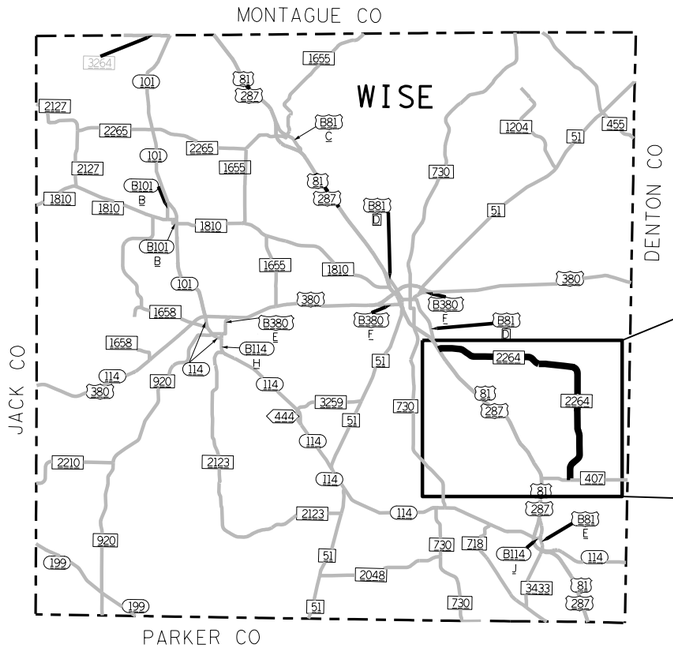
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		42
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

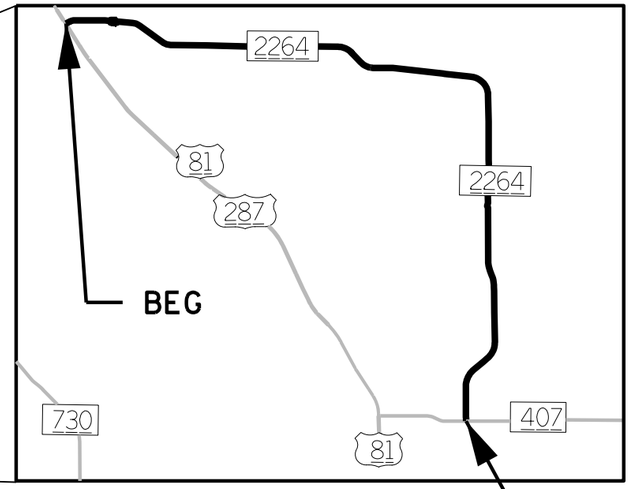
CSJ: 1179-01-046

FILE:
DATE:

* FOR CONTRACTOR INFORMATION ONLY



SCALE 1" = 41,229'



SCALE 1" = 13,552'

REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
37	WISE	1310-03-028	FM 2264	FR: US 81 TO: FM 407	70,282.08	28.00	0.00	13.311	TRAVEL LANES SHOULDERS INTERSECTIONS (23)	218,655 0 9,489	3 3 3	98,395 0 4,271	422.93 0.00 18.36	1,823 0 80	2,112 0 93
									TOTAL	228,144		102,666	441.29	1,903	2,205

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,780	0	350	2	0	2	2	0	0	0	0	300

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	140,780	28,183	97,630	0	1,780	0

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PROJECT LOCATION MAP

Texas Department of Transportation

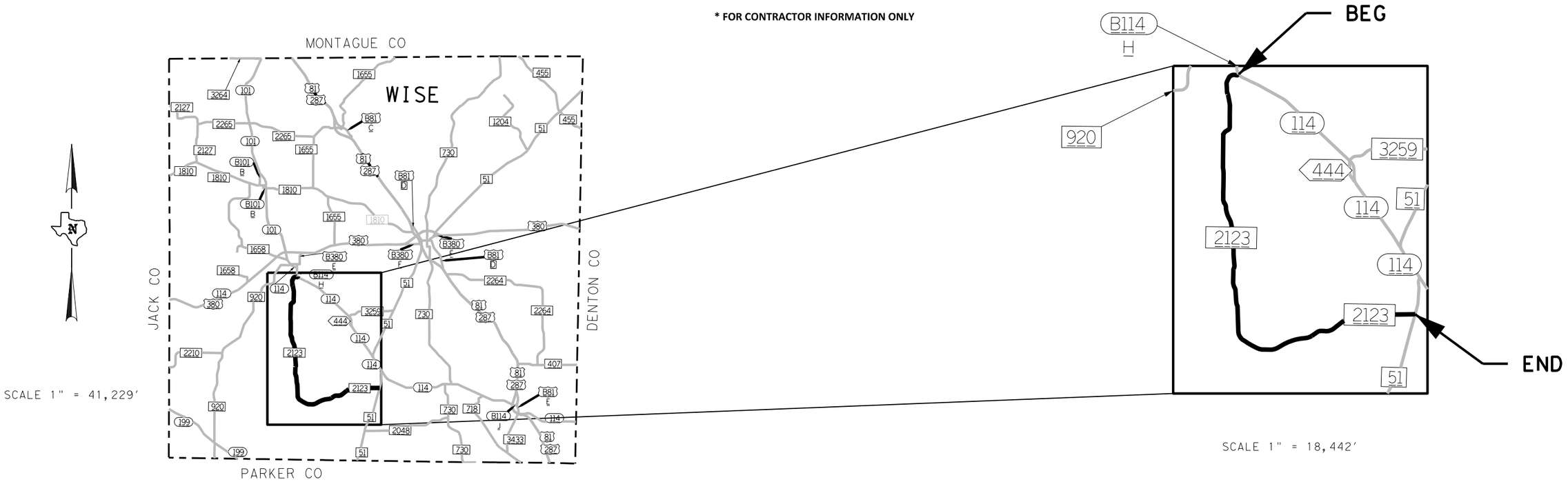
SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		43
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 1310-03-028

FILE:
DATE:

* FOR CONTRACTOR INFORMATION ONLY



REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
38	WISE	1606-02-020	FM 2123	FR: SH 114 TO: FM 51	84,448.32	32.00	0.00	15.994	TRAVEL LANES SHOULDERS INTERSECTIONS (23)	300,261 0 5,819	4 4 4	105,092 0 2,037	451.72 0.00 8.76	2,225 0 44	2,581 0 52
									TOTAL	306,080		107,129	460.48	2,269	2,633

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	2,117	0	345	0	0	0	0	0	0	0	0	0

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	169,400	46,000	110,864	0	2,117	0

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PROJECT LOCATION MAP

Texas Department of Transportation

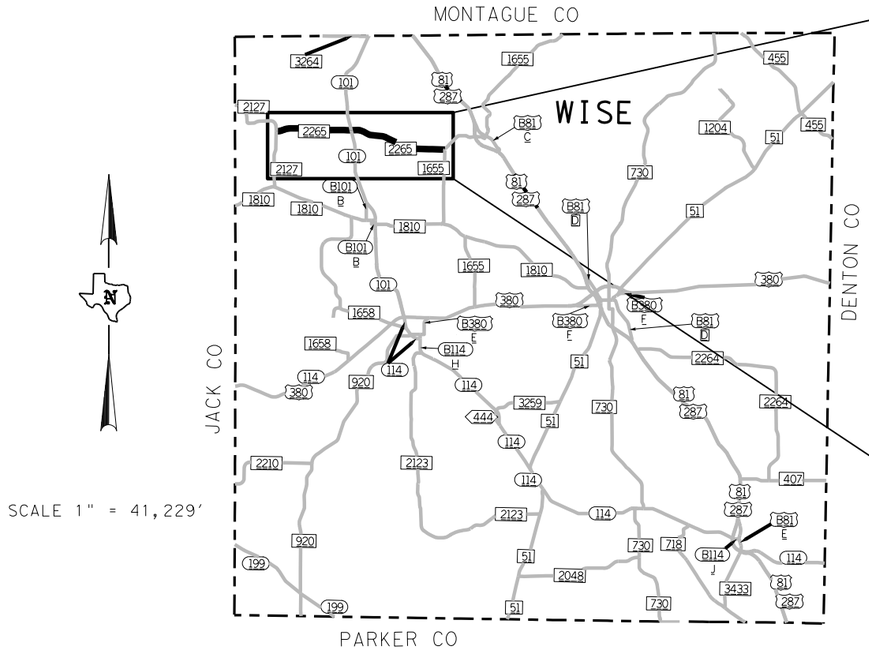
SHEET 1 OF 1

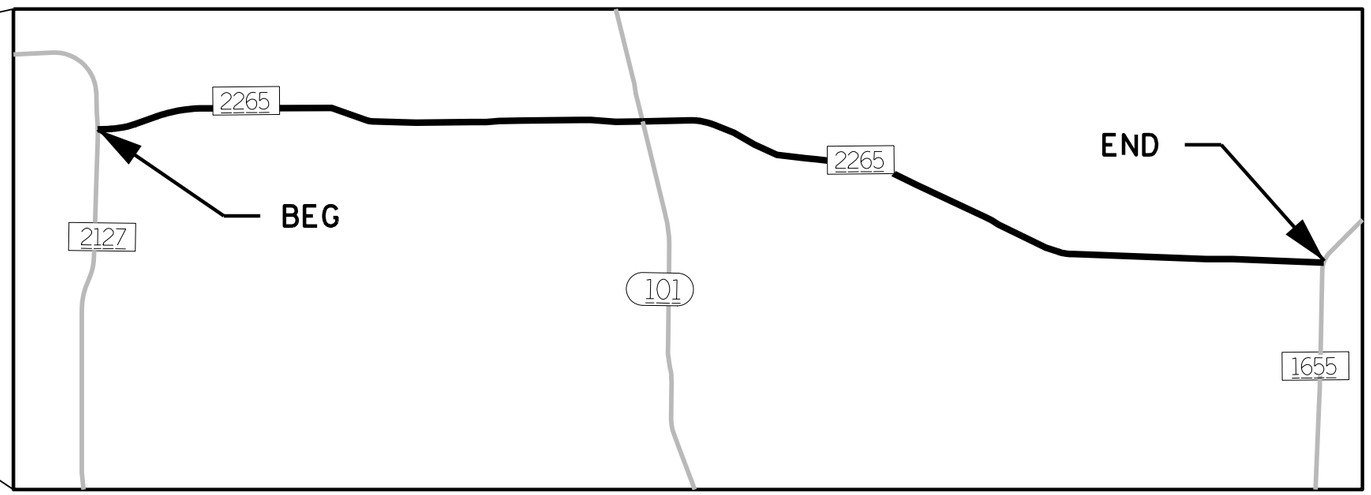
FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		44
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 1606-02-020

FILE:
DATE:

* FOR CONTRACTOR INFORMATION ONLY





REF	COUNTY	CSJ	HIGHWAY	LIMITS	LENGTH (FT)	WIDTH (FT)	SHOULDER WIDTH (FT)	LENGTH (MI)	DESCRIPTION OF WORK	SURFACE AREA	AGGR GR 3 OR GR 4	ASPHALT		AGGREGATE	
										SY *		GAL *	TON	CY *	TON
39	WISE	2738-01-017	FM 2265	FR: FM 2127 TO: FM 1655	47,113.44	24.00	0.00	8.923	TRAVEL LANES SHOULDERS INTERSECTIONS (11)	125,636 0 4,105	3 3 3	56,537 0 1,848	243.01 0.00 7.94	1,047 0 35	1,213 0 41
									TOTAL	129,741		58,385	250.95	1,082	1,254

SHORT TERM		PREFAB PAV MRK TY C										TY II
662		6047										666
6109	6111	6036	6038	6039	6040	6043	6047	6048	6049	6056	6058	6178
WK ZN PAV MRK SHT TERM (TAB)TY W	WK ZN PAV MRK SHT TERM (TAB)TY Y-2	PREFB PAV MK TY C (W)12"(SLD)	PREFB PAV MK TY C (W)24"(SLD)	PREFB PAV MK TY C (W)(ARROW)	PREFB PAV MK TY C (W)(DBL ARROW)	PREFB PAV MK TY C (W)(RR XING)	PREFB PAV MK TY C (W)(WORD)	PREFB PAV MK TY C (W)18"(YLD TRI)	PREFB PAV MK TY C (W)36"(YLD TRI)	PREFB PAV MK TY C (Y)12"(SLD)	PREFB PAV MK TY C (Y)24"(SLD)	REFL PAV MRK TY II (W) 8" (SLD)
EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	LF	LF	LF
0	1,178	0	120	0	0	2	0	0	0	0	0	200

REF PAV MRK TY II				RAISED PAV MRKR		
6048				672		
6009	6010	6013	6014	6007	6009	6010
RE PM W/RET REQ TY II (W)4"(BRK)	RE PM W/RET REQ TY II (W)4"(SLD)	RE PM W/RET REQ TY II (Y)4"(BRK)	RE PM W/RET REQ TY II (Y)4"(SLD)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A	REFL PAV MRKR TY II-C-R
LF	LF	LF	LF	EA	EA	EA
0	0	22,222	44,580	0	1,178	0

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PROJECT LOCATION MAP

Texas Department of Transportation

SHEET 1 OF 1

FHWA DIVISION	PROJECT NO.		HIGHWAY NO.
6	SEE TITLE SHEET		US67, ETC.
STATE	COUNTY		SHEET NO.
TEXAS	ERATH, ETC.		45
DISTRICT	CONTROL	SECTION	JOB
FTW	0079	05	061

CSJ: 2738-01-017

FILE:
DATE:

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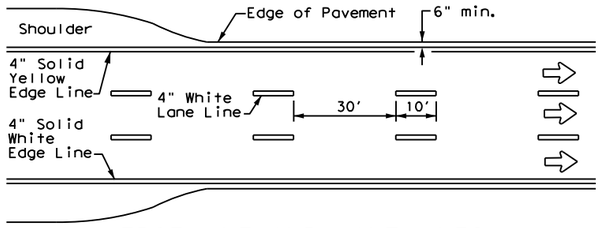
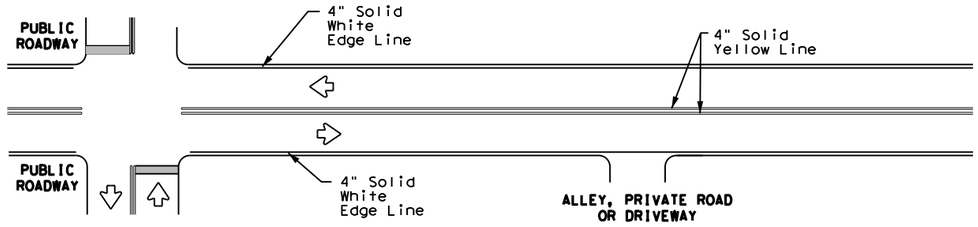
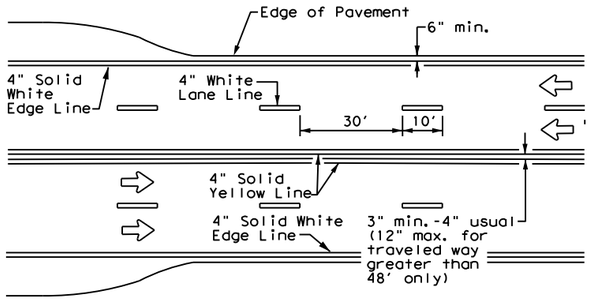


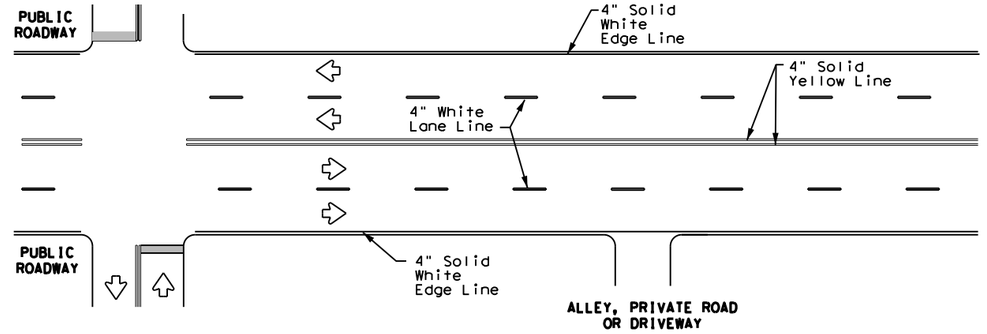
EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



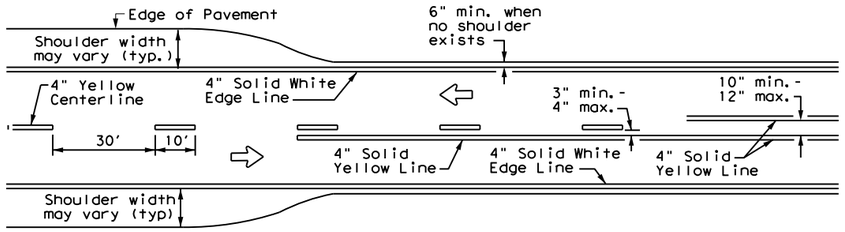
TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



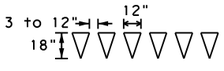
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



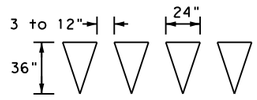
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

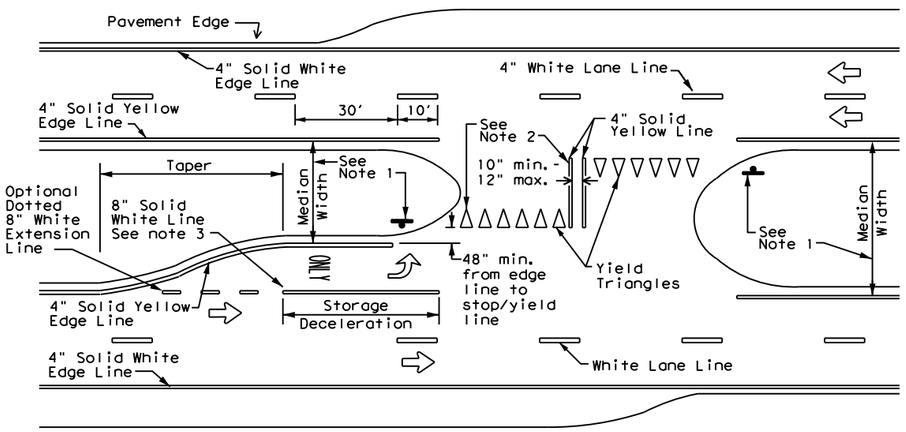


For posted speed on road being marked equal to or less than 40 MPH.



For posted speed on road being marked equal to or greater than 45 MPH.

YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.

2. Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield traingles shall only be used with yield signs.

3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

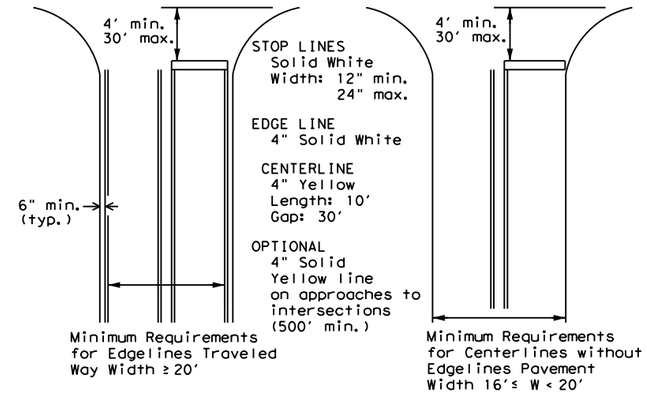
GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.

2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Highways

Texas Department of Transportation

Traffic Safety Division Standard

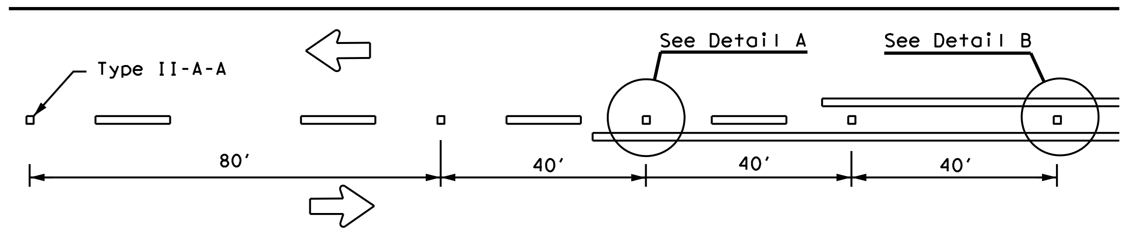
TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-20

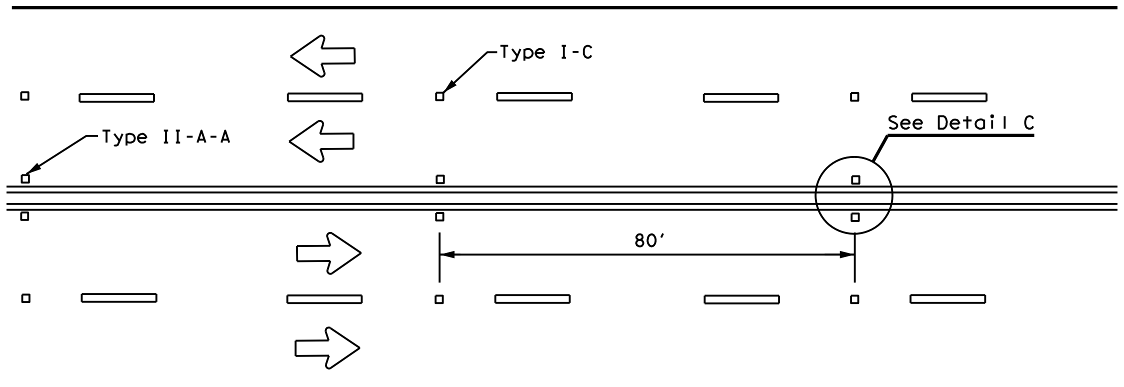
FILE: pm1-20.dgn	DN:	CK:	DW:	CK:
© TxDOT November 1978	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03	0079	05	061	US67, ETC.
5-00 2-12	DIST	COUNTY		SHEET NO.
8-00 6-20	FTW	ERATH, ETC.		46

22A

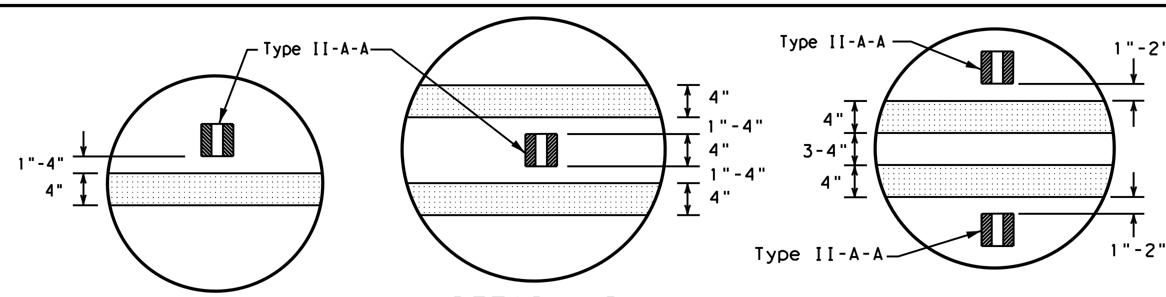
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

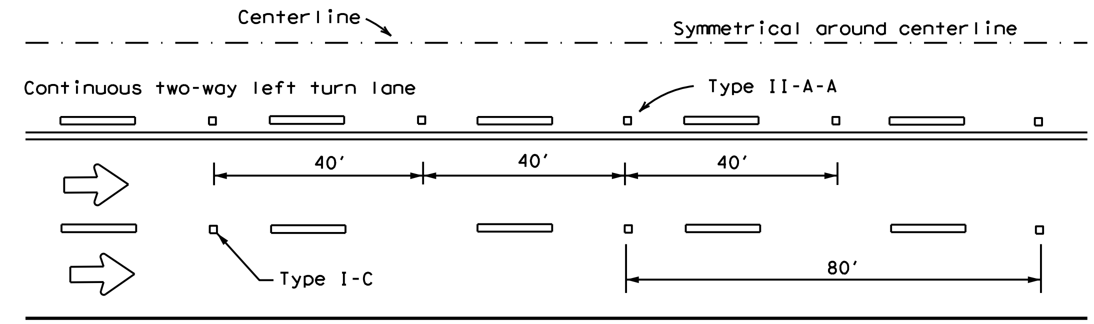


CENTERLINE FOR ALL TWO LANE ROADWAYS

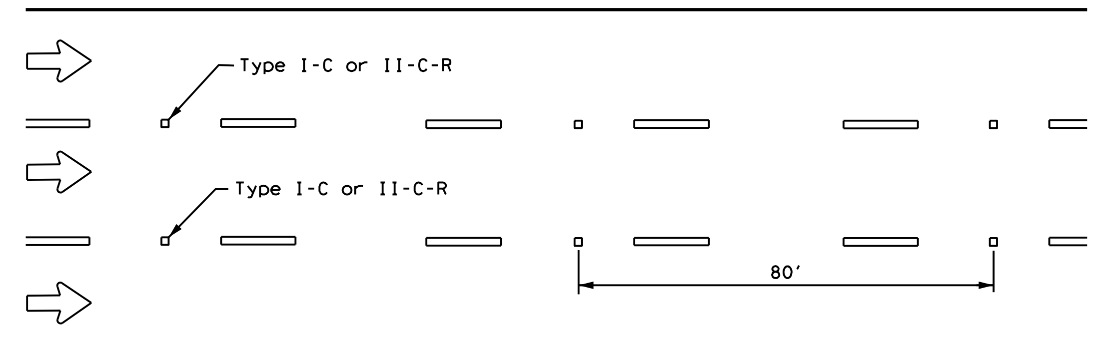


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS





CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE

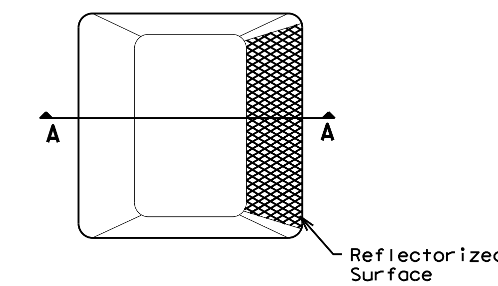


LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

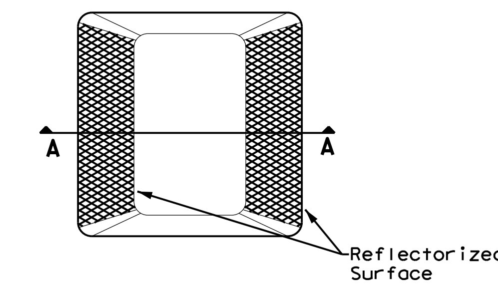
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

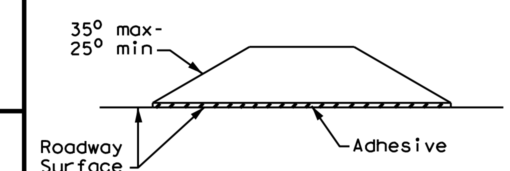
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

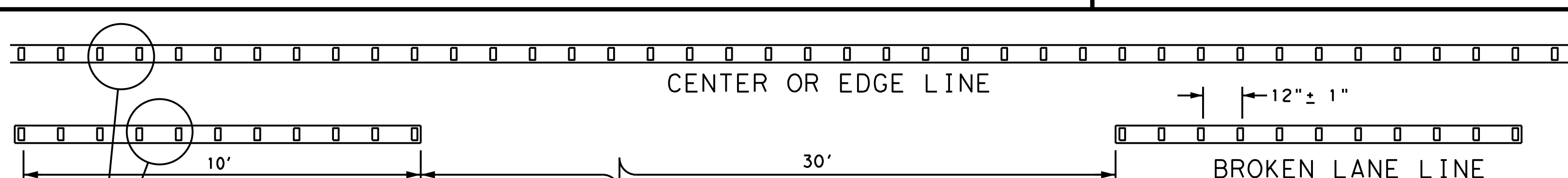


Type II (Top View)



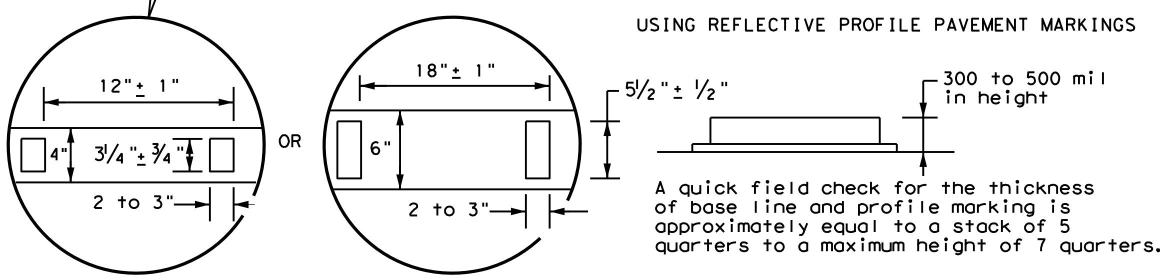
SECTION A

RAISED PAVEMENT MARKERS



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



4" EDGE LINE, CENTER LINE OR LANE LINE

OPTIONAL 6" EDGE LINE, CENTER LINE OR LANE LINE

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTE

Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.

Texas Department of Transportation

Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS PM(2)-20

FILE: pm2-20.dgn	DN:	CK:	DW:	CK:
©TxDOT April 1977	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-92 2-10	0079	05	061	US67,ETC.
5-00 2-12	DIST		COUNTY	SHEET NO.
8-00 6-20	FTW		ERATH,ETC.	47

228

DATE: 9/1/2021 9:17:07 AM
FILE: T:\DISMAINT\03-Contract Design PS&E\Seal Coat\0079-05-061\Design\46-47 PM(2)-20.dgn

DATE: 9/1/2021 9:17:09 AM
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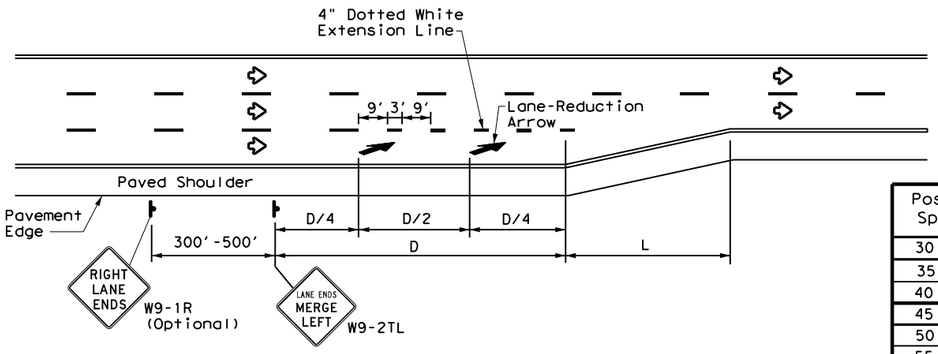
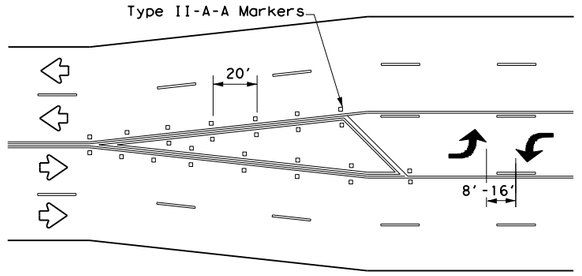


LANE REDUCTION

Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional W9-1R "RIGHT LANE ENDS" sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.



A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

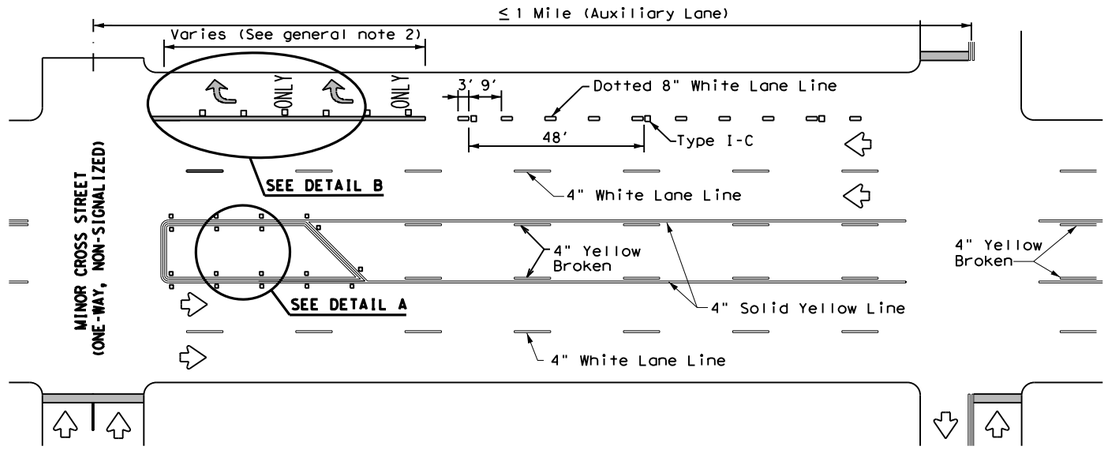
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

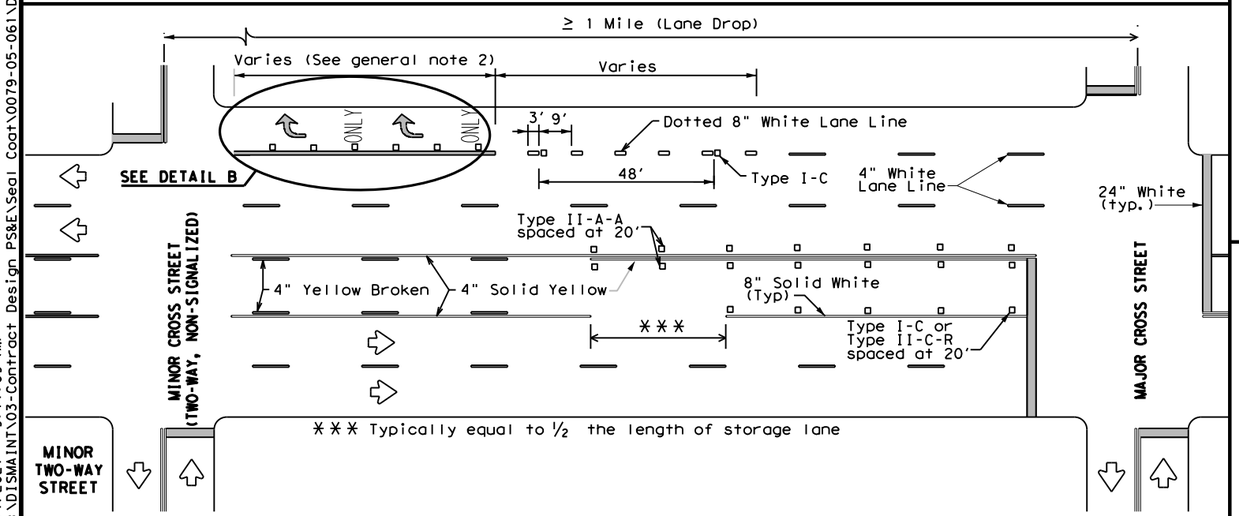
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

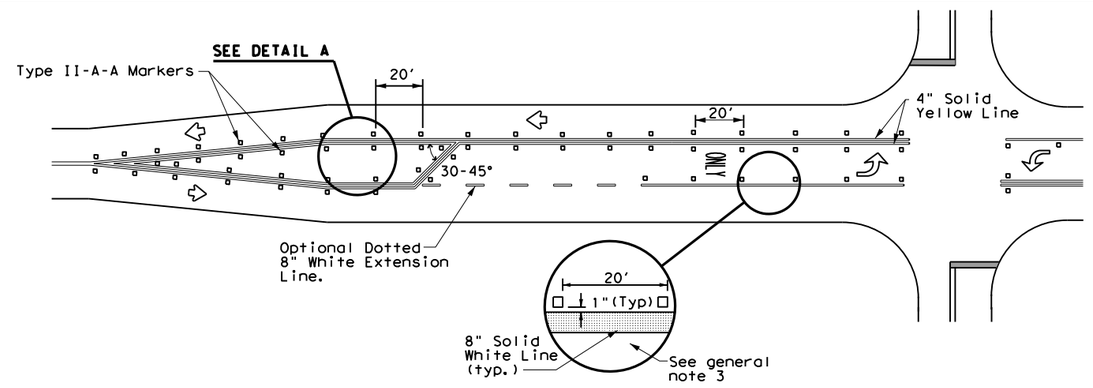
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



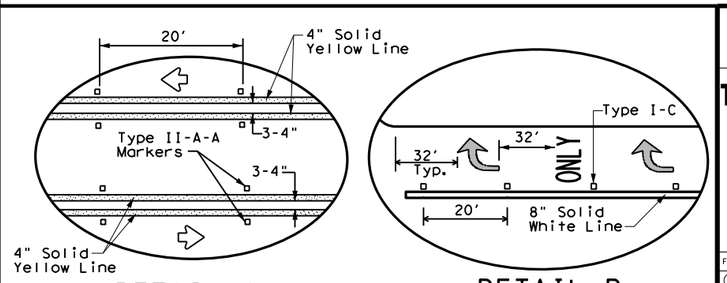
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS



DETAIL A DETAIL B

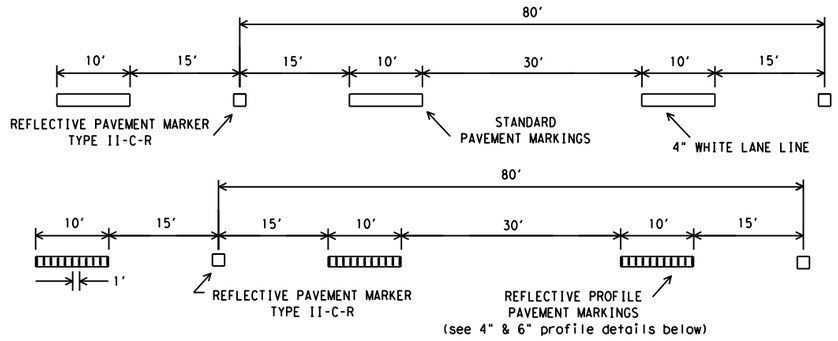
Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS PM(3)-20

FILE: pm3-20.dgn	DN:	CK:	DW:	CK:
© TxDOT April 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
5-00 2-10	DIST	COUNTY		SHEET NO.
8-00 2-12	FTW	ERATH, ETC.		48
3-03 6-20				

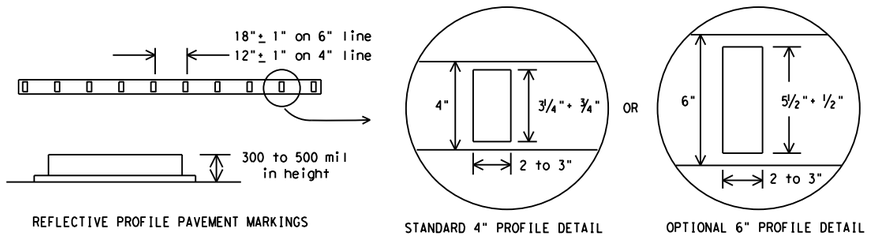
220



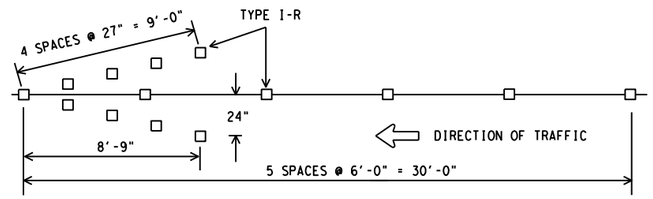
PAVEMENT MARKERS (REFL) TYPE II-C-R SHALL BE SPACED ON 80' CENTERS WITH THE CLEAR FACE TOWARD NORMAL TRAFFIC AND THE RED FACE TOWARD WRONG WAY TRAFFIC.

TRAFFIC LANE LINES PAVEMENT MARKING DETAILS

EDGELINES SHOULD TYPICALLY BE 4" WIDE AND THE MATERIALS SHALL BE AS SPECIFIED IN THE PLANS.
IF RAISED PROFILE PAVEMENT MARKINGS ARE USED SEE DETAILS BELOW.



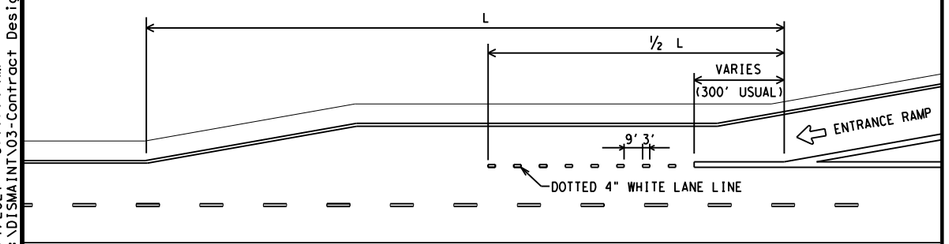
EDGELINE PAVEMENT MARKINGS



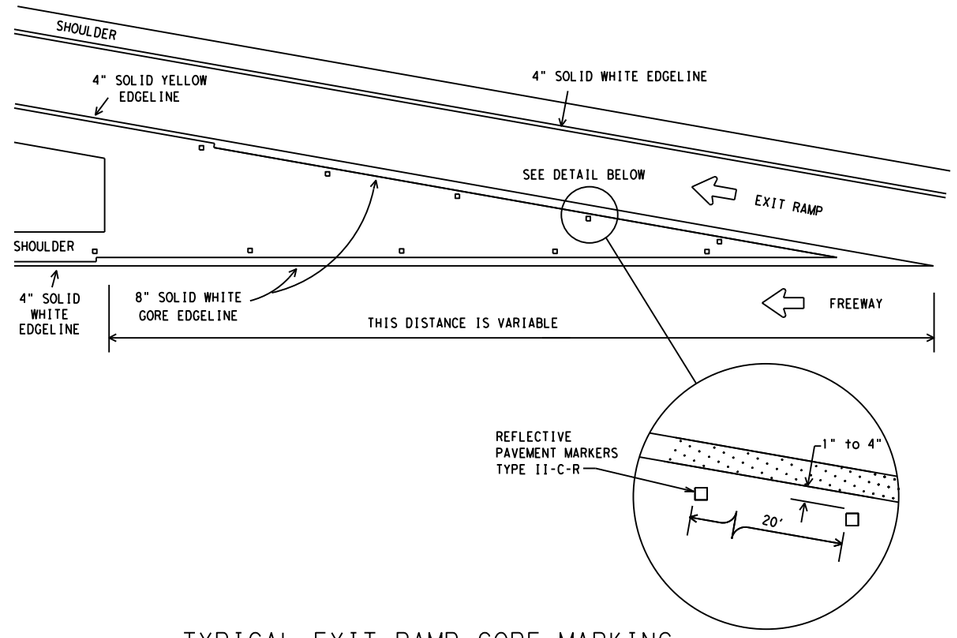
ALL RAISED MARKERS IN THE WRONG WAY ARROW SHALL BE TYPE I-R REFLECTORIZED PAVEMENT MARKERS WITH THE REFLECTORIZED SURFACE FACING THE WRONG WAY TRAFFIC. TYPE II-C-R SHALL NOT BE USED.

