STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT NO.			
C 81-2-77			
CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		1

ROADWAY CLASSIFICATION:
PRINCIPAL ARTERIAL

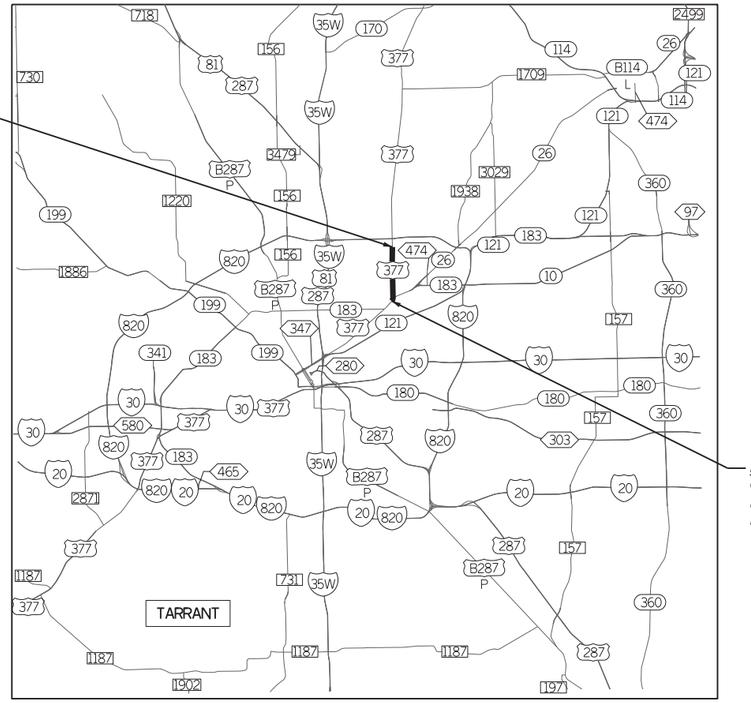
SPEED DESIGN: 35 - 55 MPH

AADT 17,825 (2024)
AADT 24,972 (2044)

STATE PROJECT NUMBER: C 81-2-77
HIGHWAY: US 377
TARRANT COUNTY

NET LENGTH OF PROJECT: 10,698 FT = 2.026 MI
LIMITS: FROM: SH 183
TO: **STARLIGHT DR**

FOR THE CONSTRUCTION OF OVERLAY WORK CONSISTING OF: BASE REPAIR, UNDERSEAL, MILL & INLAY, CURB REPAIR, SIDEWALKS, SIGNING, RAMPS, AND PAVEMENT MARKINGS



END PROJECT
CCSJ 0081-02-077
@ US 377 STA 382+02.00
REF MRK #278+475

BEGIN PROJECT
CSJ 0081-02-077
@ US 377 STA 275+03.50
REF MRK #281+164

EQUATIONS: NONE
EXCEPTIONS:NONE

RAILROAD: NONE
TDLR INSPECTION:

INDEX OF SHEETS

LETTING DATE: _____
CONTRACTOR: _____
_____
WORK BEGAN: _____
WORK COMPLETED: _____
WORK ACCEPTED: _____
CHANGE ORDERS: _____
USED X OF X ALLOTED DAYS: _____
FINAL CONTRACT DAY: _____

_____, P.E. 03/20/2024
CONSULTING ENGINEER DATE

AECOM
AECOM Technical Services, Inc.- F-3580

REQUIRED SIGNS SHALL BE IN ACCORDANCE WITH BC (1)-21 THRU BC(12)-21 AND THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

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

Texas Department of Transportation

SUBMITTED FOR LETTING: 3/21/2024 DATE
DocuSigned by: 7B89CC87CF28477...
AREA ENGINEER

RECOMMENDED FOR LETTING: 3/27/2024 DATE
DocuSigned by: 7879B0B92E5D403...
DIRECTOR, TP&D

APPROVED FOR LETTING: 3/28/2024 DATE
DocuSigned by: David M Salazar, P.E. B741E64FAD82411...
DISTRICT ENGINEER

FILE: c:\pwworking\ustx\dms33756\US377*AEC*GN*CO*001.dgn
DATE: 3/20/2024 4:12:55 PM

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STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

INDEX OF SHEETS

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		2

DATE: 3/20/2024 8:34:03 AM
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Control: 0081-02-077

County: TARRANT

Highway: US 377

Basis of Estimate

Item	Description	Rate	Unit
310	Asph Mat'l (EC-30) (Subgrade)(Priming)	0.20 gal./sq. yd.*	gal.
3076	D-GR HMA (TY B)	115 lb./sq. yd.-in.	ton
3076	Tack Coat - Trackless Tack	0.15-0.22 gal./sq. yd.	gal.
3077	SP Mixes SP-C (SAC-A)	115 lb./sq. yd.-in.	ton
3077	Tack Coat - Trackless Tack	0.15-0.22 gal./sq. yd.	gal.

* Based On 50% Asphalt Residue.

Compaction Requirements for Base Courses

Item	Material	Course	Min. Density
247	Flex Base	All	100 %

(Minimum Density is the percentage of density required based on results of Tex-113-E, Tex-114-E, Tex-120-E, and/or Tex-121-E)

Special Notes

Electronic files containing answered pre-letting questions and other project related design information will be placed in the following FTP site periodically.

Check this site for new information. Notices of new postings will not be sent out by the Engineer.

The data located in these files is for non-construction purposes only and can be found at

TxDOT's public FTP site at https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting Responses/.

Access is read-only.

All files in the FTP site are subject to the License Agreement shown on the FTP site.

To obtain a copy of the project plans free of charge, submit a request from the following site:
http://www.txdot.gov/business/letting-bids/plans-online.html
Contractor questions on this project are to be addressed to the following individual(s):

Area Engineer's Email: Minh.Tran@txdot.gov

Assistant Area Engineer's Email: Alfredo.Luera@txdot.gov
Design Manager's Email: Sam.Yacoub@txdot.gov

For Q&A's on Proposals navigate to https://tableau.txdot.gov/views/ProjectInformationDashboard/NoticetoContractors. Use the dashboard to navigate to the project you are interested in by scrolling or filtering the dashboard using the controls on the left. Hover over the blue hyperlink for the project you want to view the Q&A for and click on the link in the window that pops up.

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.

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

Peak Hours		Off-Peak Hours	
6 to 9 AM Monday through Friday	3 to 7 PM Monday through Friday	9 AM to 3 PM and 7 PM to 6 AM Monday through Friday	All day Saturday and Sunday

Work that requires closure of multiple travel lanes in the same direction, except as otherwise shown in the plans, are restricted to night hours between 9 PM and 6 AM.

Existing storm sewers and utilities are shown from the best available information. Verify the location of all underground facilities prior to starting work.

For dimensions of right-of-way not shown on the plans, see right-of-way map on file at the TxDOT District Office.

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.

Special Events/ Special Situations will be handled on a case-by-case basis. No work restricting lane closures is allowed from 3 PM a day before to 9 AM the day after the Special Event or Special Situation.

Provide all-weather surface for temporary ingress and egress to adjacent property, as directed. Materials, labor, equipment and incidentals necessary to provide temporary ingress and egress will not be paid for directly, but will be subsidiary to the various bid items.

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.

Remove the grass from the crown of shoulders or pavement edges by blading or other approved methods. Payment for this work will not be made directly, but will be subsidiary to the various items of the contract.

Item 2. Instructions to Bidders

Proposals with a bid of more than 256 working days for the substantial completion of the project will be considered non-responsive.

Item 4 – Scope of Work

Reimbursement for project overhead will not be considered until project completion has extended beyond the original Contract Time.

Item 5. Control of the Work

Standard Operating Procedure for Alternate Precast Proposal Submission" found online at https://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/bridge.html#design. Acceptance or denial of an alternate is at the sole discretion of the Engineer. Impacts to the project schedule and any additional costs resulting from the use of alternates are the sole responsibility of the Contractor.

Item 6. Control of Materials

To comply with the latest provisions of Build America, Buy America Act (BABA Act) of the Bipartisan Infrastructure Law, the contractor must submit an original of the TxDOT Construction Material Buy America Certification Form for all items classified as construction materials. This form is not required for materials classified as a manufactured product.

Refer to the Buy America Material Classification Sheet for clarification on material categorization.

The Buy America Material Classification Sheet is located at the below link.

https://www.txdot.gov/business/resources/materials/buy-america-material-classification-sheet.html for clarification on material categorization.

Item 7. Legal Relations and Responsibilities

The total area disturbed for this project is 0.98 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the right of way. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the right of way to the Engineer and to the local government that operates a separate storm sewer system.

The following Holiday/Event lane closure restriction requirements apply to this project:
No work that restricts or interferes with traffic shall be allowed between 3 PM on the day preceding a Holiday or Event and 9 AM on the day after the Holiday or Event.

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

Plan work schedules around the appropriate dates above to ensure productive work is performed without lane closures.

Control: 0081-02-077

County: TARRANT

Highway: US 377

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)

Item 8. Prosecution and Progress

Working days will be computed and charged in accordance with Section 8.3.1.1. 'Five-Day Workweek.'

Use a Critical Path Method (CPM) schedule in P6 format for this project. Submit baseline the schedule and obtain approval prior to beginning construction. The baseline schedule working days will be the same as the number of working days established by the Contract. The Estimate will be held if a monthly schedule update is not submitted. Also submit the XER file.

Item 100. Preparing Right of Way

Measurement for this item will be along the centerline of the project with the limits of measurements as shown on the plans.

Removal of existing concrete pavement will be in accordance with Item 104, "Removing Concrete" except that this work will not be paid for directly, but will be subsidiary to Item 100, "Preparing Right of Way."

Item 247. Flexible Base

Place material in two or more equal lifts unless otherwise directed.

Do not add field sand to modify the final material to meet the requirements.

Item 351. Flexible Pavement Structure Repair

Subgrade repair to be included when necessary.

Use EC-30 for the prime coat.

Item 354. Planing and Texturing Pavement

Intent is to remove all HMAC from existing concrete in one pass. Repair damaged concrete paving caused by Contractor's operations at the expense of the Contractor as directed by the Engineer.

Item 504. Field Office and Laboratory

The Contractor shall furnish the following structures for this project:

Type	No.
Field Lab (Ty. D)	1

The field office shall be furnished and functional with all pertinences prior to beginning work. In addition to the other requirements the field office shall be equipped with the following

a) Minimum of 4 desks with chairs
b) A meeting table capable of seating 6 people with chairs
c) One (1) equipment storage closet with a minimum of 3ftx3ft of floor space or equivalent and shall have provisions for locking securely.
d) Three (2) four drawer metal locking filing cabinets
e) One (1) refrigerator (minimum 18 CF)
f) One (1) microwave oven
g) One (1) water cooler with water service
h) One Wireless Capable Plain Paper Copier/Printer/Scanner/Fax machine, 30 ppm, 2GB memory, and 11x17 paper size capable.
i) Two (2) Laptop Computers
j) Internet Service with minimum of 50 Mbps download speed.
k) Wireless Router
l) Weekly janitorial service
m) Minimum 4Ft x 4 Ft top and bottom landing at all steps to field office

The office and its contents will be subject to approval by the engineer. Upon final completion and acceptance by the engineer of the project, computers, refrigerator, water cooler, and copier will become the property of the contractor. The contractor shall be responsible for all maintenance and supplies (both permanent and consumable) for the aforementioned electronic equipment for the duration of the project. All electronic equipment shall meet current department standards.

The field laboratory shall be furnished with laboratory equipment necessary for testing of contract items.

Provide a secure all-weather, lighted parking area of a minimum of 800 square feet adjacent to the field office. This area is to be for the sole exclusive use of the department. Storage of contractor's material or equipment will not be allowed.

Enclose the field office or laboratory and the parking area with a 6-ft. chain-link fence, a top-mounted 3-strand barbed wire, and a 12-ft. gate.

Item 506. Temporary Erosion, Sedimentation, and Environmental Controls

Remove accumulated sediment or replace SW3P controls when the capacity has been reduced by 50% or when the depth of sediment at the control structure exceeds one foot.

Items 530 And 531. Intersections, Driveways and Turnouts, and Sidewalks

The furnishing and installation of the sand cushion in proposed sidewalks, sidewalk ramps, and driveways will not be paid for directly but will be subsidiary to this bid item.

Item 585. Ride Quality for Pavement Surfaces

Use Surface Test Type B pay adjustment schedule 3 to evaluate ride quality of the travel lanes in accordance with Item 585, "Ride Quality for Pavement Surfaces."

Item 666. Reflectorized Pavement Markings with Retroreflective Requirements

Collection of retroreflectivity readings using a mobile retroreflectometer is the preferred method. If retroreflectivity readings are collected using a portable or handheld unit, then measurement is defined as a collective average of at least 20 readings taken along a 200-foot test section. A minimum of three measurements will be required per mile of roadway. Measurements collected on a centerline stripe will be averaged separately for stripe in each direction of travel. A TxDOT inspector must witness the calibration and collection of all retro-reflectivity data.

Item 3076. Dense-Graded Hot-Mix Asphalt

Provide aggregate with a Surface Aggregate Classification (SAC) value of B for the travel lanes and shoulders.

No blending, of the material retained on the No. 4 sieve, to meet SAC A will be allowed for surface mixes.

Natural (field) sands are not allowed.

Provide a PG 70-28 asphalt for the surface course and levelup course, if applicable.

Trackless tack is required for this project.

Warm Mix Asphalt (WMA) is not permitted in any mix type on this project.

RAP and RAS are not permitted in any surface and levelup mixes on this project.

Grade substitution per Table 5 is not allowed.

Use the Boil Test, Test Procedure Tex-530-C, and provide only mixes that produce zero percent (0%) stripping for design verification and during production.

Include the approved mix design number on each delivery ticket.

Use a Material Transfer Device (MTD) unless otherwise directed.

Stop production after Lot 1. Review all test data and confirm any changes with the Engineer. Do not start production and placement on subsequent Lots until approved by the Engineer.

Shoulders, crossovers, and other areas listed on the Plan sheets or as directed are not subject to in-place air void determination for this project.

Temporary detours are subject to in-place air void determination for this project.

Use Surface Test Type B for this project.

Item 3077. Superpave Mixtures

Provide aggregate with a Surface Aggregate Classification (SAC) value of A for the travel lanes and shoulders.

No blending, of the material retained on the No. 4 sieve, to meet SAC A will be allowed for surface mixes.

Natural (field) sands are not allowed.

Provide a PG 70-28 asphalt for the surface course and levelup course, if applicable.

Trackless tack is required for this project.

Warm Mix Asphalt (WMA) is not permitted in any mix type on this project.

RAP and RAS are not permitted in any surface and levelup mixes on this project.

Grade substitution per Table 5 is not allowed.

Provide a mix design with the gradation curve below the restricted zone.

Use the Boil Test, Test Procedure Tex-530-C, and provide only mixes that produce zero percent (0%) stripping for design verification and during production.

Include the approved mix design number on each delivery ticket.

Use a Material Transfer Device (MTD) unless otherwise directed.
Stop production after Lot 1. Review all test data and confirm any changes with the Engineer. Do not start production and placement on subsequent Lots until approved by the Engineer.

Shoulders, crossovers, and other areas listed on the Plan sheets or as directed are not subject to in-place air void determination for this project.

Temporary detours are subject to in-place air void determination for this project.

Use Surface Test Type B for this project.

Item 6001. Portable Changeable Message Signs

Provide all portable changeable message signs and arrow panels with a photoelectric device to allow for automatic dimming of operations to approximately 50% of their normal brightness when ambient light drops to approximately five footcandles, and then increase back again for daytime operations.

Three (3) electronic portable changeable message sign unit(s) will be required. Individual or collective use of signs will be required by the Engineer when deemed necessary to supplement the traffic control plan.

Each sign must have programmed in its permanent memory the following 15 messages:

1. Exit Closed Ahead
2. Use Other Routes
3. Right Lane
4. Left Lane
5. Closed Ahead
6. Two Lane
7. Detour Ahead
8. Thru Traffic
9. Prepare To Stop
10. Merging Traffic
11. Expect 15 Minute Delay
12. Max Speed ** MPH
13. Merge Right
14. Merge Left
15. No Exit Next ** Miles

Item 6185. Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)

In addition to the shadow vehicles with truck mounted attenuator (TMA) that are specified as being required on the traffic control plan for this project, provide 1 additional shadow vehicle(s) with TMA for TCP (2-4)-18 as detailed on General Note of this standard sheet.

Therefore, 2 total shadow vehicles with TMA will be required for this type of work. Determine if one or more of these operations will be ongoing at the same time to determine the total number of TMAs needed for the project.

Estimate & Quantity Sheet

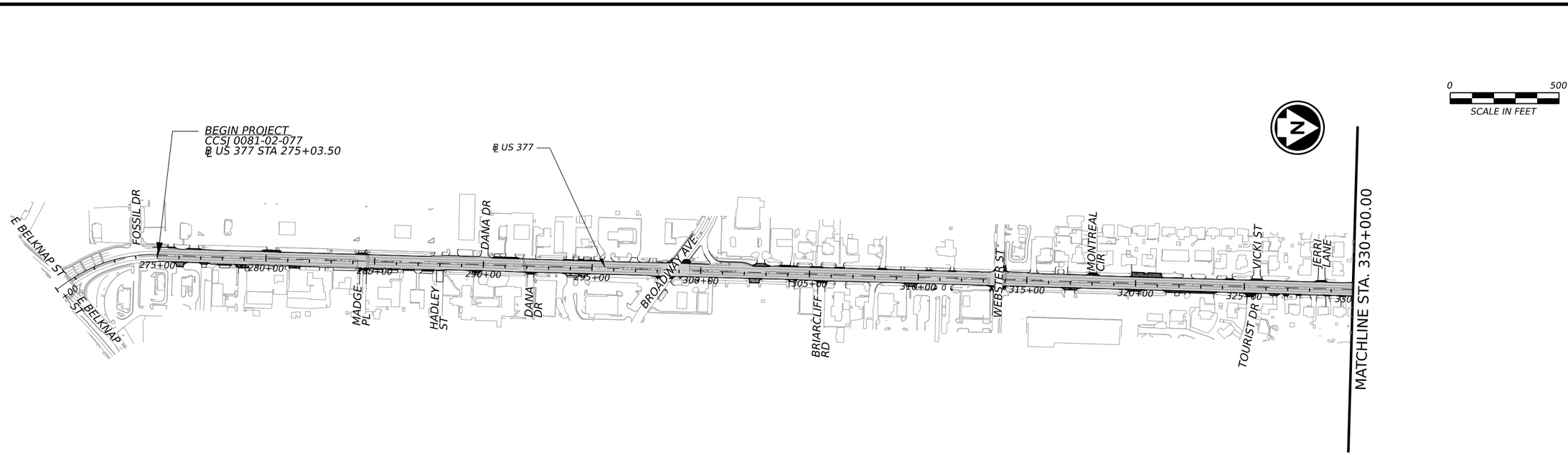
CONTROLLING PROJECT ID 0081-02-077 **DISTRICT** Fort Worth **COUNTY** Tarrant
HIGHWAY US 377

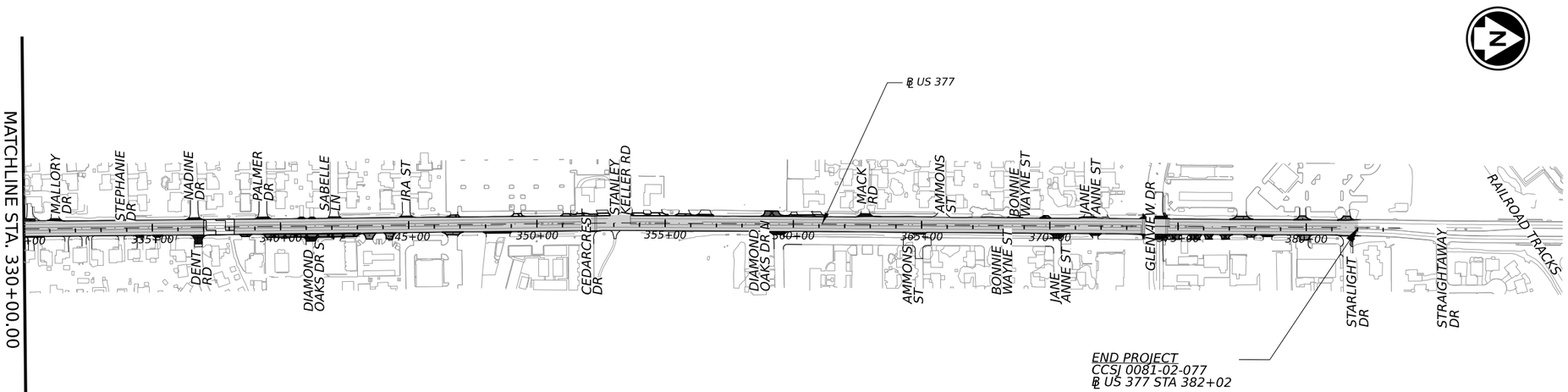
				CONTROL SECTION JOB		0081-02-077		TOTAL EST.	TOTAL FINAL
				PROJECT ID		A00195059			
				COUNTY		Tarrant			
				HIGHWAY		US 377			
ALT	BID CODE	DESCRIPTION		UNIT	EST.	FINAL			
	100-6002	PREPARING ROW		STA	110.000			110.000	
	104-6009	REMOVING CONC (RIPRAP)		SY	72.000			72.000	
	104-6015	REMOVING CONC (SIDEWALKS)		SY	212.000			212.000	
	104-6017	REMOVING CONC (DRIVEWAYS)		SY	1,247.000			1,247.000	
	104-6022	REMOVING CONC (CURB AND GUTTER)		LF	110.000			110.000	
	105-6014	REMOVING STAB BASE & ASPH PAV (7"-12")		SY	73,669.000			73,669.000	
	247-6041	FL BS (CMP IN PLC)(TYA GR1-2)(FNAL POS)		CY	180.000			180.000	
	310-6028	PRIME COAT (MC-30 OR EC-30)		GAL	14,735.000			14,735.000	
	354-6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")		SY	1,859.000			1,859.000	
	354-6021	PLANE ASPH CONC PAV(0" TO 2")		SY	1,500.000			1,500.000	
	354-6113	PLAN & TEXT ASPH CONC PAV (2")		SY	1,457.000			1,457.000	
	479-6001	ADJUSTING MANHOLES		EA	5.000			5.000	
	500-6001	MOBILIZATION		LS	1.000			1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING		MO	12.000			12.000	
	506-6001	ROCK FILTER DAMS (INSTALL) (TY 1)		LF	72.000			72.000	
	506-6011	ROCK FILTER DAMS (REMOVE)		LF	72.000			72.000	
	506-6035	SANDBAGS FOR EROSION CONTROL		EA	147.000			147.000	
	506-6038	TEMP SEDMT CONT FENCE (INSTALL)		LF	12,820.000			12,820.000	
	506-6039	TEMP SEDMT CONT FENCE (REMOVE)		LF	12,820.000			12,820.000	
	506-6040	BIODEG EROSN CONT LOGS (INSTL) (8")		LF	1,216.000			1,216.000	
	506-6043	BIODEG EROSN CONT LOGS (REMOVE)		LF	1,216.000			1,216.000	
	529-6008	CONC CURB & GUTTER (TY II)		LF	198.000			198.000	
	530-6002	INTERSECTIONS (ACP)		SY	1,859.000			1,859.000	
	530-6004	DRIVEWAYS (CONC)		SY	1,244.000			1,244.000	
	530-6005	DRIVEWAYS (ACP)		SY	1,457.000			1,457.000	
	531-6001	CONC SIDEWALKS (4")		SY	70.000			70.000	
	531-6004	CURB RAMPS (TY 1)		EA	17.000			17.000	
	531-6005	CURB RAMPS (TY 2)		EA	2.000			2.000	
	531-6010	CURB RAMPS (TY 7)		EA	4.000			4.000	
	531-6013	CURB RAMPS (TY 10)		EA	7.000			7.000	
	644-6001	IN SM RD SN SUP&AM TY10BWG(1)SA(P)		EA	19.000			19.000	
	644-6007	IN SM RD SN SUP&AM TY10BWG(1)SA(U)		EA	2.000			2.000	
	644-6067	IN SM RD SN SUP&AM (INST SIGN ONLY)		EA	2.000			2.000	
	644-6076	REMOVE SM RD SN SUP&AM		EA	19.000			19.000	
	644-6078	REMOVE SM RD SN SUP&AM (SIGN ONLY)		EA	2.000			2.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W		EA	9,428.000			9,428.000	
	666-6036	REFL PAV MRK TY I (W)8"(SLD)(100MIL)		LF	1,880.000			1,880.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0081-02-077 **DISTRICT** Fort Worth **COUNTY** Tarrant
HIGHWAY US 377

				CONTROL SECTION JOB	0081-02-077		TOTAL EST.	TOTAL FINAL
				PROJECT ID	A00195059			
				COUNTY	Tarrant			
				HIGHWAY	US 377			
ALT	BID CODE	DESCRIPTION	UNIT		EST.	FINAL		
	666-6048	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF		1,024.000		1,024.000	
	666-6054	REFL PAV MRK TY I (W)(ARROW)(100MIL)	EA		45.000		45.000	
	666-6078	REFL PAV MRK TY I (W)(WORD)(100MIL)	EA		13.000		13.000	
	666-6306	RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)	LF		5,070.000		5,070.000	
	666-6309	RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)	LF		18,722.000		18,722.000	
	666-6318	RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)	LF		3,545.000		3,545.000	
	666-6321	RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)	LF		19,919.000		19,919.000	
	672-6007	REFL PAV MRKR TY I-C	EA		350.000		350.000	
	672-6009	REFL PAV MRKR TY II-A-A	EA		288.000		288.000	
	3076-6005	D-GR HMA TY-B PG64-28	TON		21,181.000		21,181.000	
	3077-6027	SP MIXES SP-C SAC-A PG70-28	TON		8,473.000		8,473.000	
	3077-6075	TACK COAT	GAL		14,735.000		14,735.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA		3.000		3.000	
	6185-6002	TMA (STATIONARY)	DAY		256.000		256.000	
	6185-6005	TMA (MOBILE OPERATION)	DAY		80.000		80.000	
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS		1.000		1.000	
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS		1.000		1.000	





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STATE OF TEXAS
ERNESTO SALCIDO
100177
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3/20/2024

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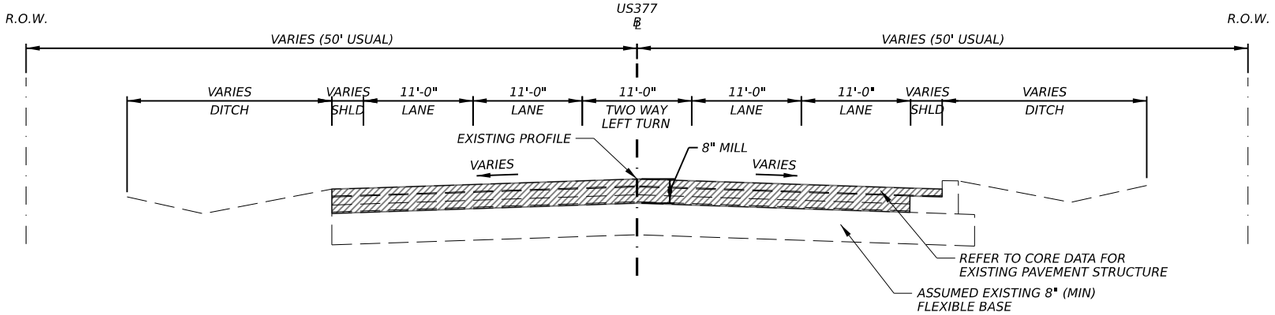
Texas Department of Transportation

US 377

PROJECT LAYOUT

SHEET 1 OF 1

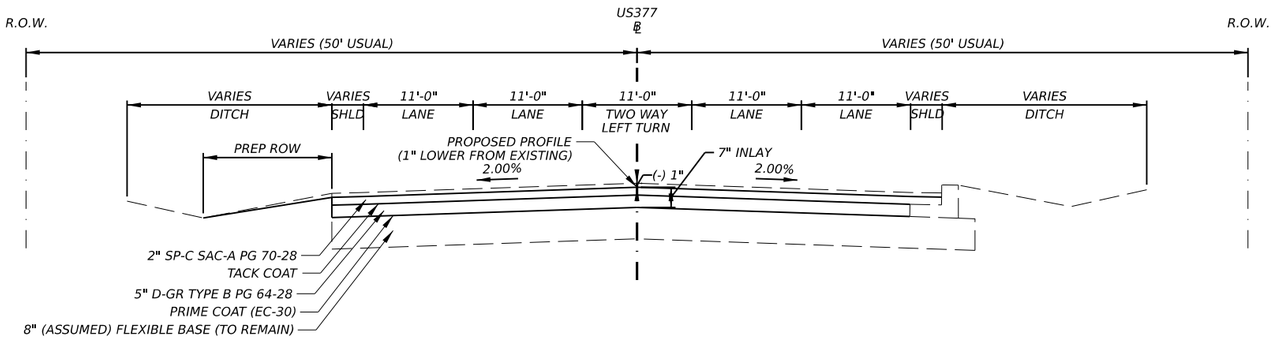
CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		5



EXISTING TYPICAL SECTION

STA 275+03.78 TO STA 302+58.50
N.T.S

US 377 CORE INFORMATION		
CORE #	LOCATION	DESCRIPTION
3	32°48'21.20"N 97°15'52.42"W NB INSIDE LANE	1 ¾" LIMESTONE TYPE D HMAC ¼" LIMESTONE TYPE F HMAC 2" GRAVEL TYPE D HMAC 1 ¾" LIGHTWEIGHT AGG / LIMESTONE MIX ⅜" SEAL COAT FLEX BASE ≈ 8" TOTAL LENGTH CRACKING ALL THE WAY THROUGH, SEPARATION @ 1 ½"



PROPOSED TYPICAL SECTION

STA 275+03.78 TO STA 302+58.50
N.T.S

LEGEND

NOTES:

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2. PAVEMENT STRUCTURE COMPOSITION IS BASED ON CORE DATA AND ASSUMED TO EXTEND THROUGH THE LIMITS DESCRIBED ON THESE SECTIONS.
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4. SEE MILLING DETAIL NEAR CURB AND INLET STRUCTURES ON "MISCELLANEOUS DETAILS" SHEET.
5. CONTRACTOR TO ENSURE THAT EXISTING IMPROVEMENTS ARE PROTECTED IN PLACE, UNLESS OTHERWISE APPROVED FOR REMOVAL BY ENGINEER. ANY DAMAGES RESULTING FROM CONSTRUCTION ACTIVITIES ARE TO BE REPAIRED AT CONTRACTOR'S EXPENSE.

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US 377

TYPICAL SECTION
STA 275+03.78 TO
STA 302+58.50

SHEET 1 OF 4

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		6

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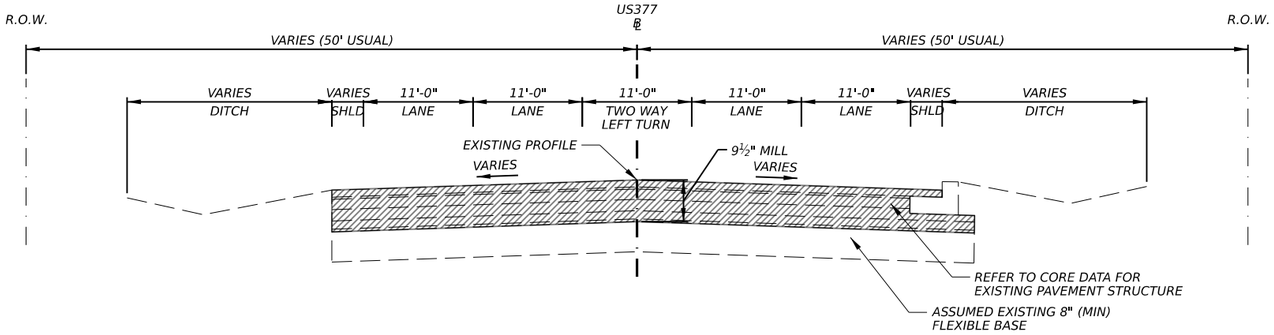
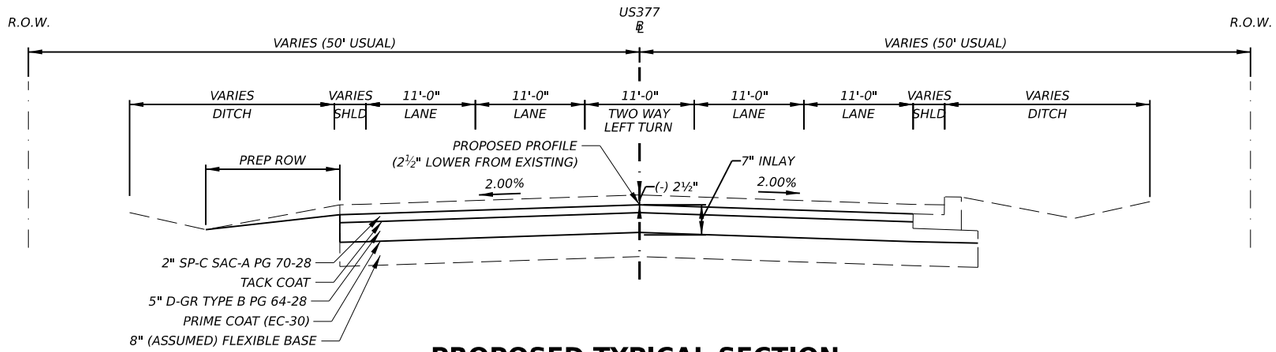


EXISTING TYPICAL SECTION

STA 302+58.50 TO STA 329+15.00
N.T.S

US 377 CORE LOCATION		
CORE #	LOCATION	DESCRIPTION
2	32°48'48.80"N 97°15'52.59"W SB OUTSIDE LANE	2¼" LIMESTONE TYPE D HMAC ½" LIMESTONE TYPE F HMAC 2¾" LIGHTWEIGHT AGGREGATE 3" LIMESTONE TYPE D HMAC 2¼" LIGHTWEIGHT AGG/ LIMESTONE MIX ⅜" SEAL COAT FLEX BASE ≈ 9½" TOTAL LENGTH CRACKING 2¾" DEEP, SEPARATION @ 5"



PROPOSED TYPICAL SECTION

STA 302+58.50 TO STA 329+15.00
N.T.S

LEGEND

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Texas Department of Transportation

US 377

TYPICAL SECTION
STA 302+58.50 TO
STA 329+15.00

SHEET 2 OF 4

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		7

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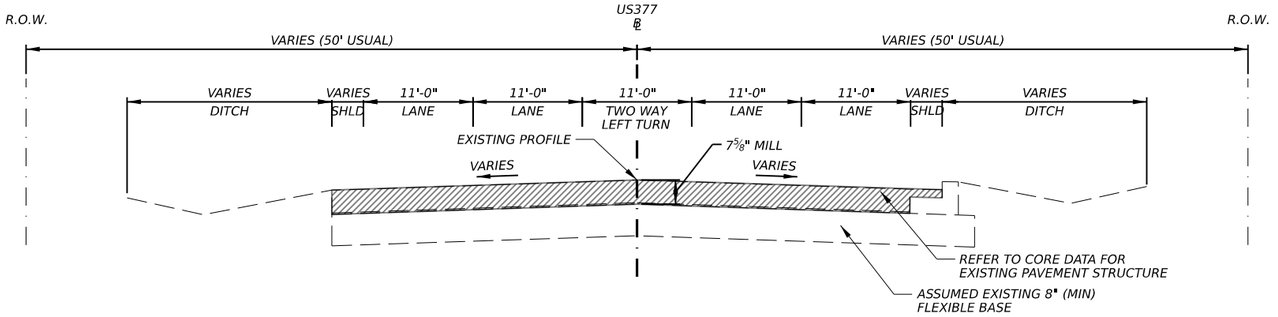
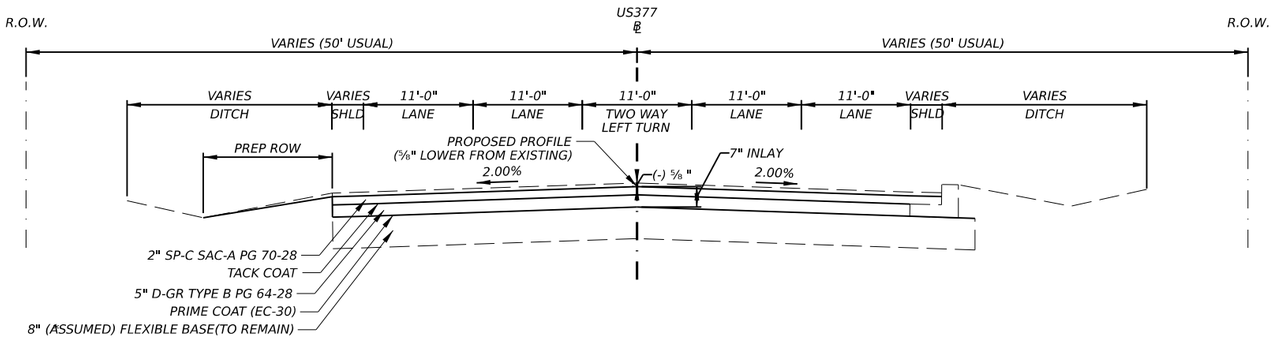


EXISTING TYPICAL SECTION

STA 329+15.00 TO STA 355+10.00
N.T.S

US 377 CORE LOCATION		
CORE #	LOCATION	DESCRIPTION
4	32°49'10.97"N 97°15'51.97"W NB OUTSIDE LANE	7 ¼" LIMESTONE TYPE D HMAC ⅜" SEAL COAT FLEX BASE ≈ 7 ⅝" TOTAL LENGTH CRACKING ALL THE WAY THROUGH



PROPOSED TYPICAL SECTION

STA 329+15.00 TO STA 355+10.00 *
N.T.S

LEGEND

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* FULL FLEX BASE REPAIR FROM STA 337+00 TO STA 338+20

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3/20/2024

Salcido Jaime, P.E.

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Texas Department of Transportation

US 377

TYPICAL SECTION
STA 329+15.00 TO
STA 355+10.00

SHEET 3 OF 4

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		8

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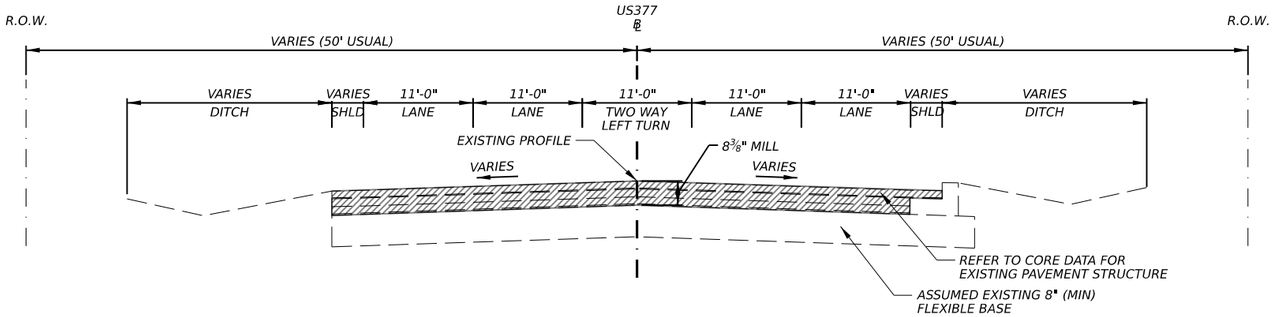
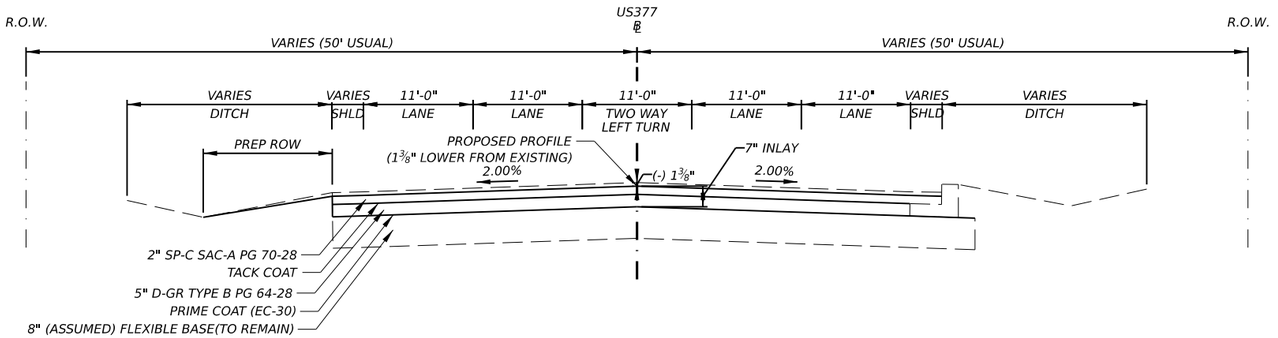


EXISTING TYPICAL SECTION

STA 355+10.00 TO STA 382+01.85
N.T.S.

US 377 CORE LOCATION		
CORE #	LOCATION	DESCRIPTION
1	32°49'34.39"N 97°15'52.03"W SB INSIDE LANE	2" LIMESTONE TYPE D HMAC 2 ¼" SEAL COAT 2" LIMESTONE TYPE D HMAC 1 ¾" LIGTWEIGHT AGG/LIMESTONE MIX ⅜" SEAL COAT FLEX BASE ≈ 8 ⅜" TOTAL LENGTH CRACKING ALL THE WAY THROUGH



PROPOSED TYPICAL SECTION

STA 355+10.00 TO STA 382+01.85
N.T.S.

LEGEND

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STATE OF TEXAS
ERNESTO SALCIDO
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3/20/2024

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Texas Department of Transportation

US 377

TYPICAL SECTION
STA 355+10.00 TO
STA 382+01.85

SHEET 4 OF 4

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		9

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SUMMARY OF ROADWAY ITEMS

LOCATION	100 6002	104 6009	104 6015	104 6017	104 6022	105 6014	247 6041	310 6028	354 6012	354 6021	354 6113	479 6001	529 6008	530 6002	530 6004	530 6005	531 6001	531 6004
CSJ 0081-02-077	PREPARING ROW	REMOVING CONC (RIPRAP)	REMOVING CONC (SIDEWALKS)	REMOVING CONC (DRIVEWAYS)	REMOVING CONC (CURB AND GUTTER)	REMOVING STAB BASE & ASPH PAV (7"-12")	FL BS (CMP IN PLC)(TYA GR1-2)(FNAL POS)	PRIME COAT (MC-30 OR EC-30)	PLAN & TEXT ASPH CONC PAV(0" TO 12")	PLANE ASPH CONC PAV(0" TO 2")	PLAN & TEXT ASPH CONC PAV (2")	ADJUSTING MANHOLES	CONC CURB & GUTTER (TY II)	INTERSECTIONS (ACP)	DRIVEWAYS (CONC)	DRIVEWAYS (ACP)	CONC SIDEWALKS (4")	CURB RAMPS (TY 1)
US 377	STA	SY	SY	SY	LF	SY	CY	GAL	SY	SY	SY	EA	LF	SY	SY	SY	SY	EA
ROADWAY PLAN & PROFILE SHEET 1	11		34	91		4799		960		33	183	2			91	183		
ROADWAY PLAN & PROFILE SHEET 2	11		46		20	8381		1676	97	59	174	1	20	97		174	18	3
ROADWAY PLAN & PROFILE SHEET 3	11		53	194		8263		1653	330	195	22	1		330	192	22	7	4
ROADWAY PLAN & PROFILE SHEET 4	11		28	72		8251		1650	107		115	1	92	107	71	115	11	3
ROADWAY PLAN & PROFILE SHEET 5	11	72		294		8043		1609	208		341			208	294	341		
ROADWAY PLAN & PROFILE SHEET 6	11			22		8020	180	1604	363	415	92			363	22	92		
ROADWAY PLAN & PROFILE SHEET 7	11		13	243		8138		1628	81	479				81	243			
ROADWAY PLAN & PROFILE SHEET 8	11					8059		1612	189	300	150			189		150		
ROADWAY PLAN & PROFILE SHEET 9	11		34	113	84	8161		1632	465	19	351		80	465	113	351	20	6
ROADWAY PLAN & PROFILE SHEET 10	11		4	218	6	3554		711	19		29		6	19	218	29	14	1
PROJECT TOTALS	110	72	212	1247	110	73669	180	14735	1859	1500	1457	5	198	1859	1244	1457	70	17

SUMMARY OF ROADWAY ITEMS CONTINUED

LOCATION	531 6005	531 6010	531 6013	3076 6005	3077 6027	3077 6075
CSJ 0081-02-077	CURB RAMPS (TY 2)	CURB RAMPS (TY 7)	CURB RAMPS (TY 10)	D-GR HMA TY-B PG64-28	SP MIXES SP-C SAC-A PG70-28	TACK COAT
US 377	EA	EA	EA	TON	TON	GAL
ROADWAY PLAN & PROFILE SHEET 1		2	2	1380	552	960
ROADWAY PLAN & PROFILE SHEET 2			1	2410	964	1676
ROADWAY PLAN & PROFILE SHEET 3	2			2376	950	1653
ROADWAY PLAN & PROFILE SHEET 4		2	2	2372	949	1650
ROADWAY PLAN & PROFILE SHEET 5				2312	925	1609
ROADWAY PLAN & PROFILE SHEET 6				2306	922	1604
ROADWAY PLAN & PROFILE SHEET 7			2	2340	936	1628
ROADWAY PLAN & PROFILE SHEET 8				2317	927	1612
ROADWAY PLAN & PROFILE SHEET 9				2346	939	1632
ROADWAY PLAN & PROFILE SHEET 10				1022	409	711
PROJECT TOTALS	2	4	7	21181	8473	14735

SUMMARY OF EROSION CONTROL ITEMS

LOCATION	506 6001	506 6011	506 6035	506 6038	506 6039	506 6040	506 6043
CSJ 0081-02-077	ROCK FILTER DAMS (INSTALL) (TY 1)	ROCK FILTER DAMS (REMOVE)	SANDBAGS FOR EROSION CONTROL	TEMP SEDMT CONT FENCE (INSTALL)	TEMP SEDMT CONT FENCE (REMOVE)	BIODEG EROSN CONT LOGS (INSTL) (8")	BIODEG EROSN CONT LOGS (REMOVE)
US 377	LF	LF	EA	LF	LF	LF	LF
SWP3 LAYOUT SHEET 1	72	72	147	12820	12820	1216	1216
SWP3 LAYOUT SHEET 2							
SWP3 LAYOUT SHEET 3							
SWP3 LAYOUT SHEET 4							
SWP3 LAYOUT SHEET 5							
PROJECT TOTALS	72	72	147	12820	12820	1216	1216

SUMMARY OF WORKZONE TRAFFIC CONTROL ITEMS

LOCATION	662 6109	6185 6002	6185 6005	6001 6002
CSJ 0081-02-077	WK ZN PAV MRK SHT TERM (TAB)TY W	TMA (STATIONARY)	TMA (MOBILE OPERATION)	PORTABLE CHANGEABLE MESSAGE SIGN
US 377	EA	DAY	DAY	EA
PN-1	300	256	80	3
PN-2	172			
PN-3	448			
PN-4	180			
PN-5	216			
PN-6	224			
PN-7	192			
PN-8	396			
PN-9	388			
PN-10	348			
PN-11	396			
PN-12	180			
PN-13	396			
PN-14	392			
PN-15	172			
PN-16	300			
PS-16	328			
PS-15	192			
PS-14	392			
PS-13	348			
PS-12	152			
PS-11	396			
PS-10	408			
PS-9	416			
PS-8	368			
PS-7	172			
PS-6	232			
PS-5	200			
PS-4	180			
PS-3	420			
PS-2	192			
PS-1	332			
PROJECT TOTALS	9428	450	20	2

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US 377

GENERAL
QUANTITY SUMMARY

SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		10

SUMMARY OF SIGNING ITEMS					
LOCATION	644 6001	644 6007	644 6067	644 6076	644 6078
CSJ 0081-02-077	IN SM RD SN SUP&AM TY10BWG(1) SA(P)	IN SM RD SN SUP&AM TY10BWG(1) SA(U)	IN SM RD SN SUP&AM (INST SIGN ONLY)	REMOVE SM RD SN SUP&AM	REMOVE SM RD SN SUP&AM (SIGN ONLY)
US 377	EA	EA	EA	EA	EA
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 1 OF 5	6	1	1	6	1
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 2 OF 5	3	1	1	3	1
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 3 OF 5	3			3	
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 4 OF 5	2			2	
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 5 OF 5	5			5	
PROJECT TOTALS	19	2	2	19	2

SUMMARY OF PAVEMENT MARKING ITEMS										
LOCATION	666 6036	666 6048	666 6054	666 6078	666 6306	666 6309	666 6318	666 6321	672 6007	672 6009
CSJ 0081-02-077	REFL PAV MRK TY I (W)8"(SLD) (100MIL)	REFL PAV MRK TY I (W)24"(SLD) (100MIL)	REFL PAV MRK TY I (W)(ARROW) (100MIL)	REFL PAV MRK TY I (W)(WORD) (100MIL)	RE PM W/RET REQ TY I (W)6"(BRK) (100MIL)	RE PM W/RET REQ TY I (W)6"(SLD) (100MIL)	RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)	RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)	REFL PAV MRKR TY I-C	REFL PAV MRKR TY II-A-A
US 377	LF	LF	EA	EA	LF	LF	LF	LF	EA	EA
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 1 OF 5	301	205	8	2	910	3504	715	3857	27	50
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 2 OF 5	950	216	15	7	1090	4169	470	4381	62	124
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 3 OF 5			8		1140	4170	1140	4554	15	
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 4 OF 5	314	139	6	2	1170	4268	810	4433	31	60
SIGNING AND PAVEMENT MARKING LAYOUT SHEET 5 OF 5	398	211	9	3	810	2963	455	3178	31	68
PROJECT TOTALS	1963	771	46	14	5120	19074	3590	20403	166	302

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US 377

GENERAL
QUANTITY SUMMARY

SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		11

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GENERAL NOTES:

1. THE CONTRACTOR MAY PROPOSE/RECOMMEND MODIFICATIONS TO THE SEQUENCE OF WORK AND IF THE MODIFICATIONS ARE IMPLEMENTED, THE CONTRACTOR WILL BE RESPONSIBLE FOR DEVELOPING DETAILED PLAN SHEETS TO BE SEALED BY A LICENSED PROFESSIONAL ENGINEER WITH THE STATE OF TEXAS. THE CONTRACTOR CANNOT PROCEED WITH ANY CONSTRUCTION OPERATIONS BASE ON A REVISED PHASE/SEQUENCE UNTIL WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. IF AT ANY TIME DURING CONSTRUCTION, THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR THE SAFE MOVEMENT, THE CONTRACTOR WILL IMMEDIATELY CHANGE THEIR OPERATION TO CORRECT THE UNSATISFACTORY CONDITION.

2. NOTIFY PROPER CITY, COUNTY, EMS, FIRE DEPARTMENT, POLICE DEPARTMENT, TEXAS DEPARTMENT OF PUBLIC SAFETY, AND/OR TEXAS DEPARTMENT OF TRANSPORTATION OFFICIALS WHEN IMPLEMENTING LANE AND CROSS STREET CLOSURES. NOTIFICATIONS SHALL BE MADE AT LEAST ONE WEEK PRIOR TO BEGINNING WORK.

3. UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE CONTRACTOR WILL ONLY BE ALLOWED TO WORK ON ONE SIDE OF THE ROADWAY AT A TIME UNTIL FINAL COURSE INSTALLATION.

4. THREE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) WILL BE PLACED TO DIRECT TRAFFIC AT THE DISCRETION OF THE ENGINEER.

5. EQUIP TRUCKS, TRAILERS, AUTOS, ETC. WITH EMERGENCY FLASHERS AND USE EMERGENCY FLASHERS WITHIN THE WORKING AREA. PROVIDE SUITABLE WARNING LIGHTS, VISIBLE FROM ALL DIRECTIONS, ON ALL EQUIPMENT.

6. DO NOT STORE ANY CONSTRUCTION MATERIAL OR EQUIPMENT AT ANY LOCATION THAT WILL CONSTITUTE A HAZARD AND WILL ENDANGER TRAFFIC. DO NOT STORE EQUIPMENT OUTSIDE DESIGNATED RIGHT-OF-WAY WITHOUT THE WRITTEN PERMISSION GRANTED FIRST BY THE PROPERTY OWNER.

7. PRIOR TO BEGINNING WORK IN ANY PHASE OF THE PROJECT, INSTALL TEMPORARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).

8. INSTALL TREE PROTECTION AND EROSION CONTROL / SW3P MEASURES PRIOR TO, BUT NO MORE THAN TWO WEEKS IN ADVANCE OF SOIL DISTURBANCE OR POLLUTANT-GENERATING ACTIVITIES. REMOVE TEMPORARY CONTROL MEASURES IN EACH AREA AS DIRECTED BY THE ENGINEER.

9. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE AT ALL TIMES.

10. THE CONTRACTOR SHALL MAINTAIN ACCESS TO PROPERTY AND BUSINESS OWNERS ADJACENT TO THE PROJECT AREA DURING CONSTRUCTION.

11. A UNIFORMED OFF-DUTY OFFICER WITH A POLICE CRUISER IS REQUIRED DURING CONSTRUCTION OPERATIONS AT ALL SIGNALIZED INTERSECTIONS.

12. FLAGGERS TO BE USED DURING WORKING HOURS TO DIRECT TRAFFIC.

13. PLACE CONSTRUCTION EXITS AS NEEDED OR DIRECTED BY THE ENGINEER.

14. EXISTING ROADWAY SIGNS REMOVED DURING ANY PHASE SHALL BE RELOCATED ON TEMPORARY MOUNTS AS APPLICABLE, AT NO ADDITIONAL COST.

15. EXISTING MANHOLES, WATER VALVES, ETC. WILL NEED TO BE ADJUSTED DURING CONSTRUCTION. CONTRACTOR TO COORDINATE WITH UTILITY OWNER HAVING JURISDICTION. ADJUSTMENTS SHALL BE PERFORMED AFTER THE MILL AND INLAY OPERATIONS ARE COMPLETE.

16. ALL LANES WILL BE OPEN TO TRAFFIC AT THE END OF EACH WORKING DAY, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

17. EXISTING BASE MATERIAL SHALL NOT BE SUBJECT TO VEHICULAR TRAFFIC AT THE END OF EACH WORKING DAY. CONTRACTOR TO SCHEDULE WORK SUCH THAT OPERATIONS ALLOW MILLING OF LAST ASPHALT LAYER, PROOF ROLLING OF EXPOSED BASE, INSTALLATION OF PRIME COAT (UNDERSEAL), AND AT LEAST A 2" HOT MIX INLAY.

SEQUENCE OF CONSTRUCTION:

PHASE 0 – ADVANCED WARNING SIGNS

1. PLACE ADVANCED WARNING SIGNS, ALONG US377 AND INTERSECTING STREETS, IN CONFORMANCE WITH BC STANDARDS.

PHASE 1 – FULL DEPTH REPAIR (STA 337+00 TO STA 338+20)

STEP 1: NORTHBOUND SIDE (FD-N-1)

1. PLACE ADVANCED WARNING SIGNS, ALONG US377 AND INTERSECTING STREETS, IN CONFORMANCE WITH BC STANDARDS.
2. INSTALL SW3P DEVICES AS REQUIRED AND/OR AS DIRECTED BY THE ENGINEER.
3. TWTL ALONG THIS SEGMENT WILL REMAIN CLOSED THROUGHOUT DURATION OF THIS STEP.
4. PERFORM ASPHALT PAVEMENT MILLING OPERATIONS ALONG THIS SEGMENT OF WORK, ON NORTHBOUND LANES FROM ROADWAY BASELINE TO EDGE OF PAVEMENT/FACE OF CURB, ALLOWING A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT SOUTHBOUND LANE.
5. PROVIDE LONGITUDINAL TRANSITION MILLING BEYOND THE LIMITS OF THIS STEP.
6. TREAT DROP OFF CONDITIONS AS SHOWN ON TREATMENT FOR VARIOUS EDGE CONDITIONS AND RESTRIPE TO ORIGINAL LANE CONFIGURATION ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH DAY.
7. SHIFT TRAFFIC BACK TO ORIGINAL CONFIGURATION.

STEP 2: SOUTHBOUND SIDE (FD-S-1)

1. PLACE ADVANCED WARNING SIGNS, ALONG US377 AND INTERSECTING STREETS, IN CONFORMANCE WITH BC STANDARDS.
2. INSTALL SW3P DEVICES AS REQUIRED AND/OR AS DIRECTED BY THE ENGINEER.
3. TWTL ALONG THIS SEGMENT WILL REMAIN CLOSED THROUGHOUT DURATION OF THIS STEP.
4. PERFORM ASPHALT PAVEMENT MILLING OPERATIONS, UP TO 4" DEPTH, ALONG THIS SEGMENT OF WORK, ON SOUTHBOUND LANES FROM ROADWAY BASELINE TO EDGE OF PAVEMENT/FACE OF CURB, ALLOWING A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT NORTHBOUND LANE.
5. PROVIDE LONGITUDINAL TRANSITION MILLING BEYOND THE LIMITS OF THIS STEP.
6. TREAT DROP OFF CONDITIONS AS SHOWN ON TREATMENT FOR VARIOUS EDGE CONDITIONS AND RESTRIPE TO ORIGINAL LANE CONFIGURATION ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH DAY.
7. SHIFT TRAFFIC BACK TO ORIGINAL CONFIGURATION.

STEP 3: NORTHBOUND SIDE (FD-N-1)

1. REPEAT STEP 1, TO A MILLING DEPTH THAT LEAVES AT LEAST 2" OF ASPHALT PAVEMENT OVER EXISTING BASE AND THAT PROVIDES A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT SOUTHBOUND LANE.

STEP 4: SOUTHBOUND SIDE (FD-S-1)

1. REPEAT STEP 2, TO A MILLING DEPTH THAT LEAVES AT LEAST 2" OF ASPHALT PAVEMENT OVER EXISTING BASE AND THAT PROVIDES A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT NORTHBOUND LANE.

STEP 5: NORTHBOUND SIDE (FD-N-1)

1. REPEAT STEP 1, TO REMOVE THE REMAINING 2" ASPHALT PAVEMENT AND EXISTING 8" FLEXIBLE BASE.
2. PREPARE SUBGRADE, PLACE FLEXIBLE BASE AND PLACE PRIME COAT.
3. ALLOW FLEX BASE CURE TIME, PLACE 2" D-GR TYPE B INLAY SUCH THAT THERE IS NO ELEVATION DIFFERENCE BETWEEN ADJACENT SOUTHBOUND LANE.
4. RESTRIPE TO ORIGINAL LANE CONFIGURATION ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH DAY.

STEP 6: SOUTHBOUND SIDE (FD-S-1)

1. REPEAT STEP 2, TO REMOVE THE REMAINING 2" ASPHALT PAVEMENT AND EXISTING 8" FLEXIBLE BASE.
2. PREPARE SUBGRADE, PLACE FLEXIBLE BASE AND PLACE PRIME COAT.
3. ALLOW FLEX BASE CURE TIME, PLACE 3" D-GR TYPE B INLAY.
4. PROVIDE A MAXIMUM 2" ELEVATION DIFFERENCE BETWEEN ADJACENT NORTHBOUND LANE.
5. RESTRIPE TO ORIGINAL LANE CONFIGURATION ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH DAY.

STEP 7: NORTHBOUND SIDE (FD-N-1)

1. PLACE 3" D-GR TYPE B INLAY.
2. RESTRIPE TO ORIGINAL LANE CONFIGURATION ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH DAY.

STEP 8: SOUTHBOUND SIDE (FD-S-1)

1. PLACE 2" D-GR TYPE B INLAY.
2. RESTRIPE TO ORIGINAL LANE CONFIGURATION ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH DAY.

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US 377

TCP NARRATIVE

SHEET 1 OF 2

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		12

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PHASE 2 – INLAY OPERATIONS ON SEGMENT 1

STEP 1: NORTHBOUND SIDE (N-1)

1. *PLACE ADVANCED WARNING SIGNS, ALONG US377 AND INTERSECTING STREETS, IN CONFORMANCE WITH BC STANDARDS.*
2. *INSTALL SW3P DEVICES AS REQUIRED AND/OR AS DIRECTED BY THE ENGINEER.*
3. *TWTL ALONG THIS SEGMENT WILL REMAIN CLOSED THROUGHOUT DURATION OF THIS STEP.*
4. *PERFORM ASPHALT PAVEMENT MILLING OPERATIONS ALONG THIS SEGMENT OF WORK, ON NORTHBOUND LANES FROM ROADWAY BASELINE TO EDGE OF PAVEMENT/FACE OF CURB, ALLOWING A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT SOUTHBOUND LANE.*
5. *PROVIDE LONGITUDINAL TRANSITION MILLING BEYOND THE LIMITS OF THIS STEP.*
6. *TREAT DROP OFF CONDITIONS, AS SHOWN ON TREATMENT FOR VARIOUS EDGE CONDITIONS AND RESTRIPE TO ORIGINAL LANE CONFIGURATIONS ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH WORKDAY.*
7. *SHIFT TRAFFIC BACK TO ORIGINAL CONFIGURATION.*

STEP 2: SOUTHBOUND SIDE (S-1)

1. *PLACE ADVANCED WARNING SIGNS, ALONG US377 AND INTERSECTING STREETS, IN CONFORMANCE WITH BC STANDARDS.*
2. *INSTALL SW3P DEVICES AS REQUIRED AND/OR AS DIRECTED BY THE ENGINEER.*
3. *TWTL ALONG THIS SEGMENT WILL REMAIN CLOSED THROUGHOUT DURATION OF THIS STEP.*
4. *PERFORM ASPHALT PAVEMENT MILLING OPERATIONS, UP TO 4" DEPTH, ALONG THIS SEGMENT OF WORK, ON SOUTHBOUND LANES FROM ROADWAY BASELINE TO EDGE OF PAVEMENT/FACE OF CURB, ALLOWING A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT NORTHBOUND LANE.*
5. *PROVIDE LONGITUDINAL TRANSITION MILLING BEYOND THE LIMITS OF THIS STEP.*
6. *TREAT DROP OFF CONDITIONS, AS SHOWN ON TREATMENT FOR VARIOUS EDGE CONDITIONS AND RESTRIPE TO ORIGINAL LANE CONFIGURATIONS ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH WORKDAY.*
7. *SHIFT TRAFFIC BACK TO ORIGINAL CONFIGURATION.*

STEP 3: NORTHBOUND SIDE (N-1)

1. *REPEAT STEP 1, TO A MILLING DEPTH THAT LEAVES AT LEAST 2" OF ASPHALT PAVEMENT OVER EXISTING BASE AND THAT PROVIDES A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT SOUTHBOUND LANE.*

STEP 4: SOUTHBOUND SIDE (S-1)

1. *REPEAT STEP 2, TO A MILLING DEPTH THAT LEAVES AT LEAST 2" OF ASPHALT PAVEMENT OVER EXISTING BASE AND THAT PROVIDES A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT NORTHBOUND LANE.*

STEP 5: NORTHBOUND SIDE (N-1)

1. *SCHEDULE OPERATIONS TO ALLOW REMOVAL OF LAST LAYER OF ASPHALT PAVEMENT, PROVIDES PLACEMENT OF SEAL ON EXISTING BASE, AND PLACEMENT OF FIRST INLAY LAYER.*
2. *PROVIDE A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT SOUTHBOUND LANE.*
3. *PROVIDE WORK ZONE PAVEMENT MARKINGS AND SHIFT BACK TO ORIGINAL CONFIGURATION AT THE END OF EACH DAY.*

STEP 6: SOUTHBOUND SIDE (S-1)

1. *SCHEDULE OPERATIONS TO ALLOW REMOVAL OF LAST LAYER OF ASPHALT PAVEMENT, PROVIDES PLACEMENT OF SEAL ON EXISTING BASE, AND PLACEMENT OF FIRST INLAY LAYER.*
2. *PROVIDE A 2" MAXIMUM ELEVATION DIFFERENCE BETWEEN ADJACENT NORTHBOUND LANE.*
3. *PROVIDE WORK ZONE PAVEMENT MARKINGS AND SHIFT BACK TO ORIGINAL CONFIGURATION AT THE END OF EACH DAY.*

STEP 7: NORTHBOUND SIDE (N-1)

1. *INLAY TO 5" D-GR TYPE B LAYER.*
2. *PROVIDE WORK ZONE PAVEMENT MARKINGS AND SHIFT BACK TO ORIGINAL CONFIGURATION AT THE END OF EACH DAY.*

STEP 8: SOUTHBOUND SIDE (S-1)

1. *INLAY TO 5" D-GR TYPE B LAYER.*
2. *PROVIDE WORK ZONE PAVEMENT MARKINGS AND SHIFT BACK TO ORIGINAL CONFIGURATION AT THE END OF EACH DAY.*

PHASE 3 THROUGH PHASE 17 – INLAY OPERATIONS ON SEGMENT 2 THROUGH SEGMENT 16

REPEAT PHASE 2, STEP 1 THROUGH STEP 8 PER EACH SEGMENT

PHASE 18 – FINAL COURSE SOUTHBOUND LANES

1. *INSTALL CONSTRUCTION WARNING SIGNS, TEMPORARY CHANNELIZING DEVICES, AND OTHER TRAFFIC CONTROL MEASURES AS SHOWN IN THE TCP PLANS AND TXDOT STANDARDS.*
2. *INSTALL 2" SP-C FOR ALL NORTHBOUND LANES FROM BASELINE TO EDGE OF PAVEMENT/LIP OF CURB AS SHOWN ON TCP TYPICAL SECTIONS. THE NORTHBOUND LANES WILL ALLOW TRAFFIC, ONE LANE EACH DIRECTION.*
3. *RESTRIPE TO ORIGINAL LANE CONFIGURATIONS ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH WORKDAY.*

PHASE 19 – FINAL COURSE NORTHBOUND LANES AND OVERALL PERMANENT PAVEMENT MARKINGS

1. *INSTALL CONSTRUCTION WARNING SIGNS, TEMPORARY CHANNELIZING DEVICES, AND OTHER TRAFFIC CONTROL MEASURES AS SHOWN IN THE TCP PLANS AND TXDOT STANDARDS.*
2. *INSTALL 2" SP-C FOR ALL SOUTHBOUND LANES FROM BASELINE TO EDGE OF PAVEMENT/LIP OF CURB AS SHOWN ON TCP TYPICAL SECTIONS. THE SOUTHBOUND LANES WILL ALLOW TRAFFIC, ONE LANE EACH DIRECTION.*
3. *RESTRIPE TO ORIGINAL LANE CONFIGURATIONS ON THE WORK ZONE AREA USING WZPM (TAB) AT THE END OF EACH WORKDAY.*
4. *INSTALL PERMANENT PAVEMENT MARKINGS AND SIGNAGE AS SHOWN ON PLANS*
5. *REMOVE TEMPORARY SW3P CONTROL DEVICES WITHIN TWO WEEKS OF VEGETATIVE ESTABLISHMENT, WHERE APPLICABLE, OR AS DIRECTED BY ENGINEER.*
6. *REMOVAL ALL ADVANCE WARNING SIGNS, BARRICADES, BARRELS, PORTABLE CHANGEABLE MESSAGE SIGNS, AND OTHER TRAFFIC CONTROL DEVICES USED FOR TRAFFIC HANDLING.*

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TCP NARRATIVE

SHEET 2 OF 2

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
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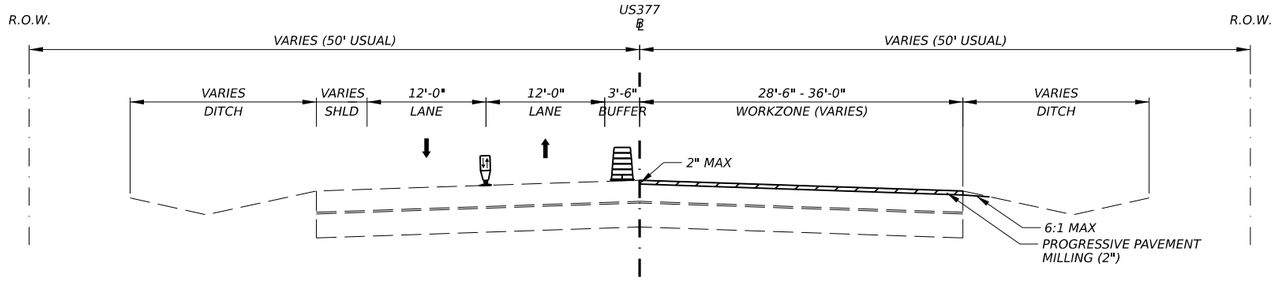
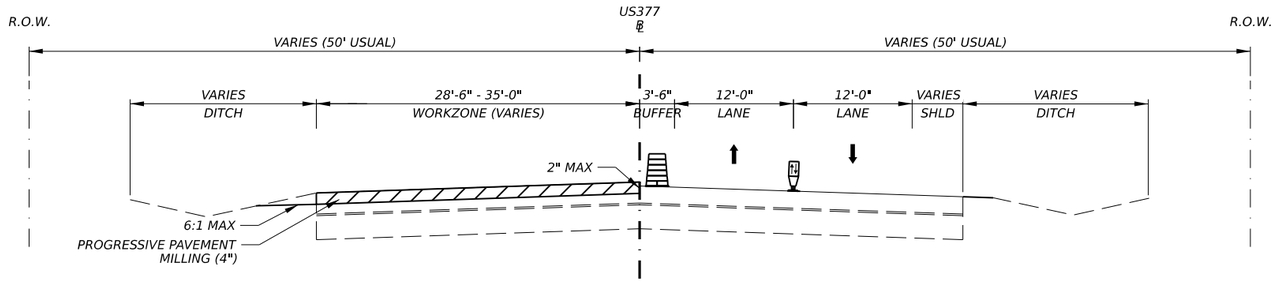
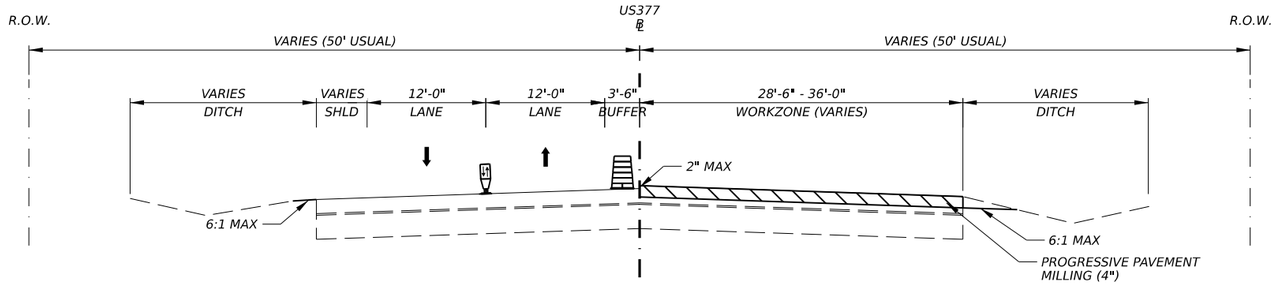
FTW	TARRANT		13



PHASE 1 - STEP 1



PHASE 1 - STEP 2; STEP 4



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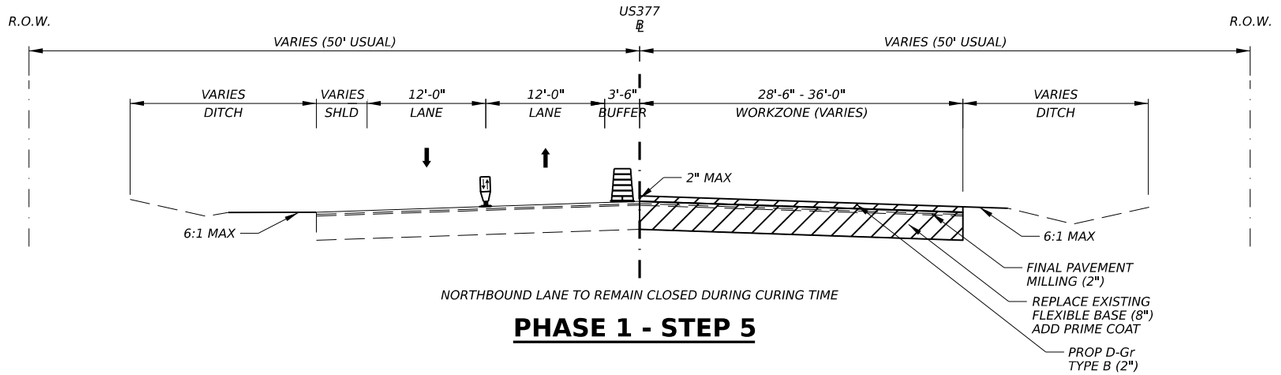

PHASE 1 - STEP 5

LEGEND

- TRAFFIC LANES
- ROADWAY CONSTRUCTION THIS PHASE
- ROADWAY CONSTRUCTION PREVIOUS PHASE/STAGE
- PLASTIC DRUMS
- OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

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TCP TYPICAL SECTION

SHEET 1 OF 4

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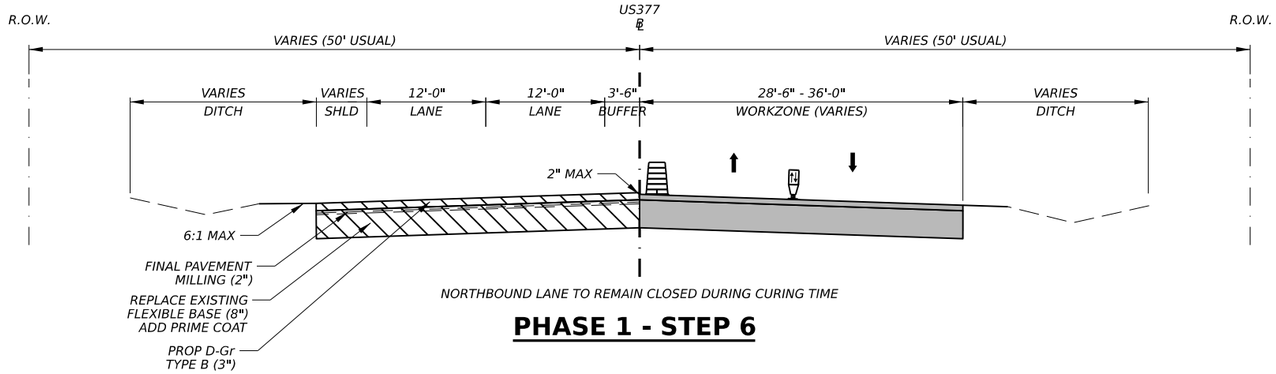
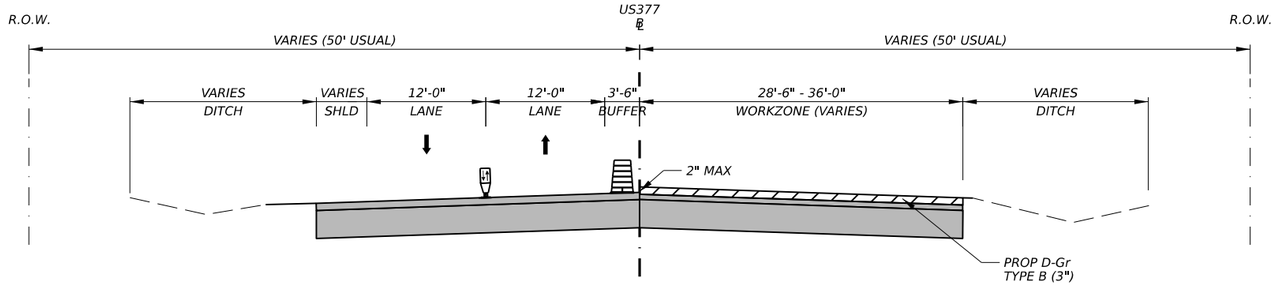


PHASE 1 - STEP 6



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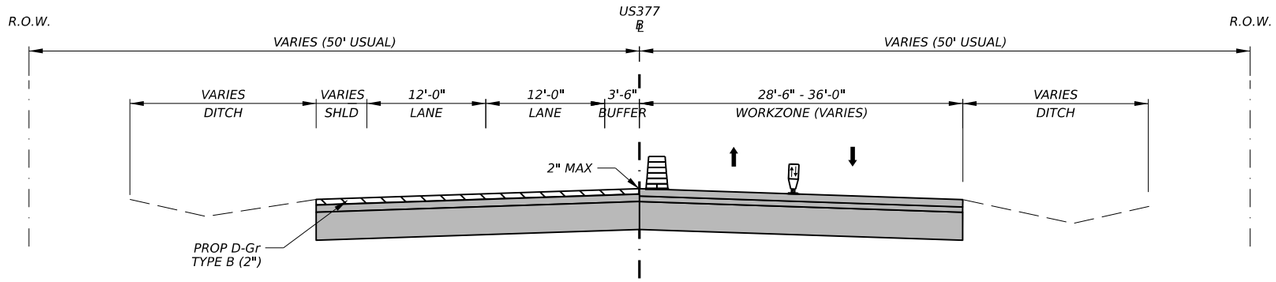
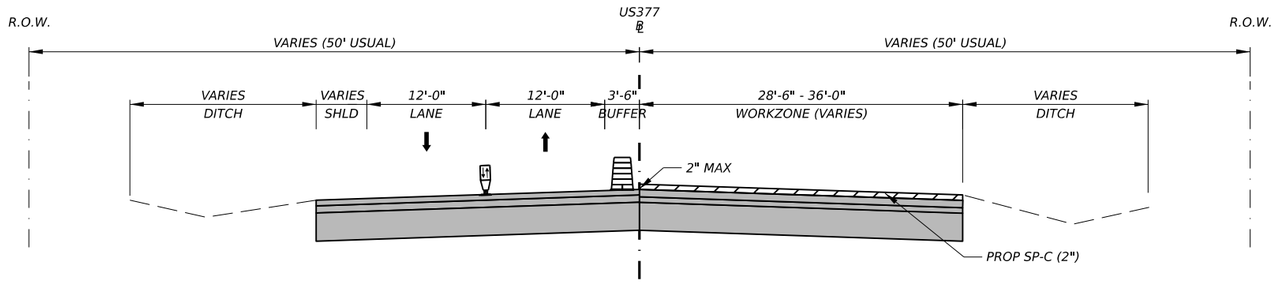


PHASE 1 - STEP 8



STEP 10 WILL PROP 2" OF SP-C ON SOUTHBOUND, NORTHBOUND TO BE CLOSED

PHASE 1 - STEP 9; STEP 10

LEGEND

- TRAFFIC LANES
- ROADWAY CONSTRUCTION THIS PHASE
- ROADWAY CONSTRUCTION PREVIOUS PHASE/STAGE
- PLASTIC DRUMS
- OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

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TCP TYPICAL SECTION

SHEET 2 OF 4

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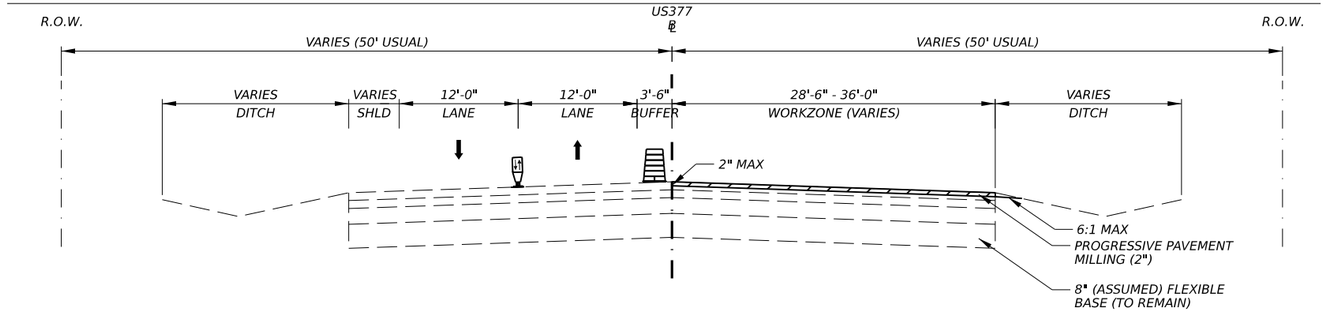

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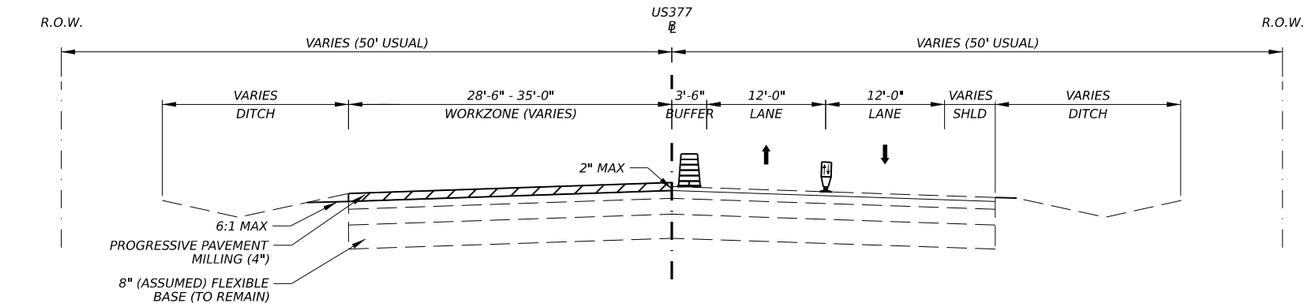

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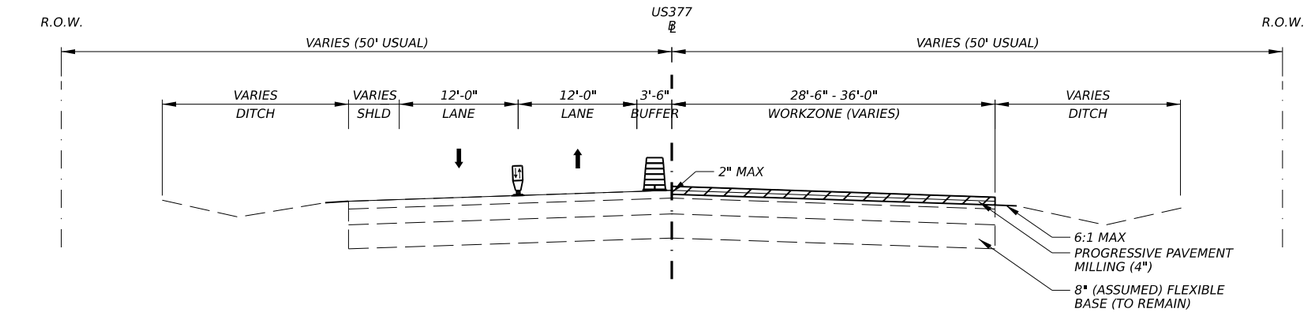

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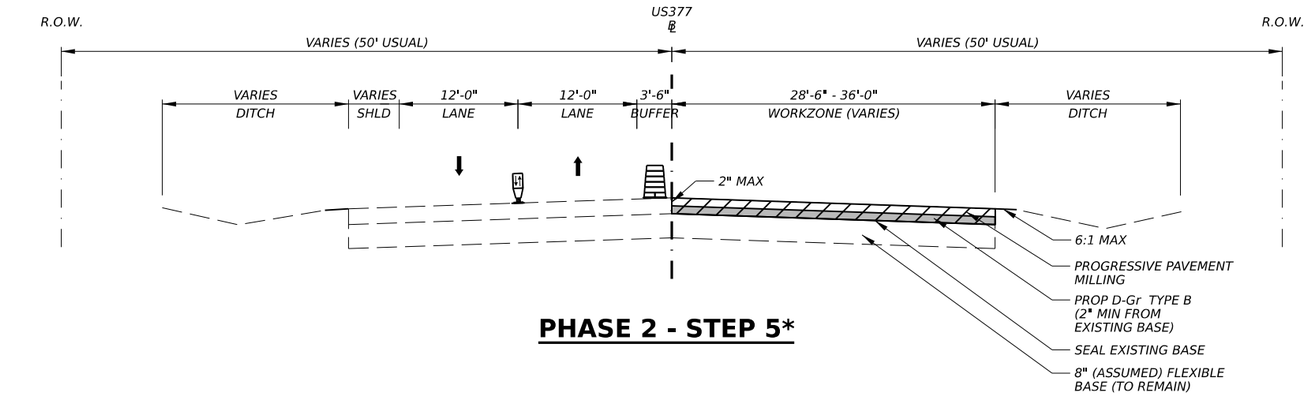

PHASE 2 - STEP 5*

LEGEND

- TRAFFIC LANES
- ROADWAY CONSTRUCTION THIS PHASE
- ROADWAY CONSTRUCTION PREVIOUS PHASE/STAGE
- PLASTIC DRUMS
- OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

* TYPICAL SECTION REPEATS FOR PHASE 3 THROUGH PHASE 17

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TCP TYPICAL SECTION

SHEET 3 OF 4

CONT	SECT	JOB	HIGHWAY
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FTW	TARRANT		16

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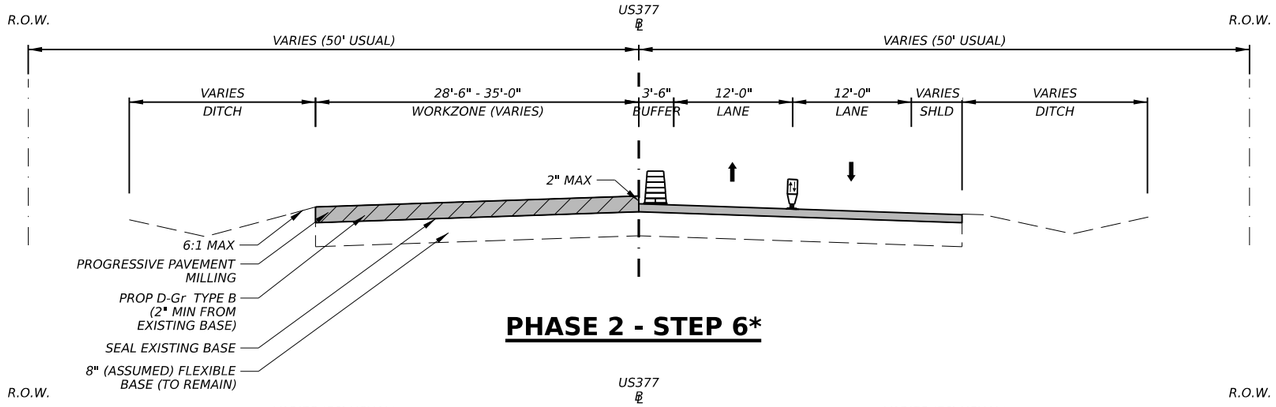

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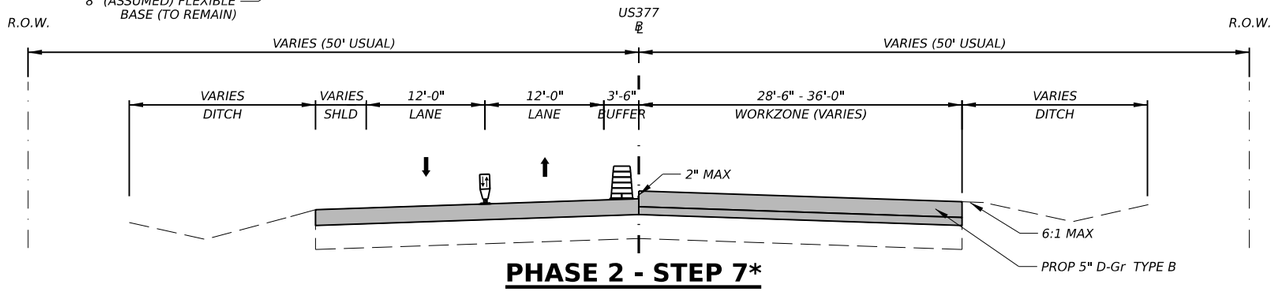

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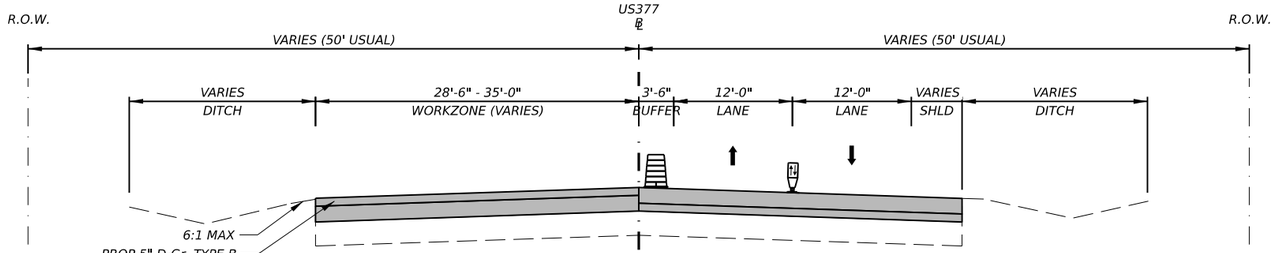

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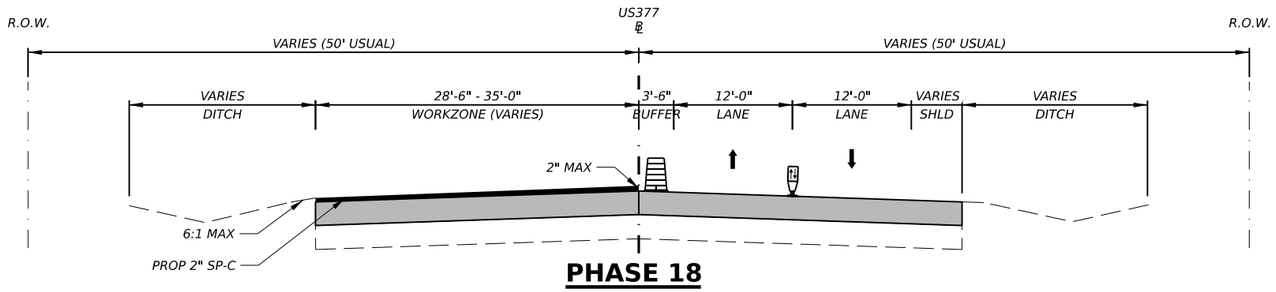

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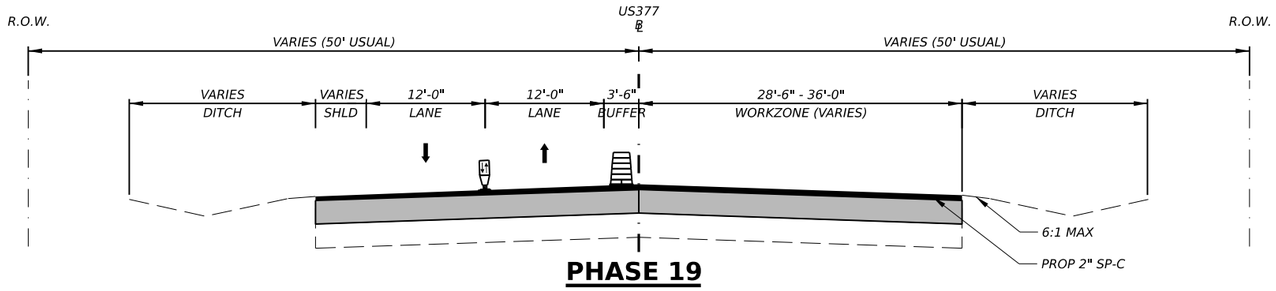

PHASE 19

LEGEND

- TRAFFIC LANES
- ROADWAY CONSTRUCTION THIS PHASE
- ROADWAY CONSTRUCTION PREVIOUS PHASE/STAGE
- PLASTIC DRUMS
- OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

* TYPICAL SECTION REPEATS FOR PHASE 3 THROUGH PHASE 17

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TCP TYPICAL SECTION

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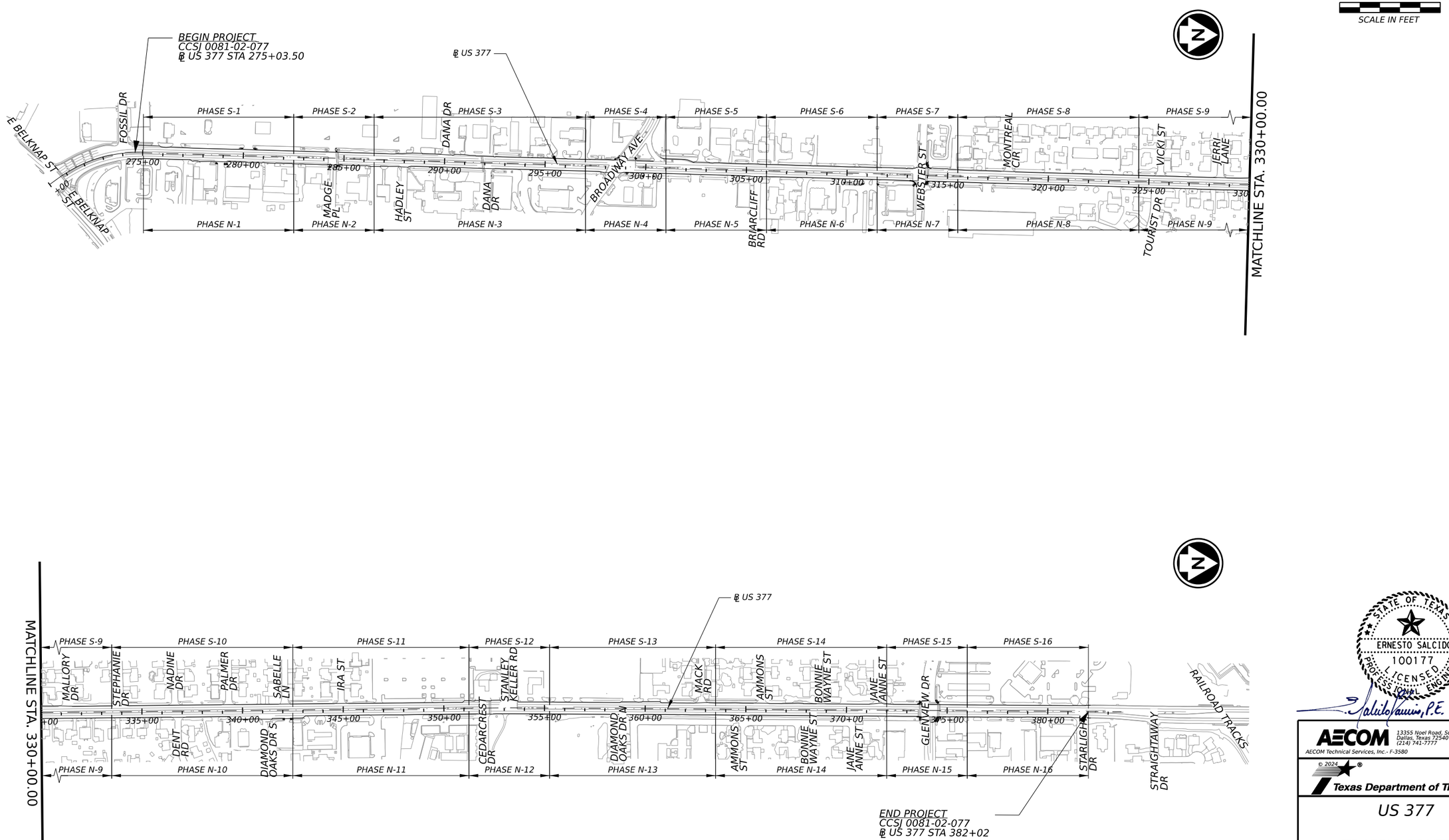

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3/20/2024

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Texas Department of Transportation

US 377

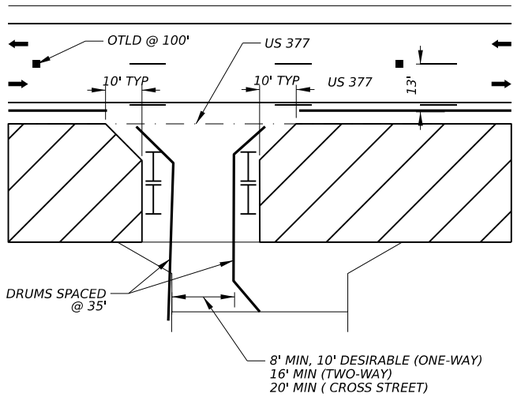
TRAFFIC CONTROL PHASING LAYOUT

SHEET 1 OF 1

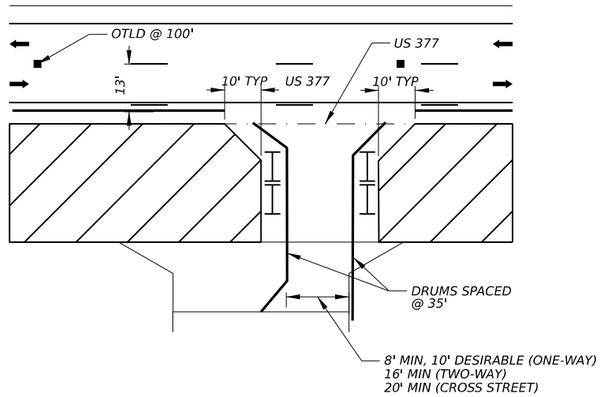
CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		18

CK
DW
CK
DW

STEP 1



STEP 2



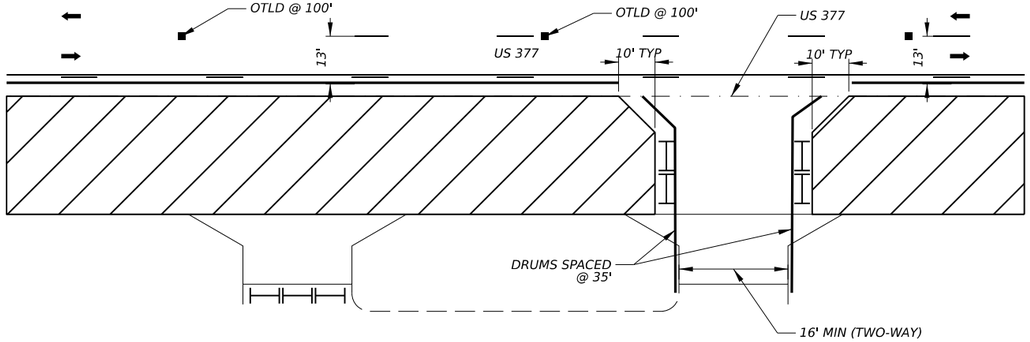
LEGEND

- TRAFFIC LANES
- CONSTRUCTION AREA
- CHANNELIZING DEVICES (DRUMS)
- OPPOSING TRAFFIC LANE DIVIDERS (OTLD)
- TYPE 3 BARRICADE

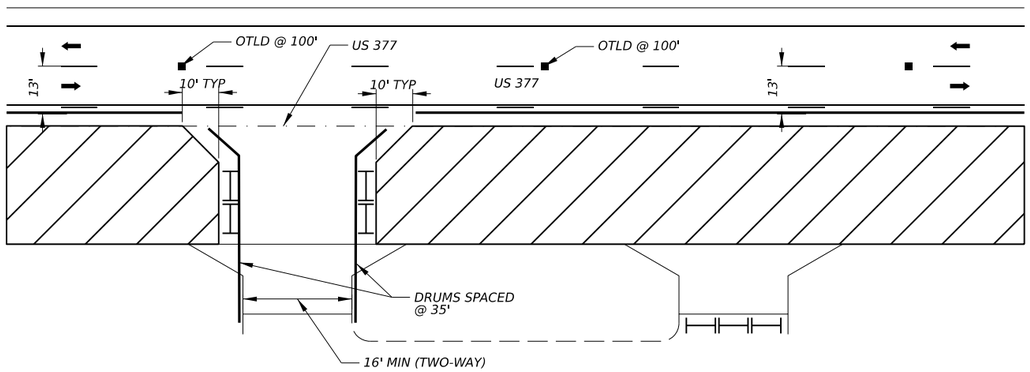
DETAIL A - PRIVATE DRIVEWAY OR CROSS STREET - PROPERTY WITH SINGLE ACCESS POINTS

NOT TO SCALE

STEP 1



STEP 2



DETAIL B - PRIVATE DRIVEWAY - PROPERTY WITH MULTIPLE ACCESS POINTS

NOT TO SCALE

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STATE OF TEXAS
ERNESTO SALCIDO
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LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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Texas Department of Transportation

US 377

TCP DETAILS

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		19

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
REVISIONS 4-03 7-13 9-07 8-14 5-10 5-21	0081	02	077	US 377
	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		20

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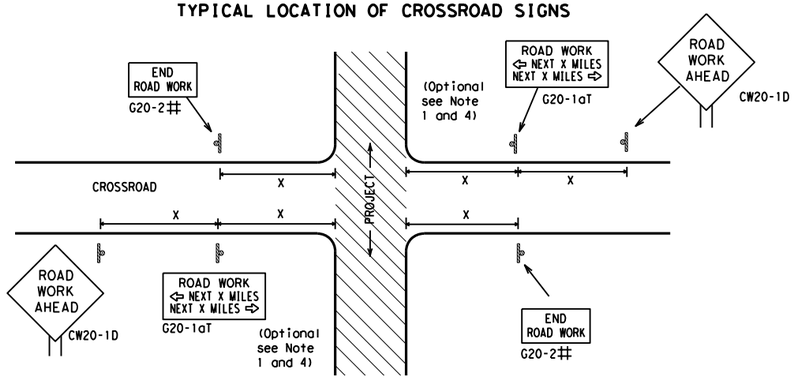
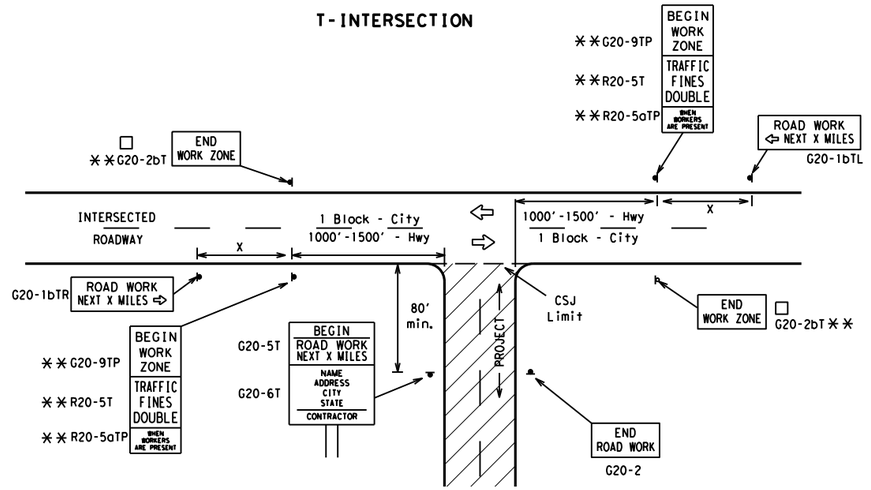
TYPICAL LOCATION OF CROSSROAD SIGNS



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

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

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

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

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

SIZE

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

SPACING

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

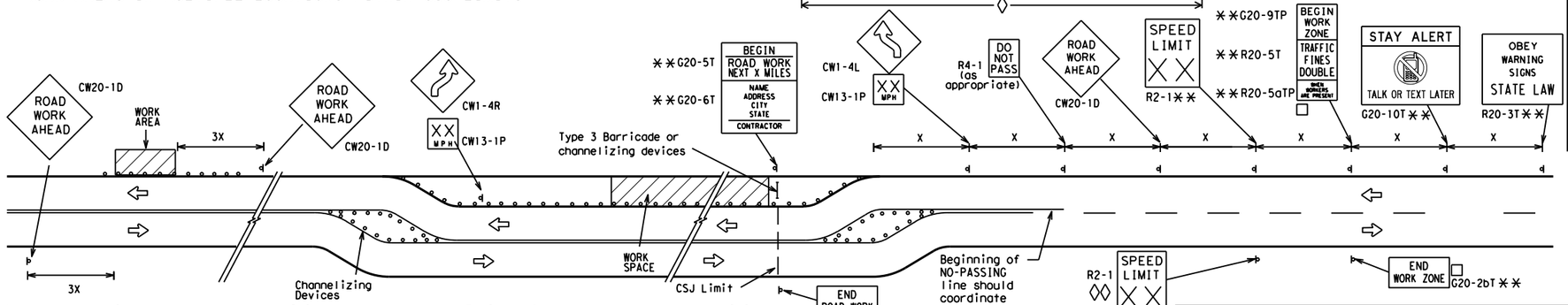
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

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

GENERAL NOTES

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

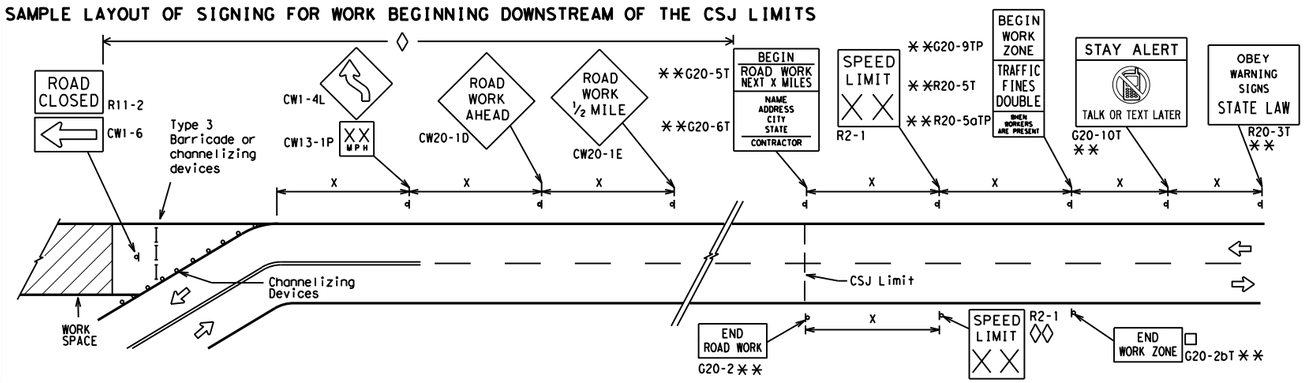
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



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

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

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



NOTES

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

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

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

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

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

LEGEND

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

SHEET 2 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		21

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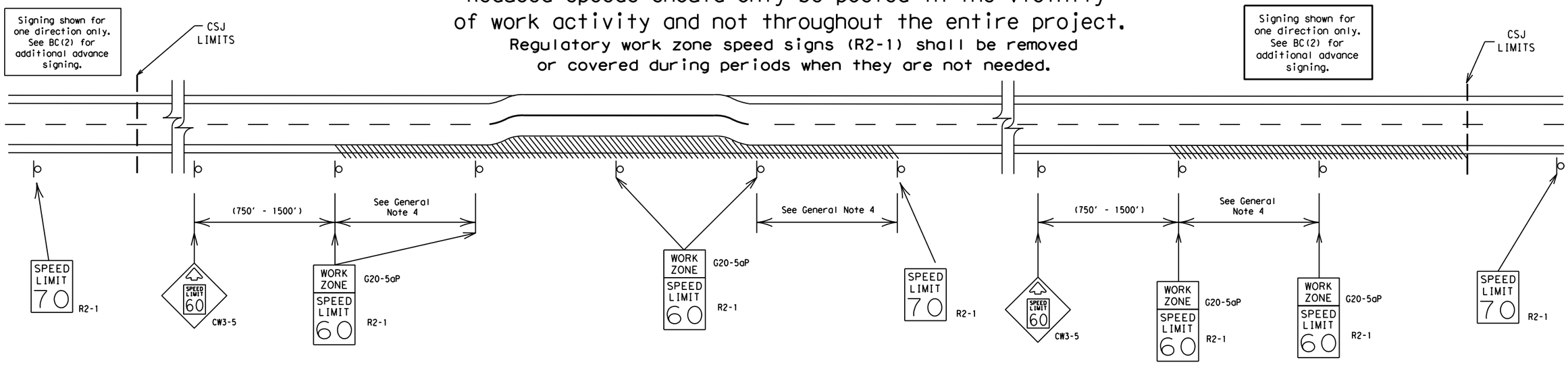
TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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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REVISIONS	0081	02	077	US 377
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		22

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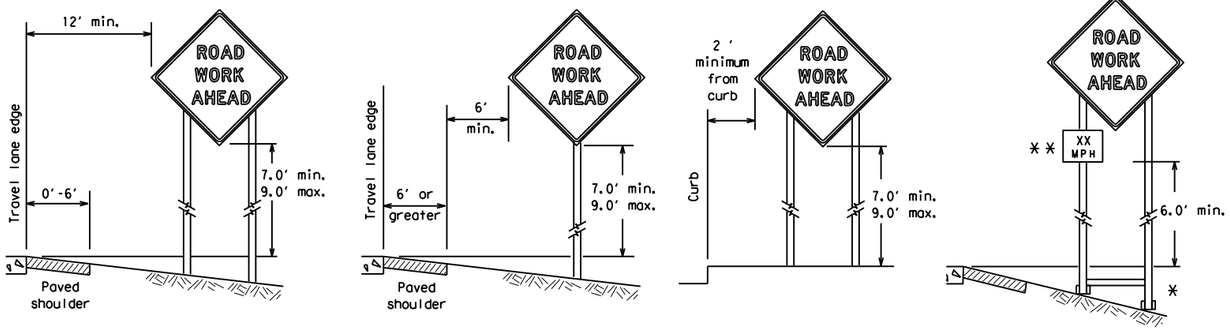
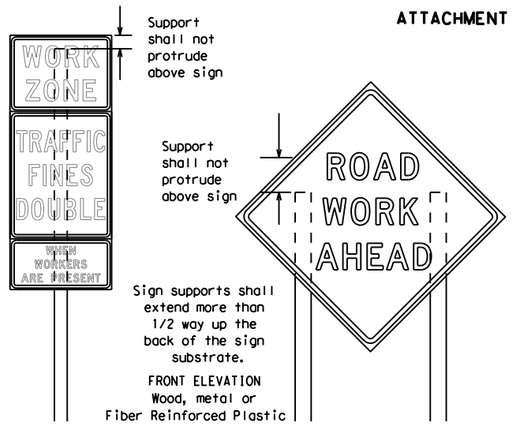
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



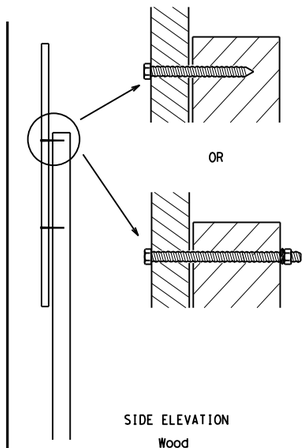
* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** 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



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.

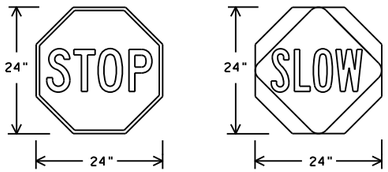


Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

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

STOP/SLOW PADDLES

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



Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

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

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

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

GENERAL NOTES FOR WORK ZONE SIGNS

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

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

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

SIGN MOUNTING HEIGHT

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

SIZE OF SIGNS

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

SIGN SUBSTRATES

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

REFLECTIVE SHEETING

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

SIGN LETTERS

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

REMOVING OR COVERING

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

SIGN SUPPORT WEIGHTS

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

FLAGS ON SIGNS

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

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REVISIONS	0081	02	077	US 377
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		23

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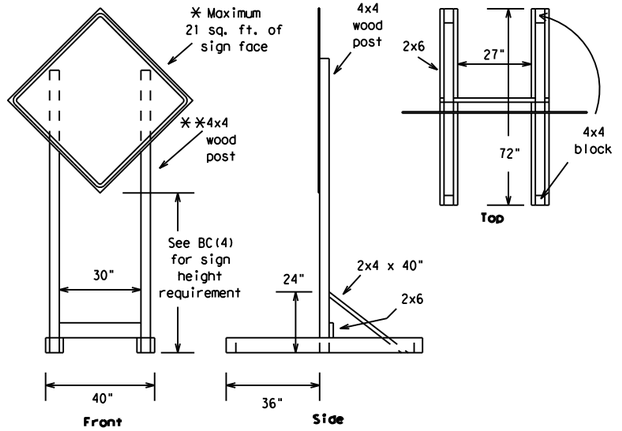
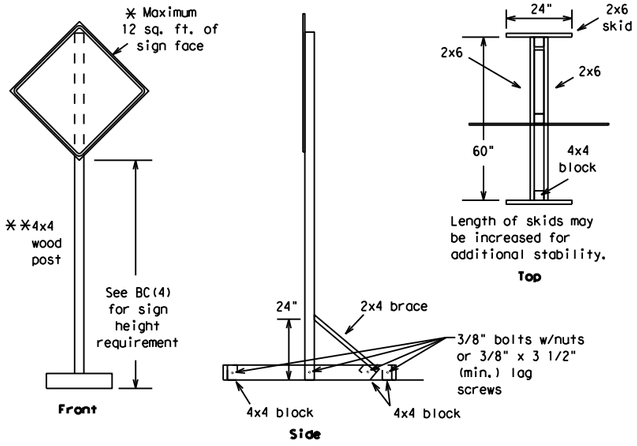
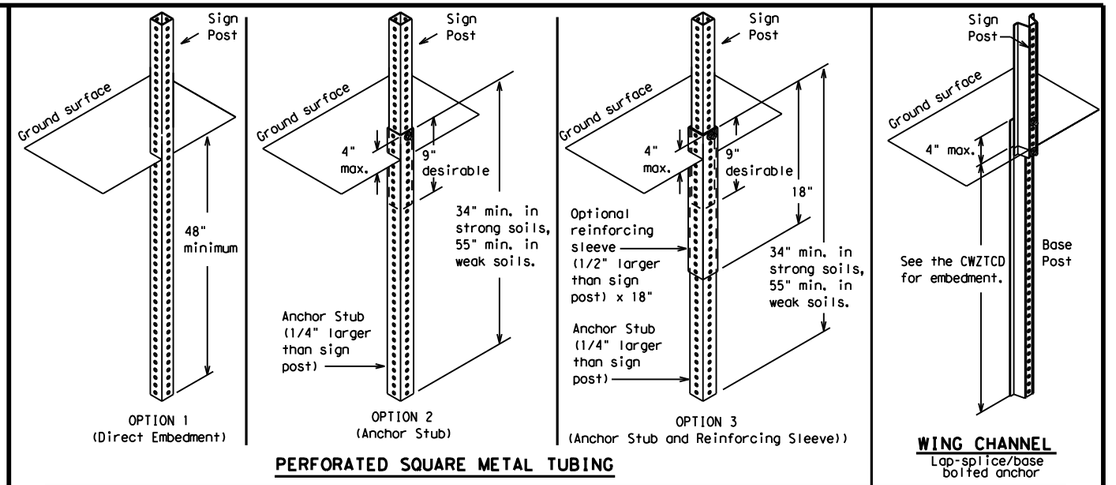




SKID MOUNTED WOOD SIGN SUPPORTS

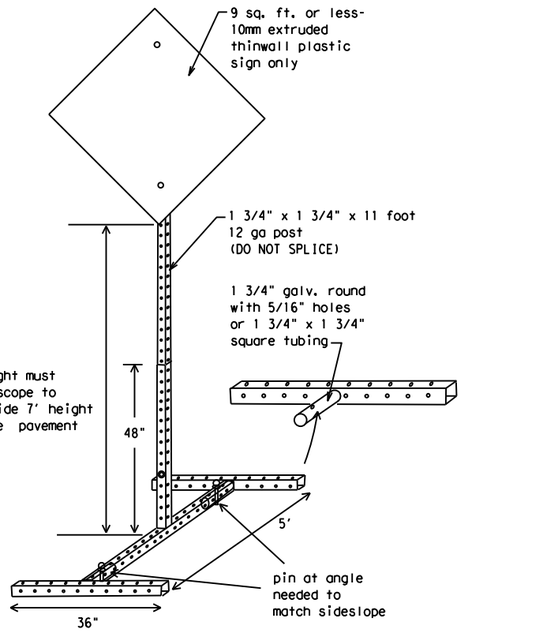
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

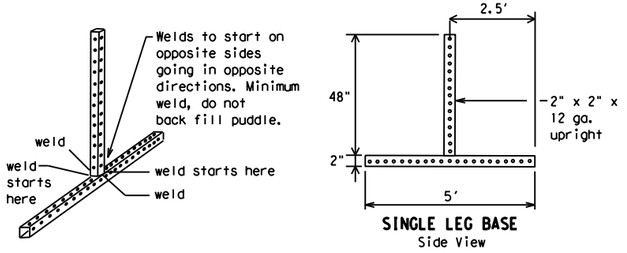


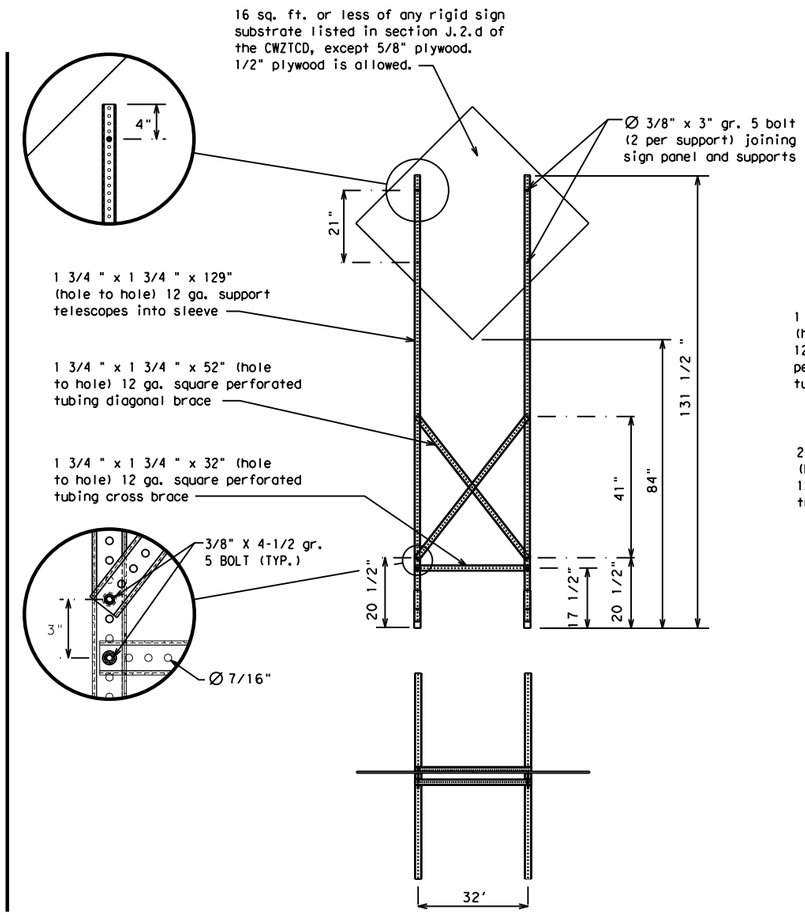
PERFORATED SQUARE METAL TUBING

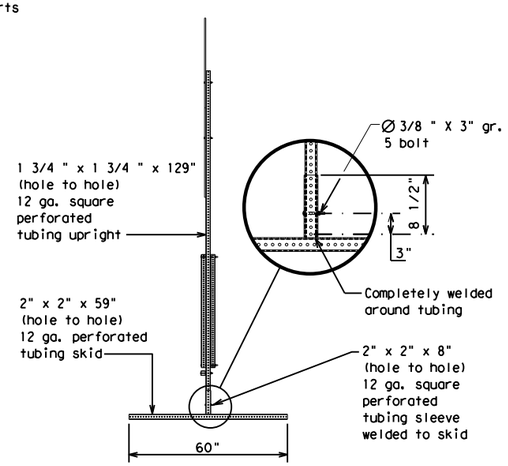
GROUND MOUNTED SIGN SUPPORTS

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









SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

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

WEDGE ANCHORS

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

OTHER DESIGNS

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

GENERAL NOTES

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

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

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

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

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Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

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9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		24

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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

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

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

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

WORDING ALTERNATIVES

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

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

FULL MATRIX PCMS SIGNS

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

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

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9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		25

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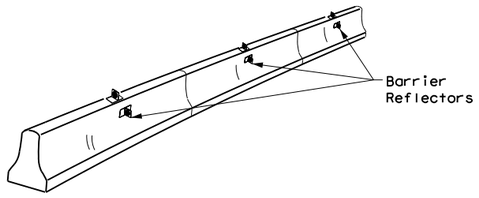
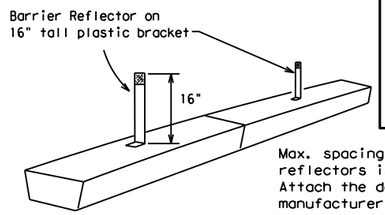
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost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



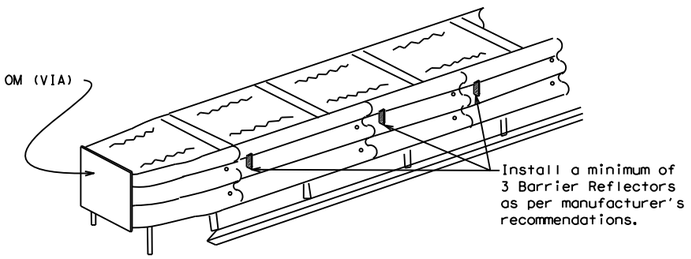
CONCRETE TRAFFIC BARRIER (CTB)

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



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

LOW PROFILE CONCRETE BARRIER (LPCB)



DELINEATION OF END TREATMENTS

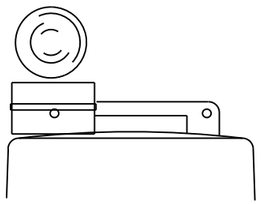
LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

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

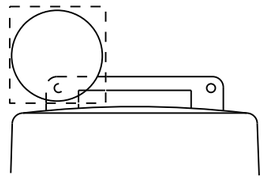
END TREATMENTS FOR CTB'S USED IN WORK ZONES

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

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



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



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

WARNING LIGHTS

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

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

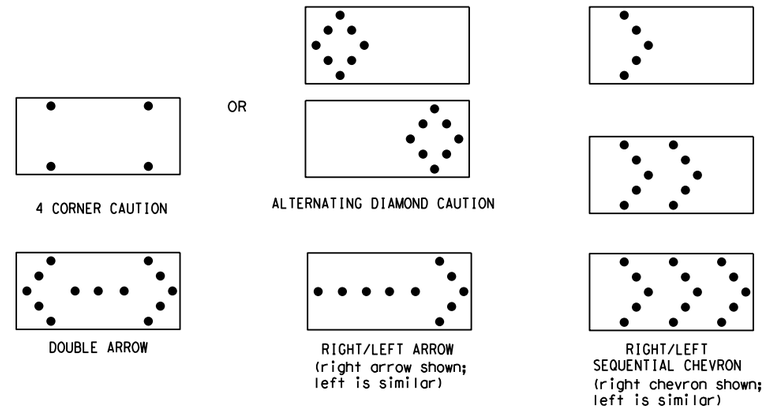
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing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

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

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

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

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



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

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

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

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

FLASHING ARROW BOARDS

SHEET 7 OF 12

TRUCK-MOUNTED ATTENUATORS

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

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	0081	02	077	US 377
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		26

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GENERAL NOTES

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

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

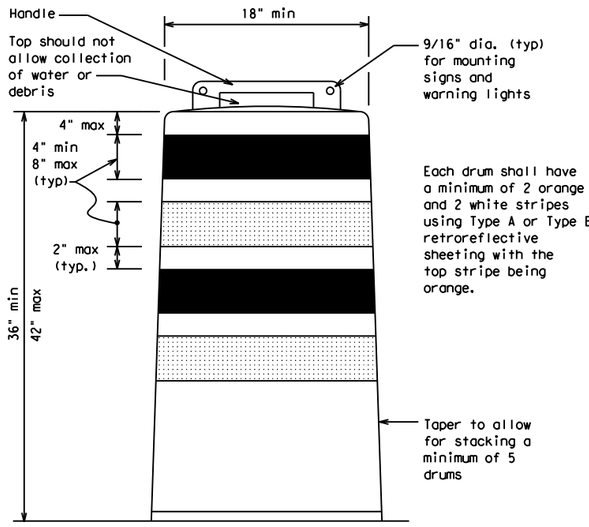
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents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

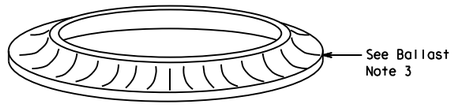
RETROREFLECTIVE SHEETING

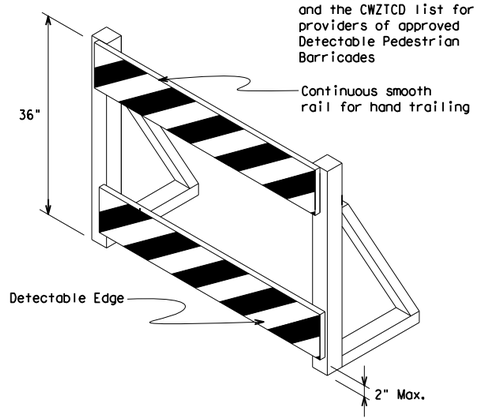
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall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

BALLAST

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

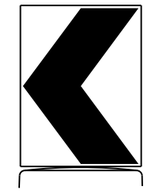




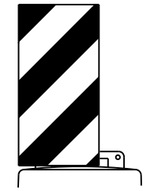


DETECTABLE PEDESTRIAN BARRICADES

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



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



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

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

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

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

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
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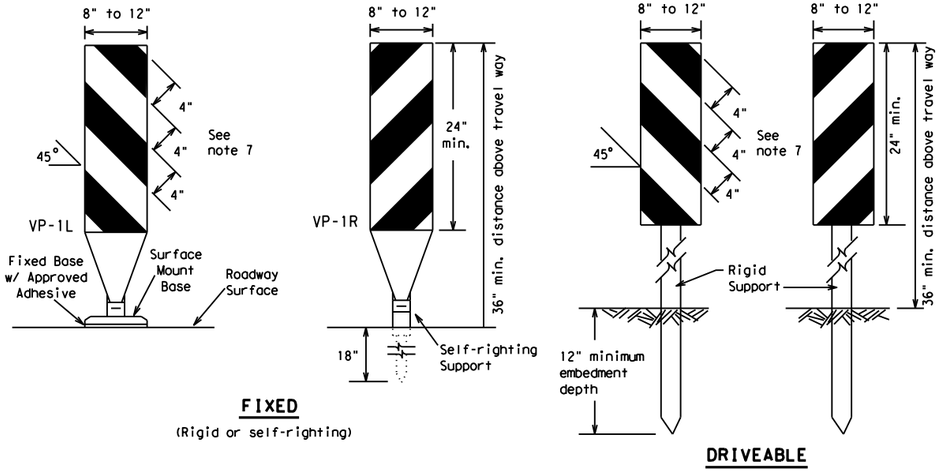
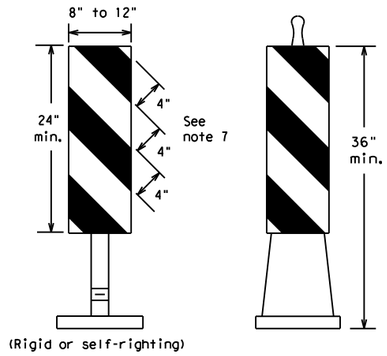


FIXED
(Rigid or self-righting)

DRIVEABLE

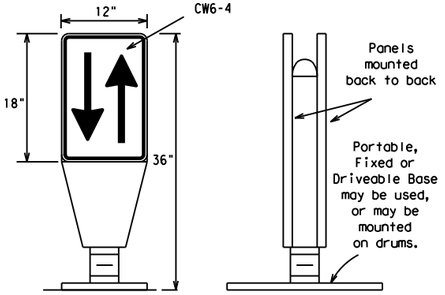


(Rigid or self-righting)

PORTABLE

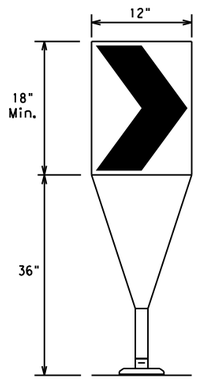
VERTICAL PANELS (VPs)

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.



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)



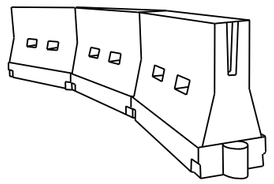
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

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

SHEET 9 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

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7-13 5-21	FTW	TARRANT		28

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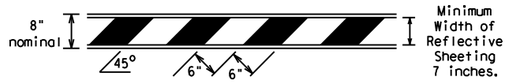
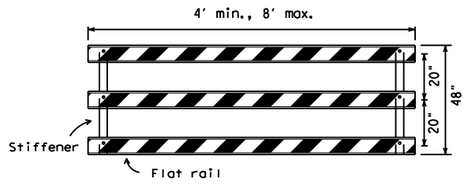
TYPE 3 BARRICADES

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

Barricades shall NOT be used as a sign support.



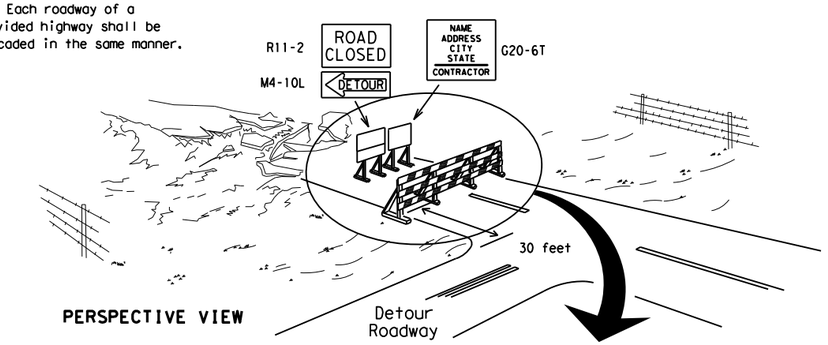
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



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

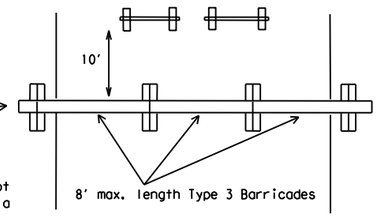
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

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



PERSPECTIVE VIEW

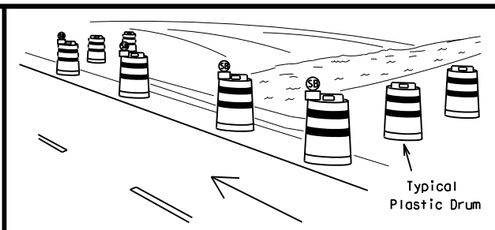
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

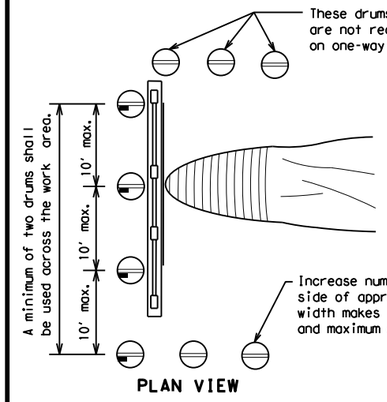
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

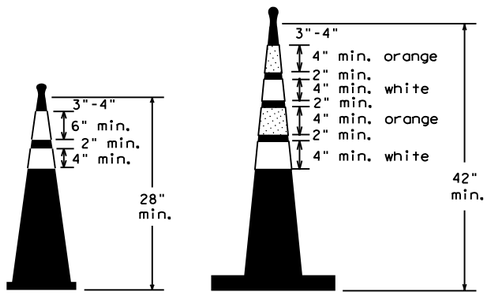
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder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



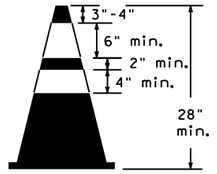
LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

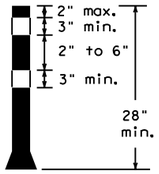
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

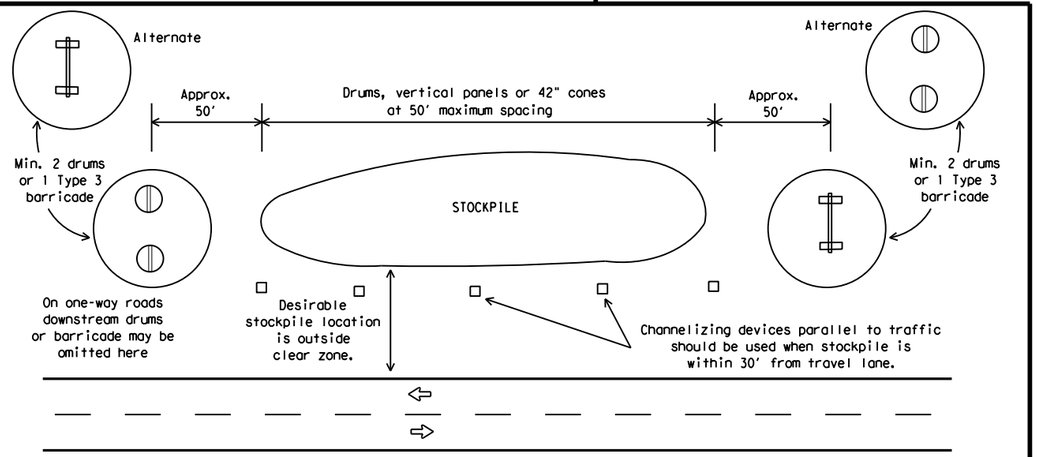


Tubular Marker

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

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	FTW	TARRANT		29

104

DATE: 3/20/2024 3:34:00 PM
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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.

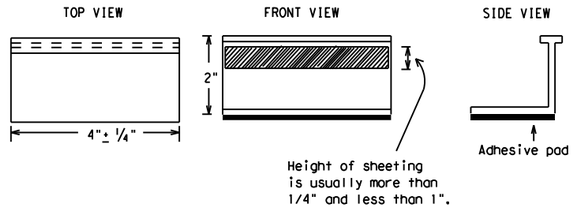
MAINTAINING WORK ZONE PAVEMENT MARKINGS

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

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
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2-98 9-07 5-21	DIST	COUNTY		SHEET NO.
1-02 7-13	FTW	TARRANT		30
11-02 8-14				

105

DATE: 3/20/2024 3:34:00 PM
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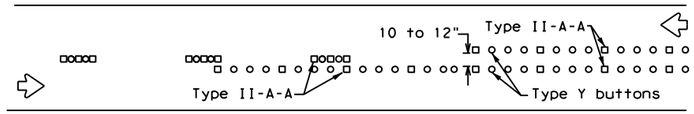
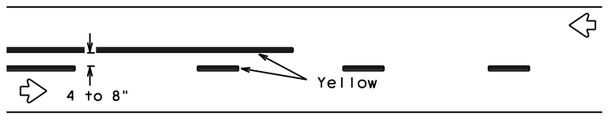
PAVEMENT MARKING PATTERNS

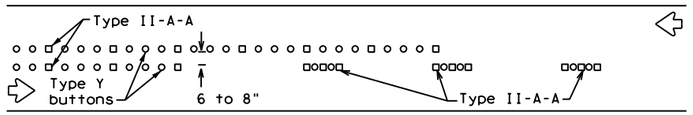
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



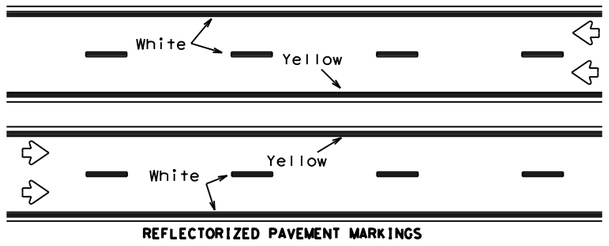
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



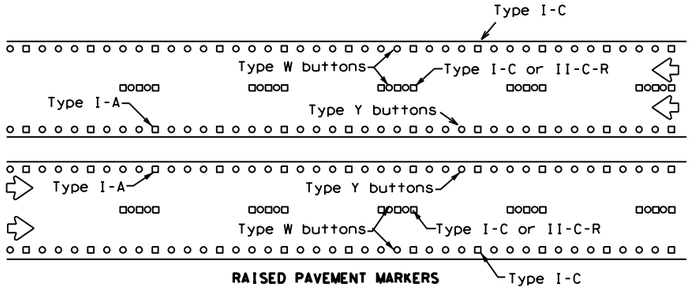
RAISED PAVEMENT MARKERS - PATTERN B

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

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



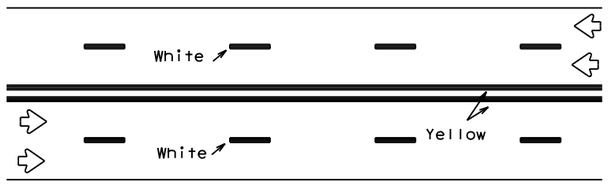
REFLECTORIZED PAVEMENT MARKINGS



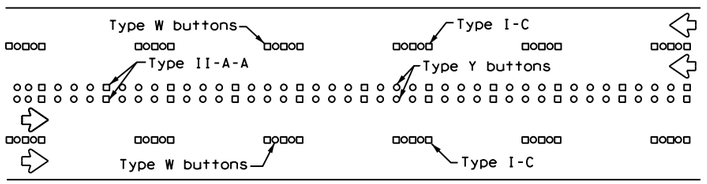
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



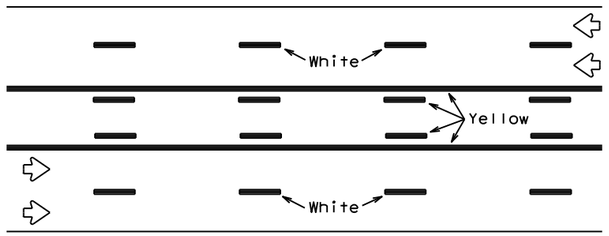
REFLECTORIZED PAVEMENT MARKINGS



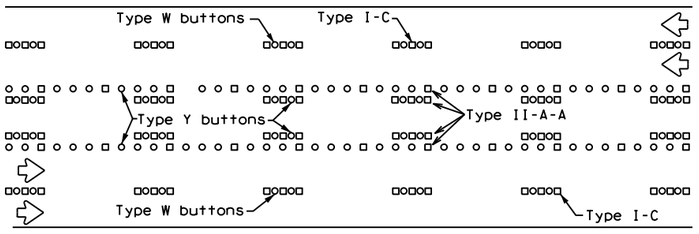
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

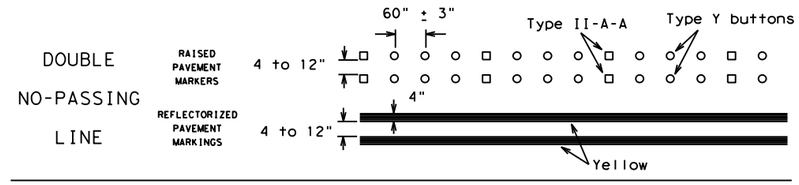
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

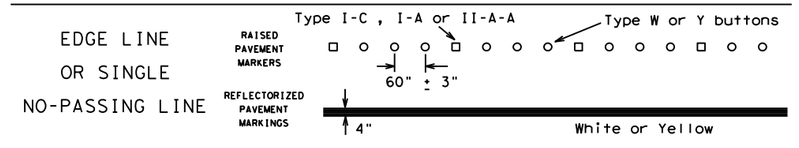
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

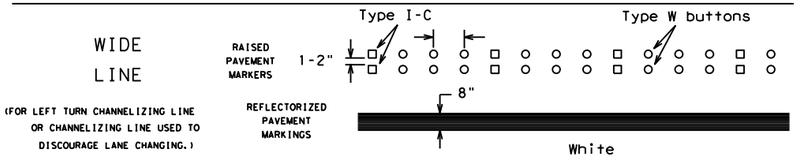


EDGE LINE OR SINGLE NO-PASSING LINE



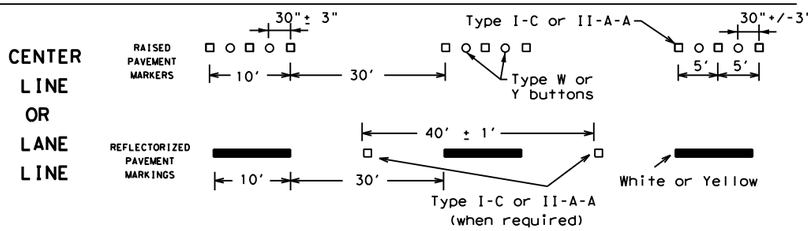
WIDE LINE

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

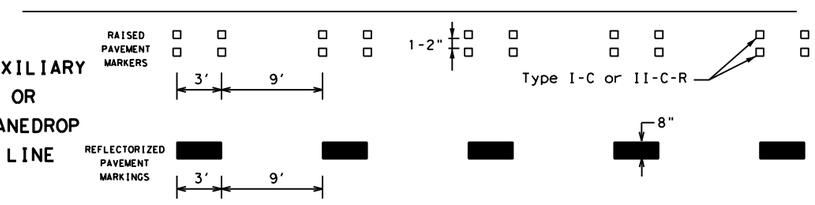


BROKEN LINES

CENTER LINE OR LANE LINE

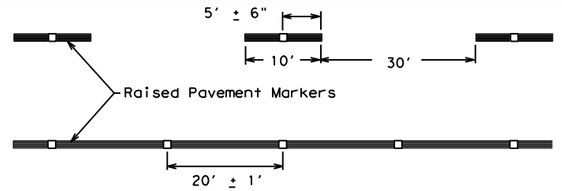


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

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



Centerline only - not to be used on edge lines

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

SHEET 12 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

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© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
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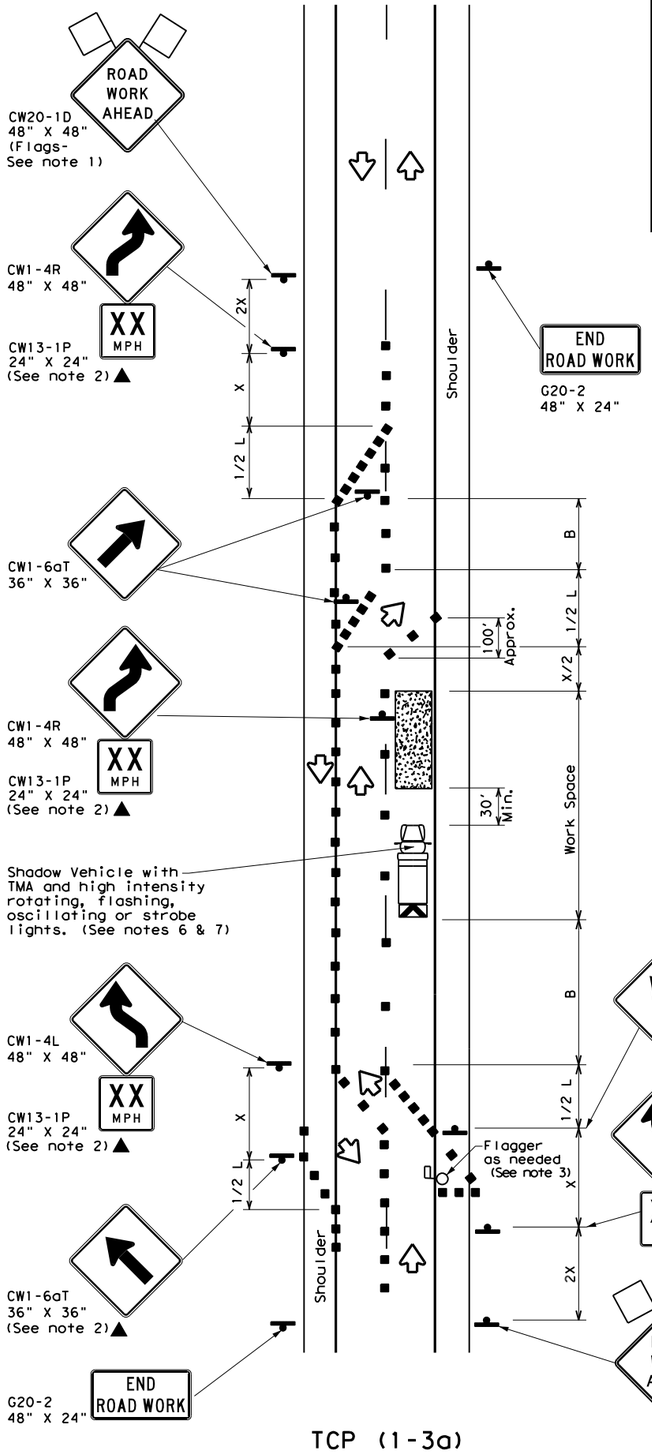


TCP (1-3a)
2-LANE ROADWAY WITH PAVED SHOULDERS

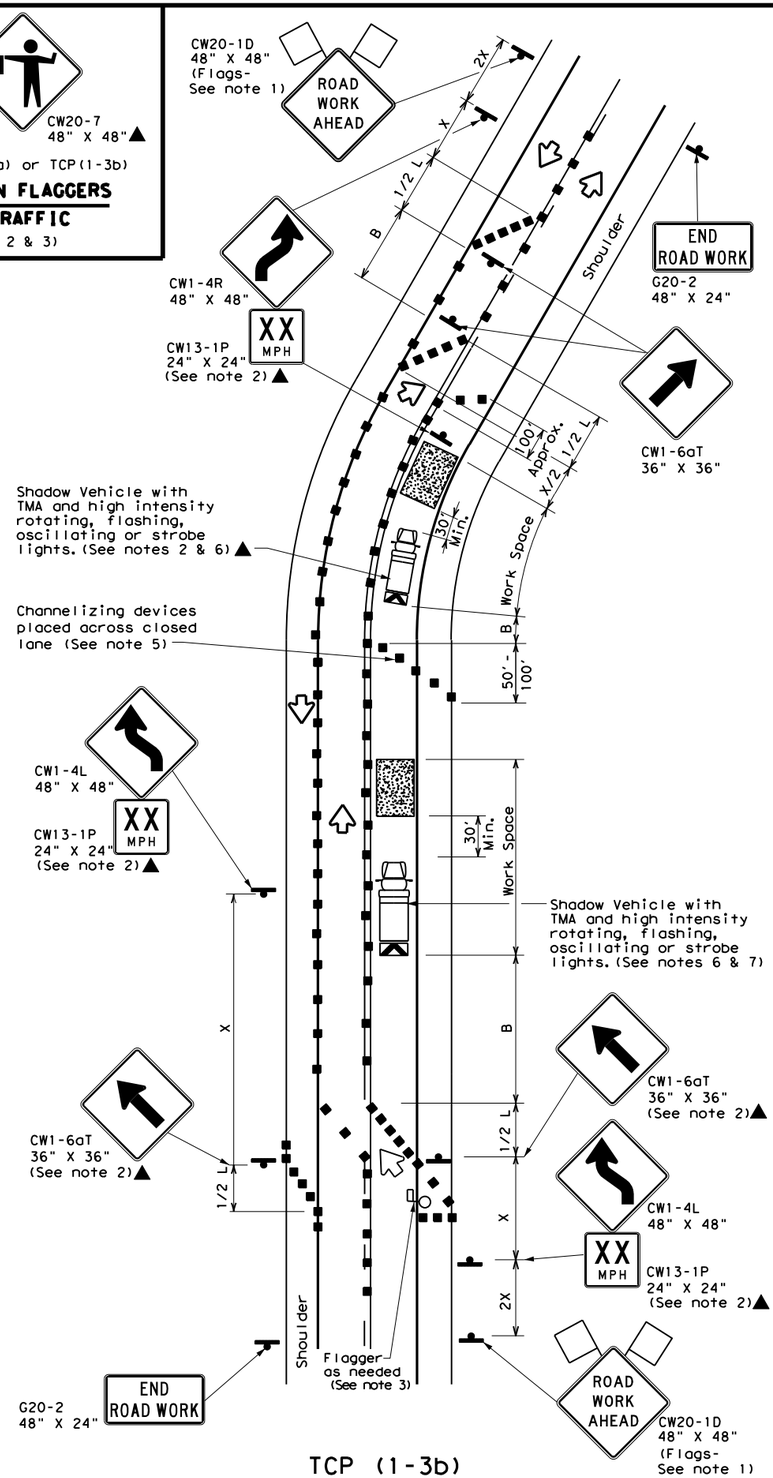
ONE LANE CLOSED
ADEQUATE FIELD OF VIEW

BE PREPARED TO STOP
CW3-4 48" X 48"
CW20-7 48" X 48"

For either TCP(1-3a) or TCP(1-3b)

USE ONLY WHEN FLAGGERS CONTROL TRAFFIC

(See Notes 2 & 3)



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

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© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
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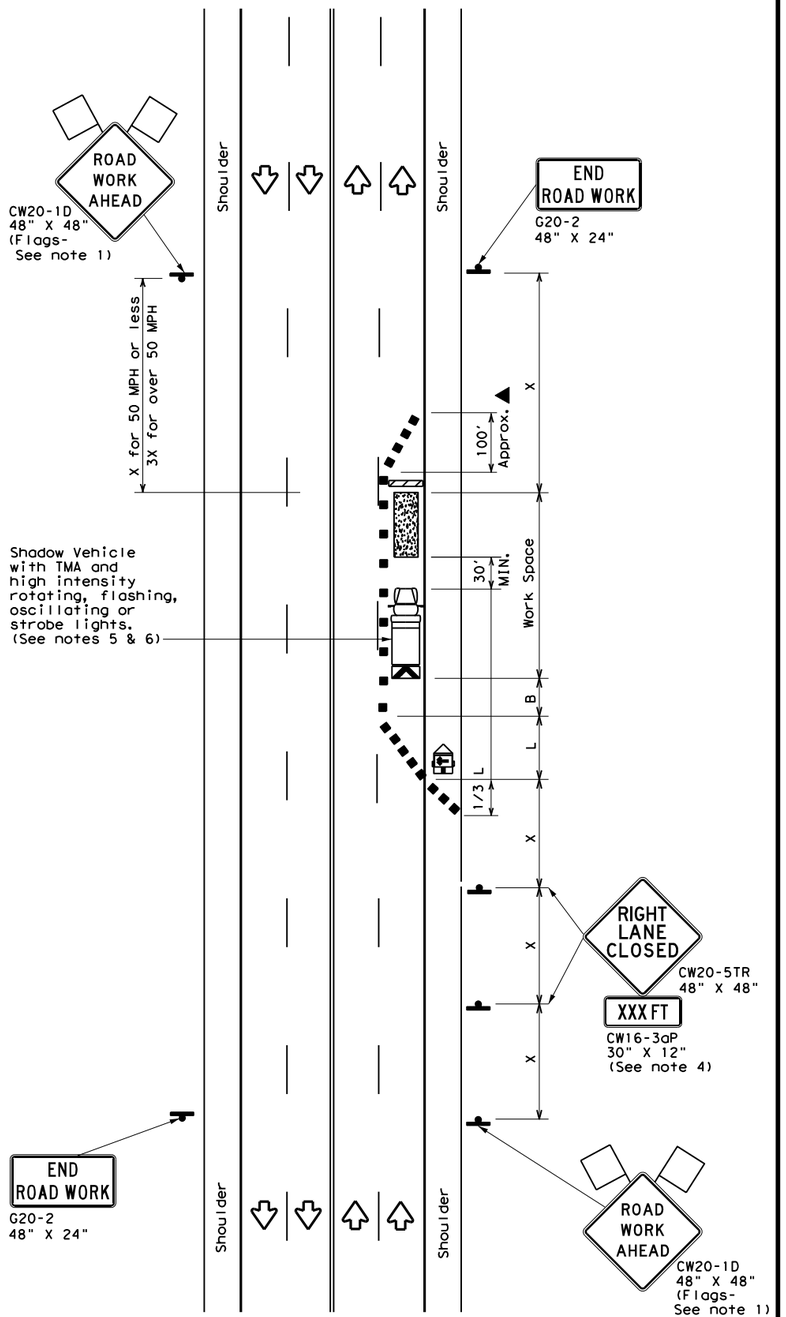
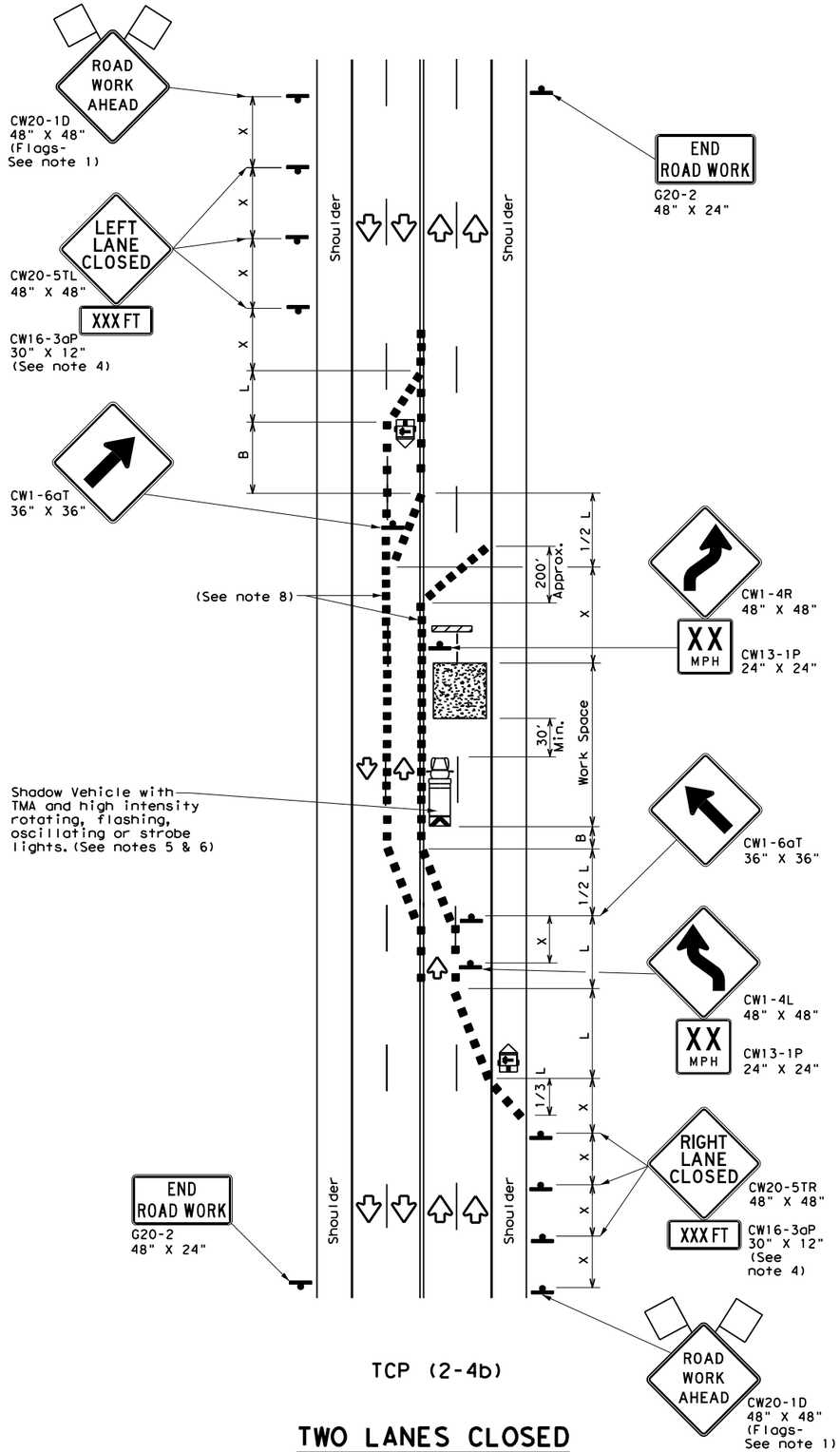
8-95 2-12	FTW	TARRANT		32
1-97 2-18				



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

FILE: tcp2-4-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
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1-97 2-12	DIST	COUNTY		SHEET NO.
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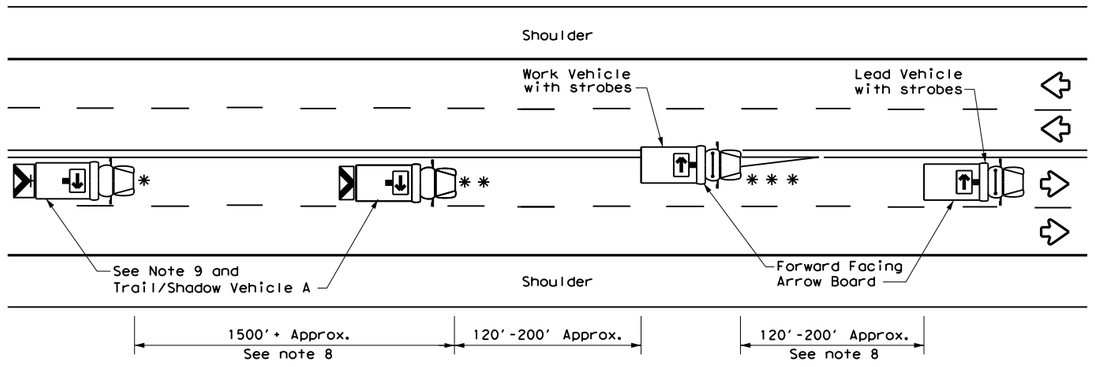
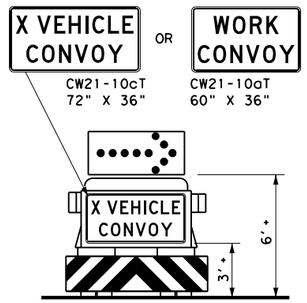


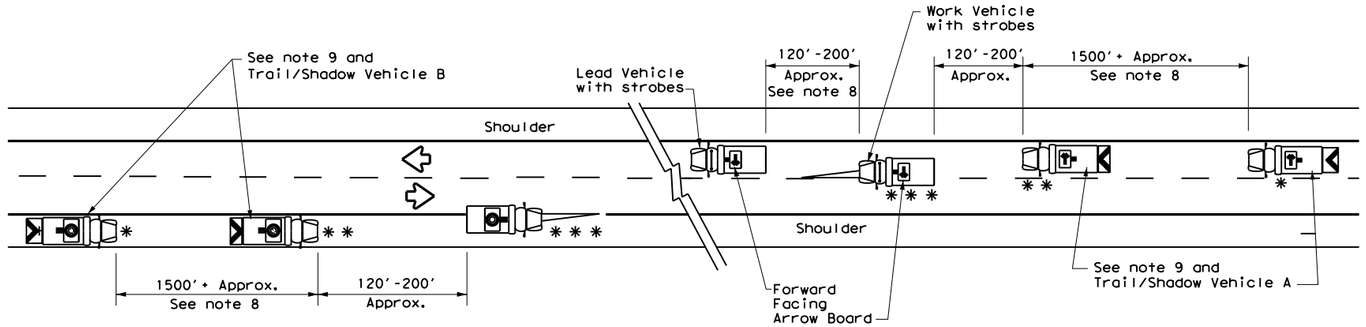
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

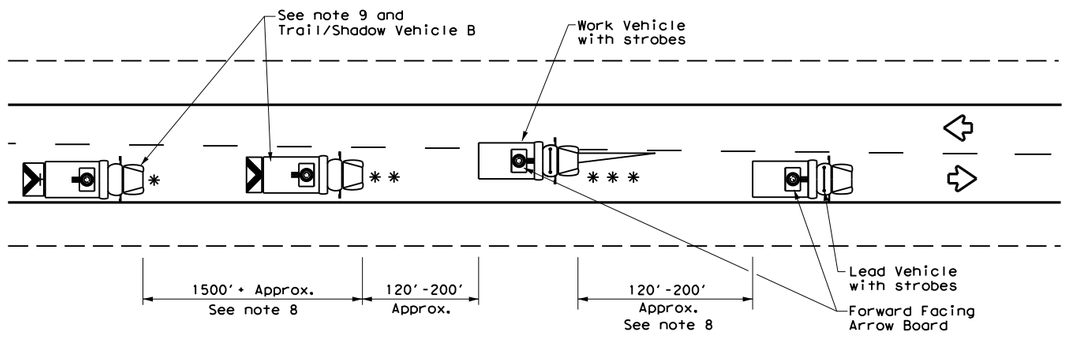


WORK ON SHOULDER

WORK ON TRAVEL LANE

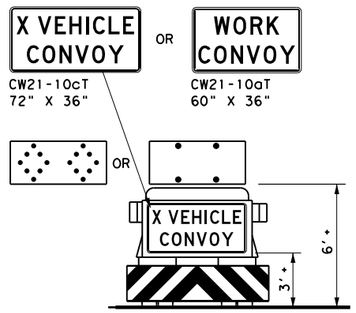
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

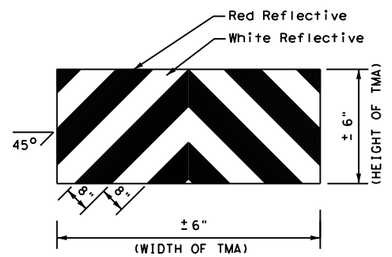
with Flashing Arrow Board in CAUTION display

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

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©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
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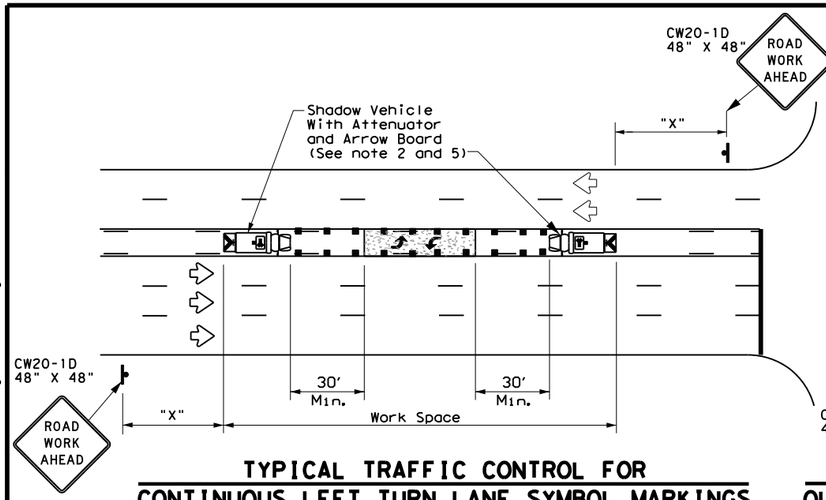
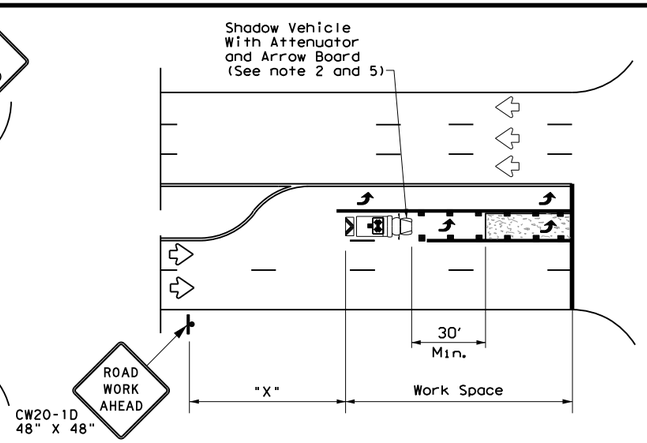
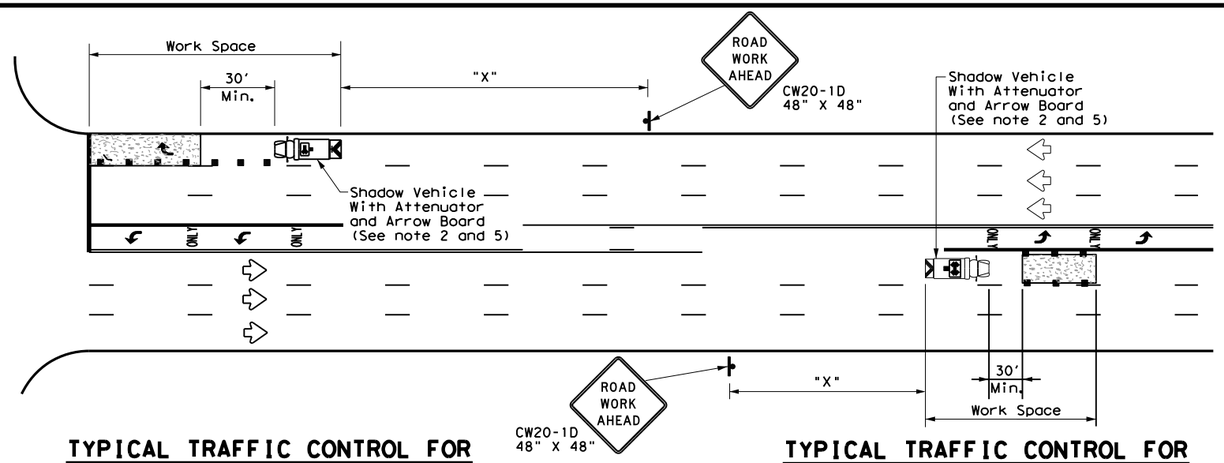


TYPICAL TRAFFIC CONTROL FOR CONTINUOUS LEFT TURN LANE SYMBOL MARKINGS

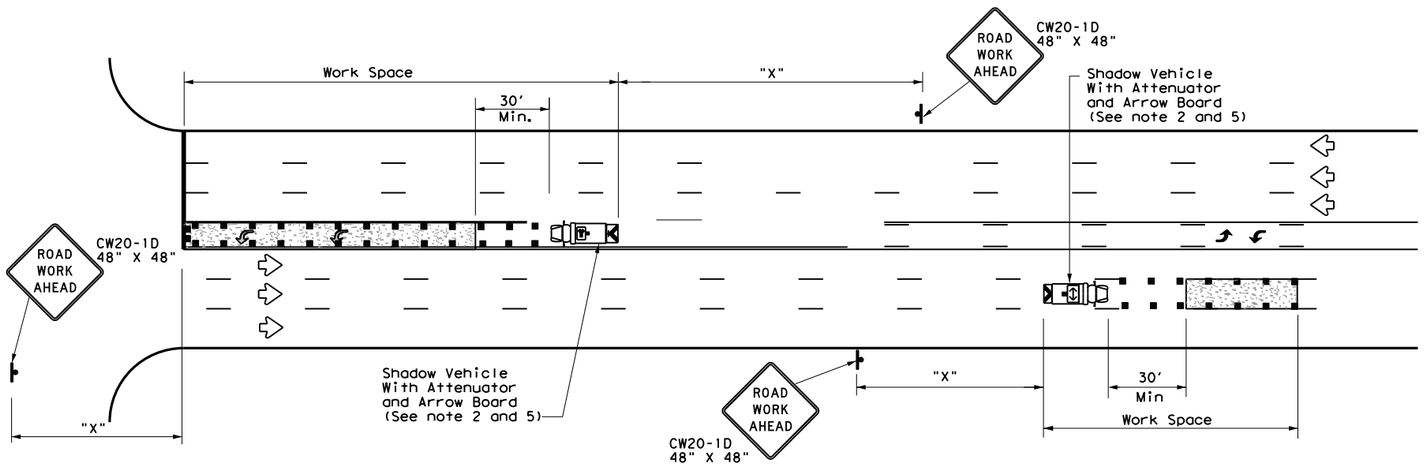


TYPICAL TRAFFIC CONTROL FOR OUTSIDE DUAL LEFT TURN LANE SYMBOL MARKINGS



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

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'

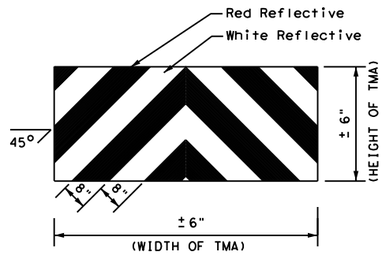
* Conventional Roads Only

** 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

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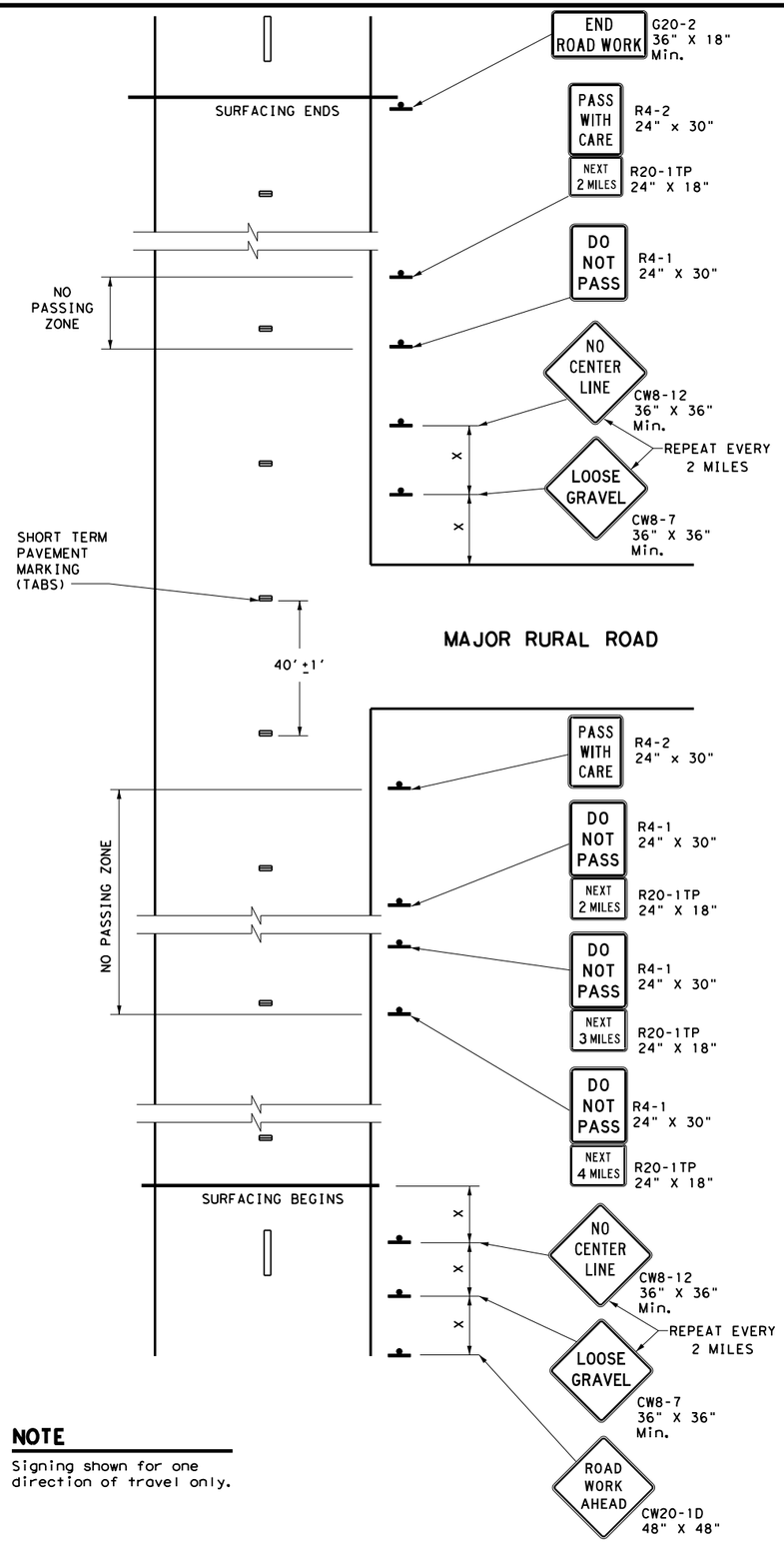
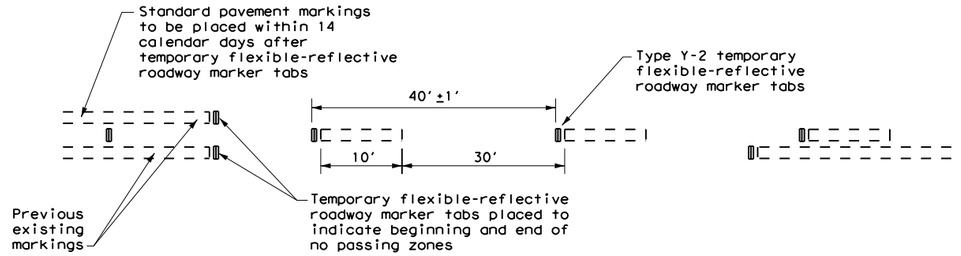


NOTE

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, 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

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©TxDOT March 1991	CONT	SECT	JOB	HIGHWAY
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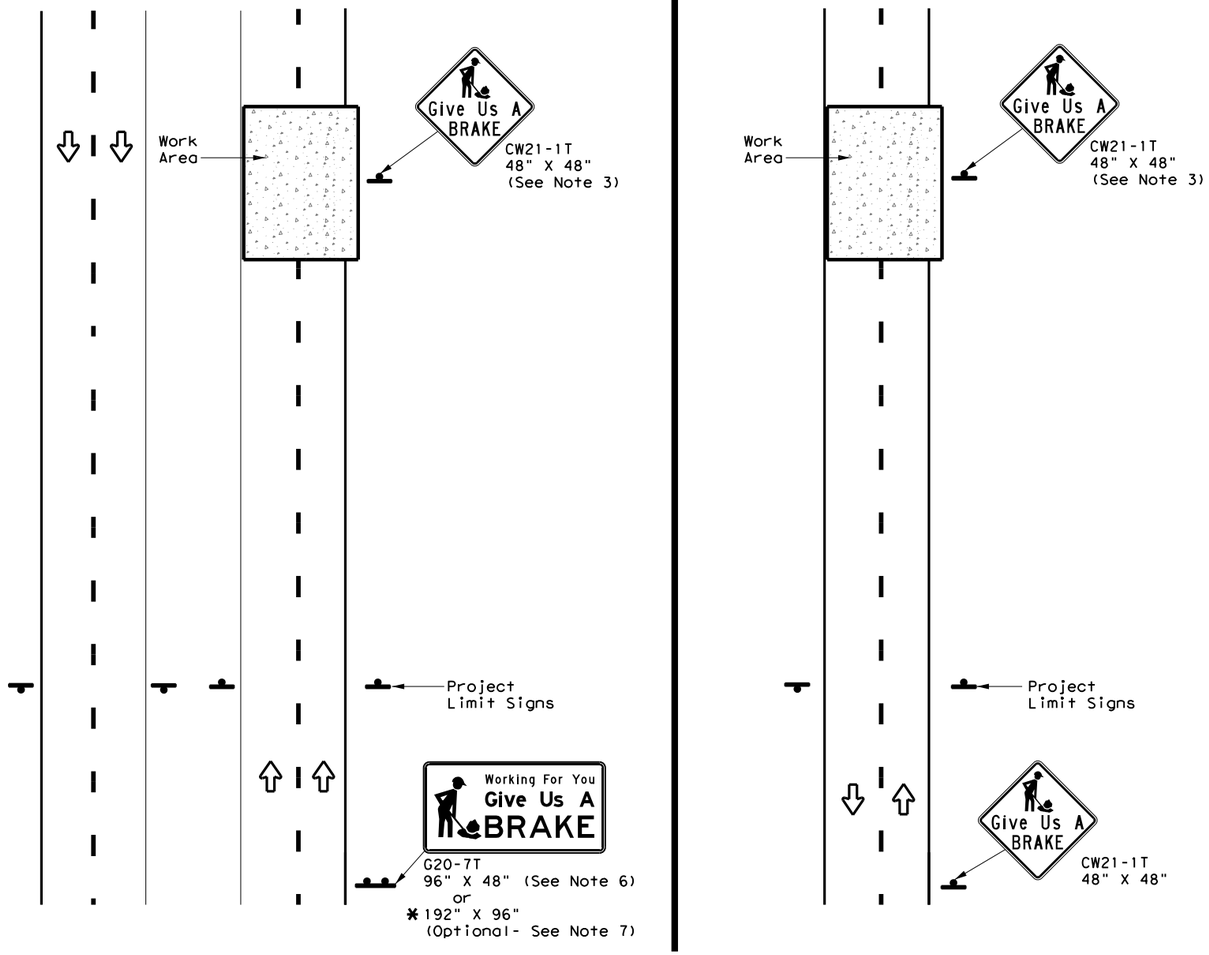

DIVIDED HIGHWAY

UNDIVIDED HIGHWAY

SIGNS ARE SHOWN FOR ONE DIRECTION OF TRAVEL

* When the optional larger WORKING FOR YOU GIVE US A BRAKE (G20-7T) 192" x 96" sign is required, the locations shall be noted elsewhere in the plans.

SUMMARY OF LARGE SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN	SIGN DIMENSIONS	REFLECTIVE SHEETING	SQ FT	GALVANIZED STRUCTURAL STEEL			DRILLED SHAFT 24" DIA. (LF)
						Size	(LF) ①	(LF) ②	
Orange	G20-7T	Working For You Give Us A BRAKE	96" X 48"	Type B_{FL} or C_{FL}	32	▲	▲	▲	▲
Orange	G20-7T	Working For You Give Us A BRAKE	192" X 96"	Type B_{FL} or C_{FL}	128	W8x18	16	17	12

▲ See Note 6 Below

LEGEND	
	Sign
	Large Sign
	Traffic Flow

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PLYWOOD SIGN BLANKS	DMS-7100
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL}
BLACK	LEGEND & BORDERS	NON-REFLECTIVE ACRYLIC FILM

GENERAL NOTES

1. See BC and SMD sheets for additional sign support details.
2. Sign locations shall be approved by the Engineer.
3. For projects more than two miles in length, Give Us a BRAKE signs should be repeated halfway through the project. The Give Us a Brake (CW21-1T) may be used for this purpose.
4. Work zone speed limits are sometimes used in conjunction with GIVE US A BRAKE signing. See BC(3) for location and spacing of construction speed zone signing when required.
5. Give Us a Brake (CW21-1T) signs and supports shall be considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling."
6. The 96" X 48" Working For You Give Us A BRAKE (G20-7T) may use a 1/2" or 5/8" plywood substrate or 0.125" aluminum sheeting substrate and may be supported by two 4" x 6" wood posts with drilled holes for breakaway as per BC(5) and will be subsidiary to Item 502.
7. The Working For You Give Us A BRAKE (G20-7T) 192" X 96" sign shall be paid for under the following specification items:
   Item 636 - Aluminum Signs
   Item 647 - Large Roadside Sign Supports and Assemblies.
   Item 416 - Drilled Shaft Foundations
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

Texas Department of Transportation

Traffic Operations Division Standard

WORK ZONE "GIVE US A BRAKE" SIGNS

WZ(BRK)-13

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©TxDOT August 1995	CONT	SECT	JOB	HIGHWAY
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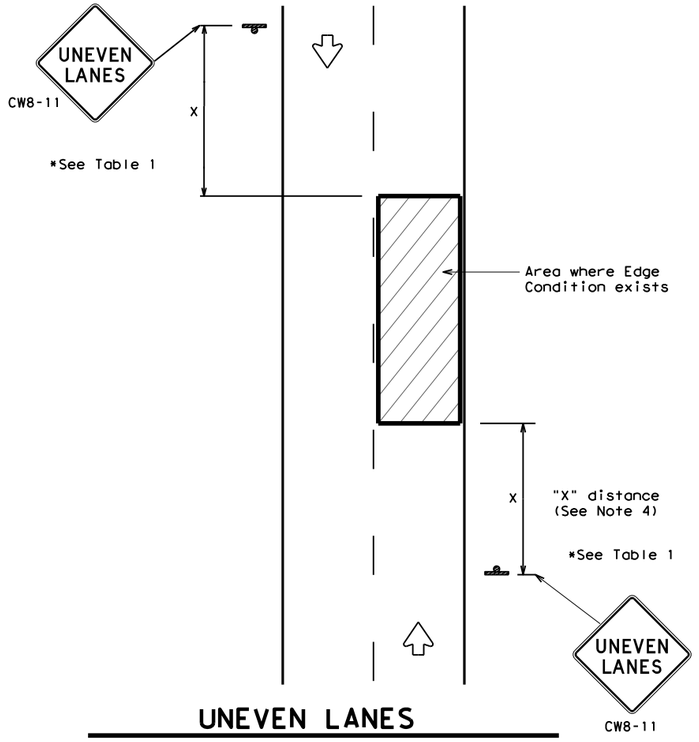
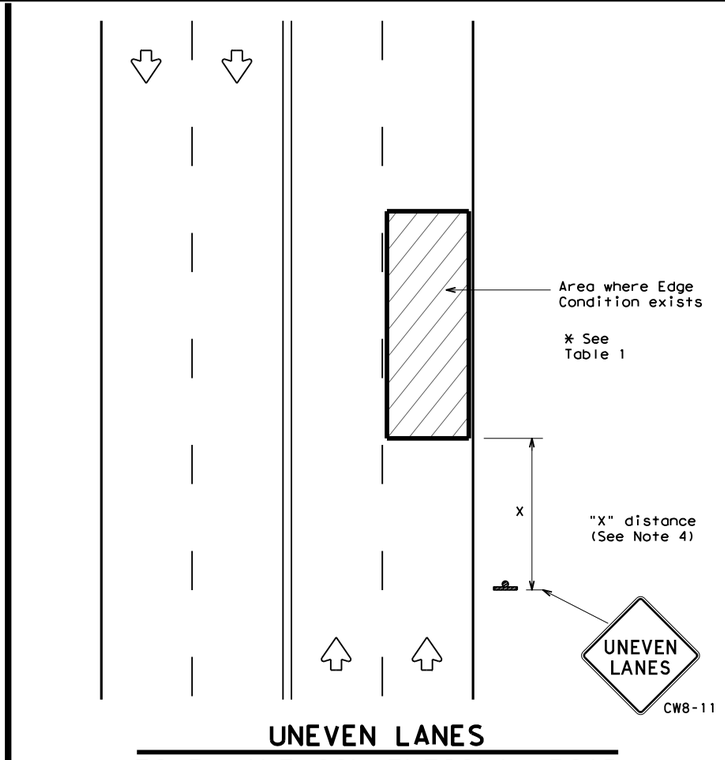
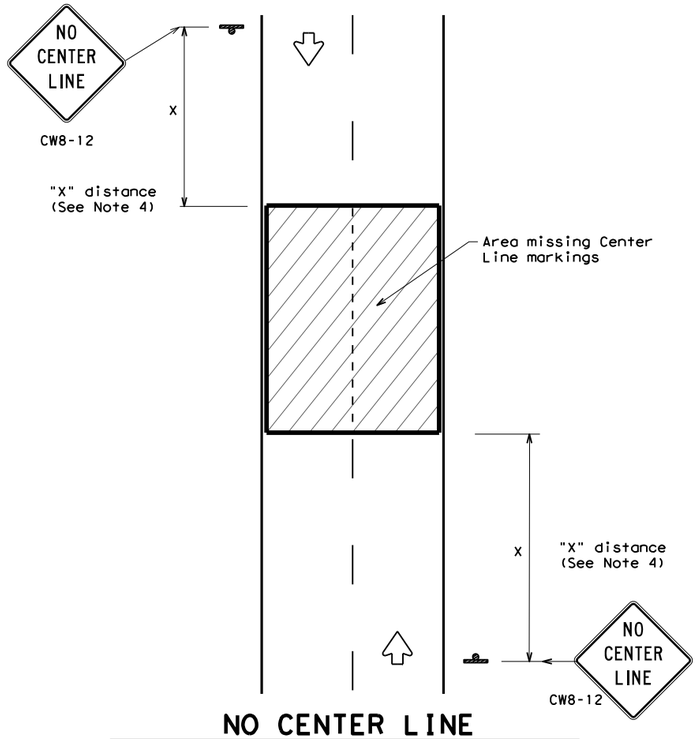


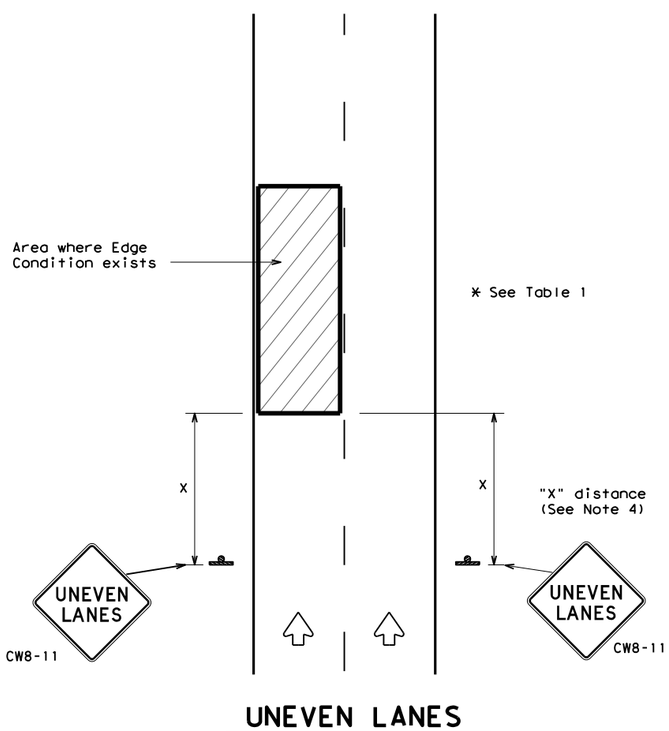
UNEVEN LANES
TWO LANE CONVENTIONAL ROAD



UNEVEN LANES
FOUR LANE CONVENTIONAL ROAD



NO CENTER LINE
TWO LANE CONVENTIONAL ROAD



UNEVEN LANES
DIVIDED ROADWAY

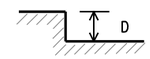
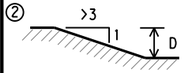
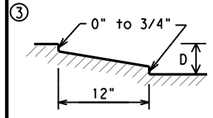
DEPARTMENTAL MATERIAL SPECIFICATIONS	
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY (REMOVABLE) PREFABRICATED PAVEMENT MARKINGS	DMS-8241
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL} SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

GENERAL NOTES

1. If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
2. UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
3. NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
4. Signs shall be spaced at the distances recommended as per BC standards.
5. Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
6. Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
7. Short term markings shall not be used to simulate edge lines.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

TABLE 1

Edge Condition	Edge Height (D)	* Warning Devices
① 	Less than or equal to: 1¼" (maximum-planing) 1½" (typical-overlay)	Sign: CW8-11
	Distance "D" may be a maximum of 1 1/4 " for planing operations and 2" for overlay operations if uneven lanes with edge condition 1 are open to traffic after work operations cease.	
② 	Less than or equal to 3"	Sign: CW8-11
③  Notched Wedge Joint	Distance "D" may be a maximum of 3" if uneven lanes with edge condition 2 or 3 are open to traffic after work operations cease. Uneven lanes should not be open to traffic when "D" is greater than 3".	

TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

MINIMUM WARNING SIGN SIZE	
Conventional roads	36" x 36"
Freeways/expressways, divided roadways	48" x 48"

Texas Department of Transportation

Traffic Operations Division Standard

SIGNING FOR UNEVEN LANES

WZ(UL)-13

FILE: wzul-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
8-95 2-98 7-13	DIST	COUNTY		SHEET NO.
1-97 3-03	FTW	TARRANT		38

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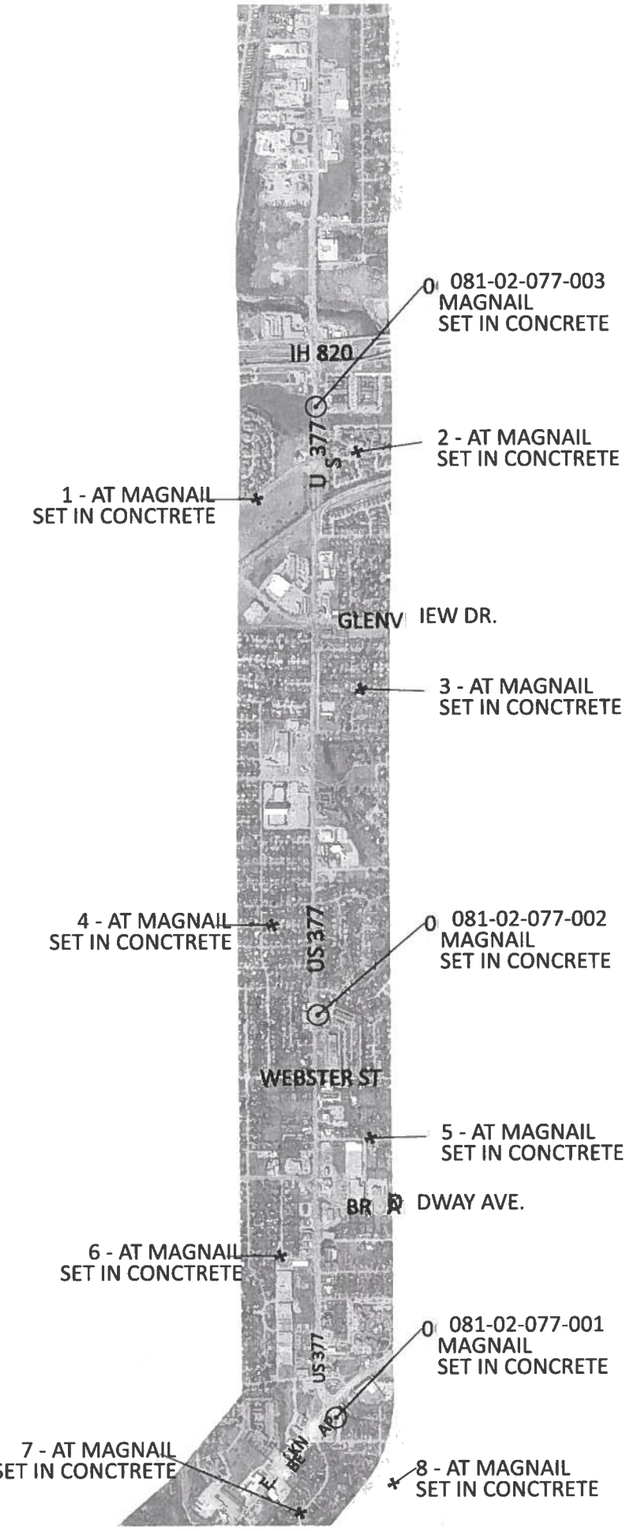


	SURFACE		GRID			
Point ID	NORTHING	EASTING	NORTHING	EASTING	ELEVATION	CODE
CP-1	6977361.63	2348576.67	6976524.45	2348294.88	548.16	MAGNAIL
CP-2	6982678.83	2348357.42	6981841.01	2348075.65	594.79	MAGNAIL
CP. 3	6990713.78	2348346.06	6989875.00	2348064.30	570.36	MAGNAIL
1	6989498.05	2347574.30	6988659.41	2347292.62	593.38	AT MAGNAIL
2	6990119.64	2348889.90	6989280.93	2348608.07	558.55	AT-MAGNAIL
3	6986986.00	2348940.66	6986147.66	2348658.82	598.31	AT-MAGNAIL
4	6983868.48	2347770.55	6983030.52	2347488.85	600.99	AT-MAGNAIL
5	6981053.78	2349048.45	6980216.16	2348766.59	590.68	AT-MAGNAIL
6	6979498.24	2347864.65	6978660.80	2347582.94	580.94	AT-MAGNAIL
7	6976102.45	2348110.40	6975265.42	2347828.66	540.41	AT-MAGNAL
8	6976427.18	2349126.00	6975590.11	2348844.14	529.85	AT MAGNAL

STATE OF TEXAS
REGISTERED
RICHARD L. WALTERS
6900
PROFESSIONAL
LAND SURVEYOR

RICHARD L. WALTERS
4/1/2024

0 1000 2000
SCALE IN FEET

1. All horizontal coordinates are related to the Texas Coordinate System, North Central Zone (4202), North American Datum of 1983 (NAD83), 2011 Adjustment, Epoch 2010 through the TxDOT Real Time Network.

2. All elevations are related to the North American Vertical Datum of 1988 (NAVD88) through the TxDOT Real Time Network, Geoid 18.

3. All horizontal coordinates are U.S. Survey Feet.

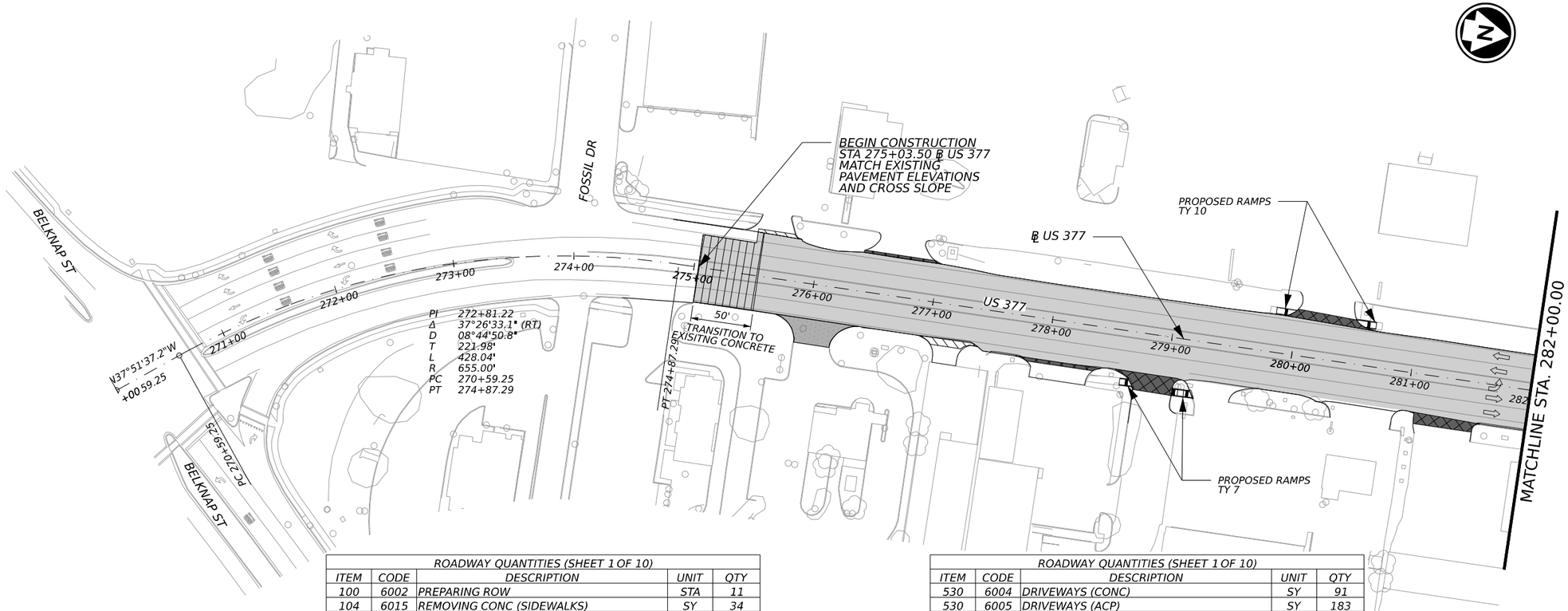
4. All horizontal coordinates are surface values using a TxDOT Surface Adjustment Factor of 1.00012.

US 377
CONTROL INDEX

SHEET 1 OF

STATE PROJECT NO.		SHEET NO.
C-81-2-77		39
STATE	DISTRICT	COUNTY
TEXAS	FTW	TARRANT
CONTROL	SECTION	JOB	HIGHWAY NO.
0081	02	077	US 377

CK:
DW:
CK:
DW:



LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

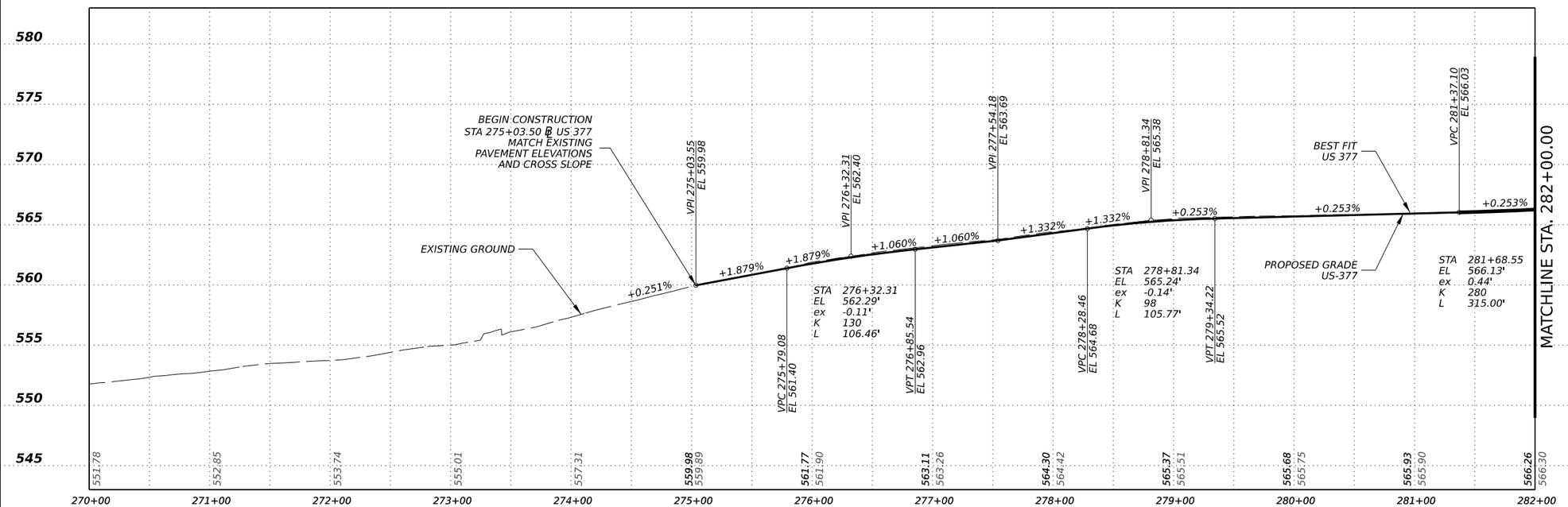
1. SEE TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
2. ALL STATIONS ARE BASED ON ℄ US 377.
3. PROFILE IS SHOWN FOR DESIGN PURPOSE ONLY.
4. PROFILE WAS GENERATED FROM PHOTOGRAMMETRY AND NOT FIELD SURVEY, VARIATIONS FROM FIELD CONDITIONS ARE ANTICIPATED, CONTRACTOR TO FIELD VERIFY.
5. PRIOR TO REMOVALS, CONTRACTOR TO FIELD VERIFY LOCATIONS OF ALL UTILITIES AND PAVEMENT PENETRATIONS.
6. ALL UTILITY MANHOLES, UTILITY METERS, AND VALVE COVERS SHALL BE PROTECTED IN PLACE AND ADJUSTED TO MATCH PROPOSED ELEVATIONS.
7. CONTRACTOR TO PROVIDE ACCESS TO US377 AT ALL TIMES.
8. EXISTING CURB SHALL REMAIN UNLESS OTHERWISE NOTED ON PLANS. ALL DAMAGED EC CURB WILL BE REMOVE AND REPLACED WITH APPROVAL FROM THE ENGINEER.
9. CONTRACTOR SHALL PERFORM WORK IN A WAY TO MINIMIZE THE TRAPPING OF WATER AND SHALL MAINTAIN POSITIVE SLOPES. UPON PROOF ROLLING OF EXISTING SUBGRADE, FULL DEPTH REPAIR RECONSTRUCTION WILL BE DETERMINED BY THE ENGINEER.
10. ALL MILLING TO BE STOCKPILED AT LOCATION APPROVED BY THE ENGINEER.
11. CONTRACTOR SHALL CREATE BUTT JOINTS TO ALLOW A TRANSITIONED GRADE CHANGE AT THE END OF WORKING SHIFTS AND PRIOR TO OPENING TRAFFIC.
12. REMOVALS SHALL BE SEQUENCED ACCORDING TO TRAFFIC CONTROL PHASING, OR AS DIRECTED BY THE ENGINEER.
13. ALL THE EXISTING DRIVEWAYS, SIDEWALKS ADA RAMPS, AND CURB SHALL REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS.
14. PAVEMENT REMOVAL SHALL BE FROM CURB TO CURB, EDGE OF PAVEMENT, OR COMBINATION THEREFORE.
15. FOR ANY PROPOSED RAMPS DETAILS, PLEASE REFER TO INTERSECTIONS PLAN & PROFILE SHEETS AND DRIVEWAY LAYOUT SHEETS.

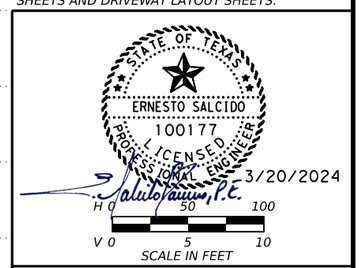
ROADWAY QUANTITIES (SHEET 1 OF 10)

ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	34
104	6017	REMOVING CONC (DRIVEWAYS)	SY	91
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	4799
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	960
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	33
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	183
479	6001	ADJUSTING MANHOLES	EA	2

ROADWAY QUANTITIES (SHEET 1 OF 10)

ITEM	CODE	DESCRIPTION	UNIT	QTY
530	6004	DRIVEWAYS (CONC)	SY	91
530	6005	DRIVEWAYS (ACP)	SY	183
531	6010	CURB RAMPS (TY 7)	EA	2
531	6013	CURB RAMPS (TY 10)	EA	2
3076	6005	D-GR HMA TY-B PG64-28	TON	1380
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	552
3077	6075	TACK COAT	GAL	960





AECOM
13355 Noel Road, Suite 400
Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc. - F-3580

Texas Department of Transportation

US 377

PLAN & PROFILE
BEGIN TO 282+00

SHEET 1 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		40

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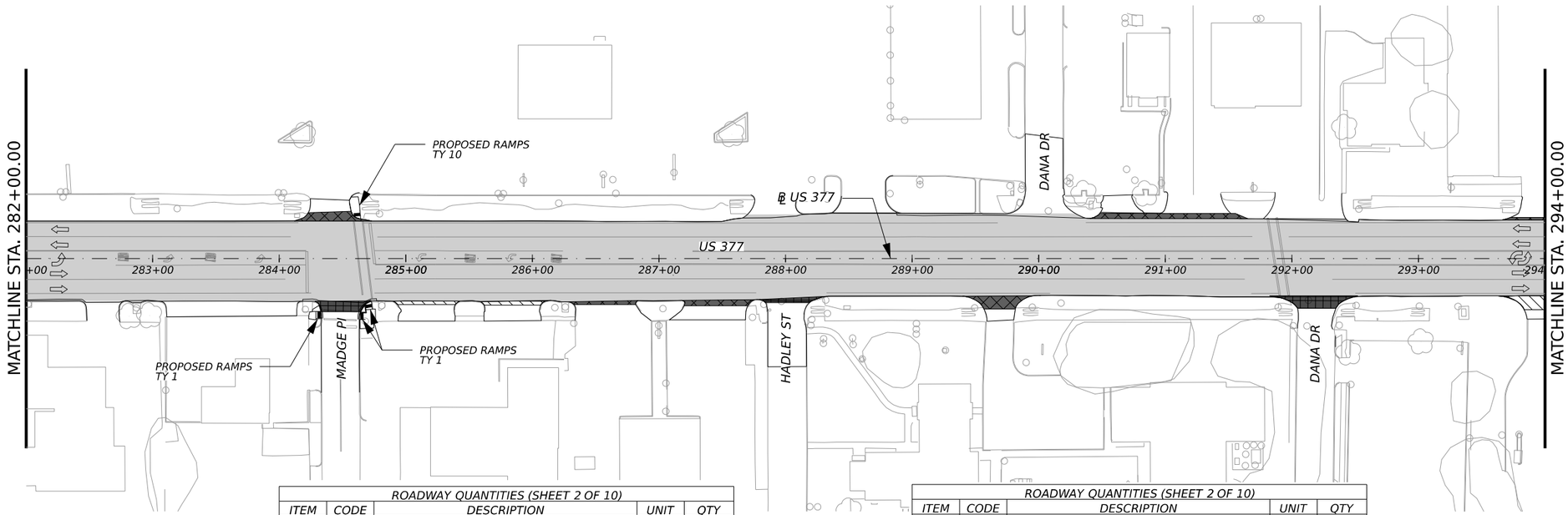

LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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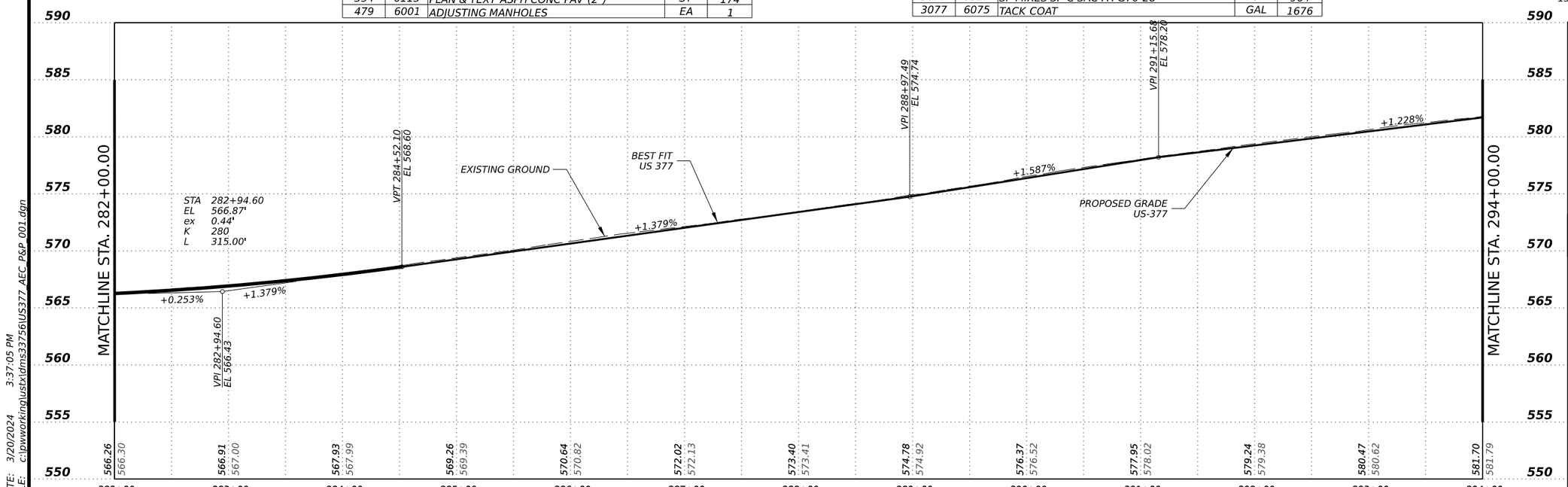
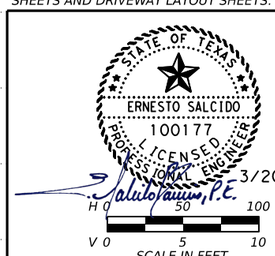
ROADWAY QUANTITIES (SHEET 2 OF 10)

ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	46
104	6022	REMOVING CONC (CURB AND GUTTER)	LF	20
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8381
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1676
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	97
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	59
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	174
479	6001	ADJUSTING MANHOLES	EA	1

ROADWAY QUANTITIES (SHEET 2 OF 10)

ITEM	CODE	DESCRIPTION	UNIT	QTY
529	6008	CONC CURB & GUTTER (TY II)	LF	20
530	6002	INTERSECTIONS (ACP)	SY	97
530	6005	DRIVEWAYS (ACP)	SY	174
531	6001	CONC SIDEWALKS (4")	SY	18
531	6004	CURB RAMPS (TY 1)	EA	3
531	6013	CURB RAMPS (TY 10)	EA	1
3076	6005	D-GR HMA TY-B PG64-28	TON	2410
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	964
3077	6075	TACK COAT	GAL	1676





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Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE
STA 282+00 TO STA 294+00

SHEET 2 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		41

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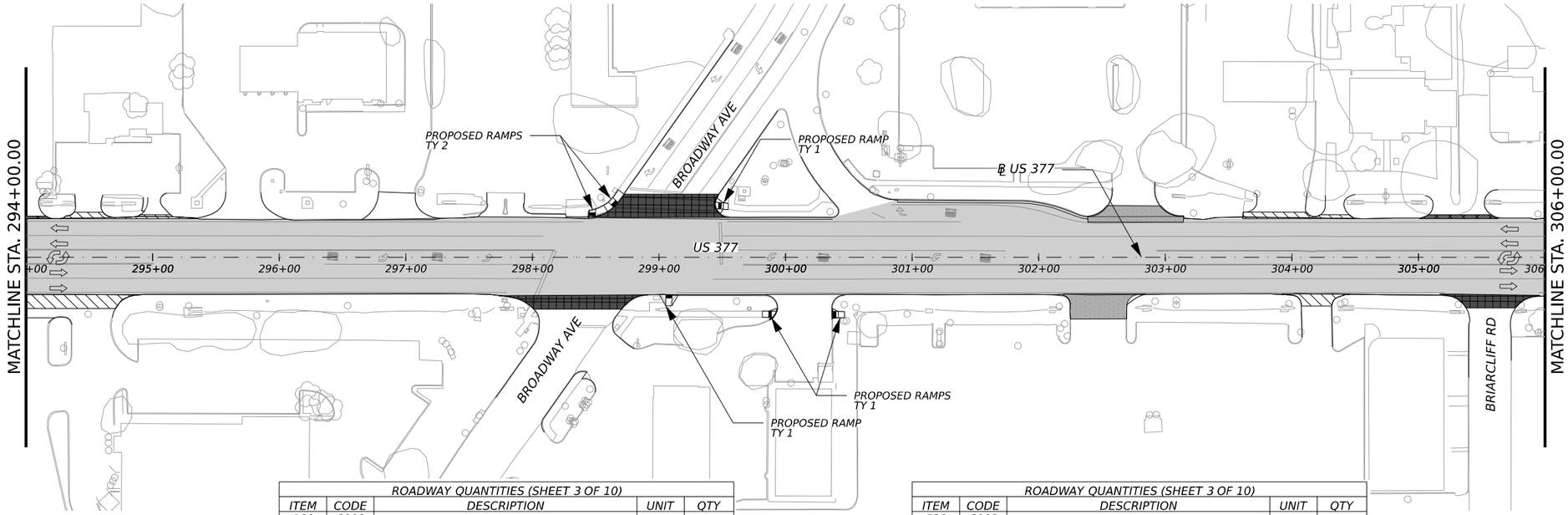

LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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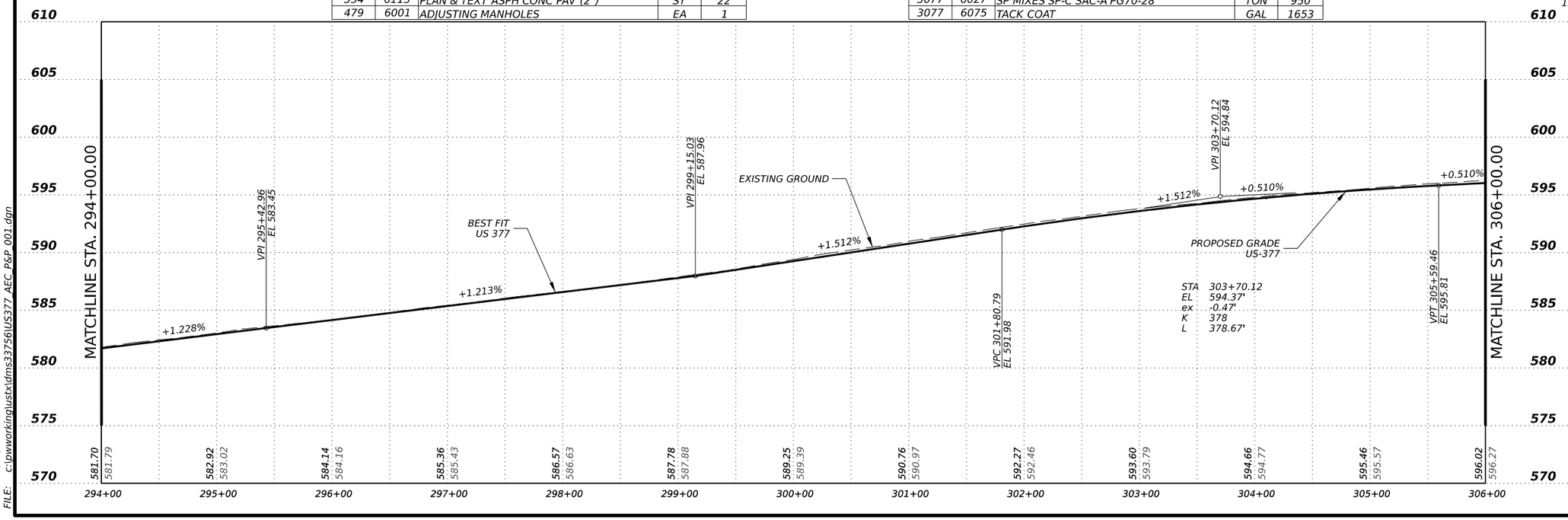
ROADWAY QUANTITIES (SHEET 3 OF 10)

ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	53
104	6017	REMOVING CONC (DRIVEWAYS)	SY	194
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8263
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1653
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	330
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	195
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	22
479	6001	ADJUSTING MANHOLES	EA	1

ROADWAY QUANTITIES (SHEET 3 OF 10)

ITEM	CODE	DESCRIPTION	UNIT	QTY
530	6002	INTERSECTIONS (ACP)	SY	330
530	6004	DRIVEWAYS (CONC)	SY	192
530	6005	DRIVEWAYS (ACP)	SY	22
531	6001	CONC SIDEWALKS (4")	SY	7
531	6004	CURB RAMPS (TY 1)	EA	4
531	6005	CURB RAMPS (TY 2)	EA	2
3076	6005	D-GR HMA TY-B PG64-28	TON	2376
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	950
3077	6075	TACK COAT	GAL	1653



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STATE OF TEXAS
ERNESTO SALCIDO
100177
PROFESSIONAL LICENSED ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE STA 294+00 TO 306+00

SHEET 3 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		42

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DW:
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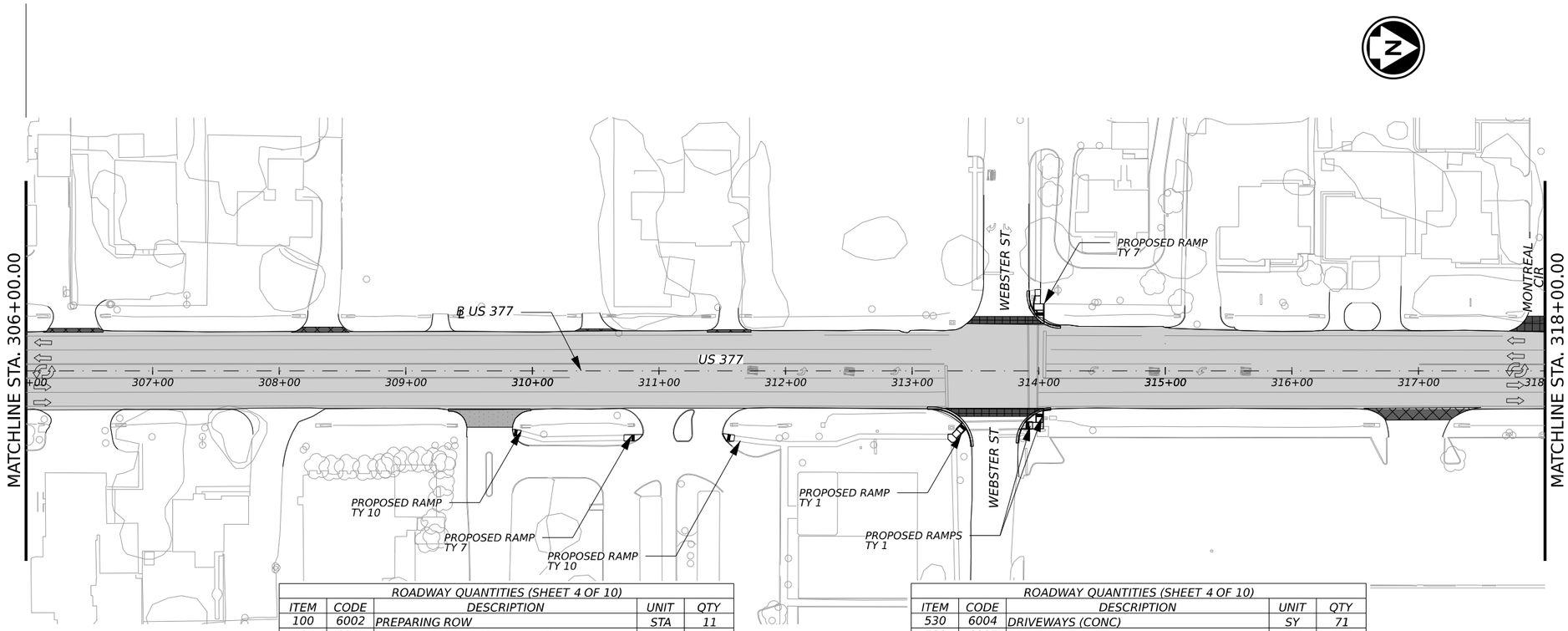

ROADWAY QUANTITIES (SHEET 4 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	28
104	6017	REMOVING CONC (DRIVEWAYS)	SY	72
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8251
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1650
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	107
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	115
479	6001	ADJUSTING MANHOLES	EA	1
529	6008	CONC CURB & GUTTER (TY II)	LF	92
530	6002	INTERSECTIONS (ACP)	SY	107

ROADWAY QUANTITIES (SHEET 4 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
530	6004	DRIVEWAYS (CONC)	SY	71
530	6005	DRIVEWAYS (ACP)	SY	115
531	6001	CONC SIDEWALKS (4")	SY	11
531	6004	CURB RAMPS (TY 1)	EA	3
531	6010	CURB RAMPS (TY 7)	EA	2
531	6013	CURB RAMPS (TY 10)	EA	2
3076	6005	D-GR HMA TY-B PG64-28	TON	2372
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	949
3077	6075	TACK COAT	GAL	1650

LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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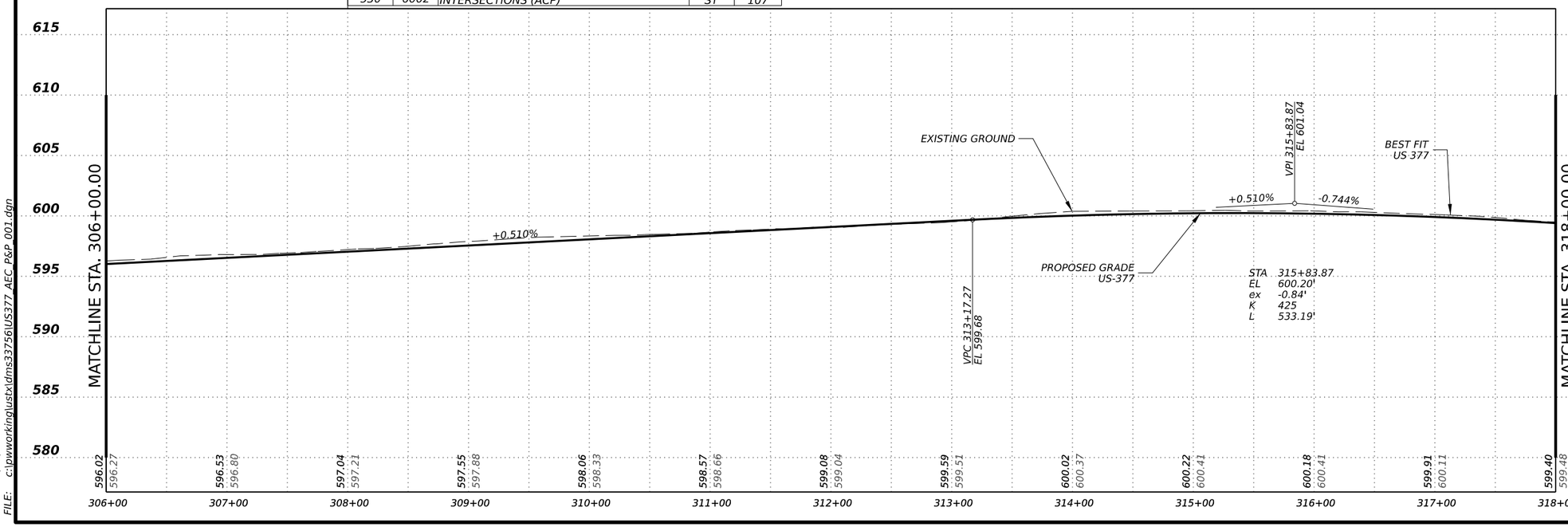
11. CONTRACTOR SHALL CREATE BUTT JOINTS TO ALLOW A TRANSITIONED GRADE CHANGE AT THE END OF WORKING SHIFTS AND PRIOR TO OPENING TRAFFIC.
12. REMOVALS SHALL BE SEQUENCED ACCORDING TO TRAFFIC CONTROL PHASING, OR AS DIRECTED BY THE ENGINEER.
13. ALL THE EXISTING DRIVEWAYS, SIDEWALKS ADA RAMPS, AND CURB SHALL REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS.
14. PAVEMENT REMOVAL SHALL BE FROM CURB TO CURB, EDGE OF PAVEMENT, OR COMBINATION THEREFORE.
15. FOR ANY PROPOSED RAMPS DETAILS, PLEASE REFER TO INTERSECTIONS PLAN & PROFILE SHEETS AND DRIVEWAY LAYOUT SHEETS.



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STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE
STA 306+00 TO 318+00

SHEET 4 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		43

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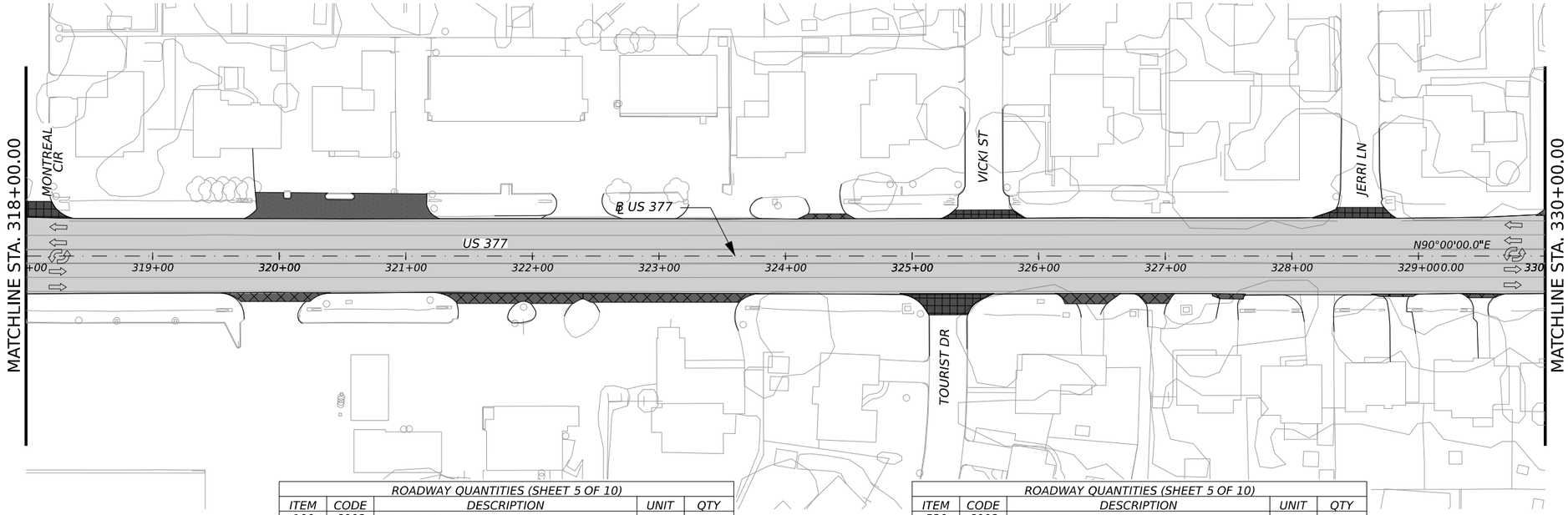
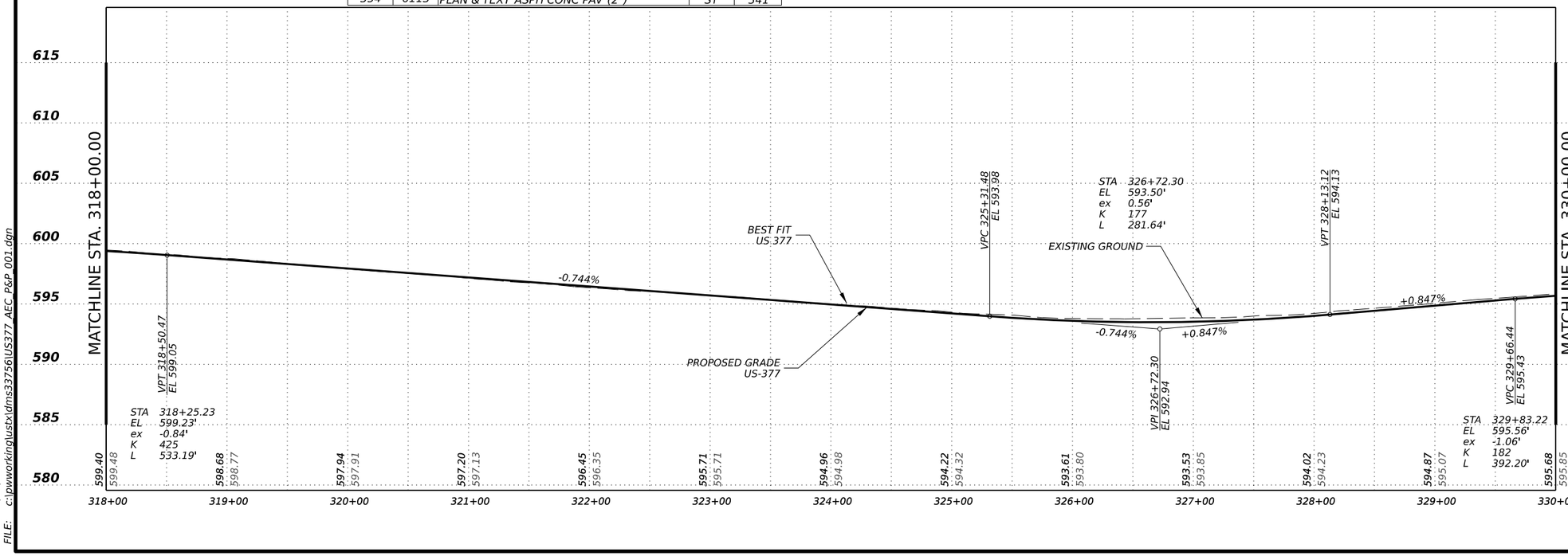


ROADWAY QUANTITIES (SHEET 5 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6009	REMOVING CONC (RIPRAP)	SY	72
104	6017	REMOVING CONC (DRIVEWAYS)	SY	294
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8043
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1609
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	208
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	341

ROADWAY QUANTITIES (SHEET 5 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
530	6002	INTERSECTIONS (ACP)	SY	208
530	6004	DRIVEWAYS (CONC)	SY	294
530	6005	DRIVEWAYS (ACP)	SY	341
3076	6005	D-GR HMA TY-B PG64-28	TON	2312
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	925
3077	6075	TACK COAT	GAL	1609



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LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

1. SEE TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
2. ALL STATIONS ARE BASED ON ℄ US 377.
3. PROFILE IS SHOWN FOR DESIGN PURPOSE ONLY.
4. PROFILE WAS GENERATED FROM PHOTOGRAMMETRY AND NOT FIELD SURVEY. VARIATIONS FROM FIELD CONDITIONS ARE ANTICIPATED, CONTRACTOR TO FIELD VERIFY.
5. PRIOR TO REMOVALS, CONTRACTOR TO FIELD VERIFY LOCATIONS OF ALL UTILITIES AND PAVEMENT PENETRATIONS.
6. ALL UTILITY MANHOLES, UTILITY METERS, AND VALVE COVERS SHALL BE PROTECTED IN PLACE AND ADJUSTED TO MATCH PROPOSED ELEVATIONS.
7. CONTRACTOR TO PROVIDE ACCESS TO US377 AT ALL TIMES.
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STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc. - F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE
STA 318+00 TO STA 330+00

SHEET 5 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		44

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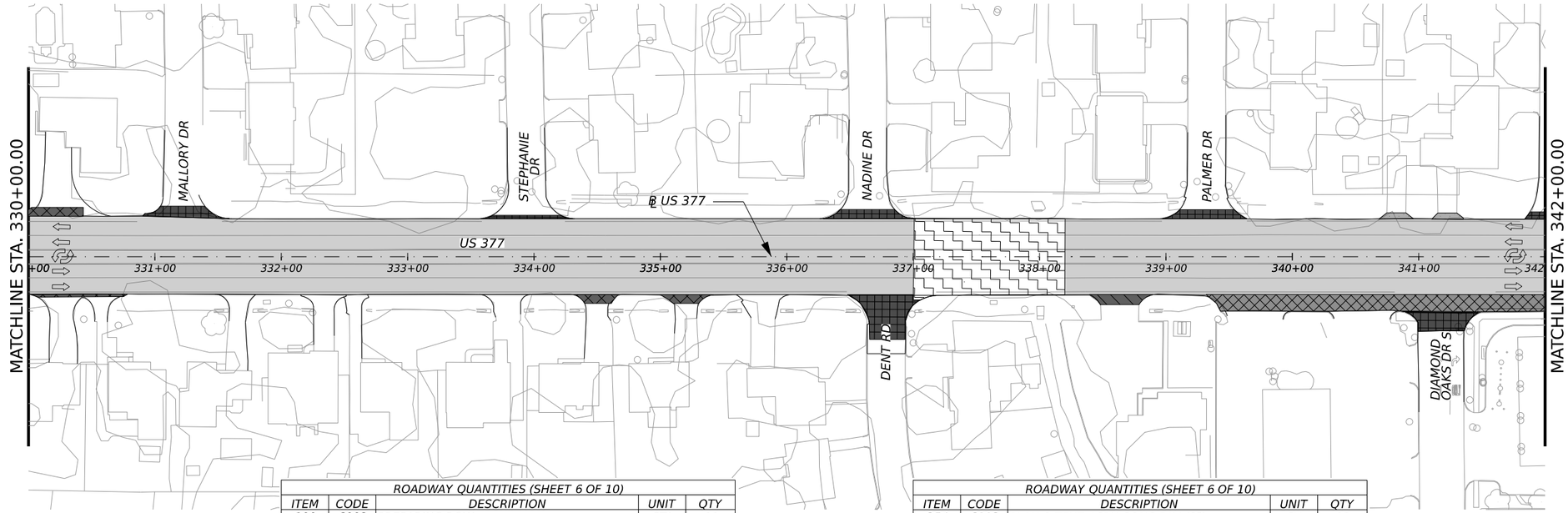
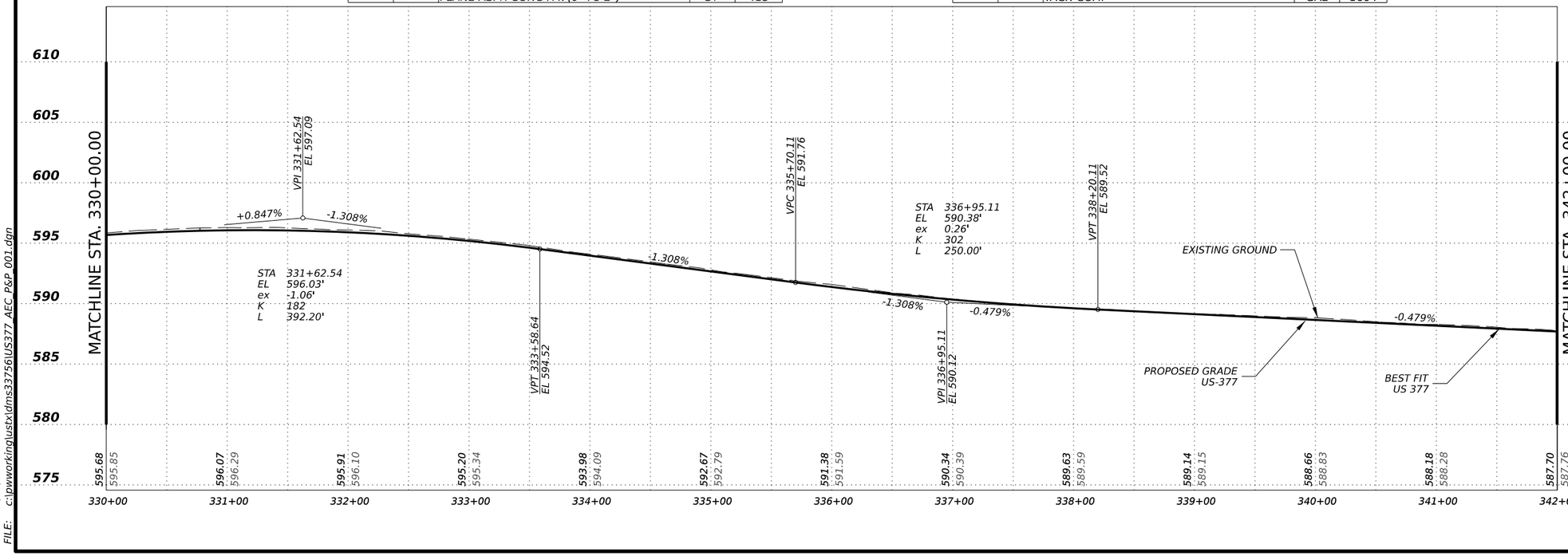


ROADWAY QUANTITIES (SHEET 6 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6017	REMOVING CONC (DRIVEWAYS)	SY	22
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8020
247	6041	FL BS (CMP IN PLC)(TYA GR1-2)(FNAL POS)	CY	180
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1604
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	363
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	415

ROADWAY QUANTITIES (SHEET 6 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	92
530	6002	INTERSECTIONS (ACP)	SY	363
530	6004	DRIVEWAYS (CONC)	SY	22
530	6005	DRIVEWAYS (ACP)	SY	92
3076	6005	D-GR HMA TY-B PG64-28	TON	2306
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	922
3077	6075	TACK COAT	GAL	1604



LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED PROFESSIONAL ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE
STA 330+00 TO STA 342+00

SHEET 6 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		45

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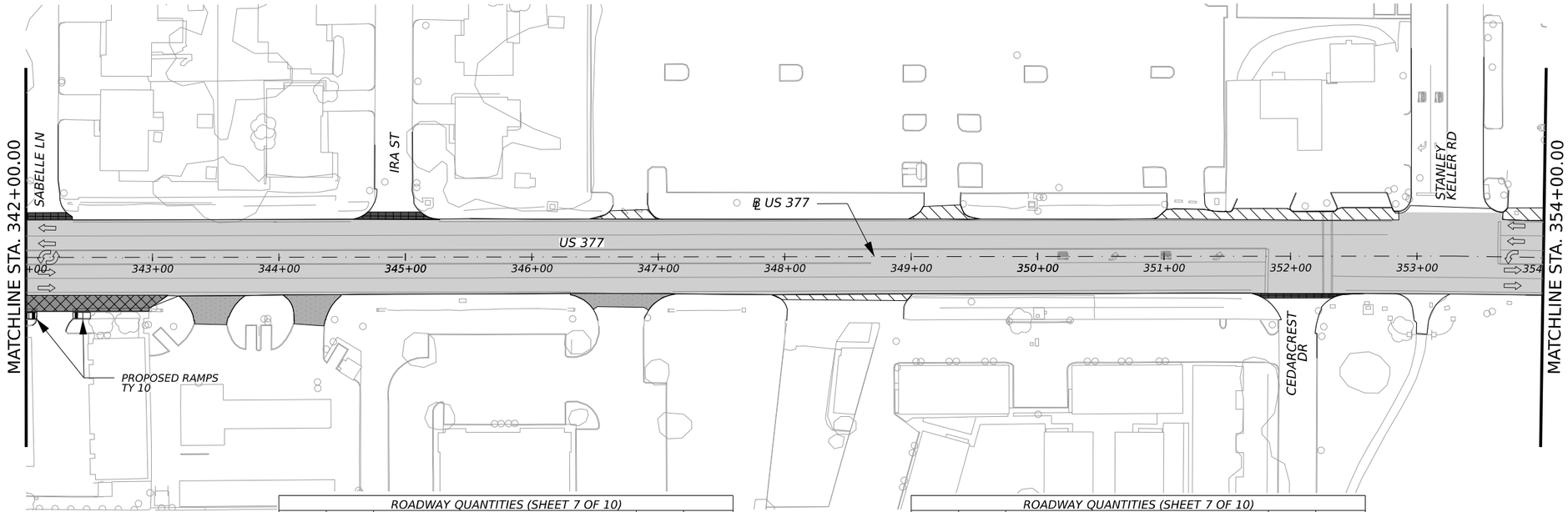
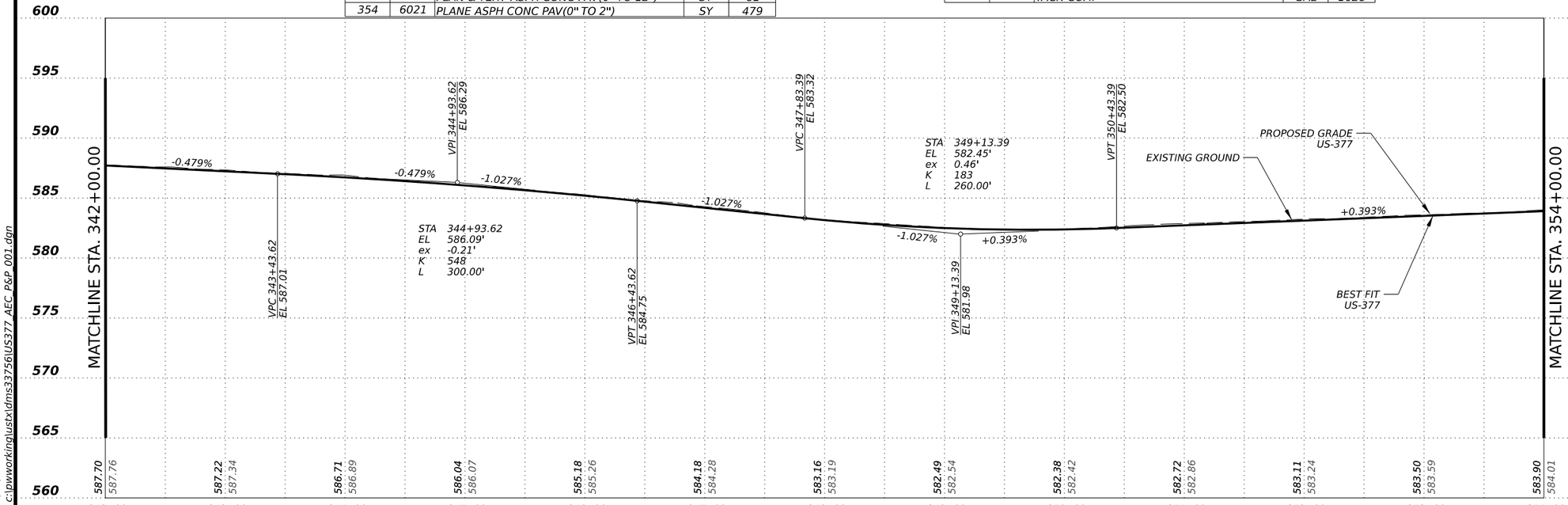


ROADWAY QUANTITIES (SHEET 7 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	13
104	6017	REMOVING CONC (DRIVEWAYS)	SY	243
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8138
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1628
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	81
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	479

ROADWAY QUANTITIES (SHEET 7 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
530	6002	INTERSECTIONS (ACP)	SY	81
530	6004	DRIVEWAYS (CONC)	SY	243
531	6013	CURB RAMPS (TY 10)	EA	2
3076	6005	D-GR HMA TY-B PG64-28	TON	2340
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	936
3077	6075	TACK COAT	GAL	1628



LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE STA 342+00 TO STA 354+00

SHEET 7 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		46

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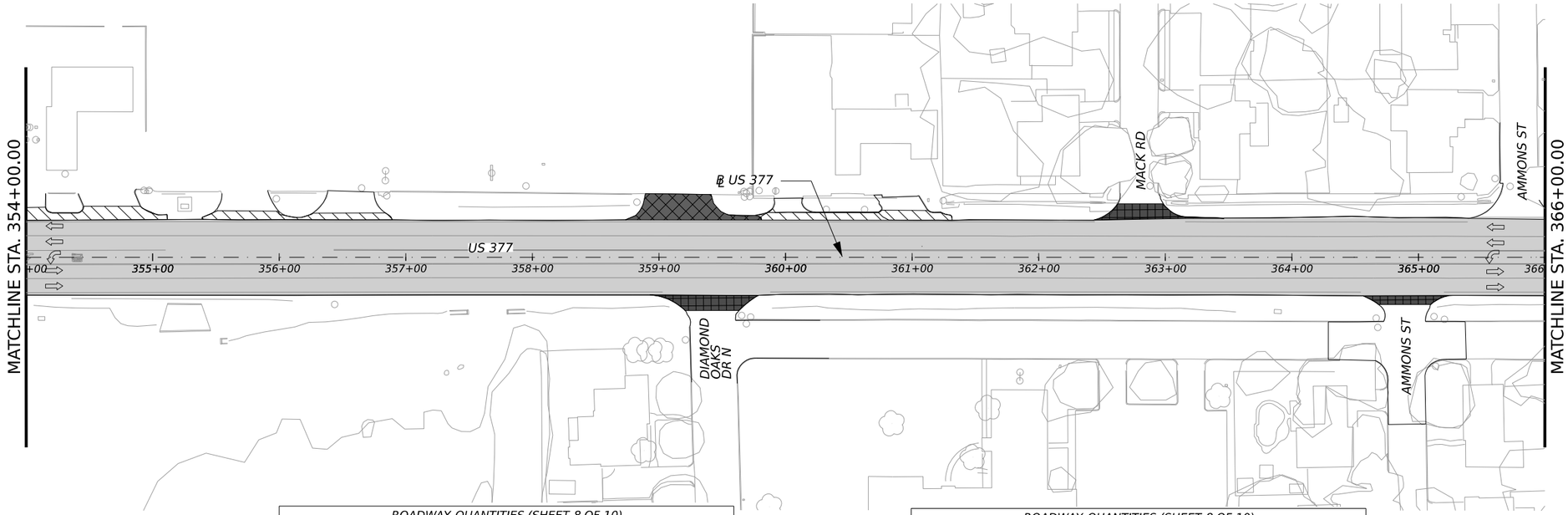
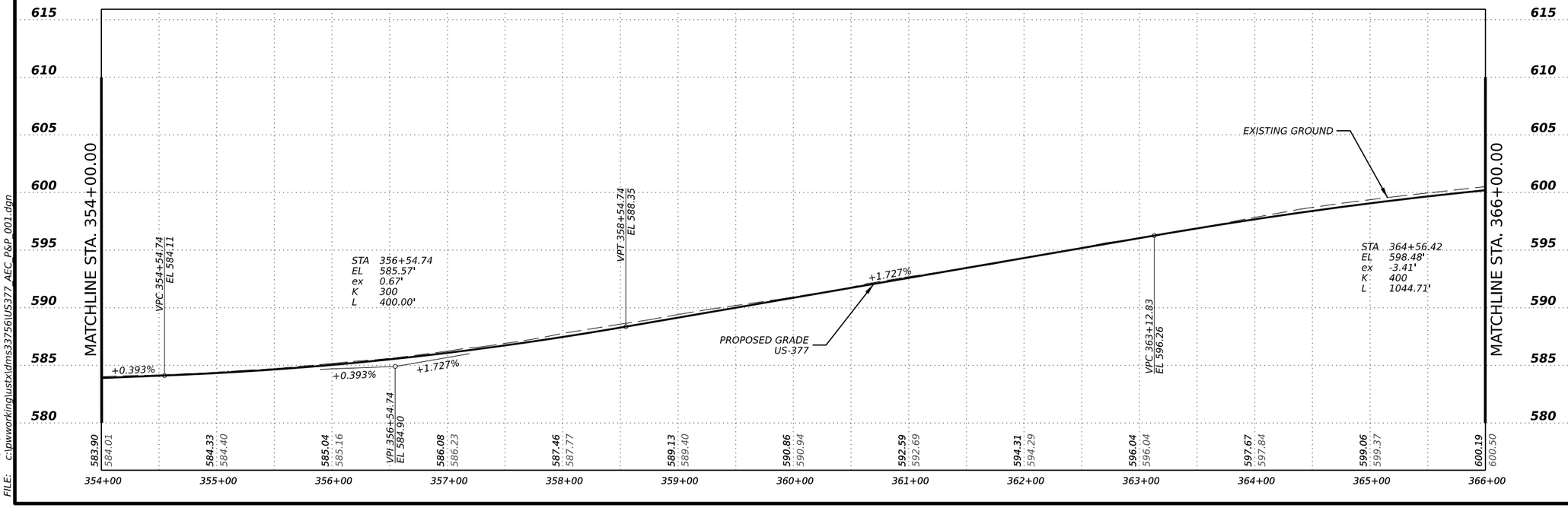


ROADWAY QUANTITIES (SHEET 8 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8059
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1612
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	189
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	300
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	150

ROADWAY QUANTITIES (SHEET 8 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
530	6002	INTERSECTIONS (ACP)	SY	189
530	6005	DRIVEWAYS (ACP)	SY	150
3076	6005	D-GR HMA TY-B PG64-28	TON	2317
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	927
3077	6075	TACK COAT	GAL	1612



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LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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STATE OF TEXAS
ERNESTO SALCIDO
100177
PROFESSIONAL LICENSED ENGINEER
3/20/2024
H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
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(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE STA 354+00 TO 366+00

SHEET 8 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		47

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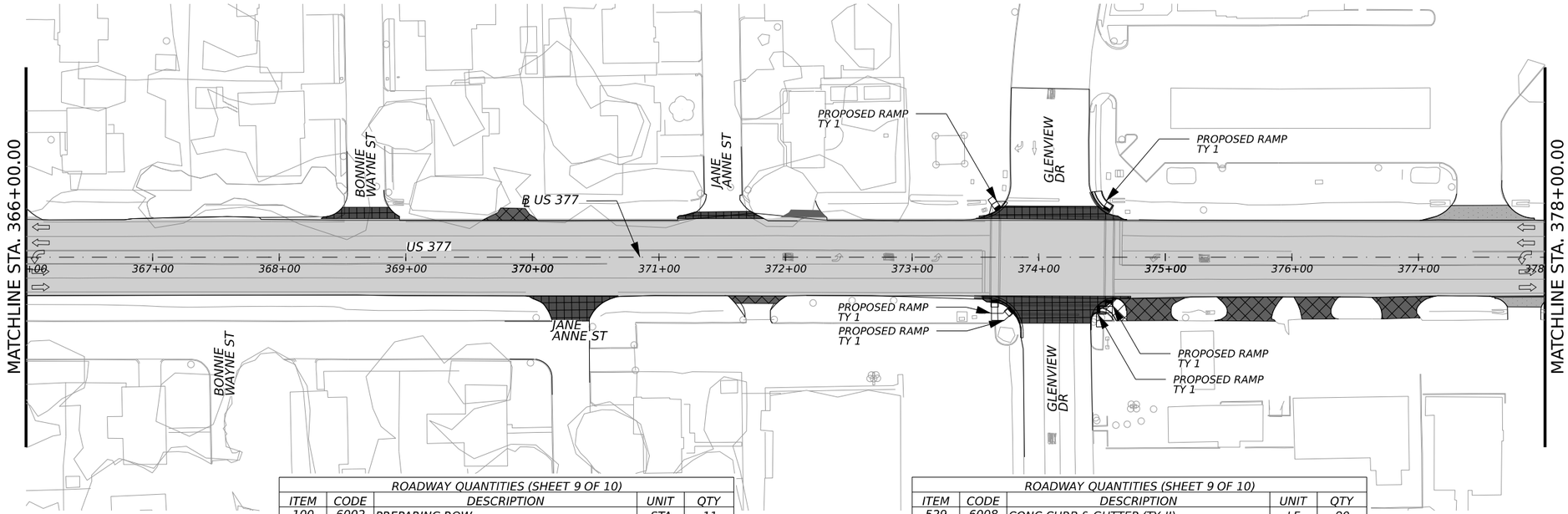
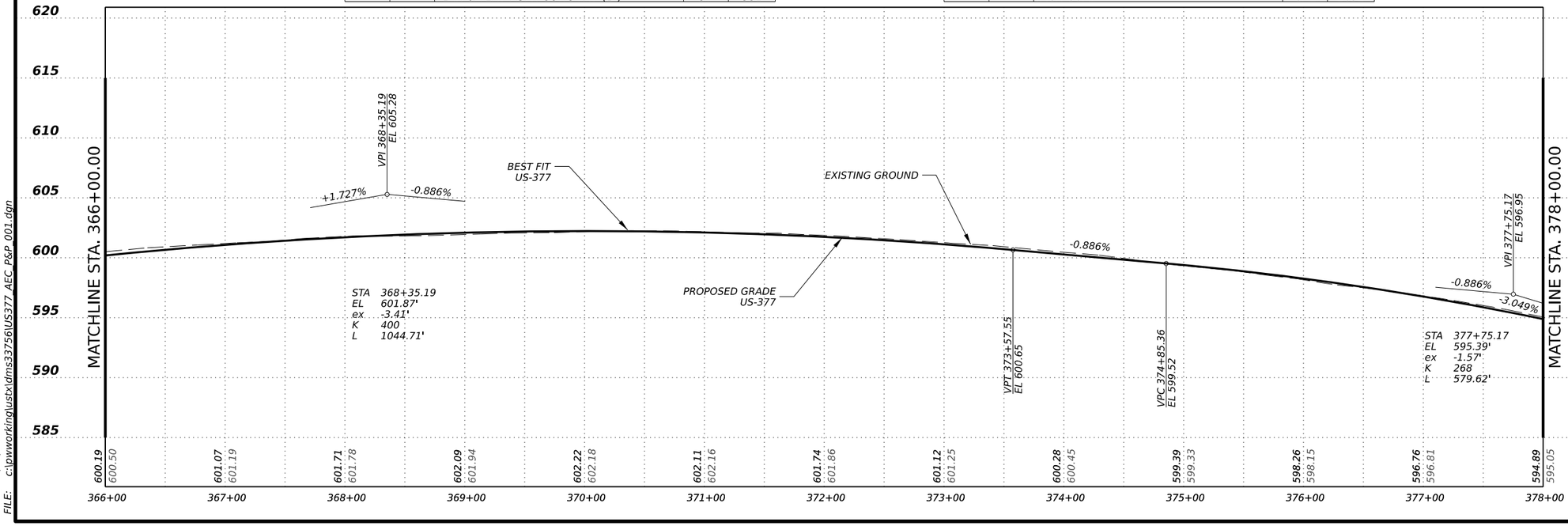


ROADWAY QUANTITIES (SHEET 9 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	34
104	6017	REMOVING CONC (DRIVEWAYS)	SY	113
104	6022	REMOVING CONC (CURB AND GUTTER)	LF	84
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	8161
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	1632
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	465
354	6021	PLANE ASPH CONC PAV(0" TO 2")	SY	19
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	351

ROADWAY QUANTITIES (SHEET 9 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
529	6008	CONC CURB & GUTTER (TY II)	LF	80
530	6002	INTERSECTIONS (ACP)	SY	465
530	6004	DRIVEWAYS (CONC)	SY	113
530	6005	DRIVEWAYS (ACP)	SY	351
531	6001	CONC SIDEWALKS (4")	SY	20
531	6004	CURB RAMPS (TY 1)	EA	6
3076	6005	D-GR HMA TY-B PG64-28	TON	2346
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	939
3077	6075	TACK COAT	GAL	1632



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LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

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11. CONTRACTOR SHALL CREATE BUTT JOINTS TO ALLOW A TRANSITIONED GRADE CHANGE AT THE END OF WORKING SHIFTS AND PRIOR TO OPENING TRAFFIC.
12. REMOVALS SHALL BE SEQUENCED ACCORDING TO TRAFFIC CONTROL PHASING, OR AS DIRECTED BY THE ENGINEER.
13. ALL THE EXISTING DRIVEWAYS, SIDEWALKS ADA RAMPS, AND CURB SHALL REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS.
14. PAVEMENT REMOVAL SHALL BE FROM CURB TO CURB, EDGE OF PAVEMENT, OR COMBINATION THEREFORE.
15. FOR ANY PROPOSED RAMPS DETAILS, PLEASE REFER TO INTERSECTIONS PLAN & PROFILE SHEETS AND DRIVEWAY LAYOUT SHEETS.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE STA 366+00 TO STA 378+00

SHEET 9 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		48

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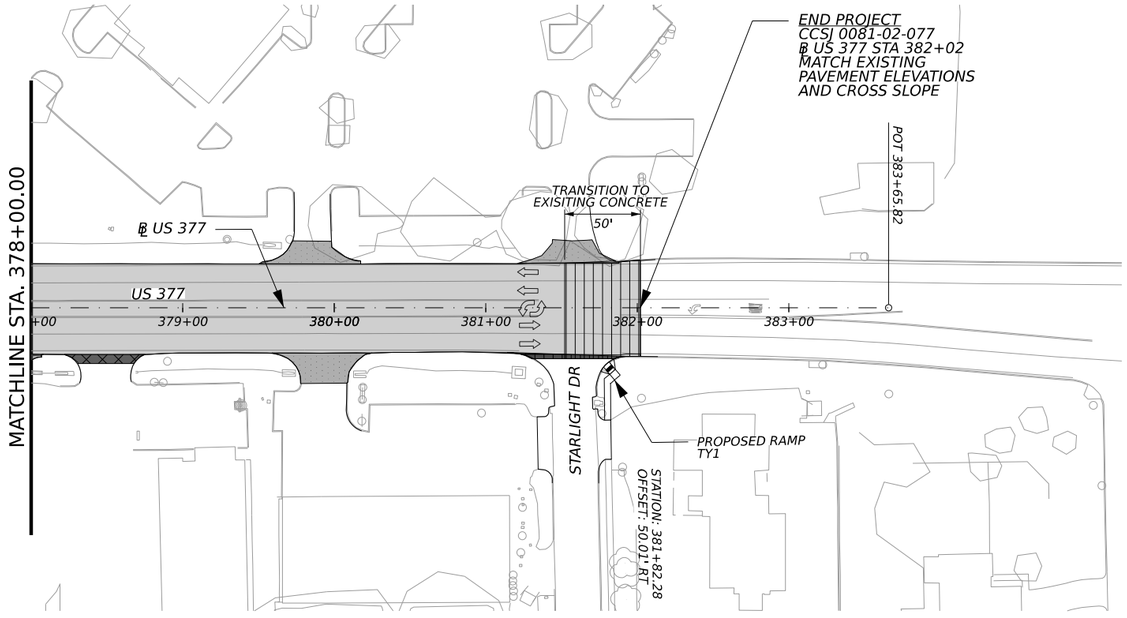
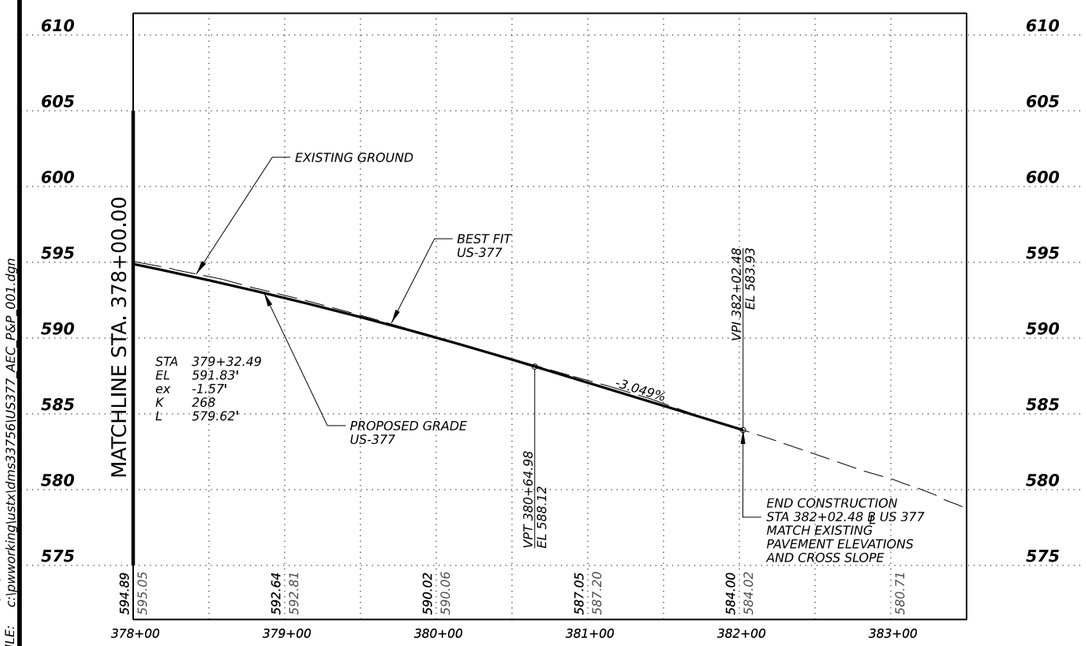


ROADWAY QUANTITIES (SHEET 10 OF 10)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
100	6002	PREPARING ROW	STA	11
104	6015	REMOVING CONC (SIDEWALKS)	SY	4
104	6017	REMOVING CONC (DRIVEWAYS)	SY	218
104	6022	REMOVING CONC (CURB AND GUTTER)	LF	6
105	6014	REMOVING STAB BASE & ASPH PAV (7"-12")	SY	3554
310	6028	PRIME COAT (MC-30 OR EC-30)	GAL	711
354	6012	PLAN & TEXT ASPH CONC PAV(0" TO 12")	SY	19
354	6113	PLAN & TEXT ASPH CONC PAV (2")	SY	29
529	6008	CONC CURB & GUTTER (TY II)	LF	6
530	6002	INTERSECTIONS (ACP)	SY	19
530	6004	DRIVEWAYS (CONC)	SY	218
530	6005	DRIVEWAYS (ACP)	SY	29
531	6001	CONC SIDEWALKS (4")	SY	14
531	6004	CURB RAMPS (TY 1)	EA	1
3076	6005	D-GR HMA TY-B PG64-28	TON	1022
3077	6027	SP MIXES SP-C SAC-A PG70-28	TON	409
3077	6075	TACK COAT	GAL	711



LEGEND

- MILL & INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLAN ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRANSITION AREA
- TRAFFIC FLOW

NOTES:

1. SEE TYPICAL SECTIONS FOR ADDITIONAL INFORMATION.
2. ALL STATIONS ARE BASED ON ℄ US 377.
3. PROFILE IS SHOWN FOR DESIGN PURPOSE ONLY.
4. PROFILE WAS GENERATED FROM PHOTOGRAMMETRY AND NOT FIELD SURVEY, VARIATIONS FROM FIELD CONDITIONS ARE ANTICIPATED, CONTRACTOR TO FIELD VERIFY.
5. PRIOR TO REMOVALS, CONTRACTOR TO FIELD VERIFY LOCATIONS OF ALL UTILITIES AND PAVEMENT PENETRATIONS.
6. ALL UTILITY MANHOLES, UTILITY METERS, AND VALVE COVERS SHALL BE PROTECTED IN PLACE AND ADJUSTED TO MATCH PROPOSED ELEVATIONS.
7. CONTRACTOR TO PROVIDE ACCESS TO US377 AT ALL TIMES.
8. EXISTING CURB SHALL REMAIN UNLESS OTHERWISE NOTED ON PLANS. ALL DAMAGED CURB WILL BE REMOVE AND REPLACED WITH APPROVAL FROM THE ENGINEER.
9. CONTRACTOR SHALL PERFORM WORK IN A WAY TO MINIMIZE THE TRAPPING OF WATER AND SHALL MAINTAIN POSITIVE SLOPES. UPON PROOF ROLLING OF EXISTING SUBGRADE, FULL DEPTH REPAIR RECONSTRUCTION WILL BE DETERMINED BY THE ENGINEER.
10. ALL MILLING TO BE STOCKPILED AT LOCATION APPROVED BY THE ENGINEER.
11. CONTRACTOR SHALL CREATE BUTT JOINTS TO ALLOW A TRANSITIONED GRADE CHANGE AT THE END OF WORKING SHIFTS AND PRIOR TO OPENING TRAFFIC.
12. REMOVALS SHALL BE SEQUENCED ACCORDING TO TRAFFIC CONTROL PHASING, OR AS DIRECTED BY THE ENGINEER.
13. ALL THE EXISTING DRIVEWAYS, SIDEWALKS ADA RAMPS, AND CURB SHALL REMAIN UNDISTURBED UNLESS OTHERWISE NOTED ON THE PLANS.
14. PAVEMENT REMOVAL SHALL BE FROM CURB TO CURB, EDGE OF PAVEMENT, OR COMBINATION THEREFORE.
15. FOR ANY PROPOSED RAMPS DETAILS, PLEASE REFER TO INTERSECTIONS PLAN & PROFILE SHEETS AND DRIVEWAY LAYOUT SHEETS.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

H 0 50 100
V 0 5 10
SCALE IN FEET

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Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

ROADWAY PLAN & PROFILE
STA 378+00 TO END

SHEET10 OF 10

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		49

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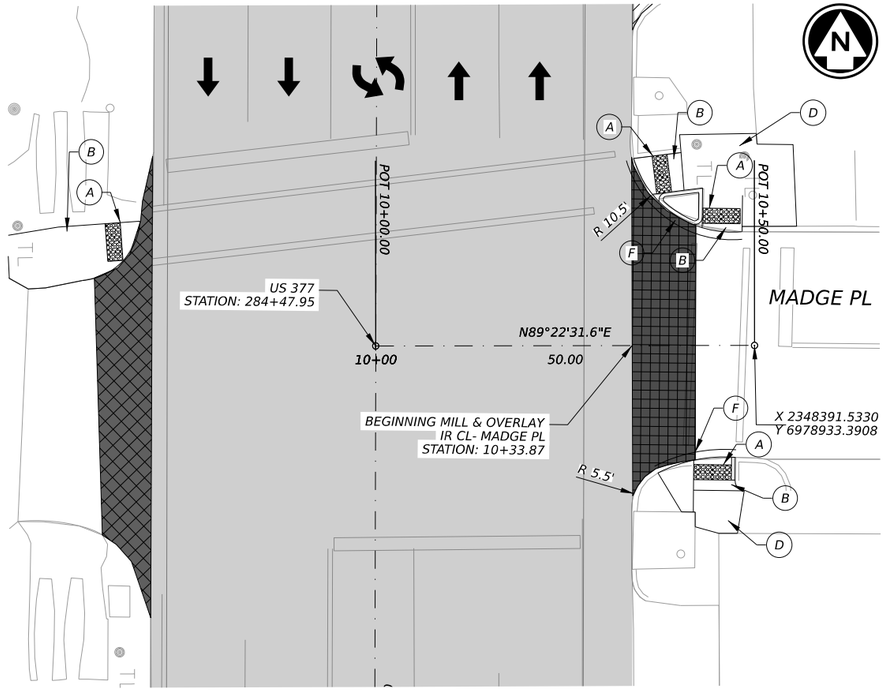
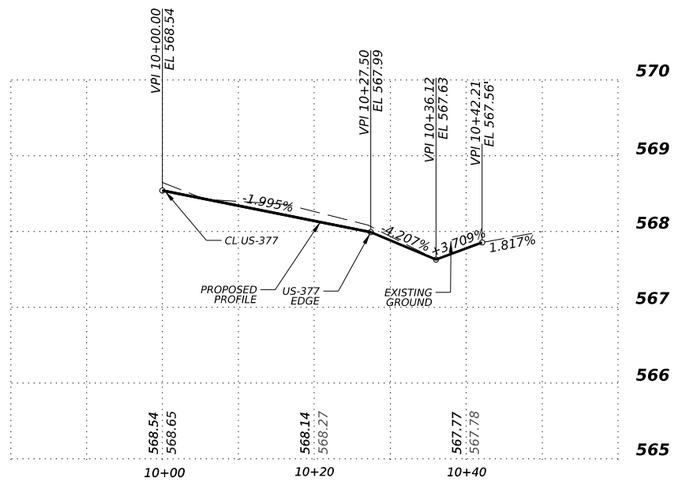


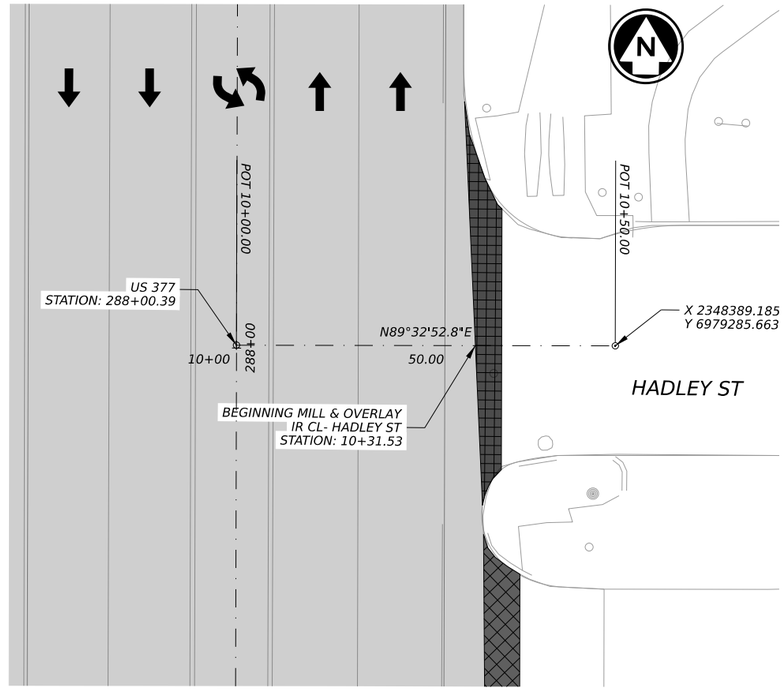
INTERSECTION LAYOUT MADGE PL

US 377 STA 284+47.95
PLAN VIEW



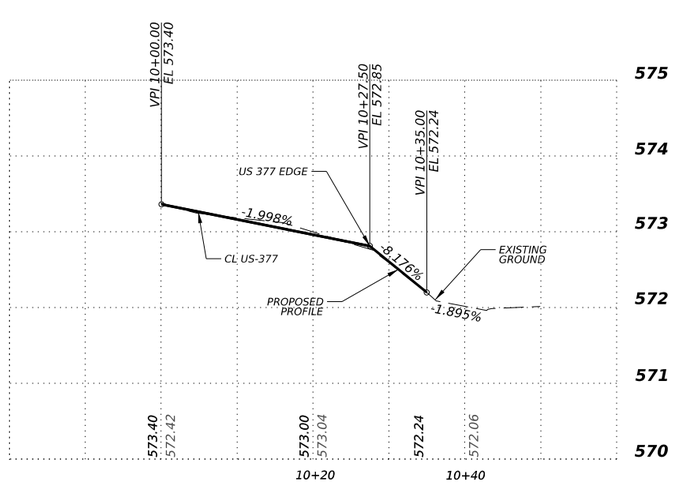
INTERSECTION LAYOUT MADGE PL

US 377 STA 284+47.95
PROFILE VIEW



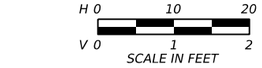
INTERSECTION LAYOUT HADLEY ST

US 377 STA 288+00.39
PLAN VIEW



INTERSECTION LAYOUT HADLEY ST

US 377 STA 288+00.39
PROFILE VIEW



SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP: 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
MADGE PL & HADLEY ST

SHEET 1 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		50

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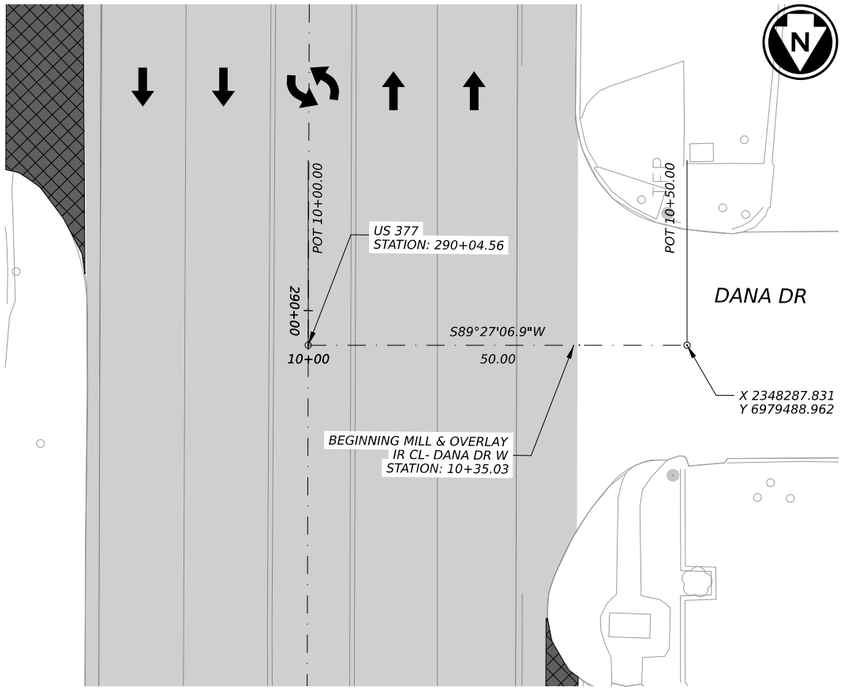
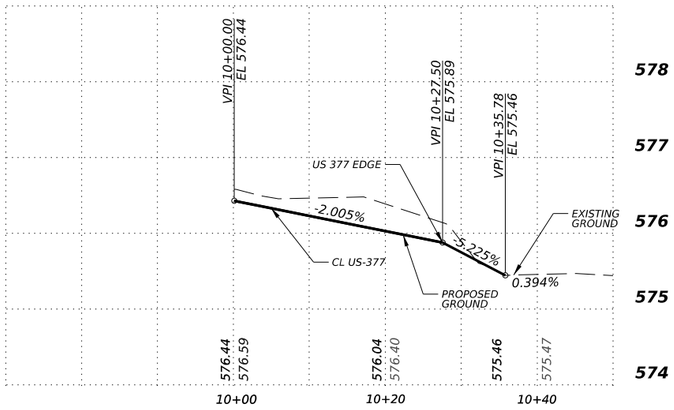


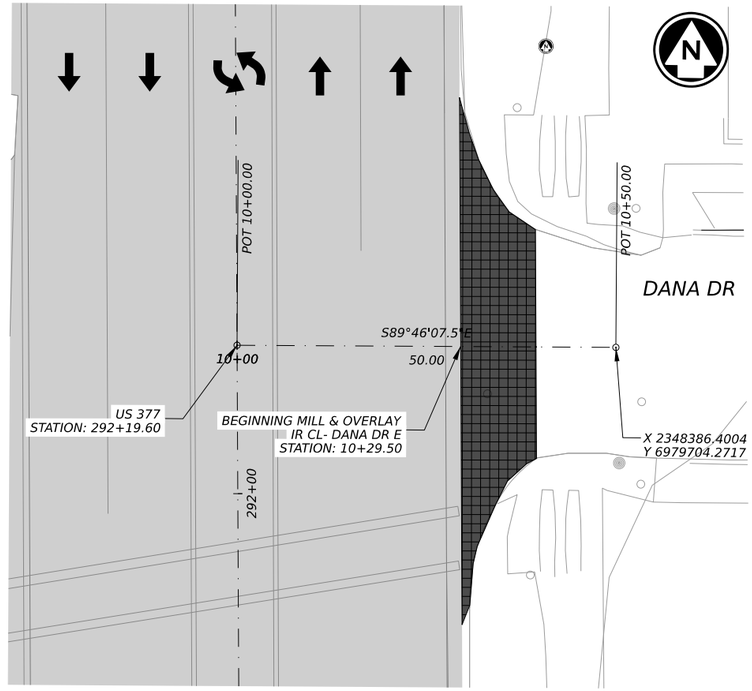
INTERSECTION LAYOUT DANA DR W

US 377 STA 290+04.56
PLAN VIEW



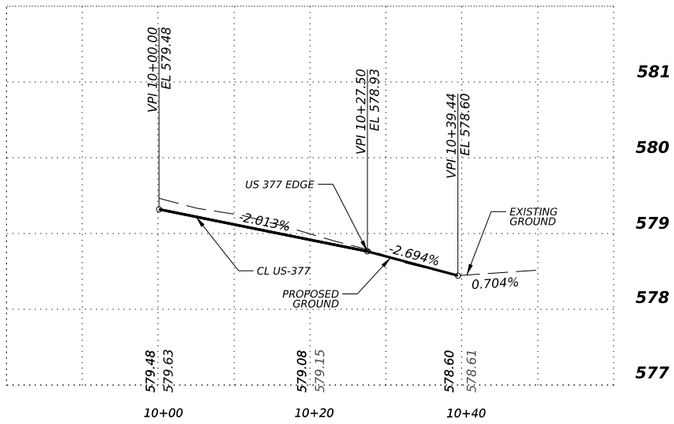
INTERSECTION LAYOUT DANA DR W

US 377 STA 290+04.56
PROFILE VIEW



INTERSECTION LAYOUT DANA DR E

US 377 STA 292+19.60
PLAN VIEW



INTERSECTION LAYOUT DANA DR E

US 377 STA 292+19.60
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP; 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
DANA DR W & E

SHEET 2 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		51

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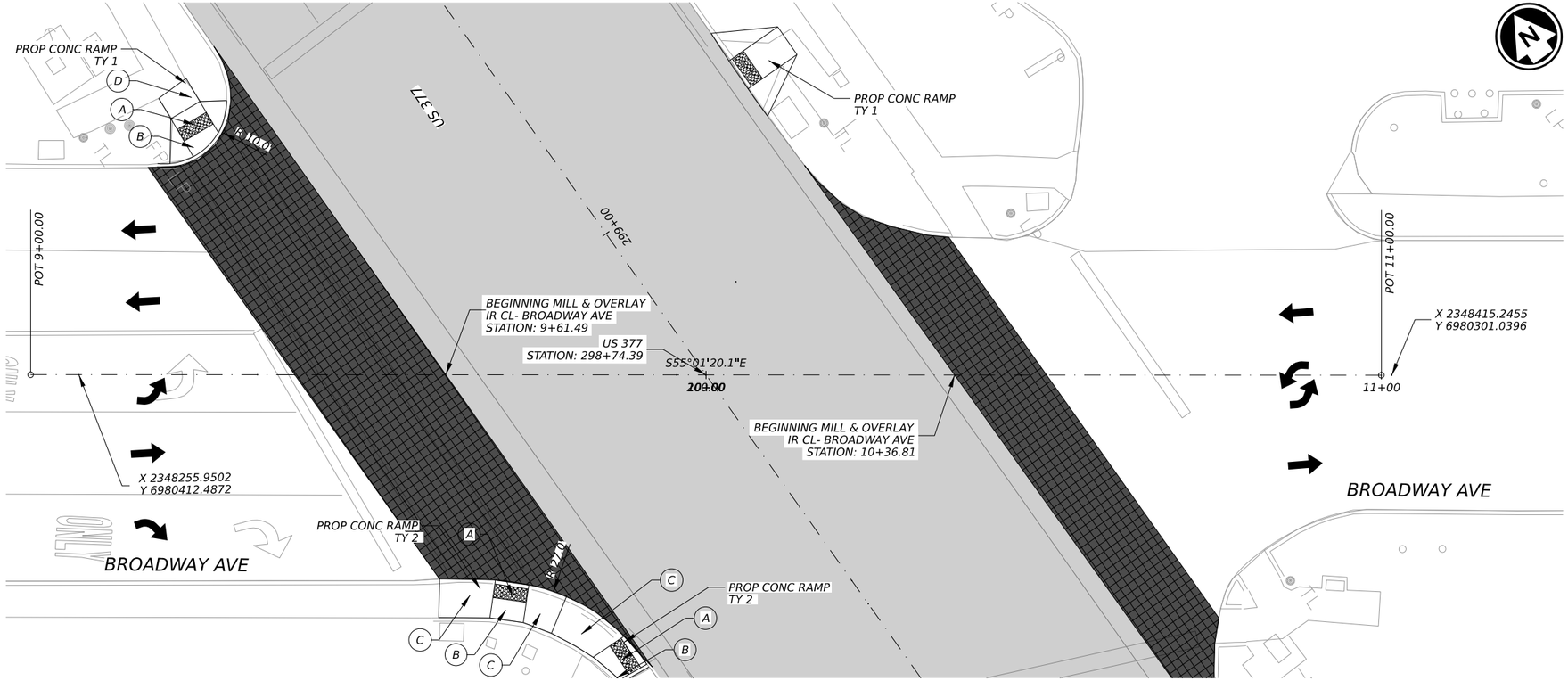

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
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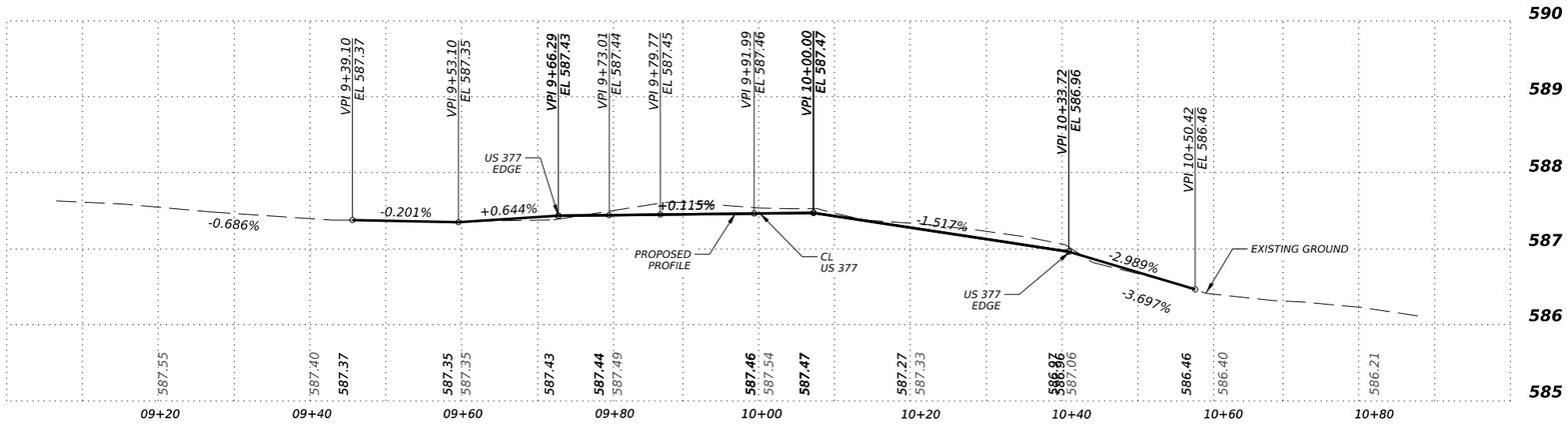
D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

INTERSECTION LAYOUT BROADWAY AVE W

US 377 STA 298+74.39
PLAN VIEW



INTERSECTION LAYOUT BROADWAY AVE W

US 377 STA 298+74.39
PROFILE VIEW

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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Texas Department of Transportation

US 377

INTERSECTIONS PLAN & PROFILE
BROADWAY AVE

SHEET 3 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		52

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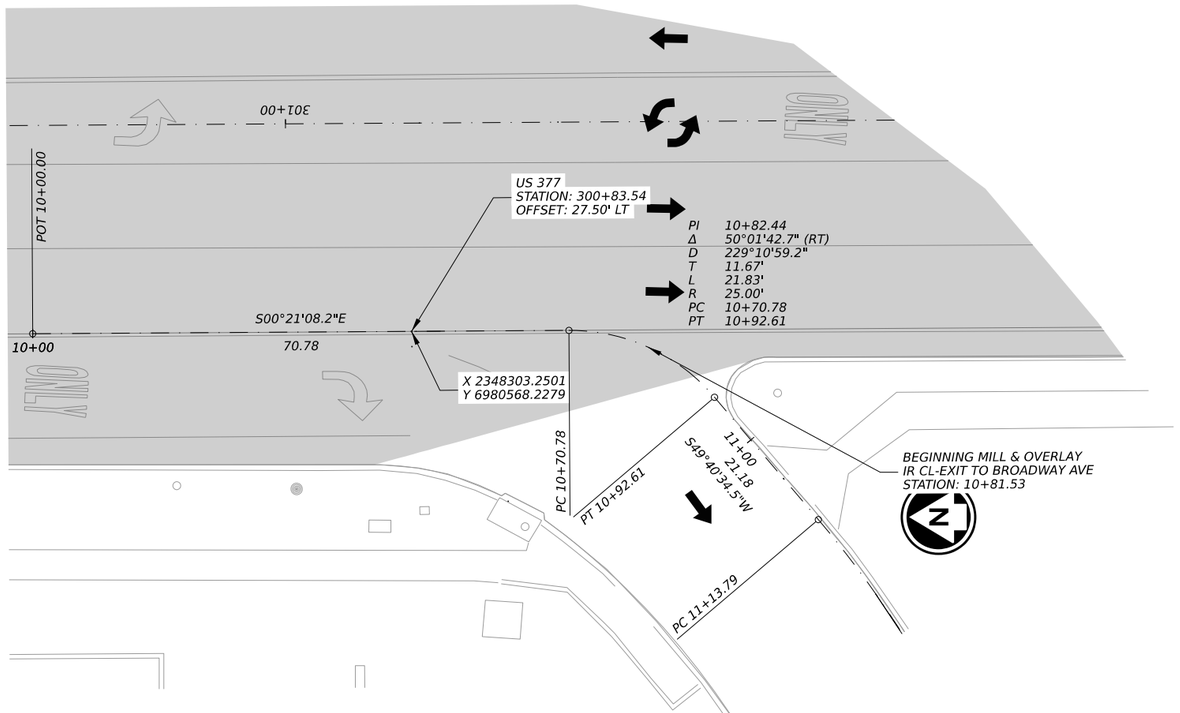
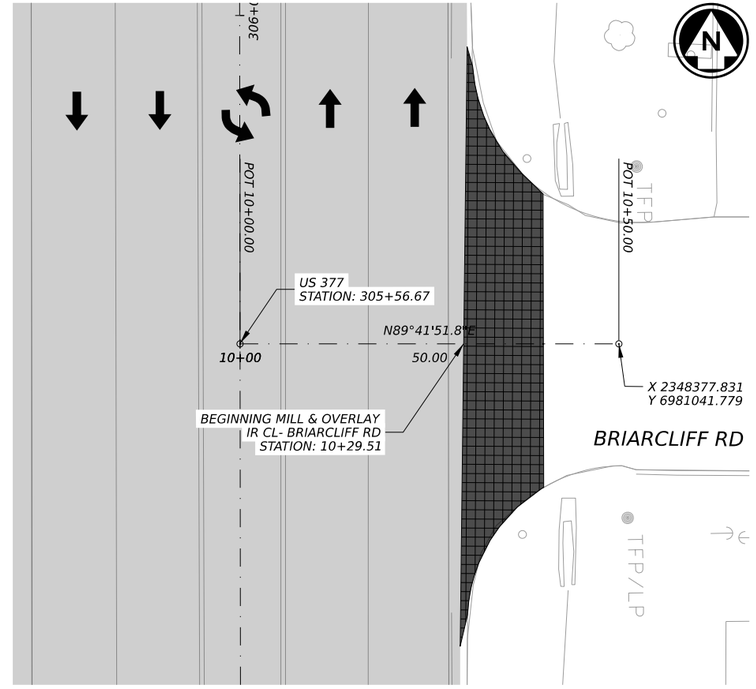


INTERSECTION LAYOUT EXIT FROM BROADWAY AVE

US 377 STA 300+83.54
PLAN VIEW



INTERSECTION LAYOUT BRIARCLIFF RD

US 377 STA 305+56.67
PLAN VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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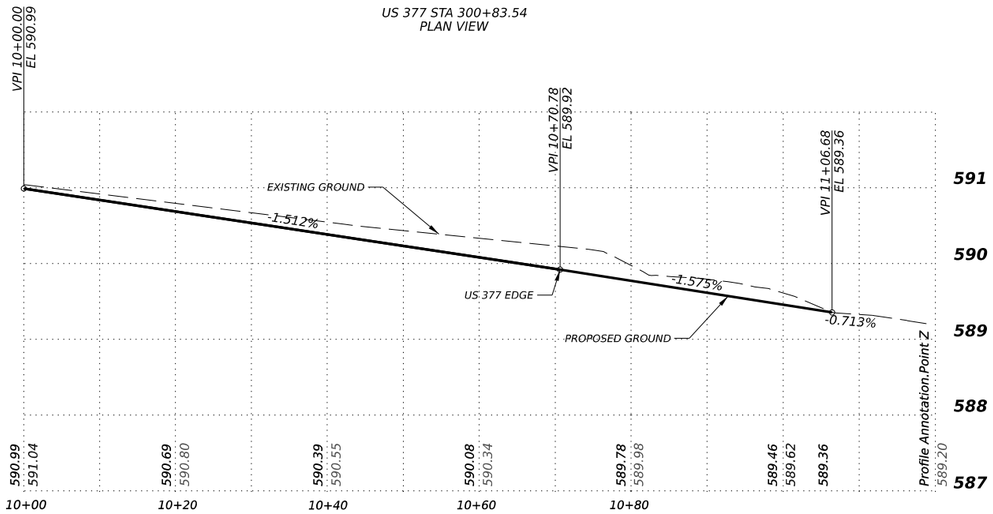
C ADA RAMP; 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

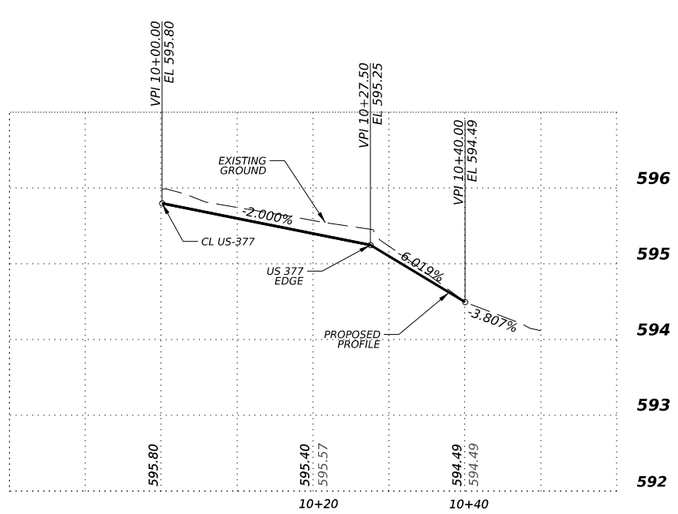
E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.