REFLECTORIZED WRONG WAY ARROWS, NOT TO EXCEED TWO, MAY BE PLACED ON EXIT RAMPS.
LOCATION OF THE ARROWS SHALL BE AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

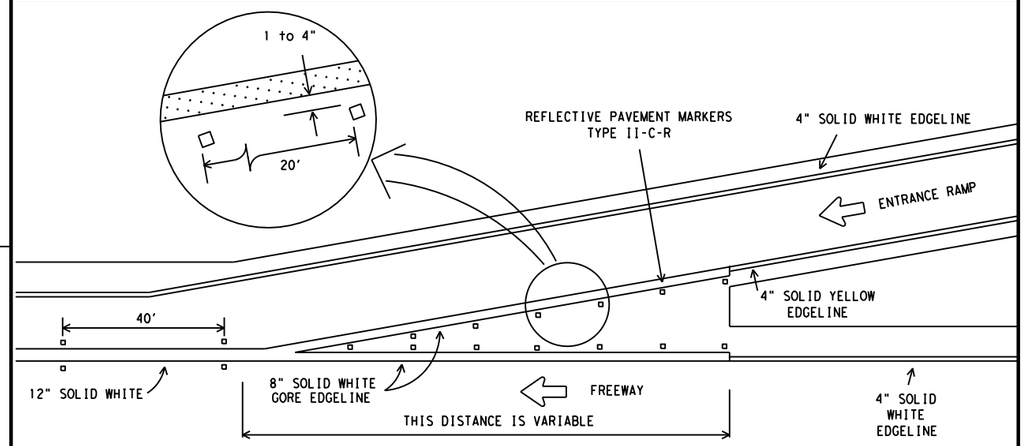
WRONG WAY ARROW DETAIL



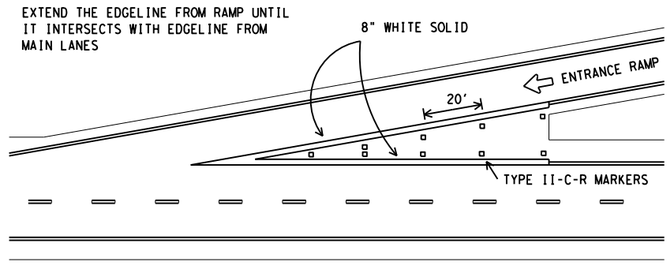
PARALLEL ACCELERATION LANE



TYPICAL EXIT RAMP GORE MARKING



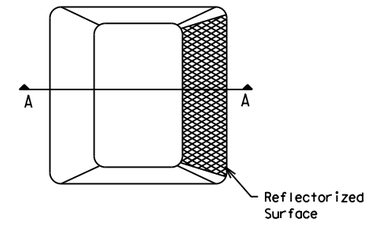
TYPICAL ENTRANCE RAMP GORE MARKING



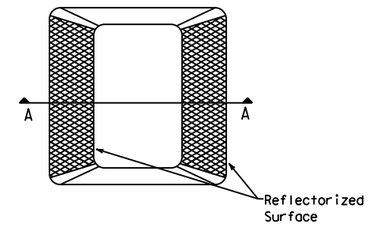
TAPERED ACCELERATION LANE

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

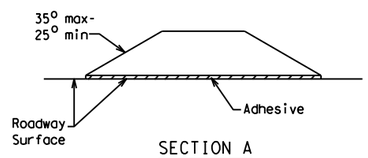
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS WITH RAISED PAVEMENT MARKERS

FPM(1)-12

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS		CONT	SECT	JOB	HIGHWAY
4-92	2-10	0079	05	061	US67,ETC.
5-00	2-12	DIST	COUNTY		SHEET NO.
8-00		FTW	ERATH,ETC.		49
2-08					

23A

DATE: 9/1/2021 9:17:14 AM
FILE: T:\DISMAINT\03-Contract Design PS&E\Seal Coat\0079-05-061\Design\49-52 FPM(1)-12 THRU FPM(4)-12.dgn

DATE: 9/1/2021 9:17:18 AM
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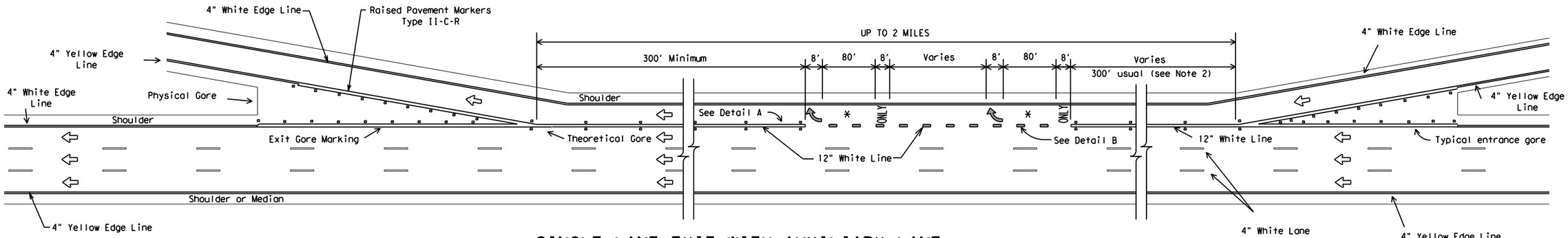
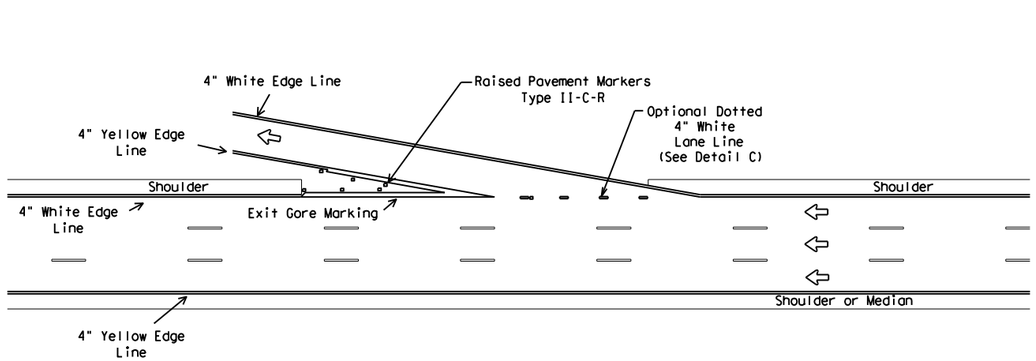
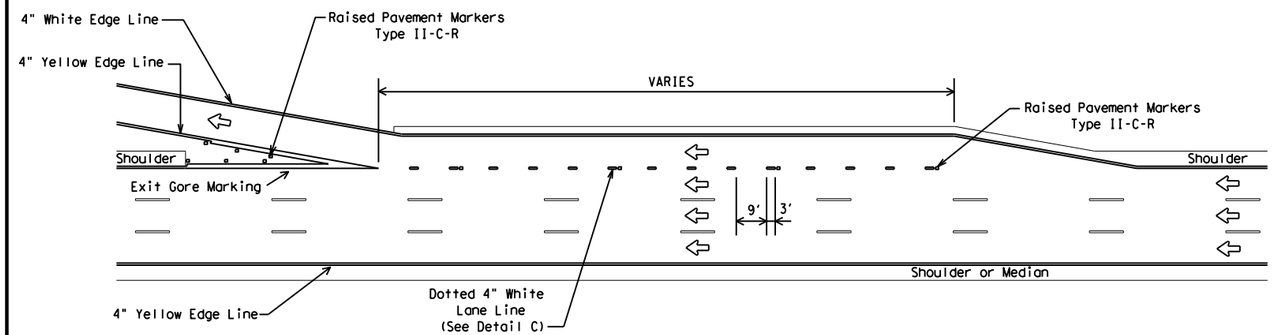


SINGLE LANE EXIT WITH AUXILIARY LANE

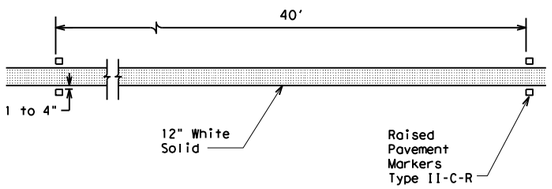
(See Note 2)



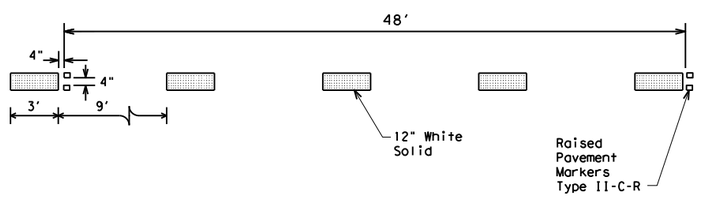
TAPERED DECELERATION LANE



PARALLEL DECELERATION LANE

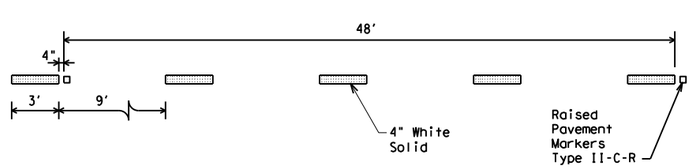


DETAIL A



DETAIL B

Wide (12") Dotted Lane Line (See Note 3)



DETAIL C

Normal (4") Dotted Lane Line (See Note 4)

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") Dotted Lane Line (See Detail B) is used to separate a through lane from a lane drop at normal exit ramp and from an auxiliary lane between an entrance and exit ramp.
4. Normal (4") Dotted Lane Line (See Detail C) is used at parallel acceleration and deceleration lanes.

LEGEND	
⇦	Denotes direction of traffic.
↱	Pavement marking arrows (white)
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation
Traffic Operations Division

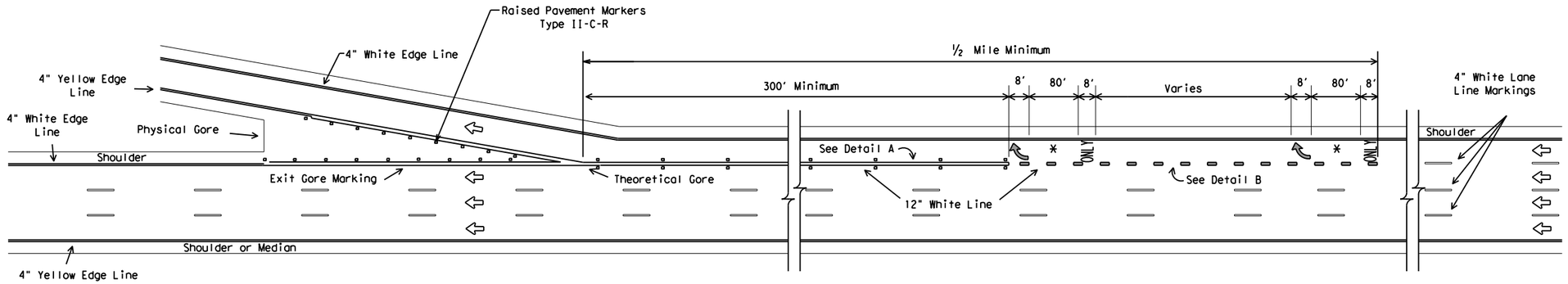
TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS ENTRANCE AND EXIT RAMPS

FPM(2)-12

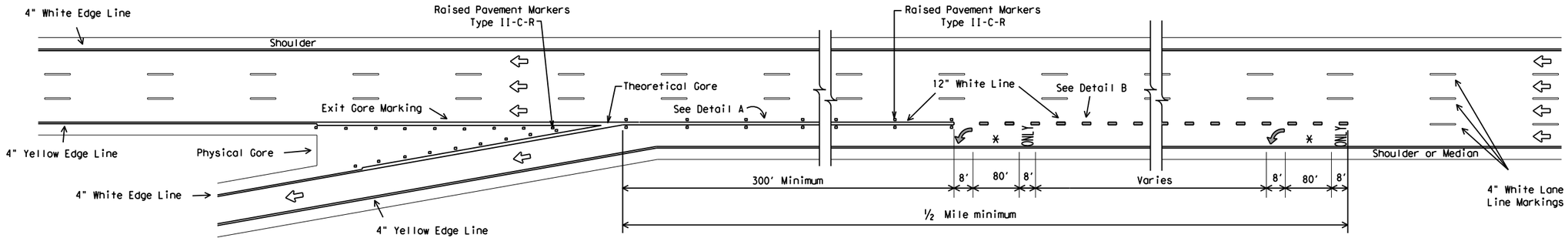
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
4-92 2-10
8-95 2-12
5-00
8-00

CONT	SECT	JOB	HIGHWAY
0079	05	061	US67, ETC.
DIST	COUNTY		SHEET NO.
FTW	ERATH, ETC.		50



SINGLE LANE EXIT - LANE DROP OR EXIT ONLY

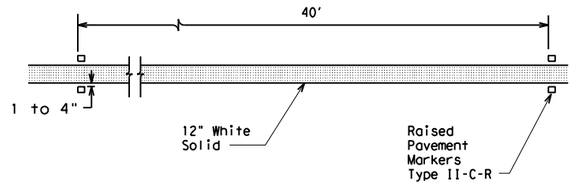


SINGLE LANE EXIT - LANE DROP OR EXIT ONLY (LEFTHAND)

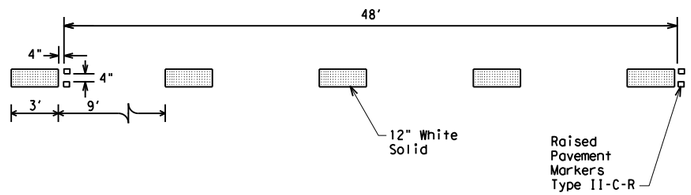
LEGEND	
⇦	Denotes direction of traffic.
↱	Pavement marking arrows (white)
*	Arrow markings are optional, however "ONLY" is required if arrow is used

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") Dotted Lane Line (See Detail B) is used to separate a through lane from a lane drop at normal exit ramp and from an auxiliary lane between an entrance and exit ramp.



DETAIL A



DETAIL B

Wide (12") Dotted Lane Line (See Note 3)

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS LANE DROP (EXIT ONLY) EXIT RAMPS

FPM(3)-12

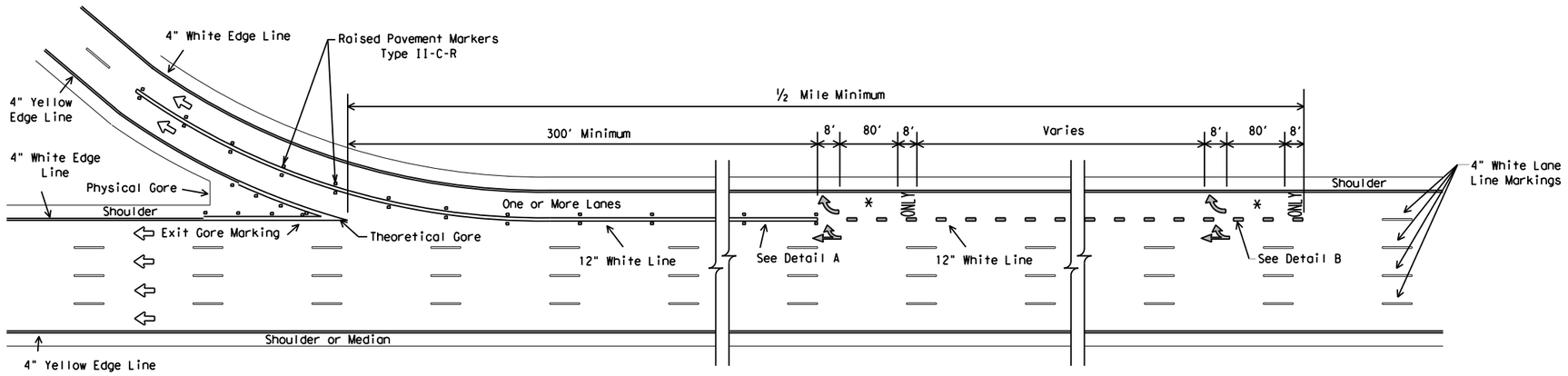
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS
5-00
8-00
2-10
2-12

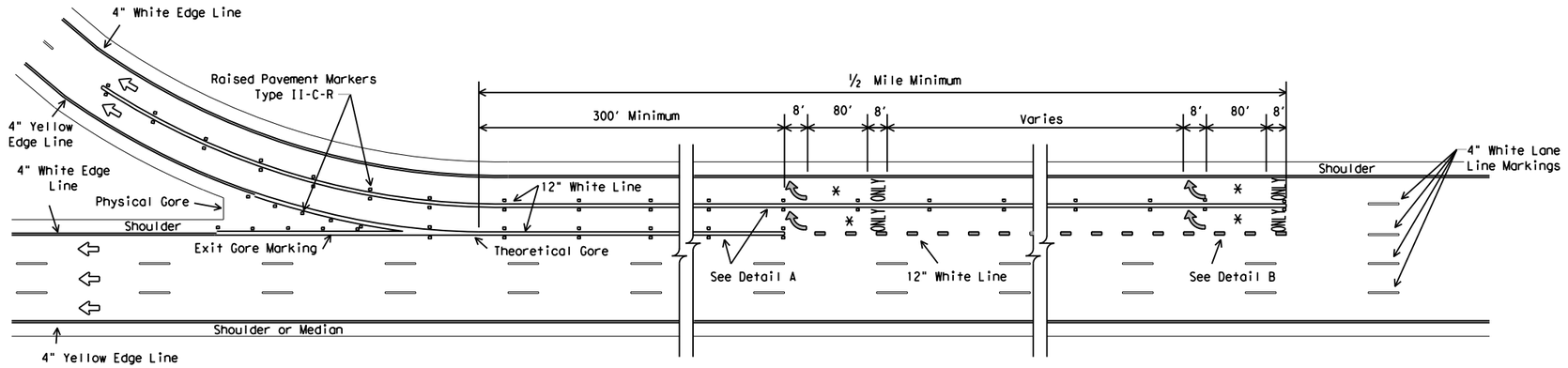
CONT	SECT	JOB	HIGHWAY
0079	05	061	US67,ETC.
DIST	COUNTY		SHEET NO.
FTW	ERATH,ETC.		51

DATE:
FILE:

23C



MULTIPLE LANE EXIT - EXIT ONLY WITH OPTION LANE

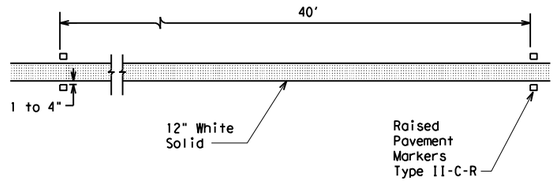


MULTIPLE LANE EXIT ONLY

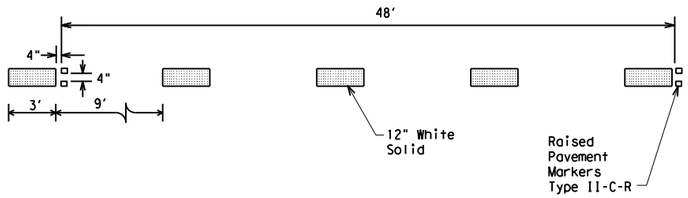
LEGEND	
⇦	Denotes direction of traffic
	Pavement marking arrow (white)
	Optional Pavement Marking Arrows (white)
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

GENERAL NOTES

1. Pavement markings shall be white except as otherwise noted.
2. Length of 12" white line may vary depending on location.
3. Wide (12") Dotted Lane Line (See Detail B) is used to separate a through lane from a lane drop at normal exit ramp and from an auxiliary lane between an entrance and exit ramp.



DETAIL A



DETAIL B

Wide (12") Dotted Lane Line (See Note 3)

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS LANE DROP (EXIT ONLY) DETAILS

FPM(4)-12

REVISIONS
5-00
8-00
2-10
2-12

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

CONT	SECT	JOB	HIGHWAY
0079	05	061	US67,ETC.
DIST	COUNTY		SHEET NO.
FTW	ERATH,ETC.		52

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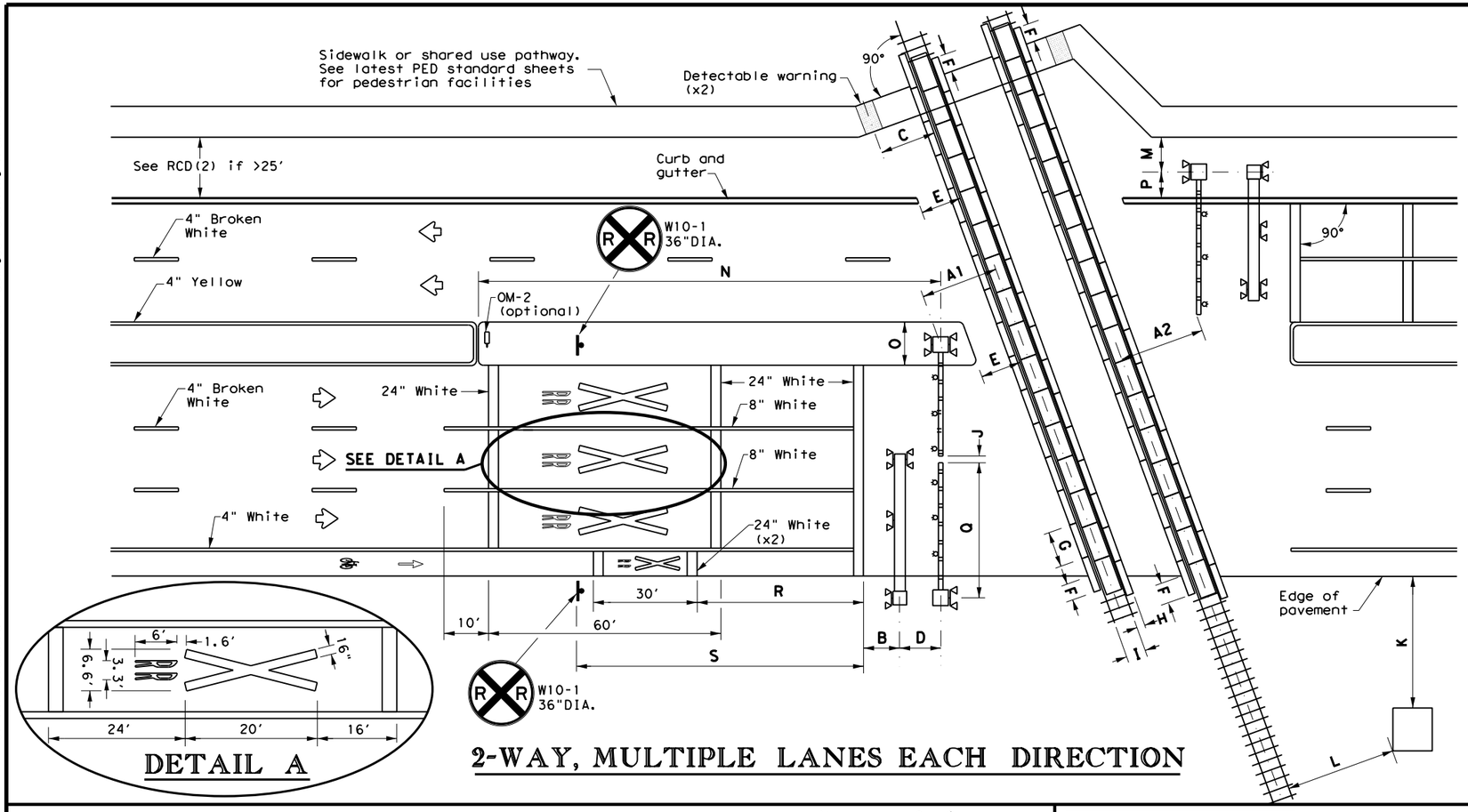


2-WAY, MULTIPLE LANES EACH DIRECTION

DETAIL A

NOTES

A1: Center of RR mast to center of rail: 12' minimum, 15' typical.

A2: Tip of gate to center of rail: 12' minimum, 15' typical.

B: Center of mast (cantilever, gate, or mast flasher) of nearest active traffic control device to stop line: 8' (NOTE: Stop line may be moved as needed, but should be at least 8' back from gates, if present).

C: Center of detectable warning device to nearest rail: 6' minimum

D: Center of gate mast to center of cantilever mast: 6' typical. NOTE: Cantilever may be located in front or behind gates.

E: Edge of median or curb to nearest rail: 10' typical. NOTE: Design median edge to be parallel with rail.

F: Edge of planking panel from edge of pavement or sidewalk: 3' minimum. NOTE: Field panels need not be in line with gauge panels.

G: Length of panels along rail: 8' typical.

H: Width of field panel: 2' typical (check with railroad company).

I: Distance between rails: 4'-8.5".

J: Tip of gate to tip of gate: 2' maximum for Quiet Zone SSM or 90% of traveled way covered by gates for all other locations.

K: Nearest edge of RR cabin from edge of pavement: 30' typical. NOTE: Cabinet not required to be parallel to edge of pavement.

L: Nearest edge of RR cabin from nearest rail: 25' typical.

M: Center of RR mast to edge of sidewalk: 6' minimum.

N: Center of gate mast to leading edge of non-traversable median: 100' minimum to qualify as a Quiet Zone SSM. NOTE: 60'will suffice if there is a street intersection within the 100' and all street intersections within 60' are closed.

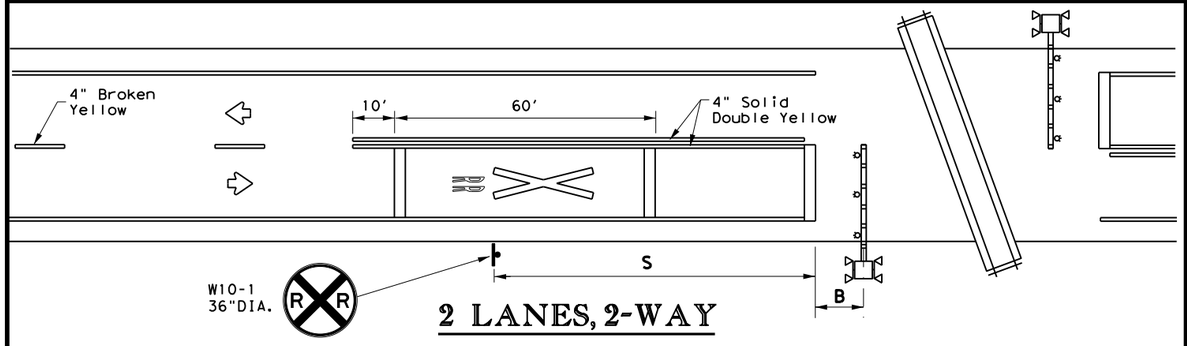
O: Width of median: 8'-6" minimum, 10' typical when using median gates. NOTE: Center of gate mast minimum 4'-3" from face of curb.

P: Center of RR mast to face of curb: 4'-3" minimum.
Center of RR mast to edge of pavement (with shoulder): 6' minimum
Center of RR mast to edge of pavement (no shoulder): 8'-3" minimum
NOTE: BNSF prefers 5'-3", 7', and 9'-3" minimums, respectively.

Q: Gate length: 28' or less typical, but railroad company may allow up to 32'under special circumstances.

R: Stop line to first RR Crossing transverse line (bike lane): 50' typical.

S: Stop line to GRADE CROSSING ADVANCE WARNING (W10-1) sign and adjacent RR Crossing pavement markings. See Table 1. See RCD(2) for other signs.



2 LANES, 2-WAY

TABLE 1	
Approach Speed (mph)	Desirable Placement (feet)
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550
75	650

LEGEND	
	Sign
	Object Marker
	Traffic Flow
	Cantilever
	Gate Assembly
	Mast Flasher Pair

GENERAL NOTES

1. Medians and curbs must be non-traversable to qualify as a Quiet Zone Supplementary Safety Measure (SSM). Non-traversable curbs in Quiet Zones are 6" tall minimum and used on roadways where speed does not exceed 40 mph.
2. Raised pavement markers may be used to supplement striping. See PM(2) and PM(3) standard sheets.
3. Medians preferred whenever possible to prevent vehicles from driving around gates.
4. Longitudinal edge striping may be continued thru crossing as needed. Illumination may also be considered for nighttime visibility.
5. See SMD standard sheets for sign mounting details.
6. See the Standard Highway Sign Design for Texas (SHSD) manual for sign and pavement marking details.

1-WAY STREET WITH CURB

NOTES

T: Tip of gate to edge of curb: 1' max for Quiet Zone SSM, 90% of traveled way covered by gates for all other locations

U: Non-traversable curb length from gate: 100' min. for a Quiet Zone SSM, 10' min for all other locations.

CROSSING SURFACE CROSS SECTION

Texas Department of Transportation

Traffic Operations Division Standard

RAILROAD CROSSING DETAILS SIGNING, STRIPING, AND DEVICE PLACEMENT RCD(1)-16

FILE: rcd1-16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT FEBRUARY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		53

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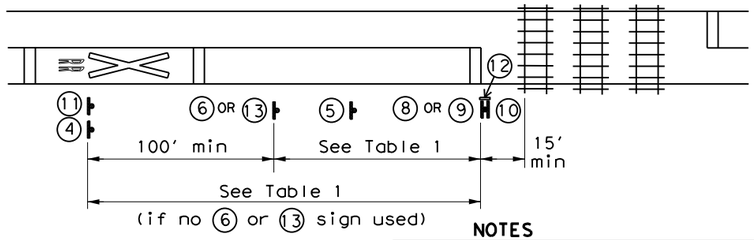
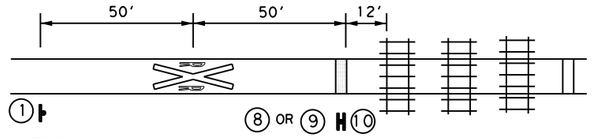


NOTES

1. Stop or yield sign may also be installed to the left of the crossbuck sign, rather than below it.
2. A 2" white retroreflective strip shall be installed on front and back of crossbuck sign post.

PASSIVE CROSSING



NOTES

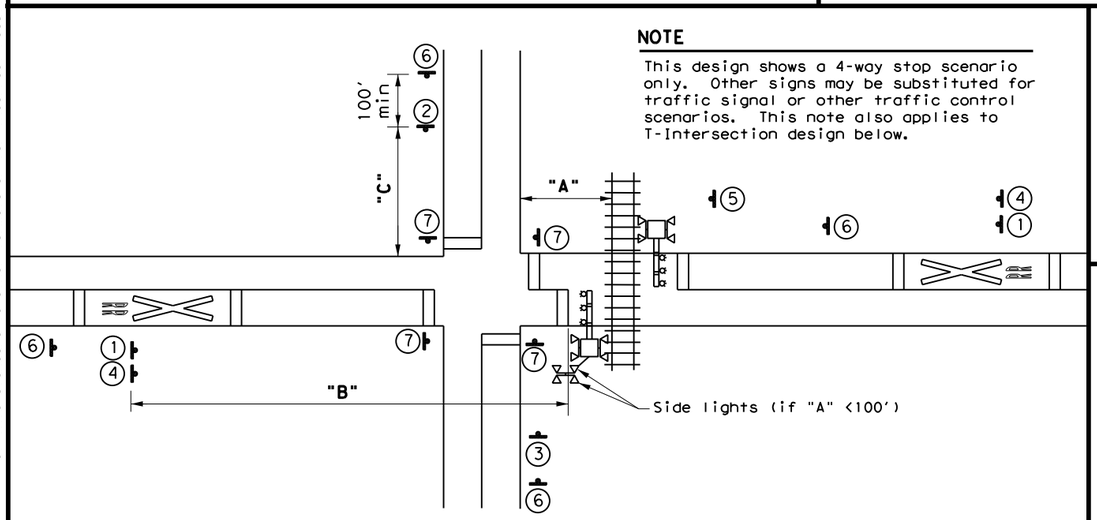
1. A shared use pathway is considered a separate pathway crossing when more than 25' from traveled way of adjacent roadway.
2. Detectable warning used at stop bar.
3. Smaller sign sizes preferred than shown to the right on this sheet.

PATHWAY CROSSING

TABLE 1	
Approach Speed (mph)	Desirable Placement (feet)
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550
75	650

GENERAL NOTES

1. Railroad company to provide active traffic control devices, CROSSBUCK (R15-1), NUMBER OF TRACKS Plaque (R15-2P) (if more than 1 track), and EMERGENCY NOTIFICATION (I-13) signs.
2. LOW GROUND CLEARANCE (W10-5) signs may be relocated further upstream of crossing to provide advance warning of alternate route.
3. GRADE CROSSING AND INTERSECTION ADVANCE WARNING (W10-2) signs may be modified as needed to fit roadway geometry.
4. Table 1 placement distances may vary per Sect. 2C.05 of the TMUTCD.
5. See Table 1 to determine placement of STOP AHEAD (W3-1) and YIELD AHEAD (W3-2) signs unless shown otherwise.
6. DO NOT STOP ON TRACKS (R8-8) signs installed when potential for vehicles stopping on tracks is significant as determined by sealing engineer. Install so sign does not block view of RR mast.
7. See the Standard Highway Sign Design for Texas (SHSD) manual for sign and pavement marking details.

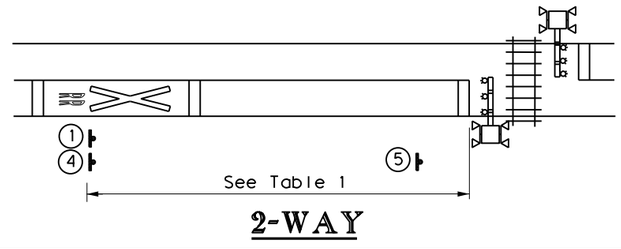


NOTE

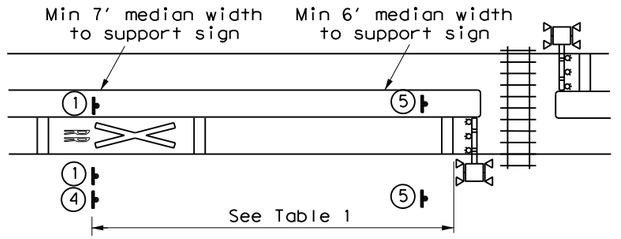
This design shows a 4-way stop scenario only. Other signs may be substituted for traffic signal or other traffic control scenarios. This note also applies to T-Intersection design below.

	"A" <100'	"A" ≥100'
"B"	See Table 1. Place pavement markings and signs on opposite side of intersection from rail if spacing from Table 1 would put markings within intersection.	See Table 1. Place pavement markings and signs between rail and intersection if spacing from Table 1 would put markings within intersection.
"C"	See Table 1.	GRADE CROSSING AND INTERSECTION ADVANCE WARNING (W10-2, W10-3, W10-4) signs should only be installed if W10-1 sign is not between intersection and railroad crossing. If needed, see Table 1.

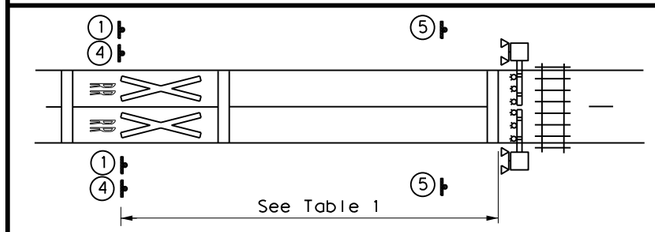
GRADE CROSSING NEAR A PARALLEL STREET



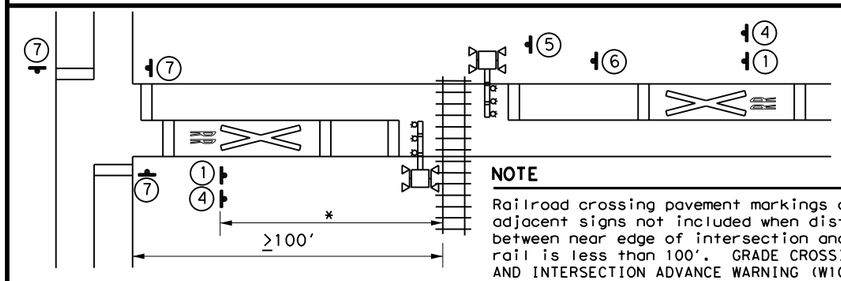
2-WAY



2-WAY WITH MEDIAN



1-WAY

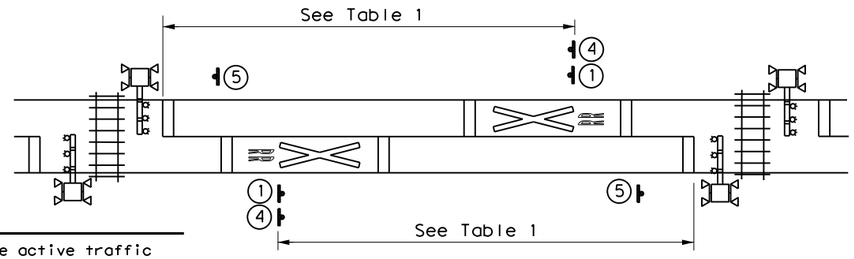


*Use Table 1 if sufficient space exists.

NOTE

Railroad crossing pavement markings and adjacent signs not included when distance between near edge of intersection and near rail is less than 100'. GRADE CROSSING AND INTERSECTION ADVANCE WARNING (W10-3) signs installed on roadway parallel with rail in this case.

T-INTERSECTION

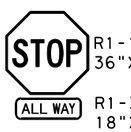


NOTE

Separate active traffic control devices, railroad crossing pavement markings, and adjacent signs required when tracks are more than 100' apart.

2 ADJACENT CROSSINGS

SIGNS

**  1 W10-1 36"DIA.	**  2 W10-2L 36"X36"	**  3 W10-2R 36"X36"	IF NEEDED  4 W10-5 36"X36" LOW GROUND CLEARANCE W10-5P 30"x24"	
IF NEEDED  5 R8-8 24"X30"	IF NEEDED  6 W3-1 30"X30"	 STOP R1-1 36"X36" ALL WAY R1-3P 18"X6" 7	RAIL CROSSING ROAD 3 TRACKS R15-1 48"X9" R15-2P 27"X18"  STOP R1-1 36"X36" 8	
RAIL CROSSING ROAD 3 TRACKS R15-1 48"X9" R15-2P 27"X18"  YIELD 9 R1-2 48"X48"X48"	RAIL CROSSING ROAD 3 TRACKS R15-1 48"X9" R15-2P 27"X18" 10	 NO GATES OR LIGHTS W10-1 36"DIA. W10-13P 30"X24" 11 **	REPORT EMERGENCY OR PROBLEM 1-800-555-5555 CROSSING 836 597 H Sign may be placed perpend. to travel lanes. 12 I-13 15"X9"	
IF NEEDED  13 W3-2 30"X30"	** Includes a NO TRAIN HORN Plaque (W10-9P) if crossing is in a Quiet Zone. LOW GROUND CLEARANCE Plaque (W10-5P) if needed is mounted below W10-2/W10-3/W10-4 signs.			
NO TRAIN HORN W10-9P 30"X24"	LOW GROUND CLEARANCE W10-5P 30"X24"			

Texas Department of Transportation — Traffic Operations Division Standard

RAILROAD CROSSING DETAILS SIGNING & STRIPING

RCD(2)-16

FILE: rcd2-16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT FEBRUARY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		54

DATE:
FILE:

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

WORKER SAFETY NOTES:

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

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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

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

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

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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4-03 7-13	DIST	COUNTY		SHEET NO.
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5-10 5-21				

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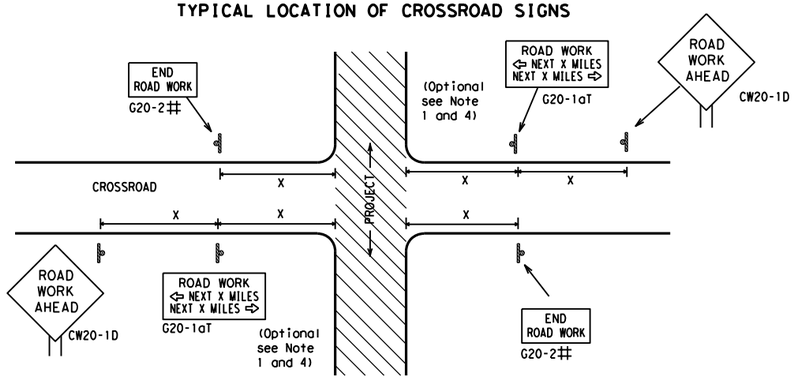
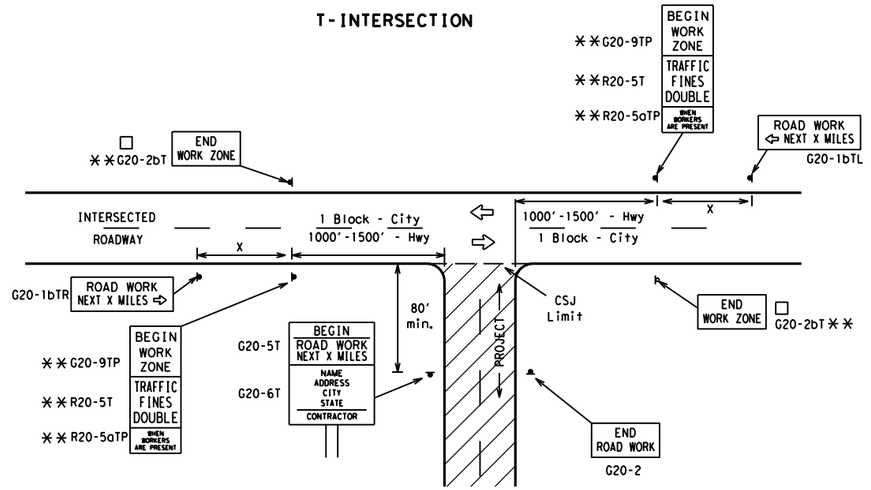
TYPICAL LOCATION OF CROSSROAD SIGNS



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

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

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

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

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

SIZE

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

SPACING

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

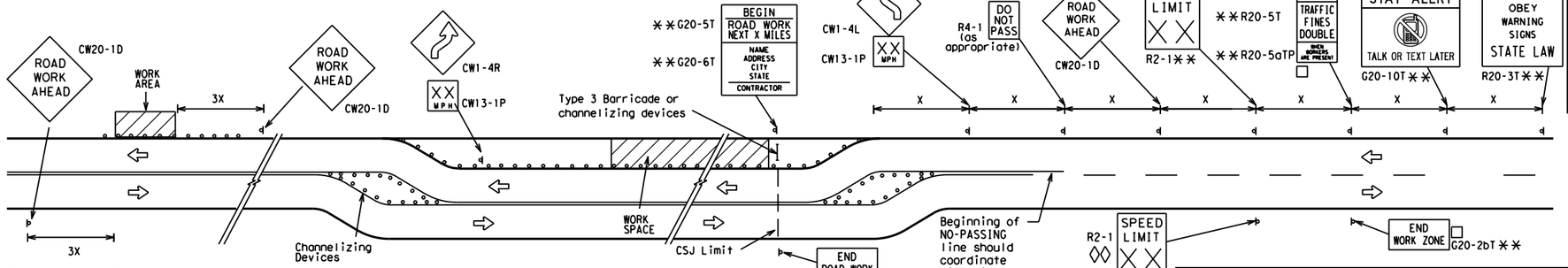
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

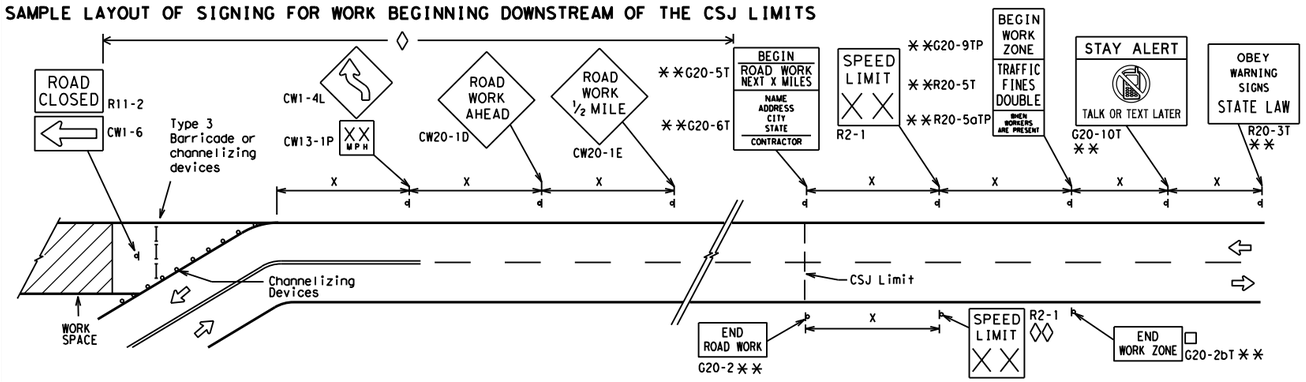
1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may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

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



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

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



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT 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.