INTERSECTION LAYOUT EXIT FROM BROADWAY AVE

US 377 STA 300+83.54
PROFILE VIEW



INTERSECTION LAYOUT BRIARCLIFF RD

US 377 STA 305+56.67
PROFILE VIEW

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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US 377

INTERSECTIONS
PLAN & PROFILE
EXIT TO BROADWAY AVE

SHEET 4 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		53

DATE: 3/20/2024 4:49:14 PM
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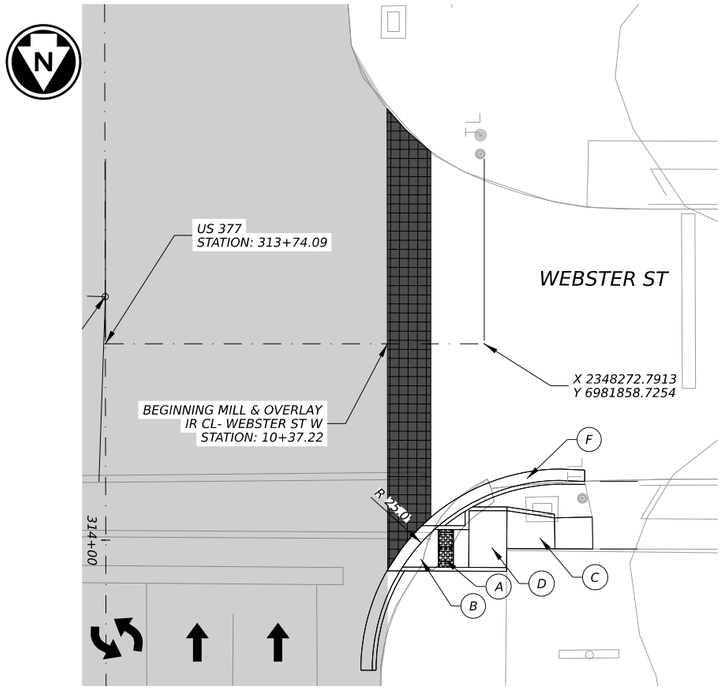
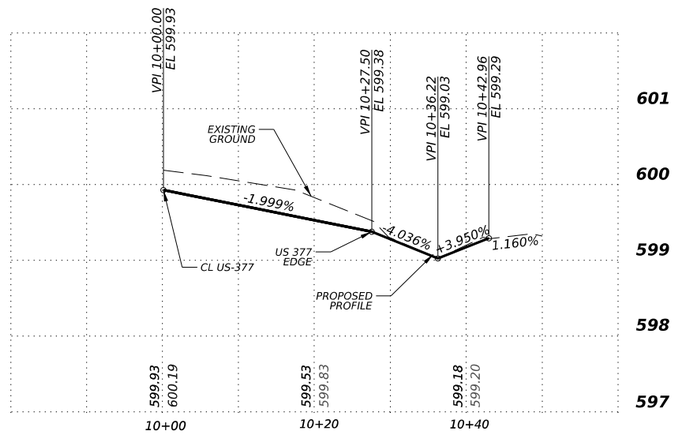


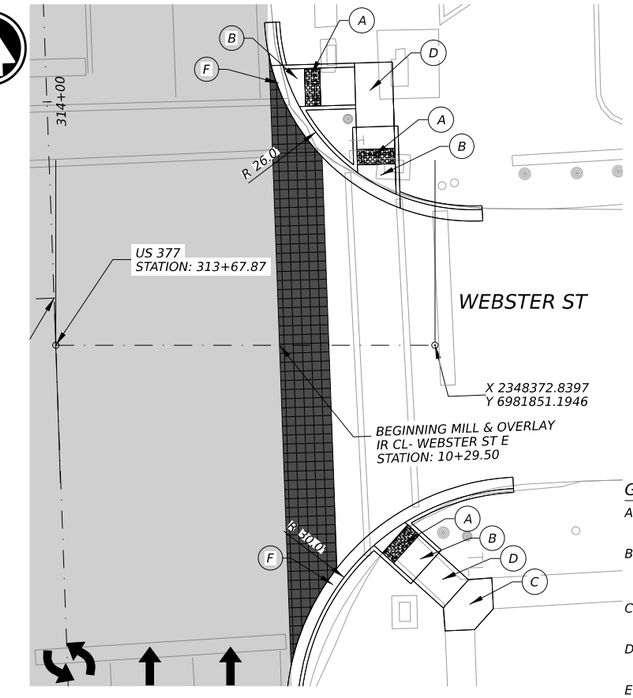
INTERSECTION LAYOUT WEBSTER ST W

US 377 STA 313+74.09
PLAN VIEW



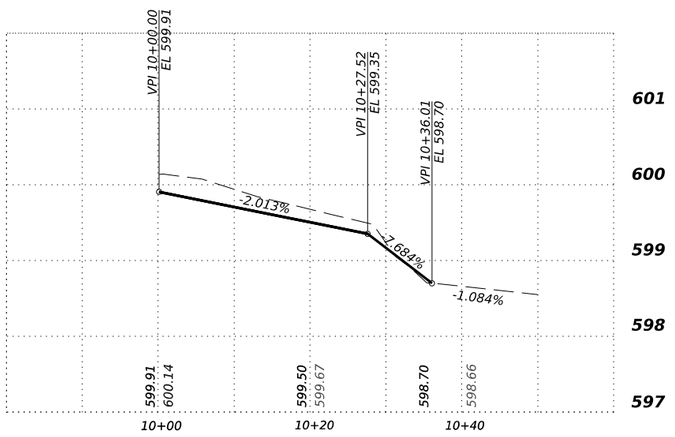
INTERSECTION LAYOUT WEBSTER ST W

US 377 STA 313+74.09
PROFILE VIEW



INTERSECTION LAYOUT WEBSTER ST E

US 377 STA 313+67.87
PLAN VIEW



INTERSECTION LAYOUT WEBSTER ST E

US 377 STA 313+67.87
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP: 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
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PROFESSIONAL ENGINEER
3/20/2024

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
WEBSTER ST

SHEET 5 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		54

DATE: 3/20/2024 4:49:15 PM
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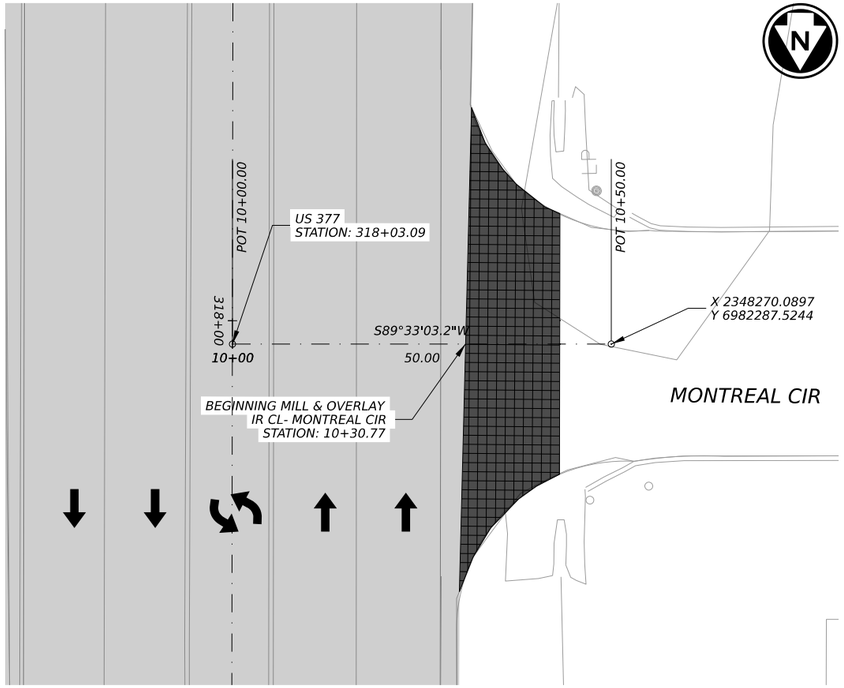
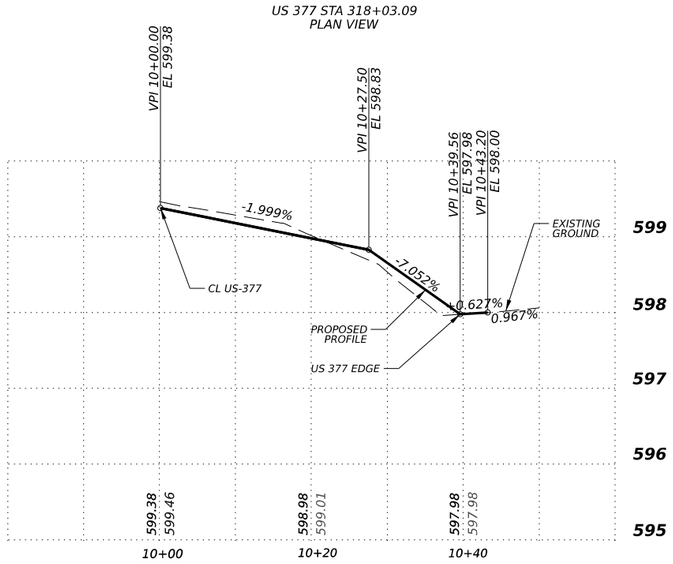


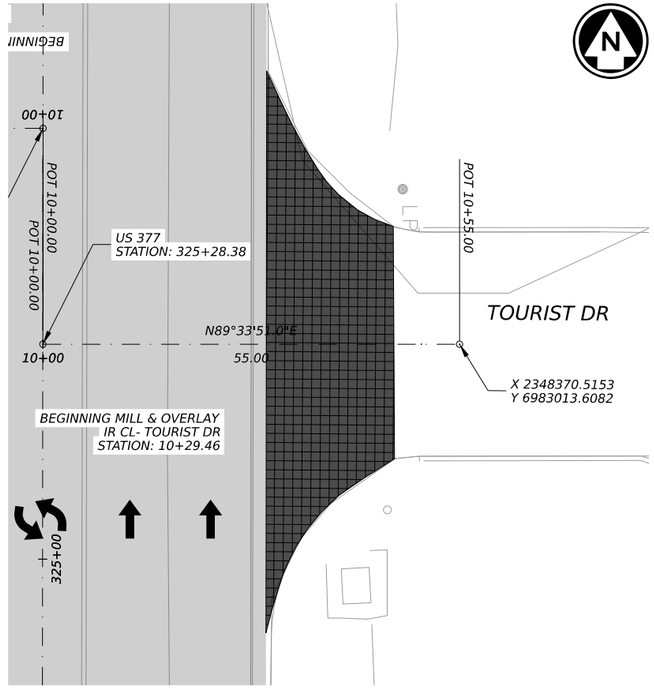
INTERSECTION LAYOUT MONTREAL CIR

US 377 STA 318+03.09
PLAN VIEW



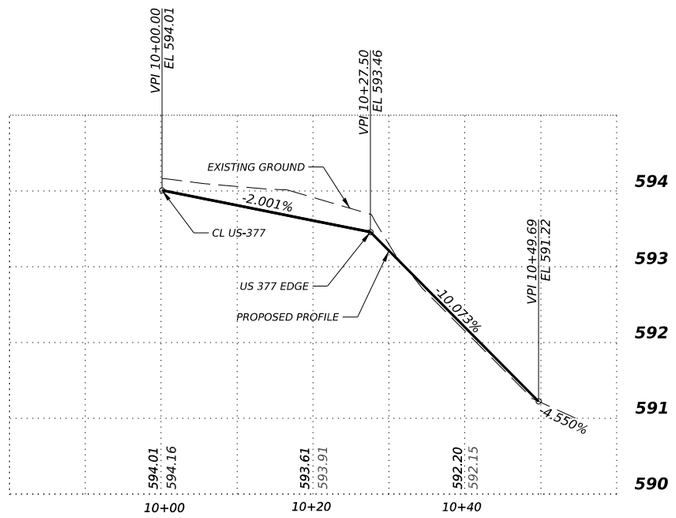
INTERSECTION LAYOUT MONTREAL CIR

US 377 STA 318+03.09
PROFILE VIEW



INTERSECTION LAYOUT TOURIST DR

US 377 STA 325+28.38
PLAN VIEW



INTERSECTION LAYOUT TOURIST DR

US 377 STA 325+28.38
PROFILE VIEW

SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP; 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
TOURIST DR & MONTREAL CIR

SHEET 6 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		55

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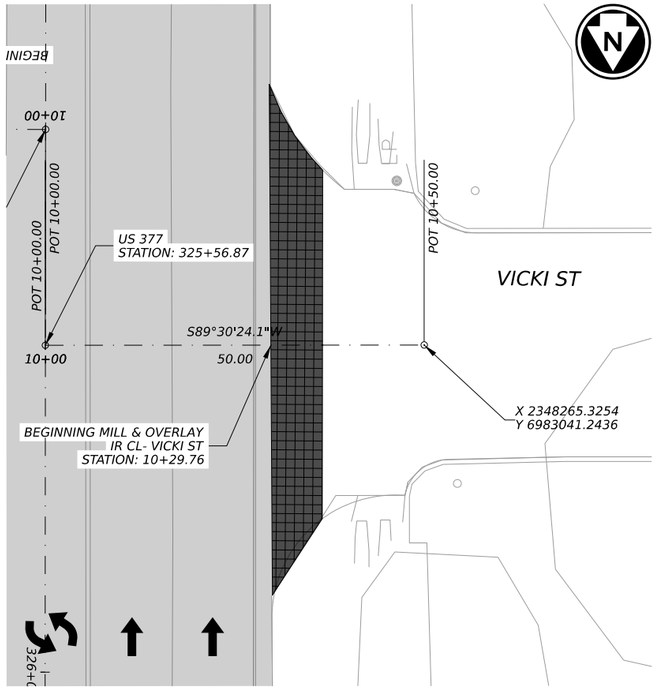
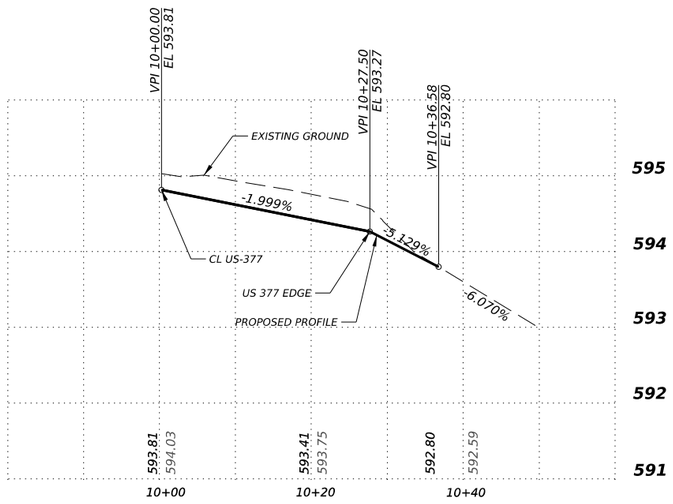


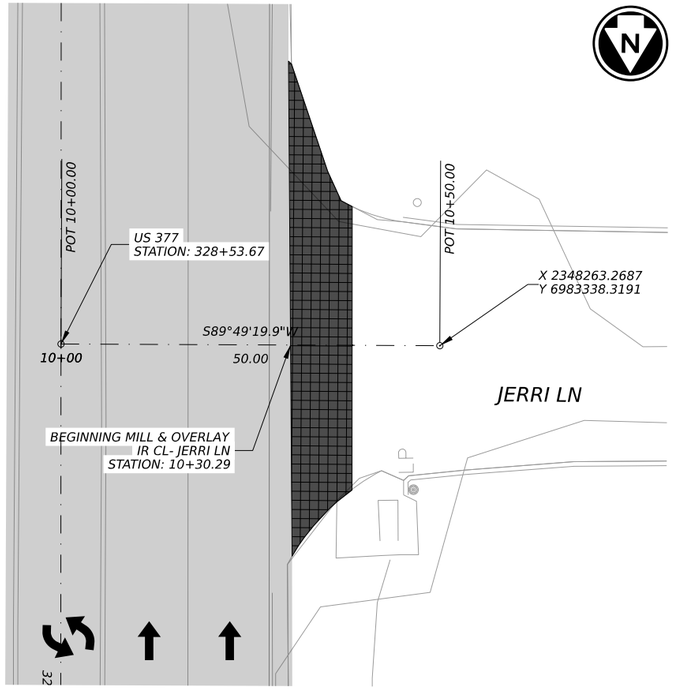
INTERSECTION LAYOUT VICKI ST

US 377 STA 325+56.87
PLAN VIEW



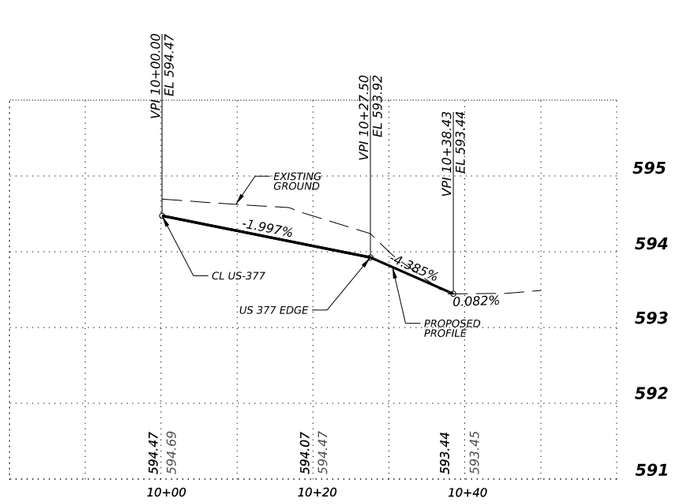
INTERSECTION LAYOUT VICKI ST

US 377 STA 325+56.87
PROFILE VIEW



INTERSECTION LAYOUT JERRI LN

US 377 STA 328+53.67
PLAN VIEW



INTERSECTION LAYOUT JERRI LN

US 377 STA 328+53.67
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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C ADA RAMP: 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
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PROFESSIONAL ENGINEER
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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
JERRI LN & VICKI ST

SHEET 7 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		56

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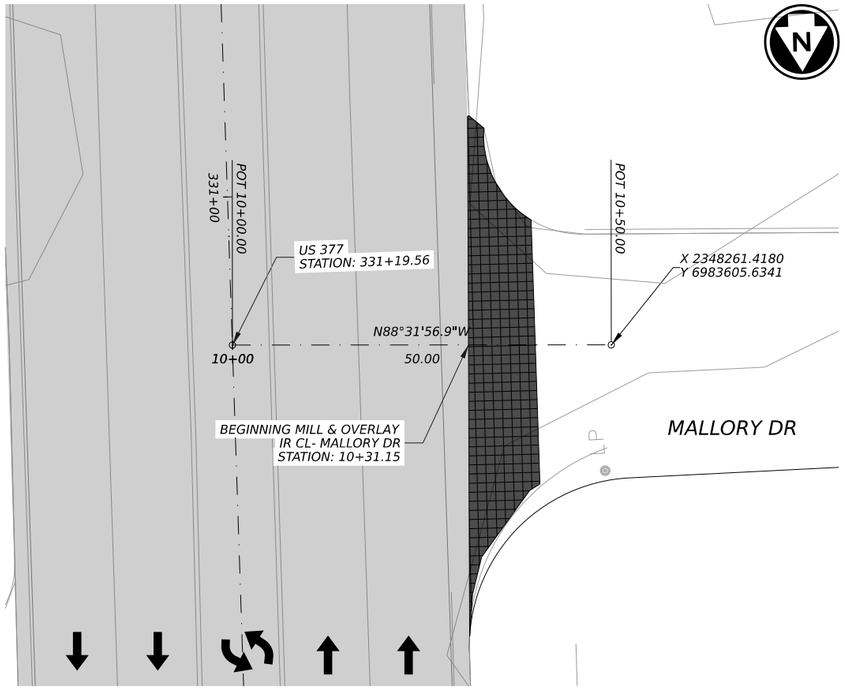
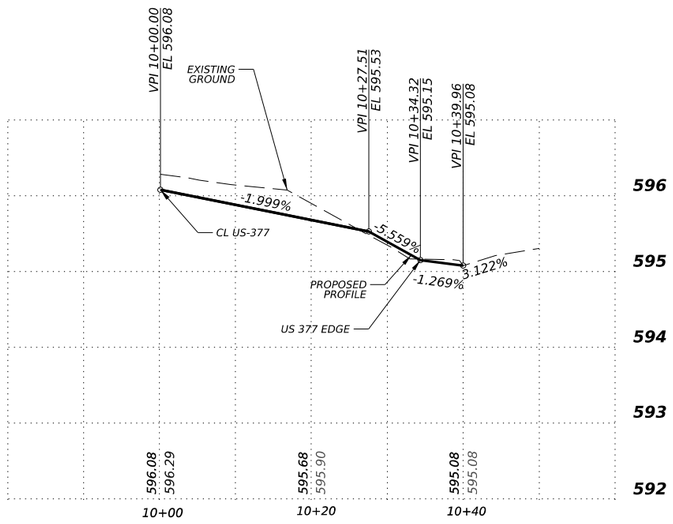


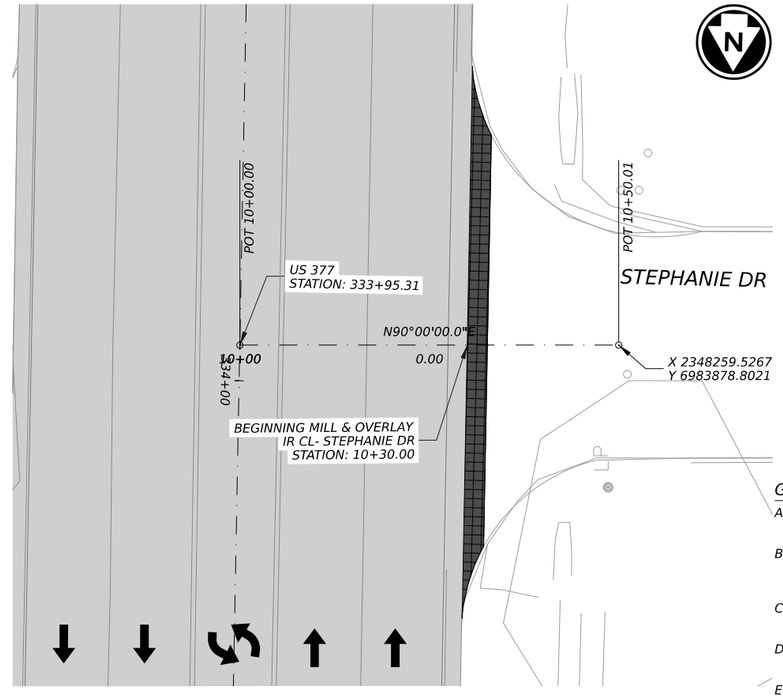
INTERSECTION LAYOUT MALLORY DR

US 377 STA 331+19.56
PLAN VIEW



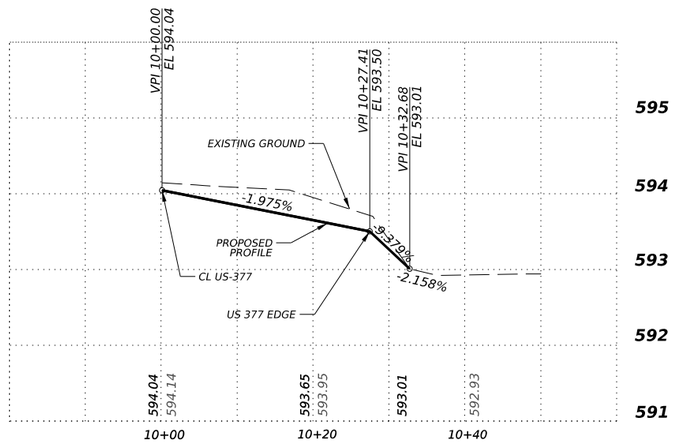
INTERSECTION LAYOUT MALLORY DR

US 377 STA 331+19.56
PROFILE VIEW



INTERSECTION LAYOUT STEPHANIE DR

US 377 STA 333+95.31
PLAN VIEW



INTERSECTION LAYOUT STEPHANIE DR

US 377 STA 333+95.31
PROFILE VIEW

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP: 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
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3/20/2024

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
MALLORY DR & STEPHANIE DR

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		57

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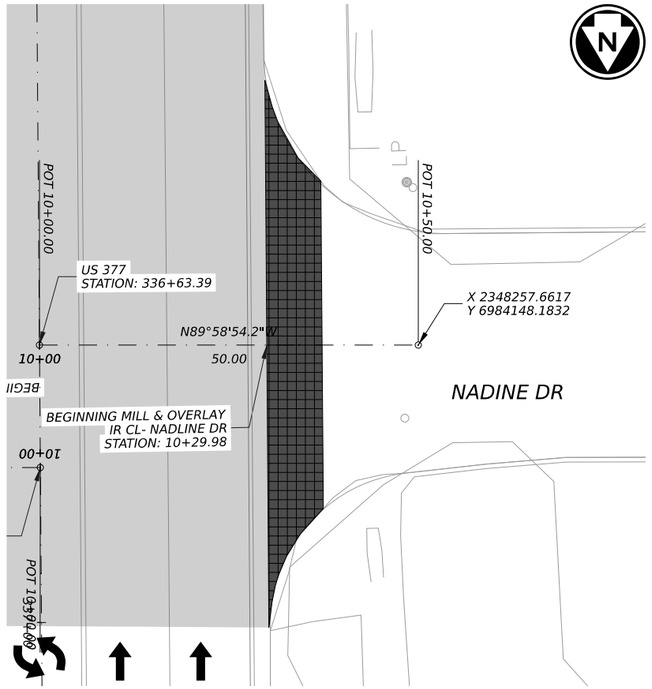
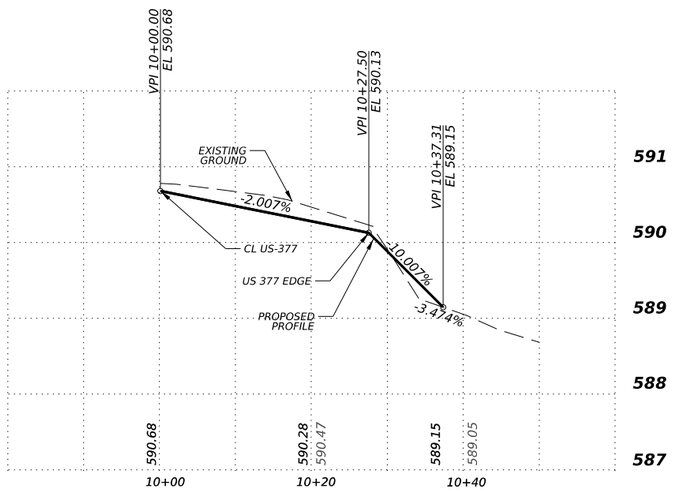


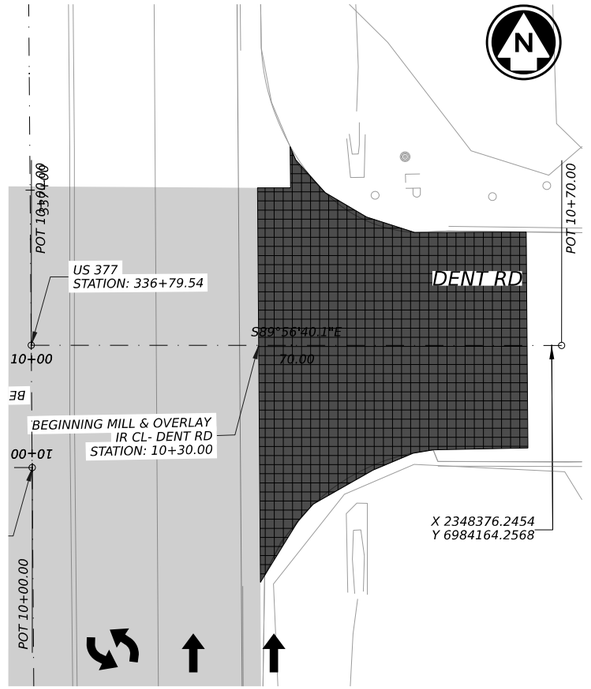
INTERSECTION LAYOUT NADINE DR

US 377 STA 336+63.39
PLAN VIEW



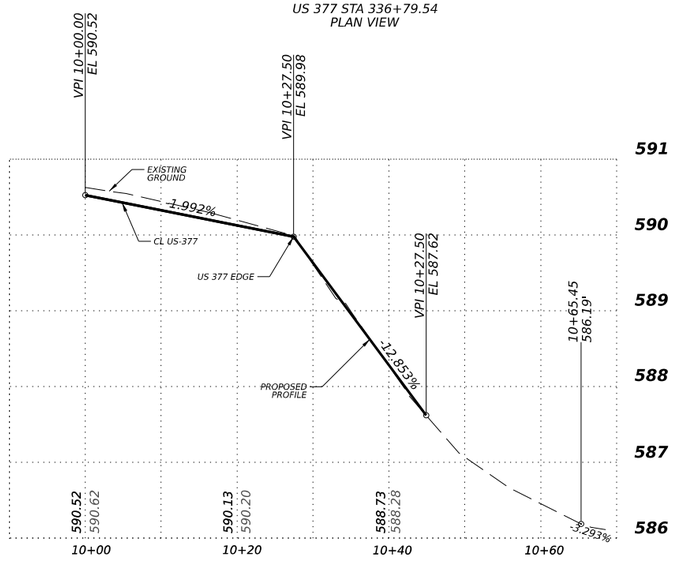
INTERSECTION LAYOUT NADINE DR

US 377 STA 336+63.39
PROFILE VIEW



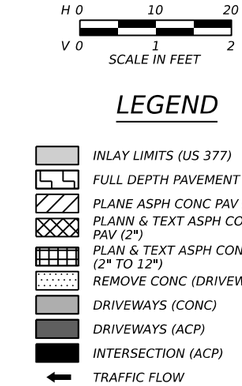
INTERSECTION LAYOUT DENT RD

US 377 STA 336+79.54
PLAN VIEW



INTERSECTION LAYOUT DENT RD

US 377 STA 336+79.54
PROFILE VIEW



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP; 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
NADINE DR & DENT RD

SHEET 9 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		58

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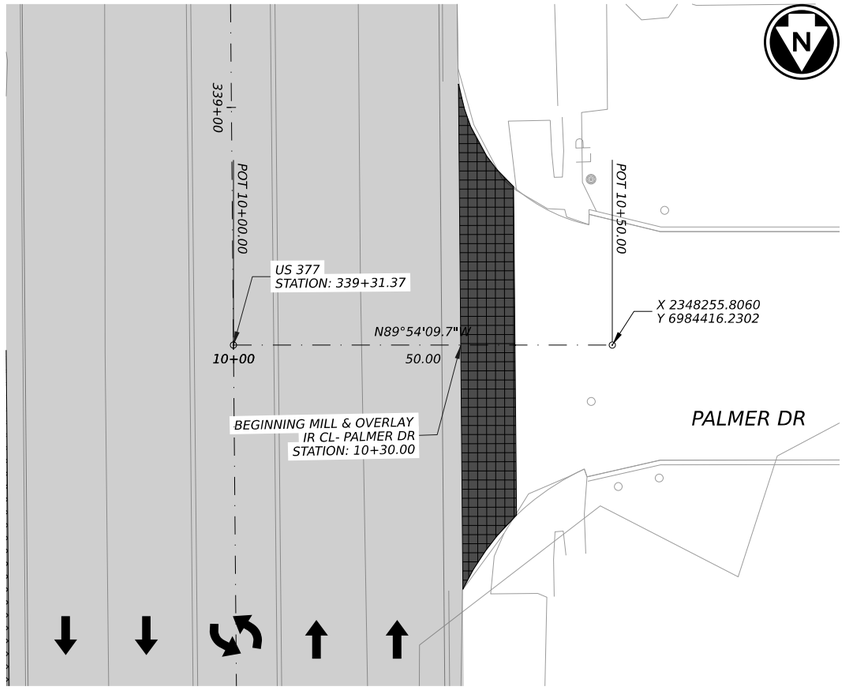
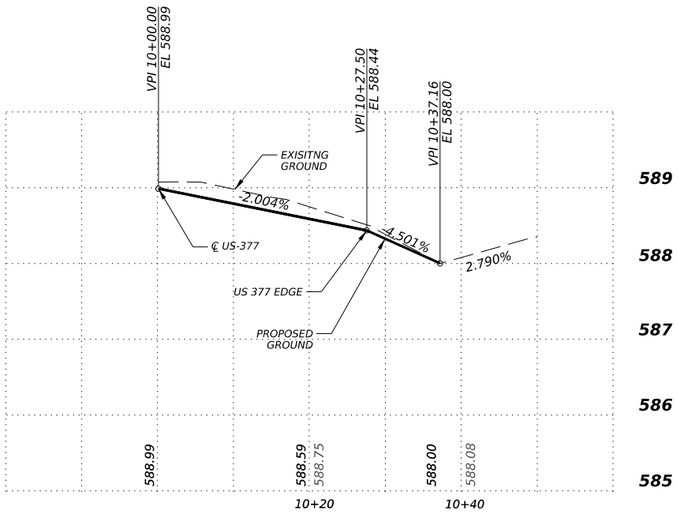


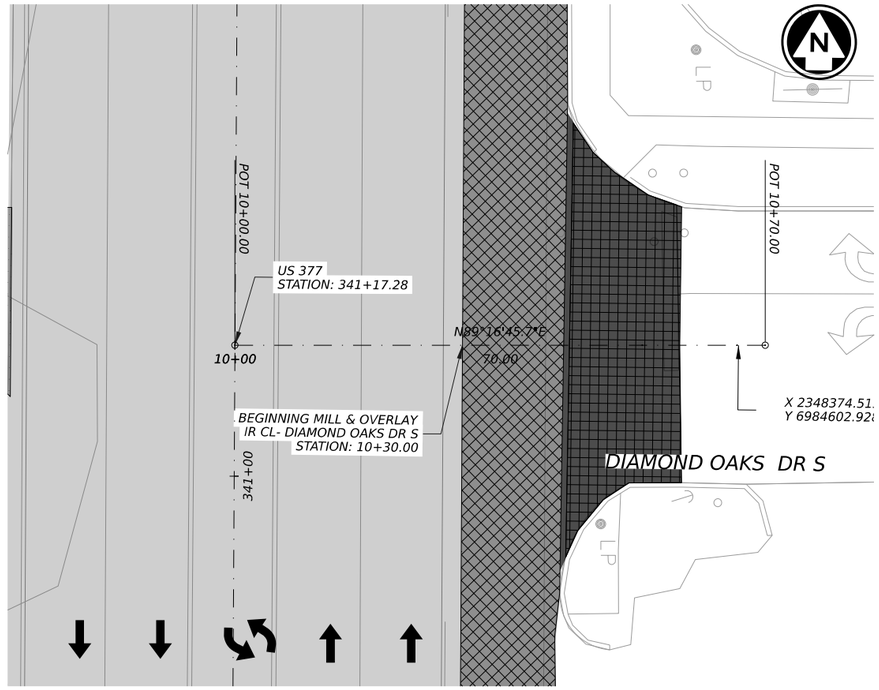
INTERSECTION LAYOUT PALMER DR

US 377 STA 339+31.37
PLAN VIEW



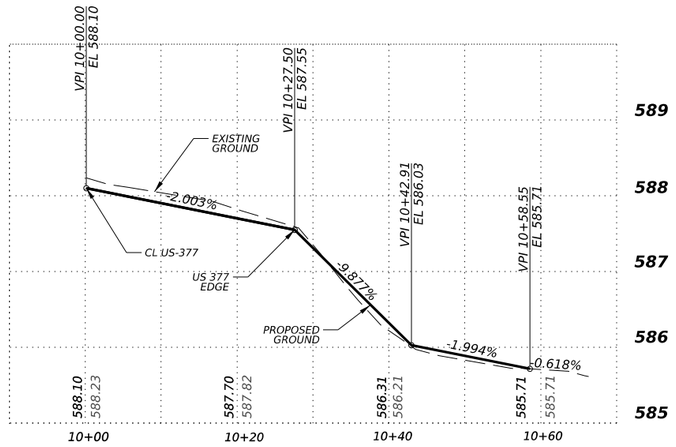
INTERSECTION LAYOUT PALMER DR

US 377 STA 339+31.37
PROFILE VIEW



INTERSECTION LAYOUT DIAMOND OAKS DR S

US 377 STA 341+17.28
PLAN VIEW



INTERSECTION LAYOUT DIAMOND OAKS DR S

US 377 STA 341+17.28
PROFILE VIEW

SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP: 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
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PROFESSIONAL ENGINEER
3/20/2024

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
PALMER DR &
DIAMOND OAKS DR

SHEET10 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		59

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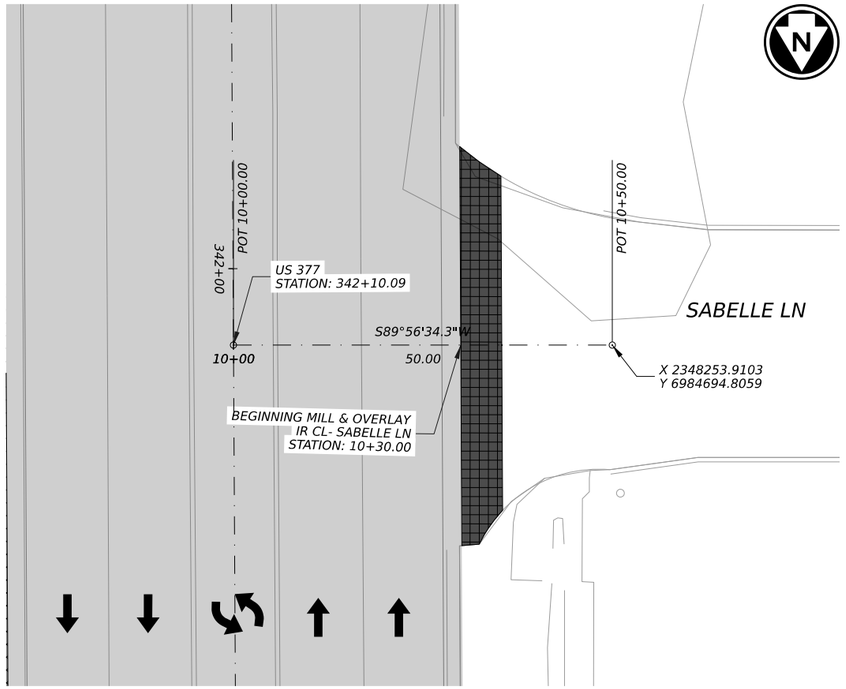
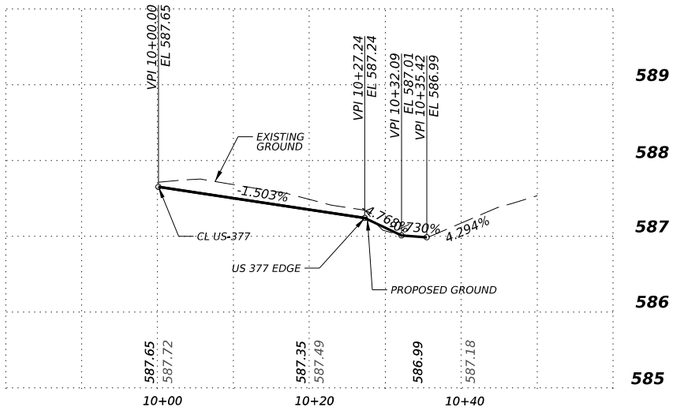


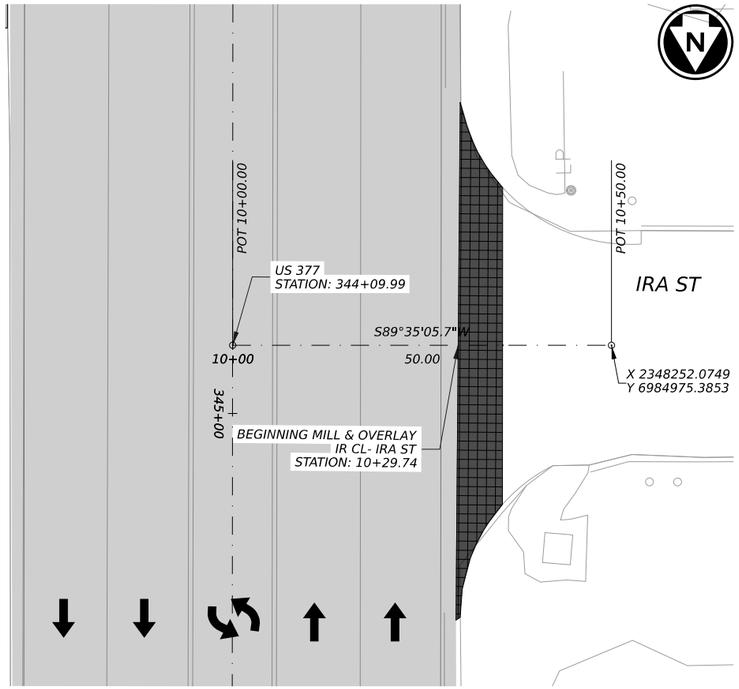
INTERSECTION LAYOUT SABELLE LN

US 377 STA 342+10.09
PLAN VIEW



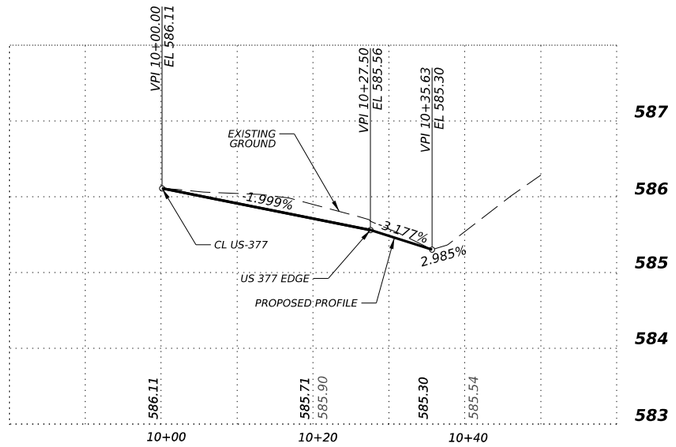
INTERSECTION LAYOUT SABELLE LN

US 377 STA 342+10.09
PLAN VIEW



INTERSECTION LAYOUT IRA ST

US 377 STA 344+90.99
PLAN VIEW



INTERSECTION LAYOUT IRA ST

US 377 STA 344+90.99
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP; 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
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PROFESSIONAL ENGINEER
3/20/2024

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
SABELLE LN & IRA ST

SHEET 11 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		60

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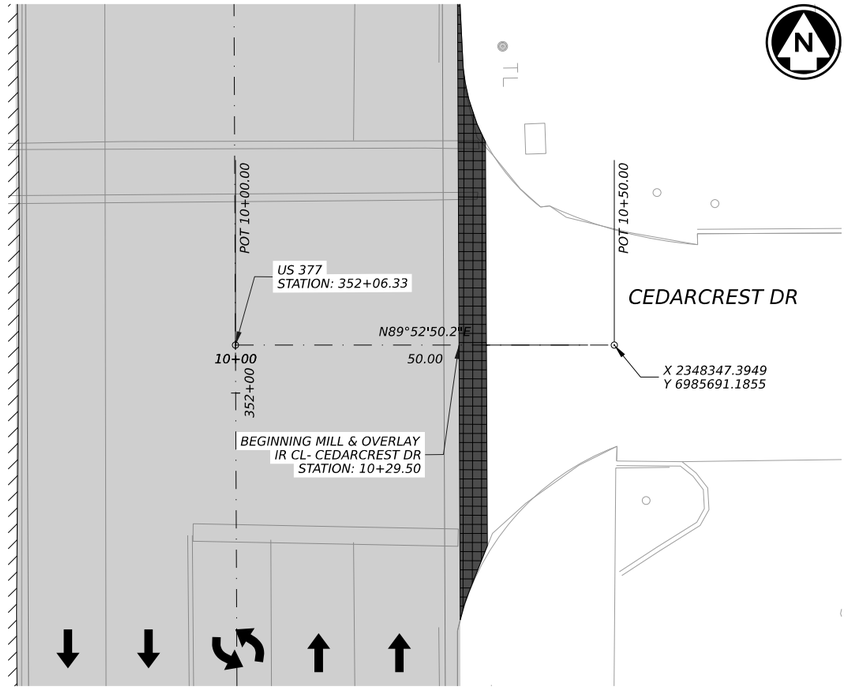
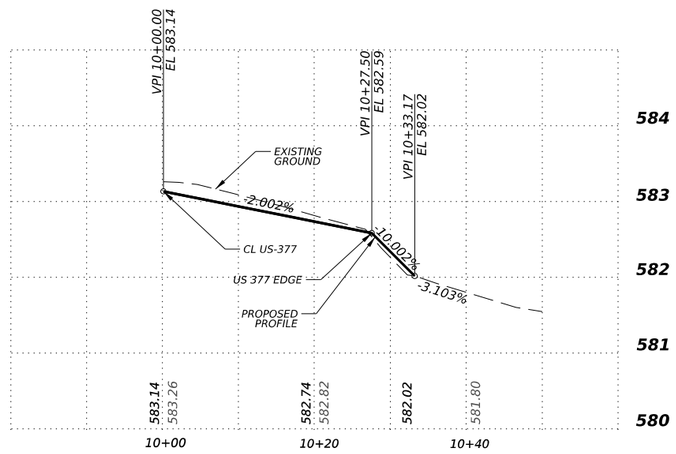


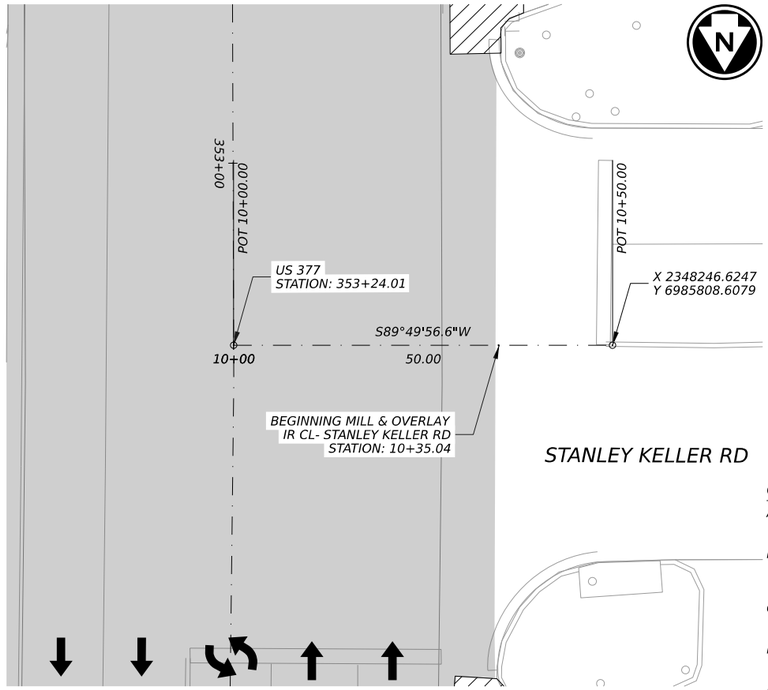
INTERSECTION LAYOUT CEDARCREST DR

US 377 STA 352+06.33
PLAN VIEW



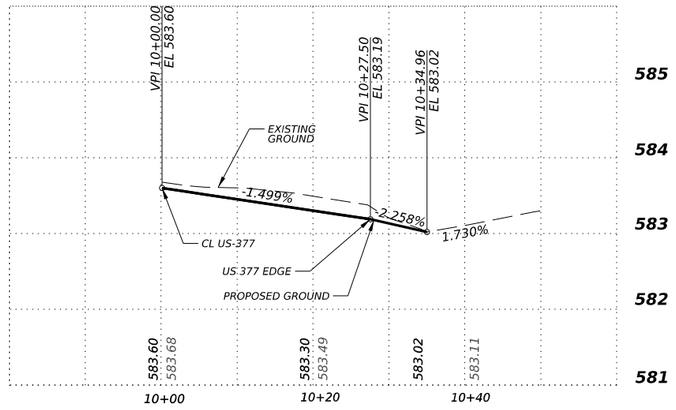
INTERSECTION LAYOUT CEDARCREST DR

US 377 STA 352+06.33
PROFILE VIEW



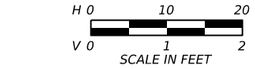
INTERSECTION LAYOUT STANLEY KELLER RD

US 377 STA 353+24.01
PLAN VIEW



INTERSECTION LAYOUT STANLEY KELLER RD

US 377 STA 353+24.01
PROFILE VIEW



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP: 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

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(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

INTERSECTIONS PLAN & PROFILE

CEDARCREST DR
& STANLEY KELLER RD

SHEET 12 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		61

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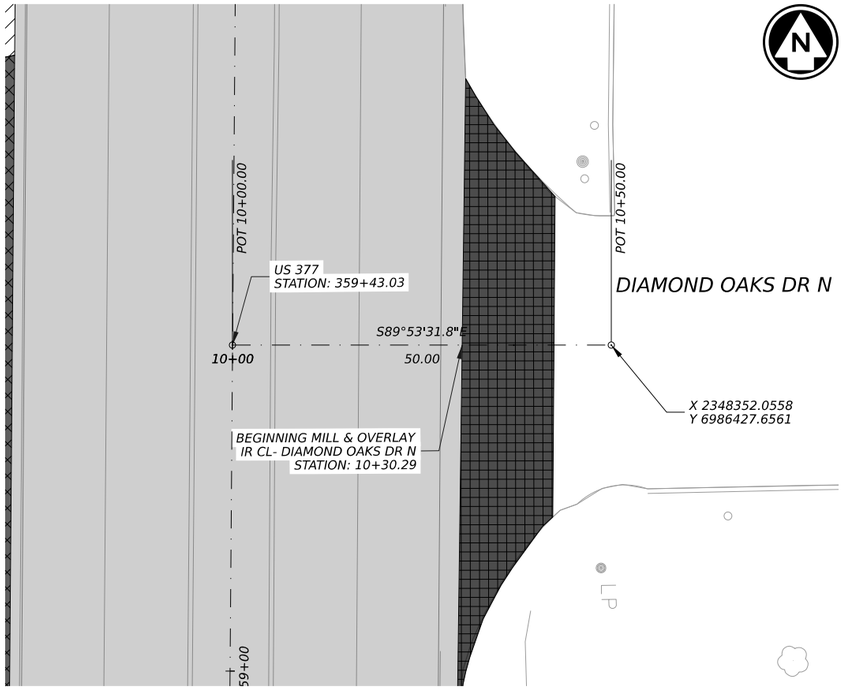
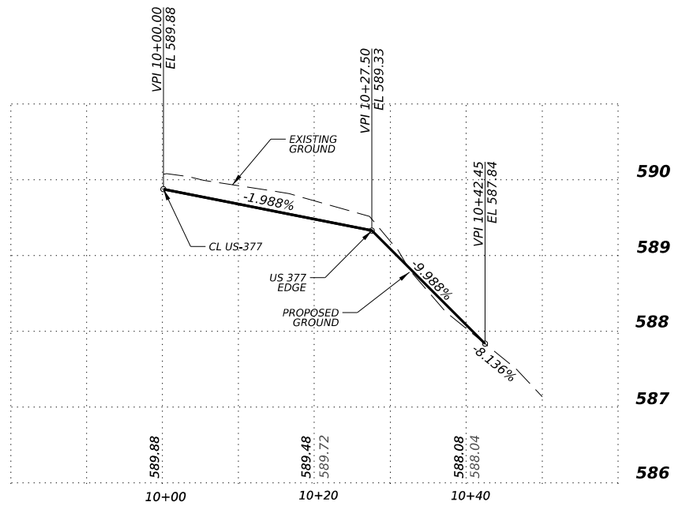


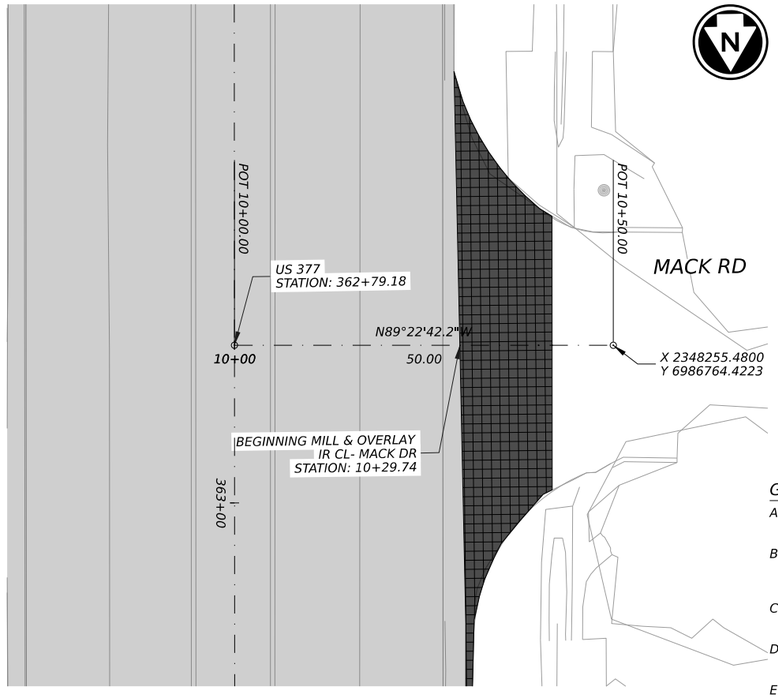
INTERSECTION LAYOUT DIAMOND OAKS DR N

US 377 STA 359+43.03
PLAN VIEW



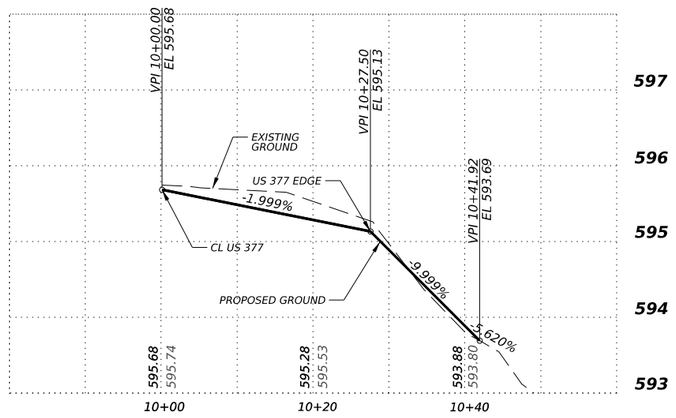
INTERSECTION LAYOUT DIAMOND OAKS DR N

US 377 STA 359+43.03
PROFILE VIEW



INTERSECTION LAYOUT MACK RD

US 377 STA 362+79.18
PLAN VIEW



INTERSECTION LAYOUT MACK RD

US 377 STA 362+79.18
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

C ADA RAMP; 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE

D ADA RAMP: 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
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PROFESSIONAL ENGINEER
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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
DIAMOND OAKS DR N
& MACK RD

SHEET13 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		62

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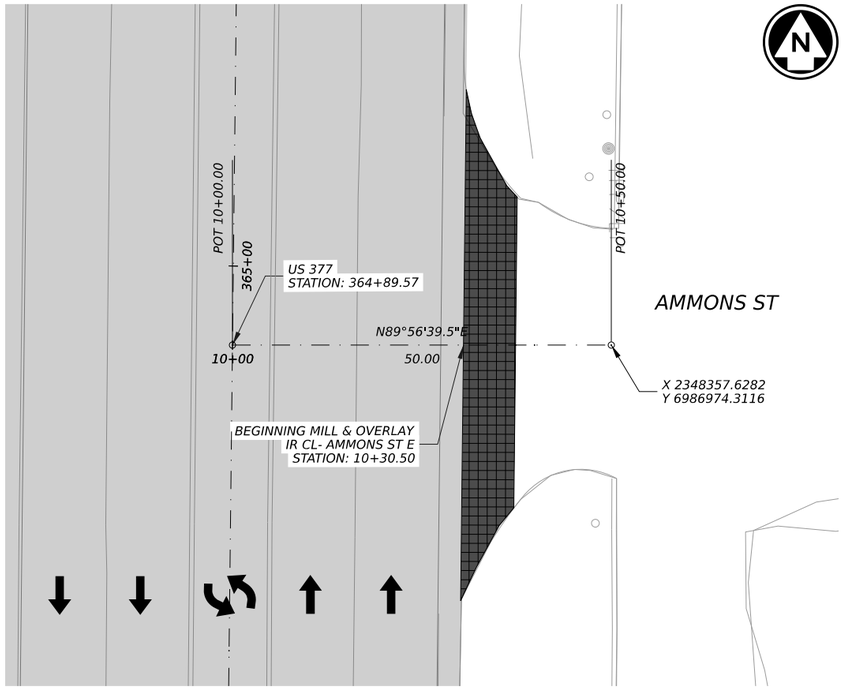
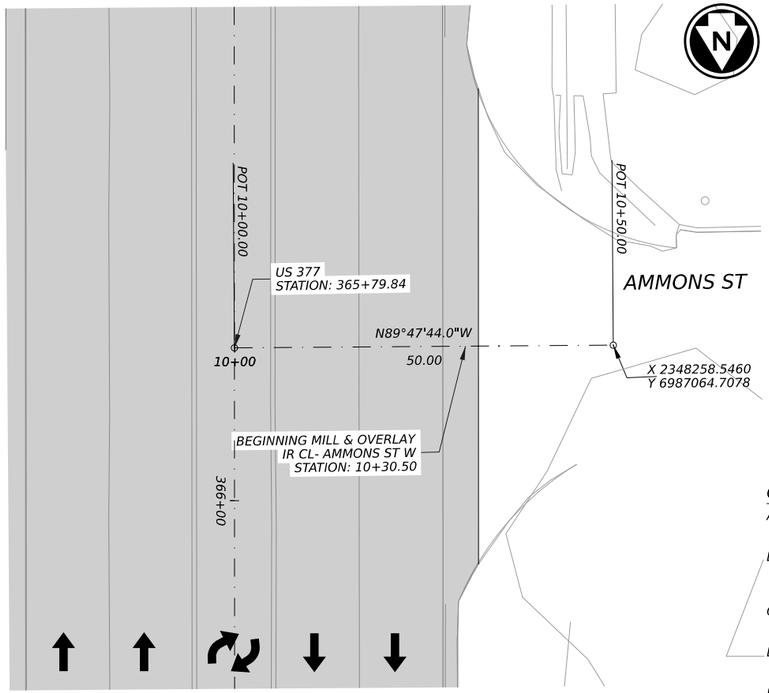


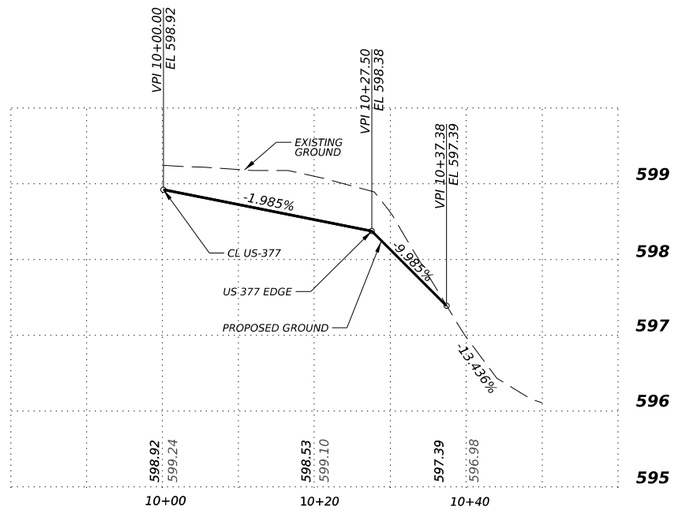
INTERSECTION LAYOUT AMMONS ST E

US 377 STA 364+89.57
PLAN VIEW



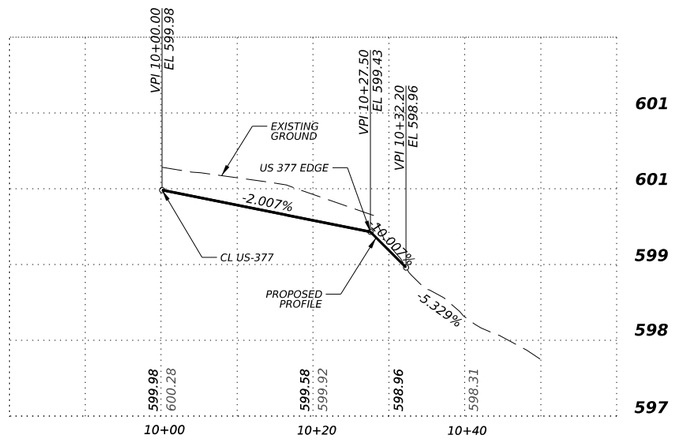
INTERSECTION LAYOUT AMMONS ST W

US 377 STA 365+79.84
PLAN VIEW



INTERSECTION LAYOUT AMMONS ST E

US 377 STA 364+89.57
PROFILE VIEW



INTERSECTION LAYOUT AMMONS ST W

US 377 STA 365+79.84
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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US 377

INTERSECTIONS
PLAN & PROFILE
AMMONS ST

SHEET 14 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		63

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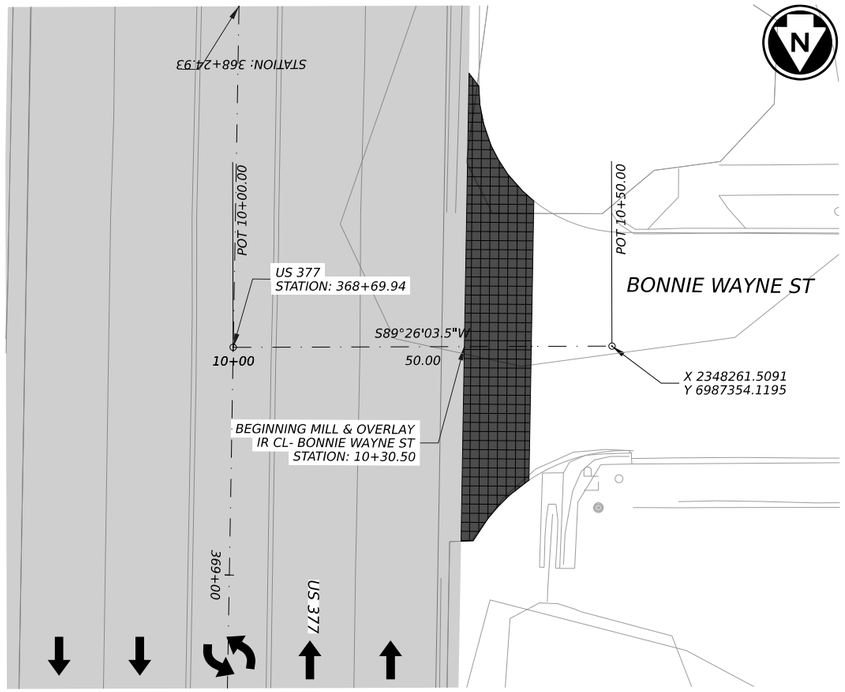
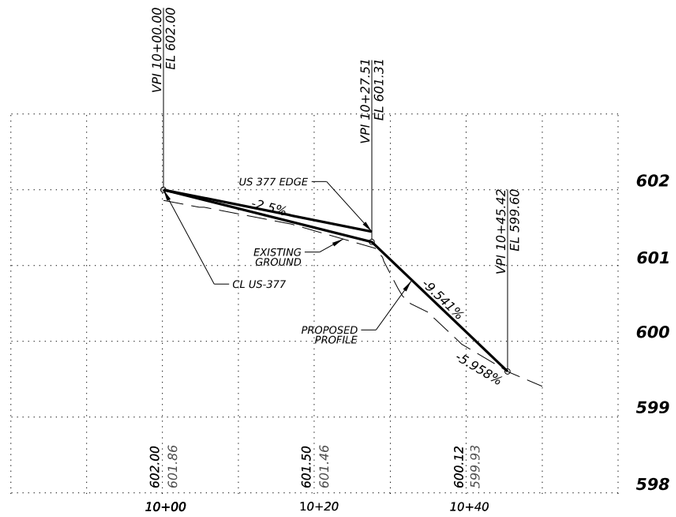


INTERSECTION LAYOUT BONNIE WAYNE ST

US 377 STA 368+69.94
PLAN VIEW



INTERSECTION LAYOUT BONNIE WAYNE ST

US 377 STA 368+69.94
PLAN VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
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- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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B RAMP; 5' WIDE MINI; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS- SLOPE; 5'X5'LANDING REQUIRED AT EACH END OF RAMP.

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E EXISTING ADA RAMP

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US 377

INTERSECTIONS
PLAN & PROFILE
JANE ANNE ST

SHEET 16 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		64

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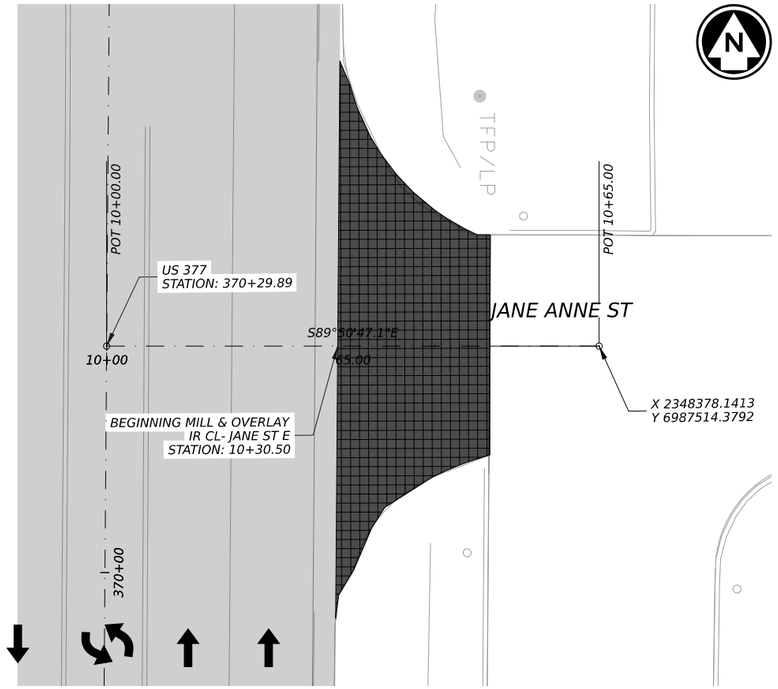
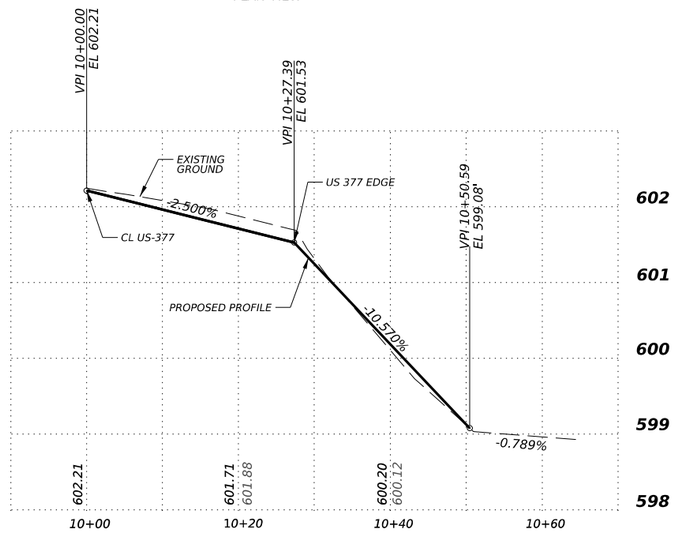


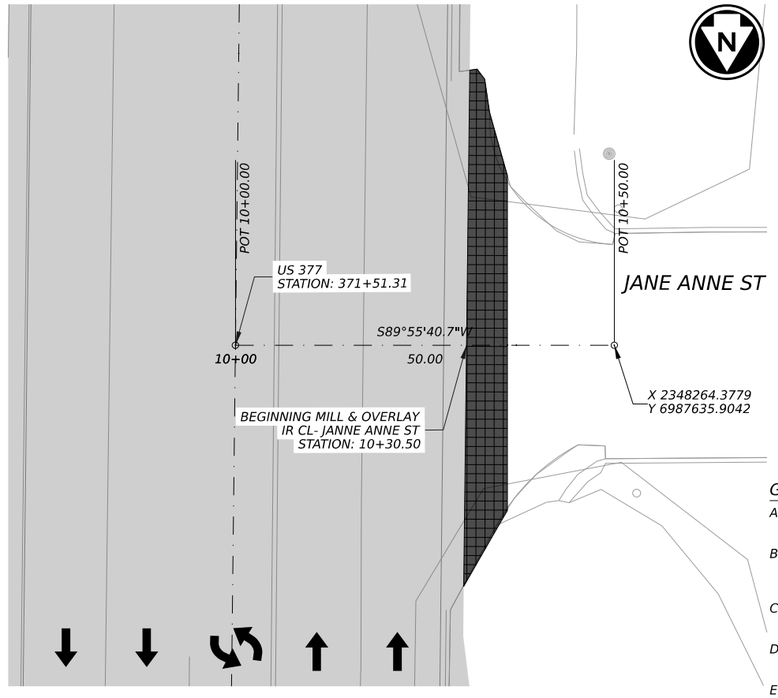
INTERSECTION LAYOUT JANE ANNE ST E

US 377 STA 370+29.89
PLAN VIEW



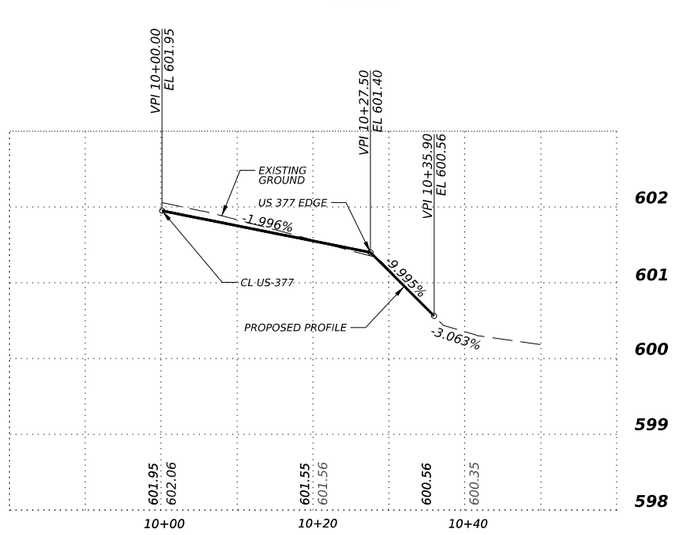
INTERSECTION LAYOUT JANE ANNE ST E

US 377 STA 370+29.89
PROFILE VIEW



INTERSECTION LAYOUT JANE ANNE ST W

US 377 STA 371+51.31
PLAN VIEW



INTERSECTION LAYOUT JANE ANNE ST W

US 377 STA 371+51.31
PROFILE VIEW

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

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E EXISTING ADA RAMP

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
JANE ANNE ST

SHEET 16 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		65

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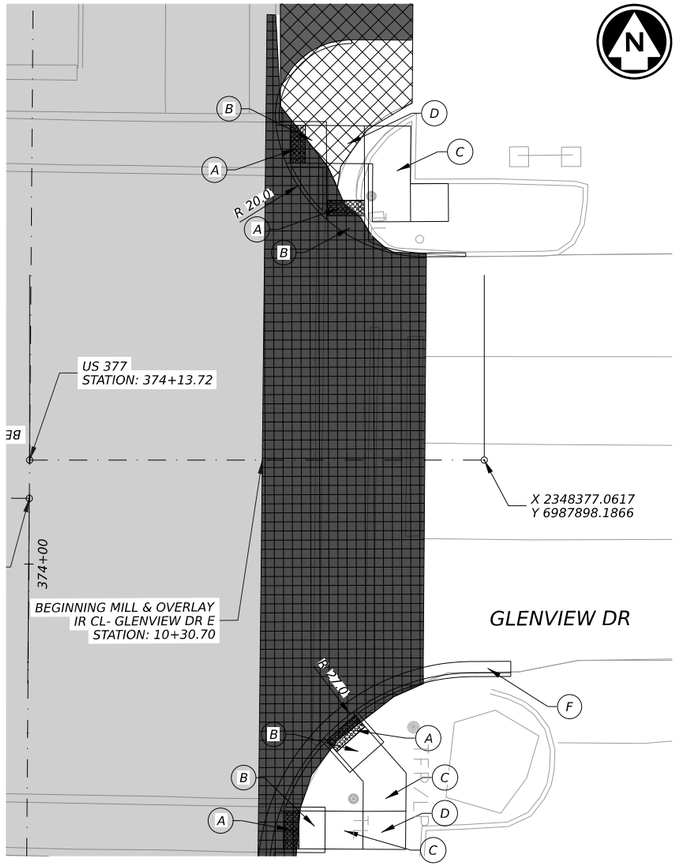
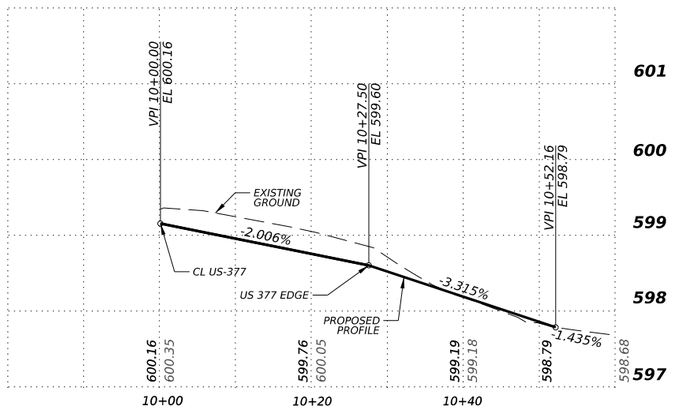


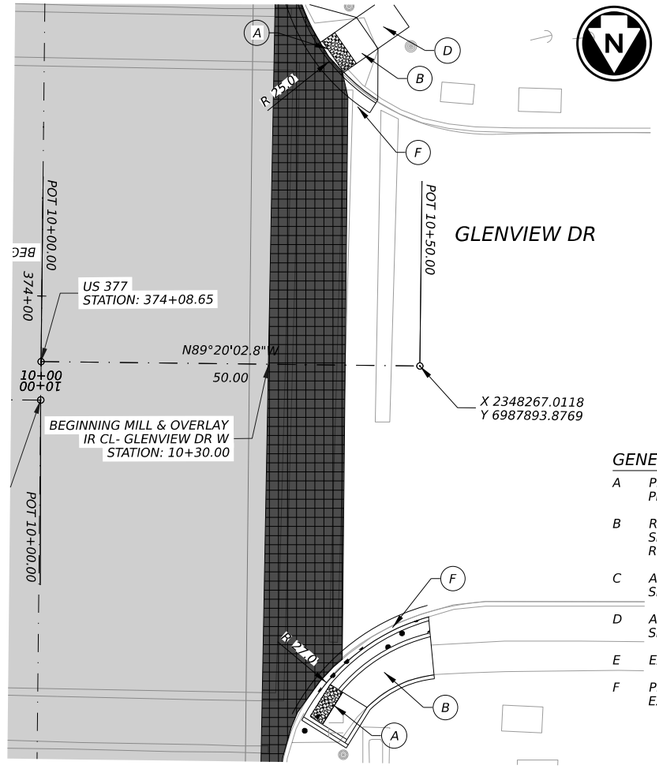
INTERSECTION LAYOUT GLENVIEW DR E

US 377 STA 374+13.72
PLAN VIEW



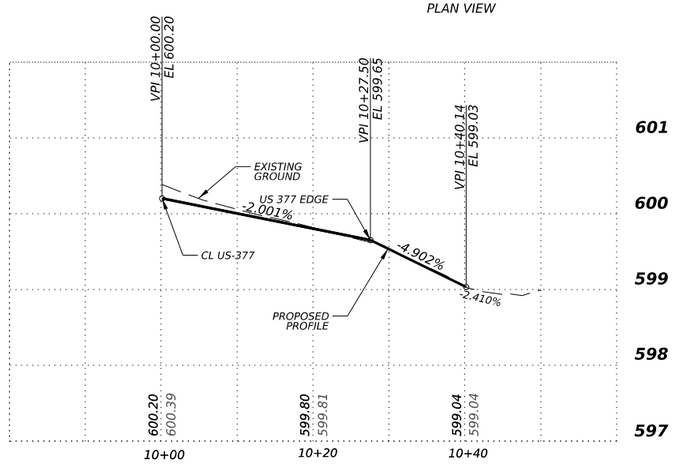
INTERSECTION LAYOUT GLENVIEW DR E

US 377 STA 374+13.72
PROFILE VIEW



INTERSECTION LAYOUT GLENVIEW DR W

US 377 STA 374+08.65
PLAN VIEW



INTERSECTION LAYOUT GLENVIEW DR W

US 377 STA 374+08.65
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
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- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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E EXISTING ADA RAMP

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US 377

INTERSECTIONS
PLAN & PROFILE
GLENVIEW DR

SHEET17 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		66

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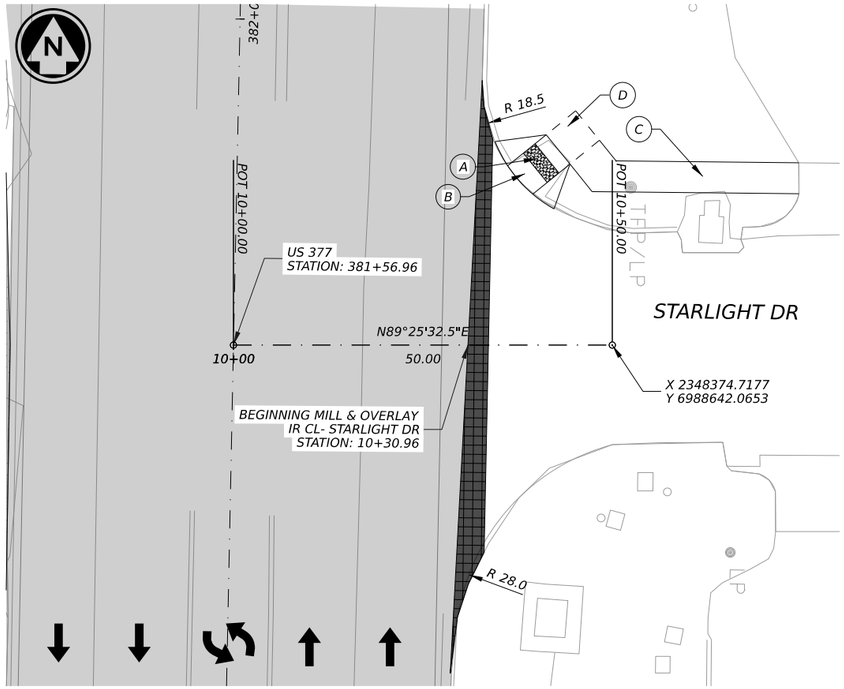
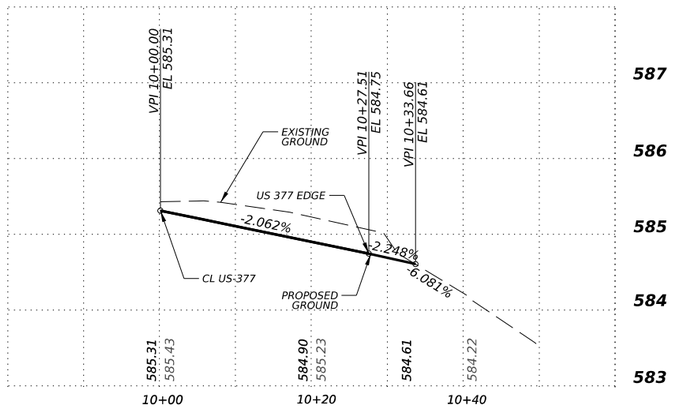


INTERSECTION LAYOUT STARLIGHT DR

US 377 STA 381+56.96
PLAN VIEW



INTERSECTION LAYOUT STARLIGHT DR

US 377 STA 381+56.96
PROFILE VIEW

H 0 10 20
V 0 1 2
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLANN & TEXT ASPH CONC PAV (2")
- PLAN & TEXT ASPH CONC PAV (2" TO 12")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
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- INTERSECTION (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

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Texas Department of Transportation

US 377

INTERSECTIONS
PLAN & PROFILE
STARLIGHT DR

SHEET 18 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		67

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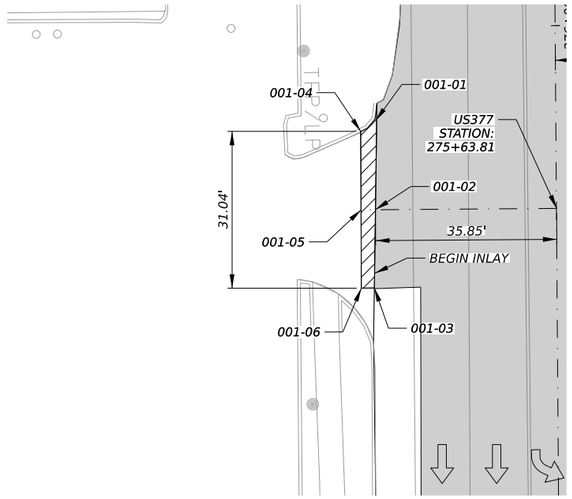
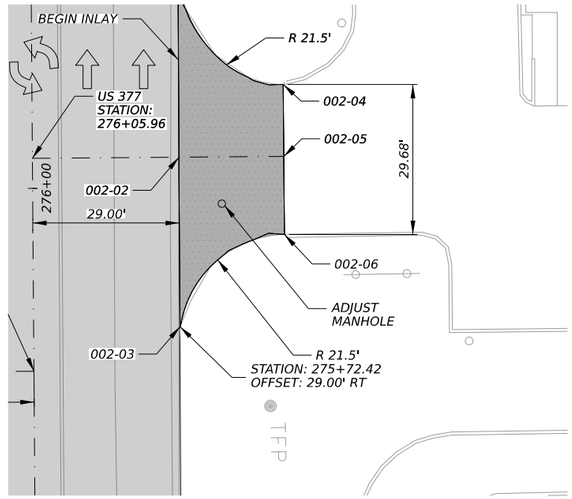


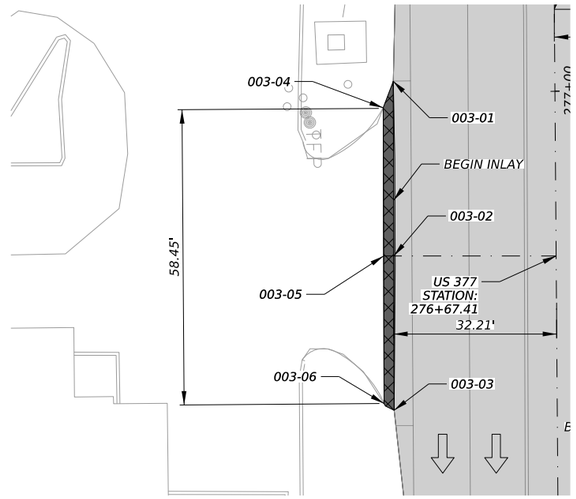
DRIVEWAY 001
STA 275+63.81

POINT	EASTING	NORTHING	ELEVATION
001-01	2348312.1625	6978066.0870	559.5555
001-02	2348312.1374	6978048.4625	559.3999
001-03	2348311.9211	6978032.9860	559.1083
001-04	2348309.2271	6978063.9635	559.5354
001-05	2348309.2821	6978048.4416	559.3653
001-06	2348309.3371	6978032.9198	559.1195



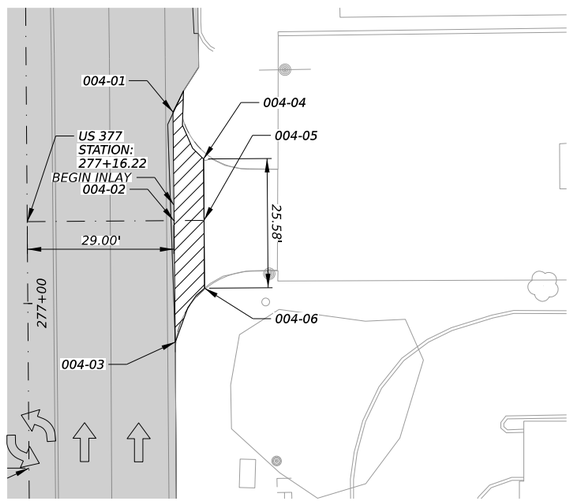
DRIVEWAY 002
STA 276+05.96

POINT	EASTING	NORTHING	ELEVATION
002-01	2348376.4138	6978126.8149	561.8417
002-02	2348376.6947	6978091.0812	561.2924
002-03	2348376.9189	6978057.5448	560.6912
002-04	2348397.5315	6978105.4683	560.4651
002-05	2348397.6827	6978091.2342	560.2923
002-06	2348397.8466	6978075.8149	560.1965



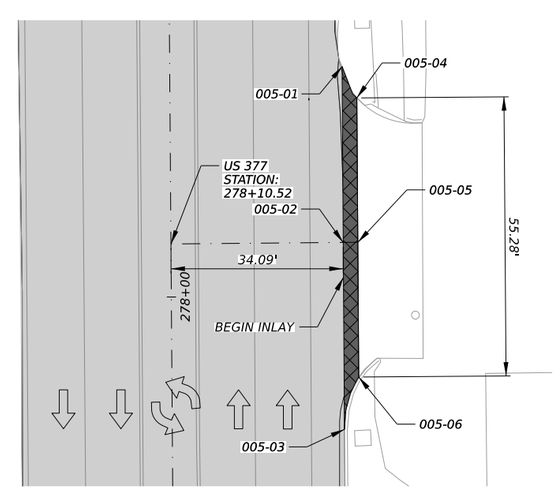
DRIVEWAY 003
STA 276+67.41

POINT	EASTING	NORTHING	ELEVATION
003-01	2348314.9741	6978186.8944	561.9755
003-02	2348315.0551	6978152.3198	561.9177
003-03	2348315.1280	6978121.7716	561.3978
003-04	2348312.9853	6978181.5366	591.9014
003-05	2348313.0551	6978152.3198	561.9705
003-06	2348313.1248	6978123.0829	561.4059



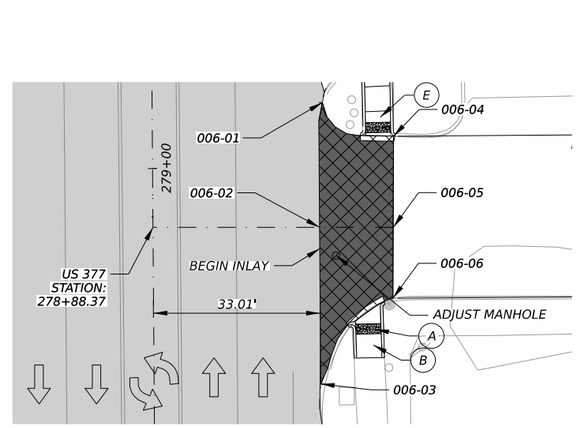
DRIVEWAY 004
STA 277+16.22

POINT	EASTING	NORTHING	ELEVATION
004-01	2348375.7138	6978222.8153	562.8729
004-02	2348375.8704	6978201.3412	562.6554
004-03	2348376.1594	6978177.2694	562.2600
004-04	2348381.7724	6978213.5175	562.4083
004-05	2348381.8652	6978201.4003	562.4643
004-06	2348381.9682	6978187.9408	562.0874



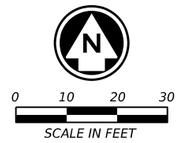
DRIVEWAY 005
STA 278+10.52

POINT	EASTING	NORTHING	ELEVATION
005-01	2348380.0504	6978330.5446	563.5548
005-02	2348380.2733	6978295.7227	563.3969
005-03	2348380.5039	6978259.0297	562.6995
005-04	2348382.9737	6978324.3389	563.4975
005-05	2348383.1840	6978295.7880	563.3564
005-06	2348383.3808	6978269.0659	562.8098



DRIVEWAY 006
STA 278+88.37

POINT	EASTING	NORTHING	ELEVATION
006-01	2348379.1704	6978397.9625	563.9961
006-02	2348378.6168	6978373.2764	564.1483
006-03	2348378.8428	6978342.2777	563.7347
006-04	2348393.2438	6978391.3016	564.0864
006-05	2348393.1875	6978373.2311	564.0702
006-06	2348393.1439	6978359.2197	564.1639



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 275+62.75
TO STA 278+88.37

SHEET 1 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		68

DATE: 3/20/2024 3:38:57 PM
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CK:

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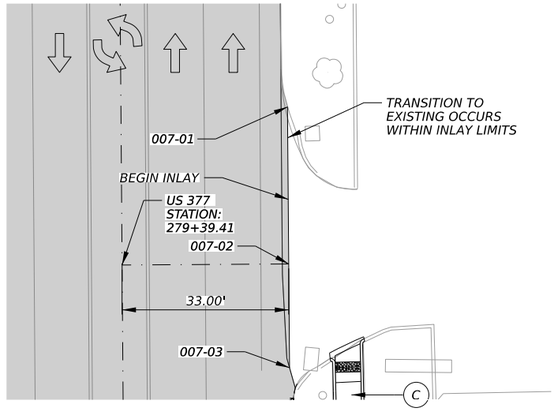
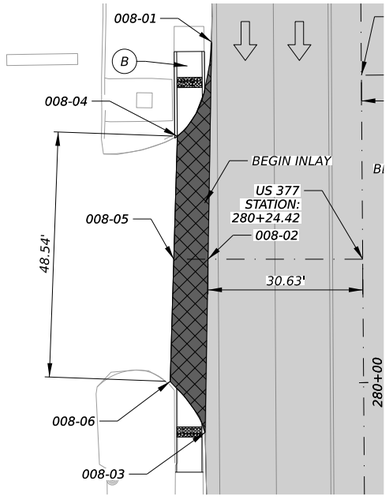


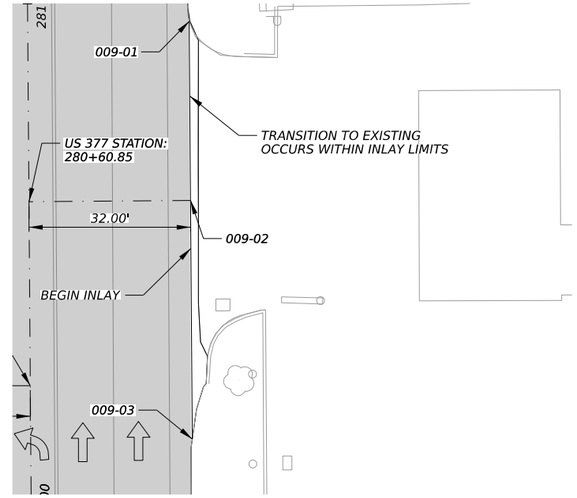
DRIVEWAY 007
STA 279+39.41

POINT	EASTING	NORTHING	ELEVATION
007-01	2348378.0061	6978455.6353	564.3907
007-02	2348378.2388	6978424.5571	564.4681
007-03	2348378.3927	6978404.0078	564.1619



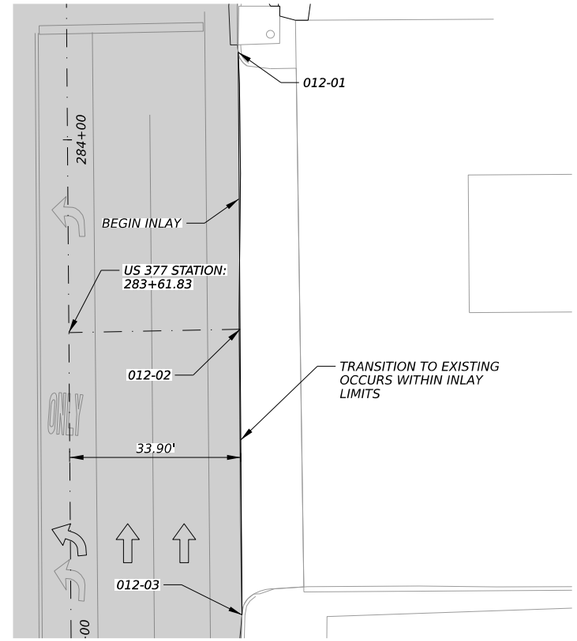
DRIVEWAY 008
STA 280+24.42

POINT	EASTING	NORTHING	ELEVATION
008-01	2348314.7020	6978557.0240	565.0337
008-02	2348313.9890	6978509.3250	565.1271
008-03	2348313.4222	6978475.0280	564.6837
008-04	2348307.9087	6978533.6659	564.3413
008-05	2348307.2074	6978509.3254	564.4330
008-06	2348306.5107	6978485.1407	564.2022



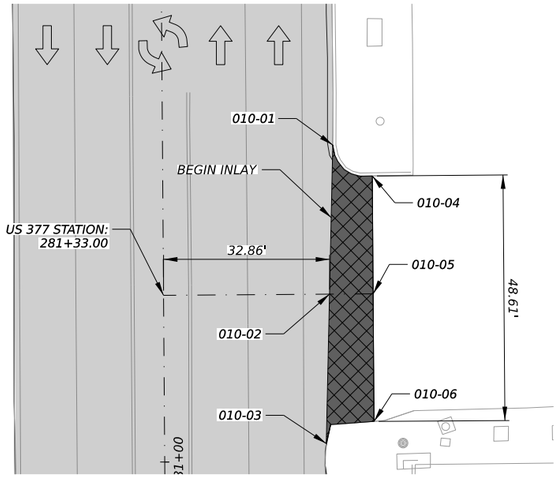
DRIVEWAY 009
STA 280+60.85

POINT	EASTING	NORTHING	ELEVATION
009-01	2348376.0988	6978581.4407	564.7189
009-02	2348376.3574	6978545.9879	564.9346
009-03	2348376.7018	6978498.7473	564.5588



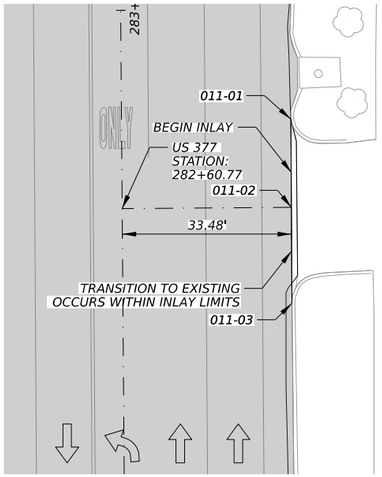
DRIVEWAY 012
STA 283+61.83

POINT	EASTING	NORTHING	ELEVATION
012-01	2348375.6895	6978902.2350	566.6604
012-02	2348376.0597	6978847.3984	566.3720
012-03	2348376.4416	6978790.8252	565.8552



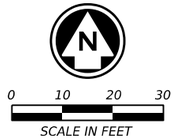
DRIVEWAY 010
STA 281+33.00

POINT	EASTING	NORTHING	ELEVATION
010-01	2348377.3431	6978647.6379	564.8042
010-02	2348376.6902	6978618.1433	564.8331
010-03	2348376.0469	6978588.5692	564.6142
010-04	2348385.1609	6978641.5372	564.8587
010-05	2348385.3310	6978618.2063	564.7214
010-06	2348385.5153	6978592.9303	564.5208



DRIVEWAY 011
STA 282+60.77

POINT	EASTING	NORTHING	ELEVATION
011-01	2348376.3025	6978763.3551	565.2623
011-02	2348376.3969	6978745.9051	565.3075
011-03	2348376.5006	6978726.9197	564.9368



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
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3/20/2024

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Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 279+39.41
TO STA 283+61.83

SHEET 2 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		69

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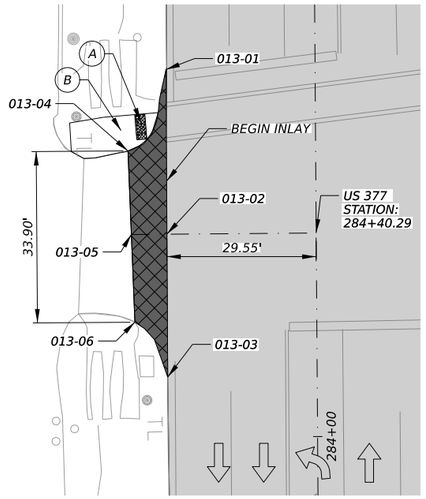
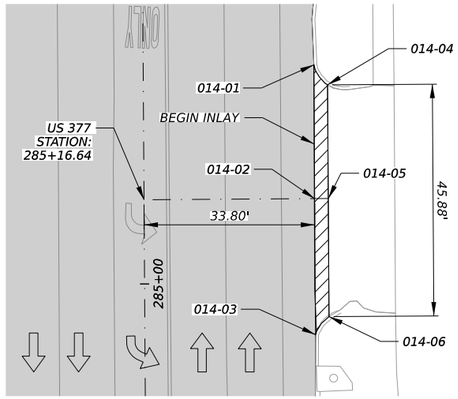


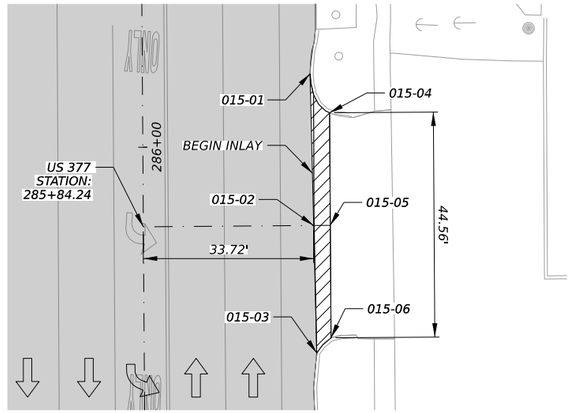
DRIVEWAY 013
STA 284+40.29

POINT	EASTING	NORTHING	ELEVATION
013-01	2348311.8667	6978957.5456	568.1832
013-02	2348312.0426	6978924.9641	567.7443
013-03	2348312.1949	6978896.6847	567.3582
013-04	2348304.3158	6978941.4358	567.6165
013-05	2348304.9890	6978924.9132	567.5568
013-06	2348305.6965	6978907.5478	567.2072



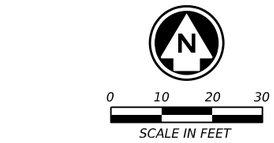
DRIVEWAY 014
STA 285+16.64

POINT	EASTING	NORTHING	ELEVATION
014-01	2348374.7072	6979028.2664	568.4277
014-02	2348374.8713	6979001.7566	568.2618
014-03	2348375.0378	6978974.8511	567.9079
014-04	2348377.4223	6979024.2909	568.3839
014-05	2348377.5730	6979001.7746	568.2147
014-06	2348377.7293	6978978.4097	568.1332



DRIVEWAY 015
STA 285+84.24

POINT	EASTING	NORTHING	ELEVATION
015-01	2348373.6323	6979099.4162	569.3704
015-02	2348374.3449	6979069.3857	569.0513
015-03	2348374.9429	6979044.1846	568.6868
015-04	2348377.4749	6979091.7256	569.1767
015-05	2348377.6239	6979069.4107	568.9150
015-06	2348377.7911	6979047.1573	568.7266



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

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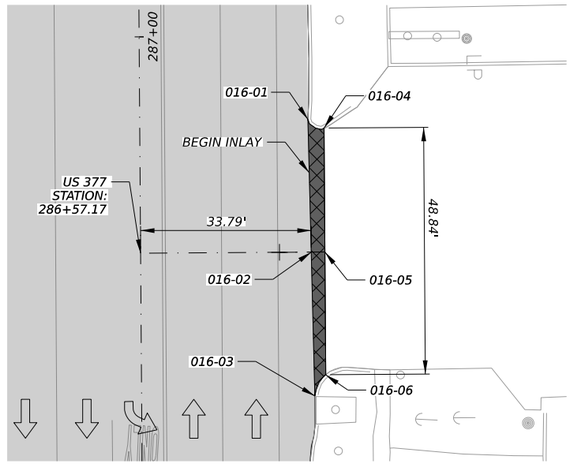
D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

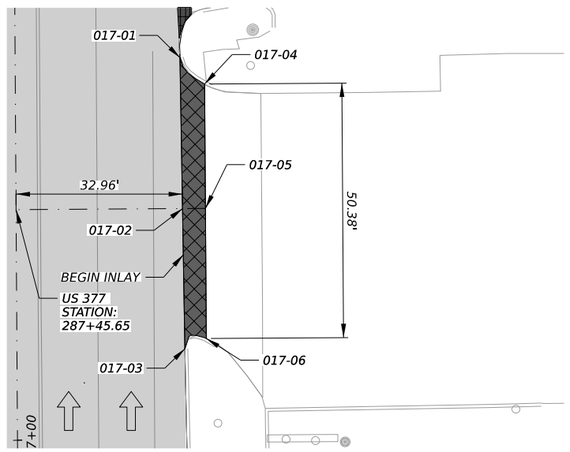
E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.



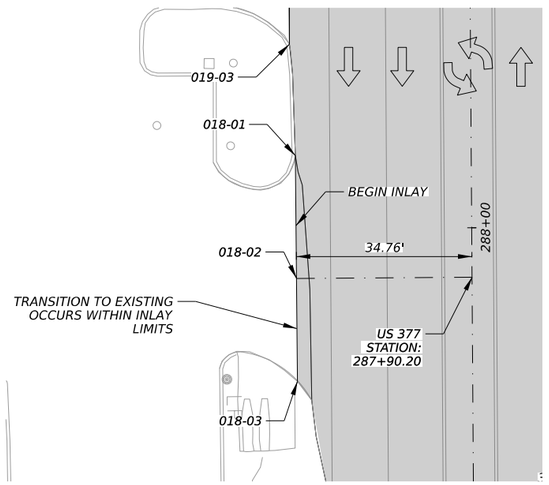
DRIVEWAY 016
STA 286+57.17

POINT	EASTING	NORTHING	ELEVATION
016-01	2348373.2544	6979168.5641	570.4995
016-02	2348373.9276	6979142.2794	570.1794
016-03	2348374.6566	6979113.8182	569.2283
016-04	2348376.4718	6979166.8364	570.4525
016-05	2348376.6370	6979142.2975	570.0604
016-06	2348376.8007	6979117.9955	569.6251



DRIVEWAY 017
STA 287+45.65

POINT	EASTING	NORTHING	ELEVATION
017-01	2348372.0143	6979260.6000	571.7018
017-02	2348372.5122	6979230.7499	571.5825
017-03	2348372.9748	6979203.0073	571.0602
017-04	2348376.8865	6979255.4027	571.6983
017-05	2348377.0557	6979230.7801	571.6925
017-06	2348377.2327	6979205.0243	571.1063



DRIVEWAY 018
STA 287+90.20

POINT	EASTING	NORTHING	ELEVATION
018-01	2348304.2593	6979299.1601	572.4165
018-02	2348304.4983	6979274.8475	572.3462
018-03	2348304.6990	6979254.4436	571.9244

STATE OF TEXAS
ERNESTO SALCIDO
100177
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PROFESSIONAL ENGINEER

3/20/2024

Salcido Lauw, P.E.

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 284+40.29
TO STA 287+90.20

SHEET 3 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		70

DATE: 3/20/2024 3:39:29 PM
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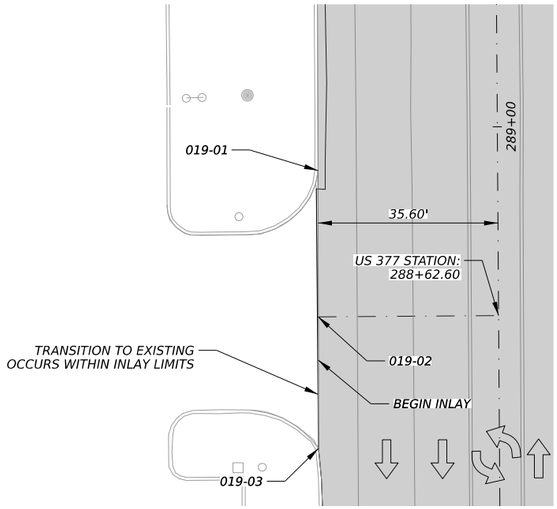
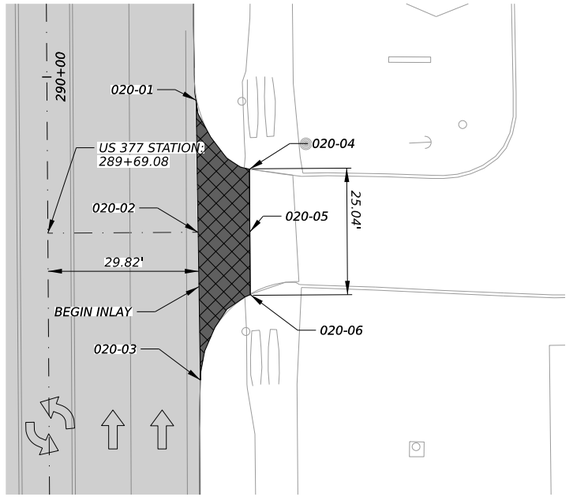


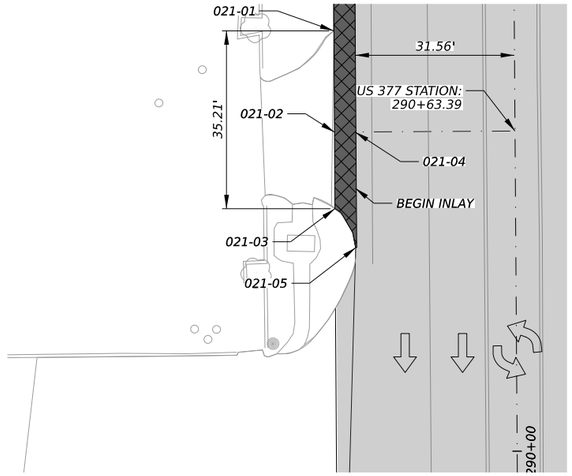
DRIVEWAY 019
STA 288+62.60

POINT	EASTING	NORTHING	ELEVATION
019-01	2348303.0334	6979376.1944	573.3827
019-02	2348303.0737	6979347.2417	572.8771
019-03	2348303.1100	6979321.1910	572.6341



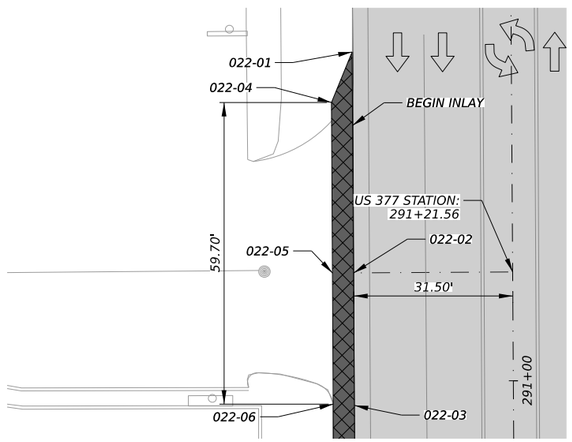
DRIVEWAY 020
STA 289+69.08

POINT	EASTING	NORTHING	ELEVATION
020-01	2348367.3899	6979480.3226	575.6615
020-02	2348367.8029	6979454.1580	575.2816
020-03	2348368.2588	6979424.8781	574.7408
020-04	2348377.9812	6979466.6379	575.3896
020-05	2348378.0637	6979454.2263	575.4280
020-06	2348378.1463	6979441.8106	574.9574



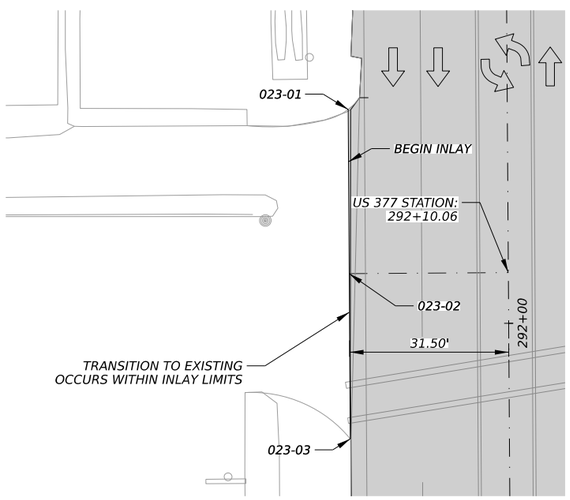
DRIVEWAY 021
STA 290+63.39

POINT	EASTING	NORTHING	ELEVATION
021-01	2348301.5545	6979568.0858	576.1510
021-02	2348301.6879	6979548.0294	576.0262
021-03	2348301.7887	6979532.8794	575.8872
021-04	2348305.9379	6979548.0577	576.4925
021-05	2348305.9099	6979525.1651	576.1090



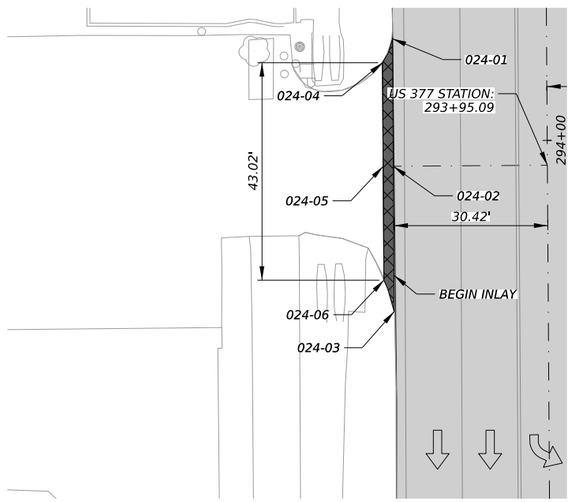
DRIVEWAY 022
STA 291+21.56

POINT	EASTING	NORTHING	ELEVATION
022-01	2348305.2598	6979649.9816	577.7955
022-02	2348305.5509	6979606.2238	577.3110
022-03	2348305.7254	6979580.0037	576.9617
022-04	2348301.1544	6979639.9541	577.2205
022-05	2348301.3790	6979606.1960	577.0802
022-06	2348301.5516	6979580.2516	576.4555



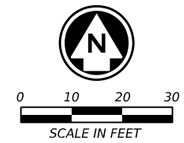
DRIVEWAY 023
STA 292+10.06

POINT	EASTING	NORTHING	ELEVATION
023-01	2348304.7459	6979727.2228	578.5858
023-02	2348304.9621	6979694.7293	578.5266
023-03	2348305.1798	6979661.9967	577.9719



DRIVEWAY 024
STA 293+95.09

POINT	EASTING	NORTHING	ELEVATION
024-01	2348304.5630	6979905.0153	581.2834
024-02	2348304.7311	6979879.7587	580.8153
024-03	2348304.9224	6979851.0009	580.5120
024-04	2348302.5947	6979900.2401	580.9338
024-05	2348302.7310	6979879.7592	580.7639
024-06	2348302.8810	6979857.2176	580.4972



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

Salcido Jaime, P.E.

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 288+62.60
TO STA 293+95.09

SHEET 4 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		71

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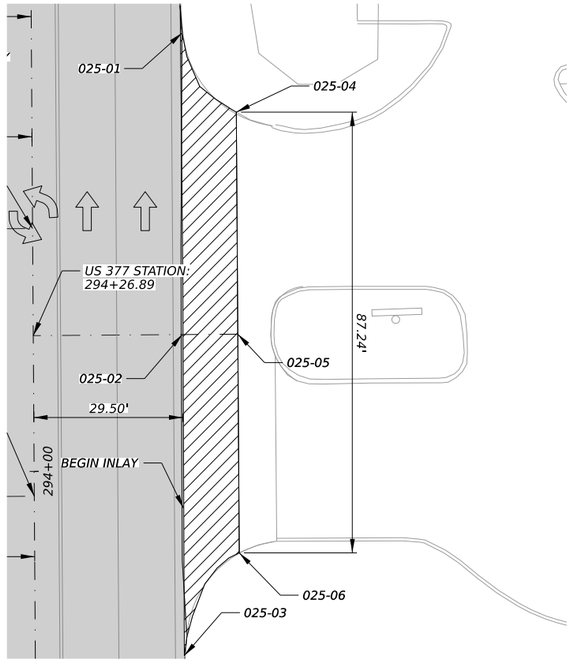
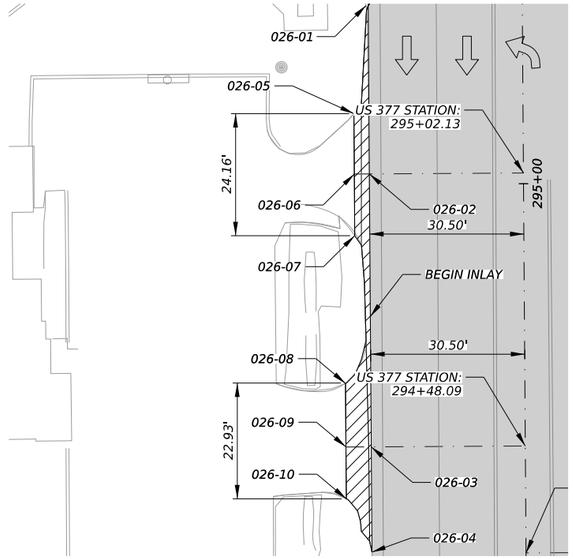


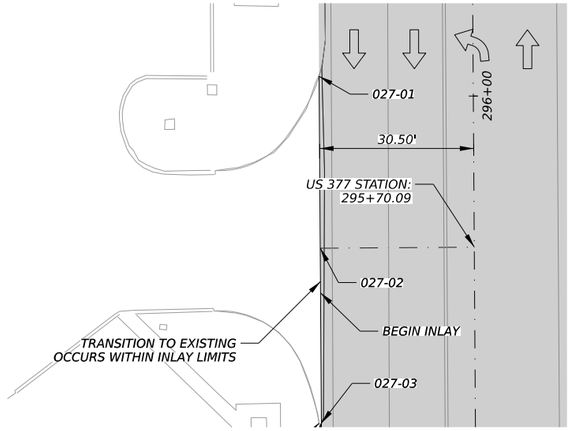
DRIVEWAY 025
STA 294+26.89

POINT	EASTING	NORTHING	ELEVATION
025-01	2348364.4607	6979971.6670	582.0408
025-02	2348364.5182	6979911.9580	581.3118
025-03	2348364.9410	6979848.4010	580.6591
025-04	2348375.2253	6979956.0112	581.7988
025-05	2348375.5179	6979912.0312	581.1870
025-06	2348375.8057	6979868.7680	580.7005



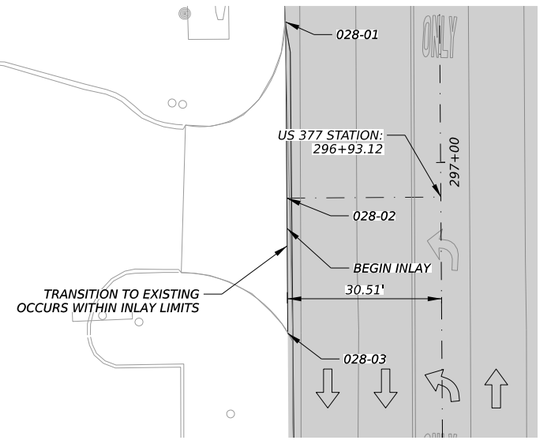
DRIVEWAY 026
STA 294+48.09 & 295+02.13

POINT	EASTING	NORTHING	ELEVATION
026-01	2348303.3242	6980020.1218	582.5984
026-02	2348304.0189	6979986.7930	582.1493
026-03	2348304.3784	6979932.7596	581.5847
026-04	2348304.5169	6979911.9445	581.3566
026-05	2348300.9394	6979998.7418	581.9863
026-06	2348301.0190	6979986.7730	581.7908
026-07	2348301.1001	6979974.5851	581.7326
026-08	2348299.2947	6979945.3340	581.0579
026-09	2348299.3785	6979932.7264	581.0137
026-10	2348299.4467	6979922.4856	580.8792



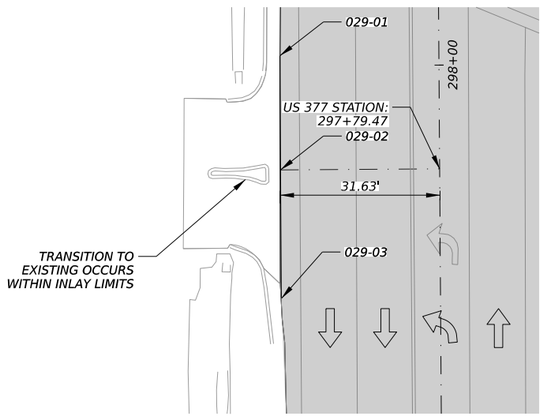
DRIVEWAY 027
STA 295+70.09

POINT	EASTING	NORTHING	ELEVATION
027-01	2348303.3404	6980088.7878	583.3503
027-02	2348303.5668	6980054.7560	583.0771
027-03	2348303.7972	6980020.1249	582.6451



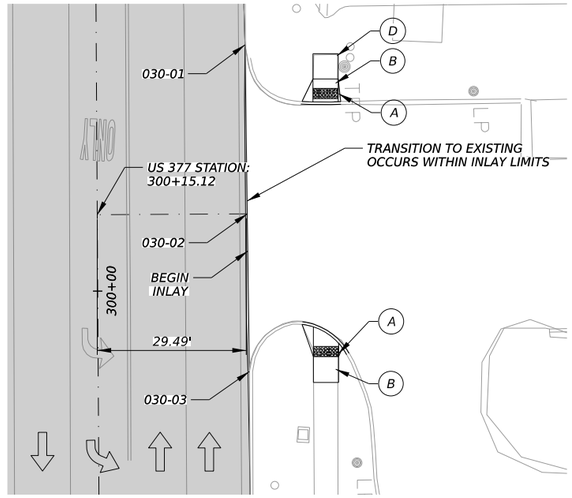
DRIVEWAY 028
STA 296+93.12

POINT	EASTING	NORTHING	ELEVATION
028-01	2348302.5163	6980212.6517	585.1319
028-02	2348302.7483	6980177.7827	584.6616
028-03	2348302.9260	6980151.0606	584.3609



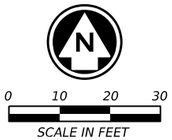
DRIVEWAY 029
STA 297+79.47

POINT	EASTING	NORTHING	ELEVATION
029-01	2348301.0237	6980286.6809	585.7739
029-02	2348301.1738	6980264.1217	585.7903
029-03	2348301.3577	6980238.7020	585.5387



DRIVEWAY 030
STA 300+15.12

POINT	EASTING	NORTHING	ELEVATION
030-01	2348360.4160	6980533.5900	589.7120
030-02	2348360.9324	6980500.2163	589.0593
030-03	2348361.3111	6980469.0753	588.3939



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 294+26.89
TO STA 300+15.12

SHEET 5 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		72

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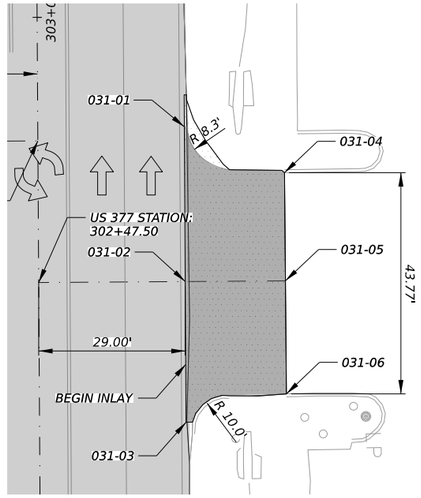
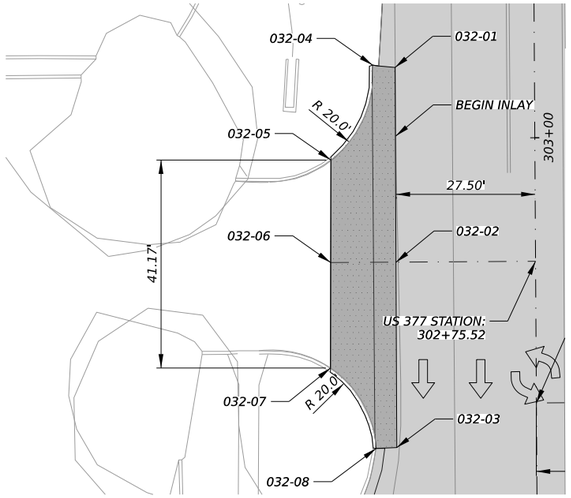


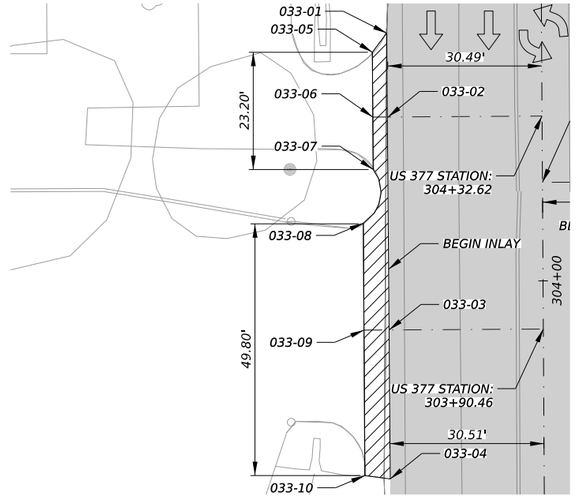
DRIVEWAY 031
STA 302+47.50

POINT	EASTING	NORTHING	ELEVATION
031-01	2348358.5489	6980763.1814	592.7475
031-02	2348358.7379	6980732.5363	592.4233
031-03	2348358.9096	6980704.6914	592.2026
031-04	2348378.3837	6980754.0746	592.4213
031-05	2348378.5758	6980732.6586	591.9262
031-06	2348378.7764	6980710.3088	591.6220



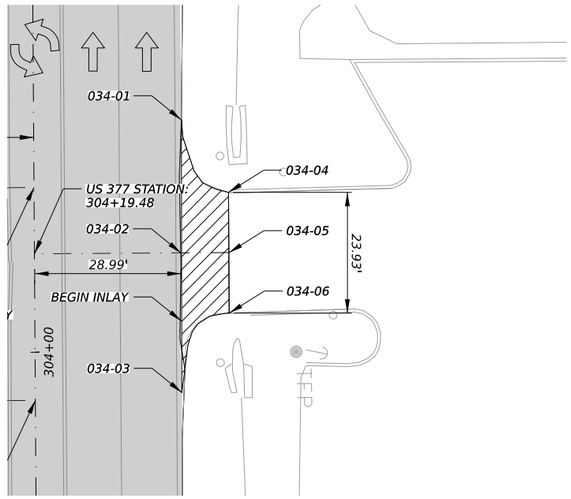
DRIVEWAY 032
STA 302+75.52

POINT	EASTING	NORTHING	ELEVATION
032-01	2348301.7652	6980798.7831	593.2100
032-02	2348302.0663	6980760.2003	592.7442
032-03	2348302.0820	6980723.5124	592.8440
032-04	2348297.3197	6980799.2128	592.8281
032-05	2348289.0423	6980780.4451	592.5518
032-06	2348289.0092	6980760.1198	592.6512
032-07	2348288.9752	6980739.2755	592.5305
032-08	2348298.0330	6980723.3510	592.3845



DRIVEWAY 033
STA 303+90.46 & STA 304+32.62

POINT	EASTING	NORTHING	ELEVATION
033-01	2348297.8252	6980933.8719	594.1071
033-02	2348298.0975	6980917.2774	593.9209
033-03	2348298.3575	6980875.1220	593.5764
033-04	2348298.5394	6980845.6240	593.2225
033-05	2348295.0185	6980930.0893	593.7524
033-06	2348295.0976	6980917.2589	593.8153
033-07	2348295.1615	6980906.8905	593.5761
033-08	2348293.2270	6980896.2582	593.3380
033-09	2348293.3576	6980875.0912	593.0583
033-10	2348293.5351	6980846.3065	592.9863

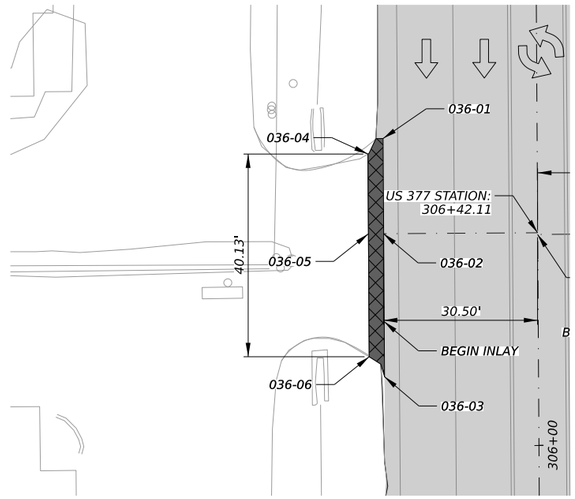


DRIVEWAY 034
STA 304+19.48

POINT	EASTING	NORTHING	ELEVATION
034-01	2348357.7731	6980930.8480	594.4737
034-02	2348357.6774	6980904.5094	594.2564
034-03	2348357.8477	6980876.8880	594.0029
034-04	2348367.1036	6980916.5037	594.1402
034-05	2348367.1744	6980904.5680	593.9866
034-06	2348367.2455	6980892.5702	593.8445

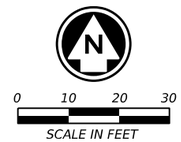
DRIVEWAY 035
STA 305+19.68 & 305+42.15

POINT	EASTING	NORTHING	ELEVATION
035-01	2348297.2954	6981047.3416	595.0889
035-02	2348297.4220	6981026.8106	595.0756
035-03	2348297.5606	6981004.3430	594.7031
035-04	2348297.6781	6980985.2847	594.4935
035-05	2348294.3266	6981042.2808	594.7404
035-06	2348294.4221	6981026.7921	594.8622
035-07	2348294.5607	6981004.3245	594.4736
035-08	2348294.6331	6980992.5805	594.3485



DRIVEWAY 036
STA 306+42.11

POINT	EASTING	NORTHING	ELEVATION
036-01	2348296.6895	6981145.5911	595.6842
036-02	2348296.8056	6981126.7625	595.4784
036-03	2348296.9803	6981098.4411	595.4692
036-04	2348293.7084	6981142.5253	595.2467
036-05	2348293.8057	6981126.7440	595.1775
036-06	2348293.9558	6981102.3982	595.2689



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

AECOM
13355 Noel Road, Suite 400
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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 302+47.50
TO STA 306+42.11

SHEET 6 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		73

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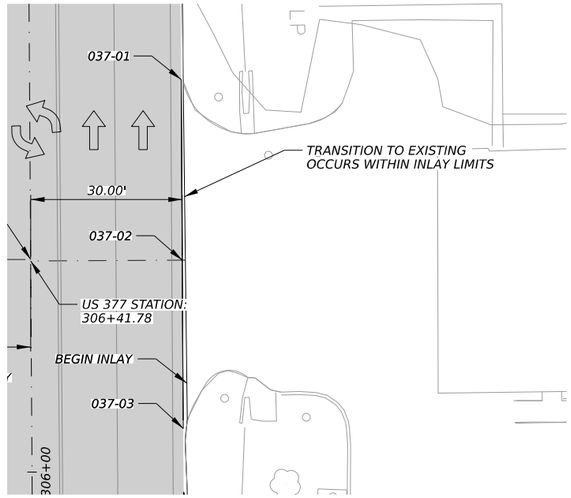
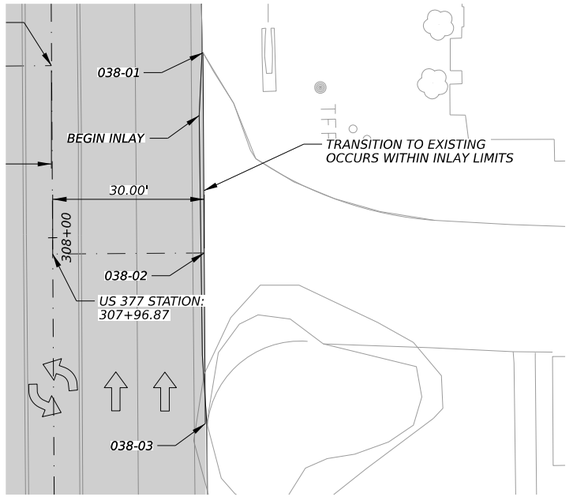


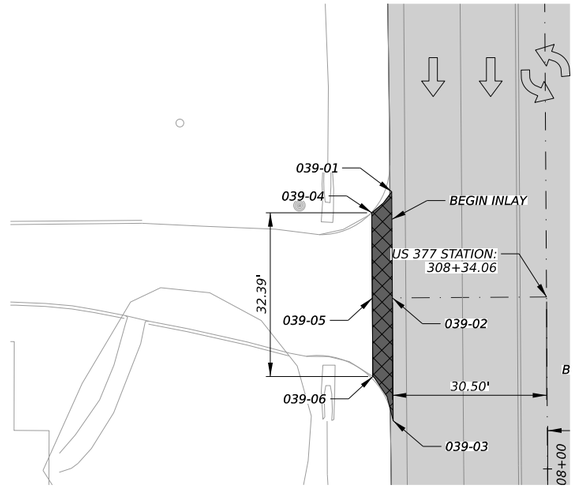
DRIVEWAY 037
STA 306+41.78

POINT	EASTING	NORTHING	ELEVATION
037-01	2348357.0860	6981162.5711	595.8125
037-02	2348357.3065	6981126.8085	595.5716
037-03	2348357.5120	6981093.4918	595.4268



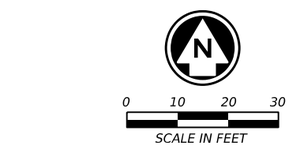
DRIVEWAY 038
STA 307+96.87

POINT	EASTING	NORTHING	ELEVATION
038-01	2348356.1061	6981321.4640	596.6232
038-02	2348356.3505	6981281.8236	596.3666
038-03	2348356.5589	6981248.0375	596.0610



DRIVEWAY 039
STA 308+34.06

POINT	EASTING	NORTHING	ELEVATION
039-01	2348295.4922	6981339.7379	596.4899
039-02	2348295.6219	6981318.7105	596.4953
039-03	2348295.7718	6981294.4039	596.4189
039-04	2348291.5180	6981335.5449	596.0428
039-05	2348291.5811	6981318.6569	595.9923
039-06	2348291.7178	6981303.1588	596.2859



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

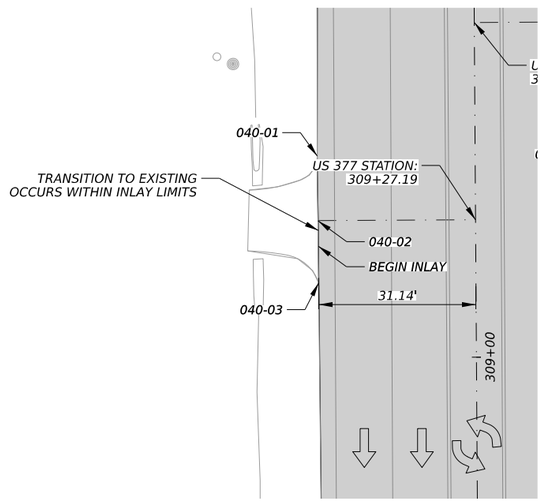
B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

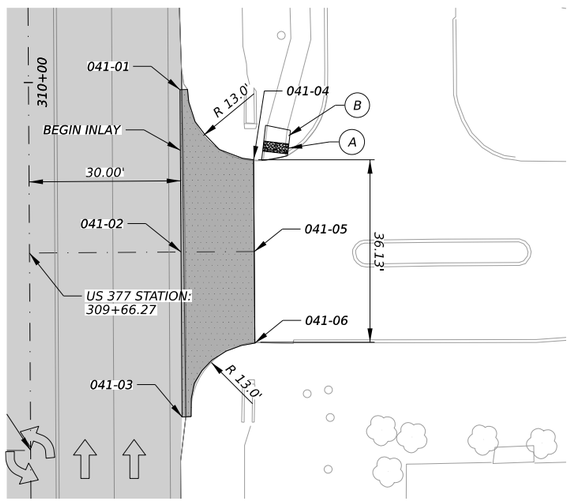
E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.



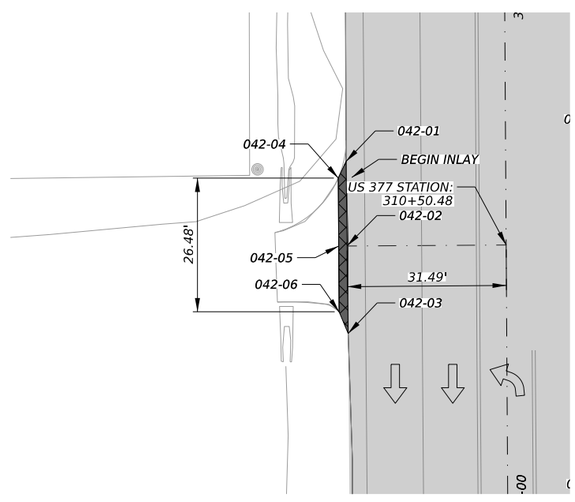
DRIVEWAY 040
STA 309+27.19

POINT	EASTING	NORTHING	ELEVATION
040-01	2348294.1979	6981424.6774	596.9375
040-02	2348294.3486	6981411.8655	596.7854
040-03	2348294.4817	6981399.5746	596.7830



DRIVEWAY 041
STA 309+66.27

POINT	EASTING	NORTHING	ELEVATION
041-01	2348355.1072	6981483.4474	597.4500
041-02	2348355.3055	6981451.2889	597.2859
041-03	2348355.5069	6981418.6313	597.1193
041-04	2348369.6932	6981469.5470	596.7514
041-05	2348369.8053	6981451.3650	596.7839
041-06	2348369.9169	6981433.2634	596.6157



DRIVEWAY 042
STA 310+50.48

POINT	EASTING	NORTHING	ELEVATION
042-01	2348293.0981	6981551.8465	597.4033
042-02	2348293.2970	6981535.1246	597.1884
042-03	2348293.5031	6981517.7928	597.2525
042-04	2348291.5544	6981548.5566	597.1669
042-05	2348291.6408	6981535.1143	596.9940
042-06	2348291.7246	6981522.0764	597.0156

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 306+41.78
TO STA 310+50.48

SHEET 7 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		74

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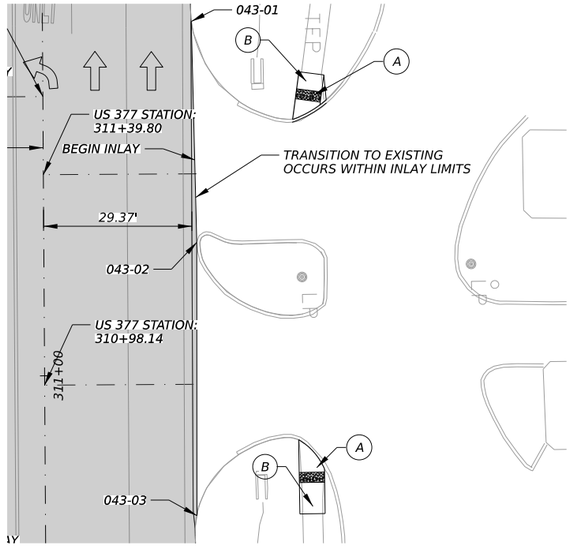
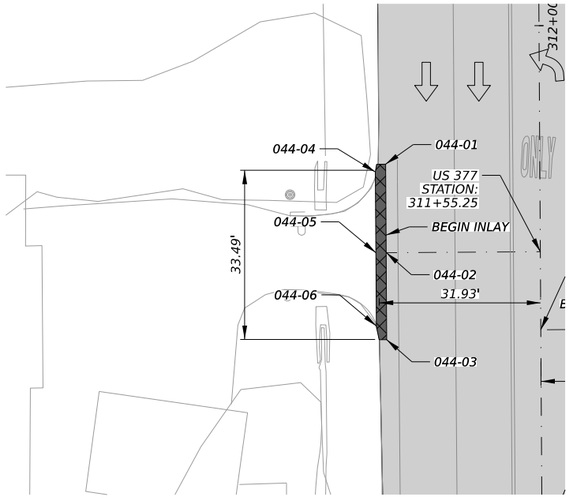


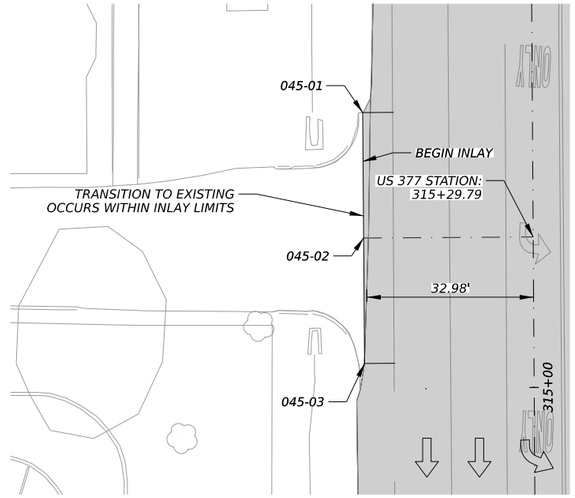
DRIVEWAY 043
STA 310+98.14 & STA 311+39.80

POINT	EASTING	NORTHING	ELEVATION
043-01	2348353.5492	6981654.9966	598.2441
043-02	2348354.6258	6981611.2453	598.1891
043-03	2348354.6527	6981557.1394	597.6725



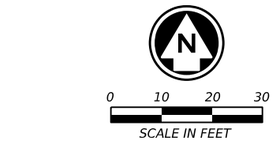
DRIVEWAY 044
STA 311+55.25

POINT	EASTING	NORTHING	ELEVATION
044-01	2348293.5332	6981657.4055	598.0837
044-02	2348293.6412	6981639.9020	597.9636
044-03	2348293.7475	6981622.6565	597.7732
044-04	2348291.4807	6981655.8810	597.4384
044-05	2348291.5975	6981639.8698	597.5028
044-06	2348291.7031	6981625.3841	597.5157



DRIVEWAY 045
STA 315+29.79

POINT	EASTING	NORTHING	ELEVATION
045-01	2348288.0590	6982039.2507	599.2133
045-02	2348288.2343	6982014.4103	598.9912
045-03	2348288.4096	6981989.5699	599.0742



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

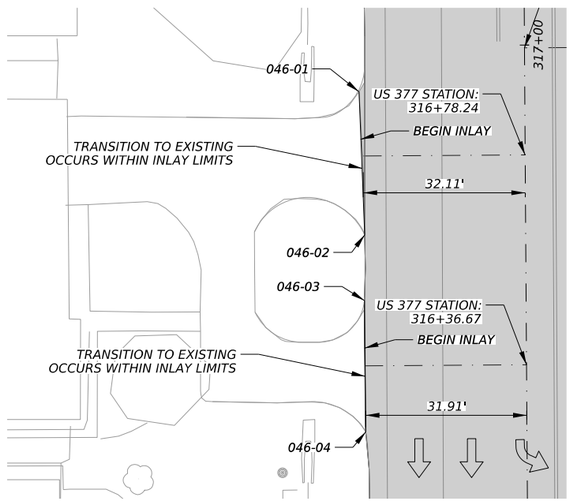
B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

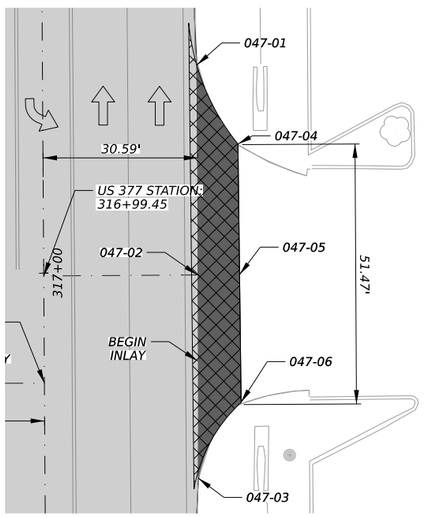
E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.



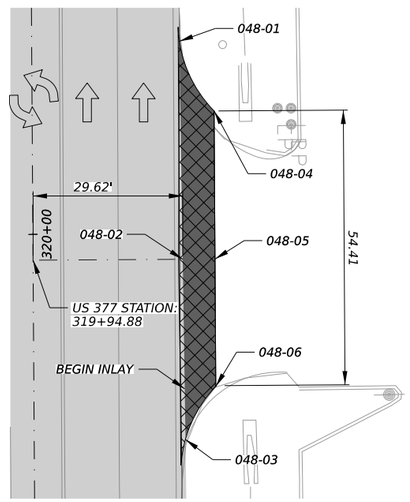
DRIVEWAY 046
STA 316+36.67 & 316+78.24

POINT	EASTING	NORTHING	ELEVATION
046-01	2348287.9734	6982175.5458	598.5820
046-02	2348289.1210	6982147.2250	598.9935
046-03	2348289.0846	6982134.2078	598.9778
046-04	2348289.3064	6982108.2459	599.0896



DRIVEWAY 047
STA 316+99.45

POINT	EASTING	NORTHING	ELEVATION
047-01	2348351.0246	6982226.0114	599.0528
047-02	2348351.1811	6982184.4633	599.3092
047-03	2348351.3454	6982144.2135	599.3454
047-04	2348359.1907	6982210.3805	598.4484
047-05	2348359.5005	6982184.5170	598.5864
047-06	2348359.8034	6982159.2309	598.6726



DRIVEWAY 048
STA 319+94.88

POINT	EASTING	NORTHING	ELEVATION
048-01	2348347.8509	6982523.0274	597.0726
048-02	2348348.4952	6982479.8871	597.3939
048-03	2348349.0279	6982444.2235	597.6456
048-04	2348354.6938	6982509.2681	596.0873
048-05	2348354.8787	6982479.9274	596.5250
048-06	2348355.0377	6982454.7026	596.7062

3/20/2024

Salcido Jaime, P.E.

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 310+98.14
TO STA 319+94.88

SHEET 8 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		75

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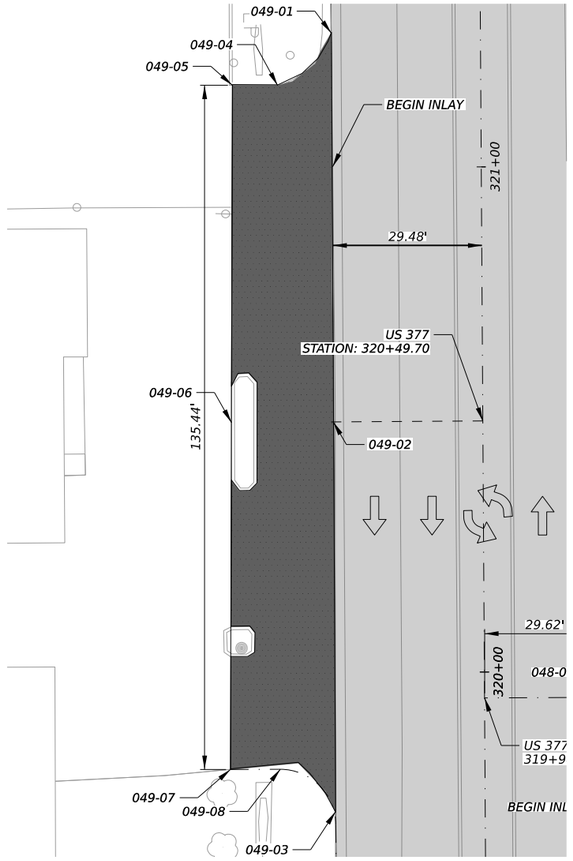
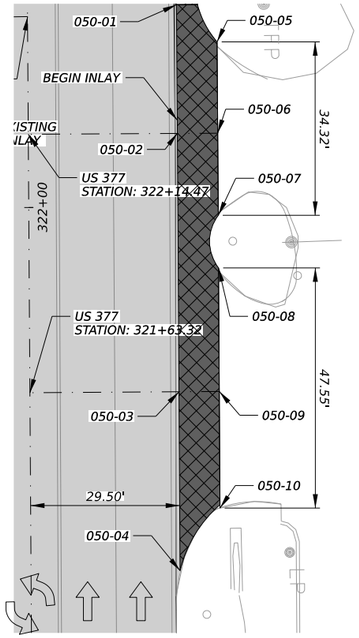


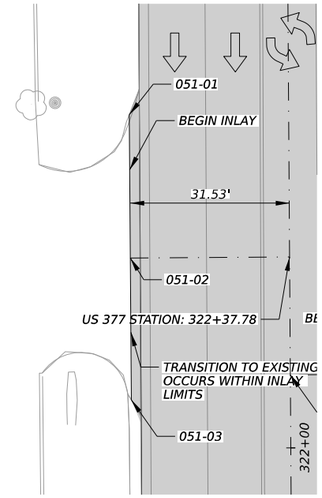
DRIVEWAY 049
STA 320+49.70

POINT	EASTING	NORTHING	ELEVATION
049-01	2348288.5068	6982611.3214	596.3446
049-02	2348288.9509	6982534.3294	596.8780
049-03	2348289.3975	6982457.0988	597.4480
049-04	2348277.8918	6982600.9406	595.7929
049-05	2348268.9504	6982600.9897	595.6676
049-06	2348268.7607	6982534.2021	596.3362
049-07	2348268.5657	6982465.5532	596.5200
049-08	2348278.4172	6982465.5697	596.6613



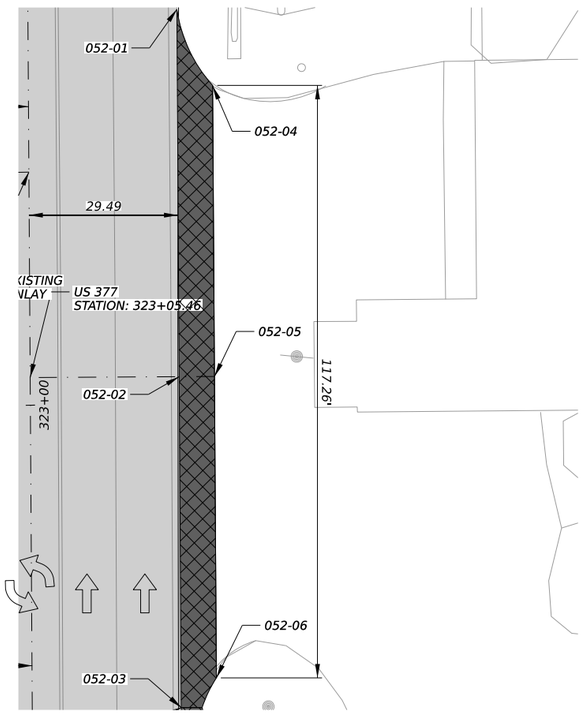
DRIVEWAY 050
STA 321+63.32 & 322+14.47

POINT	EASTING	NORTHING	ELEVATION
050-01	2348346.8342	6982724.9480	595.2915
050-02	2348346.9948	6982699.4752	595.5029
050-03	2348347.3172	6982648.3248	595.8866
050-04	2348347.5403	6982612.9229	596.1619
050-05	2348354.8807	6982717.6079	594.2239
050-06	2348354.9946	6982699.5257	594.6516
050-07	2348355.0970	6982683.2850	594.6070
050-08	2348355.1673	6982672.8279	594.7986
050-09	2348355.3170	6982648.3752	594.9152
050-10	2348355.4625	6982625.3017	594.9654



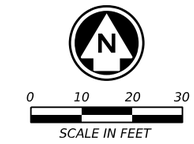
DRIVEWAY 051
STA 322+37.78

POINT	EASTING	NORTHING	ELEVATION
051-01	2348285.6102	6982750.7629	595.0115
051-02	2348285.8193	6982722.3917	595.3153
051-03	2348286.0262	6982694.2944	595.5063



DRIVEWAY 052
STA 323+05.46

POINT	EASTING	NORTHING	ELEVATION
052-01	2348345.9630	6982863.1799	594.4330
052-02	2348346.4397	6982790.4629	594.9636
052-03	2348346.8342	6982724.9480	595.2873
052-04	2348353.0581	6982848.1087	593.5329
052-05	2348353.4212	6982790.5069	594.0669
052-06	2348353.7952	6982730.8457	594.2165



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

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Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 320+49.70
TO STA 323+05.46

SHEET 9 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		76

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DW:
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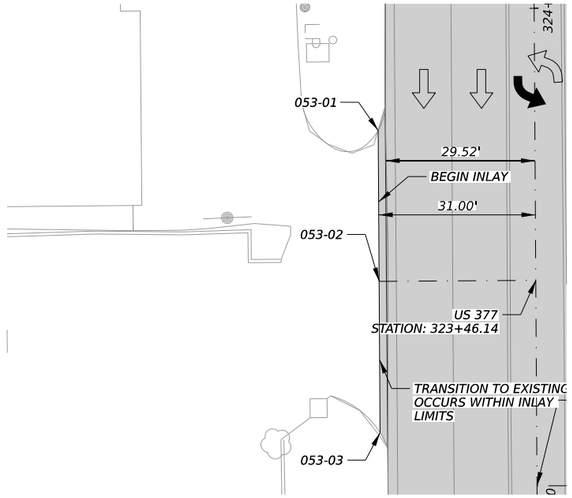
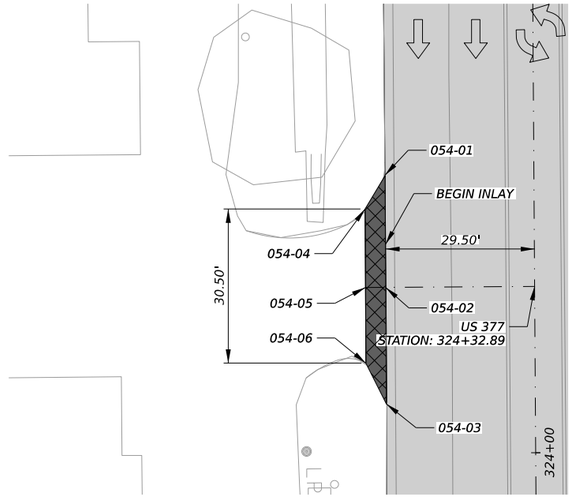


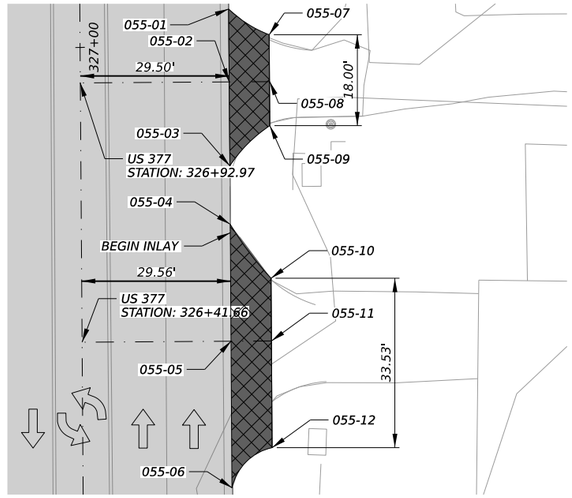
DRIVEWAY 053
STA 323+46.14

POINT	EASTING	NORTHING	ELEVATION
053-01	2348285.4777	6982860.6442	594.3418
053-02	2348285.6661	6982830.7544	594.4749
053-03	2348285.8550	6982800.7876	594.6117



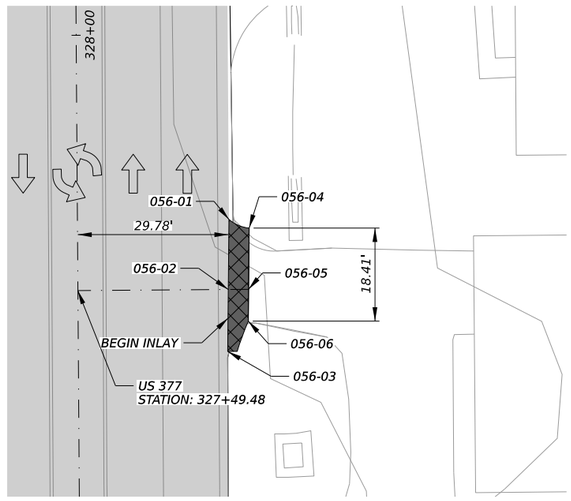
DRIVEWAY 054
STA 324+32.89

POINT	EASTING	NORTHING	ELEVATION
054-01	2348286.4883	6982939.7625	593.9632
054-02	2348286.6193	6982917.5172	594.1286
054-03	2348286.7645	6982894.4833	594.3000
054-04	2348282.5214	6982933.0360	593.6227
054-05	2348282.6194	6982917.4920	593.7472
054-06	2348282.7138	6982902.5169	593.7636



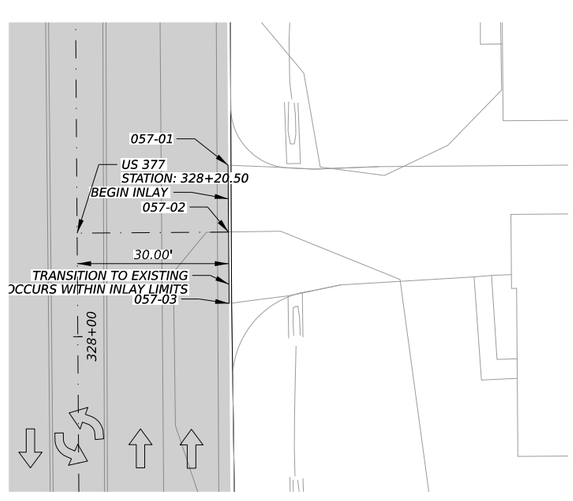
DRIVEWAY 055
STA 326+41.66 & 326+92.97

POINT	EASTING	NORTHING	ELEVATION
055-01	2348343.7611	6983192.3985	592.9607
055-02	2348343.8701	6983177.9831	592.9303
055-03	2348344.0276	6983161.4448	592.9096
055-04	2348344.1290	6983149.6611	592.9044
055-05	2348344.2359	6983126.6663	592.9182
055-06	2348344.5745	6983097.9243	592.9124
055-07	2348351.7998	6983187.3077	591.7944
055-08	2348351.9171	6983178.0388	592.2375
055-09	2348351.9359	6983169.3080	591.7125
055-10	2348352.1500	6983139.1056	591.7561
055-11	2348352.2357	6983126.7217	591.6705
055-12	2348352.3821	6983105.5795	591.2951



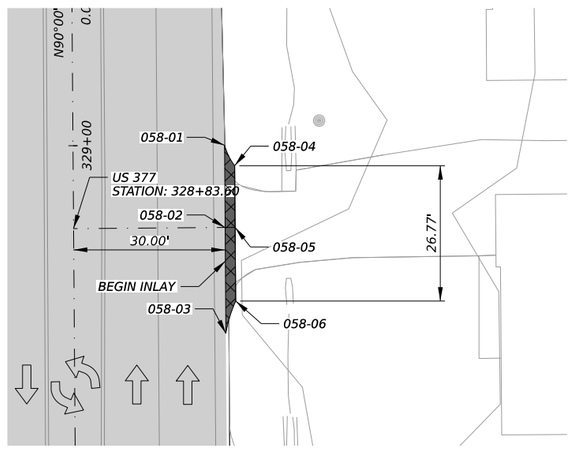
DRIVEWAY 056
STA 327+49.48

POINT	EASTING	NORTHING	ELEVATION
056-01	2348343.8935	6983248.3501	592.9791
056-02	2348343.7708	6983234.4916	593.0140
056-03	2348343.6623	6983222.2266	592.9972
056-04	2348347.8786	6983246.6448	592.2683
056-05	2348347.7712	6983234.5193	592.2726
056-06	2348347.7156	6983228.2373	592.2819



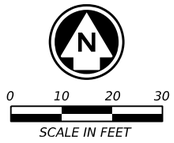
DRIVEWAY 057
STA 328+20.50

POINT	EASTING	NORTHING	ELEVATION
057-01	2348343.4062	6983318.7307	593.5558
057-02	2348343.4895	6983305.5247	593.4547
057-03	2348343.5786	6983291.3754	593.3480



DRIVEWAY 058
STA 328+83.60

POINT	EASTING	NORTHING	ELEVATION
058-01	2348342.9483	6983384.8735	594.2353
058-02	2348343.0609	6983368.6120	594.0394
058-03	2348343.2058	6983347.6862	593.8005
058-04	2348344.9764	6983380.8261	593.8992
058-05	2348345.0608	6983368.6259	593.6734
058-06	2348345.1617	6983354.0519	593.4943



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024
Salcido, P.E.

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Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM 323+46.14
TO 328+83.60

SHEET 10 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		77

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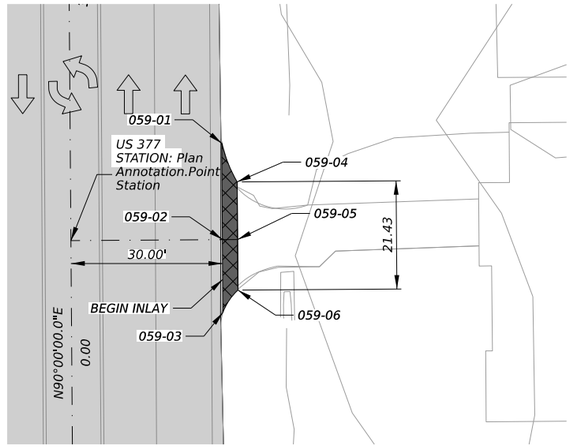
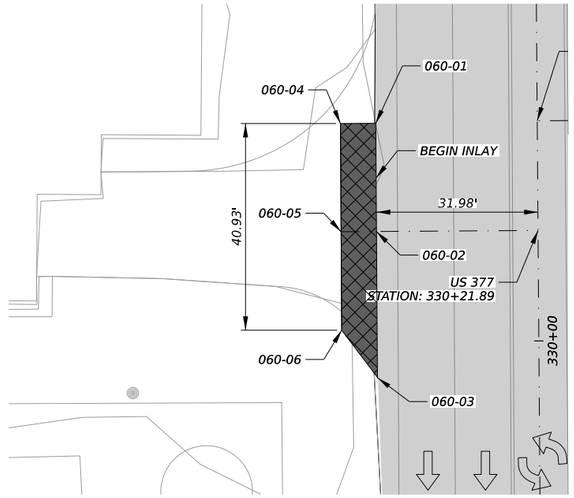


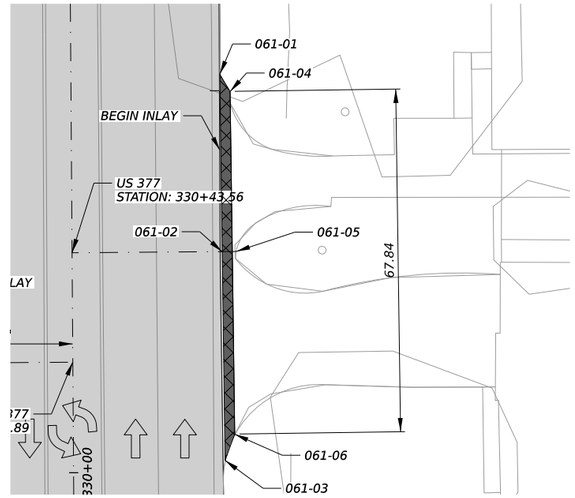
DRIVEWAY 059
STA 329+48.81

POINT	EASTING	NORTHING	ELEVATION
059-01	2348342.4776	6983452.8567	594.7080
059-02	2348342.6095	6983433.8117	594.5724
059-03	2348342.7094	6983419.3740	594.4240
059-04	2348345.5305	6983445.2283	594.0903
059-05	2348345.6094	6983433.8324	594.0037
059-06	2348345.6789	6983423.8011	593.9030



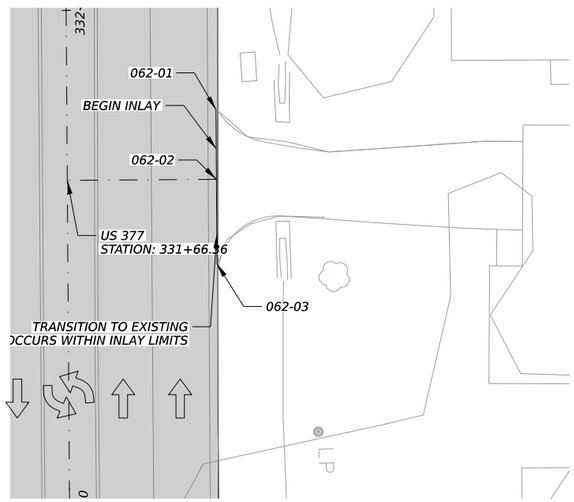
DRIVEWAY 060
STA 330+21.89

POINT	EASTING	NORTHING	ELEVATION
060-01	2348279.9941	6983527.8774	595.2768
060-02	2348280.1257	6983506.4608	594.9935
060-03	2348280.3030	6983477.5881	594.5798
060-04	2348272.9943	6983527.8343	594.7747
060-05	2348273.1258	6983506.4123	594.5378
060-06	2348273.2457	6983486.9081	594.0433



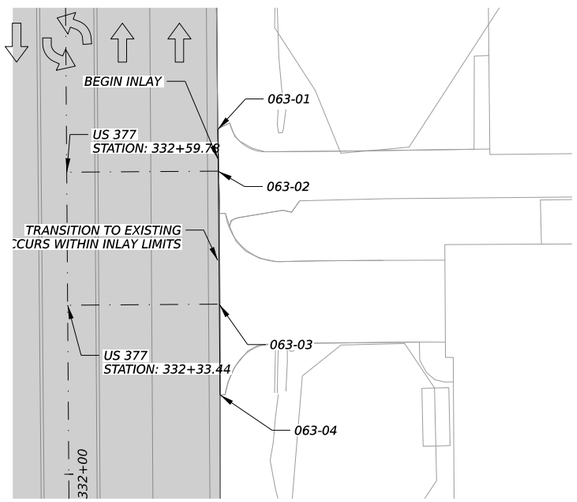
DRIVEWAY 061
STA 330+43.56

POINT	EASTING	NORTHING	ELEVATION
061-01	2348341.2105	6983563.6533	595.3345
061-02	2348341.6831	6983528.5576	595.1891
061-03	2348342.2396	6983487.2346	594.6342
061-04	2348343.2564	6983560.2577	594.9033
061-05	2348343.6831	6983528.5714	594.7556
061-06	2348344.1698	6983492.4355	594.2678



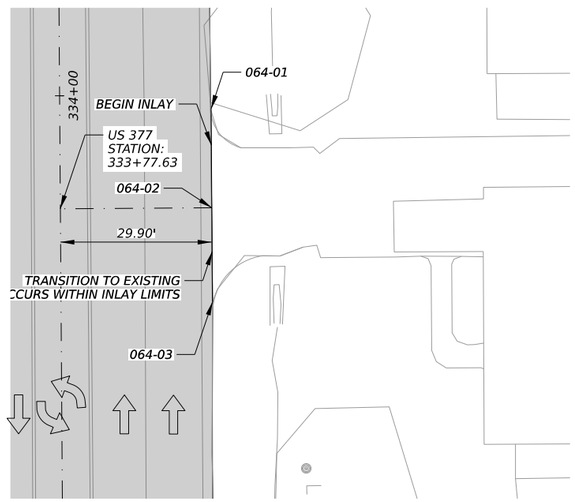
DRIVEWAY 062
STA 331+66.36

POINT	EASTING	NORTHING	ELEVATION
062-01	2348340.5077	6983665.1733	595.3590
062-02	2348340.6033	6983651.3607	595.4060
062-03	2348340.7192	6983634.6196	595.4359



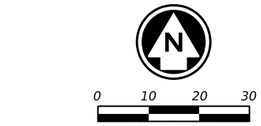
DRIVEWAY 063
STA 332+33.44 & 332+59.78

POINT	EASTING	NORTHING	ELEVATION
063-01	2348340.3992	6983753.0614	594.6304
063-02	2348340.4660	6983744.7769	594.7554
063-03	2348340.6787	6983718.3832	594.9662
063-04	2348340.8230	6983700.4874	595.0550



DRIVEWAY 064
STA 333+77.63

POINT	EASTING	NORTHING	ELEVATION
064-01	2348339.5050	6983882.2147	593.3193
064-02	2348339.6406	6983862.6280	593.4626
064-03	2348339.7739	6983844.0345	593.6132



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

3/20/2024

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM 329+48.81
TO 333+77.63

SHEET 11 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		78

DATE: 3/20/2024 3:41:29 PM
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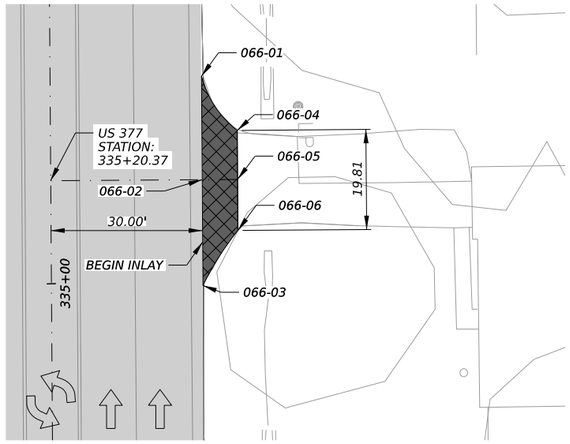
DRIVEWAY 065
STA 334+49.79

POINT	EASTING	NORTHING	ELEVATION
065-01	2348338.9732	6983951.9247	592.3685
065-02	2348339.1411	6983934.7805	592.5163
065-03	2348339.2644	6983916.9775	592.7235
065-04	2348346.0621	6983946.2163	591.3834
065-05	2348346.1409	6983934.8289	591.8161
065-06	2348346.2082	6983925.1078	591.7661



DRIVEWAY 066
STA 335+20.37

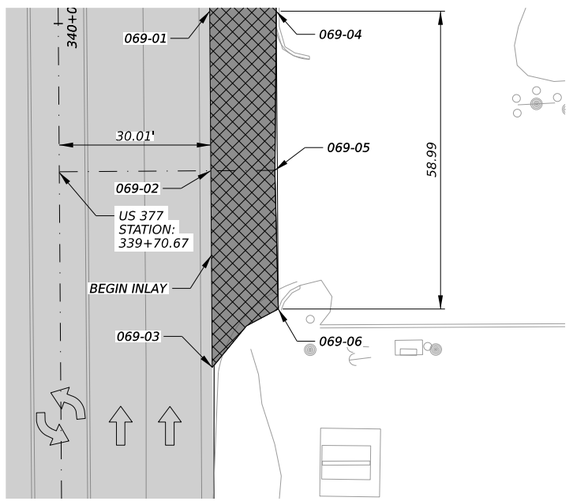
POINT	EASTING	NORTHING	ELEVATION
066-01	2348338.5104	6984025.8732	591.2084
066-02	2348338.6524	6984005.3632	591.5125
066-03	2348338.7974	6983984.4229	591.8218
066-04	2348345.5849	6984015.1470	590.6161
066-05	2348345.6523	6984005.4117	590.8060
066-06	2348345.7220	6983995.3358	590.7984

DRIVEWAY 067
STA 335+79.68

POINT	EASTING	NORTHING	ELEVATION
067-01	2348338.1860	6984087.4313	590.5634
067-02	2348340.6279	6984081.1346	590.2619
067-03	2348340.7418	6984064.6904	590.6031

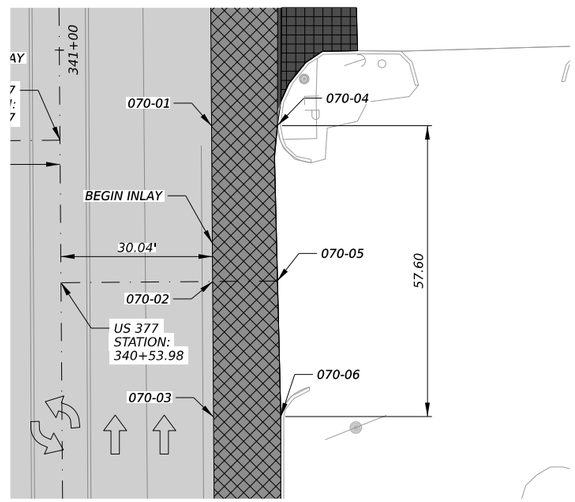
DRIVEWAY 068
STA 338+64.51

POINT	EASTING	NORTHING	ELEVATION
068-01	2348336.1444	6984374.6988	588.4039
068-02	2348336.2699	6984349.4981	588.4535
068-03	2348336.4427	6984324.5390	588.5042
068-04	2348344.1711	6984363.7905	587.4592
068-05	2348344.2712	6984349.5526	587.3792
068-06	2348344.3830	6984333.1813	587.5823



DRIVEWAY 069
STA 339+70.67

POINT	EASTING	NORTHING	ELEVATION
069-01	2348335.3295	6984487.2459	588.0537
069-02	2348335.5423	6984455.6494	588.1012
069-03	2348335.8043	6984416.7484	588.1231
069-04	2348348.4747	6984487.2459	587.0402
069-05	2348348.2290	6984455.7373	586.5646
069-06	2348348.8907	6984428.2548	586.4870



DRIVEWAY 070
STA 340+53.98

POINT	EASTING	NORTHING	ELEVATION
070-01	2348334.7739	6984569.7539	587.5386
070-02	2348334.9813	6984538.9596	587.6615
070-03	2348335.1619	6984512.1398	587.8860
070-04	2348347.7945	6984569.8415	585.9724
070-05	2348347.7786	6984539.0482	586.4550
070-06	2348348.4660	6984512.2294	586.8453

0 10 20 30
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM 334+49.79
TO 340+53.98

SHEET 12 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		79

DATE: 3/20/2024 3:41:45 PM
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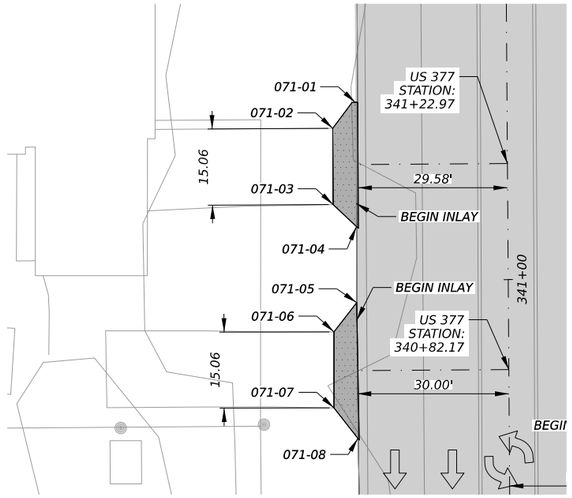
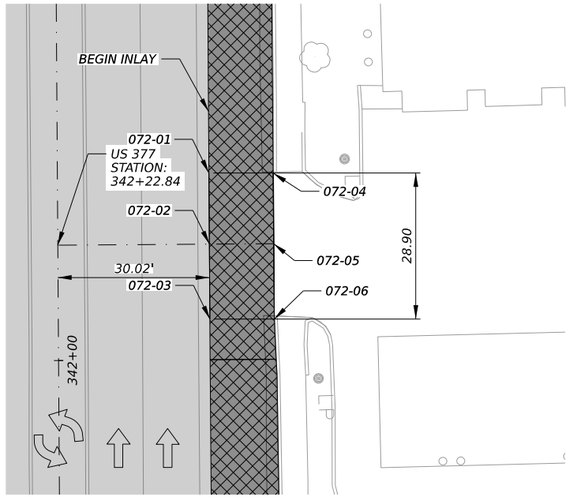


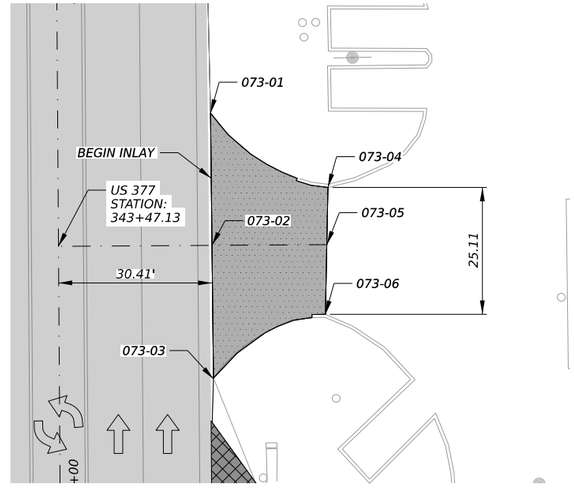
DRIVEWAY 071
STA 340+82.17 & 341+22.97

POINT	EASTING	NORTHING	ELEVATION
071-01	2348274.4010	6984619.8479	587.4052
071-02	2348269.9164	6984614.6958	587.7576
071-03	2348269.9953	6984599.6352	587.8718
071-04	2348274.5669	6984595.2682	587.5575
071-05	2348274.6541	6984580.2005	587.5277
071-06	2348270.1288	6984574.4200	587.9626
071-07	2348270.1507	6984559.3585	588.0993
071-08	2348274.8570	6984553.3691	587.6929