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
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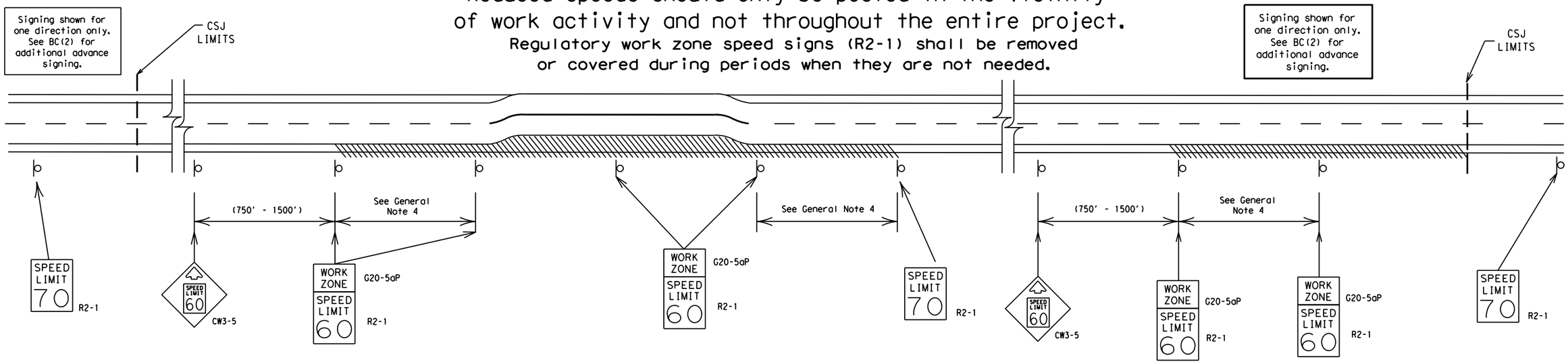
TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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

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

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



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

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

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

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

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

SHORT TERM WORK ZONE SPEED LIMITS

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

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

GENERAL NOTES

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

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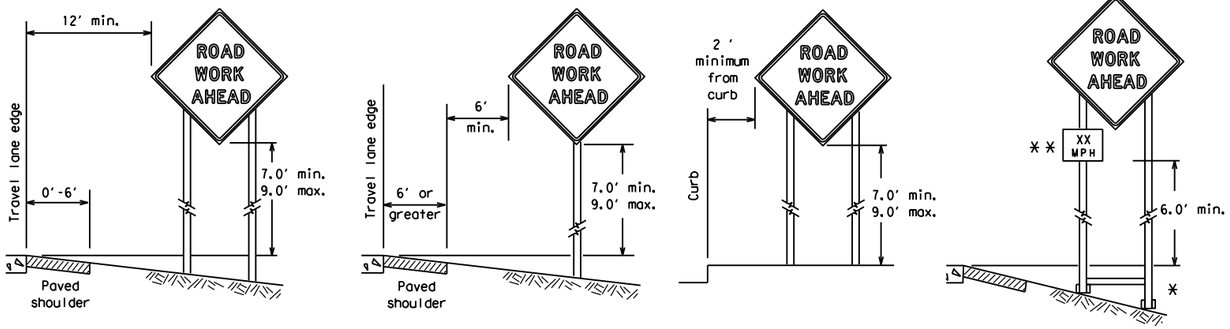
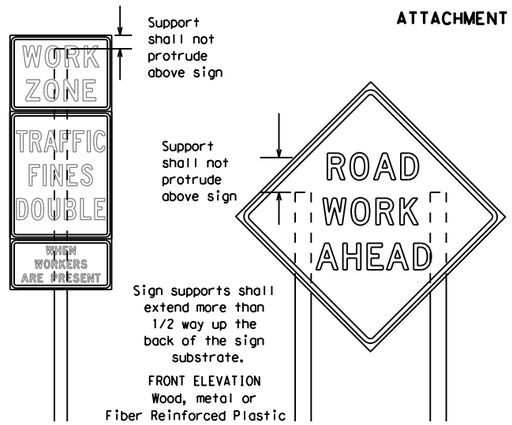
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

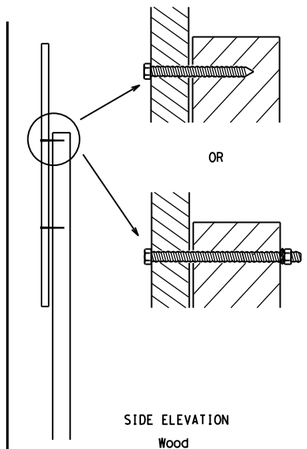


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

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

ATTACHMENT FOR SIGN SUPPORTS





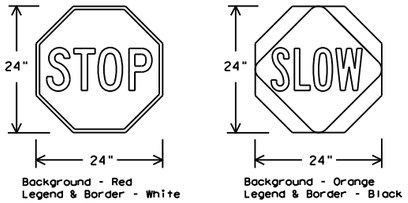
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

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

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

STOP/SLOW PADDLES

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



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

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

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

GENERAL NOTES FOR WORK ZONE SIGNS

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

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

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

SIGN MOUNTING HEIGHT

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

SIZE OF SIGNS

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

SIGN SUBSTRATES

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

REFLECTIVE SHEETING

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

SIGN LETTERS

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

REMOVING OR COVERING

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

SIGN SUPPORT WEIGHTS

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

FLAGS ON SIGNS

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

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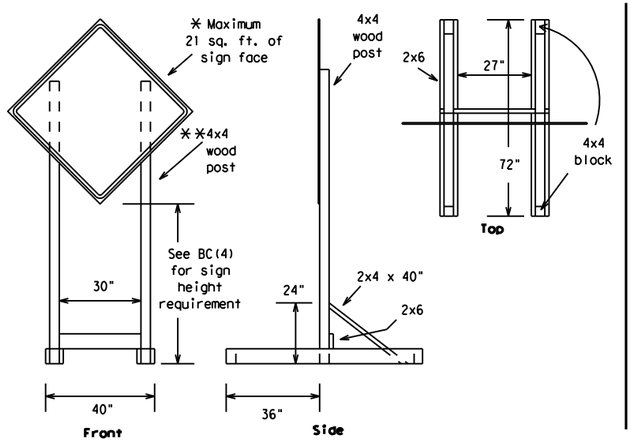
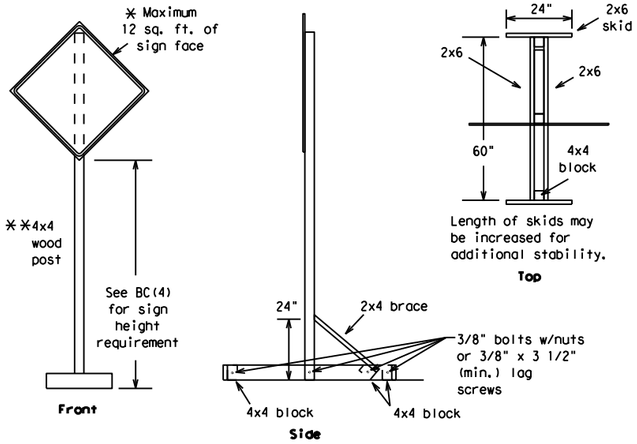
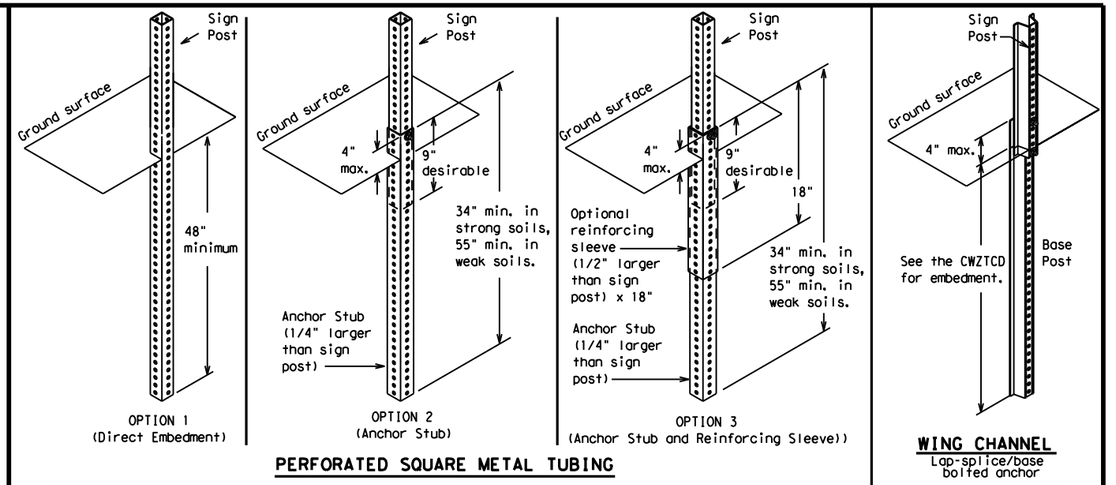




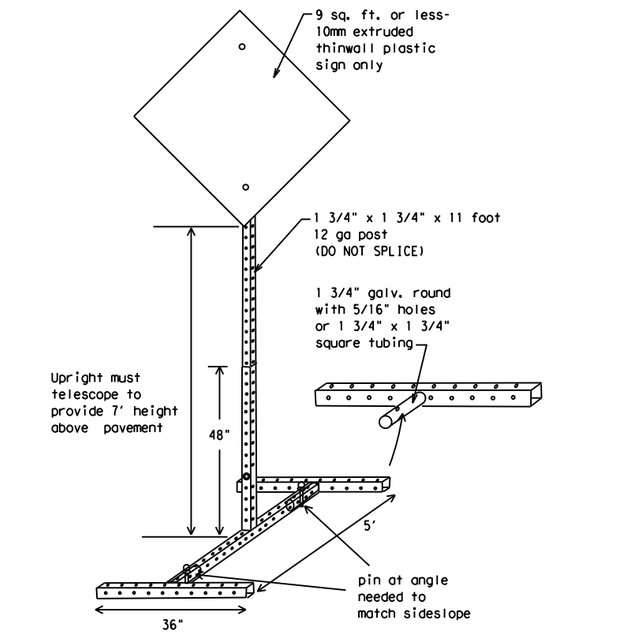
SKID MOUNTED WOOD SIGN SUPPORTS

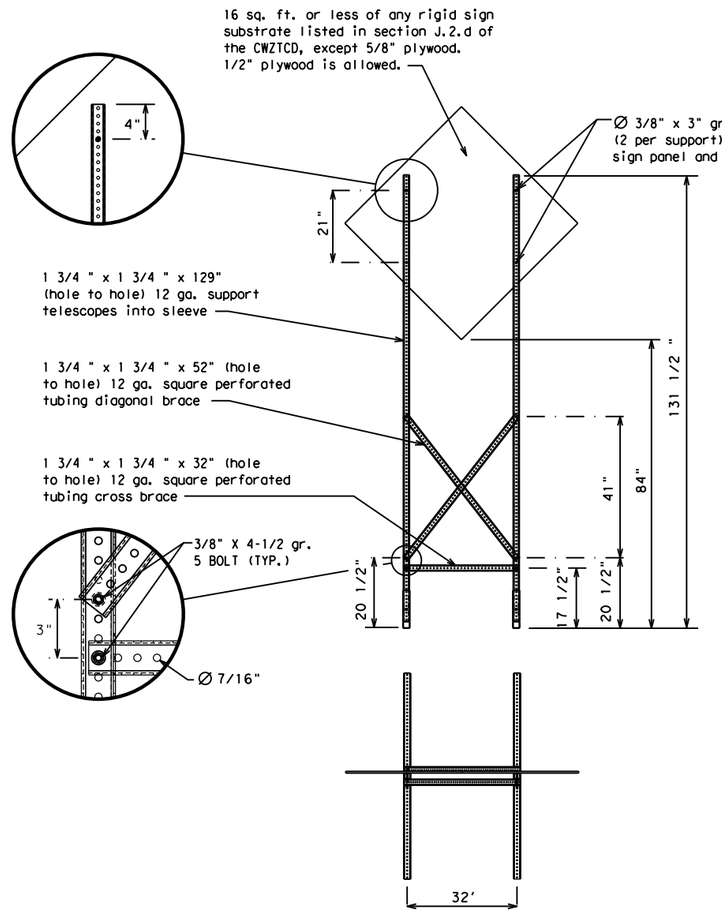
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

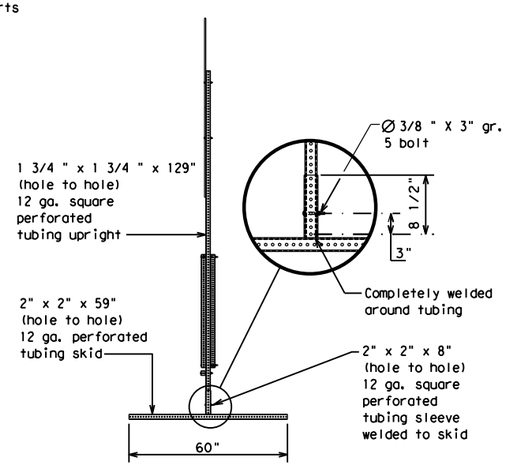


GROUND MOUNTED SIGN SUPPORTS

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







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

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

WEDGE ANCHORS

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

OTHER DESIGNS

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

GENERAL NOTES

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

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

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

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

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BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

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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.

Texas Department of Transportation

Traffic Safety Division Standard

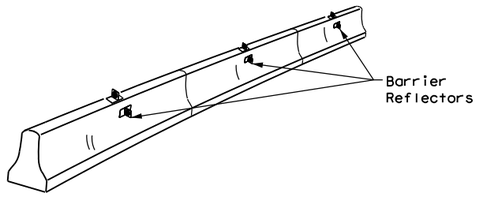
BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

FILE:	bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS		0079	05	061	US67,ETC.
9-07 8-14		DIST	COUNTY		SHEET NO.
7-13 5-21		FTW	ERATH,ETC.		60

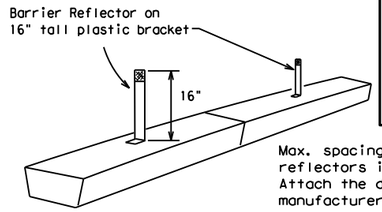
DATE:
FILE:

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



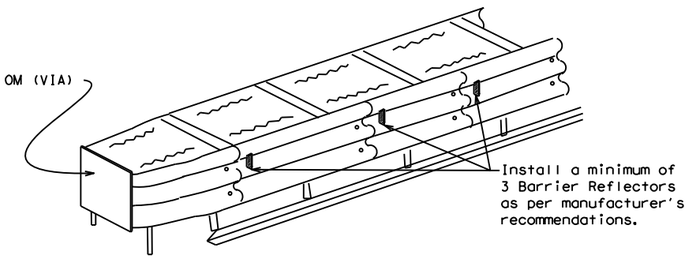
CONCRETE TRAFFIC BARRIER (CTB)

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



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

LOW PROFILE CONCRETE BARRIER (LPCB)



DELINEATION OF END TREATMENTS

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

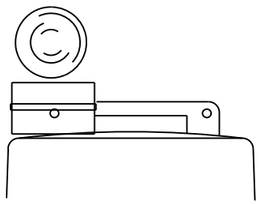
LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

END TREATMENTS FOR CTB'S USED IN WORK ZONES

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

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

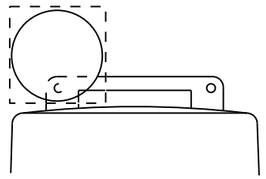
WARNING LIGHTS



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

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

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS



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

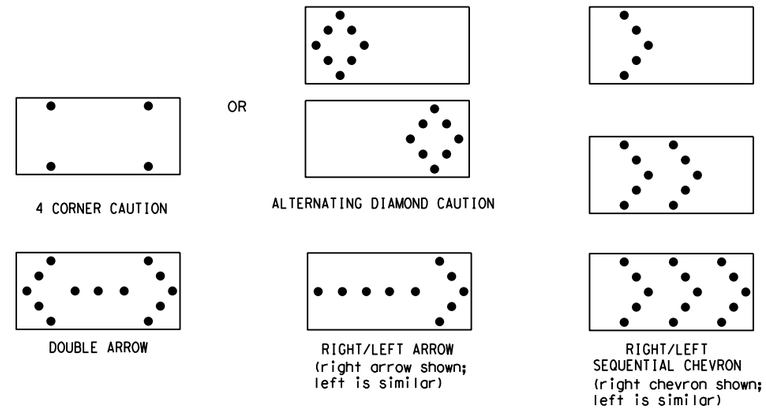
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing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

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

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

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

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



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

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

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

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

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

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

Texas Department of Transportation

Traffic Safety Division Standard

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

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	ERATH,ETC.		61

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GENERAL NOTES

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

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

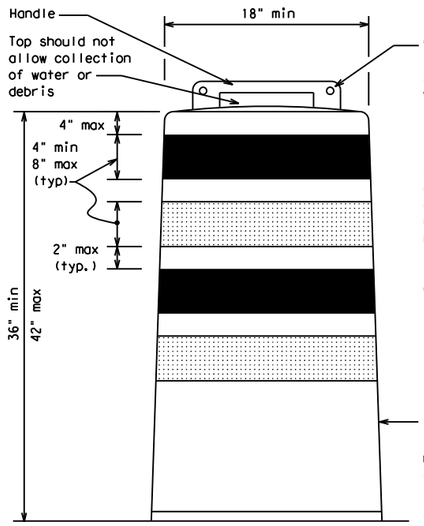
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents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

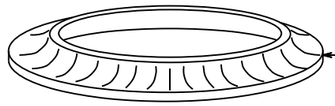
RETROREFLECTIVE SHEETING

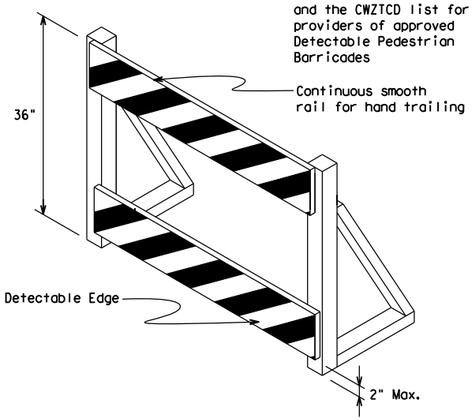
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall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

BALLAST

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

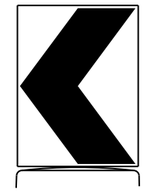




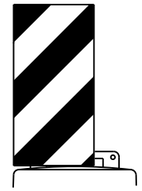


DETECTABLE PEDESTRIAN BARRICADES

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



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



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

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

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

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

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS	0079	05	061	US67,ETC.
4-03 8-14	DIST	COUNTY		SHEET NO.
9-07 5-21	FTW	ERATH,ETC.		62
7-13				

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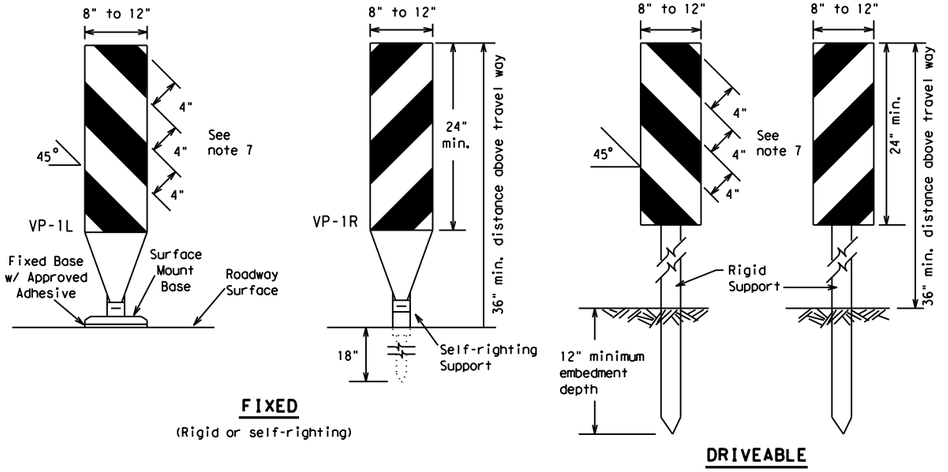
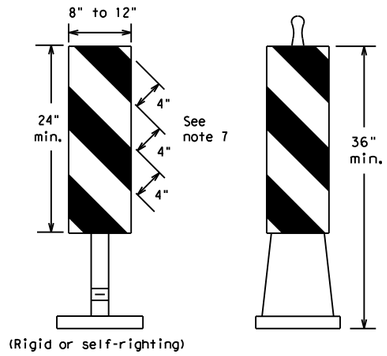


FIXED
(Rigid or self-righting)

DRIVEABLE

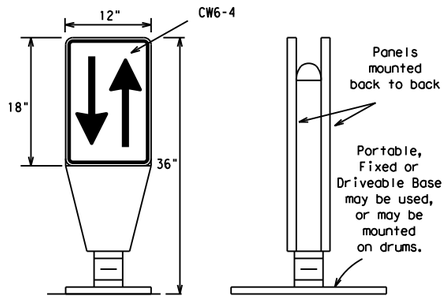


(Rigid or self-righting)

PORTABLE

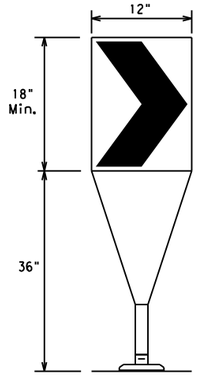
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is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

VERTICAL PANELS (VPs)



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

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



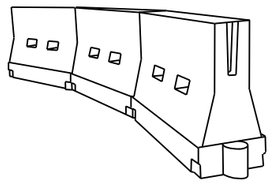
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

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

CHEVRONS

GENERAL NOTES

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



LONGITUDINAL CHANNELIZING DEVICES (LCD)

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

WATER BALLASTED SYSTEMS USED AS BARRIERS

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

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

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

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

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

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

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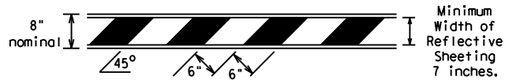
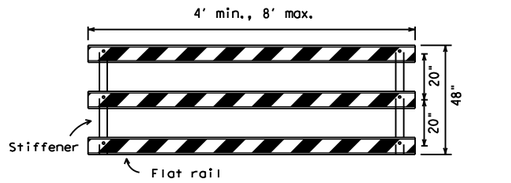
TYPE 3 BARRICADES

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

Barricades shall NOT be used as a sign support.



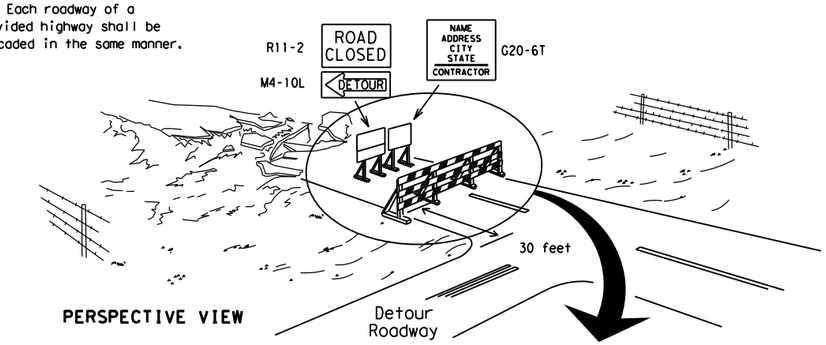
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



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

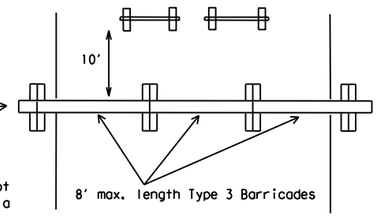
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

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



PERSPECTIVE VIEW

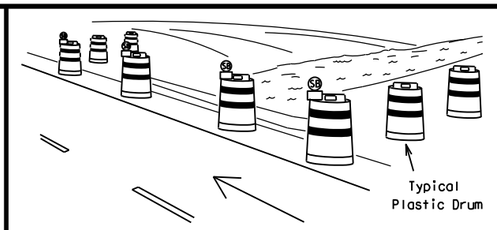
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

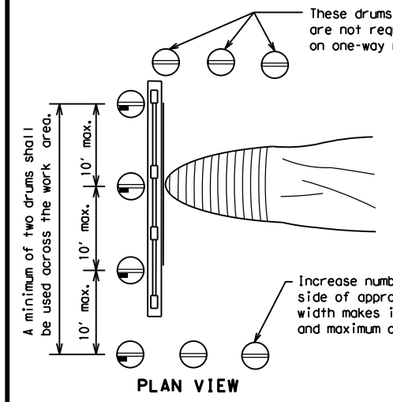
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

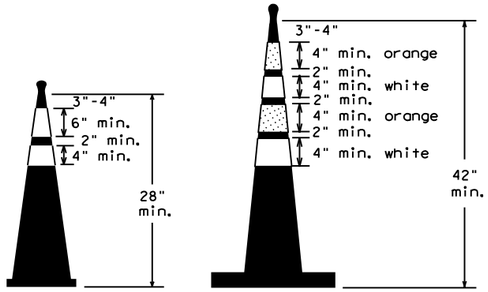
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder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



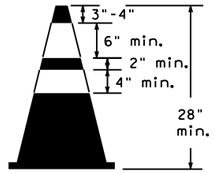
PLAN VIEW

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

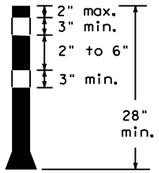
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

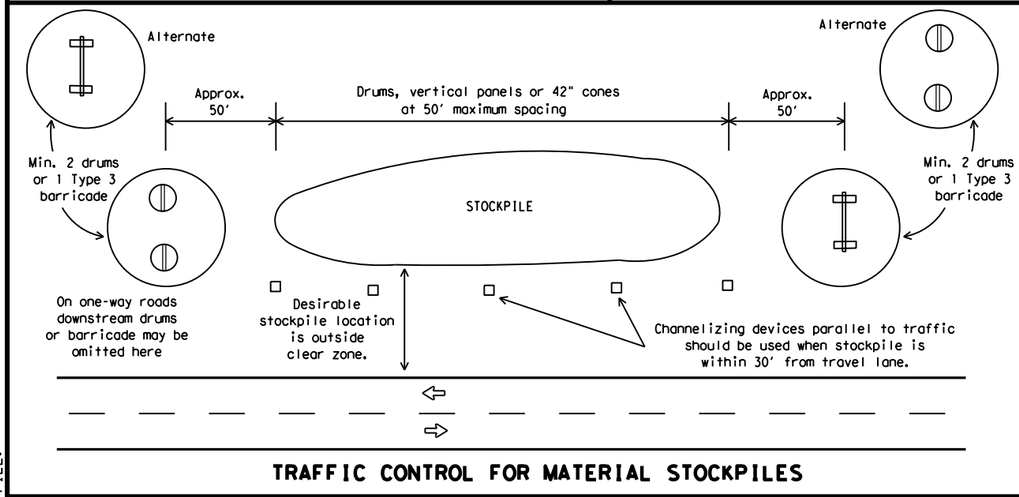


Tubular Marker

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

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

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



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

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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.

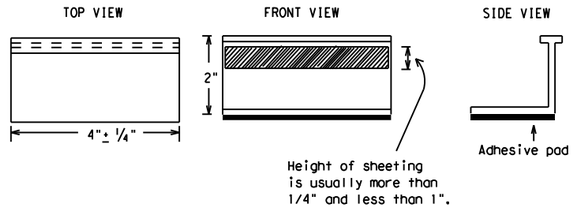
MAINTAINING WORK ZONE PAVEMENT MARKINGS

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).

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

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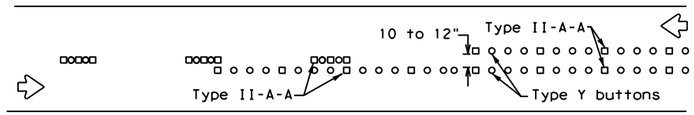
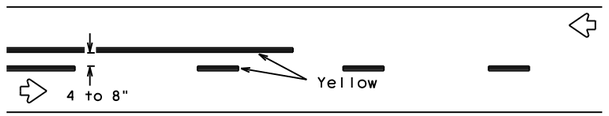
PAVEMENT MARKING PATTERNS

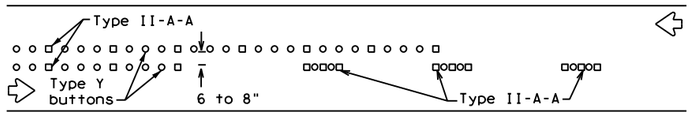
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



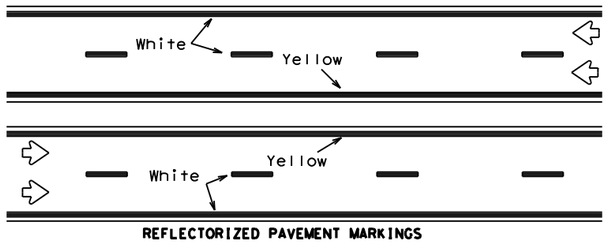
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



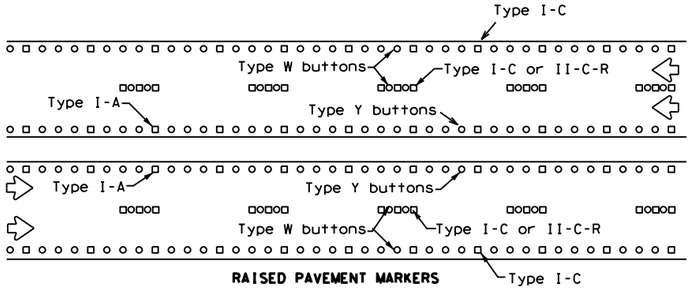
RAISED PAVEMENT MARKERS - PATTERN B

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

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



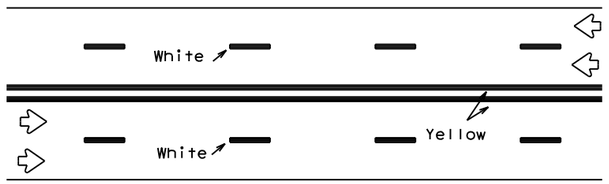
REFLECTORIZED PAVEMENT MARKINGS



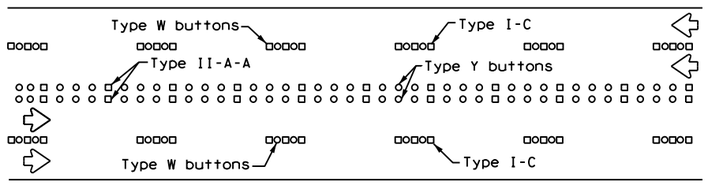
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



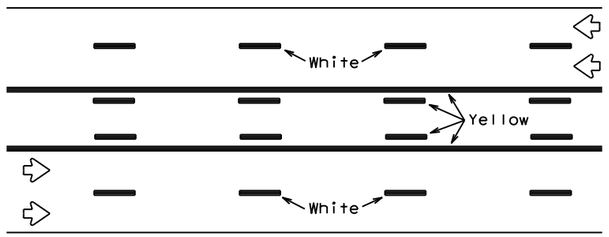
REFLECTORIZED PAVEMENT MARKINGS



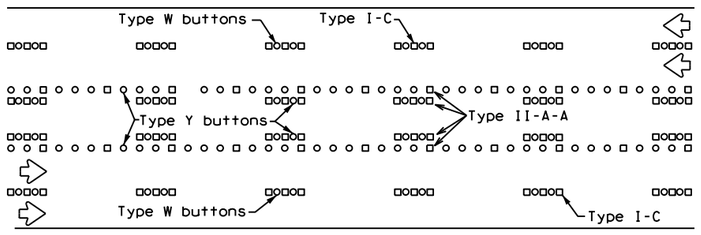
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

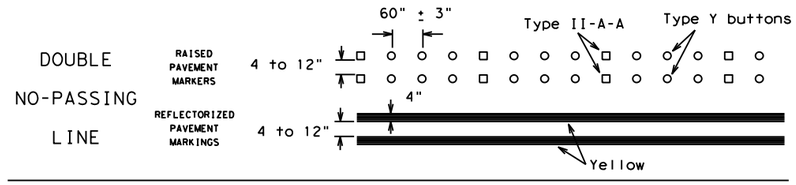
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

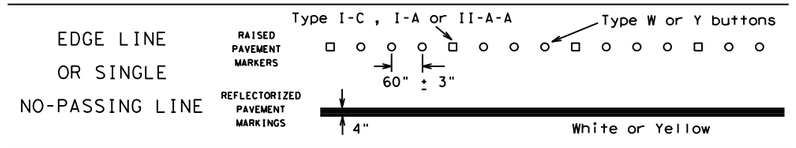
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

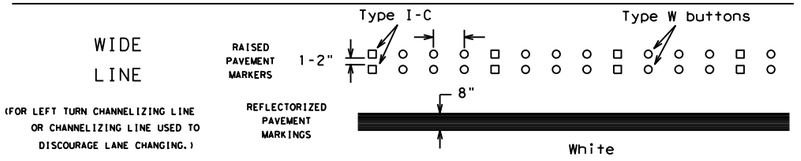


EDGE LINE OR SINGLE NO-PASSING LINE



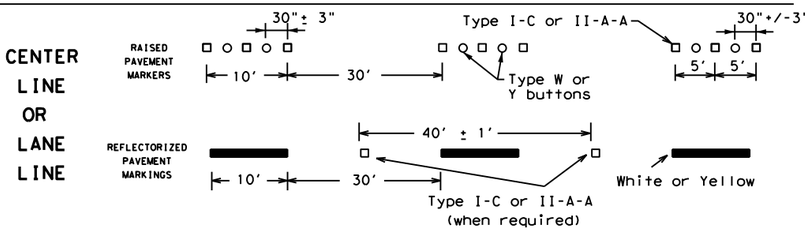
WIDE LINE

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

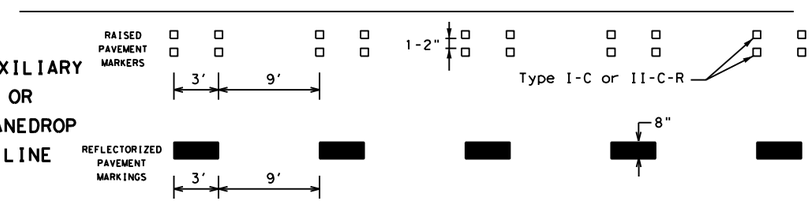


BROKEN LINES

CENTER LINE OR LANE LINE

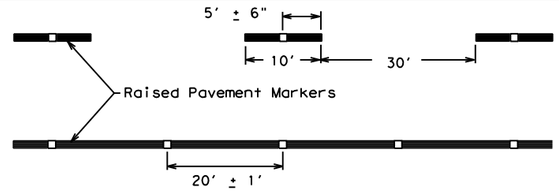


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

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



Centerline only - not to be used on edge lines

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

SHEET 12 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

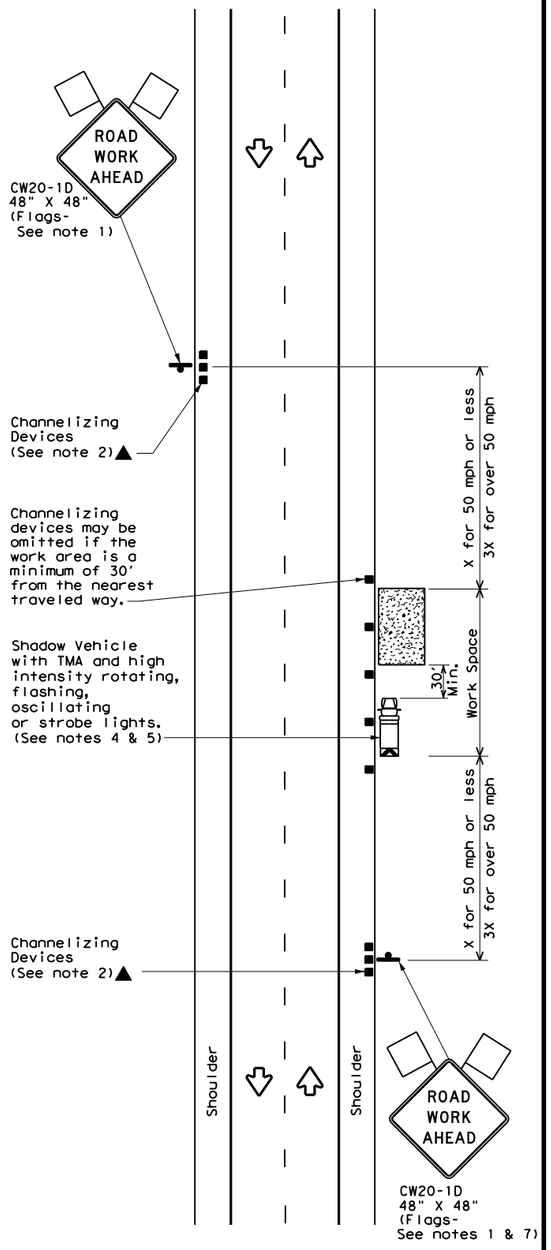
BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

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	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		66

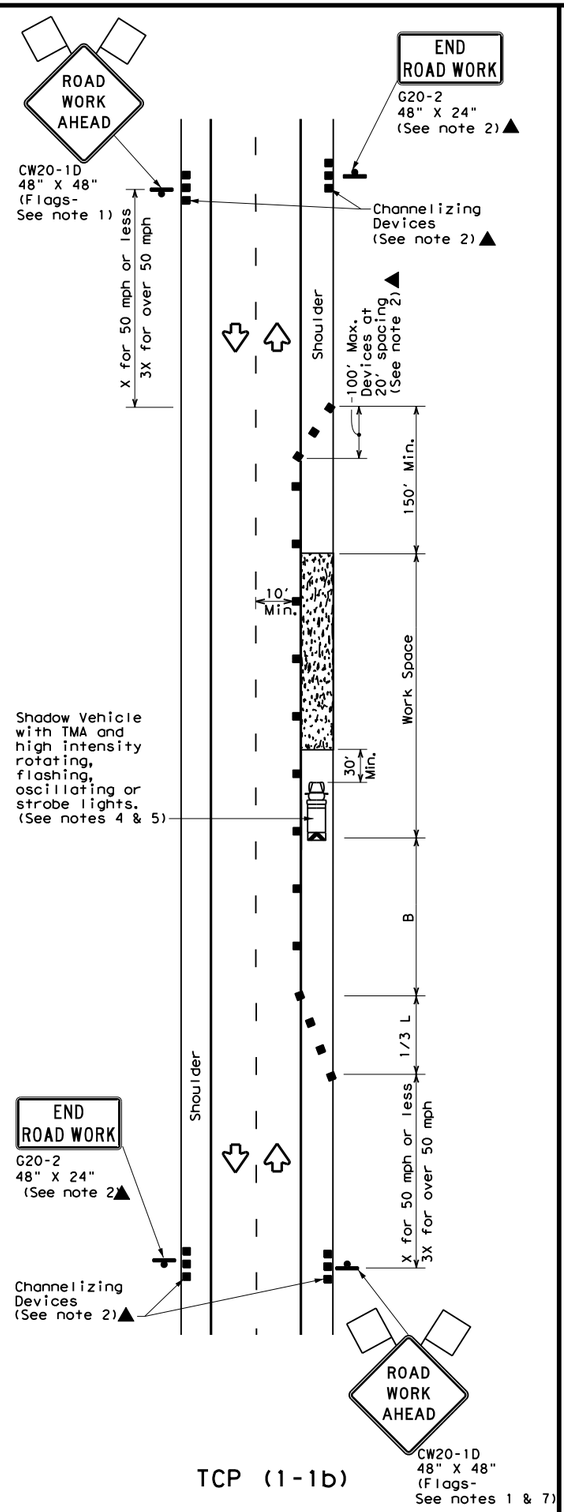
106

DATE:
FILE:



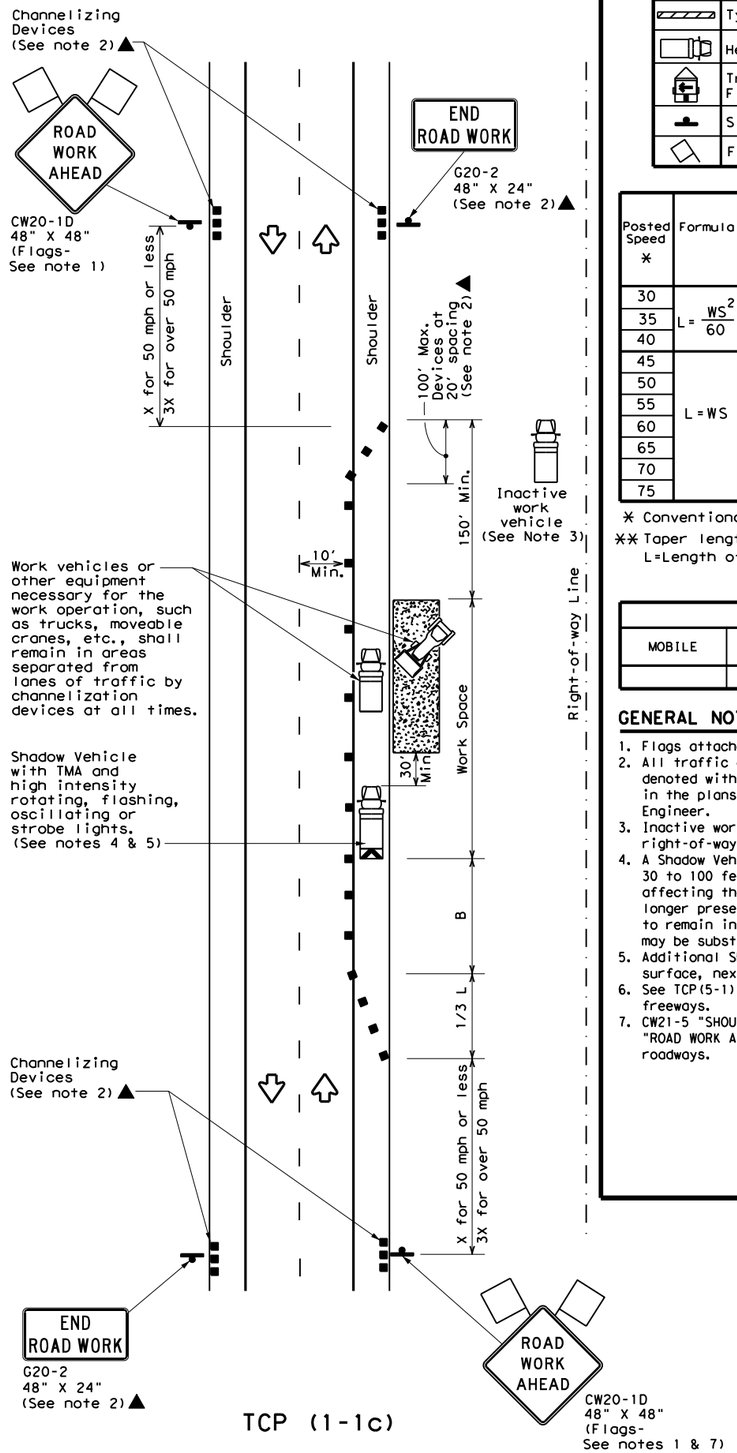
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. 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 wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. 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

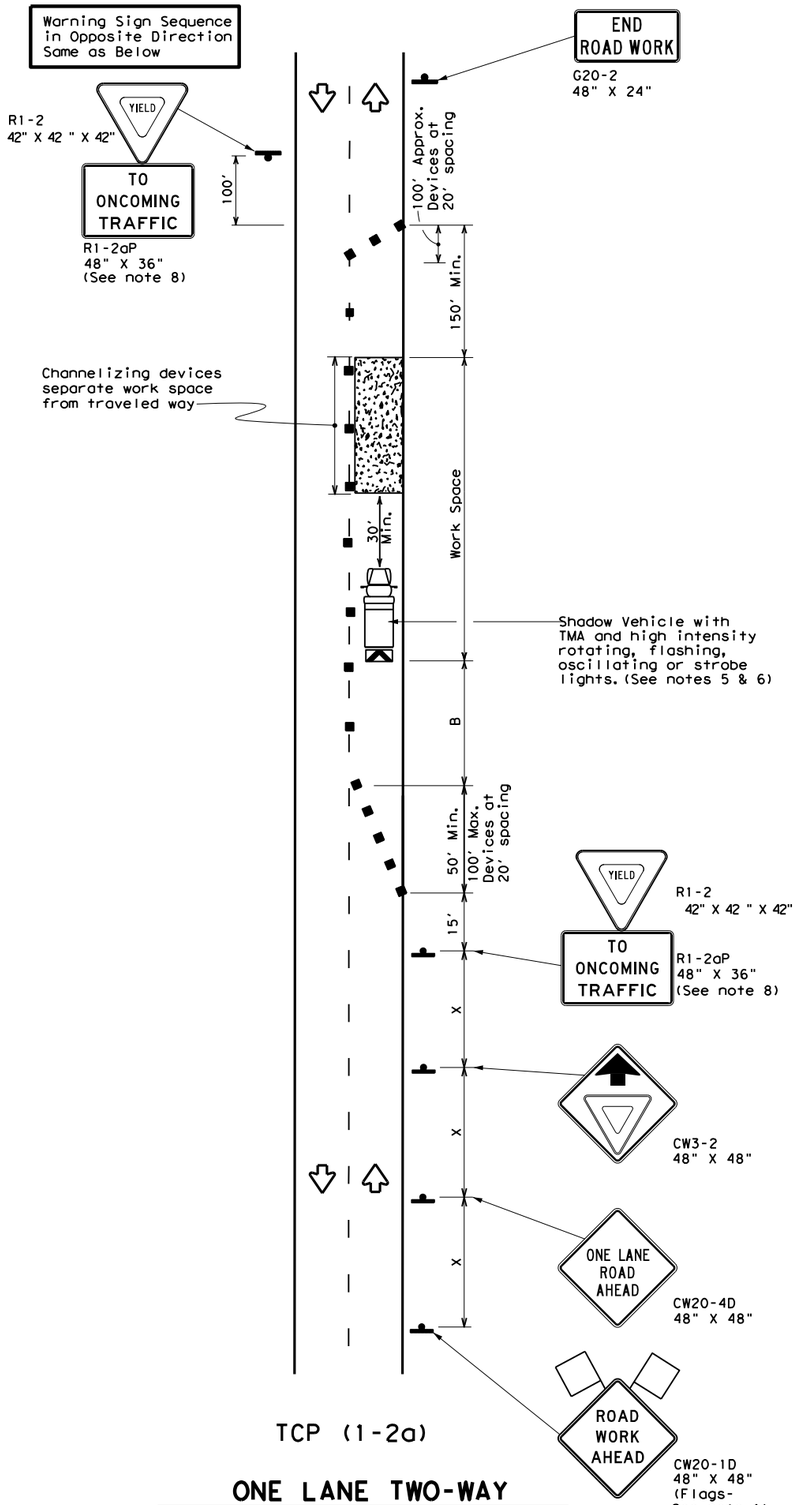
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(1-1)-18

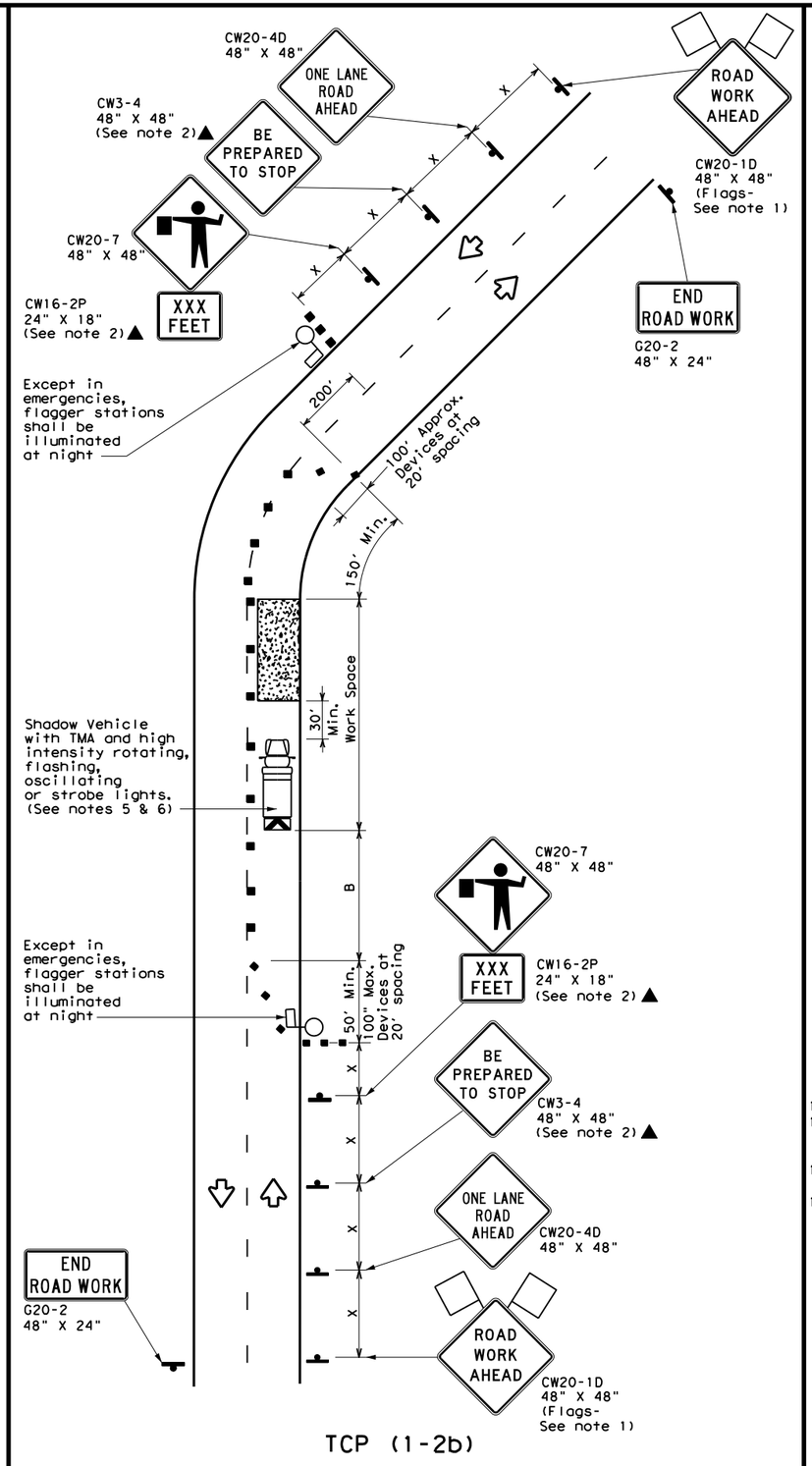
FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		67

DATE:
FILE:



TCP (1-2a)

ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L = WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

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

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

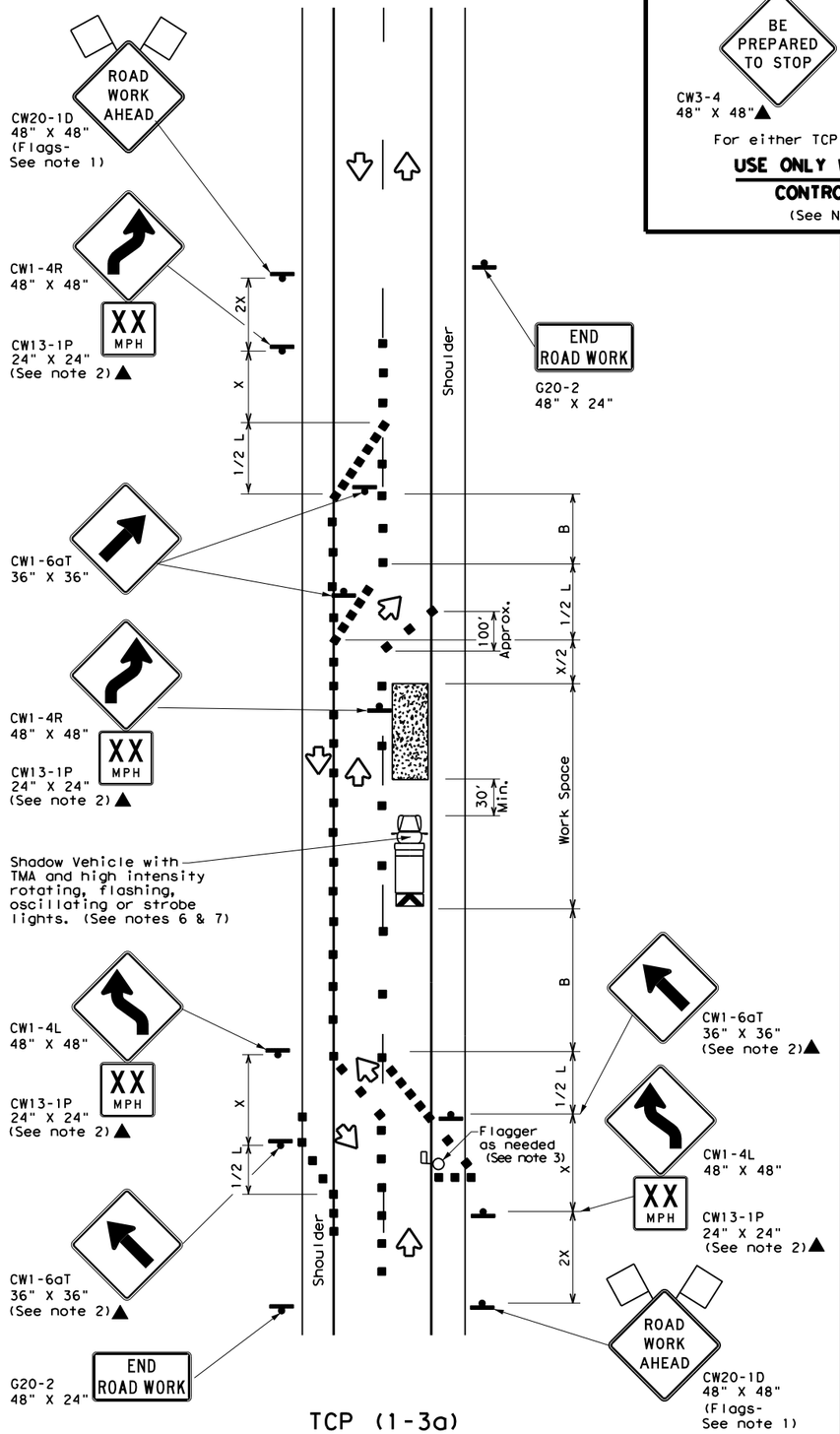
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(1-2)-18

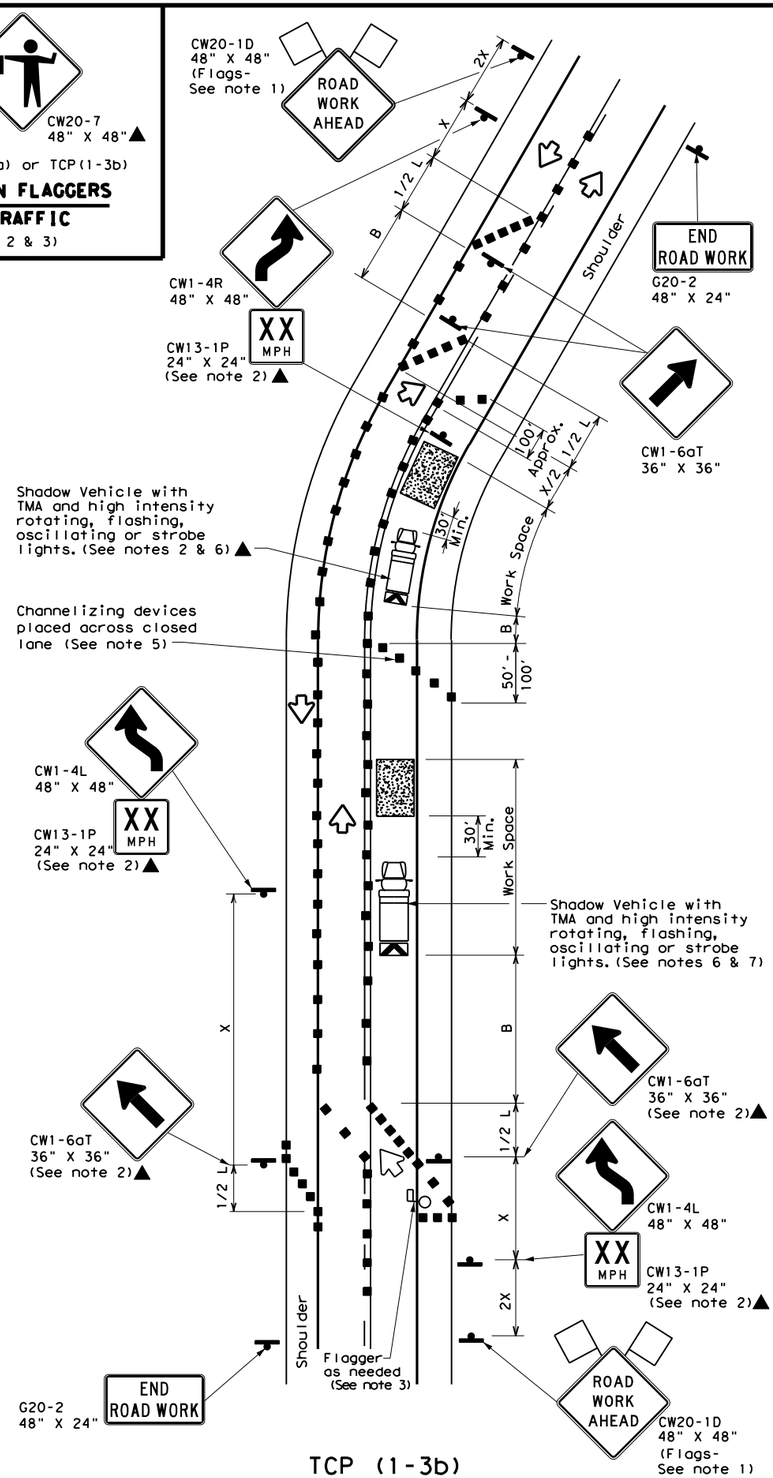
FILE: tcp1-2-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
4-90 4-98	DIST	COUNTY		SHEET NO.
2-94 2-12	FTW	ERATH,ETC.		68
1-97 2-18				

DATE:
FILE:



TCP (1-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
ADEQUATE FIELD OF VIEW



TCP (1-3b)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
INADEQUATE FIELD OF VIEW

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Additional flaggers may be positioned in advance of traffic queues to alert traffic to reduce speed.
4. DO NOT PASS, PASS WITH CARE and construction regulatory speed zone signs may be installed downstream of the ROAD WORK AHEAD signs.
5. When the work zone is made up of several work spaces, channelizing devices should be placed laterally across the closed lane to re-emphasize closure. Laterally placed channelizing devices should be repeated every 500 to 1000 feet in urban areas and every 1/4 to 1/2 mile in rural areas.
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 wider work spaces.
8. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20', or 15' if posted speed are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the area of conflicting markings not the entire work zone.

Texas Department of Transportation

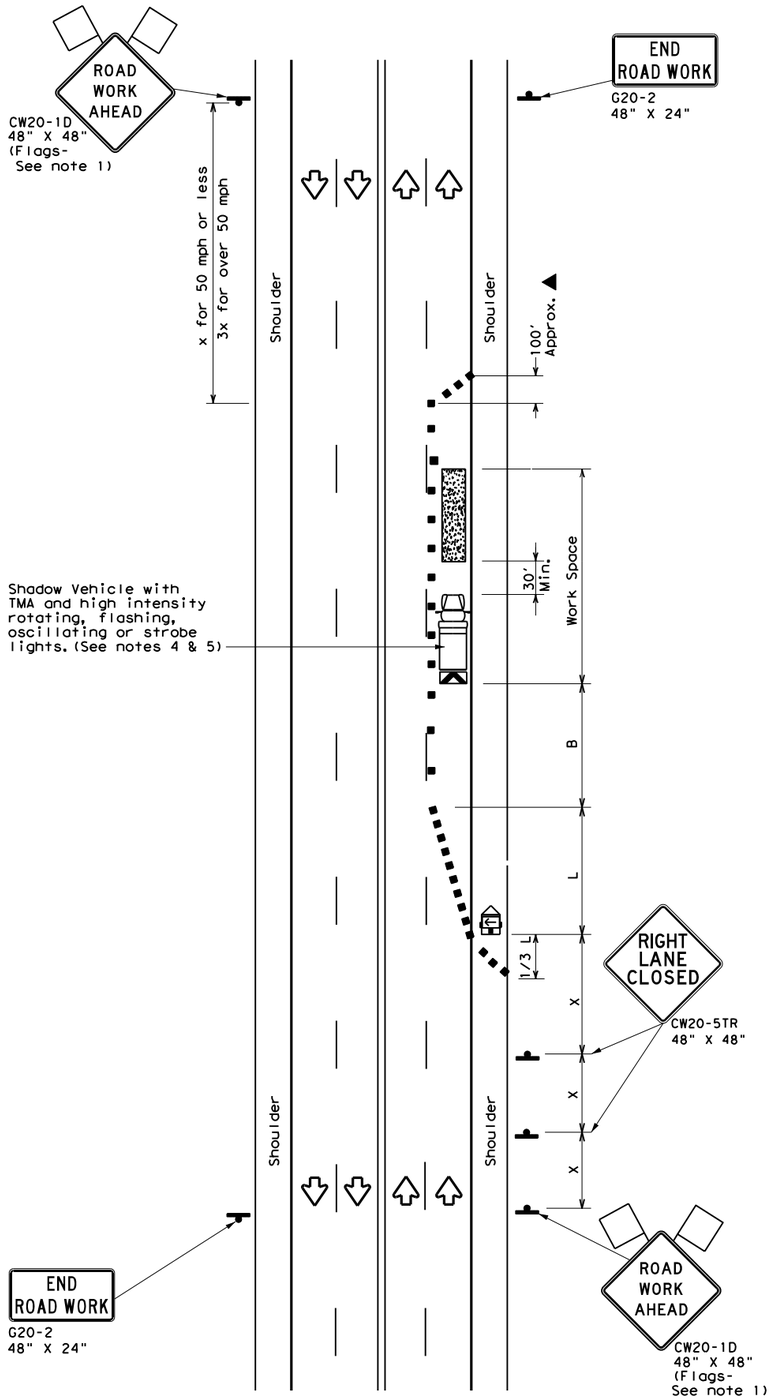
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
TRAFFIC SHIFTS ON TWO LANE ROADS

TCP(1-3)-18

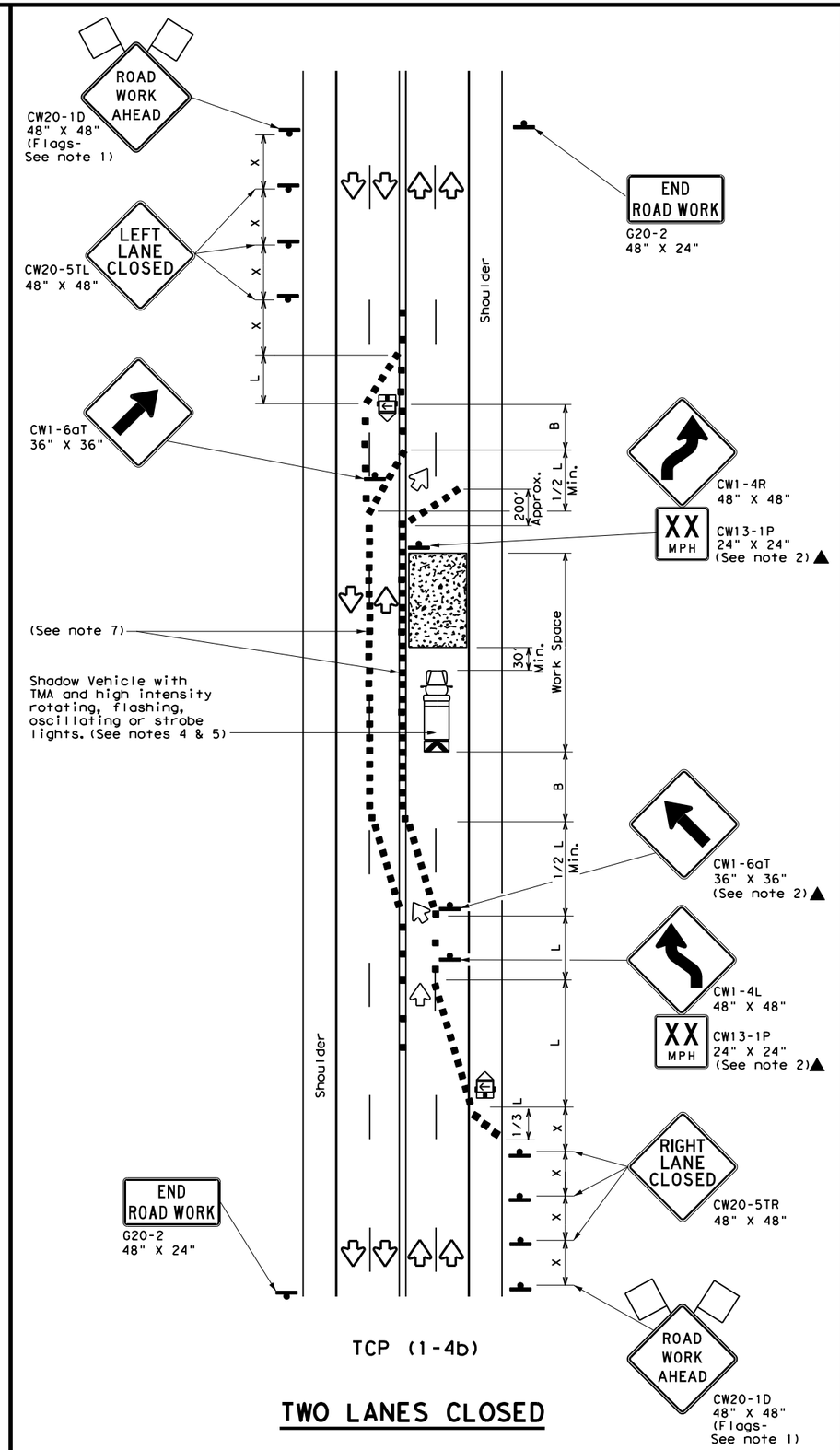
FILE: tcp1-3-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12				
1-97 2-18	FTW	ERATH,ETC.		69

DATE:
FILE:



TCP (1-4a)

ONE LANE CLOSED



TCP (1-4b)

TWO LANES CLOSED

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

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

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. 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 wider work spaces.

TCP (1-4a)

6. If this TCP is used for a left lane closure , CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline where needed to protect the work space from opposing traffic with the arrow panel placed in the closed lane near the end of the merging taper.

TCP (1-4b)

7. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2S where S is the speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(1-4)-18

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© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	FTW	ERATH,ETC.		70
1-97 2-18				

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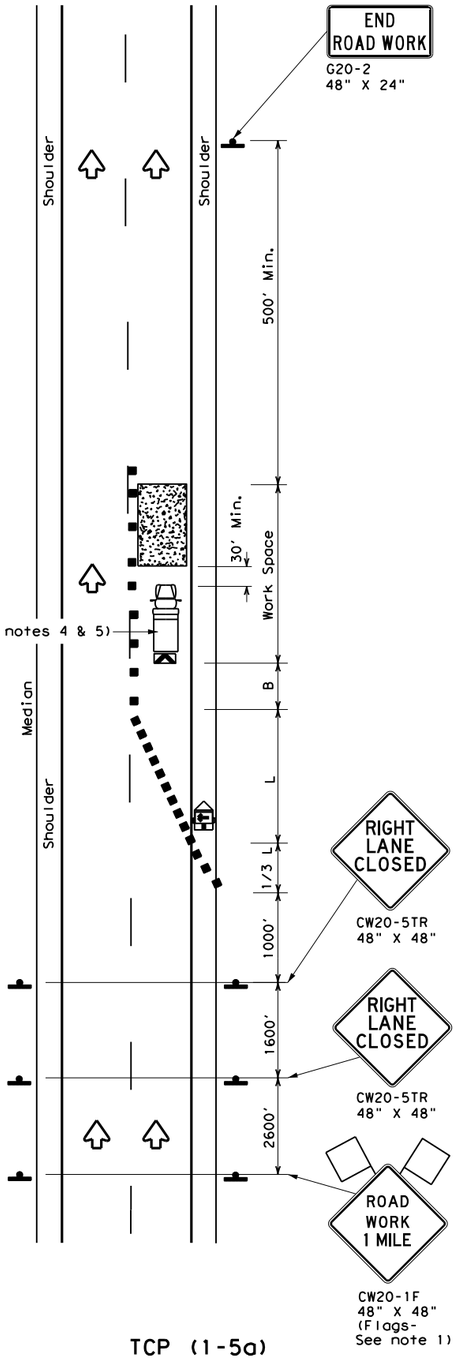
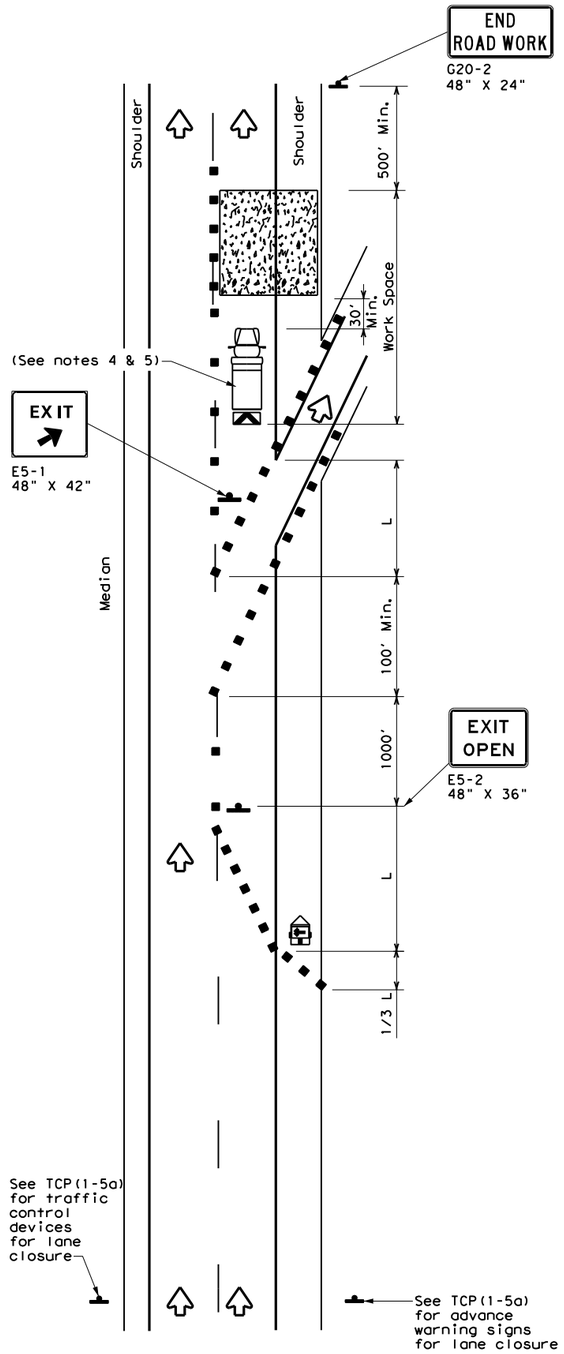
FILE:



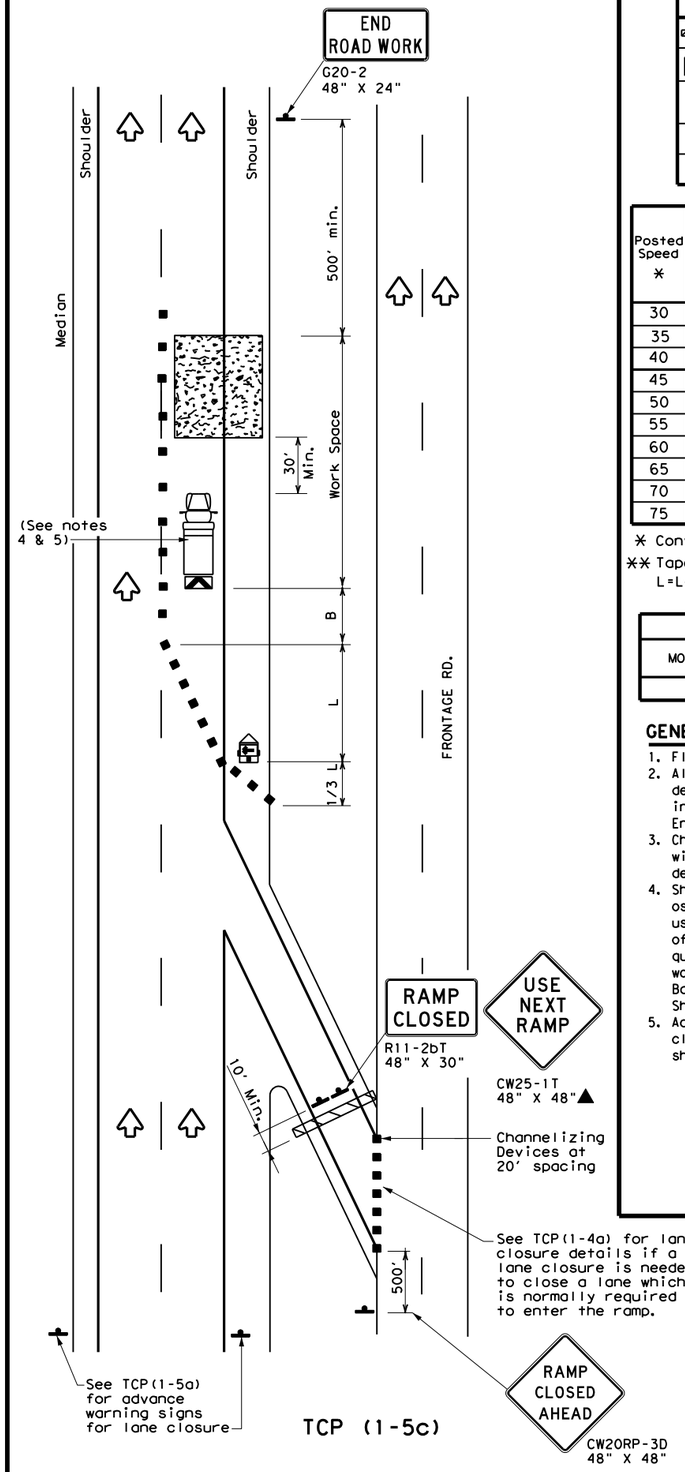
TCP (1-5a)

ONE LANE CLOSURE



TCP (1-5b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (1-5c)

LANE CLOSURE NEAR ENTRANCE RAMPS

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. 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 in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES FOR DIVIDED HIGHWAYS

TCP(1-5)-18

FILE: tcp1-5-18.dgn	DN:	CK:	DW:	CK:
©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-18	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		71

DATE:
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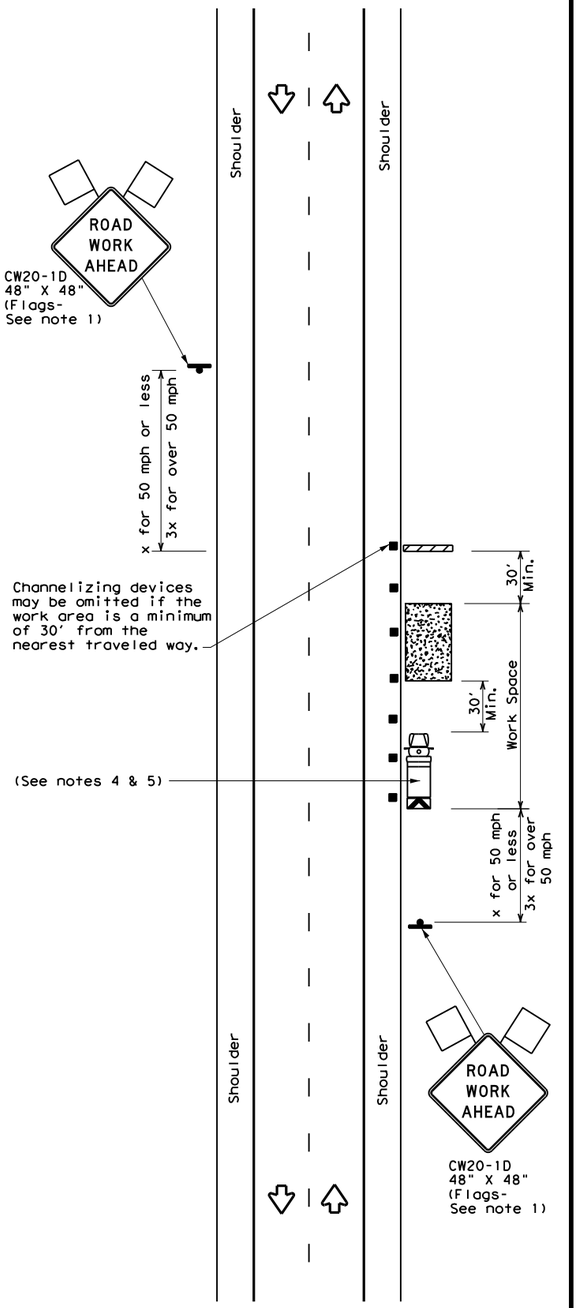
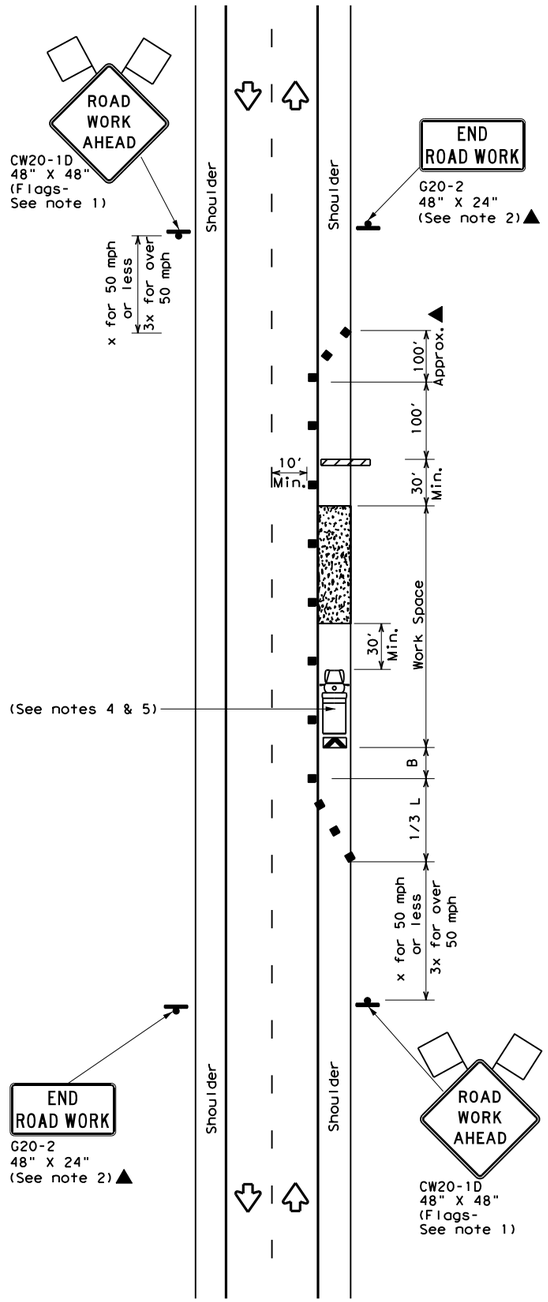


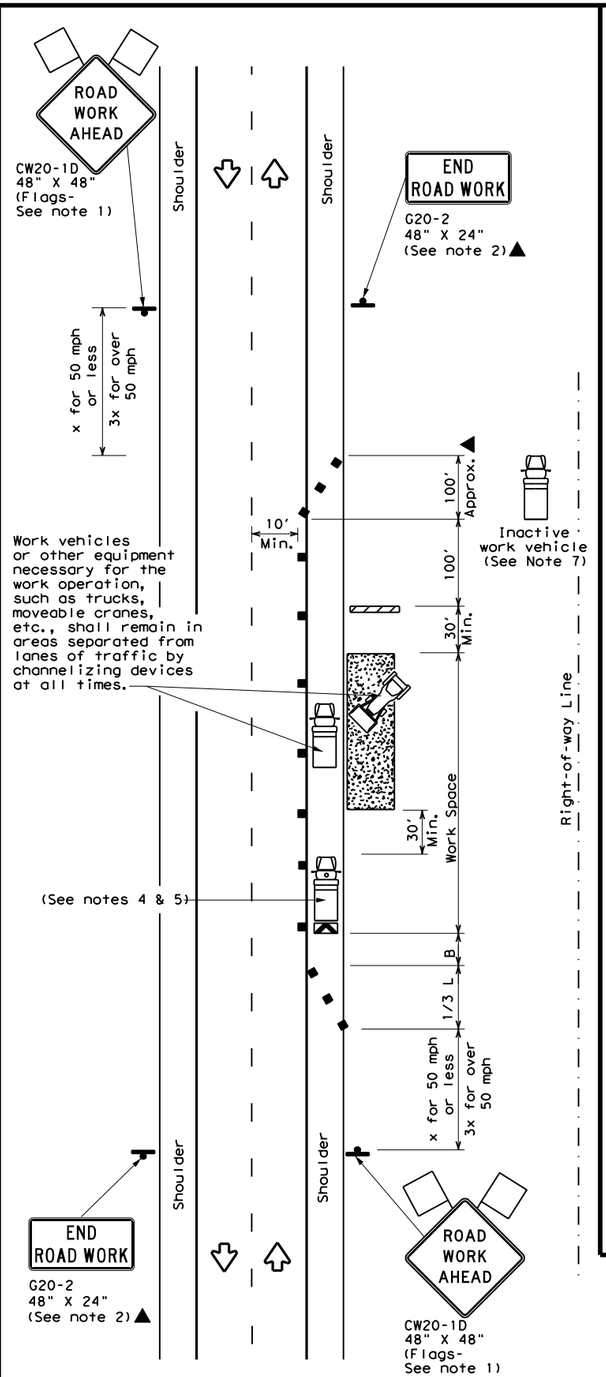
TCP (2-1a)

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated 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 CW21-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

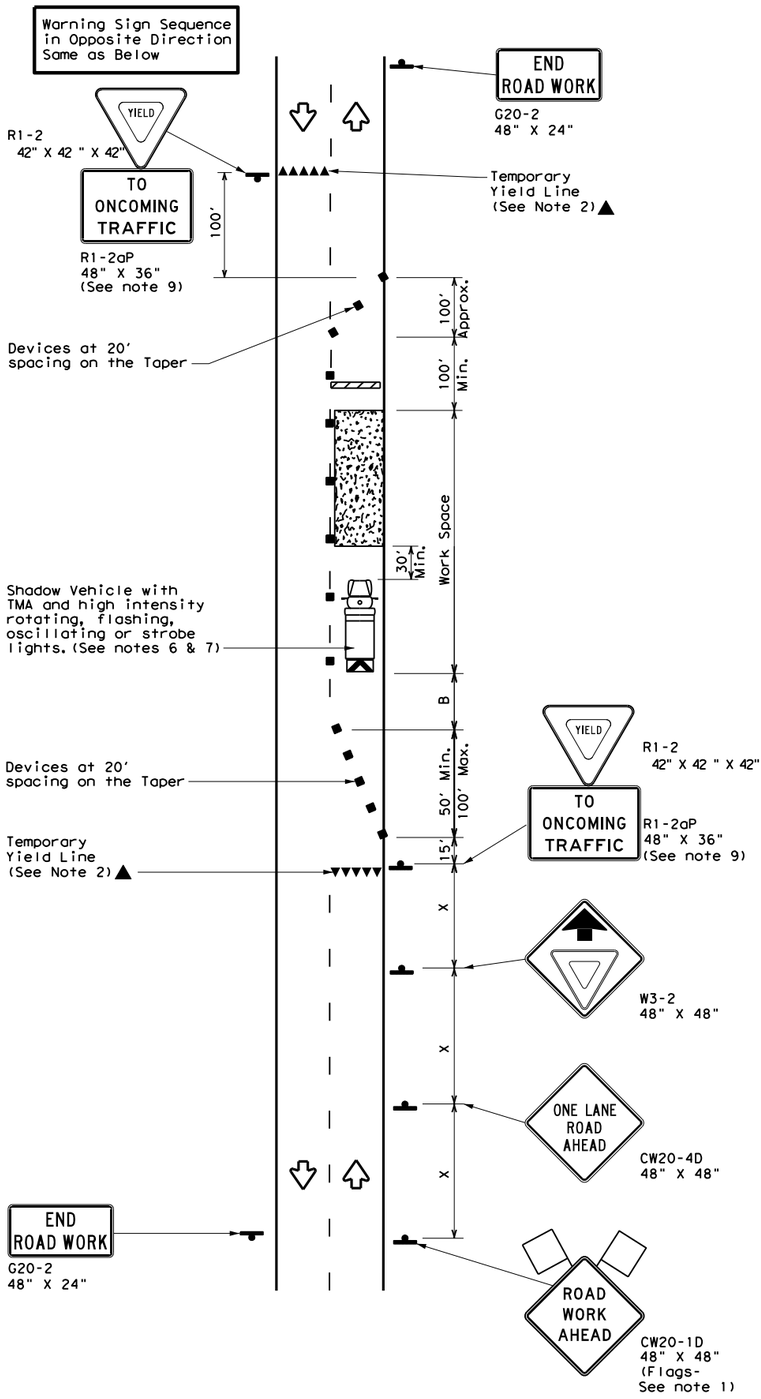
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

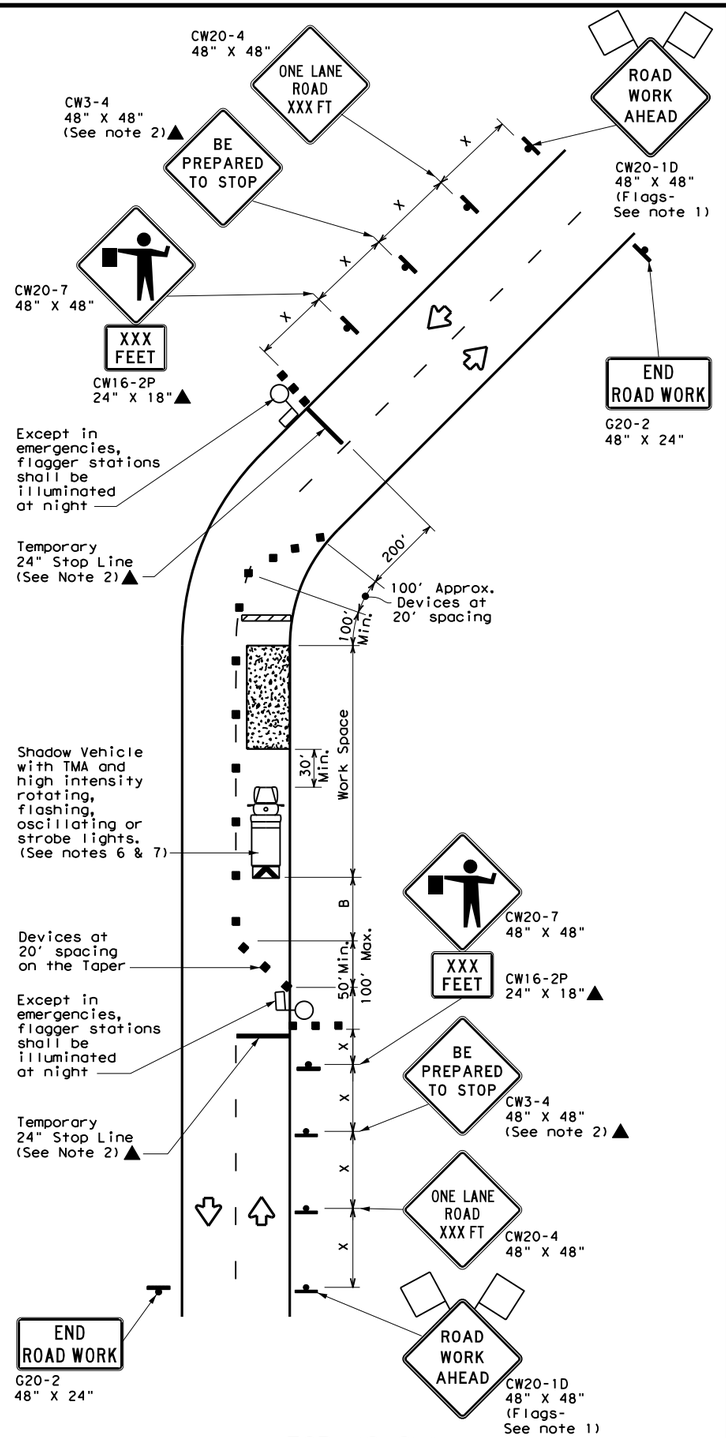
TCP(2-1)-18

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	FTW	ERATH,ETC.		72
1-97 2-18				

DATE:
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	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "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
REVISIONS 8-95 3-03	0079	05	061	US67,ETC.
1-97 2-12	DIST	COUNTY		SHEET NO.
4-98 2-18	FTW	ERATH,ETC.		73

DATE:
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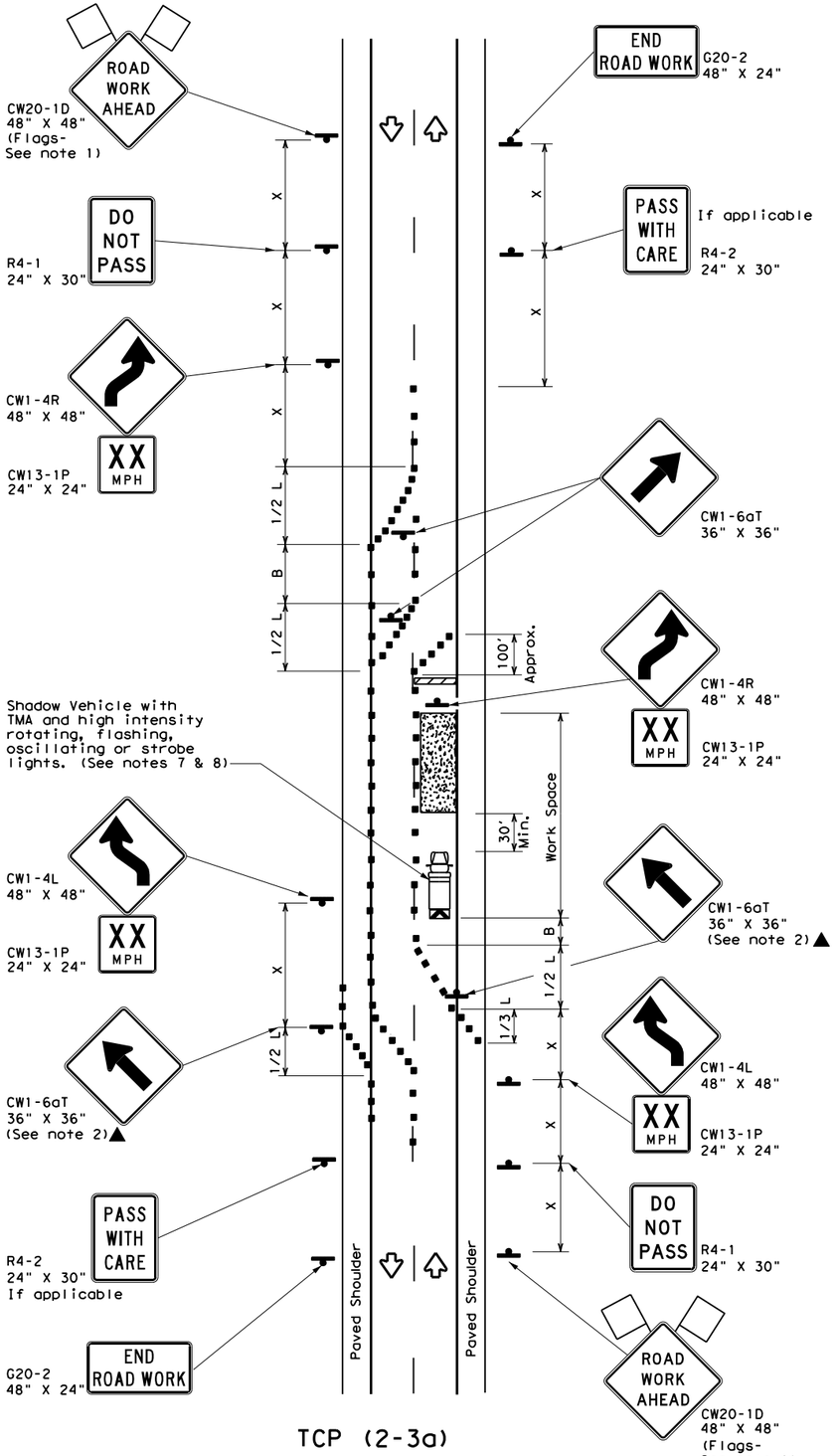
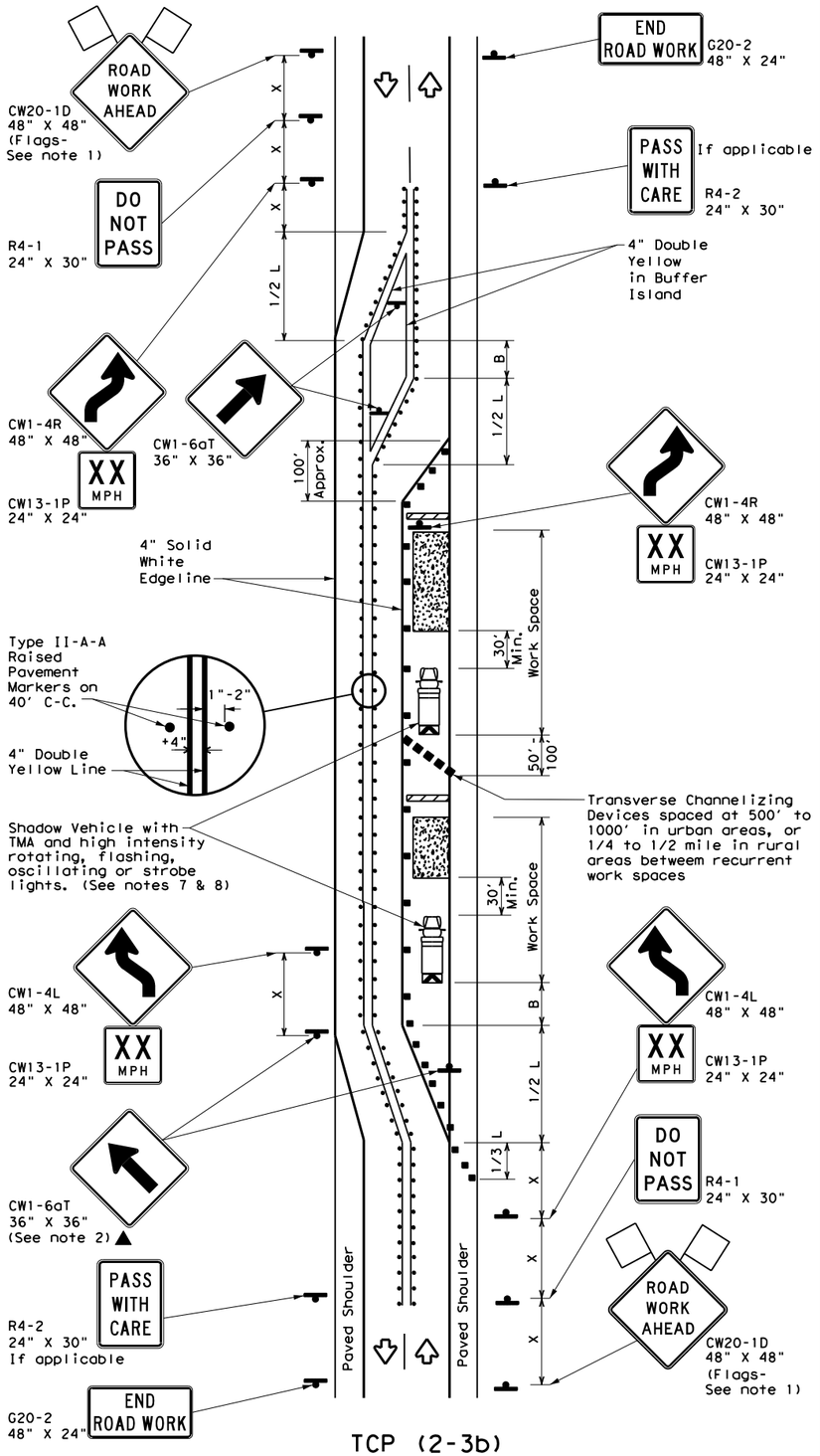


TCP (2-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
ADEQUATE FIELD OF VIEW



TCP (2-3b)
2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED
INADEQUATE FIELD OF VIEW

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board		Raised Pavement Markers Ty II-AA
	Sign		Traffic Flow
	Flag		Flagger

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

* Conventional Roads Only

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

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
				TCP(2-3b)ONLY
			✓	✓

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. When work space will be in place less than three days existing pavement markings may remain in place. Channelizing devices shall be used to separate traffic.
4. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Flagger should be positioned at end of traffic queue.
5. The R4-1 "DO NOT PASS," R4-2 " PASS WITH CARE" and construction regulatory speed zone signs may be installed within CW20-1D "ROAD WORK AHEAD" signs. Proper spacing of signs shall be maintained.
6. Conflicting pavement marking shall be removed for long term projects.
7. 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.
8. 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 (2-3a)

9. Conflicting pavement markings shall be removed for long-term projects. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter device spacing is intended for the area of the conflicting markings, not the entire work zone.