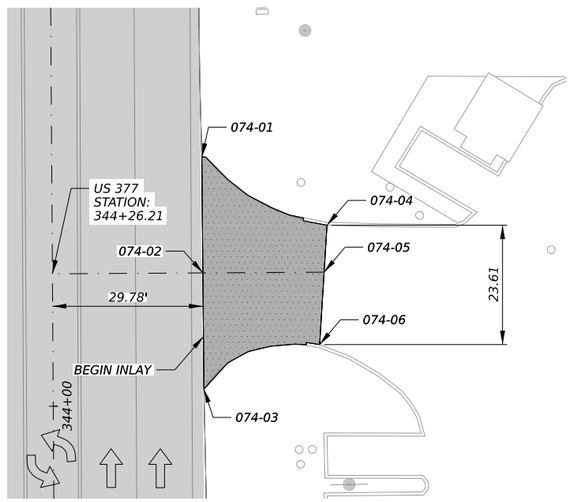
DRIVEWAY 072
STA 342+22.84

POINT	EASTING	NORTHING	ELEVATION
072-01	2348333.7495	6984721.8679	586.7797
072-02	2348333.8442	6984707.8028	586.8578
072-03	2348333.9441	6984692.9629	586.9403
072-04	2348346.4425	6984721.8679	585.1774
072-05	2348346.5867	6984707.9410	585.2962
072-06	2348346.6725	6984692.9629	585.4022



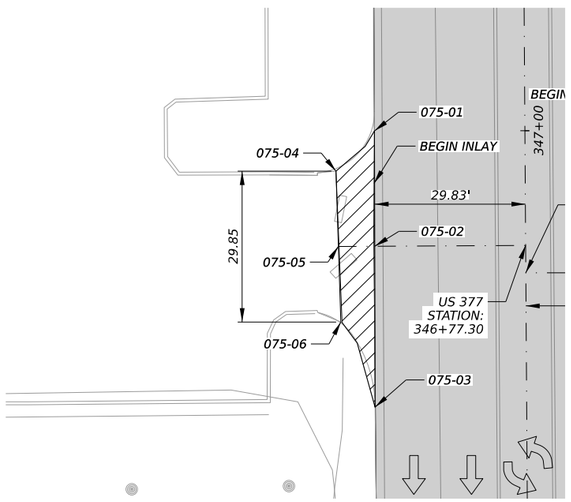
DRIVEWAY 073
STA 343+47.13

POINT	EASTING	NORTHING	ELEVATION
073-01	2348333.1250	6984858.2838	586.0284
073-02	2348333.4283	6984832.0921	586.2107
073-03	2348333.7327	6984805.8090	586.3911
073-04	2348356.3800	6984843.5562	583.8381
073-05	2348356.1546	6984832.2408	583.9022
073-06	2348355.8797	6984818.4424	583.9227



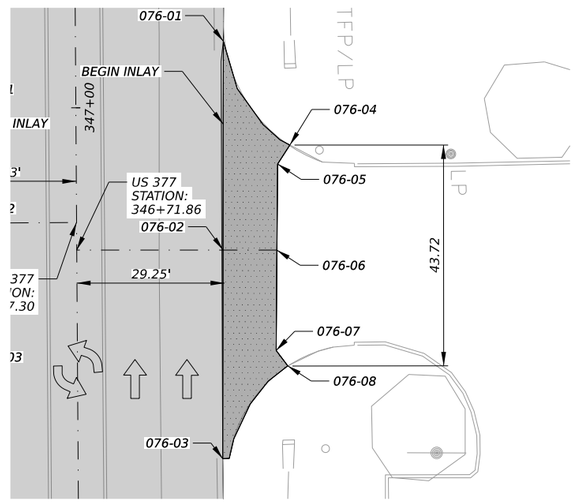
DRIVEWAY 074
STA 344+26.21

POINT	EASTING	NORTHING	ELEVATION
074-01	2348332.0860	6984934.1026	585.6330
074-02	2348332.2805	6984911.1727	585.8308
074-03	2348332.4757	6984888.1650	586.0283
074-04	2348356.8547	6984920.6059	583.9386
074-05	2348356.2793	6984911.3297	583.9541
074-06	2348355.3900	6984896.9925	583.9525



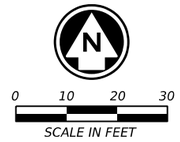
DRIVEWAY 075
STA 346+77.30

POINT	EASTING	NORTHING	ELEVATION
075-01	2348270.9407	6985184.6988	583.5785
075-02	2348270.9952	6985161.8612	583.8112
075-03	2348271.0711	6985130.0142	584.1398
075-04	2348263.3028	6985176.7402	583.5122
075-05	2348263.7892	6985161.8141	583.7031
075-06	2348264.2756	6985146.8880	583.8449



DRIVEWAY 076
STA 346+71.86

POINT	EASTING	NORTHING	ELEVATION
076-01	2348329.9452	6985197.9207	583.3373
076-02	2348329.8769	6985156.6170	583.8864
076-03	2348329.8086	6985115.3133	584.3157
076-04	2348343.1051	6985177.3830	583.4407
076-05	2348340.6641	6985173.6351	583.5590
076-06	2348340.5103	6985156.6170	583.7083
076-07	2348340.3740	6985136.7344	583.8342
076-08	2348342.6623	6985133.7047	583.8642



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

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Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM 340+82.17
TO 346+71.86

SHEET 13 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		80

DATE: 3/20/2024 3:42:02 PM
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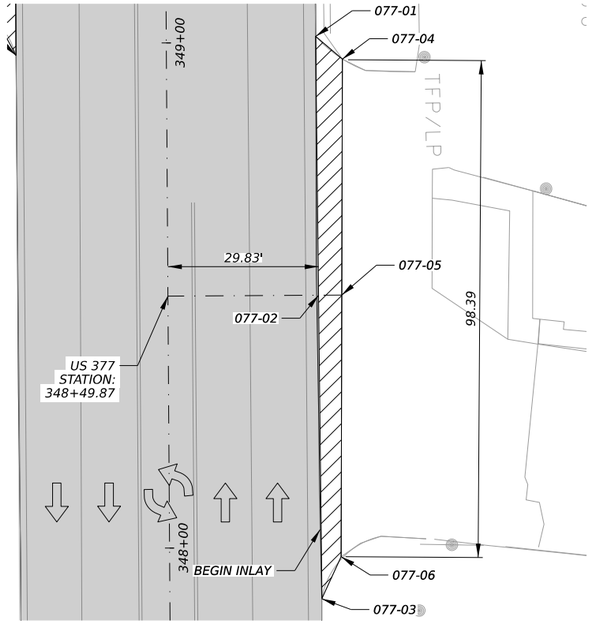
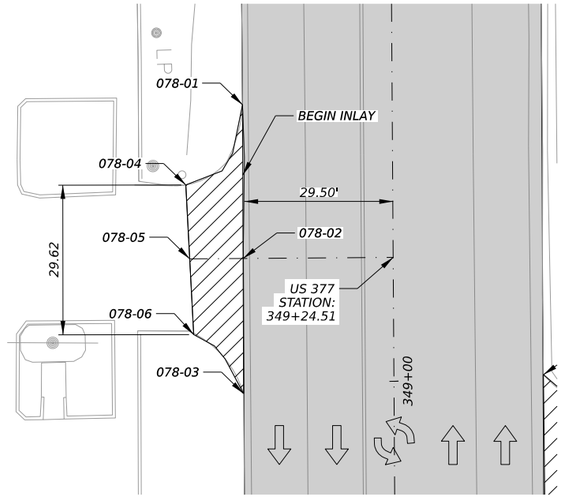


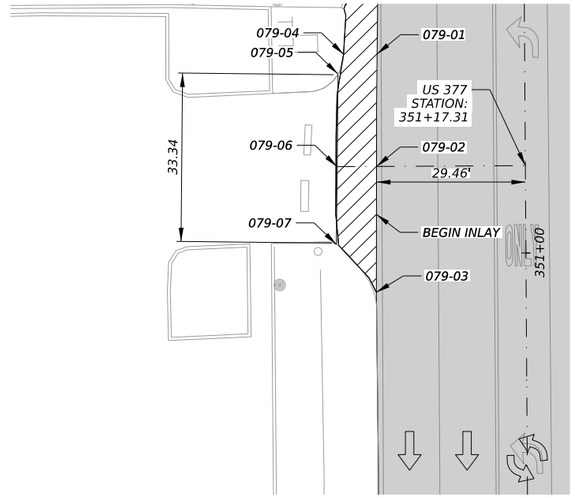
DRIVEWAY 077
STA 348+49.87

POINT	EASTING	NORTHING	ELEVATION
077-01	2348328.9821	6985386.0557	581.5933
077-02	2348329.5608	6985334.8177	581.9740
077-03	2348330.2013	6985274.7176	582.4193
077-04	2348334.2753	6985381.5754	580.4604
077-05	2348334.1481	6985334.8477	580.9825
077-06	2348334.0071	6985283.0563	581.7159



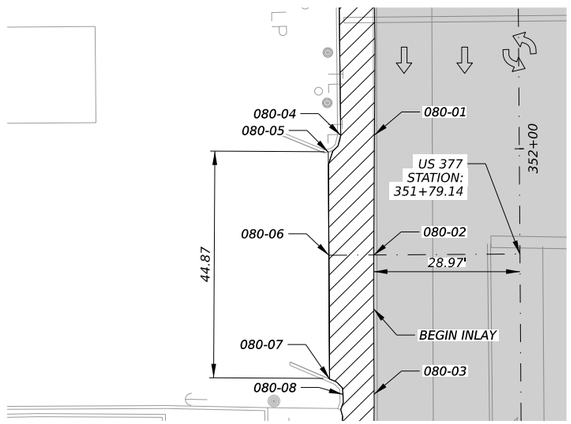
DRIVEWAY 078
STA 349+24.51

POINT	EASTING	NORTHING	ELEVATION
078-01	2348269.4035	6985439.4897	581.7237
078-02	2348269.5239	6985409.0657	581.7425
078-03	2348269.6297	6985382.3110	581.7462
078-04	2348258.1867	6985423.6101	580.8078
078-05	2348258.9564	6985408.9966	580.8488
078-06	2348259.7485	6985393.9858	580.9448



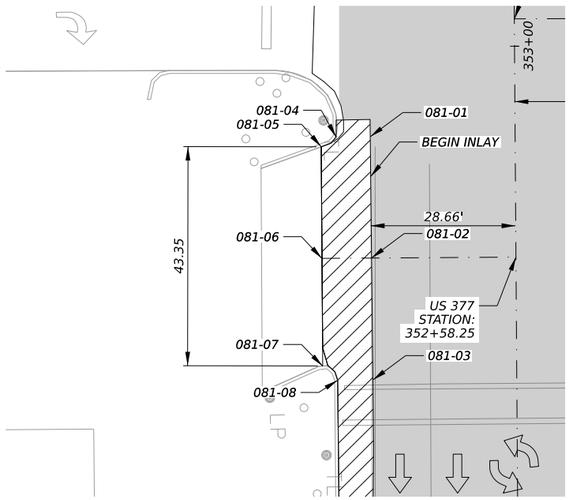
DRIVEWAY 079
STA 351+17.31

POINT	EASTING	NORTHING	ELEVATION
079-01	2348268.6200	6985624.1181	582.2895
079-02	2348268.5324	6985601.8693	582.1971
079-03	2348268.4742	6985576.9537	582.0905
079-04	2348262.0067	6985624.0731	581.2137
079-05	2348260.8920	6985620.1815	581.2913
079-06	2348260.7183	6985601.8315	581.5182
079-07	2348260.5676	6985586.4426	581.6562



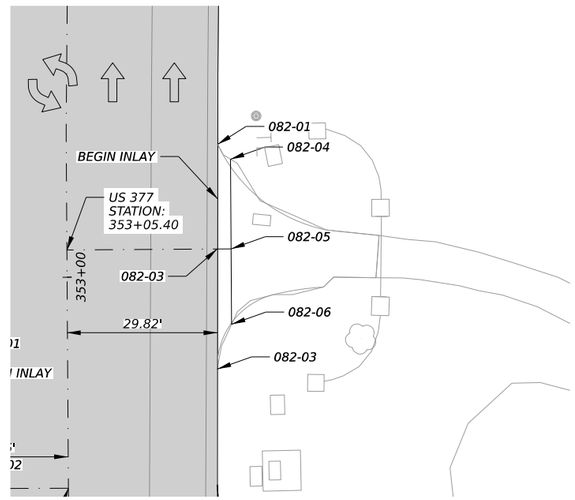
DRIVEWAY 080
STA 351+79.14

POINT	EASTING	NORTHING	ELEVATION
080-01	2348268.7696	6985687.4503	582.5498
080-02	2348268.6333	6985663.6941	582.4506
080-03	2348268.7155	6985636.1428	582.3402
080-04	2348262.0871	6985687.4065	581.9036
080-05	2348259.6609	6985684.0586	581.9150
080-06	2348259.7708	6985663.6361	581.6281
080-07	2348259.9027	6985639.1506	581.4034
080-08	2348262.6552	6985636.0879	581.3612



DRIVEWAY 081
STA 352+58.25

POINT	EASTING	NORTHING	ELEVATION
081-01	2348268.1930	6985766.8027	582.9672
081-02	2348268.4450	6985742.8061	582.7684
081-03	2348268.7096	6985718.6651	582.6756
081-04	2348261.4795	6985766.7588	582.4823
081-05	2348258.4913	6985764.8051	582.3681
081-06	2348258.6462	6985742.7420	582.2454
081-07	2348258.7960	6985721.4159	582.0187
081-08	2348261.7515	6985718.6196	582.0457



DRIVEWAY 082
STA 353+05.40

POINT	EASTING	NORTHING	ELEVATION
082-01	2348326.5956	6985811.0689	582.8274
082-02	2348326.5146	6985790.3406	582.7377
082-03	2348326.5332	6985766.5570	582.6219
082-04	2348329.1425	6985808.1149	582.4723
082-05	2348329.2516	6985790.3585	582.3629
082-06	2348329.3694	6985775.4432	582.3197

0 10 20 30
SCALE IN FEET

LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
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Salcido, P.E.

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Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM 348+49.87
TO 353+05.40

SHEET14 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		81

DATE: 3/20/2024 3:42:18 PM
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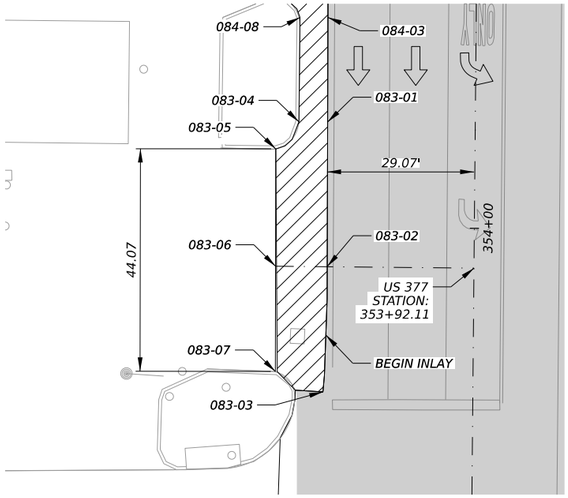
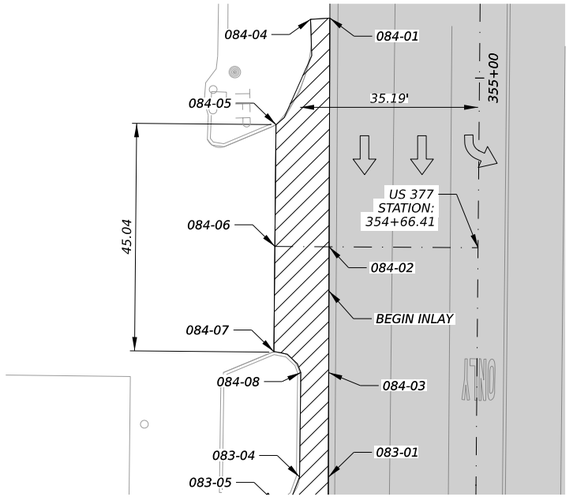


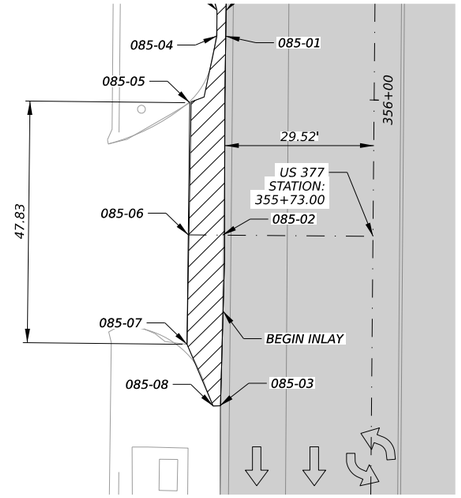
DRIVEWAY 083
STA 353+92.11

POINT	EASTING	NORTHING	ELEVATION
083-01	2348268.2055	6985905.7809	583.3872
083-02	2348268.1068	6985877.1335	583.2706
083-03	2348267.2538	6985852.3551	583.0105
083-04	2348262.4724	6985905.7840	582.7960
083-05	2348257.8872	6985900.4434	582.7768
083-06	2348257.8538	6985877.2026	582.6815
083-07	2348257.8240	6985856.3727	582.5601



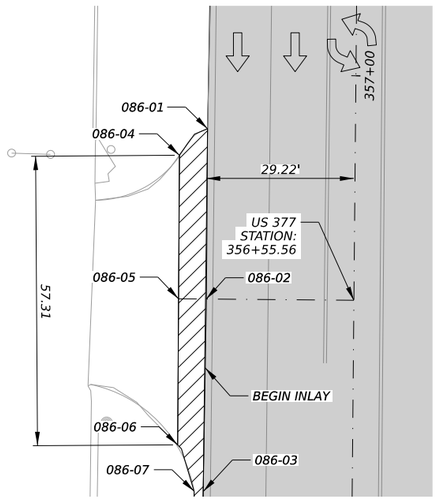
DRIVEWAY 084
STA 354+66.41

POINT	EASTING	NORTHING	ELEVATION
084-01	2348268.4620	6985996.6200	583.7408
084-02	2348268.3154	6985951.3516	583.5010
084-03	2348268.2482	6985926.4603	583.4304
084-04	2348264.6390	6985996.3777	583.1070
084-05	2348257.8086	6985975.5051	582.8702
084-06	2348257.5814	6985951.4293	582.7568
084-07	2348257.3850	6985930.6034	582.7768
084-08	2348262.7171	6985926.4681	582.7937



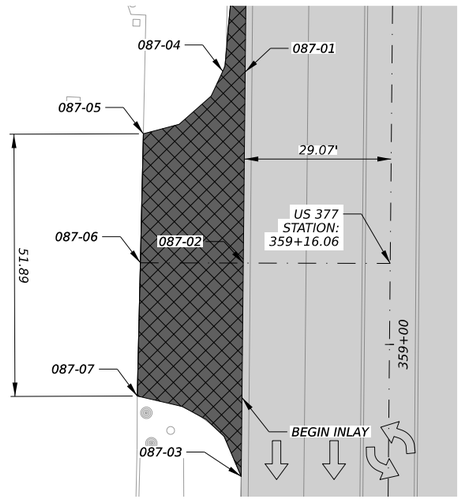
DRIVEWAY 085
STA 355+73.00

POINT	EASTING	NORTHING	ELEVATION
085-01	2348269.6007	6986097.3706	584.5492
085-02	2348268.9880	6986057.9970	584.1390
085-03	2348268.4626	6986024.2117	583.8996
085-04	2348267.8582	6986097.3977	584.1397
085-05	2348262.4709	6986084.2014	583.6309
085-06	2348262.1888	6986058.0575	583.4648
085-07	2348261.9548	6986036.3730	583.1929
085-08	2348267.0937	6986024.1863	583.6044



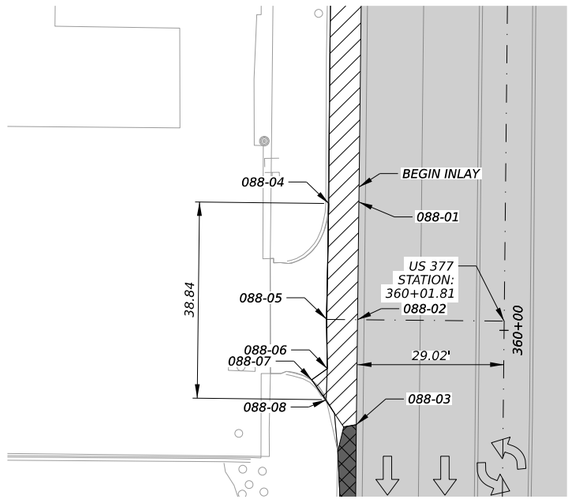
DRIVEWAY 086
STA 356+55.56

POINT	EASTING	NORTHING	ELEVATION
086-01	2348270.5362	6986174.2624	585.3183
086-02	2348270.2727	6986140.5545	584.9913
086-03	2348269.6800	6986102.4662	584.5668
086-04	2348264.9281	6986168.9905	584.6816
086-05	2348264.7634	6986140.6035	584.3882
086-06	2348264.5955	6986111.6731	584.1320
086-07	2348267.8781	6986102.4823	584.2764



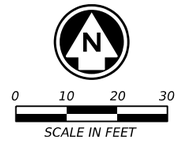
DRIVEWAY 087
STA 359+16.06

POINT	EASTING	NORTHING	ELEVATION
087-01	2348273.1095	6986438.6831	589.4457
087-02	2348272.7289	6986400.8352	588.8269
087-03	2348272.3042	6986358.6063	588.1648
087-04	2348268.6565	6986438.8209	589.0383
087-05	2348252.9506	6986426.4344	588.9035
087-06	2348252.3454	6986400.8736	588.7711
087-07	2348251.7243	6986374.5343	588.7768



DRIVEWAY 088
STA 360+01.81

POINT	EASTING	NORTHING	ELEVATION
088-01	2348273.8875	6986510.1354	590.6206
088-02	2348273.6216	6986486.8204	590.1988
088-03	2348273.3848	6986466.0555	589.8637
088-04	2348267.9241	6986509.8214	589.6182
088-05	2348267.4842	6986486.9162	589.3028
088-06	2348267.5196	6986477.2059	589.1383
088-07	2348264.5563	6986474.9201	589.2122
088-08	2348267.2843	6986470.8785	589.1632



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

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E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

3/20/2024

AECOM
13355 Noel Road, Suite 400
Dallas, Texas 75240
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 353+92.11
TO STA 360+01.81

SHEET 15 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		82

DATE: 3/20/2024 3:42:33 PM
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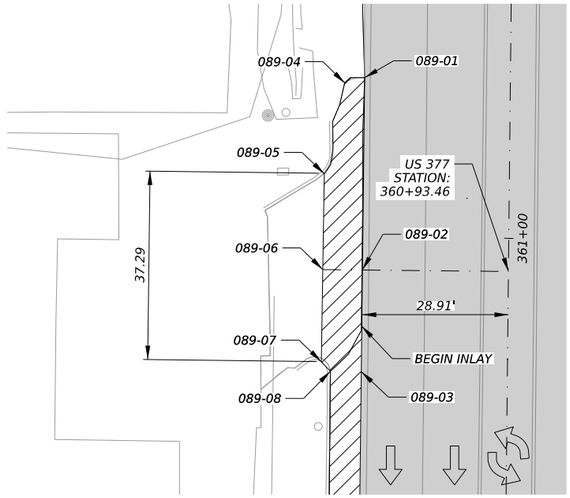
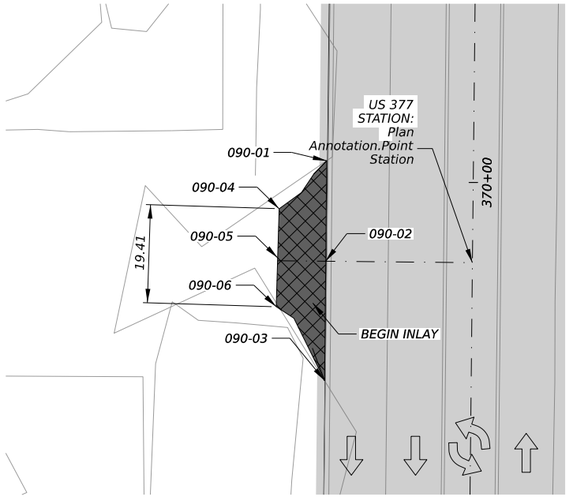


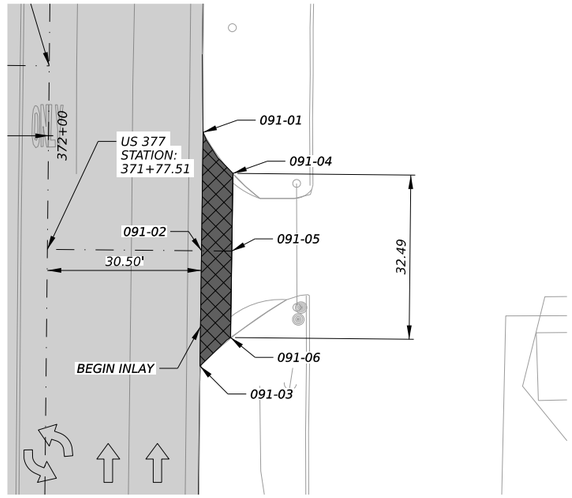
DRIVEWAY 089
STA 360+93.46

POINT	EASTING	NORTHING	ELEVATION
089-01	2348274.9709	6986616.5093	592.4897
089-02	2348274.6667	6986578.4673	591.8967
089-03	2348274.4368	6986558.3094	591.4160
089-04	2348271.1345	6986615.4776	591.3419
089-05	2348267.1074	6986597.4809	590.8610
089-06	2348266.8115	6986578.5475	590.8295
089-07	2348266.5263	6986560.2970	590.4315
089-08	2348268.3248	6986558.4215	590.3364



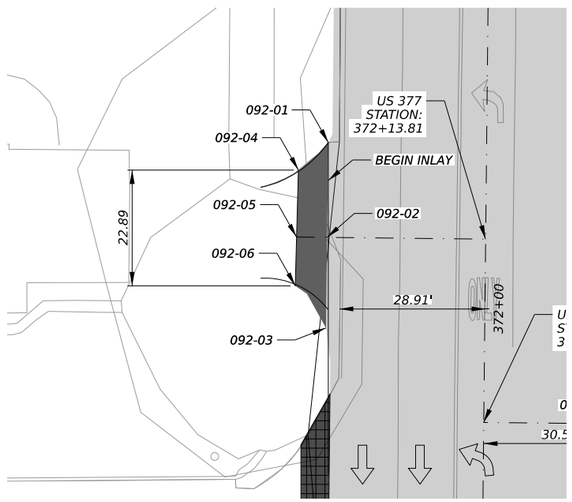
DRIVEWAY 090
STA 369+84.13

POINT	EASTING	NORTHING	ELEVATION
090-01	2348283.8189	6987488.9598	601.6418
090-02	2348283.6260	6987469.0957	601.6375
090-03	2348283.3965	6987445.4655	601.6196
090-04	2348274.4224	6987479.4781	600.8196
090-05	2348274.1200	6987469.7778	600.8436
090-06	2348273.8176	6987460.0775	600.5279



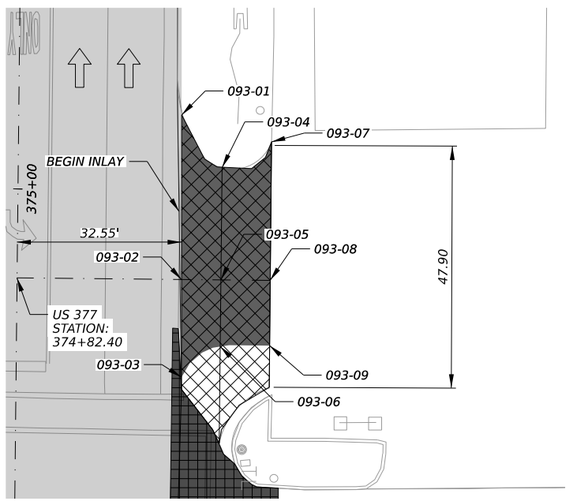
DRIVEWAY 091
STA 371+77.51

POINT	EASTING	NORTHING	ELEVATION
091-01	2348345.5022	6987685.3197	601.0472
091-02	2348345.1754	6987661.8529	601.1440
091-03	2348344.8582	6987639.0693	601.2202
091-04	2348351.3896	6987677.1922	600.3549
091-05	2348351.1752	6987661.7916	600.3008
091-06	2348350.9245	6987644.7085	600.4835



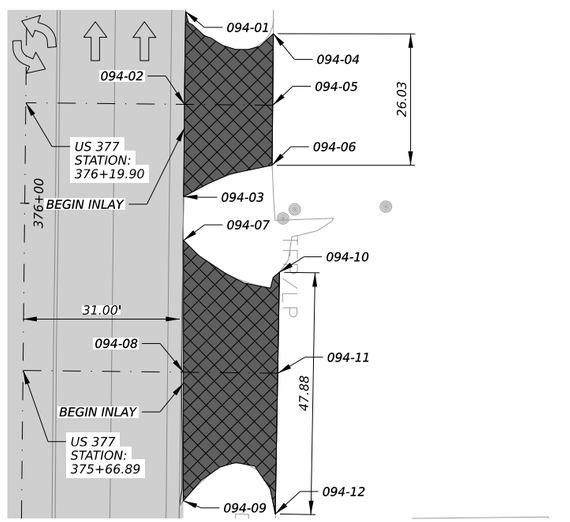
DRIVEWAY 092
STA 372+13.81

POINT	EASTING	NORTHING	ELEVATION
091-01	2348345.5022	6987685.3197	601.0472
091-02	2348345.1754	6987661.8529	601.1440
091-03	2348344.8582	6987639.0693	601.2202
091-04	2348351.3896	6987677.1922	600.3549
091-05	2348351.1752	6987661.7916	600.3008
091-06	2348350.9245	6987644.7085	600.4835



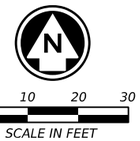
DRIVEWAY 093
STA 374+82.40

POINT	EASTING	NORTHING	ELEVATION
093-01	2348350.3577	6987999.3046	598.0314
093-02	2348350.3363	6987966.7021	598.5221
093-03	2348350.2913	6987947.3937	598.6749
093-04	2348358.3543	6987988.8676	597.7007
093-05	2348358.1261	6987966.6219	598.1821
093-06	2348357.9922	6987953.5735	598.2368
093-07	2348368.1514	6987993.9688	597.1728
093-08	2348367.8925	6987966.5214	597.8277
093-09	2348367.7708	6987953.6256	598.1038



DRIVEWAY 094
STA 375+66.89 &
376+19.90

POINT	EASTING	NORTHING	ELEVATION
094-01	2348350.8231	6988122.5841	596.6190
094-02	2348350.6181	6988104.2065	596.7643
094-03	2348350.4144	6988085.9484	597.0573
094-04	2348368.1835	6988118.2028	595.0273
094-05	2348368.0590	6988104.0270	595.2345
094-06	2348367.9549	6988092.1746	595.2406
094-07	2348350.4087	6988077.2767	597.0505
094-08	2348350.3916	6988051.1942	597.5855
094-09	2348350.3750	6988025.7542	597.9058
094-10	2348369.4109	6988070.9872	596.3840
094-11	2348369.0679	6988051.0020	596.7820
094-12	2348368.5894	6988023.1176	596.9923



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAY LAYOUTS
FROM STA 360+93.46
TO STA 376+19.90

SHEET 16 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		83

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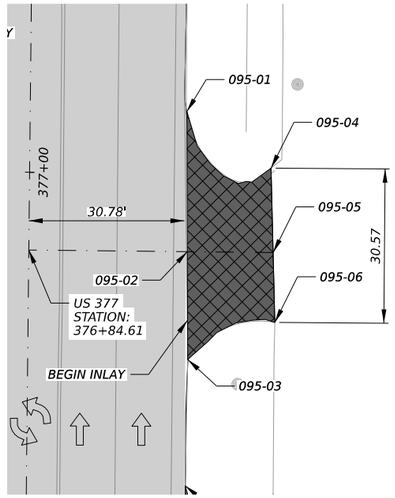
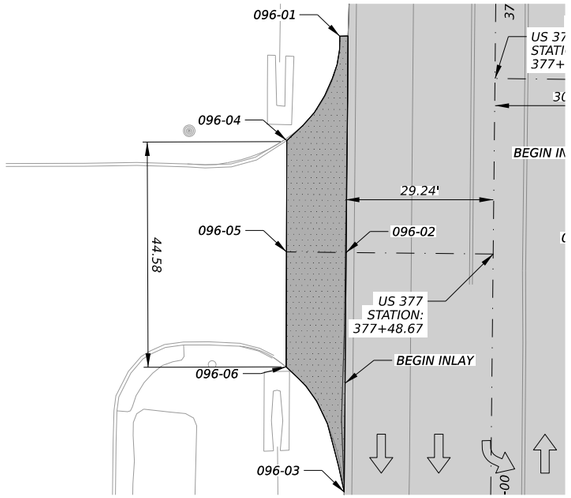


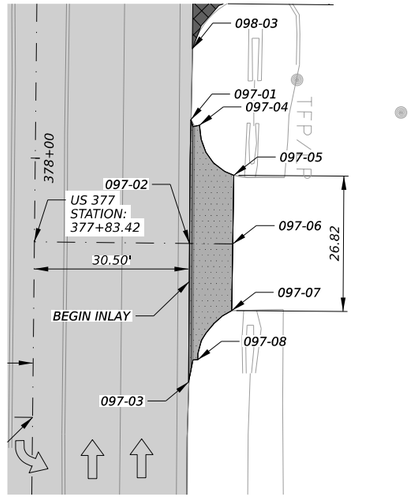
DRIVEWAY 095
STA 376+84.61

POINT	EASTING	NORTHING	ELEVATION
095-01	2348351.1210	6988196.6393	595.7300
095-02	2348351.2324	6988168.9174	596.1234
095-03	2348351.3181	6988147.5716	596.4221
095-04	2348367.8118	6988185.4665	593.8676
095-05	2348368.2090	6988168.7427	594.3763
095-06	2348368.5379	6988154.8936	594.7540



DRIVEWAY 096
STA 377+48.67

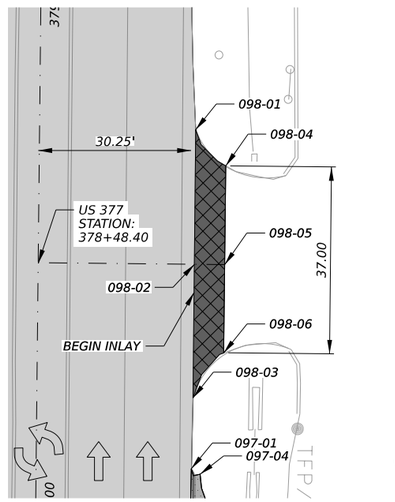
POINT	EASTING	NORTHING	ELEVATION
096-01	2348290.1121	6988276.4339	594.4146
096-02	2348291.3886	6988233.5935	595.1577
096-03	2348290.9859	6988186.1989	596.1580
096-04	2348279.6388	6988255.7785	594.3766
096-05	2348279.5723	6988233.7152	594.9104
096-06	2348279.5037	6988210.9929	595.2516



DRIVEWAY 097
STA 377+83.42

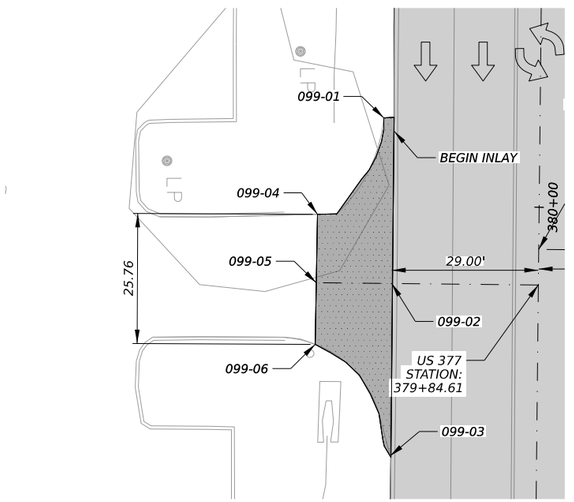
POINT	EASTING	NORTHING	ELEVATION
096-01	2348290.1121	6988276.4339	594.4146
096-02	2348291.3886	6988233.5935	595.1577
096-03	2348290.9859	6988186.1989	596.1580
096-04	2348279.6388	6988255.7785	594.3766
096-05	2348279.5723	6988233.7152	594.9104
096-06	2348279.5037	6988210.9929	595.2516

DW 097



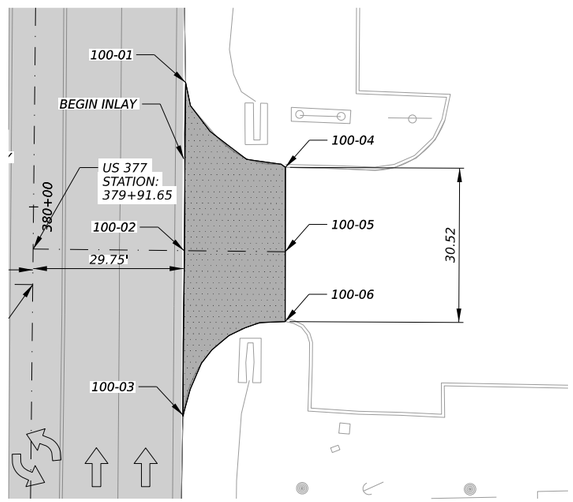
DRIVEWAY 098
STA 378+48.40

POINT	EASTING	NORTHING	ELEVATION
098-01	2348352.7327	6988359.3545	592.4729
098-02	2348352.4449	6988332.7043	593.1124
098-03	2348352.1593	6988306.2599	593.7476
098-04	2348358.6557	6988352.1994	591.7678
098-05	2348358.4445	6988332.6425	592.2633
098-06	2348358.2558	6988315.1606	592.8336



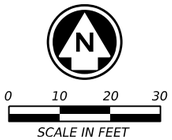
DRIVEWAY 099
STA 379+84.61

POINT	EASTING	NORTHING	ELEVATION
099-01	2348292.3394	6988502.3044	588.6871
099-02	2348293.9376	6988469.5172	589.5960
099-03	2348293.5862	6988435.3739	590.6815
099-04	2348279.2079	6988483.2064	588.9885
099-05	2348278.9639	6988469.6714	589.4519
099-06	2348278.7438	6988457.4602	589.8162



DRIVEWAY 100
STA 379+91.65

POINT	EASTING	NORTHING	ELEVATION
100-01	2348353.2062	6988509.2226	588.7122
100-02	2348352.9192	6988475.9569	589.6553
100-03	2348352.6715	6988443.3628	590.5393
100-04	2348372.9619	6988492.4322	587.4897
100-05	2348372.9194	6988475.7511	587.8323
100-06	2348372.8842	6988461.9171	588.2054



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

DRIVEWAYS LAYOUTS
FROM STA 376+84.61
TO STA 379+91.65

SHEET 17 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		84

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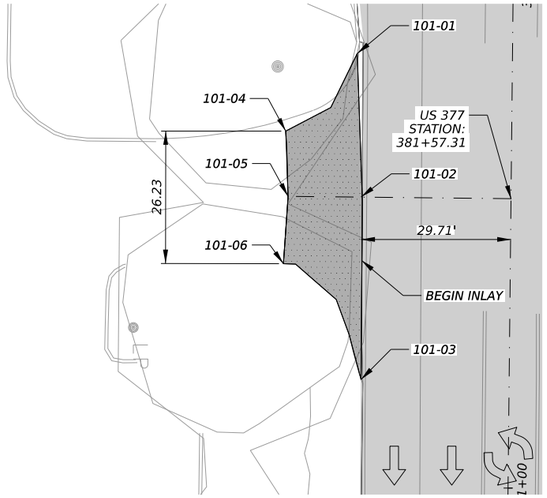
DW:
CK:
DW:



DRIVEWAY 101
STA 381+57.31

POINT	EASTING	NORTHING	ELEVATION
100-01	2348353.2062	6988509.2226	588.7122
100-02	2348352.9192	6988475.9569	589.6553
100-03	2348352.6715	6988443.3628	590.5393
100-04	2348372.9619	6988492.4322	587.4897
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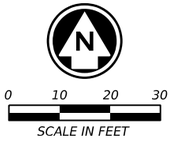
100-06	2348372.8842	6988461.9171	588.2054



LEGEND

- INLAY LIMITS (US 377)
- FULL DEPTH PAVEMENT REPAIR
- PLANE ASPH CONC PAV (0" TO 2")
- PLAN & TEXT ASPH CONC PAV (2")
- REMOVE CONC (DRIVEWAYS)
- DRIVEWAYS (CONC)
- DRIVEWAYS (ACP)
- TRAFFIC FLOW

GENERAL NOTES:

A PROPOSED ADA RAMP. REFER TO DETAILS ON PED-18.

B RAMP; 5' WIDE MIN; 12:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE; 5'X5' LANDING REQUIRED AT EACH END OF RAMP.

C 5' WIDE MIN; 20:1 MAX RUNNING SLOPE; 2% MAX CROSS-SLOPE.

D 5'X5' LANDING; 2% MAX CROSS-SLOPE, ALL DIRECTIONS.

E EXISTING ADA RAMP

F PROPOSED TYPE 2 CURB AND GUTTER. MATCH EXISTING CURB CONFIGURATION AT EACH END.

3/20/2024

Salcido Jaime, P.E.

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Texas Department of Transportation

US 377

DRIVEWAYS LAYOUTS
STA 381+57.31

SHEET 18 OF 18

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		85

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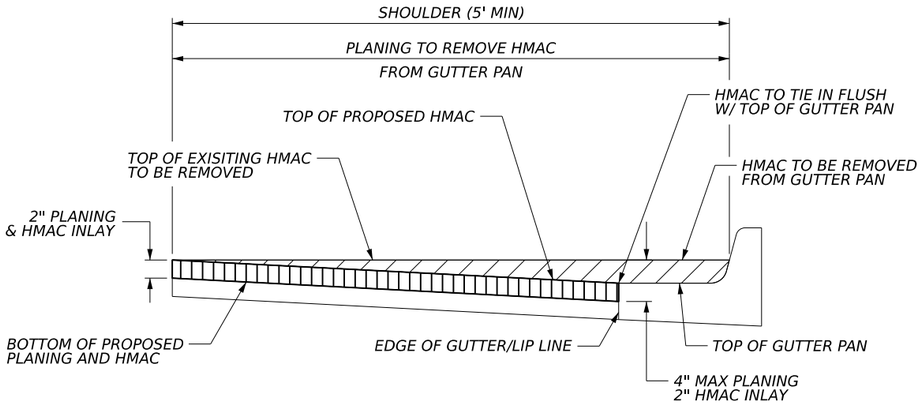
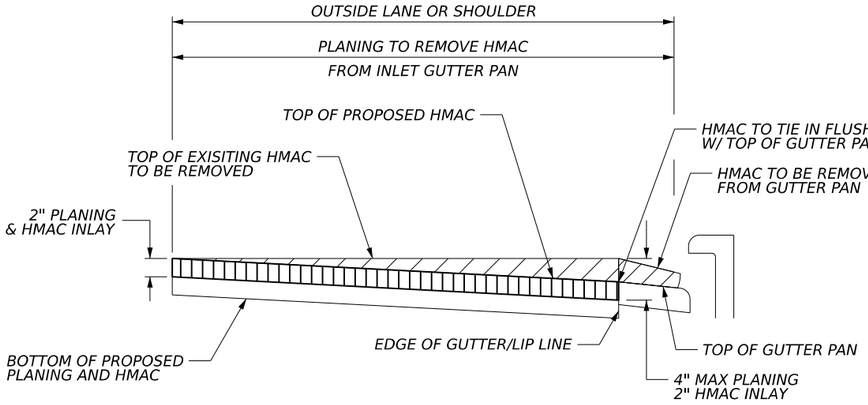


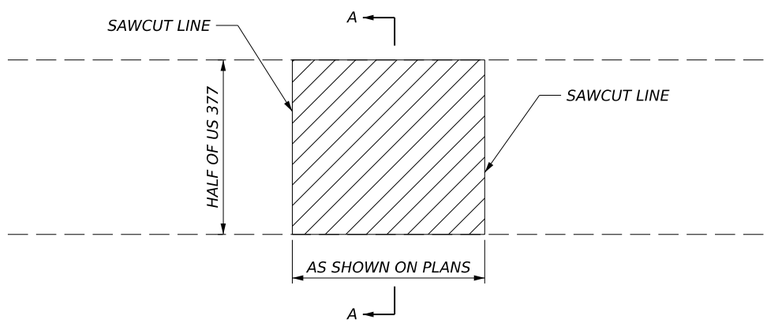
MILLING DETAIL NEAR CURB

NOT TO SCALE
(SEE NOTES 4)



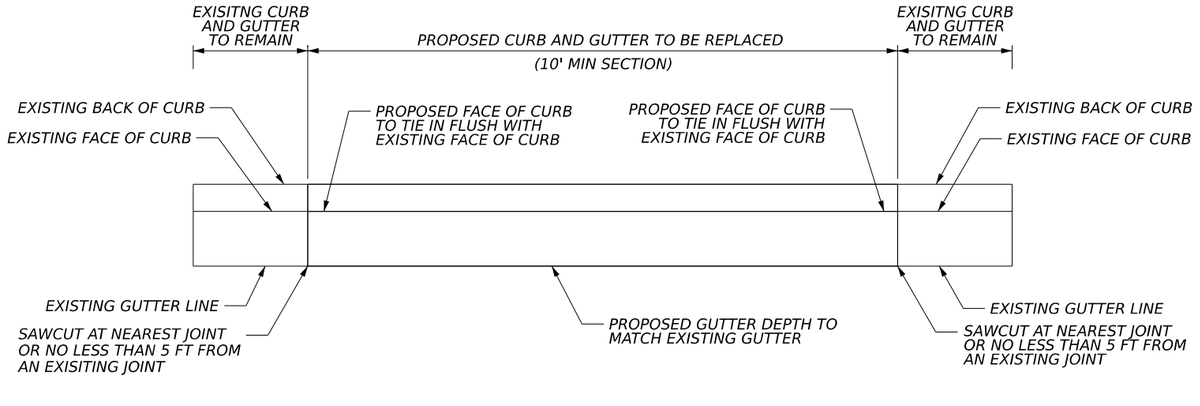
MILLING DETAIL NEAR INLET

NOT TO SCALE
(SEE NOTES 3 AND 4)



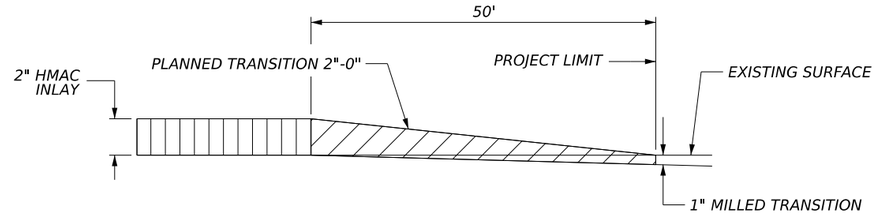
FLEXIBLE PAVEMENT REPAIR DETAIL

NOT TO SCALE



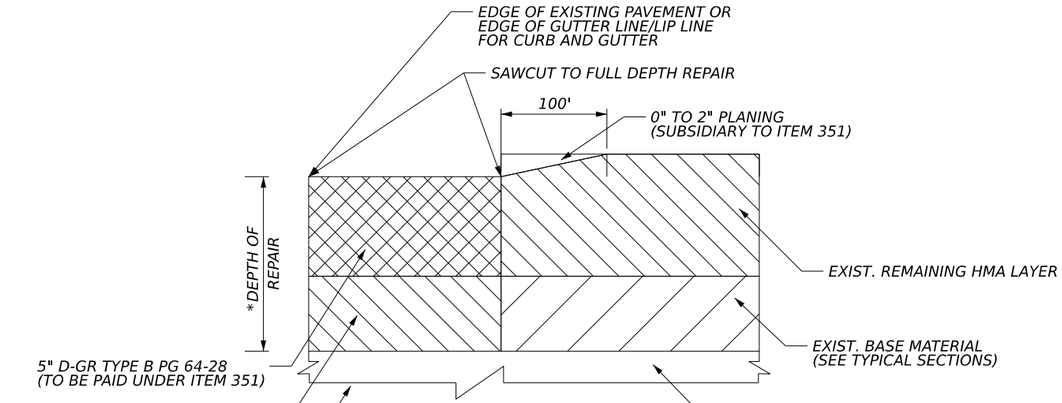
CURB AND GUTTER REPLACEMENT DETAIL

NOT TO SCALE
LIMITS OF CURB AND GUTTER REPLACEMENT TO
BE FIELD VERIFIED SUBJECT TO ENGINEER'S
APPROVAL.



TRANSITION DETAIL

NOT TO SCALE
HMAC LONGITUDINAL INLAY TAPER AT BEGIN AND END
OF PROJECT



SECTION A-A

NOT TO SCALE

NOTES:

1. CONTRACTOR TO PROPOSE METHOD TO REMOVE HMAC FROM GUTTER PAN, SUBJECT TO APPROVAL BY THE ENGINEER.
2. REFER TO INTERSECTION LAYOUTS FOR CROSS STREET RECONSTRUCTION LIMITS AND TRANSITIONS.
3. CONTRACTOR TO PROVIDE A 30' CROSS SLOPE TRANSITION ON LOCATIONS WHERE INLETS ARE PRESENT WITHOUT SHOULDERS.
4. WITH APPROVAL OF THE ENGINEER, CONTRACTOR MAY ADJUST LENGTH OF TRANSITION BY 10' OR SHIFT TRANSITION ALONG SIDE STREETS TO ENSURE POSITIVE DRAINAGE.
5. PLANING SHALL BE 2" MAX, EXCEPT WHERE OTHERWISE SPECIFIED WITHIN "MILLING DETAIL NEAR INLET" DETAIL.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

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Dallas, Texas 72540
(214) 741-7777
AECOM Technical Services, Inc.- F-3580

Texas Department of Transportation

US 377

MISCELLANEOUS
DETAILS

SHEET 1 OF 1

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		86

DATE: 3/20/2024 3:43:42 PM
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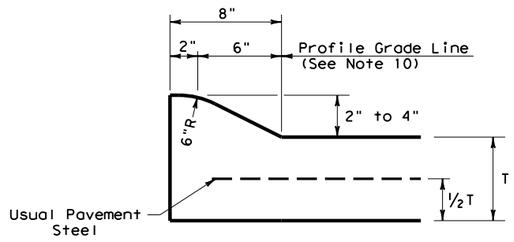
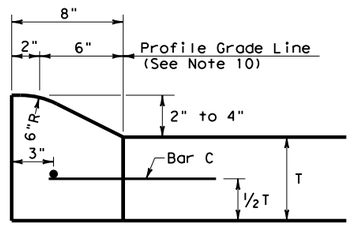
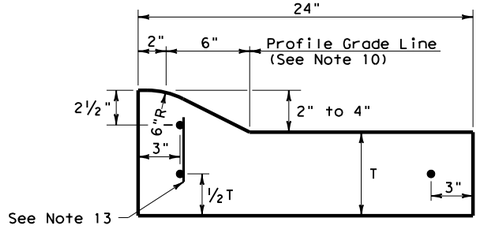


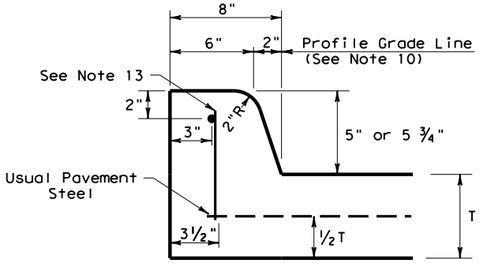
TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



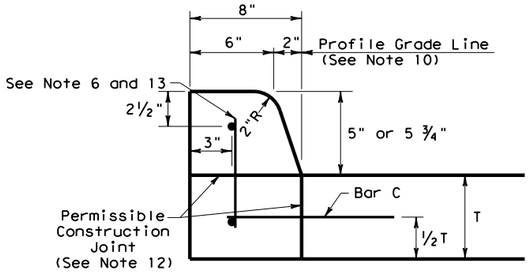
TYPE I CURB
2" - 4" HEIGHT



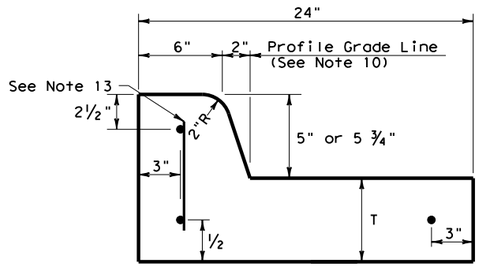
TYPE I CURB AND GUTTER
2" - 4" HEIGHT



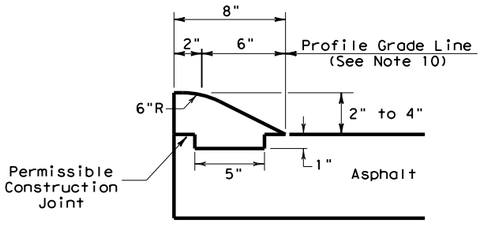
TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



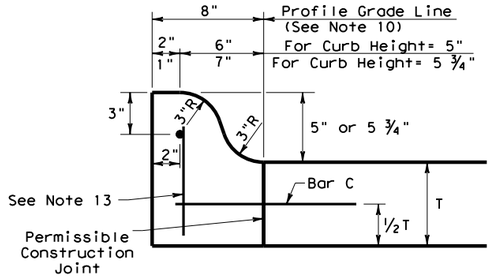
TYPE II CURB
5" - 5 ¾" HEIGHT



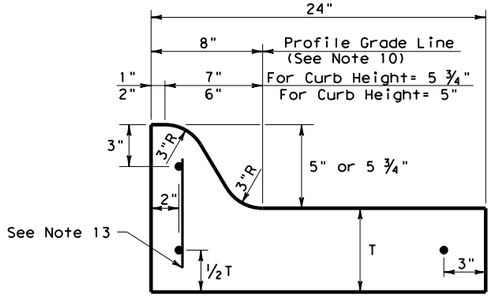
TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



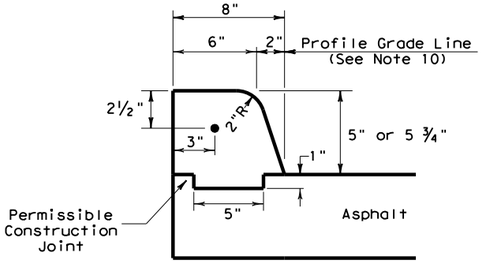
TYPE III CURB (KEYED)
2" - 4" HEIGHT



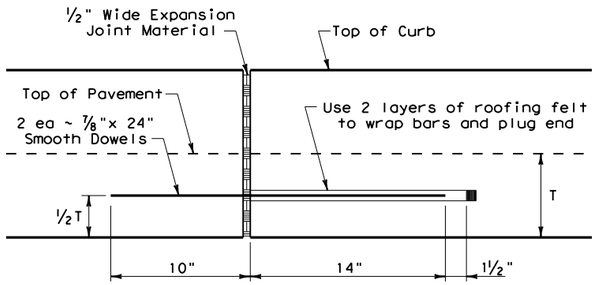
TYPE IIa CURB
5" - 5 ¾" HEIGHT



TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT

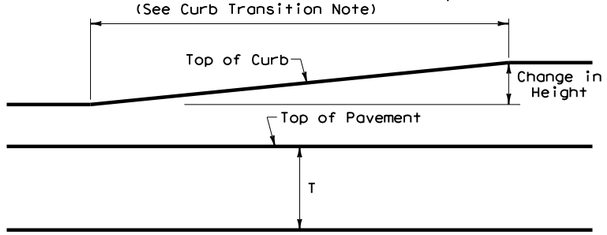


TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT



EXPANSION JOINT DETAIL

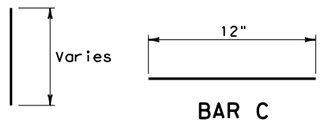
CURB TRANSITION NOTE:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.



CURB TRANSITION
Note: To be paid for as Highest Curb

GENERAL NOTES

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of fiber reinforced concrete in lieu of reinforcing steel is acceptable. Use fibers meeting the requirements of DMS 4550, "Fibers for Concrete," and dose fibers in accordance with Material Producers List (MPL) "Fibers for Class A and B Concrete Applications."
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is to be placed on existing concrete pavement, Bar B may be drilled and grouted in place, or may be inserted into fresh concrete.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C~C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When horizontal permissible construction joints are used, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans. Reinforcing steel for curb section shall then conform to that required for concrete curb.
13. Bar B placement as needed (typically at four ft. C-C) to support curb reinforcing steel during concrete placement.



BAR B

BAR C

Texas Department of Transportation

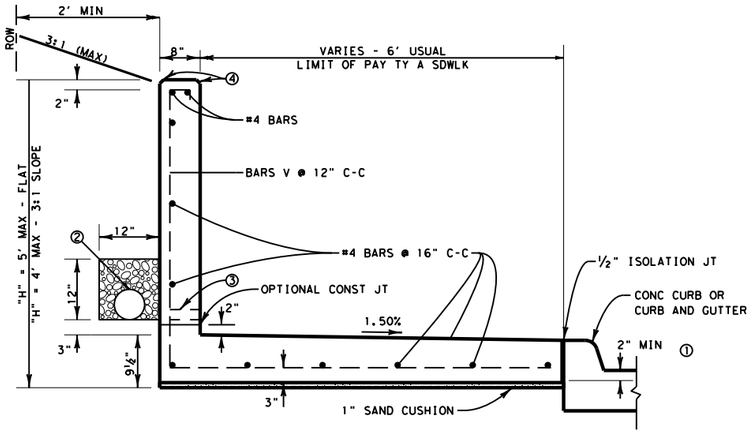
Design Division Standard

CONCRETE CURB AND CURB AND GUTTER

CCCG-22

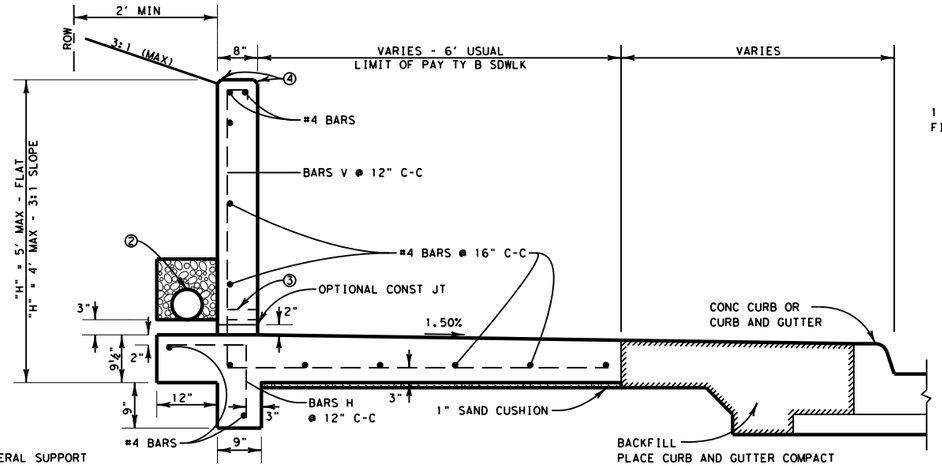
FILE: cccg21.dgn	DN: TXDOT	CK: AN	DW: CS	CK: KM
©TxDOT: JUNE 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		87

DATE: 3/20/2024
FILE: c:\pwworking\ustx\dms39556\cccg22.dgn

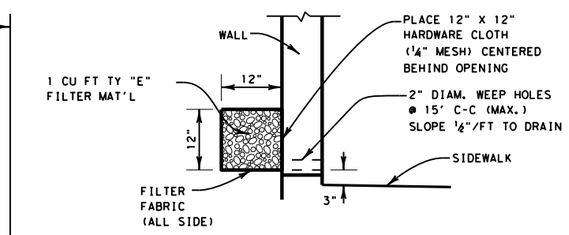


① 2" MINIMUM REQUIRED FOR LATERAL SUPPORT
② INSTALL 6" PIPE UNDERDRAIN (TY. 5, 6, 7, OR 8) ENTIRE LENGTH OF WALL. USE TY. "E" FILTER MATERIAL. SLOPE TO DRAIN AND CONNECT TO STORM DRAIN.
⑤ IF, IN THE OPINION OF THE ENGINEER, USE OF UNDERDRAIN IS IMPRACTICAL, INSTALL WEEP HOLES AS SHOWN.
④ ¾" CHAMFER

TYPE A SIDEWALK-ADJACENT TO CURB



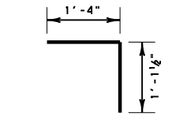
TYPE B SIDEWALK-REMOTE FROM CURB



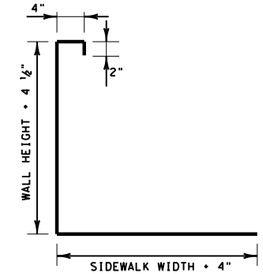
WEEP HOLE DETAIL

SPECIAL CONCRETE SIDEWALK w/ INTEGRATED RETAINING WALL

N. T. S.

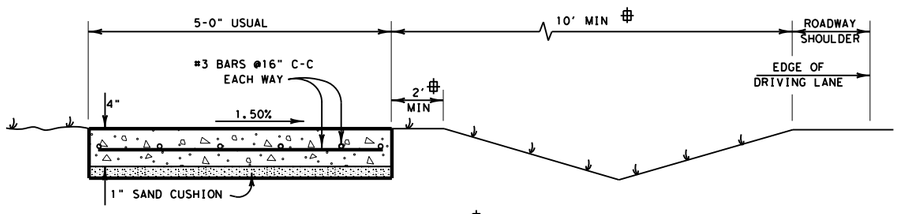


#4 BARS H @ 12" C-C



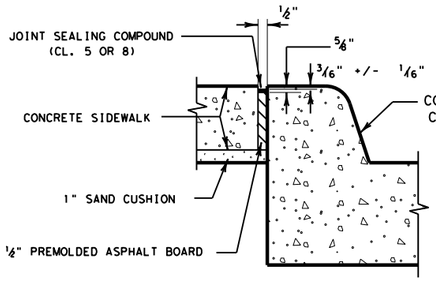
#4 BARS V @ 12" C-C

REINFORCING STEEL DETAILS



⋕ SIDEWALK TO BE 10' MIN. FROM EDGE OF SHOULDER OR 2' MIN. FROM TOP OF DITCH BACK SLOPE, WHICHEVER IS GREATER (10' MIN. FROM EDGE OF SHOULDER IF NO DITCH.)

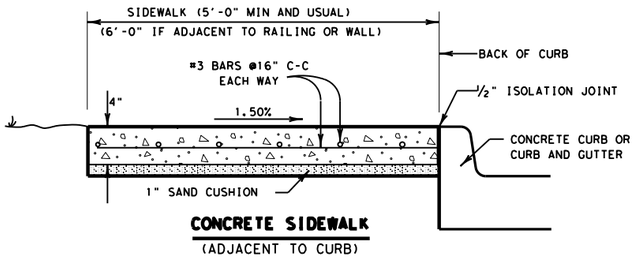
CONCRETE SIDEWALK
(ROADWAY W/O CURB)



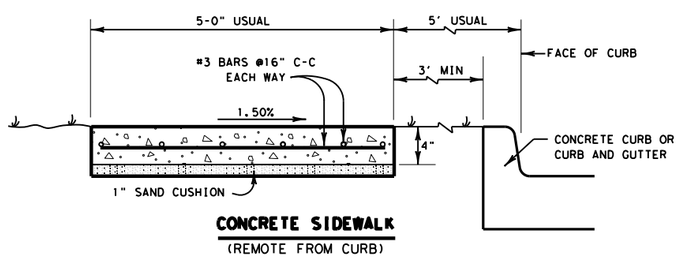
1/2" ISOLATION JOINT
(SIDEWALK ADJACENT TO CURB)

GENERAL NOTES:

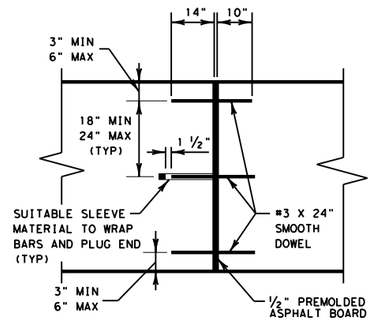
1. ALL CONCRETE SHALL BE CLASS "C".
2. ALL REINFORCING STEEL SHALL BE GRADE 60, # 4 BARS UNLESS OTHERWISE INDICATED.
3. SEE PLAN SHEETS FOR LOCATIONS OF SIDEWALKS AND RETAINING WALLS.
4. LONGITUDINAL SLOPE OF SIDEWALKS SHALL NOT EXCEED 5% EXCEPT IN CASES WHERE THE ADJACENT ROADWAY SLOPE EXCEEDS 5%. IF ROADWAY SLOPE EXCEEDS 5%, LONGITUDINAL SLOPE OF SIDEWALK MAY MATCH THAT OF ROADWAY.
5. IF SIDEWALK WIDTH IS LESS THAN 5', PROVIDE 5' X 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200' SPACING.
6. RETAINING WALL WILL BE SUBSIDIARY TO THE ITEM, "CONC SIDEWALKS (SPECIAL) (TYPE A)" OR "CONC SIDEWALKS (SPECIAL)(TYPE B)", WITH LIMITS OF PAY AS SHOWN.
7. SURFACE TREATMENT OF RETAINING WALL FACE DETAILED ELSEWHERE IN THE PLANS.
8. SEE PED STANDARDS FOR TREATMENT AT INTERSECTIONS AND CROSSWALKS.



CONCRETE SIDEWALK
(ADJACENT TO CURB)



CONCRETE SIDEWALK
(REMOTE FROM CURB)



TRANSVERSE EXPANSION JOINT

CONCRETE SIDEWALK DETAILS

N. T. S.

Texas Department of Transportation

Fort Worth District Standard

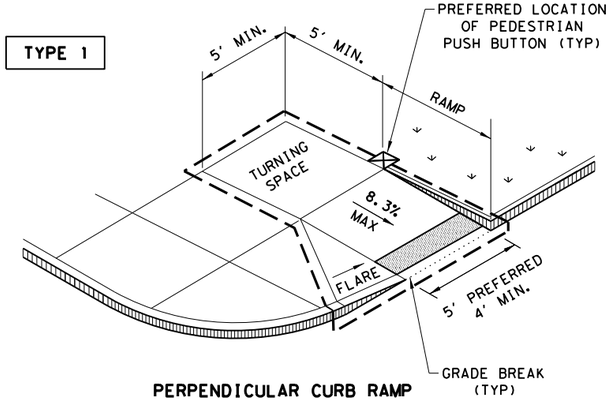
CONCRETE SIDEWALK DETAILS
CSWD (FTW)

ORIGINAL DRAWING: 05/2019	cswd-ftw.dgn	PROJECT NO.			SHEET NO.
DATE	REVISIONS	(SEE TITLE SHEET)			88
05/2019	NEW STANDARD	STATE	STATE DIST. NO.	COUNTY	
11/2020	REVISE JOINT NOMENCLATURE, REVISE ALLOWABLE SEALANT TYPES	TEXAS	FTW	TARRANT	
		CONT.	SECT.	JOB	HIGHWAY NO.
		0081	02	077	US 377

http://www.dot.state.tx.us/ftw/specinfo/standard.htm
3/20/2024 3:44:19 PM
$PATH$
c:\pwworking\ustx\dms39556\cswd-ftw.dgn

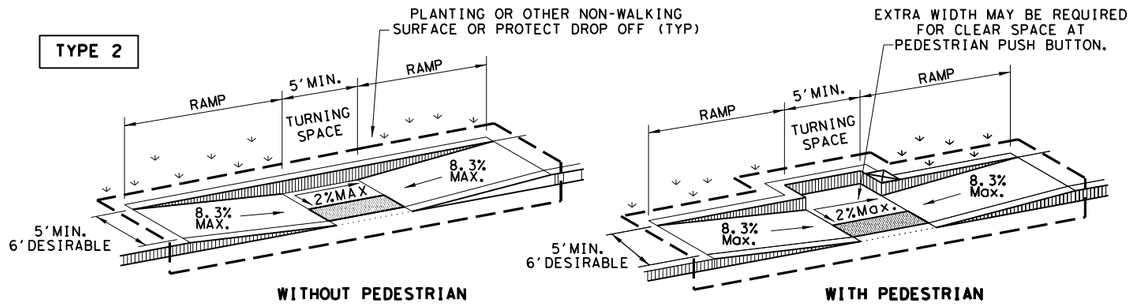
DATE: 3/20/2024
FILE: c:\pwworking\ustx\dms39556\ped18.dgn

TYPE 1



PERPENDICULAR CURB RAMP

TYPE 2

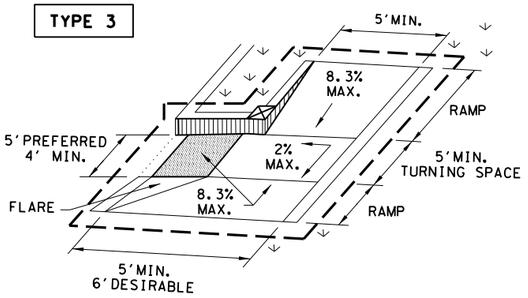


WITHOUT PEDESTRIAN PUSH BUTTON

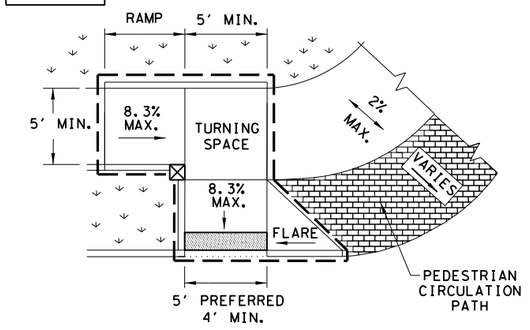
WITH PEDESTRIAN PUSH BUTTON

PARALLEL CURB RAMP

TYPE 3

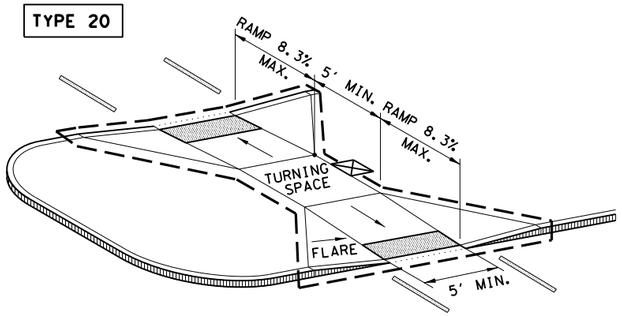


TYPE 6



COMBINATION CURB RAMPS

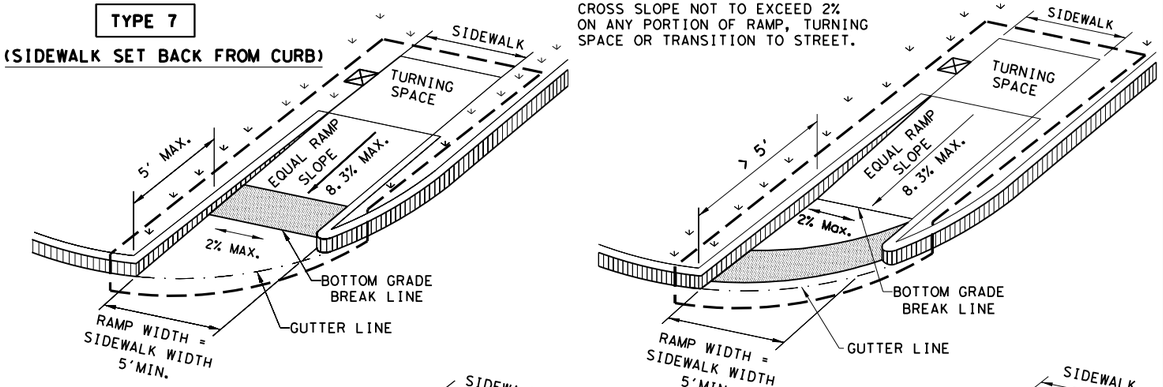
TYPE 20



CURB RAMPS AT MEDIAN ISLANDS

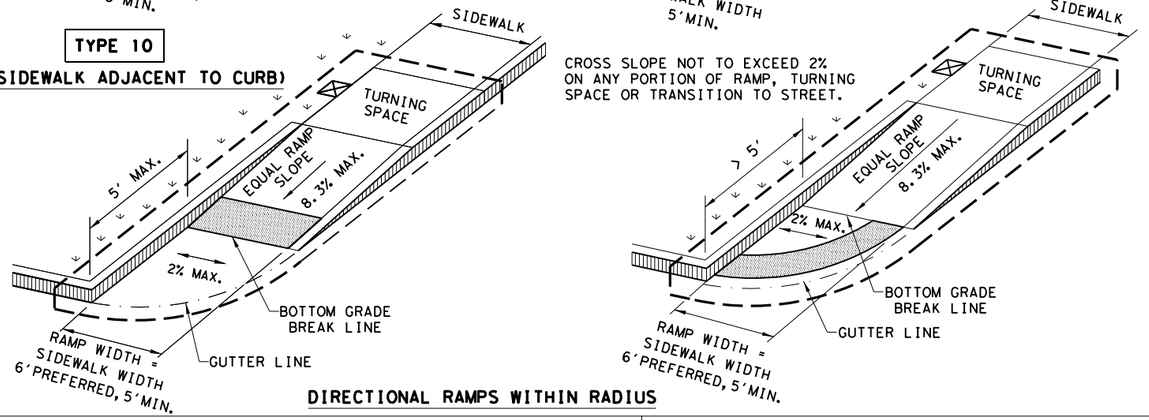
TYPE 7
(SIDEWALK SET BACK FROM CURB)

CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



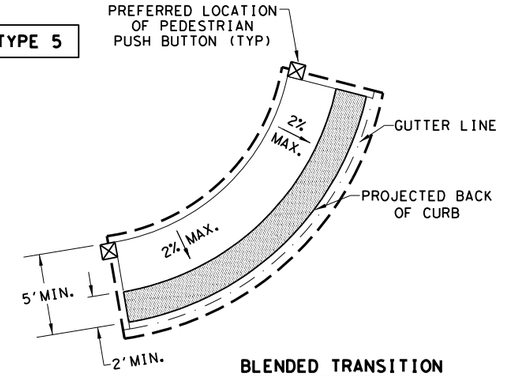
TYPE 10
(SIDEWALK ADJACENT TO CURB)

CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



DIRECTIONAL RAMPS WITHIN RADIUS

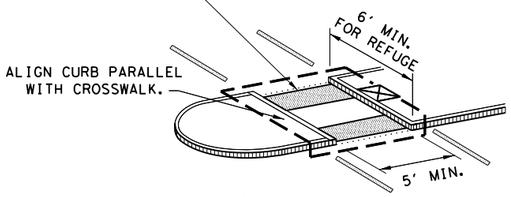
TYPE 5



BLENDED TRANSITION
(FLUSH LANDING)

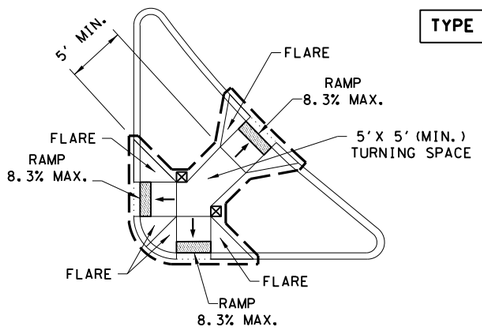
INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.

TYPE 21



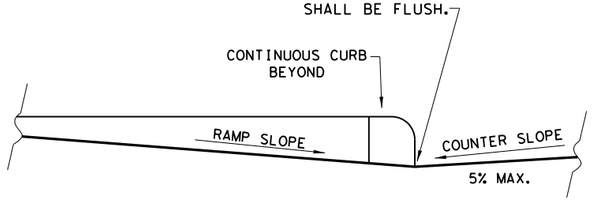
NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

TYPE 22



COMBINATION ISLAND RAMPS

BOTTOM GRADE BREAK OF CURB RAMP WILL NORMALLY BE AT GUTTER LINE. SURFACE SLOPES AT GRADE BREAKS SHALL BE FLUSH.



TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DETECTABLE WARNING SURFACE

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

GUTTER LINE

GRADE BREAK

RAMP LIMITS OF PAYMENT

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
REVISED 08,2005 REVISED 06,2012 REVISED 01,2018	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		89

DATE: 3/20/2024
FILE: c:\pwworking\ustx\dms39556\ped18.dgn

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicalble standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

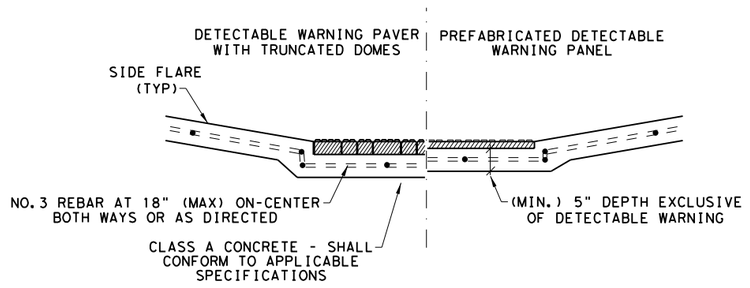
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

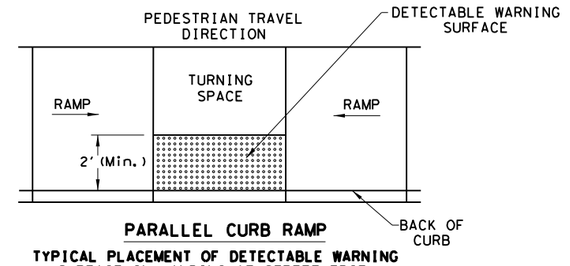
SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

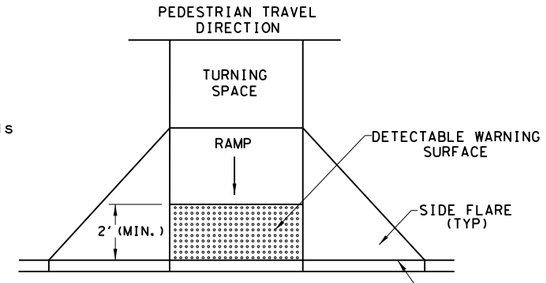


SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

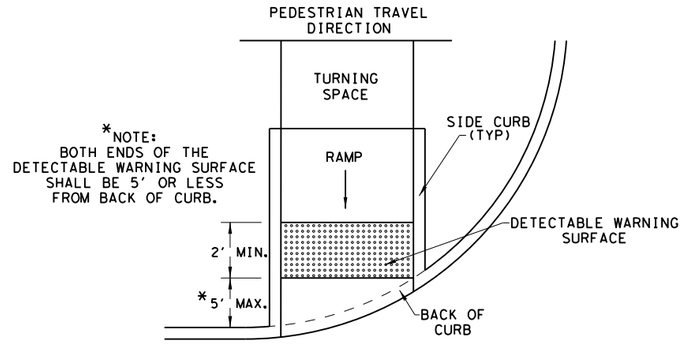
DETECTABLE WARNING SURFACE DETAILS



PARALLEL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DIRECTIONAL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

SHEET 2 OF 4

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PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT		DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB		HIGHWAY
REVISIONS	0081	02	077		US 377
REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY			SHEET NO.
	FTW	TARRANT			90

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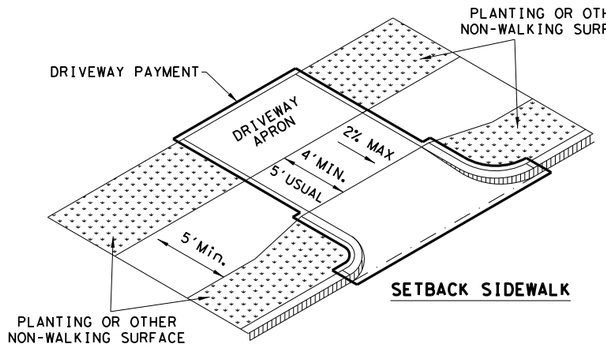
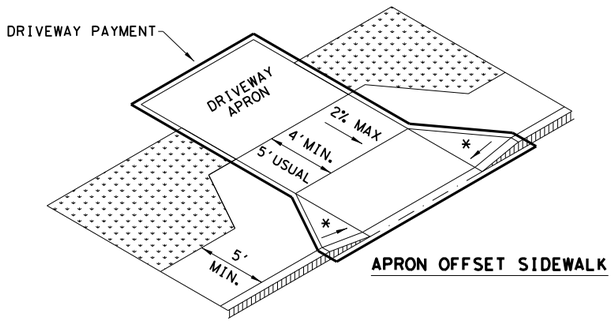
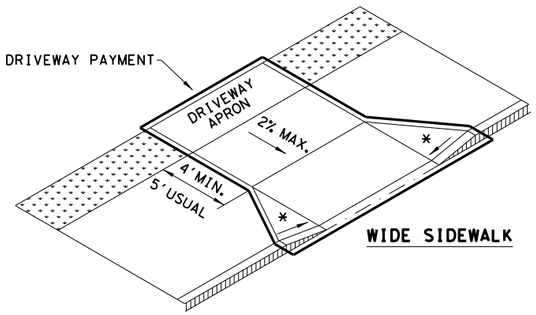
SIDEWALK TREATMENT AT DRIVEWAYS



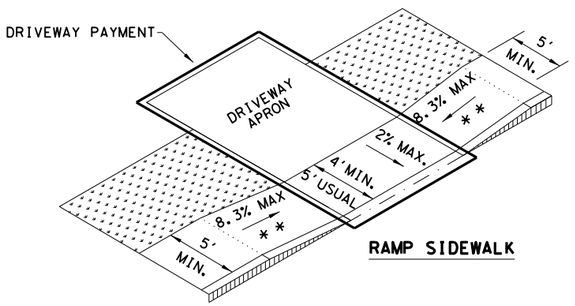
SETBACK SIDEWALK



APRON OFFSET SIDEWALK



WIDE SIDEWALK

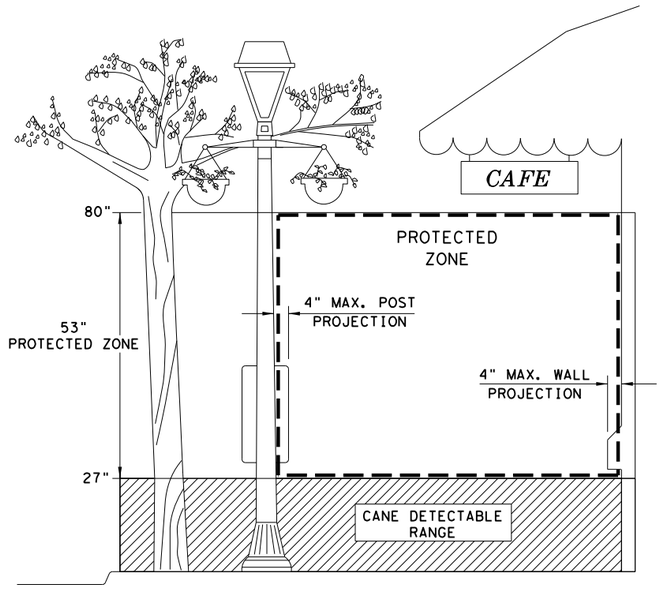


RAMP SIDEWALK

NOTES:

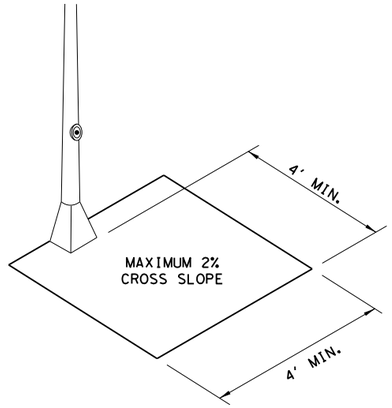
* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.

* * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.

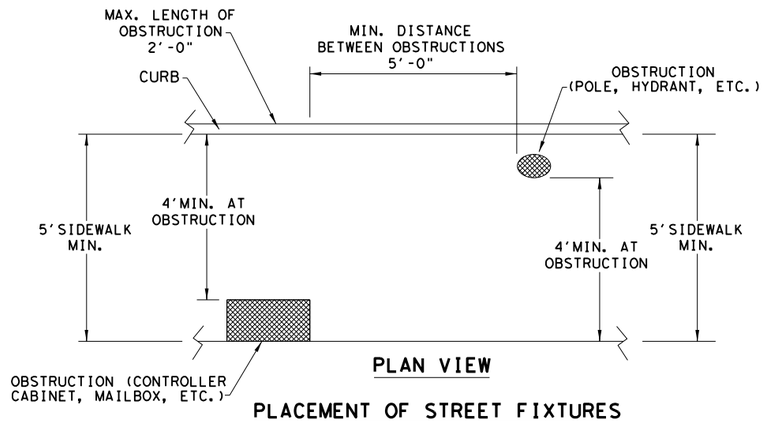


PROTECTED ZONE

NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



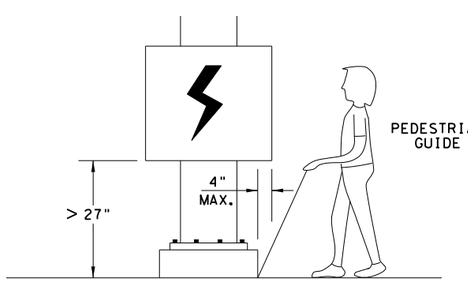
CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



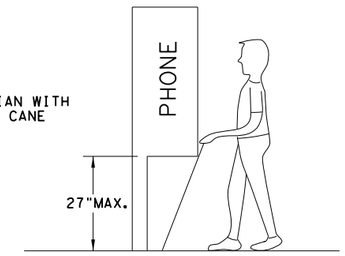
PLAN VIEW

PLACEMENT OF STREET FIXTURES

NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.



PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

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PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG	
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REVISIONS	0081	02	077	US 377	
REVISED 08,2005 REVISED 06,2012 REVISED 01,2018	DIST	COUNTY		SHEET NO.	
	FTW	TARRANT		91	

DATE: 3/20/2024
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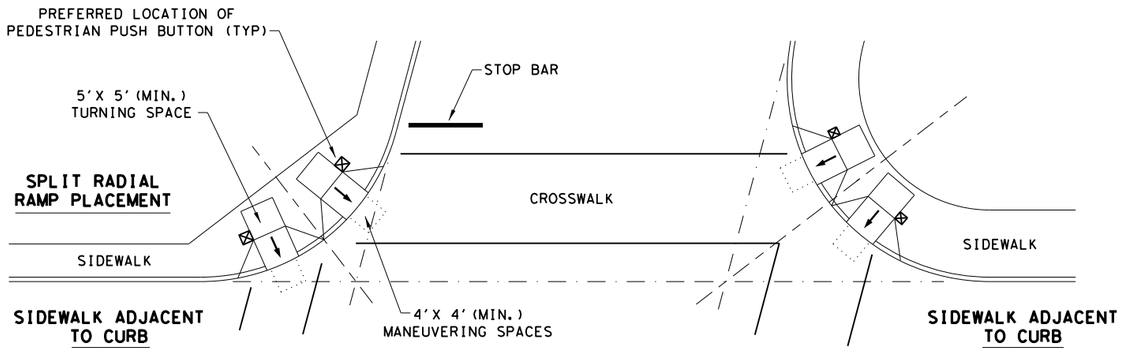
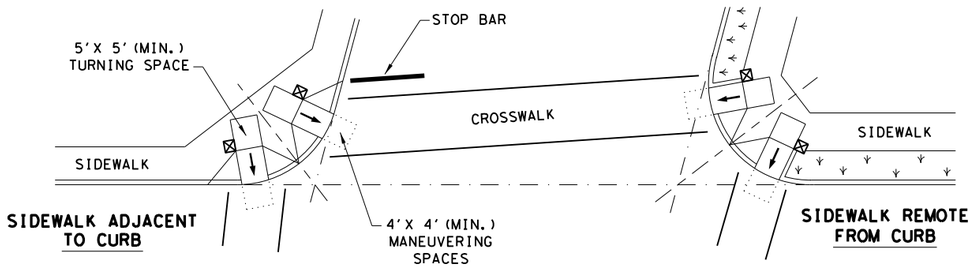
TYPICAL CROSSING LAYOUTS

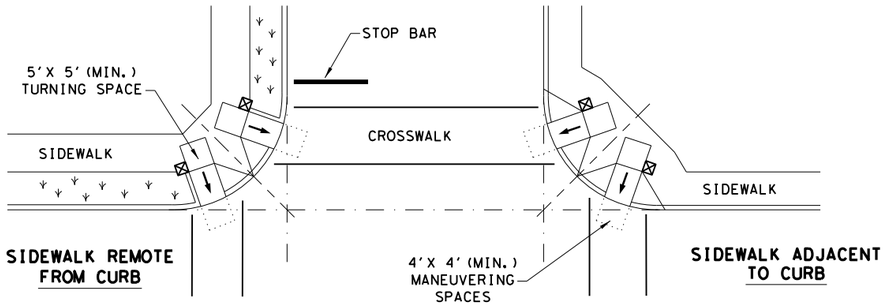
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



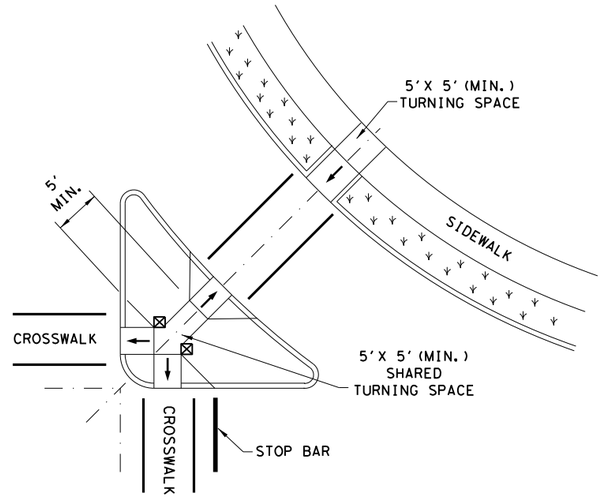
SKEWED INTERSECTION WITH "LARGE" RADIUS



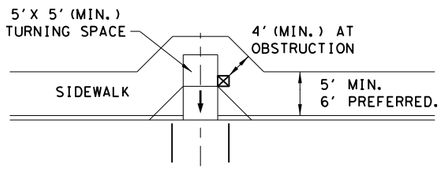
SKEWED INTERSECTION WITH "SMALL" RADIUS

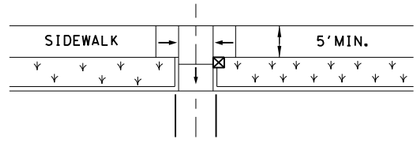


NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND





MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

LEGEND:

SHOWS DOWNWARD SLOPE. →

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE). ☒

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

Texas Department of Transportation

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PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
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REVISIONS	0081	02	077	US 377
REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		92

DATE: 3/20/2024
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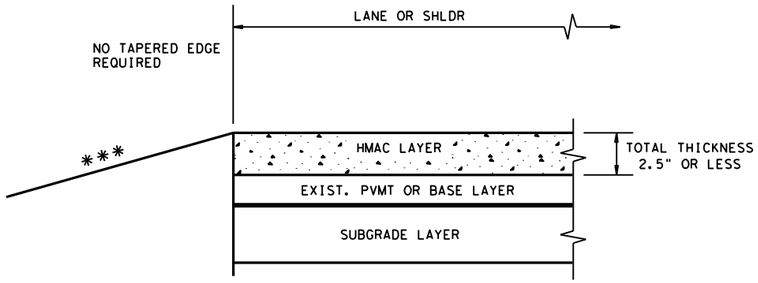
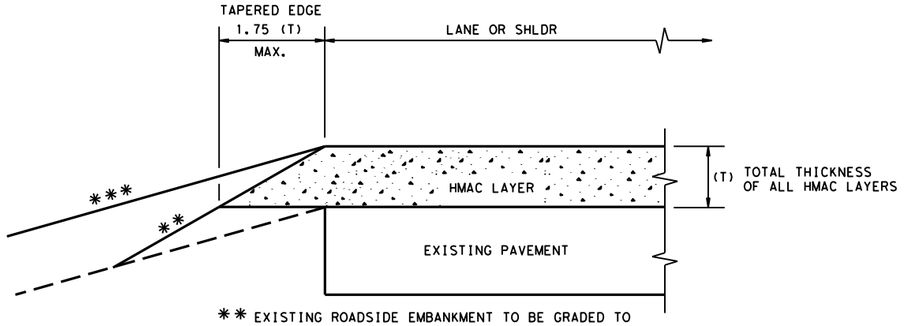


*** SEE TYPICAL SECTION FOR ROADSIDE DETAILS

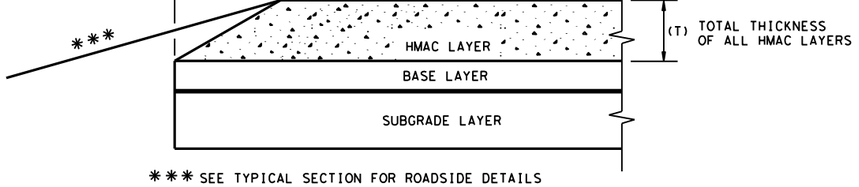
CONDITION - 1
THIN HMAC SURFACES OR HMAC OVERLAY WITH THICKNESS OF 2.5" OR LESS



** EXISTING ROADSIDE EMBANKMENT TO BE GRADED TO PRODUCE A SMOOTH LEVEL SURFACE FOR PLACEMENT OF TAPERED EDGE. THIS WORK IS SUBSIDIARY TO THE VARIOUS BID ITEMS.

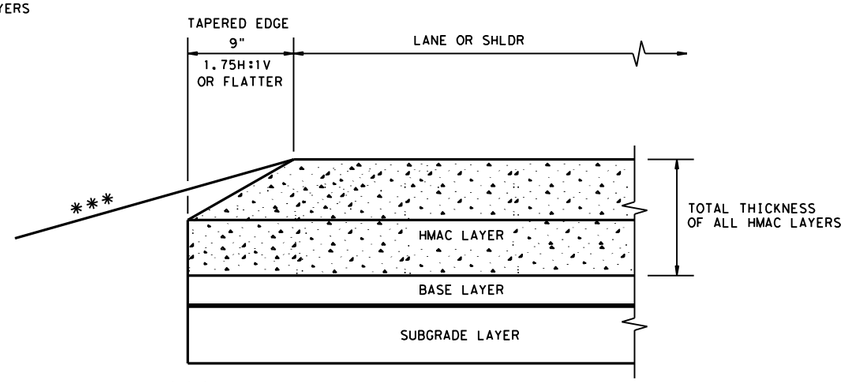
*** SEE TYPICAL SECTION FOR ROADSIDE DETAILS

CONDITION - 2
OVERLAY OF EXISTING PAVEMENT HMAC THICKNESS 2.5" TO 5"



*** SEE TYPICAL SECTION FOR ROADSIDE DETAILS

CONDITION - 3
NEW OR RECONSTRUCTED PAVEMENT HMAC THICKNESS 2.5" TO 5"



*** SEE TYPICAL SECTION FOR ROADSIDE DETAILS

CONDITION - 4
NEW OR RECONSTRUCTED PAVEMENT HMAC THICKNESS 5" OR GREATER

(NOT TO SCALE)

GENERAL NOTES

1. UNLESS OTHERWISE SHOWN IN THE PLANS, A VERTICAL EDGE IS PERMISSIBLE FOR HMAC PLACED GREATER THAN 5" BELOW THE EDGE OF PAVEMENT AND FOR THICKNESS OF HMAC LESS THAN 2.5".
2. FOR FURTHER INFORMATION REGARDING THE ROADSIDE AND PAVEMENT DETAILS, SEE TYPICAL SECTIONS.
3. PAYMENT FOR TAPERED EDGE WILL BE IN ACCORDANCE WITH APPLICABLE ITEMS IN THE CONTRACT.
4. THE SLOPE OF THE TAPERED EDGE SHALL BE 1.75H:1V OR FLATTER.
5. THE TAPERED EDGE SHALL BE PRODUCED BY USE OF A SCREED ATTACHMENT CAPABLE OF PRODUCING A SMOOTH COMPACTED SURFACE. ADDITIONAL COMPACTING EFFORT BEHIND THE SCREED IS NOT REQUIRED.

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TAPERED EDGE DETAILS HMAC PAVEMENT

TE(HMAC)-11

FILE: tehmac11.dgn	DN: TxDOT	CK: RL	DW: KB	CK:
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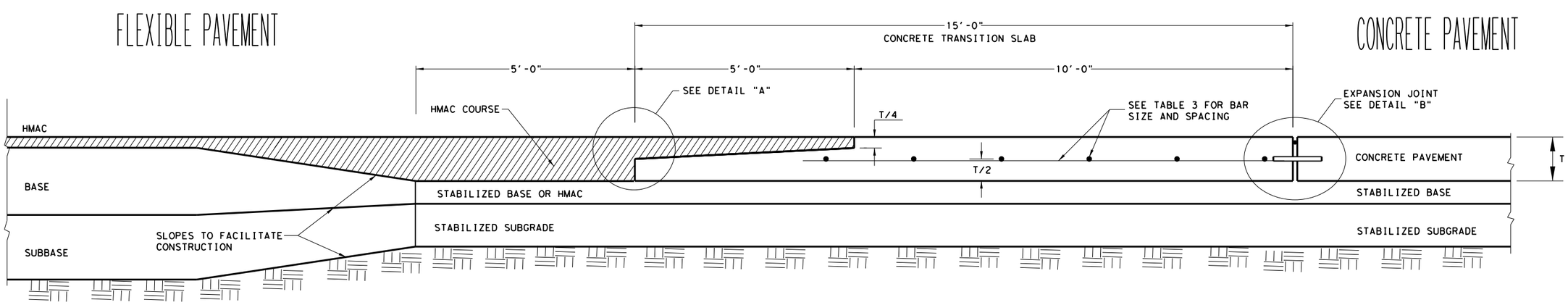
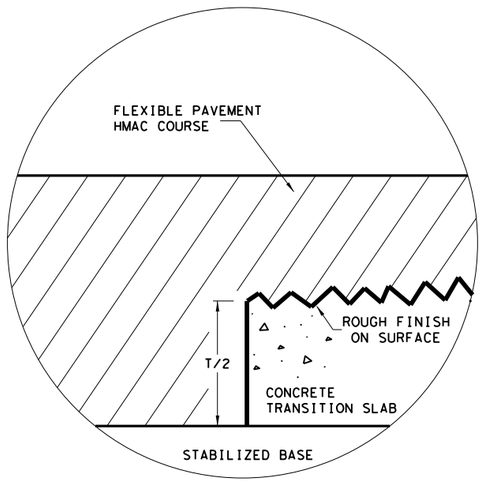
REVISIONS	0081	02	077	US 377
	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		93

DATE: 3/20/2024
FILE: c:\pwworking\ustx\dms39556\transitslab20.dgn

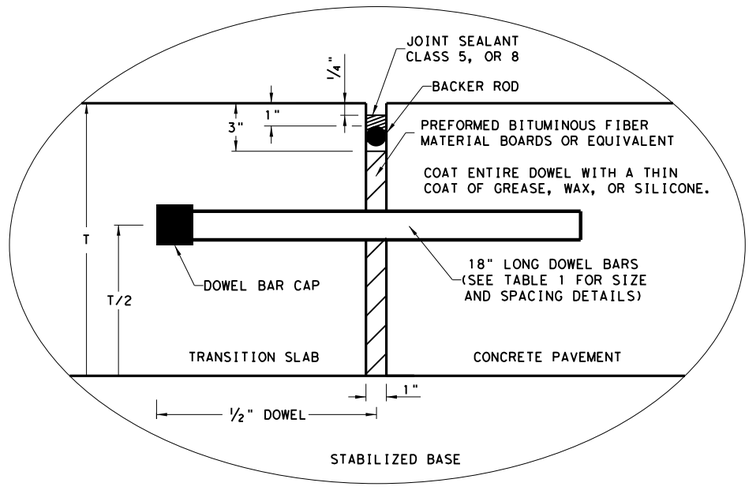


TYPICAL JUNCTION OF CONCRETE PAVEMENT WITH FLEXIBLE PAVEMENT

(NOT TO SCALE)



DETAIL "A"



DETAIL "B"

GENERAL NOTES

1. FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND LOAD TRANSFER DEVICES REFER TO THE GOVERNING SPECIFICATIONS FOR "CONCRETE PAVEMENT" AND "REINFORCING STEEL."
2. DETAILS FOR PAVEMENT WIDTH AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS.
3. MATCH THE LONGITUDINAL JOINTS OF THE CONCRETE TRANSITION SLAB WITH ADJOINING CONCRETE PAVEMENT. PROVIDE EQUIVALENT TIEBARS OR TRANSVERSE BARS AT THESE LONGITUDINAL JOINTS, SEE TABLE NO. 2.
4. REFER TO DMS-6310, "JOINT SEALANTS AND FILLERS" FOR THE CLASSIFICATIONS.
5. TRANSITION SLABS WILL BE PAID UNDER ITEM 360, "CONCRETE PAVEMENTS."

TABLE NO. 1 DOWELS (SMOOTH BARS)

SLAB THICKNESS T (IN.)	BAR DIA. AND LENGTH	SPACING (IN.)
7 TO 7.5	1" X 18"	12
8 TO 10	1 1/4" X 18"	12
10 TO 13	1 1/2" X 18"	12

TABLE NO. 2 TIE BARS (DEFORMED BARS)

SLAB THICKNESS T (IN.)	BAR SIZE	SPACING (IN.)
7 TO 7.5	#5	24
8 TO 13	#6	24

TABLE NO. 3 TRANSITION SLAB STEEL (DEFORMED BARS)

SLAB THICKNESS T (IN.)	BAR SIZE	SPACING (IN.) TRANSVERSE DIRECTION	SPACING (IN.) LONGITUDINAL DIRECTION
7 TO 7.5	#5	24	12
8 TO 13	#6	24	12

ADJUST SPACING OF LONGITUDINAL BARS AS NEEDED TO ACCOMDATE DOWEL BAR SPACING.

Texas Department of Transportation

Design Division Standard

CONCRETE PAVEMENT DETAILS TRANSITION SLAB

T-7 to 13 INCHES

TRANS-20

FILE: transitslab20.dgn	DN: TxDOT	DN: TxDOT	DW: AN	CK: KM
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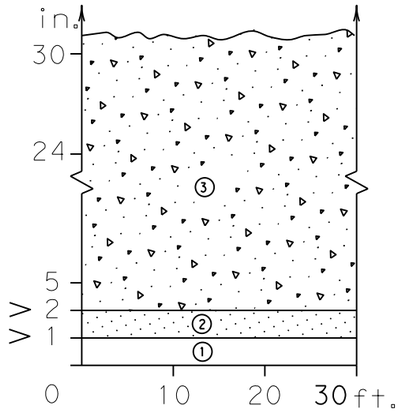
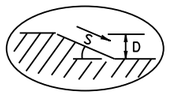
	FTW	TARRANT		94

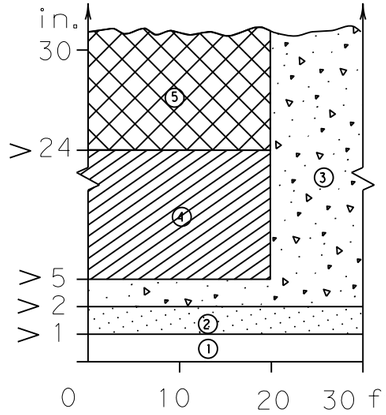
DEFINITION OF TREATMENT ZONES FOR VARIOUS EDGE CONDITIONS

Edge Height (D) in Inches versus Lateral Clearance (Y) in Feet

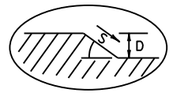


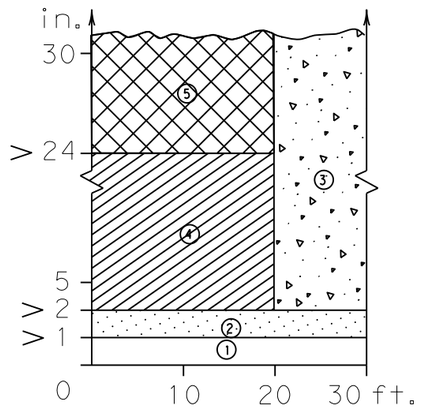
Edge Condition I
S = (3:1) (or flatter)



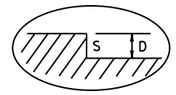


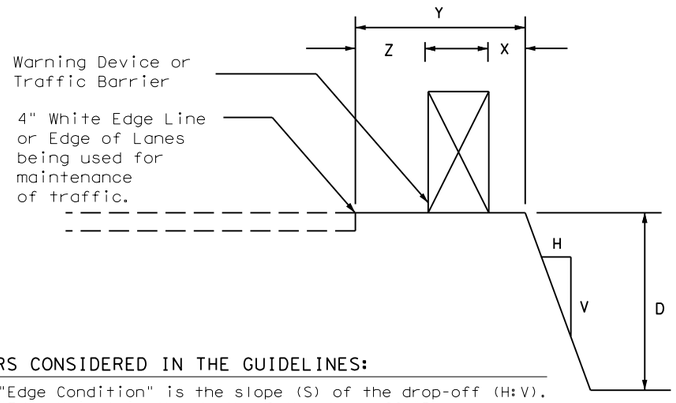
Edge Condition II
S = ((2.99):1) to (1:1)





Edge Condition III
S is steeper than (1:1)





FACTORS CONSIDERED IN THE GUIDELINES:

1. The "Edge Condition" is the slope (S) of the drop-off (H:V). The "Edge Height is the depth of the drop-off "D".

2. Distance "X" is to be the maximum practical under job conditions. Two feet minimum for high speed conditions. Distance "Y" is the lateral clearance from edge of travel lane to edge of dropoff. Distance "Z" does not have a minimum.

3. In addition to the factors considered in the guidelines, each construction zone drop-off situation should be analyzed individually, taking into account other variables, such as: traffic mix, posted speed in the construction zone, horizontal curvature, and the practicality of the treatment options.

4. The conditions for indicating the use of positive or protective barriers are given by Zone-5 and Figure-1. Traffic barriers are primarily applicable for high speed conditions. Urban areas with speeds of 30 mph or less may have a lesser need for signing, delineation, and barriers. Right-angled edges, however, with "D" greater than 2 inches and located within a lateral offset of 6 feet, may indicate a higher level of treatment.

5. If the distance "Y" must be less than 3 feet, the use of a positive barrier may not be feasible. In such a case, consider either: 1) narrowing the lanes to a desired 11 to 12 feet or 10 foot minimum (see CW20-8 sign), or 2) provide an edge slope such as Edge Condition I.

Zone	Treatment Types Guidelines:
①	
②	
③	
④	
⑤	

Edge Condition Notes:

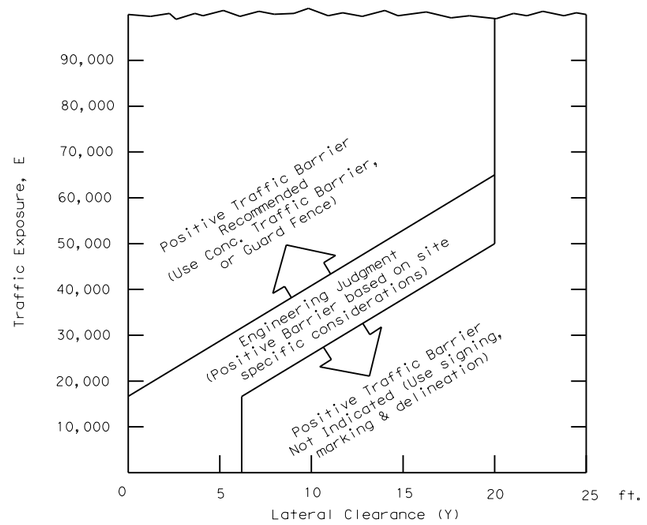
1. Edge Condition I: Most vehicles are able to traverse an edge condition with a slope rate of (3 to 1) or flatter. The slope must be constructed with a compacted material capable of supporting vehicles.

2. Edge Condition II: Most vehicles are able to traverse an edge condition with a slope between (2.99 to 1) and (1 to 1) so long as "D" does not exceed 5 inches. Under-carriage drag on most automobiles will occur when "D" exceeds 6 inches. As "D" exeeds 24 inches, the possibility for rollover is greater in most vehicles.

3. Edge Condition III: When slopes are greater than (1 to 1) and where "D" is greater than 2 inches, a more difficult control factor may exist for some vehicles, if not properly treated. For example, where "D" is greater than 2 inches and up to 24 inches different types of vehicles may experience different steering control at different edge heights. Automobiles might experience more steering control differential when "D" is greater than 2 inches and up to 5 inches. Trucks, particularly those with high loads, have more steering control differential when "D" is greater than 5 inches and up to 24 inches. When "D" exceeds 24 inches, the possibility of rollover is greater for most vehicles.

4. Milling or overlay operations that result in Edge Condition III should not be in place without appropriate warning treatments, and these conditions should not be left in place for extended periods of time.

FIGURE-1: CONDITIONS INDICATING USE OF POSITIVE BARRIER FOR ZONE 5 (▨)



1. E = ADT x T
   Where ADT is that portion of the average daily traffic volume traveling within 20 feet (generally two adjacent lanes) of the edge dropoff condition; and, T is the duration time in years of the dropoff condition.

2. Figure-1 provides a practical approach to the use of positive barriers for the protection of vehicles from pavement drop-offs. Other factors, such as the presence of heavy machinery, construction workers, or the mix and volume of traffic may make the use of positive barriers appropriate, even when the edge condition alone may not justify the use of a barrier.

3. An approved end treatment should be provided for any positive barrier end located within the clear zone.

These guidelines apply to temporary traffic control areas or work zones where continuous pavement edges or drop-offs exists parallel and adjacent to a lane used by traffic. The edge conditions may be present between shoulders and travel lanes, between adjacent or opposing travel lanes, or at intermediate points across the width of the paved surface. Due to the variability in construction operations, tolerances in the variables may be allowed by the engineer. These guidelines do not apply to short term operations. These guidelines do not constitute a rigid standard or policy; rather, they are guidance to be used in conjunction with engineering judgement. These guidelines may be updated on the Design Division's on-line manuals.

Engineer's Seal

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER

Date 3/20/2024

Texas Department of Transportation

Traffic Safety Division Standard

TREATMENT FOR VARIOUS EDGE CONDITIONS

FILE: edgecon.dgn	DN:	CK:	DW:	CK:
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03-01 08-01 9-21	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		95

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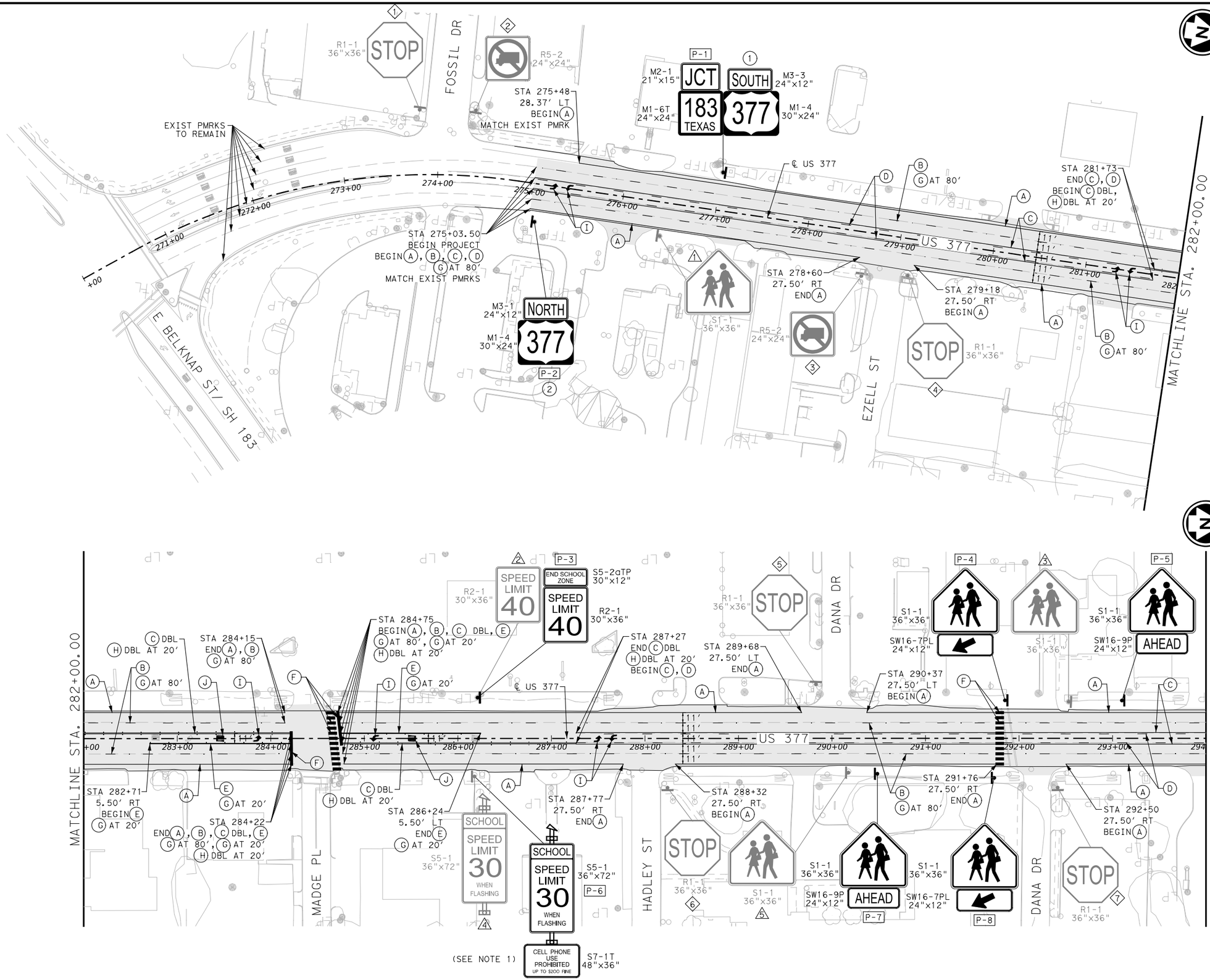

LEGEND

- PROPOSED MILL AND OVERLAY LIMITS
- (A) RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)
- (B) RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)
- (C) RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)
- (D) RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)
- (E) REFL PAV MRK TY I (W)8"(SLD)(100MIL)
- (F) REFL PAV MRK TY I (W)24"(SLD)(100MIL)
- (G) REFL PAV MRKR TY I-C
- (H) REFL PAV MRK TY II-A-A
- (I) REFL PAV MRK TY I (W)(ARROW)(100MIL)
- (J) REFL PAV MRK TY I (W)(WORD)(100MIL)
- SIGN / SIGN - 2 POSTS
- (#) EXISTING SIGN TO BE REMOVED AND REPLACED
- (#) EXISTING SIGN TO BE REMOVED
- (#) EXISTING SIGN TO REMAIN
- P-# PROPOSED NEW SIGN

NOTES:

1. EXISTING SIGN POST AND SOLAR POWERED FLASHER TO REMAIN. ONLY THE SIGN PANELS ARE TO BE REPLACED AS SHOWN.

3/12/2024

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Texas Department of Transportation

US 377

SIGNING AND PAVEMENT MARKING LAYOUT

BEGIN PROJECT TO STA 294+00

SHEET 1 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		96

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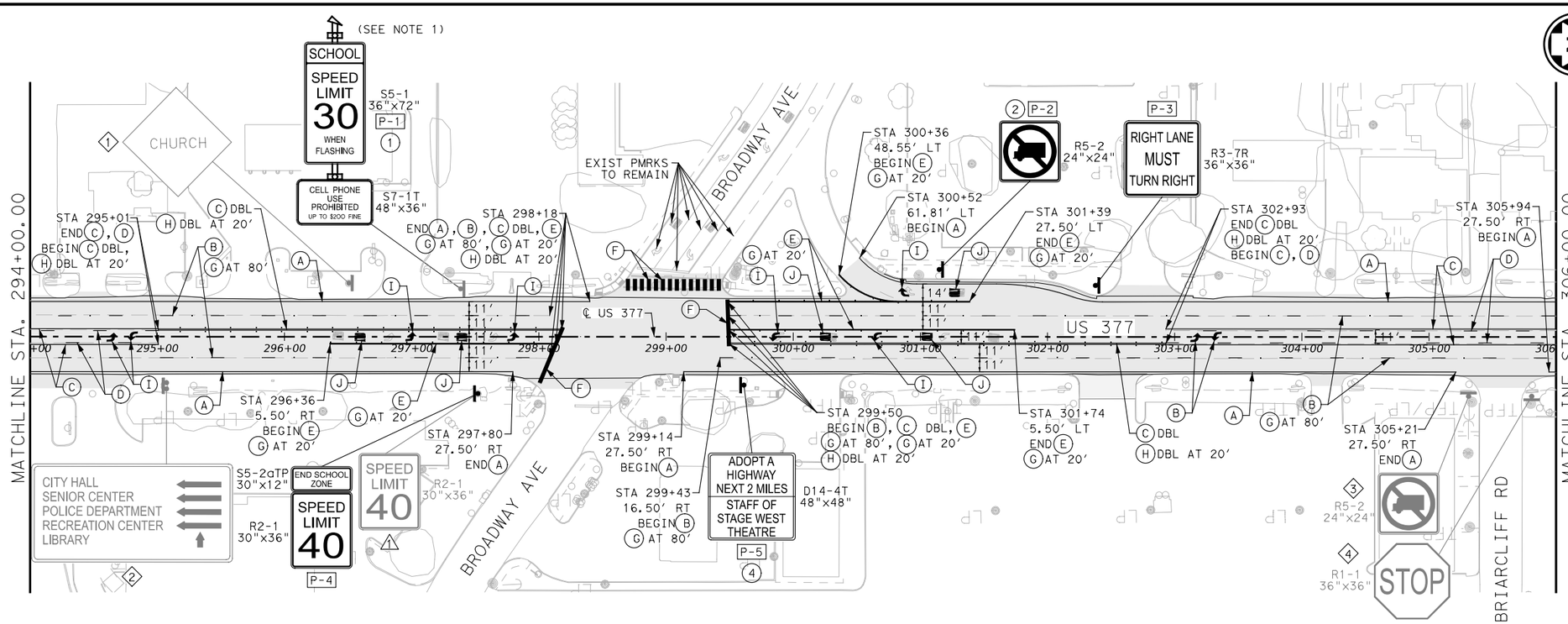

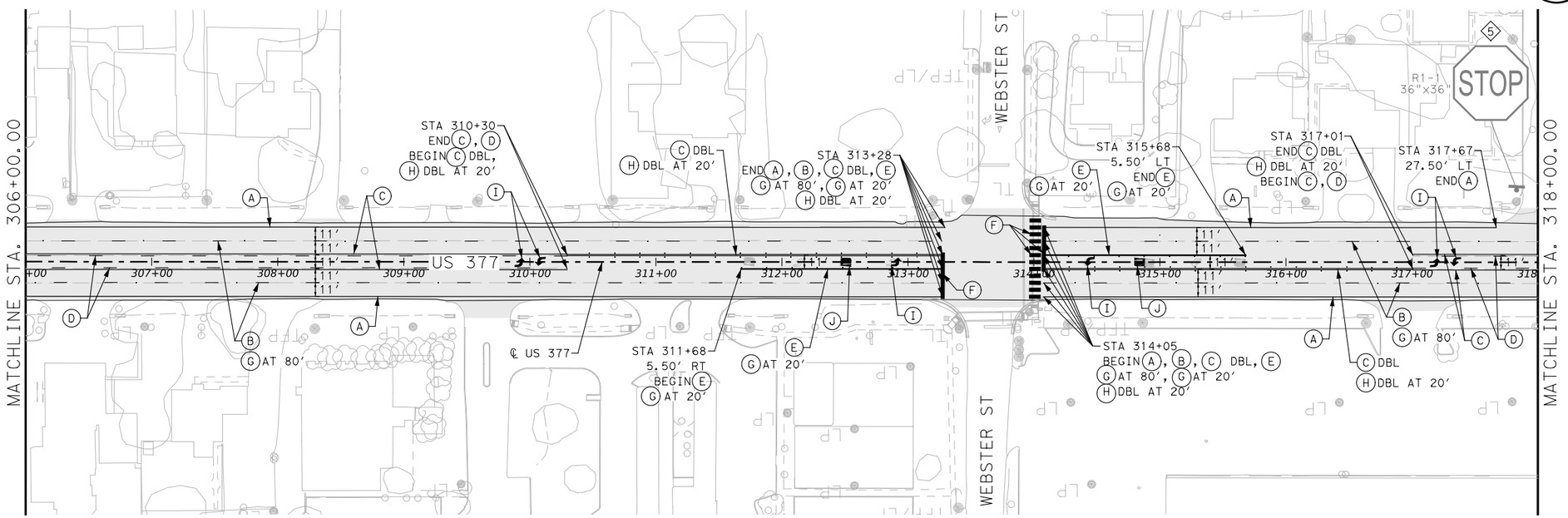

0 50 100
SCALE IN FEET

LEGEND

- PROPOSED MILL AND OVERLAY LIMITS
- (A) RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)
- (B) RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)
- (C) RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)
- (D) RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)
- (E) REFL PAV MRK TY I (W)8"(SLD)(100MIL)
- (F) REFL PAV MRK TY I (W)24"(SLD)(100MIL)
- (G) REFL PAV MRKR TY I-C
- (H) REFL PAV MRK TY II-A-A
- (I) REFL PAV MRK TY I (W)(ARROW)(100MIL)
- (J) REFL PAV MRK TY I (W)(WORD)(100MIL)
- SIGN — SIGN - 2 POSTS
- (#) EXISTING SIGN TO BE REMOVED AND REPLACED
- (#) EXISTING SIGN TO BE REMOVED
- (#) EXISTING SIGN TO REMAIN
- P-# PROPOSED NEW SIGN

NOTES:

1. EXISTING SIGN POST AND SOLAR POWERED FLASHER TO REMAIN. ONLY THE SIGN PANELS ARE TO BE REPLACED AS SHOWN.

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER

3/12/2024

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Texas Department of Transportation

US 377

SIGNING AND PAVEMENT MARKING LAYOUT

STA 294+00 TO STA 318+00

SHEET 2 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		97

DN: BSS CK: BH DW: AM CK: BH

DATE: 3/12/2024 12:15:35 PM
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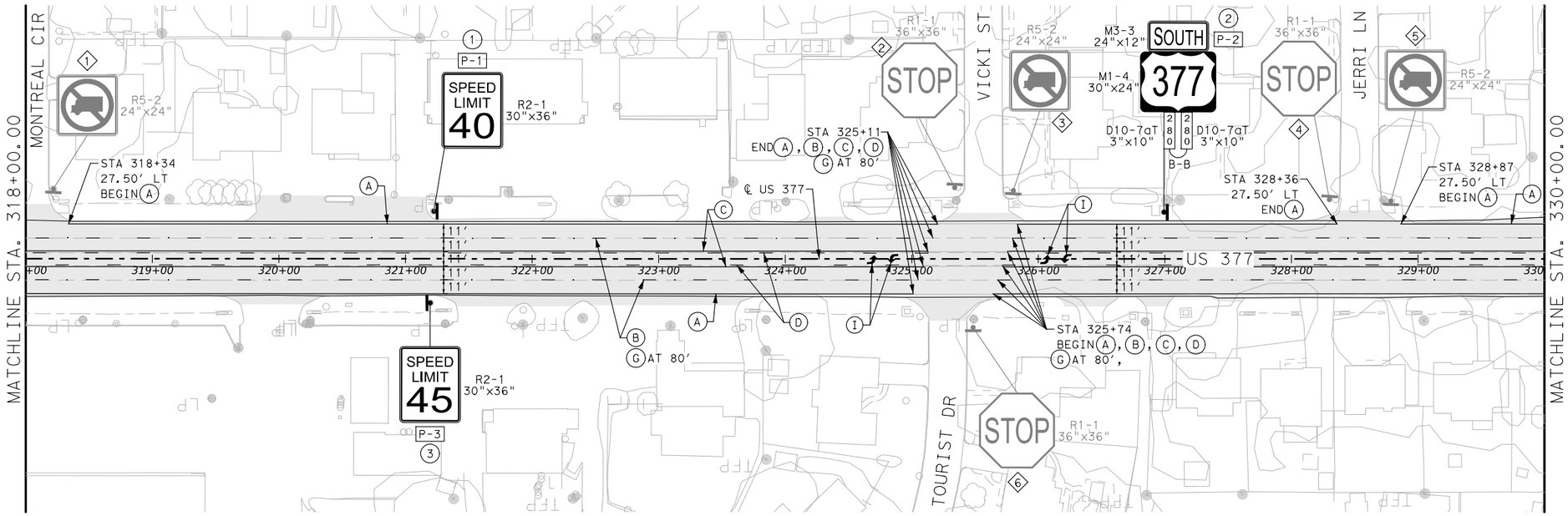
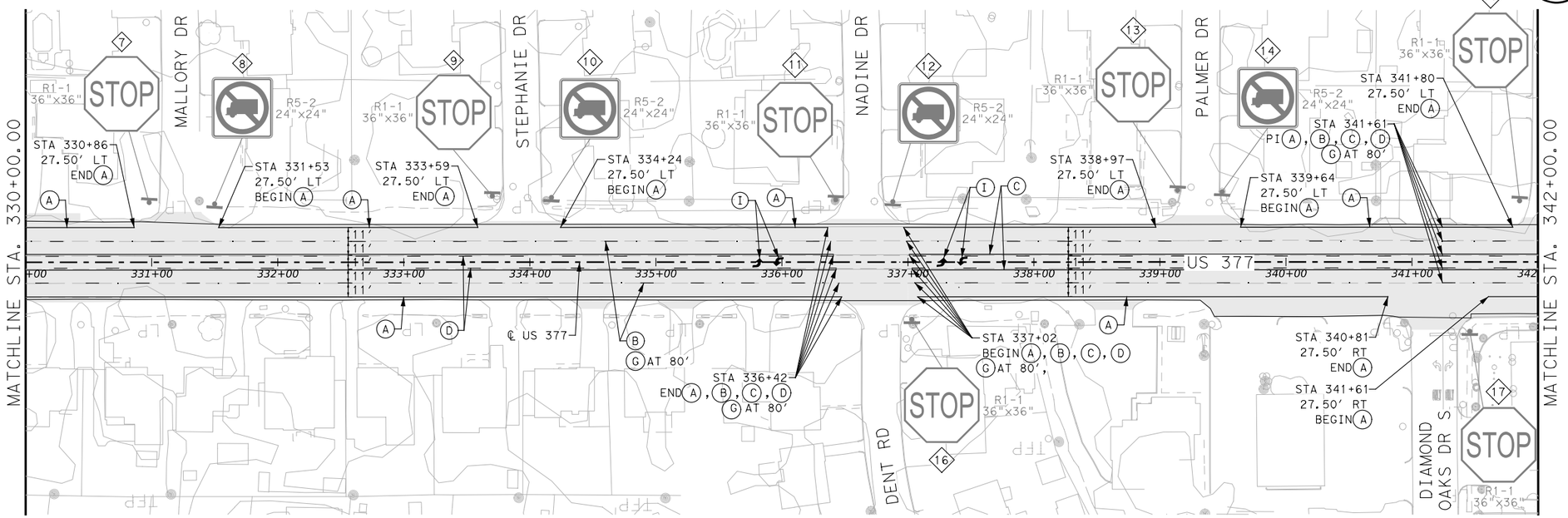
DW: AM
CK: BH
DN: BSS





0 50 100
SCALE IN FEET

LEGEND

- PROPOSED MILL AND OVERLAY LIMITS
- (A) RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)
- (B) RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)
- (C) RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)
- (D) RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)
- (E) REFL PAV MRK TY I (W)8"(SLD)(100MIL)
- (F) REFL PAV MRK TY I (W)24"(SLD)(100MIL)
- (G) REFL PAV MRKR TY I-C
- (H) REFL PAV MRK TY II-A-A
- (I) REFL PAV MRK TY I (W)(ARROW)(100MIL)
- (J) REFL PAV MRK TY I (W)(WORD)(100MIL)
- SIGN
- SIGN - 2 POSTS
- (#) EXISTING SIGN TO BE REMOVED AND REPLACED
- (#) EXISTING SIGN TO BE REMOVED
- (#) EXISTING SIGN TO REMAIN
- P-# PROPOSED NEW SIGN

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER

3/12/2024

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Texas Department of Transportation

US 377

SIGNING AND PAVEMENT MARKING LAYOUT

STA 318+00 TO STA 342+00

SHEET 3 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		98

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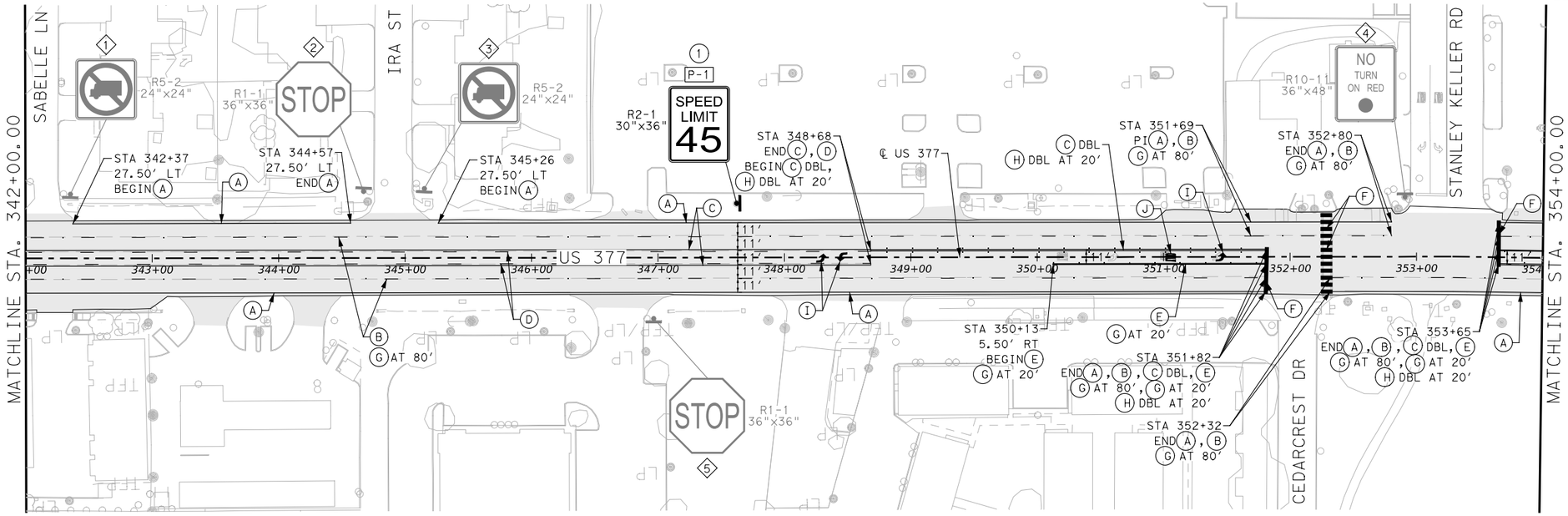
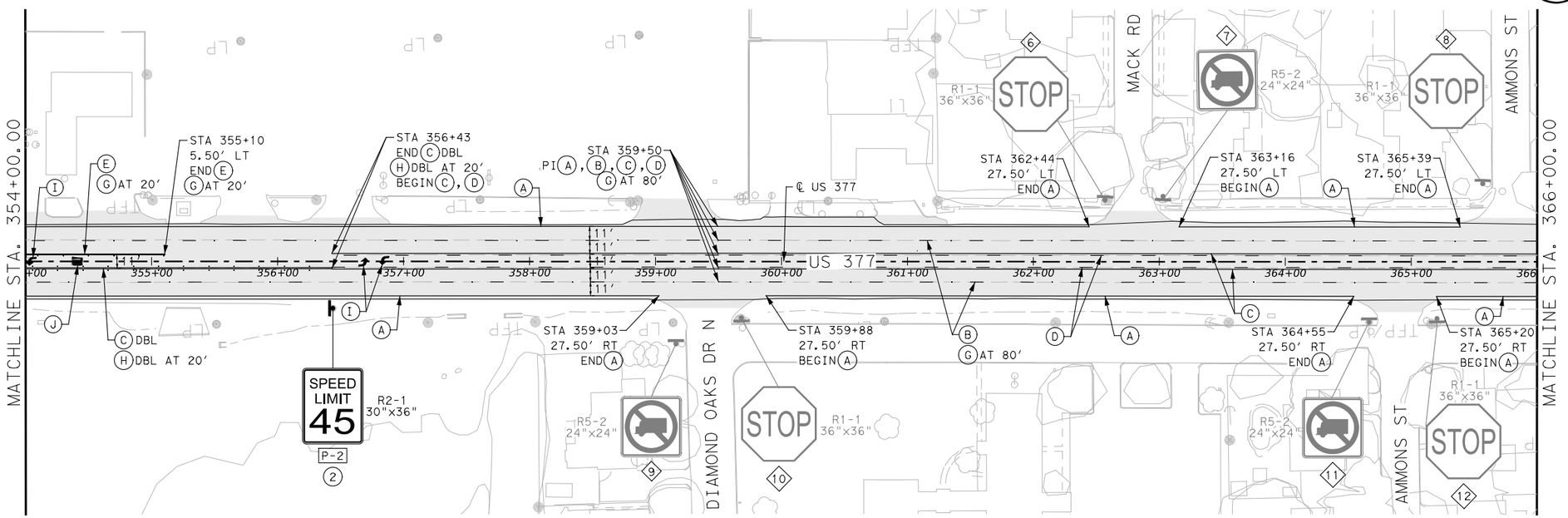


LEGEND

- PROPOSED MILL AND OVERLAY LIMITS
- (A) RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)
- (B) RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)
- (C) RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)
- (D) RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)
- (E) REFL PAV MRK TY I (W)8"(SLD)(100MIL)
- (F) REFL PAV MRK TY I (W)24"(SLD)(100MIL)
- (G) REFL PAV MRKR TY I-C
- (H) REFL PAV MRK TY II-A-A
- (I) REFL PAV MRK TY I (W)(ARROW)(100MIL)
- (J) REFL PAV MRK TY I (W)(WORD)(100MIL)
- SIGN
- SIGN - 2 POSTS
- (#) EXISTING SIGN TO BE REMOVED AND REPLACED
- (#) EXISTING SIGN TO BE REMOVED
- (#) EXISTING SIGN TO REMAIN
- P-# PROPOSED NEW SIGN



STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER
3/12/2024

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Texas Department of Transportation

US 377

SIGNING AND PAVEMENT MARKING LAYOUT

STA 342+00 TO STA 366+00

SHEET 4 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		99

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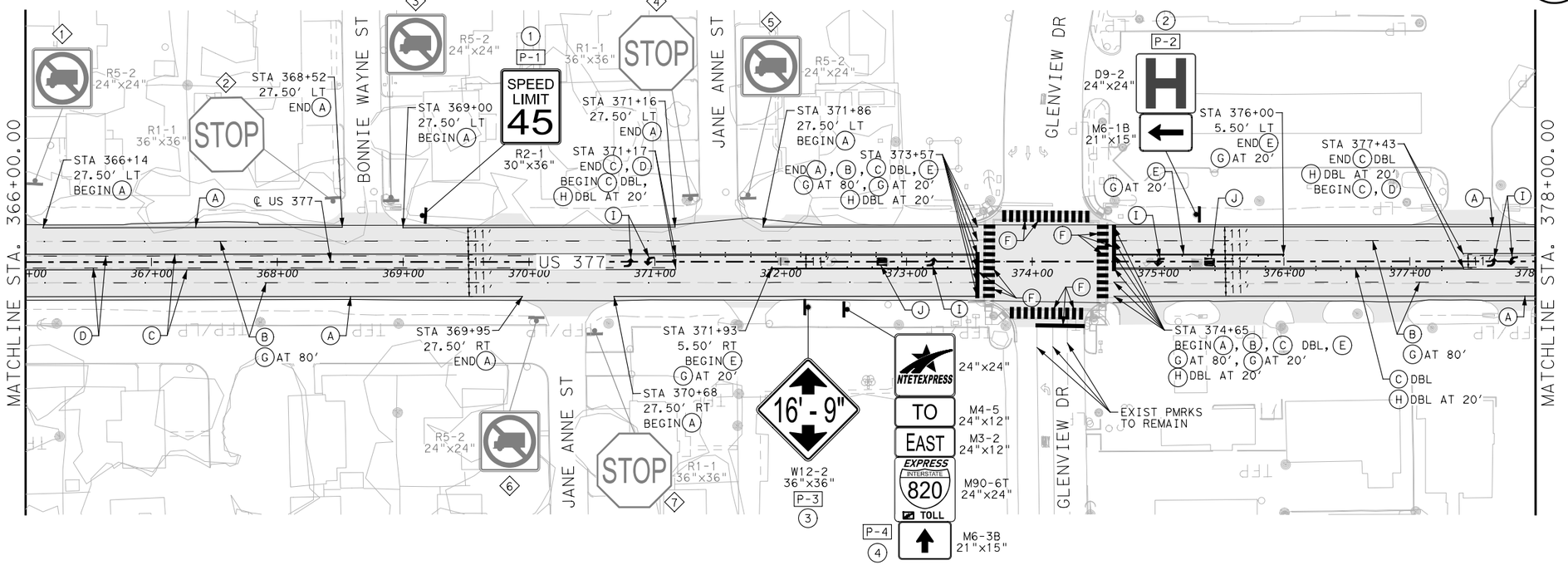
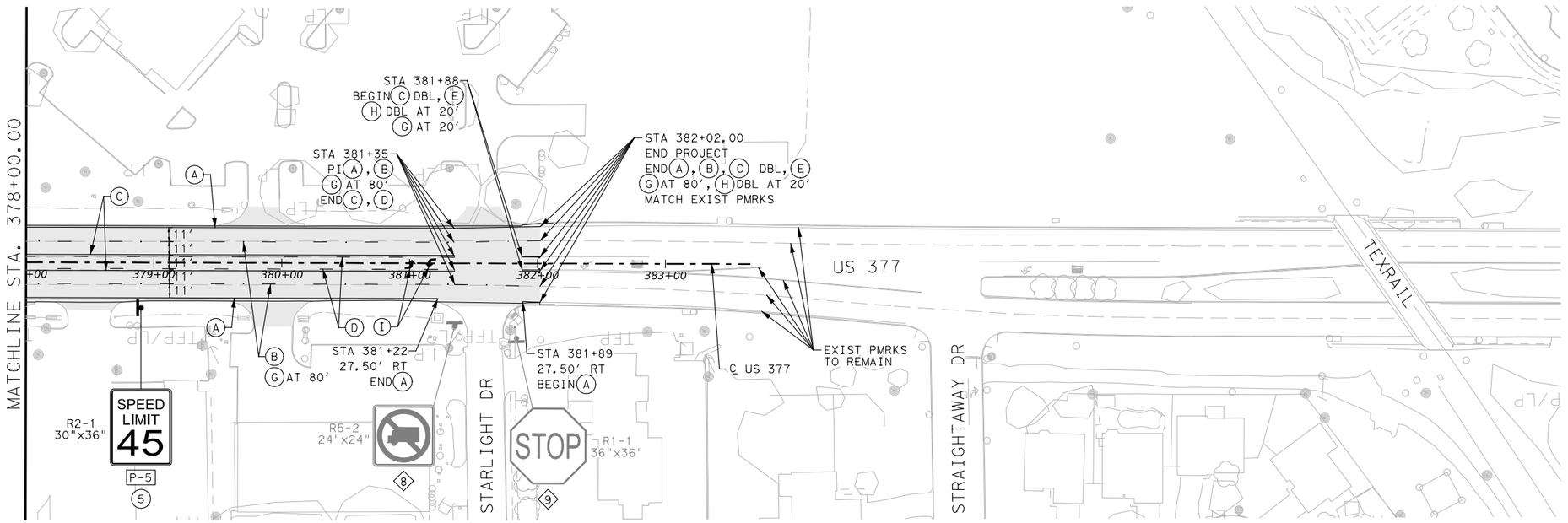




0 50 100
SCALE IN FEET

LEGEND

- PROPOSED MILL AND OVERLAY LIMITS
- (A) RE PM W/RET REQ TY I (W)6"(SLD)(100MIL)
- (B) RE PM W/RET REQ TY I (W)6"(BRK)(100MIL)
- (C) RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL)
- (D) RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL)
- (E) REFL PAV MRK TY I (W)8"(SLD)(100MIL)
- (F) REFL PAV MRK TY I (W)24"(SLD)(100MIL)
- (G) REFL PAV MRKR TY I-C
- (H) REFL PAV MRK TY II-A-A
- (I) REFL PAV MRK TY I (W)(ARROW)(100MIL)
- (J) REFL PAV MRK TY I (W)(WORD)(100MIL)
- SIGN
- SIGN - 2 POSTS
- (#) EXISTING SIGN TO BE REMOVED AND REPLACED
- ⚠(#) EXISTING SIGN TO BE REMOVED
- ◇(#) EXISTING SIGN TO REMAIN
- P-# PROPOSED NEW SIGN

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED
PROFESSIONAL ENGINEER

3/12/2024

OTHON ENGINEERING
FIRM REGISTRATION NO. F-1471

Texas Department of Transportation

US 377

SIGNING AND PAVEMENT MARKING LAYOUT

STA 366+00 TO END PROJECT

SHEET 5 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		100

CK: BH
DW: AM
CK: BH
DN: BSS

DATE: 3/12/2024 12:15:58 PM
FILE: c:\pwworking\ustx\dms39214\US377_OTH_PMRKS_05.dgn

SUMMARY OF SMALL SIGNS

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX) POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
1	P-1	M2-1	JCT	21"x15"								
		M1-6T	183 TEXAS	24"x24"								
					✓		10BWG	1	SA	U		
		M3-3	SOUTH	24"x12"								
		M1-4	377	30"x24"								
	P-2	M3-1	NORTH	24"x12"								
					✓		10BWG	1	SA	P		
		M1-4	377	30"x24"								
	P-3	S5-2aTP	END SCHOOL ZONE	30"x12"								
			SPEED LIMIT 40		✓		10BWG	1	SA	P		
		R2-1		30"x36"								
	P-4	S1-1		36"x36"								
					✓		10BWG	1	SA	P		
		SW16-7PL		24"x12"								
	P-5	S1-1		36"x36"								
					✓		10BWG	1	SA	P		
		SW16-9P	AHEAD	24"x12"								

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
2. For installation of bridge mount clearance signs, see Bridge Mounted Clearance Sign Assembly (BMCS)Standard Sheet.
3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER

3/12/2024

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

SHEET 1 OF 4

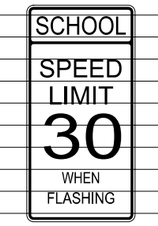
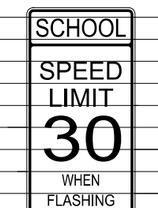
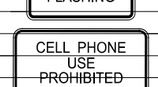
FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
4-16	DIST	COUNTY		SHEET NO.
8-16	FTW	TARRANT		101

18

DATE: 3/12/2024 12:16:06 PM
FILE: c:\pwworking\ustx\dms39214\US377_OTH_SOSS_01.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
1	P-6	S5-1		36"x72"	✓		USE EXISTING SIGN POST					
		S7-1T		48"x36"								
	P-7	S1-1		36"x36"	✓		10BWG	1	SA	P		
		SW16-9P		24"x12"								
	P-8	S1-1		36"x36"	✓		10BWG	1	SA	P		
		SW16-7PL		24"x12"								
2	P-1	S5-1		36"x72"	✓		USE EXISTING SIGN POST					
		S7-1T		48"x36"								
	P-2	R5-2		24"x24"	✓		10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

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NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
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3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER

3/12/2024

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

SHEET 2 OF 4

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
4-16	DIST	COUNTY		SHEET NO.
8-16	FTW	TARRANT		102

18

DATE: 3/12/2024 12:16:15 PM
FILE: c:\pwworking\ustx\dms39214\US377_OTH_SOSS_02.dgn

SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE (FRP = Fiberglass, TWT = Thin-Wall, 10BWG = 10 BWG, S80 = Sch 80)	POSTS (1 or 2)	ANCHOR TYPE (UA=Universal Conc, UB=Universal Bolt, SA=Slipbase-Conc, SB=Slipbase-Bolt, WS=Wedge Steel, WP=Wedge Plastic)	MOUNTING DESIGNATION: PREFABRICATED (P = "Plain", T = "T", U = "U")	MOUNTING DESIGNATION: 1EXT or 2EXT = # of Ext, BM = Extruded Wind Beam, WC = 1.12 #/ft Wing Channel, EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE (TY N, TY S)
2	P-3	R3-7R	RIGHT LANE MUST TURN RIGHT	36"x36"	✓		10BWG	1	SA	P		
	P-4	S5-2aTP	END SCHOOL ZONE	30"x12"								
		R2-1	SPEED LIMIT 40	30"x36"	✓		10BWG	1	SA	P		
	P-5	D14-4T	ADOPT A HIGHWAY NEXT 2 MILES / STAFF OF STAGE WEST THEATRE	48"x48"	✓		10BWG	1	SA	U		
3	P-1	R2-1	SPEED LIMIT 40	30"x36"	✓		10BWG	1	SA	P		
	P-2	M3-3	SOUTH	24"x12"								
		M1-4	377	30"x24"								
					✓		10BWG	1	SA	P		
		D10-7aT	280	3"X10"								
		D10-7aT	280	3"X10"								
	P-3	R2-1	SPEED LIMIT 45	30"x36"	✓		10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

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NOTE:

1. Sign supports shall be located as shown on the plans, except that the Engineer may shift the sign supports, within design guidelines, where necessary to secure a more desirable location or to avoid conflict with utilities. Unless otherwise shown on the plans, the Contractor shall stake and the Engineer will verify all sign support locations.
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3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER

3/12/2024

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

SHEET 3 OF 4

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
4-16	DIST	COUNTY		SHEET NO.
8-16	FTW	TARRANT		103

18

DATE: 3/12/2024 12:16:24 PM
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SUMMARY OF SMALL SIGNS

SM RD SGN ASSM TY XXXXX (X) XX (X-XXXX)

PLAN SHEET NO.	SIGN NO.	SIGN NOMENCLATURE	SIGN	DIMENSIONS	FLAT ALUMINUM (TYPE A)	EXAL ALUMINUM (TYPE G)	POST TYPE FRP = Fiberglass TWT = Thin-Wall 10BWG = 10 BWG S80 = Sch 80	POSTS 1 or 2	ANCHOR TYPE UA=Universal Conc UB=Universal Bolt SA=Slipbase-Conc SB=Slipbase-Bolt WS=Wedge Steel WP=Wedge Plastic	MOUNTING DESIGNATION PREFABRICATED P = "Plain" T = "T" U = "U"	1EXT or 2EXT = # of Ext BM = Extruded Wind Beam WC = 1.12 #/ft Wing Channel EXAL= Extruded Alum Sign Panels	BRIDGE MOUNT CLEARANCE SIGNS (See Note 2) TY = TYPE TY N TY S
4	P-1	R2-1	SPEED LIMIT 45	30"x36"	✓		10BWG	1	SA	P		
	P-2	R2-1	SPEED LIMIT 45	30"x36"	✓		10BWG	1	SA	P		
5	P-1	R2-1	SPEED LIMIT 45	30"x36"	✓		10BWG	1	SA	P		
	P-2	D9-2	H	24"x24"	✓		10BWG	1	SA	P		
		M6-1B	←	21"x15"								
	P-3	W12-2	16' - 9"	36"x36"	✓		10BWG	1	SA	P		
	P-4		NTETEXPRESS	24"x24"								
		M4-5	TO	24"x12"								
		M3-2	EAST	24"x12"	✓		10BWG	1	SA	P		
		M90-6T	EXPRESS INTERSTATE 820 TOLL	24"x24"								
		M6-3B	↑	21"x15"								
	P-5	R2-1	SPEED LIMIT 45	30"x36"	✓		10BWG	1	SA	P		

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080"
7.5 to 15	0.100"
Greater than 15	0.125"

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

NOTE:

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3. For Sign Support Descriptive Codes, see Sign Mounting Details Small Roadside Signs General Notes & Details SMD(GEN).

STATE OF TEXAS
IN SUNG HWANG
131159
LICENSED PROFESSIONAL ENGINEER

3/12/2024

Texas Department of Transportation

Traffic Operations Division Standard

SUMMARY OF SMALL SIGNS

SOSS

SHEET 4 OF 4

FILE: sums16.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT May 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
4-16 8-16	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		104

18

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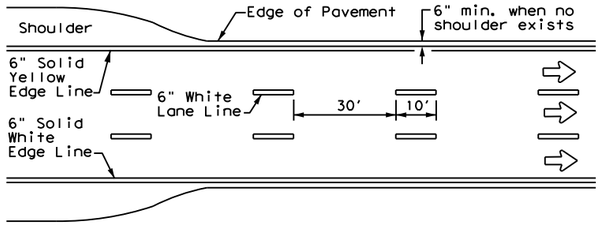
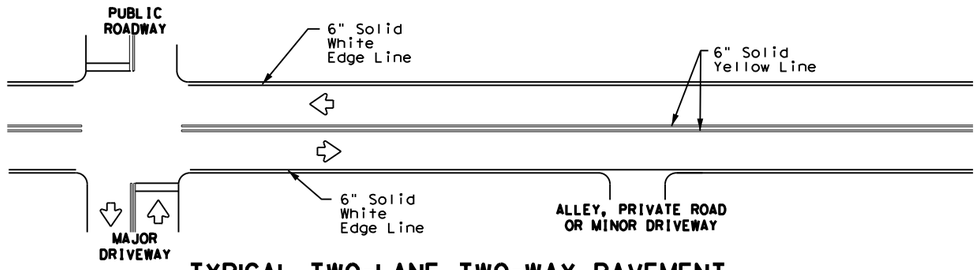
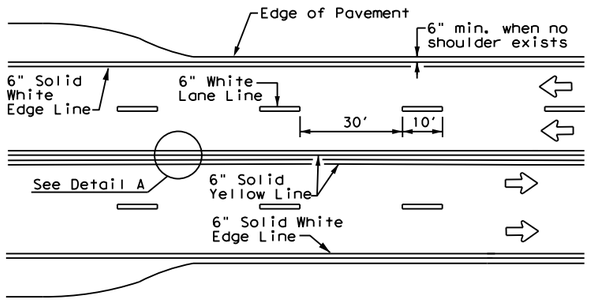
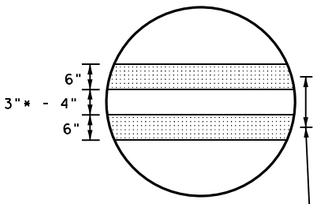


EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



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

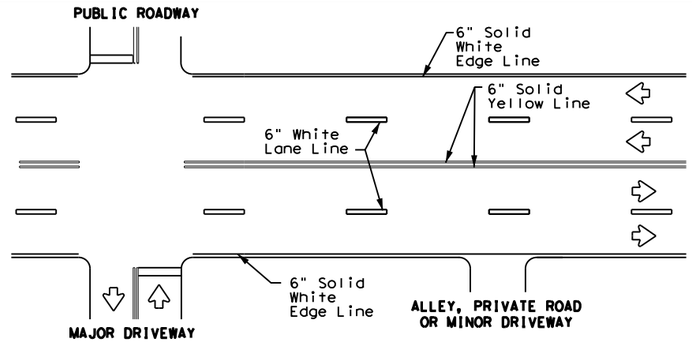




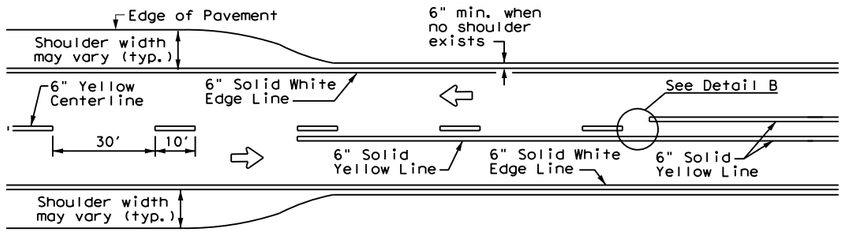
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

* 2" minimum for restripe projects when approved by the Engineer.

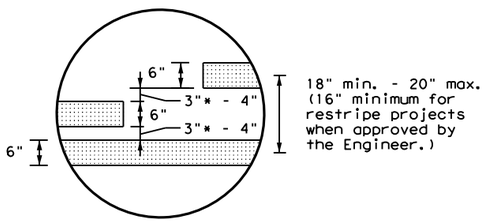
** 8" minimum for restripe projects when approved by the Engineer.



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

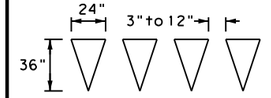


TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



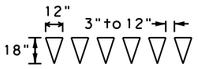
DETAIL "B"

* 2" minimum for restripe projects when approved by the Engineer.

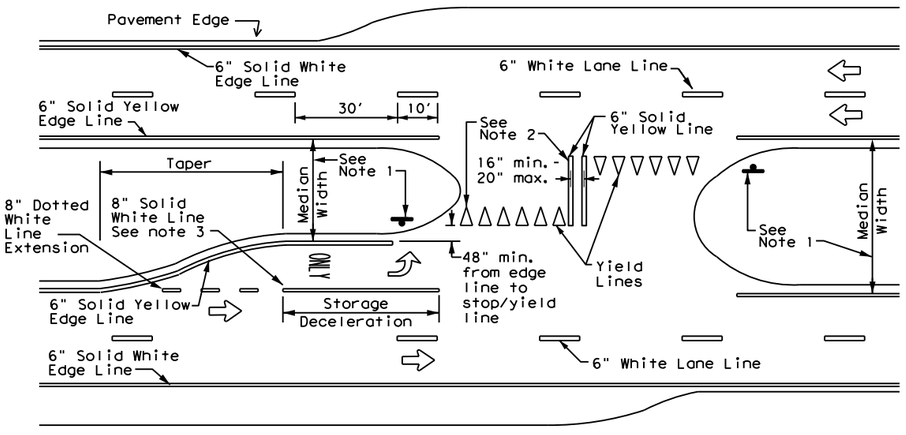


For posted speed on road being marked equal to or greater than 45 MPH.

YIELD LINES



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



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

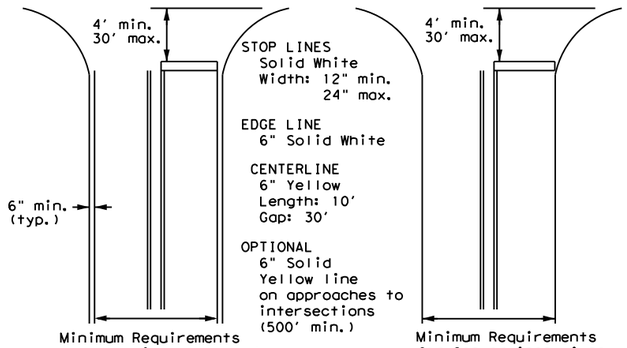
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections.
   Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines 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. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines 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 center of edge line to the center of edge line 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.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways

Texas Department of Transportation

Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

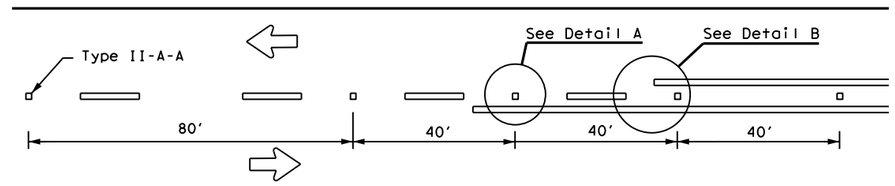
PM(1)-22

FILE: pm1-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 11-78 8-00 6-20	0081	02	077	US 377
8-95 3-03 12-22	DIST	COUNTY		SHEET NO.
5-00 2-12	FTW	TARRANT		105

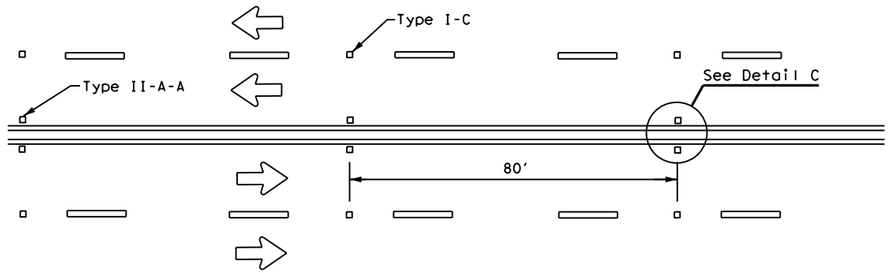
22A

DATE: 3/20/2024 3:48:38 PM
FILE: c:\pwworking\ustx\dms43477\pm1-22.dgn

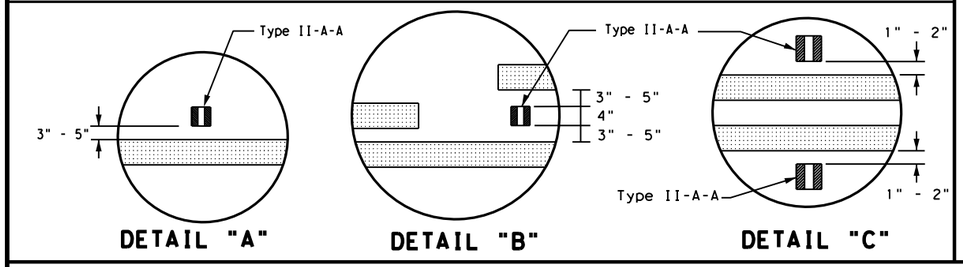
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

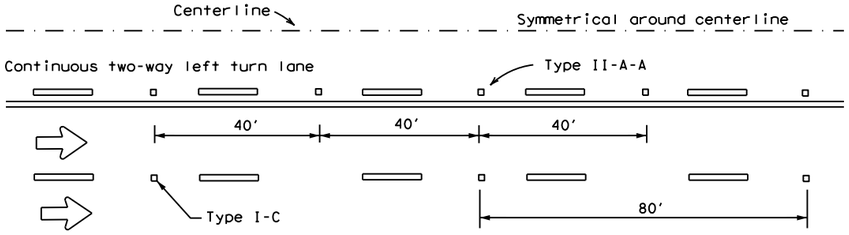


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS

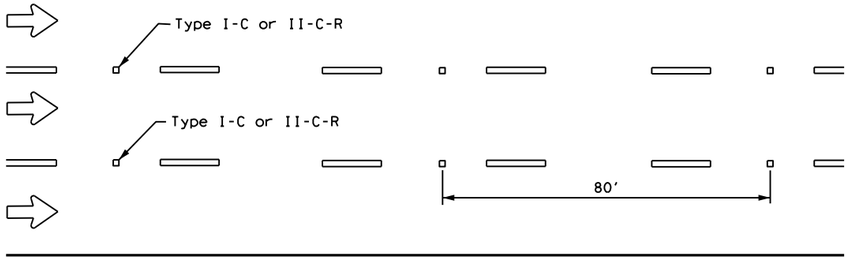


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS





CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



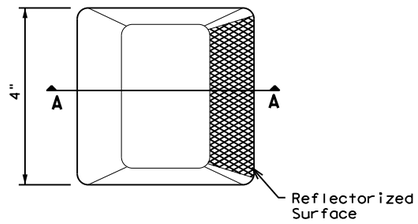
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

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

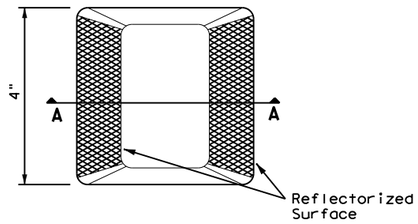
See Note 3.

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

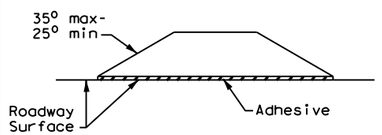
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

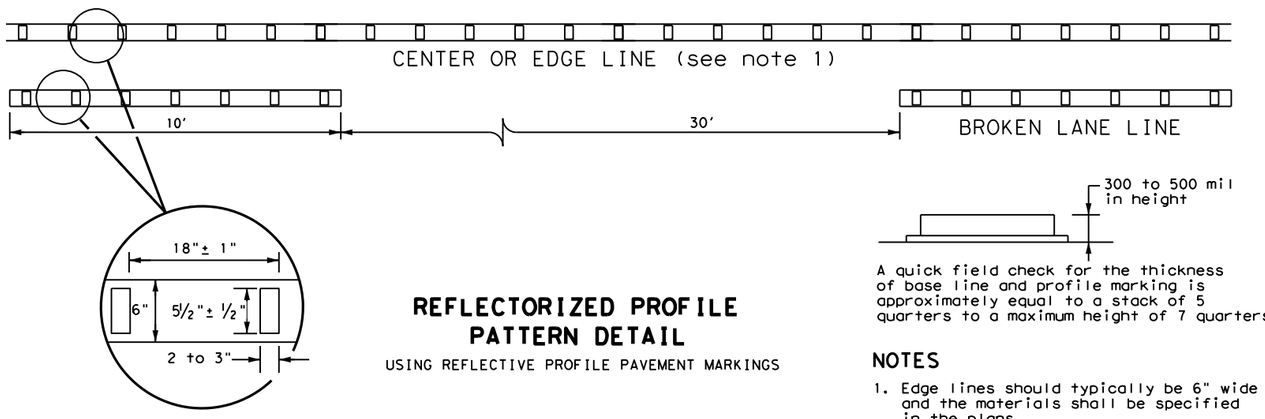


Type II (Top View)



SECTION A

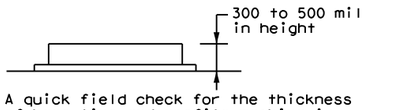
RAISED PAVEMENT MARKERS



6" EDGE LINE, 6" CENTERLINE OR 6" LANE LINE

REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



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

NOTES

1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

Texas Department of Transportation

Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS RELECTORIZED PROFILE MARKINGS PM(2)-22

FILE: pm2-22.dgn	DN:	CK:	DW:	CK:
©TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-77 8-00 6-20 4-92 2-10 12-22 5-00 2-12	0081	02	077	US 377
	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		106

22B

DATE: 3/20/2024 3:48:56 PM
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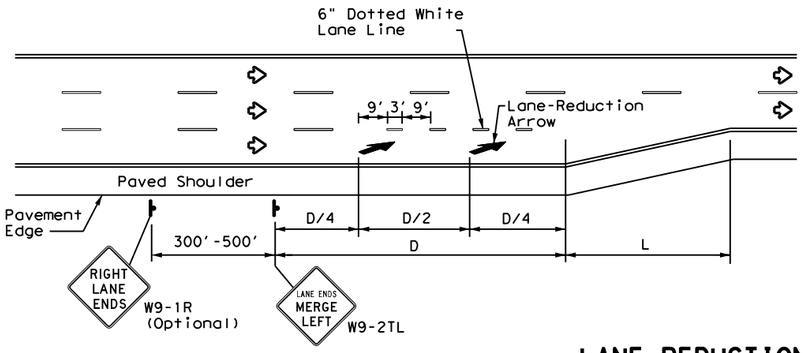
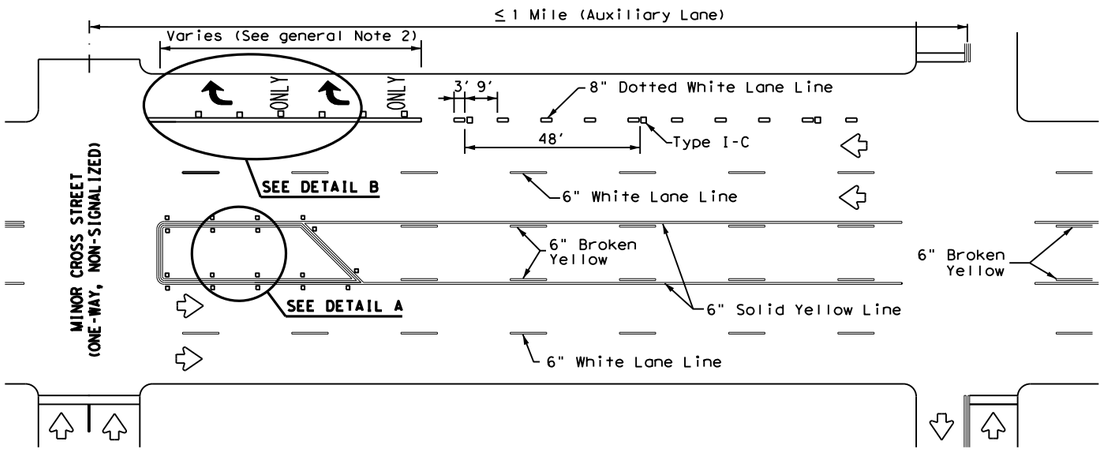


LANE REDUCTION

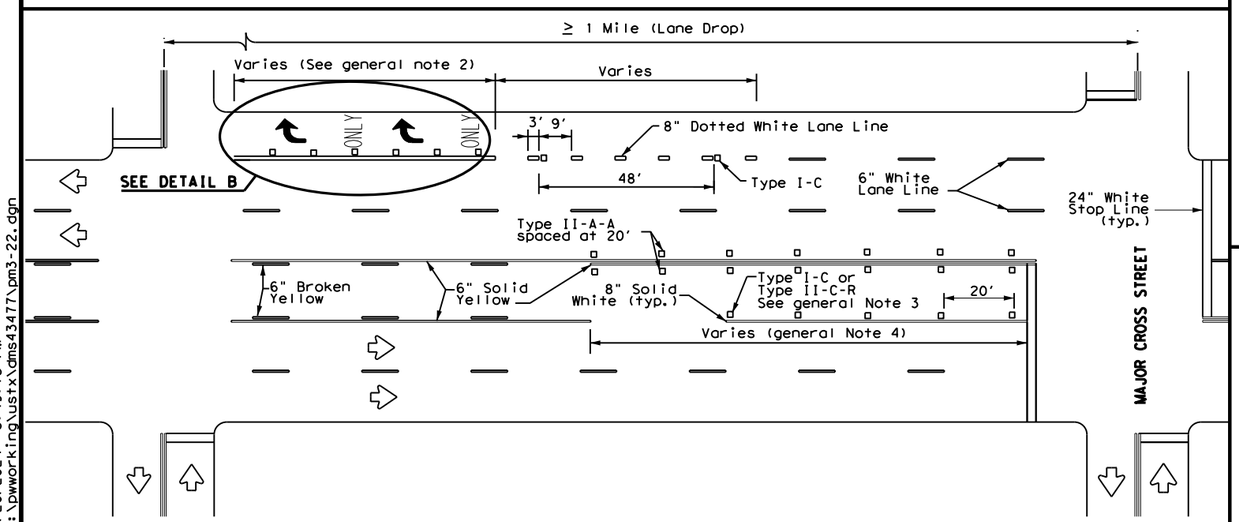
NOTES

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

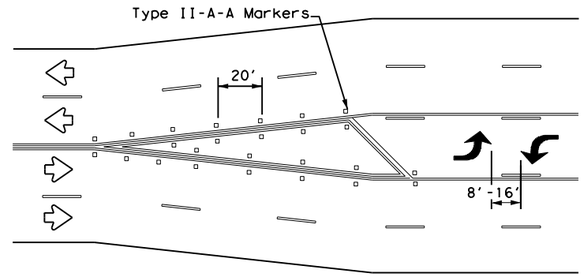
ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	



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



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



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.

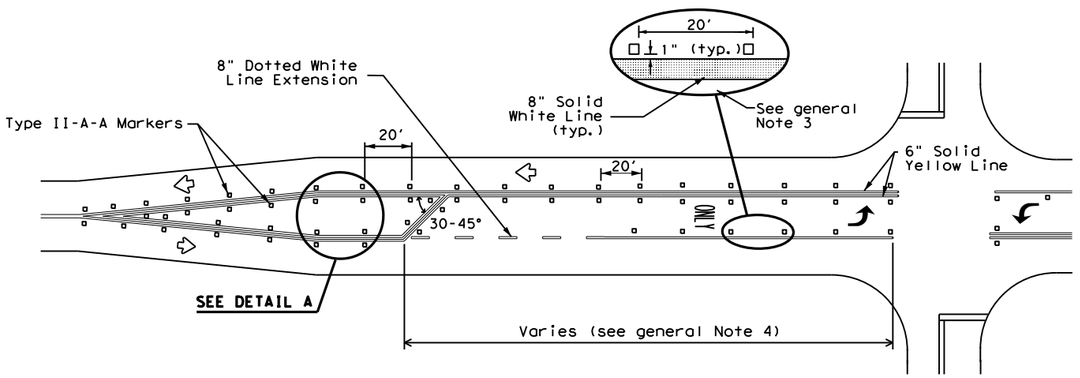
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

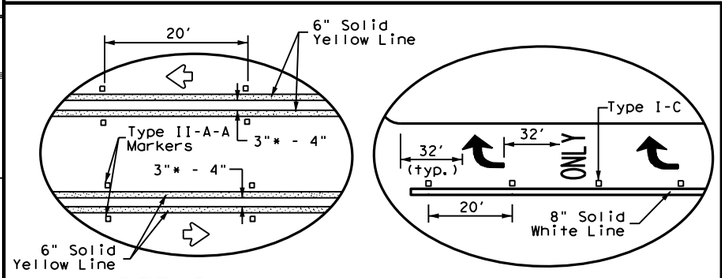
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn 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. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

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 TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

PM(3)-22

FILE: pm3-22.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-98 3-03 6-20 5-00 2-10 12-22 8-00 2-12	0081	02	077	US 377
	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		107

22C

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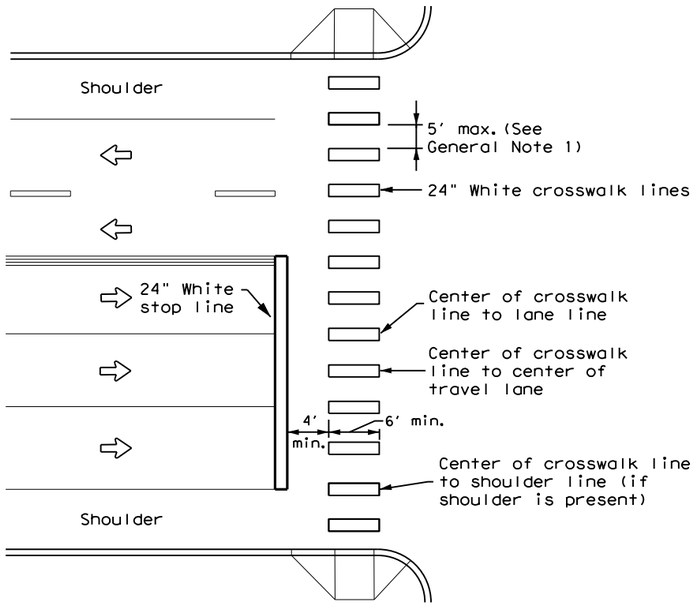


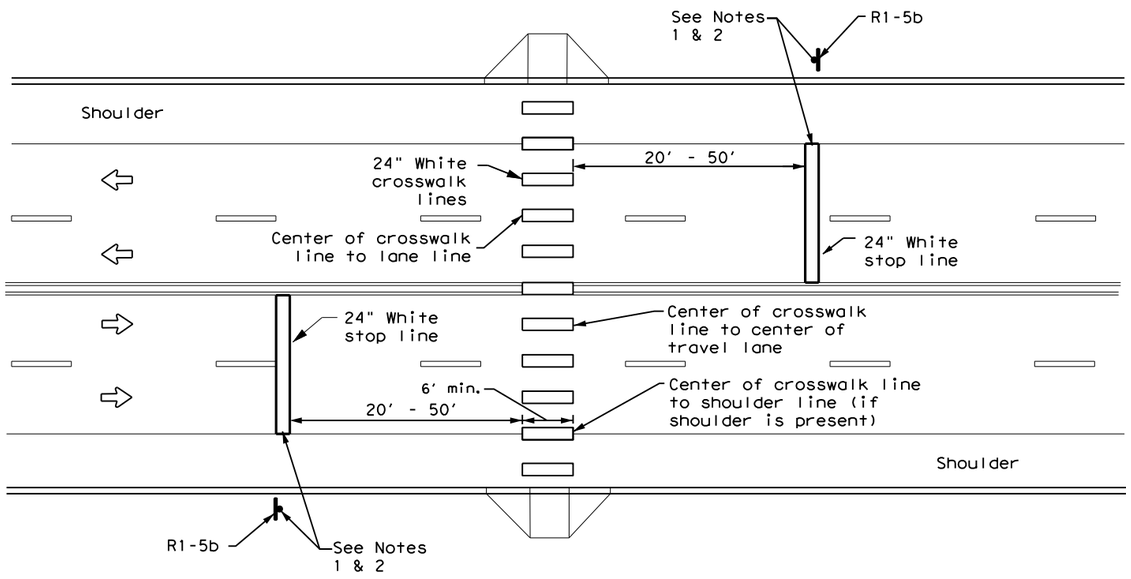
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
2. A minimum 6" clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

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.



UNSIGNALIZED MIDBLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES:

1. Use stop bars with Stop Here For Pedestrians (R1-5b) signs at unsignalized midblock cross walks.
2. Use stop bars with STOP HERE ON RED (R10-6 or R10-6a) signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation

Traffic Safety Division Standard

CROSSWALK PAVEMENT MARKINGS

PM(4)-22A

FILE: pm4-22a.dgn	DN:	CK:	DW:	CK:
© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
6-20	DIST	COUNTY		SHEET NO.
6-22	FTW	TARRANT		108
12-22				

22D

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DATE: 3/20/2024 3:49:52 PM
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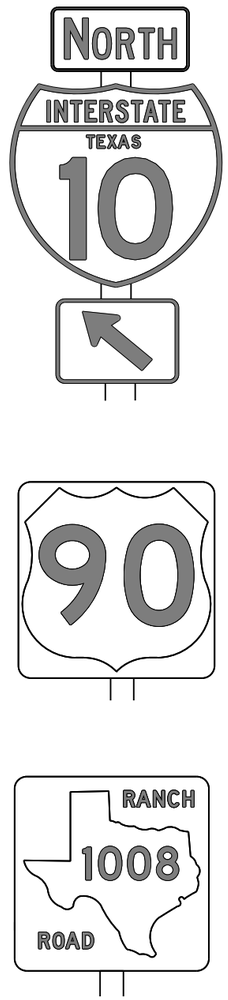
REQUIREMENTS FOR INDEPENDENT MOUNTED ROUTE SIGNS

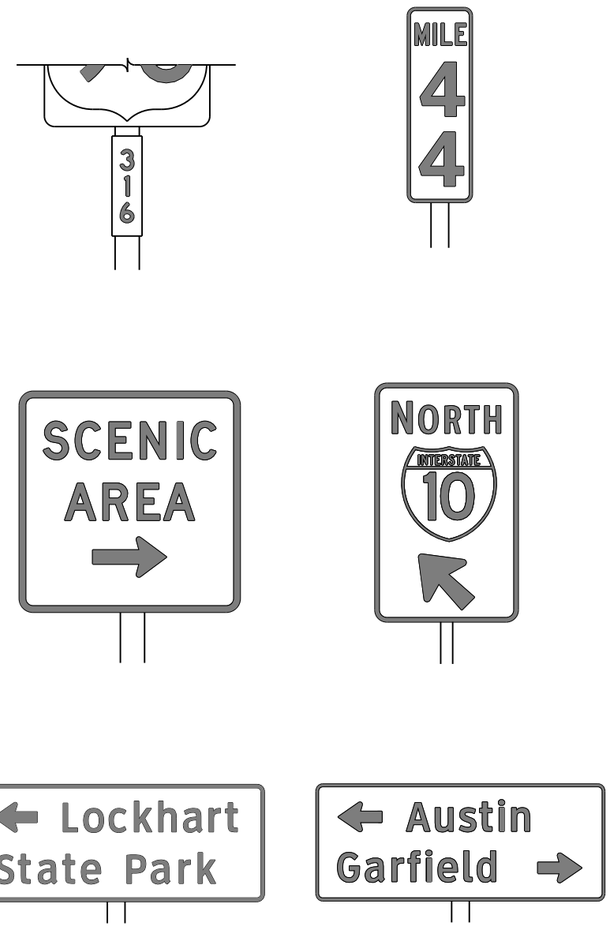
SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE A SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & BORDERS	ALL OTHERS	TYPE B or C SHEETING



TYPICAL EXAMPLES

REQUIREMENTS FOR BLUE, BROWN & GREEN D AND I SERIES GUIDE SIGNS

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	ALL	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE D SHEETING
LEGEND, SYMBOLS & BORDERS	ALL OTHERS	TYPE B OR C SHEETING



TYPICAL EXAMPLES

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).

2. White legend shall use the Clearview Alphabet. The following Clearview fonts shall be used to replace the existing white Federal Highway Administration (FHWA) Standard Highway Alphabets, when not specified in the SHSD, or in the plans.

B	CV-1W
C	CV-2W
D	CV-3W
E	CV-4W
Emod	CV-5WR
F	CV-6W

3. Route sign legend (ie. IH, US, SH and FM shields) shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets B, C, D, E, Emod or F).

4. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.

5. Independent mounted route sign with white or colored legend and borders shall be applied by screening process with transparent color ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof. White legend, symbols and borders on all other signs shall be cut-out white sheeting applied to colored background sheeting.

6. Information regarding borders and radii for signs is found in the "Standard Highway Sign Designs for Texas". Dimensions shown and described for borders and corner radii on parent sign are nominal. Borders may vary in width as much as 1/2 inch. Corner radii above 3 inches may vary in width as much as 1 inch. Borders and corner radii within a parent sign must be of matching widths. The sign area outside the corner radius should be trimmed or rounded.

7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.

8. Mounting details of roadside signs are shown in the "SMD series" Standard Plan Sheets.

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

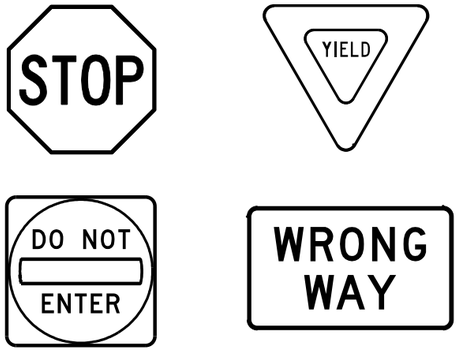
TSR(3)-13

FILE:	tsr3-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS		0081	02	077	US 377
12-03 7-13		DIST	COUNTY		SHEET NO.
9-08		FTW	TARRANT		109

DATE: 3/20/2024 3:50:10 PM
FILE: c:\pwworking\ustx\dms43477\tsr4-13.dgn

REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS

(STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



REQUIREMENTS FOR FOUR SPECIFIC SIGNS ONLY

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

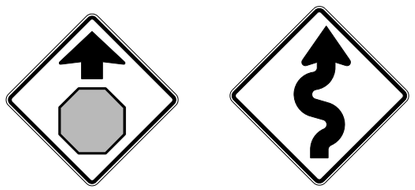
REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS

(EXCLUDING STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND, BORDERS AND SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR WARNING SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLOURESCENT YELLOW	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR SCHOOL SIGNS

TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLOURESCENT YELLOW GREEN	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
3. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
4. Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to background sheeting, or combination thereof.
5. White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
6. Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
8. Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

TSR(4)-13

FILE: tsr4-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
12-03 7-13 9-08	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		110

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

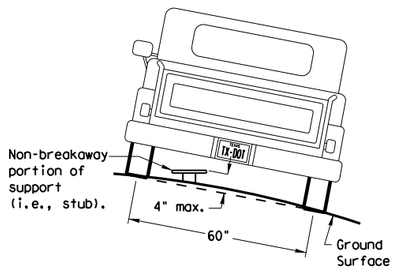
Anchor Type

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WS = Wedge Anchor Steel - (see SMD(TWT))
WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation

P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1))

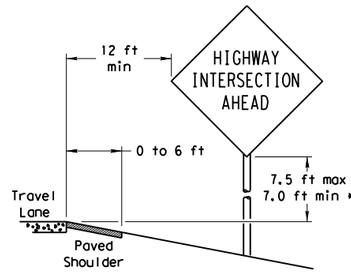
REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



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

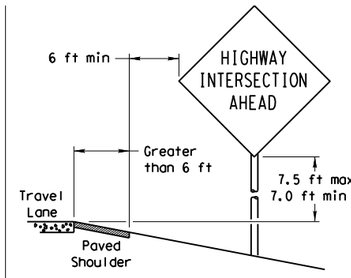
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

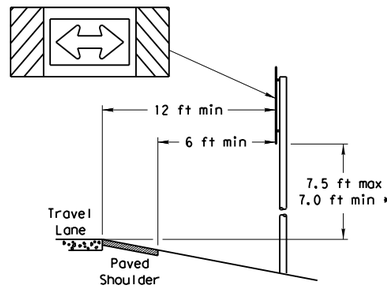
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



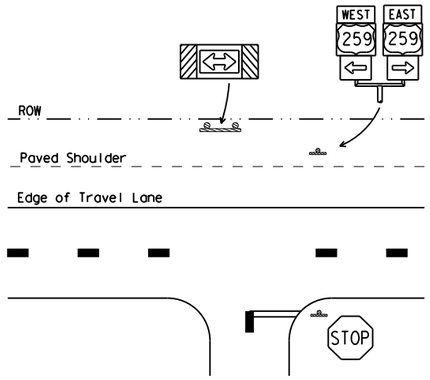
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

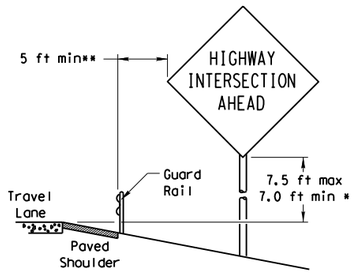
T-INTERSECTION



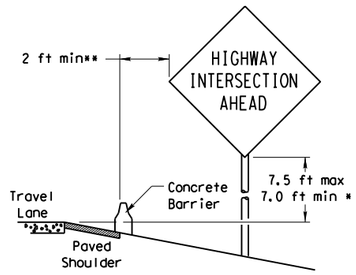
When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



BEHIND BARRIER



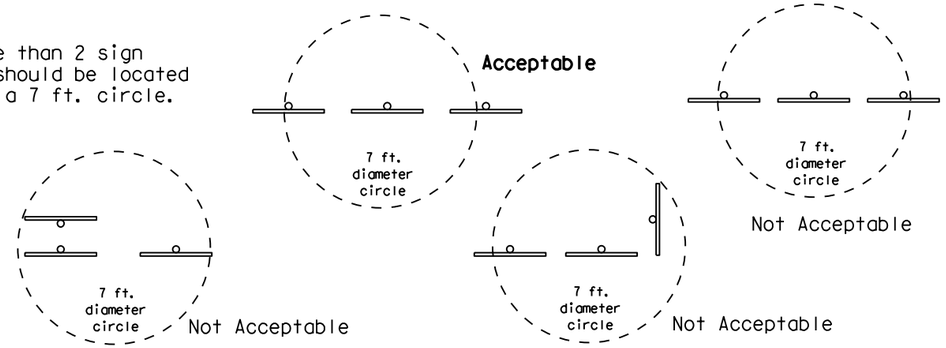
BEHIND GUARDRAIL



BEHIND CONCRETE BARRIER

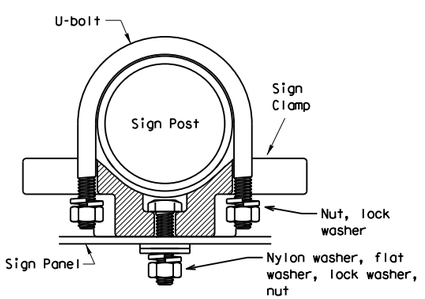
**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

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



TYPICAL SIGN ATTACHMENT DETAIL

Single Signs

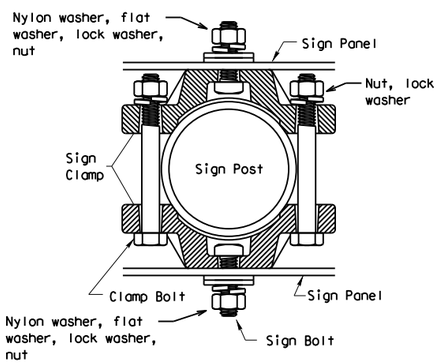


Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

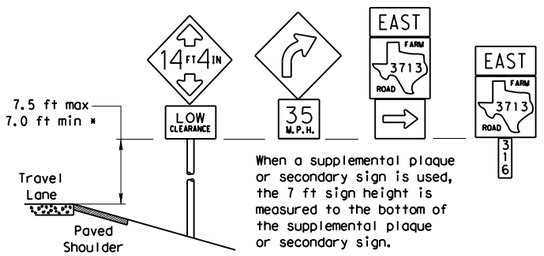
Sign clamps may be either the specific size clamp or the universal clamp.