Texas Department of Transportation

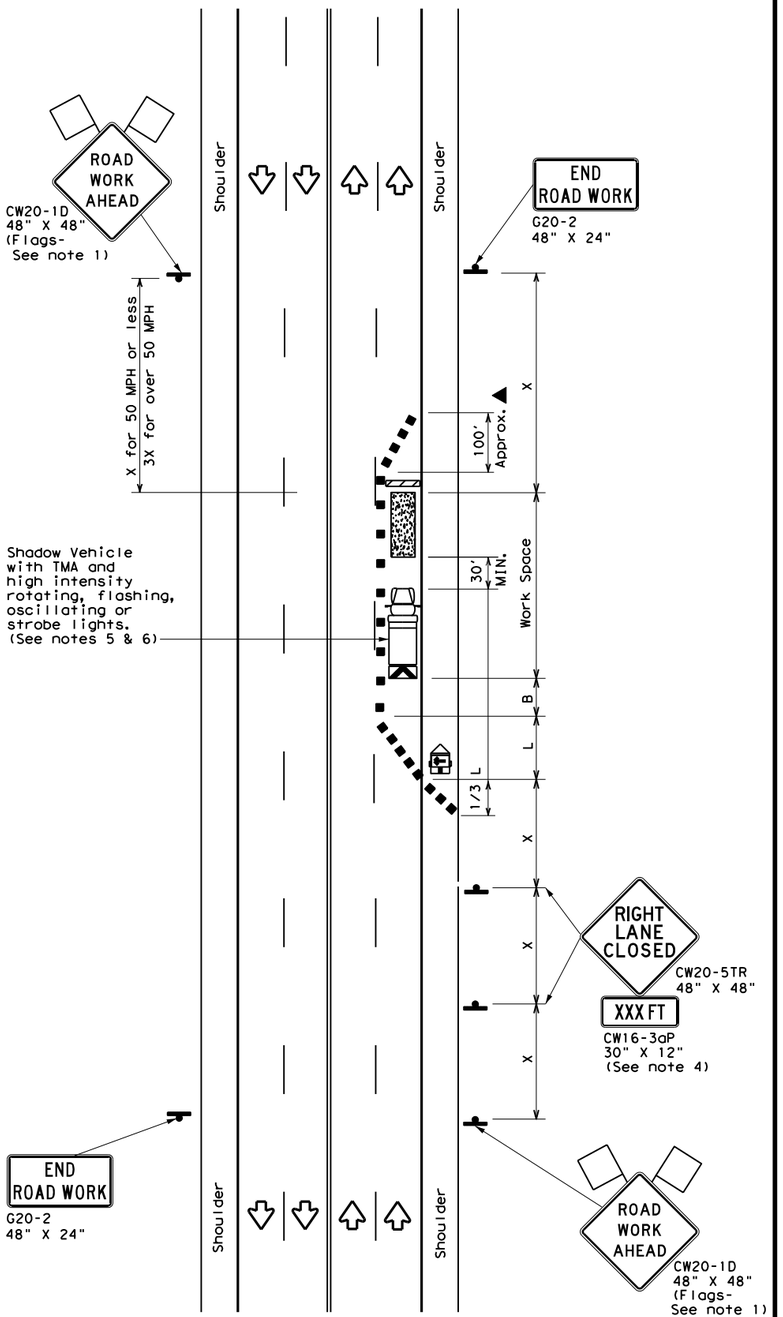
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN TRAFFIC SHIFTS ON TWO-LANE ROADS

TCP(2-3)-18

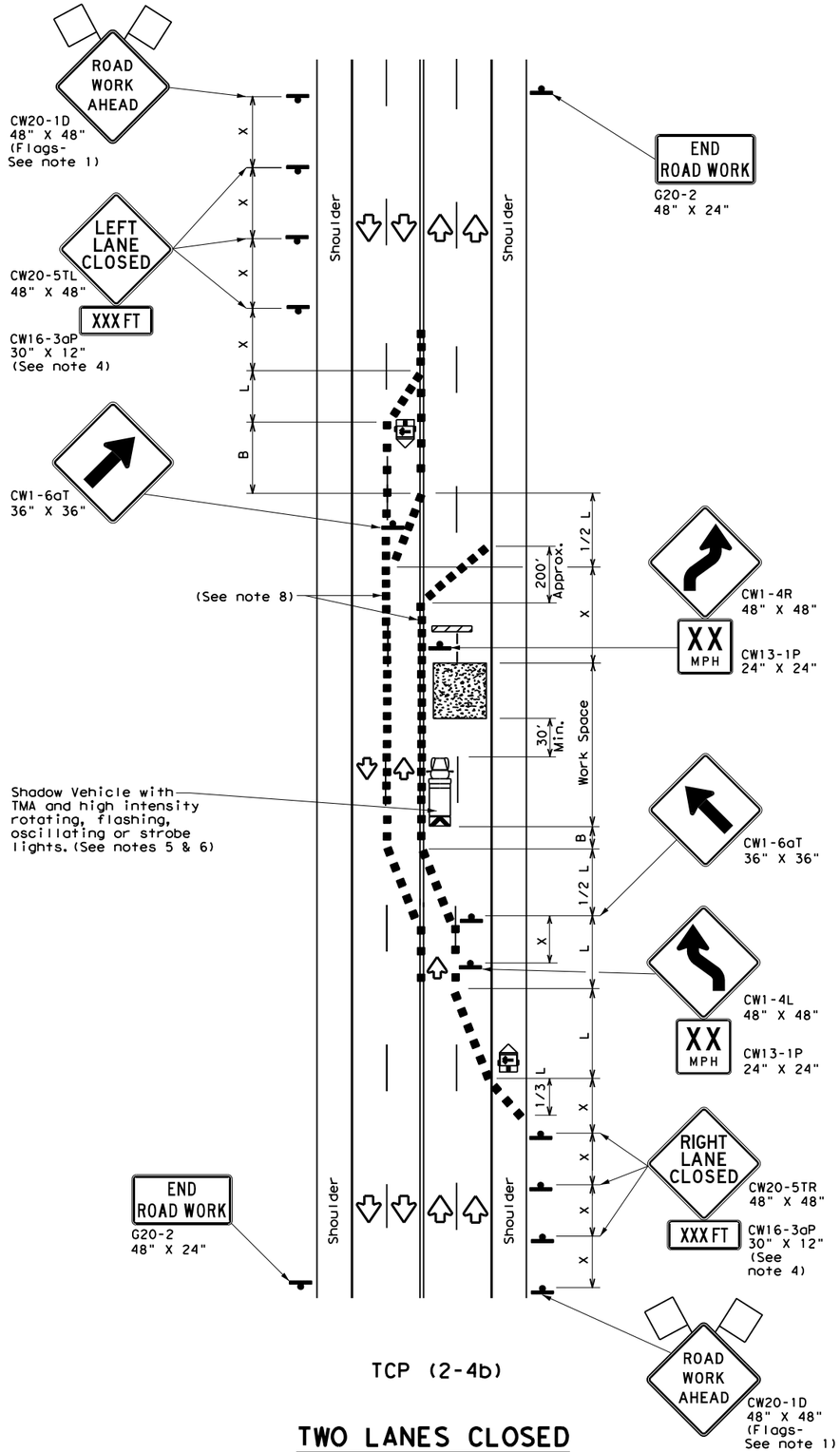
FILE: tcp(2-3)-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
8-95 3-03	DIST	COUNTY		SHEET NO.
1-97 2-12	FTW	ERATH,ETC.		74
4-98 2-18				

DATE:
FILE:



TCP (2-4a)

ONE LANE CLOSED



TCP (2-4b)

TWO LANES CLOSED

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The downstream taper is optional. When used, it should be 100 feet minimum length per lane.
4. For short term applications, when post mounted signs are not used, the distance legend may be shown on the sign face rather than on a CW16-3aP supplemental plaque.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-4a)

7. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED"signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic with the arrow board placed in the closed lane near the end of the merging taper.

TCP (2-4b)

8. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter devices spacing is intended for the area of conflicting markings, not the entire work zone.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(2-4)-18

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© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03	0079	05	061	US67,ETC.
1-97 2-12	DIST	COUNTY		SHEET NO.
4-98 2-18	FTW	ERATH,ETC.		75

DATE:
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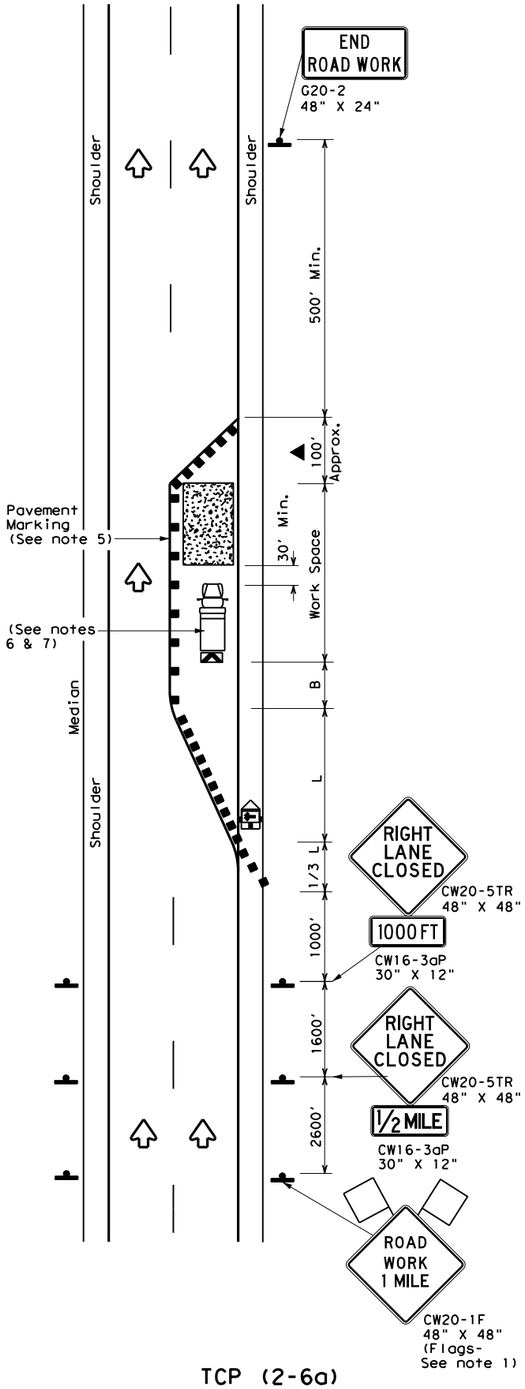
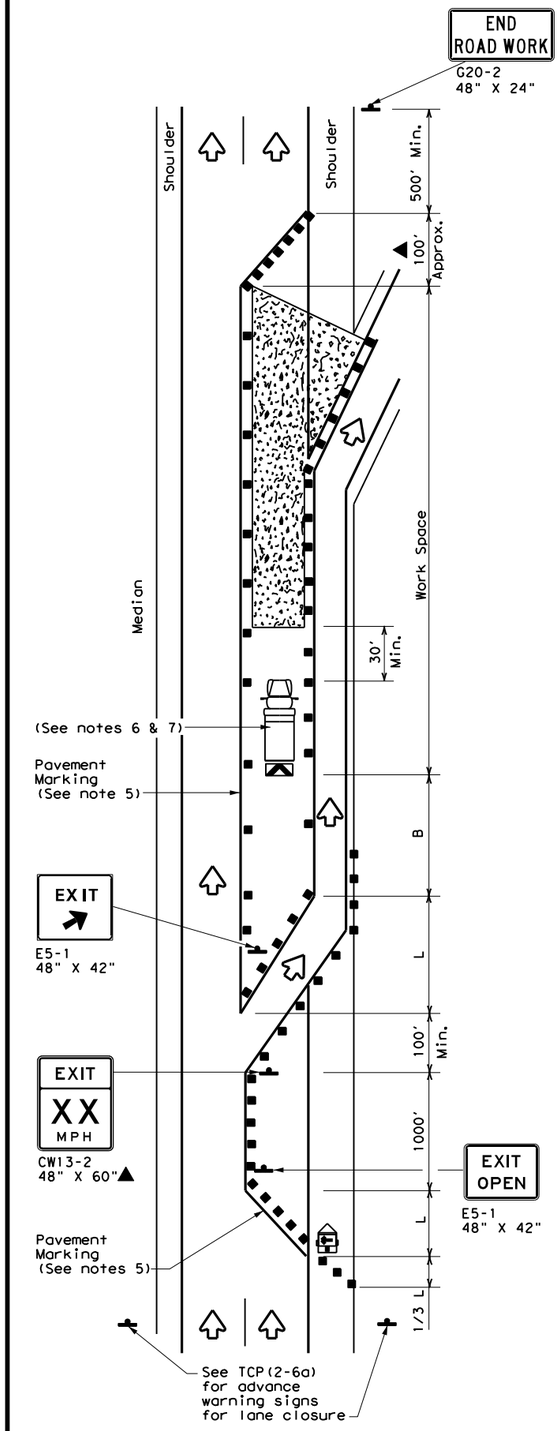


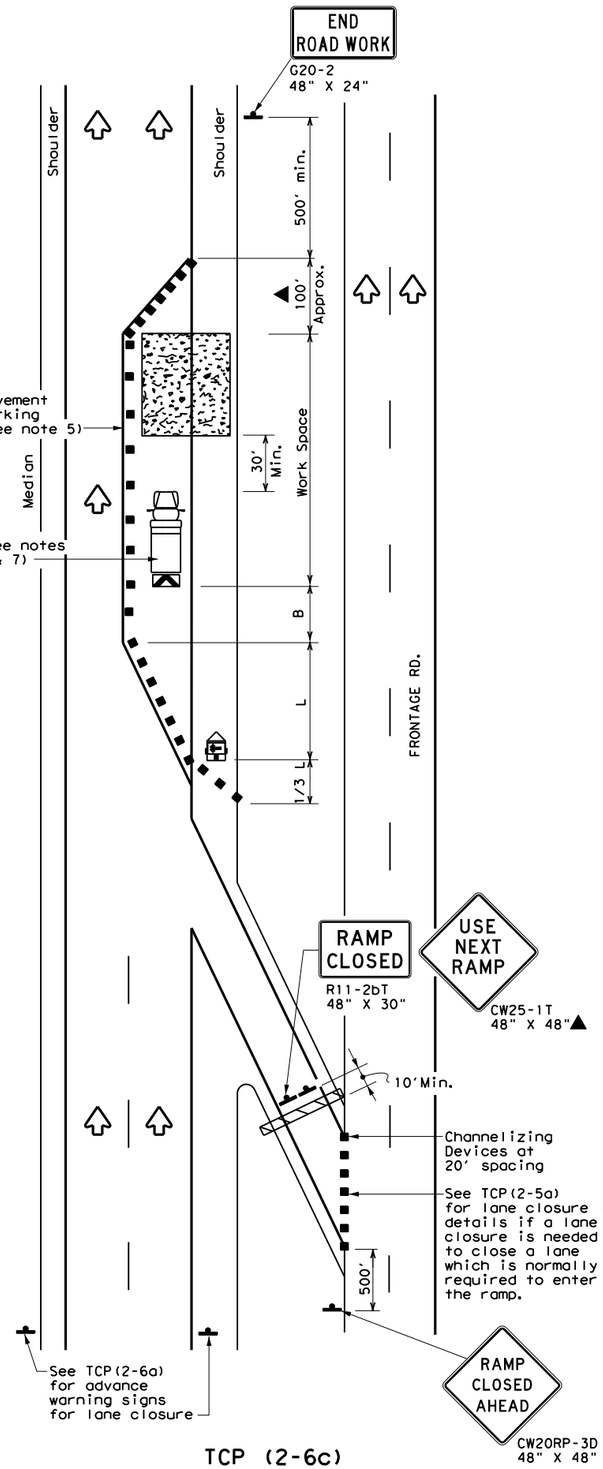
TCP (2-6a)

ONE LANE CLOSURE



TCP (2-6b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (2-6c)

LANE CLOSURE NEAR ENTRANCE RAMPS

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

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

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON DIVIDED HIGHWAYS

TCP(2-6)-18

FILE: tcp2-6-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		76

DATE:
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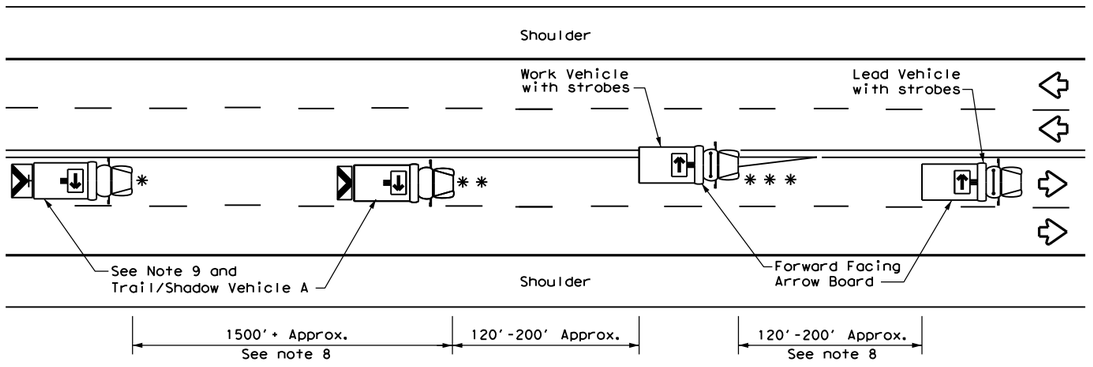
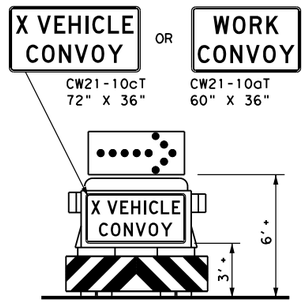


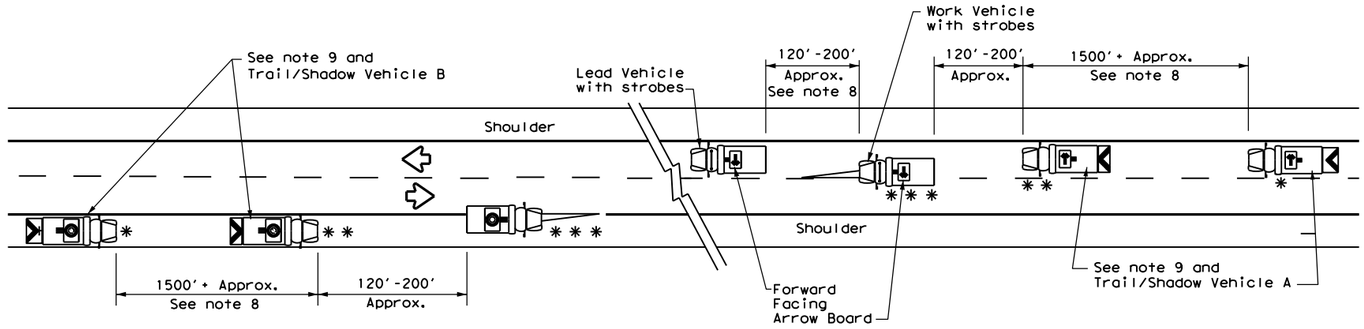
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

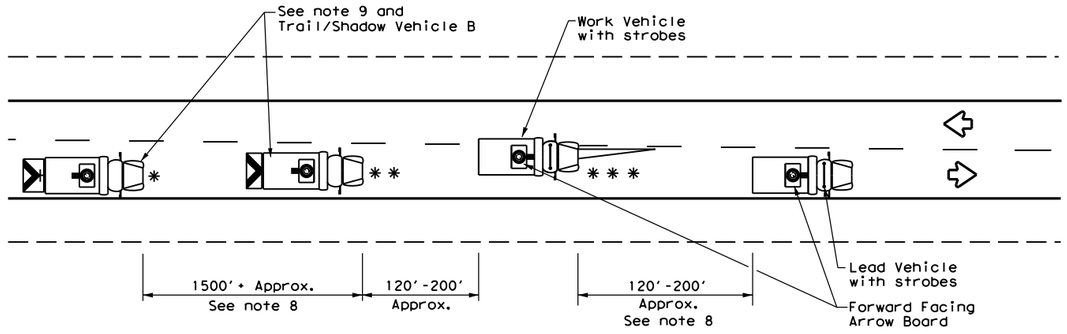


WORK ON SHOULDER

WORK ON TRAVEL LANE

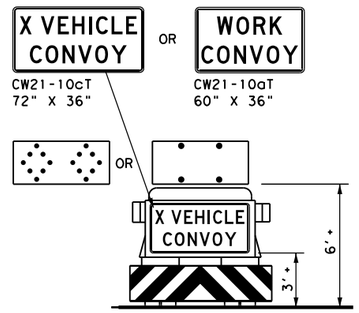
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

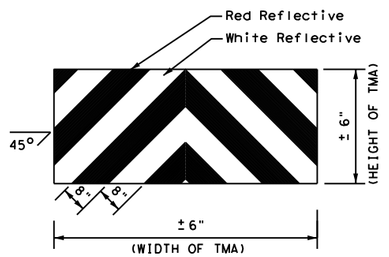
with Flashing Arrow Board in CAUTION display

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

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

GENERAL NOTES

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



STRIPING FOR TMA

Texas Department of Transportation

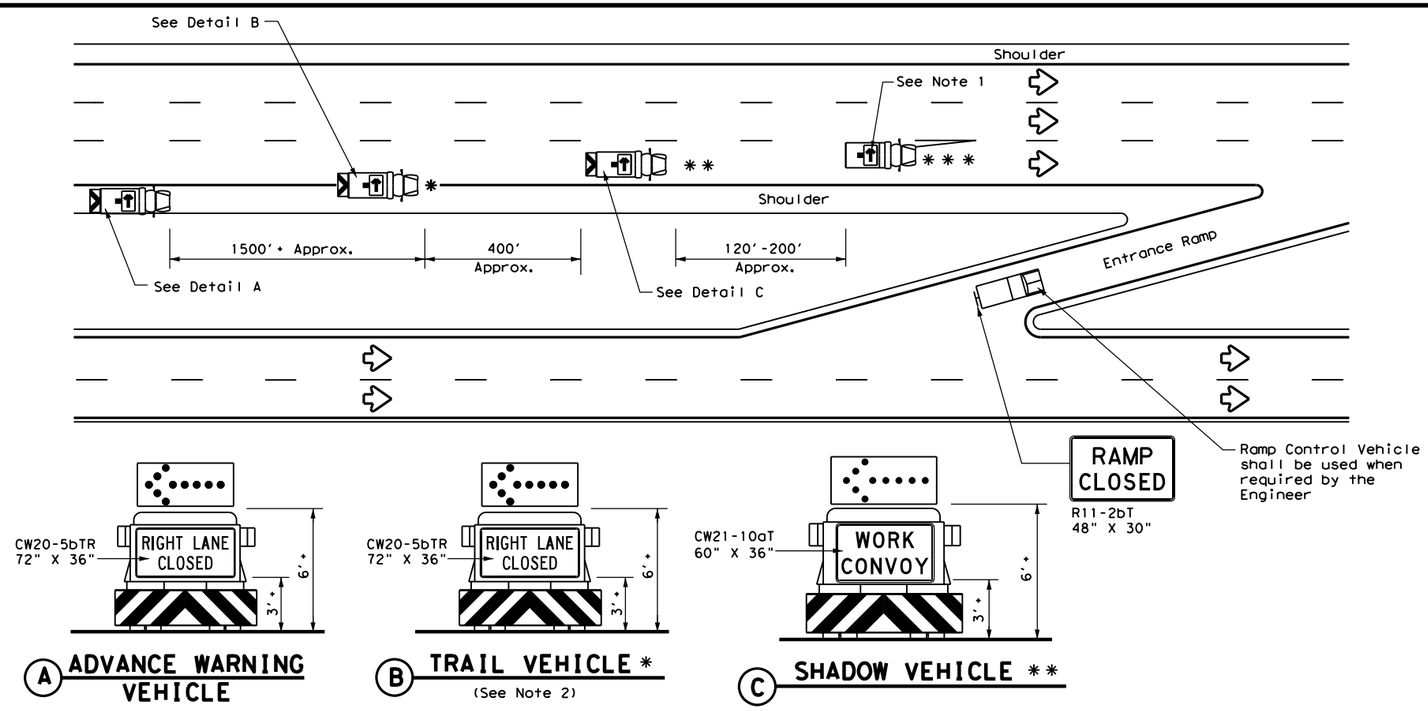
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

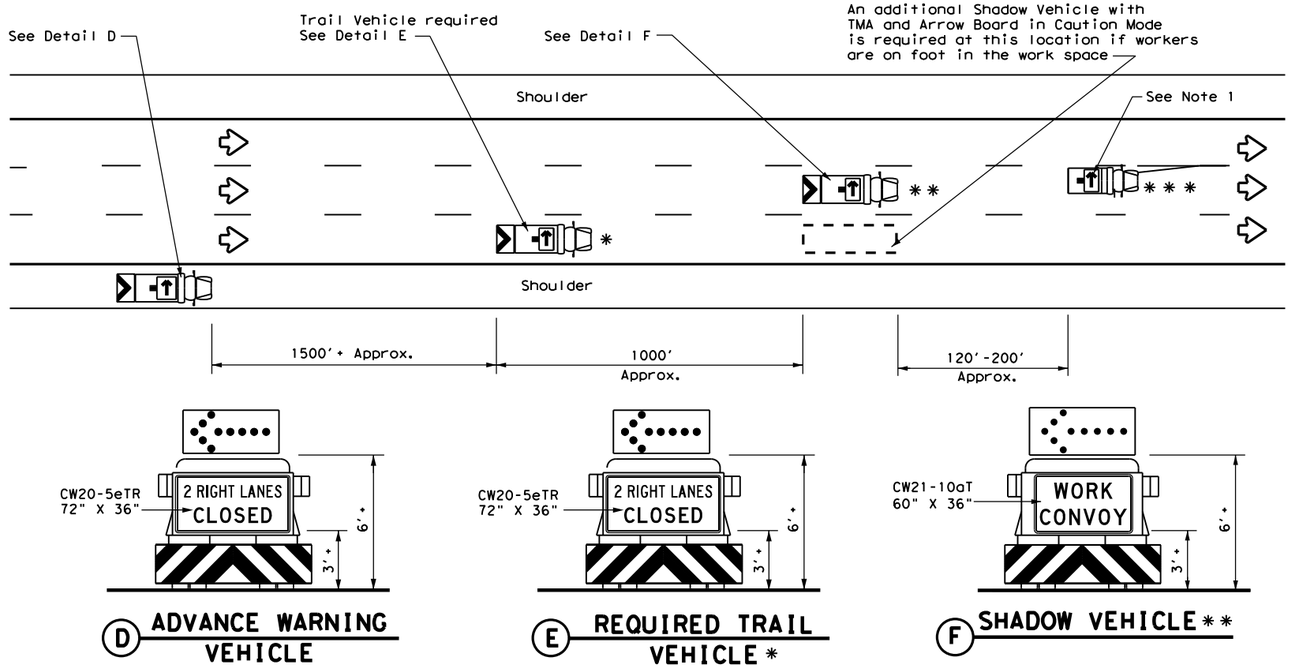
TCP(3-1)-13

FILE: tcp3-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0079	05	061	US67, ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		77

DATE:
FILE:



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



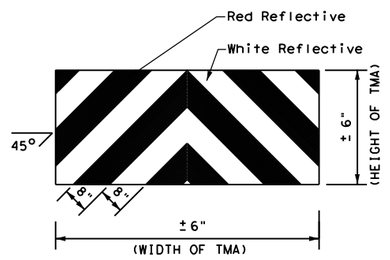
INTERIOR LANE CLOSURE ON MULTI-LANE DIVIDED HIGHWAY - TCP(3-2b)

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

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

GENERAL NOTES

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



STRIPING FOR TMA

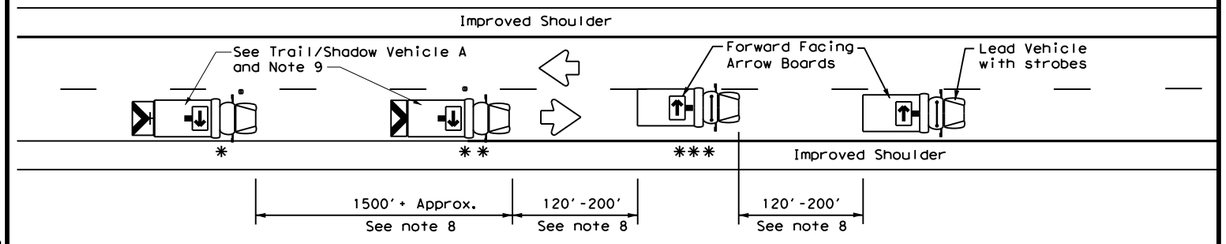
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS DIVIDED HIGHWAYS

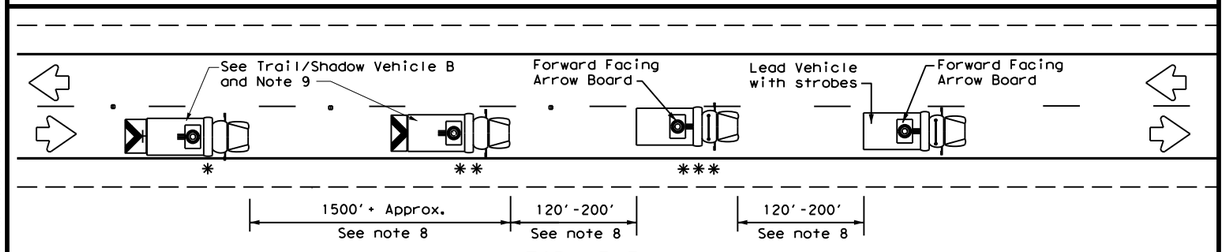
TCP(3-2)-13

FILE: tcp3-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		78



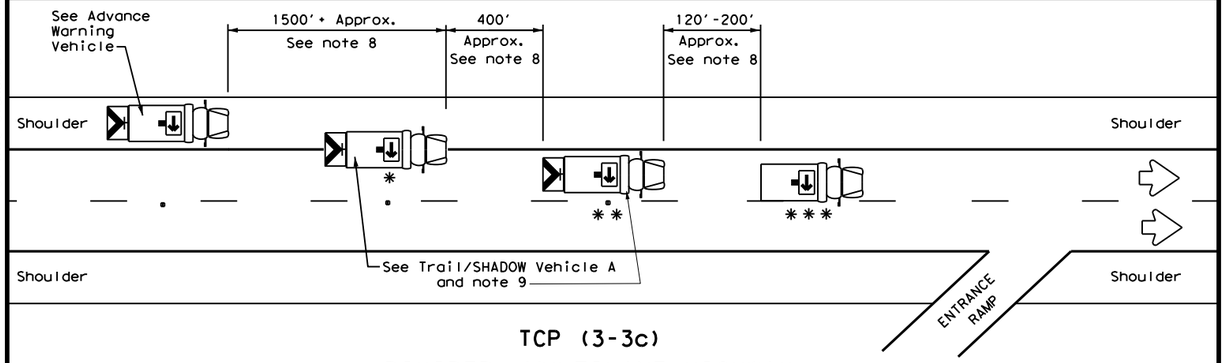
TCP (3-3a)

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



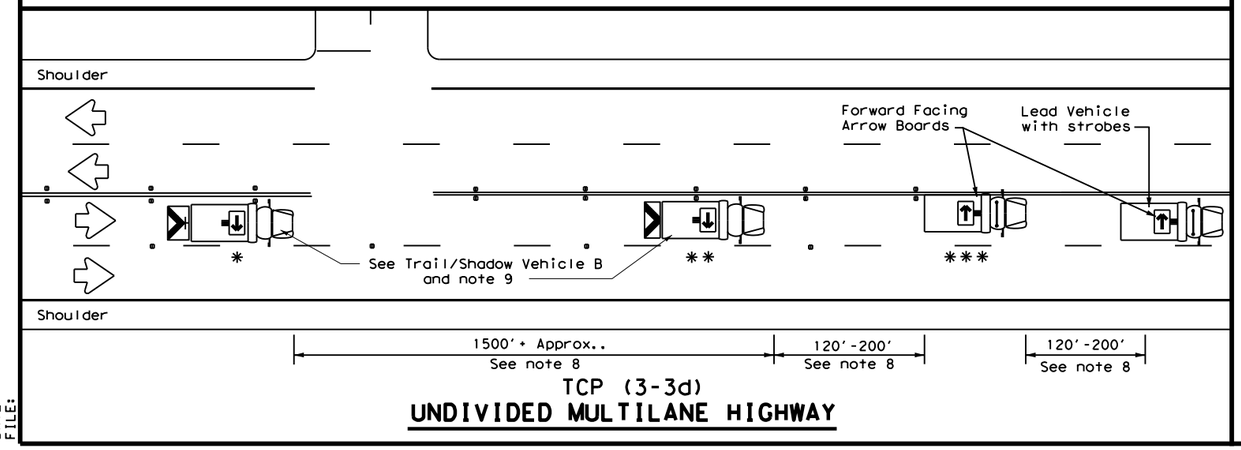
TCP (3-3b)

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



TCP (3-3c)

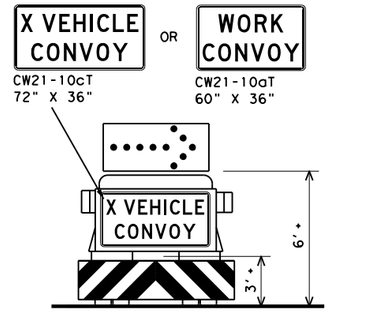
DIVIDED MULTILANE HIGHWAY



TCP (3-3d)

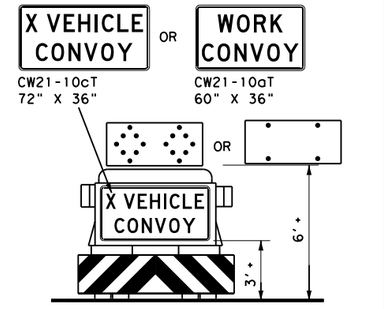
UNDIVIDED MULTILANE HIGHWAY

DATE:
FILE:



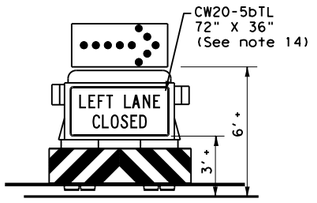
TRAIL/SHADOW VEHICLE A

with RIGHT Directional display
Flashing Arrow Board

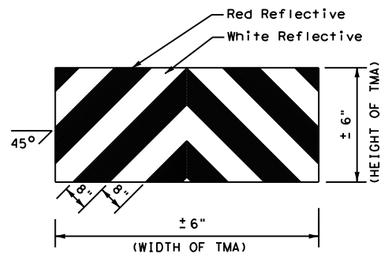


TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board
in Caution Mode



ADVANCE WARNING VEHICLE



STRIPING FOR TMA

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

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

GENERAL NOTES

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

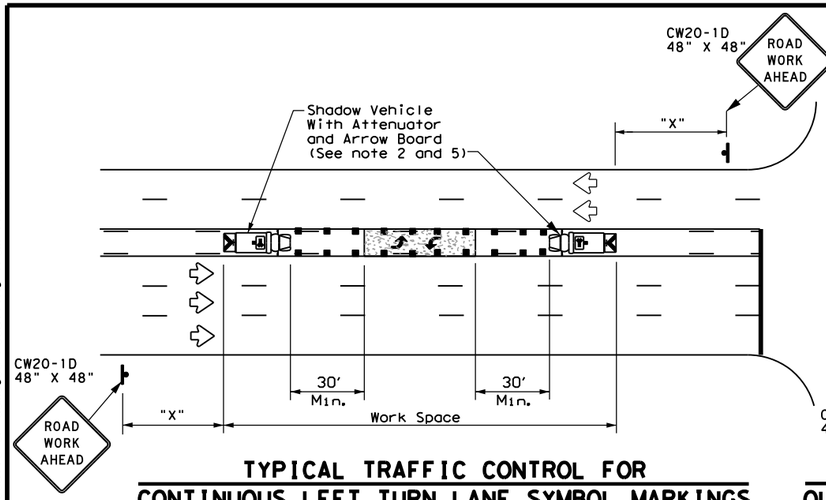
Texas Department of Transportation

Traffic Operations Division Standard

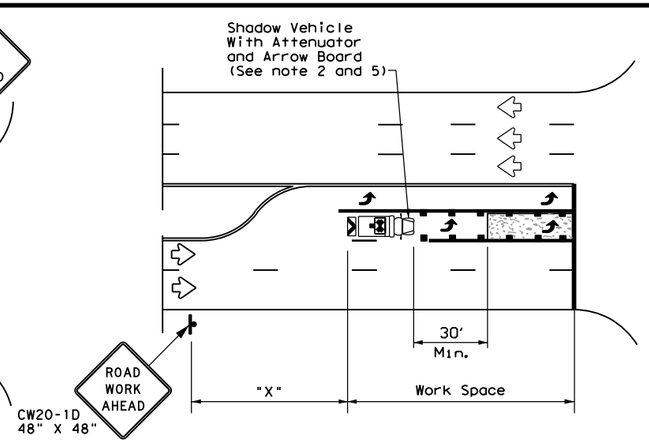
TRAFFIC CONTROL PLAN MOBILE OPERATIONS RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL

TCP(3-3)-14

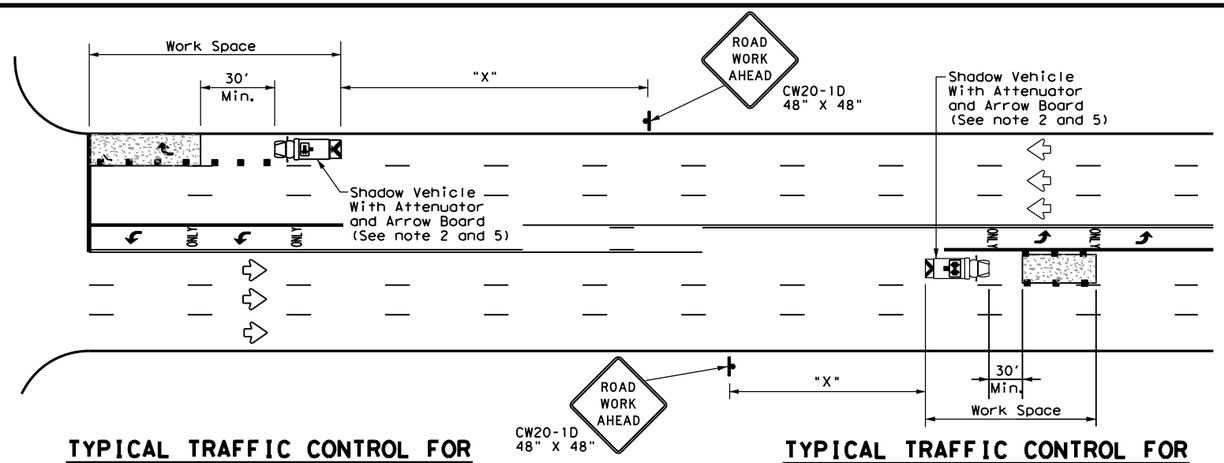
FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 7-13	FTW	ERATH, ETC.		79
1-97 7-14				



TYPICAL TRAFFIC CONTROL FOR
CONTINUOUS LEFT TURN LANE SYMBOL MARKINGS

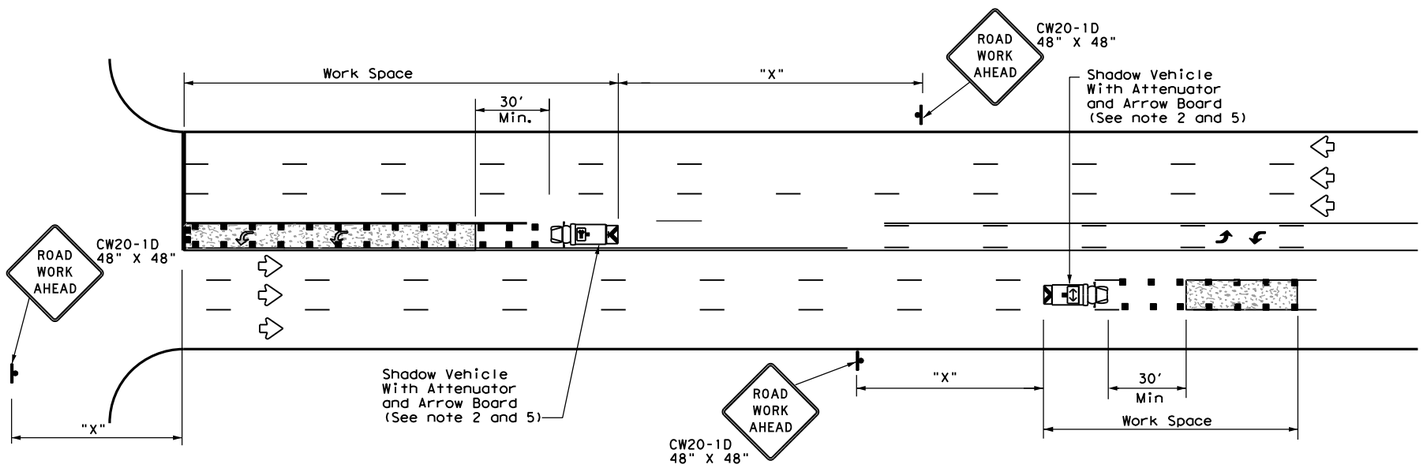


TYPICAL TRAFFIC CONTROL FOR
OUTSIDE DUAL LEFT TURN LANE SYMBOL MARKINGS



TYPICAL TRAFFIC CONTROL FOR
OUTSIDE LANE MARKINGS

TYPICAL TRAFFIC CONTROL FOR
INSIDE LANE MARKINGS



TYPICAL TRAFFIC CONTROL FOR
LEFT TURN LANE MARKINGS

TYPICAL TRAFFIC CONTROL FOR
CENTER LANE MARKINGS

DATE:
FILE:

LEGEND			
*	Trail Vehicle	ARROW BOARD DISPLAY	
**	Shadow Vehicle		
***	Work Vehicle		RIGHT Directional
	Heavy Work Vehicle		LEFT Directional
	Truck Mounted Attenuator (TMA)		Double Arrow
	Traffic Flow	■ ■ ■	Channelizing Devices

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

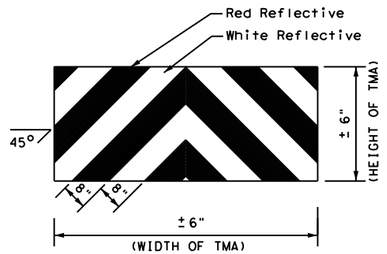
* Conventional Roads Only

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

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

GENERAL NOTES

1. This traffic control plan is for use on conventional roads posted at 45 mph or less and is intended for mobile operations that move continuously or intermittently (stopping up to approximately 15 minutes) such as short-line striping and in-lane rumble strips. When activities are anticipated to take longer amounts of time or traffic conditions warrant, a short duration or short-term stationary traffic control plan should be used.
2. A Truck Mounted Attenuator shall be used on Shadow Vehicle. Striping on the back panel of all truck mounted attenuators shall be 8" red and white reflective sheeting placed in an inverted "V" design. Reflective sheeting shall meet or exceed the reflectivity and color requirements of departmental material specification DMS-8300, Type A.
3. All traffic control devices shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD), latest edition.
4. The use of yellow rotating beacons or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the drivers side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
5. Flashing arrow board shall be used on Shadow Vehicle. Flashing arrow board shall be Type B or Type C as per BC Standards. The arrow board operation shall be controlled from inside the truck.



STRIPING FOR TMA

Texas Department of Transportation

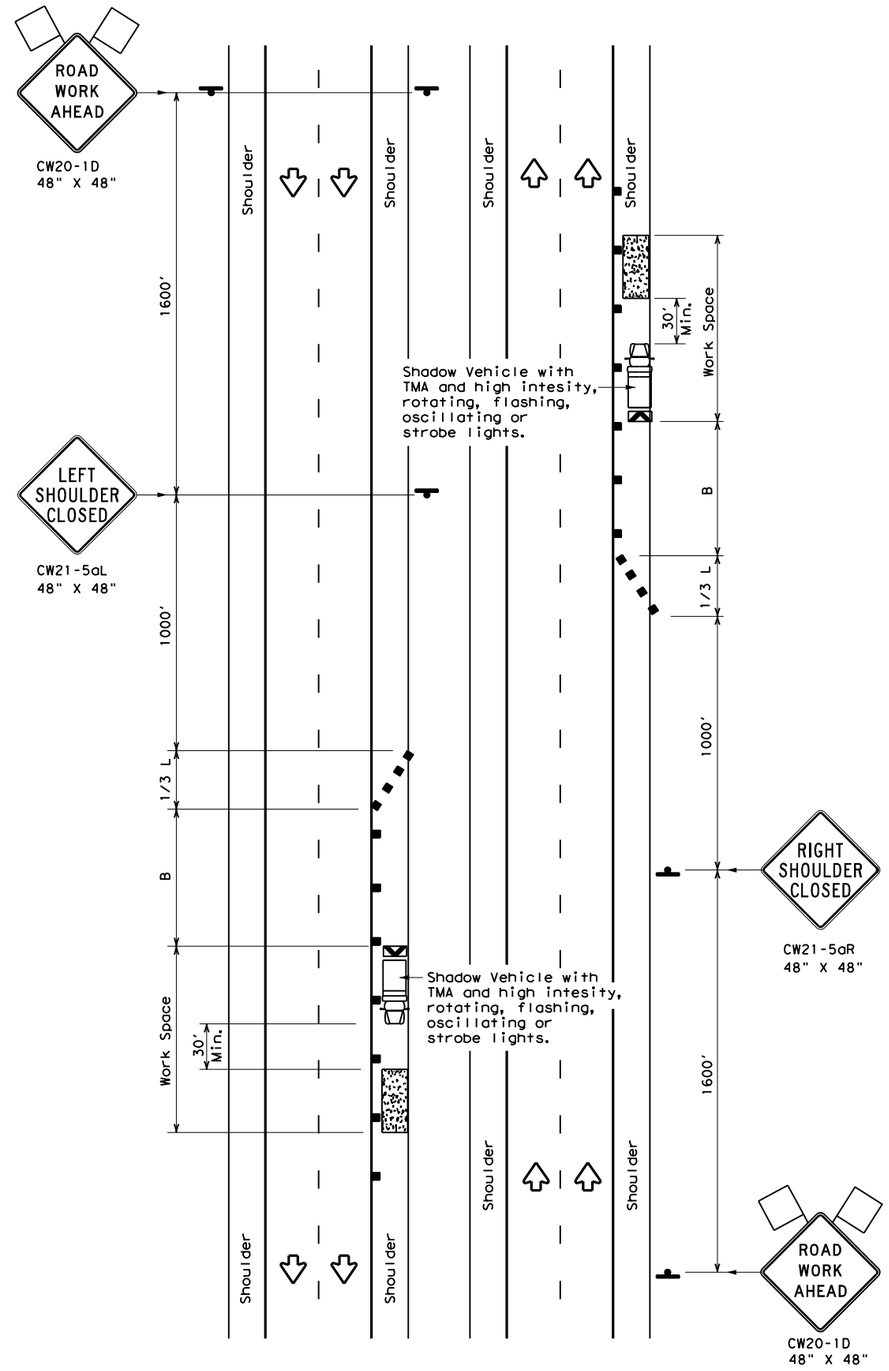
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS FOR ISOLATED WORK AREAS UNDIVIDED HIGHWAYS

TCP(3-4)-13

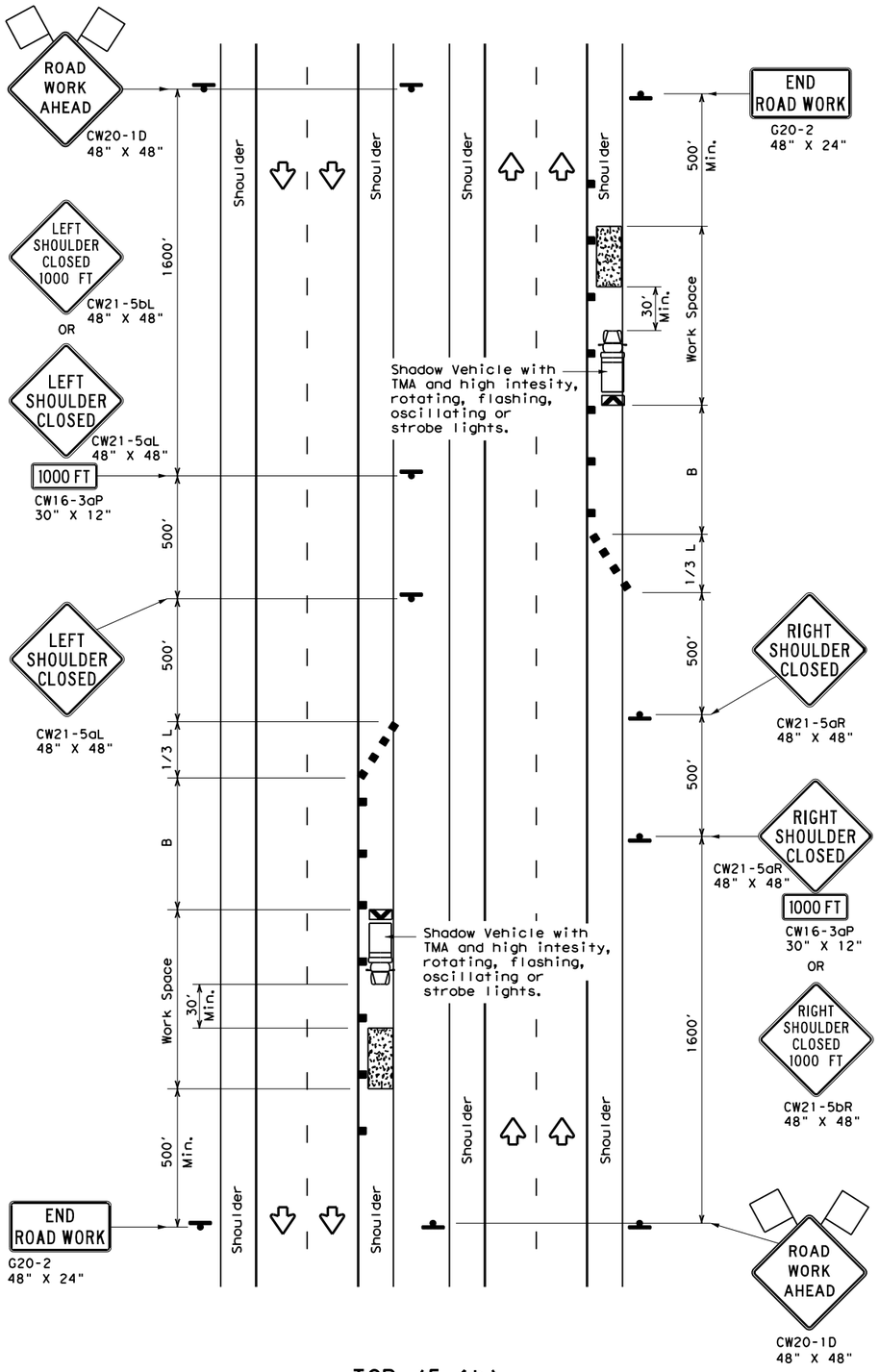
FILE: tcp3-4.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT July, 2013	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		80

DATE:
FILE:



TCP (5-1a)

WORK AREA ON SHOULDER



TCP (5-1b)

WORK AREA ON SHOULDER

LEGEND

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	90'
35		205'	225'	245'	35'	70'	120'
40		265'	295'	320'	40'	80'	155'
45	L=WS	450'	495'	540'	45'	90'	195'
50		500'	550'	600'	50'	100'	240'
55		550'	605'	660'	55'	110'	295'
60		600'	660'	720'	60'	120'	350'
65		650'	715'	780'	65'	130'	410'
70		700'	770'	840'	70'	140'	475'
75		750'	825'	900'	75'	150'	540'
80		800'	880'	960'	80'	160'	615'

* 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
	TCP(5-1a)	TCP(5-1b)	TCP(5-1b)	

GENERAL NOTES

1. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30' to 100' in advance of the area of crew exposure without adversely effecting the performance or quality of the work. Type 3 barricades or drums may be substituted when workers on foot are no longer present when approved by the Engineer.
2. 28" tall or taller one-piece cones will be allowed only for Short Duration or Short Term stationary operations when workers are present to maintain the devices upright and in proper location. Intermediate Term stationary work areas should use Drums, Vertical Panels or 42" tall two-piece cones.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN SHOULDER WORK FOR FREEWAYS / EXPRESSWAYS

TCP(5-1)-18

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©TxDOT February 2012	CONT	SECT	JOB	HIGHWAY
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2-18	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		81

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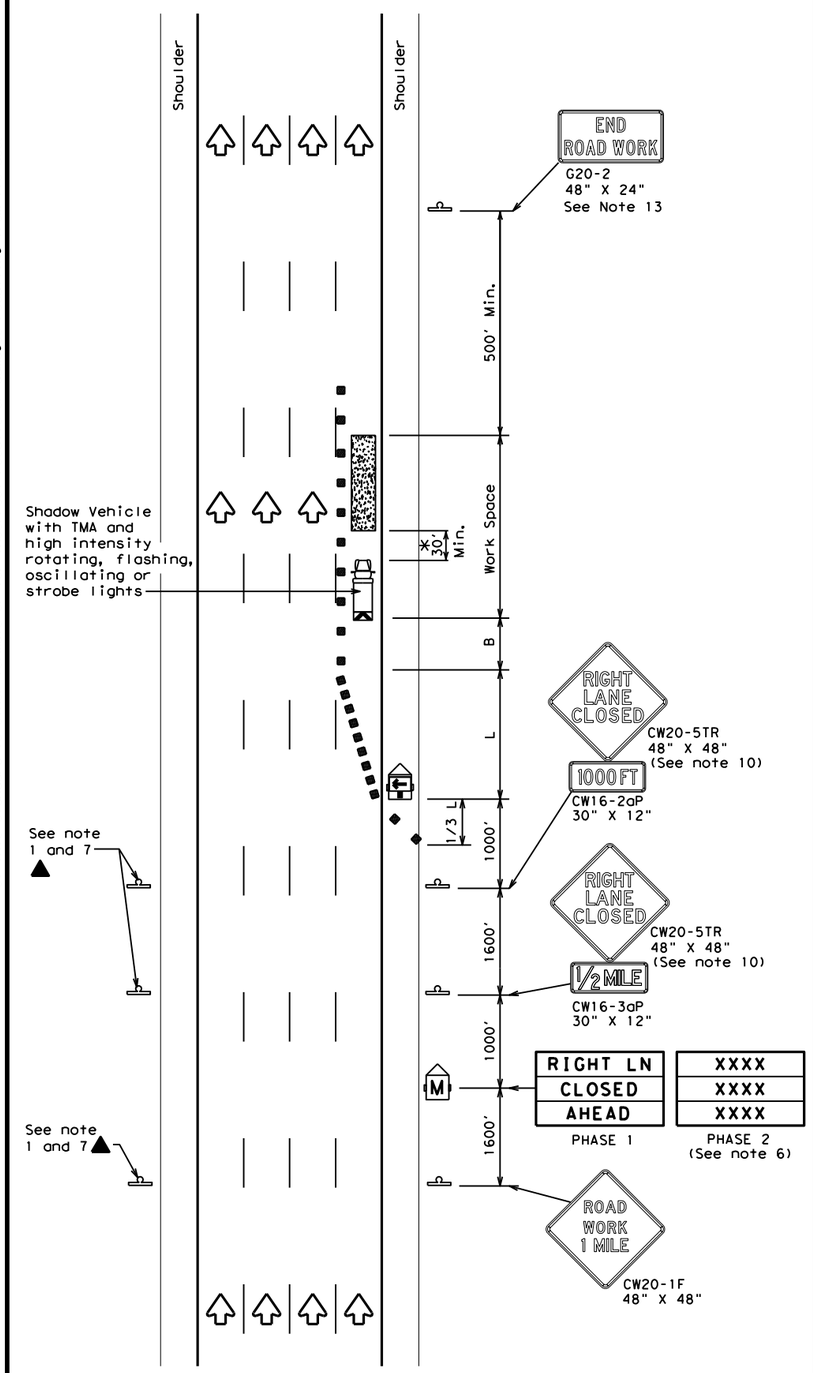
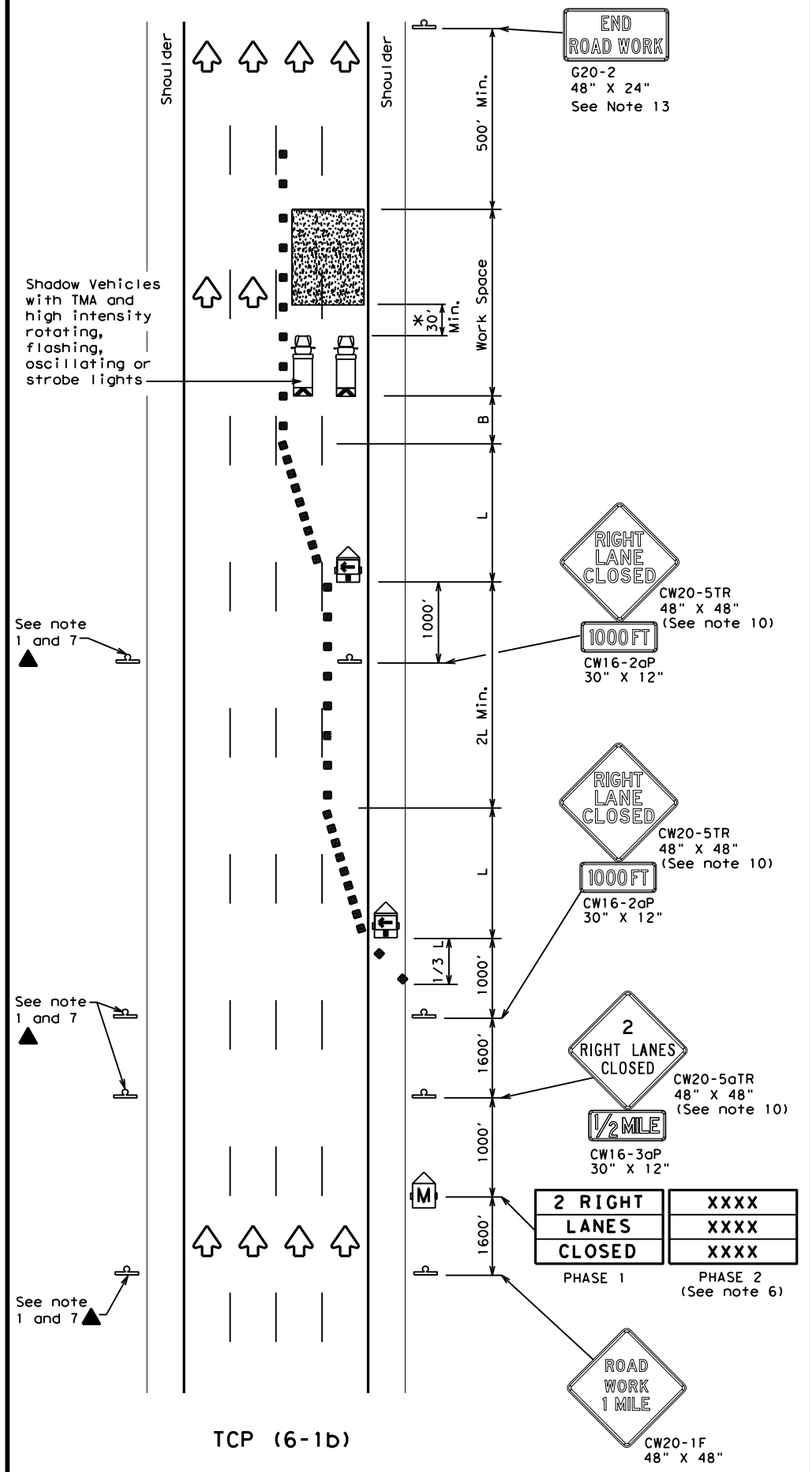


TCP (6-1a)

TYPICAL FREEWAY
ONE LANE CLOSURE



TCP (6-1b)

TYPICAL FREEWAY
TWO LANE CLOSURE

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

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

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

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. Drums or 42"cones are the typical channelizing devices. For Intermediate Term Stationary work, drums shall be used on tapers with drums or 42" cones used on tangent sections. Other channelizing devices may be used as directed by the Engineer.
3. All construction signs and barricades placed during any phase of work shall remain in place until removal is approved by the Engineer.
4. The Engineer may direct the Contractor to furnish additional signs and barricades as required to maintain traffic flow, detours and motorist safety during construction.
5. Static message boards or changeable message signs stating the date and duration of ramp or freeway lane closures shall be placed a minimum of seven (7) calendar days in advance of the actual closure.
6. Phase 2 of the PCMS message should include appropriate information formatted as shown on BC(6), such as "MERGE LEFT," recommended advisory speed, delay information, or other specific warnings.
7. Duplicate construction warning signs should be erected on the medians side of freeways where median width will permit and traffic volume justifies the signing.
8. The number of closed lanes may be increased provided the spacing of traffic control devices, taper lengths and tangent lengths meet the requirements of the TMUTCD.
9. Warning signs for intermediate term stationary work should be mounted at 7' to the bottom of the sign.
10. Warning signs shown shall be appropriately altered for left lane closures. When signs are mounted at 1' height for short term stationary or short duration work, sign versions shown in the SHSD for Texas with distances on the sign face rather than mounted on a plaque below the sign may be used.
11. When possible, PCMS units should be located in advance of the last available exit ramp prior to the lane closure to allow motorists an alternate route. They may also be relocated to improve advance warning in case of unanticipated queuing or congestion.
12. For Intermediate Term Stationary work at night, floodlights should be used to illuminate the work area and equipment crossings. Floodlights shall not produce a disabling glare condition for road users or workers.
13. The END ROAD WORK (G20-2) sign may be omitted when it conflicts with G20-2 signs already in place on the project.

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

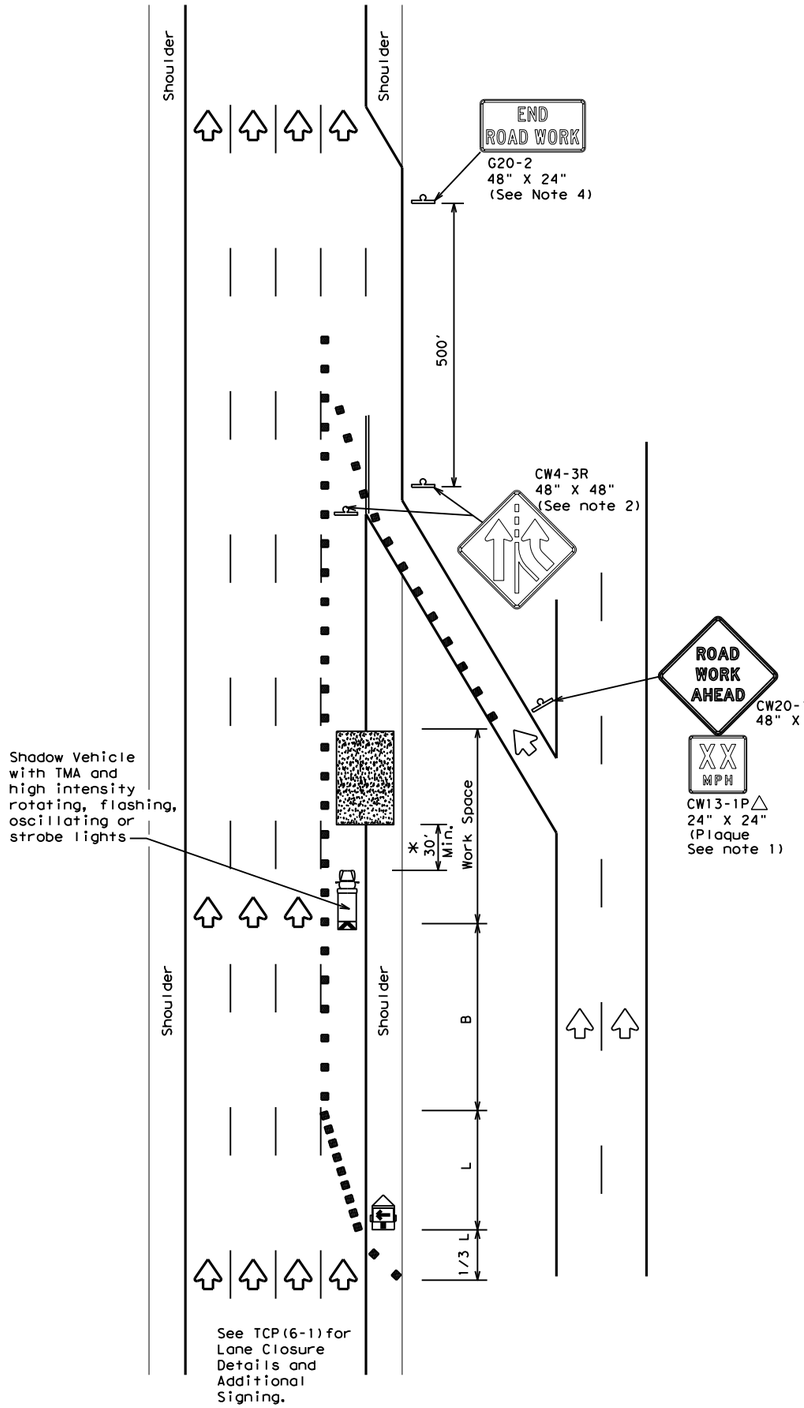
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
FREEWAY LANE CLOSURES

TCP(6-1)-12

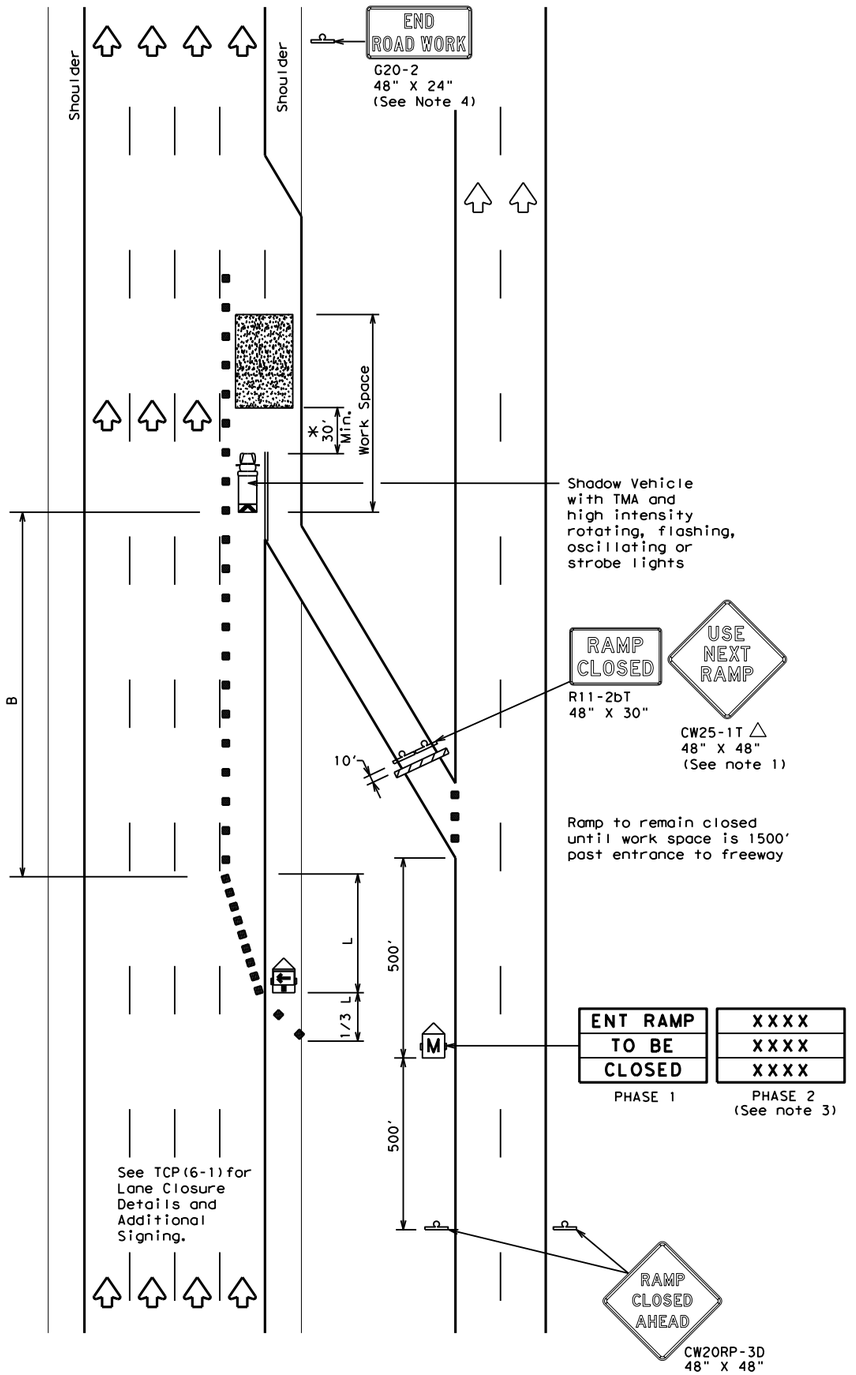
FILE: tcp6-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-12	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		82

DATE:
FILE:



TCP (6-2a)

ENTRANCE RAMP OPEN
WORK WITHIN 500' OF RAMP



TCP (6-2b)

ENTRANCE RAMP CLOSED

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

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

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

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. ADDED LANE Symbol (CW4-3) sign may be omitted when sign between ramp and mainlane can be seen from both roadways.
3. See "Advance Notice List" on BC(6) for recommended date and time formatting options for PCMS Phase 2 message.
4. The END ROAD WORK (G20-2) sign may be omitted when it conflicts with G20-2 signs already in place on the project.

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

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

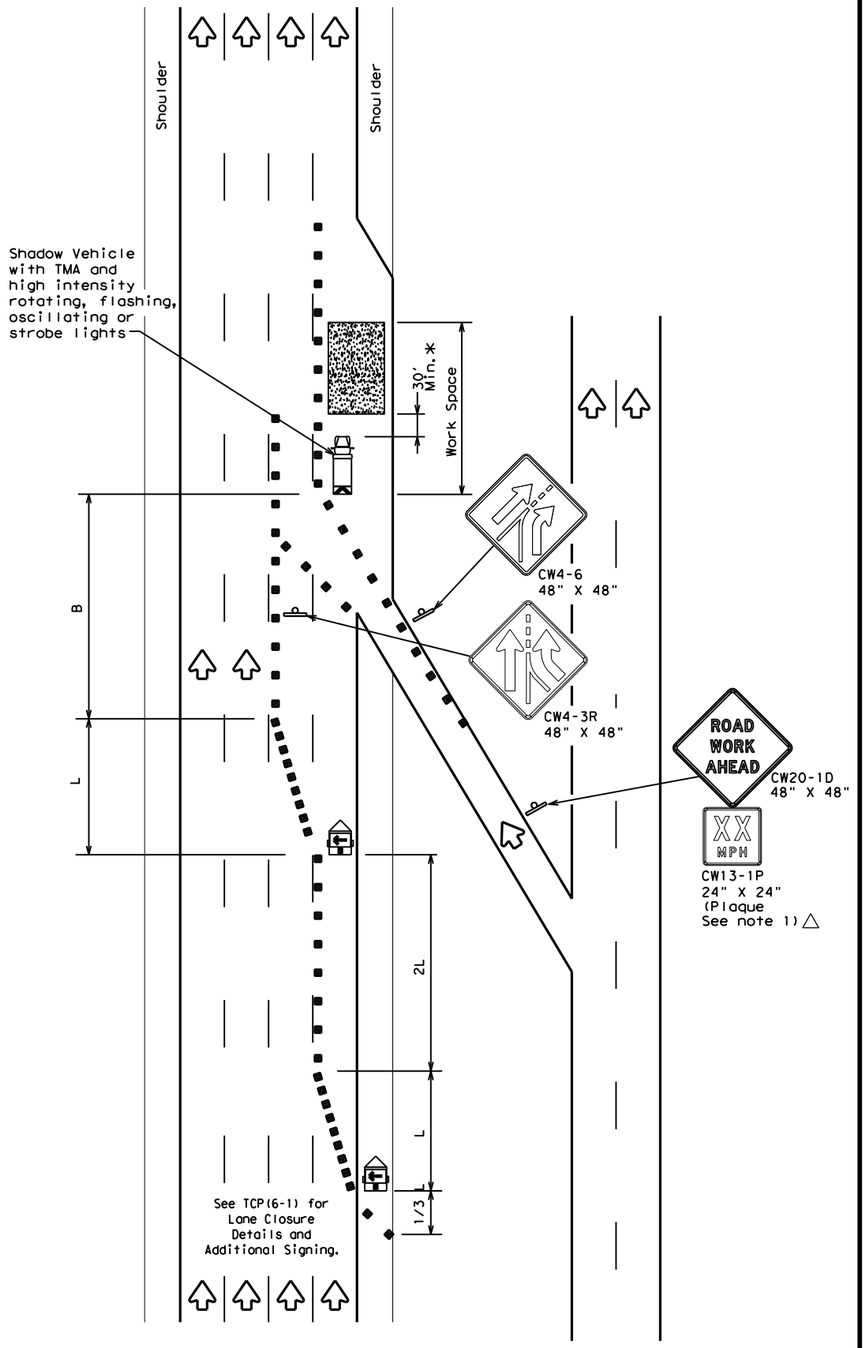
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA NEAR RAMP

TCP(6-2)-12

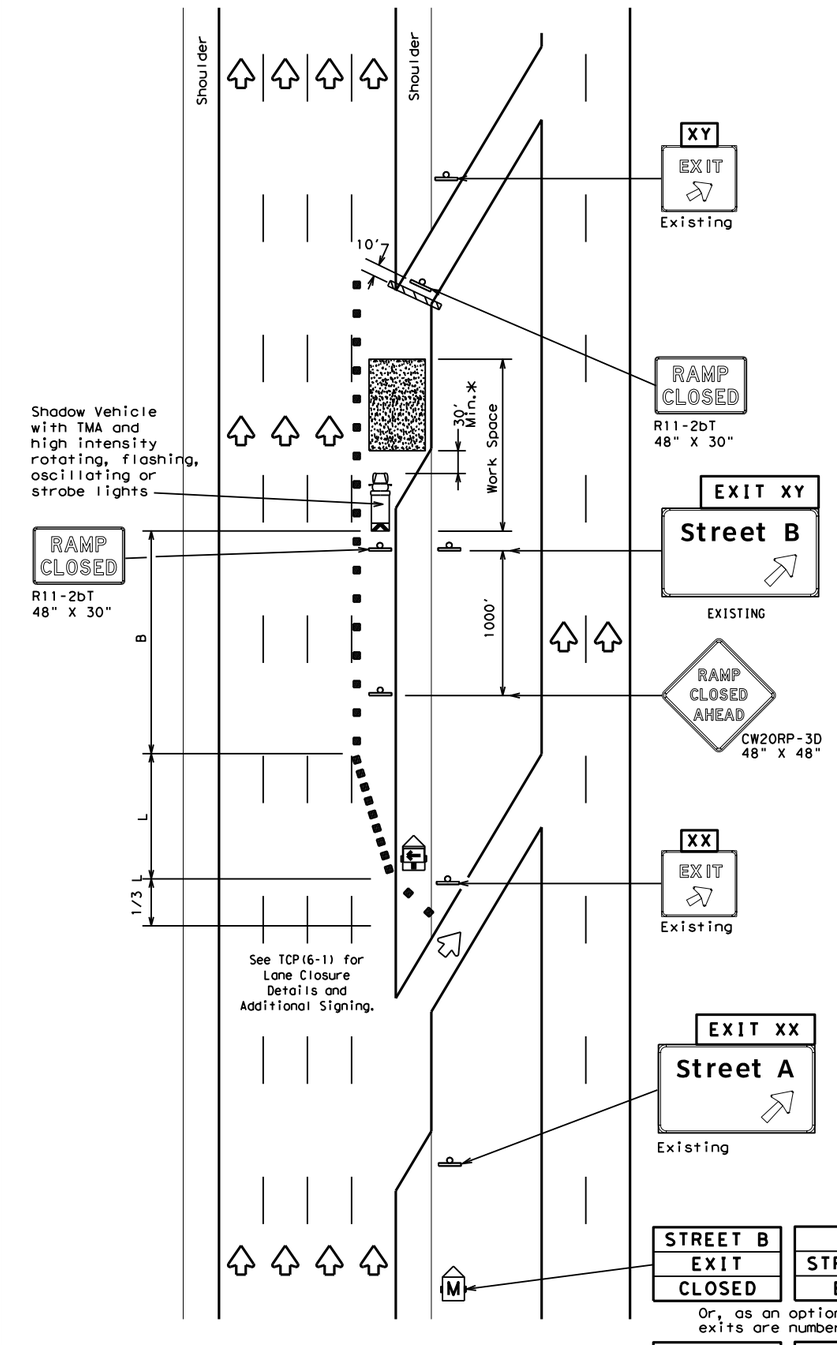
FILE: tcp6-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	FTW	ERATH,ETC.		83

DATE:
FILE:



TCP (6-3a)

ENTRANCE RAMP OPEN



TCP (6-3b)

EXIT RAMP CLOSED

TRAFFIC EXITS PRIOR TO CLOSED RAMP

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

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

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

GENERAL NOTES:

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.

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

Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

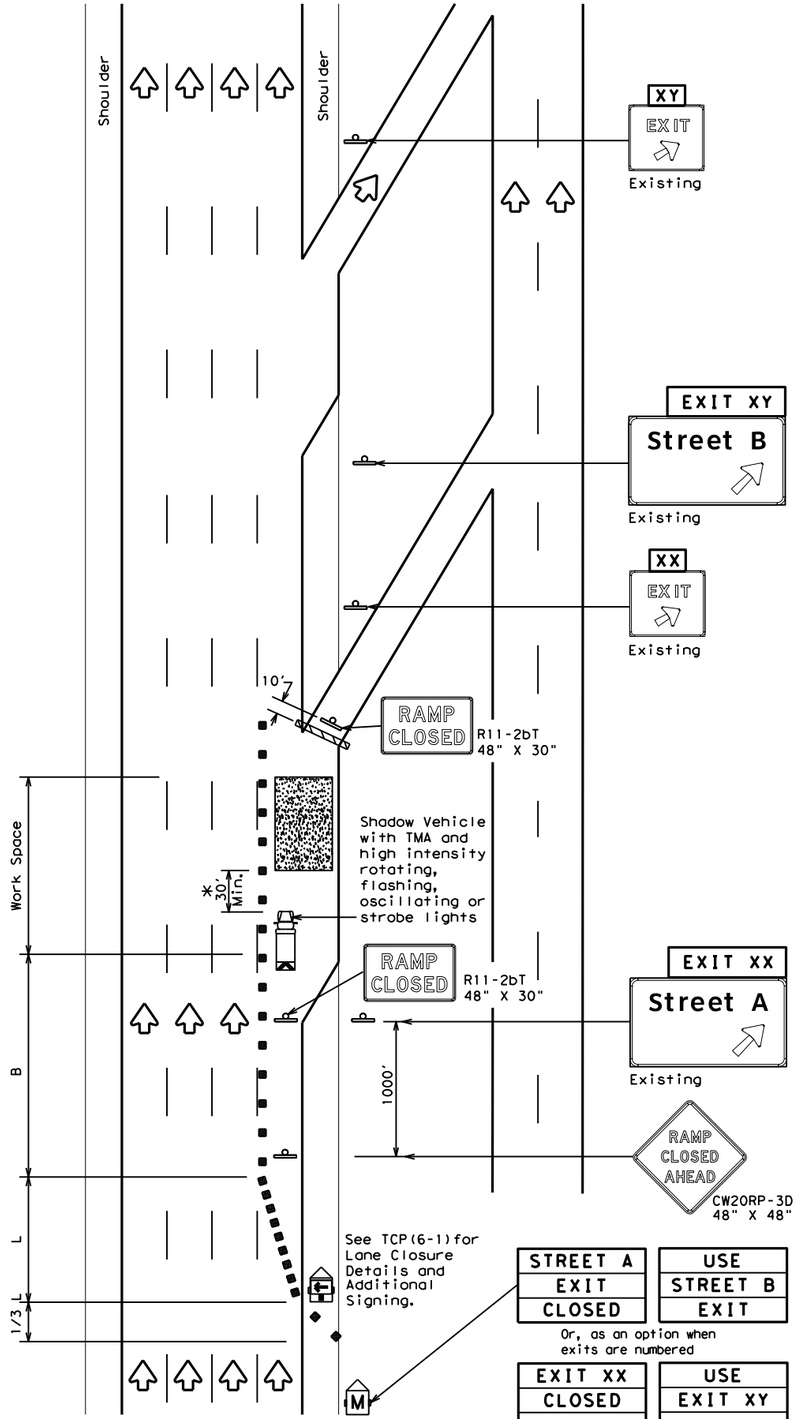
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA BEYOND RAMP

TCP(6-3)-12

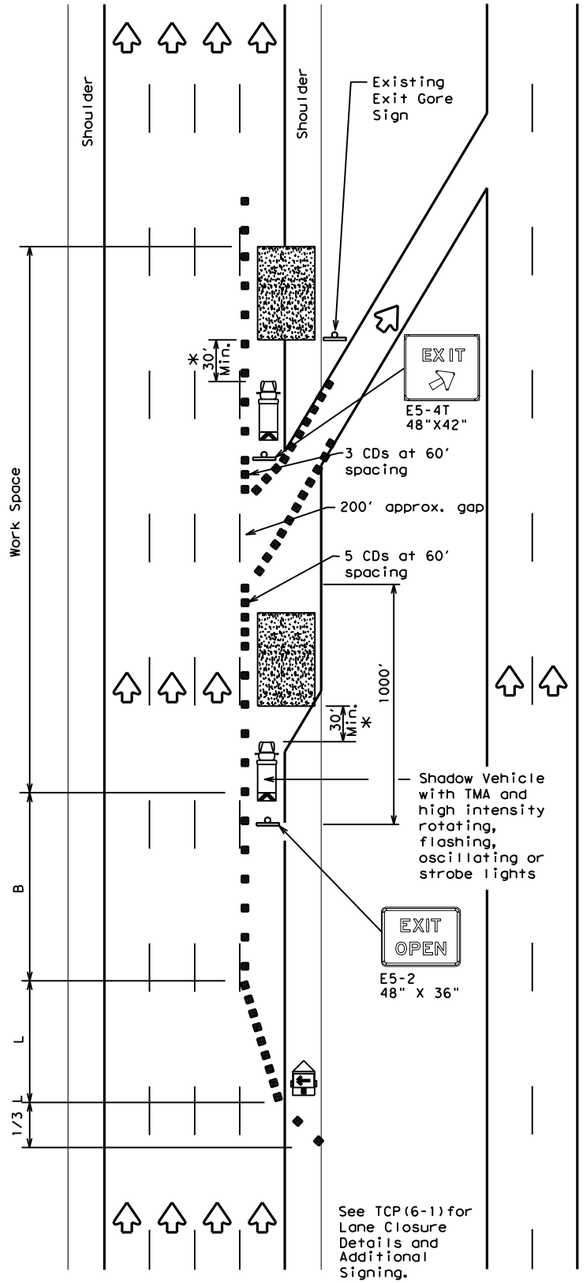
FILE: tcp6-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	FTW	ERATH,ETC.		84

DATE:
FILE:



TCP (6-4a)

EXIT RAMP CLOSED
TRAFFIC EXITS PAST CLOSED RAMP



TCP (6-4b)

EXIT RAMP OPEN

LEGEND

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

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

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

TYPICAL USAGE

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

GENERAL NOTES

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

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

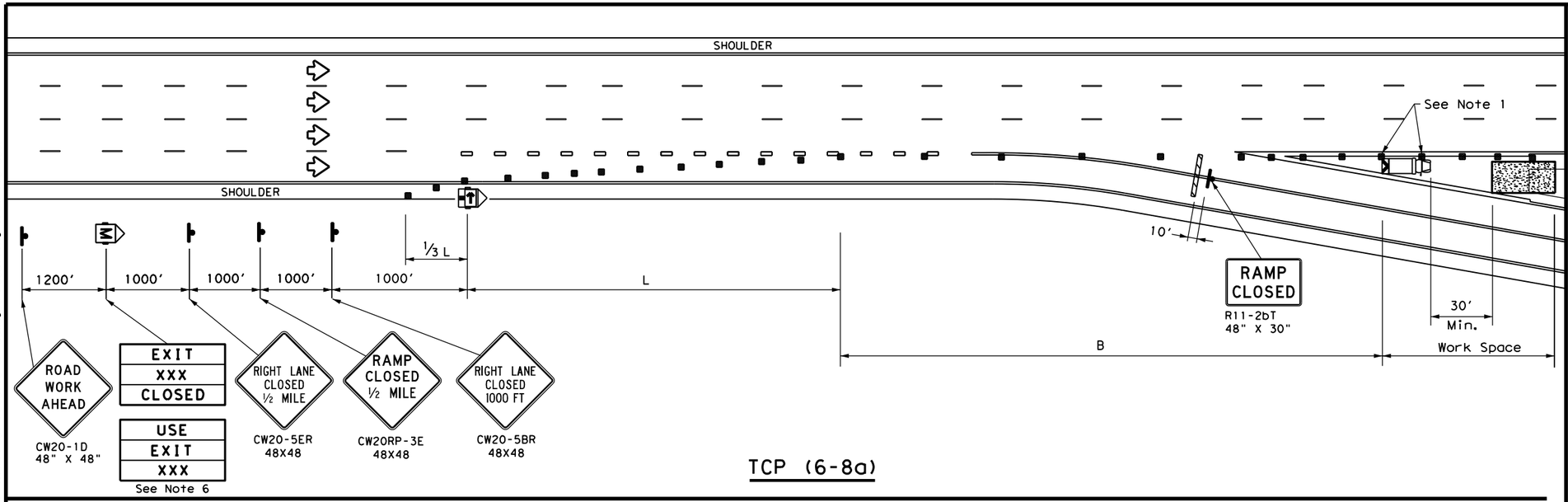
Additional requirements for lane closures and advance signing shall be as shown on TCP (6-1) or as directed by the Engineer.

Texas Department of Transportation
Traffic Operations Division Standard

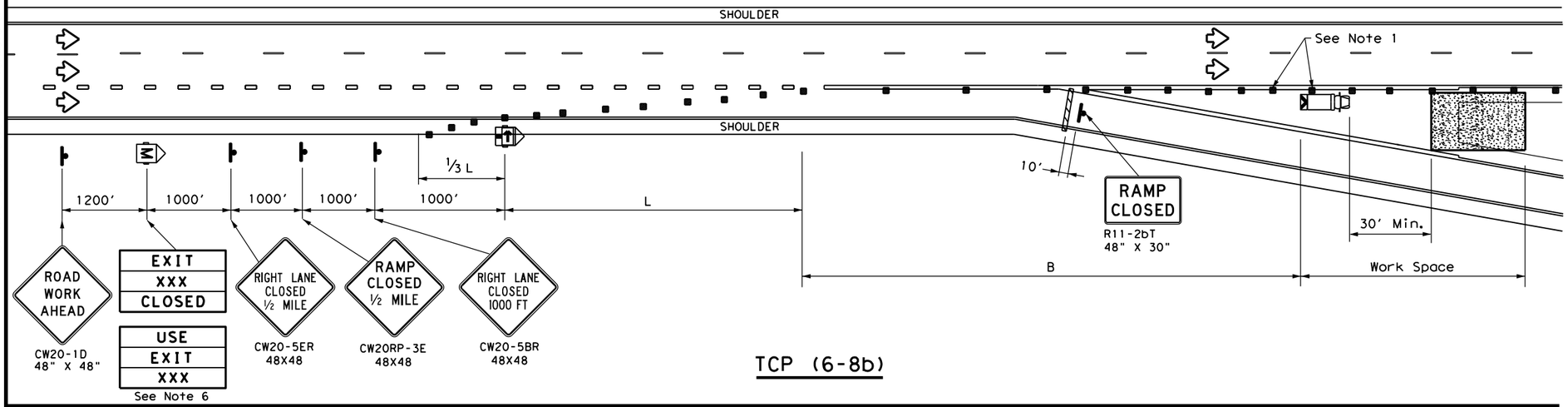
TRAFFIC CONTROL PLAN
WORK AREA AT EXIT RAMP

TCP(6-4)-12

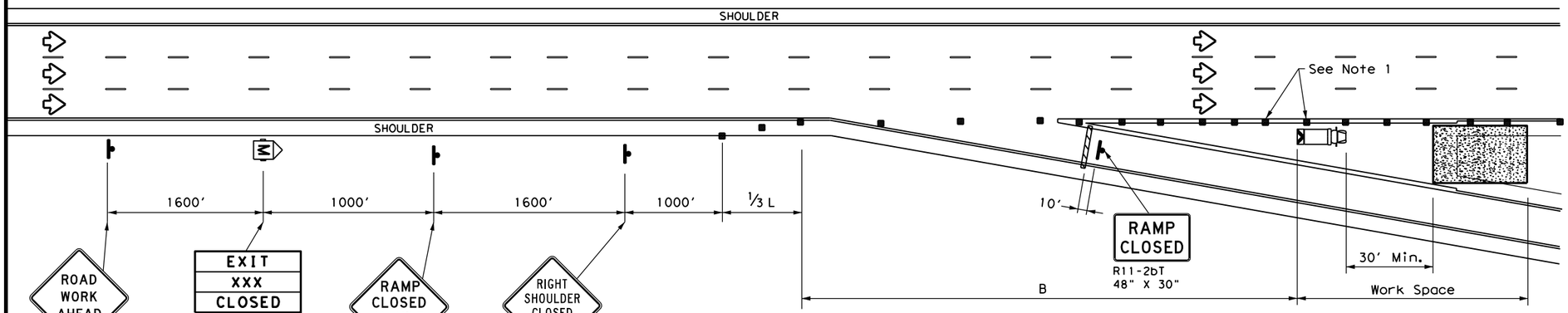
FILE: tcp6-4.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	FTW	ERATH, ETC.		85



TCP (6-8a)



TCP (6-8b)



TCP (6-8c)

DATE:
FILE:

LEGEND

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

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

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

TYPICAL USAGE

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

GENERAL NOTES

1. Place channelizing devices in the gore at 20' spacing.
2. See the Standard Highway Sign Design for Texas (SHSD) for sign details.
3. The PCMS may be omitted when a permanent DMS sign is available in an appropriate location to display a similar message as called for on the PCMS.
4. When it is determined that a through lane should be closed in addition to the exit ramp, refer to TCP(6-4) for traffic control details.
5. Truck mounted attenuator is required.
6. The PCMS may be omitted if replaced with a "RAMP CLOSED" AHEAD (CW20RP-3D) Sign.
7. Roadway ADT should be greater than 10,000.