Back-to-Back Signs



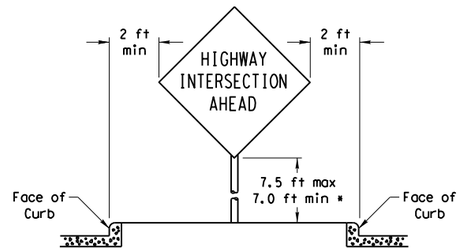
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



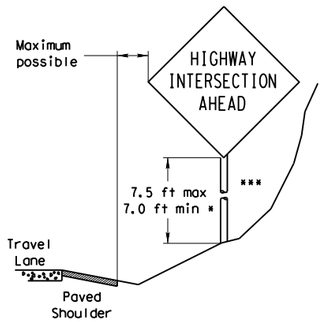
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or

(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

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

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

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

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

REVISIONS
9-08

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

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377

DIST	COUNTY	SHEET NO.
FTW	TARRANT	111

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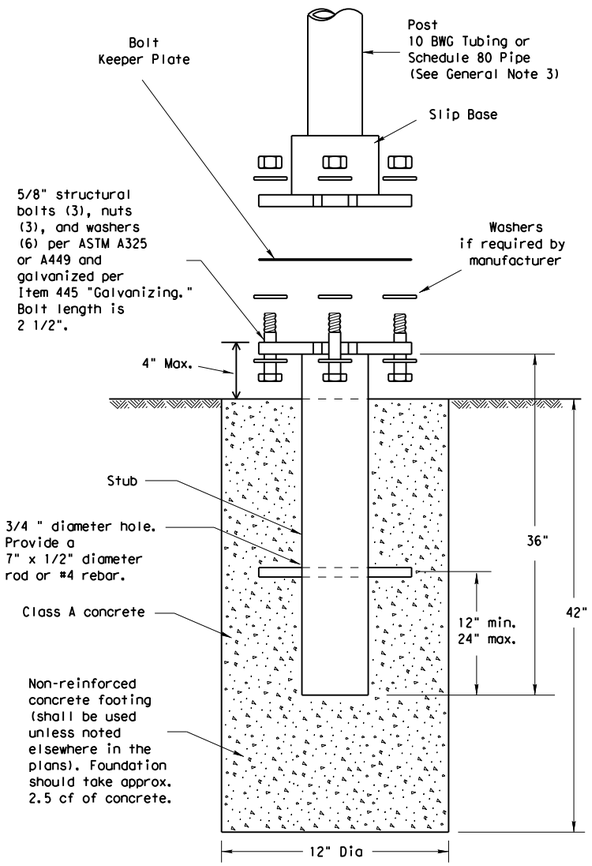
TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

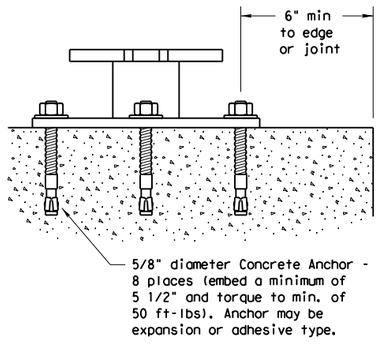
1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   0.134" nominal wall thickness
   Seamless or electric-resistance welded steel tubing or pipe
   Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   Other steels may be used if they meet the following:
   55,000 PSI minimum yield strength
   70,000 PSI minimum tensile strength
   20% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
   Schedule 80 Pipe (2.875" outside diameter)
   0.276" nominal wall thickness
   Steel tubing per ASTM A500 Gr C
   Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
   46,000 PSI minimum yield strength
   62,000 PSI minimum tensile strength
   21% minimum elongation in 2"
   Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		112

9-08 REVISIONS

DATE: 3/20/2024 3:50:46 PM
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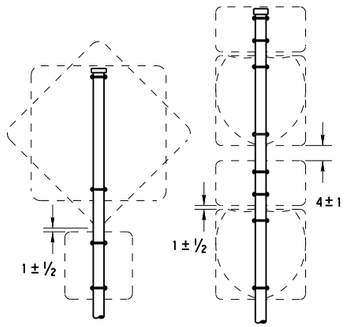
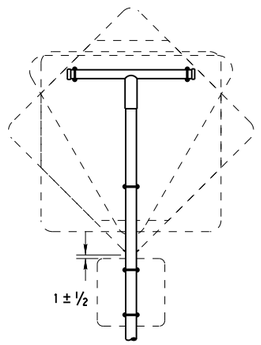
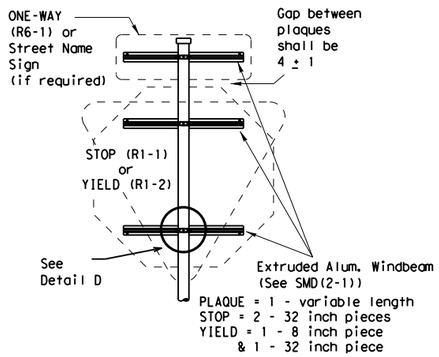


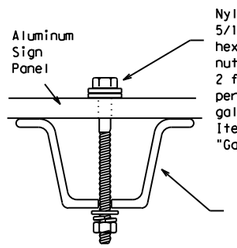
SM RD SGN ASSM TY XXXXX(1)XX(P)



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

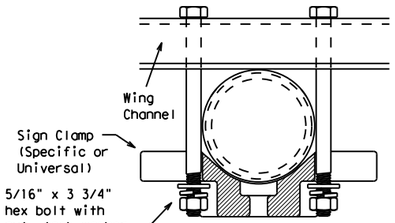


SM RD SGN ASSM TY XXXXX(1)XX(P-BM)



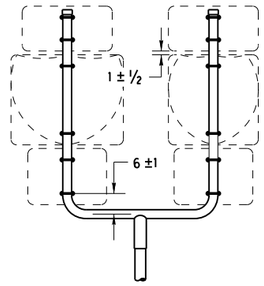
Top View

Detail A

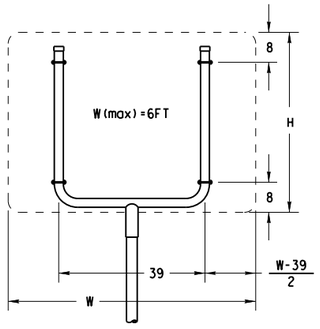


Top View

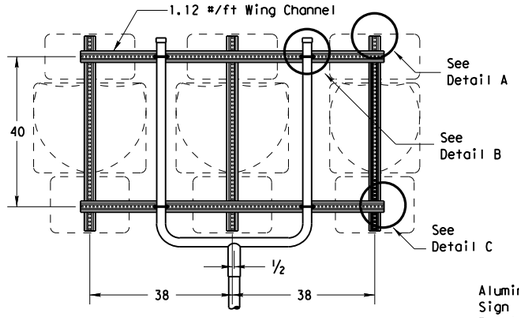
Detail B



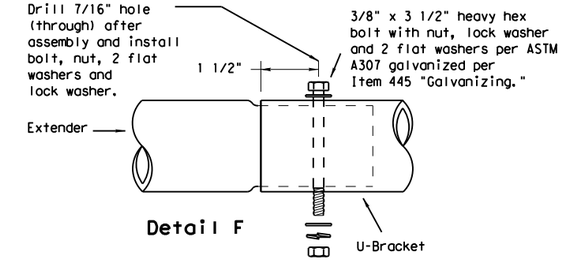
SM RD SGN ASSM TY XXXXX(1)XX(U)



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

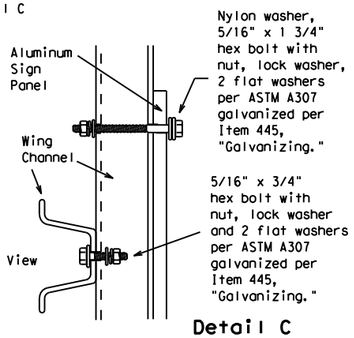


SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)

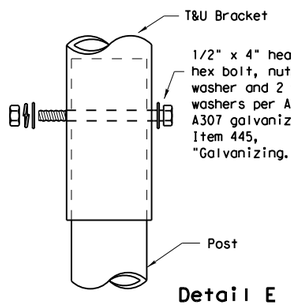


Detail F

Splices shall only be allowed behind the sign substrate.



Detail C



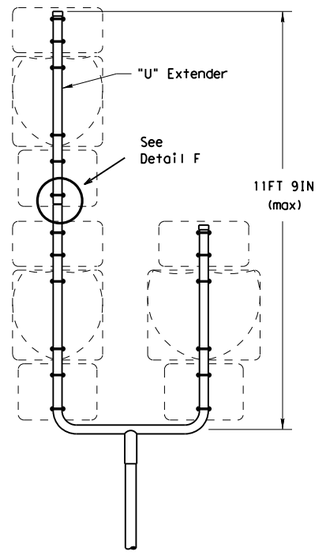
Detail E

GENERAL NOTES:

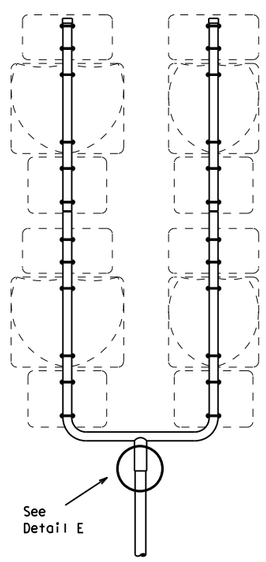
1.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.



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



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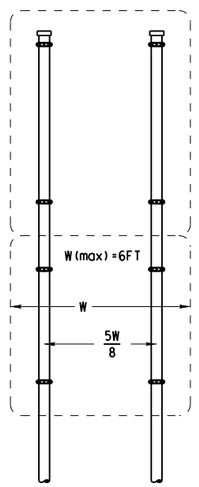

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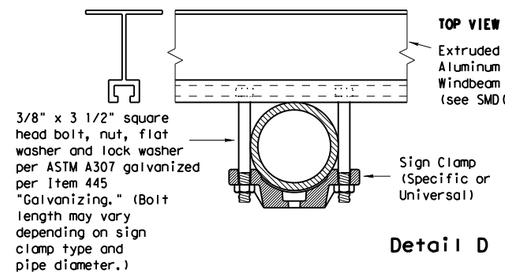
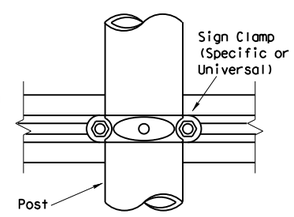
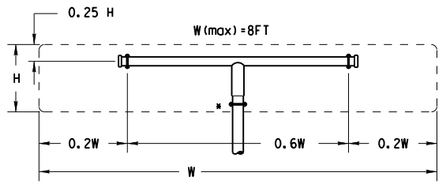


Detail D



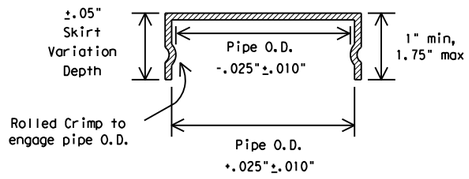
REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)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



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

All dimensions are in english unless detailed otherwise.

FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

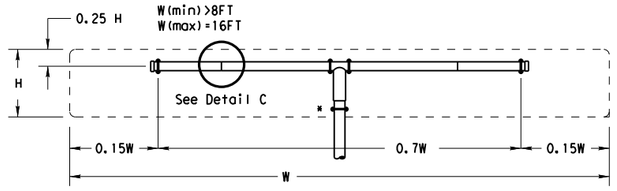
SMD(SLIP-2)-08

DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		113

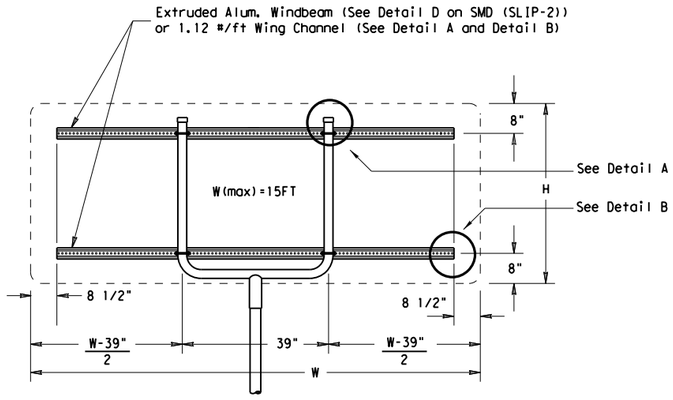
9-08 REVISIONS

26C

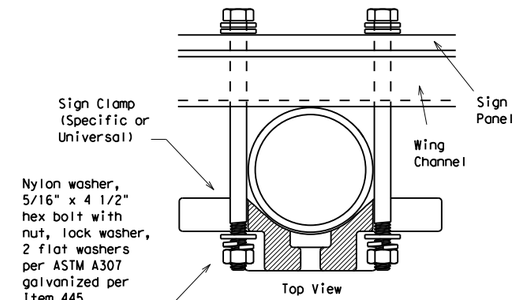
DATE: 3/20/2024 3:51:06 PM
FILE: c:\pwworking\ustrx\dms43477\smds2.dgn



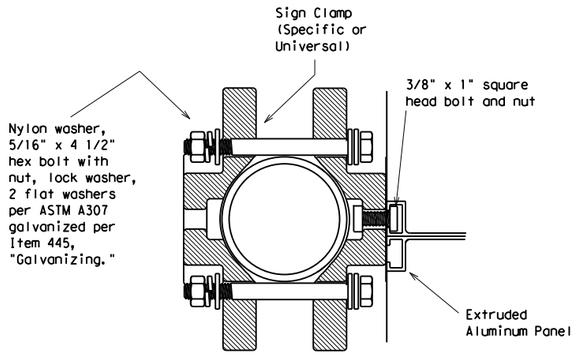
SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)
(* - See Note 12)



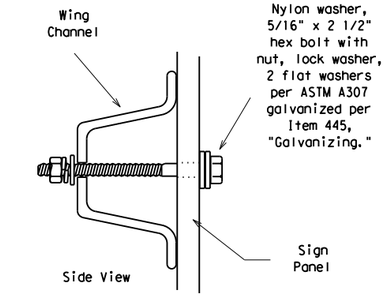
SM RD SGN ASSM TY XXXXX(1)XX(U-XX)



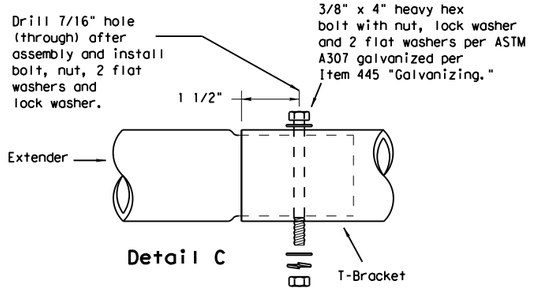
Detail A



Detail D
EXTRUDED ALUMINUM SIGN WITH T BRACKET

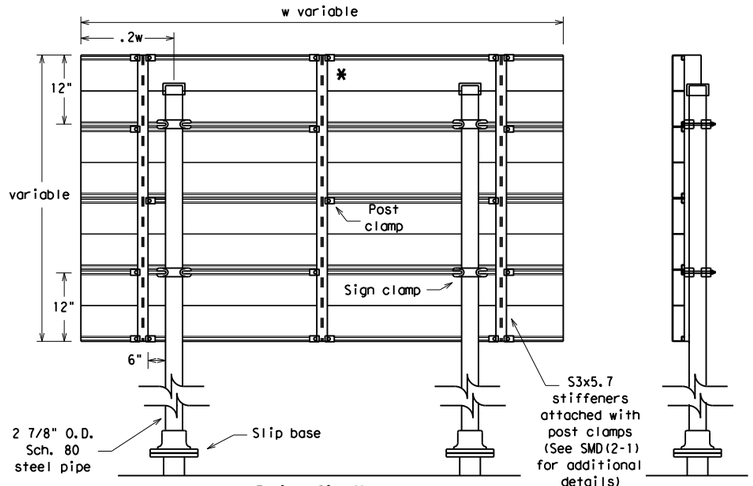


Detail B



Detail C

Splices shall only be allowed behind the sign substrate.

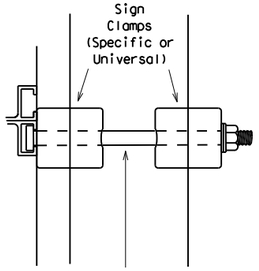


Typical Sign Mount

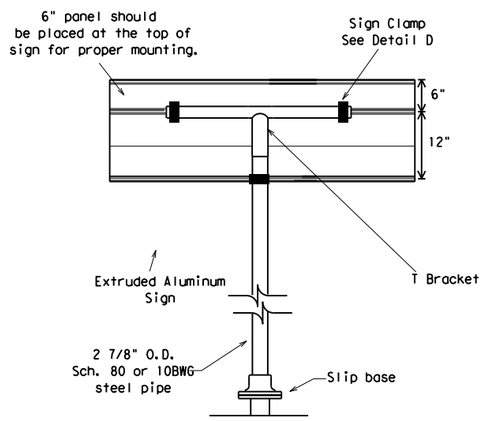
SM RD SGN ASSM TY S80(2)XX(P-EXAL)

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

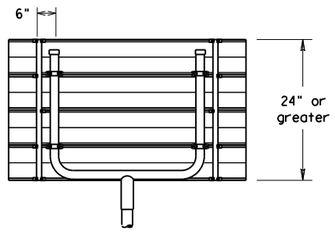
See Detail E
for clamp installation



Detail E



Extruded Aluminum Sign
With T Bracket



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

See Detail E
for clamp installation

GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

1. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
2. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
3. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
4. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
5. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
6. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
7. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
8. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
9. Sign blanks shall be the sizes and shapes shown on the plans.
10. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
11. Post open ends shall be fitted with Friction Caps.

REQUIRED SUPPORT		
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
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	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

REVISIONS
9-08

DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		114

DATE: 3/20/2024 3:51:23 PM
FILE: c:\pwworking\ustx\dms43477\smds3.dgn

DATE: 3/20/2024
FILE: c:\pwworking\ustx\dms39556\EPIC.dgn

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

TPDES TXR 150000: Stormwater Discharge Permit or Construction General Permit required for projects with 1 or more acres disturbed soil. Projects with any disturbed soil must protect for erosion and sedimentation in accordance with Item 506.

List MS4 Operator(s) that may receive discharges from this project. They may need to be notified prior to construction activities.

1.

2.

☒ No Action Required ☐ Required Action

Action No.

1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit TXR 150000
2. Comply with the SW3P and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and TCEQ, EPA or other inspectors.
4. When Contractor project specific locations (PSL's) increase disturbed soil area to 5 acres or more, submit NOI to TCEQ and the Engineer.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ No Permit Required

☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)

☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1.

2.

3.

4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

Erosion	Sedimentation	Post-Construction TSS
☐ Temporary Vegetation	☒ Silt Fence	☐ Vegetative Filter Strips
☐ Blankets/Matting	☒ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☐ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☒ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☐ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	☐ Grassy Swales

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☒ No Action Required ☐ Required Action

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

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☒ No Action Required ☐ Required Action

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

LIST OF ABBREVIATIONS

BMP:	Best Management Practice	SPCC:	Spill Prevention Control and Countermeasure
CGP:	Construction General Permit	SW3P:	Storm Water Pollution Prevention Plan
DSHS:	Texas Department of State Health Services	PCN:	Pre-Construction Notification
FHWA:	Federal Highway Administration	PSL:	Project Specific Location
MOA:	Memorandum of Agreement	TCEQ:	Texas Commission on Environmental Quality
MOU:	Memorandum of Understanding	TPDES:	Texas Pollutant Discharge Elimination System
MS4:	Municipal Separate Stormwater Sewer System	TPWD:	Texas Parks and Wildlife Department
MBTA:	Migratory Bird Treaty Act	TxDOT:	Texas Department of Transportation
NOT:	Notice of Termination	T&E:	Threatened and Endangered Species
NWP:	Nationwide Permit	USACE:	U.S. Army Corps of Engineers
NOI:	Notice of Intent	USFWS:	U.S. Fish and Wildlife Service

VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects):

Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the Act.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

☐ Yes ☒ No

If "No", then no further action is required.
If "Yes", then TxDOT is responsible for completing asbestos assessment/inspection.

Are the results of the asbestos inspection positive (is asbestos present)?

☐ Yes ☐ No

If "Yes", then TxDOT must retain a DSHS licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled demolition.

If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

In either case, the Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and asbestos consultant in order to minimize construction delays and subsequent claims.

Any other evidence indicating possible hazardous materials or contamination discovered on site. Hazardous Materials or Contamination Issues Specific to this Project:

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ No Action Required ☐ Required Action

Action No.

1.

2.

3.

STATE OF TEXAS
ERNESTO SALCIDO
100177
LICENSED
PROFESSIONAL ENGINEER
3/20/2024

Ernesto Salcido, P.E.

Texas Department of Transportation — Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: epic.dgn	DN: TxDOT	CK: RG	DW: VP	CK: AR
©TxDOT: February 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	0081	02	077	US 377
12-12-2011 (DS)	DIST	COUNTY		SHEET NO.
05-07-14 ADDED NOTE SECTION IV.	FTW	TARRANT		115
01-23-2015 SECTION I (CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.				

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ Temporary Seeding
- ☐ ☐ Permanent Planting, Sodding or Seeding
- ☒ ☐ Biodegradable Erosion Control Logs
- ☒ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☐ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☒ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☐ Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- ☐ Concrete and Materials Waste Management
- ☐ Debris and Trash Management
- ☐ Dust Control
- ☐ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3 .

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3.

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Salcido Ramos, P.E. 3/20/2024

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

US 377

July 2023 Sheet 2 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6	C 81-2-77		116
STATE	STATE DIST.	COUNTY	
TEXAS	FTW	TARRANT	
CONT.	SECT.	JOB	HIGHWAY NO.
0081	02	077	US 377

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with TxDOT policy for projects disturbing less than 1 acre of soil, and not part of a larger common plan of development.

For projects with less than one acre of soil disturbing activity and that have Environmental, Permits, Issues, and Commitments (EPICs) dependent on stormwater controls and water quality measures TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office, Area Office, or electronically.

This SWP3 is consistent with requirements specified in applicable stormwater plans, and the project's environmental permits, issues, and commitments (EPICs).

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):
0081-02-077

1.2 PROJECT LIMITS:
From: *SH 183*

To: *IH 820*

1.3 PROJECT COORDINATES:
BEGIN: (Lat) *32°48'9.27"N* ,(Long) *97°15'52.57"W*

END: (Lat) *32°49'55.07"N* ,(Long) *97°15'51.40"W*

1.4 TOTAL PROJECT AREA (Acres): *24.5*

1.5 TOTAL AREA TO BE DISTURBED (Acres): *0.98*

1.6 NATURE OF CONSTRUCTION ACTIVITY:
CONSTRUCTION OF OVERLAY WORK CONSISTING OF BASE REPAIR, UNDERSEAL, MILL & INLAY, CURB REPAIR, SIDEWALKS, SIGNING, RAMPS, AND PAVEMENT MARKINGS

1.7 MAJOR SOIL TYPES:

Soil Type	Description
SnC/SaB SANGER-URBAN	*CONSIST OF MODERATELY DEEP, WELL DRAINED, SLOW PERMEABLE SOILS FORMED IN CLAYEY MARINE SEDIMENTS.*
URB URBAN	*URBAN LAND WITH 0 TO 16 PERCENT SLOPES.*
PvC PURVES - URBAN	*CONSIST OF WELL DRAINED, SLOW MODERATELY PERMEABLE SOILS. FORMED IN INTERBEDDED LIMESTONE AND MARL. SLOPES TO STEEP UPLAND DIVIDED WITH PLANE TO CONVEX SURFACES.*

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):
PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☐ PSLs determined during construction
☒ No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:
(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.3.)

☐ Mobilization
☐ Install sediment and erosion controls
☐ Blade existing topsoil into windrows, prep ROW, clear and grub
☐ Remove existing pavement
☐ Grading operations, excavation, and embankment
☐ Excavate and prepare subgrade for proposed pavement widening
☐ Remove existing culverts, safety end treatments (SETs)
☐ Remove existing metal beam guard fence (MBGF), bridge rail
☐ Install proposed pavement per plans
☐ Install culverts, culvert extensions, SETs
☐ Install mow strip, MBGF, bridge rail
☐ Place flex base
☐ Rework slopes, grade ditches
☐ Blade windrowed material back across slopes
☐ Revegetation of unpaved areas
☐ Achieve site stabilization and remove sediment and erosion control measures
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

☐ Sediment laden stormwater from stormwater conveyance over disturbed area
☐ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
☐ Solvents, paints, adhesives, etc. from various construction activities
☒ Transported soils from offsite vehicle tracking
☒ Construction debris and waste from various construction activities
☐ Contaminated water from excavation or dewatering pump-out water
☐ Sanitary waste from onsite restroom facilities
☐ Trash from various construction activities/receptacles
☐ Long-term stockpiles of material and waste
☐ Discharges from concrete washout activities, runoff from concrete cutting activities, and other concrete related activities
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.11 RECEIVING WATERS:
Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

☒ Development of plans and specifications
☒ Perform SWP3 inspections
☒ Maintain SWP3 records and update to reflect daily operations
☐ Other: _____
☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

☒ Day To Day Operational Control
☒ Maintain schedule of major construction activities
☒ Install, maintain and modify BMPs
☐ Other: _____
☐ Other: _____
☐ Other: _____

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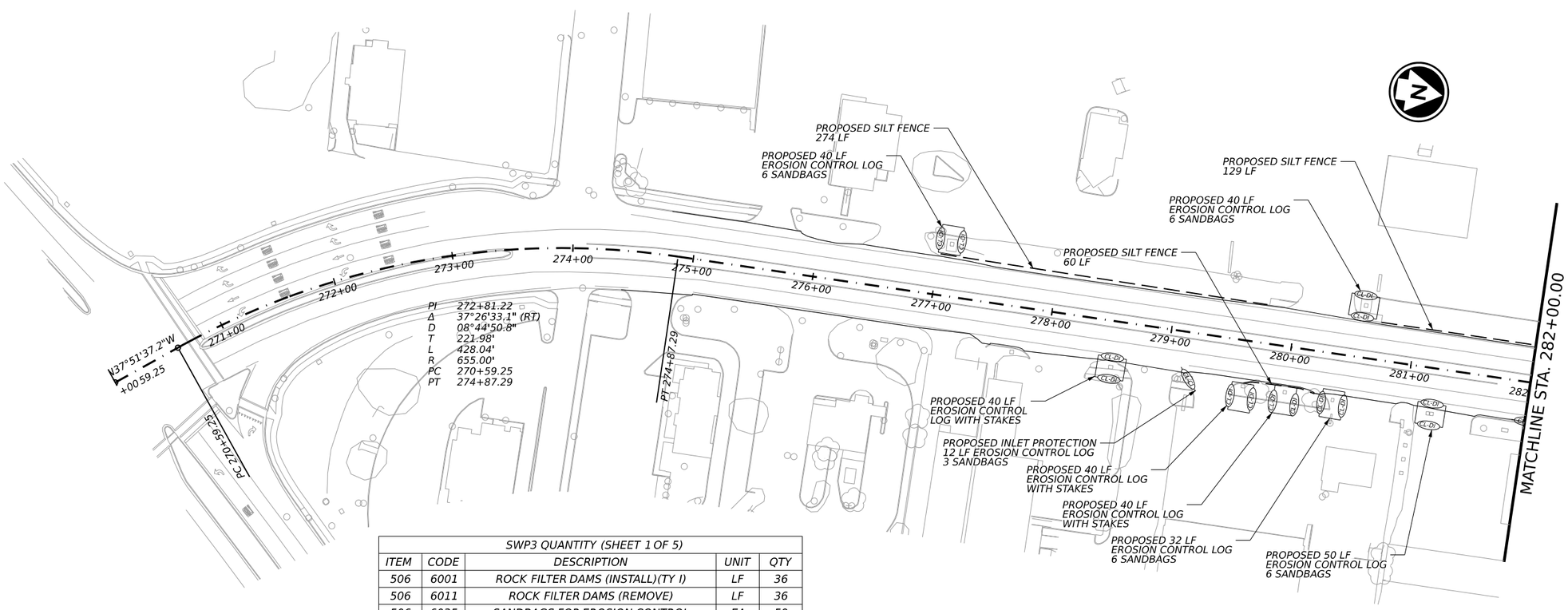
STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

US 377

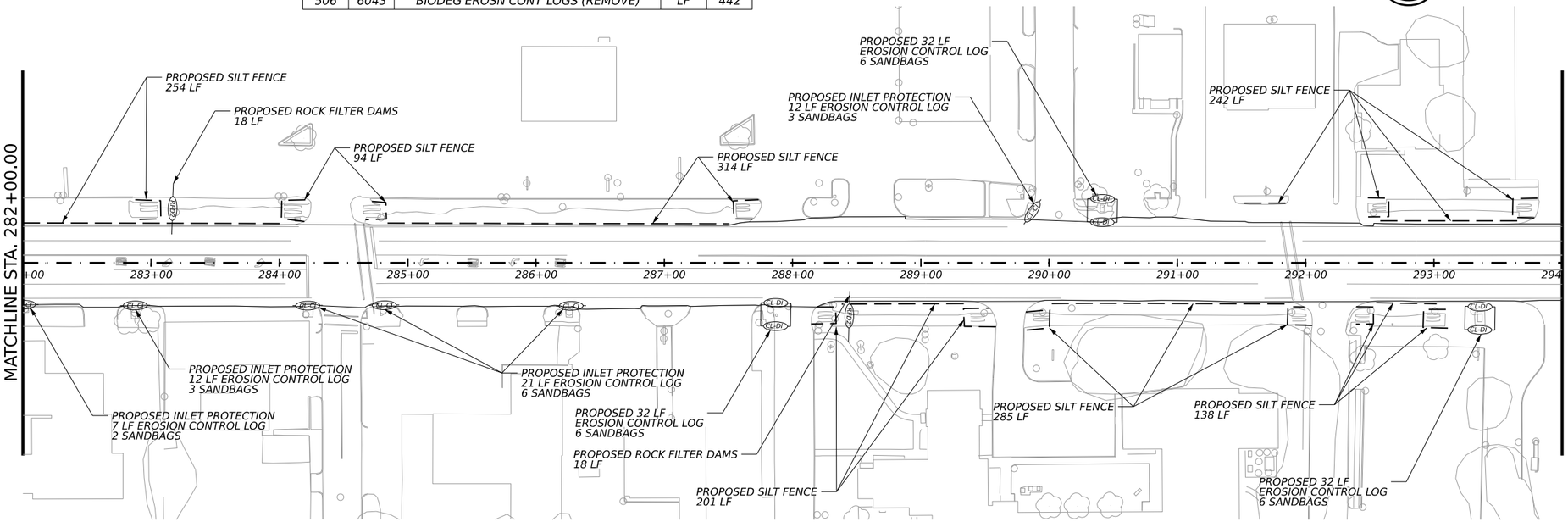
July 2023 Sheet 1 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6	C 81-2-77		117
STATE	STATE DIST.	COUNTY	
TEXAS	FTW	TARRANT	
CONT.	SECT.	JOB	HIGHWAY NO.
0081	02	077	US 377



SWP3 QUANTITY (SHEET 1 OF 5)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
506	6001	ROCK FILTER DAMS (INSTALL)(TY I)	LF	36
506	6011	ROCK FILTER DAMS (REMOVE)	LF	36
506	6035	SANDBAGS FOR EROSION CONTROL	EA	59
506	6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	1991
506	6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	1991
506	6040	BIODEG EROSN CONT LOGS (INSTL)(8")	LF	442
506	6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	442



LEGEND

- EROSION CONTROL LOG DROP INLET
- EROSION CONTROL LOG CURB INLET
- ROCK FILTER DAM TY II
- SILT FENCE

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US 377

SWP3 LAYOUT

STA 270+00 TO STA 294+00

SHEET 1 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		118

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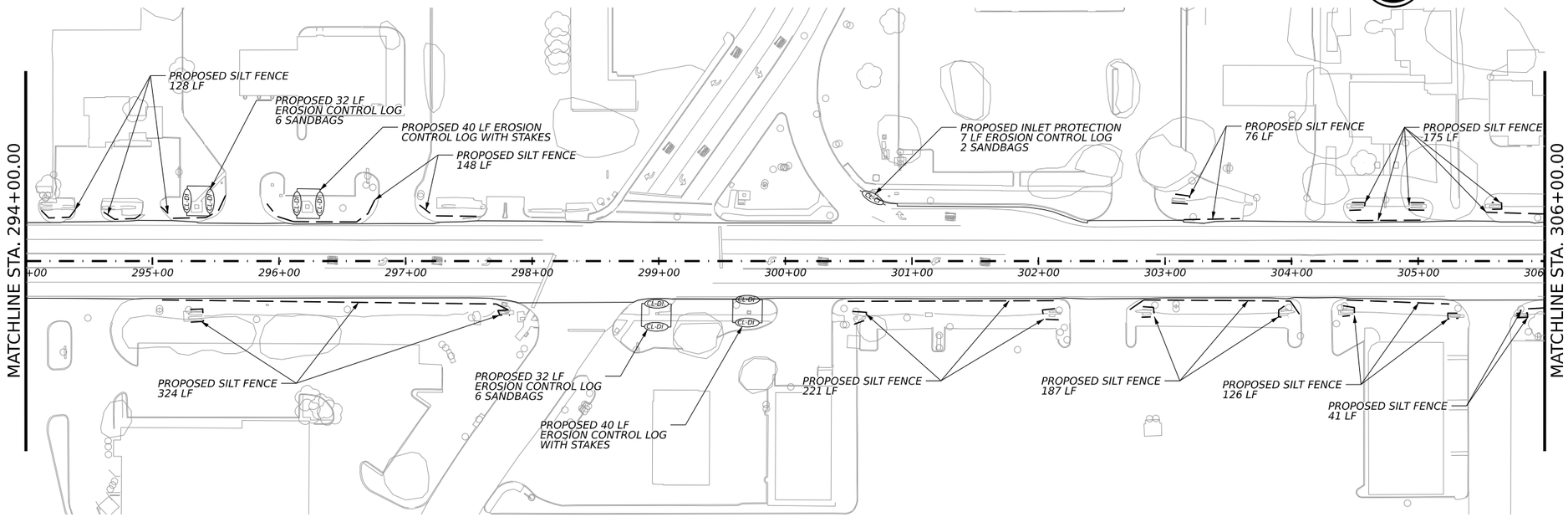
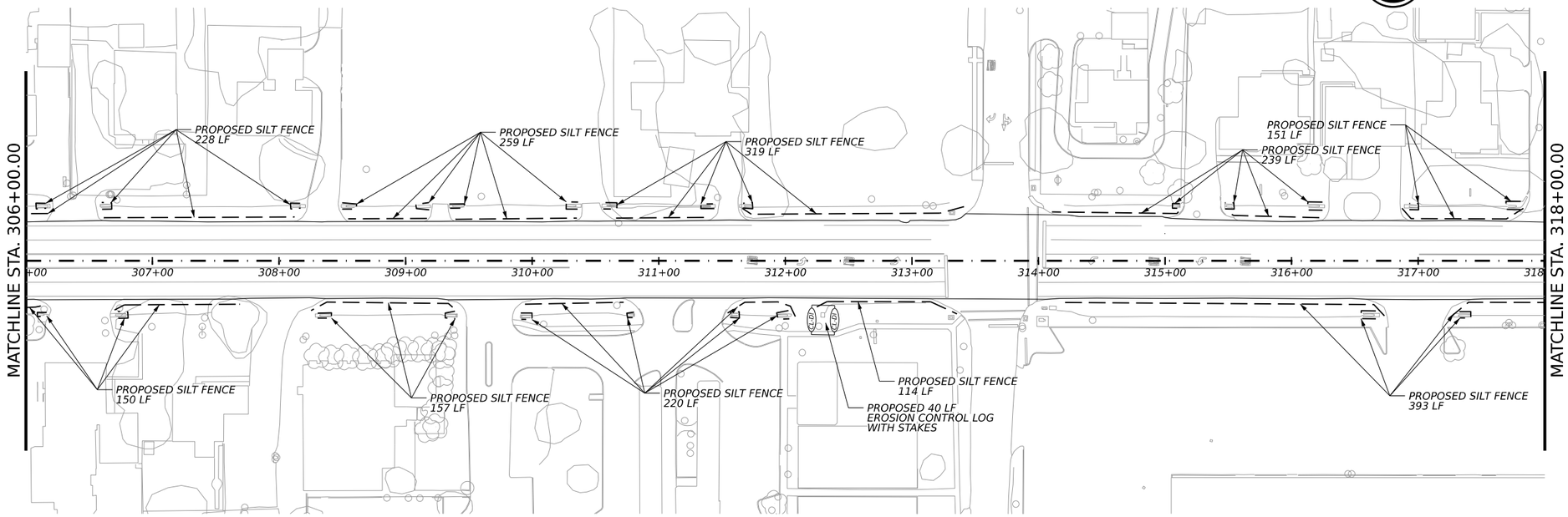


LEGEND

- EROSION CONTROL LOG DROP INLET
- EROSION CONTROL LOG CURB INLET
- ROCK FILTER DAM TY II
- SILT FENCE

SWP3 QUANTITY (SHEET 2 OF 5)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
506	6035	SANDBAGS FOR EROSION CONTROL	EA	14
506	6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	3656
506	6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	3656
506	6040	BIODEG EROSN CONT LOGS (INSTL)(8")	LF	191
506	6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	191



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US 377

SWP3 LAYOUT

STA 294+00 TO STA 318+00

SHEET 2 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		119

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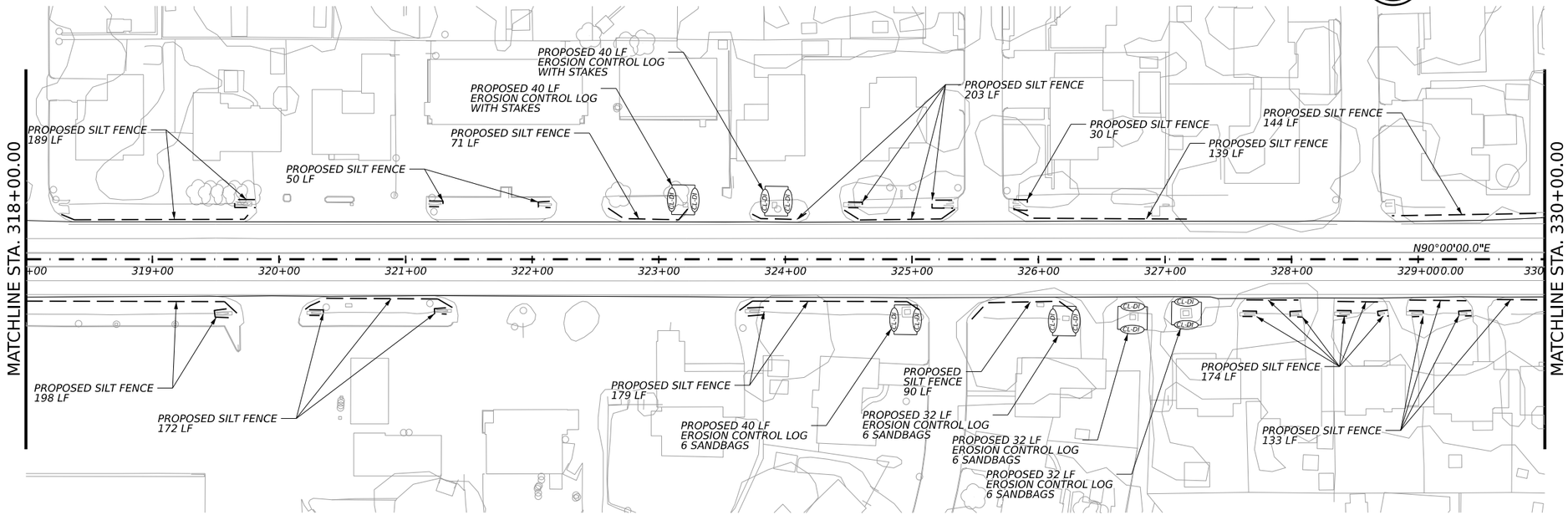
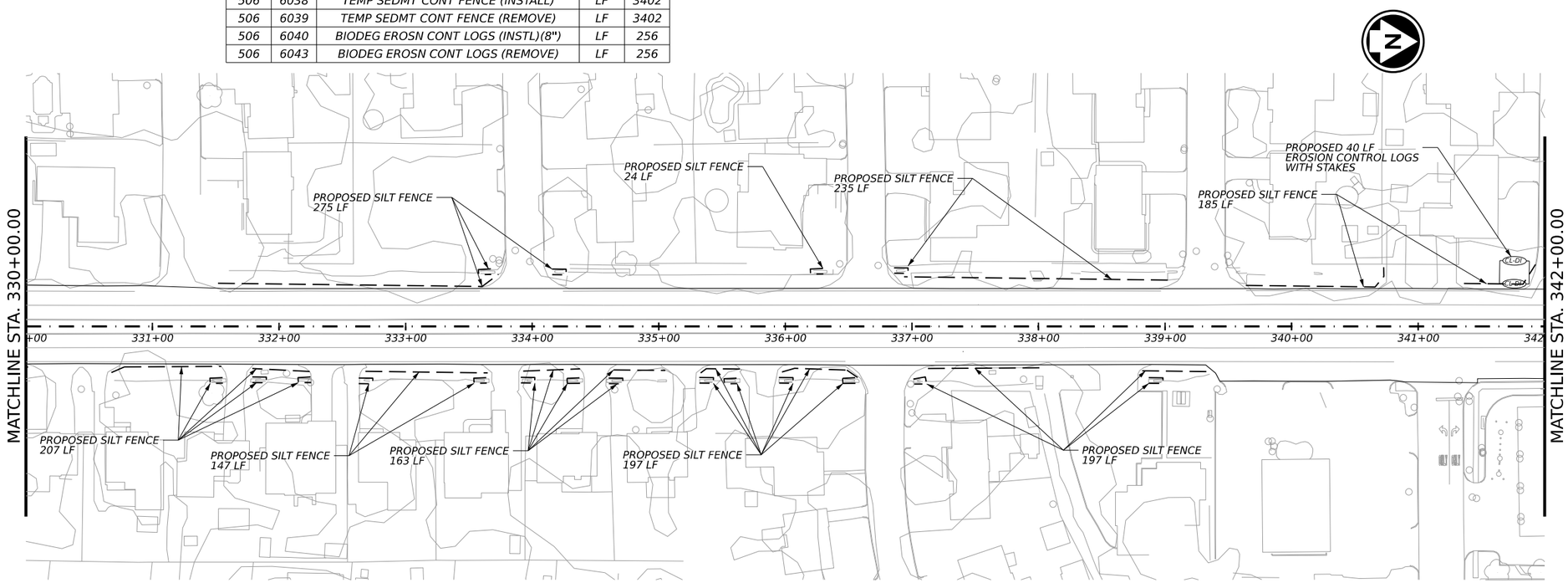


LEGEND

- EROSION CONTROL LOG DROP INLET
- EROSION CONTROL LOG CURB INLET
- ROCK FILTER DAM TY II
- SILT FENCE

SWP3 QUANTITY (SHEET 3 OF 5)				
ITEM	CODE	DESCRIPTION	UNIT	QTY
506	6035	SANDBAGS FOR EROSION CONTROL	EA	24
506	6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	3402
506	6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	3402
506	6040	BIODEG EROSN CONT LOGS (INSTL)(8")	LF	256
506	6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	256



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Texas Department of Transportation

US 377

SWP3 LAYOUT

STA 318+00 TO STA 342+00

SHEET 3 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		120

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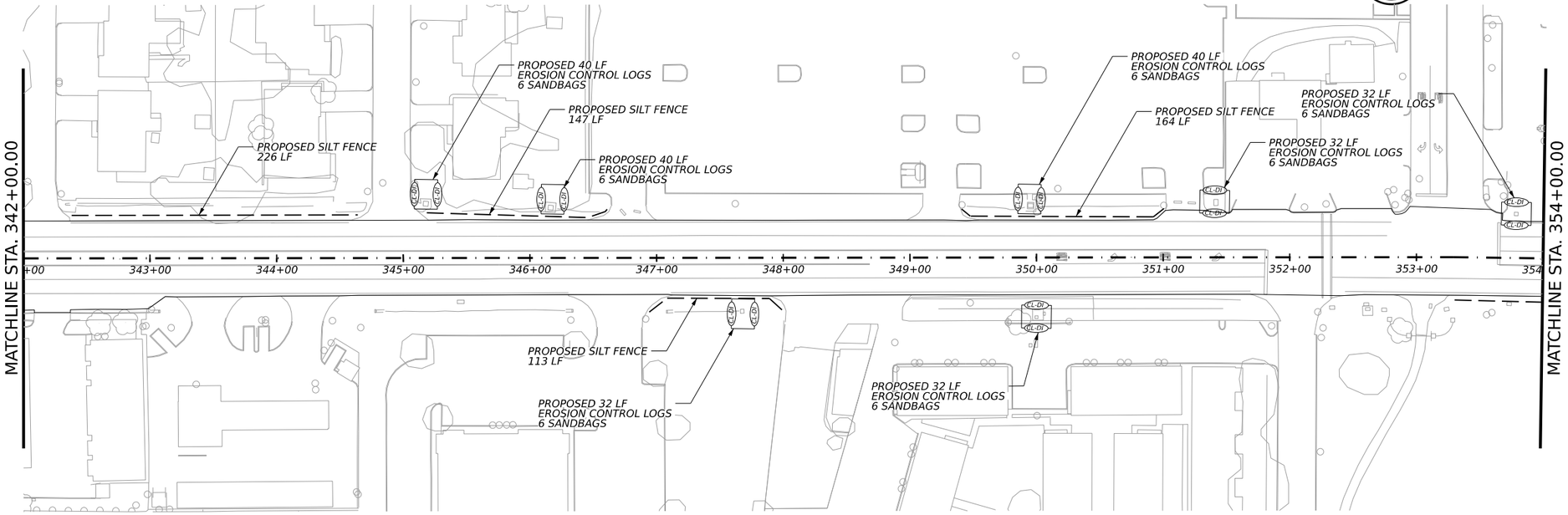

SWP3 QUANTITY (SHEET 4 OF 5)				
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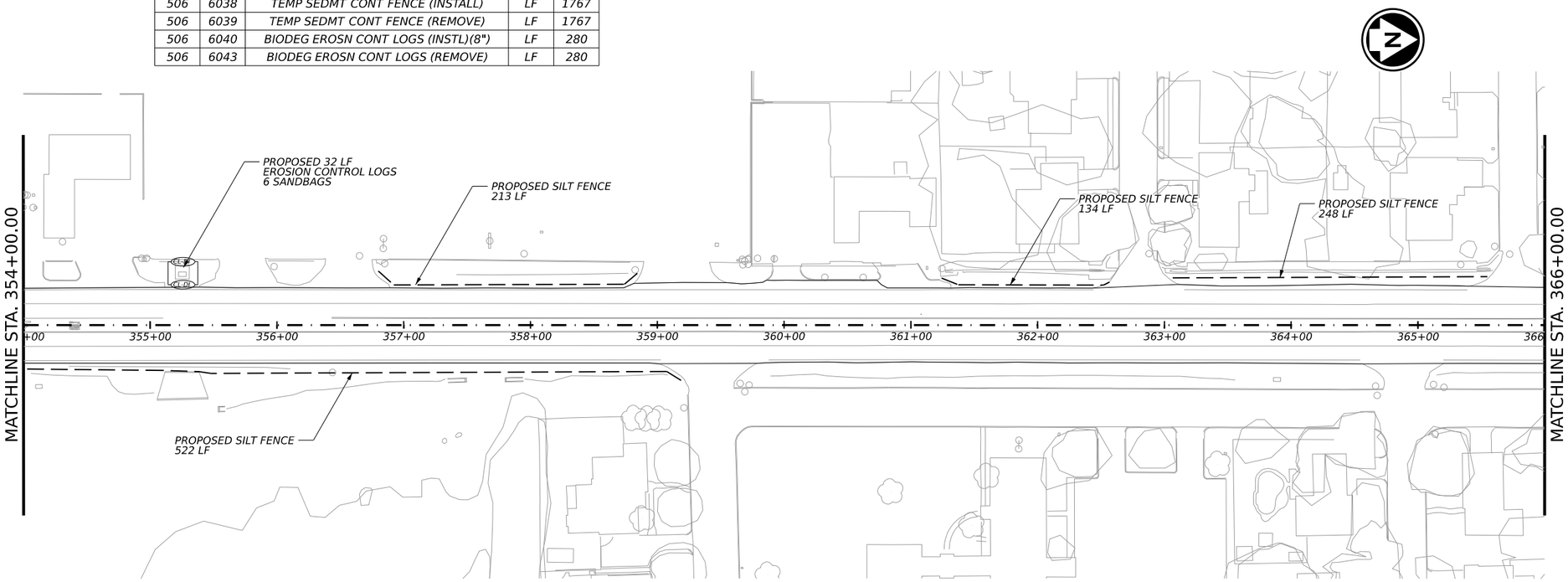
506	6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	1767
506	6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	1767
506	6040	BIODEG EROSN CONT LOGS (INSTL)(8")	LF	280
506	6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	280



LEGEND

- EROSION CONTROL LOG DROP INLET
- EROSION CONTROL LOG CURB INLET
- ROCK FILTER DAM TY II
- SILT FENCE

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US 377

SWP3 LAYOUT

STA 342+00 TO 366+00

SHEET 4 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		121

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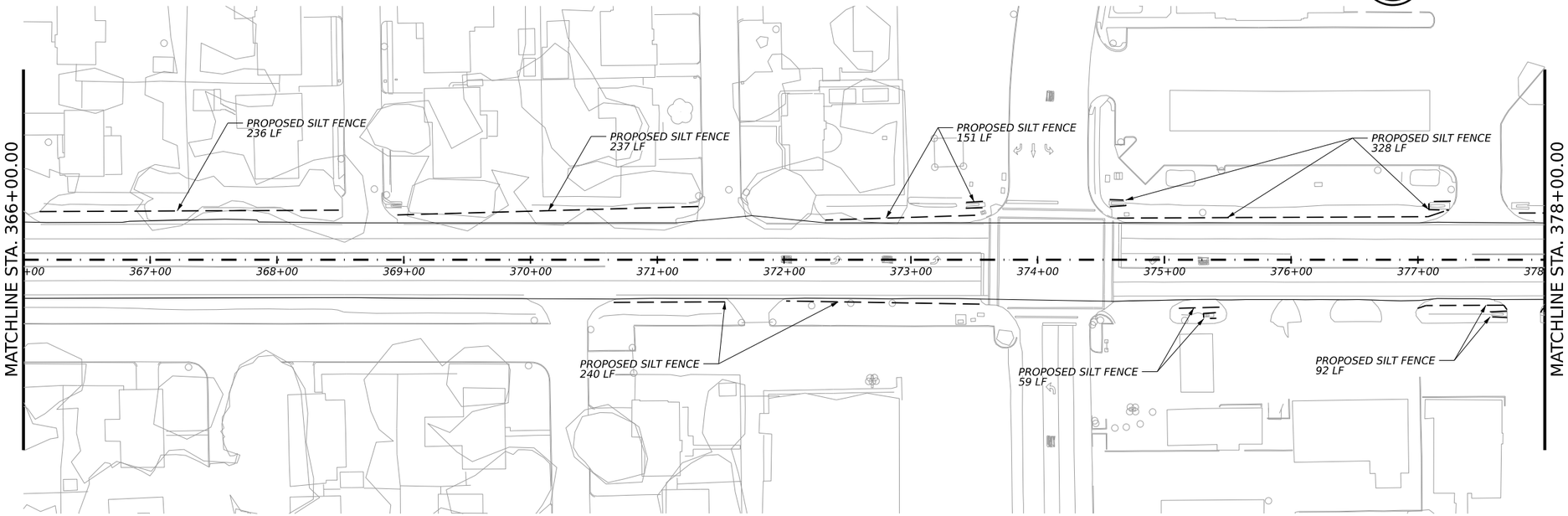
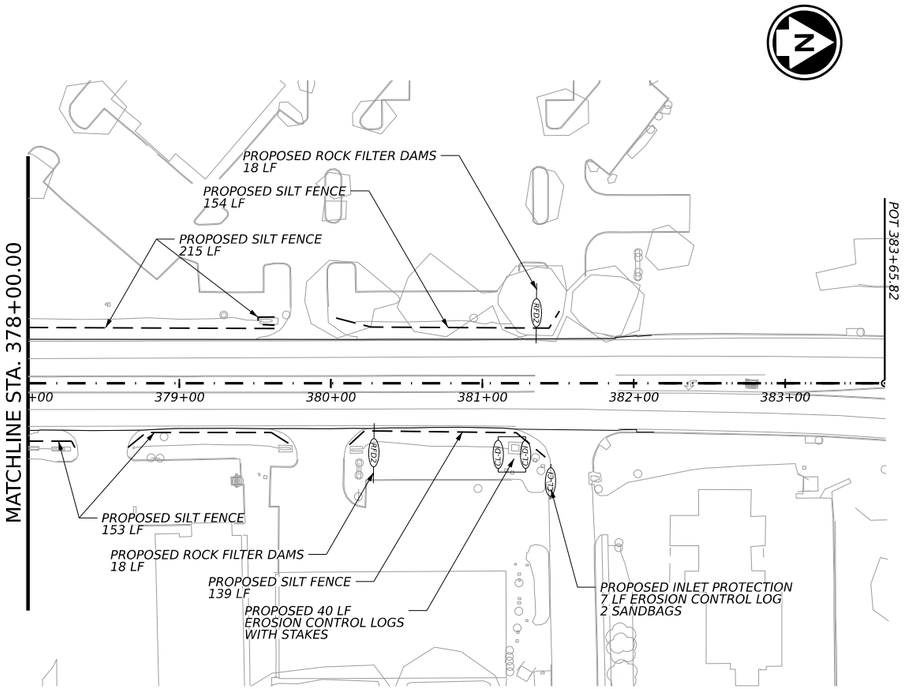


LEGEND

- EROSION CONTROL LOG DROP INLET
- EROSION CONTROL LOG CURB INLET
- ROCK FILTER DAM TY II
- SILT FENCE



SWP3 QUANTITY (SHEET 5 OF 5)				
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506	6038	TEMP SEDMT CONT FENCE (INSTALL)	LF	2004
506	6039	TEMP SEDMT CONT FENCE (REMOVE)	LF	2004
506	6040	BIODEG EROSN CONT LOGS (INSTL)(8")	LF	47
506	6043	BIODEG EROSN CONT LOGS (REMOVE)	LF	47

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US 377

SWP3 LAYOUT

STA 366+00 TO 383+66

SHEET 5 OF 5

CONT	SECT	JOB	HIGHWAY
0081	02	077	US 377
DIST	COUNTY		SHEET NO.
FTW	TARRANT		122

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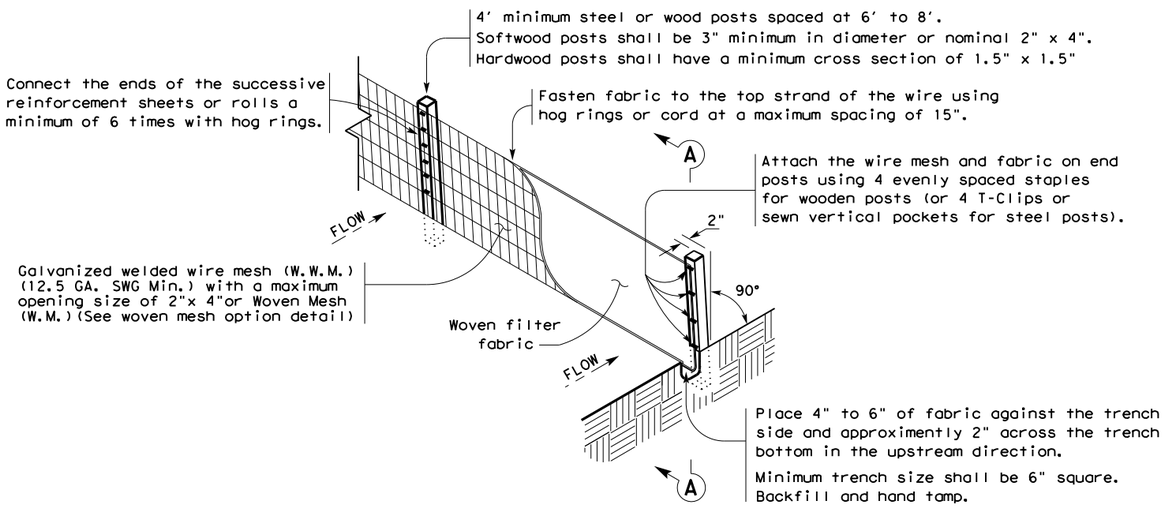
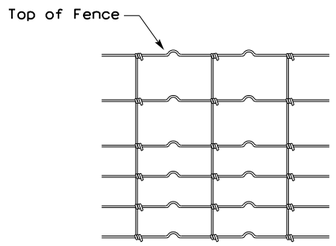
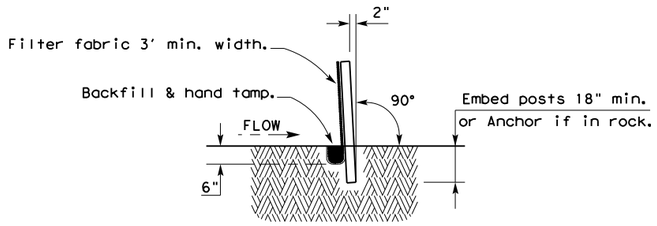


TEMPORARY SEDIMENT CONTROL FENCE

SCF





SECTION A-A

HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA.SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

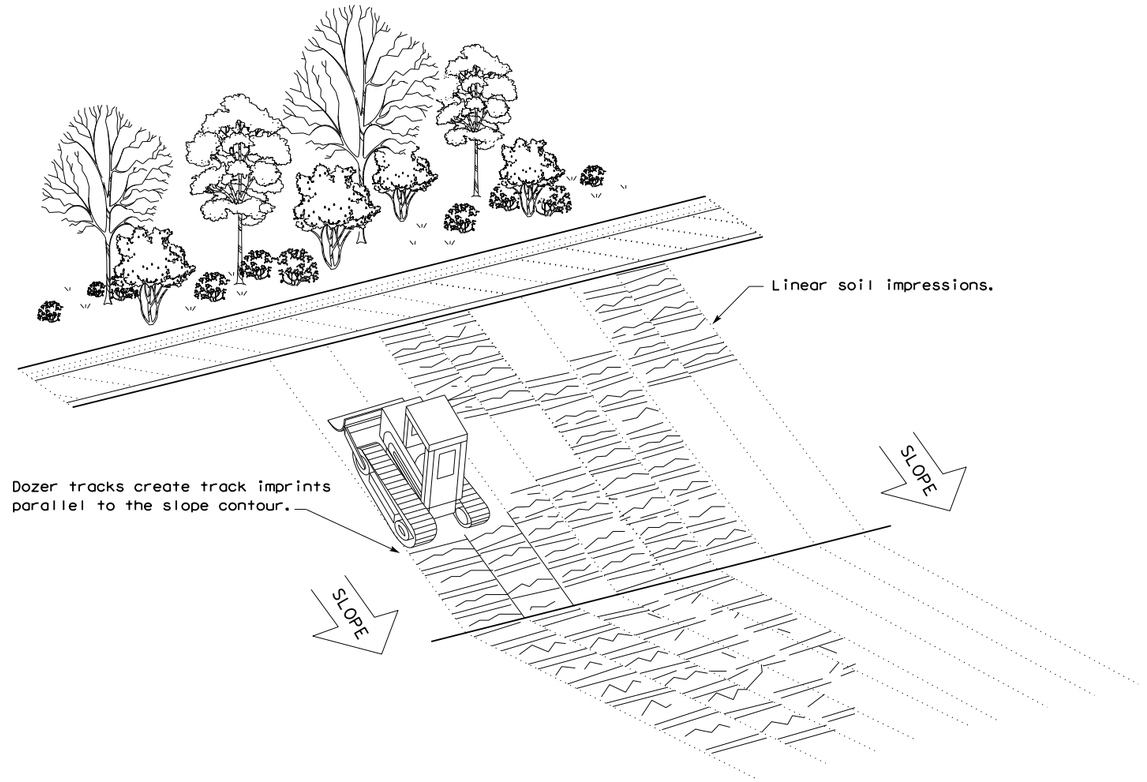
LEGEND

Sediment Control Fence

SCF

GENERAL NOTES

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



VERTICAL TRACKING

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & VERTICAL TRACKING

EC(1)-16

FILE: ec116	DN: TxDOT		CK: KM		DW: VP	DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0081	02	077		US 377	
	DIST	COUNTY			SHEET NO.	
	FTW	TARRANT			123	

3/8/2024
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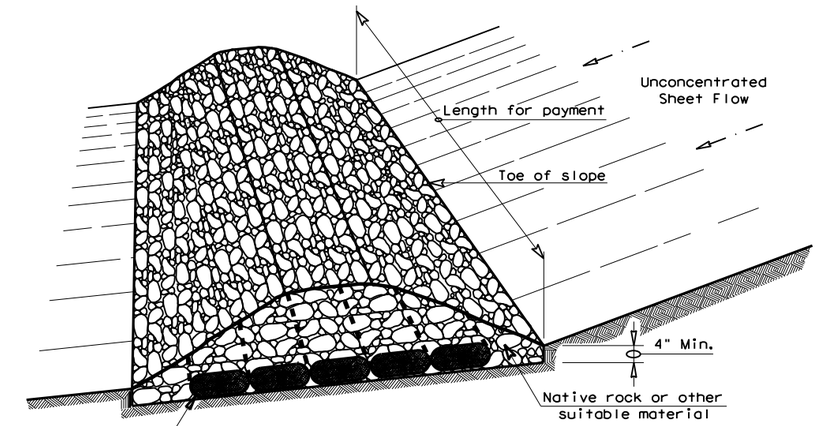
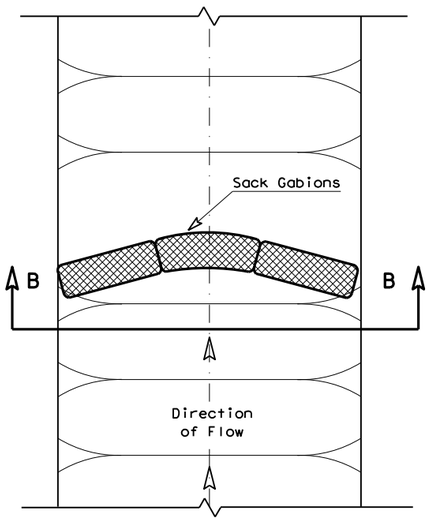
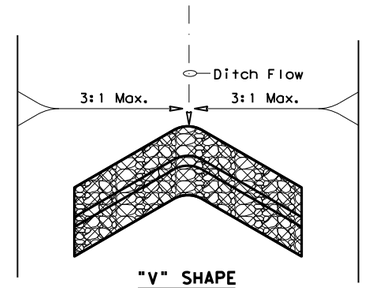


FILTER DAM AT TOE OF SLOPE

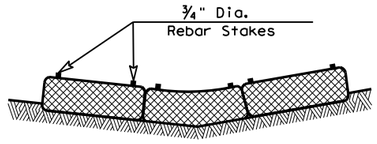
RFD1



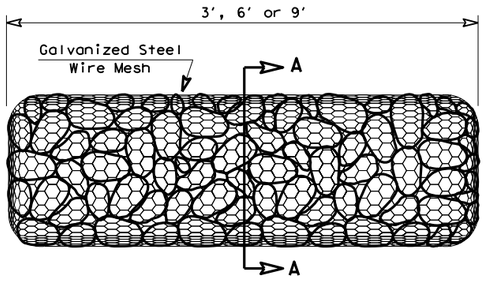
PLAN VIEW



"V" SHAPE PLAN VIEW

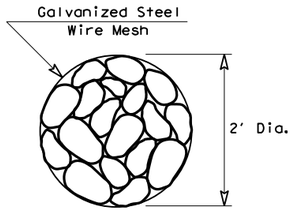


SECTION B-B

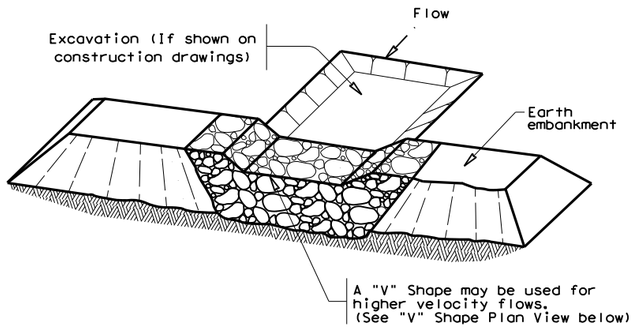


TYPE 4 (SACK GABIONS)

RFD4

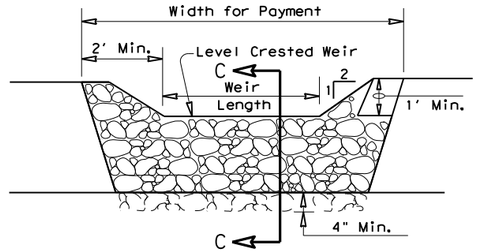


SECTION A-A



FILTER DAM AT SEDIMENT TRAP

RFD1 — OR — RFD2



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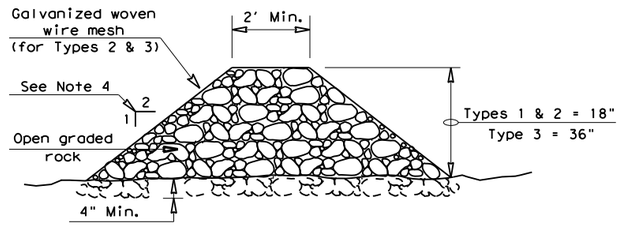
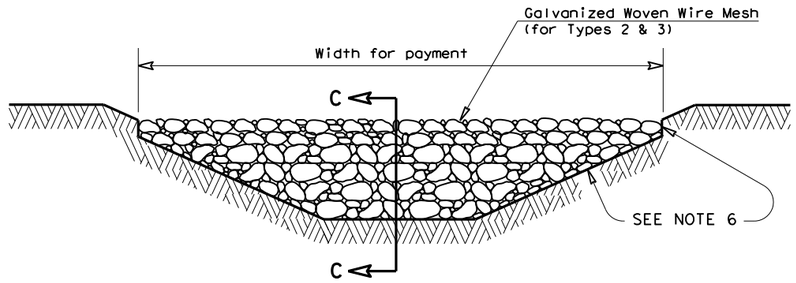


SECTION C-C



FILTER DAM AT CHANNEL SECTIONS

RFD1 — OR — RFD2 — OR — RFD3

ROCK FILTER DAM USAGE GUIDELINES

Rock Filter Dams should be constructed downstream from disturbed areas to intercept sediment from overland runoff and/or concentrated flow. The dams should be sized to filter a maximum flow through rate of 60 GPM/FT^2 of cross sectional area. A 2 year storm frequency may be used to calculate the flow rate.

Type 1 (18" high with no wire mesh) (3" to 6" aggregate): Type 1 may be used at the toe of slopes, around inlets, in small ditches, and at dike or swale outlets. This type of dam is recommended to control erosion from a drainage area of 5 acres or less. Type 1 may not be used in concentrated high velocity flows (approximently 8 Ft/Sec or more) in which aggregate wash out may occur. Sandbags may be used at the embedded foundation (4" deep min.) for better filtering efficiency of low flows if called for on the plans or directed by the Engineer.

Type 2 (18" high with wire mesh) (3" to 6" aggregate): Type 2 may be used in ditches and at dike or swale outlets.

Type 3 (36" high with wire mesh) (4" to 8" aggregate): Type 3 may be used in stream flow and should be secured to the stream bed.

Type 4 (Sack gabions) (3" to 6" aggregate): Type 4 May be used in ditches and smaller channels to form an erosion control dam.

Type 5: Provide rock filter dams as shown on plans.

GENERAL NOTES

1. If shown on the plans or directed by the Engineer, filter dams should be placed near the toe of slopes where erosion is anticipated, upstream and/or downstream at drainage structures, and in roadway ditches and channels to collect sediment.
2. Materials (aggregate, wire mesh, sandbags, etc.) shall be as indicated by the specification for "Rock Filter Dams for Erosion and Sedimentation Control".
3. The rock filter dam dimensions shall be as indicated on the SW3P plans.
4. Side slopes should be 2:1 or flatter. Dams within the safety zone shall have sideslopes of 6:1 or flatter.
5. Maintain a minimum of 1' between top of rock filter dam weir and top of embankment for filter dams at sediment traps.
6. Filter dams should be embedded a minimum of 4" into existing ground.
7. The sediment trap for ponding of sediment laden runoff shall be of the dimensions shown on the plans.
8. Rock filter dam types 2 & 3 shall be secured with 20 gauge galvanized woven wire mesh with 1" diameter hexagonal openings. The aggregate shall be placed on the mesh to the height & slopes specified. The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings. For in stream use, the mesh should be secured or staked to the stream bed prior to aggregate placement.
9. Sack Gabions should be staked down with ¾" dia. rebar stakes, and have a double-twisted hexagonal weave with a nominal mesh opening of 2 ½" x 3 ¼"
10. Flow outlet should be onto a stabilized area (vegetation, rock, etc.).
11. The guidelines shown hereon are suggestions only and may be modified by the Engineer.

PLAN SHEET LEGEND

Type 1 Rock Filter Dam	RFD1
Type 2 Rock Filter Dam	RFD2
Type 3 Rock Filter Dam	RFD3
Type 4 Rock Filter Dam	RFD4

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

ROCK FILTER DAMS

EC(2)-16

FILE: ec216	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS		
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0081	02	077		US 377	
	DIST	COUNTY			SHEET NO.	
	FTW	TARRANT			124	

DATE: 3/20/2024
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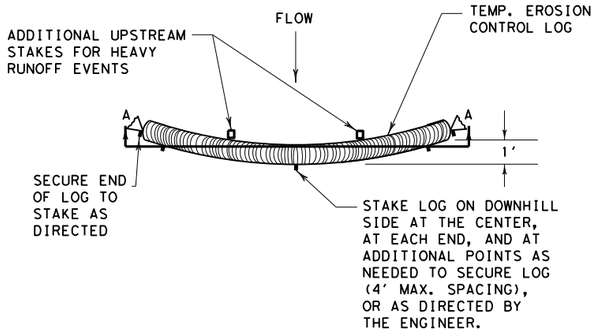
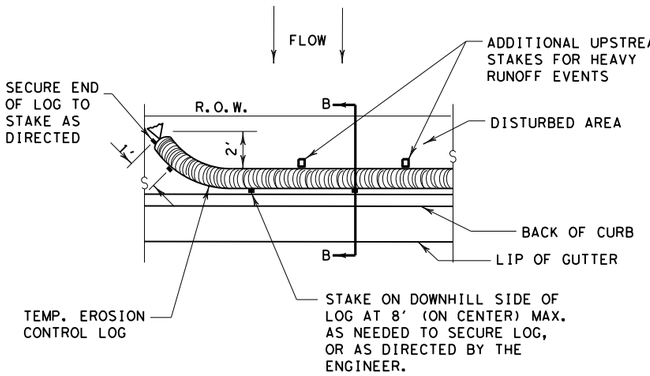


PLAN VIEW



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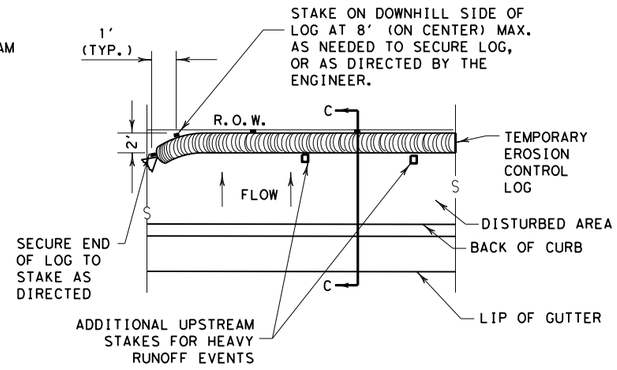
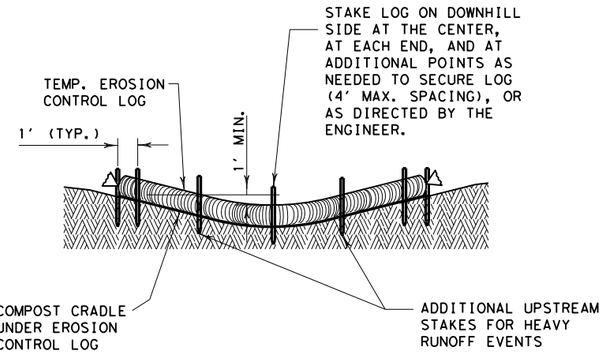


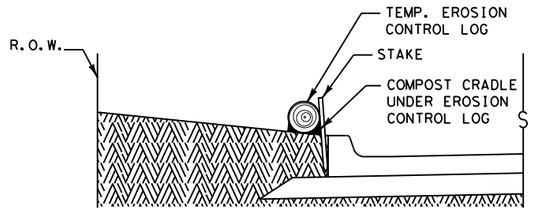
PLAN VIEW



SECTION A-A

EROSION CONTROL LOG DAM

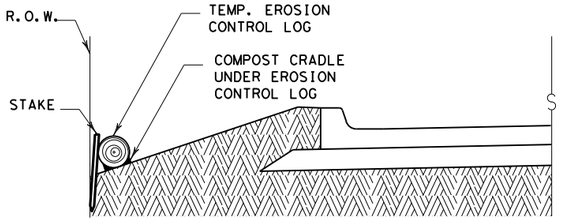
CL-D



SECTION B-B

EROSION CONTROL LOG AT BACK OF CURB

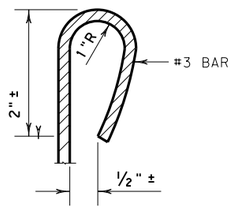
CL-BOC



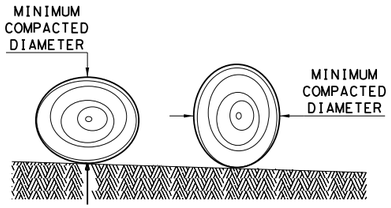
SECTION C-C

EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY

CL-ROW



REBAR STAKE DETAIL



DIAMETER MEASUREMENTS OF EROSION CONTROL LOGS SPECIFIED IN PLANS

GENERAL NOTES:

1. EROSION CONTROL LOGS SHALL BE INSTALLED IN ACCORDANCE WITH MANFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER.
2. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED.
3. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
4. FILL LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE THE MINIMUM COMPACTED DIAMETER SPECIFIED IN THE PLANS WITHOUT EXCESSIVE DEFORMATION.
5. STAKES SHALL BE 2" X 2" WOOD OR #3 REBAR, 2'-4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG, OR AS DIRECTED BY THE ENGINEER.
6. DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.
7. COMPOST CRADLE MATERIAL IS INCIDENTAL & WILL NOT BE PAID FOR SEPARATELY.
8. SANDBAGS USED AS ANCHORS SHALL BE PLACED ON TOP OF LOGS & SHALL BE OF SUFFICIENT SIZE TO HOLD LOGS IN PLACE.
9. TURN THE ENDS OF EACH ROW OF LOGS UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE LOG.
10. FOR HEAVY RUNOFF EVENTS, ADDITIONAL UPSTREAM STAKES MAY BE NECESSARY TO KEEP LOG FROM FOLDING IN ON ITSELF.

LEGEND

- CL-D — EROSION CONTROL LOG DAM
- CL-BOC — EROSION CONTROL LOG AT BACK OF CURB
- CL-ROW — EROSION CONTROL LOG AT EDGE OF RIGHT-OF-WAY
- CL-SST — EROSION CONTROL LOGS ON SLOPES STAKE AND TRENCHING ANCHORING
- CL-SSL — EROSION CONTROL LOGS ON SLOPES STAKE AND LASHING ANCHORING
- CL-DI — EROSION CONTROL LOG AT DROP INLET
- CL-CI — EROSION CONTROL LOG AT CURB INLET
- CL-GI — EROSION CONTROL LOG AT CURB & GRATE INLET

SEDIMENT BASIN & TRAP USAGE GUIDELINES

An erosion control log sediment trap may be used to filter sediment out of runoff draining from an unstabilized area.

Log Traps: The drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Control logs should be placed in the following locations:

1. Within drainage ditches spaced as needed or min. 500' on center
2. Immediately preceding ditch inlets or drain inlets
3. Just before the drainage enters a water course
4. Just before the drainage leaves the right of way
5. Just before the drainage leaves the construction limits where drainage flows away from the project.

The logs should be cleaned when the sediment has accumulated to a depth of 1/2 the log diameter.

Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for separately.

Texas Department of Transportation — Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

FILE: ec916	DN: TxDOT	CK: KM	DW: LS/PT	CK: LS	
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY	
REVISIONS	0081	02	077	US 377	
	DIST	COUNTY		SHEET NO.	
	FTW	TARRANT		125	

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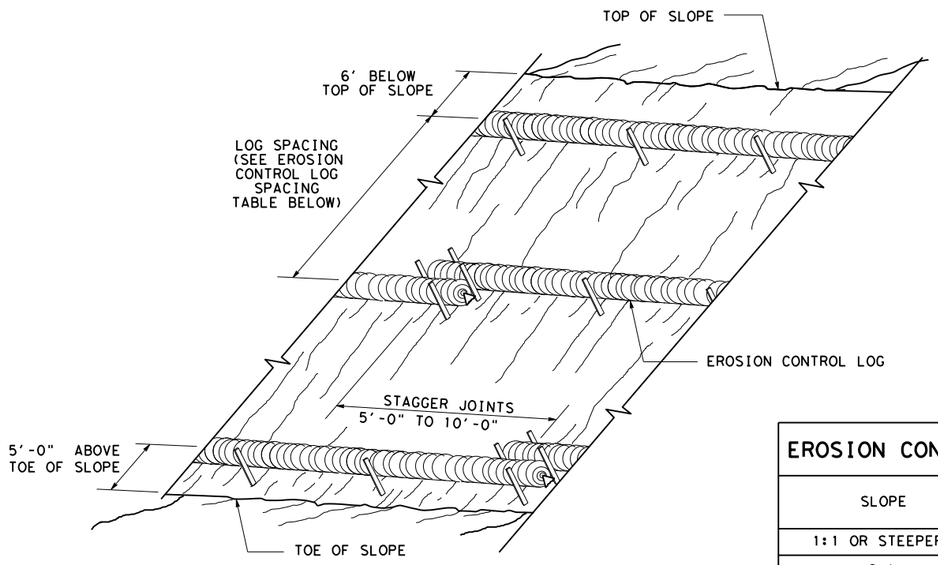
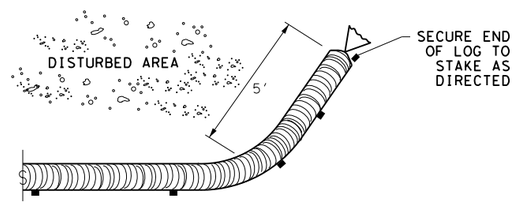


EROSION CONTROL LOGS ON SLOPES
STAKE AND TRENCHING ANCHORING

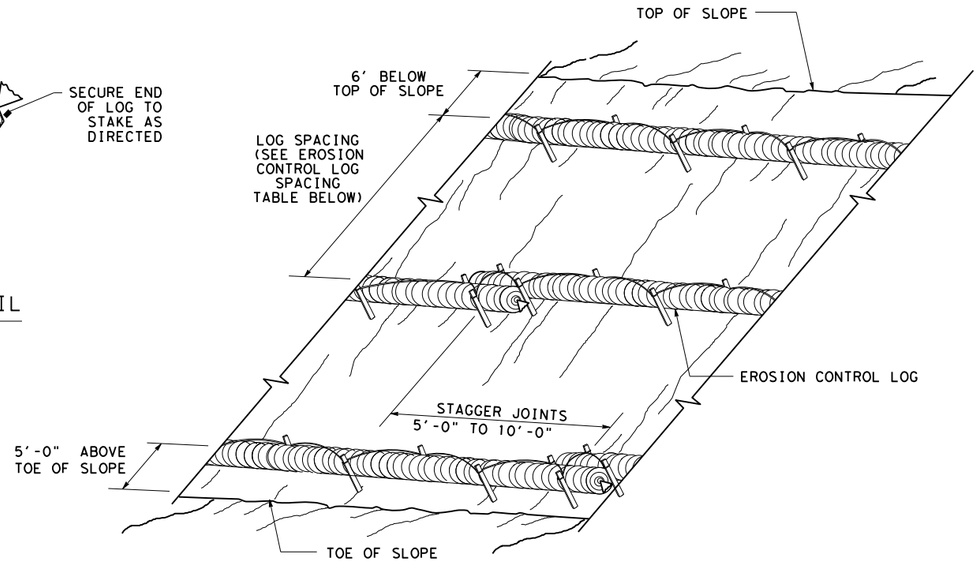
CL-SST



END SECTION RAP DETAIL

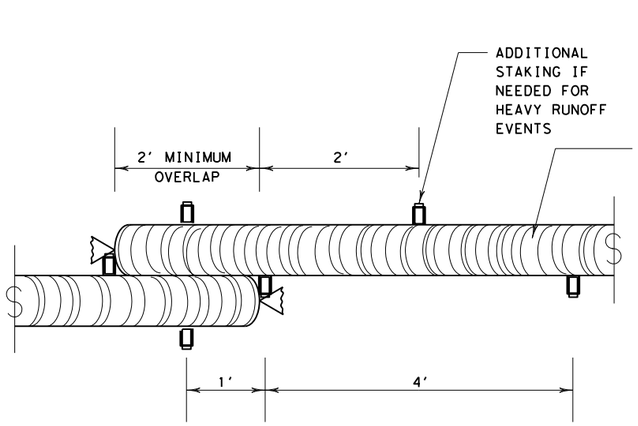
EROSION CONTROL LOG SPACING TABLE				
SLOPE	LOG DIAMETER			
	6"	8"	12"	18"
1:1 OR STEEPER	5'	10'	15'	20'
2:1	10'	20'	30'	40'
3:1	15'	30'	45'	60'
4:1 OR FLATTER	20'	40'	60'	80'

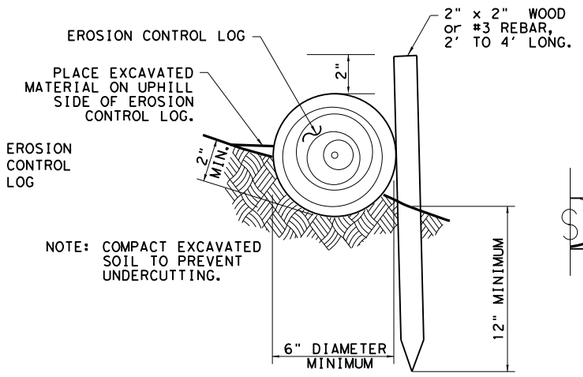
* ADJUSTMENTS CAN BE MADE FOR SOIL TYPE:
SOFT, LOAMY SOILS-ADJUST ROWS CLOSER TOGETHER;
HARD, ROCKY SOILS- ADJUST ROWS FARTHER APART



EROSION CONTROL LOGS ON SLOPES
STAKE AND LASHING ANCHORING

CL-SSL

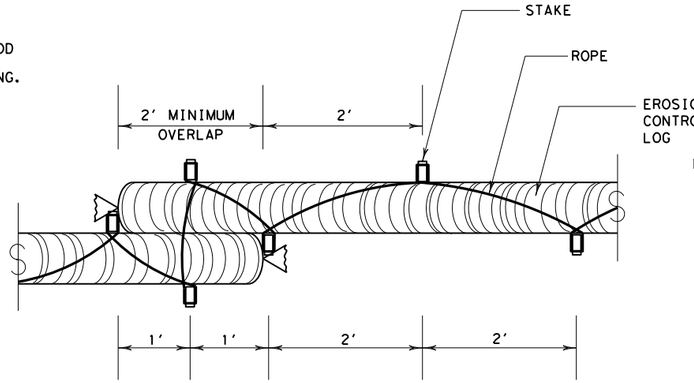


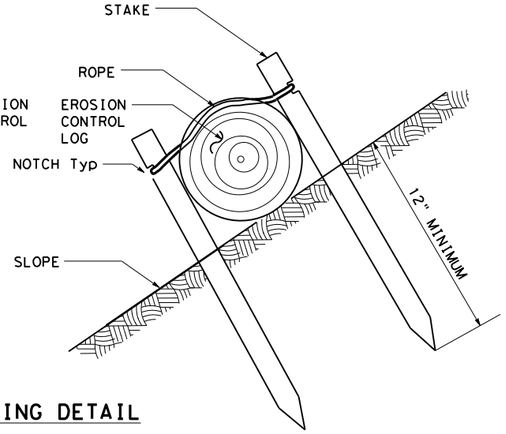


STAKE AND TRENCHING ANCHORING DETAIL

CL-SST

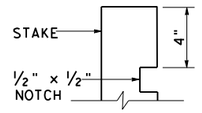
TRENCH DEPTH TABLE	
LOG DIAMETER	DEPTH
6"	2"
8"	3"
12"	4"
18"	5"





STAKE AND LASHING ANCHORING DETAIL

CL-SSL



STAKE NOTCH DETAIL

SHEET 2 OF 3

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES
EROSION CONTROL LOG
EC(9)-16

FILE: ec116	DN: TxDOT		CK: KM	DW: LS/PT		CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0081	02	077		US 377	
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	FTW	TARRANT			126	

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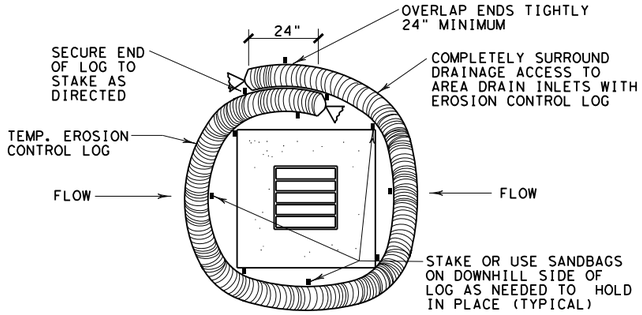
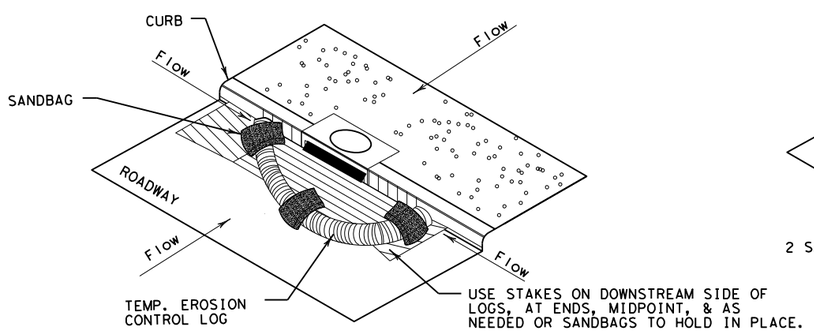


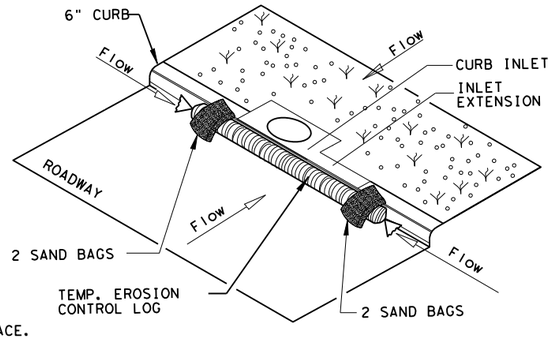
EROSION CONTROL LOG AT DROP INLET

CL-DI



EROSION CONTROL LOG AT CURB INLET

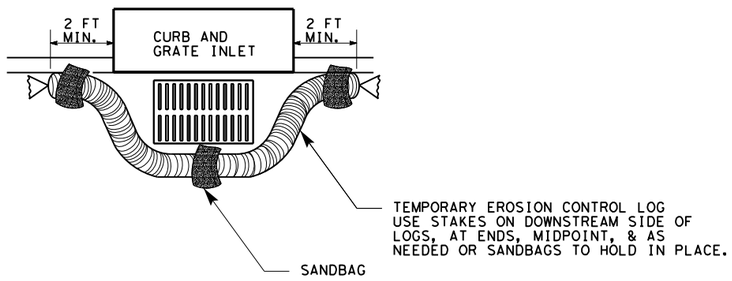
CL-CI



EROSION CONTROL LOG AT CURB INLET

CL-CI

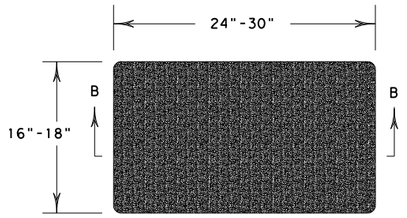
NOTE:
EROSION CONTROL LOGS USED AT CURB INLETS SHOULD ONLY BE USED IF THEY WILL NOT IMPEDE TRAFFIC OR FLOOD THE ROADWAY OR WHEN THE STORM SEWER SYSTEM IS NOT FULLY FUNCTIONAL.



EROSION CONTROL LOG AT CURB & GRADE INLET

CL-GI

SECTION B-B



SANDBAG DETAIL

SHEET 3 OF 3

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

EROSION CONTROL LOG

EC(9)-16

FILE: ec916	DN: TxDOT	CK: KM	DW: LS/PT	CK: LS
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REVISIONS	0081	02	077	US 377
	DIST	COUNTY		SHEET NO.
	FTW	TARRANT		127