Texas Department of Transportation

Traffic Operations Division Standard

WORK IN EXIT GORE FOR ADT GREATER THAN 10,000

TCP(6-8)-14

FILE: tcp6-8.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 2014	CONT	SECT	JOB	HIGHWAY
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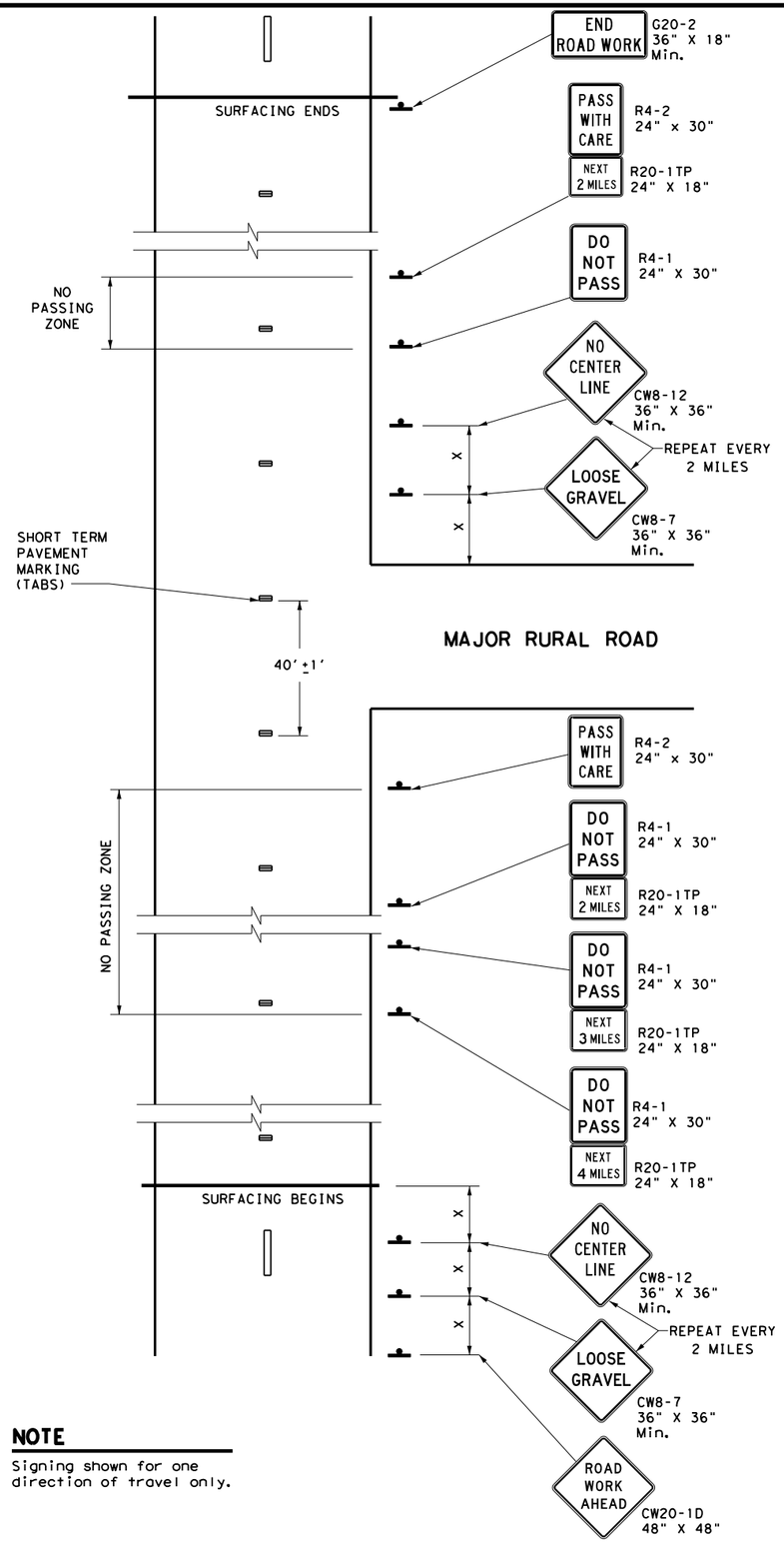
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		86

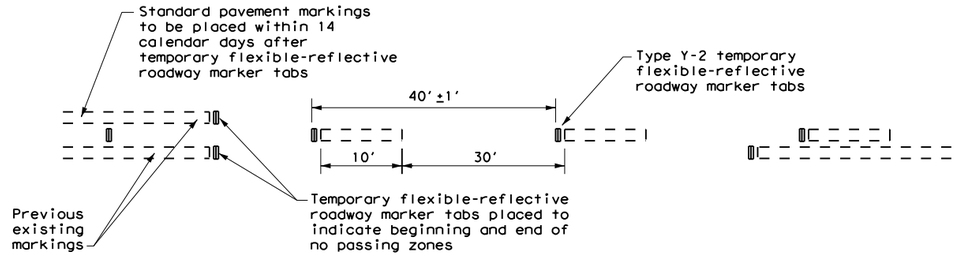
DATE:
FILE:



NOTE

Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS



TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS

For seal coat, micro-surface or similar operations

"DO NOT PASS" SIGN (R4-1) and NO-PASSING ZONES

A. Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing pavement markings.

B. At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.

C. Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing pavement markings. Also, unless one days operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.

D. R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

"NO CENTER LINE" SIGN (CW8-12)

A. Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.

B. At the time construction activity obliterates the existing center line markings(low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.

C. The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

"LOOSE GRAVEL" SIGN (CW8-7)

A. When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately 2 miles in rural areas and closer in urban areas.

B. The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

PAVEMENT MARKINGS

A. Temporary markings for surfacing projects shall be Temporary Flexible-reflective Roadway Marker Tabs unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the pavement
no more than two (2) days before the surfacing is applied. After the surfacing is rolled and swept, the cover over the reflective strip shall be removed.

B. Tabs shall not be used to simulate edge lines.

C. Tab placement for overlay/inlay operations shall be as shown on the WZ(STPM) standard sheet.

COORDINATION OF SIGN LOCATIONS

A. The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.

B. Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and one "X" sign spacing prior to the CONTRACTOR (G20-6T)sign typically located at or near the limits of surfacing. LOOSE GRAVEL and NO CENTER LINE signs will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing "X" Distance
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

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

GENERAL NOTES

1. The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
2. The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
3. Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Long-Term / Intermediate-Term Work Zone Sign Supports.
4. When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
5. Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL DETAILS FOR SURFACING OPERATIONS

TCP(7-1)-13

FILE: tcp7-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT March 1991	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
4-92 4-98	DIST	COUNTY		SHEET NO.
1-97 7-13	FTW	ERATH,ETC.		87

DATE:
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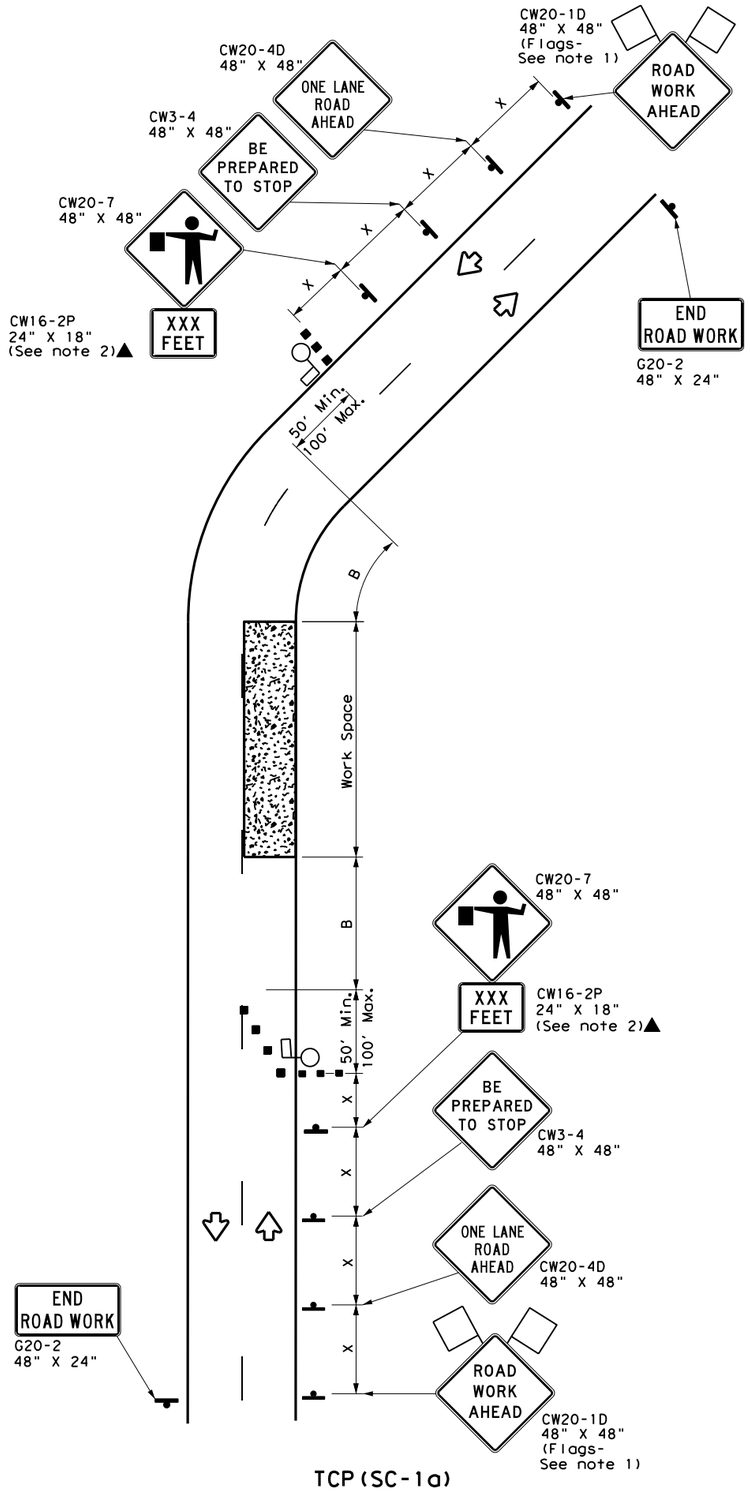
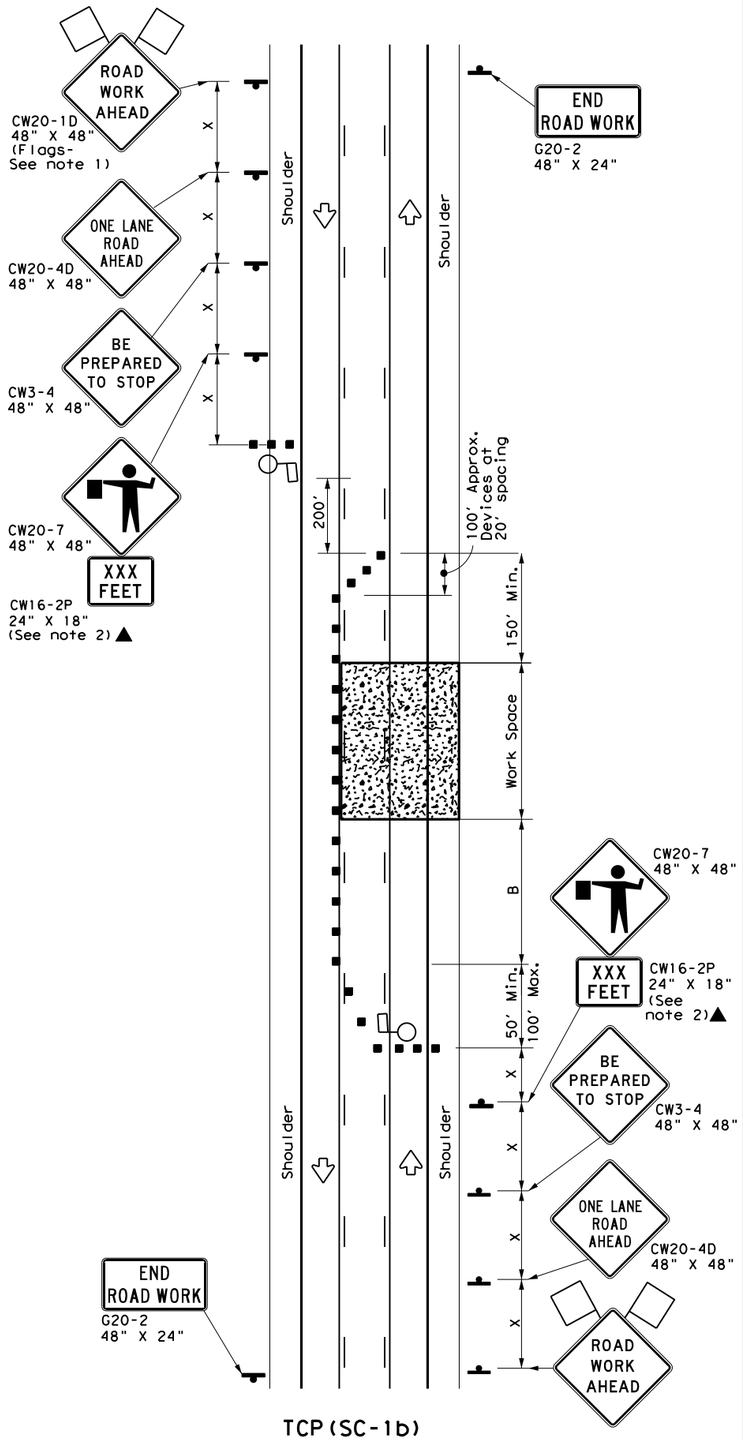


TCP(SC-1a)

ONE LANE TWO-WAY (2 LANES) CONTROL WITH PILOT VEHICLE



TCP(SC-1b)

ONE LANE TWO-WAY (3 LANES) CONTROL WITH PILOT VEHICLE AND CHANNELIZING DEVICES

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger sign is less than 1500 feet.
5. Flaggers should use two-way radios or other methods of communication at all times to control traffic.
6. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.
7. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
8. If the seal coat operation crosses intersections, traffic in these areas must be controlled, Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning other member of the traffic control crew at the intersection.
9. Temporary rumble strips are not required on seal coat operations.
10. Pilot car is used to guide vehicles through traffic control zone, vehicle shall have an identification name displayed and "PILOT CAR, FOLLOW ME" (G20-4) sign or message board mounted in a conspicuous position on rear.

TCP (SC-1a)

1. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS

TCP(SC-1)-21

FILE: tcpsc-1-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2021 REVISIONS	CONT	SECT	JOB	HIGHWAY
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	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		88

DATE:
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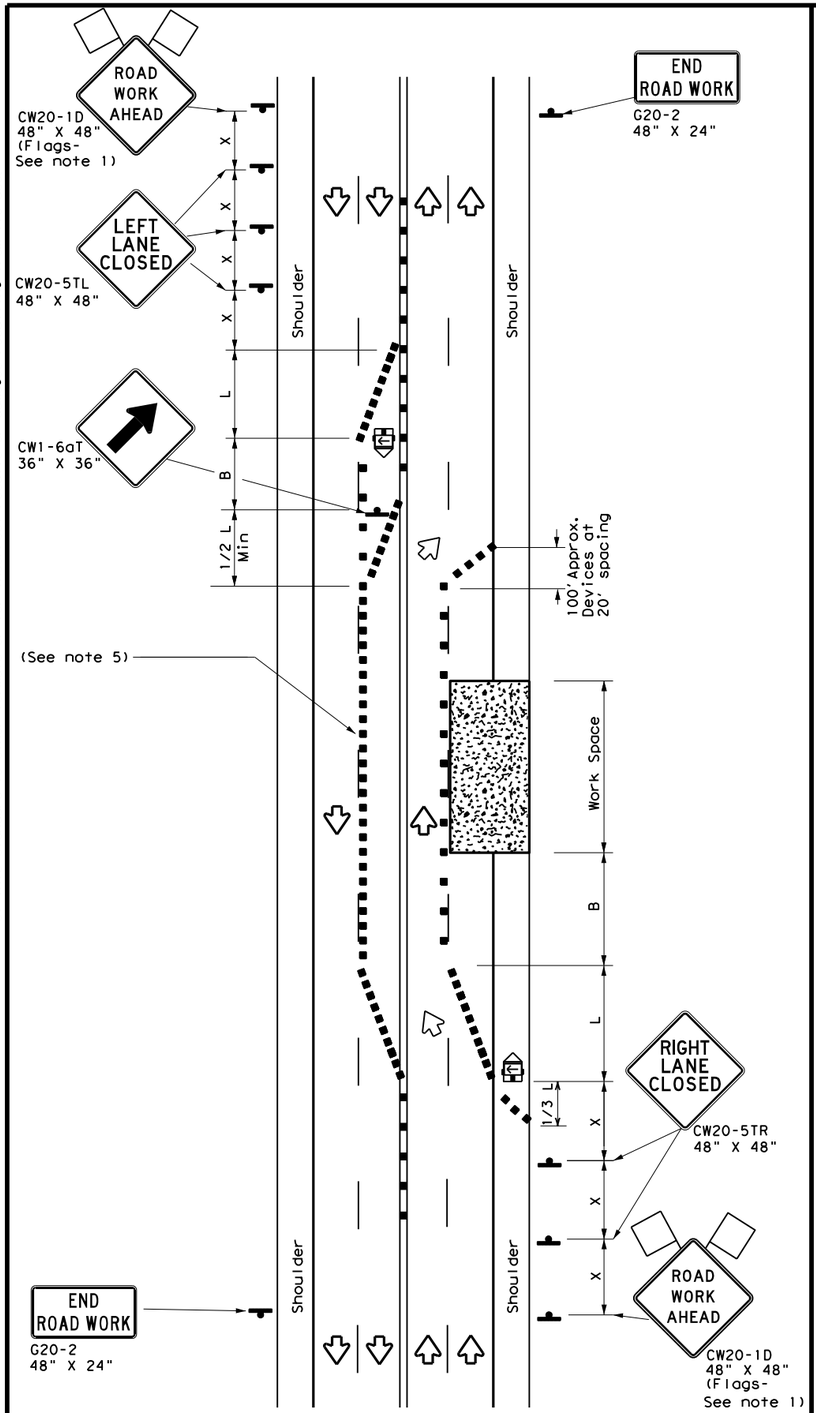
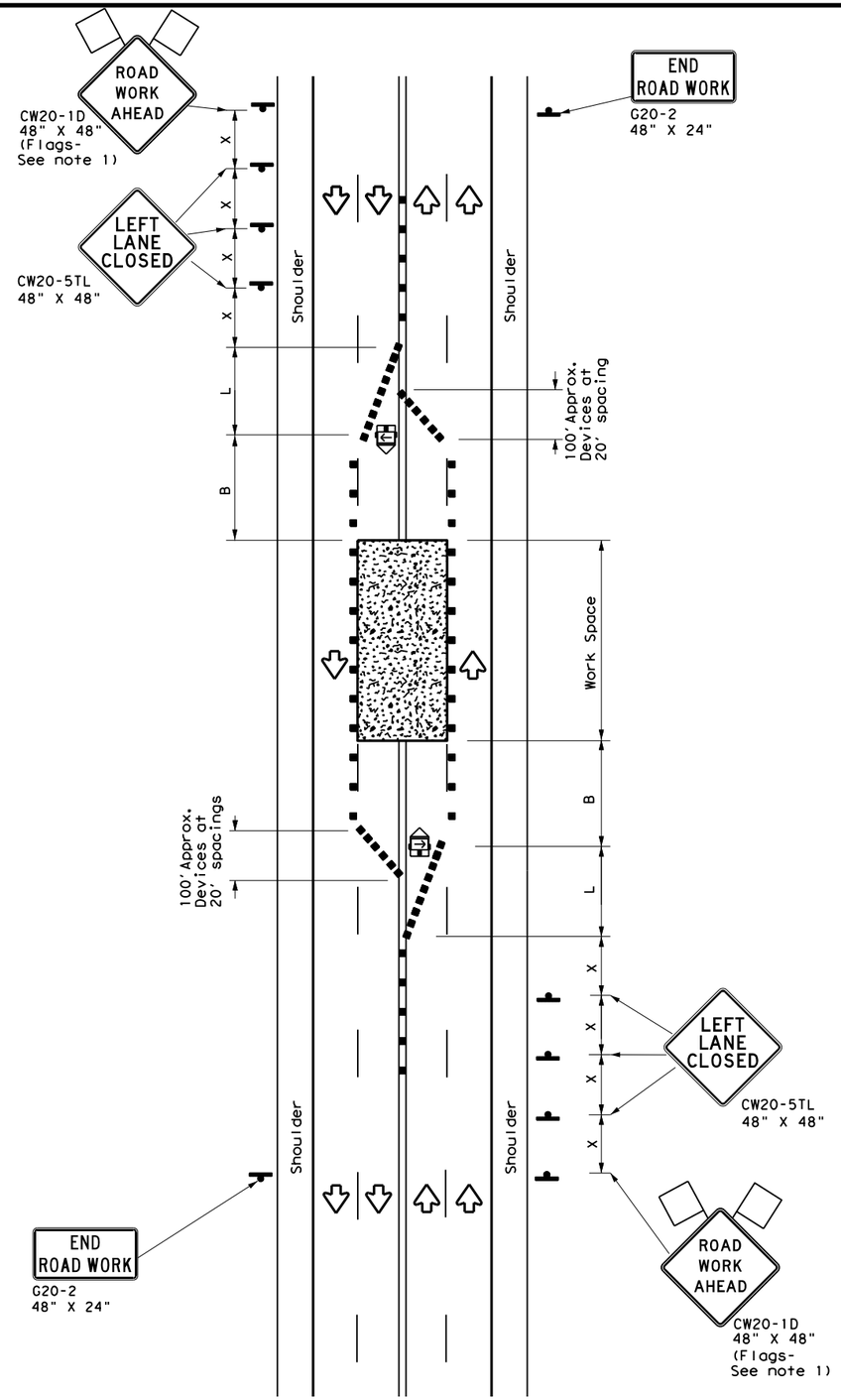


TCP (SC-2a)

ONE LANE CLOSED EACH DIRECTION
CONTROL WITH CHANNELIZING DEVICES



TCP (SC-2b)

CENTER LANES CLOSED
CONTROL WITH CHANNELIZING DEVICES

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

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

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW20-1D "ROAD WORK AHEAD" sign may be repeated if the visibility of the work zone is less than 1500 feet.
4. If the seal coat operation crosses intersections, traffic in these areas must be controlled, Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning other member of the traffic control crew at the intersection.
5. Temporary rumble strips are not required on seal coat operations.

TCP (SC-2a)

6. Where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the posted speed in mph. This tighter device spacing is intended for the areas of conflicting markings, not the entire work zone.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(SC-2)-21

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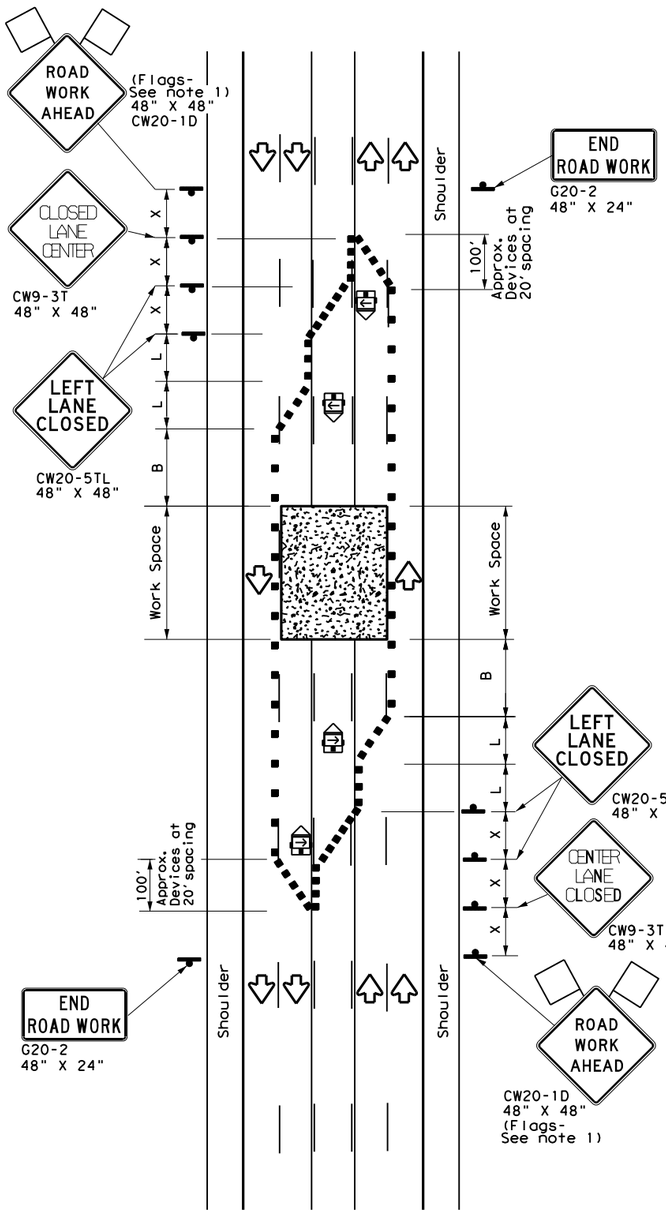
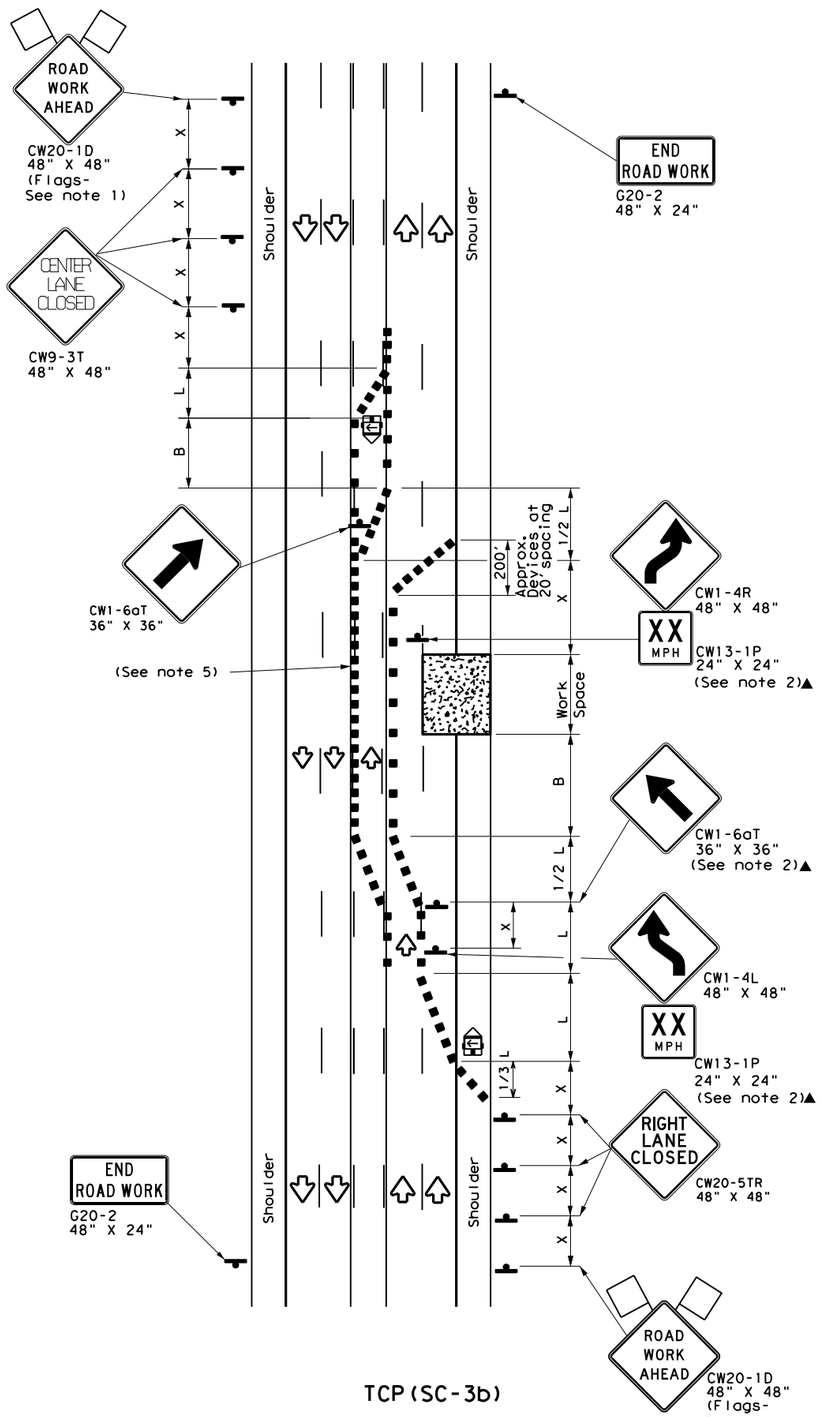


TCP(SC-3a)

CENTER LANES CLOSED
CONTROL WITH CHANNELIZING DEVICES



TCP(SC-3b)

ONE LANES CLOSED
CONTROL WITH CHANNELIZING DEVICES

LEGEND

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

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

* Conventional Roads Only

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

TYPICAL USAGE

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work when approved by the Engineer.
3. If the seal coat operation crosses intersections, traffic in these areas must be controlled. Care must be taken to prevent vehicles from crossing the asphalt before the aggregate is placed. This may require positioning other members of the traffic control crew at the intersection.
4. Temporary rumble strips are not required on seal coat operations.

TCP (SC-3b)

5. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the posted speed in mph. This tighter devices spacing is intended for the area of conflicting markings, not the entire work zone.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS

TCP(SC-3)-21

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© TxDOT April 2021	CONT	SECT	JOB	HIGHWAY
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	FTW	ERATH, ETC.		90

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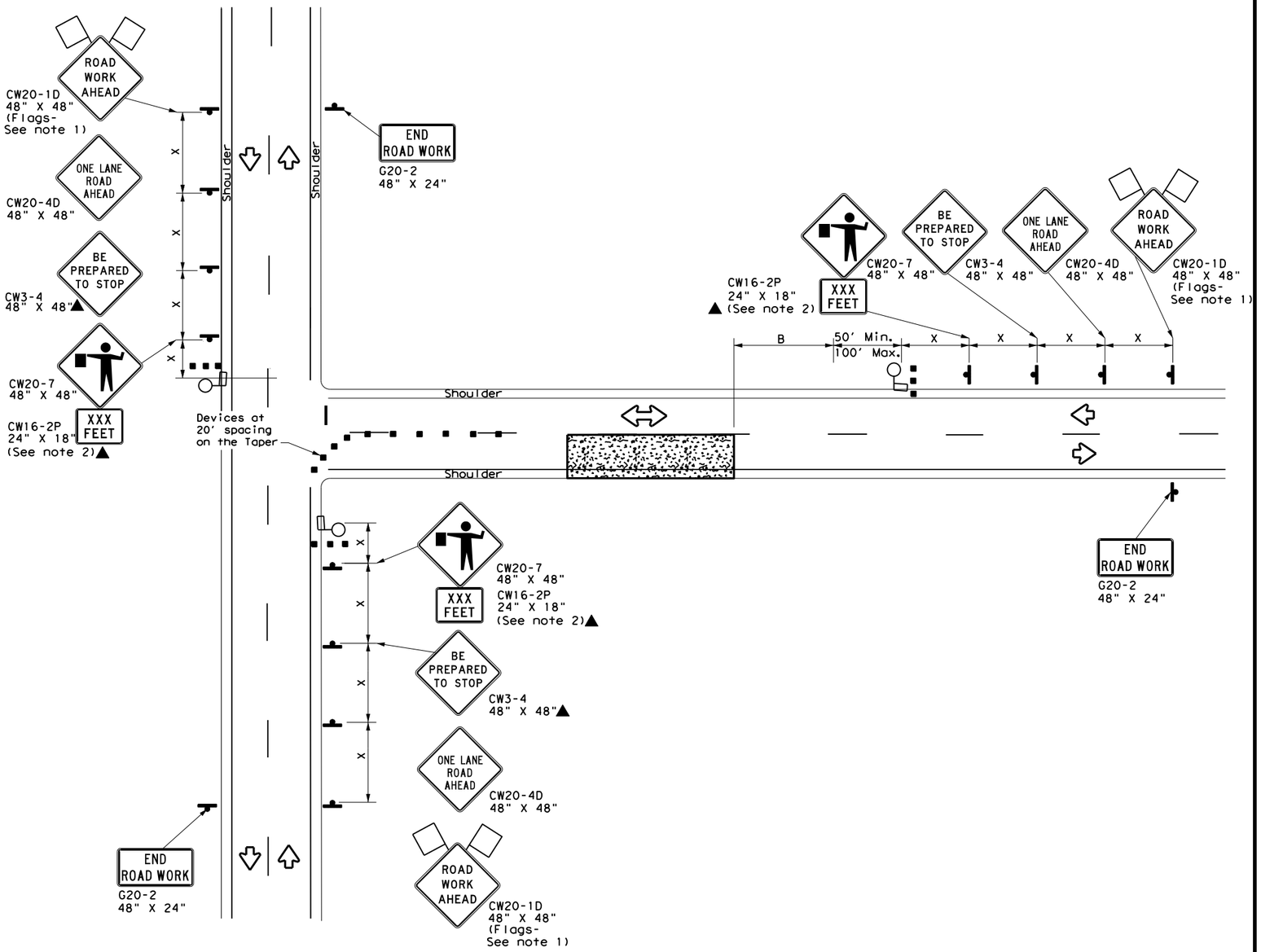

ONE LANE TWO-WAY (T-INTERSECTION) CONTROL WITH PILOT VEHICLE

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

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Flaggers should use two-way radios or other methods of communication at all times to control traffic.
5. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.
6. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
7. Temporary rumble strips are not required on seal coat operations.
8. Pilot car is used to guide vehicles through traffic control zone, vehicle shall have an identification name displayed and "PILOT CAR, FOLLOW ME" (G20-4) sign or message board mounted in a conspicuous position on rear.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC CONTROL PLAN SEAL COAT OPERATIONS

TCP(SC-4)-21

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	FTW	ERATH,ETC.		91

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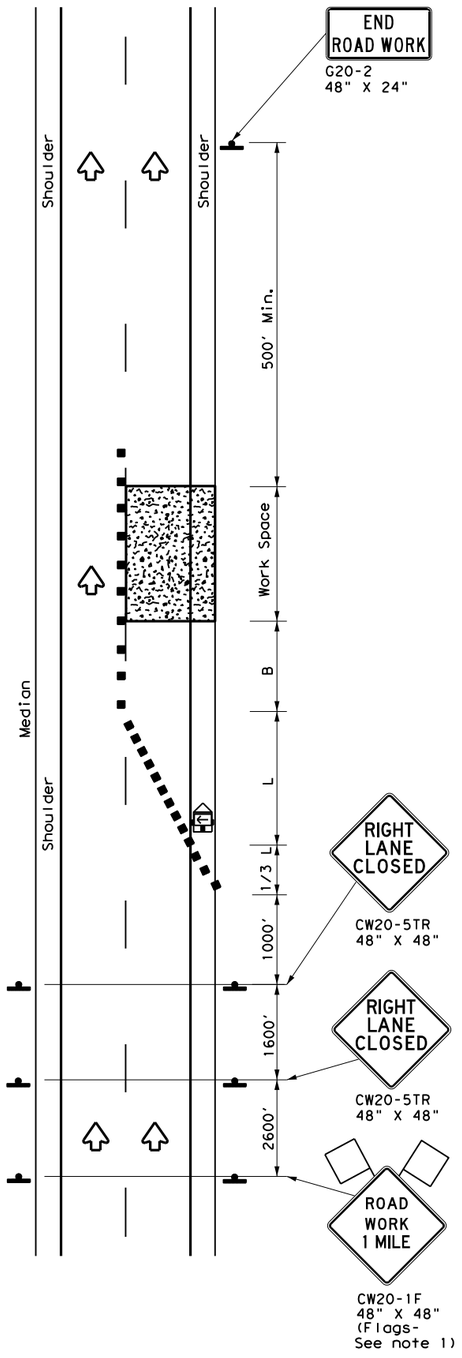
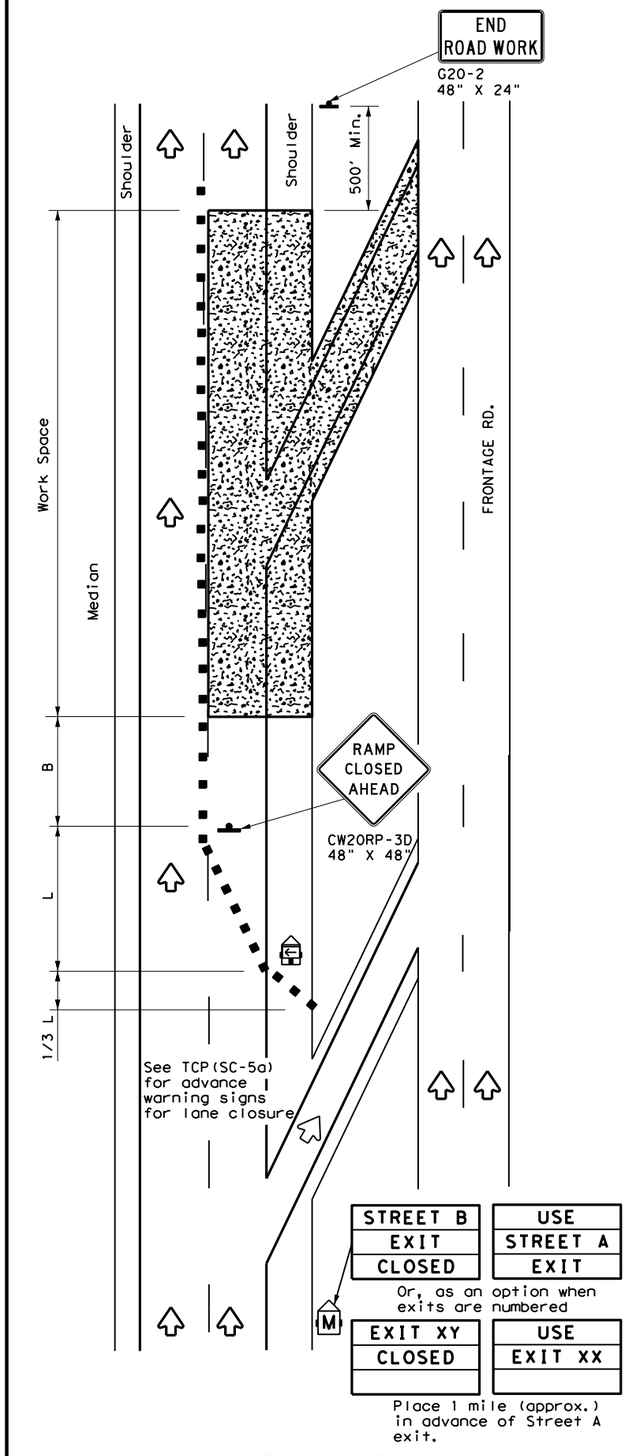


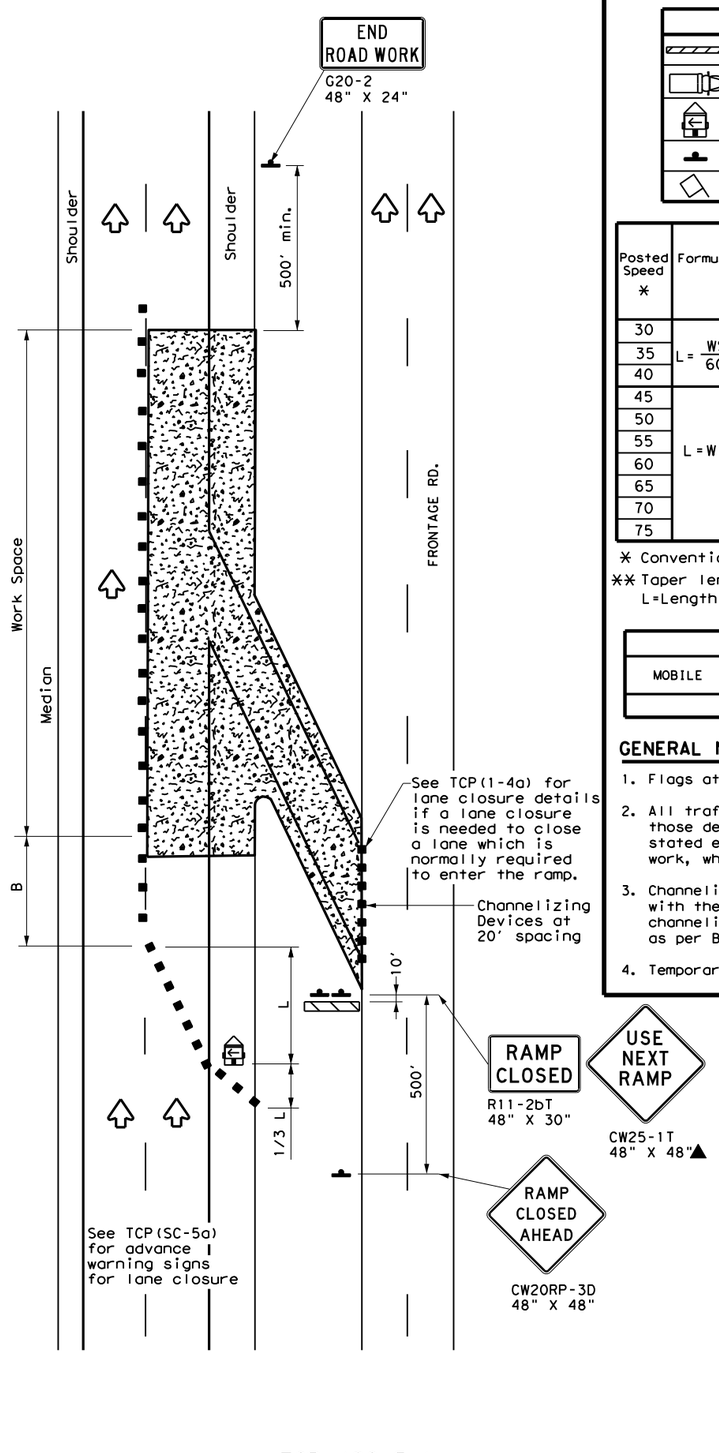
TCP (SC-5a)

ONE LANE CLOSURE



TCP (SC-5b)

LANE AND RAMP CLOSURE AT EXIT RAMPS



TCP (SC-5c)

LANE AND RAMP CLOSURE AT ENTRANCE RAMPS

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Channelizing devices used to close lanes may be supplemented with the Chevron Alignment Sign placed on every other channelizing device. Chevrons may be attached to plastic drums as per BC Standards.
4. Temporary rumble strips are not required on seal coat operations.

Texas Department of Transportation

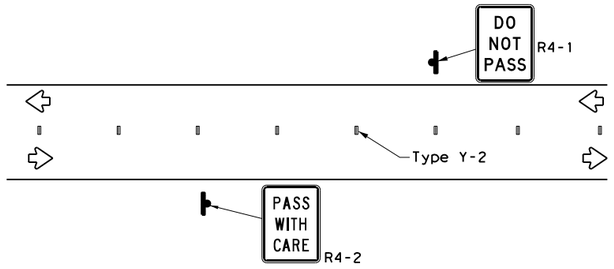
Traffic Safety Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES FOR DIVIDED HIGHWAYS

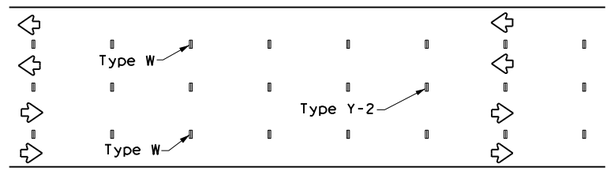
TCP(SC-5)-21

FILE: tcpsc-5-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		92

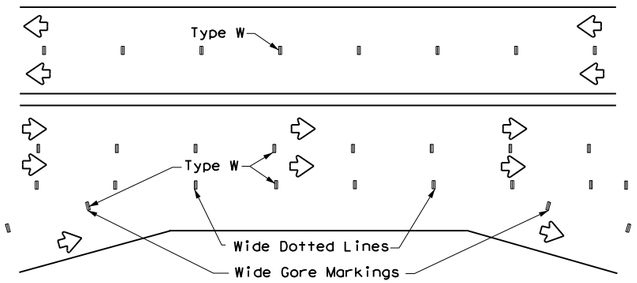
WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS (TABS)



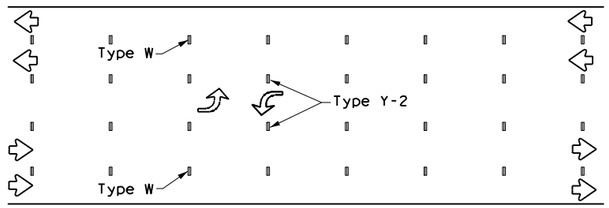
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS



LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS

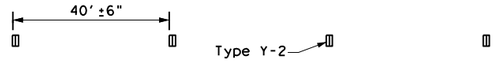


LANE LINES FOR DIVIDED HIGHWAY



TWO-WAY LEFT TURN LANE

WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS (TABS)

SOLID LINES	DOUBLE NO-PASSING LINE	
	SINGLE NO-PASSING LINE or CHANNELIZATION LINE	
BROKEN LINES (FOR CENTER LINE OR LANE LINE)		
WIDE DOTTED LINES (FOR LANE DROP LINES)		
WIDE GORE MARKINGS		

NOTES:

1. Short term pavement markings shall be temporary flexible-reflective roadway marker tabs with protective cover unless otherwise specified elsewhere in plans.
2. Short term pavement markings shall NOT be used to simulate edge lines.
3. Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.
4. Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.
5. No segment of roadway open to traffic shall remain without permanent pavement markings for a period greater than 14 calendar days. The Contractor will be responsible for maintaining short term pavement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent pavement markings shall be placed as soon as weather permits.
6. For exit gores where a lane is being dropped place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are not allowed for this purpose.

TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

1. Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with yellow body); Type Y (one amber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(11).
2. Tabs shall meet requirements of Departmental Material Specification DMS-8242.
3. When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway geometrics.
4. No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 3.

DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

1. DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:

   http://www.txdot.gov

Texas Department of Transportation

Traffic Safety Division Standard

WORK ZONE SHORT TERM PAVEMENT MARKINGS FOR SEAL COAT OPERATIONS

TCP(SC-6)-21

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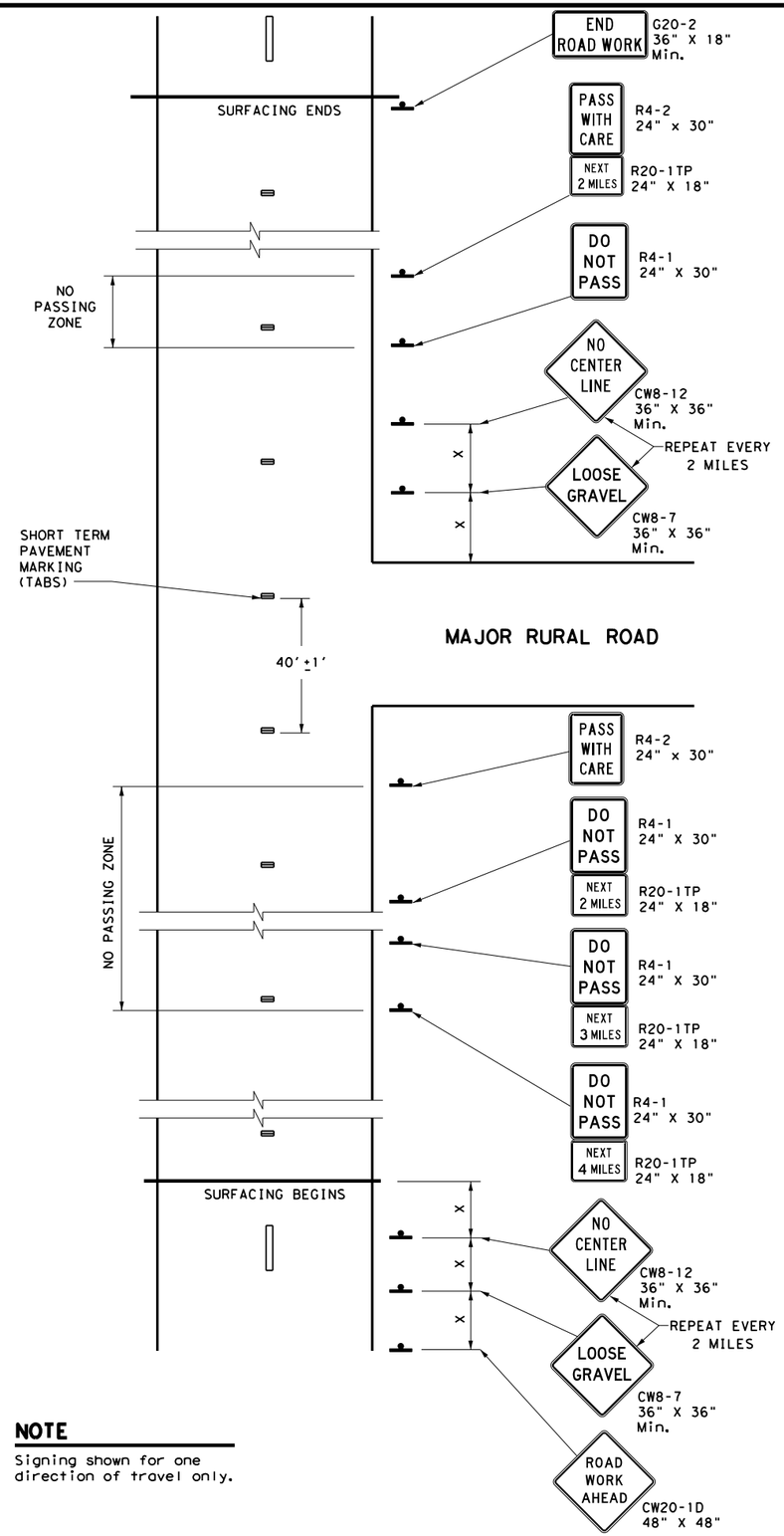
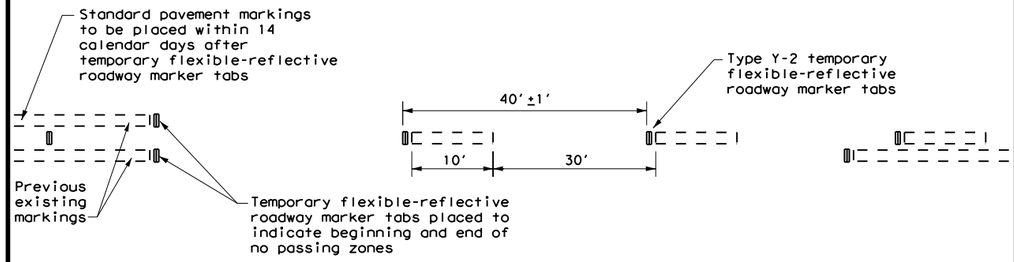


NOTE

Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS



TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS

For seal coat operations

"DO NOT PASS" SIGN (R4-1) and NO-PASSING ZONES

A. Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing pavement markings.

B. At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-1TP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.

C. Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing pavement markings. Also, unless one days operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.

D. R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

"NO CENTER LINE" SIGN (CW8-12)

A. Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line markings.

B. At the time construction activity obliterates the existing center line markings(low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.

C. The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

"LOOSE GRAVEL" SIGN (CW8-7)

A. When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately 2 miles in rural areas and closer in urban areas.

B. The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

PAVEMENT MARKINGS

A. Temporary markings for surfacing projects shall be Temporary Flexible-reflective Roadway Marker Tabs unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the pavement
no more than two (2) days before the surfacing is applied. After the surfacing is rolled and swept, the cover over the reflective strip shall be removed.

B. Tabs shall not be used to simulate edge lines.

COORDINATION OF SIGN LOCATIONS

A. The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.

B. Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and one "X" sign spacing prior to the CONTRACTOR (G20-6T)sign typically located at or near the limits of surfacing. LOOSE GRAVEL and NO CENTER LINE signs will then be repeated as described above.

Posted Speed *	Minimum Sign Spacing "X" Distance
30	120'
35	160'
40	240'
45	320'
50	400'
55	500'
60	600'
65	700'
70	800'
75	900'

* Conventional Roads Only

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

GENERAL NOTES

1. The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
2. The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
3. Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Short Duration / Short Term Stantionary Work Zone Sign Supports.
4. When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
5. Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC CONTROL DETAILS FOR SEAL COAT OPERATIONS

TCP(SC-7)-21

FILE: tcpsc-7-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2021	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH,ETC.		94

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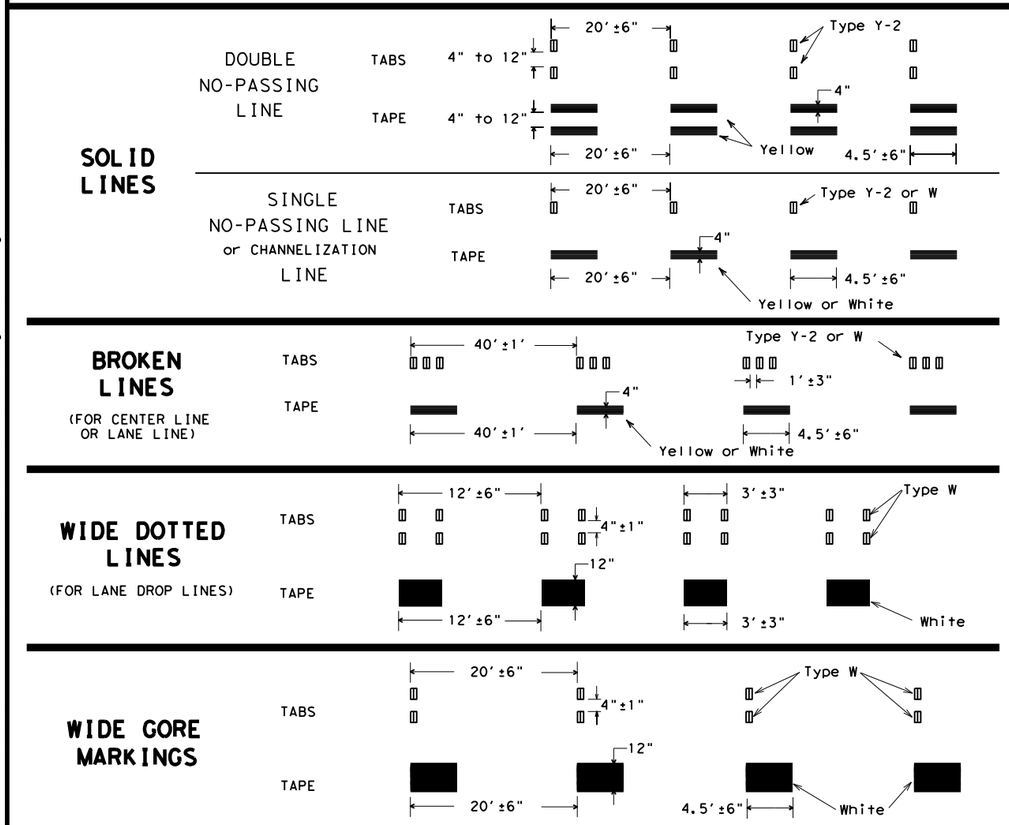
DATE:
FILE:

WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS



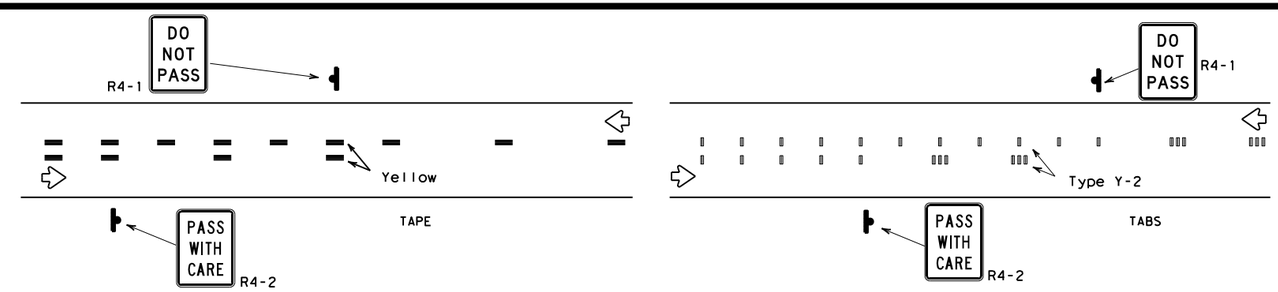
NOTES:

1. Short term pavement markings may be prefabricated markings (stick down tape) or temporary flexible-reflective roadway marker tabs unless otherwise specified elsewhere in plans.
2. Short term pavement markings shall NOT be used to simulate edge lines.
3. Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.
4. Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.
5. No segment of roadway open to traffic shall remain without permanent pavement markings for a period greater than 14 calendar days. The Contractor will be responsible for maintaining short term pavement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent pavement markings shall be placed as soon as weather permits.
6. For two lane, two-way roadways, DO NOT PASS signs shall be erected to mark the beginning of sections where passing is prohibited and PASS WITH CARE signs shall be erected to mark the beginning of sections where passing is permitted. Signs shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and may be used to indicate the limits of no-passing zones for up to 14 calendar days. Permanent pavement markings should then be placed.
7. For low volume two lane, two-way roadways of 4000 ADT or less, no-passing lines may be omitted when approved by the Engineer. DO NOT PASS and PASS WITH CARE signs shall be erected (see note 6).
8. For exit gores where a lane is being dropped place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are not allowed for this purpose.

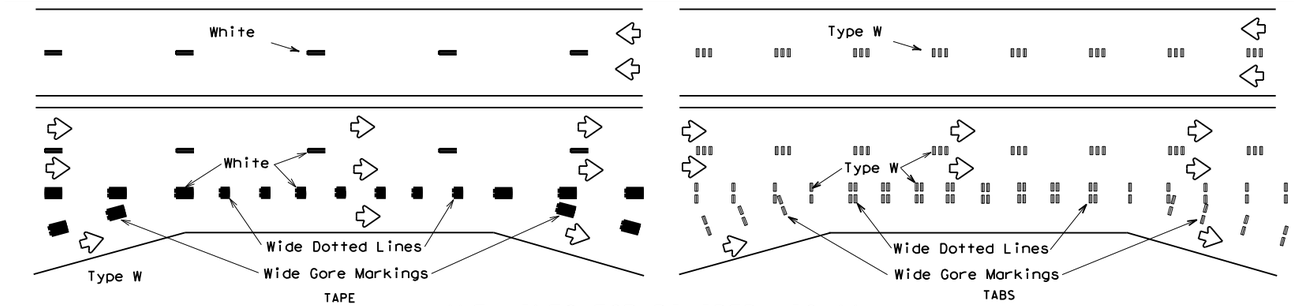
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

1. Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with yellow body); Type Y (one amber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(11).
2. Tabs shall meet requirements of Departmental Material Specification DMS-8242.
3. When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway geometrics.
4. No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 3.

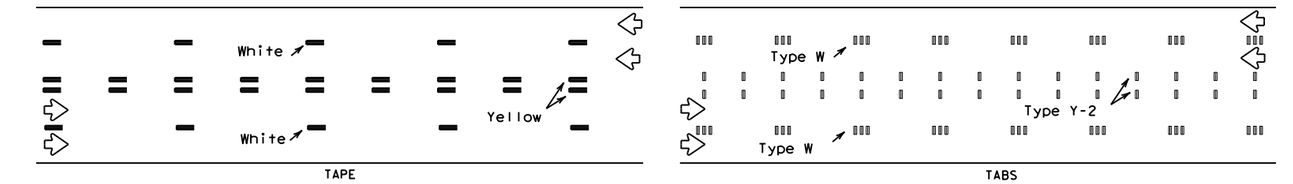
WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS



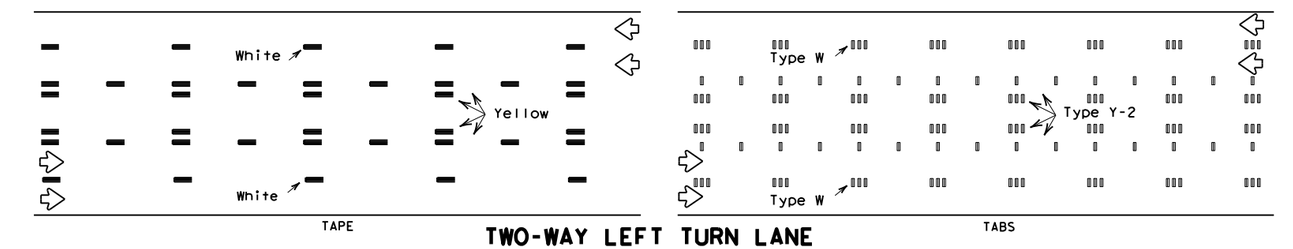
CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO LANE TWO-WAY HIGHWAYS



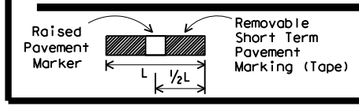
LANE LINES FOR DIVIDED HIGHWAY



LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



TWO-WAY LEFT TURN LANE



If raised pavement markers are used to supplement REMOVABLE short term markings, the markers shall be applied to the top of the tape at the approximate mid length of the tape. This allows an easier removal of raised markers and tape.

PREFABRICATED PAVEMENT MARKINGS

1. Temporary Removable Prefabricated Pavement Markings shall meet the requirements of DMS-8241.
2. Non-removable Prefabricated Pavement Markings shall meet the requirements of either DMS-8240 "Permanent Prefabricated Pavement Markings" or DMS-8243 "Temporary Costruction-Grade Prefabricated Pavement Markings."

RAISED PAVEMENT MARKERS

1. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and DMS-4200.

DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

1. DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:
   http://www.txdot.gov/business/contractors_consultants/material_specifications/default.htm

Texas Department of Transportation

Traffic Operations Division Standard

WORK ZONE SHORT TERM PAVEMENT MARKINGS

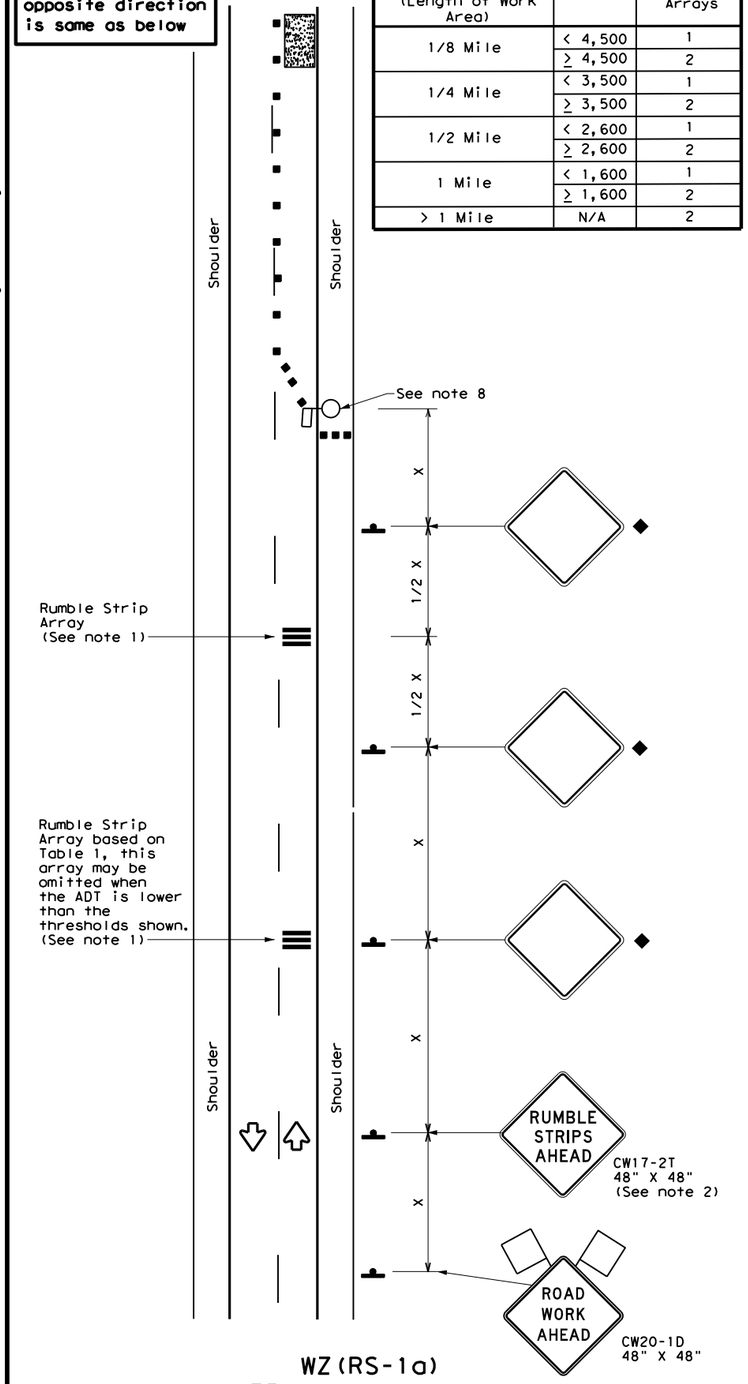
WZ(STPM)-13

FILE:	wzstpm-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS		0079	05	061	US67,ETC.
1-97		DIST	COUNTY		SHEET NO.
3-03		FTW	ERATH,ETC.		95
7-13					

DATE:
FILE:

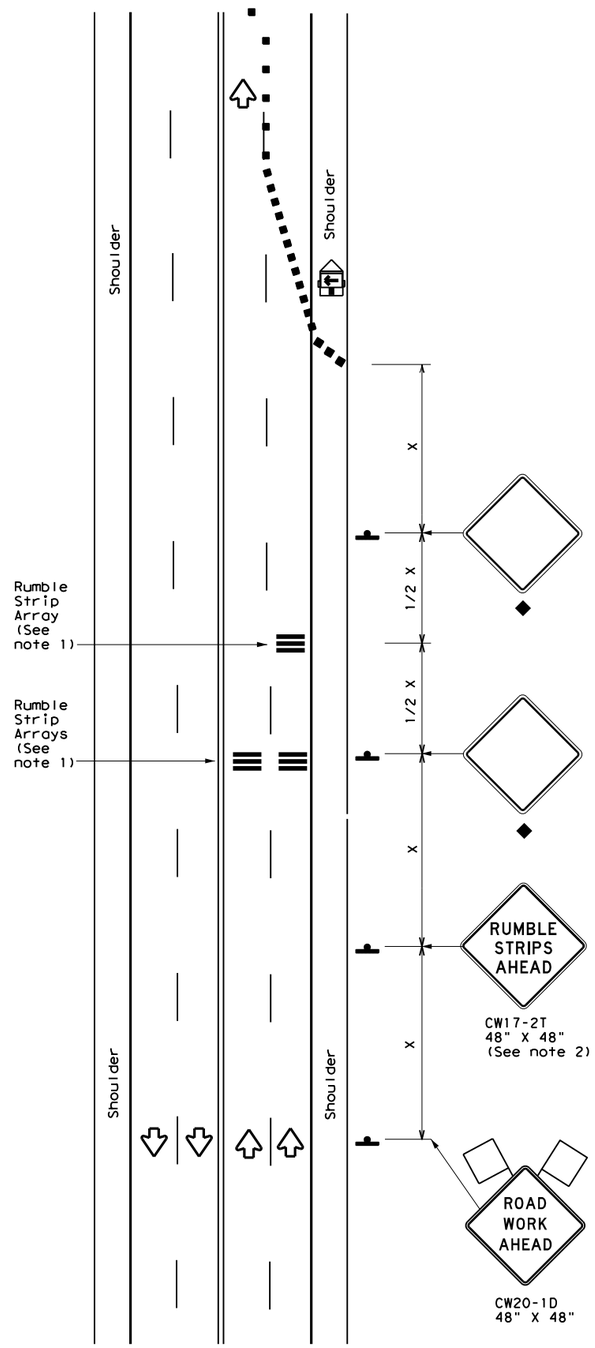
Warning sign and rumble strip sequence in opposite direction is same as below

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



WZ(RS-1a)
75 mph or Less

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ(RS-1b)
75 mph or Less

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. Removal of the Temporary Rumble Strips should be accomplished before removing the advance 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 AFAD or a portable traffic signal.
9. Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment.

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

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

* Conventional Roads Only

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

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

◆ **Signs are for illustrative purposes only. Signs required may vary depending on the TCP, TMUTCD Typical Application, or project specific details for the project.**

TABLE 2	
Speed	Approximate distance between strips in an Array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
> 55 MPH	20'

Texas Department of Transportation

Traffic Operations Division Standard

TEMPORARY RUMBLE STRIPS

WZ(RS)-16

FILE: wzrs16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67,ETC.
2-14	DIST	COUNTY		SHEET NO.
4-16	FTW	ERATH,ETC.		96

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DATE:
FILE:

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

A. DOT #: 020905E
Crossing Type: ROAD WAY UNDERPASS
RR Company Owning Track at Crossing: FWWR
Operating RR Company at Track: FWWR
RR MP: 45.420
RR Subdivision: DUBLIN
City: TOLAR
County: HOOD
CSJ at this Crossing: 0080-03-059
Highway/Roadway name crossing the railroad: US 377
# of regularly scheduled trains per day at this crossing: 14.00
# of switching movements per day at this crossing: 2.00
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

B. DOT #: 020907T
Crossing Type: AT GRADE
RR Company Owning Track at Crossing: FWWR
Operating RR Company at Track: FWWR
RR MP: 46.150
RR Subdivision: DUBLIN
City: TOLAR
County: HOOD
CSJ at this Crossing: 0777-02-036
Highway/Roadway name crossing the railroad: FM 56
# of regularly scheduled trains per day at this crossing: 13.00
# of switching movements per day at this crossing: 3.00
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

C. DOT #: 020911H
Crossing Type: AT GRADE
RR Company Owning Track at Crossing: FWWR
Operating RR Company at Track: FWWR
RR MP: 47.220
RR Subdivision: DUBLIN
City: TOLAR
County: HOOD
CSJ at this Crossing: 2852-01-020
Highway/Roadway name crossing the railroad: FM 2870
# of regularly scheduled trains per day at this crossing: 10.00
# of switching movements per day at this crossing: 2.00
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

N/A

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☐ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Railroad:

Mr. William "Bill" Parker
Director of Planning
Fort Worth & Western Railroad
2495 East Long Avenue
Fort Worth, TX 76106
Office: 817-201-4450
Email: wrp@fwwr.net

☐ OTHERS _____

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	

☐ Not Required
☒ Non - Bridge Projects
☐ Bridge Projects
☐ Other

VI. CONTRACTOR'S RIGHT-OF-ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT to assist in obtaining (see Item 5, Article 8.3)

With the following railroad companies: _____

☐ Required: Contractor to obtain (see Item 5, Article 8.4)

With the following railroad companies: _____

To view previously approved ROE agreement templates agreed upon between the State and railroad company, see:

http://www.txdot.gov/inside-txdot/division/traffic/samples.html

Approved ROE agreement templates are not to be modified by the Contractor.

Contractor shall not operate within railroad rights of way without an executed Construction & Maintenance agreement between the state and the railroad and an executed ROE agreement between the contractor and the railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call Fort Worth & Western Railroad Emergency Line
at 1800-861-3657
Location: DOT No. 020905E
RR Milepost 45.420, Dublin Subdivision.

In Case of Railroad Emergency
Call Fort Worth $ Western Railroad Emergency Line
at 1800-861-3657
Location: DOT No. 020907T
RR Milepost 46.150, Dublin Subdivision.

In Case of Railroad Emergency
Call Fort Worth & Western Railroad Emergency Line
at 1800-861-3657
Location: DOT No. 020911H
RR Milepost 47.220, Dublin Subdivision.

Texas Department of Transportation
Traffic Operations Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		97

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DATE:
FILE:

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

A. DOT #: 839378E
Crossing Type: AT GRADE
RR Company Owning Track at Crossing: UPRR
Operating RR Company at Track: UPRR
RR MP: 307.53
RR Subdivision: BAIRD
City: SANTO
County: PALO PINTO
CSJ at this Crossing: 0314-06-038
Highway/Roadway name crossing the railroad: FM 4
# of regularly scheduled trains per day at this crossing: 20
# of switching movements per day at this crossing: 0
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

B. DOT #: 598510G
Crossing Type: AT GRADE
RR Company Owning Track at Crossing: UPRR
Operating RR Company at Track: UPRR
RR MP: 578.530
RR Subdivision: DUNCAN
City: PARADISE
County: WISE
CSJ at this Crossing: 0313-01-063
Highway/Roadway name crossing the railroad: FM 51
# of regularly scheduled trains per day at this crossing: 8.00
# of switching movements per day at this crossing: 0
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

C. DOT #: 598477J
Crossing Type: AT GRADE
RR Company Owning Track at Crossing: UPRR
Operating RR Company at Track: UPRR
RR MP: 558
RR Subdivision: DUNCAN
City: CHICO
County: WISE
CSJ at this Crossing: 2738-01-017
Highway/Roadway name crossing the railroad: FM 2265
# of regularly scheduled trains per day at this crossing: 4.00
# of switching movements per day at this crossing: 0
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

N/A

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by:

☐ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS _____

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	

☐ Not Required
☒ Non - Bridge Projects
☐ Bridge Projects
☐ Other

VI. CONTRACTOR'S RIGHT-OF-ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT to assist in obtaining (see Item 5, Article 8.3)
With the following railroad companies: _____
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies: _____

To view previously approved ROE agreement templates agreed upon between the State and railroad company, see:

http://www.txdot.gov/inside-txdot/division/traffic/samples.html

Approved ROE agreement templates are not to be modified by the Contractor.

Contractor shall not operate within railroad rights of way without an executed Construction & Maintenance agreement between the state and the railroad and an executed ROE agreement between the contractor and the railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call Union Pacific Railroad Emergency Line
at 1800-848-8715
Location: DOT No. 839378E
RR Milepost 307.530, Baird Subdivision.

In Case of Railroad Emergency
Call Union Pacific Railroad Emergency Line
at 1800-848-8715
Location: DOT No. 598510G
RR Milepost 578.530, Duncan Subdivision.

In Case of Railroad Emergency
Call Union Pacific Railroad Emergency Line
at 1800-848-8715
Location: DOT No. 598477J
RR Milepost 558, Duncan Subdivision.

Texas Department of Transportation

Traffic Operations Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		98

DATE:
FILE:

I. WORK AT CROSSING LOCATIONS (AT GRADE, HIGHWAY OVERPASS, HIGHWAY UNDERPASS, PEDESTRIAN, OR CLOSED/ABANDONED)

DOT #: 274620V
Crossing Type: AT GRADE
RR Company Owning Track at Crossing: BNSF
Operating RR Company at Track: BNSF
RR MP: 37.400
RR Subdivision: WICHITA FALLS
City: DECATUR
County: WISE
CSJ at this Crossing: 0080-03-059
Highway/Roadway name crossing the railroad: US 377
# of regularly scheduled trains per day at this crossing: 14.00
# of switching movements per day at this crossing: 2.00
% of estimated contract cost of work within railroad ROW: LESS THAN 1%

Scope of Work at this Crossing to Be Performed by State Contractor:
SEAL COAT

Scope of Work at this Crossing to Be Performed by Railroad Company:
N/A

II. OTHER PROJECT WORK WITHIN RAILROAD RIGHTS-OF-WAY (ROW)

N/A

III. FLAGGING & INSPECTION

of Days of Railroad Flagging Expected: 0

On this project, night or weekend flagging is:

☐ Expected
☒ Not Expected

Flagging services will be provided by: N/A

☐ Railroad Company: TxDOT will pay flagging invoices
☐ Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

Contractor must incorporate flaggers into anticipated construction schedule. The Railroad requires a 30 day notice if their flaggers are to be utilized. If Contractor falls behind schedule due to their own negligence and is not ready for scheduled flaggers, any flagging charges will be paid by Contractor.

Contact Information for Flagging:

☐ UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ BNSF - BNSF.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging

☐ KCS - KCS.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- Bottom Line On-Track Safety Services
bottomline076@aol.com, 903-767-7630

☐ OTHERS

Contractor must incorporate Construction Inspection into anticipated construction schedule.

☒ Not Required

☐ Required: Contact Information for Construction Inspection:

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

On this project, construction work to be performed by a railroad company is:

☐ Required
☒ Not Required

Coordinate with TxDOT for any work to be performed by the Railroad Company. TxDOT must issue a work order for any work done by the Railroad Company prior to the work being performed.

V. RAILROAD INSURANCE REQUIREMENTS

Railroad reference number shall be provided by TxDOT CST or DO.

The Contractor shall confirm the insurance requirements with the Railroad as the insurance limits are subject to change without notice.

Insurance policies must be issued for and on behalf of the Railroad. Where more than one Railroad Company is operating on the same right of way or where several Railroad Companies are involved and operate on their own separate rights of way, provide separate insurance policies in the name of each Railroad Company.

No direct compensation will be made to the Contractor for providing the insurance coverages shown below or any deductibles. These costs are incidental to the various bid items.

Type of Insurance	Amount of Coverage (Minimum)
Workers Compensation	$500,000 / $500,000 / $500,000
Commercial General Liability	$2,000,000 / $4,000,000
Business Automobile	$2,000,000 combined single limit
Railroad Protective Liability	

☐ Not Required
☒ Non - Bridge Projects
☐ Bridge Projects
☐ Other

VI. CONTRACTOR'S RIGHT OF ENTRY (ROE) AGREEMENT

On this project, an ROE agreement is:

☒ Not Required
☐ Required: TxDOT to assist in obtaining (see Item 5, Article 8.3)
With the following railroad companies:
☐ Required: Contractor to obtain (see Item 5, Article 8.4)
With the following railroad companies:
Railroad website:

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

http://www.txdot.gov/inside-txdot/division/rail/samples.html

Approved ROE Agreement templates are not to be modified by the Contractor.

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

☒ Not Required
☐ Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

Contractor shall not subcontract work without written consent of TxDOT. Subcontractors are required to maintain the same insurance coverage as required of the Contractor.

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call BNSF Railway Emergency Line
at 1800-832-5452, Option 1
Location: DOT 274620V
RR Milepost: 37.400, Wichita Falls Subdivision

Texas Department of Transportation | Rail Division

RAILROAD SCOPE OF WORK
PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:			
©TxDOT June 2014	CONT	SECT	JOB	HIGHWAY			
REVISIONS	0079	05	061	US67,ETC.			
3/2020	DIST	COUNTY		SHEET NO.			
	FTW	ERATH,ETC.		99			

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the Right-of-Way and/or properties of the Railroad Company and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right-of-Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right-Of-Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right-Of-Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received writtern Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, FRA (Federal Railway Administration) and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of Railroad train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with Railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the Contract Site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a Railroad flag person will be required. At the direction of the Railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right-of-Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right-of-Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right-of-Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.18 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right-of-Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right-of-Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the Railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on Railroad property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other railroads. Refer to the Railroad specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right-of-Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF), (UPRR) and 14' - 0" (KCS), horizontal from centerline of track
B. 22' - 0" (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement until receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

SHEET 1 OF 2

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		100

DATE:
FILE: RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS.dgn

3.09 MAINTENANCE OF RAILROAD FACILITIES

. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right-of-Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractor's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the Project Site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.10 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
   1. Pre-construction meetings.
   2. Pile driving/drilling of caissons or drilled shafts.
   3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
   4. Erection of precast concrete or steel bridge superstructure.
   5. Placement of waterproofing (prior to placing ballast on bridge deck).
   6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.11 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other Railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to Railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger Railroad facilities or operations.

D. During any contractor's operations when, in the opinion of the Railroad Designated Representative, Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.12 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.13 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around Railroad facilities with the Railroad Designated Representative.

3.14 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

   UPRR 1-800-336-9193
   7:00 AM to 9:00 PM CST Monday-Friday except holidays,
   staffed 24 hrs/day for emergencies
   48 hrs notice required

   BNSF 1-800-533-2891
   24 hour number
   5 working days notice required

   KCS 1-800-344-8377
   Texas One Call, a 24 hour number
   48 hrs notice required, excluding weekends and holidays

   If a telecommunications system is buried anywhere on or near Railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near Railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor-assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of 1/4" vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.15 RAILROAD FLAGGING

Per the RIGHT OF ENTRY agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor work and at least 30 working days in advance of any Contractor work in which any person or equipment will be within 25 feet of nearest rail or as specifice in Contractor Right of Entry (CROE).

3.16 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right-of-Way and leave the Right-of-Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0079	05	061	US67, ETC.
	DIST	COUNTY		SHEET NO.
	FTW	ERATH, ETC.		101

DATE:
FILE:

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS.dgn

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DATE:
FILE:

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.
List adjacent MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.
(Note: leave blank only if no adjacent MS4 operator(s) are affected)

1.

2.

☒ No Action Required ☐ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000

2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.

3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.

4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)

☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1.

2.

3.

4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

Erosion	Sedimentation	Post-Construction TSS
☐ Temporary Vegetation	☐ Silt Fence	☐ Vegetative Filter Strips
☐ Blankets/Matting	☐ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☐ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☐ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☐ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	☐ Grassy Swales

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

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.

GENERAL NOTE:

Any change oders and/or deviations from the design must be reported to the Engineer prior to commencement of construction activities, as additional enviremental clearance may be requiered.

Texas Department of Transportation — Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: epic.dgn	DN: TxDOT	CK: RG	DW: VP	CK: AR	
	CONT	SECT	JOB	HIGHWAY	
REVISIONS 12-12-2011 (DS) 05-07-14 ADDED NOTE SECTION IV. 01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.	0079	05	061	US67,ETC.	
	DIST	COUNTY		SHEET NO.	
	FTW	ERATH,ETC.		102	

A. GENERAL SITE DATA

1. PROJECT LIMITS:
A total of 572.890 miles on various roadways in Tarrant, Parker, Palo Pinto, Johnson, Hood, Erath, Jack, and Wise counties. A description of limits for each roadway is provided on the Seal Coat Index and Location Map sheets for each county.

2. PROJECT SITE MAPS:
- *Project Location Map: Title Sheet (Sheet 1), Project Summary and Location Maps sheet for each county (Sheets 07-45)*
- *Drainage Patterns: Drainage Area Maps (None)*
- *Approx. Slopes Anticipated After Major Gradings and Areas of Soil Disturbance: Typical Sections (None)*
- *Location of Erosion and Sediment Controls: SW3P Site Map Sheets (None)*
- *Surface Waters and Discharge Locations: Drainage and Culvert Layout Sheets (None)*
- *Project Specific Locations (PSL):*
  To be specified by the Project construction personel. Location(s) shown on SW3P Site map (If PSL location(s) is within one mile of project) and information located in Project SW3P Binder (Reference to the item #10 below).

3. PROJECT DESCRIPTION:
SEAL COAT AND PAVEMENT MARKINGS (Same description as stated on Title Sheet)

4. MAJOR SOIL DISTURBING ACTIVITIES:
No substansive soil disturbance. All work will be within existing roadway surafce, and temprorary materials stockpiles will be staged within TXDOT ROW on previous prepare roadway surfaces.

5. EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:
N/A

6. TOTAL PROJECT AREA: *1100.2873* Acres
(See Seal Coat Index Sheet(s) for each repective county for roadway areas).

7. TOTAL AREA TO BE DISTURBED: *0.00* Acres (*0* % OF TOTAL PROJECT AREA)

8. WEIGHTED RUNOFF COEFFICIENT
BEFORE CONSTRUCTION: *N/A*
AFTER CONSTRUCTION: *N/A*

9. NAME OF RECEIVING WATERS:
North Bosque River

10. PROJECT SW3P BINDER:

A. For projects disturbing one to five acres, TXDOT will maintain Binder of the project field office (If there is not a project field office, should be kept at the Area Offcie) which contain the following: Index sheets, TCEQ Signature Authority, TXDOT's and Contractor's Small Construction Site Notice, SW3P Inspector Qualification Statements, EPIC Sheet, SW3P Sheet, Site Location Maps, Inspection and Maintenance Report (Form 2118), Construction Stage Gate Checklist(s) (CSGC), Stored Material lists specifying associated control measures and the Appendix which contains the TPDES Construction General Permit, TxDOT and Contractor MS4 Operator Notification(s) and the Construction PSL Permits per all applicable requirements.

B. For projects disturbing five acres or more, TXDOT will follow the actions listed in (10.A) above with the addtion of the following: TxDOT and Contractor Notice of Intent (N.O.I) and Fee Payment Form, TxDOT and Contractor Large Construction Site Notice (to be used instead of Small Site Notice), and TPDES Permit Coverage Notice.

C. For projects disturbing less than one acre, actions described in (10.A) and (10.B) above are not required. Acreage is calculated by adding Total Area To Be Disturbed Acres on Project (See #7 above) and PSL(s) acreage located within one mile of project.

B. EROSION AND SEDIMENT CONTROLS

1. SOIL STABILIZATION PRACTICES:

(Select T = Temporary or P = Permanent, as applicable)

___ TEMPORARY SEEDING	___ PRESERVATION OF NATURAL RESOURCES
___ MULCHING (Hay or Straw)	___ FLEXIBLE CHANNEL LINER
___ BUFFER ZONES	___ RIGID CHANNEL LINER
___ PLANTING	___ SOIL RETENTION BLANKET
___ SEEDING	___ COMPOST MANUFACTURED TOPSOIL
___ SODDING	___ OTHER: (Specify Practice)

2. STRUCTURAL PRACTICES:

(Select T = Temporary or P = Permanent, as applicable)

___ SILT FENCES	___ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
___ HAY BALES	___ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
___ ROCK FILTER DAMS	___ DIVERSION DIKE AND SWALE COMBINATIONS
___ PIPE SLOPE DRAINS	___ ROCK BEDDING AT CONSTRUCTION EXIT
_T_ TEMP SEDMT CONT FENCE	___ TIMBER MATTING AT CONSTRUCTION EXIT
___ CHANNEL LINERS	___ STONE OUTLET STRUCTURES
___ SEDIMENT TRAPS	___ VELOCITY CONTROL DEVICES
___ SEDIMENT BASINS	___ CURBS AND GUTTERS
___ STORM SEWERS	___ STORM INLET SEDIMENT TRAP
___ EROSION CONTROL LOG	___ OTHER: *(Specify Practice)*
___ EROSION CONTROL COMPOST BERMS	

3. STORM WATER MANAGEMENT:

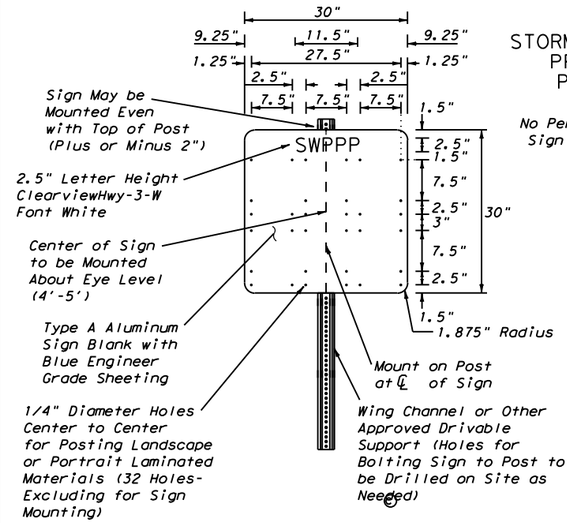
1. Storm water drainage will be provided by the ditches, inlets and storm water systems that will carry drainage within the R.O.W. to the low points within the roadway and project site which drain to natural facilities.

2. Other permanent erosion controls include hydraulic design to limit structure outlet velocities and grading design generally consisting of 4:1 or flatter slopes with permanent vegetative cover.

4. STORM WATER MANAGEMENT ACTIVITIES: (Sequence of Construction)

- *See Contractor Sequence of Work activities, schedule and duration.*
- *Avoid staged materials or portable toilet units within 50 feet upgradient of a water, wetland, or other potential discharge point to a receiving water (e.g..drop inlet, etc).*
- *Avoid applying lime water or asphalt/emulsion during or immediately prior to rain.*
- *Place and maintain erosion control logs, etc. at drop inlets and other control dischage point to area receiving waters, along current or recent work areas, at stockpile areas, and as maybe otherwise directed by Engineer - to protect waters from potential residual contamination during inital rain events, etc. Place the BMPs in their appropriate control area no sooner than two weeks prior to activities with potential to pollute.*
- *Implement stormwater quality/pollution BMPs as appropriate (e.g..housekeeping, secondary containmentf or any chemicals, covered trash containers, stockpile management, ect.)*

5. NON-STORM WATER DISCHARGES:
Non-storm water discharges should be filtered, or held in retention basins, before being allowed to mix with storm water. These discharges consist of non-polluted ground water, spring water, foundation and/or footing drain water, and water used for dust control, pavement washing and vehicle washwater containing no detergents.



STORM WATER POLLUTION PREVENTION PLAN PERMIT POSTING

No Permanent Installation Allowed. Sign to be Removed After Project Completion.

C. OTHER REQUIREMENTS & PRACTICES

1. MAINTENANCE:
All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed at the earliest date possible but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from heavy equipment. Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within 14 calendar days unless they are scheduled to and do resume within 21 calendar days. The areas adjacent to creeks and drainageways shall have priority followed by devices protecting storm sewer inlets.

2. INSPECTION:
A TxDOT Inspector will perform a regularly scheduled inspection SW3P every 7 calender days. An Inspection and Maintenance Report, signed by the Txdot Inspector and Contractor, will be filled for each Inpsection. Revised/clean/repair/replace each BMP control device in accordance with the current Field Inspection and Maintenance Report Form (Form 2118) and item 1 (MAINTENANCE) above.

3. WASTE MATERIALS:

Except as noted below, all waste materials shall be collected in a metal dumpster having a secure cover. The dumpster shall meet all state and local solid waste management regulations. All trash and debris from construction shall be deposited in the dumpster. The dumpster shall be emptied, as necessary or as required by local regulation, and hauled to a local approved land fill site. The burying of construction waste on the project site shall not be permitted.

- Concrete washout areas shall be required and shall consist of a pit, lined with an impervious material, of sufficient size to contain, until evaporation, all water used and washout material produced during concrete washout operations. The concrete washout locations shall be as directed by the engineer.
- Lime slaking tanks shall be surrounded by an earthen berm, capable of containing any overflow.

4. HAZARDOUS WASTE (INCLUDING SPILL REPORTING):

As a minimum, any products in the following categories are considered to be hazardous: paints, acids, solvents, asphalt products, chemical additives for soil staibilization, and concrete curing compounds or additivives. In the event of a spill which may be hazardous, the spill coordinator shall be contacted immediately.

5. SANITARY WASTE:

All sanitary waste shall be collected from the portable units, as necessary or as required by local regulation, by a licensed sanitary waste management contractor.

6. OFFSITE VEHICLE TRACKING:

The Contractor shall be required, on a regular basis or as may be directed by the Engineer, to dampen haul roads for dust control, stabilize construction entrances and to remove excess dirt from the roadway.

7. MANAGEMENT PRACTICES:

1. *Disposal areas, stockpiles and haul roads shall be constructed in a manner that will minimize and control the amount of sediment that may enter receiving waters. Disposal areas shall not be located in any wetland, waterbody or streambed.*
2. *Construction staging areas and vehicle maintenance areas shall be constructed by the Contractor in a manner to minimize the runoff of pollutants.*
3. *All temporary fills placed in waterways shall be built of erosion resistant material. (NWP 14)*
4. *When working in or near a wetland, install and maintain operating soil erosion and sediment control at all times during construction and isolate the work from the wetland.*
5. *All waterways shall be cleared as soon as practicable of temporary embankment, temporary bridges, matting, falsework, piling, debris or other obstructions placed during construction operations that are not a part of the finished work.*
6. *Procedules and/or paractices should be taken to control dust.*
7. *Sediment to be removed from roadwasy daily or when work begins after weather events if construction activities has ceased due to weather event.*

STATE OF TEXAS
DANNY MICHAEL HENDERSON
119091
LICENSED PROFESSIONAL ENGINEER

DocuSigned by:
Danny Henderson, P.E. 9/23/2021
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Signature Date

Texas Department of Transportation

Fort Worth District Standard

STORM WATER POLLUTION PREVENTION PLAN (SW3P)

ORIGINAL DRAWING: 09/2002	sw3p-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.		SHEET NO.
DATE	REVISIONS	6	SEE TITLE SHEET		103
09/2008	NPDES TO TPDES	STATE	STATE DIST.NO.	COUNTY	
01/2012	CLARIFY NOTE C.2.	TEXAS	FTW	ERATH, ETC.	
08/2013	ADDED SIGN	CONT.	SECT.	JOB	HIGHWAY NO.
05/2019	2-SHEET FORMAT	0079	05	061	103

DATE:
FILE: