FED.RD. DIV.NO.	FEDERAL PROJECT NO.			SHEET NO.
6	BR 2023(596), ETC			1
STATE	STATE DIST.	COUNTY		
TEXAS	AMA	POTTER		
CONT.	SECT.	JOB	HIGHWAY NO.	
0275	01	299, ETC	IH40, ETC	

DESIGN SPEED = N/A
2023 ADT = N/A
2043 ADT = N/A
URBAN FREEWAY

INDEX OF SHEETS

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT
FEDERAL PROJECT: BR 2023(596), ETC
HIGHWAY - IH 40, ETC
AMARILLO, POTTER

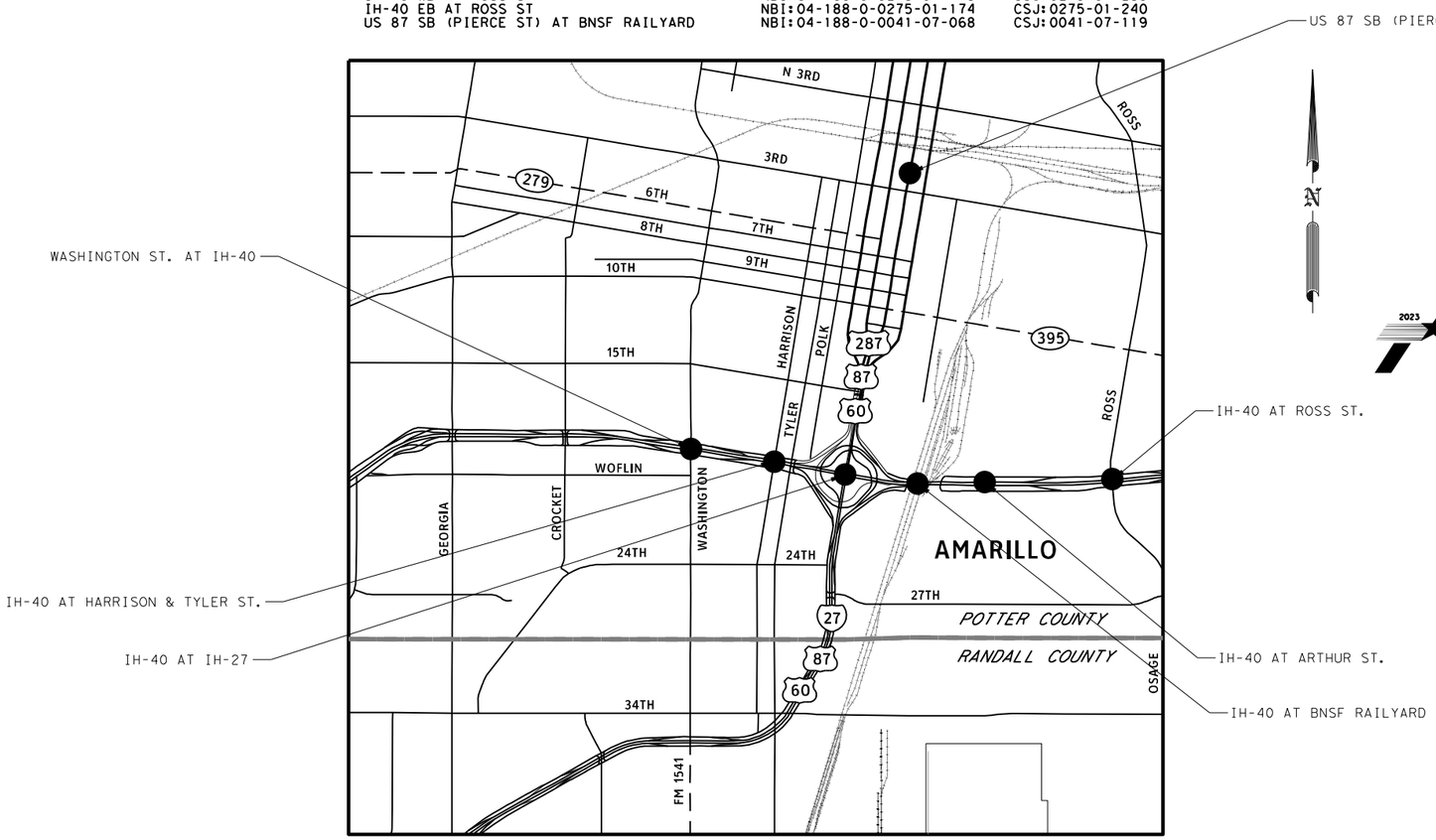
CONTROL: 0275-01-229, ETC
FOR THE CONSTRUCTION OF: BRIDGE REPAIR TYPE WORK

FINAL PLANS

LETTING DATE: _____
DATE CONTRACTOR BEGAN WORK: _____
DATE WORK WAS COMPLETED & ACCEPTED: _____
FINAL CONTRACT COST: $ _____
CONTRACTOR : _____

POTTER COUNTY

IH-40 AT IH-27	NBI:04-188-0-0168-10-156	CSJ:0275-01-229
IH-40 AT TYLER & HARRISON ST	NBI:04-188-0-0275-01-102	CSJ:0275-01-234
IH-40 AT BNSF RAILYARD	NBI:04-188-0-0275-01-157	CSJ:0275-01-235
WASHINGTON ST AT IH-40	NBI:04-188-0-0275-01-162	CSJ:0275-01-236
IH-40 WB AT ARTHUR ST	NBI:04-188-0-0275-01-171	CSJ:0275-01-237
IH-40 EB AT ARTHUR ST	NBI:04-188-0-0275-01-172	CSJ:0275-01-238
IH-40 WB AT ROSS ST	NBI:04-188-0-0275-01-173	CSJ:0275-01-239
IH-40 EB AT ROSS ST	NBI:04-188-0-0275-01-174	CSJ:0275-01-240
US 87 SB (PIERCE ST) AT BNSF RAILYARD	NBI:04-188-0-0041-07-068	CSJ:0041-07-119



EXCEPTIONS:
NONE

EQUATIONS:
NONE

RAILROADS:
DOT #014688T RRMP: 554.220 OWNER: BNSF
DOT #276519D RRMP: 335.730 OWNER: BNSF
DOT #602204A RRMP: 760.470 OWNER: BNSF

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, JULY 2022).

2023 Texas Department of Transportation

RECOMMENDED FOR LETTING: DATE: 1/31/2023
DocuSigned by: Joe Crumpell 2A500C249D094BA...
AREA ENGINEER

DATE: 2/1/2023
DocuSigned by: kit Black 9B5A6EA6AE8B46E...
DISTRICT DIRECTOR OF TRANSPORTATION PLANNING AND DEVELOPMENT

APPROVED FOR LETTING: DATE: 2/2/2023
DocuSigned by: Blair Johnson 8B80E3AEB2BC43A...
DISTRICT ENGINEER

SHEET NO.	DESCRIPTION
	GENERAL
1	TITLE SHEET
2	INDEX OF SHEETS
3-3A	GENERAL NOTES
4-4C	ESTIMATES & QUANTITIES
5	PROJECT SUMMARY
	TRAFFIC CONTROL PLAN STANDARDS
6-17	BC (1)-21 THROUGH BC (12)-21
18-23	TCP (2-1) THROUGH (2-6)-18
24	TCP (2-8)-18
25-26	TCP(3-1)-13 THROUGH TCP(3-2)-13
27	TCP(3-3)-14
28-32	TCP(6-1)-12 THROUGH TCP(6-5)-12
33	TCP(7-1)-13
34	WZ(BTS-1)-13
35	WZ(BTS-2)-13
36	WZ(RCD)-13
37	WZ(RS)-22
38	WZ(STPM)-13
39	WZ(TD)-17
	BRIDGES
40-41	CLEAN AND SEAL JOINTS DETAIL
42-43	BRIDGE JOINT REPAIR DETAIL
44	WATERPROOFING DETAILS
45	WASHINGTON ST AT IH-40 QUANTITY SUMMARY
46	WASHINGTON ST AT IH-40 TCP NARRATIVE
47	WASHINGTON ST AT IH-40 PHASE 1 TCP
48	WASHINGTON ST AT IH-40 PHASE 2 TCP
49	WASHINGTON ST AT IH-40 PHASE 3 TCP
50	WASHINGTON ST AT IH-40 TYPICAL SECTIONS
51	WASHINGTON ST AT IH-40 BRIDGE REPAIR DETAILS
52	WASHINGTON ST AT IH-40 STRIPING PLAN
53	IH-40 HARRISON ST QUANTITY SUMMARY
54	IH-40 HARRISON ST TCP NARRATIVE
55-64	IH-40 AT HARRISION ST & IH-27 DETOUR LAYOUT
65-71	IH-40 AT HARRISON ST & IH-27 PHASE 1 TCP
72-82	IH-40 AT HARRISON ST & IH-27 PHASE 2 STEP 1 TCP
83-96	IH-40 AT HARRISON ST & IH-27 PHASE 2 STEP 2 TCP
97	IH-40 AT HARRISON ST TYPICAL SECTIONS
98	IH-40 AT HARRISON ST DECK OVERLAY AND DIAMOND GRINDING DETAILS
99-100	IH-40 AT HARRISON ST BRIDGE REPAIR DETAILS
101-102	IH-40 AT HARRISON ST BRIDGE RAIL REPAIR DETAIL
103-104	TRAFFIC RAIL SINGLE SLOPE TYPE SSTR
105	IH-40 AT IH-27 QUANTITY SUMMARY
106	IH-40 AT IH-27 TCP NARRATIVE
107	IH-40 AT IH-27 TYPICAL SECTIONS
108-110	IH-40 AT IH-27 BRIDGE REPAIR DETAILS
111	IH-40 AT BNSF RAILYARD QUANTITY SUMMARY
112	IH-40 AT BNSF RAILYARD TCP NARRATIVE
113-118	IH-40 AT BNSF RAILYARD DETOUR LAYOUT
119-126	IH-40 AT BNSF RAILYARD PHASE 1 TCP
127-134	IH-40 AT BNSF RAILYARD PHASE 2 TCP
135	IH-40 AT BNSF RAILYARD TYPICAL SECTIONS
136-137	IH-40 AT BNSF RAILYARD BRIDGE REPAIR DETAILS
138	IH-40 AT ARTHUR ST QUANTITY SUMMARY
139	IH-40 AT ARTHUR ST TCP NARRATIVE
140-142	IH-40 AT ARTHUR ST DETOUR LAYOUT
143-149	IH-40 AT ARTHUR ST PHASE 1 TCP
150-156	IH-40 AT ARTHUR ST PHASE 2 TCP
157	IH-40 AT ARTHUR ST TYPICAL SECTIONS
158	IH-40 AT ARTHUR ST BRIDGE REPAIR DETAILS
159	IH-40 AT ROSS ST QUANTITY SUMMARY
160	IH-40 AT ROSS ST TCP NARRATIVE
161-162	IH-40 AT ROSS ST DETOUR LAYOUT
163-169	IH-40 AT ROSS ST PHASE 1 TCP
170-178	IH-40 AT ROSS ST PHASE 2 TCP
179	IH-40 AT ROSS ST TYPICAL SECTIONS
180	IH-40 AT ROSS ST BRIDGE REPAIR DETAILS
181	US 87 SB PIERCE ST AT BNSF RAILYARD QUANTITY SUMMARY
182	US 87 SB PIERCE ST AT BNSF RAILYARD TCP NARRATIVE
183-185	US 87 SB PIERCE ST AT BNSF RAILYARD PHASE 1 TCP
186-187	US 87 SB PIERCE ST AT BNSF RAILYARD PHASE 2 TCP
188	US 87 SB PIERCE ST AT BNSF RAILYARD TYPICAL SECTIONS
189-190	US 87 SB PIERCE ST AT BNSF RAILYARD BRIDGE REPAIR DETAILS
191	US 87 SB (PIERCE ST) AT BNSF RAILYARD BRIDGE RAIL REPAIR DETAIL
192	US 87 SB PIERCE ST AT BNSF RAILYARD SUBSTRUCTURE REPAIR DETAIL
193	US 87 SB PIERCE ST AT BNSF RAILYARD RETAINING WALL REPAIR DETAIL
	PAVEMENT MARKING & DELINEATION STANDARDS
194-199	D & OM (1)-20 THROUGH D & OM(6)-20
200	D & OM (VIA)-20
201-204	FPM (1)-12 THROUGH FPM (4)-12
205-207	PM (1)-20 THROUGH PM(3)-20
208	CPM (1)-14
	RAILROAD SHEETS
209-210	RAILROAD REQUIRMENTS FOR NON-BRIDGE CONSTURCTION PROJECTS
211-212	RAILROAD SCOPE OR WORK
213-216	US 87 SB (PIERCE ST) AT BNSF RAILYARD EXHIBIT A DOT# 276519D DOT# 602204A
217-218	IH-40 AT BNSF RAILYARD EXHIBIT B DOT# 014668T
	ENVIRONMENTAL ISSUES
219-220	TXDOT STORM WATER POLLUTION PREVENTION PLAN (SW3P)
221	ENVIRONMENTAL PERMITS, ISSUES, AND COMMITMENTS (EPIC)

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

AMA FY 23 BMIP

INDEX OF SHEETS

Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		2

DATE: 1/24/2023 1:59:06 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - DesignPlan Set\1. General\229_INDEX_OF_SHEETS.dgn

GENERAL NOTES

General

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

TO:	Amarillo Area Engineer	Joe.Chappell@txdot.gov
CC:	Assistant Area Engineer	CC.Sysombath@txdot.gov
	Director of Construction	Kenneth.Petr@txdot.gov
	Construction Manager	Thomas.Nagel@txdot.gov

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

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 of the project you want to view the Q&A for and click on the link in the window that pops up.

All relevant project documentation including CTD and cross sections (if applicable) will be posted to TxDOT District's FTP website.

https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/

There are approximately 2 "reference markers" within the project limits. If a marker needs to be moved for any reason during construction operations, the Contractor is to remove it, install it in a temporary location and then reinstall it in its correct permanent location. Both the temporary and permanent locations are to be on a line that is perpendicular to the original "station" along the roadway. The temporary location is to be at or near the right-of-way. The permanent location is to be directed by the Engineer.

See Railroad Scope of Work sheet for insurance and/or other requirements.

The Contractor is advised that construction zones will be applicable for the below listed project locations and are to be limited to the actual areas of work under construction. The approved construction speed limits will be made available upon request to the Engineer.

- IH-40 at IH-27
- IH-40 at Tyler & Harrison
- IH-40 at BNSF Railyard
- IH-40 at Arthur Street
- IH-40 at Ross Street

If portions of the right-of-way is used to store materials, equipment, and other uses with the approval of the Engineer, materials, equipment, etc., must either be located outside the 30 feet traffic safety clearance zone or be adequately protected.

Do not store equipment or material under any bridge.

Any work necessary to provide temporary ingress and egress during construction (such as building gravel ramps, etc.) Will not be paid for directly, but will be considered as subsidiary work to the various bid items.

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 a notarized 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

No significant traffic generator events identified.

The total area disturbed for this project is approximately 0 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor Project Specific Locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer and to the local government that operates a separate storm sewer system.

Item 8 Prosecution and Progress

Create, maintain, and submit for approval, a Critical Path Method (CPM) project schedule and a Project Schedule Summary Report (PSSR) using computer software that is fully compatible with the latest version of Primavera Systems, Inc. or Primavera P6.

Provide CPM scheduling, in accordance to Item 8. When the Contractor has made a final determination of the start date, the Contractor must notify the Engineer a minimum of seven days in advance.

Item 427 Surface Finishes for Concrete

An Epoxy Waterproof Finish (TY X) is required on bent caps beneath a bridge joint, all abutment caps and all backwalls. If abutment backwalls, and bents have an existing surface treatment, this surface treatment must first be removed by blast cleaning prior to the application of the Waterproof Finish (TY X).

Item 502 Barricades, Signs, and Traffic Handling

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

Temporary rumble strips will be required as shown on WZ(RS)-22 regardless of loose gravel, and/or soft or bleeding asphalt. Adjust the traffic control setup such that rumble strips are not placed in areas of heavily rutted pavements, unpaved surfaces, or horizontal curves. Temporary rumble strips will not be allowed on interstate highway.

The Contractor is to have the option of using either plastic drums, vertical panels, grabber cones or a combination where drums are shown as channelizing devices, as approved by the Engineer. Plastic drums are to be used in all transition areas in accordance with BC(8)-21 and WZ(TD)-17.

Notify the Engineer 24 hours prior to any lane closure.

Contractor is to use the Texas Manual on Uniform Traffic Control Devices to ensure that no traffic will be stopped within the Rail Road Right of Way. Contractor is to ensure all TCP and construction remain out of the Rail Road Right of Way.

Item 666 Reflectorized Pavement Markings

Retroreflectivity Requirements:

All Type I markings must meet the minimum retroreflectivity values for edgeline markings, centerline or no passing barrier-line, and lane lines when measured any time after 3 days, but not later than 10 days after application:

- White markings: 250 millicandelas per square meter per lux (mcd/m^2/lx)
- Yellow markings: 175 mcd/m^2/lx

Retroreflectivity Measurements: Mobile or portable retroreflectometers may be used at the Contractor's discretion.

All Type I markings must meet the minimum retroreflectivity values for edgeline markings, centerline or no passing barrier-line, and lane lines when measured any time after 3 days, but not later than 10 days after application.

Item 3004 Continuous Diamond Grinding Concrete Pavement

Diamond grinding is to be performed to improve ride quality by reducing the effects of camber at bridge deck midspans. The maximum depth of diamond grinding anywhere on the bridge is to be 0.5". A 30' grade beam/ski will need to be attached to the paver to maintain grade control.

Item 4106 Polyester Polymer Concrete Bridge Deck Overlay

Furnish a self-propelled slip-form paving machine, which is modified or specially built to effectively place polyester polymer concrete overlays in a manner meeting the following requirements in section 3.3 of Special Specification 4106.

Item 6001 Portable Changeable Message Sign

Supply 4 Portable Changeable Message Signs (Type II – Lamp Matrix) for this project. This work will be paid at the unit price bid for each unit, which will include any moving, maintenance, and removing of the PCMS. No payment will be made for removing and replacing damaged PCMS. The Portable Changeable Message Signs will become property of the Contractor at the completion of the project.

If the Contractor chooses to have more than one lane closure set-up at a time, provide additional PCMS in accordance with TCP at no additional charge to the department.

Item 6158 Trailer Mounted Solar Powered Radar Speed Control Monitor

Supply 2 (TMSP) units for this project. This work will be paid at the unit price bid for each unit, which will include any moving, maintenance, and removing of the TMSP. No payment will be made for removing and replacing damaged TMSP.

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 0 additional shadow vehicle(s) with TMA for TCP (2-2)-18 through (2-6)-18, (2-8)-18, (3-1)-13, (3-2)-13, (3-3)-14, (6-1)-12 through (6-5)-12, (7-1)-13 as detailed on the General Notes of this standard sheets.

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

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0275-01-229 **DISTRICT** Amarillo **COUNTY** Potter
HIGHWAY IH 40, US 60

			CONTROL SECTION JOB	**0041-07-119**		**0275-01-229**		**0275-01-234**		**0275-01-235**		**0275-01-236**		**0275-01-237**	
			PROJECT ID	**A00186168**		**A00181881**		**A00186106**		**A00186113**		**A00186169**		**A00186170**	
			COUNTY	**Potter**		**Potter**		**Potter**		**Potter**		**Potter**		**Potter**	
			HIGHWAY	**US 60**		**IH 40**		**IH 40**		**IH 40**		**IH 40**		**IH 40**	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	104-6037	REMOVE CONC (RAIL)	LF					23.000							
	361-6051	FULL-DPTH REP(BR APPROACH SLAB)(9"-13")	SY									19.000			
	427-6007	EPOXY WATERPROOF FINISH (TY X)	SF	1,628.000		11,311.000		4,193.000		5,862.000		2,066.000			
	429-6002	CONC STR REPAIR (EPOXY MORTAR)	SF	284.000											
	429-6007	CONC STR REPAIR (VERTICAL & OVERHEAD)	SF	76.000											
	429-6016	CNC STR REP(ULTR RPD DCK REP)(TYB)(P D)	SF					144.000							
	438-6001	CLEANING AND SEALING EXISTING JOINTS	LF	123.000		1,070.000		466.000		449.000				144.000	
	438-6004	CLEANING AND SEALING EXIST JOINTS(CL7)	LF	344.000		313.000		319.000		89.000		300.000		140.000	
	438-6009	CLEANING EXISTING JOINTS	LF							158.000					
	438-6010	RESIZING AND SEALING JOINTS	LF							70.000					
	450-6023	RAIL (TY SSTR)	LF					13.000							
	450-6062	RAIL (TY SSTR)(MOD)	LF					10.000							
	500-6001	MOBILIZATION	LS			1.000									
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO			10.000									
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA	238.000		651.000		656.000		782.000		53.000		184.000	
	662-6110	WK ZN PAV MRK SHT TERM (TAB)TY Y	EA			165.000		68.000		101.000		63.000		17.000	
	668-6014	PREFAB PAV MRK TY B (W)(8")(SLD)	LF									360.000			
	668-6015	PREFAB PAV MRK TY B (W)(12")(LNDP)	LF					235.000		179.000				87.000	
	668-6016	PREFAB PAV MRK TY B (W)(12")(SLD)	LF			393.000		410.000		918.000					
	668-6018	PREFAB PAV MRK TY B (W)(24")(SLD)	LF									48.000			
	668-6019	PREFAB PAV MRK TY B (W)(ARROW)	EA									2.000			
	668-6027	PREFAB PAV MRK TY B (W)(WORD)	EA									2.000			
	764-6001	DRAIN INLET CLEANING	EA			30.000		19.000		25.000					
	778-6001	CONCRETE RAIL REPAIR (IN-KIND)	LF	8.000											
	785-6005	BRIDGE JOINT REPAIR (SEJ)	LF					12.000		36.000					
	788-6001	CONCRETE BEAM REPAIR	EA	42.000											
	3004-6001	CONTINUOUS DIAMOND GRINDING CONC PVMT	SY					4,345.000							
	4106-6007	POLYESTER POLYMER CONC OVERLAY (1")	SY	4,792.000		20,431.000				16,719.000		3,269.000		2,622.000	
	4106-6008	POLYESTER POLYMER CONC OVERLAY	CY					285.000							
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA			4.000									
	6019-6005	PREFB PV MK W/WNTY TY B (W)(6")(BRK)	LF	800.000								100.000			
	6019-6006	PREFB PV MK W/WNTY TY B (W)(6")(SLD)	LF			3,379.000		1,350.000		2,406.000		130.000		346.000	
	6019-6007	PREFB PV MK W/WNTY TY B(W)6"(BRK)CNTST	LF			1,550.000		850.000		1,270.000				180.000	
	6019-6014	PREFB PV MK W/WNTY TY B (Y)(6")(SLD)	LF			3,290.000		1,350.000		2,018.000		1,250.000		346.000	
	6158-6001	TMSP RADAR SPEED CONTROL MONITOR	EA			2.000									
	6185-6002	TMA (STATIONARY)	DAY			170.000									
	6185-6003	TMA (MOBILE OPERATION)	HR			120.000									

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0275-01-229 **DISTRICT** Amarillo **COUNTY** Potter
HIGHWAY IH 40, US 60

CONTROL SECTION JOB				**0041-07-119**		**0275-01-229**		**0275-01-234**		**0275-01-235**		**0275-01-236**		**0275-01-237**	
PROJECT ID				**A00186168**		**A00181881**		**A00186106**		**A00186113**		**A00186169**		**A00186170**	
COUNTY				**Potter**		**Potter**		**Potter**		**Potter**		**Potter**		**Potter**	
HIGHWAY				**US 60**		**IH 40**		**IH 40**		**IH 40**		**IH 40**		**IH 40**	
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL	EST.	FINAL
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS			1.000									
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS			1.000									

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0275-01-229 **DISTRICT** Amarillo **COUNTY** Potter
HIGHWAY IH 40, US 60

				CONTROL SECTION JOB	0275-01-238		0275-01-239		0275-01-240		TOTAL EST.	TOTAL FINAL
				PROJECT ID	A00186171		A00186172		A00186173			
				COUNTY	Potter		Potter		Potter			
				HIGHWAY	IH 40		IH 40		IH 40			
ALT	BID CODE	DESCRIPTION	UNIT		EST.	FINAL	EST.	FINAL	EST.	FINAL		
	104-6037	REMOVE CONC (RAIL)	LF								23.000	
	361-6051	FULL-DPTH REP(BR APPROACH SLAB)(9"-13")	SY								19.000	
	427-6007	EPOXY WATERPROOF FINISH (TY X)	SF								25,060.000	
	429-6002	CONC STR REPAIR (EPOXY MORTAR)	SF								284.000	
	429-6007	CONC STR REPAIR (VERTICAL & OVERHEAD)	SF								76.000	
	429-6016	CNC STR REP(ULTR RPD DCK REP)(TYB)(P D)	SF								144.000	
	438-6001	CLEANING AND SEALING EXISTING JOINTS	LF		144.000		130.000		130.000		2,656.000	
	438-6004	CLEANING AND SEALING EXIST JOINTS(CL7)	LF		140.000		130.000		130.000		1,905.000	
	438-6009	CLEANING EXISTING JOINTS	LF								158.000	
	438-6010	RESIZING AND SEALING JOINTS	LF								70.000	
	450-6023	RAIL (TY SSTR)	LF								13.000	
	450-6062	RAIL (TY SSTR)(MOD)	LF								10.000	
	500-6001	MOBILIZATION	LS								1.000	
	502-6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO								10.000	
	662-6109	WK ZN PAV MRK SHT TERM (TAB)TY W	EA		95.000		85.000		181.000		2,925.000	
	662-6110	WK ZN PAV MRK SHT TERM (TAB)TY Y	EA		17.000		17.000		17.000		465.000	
	668-6014	PREFAB PAV MRK TY B (W)(8")(SLD)	LF								360.000	
	668-6015	PREFAB PAV MRK TY B (W)(12")(LNDP)	LF						85.000		586.000	
	668-6016	PREFAB PAV MRK TY B (W)(12")(SLD)	LF				340.000				2,061.000	
	668-6018	PREFAB PAV MRK TY B (W)(24")(SLD)	LF								48.000	
	668-6019	PREFAB PAV MRK TY B (W)(ARROW)	EA								2.000	
	668-6027	PREFAB PAV MRK TY B (W)(WORD)	EA								2.000	
	764-6001	DRAIN INLET CLEANING	EA								74.000	
	778-6001	CONCRETE RAIL REPAIR (IN-KIND)	LF								8.000	
	785-6005	BRIDGE JOINT REPAIR (SEJ)	LF								48.000	
	788-6001	CONCRETE BEAM REPAIR	EA								42.000	
	3004-6001	CONTINUOUS DIAMOND GRINDING CONC PVMT	SY								4,345.000	
	4106-6007	POLYESTER POLYMER CONC OVERLAY (1")	SY		2,622.000		2,399.000		2,399.000		55,253.000	
	4106-6008	POLYESTER POLYMER CONC OVERLAY	CY								285.000	
	6001-6002	PORTABLE CHANGEABLE MESSAGE SIGN	EA								4.000	
	6019-6005	PREFB PV MK W/WNTY TY B (W)(6")(BRK)	LF								900.000	
	6019-6006	PREFB PV MK W/WNTY TY B (W)(6")(SLD)	LF		346.000		340.000		340.000		8,637.000	
	6019-6007	PREFB PV MK W/WNTY TY B(W)6"(BRK)CNTST	LF		260.000		170.000		170.000		4,450.000	
	6019-6014	PREFB PV MK W/WNTY TY B (Y)(6")(SLD)	LF		346.000		340.000		340.000		9,280.000	
	6158-6001	TMSP RADAR SPEED CONTROL MONITOR	EA								2.000	
	6185-6002	TMA (STATIONARY)	DAY								170.000	
	6185-6003	TMA (MOBILE OPERATION)	HR								120.000	

Estimate & Quantity Sheet

CONTROLLING PROJECT ID 0275-01-229 **DISTRICT** Amarillo **COUNTY** Potter
HIGHWAY IH 40, US 60

											TOTAL EST.	TOTAL FINAL
		CONTROL SECTION JOB		**0275-01-238**		**0275-01-239**		**0275-01-240**				
		PROJECT ID		**A00186171**		**A00186172**		**A00186173**				
		COUNTY		**Potter**		**Potter**		**Potter**				
		HIGHWAY		**IH 40**		**IH 40**		**IH 40**				
ALT	**BID CODE**	**DESCRIPTION**	**UNIT**	EST.	FINAL	EST.	FINAL	EST.	FINAL			
	18	SAFETY CONTINGENCY: CONTRACTOR FORCE ACCOUNT WORK (PARTICIPATING)	LS								1.000	
		EROSION CONTROL MAINTENANCE: CONTRACTOR FORCE ACCOUNT WORK (PART)	LS								1.000	

SUMMARY OF BRIDGE ITEMS

LOCATION	104 6037 REMOVE CONC (RAIL) LF	361 6051 FULL-DPTH REP (BR APPROACH SLAB) (9"-13") SY	427 6007 EPOXY WATERPROOF FINISH (TY X) SF	429 6002 CONC STR REPAIR (EPOXY MORTAR) SF	429 6007 CONC STR REPAIR (VERTICAL & OVERHEAD) SF	429 6016 CNC STR REP(ULTR RPD DCK REP) (TYB) (PD) SF	438 6001 CLEANING AND SEALING EXIST JOINTS LF
WASHINGTON ST AT IH-40 QUANTITY SUMMARY		19	2,066				
IH-40 AT HARRISON ST QUANTITY SUMMARY	23		4,193			144	466
IH-40 AT IH-27 QUANTITY SUMMARY			11,311				1,070
IH-40 AT BNSF RAILYARD QUANTITY SUMMARY			5,862				449
IH-40 WB AT ARTHUR ST QUANTITY SUMMARY							144
IH-40 EB AT ARTHUR ST QUANTITY SUMMARY							144
IH-40 WB AT ROSS ST QUANTITY SUMMARY							130
IH-40 EB AT ROSS ST QUANTITY SUMMARY							130
US 87 SB (PIERCE ST) AT BNSF RAILYARD QUANTITY SUMMARY			1,628	284	76		123
PROJECT TOTAL'S	**23**	**19**	**25,060**	**284**	**76**	**144**	**2,656**

SUMMARY OF TCP ITEMS

LOCATION	662 6109 WK ZN PAV MRK SHT TERM (TAB) TY W EA	662 6110 WK ZN PAV MRK SHT TERM (TAB) TY Y EA
WASHINGTON ST AT IH-40	53	63
IH-40 AT HARRISON ST	656	68
IH-40 AT IH-27	651	165
IH-40 AT BNSF RAILYARD	782	101
IH-40 WB AT ARTHUR ST	184	17
IH-40 EB AT ARTHUR ST	95	17
IH-40 WB AT ROSS ST	85	17
IH-40 EB AT ROSS ST	181	17
US 87 SB (PIERCE ST) AT BNSF RAILYARD	238	
PROJECT TOTAL'S	2,925	465

SUMMARY OF BRIDGE ITEMS (CONT'D)

LOCATION	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7) LF	438 6009 CLEANING EXISTING JOINTS LF	438 6010 RESIZING AND SEALING JOINTS LF	450 6023 RAIL (TY SSTR) LF	450 6062 RAIL (TY SSTR) (MOD) LF	764 6001 DRAIN INLET CLEANING EA	778 6001 CONCRETE RAIL REPAIR (IN-KIND) LF	788 6001 CONCRETE BEAM REPAIR EA	785 6005 BRIDGE JOINT REPAIR (SEJ) LF	3004 6001 CONTINUOUS DIAMOND GRINDING CONC PVMNT SY	4106 6008 POLYESTER POLYMER CONC OVERLAY CY	4106 6007 POLYESTER POLYMER CONC OVERLAY (1") SY
WASHINGTON ST AT IH-40 QUANTITY SUMMARY	300											3,269
IH-40 AT HARRISON ST QUANTITY SUMMARY	319			13	10	19			12	4,345	285	
IH-40 AT IH-27 QUANTITY SUMMARY	313					30						20,431
IH-40 AT BNSF RAILYARD QUANTITY SUMMARY	89	158	70			25			36			16,719
IH-40 WB AT ARTHUR ST QUANTITY SUMMARY	140											2,622
IH-40 EB AT ARTHUR ST QUANTITY SUMMARY	140											2,622
IH-40 WB AT ROSS ST QUANTITY SUMMARY	130											2,399
IH-40 EB AT ROSS ST QUANTITY SUMMARY	130											2,399
US 87 SB (PIERCE ST) AT BNSF RAILYARD QUANTITY SUMMARY	344						8	42				4,792
PROJECT TOTAL'S	**1,905**	**158**	**70**	**13**	**10**	**74**	**8**	**42**	**48**	**4,345**	**285**	**55,253**

SUMMARY OF PAVEMENT MARKING ITEMS

LOCATION	668 6014 PREfAB PAV MARK TY B (W) (8") (SLD) LF	668 6015 PREfAB PAV MARK TY B (W) (12") (LNDP) LF	668 6016 PREFAB PAV MARK TY B (W) (12") (SLD) LF	668 6018 PREFAB PAV MARK TY B (W) (24") (SLD) LF	668 6019 PREFAB PAV MRK TY B (W) (ARROW) EA	668 6027 PREFAB PAV MRK TY B (W) (WORD) EA	6019 6005 PREFB PV MK W/WNTY TY B (W) (6") (BRK) LF	6019 6006 PREFB PV MK W/WNTY TY B (W) (6") (SLD) LF	6019 6007 PREFB PV MK W/WNTY TY B(W)6"(BRK) CNTST LF	6019 6014 PREFB PV MK W/WNTY TY B (Y) (6") (SLD) LF
WASHINGTON ST AT IH-40 QUANTITY SUMMARY	360			48	2	2	100	130		1,250
IH-40 AT HARRISON ST QUANTITY SUMMARY		235	410					1,350	850	1,350
IH-40 AT IH-27 QUANTITY SUMMARY			393					3,379	1,550	3,290
IH-40 AT BNSF RAILYARD QUANTITY SUMMARY		179	918					2,406	1,270	2,018
IH-40 WB AT ARTHUR ST QUANTITY SUMMARY		87						346	180	346
IH-40 EB AT ARTHUR ST QUANTITY SUMMARY								346	260	346
IH-40 WB AT ROSS ST QUANTITY SUMMARY			340					340	170	340
IH-40 EB AT ROSS ST QUANTITY SUMMARY		85						340	170	340
US 87 SB (PIERCE ST) AT BNSF RAILYARD QUANTITY SUMMARY							800			
PROJECT TOTAL'S	**360**	**586**	**2,061**	**48**	**2**	**2**	**900**	**8,637**	**4,450**	**9,280**

AMA FY 23 BMIP

PROJECT SUMMARY

Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		5

DATE: 1/24/2023 10:59:56 AM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\1. General\229_PROJECT_SUMMARY.dgn

DATE: 11/28/2022 3:33:39 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

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

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

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

WORKER SAFETY NOTES:

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

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

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

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

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

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

SHEET 1 OF 12

Texas Department of Transportation — Traffic Safety Division Standard

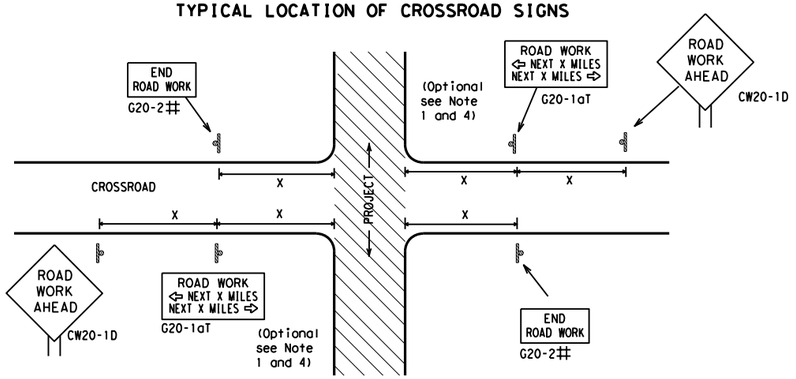
BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
4-03 7-13	DIST	COUNTY		SHEET NO.
9-07 8-14	AMA	POTTER		6
5-10 5-21				

DATE: 11/28/2022 3:33:41 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set 2\ TCP\Standards\bc-21.dgn

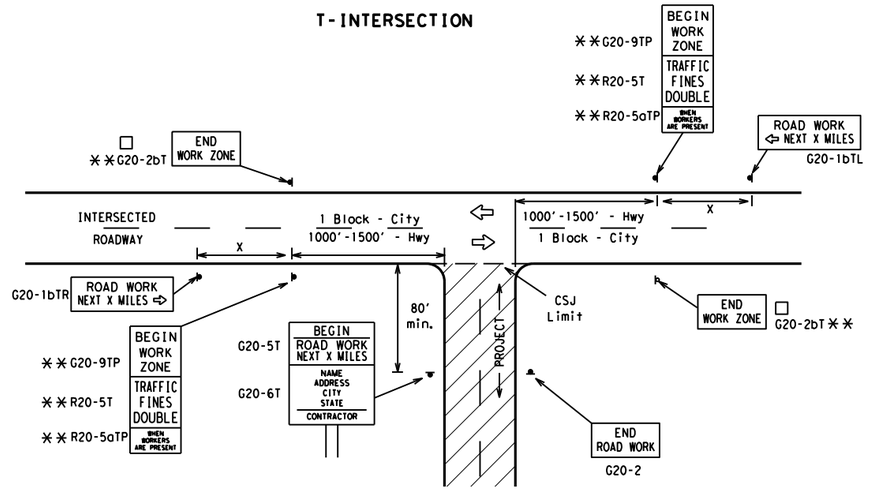
TYPICAL LOCATION OF CROSSROAD SIGNS



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]

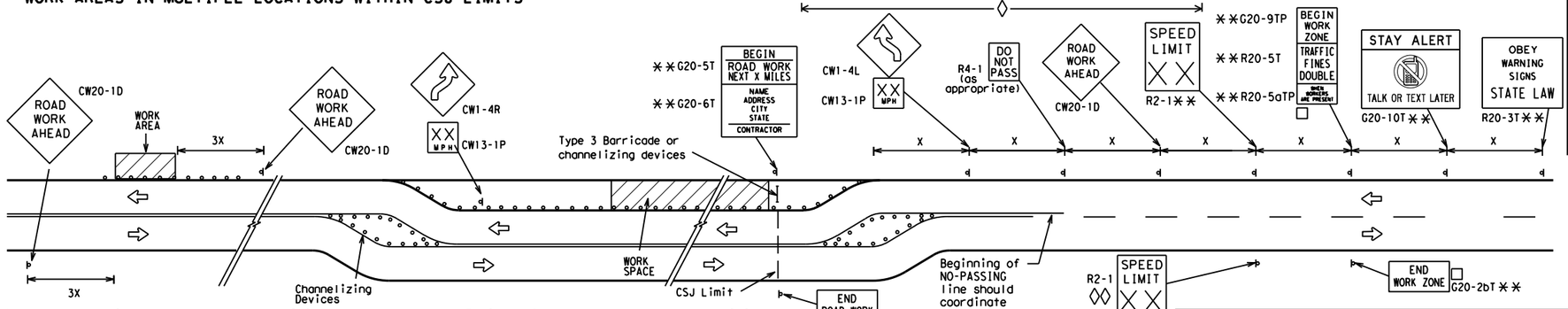
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ 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.

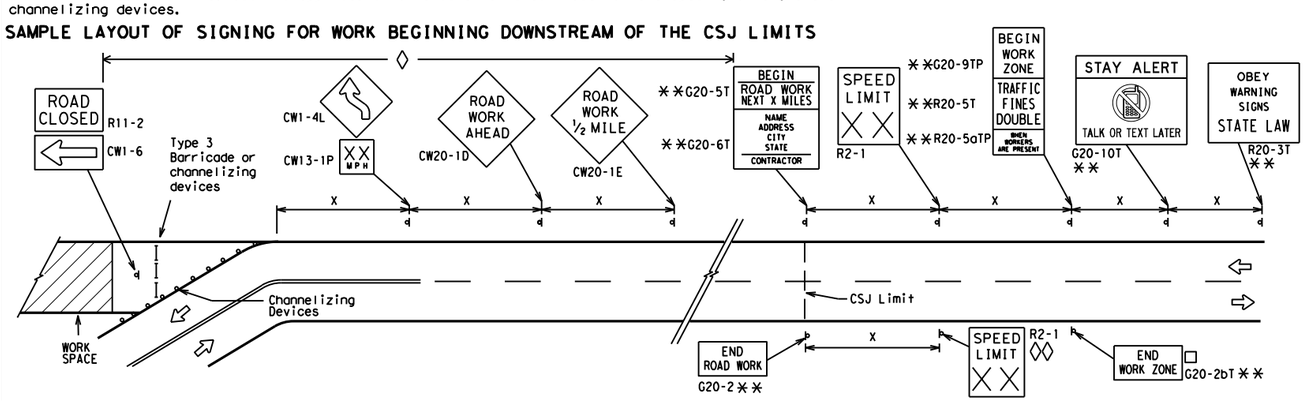
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



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.

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	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		7

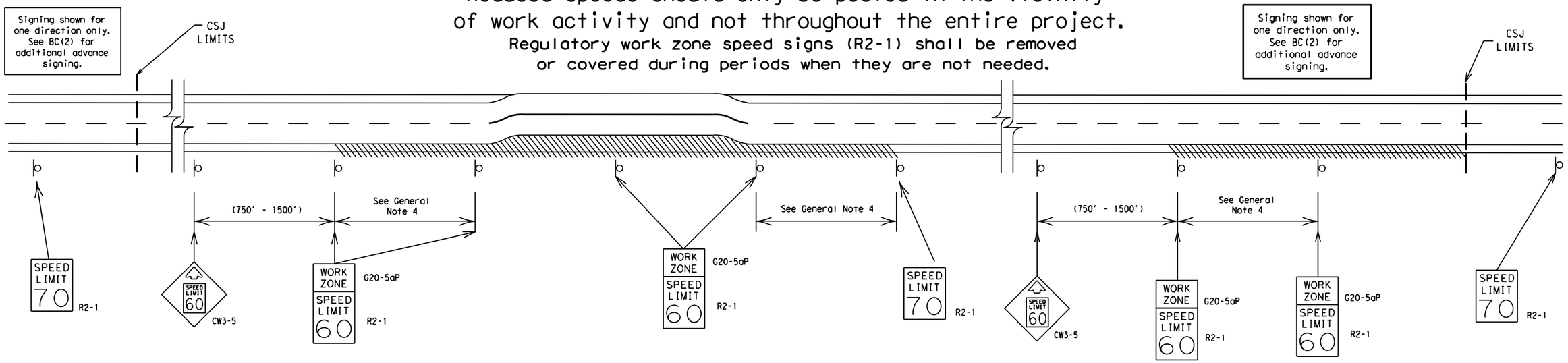
DATE: 11/28/2022 3:33:43 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\PTCP Standards\bc-21.dgn

TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

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

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

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



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

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

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

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

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

SHORT TERM WORK ZONE SPEED LIMITS

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

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

GENERAL NOTES

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

Texas Department of Transportation | Traffic Safety Division Standard

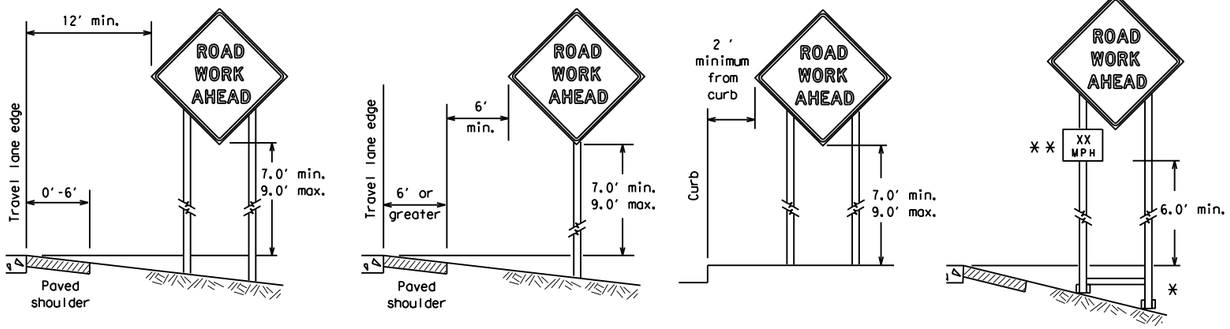
BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		8

DATE: 11/28/2022 3:33:45 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn

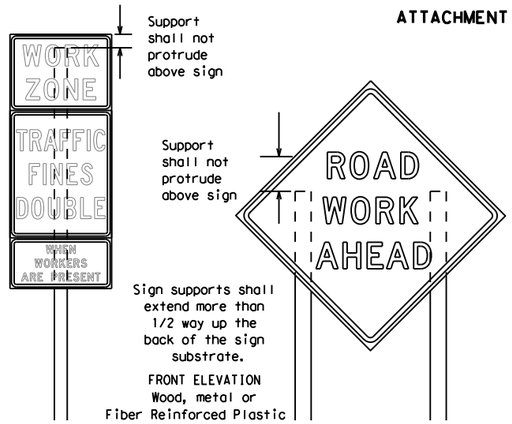
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

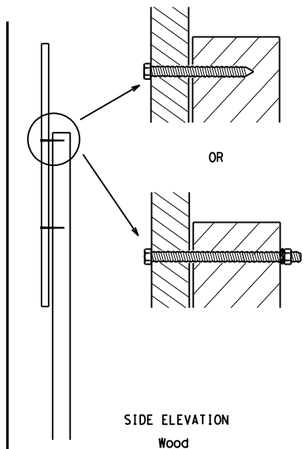


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

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

ATTACHMENT FOR SIGN SUPPORTS





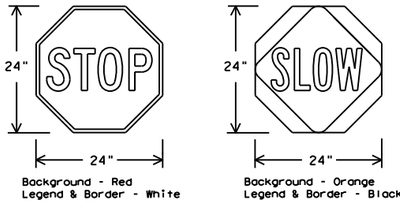
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

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

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

STOP/SLOW PADDLES

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



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

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

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

GENERAL NOTES FOR WORK ZONE SIGNS

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

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

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

SIGN MOUNTING HEIGHT

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

SIZE OF SIGNS

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

SIGN SUBSTRATES

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

REFLECTIVE SHEETING

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

SIGN LETTERS

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

REMOVING OR COVERING

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

SIGN SUPPORT WEIGHTS

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

FLAGS ON SIGNS

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

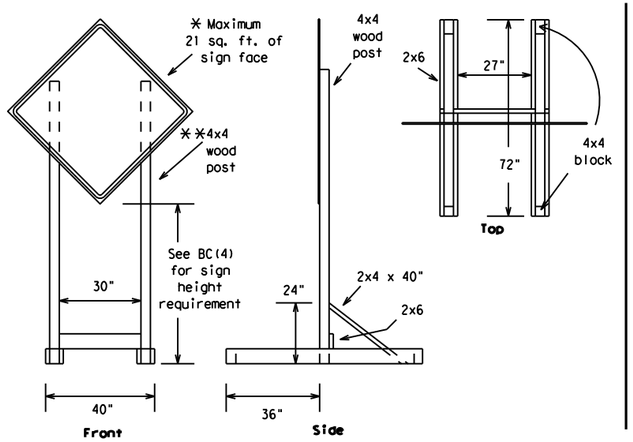
Texas Department of Transportation | Traffic Safety Division Standard

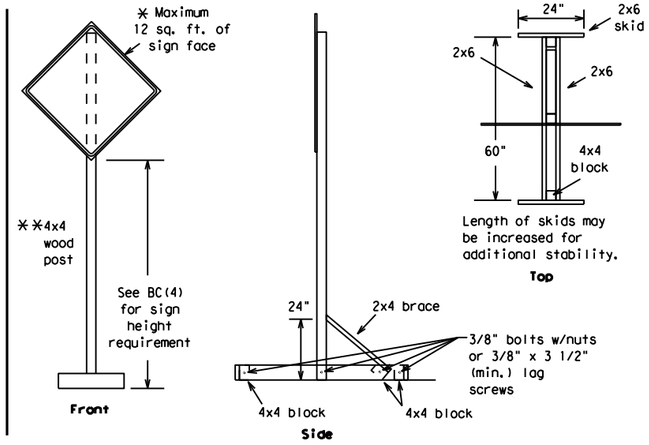
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		9

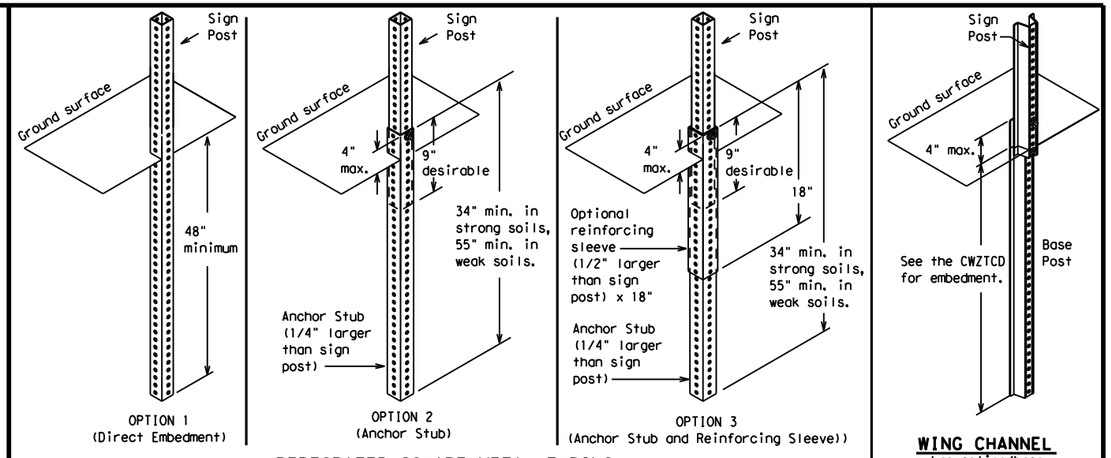
DATE: 11/28/2022 3:33:47 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set 2, TCP\Standards\bc-21.dgn





SKID MOUNTED WOOD SIGN SUPPORTS

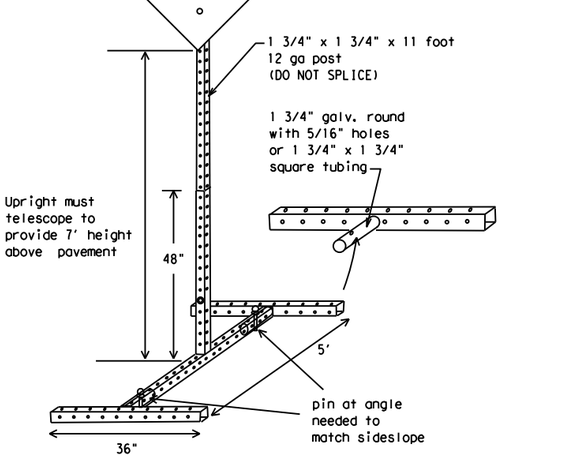
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

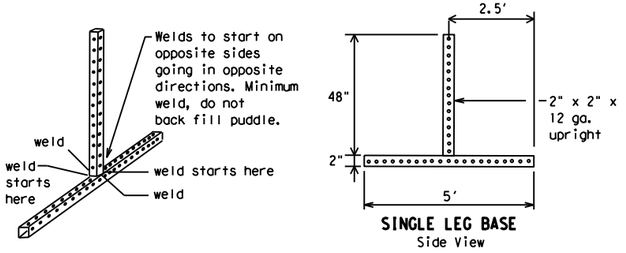


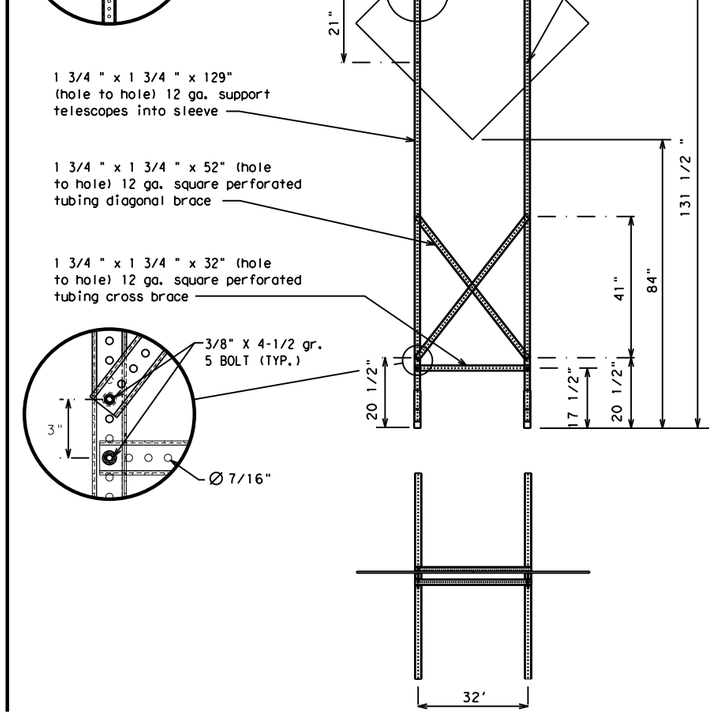
PERFORATED SQUARE METAL TUBING

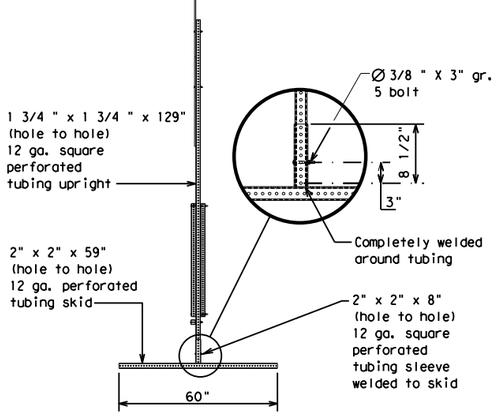
GROUND MOUNTED SIGN SUPPORTS

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









SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

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

WEDGE ANCHORS

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

OTHER DESIGNS

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

GENERAL NOTES

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

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

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

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		10

DATE: 11/28/2022 3:33:48 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set 2, TCP\Standards\bc-21.dgn

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

PORTABLE CHANGEABLE MESSAGE SIGNS

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

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

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

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

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

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

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

Other Condition List

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

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

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

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

Location List

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

Warning List

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

** Advance Notice List

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

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

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

WORDING ALTERNATIVES

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

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

FULL MATRIX PCMS SIGNS

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

Texas Department of Transportation

Traffic Safety Division Standard

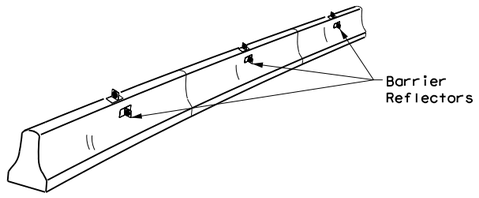
BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		11

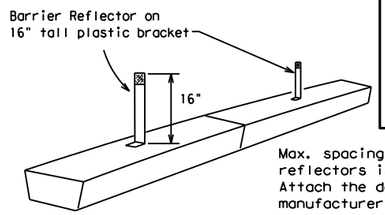
DATE: 11/28/2022 3:33:50 PM
FILE: T:\AMA\PDV\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn

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



CONCRETE TRAFFIC BARRIER (CTB)

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

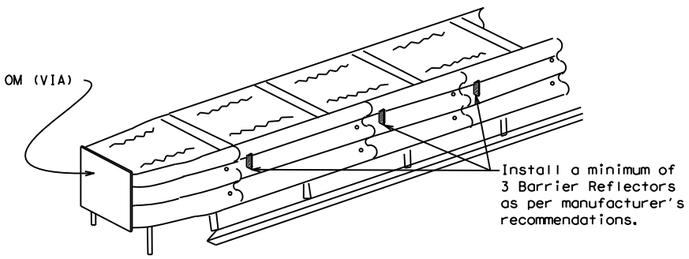


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB) 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.

LOW PROFILE CONCRETE BARRIER (LPCB)

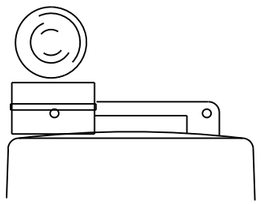


DELINEATION OF END TREATMENTS

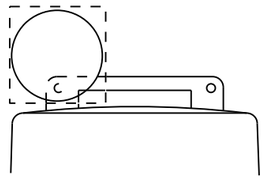
END TREATMENTS FOR CTB'S USED IN WORK ZONES

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

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



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



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

WARNING LIGHTS

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

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

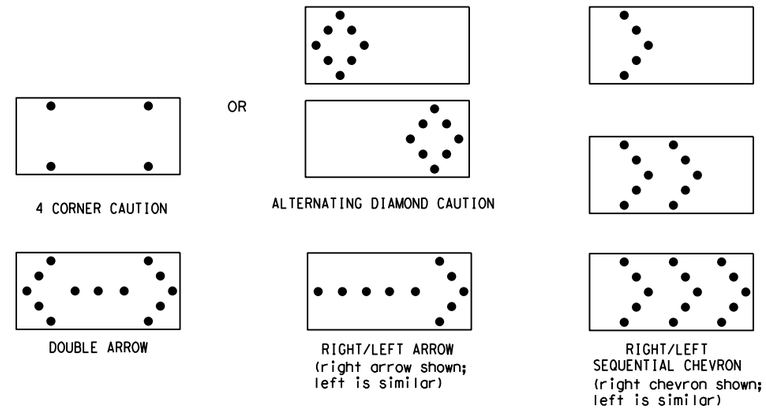
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing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

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

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

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

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



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

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

ATTENTION
Flashing Arrow Boards shall be equipped with automatic dimming devices.

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

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

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

Texas Department of Transportation

Traffic Safety Division Standard

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

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		12

101

DATE: 11/28/2022 3:33:51 PM
FILE: T:\AMA\PDC\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn

GENERAL NOTES

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

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

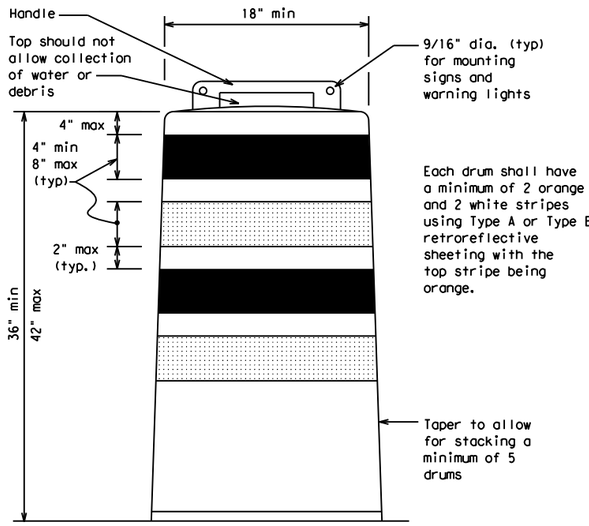
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents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

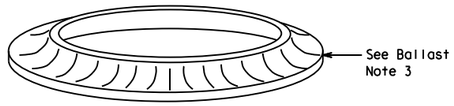
RETROREFLECTIVE SHEETING

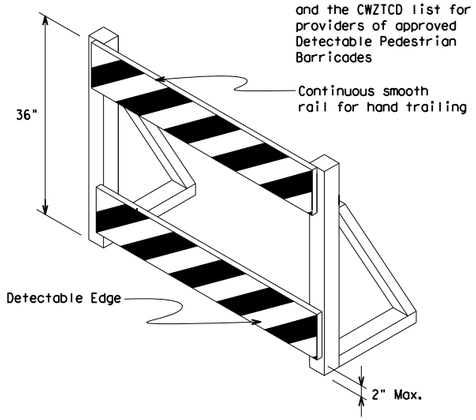
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials," Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall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

BALLAST

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

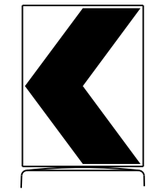




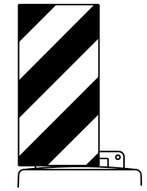


DETECTABLE PEDESTRIAN BARRICADES

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



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



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

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

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

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

Texas Department of Transportation | Traffic Safety Division Standard

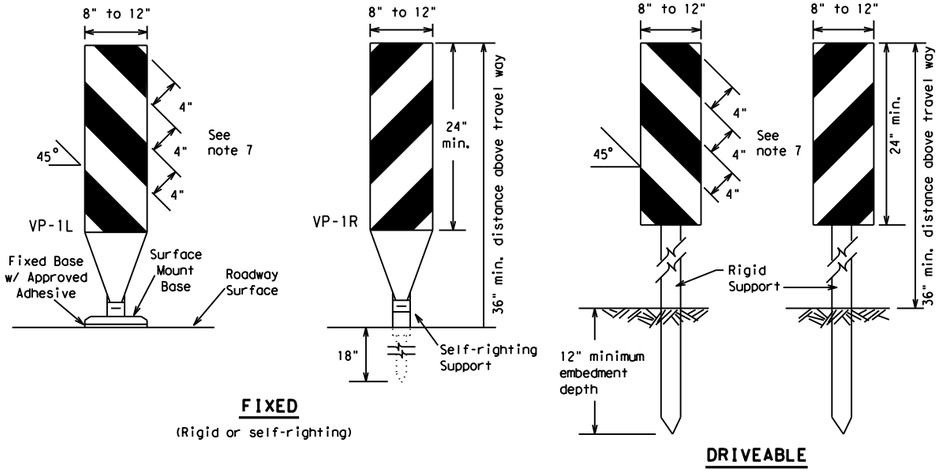
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
4-03 8-14	DIST	COUNTY		SHEET NO.
9-07 5-21	AMA	POTTER		13
7-13				

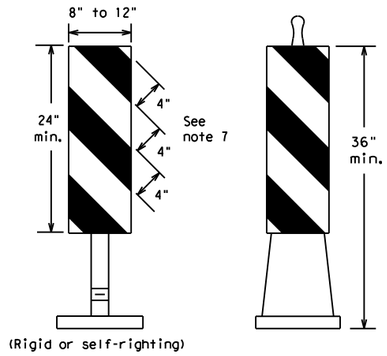
102

DATE: 11/28/2022 3:33:53 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn



FIXED
(Rigid or self-righting)

DRIVEABLE

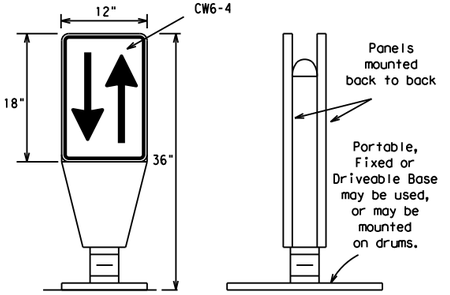


(Rigid or self-righting)

PORTABLE

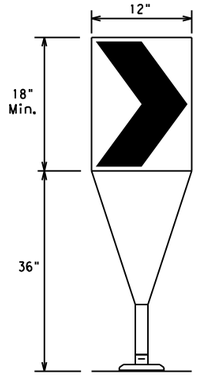
VERTICAL PANELS (VPs)

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.



OPPOSING TRAFFIC LANE DIVIDERS (OTLD)

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.



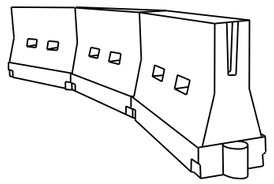
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

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

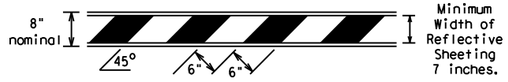
FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	AMA	POTTER		14

DATE: 11/28/2022 3:33:54 PM
FILE: T:\AMA\PDV\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn

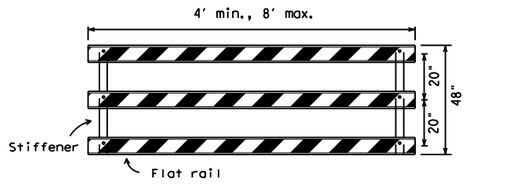
TYPE 3 BARRICADES

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

Barricades shall NOT be used as a sign support.



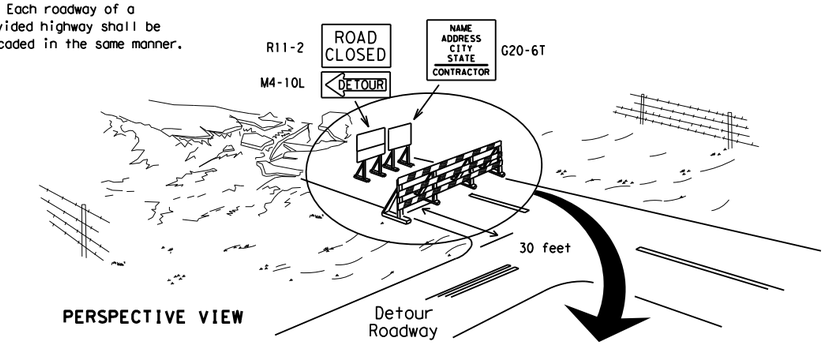
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



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

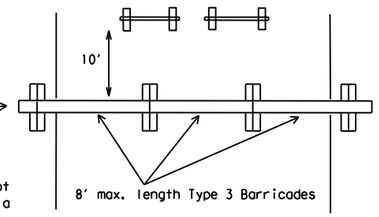
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

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



PERSPECTIVE VIEW

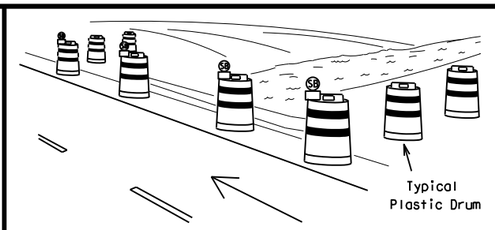
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

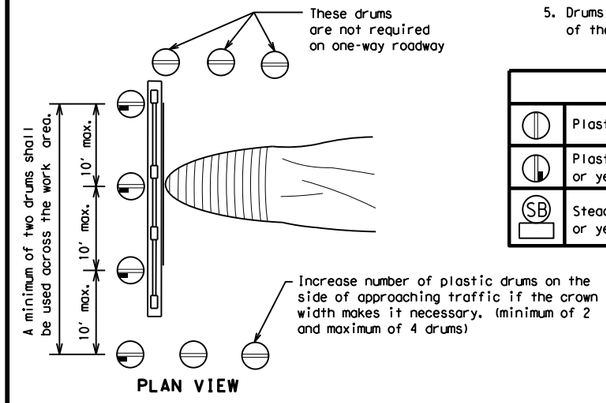
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

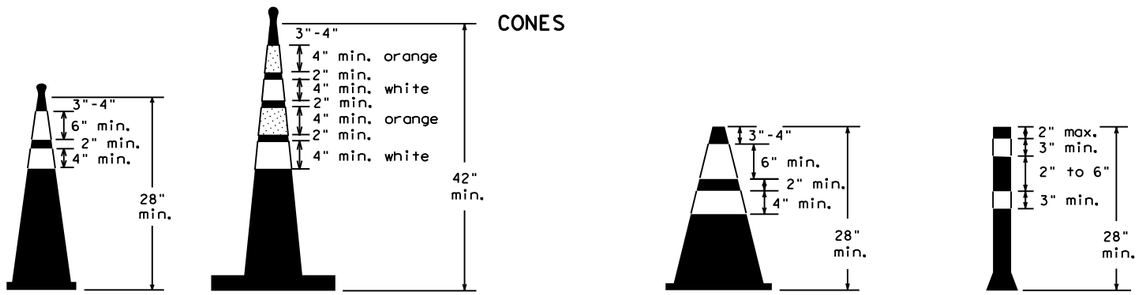
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder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



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

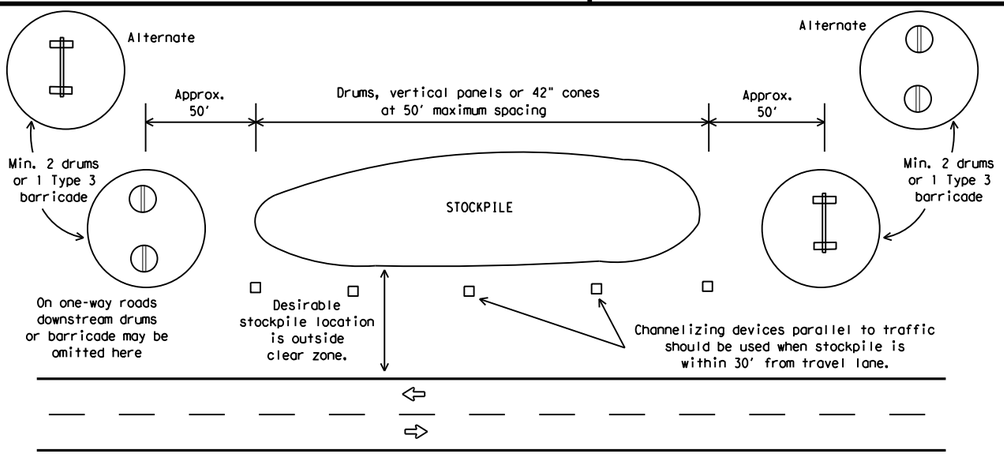


Two-Piece cones | One-Piece cones | Tubular Marker

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 9-07 8-14 7-13 5-21	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		15

DATE: 11/28/2022 3:33:56 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\Standards\bc-21.dgn

WORK ZONE PAVEMENT MARKINGS

GENERAL

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

RAISED PAVEMENT MARKERS

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

PREFABRICATED PAVEMENT MARKINGS

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

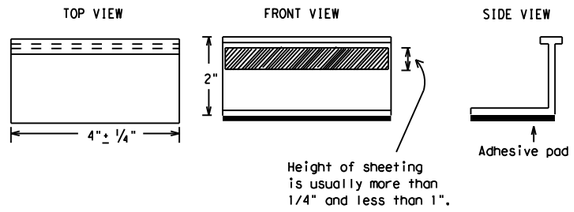
MAINTAINING WORK ZONE PAVEMENT MARKINGS

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

REMOVAL OF PAVEMENT MARKINGS

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

Temporary Flexible-Reflective Roadway Marker Tabs



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

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

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

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

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

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

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

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

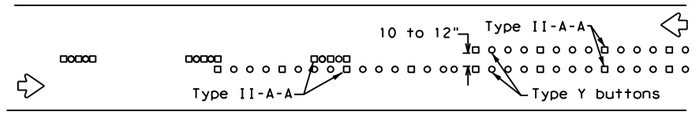
BC(11)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-98 9-07 5-21 1-02 7-13 11-02 8-14	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		16

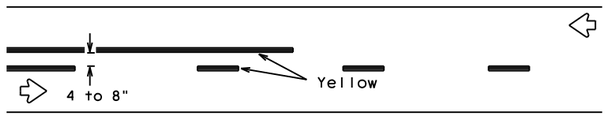
DATE: 11/28/2022 3:33:57 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2, TCP\Standards\bc-21.dgn

PAVEMENT MARKING PATTERNS

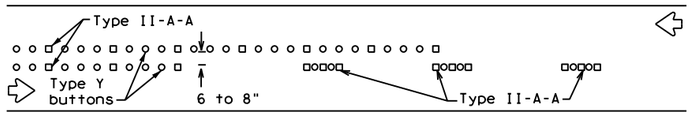
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



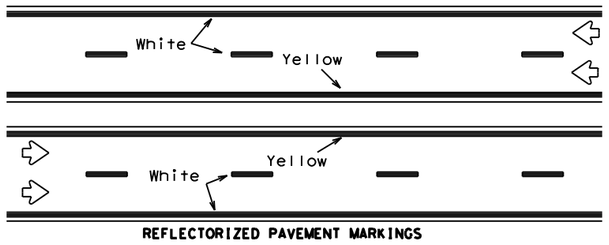
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



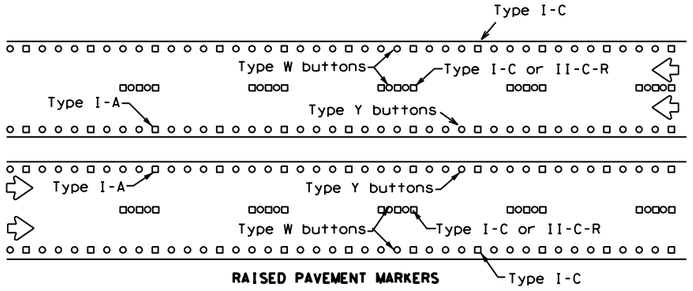
RAISED PAVEMENT MARKERS - PATTERN B

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



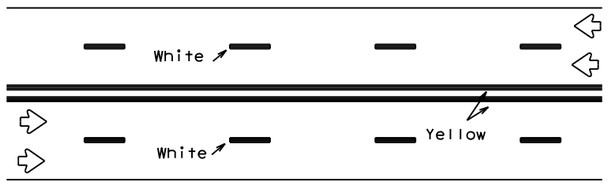
REFLECTORIZED PAVEMENT MARKINGS



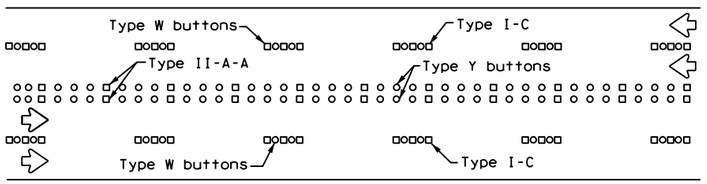
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



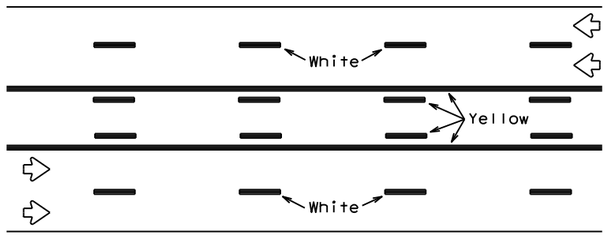
REFLECTORIZED PAVEMENT MARKINGS



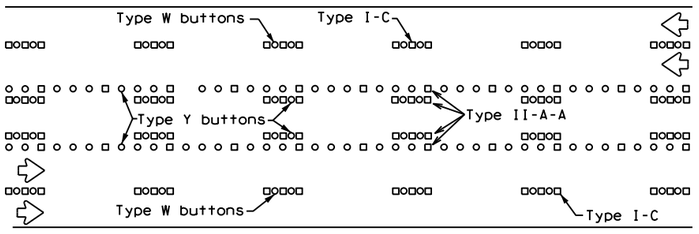
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

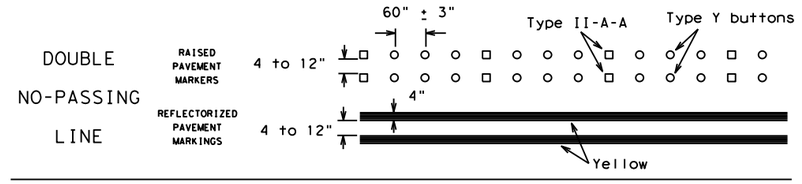
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

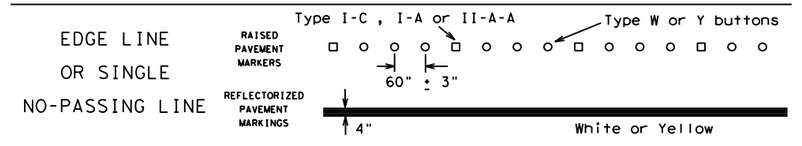
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

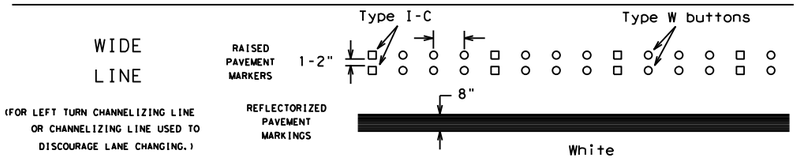


EDGE LINE OR SINGLE NO-PASSING LINE



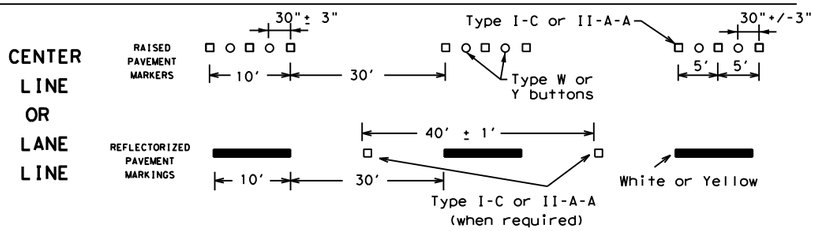
WIDE LINE

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

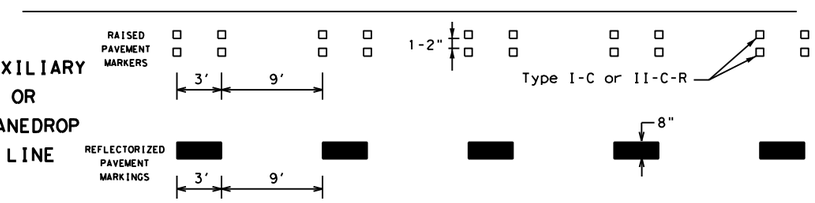


BROKEN LINES

CENTER LINE OR LANE LINE

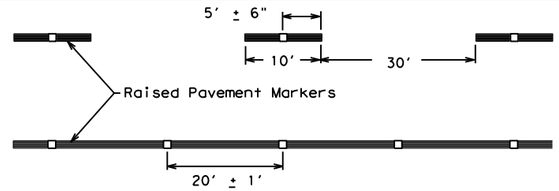


AUXILIARY OR LANEDROP LINE



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."

Texas Department of Transportation

Traffic Safety Division Standard

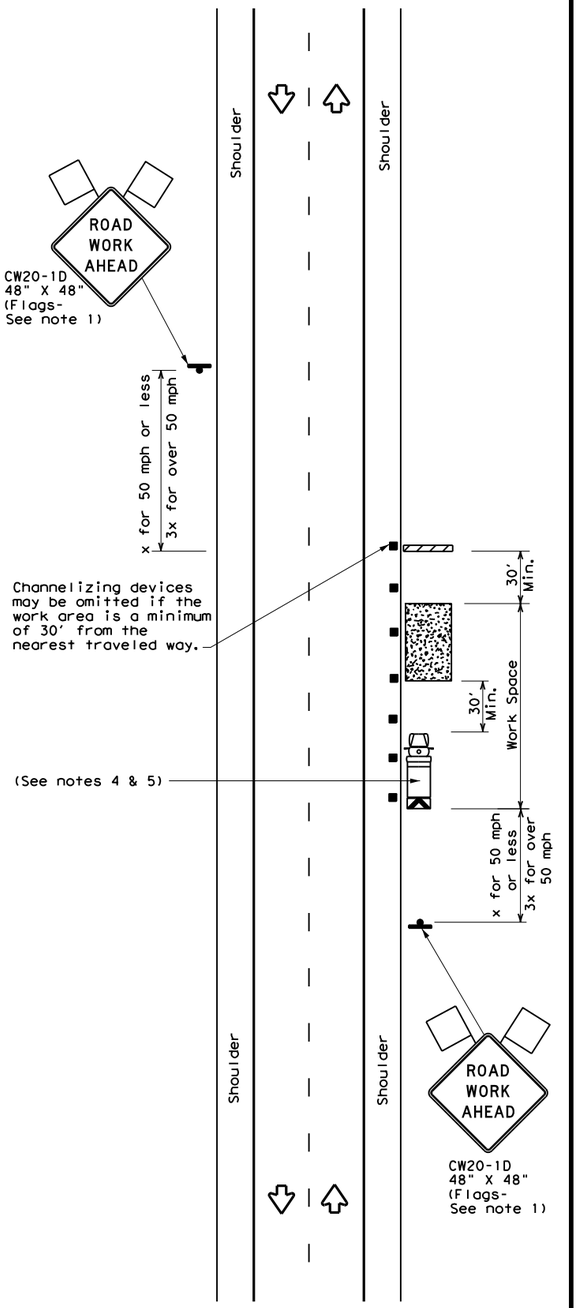
BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC(12)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-97 9-07 5-21 2-98 7-13 11-02 8-14	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		17

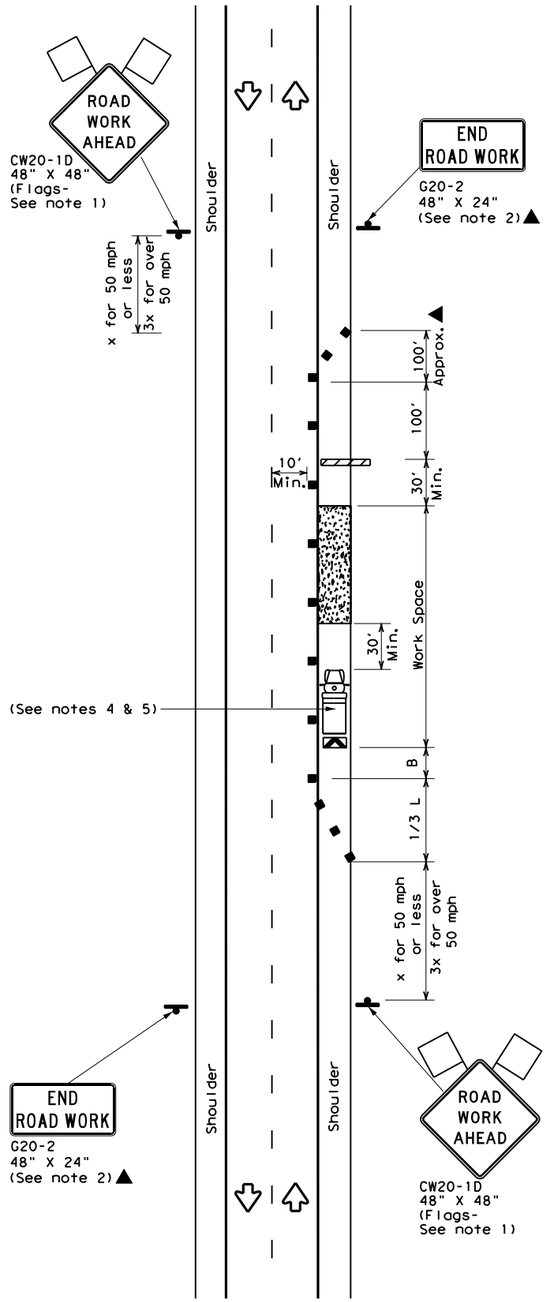
106

DATE: 11/28/2022 3:33:59 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 ...\tcp2-1-18.dgn



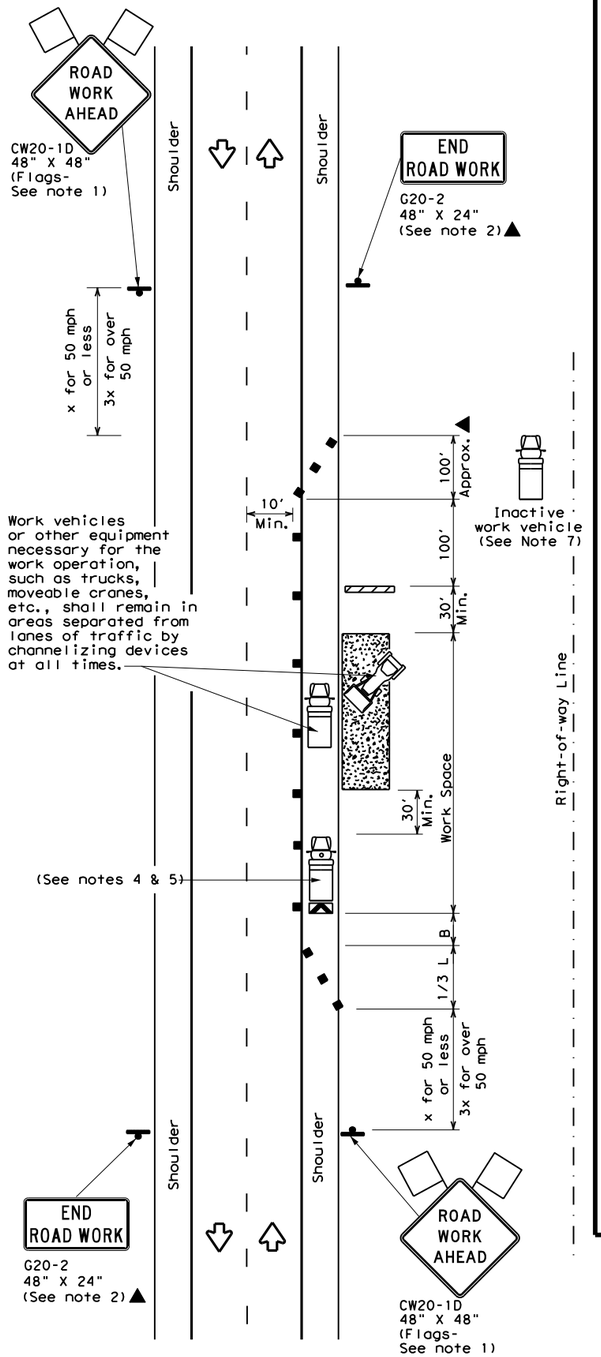
TCP (2-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

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

Texas Department of Transportation

Traffic Operations Division Standard

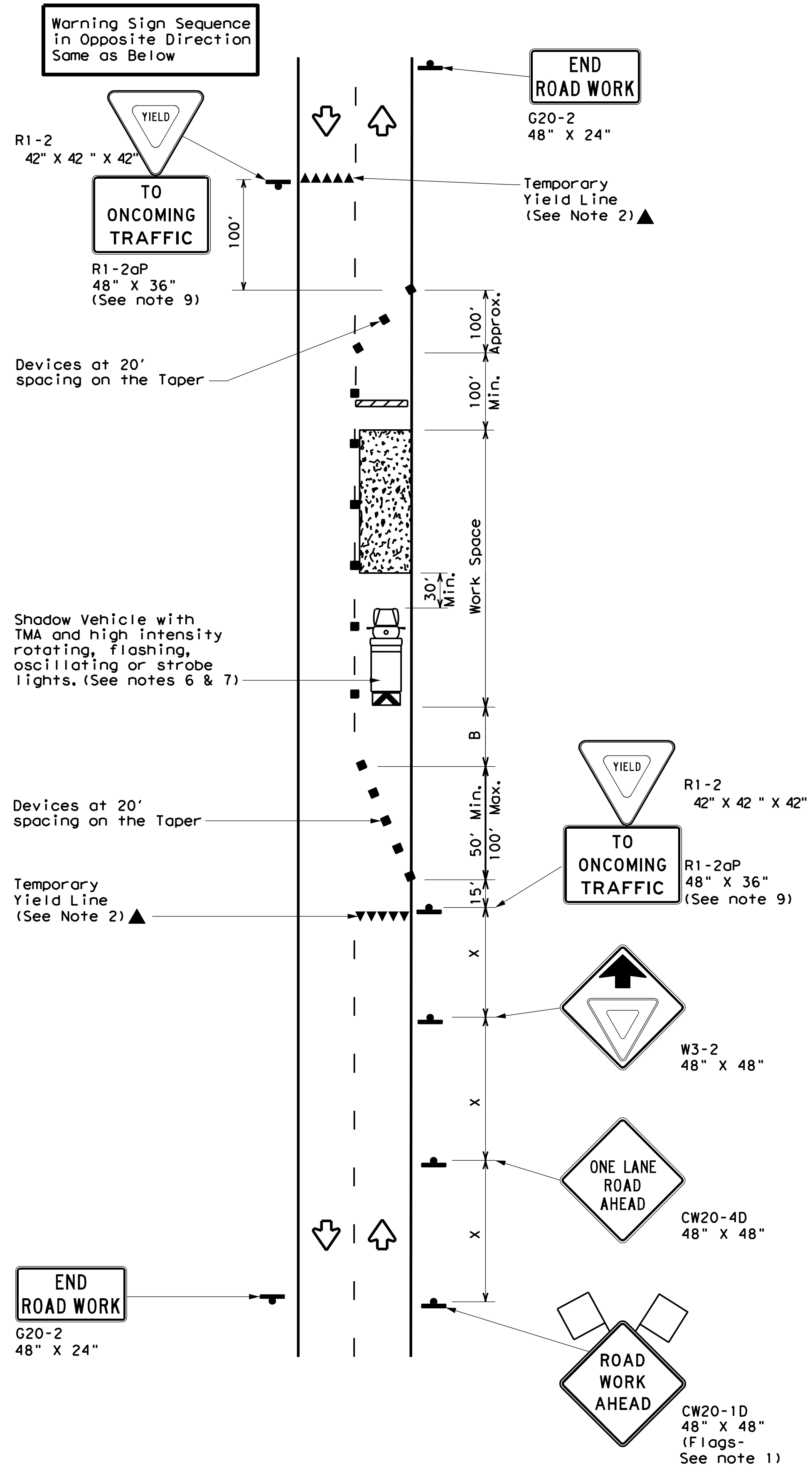
TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(2-1)-18

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
2-94 4-98	DIST	COUNTY		SHEET NO.
8-95 2-12	AMA	POTTER		18
1-97 2-18				

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

DATE: 11/28/2022 3:34:01 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4



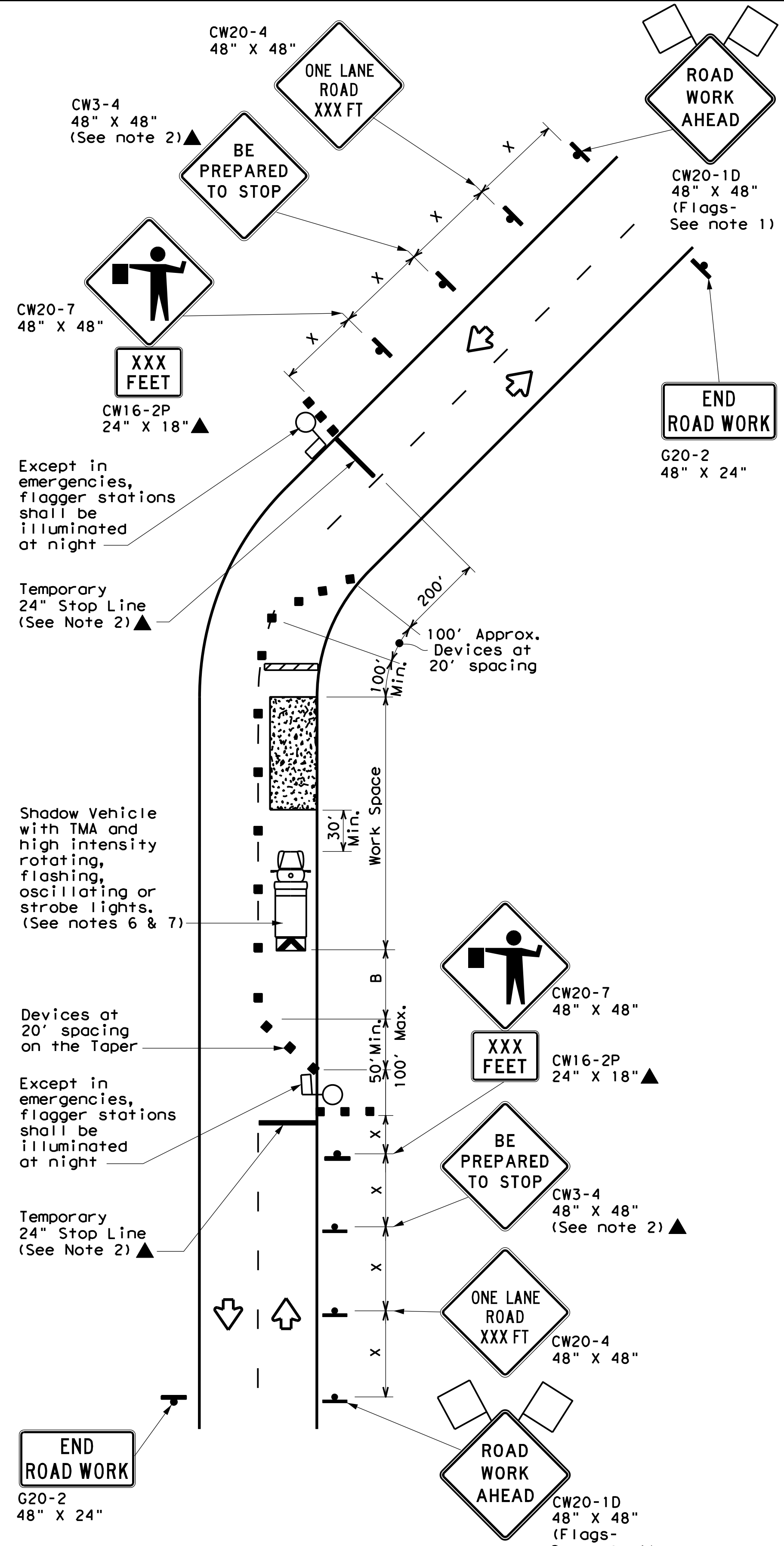
TCP (2-2a)

2-LANE ROADWAY WITHOUT PAVED SHOULDERS

ONE LANE TWO-WAY

CONTROL WITH YIELD SIGNS

(Less than 2000 ADT - See Note 9)



TCP (2-2b)

2-LANE ROADWAY WITHOUT PAVED SHOULDERS

ONE LANE TWO-WAY

CONTROL WITH FLAGGERS

LEGEND

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

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

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

TYPICAL USAGE

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
4. Flaggers should use two-way radios or other methods of communication to control traffic.
5. Length of work space should be based on the ability of flaggers to communicate.
6. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
7. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-2a)

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

TCP (2-2b)

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

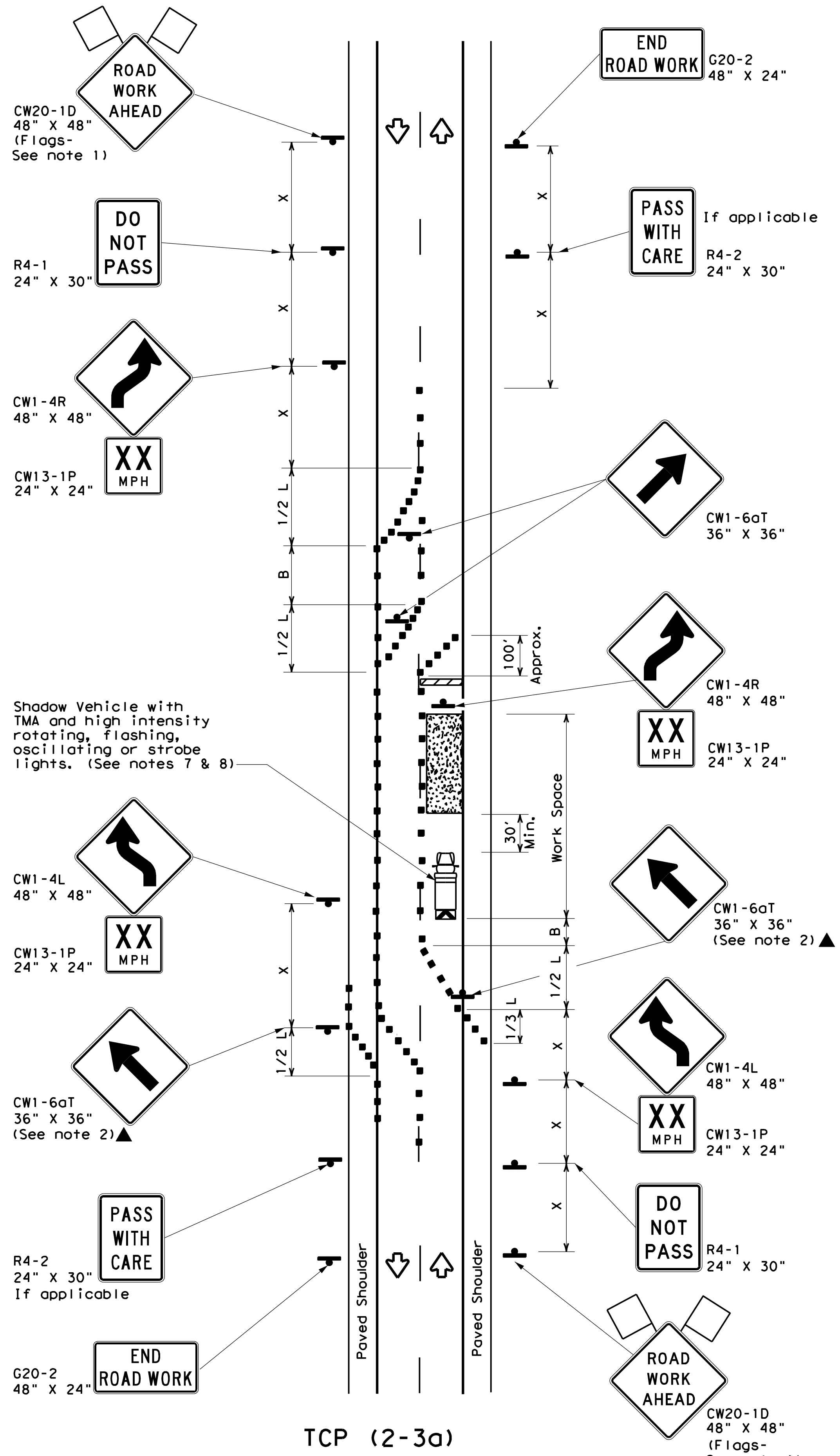
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(2-2)-18

FILE: tcp2-2-18.dgn		DN:	CK:	DW:	CK:
© TxDOT December 1985		CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03 1-97 2-12 4-98 2-18		0275	01	229, ETC	IH-40, ETC
		DIST		COUNTY	SHEET NO.
		AMA		POTTER	19

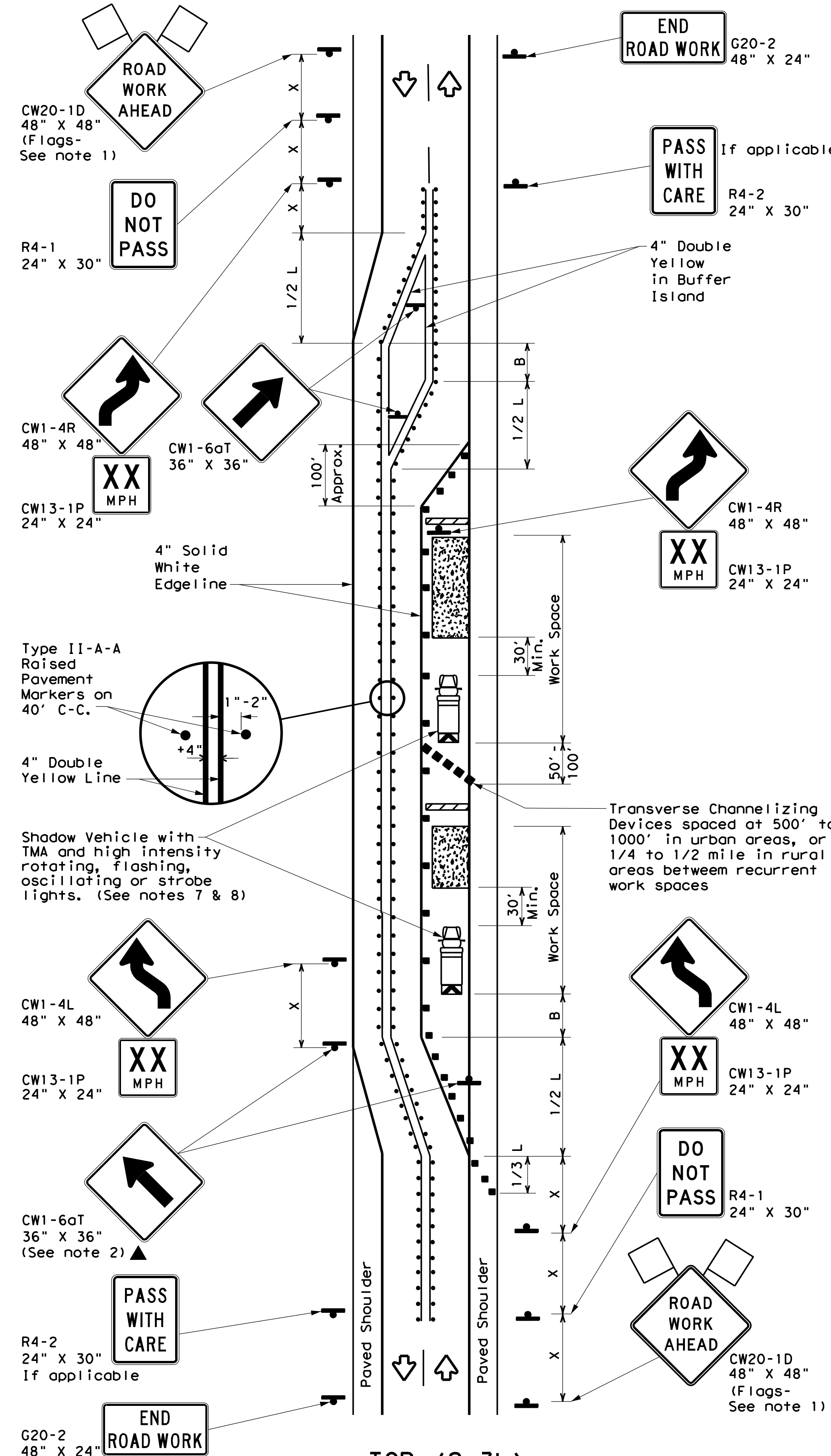


TCP (2-3a)

2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED

ADEQUATE FIELD OF VIEW



TCP (2-3b)

2-LANE ROADWAY WITH PAVED SHOULDERS

ONE LANE CLOSED

INADEQUATE FIELD OF VIEW

LEGEND

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

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

* Conventional Roads Only

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

TYPICAL USAGE

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

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. When work space will be in place less than three days existing pavement markings may remain in place. Channelizing devices shall be used to separate traffic.
4. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Flagger should be positioned at end of traffic queue.
5. The R4-1 "DO NOT PASS," R4-2 " PASS WITH CARE" and construction regulatory speed zone signs may be installed within CW20-1D "ROAD WORK AHEAD" signs. Proper spacing of signs shall be maintained.
6. Conflicting pavement marking shall be removed for long term projects.
7. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted.
8. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

TCP (2-3a)

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

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN TRAFFIC SHIFTS ON TWO-LANE ROADS

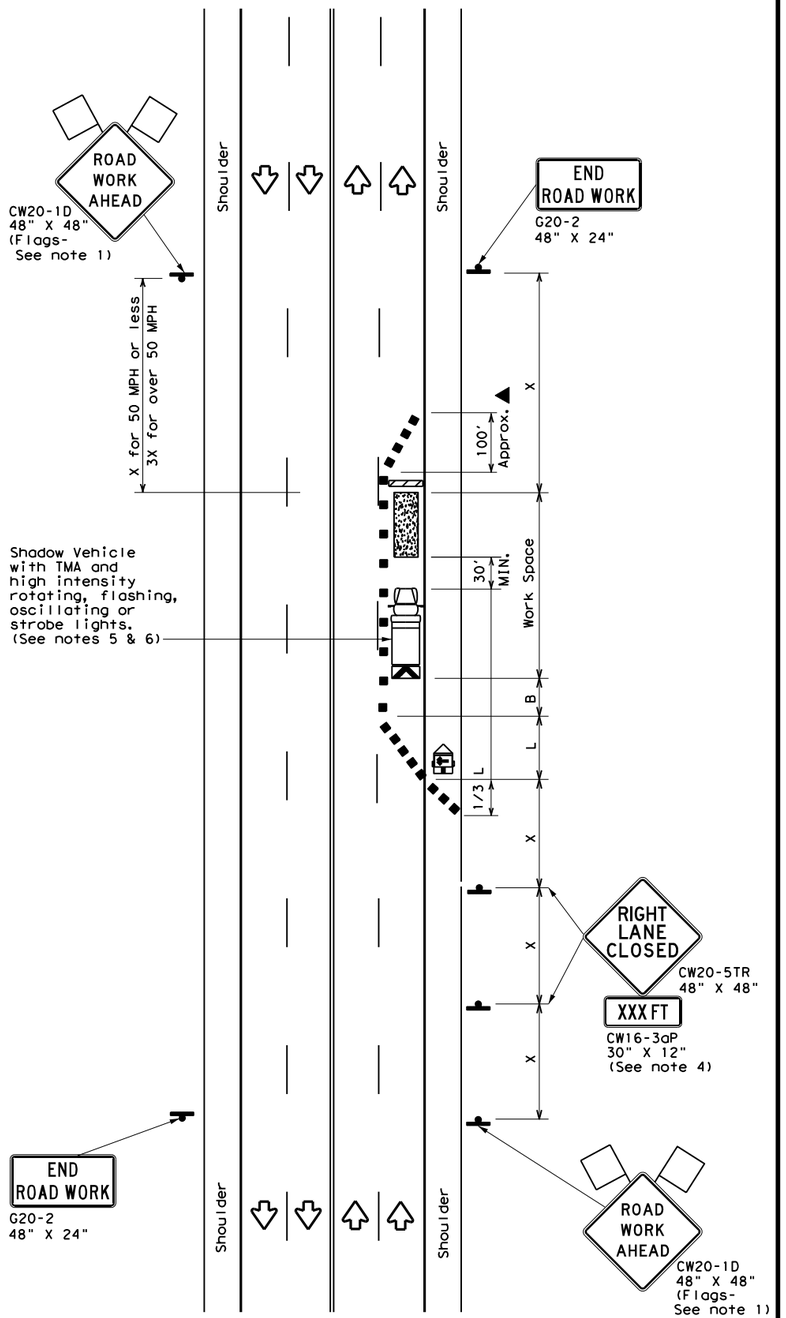
TCP(2-3)-18

FILE: tcp(2-3)-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03 1-97 2-12 4-98 2-18	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		20

163

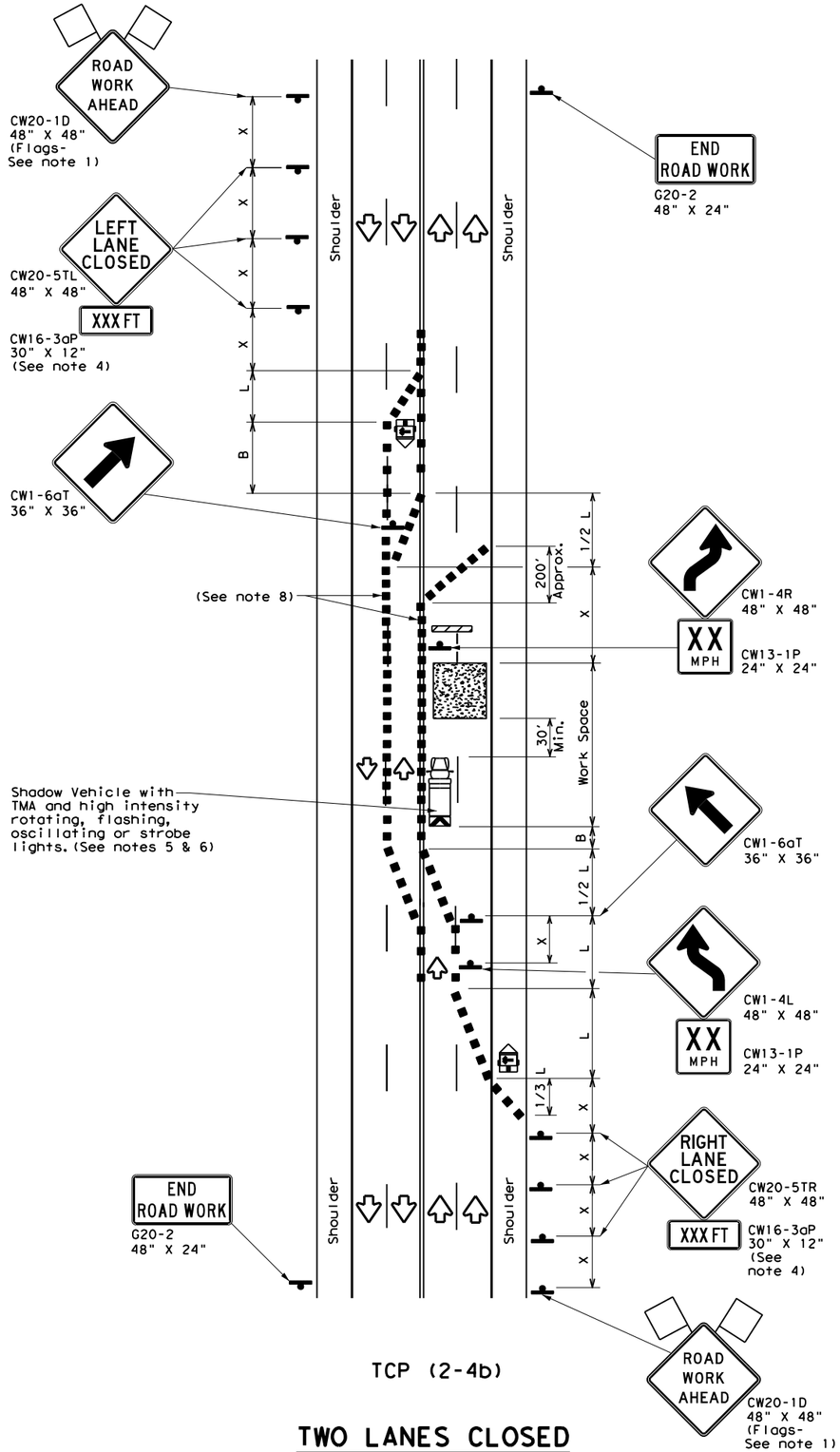
DATE: 11/28/2022 3:34:03 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL\4

DATE: 11/28/2022 3:34:05 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 Details\tcp2-4-18.dgn



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.

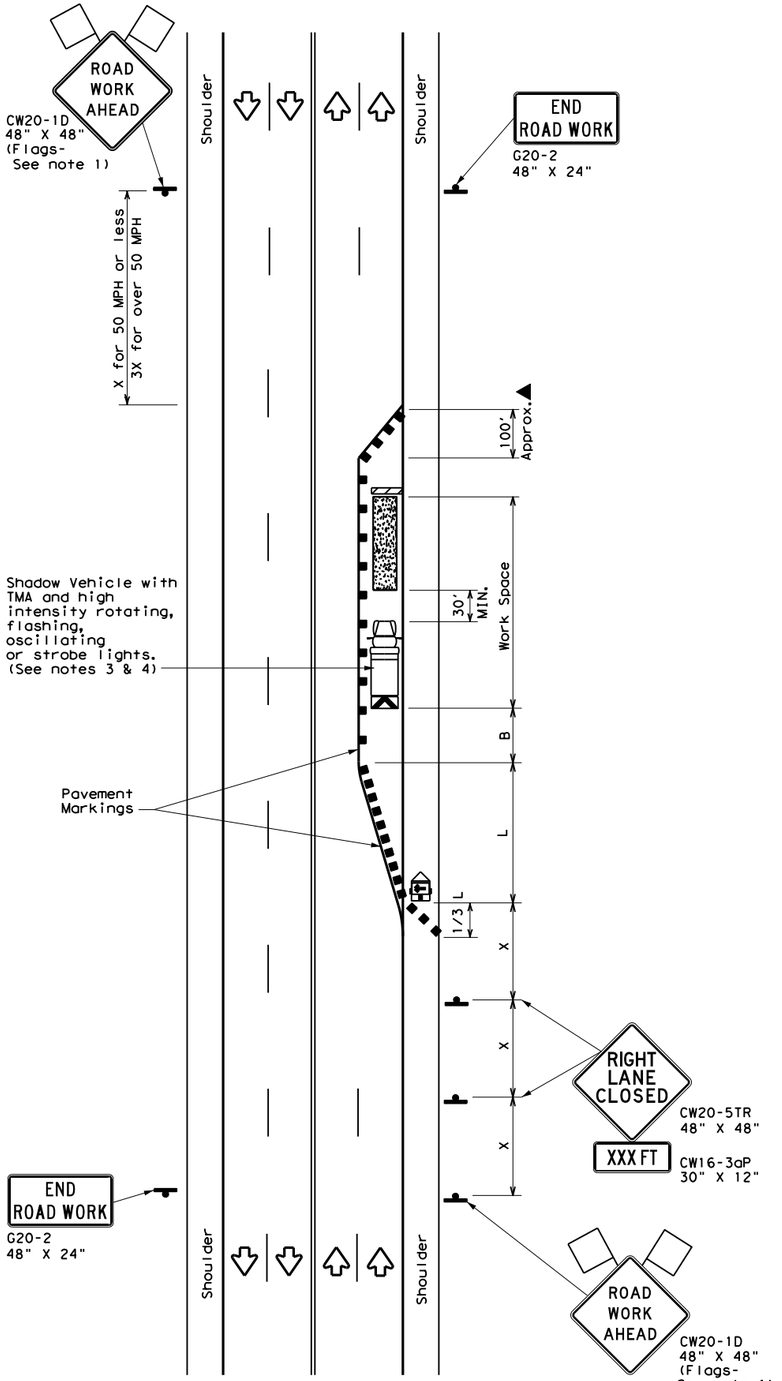
Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP(2-4)-18

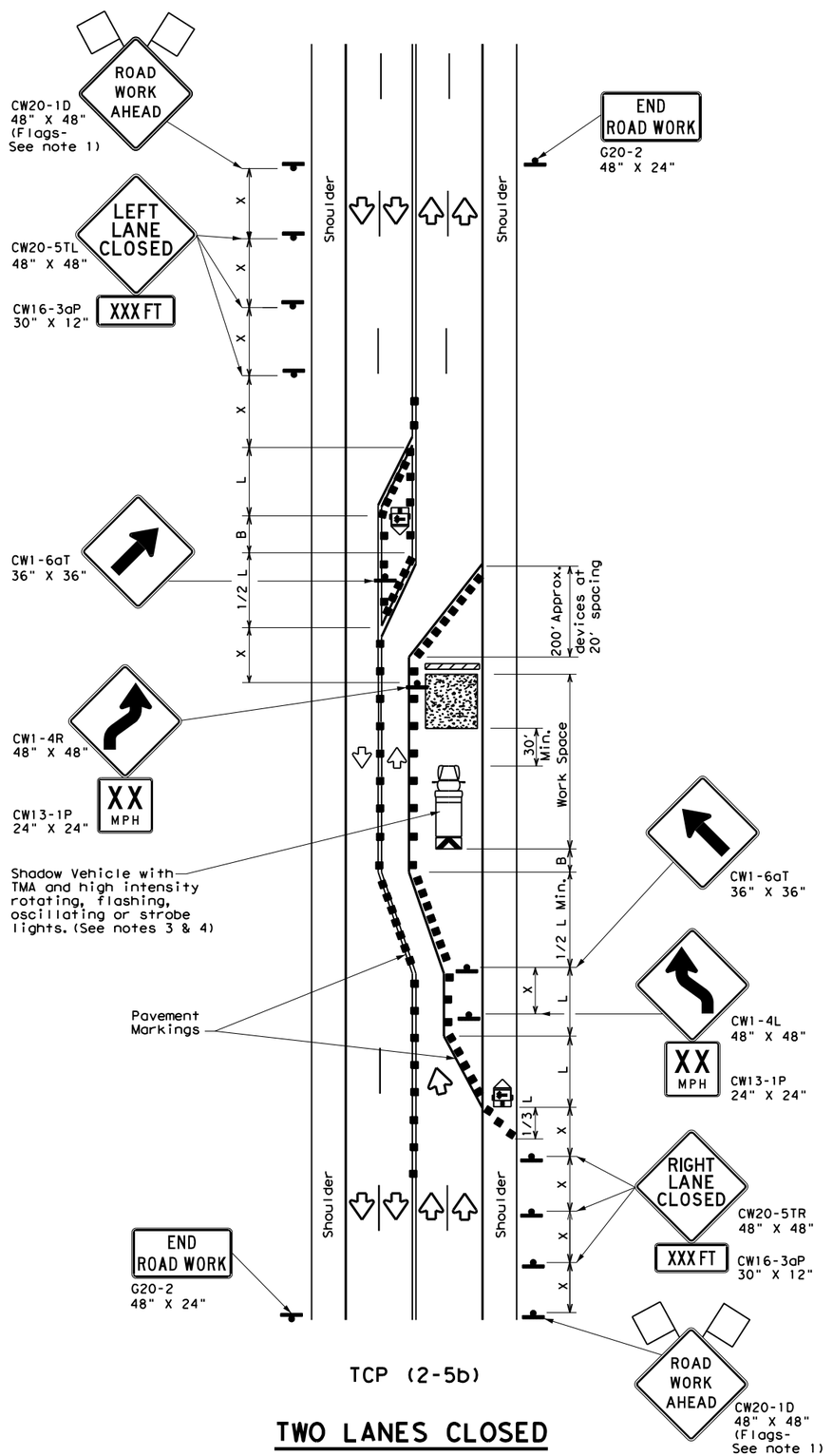
FILE: tcp2-4-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03	0275	01	229, ETC	IH-40, ETC
1-97 2-12	DIST	COUNTY		SHEET NO.
4-98 2-18	AMA	POTTER		21

DATE: 11/28/2022 3:34:06 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 [illegible]



TCP (2-5a)

ONE LANE CLOSED



TCP (2-5b)

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. 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 eposure 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 substitutued for the Shadow Vehicle and TMA.
4. 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.
5. The downstream taper is optional. When used, it should be 100 feet approximately per lane, with channelizing devices spaced at 20 feet.

TCP (2-5a)

6. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline 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 (2-5b)

7. Conflicting pavement markings shall be removed for long-term projects.

Texas Department of Transportation

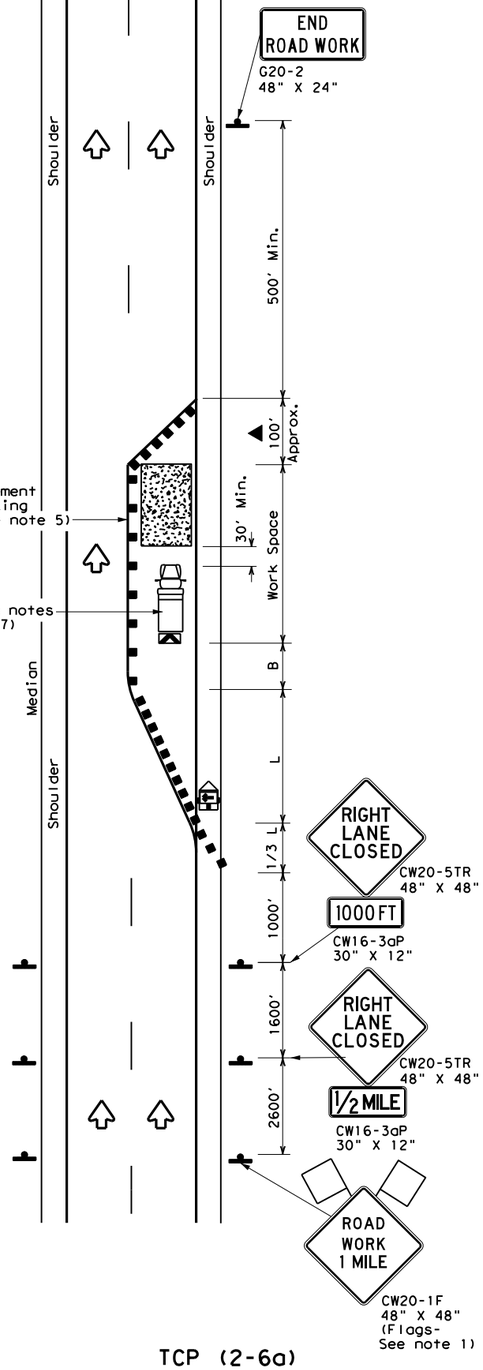
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LONG TERM LANE CLOSURES MULTILANE CONVENTIONAL RDS.

TCP(2-5)-18

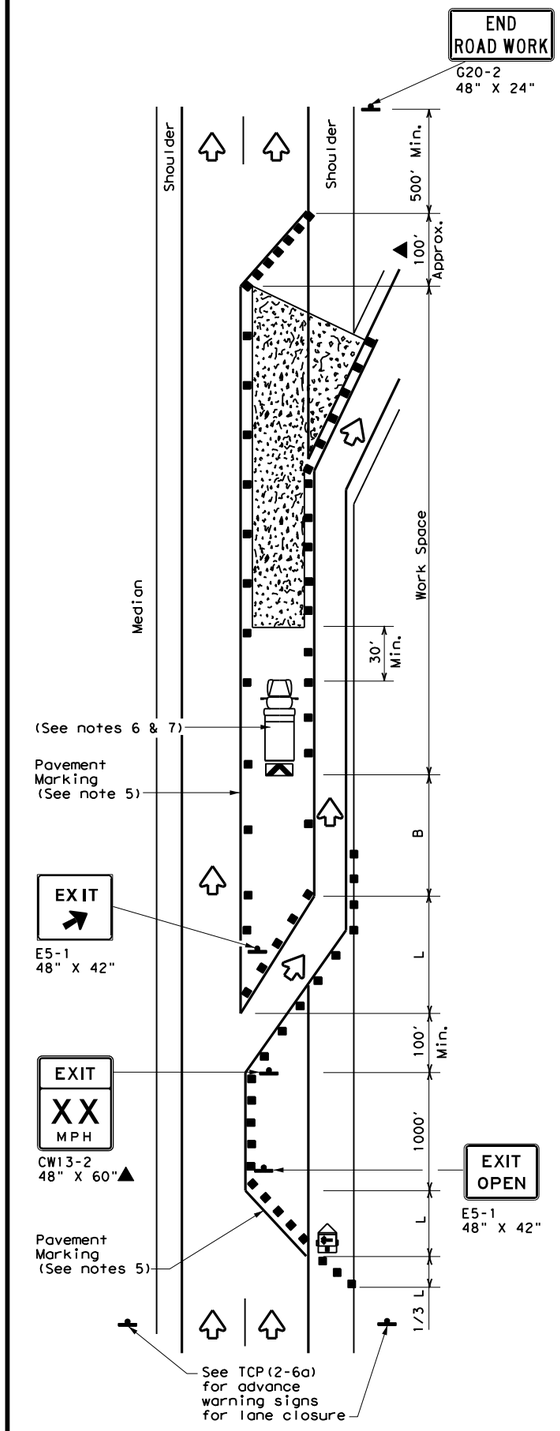
FILE: tcp2-5-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 2-12	0275	01	229, ETC	IH-40, ETC
1-97 3-03	DIST	COUNTY		SHEET NO.
4-98 2-18	AMA	POTTER		22

DATE: 11/28/2022 3:34:08 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Exhibits\tcp2-6-18.dgn



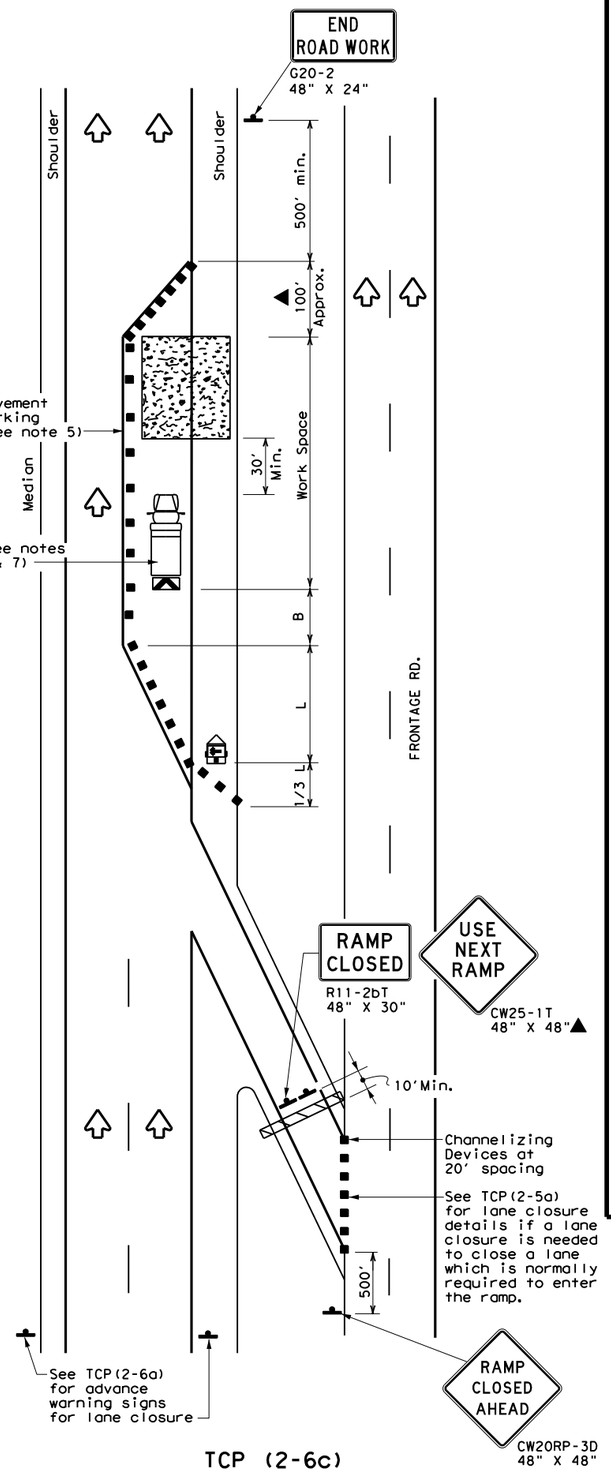
TCP (2-6a)

ONE LANE CLOSURE



TCP (2-6b)

LANE CLOSURE NEAR EXIT RAMPS



TCP (2-6c)

LANE CLOSURE NEAR ENTRANCE RAMPS

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

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

* Conventional Roads Only

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

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

GENERAL NOTES

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

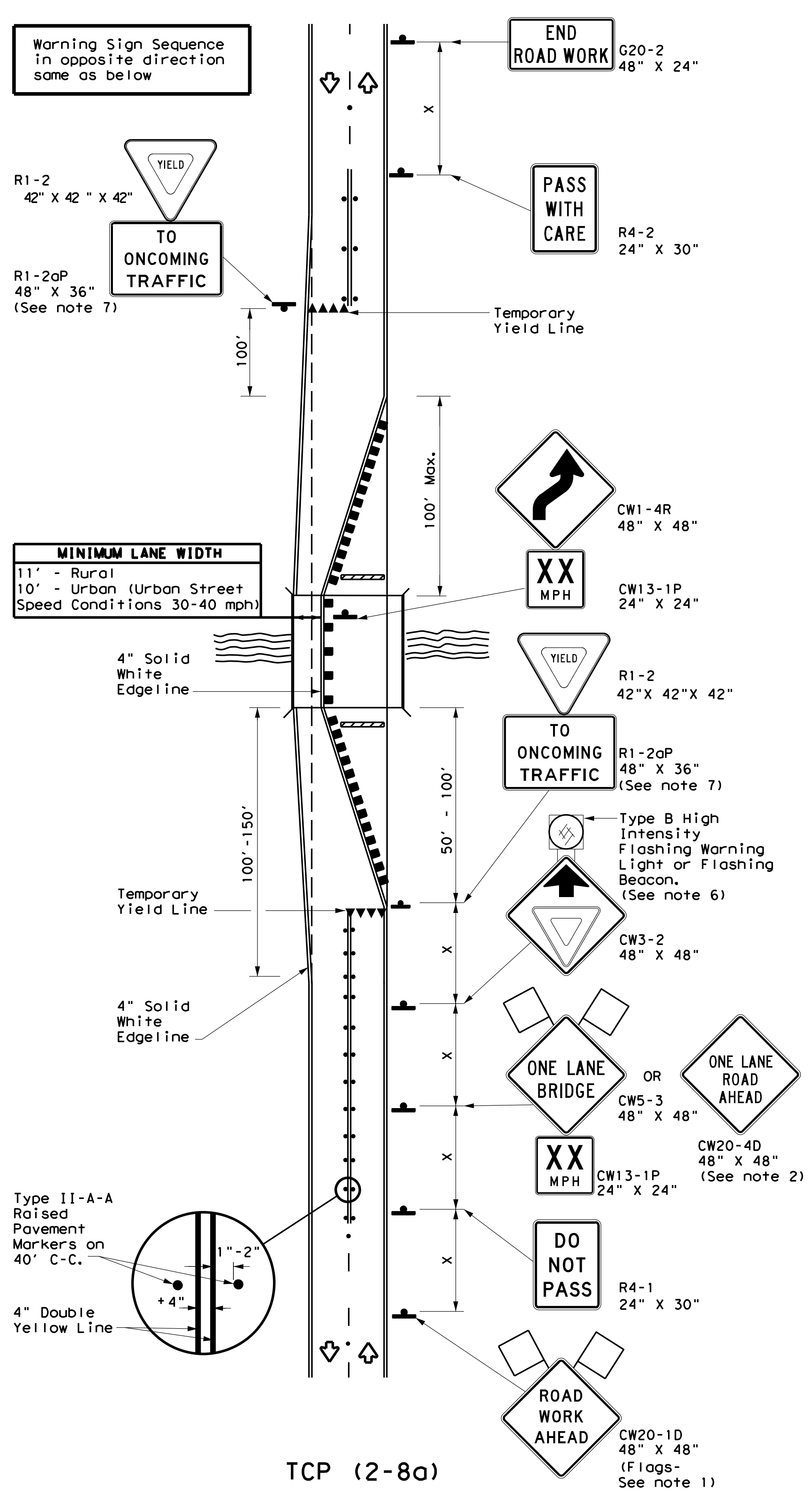
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN LANE CLOSURES ON DIVIDED HIGHWAYS

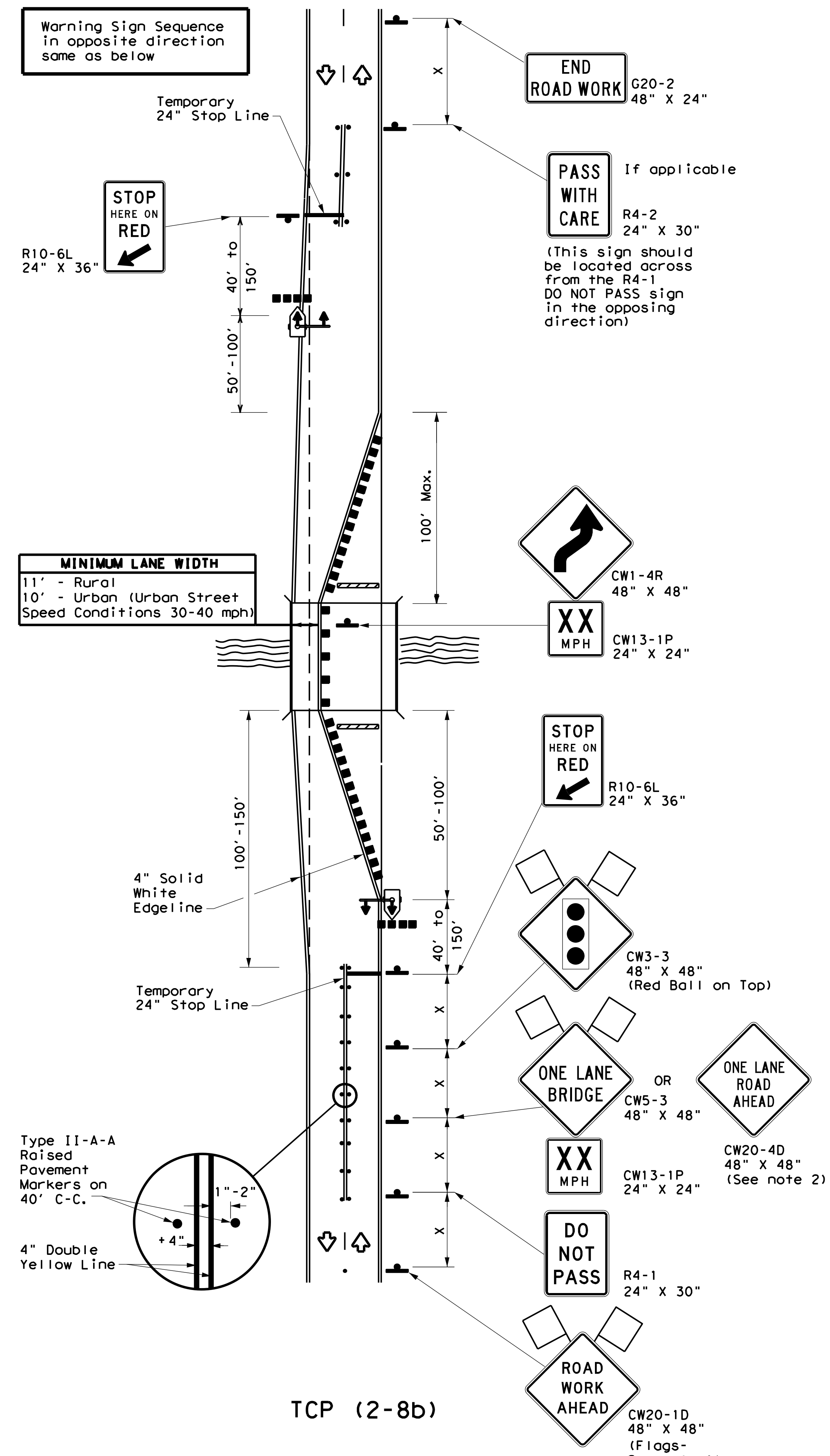
TCP(2-6)-18

FILE: tcp2-6-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		23



TCP (2-8a)

ONE LANE TWO-WAY
TRAFFIC CONTROL WITH YIELD SIGNS
(Less Than 2000 ADT-See Note 5)



TCP (2-8b)

ONE LANE TWO-WAY
TRAFFIC CONTROL WITH TRAFFIC SIGNAL

LEGEND

Symbol	Description	Symbol	Description
	Type 3 Barricade		Channelizing Devices
	Sign		Traffic Flow
	Flag		Flagger
• • • •	Raised Pavement Markers Ty II-AA		Temporary or Portable Traffic Signal

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

* Conventional Roads Only

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

TYPICAL USAGE

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

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. When this TCP is used at a location which does not involve a bridge, a 48" x 48" CW20-4D "ONE LANE ROAD AHEAD" signs should be used in lieu of the CW5-3 "ONE LANE BRIDGE" signs. The CW13-1P Advisory Speed Plaque is required with either warning sign.
3. Raised pavement markers shall be placed 40 feet c-c on centerline between DO NOT PASS signs and stop or yield lines.
4. For intermediate term situations, when it is not feasible to remove and restore pavement markings, the channelization must be made dominant by using a very close spacing. This is especially important in locations of conflicting information, such as where traffic is directed over a double yellow centerline. In such locations a maximum channelizing device spacing of 20 feet is recommended. The 20 foot channelizing device spacing recommendation is intended for the area of conflicting information and not the entire work zone.

TCP (2-8a)

5. Traffic control by CW3-2 "YIELD AHEAD" symbol signs for one lane two-way traffic control operations should be limited to work spaces less than 400 feet long and roadways with less than 2000 ADT. Otherwise, portable traffic signals should be used.
6. If power is available, a flashing beacon should be attached to the CW3-2 "YIELD AHEAD" symbol sign for emphasis.
7. The R1-2 "YIELD" and R1-2aP "TO ONCOMING TRAFFIC" signs and other regulatory signs shall be installed at 7 foot minimum mounting height.

TCP (2-8b)

8. A list of approved Portable Traffic Signals can be found in the "Compliant Work Zone Traffic Control Devices" list.
9. Portable traffic signals should be located to provide adequate stopping sight distance for approaching motorist (See table above).

Texas Department of Transportation — Traffic Operations Division Standard

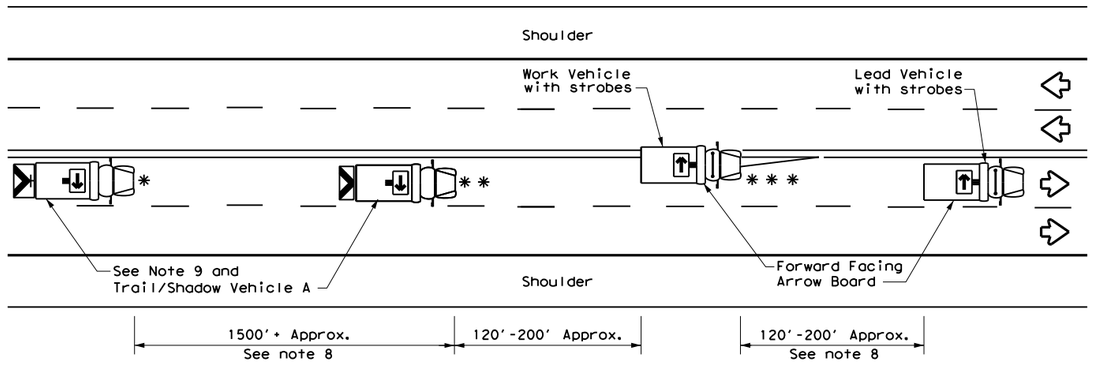
TRAFFIC CONTROL PLAN LONG TERM ONE-LANE TWO-WAY CONTROL

TCP(2-8)-18

FILE: tcp2-8-18.dgn	DN:	CK:	DW:	CK:
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-95 3-03 1-97 2-12 4-98 2-18	0275	01	229, ETC	IH-40, ETC
	DIST		COUNTY	SHEET NO.
	AMA		POTTER	24

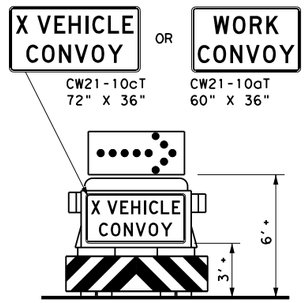
DATE: 11/28/2022 3:34:10 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Sets\2 - Plan Set\Standards\TCP(2-8)-18.dgn

DATE: 11/28/2022 3:34:12 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL\4 of 4\tcp3-1.dgn



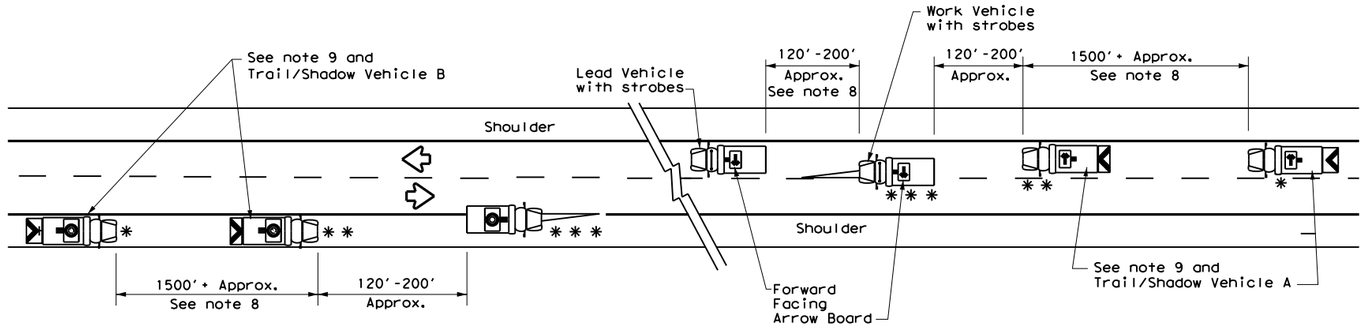
TCP (3-1a)

UNDIVIDED MULTILANE ROADWAY



TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

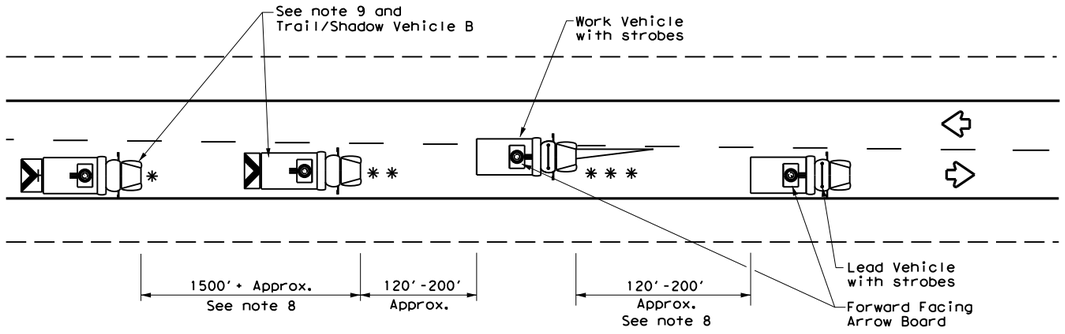


WORK ON SHOULDER

WORK ON TRAVEL LANE

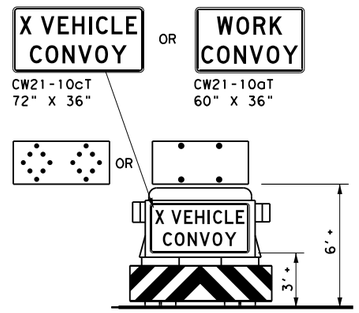
TCP (3-1b)

TWO-WAY ROADWAY WITH PAVED SHOULDERS



TCP (3-1c)

TWO-WAY ROADWAY WITHOUT PAVED SHOULDERS



TRAIL/SHADOW VEHICLE B

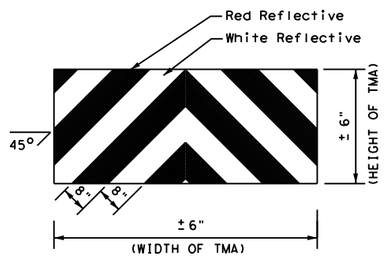
with Flashing Arrow Board in CAUTION display

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

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

GENERAL NOTES

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



STRIPING FOR TMA

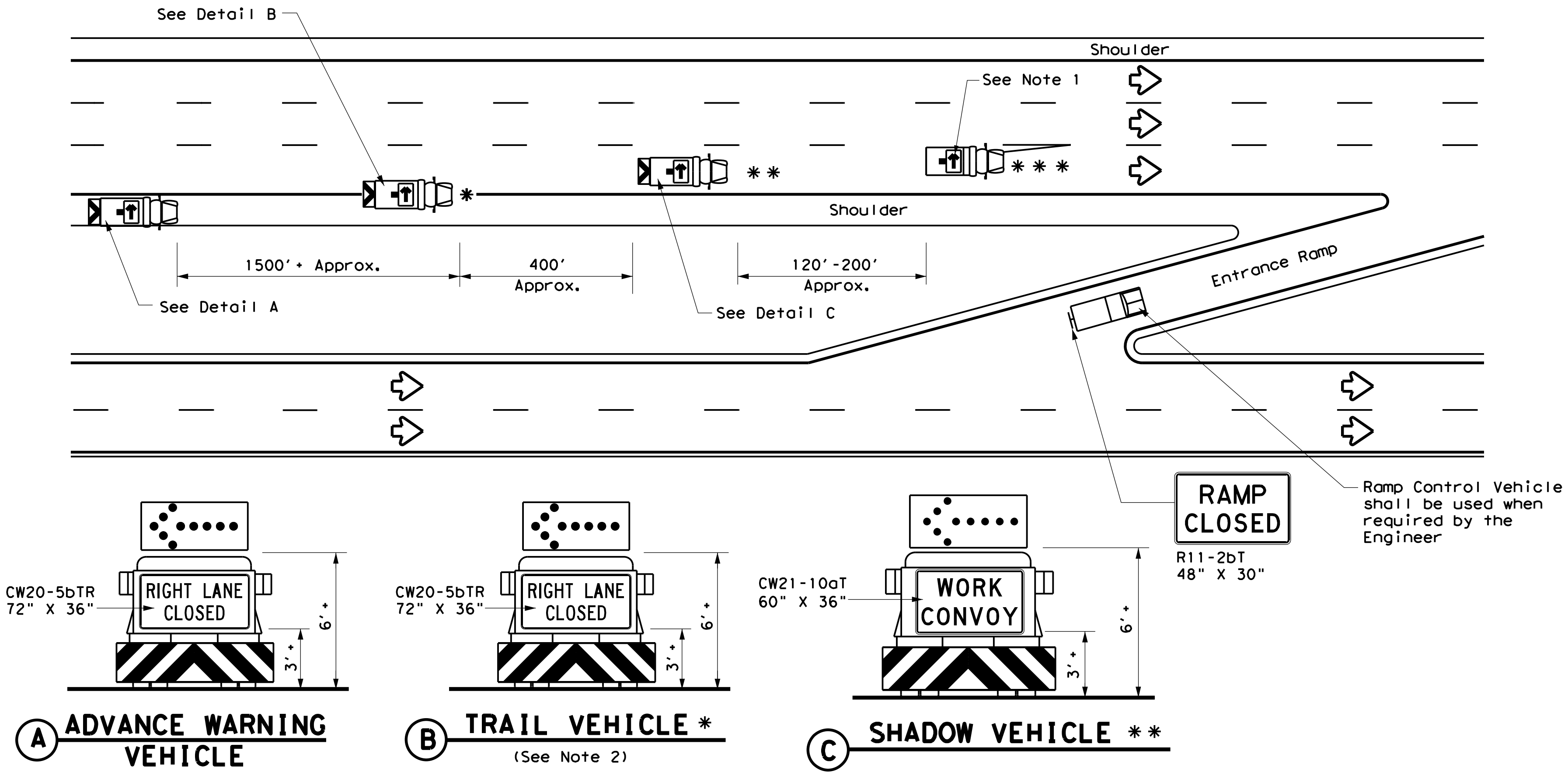
Texas Department of Transportation

Traffic Operations Division Standard

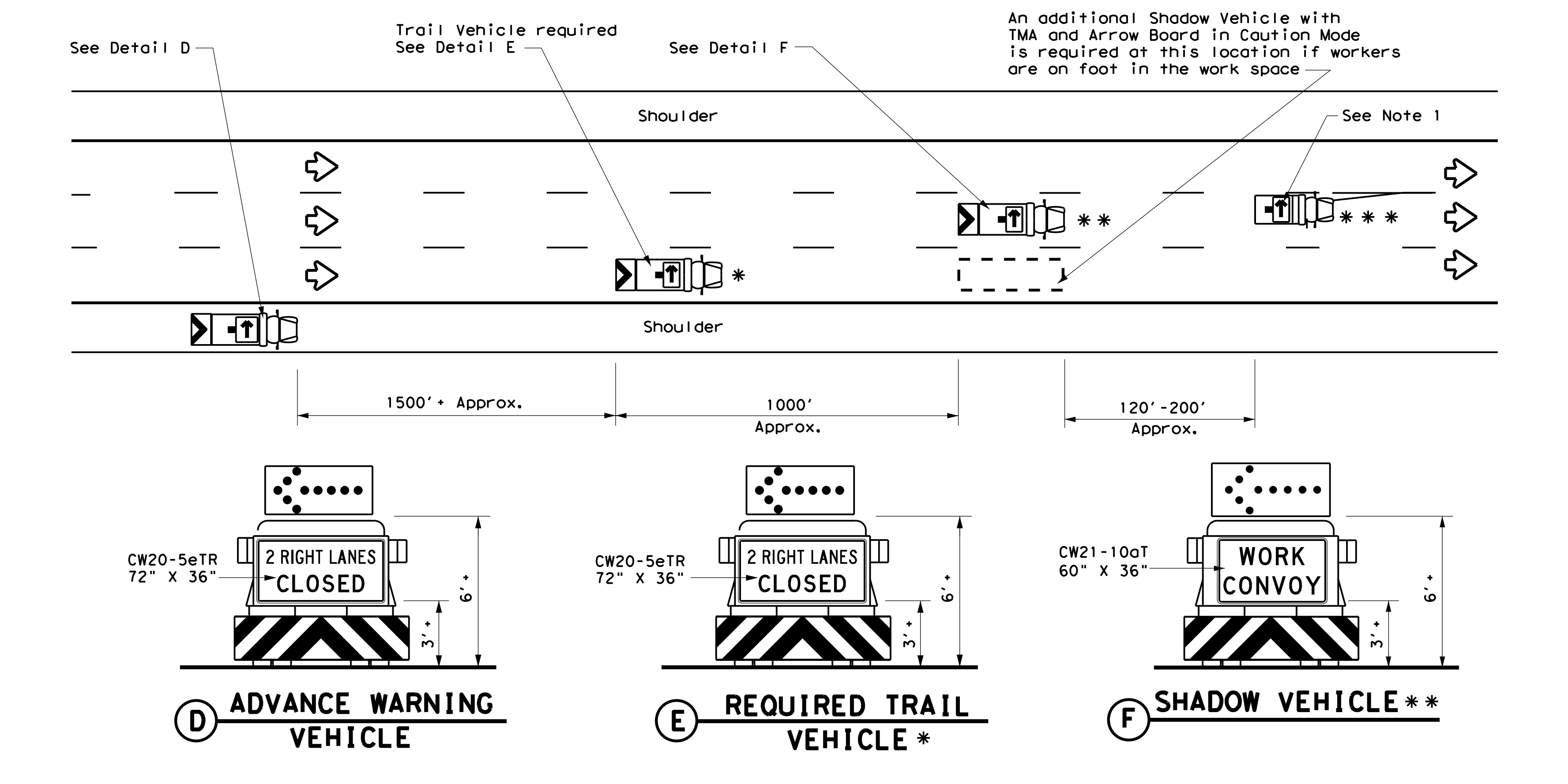
TRAFFIC CONTROL PLAN MOBILE OPERATIONS UNDIVIDED HIGHWAYS

TCP(3-1)-13

FILE: tcp3-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		25



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



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

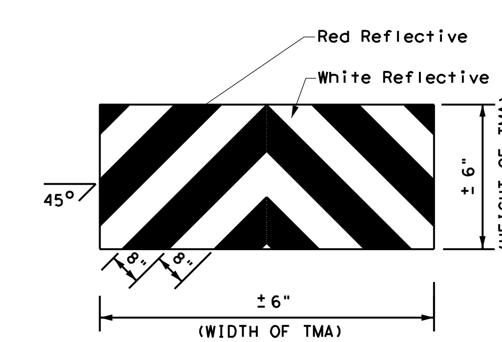
LEGEND

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

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

GENERAL NOTES

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



STRIPING FOR TMA

Texas Department of Transportation — Traffic Operations Division Standard

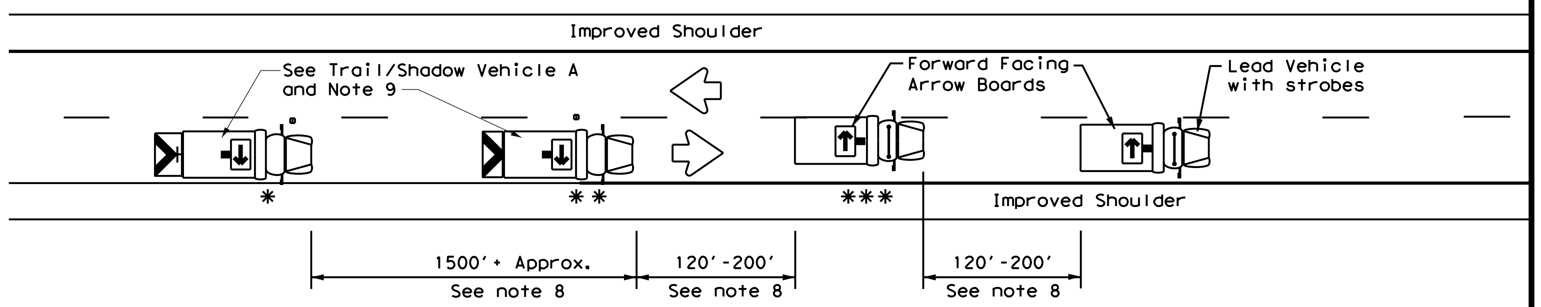
TRAFFIC CONTROL PLAN MOBILE OPERATIONS DIVIDED HIGHWAYS

TCP(3-2)-13

FILE: tcp3-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97	0275	01	229, ETC	IH-40, ETC
	DIST		COUNTY	SHEET NO.
	AMA		POTTER	26

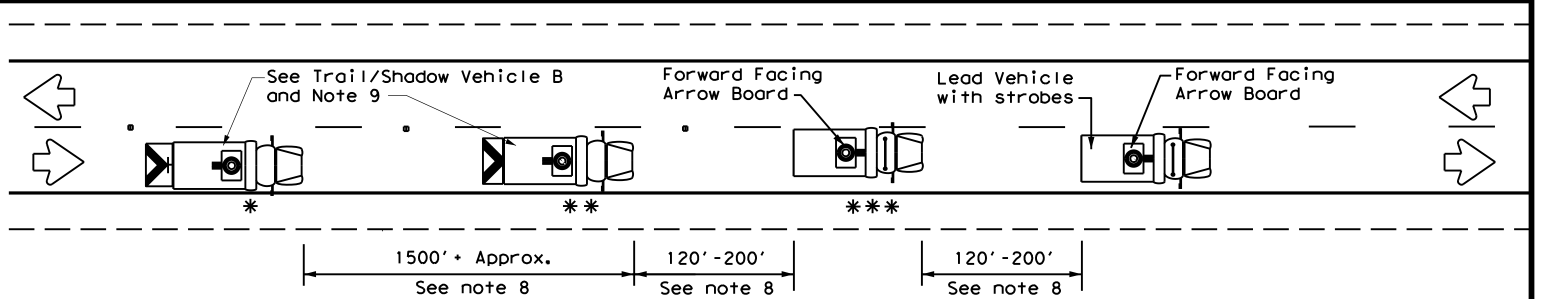
176

DATE: 11/28/2022 3:34:14 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4



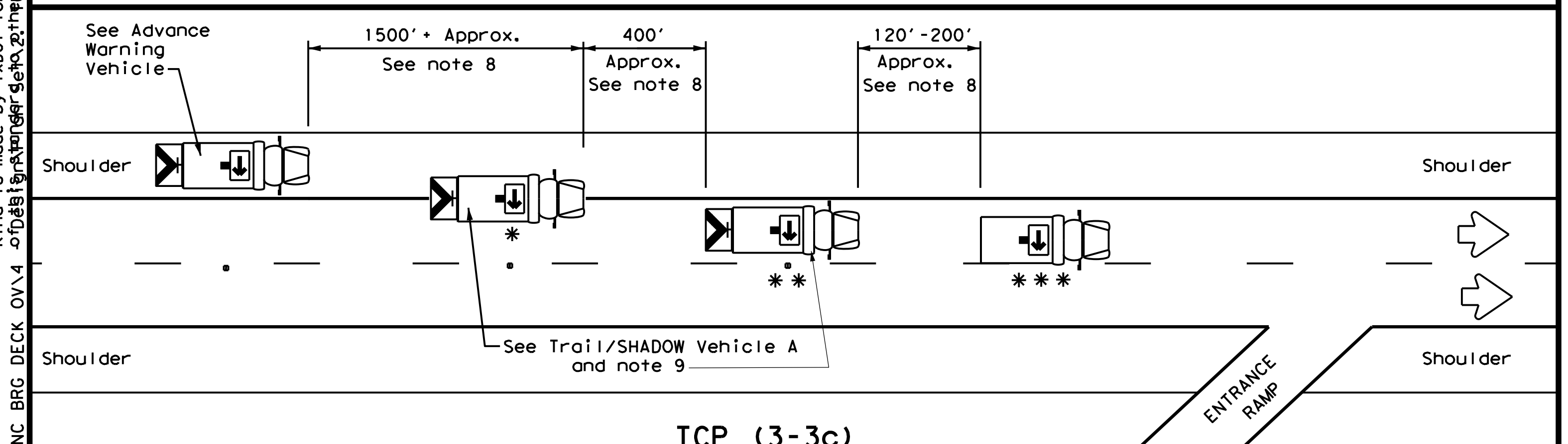
TCP (3-3a)

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



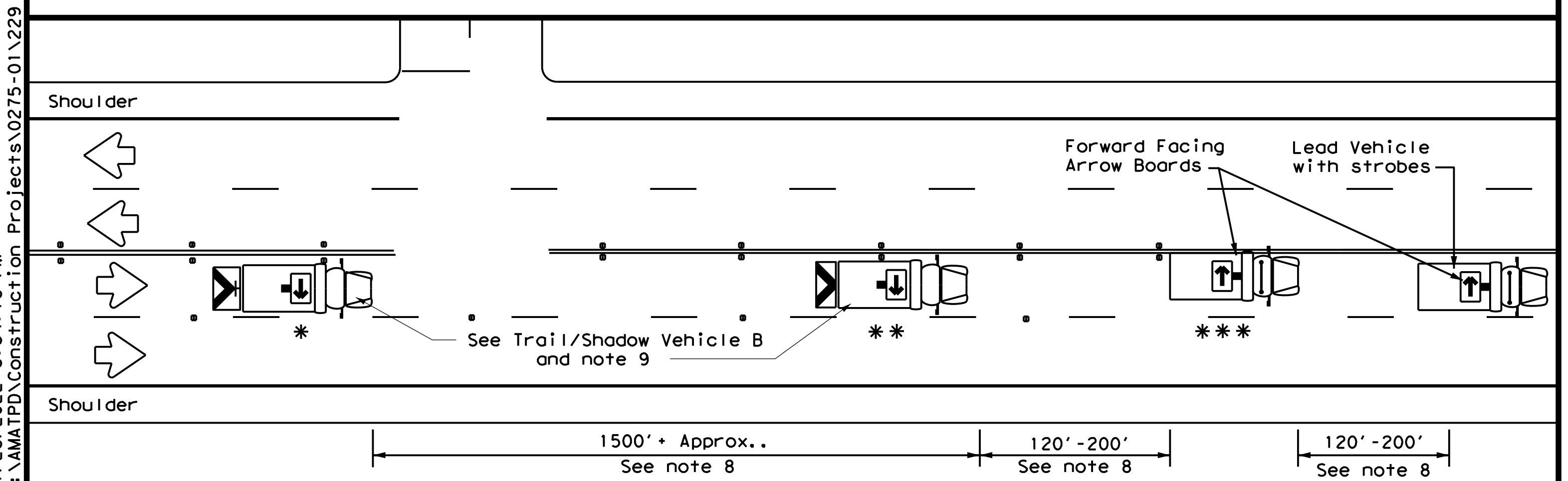
TCP (3-3b)

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



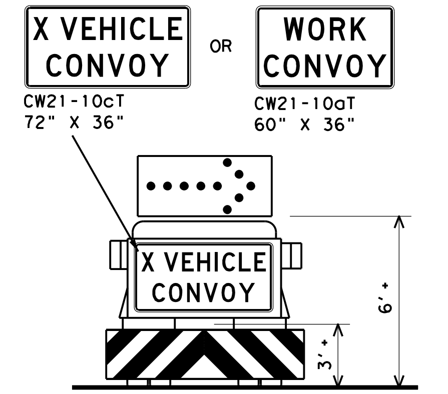
TCP (3-3c)

DIVIDED MULTILANE HIGHWAY



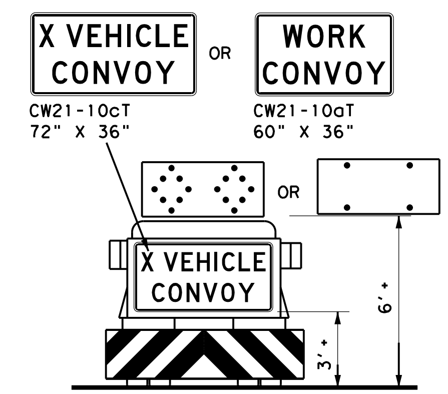
TCP (3-3d)

UNDIVIDED MULTILANE HIGHWAY



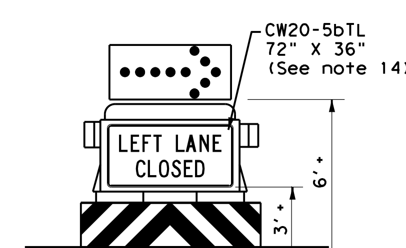
TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

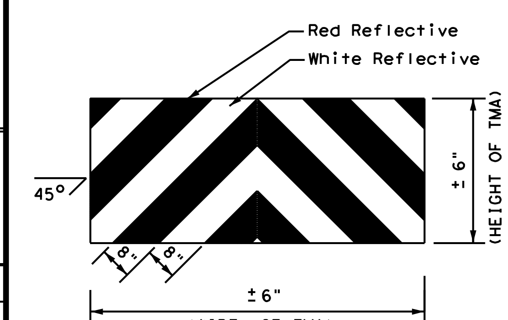


TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board in Caution Mode



ADVANCE WARNING VEHICLE



STRIPING FOR TMA

LEGEND

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

TYPICAL USAGE

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

GENERAL NOTES

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

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN MOBILE OPERATIONS RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL

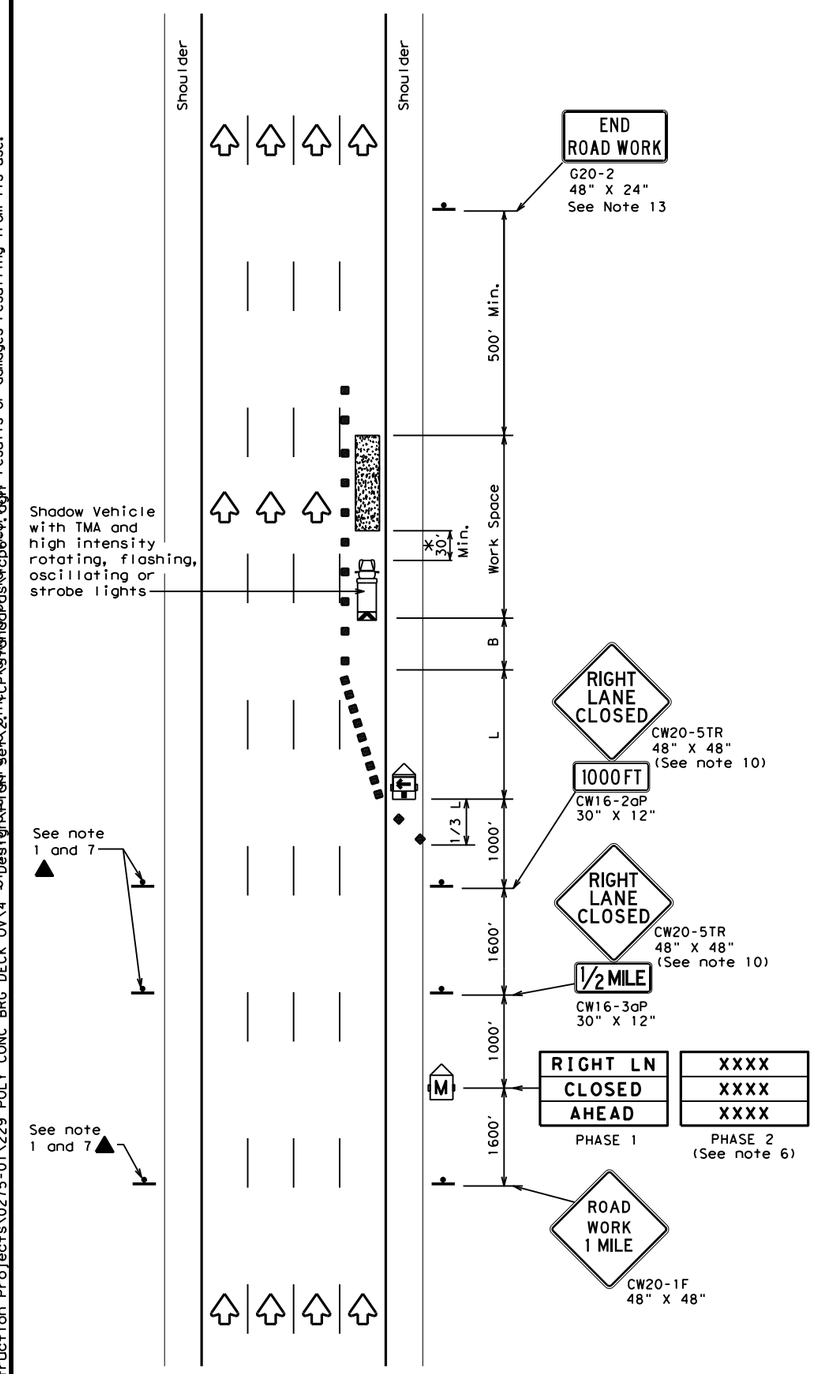
TCP(3-3)-14

FILE: tcp3-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT September 1987	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 7-13 1-97 7-14	0275	01	229, ETC	IH-40, ETC
	DIST		COUNTY	SHEET NO.
	AMA		POTTER	27

177

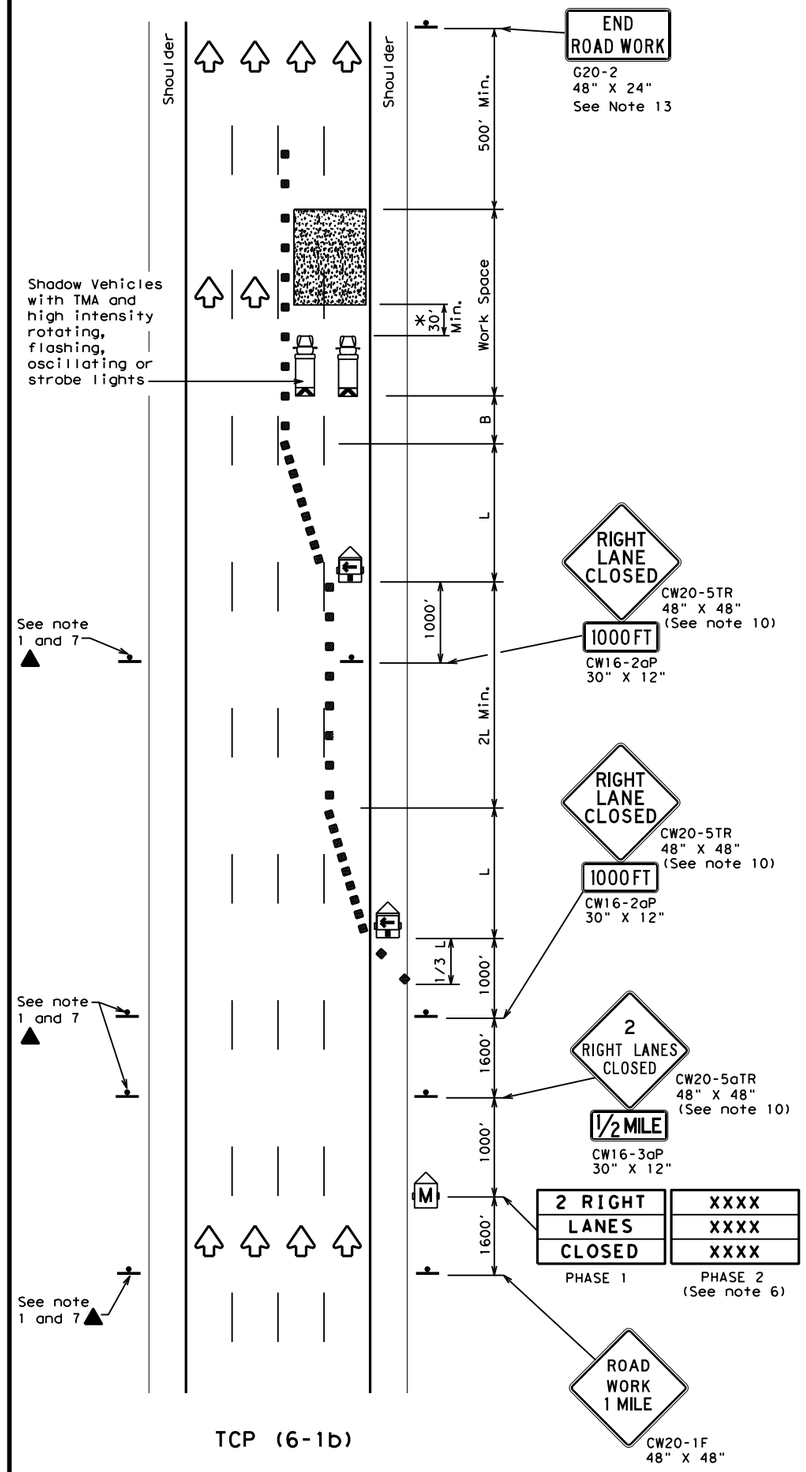
DATE: 11/28/2022 3:34:16 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4

DATE: 11/28/2022 3:34:17 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY



TCP (6-1a)

TYPICAL FREEWAY ONE LANE CLOSURE



TCP (6-1b)

TYPICAL FREEWAY TWO LANE CLOSURE

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

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

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

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

GENERAL NOTES

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

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

Texas Department of Transportation
Traffic Operations Division Standard

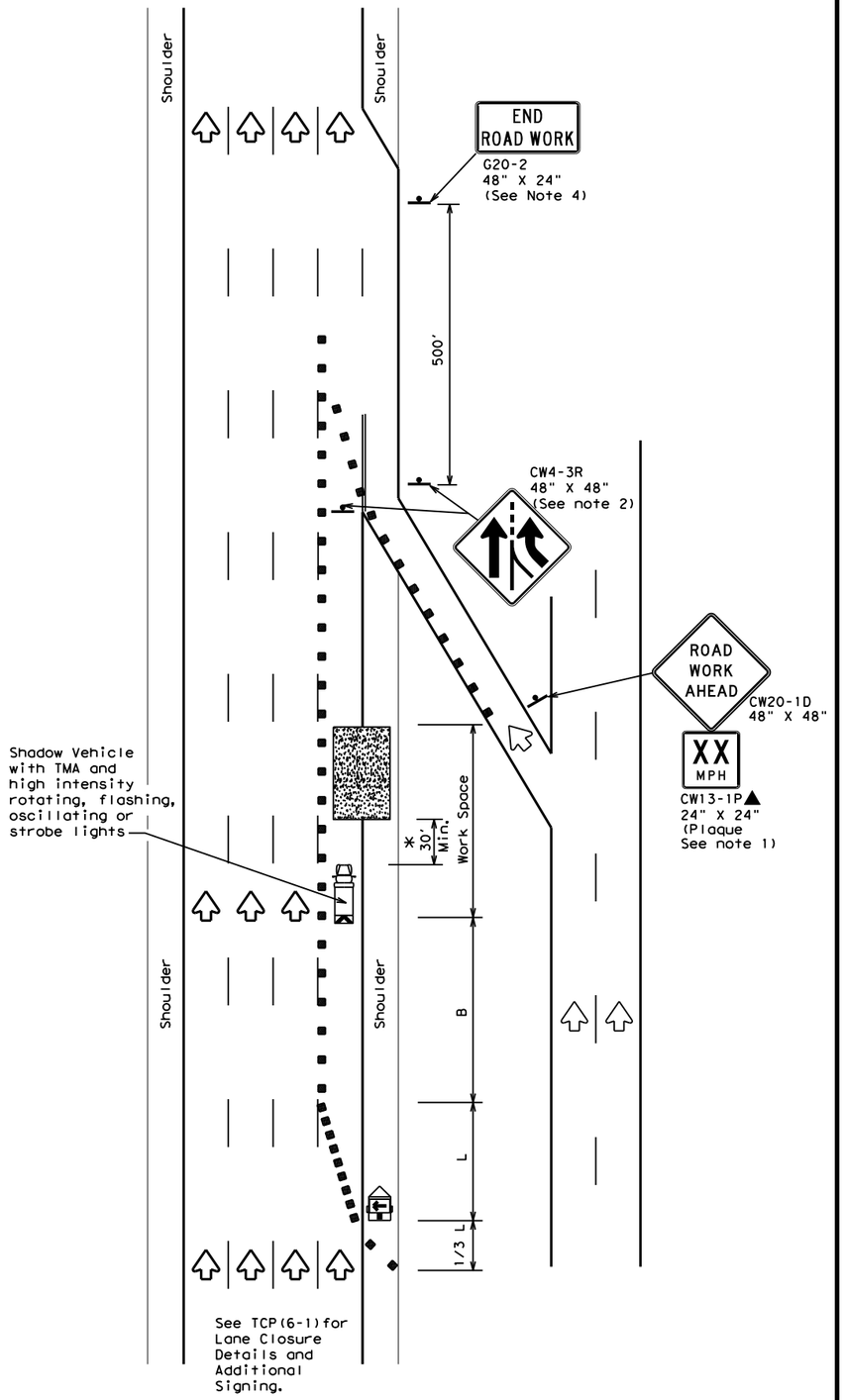
TRAFFIC CONTROL PLAN FREEWAY LANE CLOSURES

TCP(6-1)-12

FILE: tcp6-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS 8-12	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		28

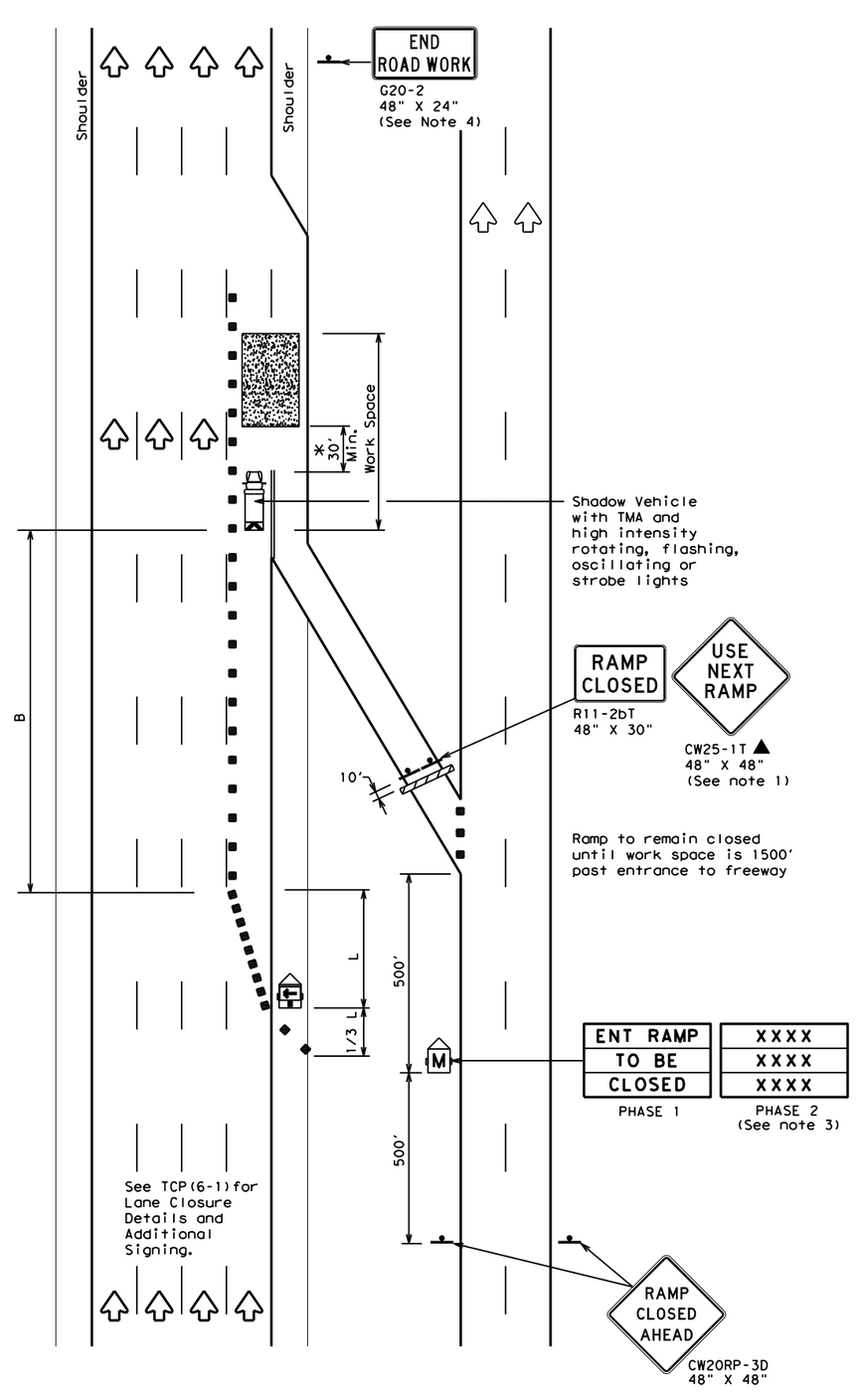
201

DATE: 11/28/2022 3:34:19 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Plans\tcp6-2.dgn



TCP (6-2a)

ENTRANCE RAMP OPEN
WORK WITHIN 500' OF RAMP



TCP (6-2b)

ENTRANCE RAMP CLOSED

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

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

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

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

GENERAL NOTES

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

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

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

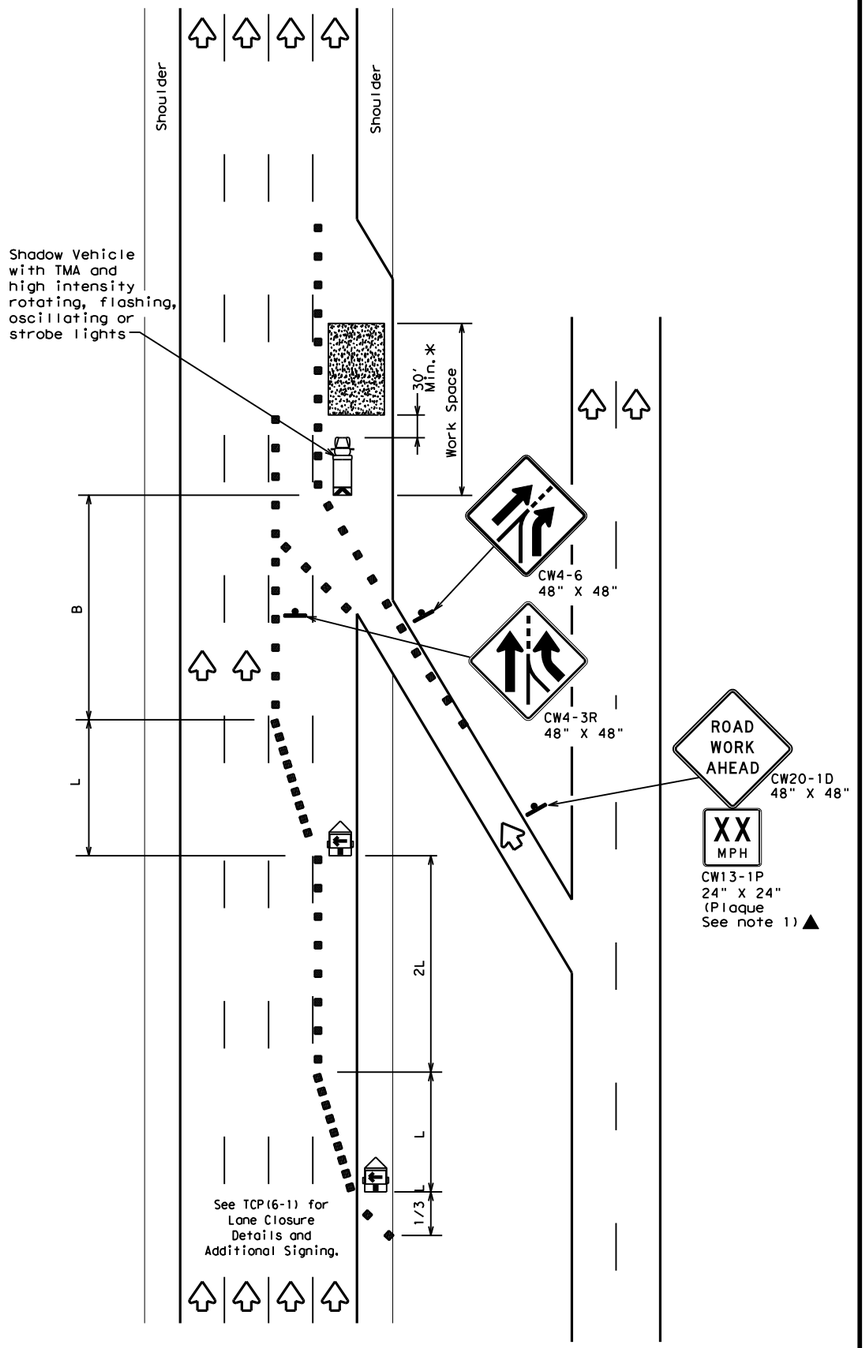
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA NEAR RAMP

TCP(6-2)-12

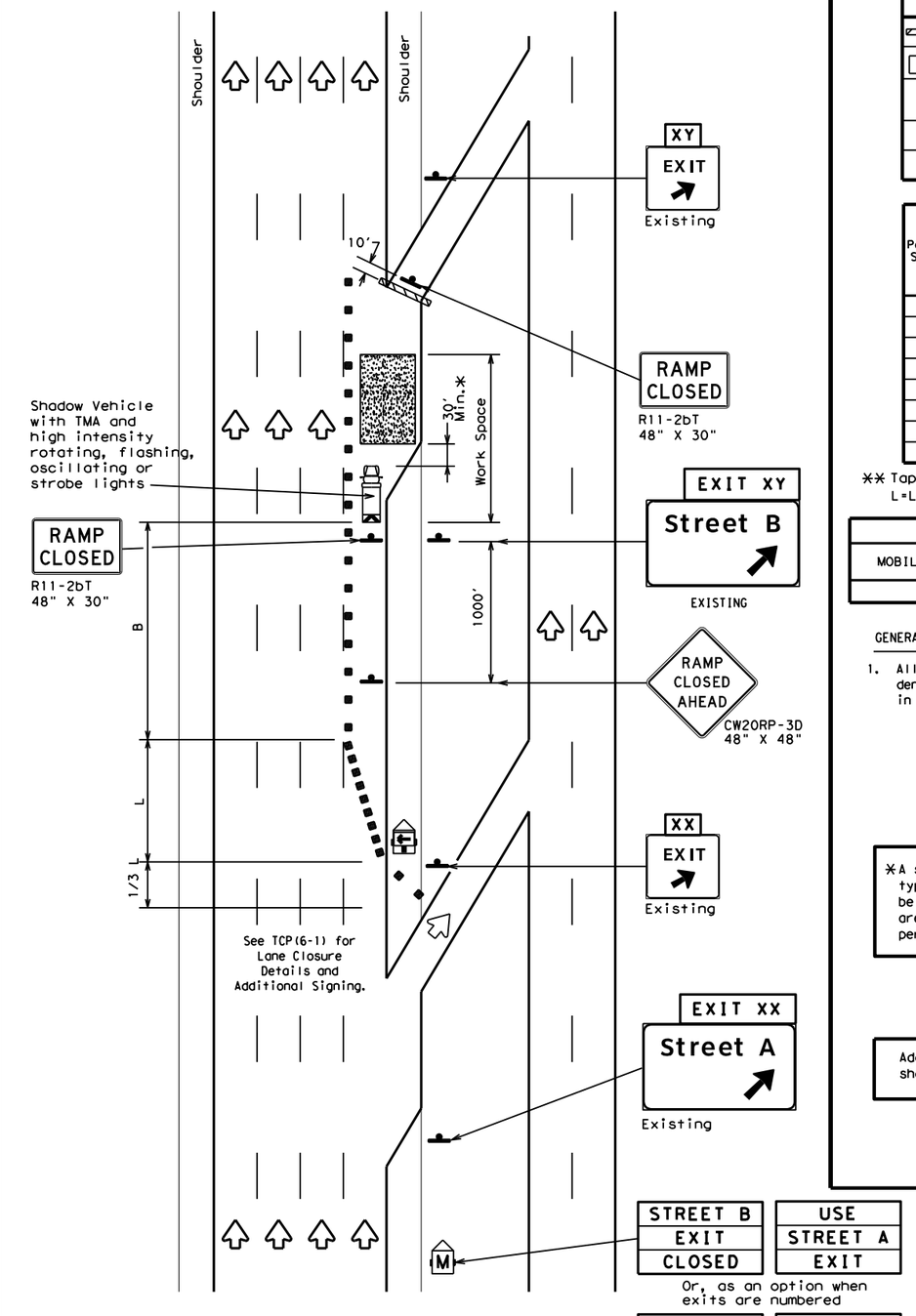
FILE: tcp6-2.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	AMA	POTTER		29

DATE: 11/28/2022 3:34:21 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVR\4 Design\TxDOT\tcp6-3.dgn



TCP (6-3a)

ENTRANCE RAMP OPEN



TCP (6-3b)

EXIT RAMP CLOSED
TRAFFIC EXITS PRIOR TO CLOSED RAMP

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

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

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

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

GENERAL NOTES:

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

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

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

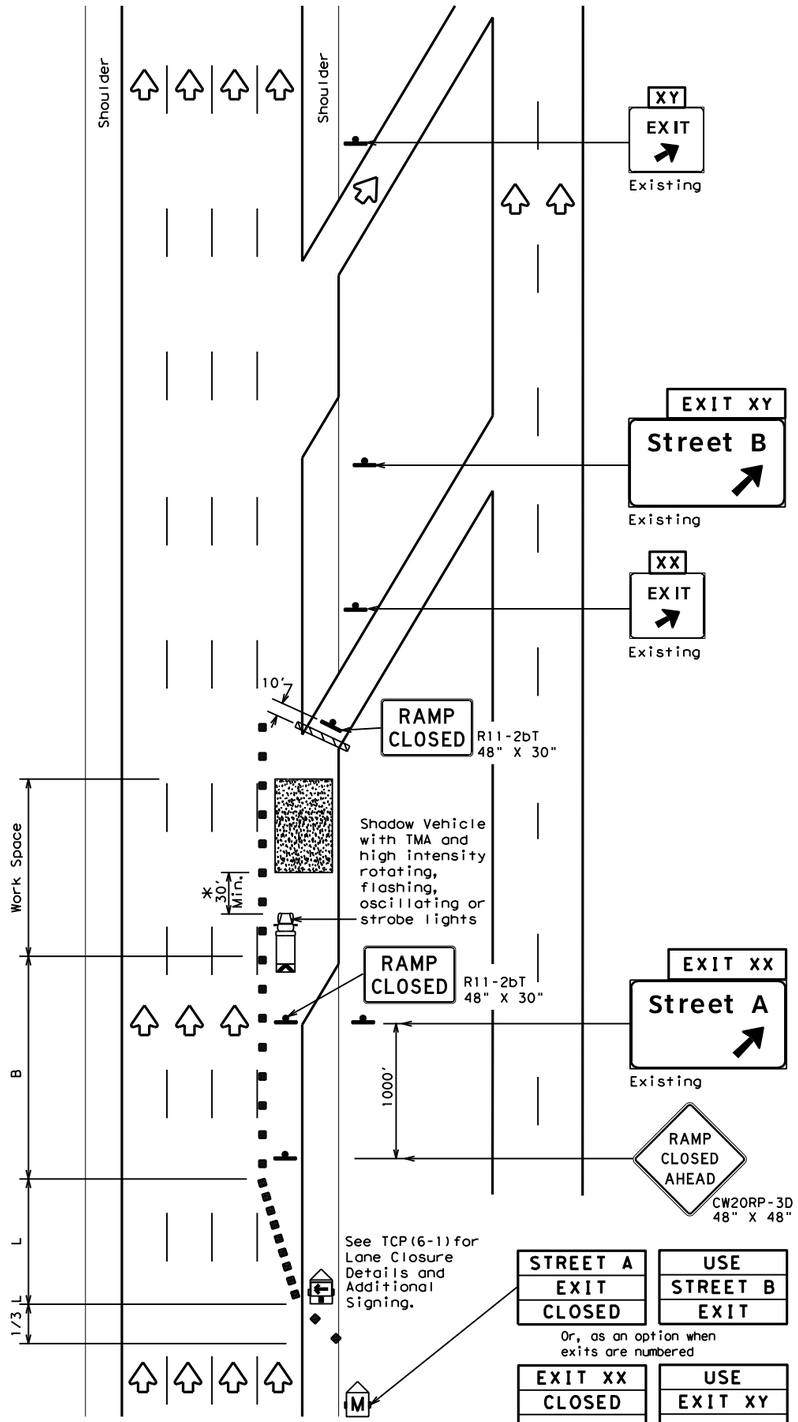
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA BEYOND RAMP

TCP(6-3)-12

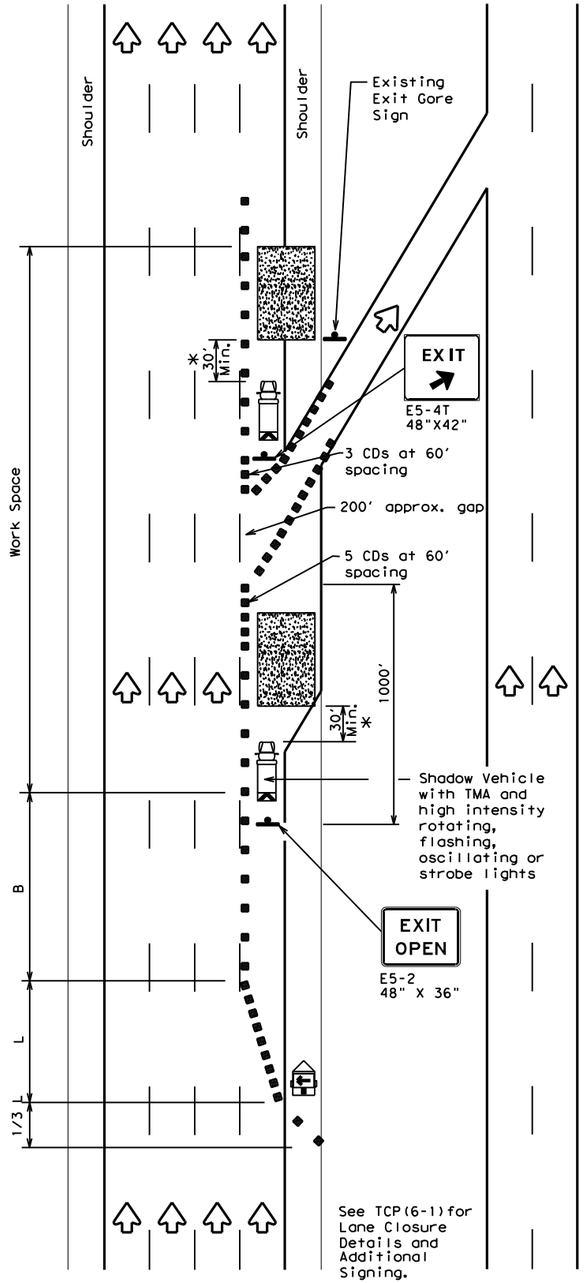
FILE: tcp6-3.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT February 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	AMA	POTTER		30

DATE: 11/28/2022 3:34:23 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL\4 Details\tcp6-4.dgn



TCP (6-4a)

EXIT RAMP CLOSED
TRAFFIC EXITS PAST CLOSED RAMP



TCP (6-4b)

EXIT RAMP OPEN

LEGEND

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

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

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

TYPICAL USAGE

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

GENERAL NOTES

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

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

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

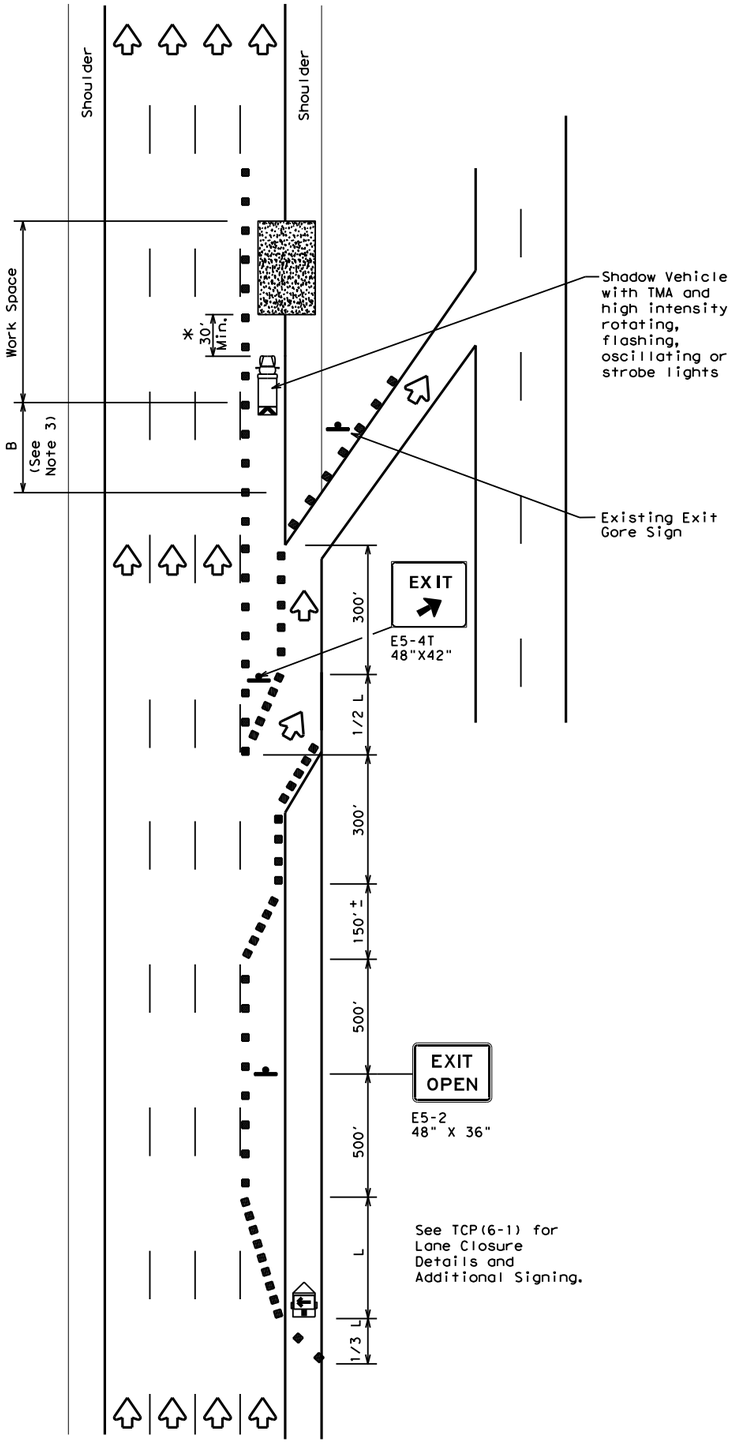
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA AT EXIT RAMP

TCP(6-4)-12

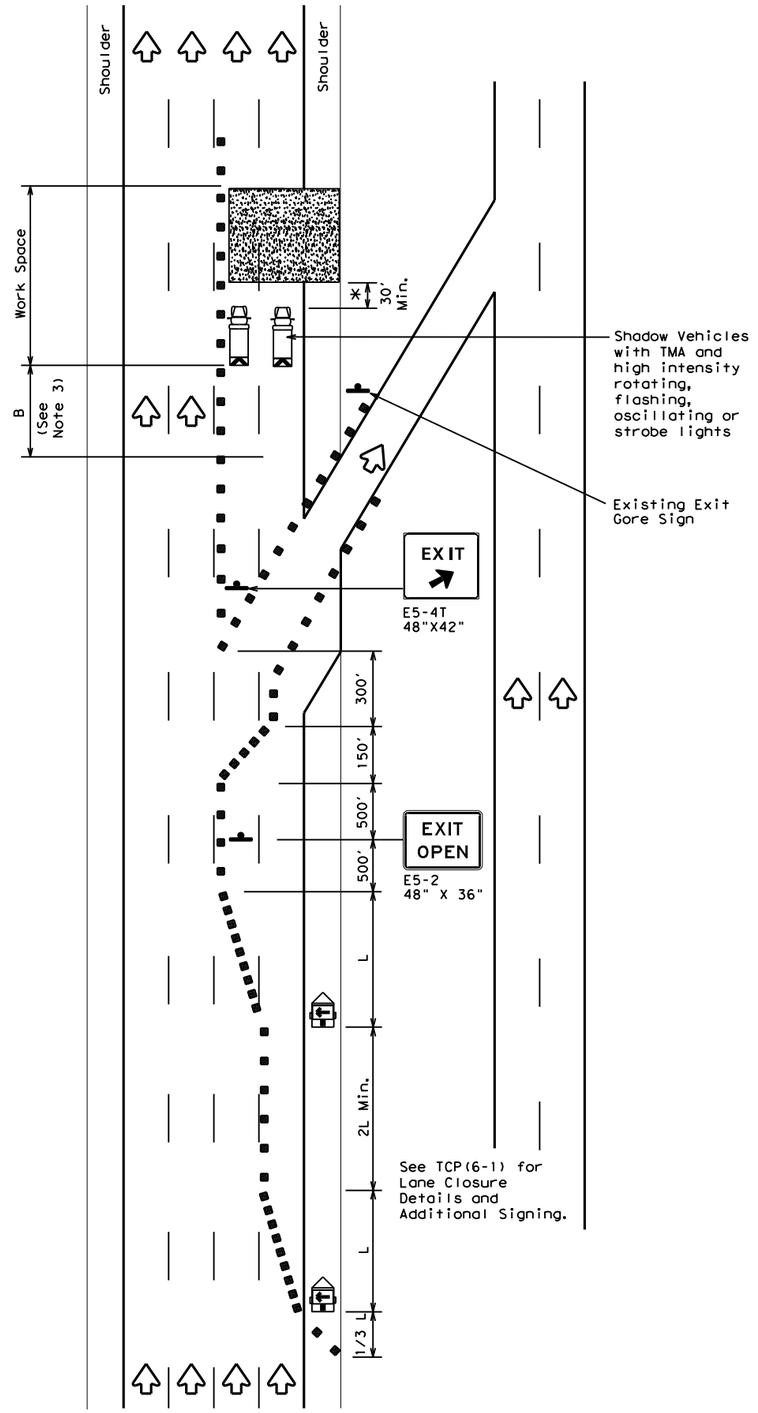
FILE: tcp6-4.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT Feburary 1994	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	AMA	POTTER		31

DATE: 11/28/2022 3:34:24 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Graphics\tcp6-5.dgn



TCP (6-5a)

EXIT RAMP OPEN



TCP (6-5b)

EXIT RAMP OPEN
TWO LANE CLOSURE WITHIN 1500' PAST EXIT RAMP

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

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

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

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

GENERAL NOTES

1. All traffic control devices illustrated are REQUIRED. Devices denoted with the triangle symbol may be omitted when stated elsewhere in the plans.
2. See BC standards for sign details.
3. If adequate longitudinal buffer length "B" does not exist between the work space and the exit ramp, consideration should be given to closing the ramp.

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

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

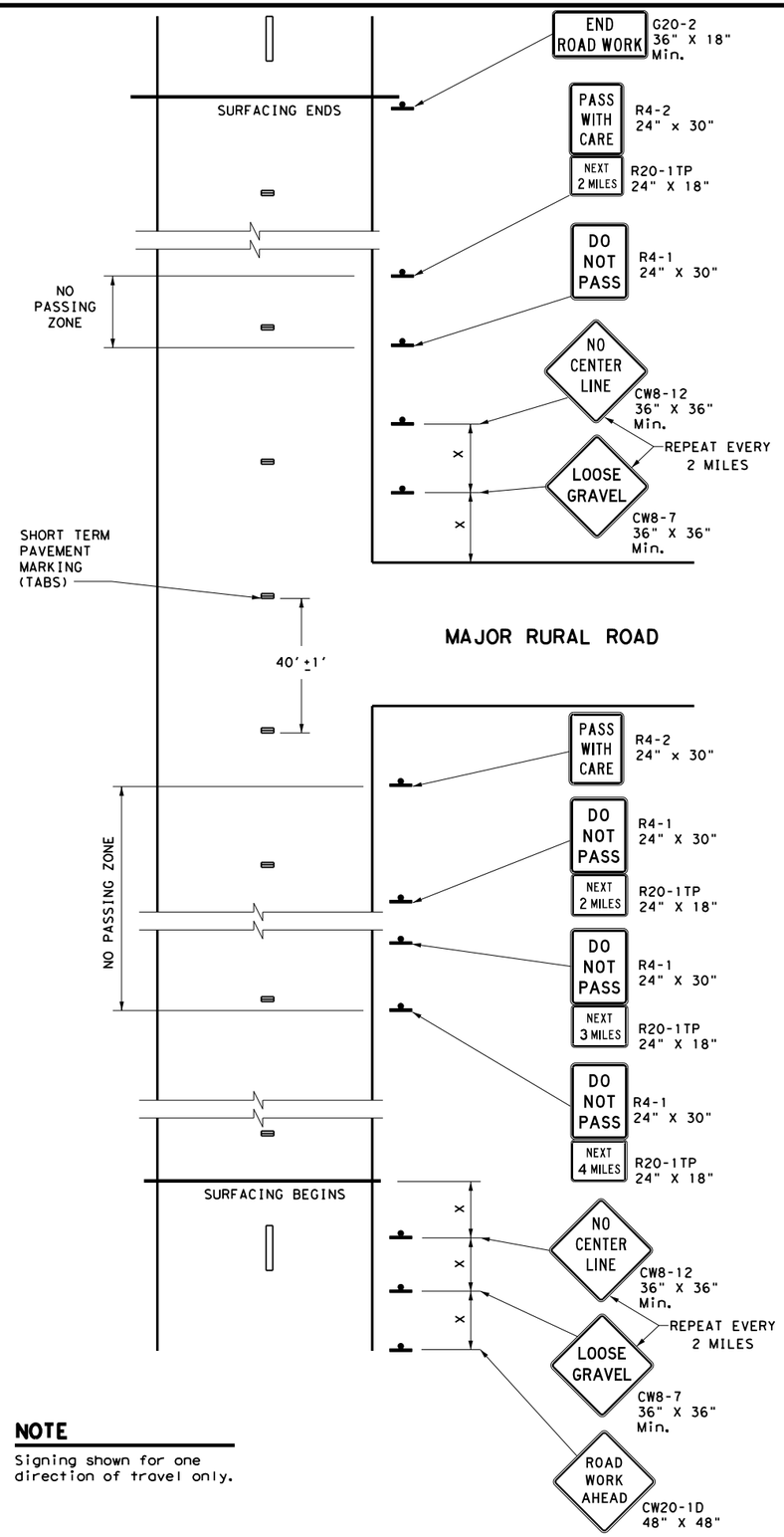
Texas Department of Transportation
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
WORK AREA BEYOND EXIT RAMP

TCP(6-5)-12

FILE: tcp6-5.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT Feburary 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
1-97 8-98	DIST	COUNTY		SHEET NO.
4-98 8-12	AMA	POTTER		32

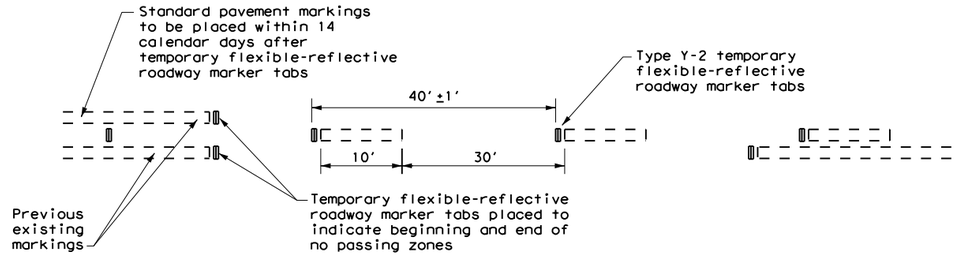
DATE: 11/28/2022 3:34:26 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Standards\tcp7-1.dgn



NOTE

Signing shown for one direction of travel only.

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS



TABS ON CENTERLINES OF TWO-LANE TWO-WAY ROADS

For seal coat, micro-surface or similar operations

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

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

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

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

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

"NO CENTER LINE" SIGN (CW8-12)

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

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

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

"LOOSE GRAVEL" SIGN (CW8-7)

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

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

PAVEMENT MARKINGS

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

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

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

COORDINATION OF SIGN LOCATIONS

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

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

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

* Conventional Roads Only

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

GENERAL NOTES

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

Texas Department of Transportation

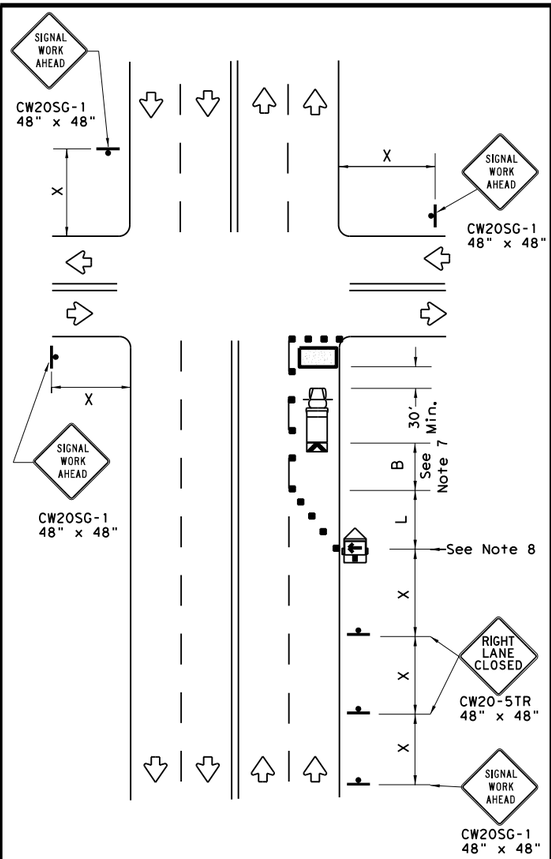
Traffic Operations Division Standard

TRAFFIC CONTROL DETAILS FOR SURFACING OPERATIONS

TCP(7-1)-13

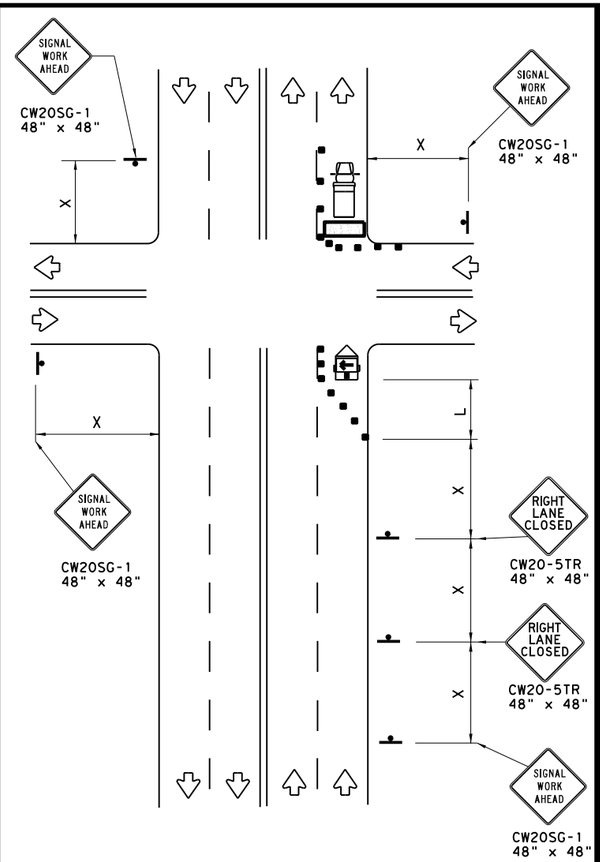
FILE:	tcp7-1.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	March 1991	CONT	SECT	JOB	HIGHWAY
REVISIONS		0275	01	229, ETC	IH-40, ETC
4-92 4-98		DIST	COUNTY		SHEET NO.
1-97 7-13		AMA	POTTER		33

DATE: 11/28/2022 3:34:28 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY



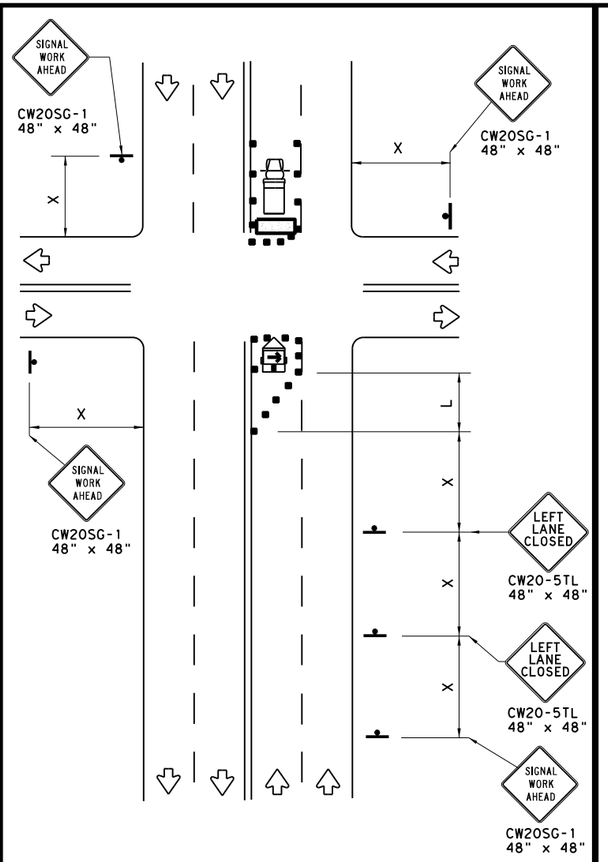
NEAR SIDE LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY



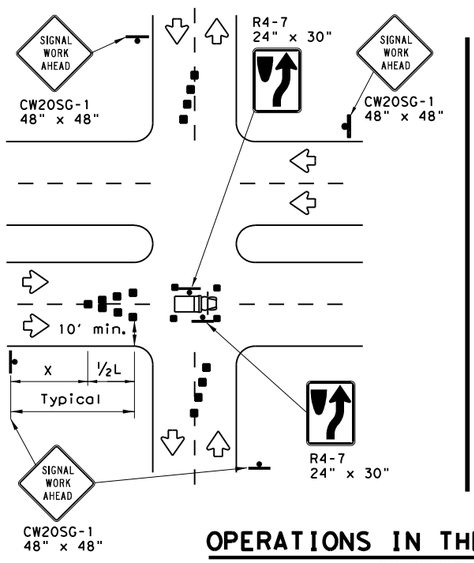
FAR SIDE RIGHT LANE CLOSURE

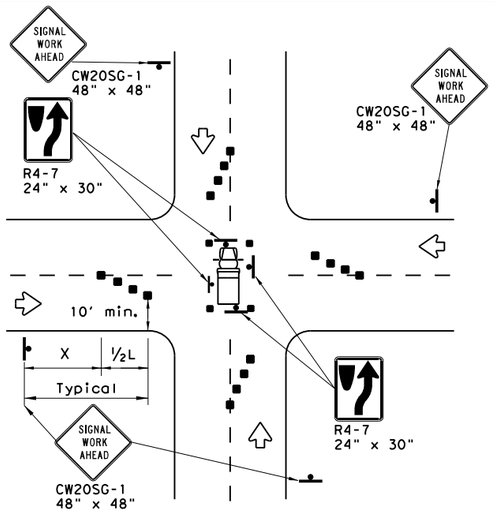
SHORT DURATION OR SHORT TERM STATIONARY



FAR SIDE LEFT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY





OPERATIONS IN THE INTERSECTION

SHORT DURATION

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)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.

GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
2. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
3. Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
4. Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
5. High level warning devices (flag trees) may be used at corners of the vehicle.
6. When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
7. For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
8. The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.

Texas Department of Transportation

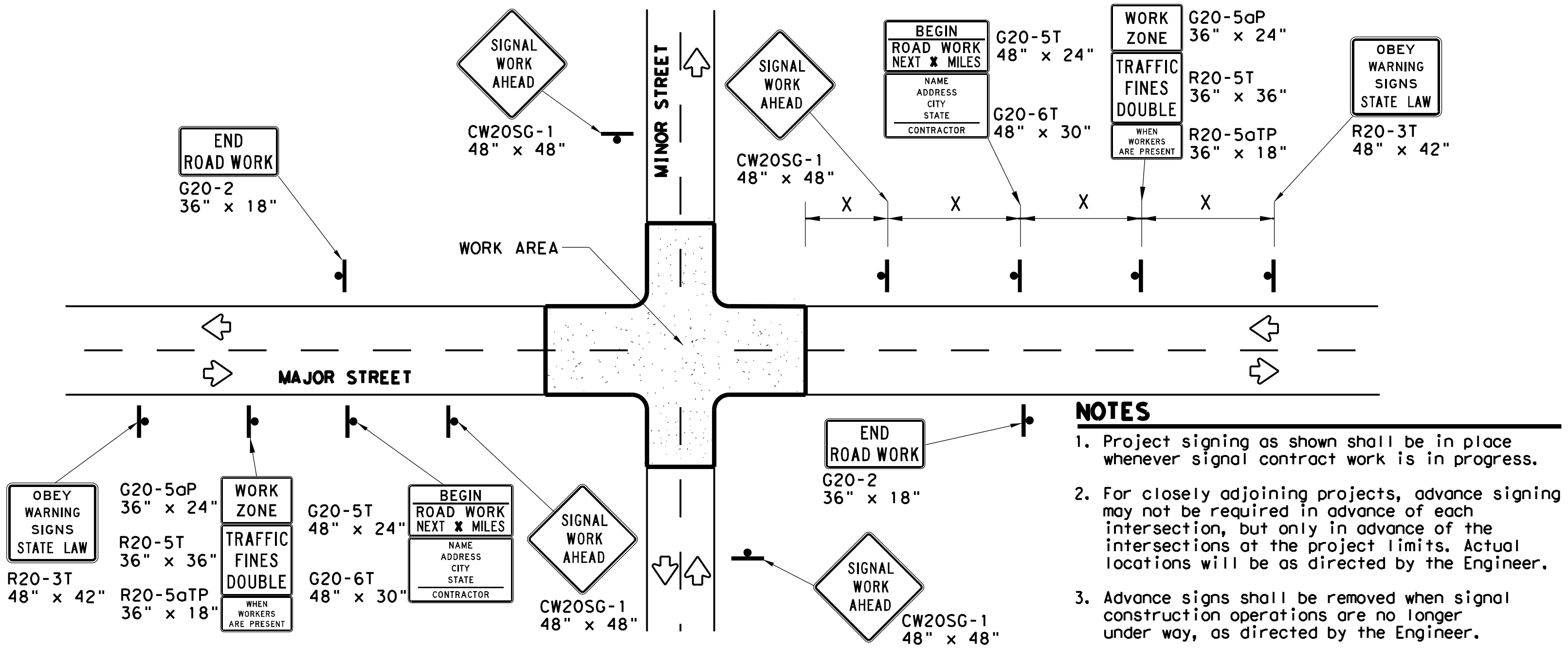
Traffic Operations Division Standard

TRAFFIC SIGNAL WORK TYPICAL DETAILS

WZ(BTS-1)-13

FILE: wzbts-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
2-98 10-99 7-13	DIST	COUNTY		SHEET NO.
4-98 3-03	AMA	POTTER		34

DATE: 11/28/2022 3:34:30 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL\4



TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

NOTES

1. Project signing as shown shall be in place whenever signal contract work is in progress.
2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical for both directions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. 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".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

DURATION OF WORK

1. Work zone durations are defined in Part 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. 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. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

SIGN SUPPORT WEIGHTS

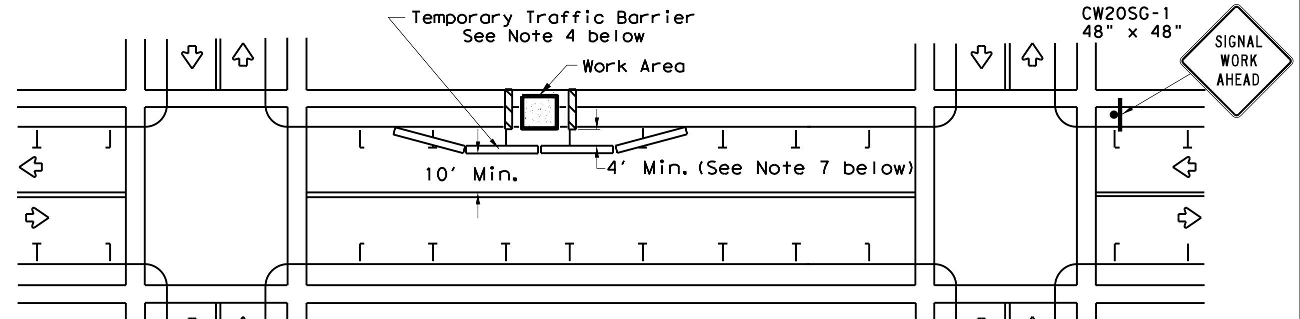
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support 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 fastners. 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.

LEGEND	
(symbol)	Sign
(symbol)	Channelizing Devices
(symbol)	Type 3 Barricade

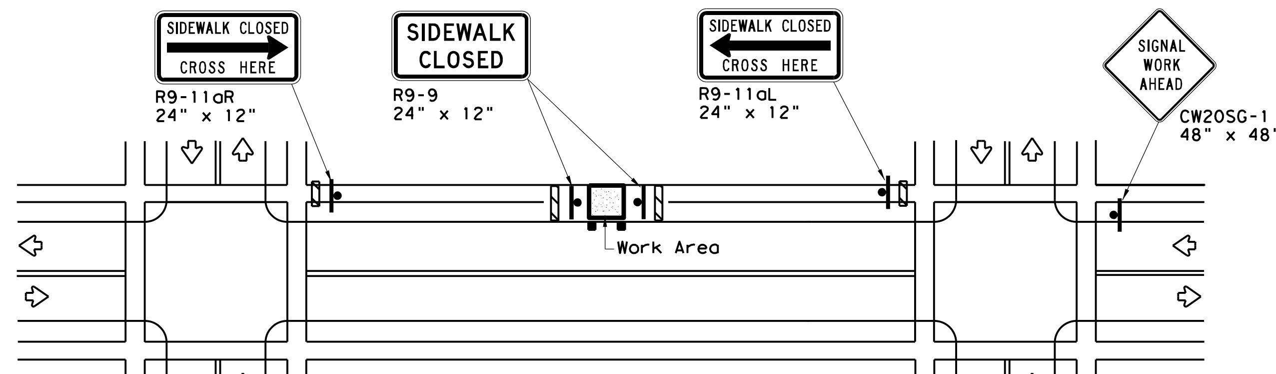
DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

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

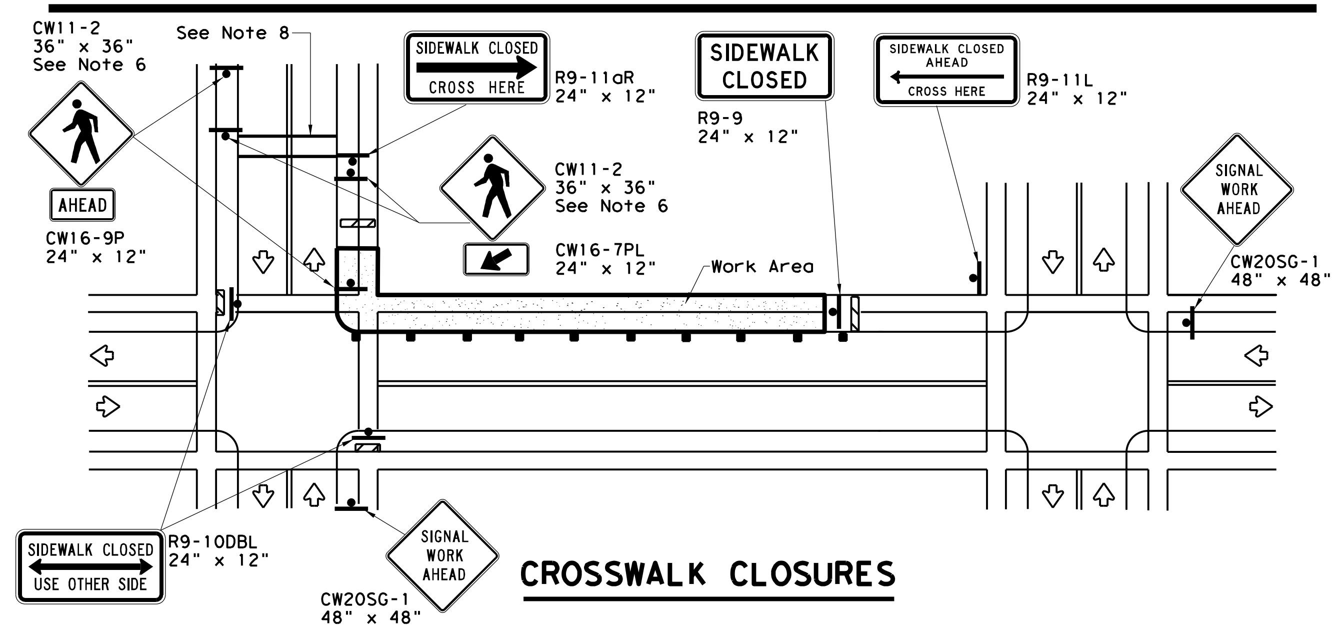
Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:
http://www.txdot.gov/txdot_library/publications/construction.htm



SIDEWALK DIVERSION



SIDEWALK DETOUR



CROSSWALK CLOSURES

PEDESTRIAN CONTROL

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

SHEET 2 OF 2

Texas Department of Transportation

Traffic Operations Division Standard

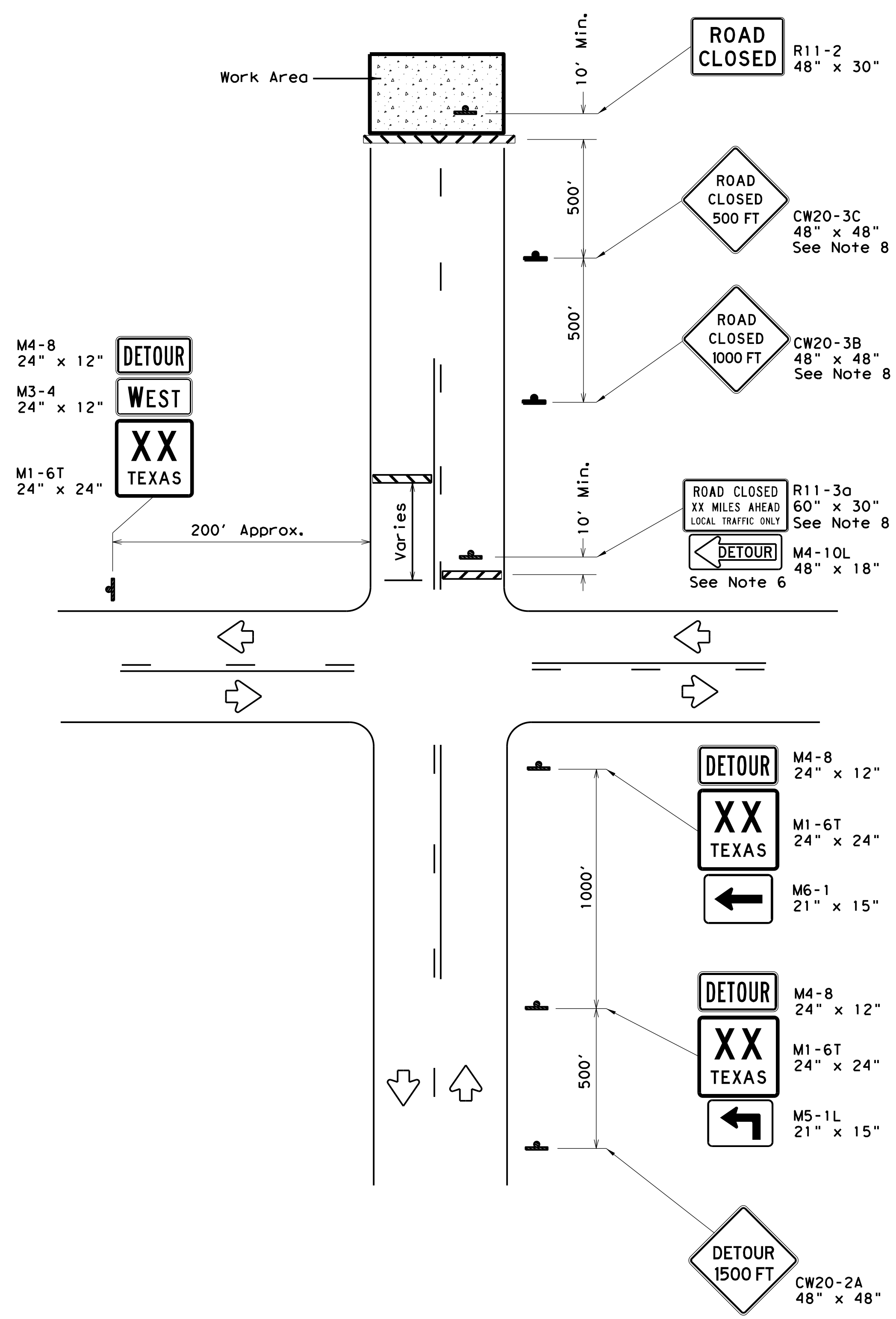
TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

WZ(BTS-2)-13

FILE: wzbts-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
2-98 10-99 7-13	DIST		COUNTY	SHEET NO.
4-98 3-03	AMA		POTTER	35

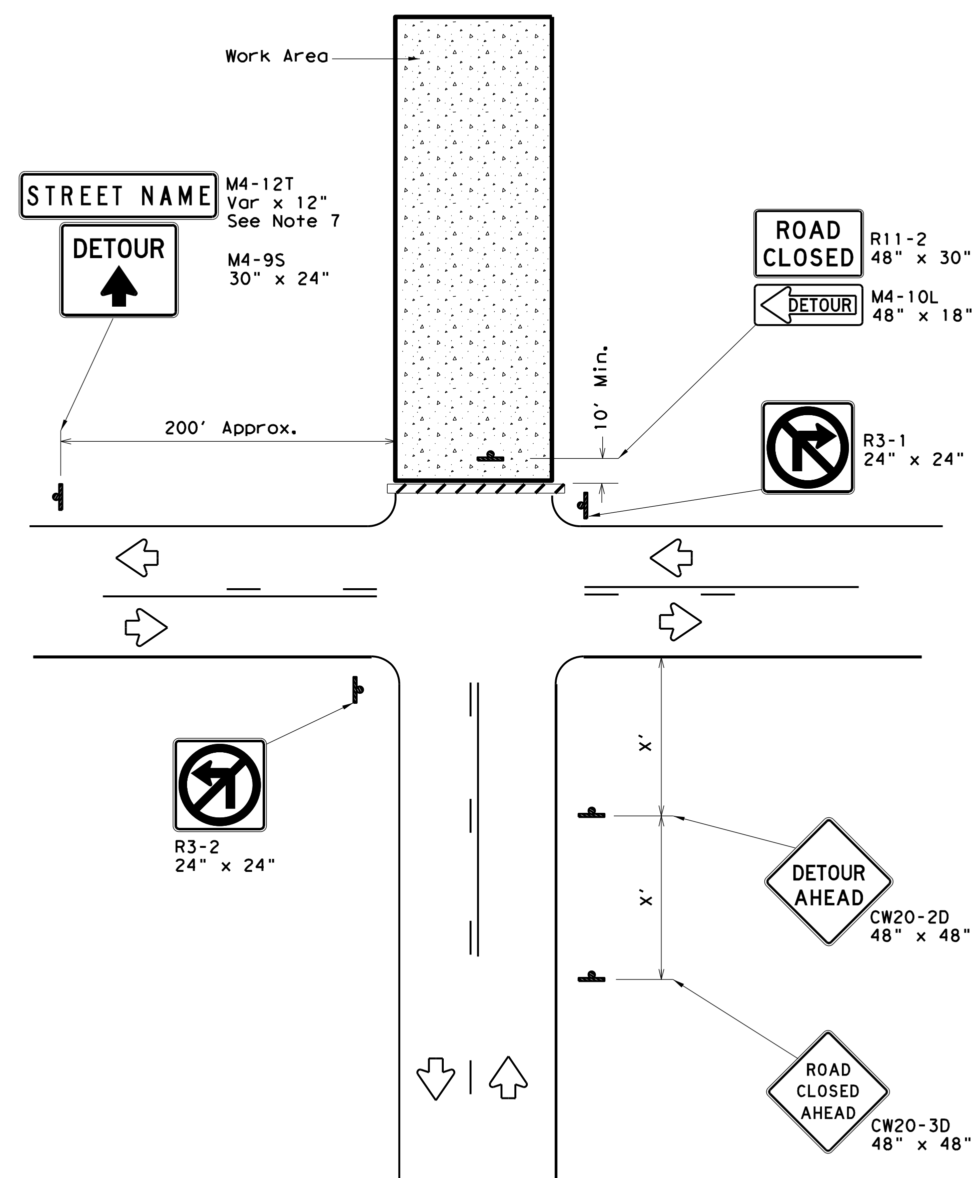
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

DATE: 11/28/2022 3:34:32 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2 - TCP\Standards\wzrcd-13.dgn



ROAD CLOSURE BEYOND THE INTERSECTION

Signing for a Numbered Route with an Off-Site Detour



ROAD CLOSURE AT THE INTERSECTION

Signing for an Un-numbered Route with an Off-Site Detour

LEGEND	
(hatched bar)	Type 3 Barricade
(sign symbol)	Sign

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

* Conventional Roads Only

GENERAL NOTES

1. This sheet is intended to provide details for temporary work zone road closures. For permanent road closure details see the D&OM standards.

2. Barricades used shall meet the requirements shown on Barricade and Construction Standard BC(10) and listed on the Compliant Work Zone Traffic Control Devices list (CWZTCD).

3. Stockpiled materials shall not be placed on the traffic side of barricades.

4. Barricades at the road closure should extend from pavement edge to pavement edge.

5. Detour signing shown is intended to illustrate the type of signing that is appropriate for numbered routes or un-numbered routes as labeled. It does not indicate the full extent of detour signing required. Detour routes should be signed as shown elsewhere in the plans.

6. If the road is open for a significant distance beyond the intersection or there are significant origin/destination points beyond the intersection, the signs and barricades at this location should be located at the edge of the traveled way.

7. The Street Name (M4-12T) sign is to be placed above the DETOUR (M4-9S) sign.

8. For urban areas where there is a shorter distance between the intersection and the actual closure location, the ROAD CLOSED XX MILES AHEAD (R11-3a) sign may be replaced with a ROAD CLOSED TO THRU TRAFFIC (R11-4) sign. If adequate space does not exist between the intersection and the closure a single ROAD CLOSED AHEAD (CW20-3D) sign spaced as per the table above may replace the ROAD CLOSED 1000 FT (CW20-3B) and ROAD CLOSED 500 FT (CW20-3C) signs.

9. Signs and barricades shown shall be subsidiary to Item 502. Locations where these details will be required shall be as shown elsewhere in the plans.

Texas Department of Transportation

Traffic Operations Division Standard

WORK ZONE ROAD CLOSURE DETAILS

WZ(RCD)-13

FILE: wzrcd-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 1995	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
1-97 4-98 7-13	DIST		COUNTY	SHEET NO.
2-98 3-03	AMA		POTTER	36

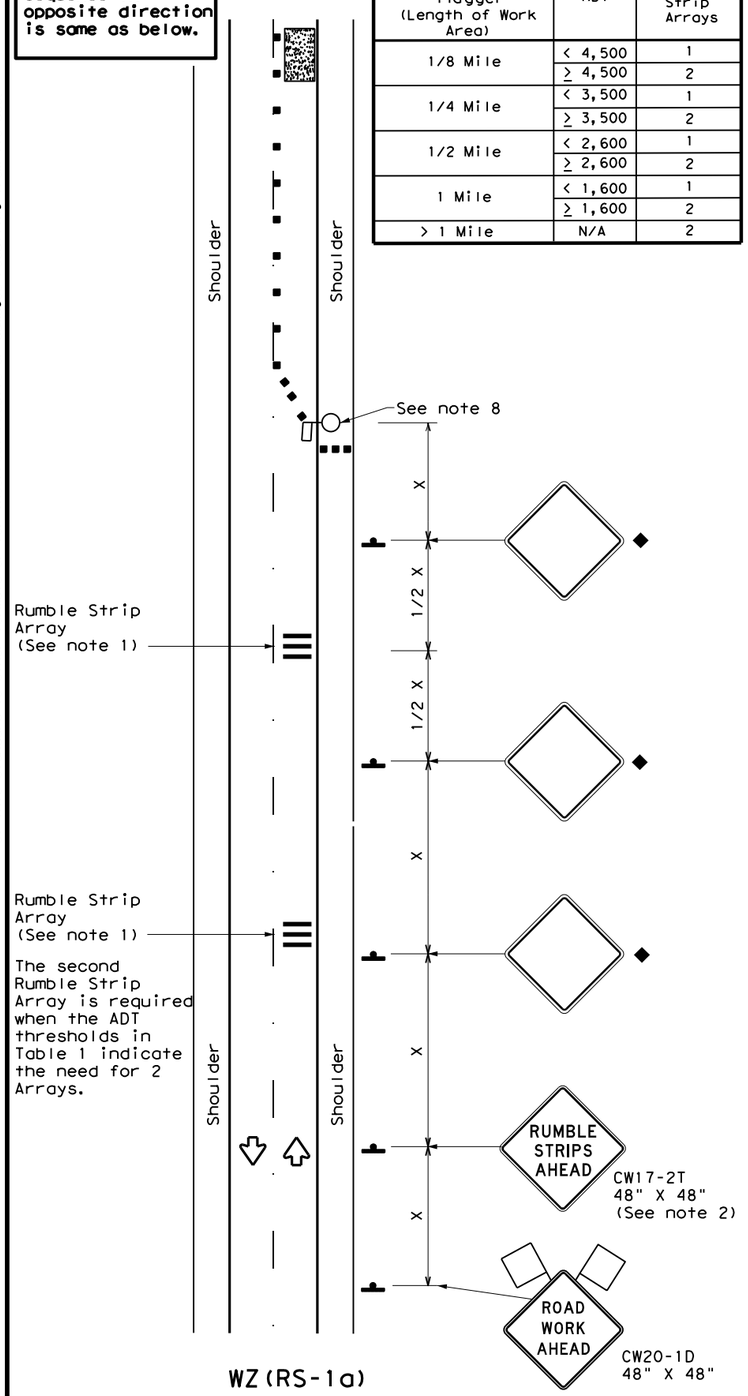
113

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

DATE:
FILE:

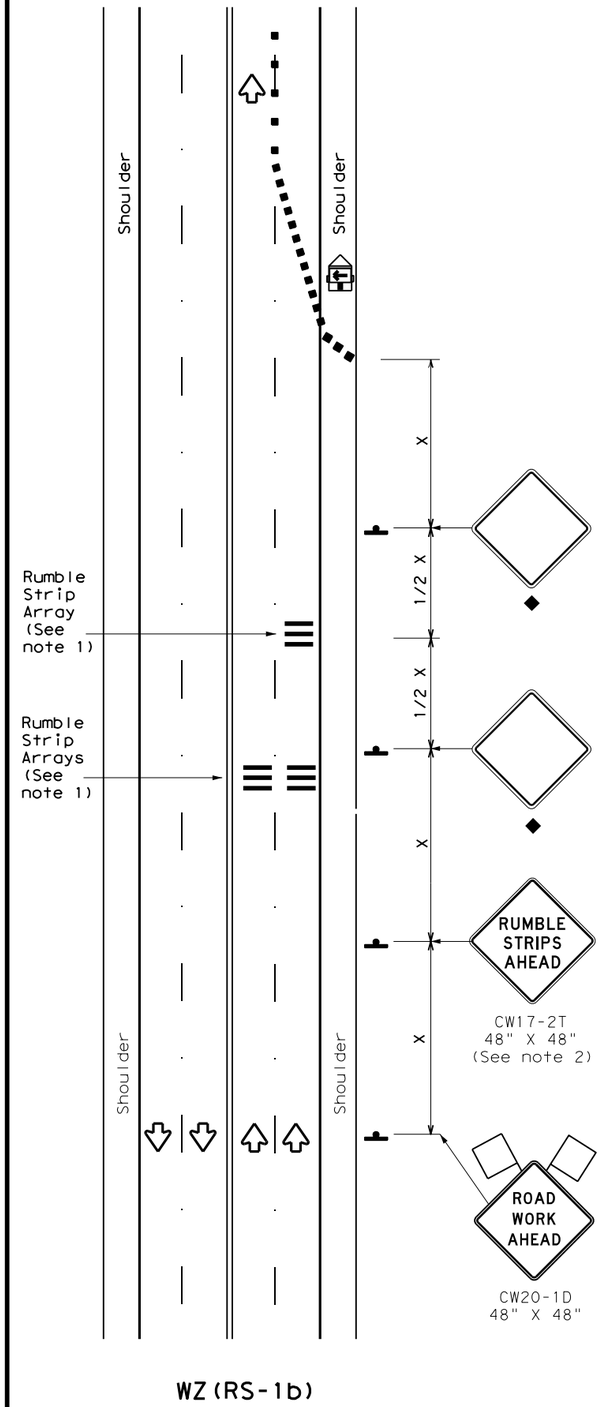
Warning sign and rumble strip sequence in opposite direction is same as below.

TABLE 1		
Flagger to Flagger (Length of Work Area)	ADT	# of Rumble Strip Arrays
1/8 Mile	< 4,500	1
	≥ 4,500	2
1/4 Mile	< 3,500	1
	≥ 3,500	2
1/2 Mile	< 2,600	1
	≥ 2,600	2
1 Mile	< 1,600	1
	≥ 1,600	2
> 1 Mile	N/A	2



WZ(RS-1a)

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ(RS-1b)

RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

1. Each Rumble Strip Array should consist of three rumble strips spaced center to center at the spacing shown in Table 2, placed transverse across the lane at locations shown.
2. The CW17-2T "RUMBLE STRIPS AHEAD" sign should be located after the CW20-1D "ROAD WORK AHEAD sign and spaced as shown. If traffic is observed to be queuing, or is expected to queue beyond the Rumble Strips, the CW17-2T sign and the first Rumble Strip Array may be located upstream of the CW20-1D sign as necessary to provide needed warning.
3. Temporary Rumble Strips will be considered subsidiary to Item 502, and shall be a product listed on the Compliant Work Zone Traffic Control Devices.
4. Remove Temporary Rumble Strips before removing the advanced warning signs.
5. Temporary Rumble Strips should not be used on horizontal curves, loose gravel, soft or bleeding asphalt, heavily rutted pavements or unpaved surfaces.
6. Temporary Rumble Strips shall be installed and maintained as per manufacturer's recommendations.
7. This standard sheet shall be used in conjunction with other appropriate TCP standard, TMUTCD typical application or project specific detail for the project.
8. The one-lane two-way application may utilize a flagger, an Automated Flagger Assistance Device (AFAD) or a Portable Traffic Signal (PTS).
9. Replace defective Temporary Rumble Strips as directed by the Engineer.
10. Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment and written direction from the Engineer.

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

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

* Conventional Roads Only

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

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

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

* For posted speeds in excess of 65 MPH, it is recommended that spacing is increased as speed limits increase. Increasing space between rumble strips will improve effectiveness.

TABLE 2	
Speed	Approximate distance between strips in an array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
= 60 MPH	20'
≥ 65 MPH	* 35' +

Texas Department of Transportation

Traffic Safety Division Standard

TEMPORARY RUMBLE STRIPS

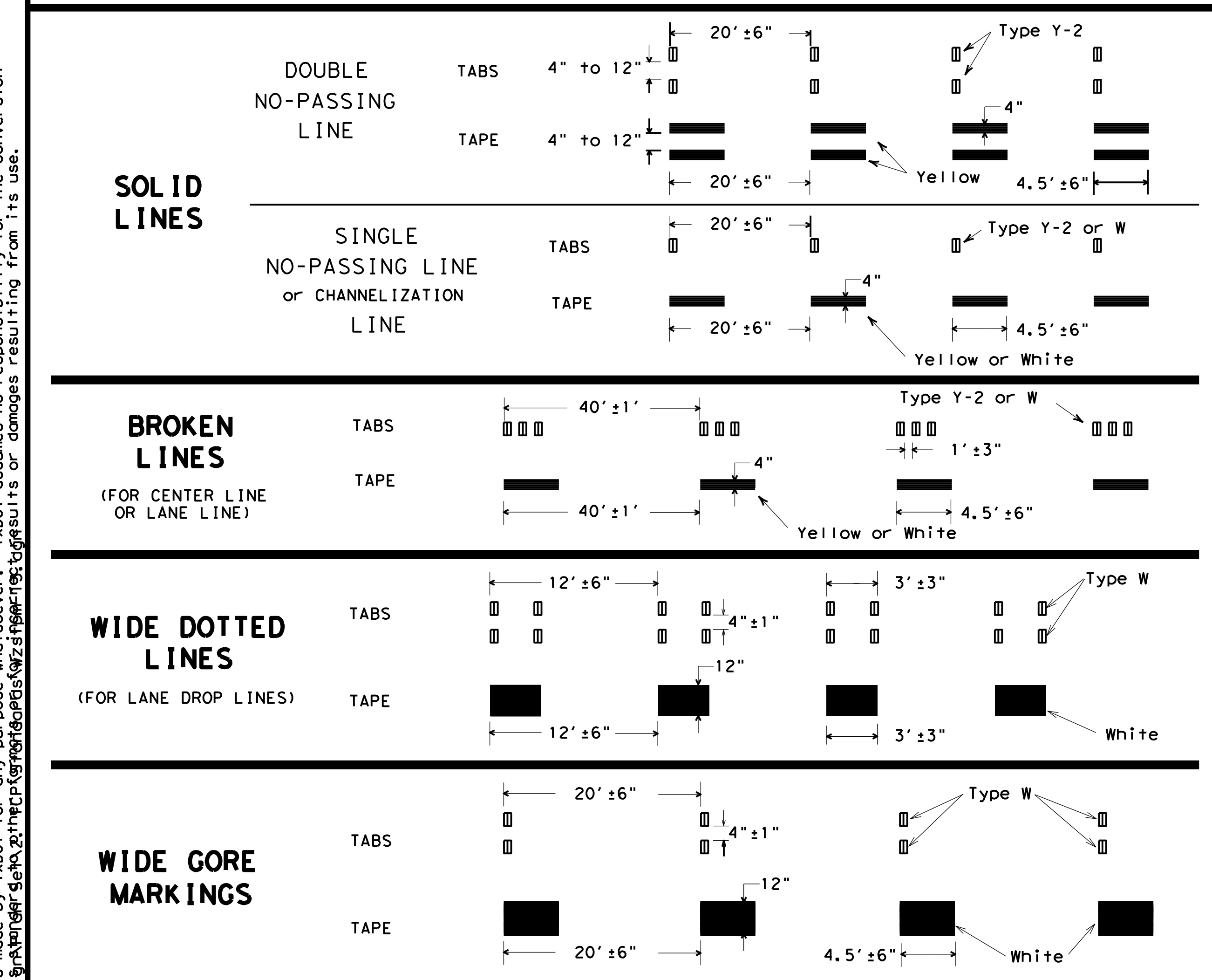
WZ(RS)-22

FILE: wzrs22.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-14 1-22 4-16	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		37

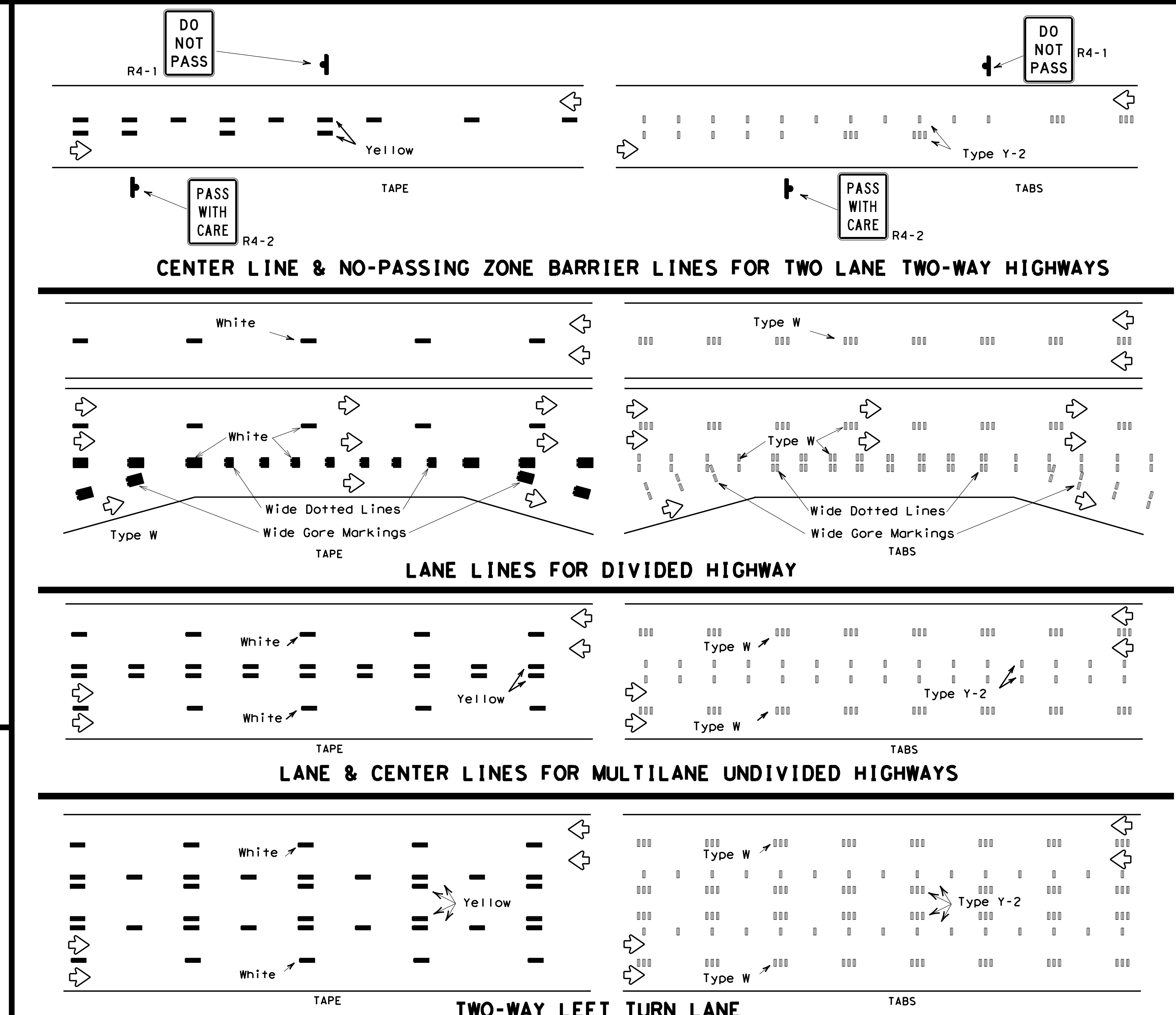
117

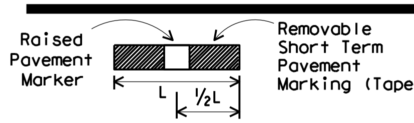
DATE: 11/28/2022 3:34:35 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4

WORK ZONE SHORT TERM PAVEMENT MARKINGS DETAILS



WORK ZONE SHORT TERM PAVEMENT MARKINGS PATTERNS





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

NOTES:

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

TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

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

PREFABRICATED PAVEMENT MARKINGS

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

RAISED PAVEMENT MARKERS

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

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

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

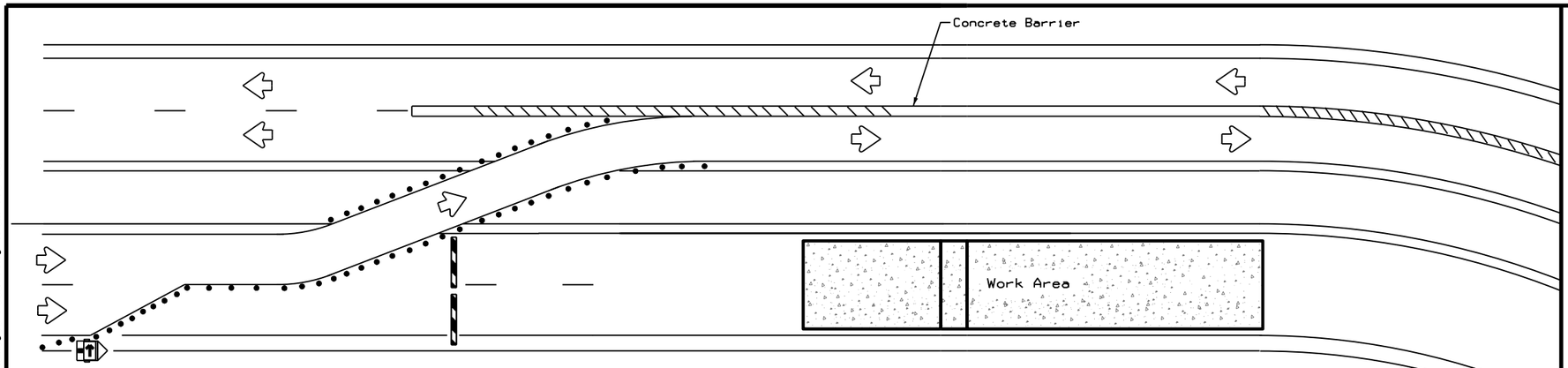
Texas Department of Transportation — Traffic Operations Division Standard

WORK ZONE SHORT TERM PAVEMENT MARKINGS

WZ(STPM)-13

FILE: wzstpm-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-97 3-03 7-13	0275	01	229, ETC	IH-40, ETC
	DIST		COUNTY	SHEET NO.
	AMA		POTTER	38

DATE: 11/28/2022 3:34:37 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Detail Sheets\WZTD17.dgn



NOTES:

1. Length of Safety Glare screen will be specified elsewhere in the plans.
2. The cumulative nominal length of the modular safety glare screen units shall equal the length of the individual sections of temporary concrete traffic barrier on which they are installed so the joint between barrier sections will not be spanned by any one safety glare screen unit.
3. Screen Panel/blades will be designed such that reflective sheeting conforming with Departmental Material Specification DMS-8300, Sign Face Materials, Type B or C Yellow, minimum size of 2 inches by 12 inches can be attached to the edge of the panel/blade. The sheeting shall be attached to one glare screen panel/blade per section of concrete barrier not to exceed a spacing of 30 feet. Barrier reflectors are not necessary when panel/blades are installed with reflective sheeting as described.
4. Payment for these devices will be under statewide Special Specification "Modular Glare Screens for Headlight Barrier."
5. This detail is only intended to show types of locations where Glare Screens would be appropriate. Required signing and other devices shall be as shown elsewhere in the plans.

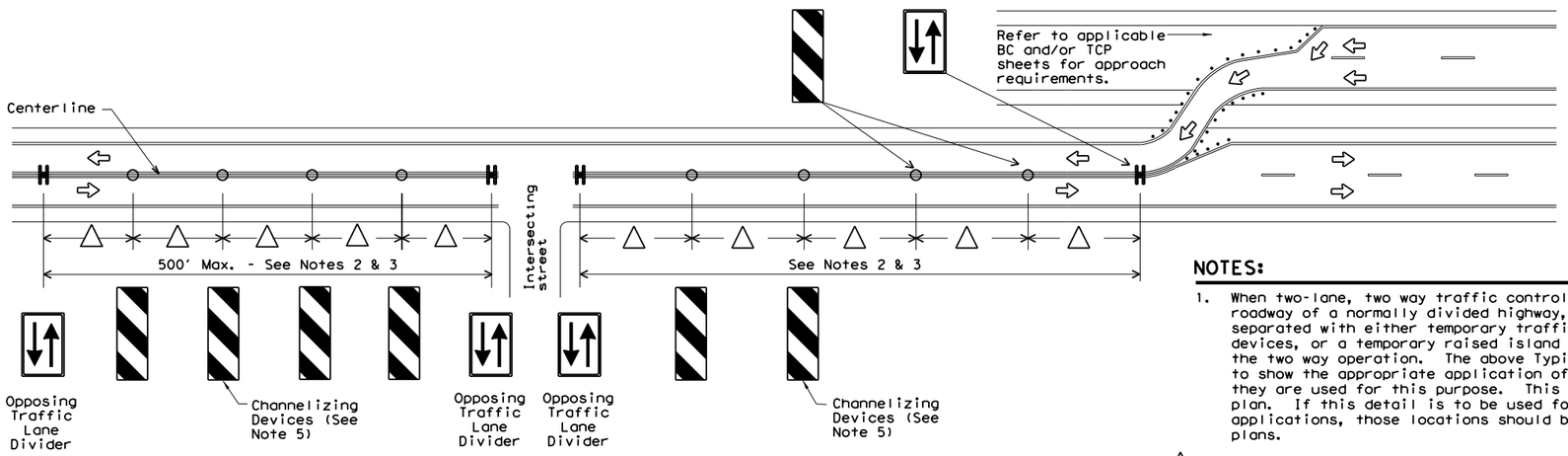
BARRIER DELINEATION WITH MODULAR GLARE SCREENS

LEGEND	
	Type 3 Barricade
• • •	Channelizing Devices
	Trailer Mounted Flashing Arrow Board
	Sign
\\\\	Safety glare screen

DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
DELINEATORS AND OBJECT MARKERS	DMS-8600
MODULAR GLARE SCREENS FOR HEADLIGHT BARRIER	DMS-8610

Only pre-qualified products shall be used. A copy of the Compliant Work Zone Traffic Control Devices List" CWZTCD)describes pre-qualified products and their sources and may be found at the following web address:

http://www.txdot.gov/business/resources/producer-list.html



VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS (OTLD) SEPARATING TWO-WAY TRAFFIC ON NORMALLY DIVIDED HIGHWAYS

NOTES:

1. When two-lane, two way traffic control must be maintained on one roadway of a normally divided highway, opposing traffic shall be separated with either temporary traffic barriers, channelizing devices, or a temporary raised island throughout the length of the two way operation. The above Typical Application is intended to show the appropriate application of channelizing devices when they are used for this purpose. This is not a traffic control plan. If this detail is to be used for other types of roads or applications, those locations should be stated elsewhere in the plans.

△2. Space devices according to the Tangent Spacing shown on the Device Spacing table on BC(9) but not exceeding 100'.

3. Every fifth device should be an OTLD except when spaced closer to accommodate an intersection. An OTLD should be the first device on each side of intersecting streets or roads.
4. Locations where surface mount bases with adhesives or self-righting devices will be required in order to maintain them in their proper position should be noted elsewhere in the plans.
5. Channelizing devices are to be vertical panels, 42" cones or tubular markers that are at least 36" tall. Tubular markers used to separate traffic should have a rubber base weighing at least 30 pounds. Tubular markers that are 42" tall or more shall have four bands of reflective material as detailed for 42" cones on BC(10). Tubular markers less than 42" but at least 36" tall shall have three bands of 3" wide white reflective material spaced 2" apart. Reflective material shall meet DMS-8300, Type A.

Texas Department of Transportation

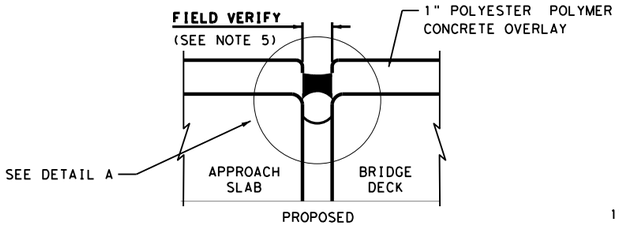
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN TYPICAL DETAILS

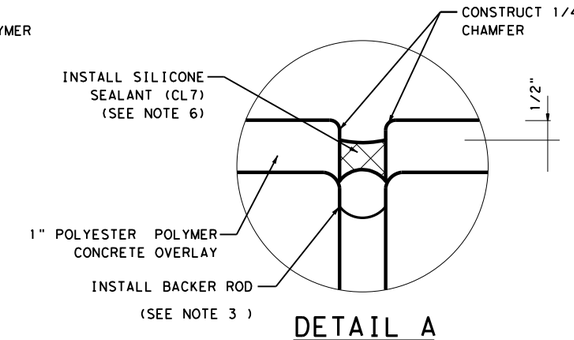
WZ(TD)-17

FILE:	wztd-17.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	February 1998	CONT	SECT	JOB	HIGHWAY
REVISIONS		0275	01	229, ETC	IH-40, ETC
4-98 2-17		DIST	COUNTY		SHEET NO.
3-03		AMA	POTTER		39
7-13					

110



TYPE A
JOINT WITH SILICONE SEAL



DETAIL A

PROCEDURE FOR CLEANING AND SEALING EXISTING JOINT WITH SILICONE SEAL

1 CLEAN JOINT OPENING OF ALL OLD EXPANSION MATERIALS/DEVICES, DIRT, AND ALL OTHER DELETERIOUS MATERIALS IN ACCORDANCE WITH ITEM 438. "CLEANING AND SEALING JOINTS." CLEAN JOINT OUT FULL DEPTH OF THE JOINT.

2 OBTAIN APPROVAL OF CLEANED JOINT PRIOR TO PROCEEDING WITH JOINT SEALING OPERATION.

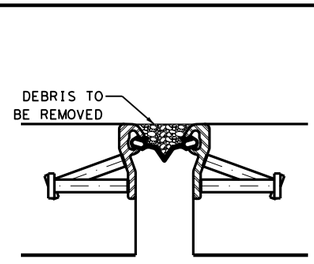
3 PLACE BACKER ROD INTO JOINT OPENING 1" BELOW THE TOP OF CONCRETE. THE BACKER ROD MUST BE 25% LARGER THAN JOINT OPENING AND MUST BE COMPATIBLE WITH THE SEALANT. WHEN SEALING JOINTS FOR SLAB SPANS, PAN GIRDER SPANS, OR BOX BEAM SPANS, FILL VOID BELOW BACKER ROD WITH EXTRUDED POLYSTYRENE FOAM. USE OF MULTIPLE PIECES TO CREATE A BACKER ROD CROSS SECTION IS NOT PERMITTED. TOP OF BACKER ROD MUST BE CONVEX AS SHOWN.

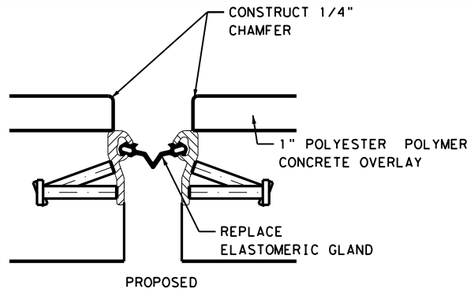
4 SEAL THE JOINT OPENING WITH A CLASS 7 SILICONE. RECESS SEAL 1/2" BELOW TOP OF CONCRETE IN TRAVEL LANES AND 1/8" BELOW TOP OF CONCRETE IN SHOULDERS.

5 CONTRACTOR IS REQUIRED TO VERIFY THE BRIDGE JOINT OPENING WIDTHS PRIOR TO ORDERING MATERIALS.

6 APPROVED MATERIALS LISTED IN THE MATERIALS PRODUCER LIST FOR DMS-6310 "JOINT SEALANT AND FILLERS". INSTALL PER MANUFACTURER'S RECOMMENDATION.

7 REFER TO CLEAN AND SEAL JOINTS DETAIL SHEET 1 OF 2 FOR JOINT SEALANT TERMINATION DETAILS.





TYPE B CLEAN AND SEAL SEJ JOINT DETAIL

PROCEDURE FOR CLEANING AND SEALING EXISTING ARMOR JOINTS

8 CLEAN JOINT OPENING OF ALL OLD ELASTOMERIC GLAND MATERIAL/ DEVICES, DIRT, AND ALL OTHER DELETRIOUS MATERIALS IN ACCORDANCE WITH ITEM 438. "CLEANING AND SEALING JOINTS." CLEAN JOINT OUT FULL DEPTH OF THE JOINT.

9 CORRECTLY SIZE ELASTOMERIC GLAND BASED ON FIELD MEASURMENT AND IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. MULTIPLE SEAL WIDTHS MAY BE REQUIRED. ENSURE PROPER SEAL IS SELECTED FOR EACH JOINT.

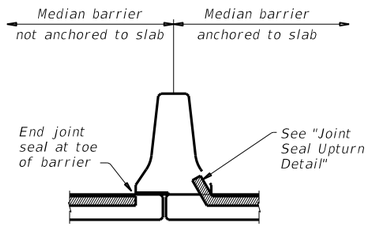
10 ABRASIVE BLAST CLEAN TO EXISTING STEEL SURFACE WHERE ELASTOMERIC GLAND IS TO BE PLACED.

11 WIPE DOWN JOINT SURFACES TO REMOVE CONTAMINATES.

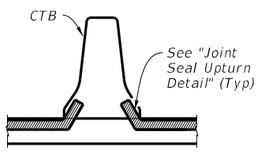
12 OBTAIN APPROVAL OF CLEANED JOINT PRIOR TO PROCEEDING WITH JOINT SEALING OPERATION.

13 CONTRACTOR IS REQUIRED TO VERIFY THE BRIDGE JOINT OPENING WIDTHS PRIOR TO ORDERING MATERIALS.

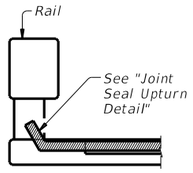
14 REFER TO CLEAN AND SEAL JOINTS DETAIL SHEET 1 OF 2 FOR JOINT SEALANT TERMINATION DETAILS.



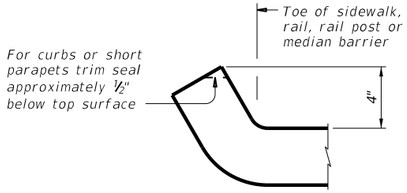
WITH OPEN DECK JOINT BELOW MEDIAN BARRIER



AT CONCRETE TRAFFIC BARRIER



AT CONCRETE BRIDGE RAIL



JOINT SEAL UPTURN DETAIL

(See Note D)

JOINT SEALANT TERMINATION DETAILS

L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

02/02/2023

AMA FY 23 BMIP

CLEAN AND SEAL JOINTS DETAIL

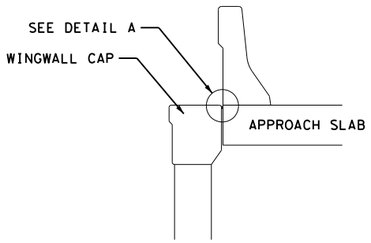
SCALE: NTS

2022 Texas Department of Transportation

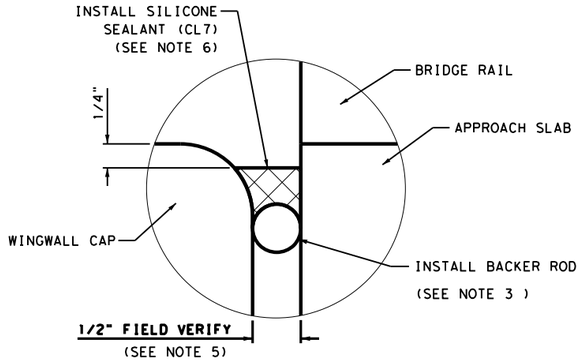
SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		40

DATE: 11/28/2022 3:34:41 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\229_CLEAN_AND_SEAL_JOINTS_DETAIL.dgn



TYPE C
WINGWALL CAP EDGE JOINT
N. T. S.



DETAIL A
N. T. S.

PROCEDURE FOR CLEANING
AND SEALING EXISTING EDGE JOINT
WITH SILICONE SEAL

1 CLEAN JOINT OPENING OF ALL OLD EXPANSION MATERIALS/DEVICES, DIRT, AND ALL OTHER DELETERIOUS MATERIALS IN ACCORDANCE WITH ITEM 438. "CLEANING AND SEALING JOINTS." CLEAN JOINT OUT FULL DEPTH OF THE JOINT.

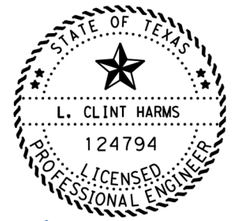
2 OBTAIN APPROVAL OF CLEANED JOINT PRIOR TO PROCEEDING WITH JOINT SEALING OPERATION.

3 PLACE BACKER ROD INTO JOINT OPENING 1" BELOW THE TOP OF CONCRETE. THE BACKER ROD MUST BE 25% LARGER THAN JOINT OPENING AND MUST BE COMPATIBLE WITH THE SEALANT. WHEN SEALING JOINTS FOR SLAB SPANS, PAN GIRDER SPANS, OR BOX BEAM SPANS, FILL VOID BELOW BACKER ROD WITH EXTRUDED POLYSTYRENE FOAM. USE OF MULTIPLE PIECES TO CREATE A BACKER ROD CROSS SECTION IS NOT PERMITTED. TOP OF BACKER ROD MUST BE CONVEX AS SHOWN.

4 SEAL THE JOINT OPENING WITH A CLASS 7 SILICONE. RECESS SEAL 1/4" BELOW TOP OF CONCRETE IN TRAVEL LANES.

5 CONTRACTOR IS REQUIRED TO VERIFY THE BRIDGE JOINT OPENING WIDTHS PRIOR TO ORDERING MATERIALS.

6 APPROVED MATERIALS LISTED IN THE MATERIALS PRODUCER LIST FOR DMS-6310 "JOINT SEALANT AND FILLERS". INSTALL PER MANUFACTURER'S RECOMMENDATION.



02/02/2023

AMA FY 23 BMIP

CLEAN AND SEAL JOINTS DETAIL

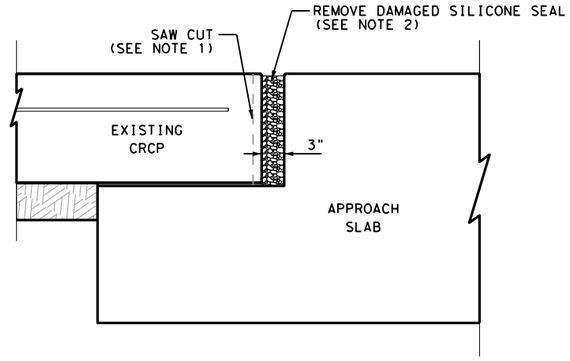
SCALE: NTS

2022 Texas Department of Transportation

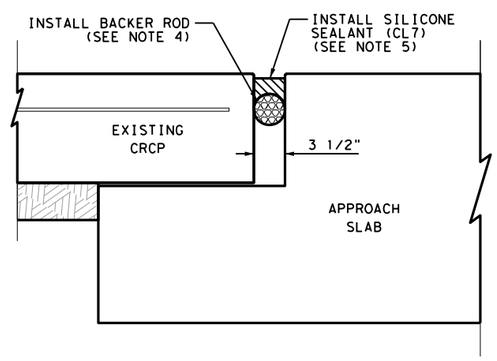
SHEET 2 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		41

DATE: 11/28/2022 3:34:40 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\229_CLEAN_AND_SEAL_JOINTS_DETAIL.dgn



EXISTING



PROPOSED

TYPE A
EXPANSION JOINT RESIZING DETAIL

PROCEDURE FOR RESIZING EXISTING EXPANSION JOINTS

1. SAW CUT ONLY AT AREAS NEEDED TO ACHIEVE 3.5" WIDTH. THIS WORK WILL BE SUBSIDIARY TO ITEM 438.

2. CLEAN JOINT OPENING OF ALL OLD EXPANSION MATERIALS, DEVICES, DIRT, AND ALL OTHER DELETERIOUS MATERIALS IN ACCORDANCE WITH ITEM 438 "CLEANING AND SEALING JOINTS." CLEAN JOINT OUT FULL DEPTH OF THE JOINT DOWN TO THE APPROACH SLAB. REMOVE ALL DEBRIS FROM THE APPROACH SLAB.

3. CONTRACTOR IS REQUIRED TO VERIFY THE BRIDGE JOINT OPENING WIDTHS PRIOR TO ORDERING MATERIALS.

4. PLACE BACKER ROD INTO JOINT OPENING 1" BELOW THE TOP OF CONCRETE. THE BACKER ROD MUST BE 25% LARGER THAN JOINT OPENING AND MUST BE COMPATIBLE WITH THE SEALANT. WHEN SEALING JOINTS FOR SLAB SPANS, PAN GIRDER SPANS, OR BOX BEAM SPANS FILL VOID BELOW BACKER ROD WITH EXTRUDED POLYSTRENE FOAM. USE OF MULTIPLE PIECES TO CREATE A BACKER ROD CROSS SECTION IS NOT PERMITTED. TOP OF BACKER ROD MUST BE CONVEX AS SHOWN.

5. SEAL THE JOINT OPENING WITH CLASS 7 SILICONE. RECESS SEAL 1/2" BELOW TOP OF CONCRETE IN TRAVEL LANES AND 1/8" BELOW TOP OF CONCRETE IN SHOULDERS.

6. REFER TO CLEAN AND SEAL JOINTS DETAIL PAGE 1 OF 1 FOR JOINT SEALANT TERMINATION DETAIL.

7. APPROVED MATERIALS LISTED IN THE MATERIALS PRODUCER LIST FOR DMS-6310 "JOINT SEALANT AND FILLERS". INSTALL PER MANUFACTURER'S RECOMMENDATION.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

AMA FY 23 BMIP

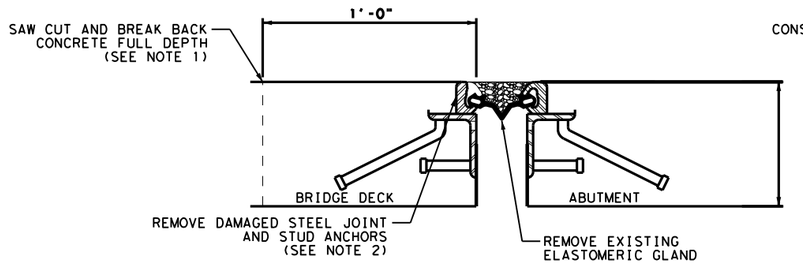
BRIDGE JOINT REPAIR DETAIL

SCALE: NTS

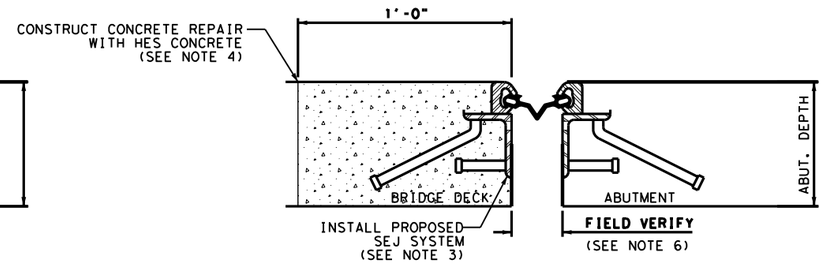
2022 Texas Department of Transportation

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		42

DATE: 11/28/2022 3:34:44 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\229 BRIDGE JOINT REPAIR DETAIL.dgn



EXISTING



PROPOSED

TYPE B
REPAIRING EXISTING SEJ SYSTEM

PROCEDURES FOR REPAIRING ARMOR JOINT

1. SAW CUT EDGES OF REPAIR AREA TO A DEPTH OF 1", AND BREAK BACK CONCRETE TO FULL DEPTH OF BRIDGE DECK OR APPROACH SLAB. CARE MUST BE TAKE AS NOT TO DAMAGE EXISTING REINFORCING STEEL. REPAIR CONCRETE AND STEEL MEMBERS DAMAGED BY THE CONTRACTOR AT NO ADDITIONAL COST.
2. REMOVE DAMAGED SEJ STEEL AND STUD ANCHORS.
3. INSTALL NEW SEJ SYSTEM SUCH THAT THE TOP OF JOINT STEEL, IS FLUSH WITH THE EXISTING SEJ STEEL. INSTALLATION AND ANY NECESSARY SPLICING WILL BE PERFOMED AS PER MANUFACTURER'S RECOMMENDATIONS. THIS WORK WILL BE SUBSIDIARY TO ITEM 785.
4. REPLACE BROKEN OUT CONCRETE WITH HES CONCRETE TO WIDTH SHOWN IN PROPOSED CROSS SECTION FOUND ABOVE. CONCRETE WILL BE PLACED FLUSH WITH THE EXISTING RIDING SURFACE, AND AT DEPTH OF APPROACH SLAB, OR BRIDGE DECK. PERFORM ALL CONCRETE REPAIRS IN ACCORDANCE WITH THE TXDOT CONCRETE REPAIR MANUAL. CONCRETE WILL BE ALLOWED TO CURE FOR A MINIMUM OF 4 DAYS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. THIS WORK WILL BE SUBSIDIARY TO ITEM 785.
5. CLEAN JOINT OPENING OF ALL OLD EXPANSION MATERIALS, DEVICES, DIRT, AND ALL OTHER DELETERIOUS MATERIALS IN ACCORDANCE WITH ITEM 438, "CLEANING AND SEALING JOINTS." CLEAN JOINT OUT FULL DEPTH OF THE JOINT DOWN TO THE CAPS AND REMOVE ALL DEBRIS FROM CAPS. THIS WORK WILL BE SUBSIDIARY TO ITEM 454.
6. CONTRACTOR IS REQUIRED TO VERIFY THE BRIDGE JOINT OPENING WIDTHS PRIOR TO ORDERING MATERIALS.
7. ABRASIVE BLAST CLEAN EXISTING STEEL SURFACE WHERE THE ELASTOMERIC JOINT MATERIAL IS TO BE PLACED.
8. OBTAIN APPROVAL OF CLEANED JOINT PRIOR TO PROCEEDING WITH JOINT SEALING OPERATIONS.
9. CORRECTLY SIZE JOINT SEAL BASED ON FIELD MEASUREMENT AND IN ACCORDANCE WITH THE MANUFACTERER'S SPECIFICATIONS. MULTIPLE SEAL WIDTHS MAY BE REQUIRED. ENSURE PROPER SEAL IS SELECTED FOR EACH JOINT.
10. REFER TO CLEAN AND SEAL JOINTS DETAIL PAGE 1 OF 1 FOR JOINT SEALANT TERMINATION DETAIL.
11. INSTALL SEJ SYSTEM AS PER MANUFACTURER RECCOMENDATION.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

AMA FY 23 BMIP

BRIDGE JOINT REPAIR DETAIL

SCALE: NTS

2022 Texas Department of Transportation

SHEET 2 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		43

DATE: 11/28/2022 3:34:45 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\229_BRIDGE JOINT REPAIR DETAIL.dgn

SUBSTRUCTURE WATERPROOFING PROCEDURE - COATED STRUCTURES

1. Use "Substructure Waterproofing – Coated Structures" for structures that have a surface finish. If structures do not have a surface finish, proceed with "Substructure Waterproofing – Uncoated Structures".

2. Perform all concrete repairs on substructures prior to waterproofing. Engineer shall approve all repairs.

3. Clean exposed surfaces of existing substructures using water blasting in accordance with Item 427, "Surface Finishes for Concrete".

4. Seal exposed surfaces with a waterproof finish as indicated on the plans and in accordance with Item 427, "Surface Finishes for Concrete". See detail for limits. Submit color to Engineer for approval.

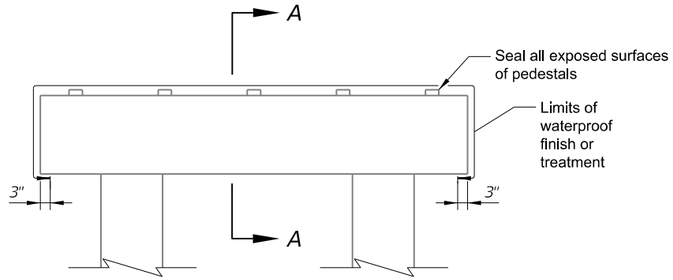
SUBSTRUCTURE WATERPROOFING PROCEDURE - UNCOATED STRUCTURES

5. Use "Substructure Waterproofing – Uncoated Structures" for structures that do not have a surface finish. If structures have a surface finish, proceed with "Substructure Waterproofing – Coated Structures".

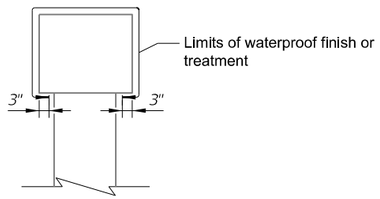
6. Perform all concrete repairs on substructures prior to waterproofing. Engineer shall approve all repairs.

7. Clean exposed surfaces of existing substructures using abrasive blasting in accordance with Item 428, "Penetrating Concrete Surface Treatment".

8. Seal exposed surfaces with a waterproof treatment as indicated on the plans and in accordance with Item 428, "Penetrating Concrete Surface Treatment". See detail for limits.



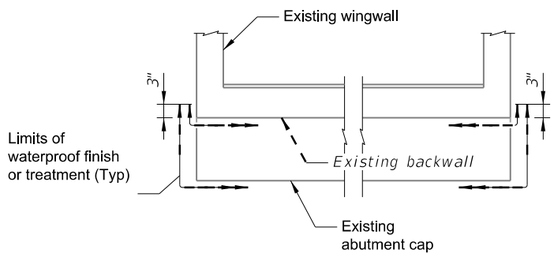
BENT ELEVATION



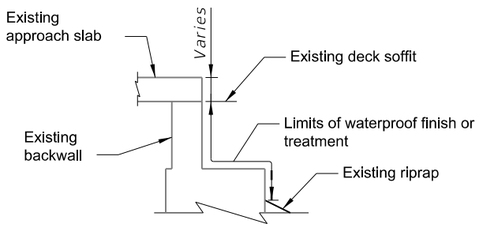
SECTION A-A

TYPICAL BENT WATERPROOFING LIMITS

Scale: N.T.S.



PLAN



SECTION

TYPICAL ABUTMENT WATERPROOFING LIMITS

Scale: N.T.S.

02/02/2023

AMA FY 22 BMIP

WATERPROOFING DETAILS

SCALE: NTS

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		44

DATE: 11/28/2022 3:34:47 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\229_Waterproofing_Details.dgn

SUMMARY OF ESTIMATED QUANTITIES - WASHINGTON ST. AT IH-40

LOCATION	361 6051 FULL-DPTH REP (BR APPROACH SLAB) (9"-13") SY	427 6007 EPOXY WATERPROOF FINISH (TY X) SF	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7) LF	668 6014 PREFAB PAV MARK TY B (W) (8") (SLD) LF	668 6018 PREFAB PAV MARK TY B (W) (24") (SLD) LF	668 6019 PREFAB PAV MRK TY B (W) (ARROW) EA	668 6027 PREFAB PAV MRK TY B (W) (WORD) EA	6019 6005 PREFB PV MK W/WNTY TY B (W) (6") (BRK) LF	6019 6006 PREFB PV MK W/WNTY TY B (W) (6") (SLD) LF	6019 6014 PREFB PV MK W/WNTY TY B (Y) (6") (SLD) LF	4106 6007 POLYESTER POLYMER CONC OVERLAY (1") SY
TYPICAL SECTIONS SHEET 1 OF 1											1,833
BRIDGE REPAIR DETAIL SHEET 1 OF 1	19	2,066	300								1,436
STRIPING PLAN SHEET 1 OF 1				360	48	2	2	100	130	1,250	
CSJ: 0275-01-236 TOTALS:	**19**	**2,066**	**300**	**360**	**48**	**2**	**2**	**100**	**130**	**1,250**	**3,269**

L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

02/02/2023

WASHINGTON ST AT IH-40

QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		45

DATE: 1/18/2023 5:13:46 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\1. General\IH-40 AT WASHINGTON\229_WASHINGTON_ST_AT_IH40_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).
2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.
3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.
4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.
5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.
6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.
7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.
8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.
9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.

TRAFFIC CONTROL PLAN:

WASHINGTON ST AT IH-40 PHASE 1:

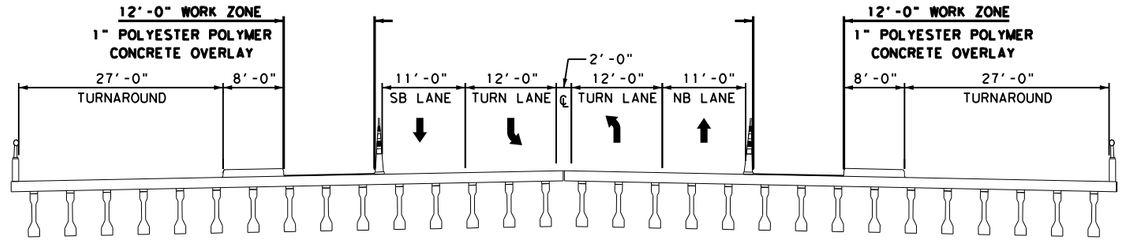
11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.
12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON WASHINGTON ST FAR OUTSIDE NB LANE, AND FAR OUTSIDE SB LANE.

WASHINGTON ST AT IH-40 PHASE 2:

13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.
14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON WASHINGTON ST INSIDE NB LANE, INSIDE SB LANE, AND BOTH TURNING LANES.

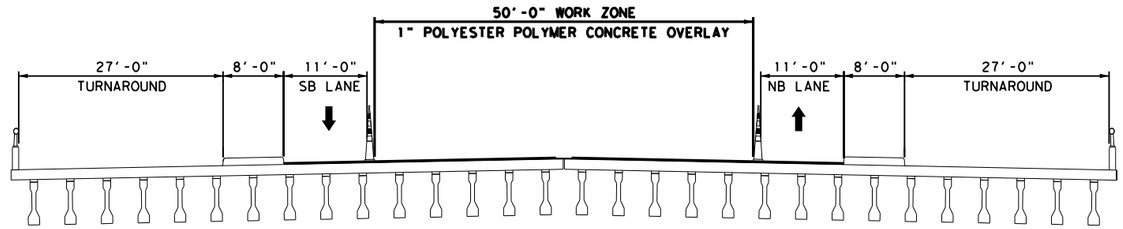
WASHINGTON ST AT IH-40 PHASE 3:

15. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.
16. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON WASHINGTON ST TURN AROUND LANES.



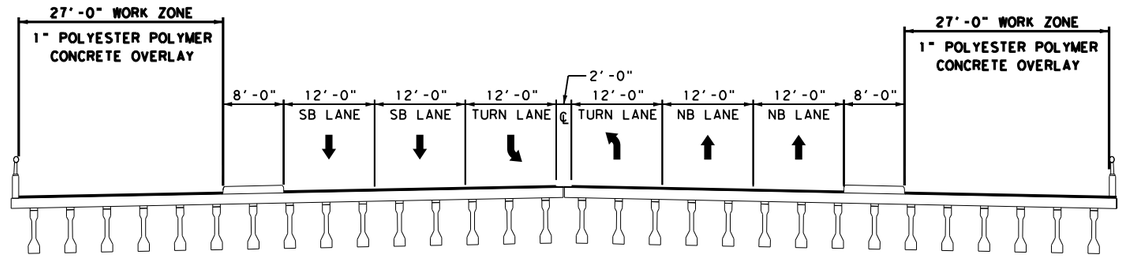
WASHINGTON ST AT IH-40 PHASE 1

STA. 3+88 TO STA. 6+11



WASHINGTON ST AT IH-40 PHASE 2

STA. 3+88 TO STA. 6+11



WASHINGTON ST AT IH-40 PHASE 3

STA. 3+88 TO STA. 6+11

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

WASHINGTON ST AT IH-40

TCP NARRATIVE

SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

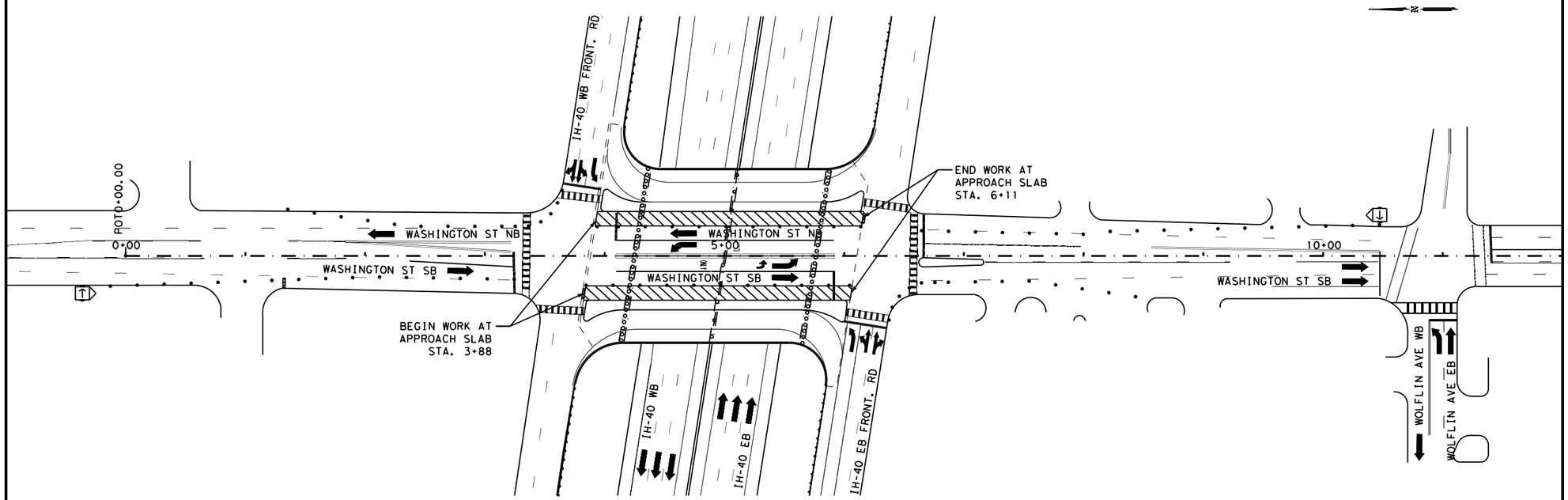
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		46

DATE: 11/28/2022 3:34:54 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\WASHINGTON ST AT IH40\229_WASHINGTON_ST_AT_IH40_TCP_NARRATIVE.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

MATCH LINE STA. 0.00 Ext. -100.00



MATCH LINE STA. 12+00.00

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

WASHINGTON ST AT IH-40

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

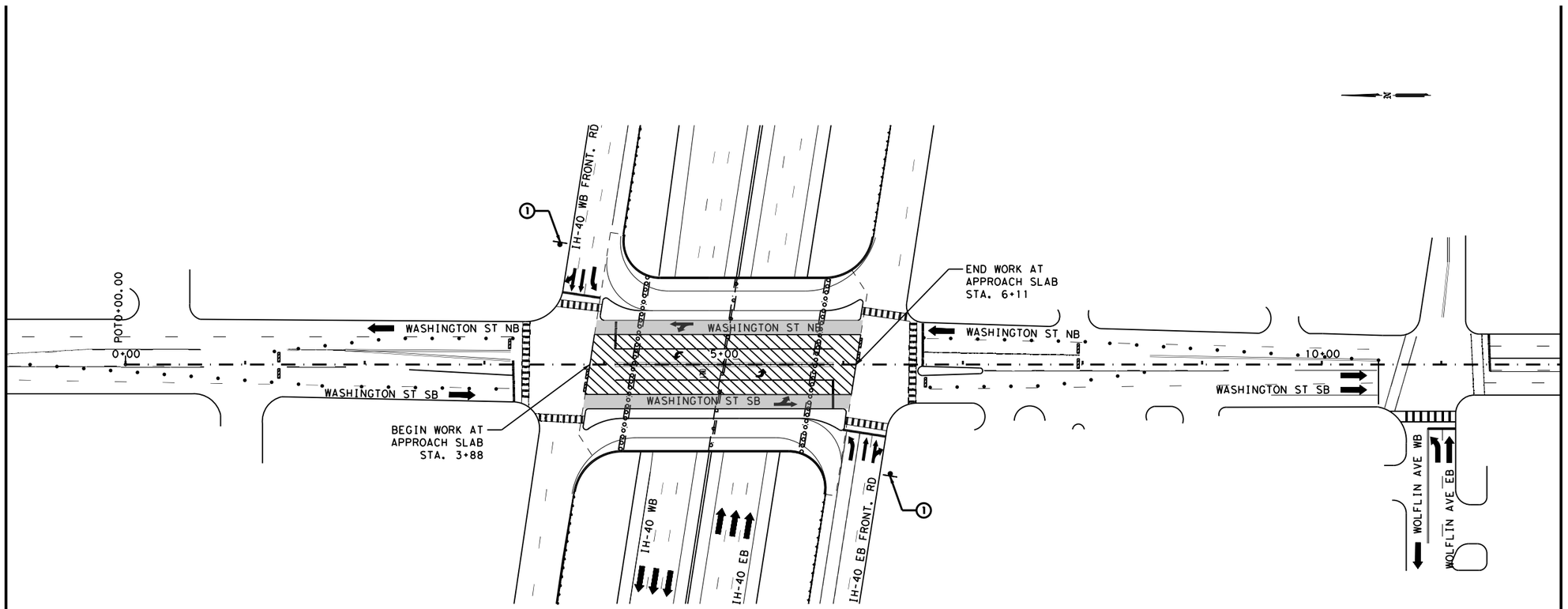
SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		47

DATE: 11/28/2022 3:34:57 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\WASHINGTON ST AT IH40\229_WASHINGTON_ST_AT_IH-40_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



R3-8 ULSK
48"X30"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

WASHINGTON ST AT IH-40

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

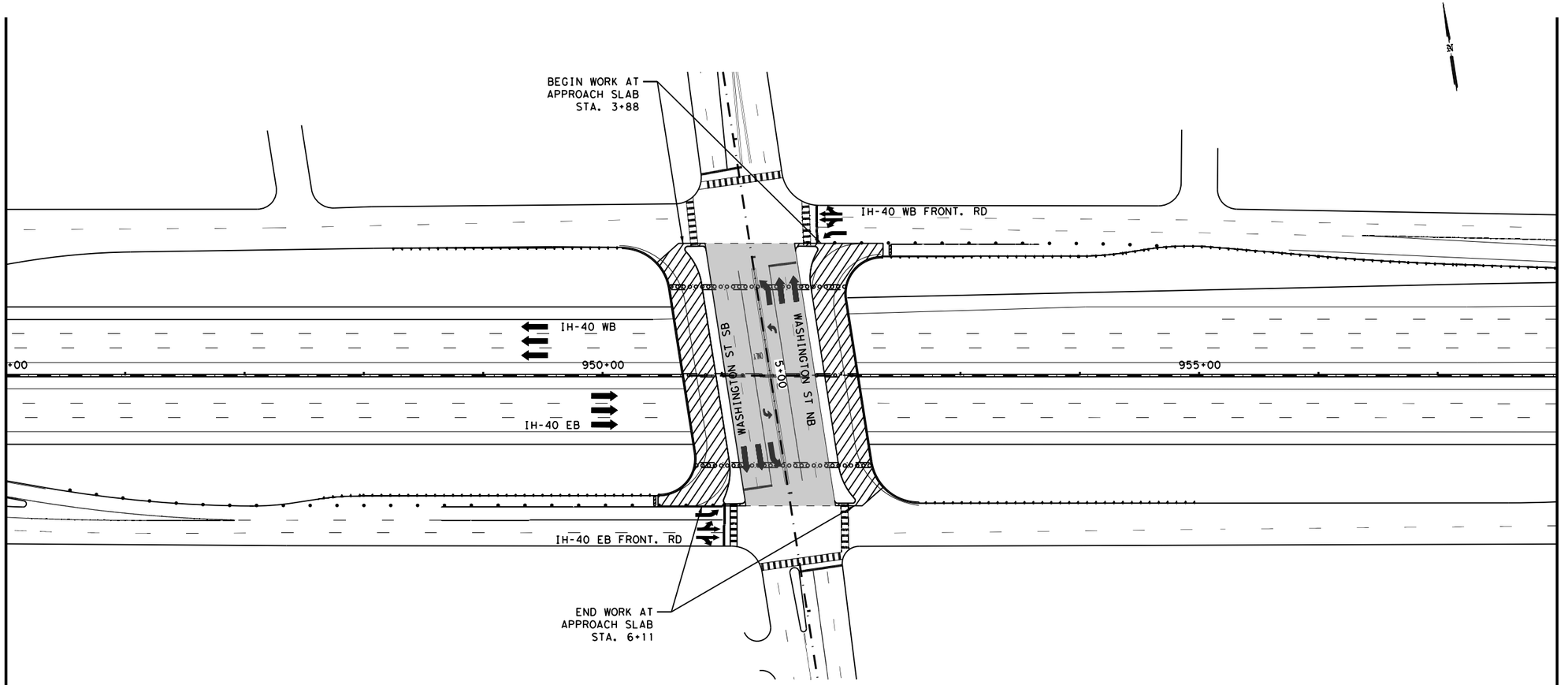
SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		48

DATE: 11/28/2022 3:35:02 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - DesignPlan Set\2. TCP\WASHINGTON ST AT IH40\229_WASHINGTON_ST_AT_IH-40_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

WASHINGTON ST AT IH-40

PHASE 3 TCP

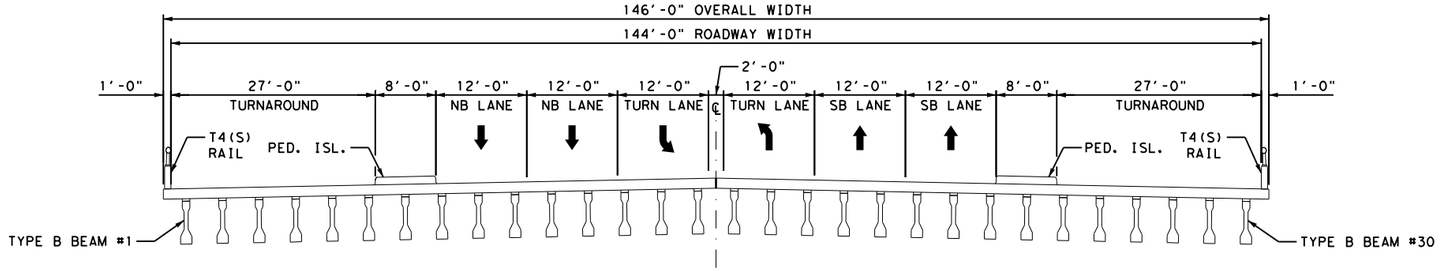
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 1 OF 1

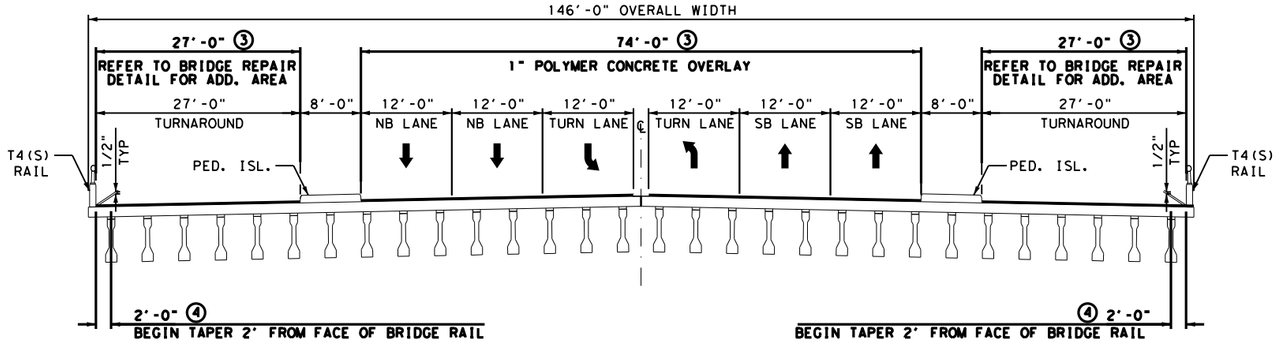
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		49

DATE: 11/28/2022 3:35:05 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\WASHINGTON ST AT IH40\229_WASHINGTON_ST_AT_IH-40_PHASE_3_TCP.dgn



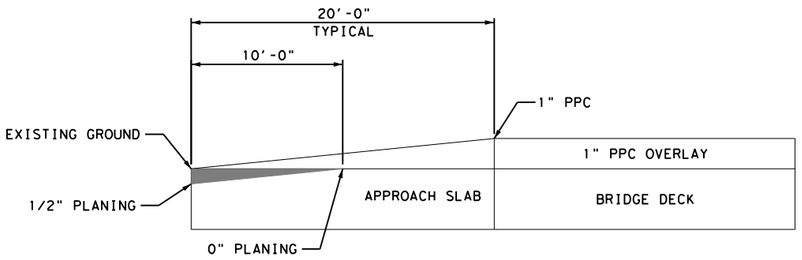
EXISTING TYPICAL SECTION

STA. 4+05 TO STA. 5+95



PROPOSED TYPICAL SECTION

STA. 4+05 TO STA. 5+95



APPROACH SLAB TIE-IN

NTS

NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. MATCH EXISTING PROFILE EXCEPT ON APPROACH SLABS AS SHOWN AND CROSS SLOPE EXCEPT ON SHOLDERS AS SHOWN.
4. TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.

LEGEND

PLANE CONC PAV (0" TO 1/2")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

WASHINGTON ST AT IH-40

TYPICAL SECTIONS

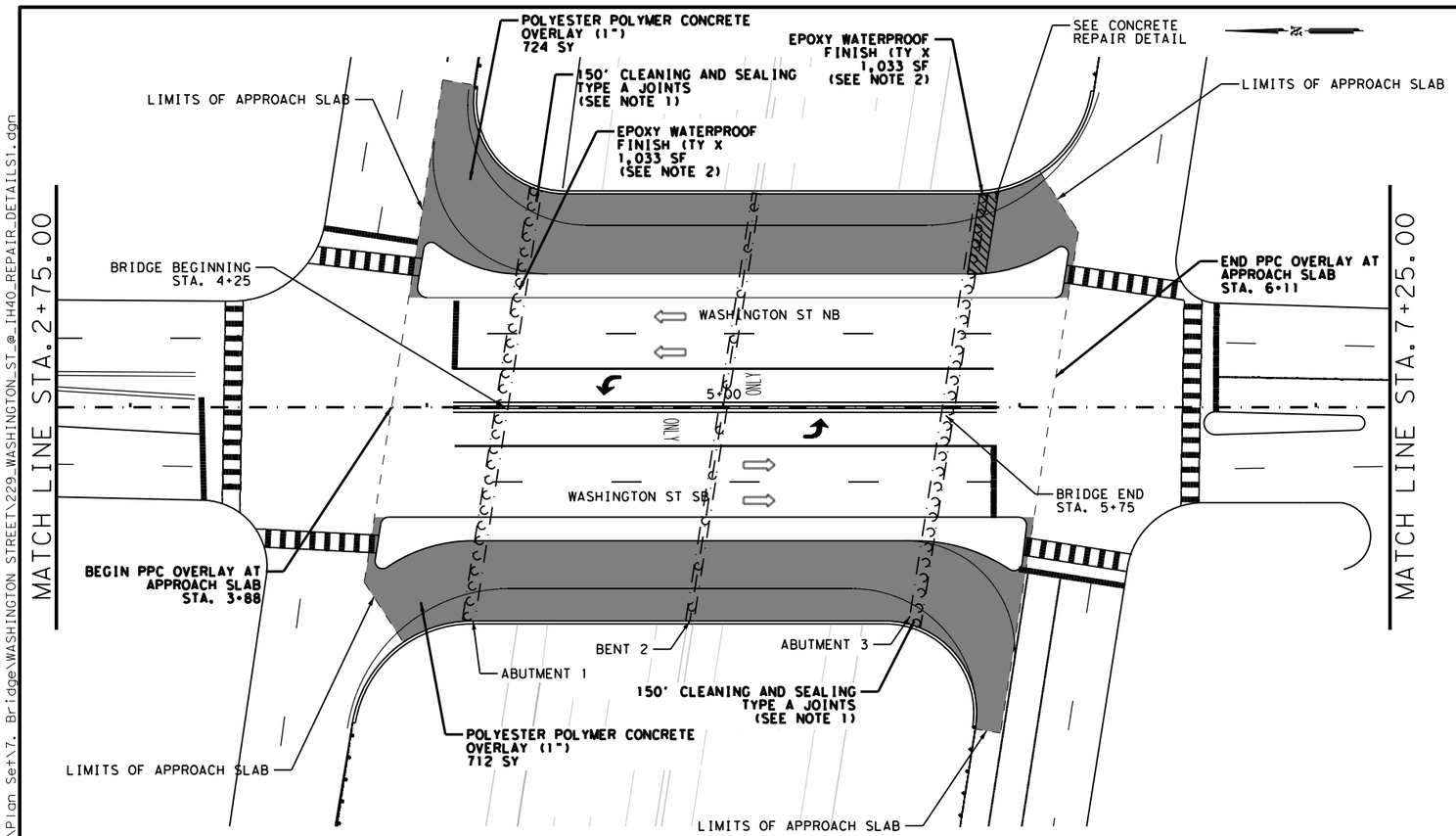
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		50

DATE: 11/28/2022 3:35:07 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\1. General\IH-40 AT WASHINGTON\229_WASHINGTON_ST_AT_IH40_TYPICAL SECTIONS.dgn



NOTES

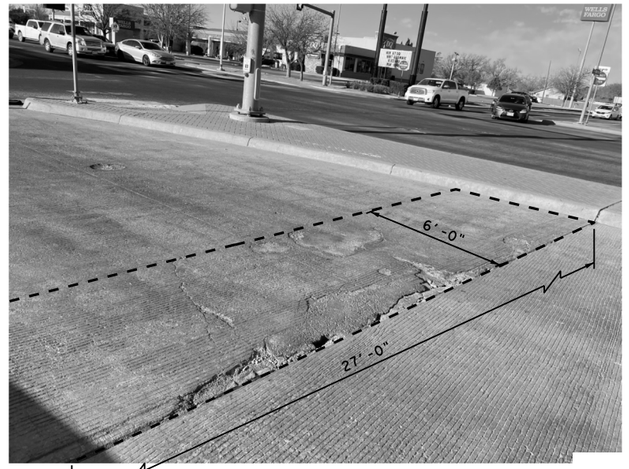
1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

CONCRETE REPAIR NOTES

3. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMMENCING WORK, PERFORM ALL CONCRETE REPAIRS IN ACCORDANCE WITH TXDOT CONCRETE REPAIR MANUAL. REPAIRS TO CONCRETE DECK AND APPROACHES WILL BE COMPLETED PRIOR TO THE APPLICATION OF THE POLYESTER POLYMER OVERLAY.
4. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON 3/14/22 CONDITION ASSESMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.

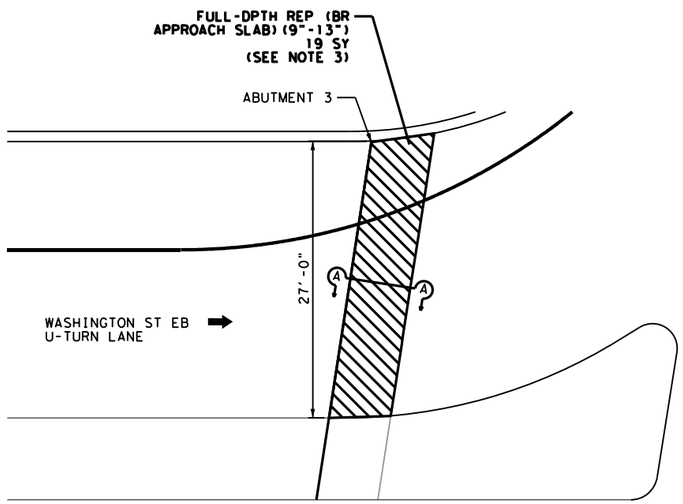
LEGEND

- 361 6051 FULL-DPTH REP (BR APPROACH SLAB) (9"-13")
- 4106 6007 POLYESTER POLYMER CONCRETE OVERLAY (1")



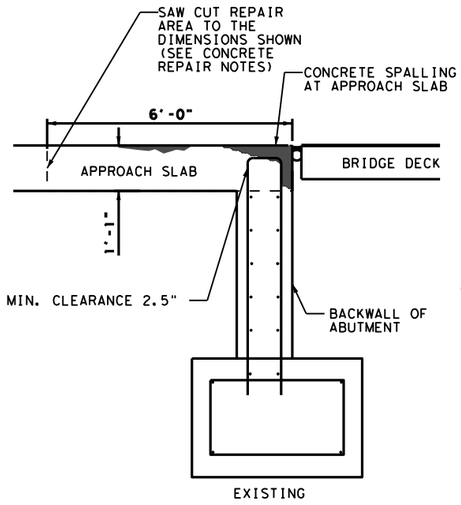
SOUTH APPROACH SLAB 1

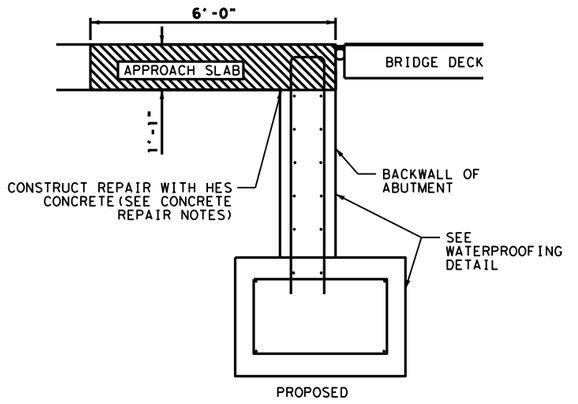
CONCRETE SPALLING AT SOUTHEAST END OF ABUTMENT 3
PHOTO TAKEN MARCH 2022



CONCRETE REPAIR DETAIL

NTS





SECTION A-A

NTS

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER
02/02/2023

WASHINGTON ST. AT IH-40

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

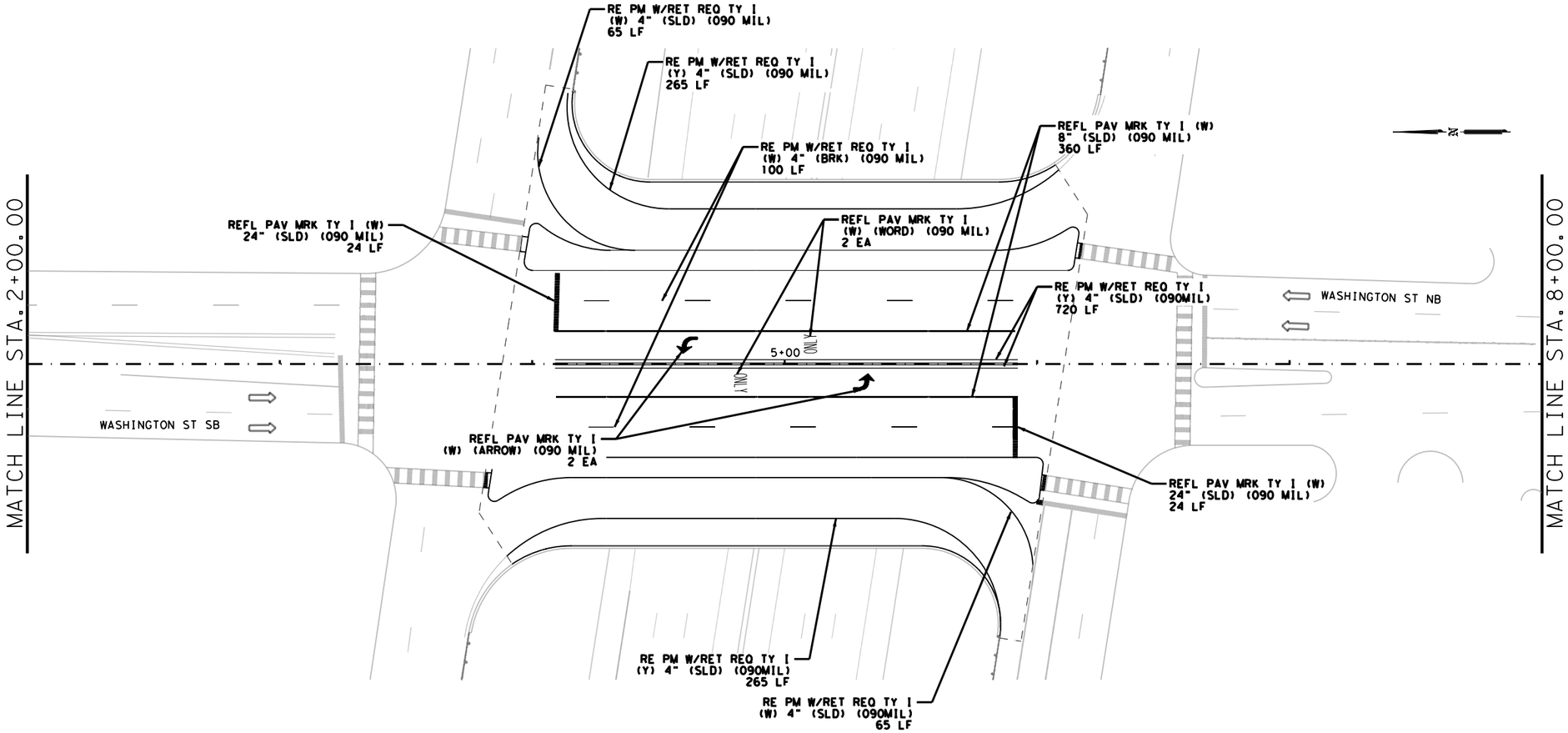
2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		51

WASHINGTON ST. AT IH-40

DATE: 11/28/2022 3:35:12 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\WASHINGTON STREET\229_WASHINGTON_ST_@_IH40_REPAIR_DETAILS1.dgn



WASHINGTON ST AT IH-40 STRIPING SUMMARY						
666	666	666	666	666	666	666
6035	6047	6053	6077	6299	6302	6314
REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	REFL PAV MRK TY I (W) (ARROW) (090MIL)	REFL PAV MRK TY I (W) (WORD) (090MIL)	RE PM W/RET REQ TY I (W) 4" (BRK) (090MIL)	RE PM W/RET REQ TY I (W) 4" (SLD) (090MIL)	RE PM W/RET REQ TY I (Y) 4" (SLD) (090MIL)
LF	LF	EA	EA	LF	LF	LF
360	48	2	2	100	130	1250

WASHINGTON ST. AT IH-40

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

WASHINGTON ST. AT IH-40

STRIPING PLAN

SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		52

DATE: 11/28/2022 3:35:14 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\8. Traffic\WASHINGTON ST AT IH40\229_WASHINGTON_ST_AT_IH40_STRIPING_PLAN.dgn

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT HARRISON ST

LOCATION	104 6037 REMOVE CONC (RAIL) LF	427 6007 EPOXY WATERPROOF FINISH (TY X) SF	429 6016 CNC STR REP(ULTR RPD DCK REP)(TYB)(P D) SF	438 6001 CLEANING AND SEALING EXIST JOINTS LF	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7) LF	450 6023 RAIL (TY SSTR) LF	450 6062 RAIL (TY SSTR) (MOD) LF	668 6015 PREfAB PAV MARK TY B (W) (12")(LNDP) LF	668 6016 PREFAB PAV MARK TY B (W) (12")(SLD) LF	6019 6006 PREFB PV MK W/WNTY TY B (W)(6")(SLD) LF
TYPICAL SECTIONS SHEET 1 OF 1								235	410	1,350
DECK OVERLAY AND DIAMOND GRINDING DETAILS SHEET 1 OF 1										
BRIDGE REPAIR DETAIL SHEET 1 OF 2	13	2877	120	318	159	13				
BRIDGE REPAIR DETAIL SHEET 2 OF 2	10	1316	24	148	160		10			
CSJ: 0275-01-234 TOTALS:	**23**	**4,193**	**144**	**466**	**319**	**13**	**10**	**235**	**410**	**1,350**

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT HARRISON ST (CONT'D)

LOCATION	6019 6014 PREFB PV MK W/WNTY TY B (Y)(6")(SLD) LF	6019 6007 PREFB PV MK W/WNTY TY B(W)6"(BRK)CN TST LF	764 6001 DRAIN INLET CLEANING EA	785 6005 BRIDGE JOINT REPAIR (SEJ) LF	3004 6001 CONTINUOUS DIAMOND GRINDING CONC PVMNT SY	4106 6008 POLYESTER POLYMER CONC OVERLAY CY
TYPICAL SECTIONS SHEET 1 OF 1	1,350	850				
DECK OVERLAY AND DIAMOND GRINDING DETAILS SHEET 1 OF 1					4,345	285
BRIDGE REPAIR DETAIL SHEET 1 OF 2			14			
BRIDGE REPAIR DETAIL SHEET 2 OF 2			5	12		
CSJ: 0275-01-234 TOTALS:	**1,350**	**850**	**19**	**12**	**4,345**	**285**

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST
QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		53

DATE: 1/24/2023 11:02:32 AM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\1. General\IH-40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).
2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.
3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.
4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.
5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.
6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.
7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.
8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.
9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.

TRAFFIC CONTROL PLAN:

IH-40 AT HARRISON ST PHASE 1:

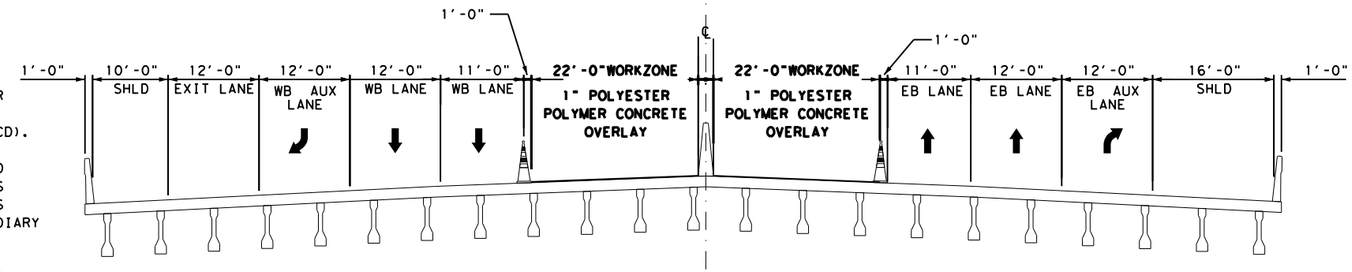
11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.
12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 INSIDE LANES AND INSIDE SHOULDERS.

IH-40 AT HARRISON ST PHASE 2 STEP 1:

13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.
14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 THREE EB OUTSIDE LANES, AND EB OUTSIDE SHOULDER.

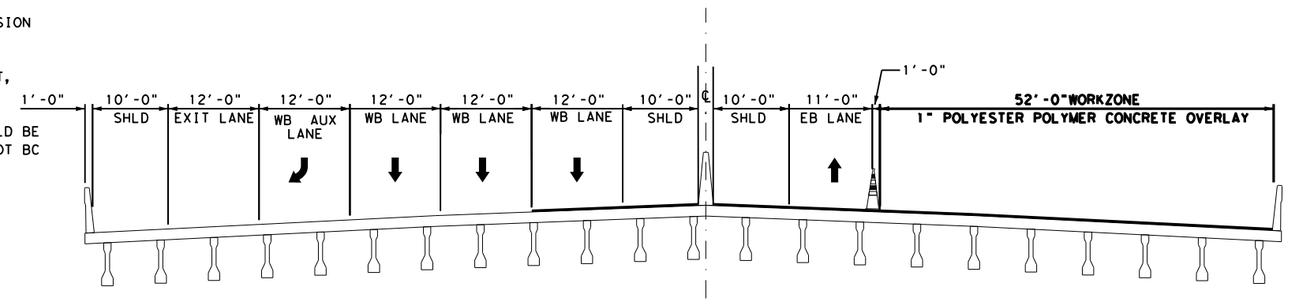
IH-40 AT HARRISON ST PHASE 2 STEP 2:

15. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.
16. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 FOUR WB OUTSIDE LANES, AND WB OUTSIDE SHOULDER.



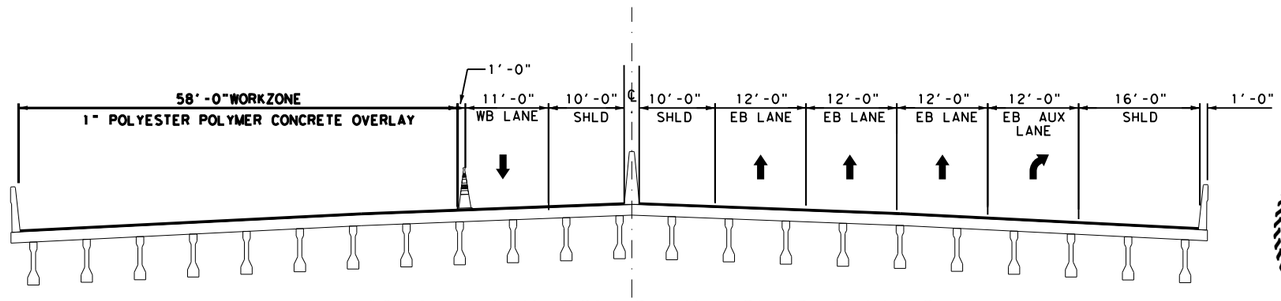
IH-40 AT HARRISON ST PHASE 1

STA. 968+64 TO 975+42



IH-40 AT HARRISON ST PHASE 2 STEP 1:

STA. 968+64 TO 975+42



IH-40 AT HARRISON ST PHASE 2 STEP 2:

STA. 968+64 TO 975+42

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST

TCP NARRATIVE

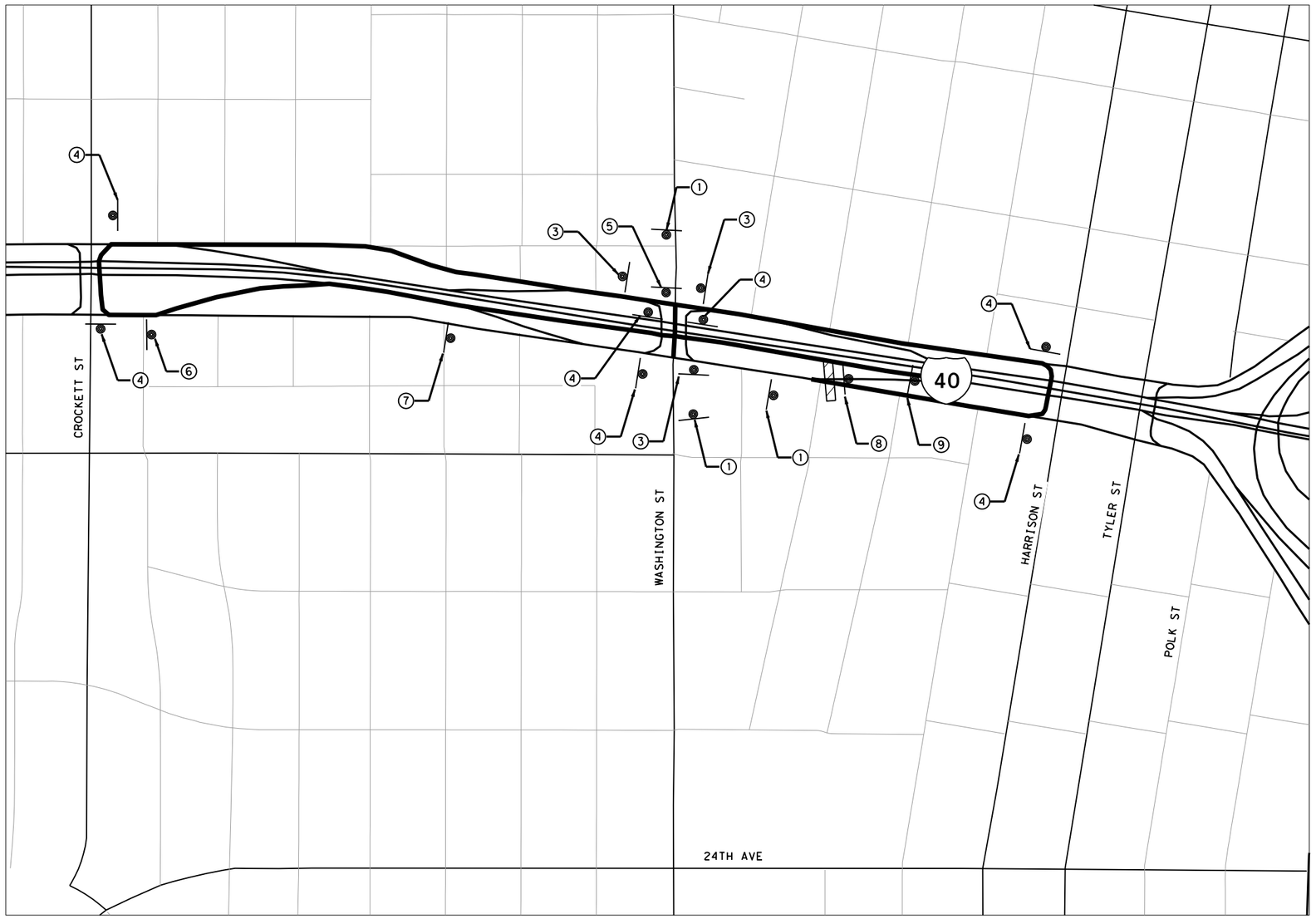
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		54

DATE: 1/18/2023 5:16:58 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_HARRISON_ST_TCP_NARRATIVE.dgn



DETOUR LENGTH:
2.0 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR A: WASHINGTON ST TO IH-40 EB

① DETOUR AHEAD — CW20-2D (48" X 48")

① DETOUR 1500 FT — CW20-2A (48" X 48")

③ DETOUR / EAST / INTERSTATE TEXAS 40 / ⇑
- M4-8 (24" X 12")
- M3-2 (24" X 12")
- M1-1 (24" X 24")
- CW16-5PR (24" X 18")

④ DETOUR / EAST / INTERSTATE TEXAS 40 / ⇐
- M4-8 (24" X 12")
- M3-2 (24" X 12")
- M1-1 (24" X 24")
- CW16-5PL (24" X 18")

⑤ DETOUR / EAST / INTERSTATE TEXAS 40 / ⇒
- M4-8 (24" X 12")
- M3-2 (24" X 12")
- M1-1 (24" X 24")
- CW16-5PL (24" X 18")

⑥ DETOUR / EAST / INTERSTATE TEXAS 40 / ⇖
- M4-8 (24" X 12")
- M3-2 (24" X 12")
- M1-1 (24" X 24")
- CW16-7PR (21" X 15")

⑦ DETOUR / EAST / INTERSTATE TEXAS 40 / ⇦
- M4-8 (24" X 12")
- M3-2 (24" X 12")
- M1-1 (24" X 24")
- M5-1L (21" X 15")

⑧ RAMP CLOSED — R11-2BT (48" X 30")

⑨ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

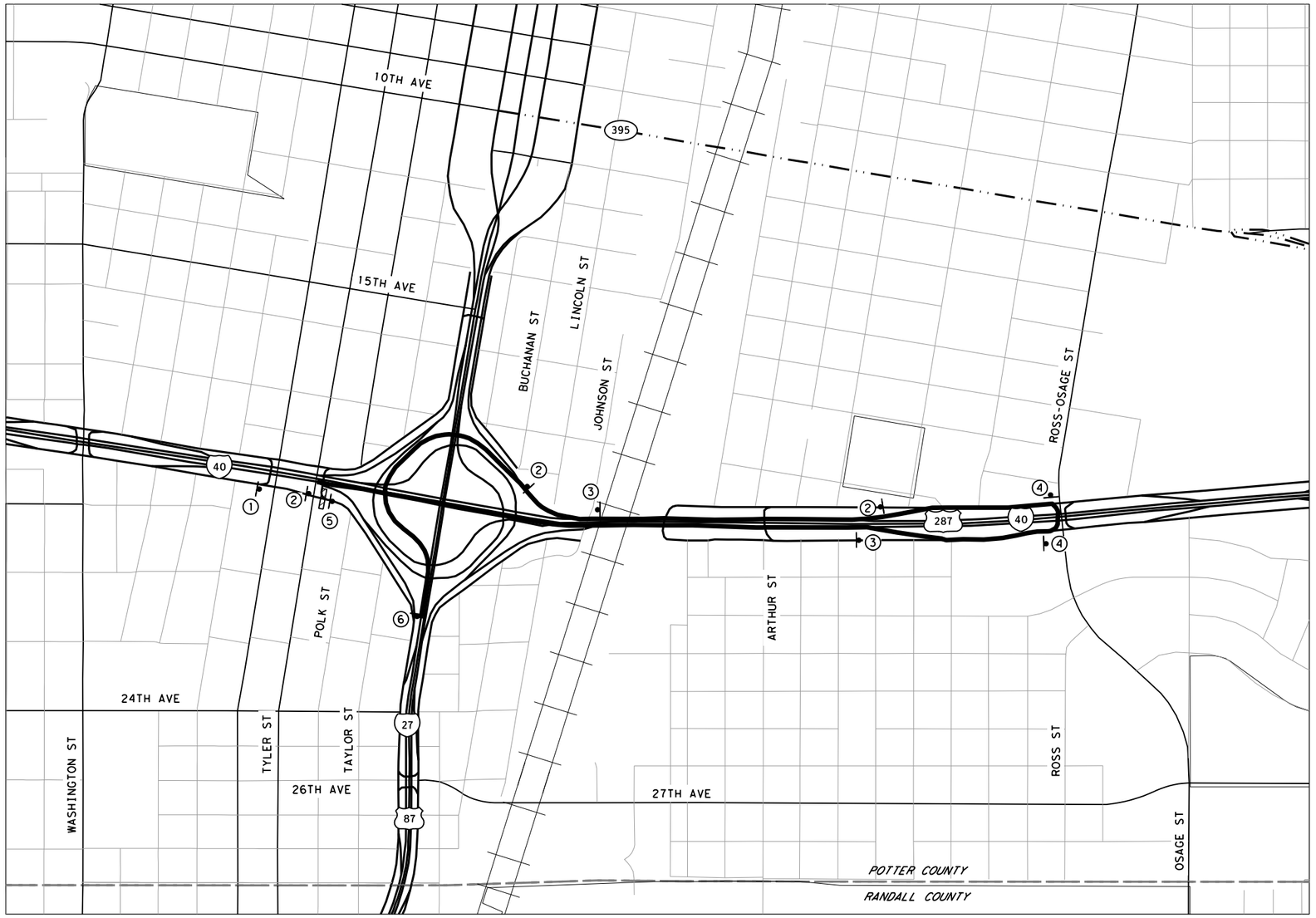
SCALE: 1" = 600'

2022 Texas Department of Transportation

SHEET 1 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		55

DATE: 11/28/2022 3:35:25 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn



N

DETOUR LENGTH:
2.9 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR B: IH-40 EB TO IH-27 SB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

④ DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

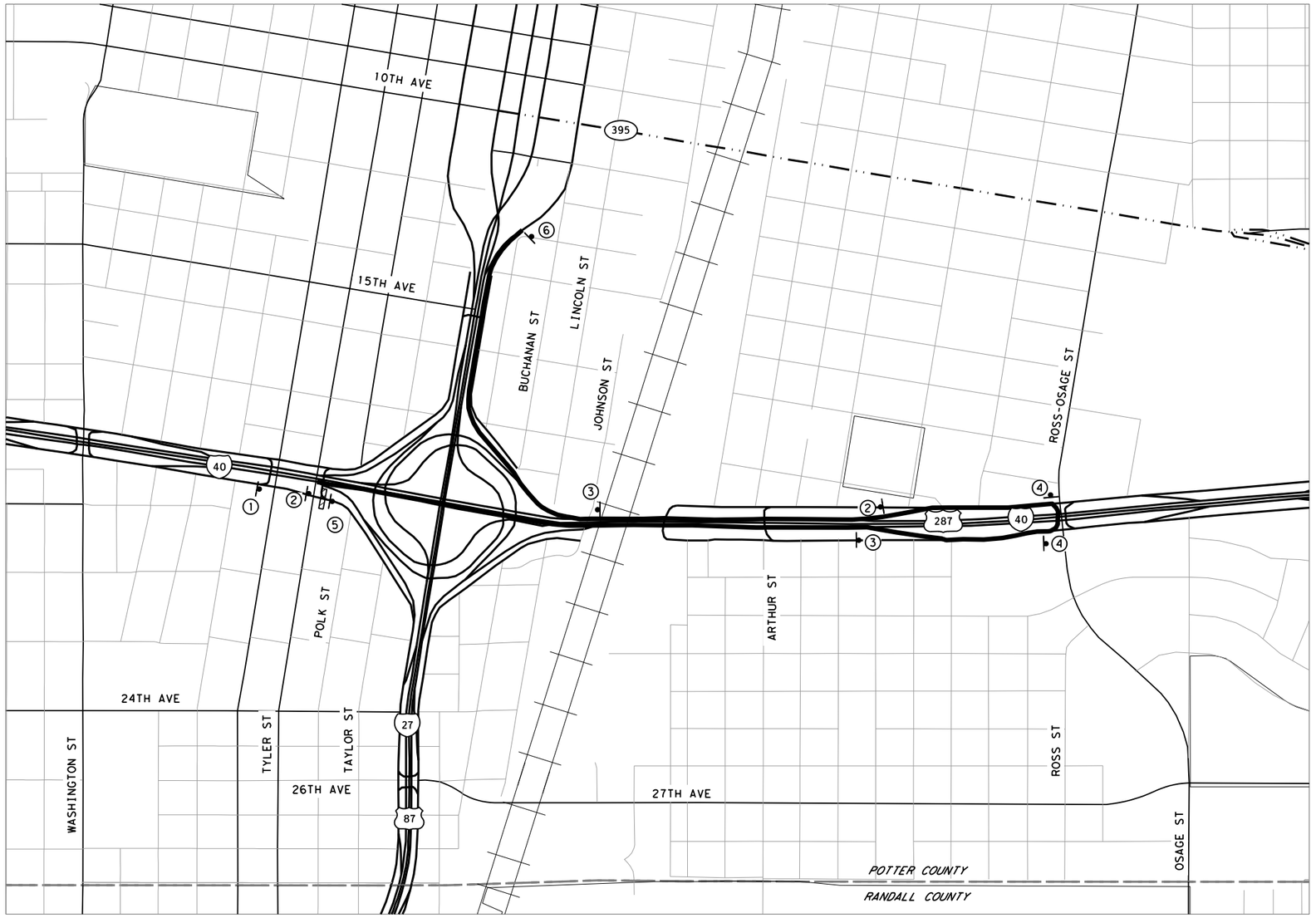
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 2 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		56

DATE: 11/28/2022 3:35:27 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn



N

DETOUR LENGTH:
2.9 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR C: IH-40 EB TO US 287 NB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-7PR (21" X 15")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 3 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		57

DATE: 11/28/2022 3:35:28 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn

N

DETOUR LENGTH:
2.6 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR D: US 287 SB TO IH-40 EB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

④ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

⑥ RAMP CLOSED — R11-2BT (48" X 30")

⑦ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
L. Clint Harms
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 4 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		58

DATE: 11/28/2022 3:35:29 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn

DETOUR LENGTH:
1.3 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR E: IH-40 WB TO WASHINGTON ST

①	DETOUR AHEAD	CW20-2D (36" X 36")	
②	DETOUR / WASHINGTON ST	M4-8 (24" X 12") M4-8T (VARIES X 12")	CW16-7PL (21" X 15")
③	DETOUR / WASHINGTON ST	M4-8 (24" X 12") M4-8T (VARIES X 12")	CW16-7PR (21" X 15")
④	DETOUR / WASHINGTON ST	M4-8 (24" X 12") M4-8T (VARIES X 12")	CW16-5PL (24" X 18")
⑤	DETOUR / WASHINGTON ST	M4-8 (24" X 12") M4-8T (VARIES X 12")	CW16-5PR (24" X 18")
⑥	END DETOUR	M4-8A (24" X 18")	

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 5 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		59

DATE: 11/28/2022 3:35:31 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn

N

DETOUR LENGTH:
2.9 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR F: US 287 SB TO IH 40 WB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

④ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 6 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		60

DATE: 11/28/2022 3:35:32 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn

N

DETOUR LENGTH:
2.4 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR G: IH-27 NB TO IH-40 WB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

④ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 7 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		61

DATE: 11/28/2022 3:35:33 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn

DETOUR LENGTH:
2.8 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR H: IH-40 WB TO IH-27 SB

① DETOUR AHEAD — CW20-2D (36" X 36")

② DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

④ DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 8 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		62

DATE: 11/28/2022 3:35:34 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn

DETOUR LENGTH:
3.5 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR I: IH-40 WB TO US 287 NB

① DETOUR AHEAD — CW20-2D (36" X 36")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-7PL (21" X 15")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

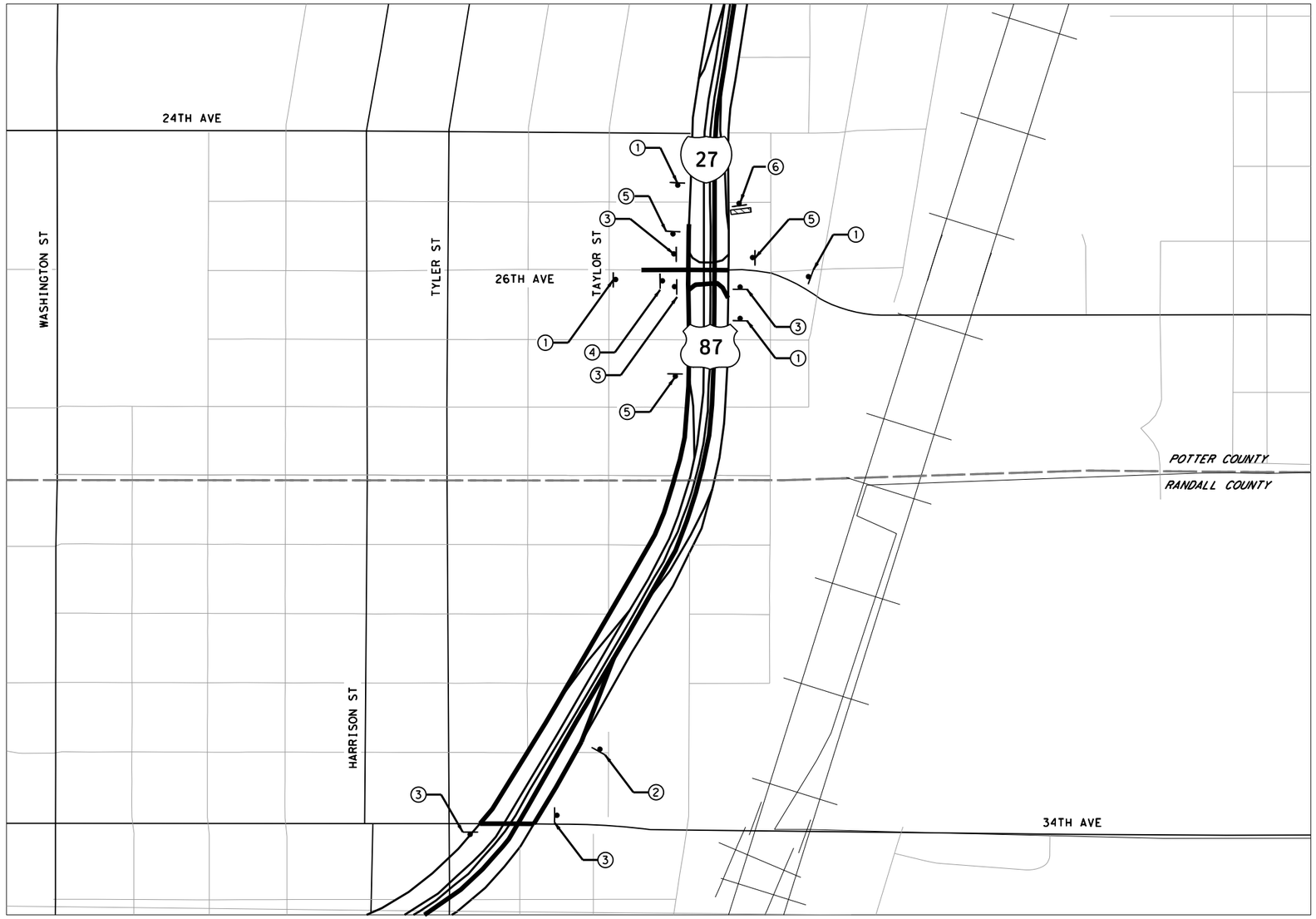
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 9 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		63

DATE: 11/28/2022 3:35:36 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn



DETOUR LENGTH:
1.3 MILES

LEGEND:

- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR J: 26TH AVE TO IH-27 NB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑤ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑥ RAMP CLOSED — R11-2BT (48" X 30")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
L. Clint Harms
02/02/2023

IH-40 AT HARRISON ST AND IH-27

DETOUR LAYOUT

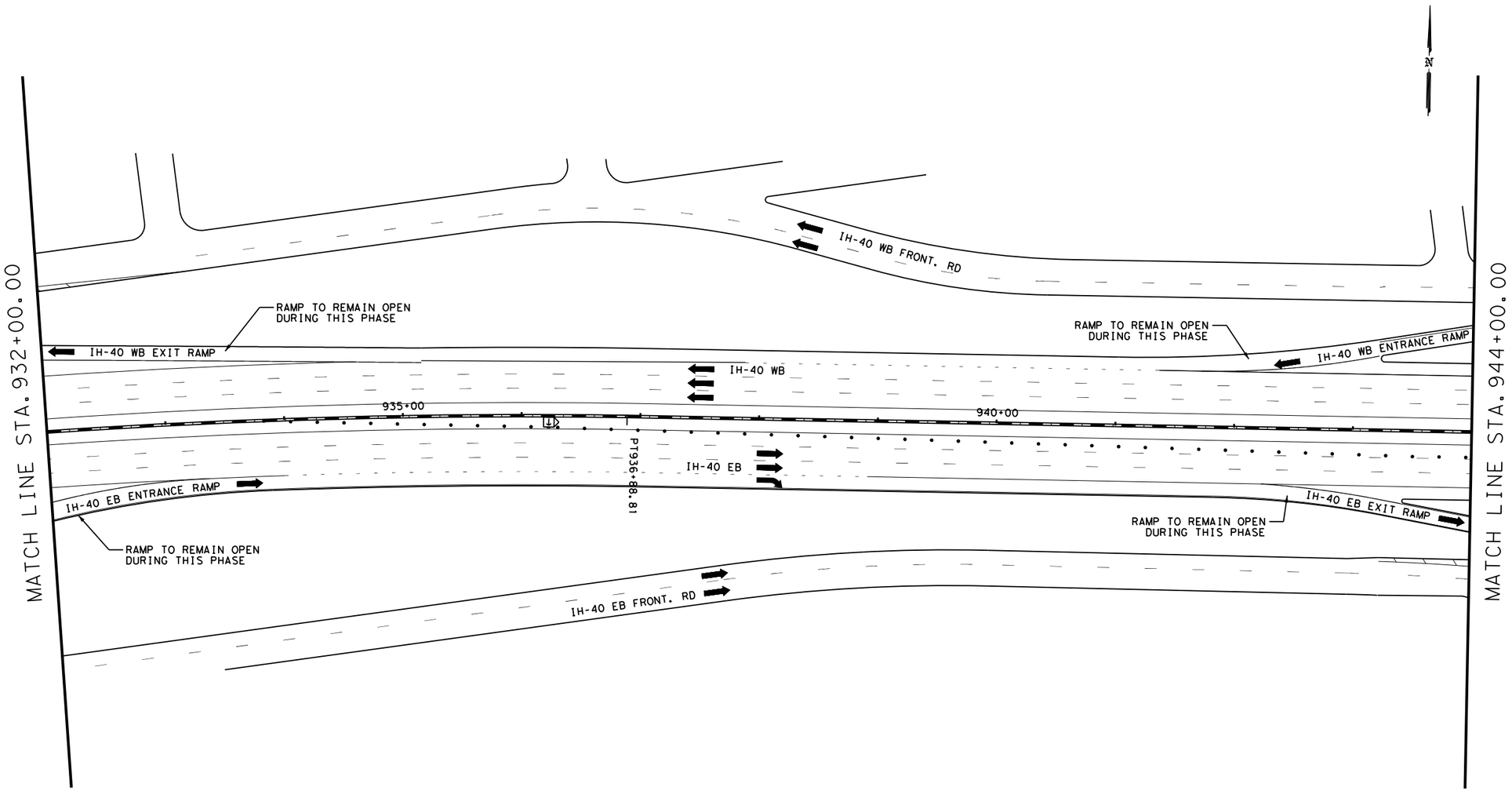
SCALE: 1" = 600'

2022 Texas Department of Transportation

SHEET 10 OF 10

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		64

DATE: 11/28/2022 3:35:37 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_DETOUR_LAYOUT.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

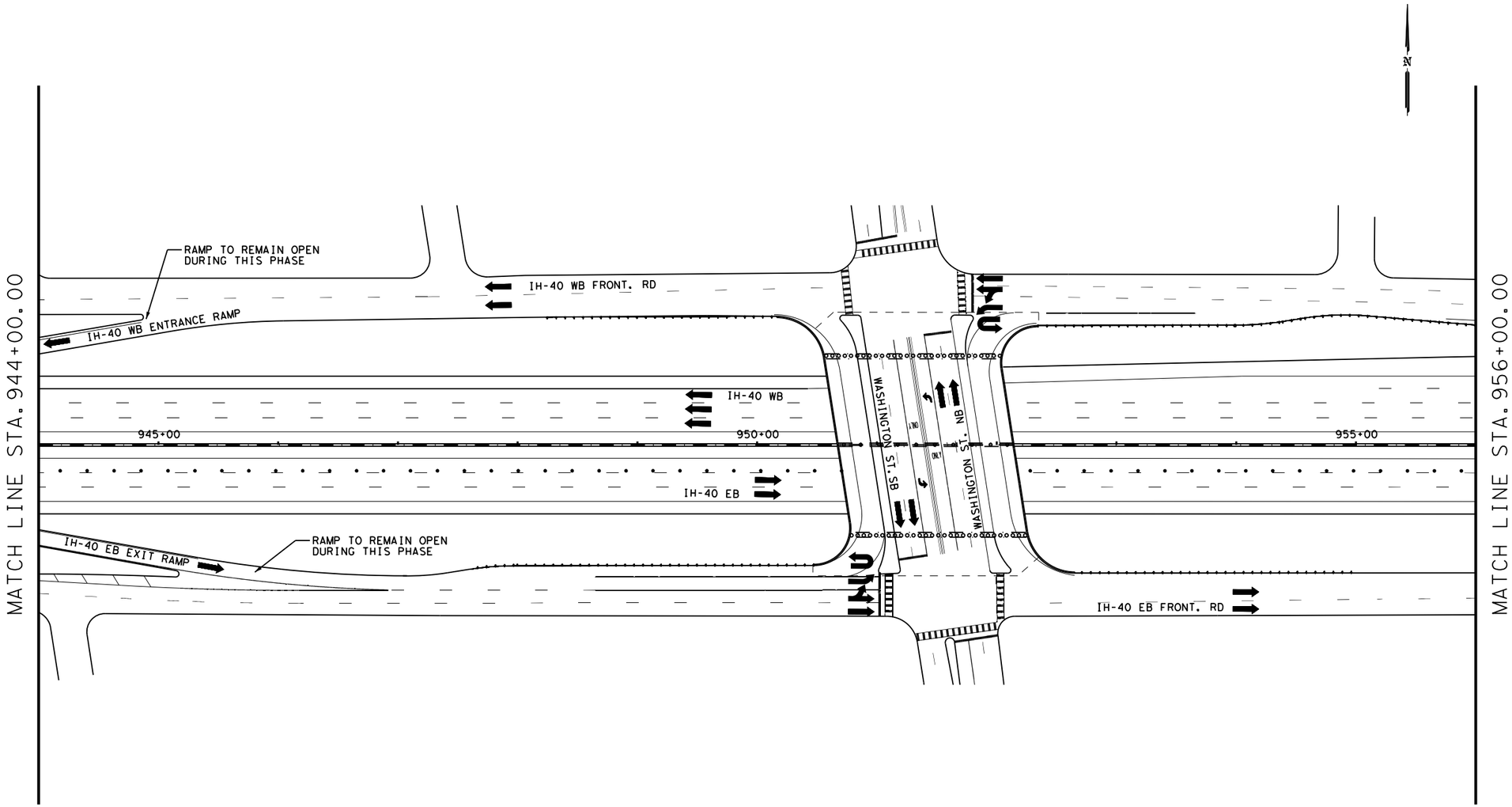
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 1 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		65

DATE: 11/28/2022 3:35:41 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn



N

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

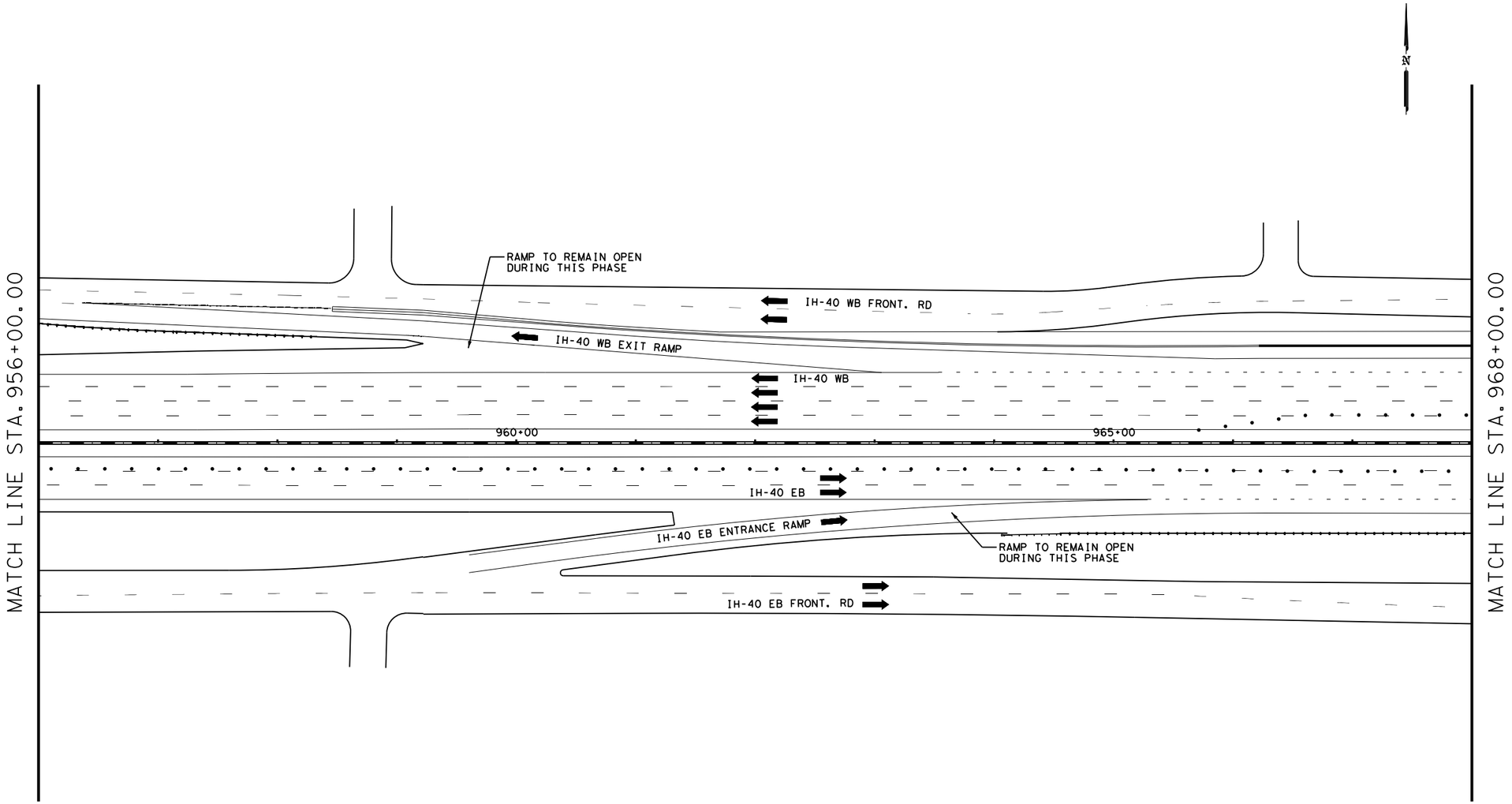
SHEET 2 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		66

DATE: 11/28/2022 3:35:42 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

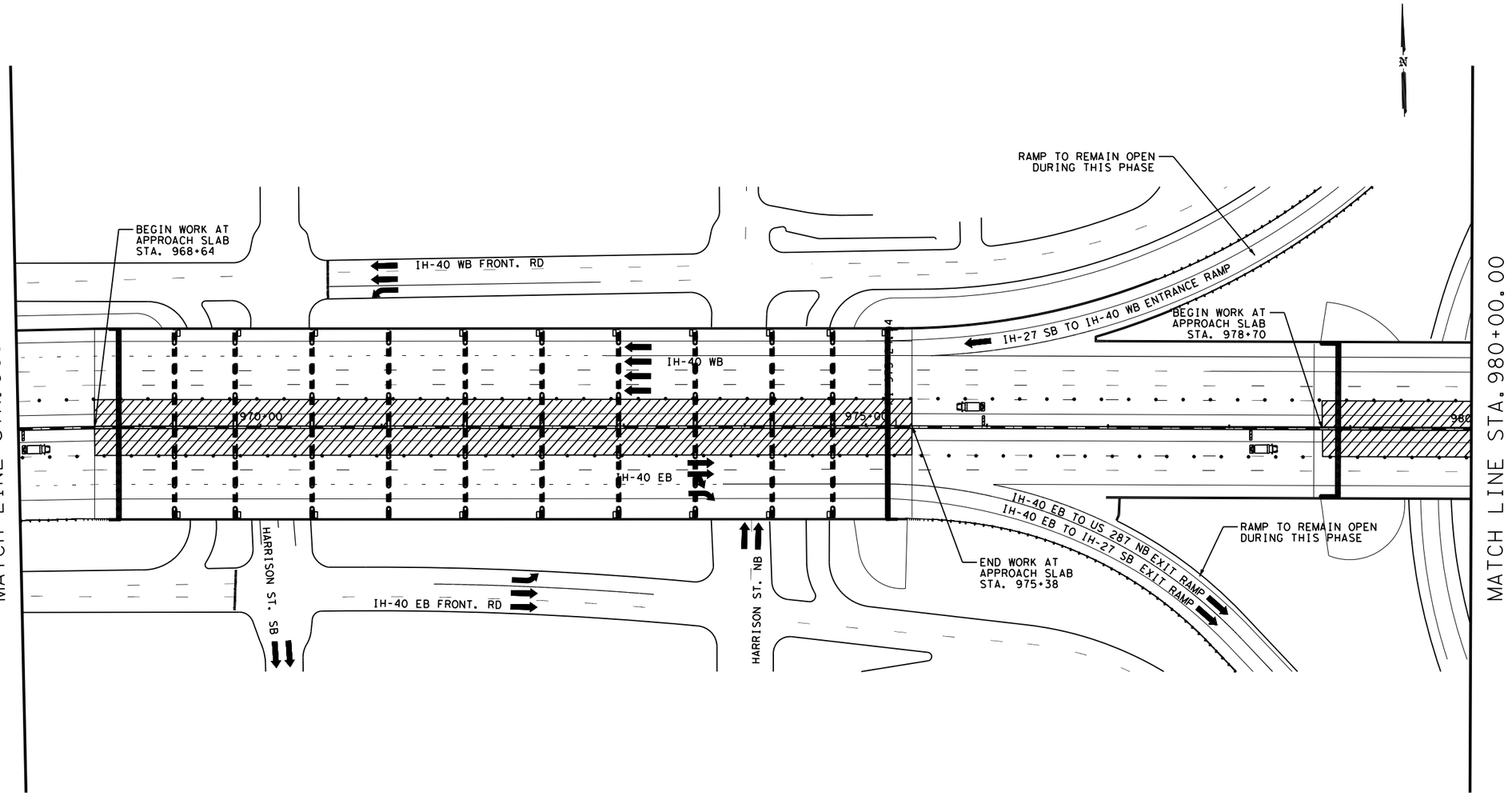
SHEET 3 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		67

DATE: 11/28/2022 3:35:44 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

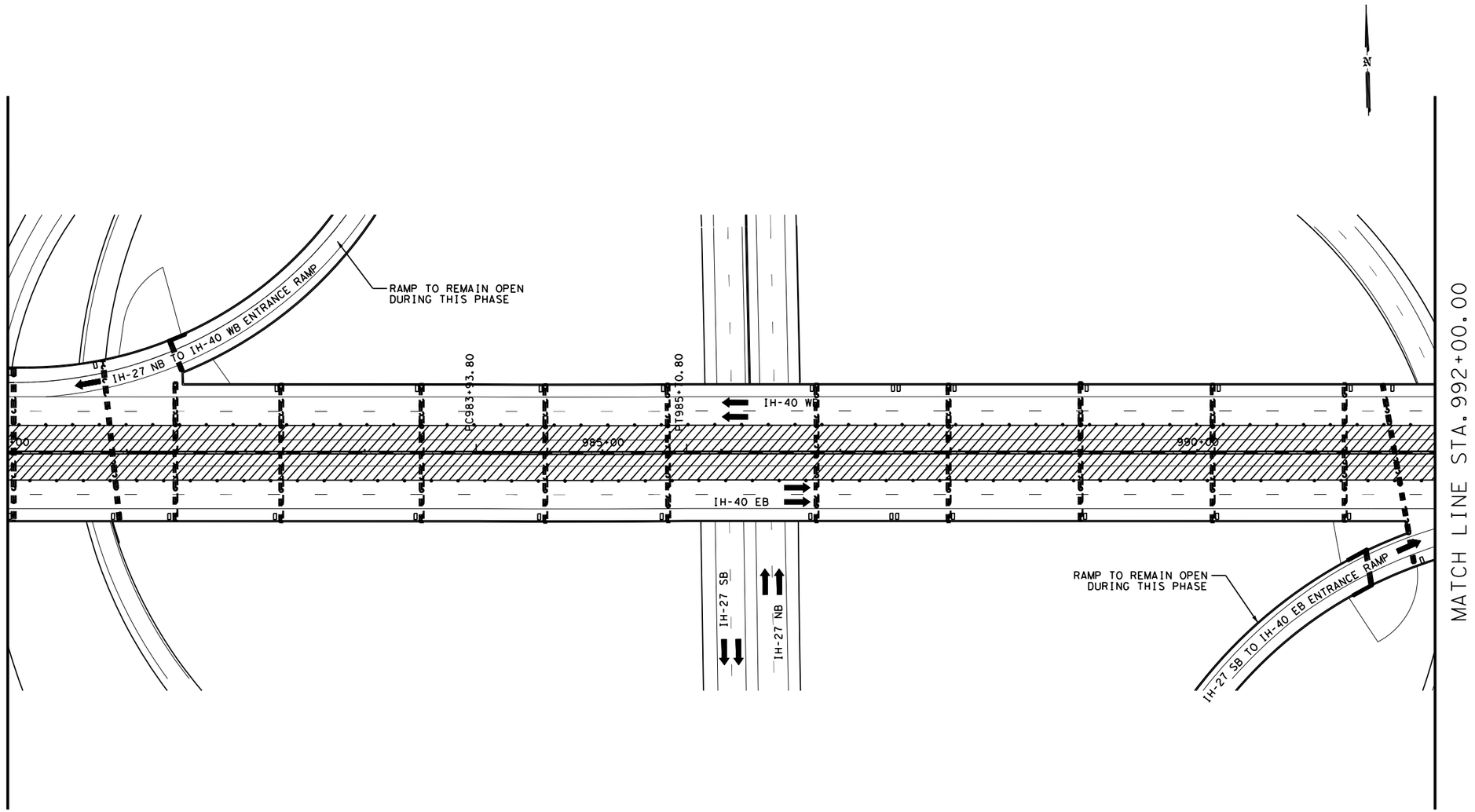
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 4 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		68

DATE: 11/28/2022 3:35:46 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

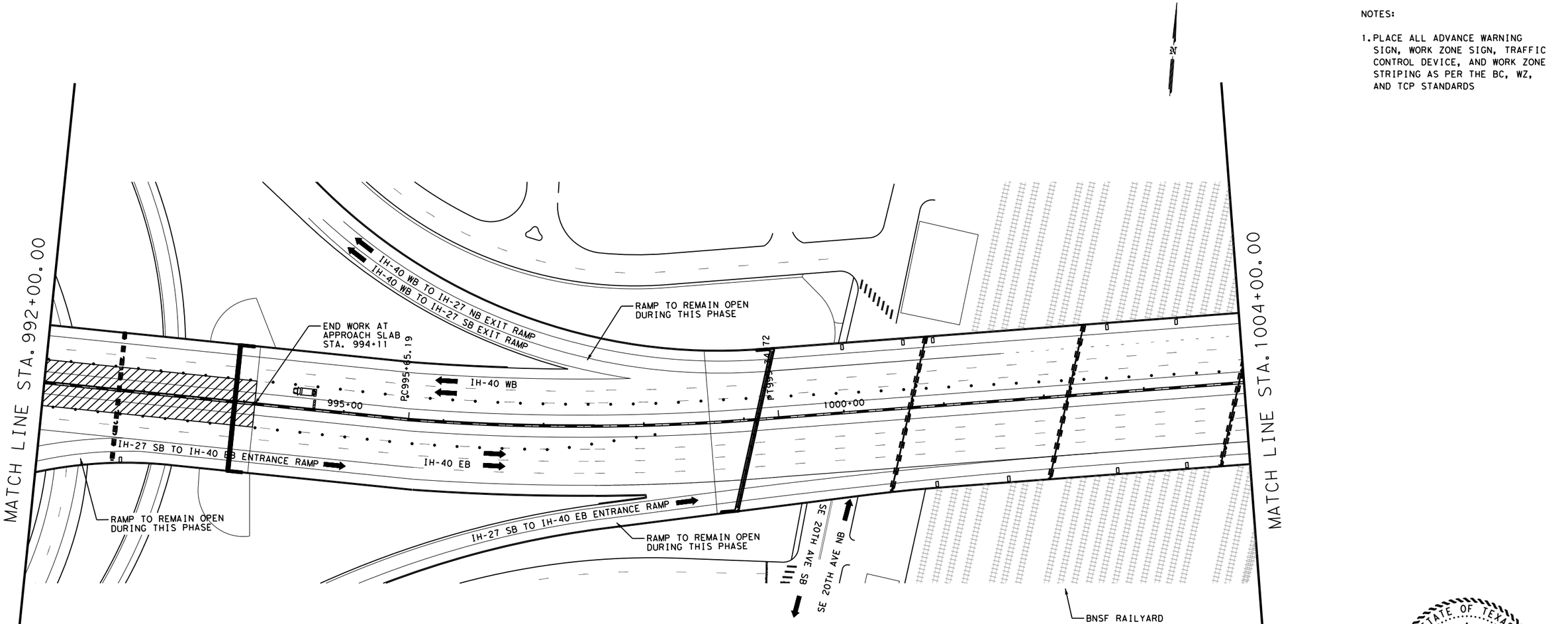
SHEET 5 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		69

DATE: 11/28/2022 3:35:48 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

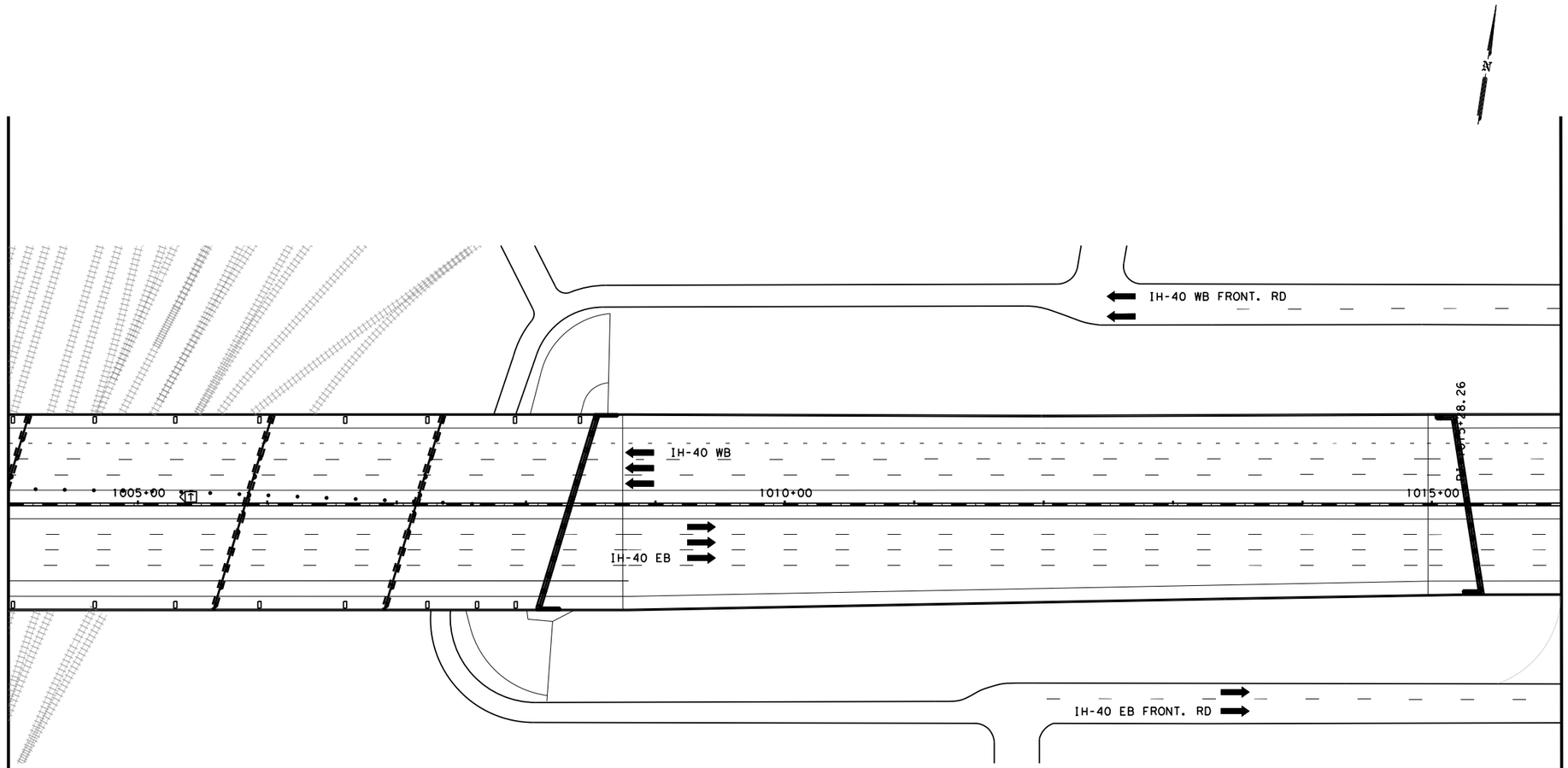
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 6 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		70

DATE: 11/28/2022 3:35:50 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

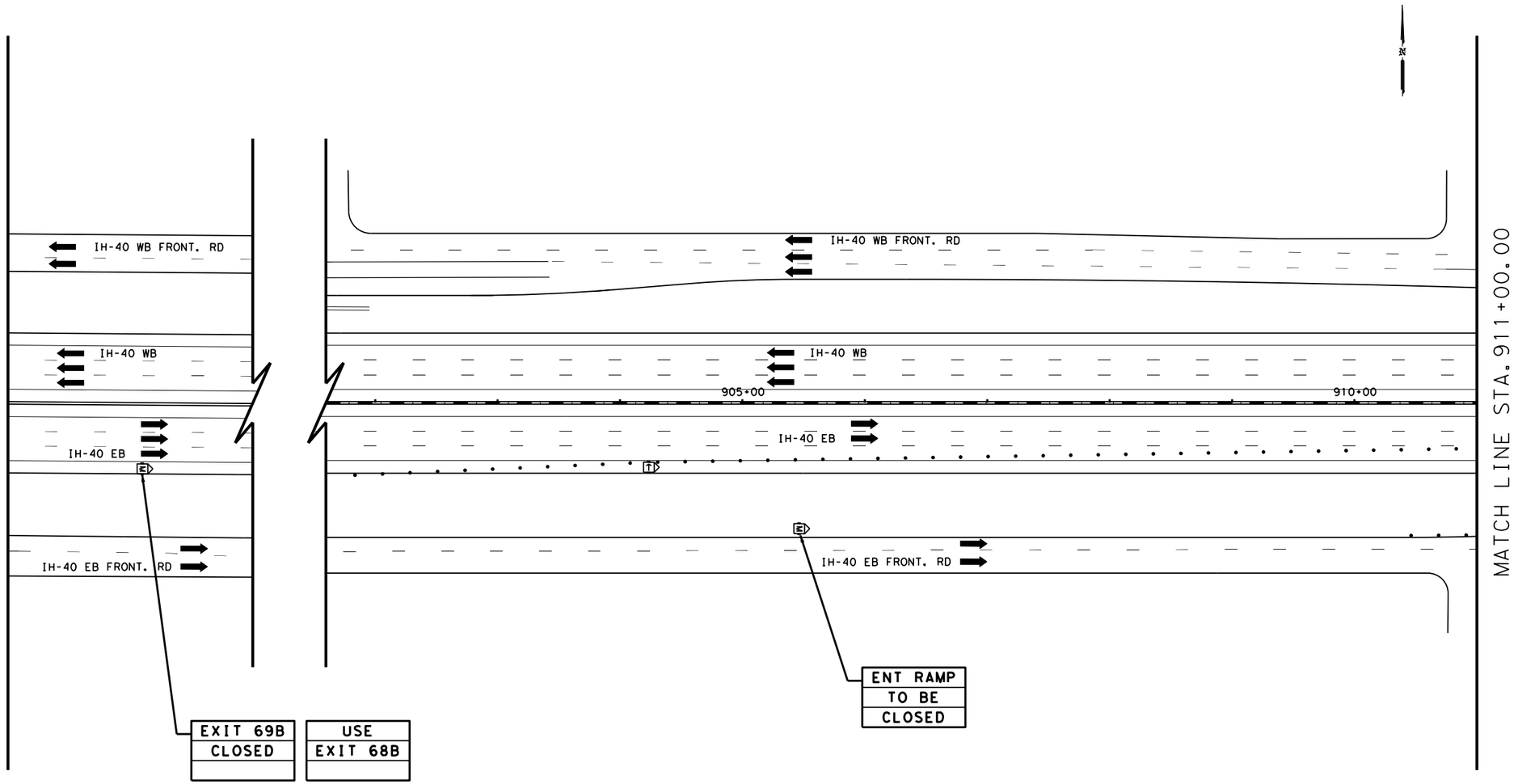
SHEET 7 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		71

DATE: 11/28/2022 3:35:52 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

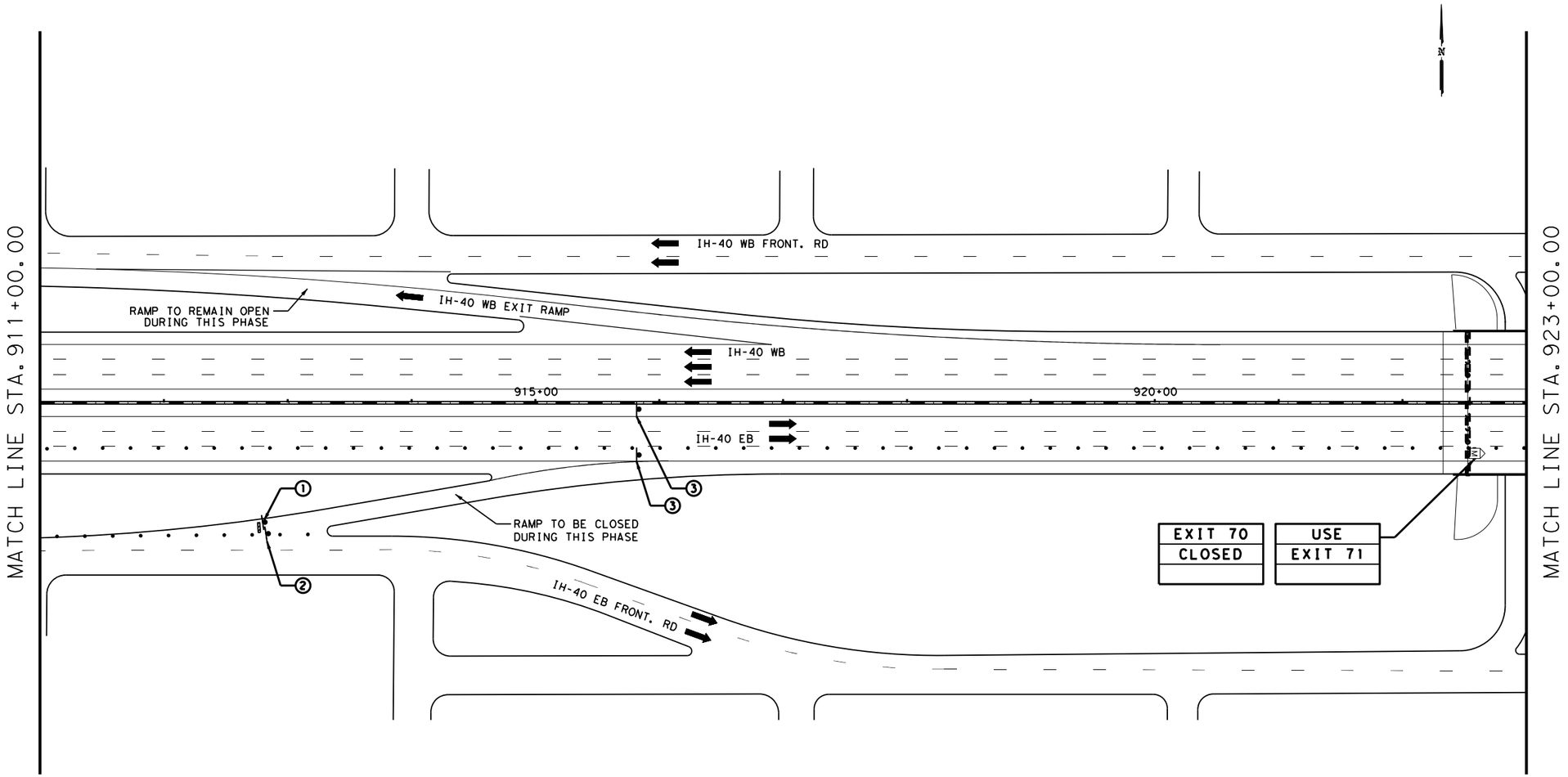
SHEET 1 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		72

DATE: 11/28/2022 3:35:57 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED — R11-2bT 48"X30" — ①

USE NEXT RAMP — CW25-1T 48"X48" — ②

RIGHT LANE CLOSED — CW20-5TR 48"X48"
1000 FT — CW16-2aP 30"X12" — ③

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

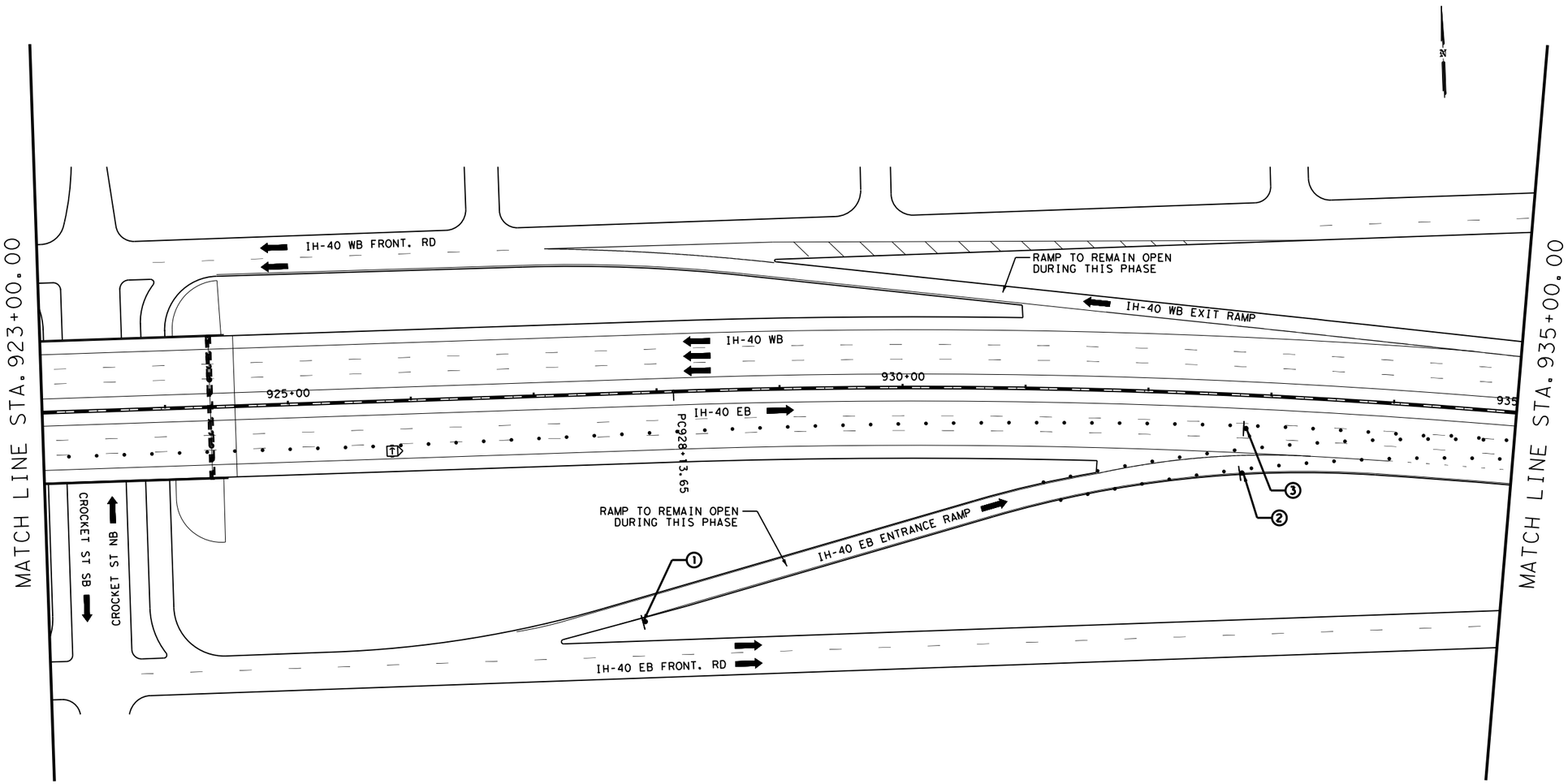
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 2 OF 11

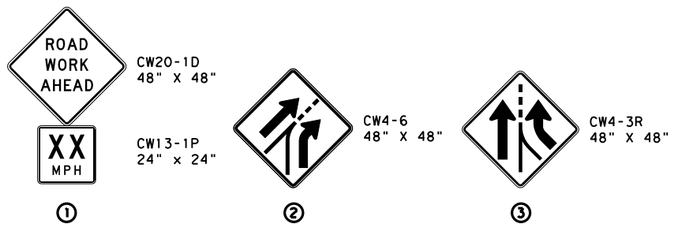
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		73

DATE: 11/28/2022 3:35:58 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

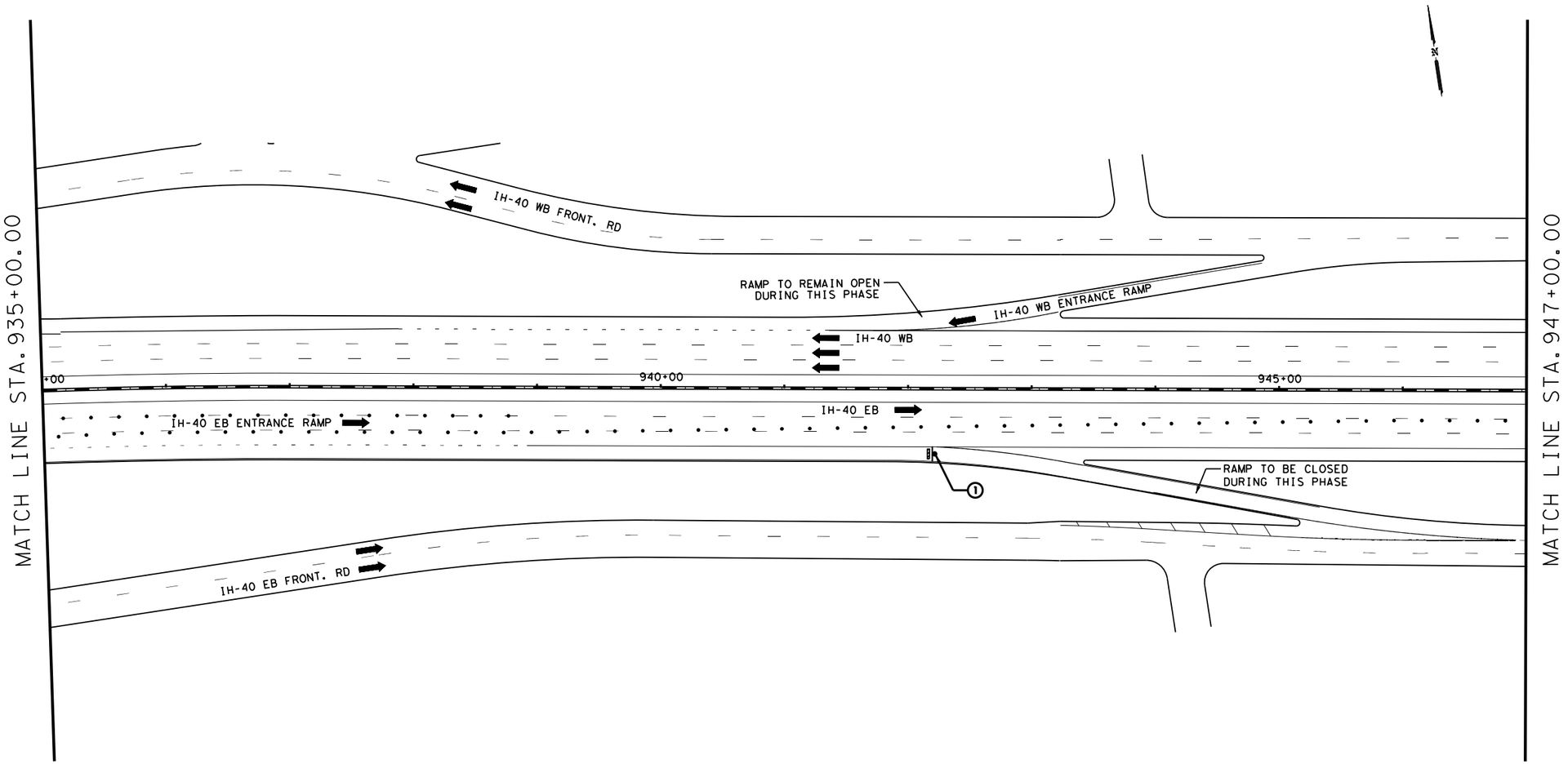
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 3 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		74

DATE: 11/28/2022 3:36:00 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

RAMP CLOSED
R11-2bT
48"X30"
1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

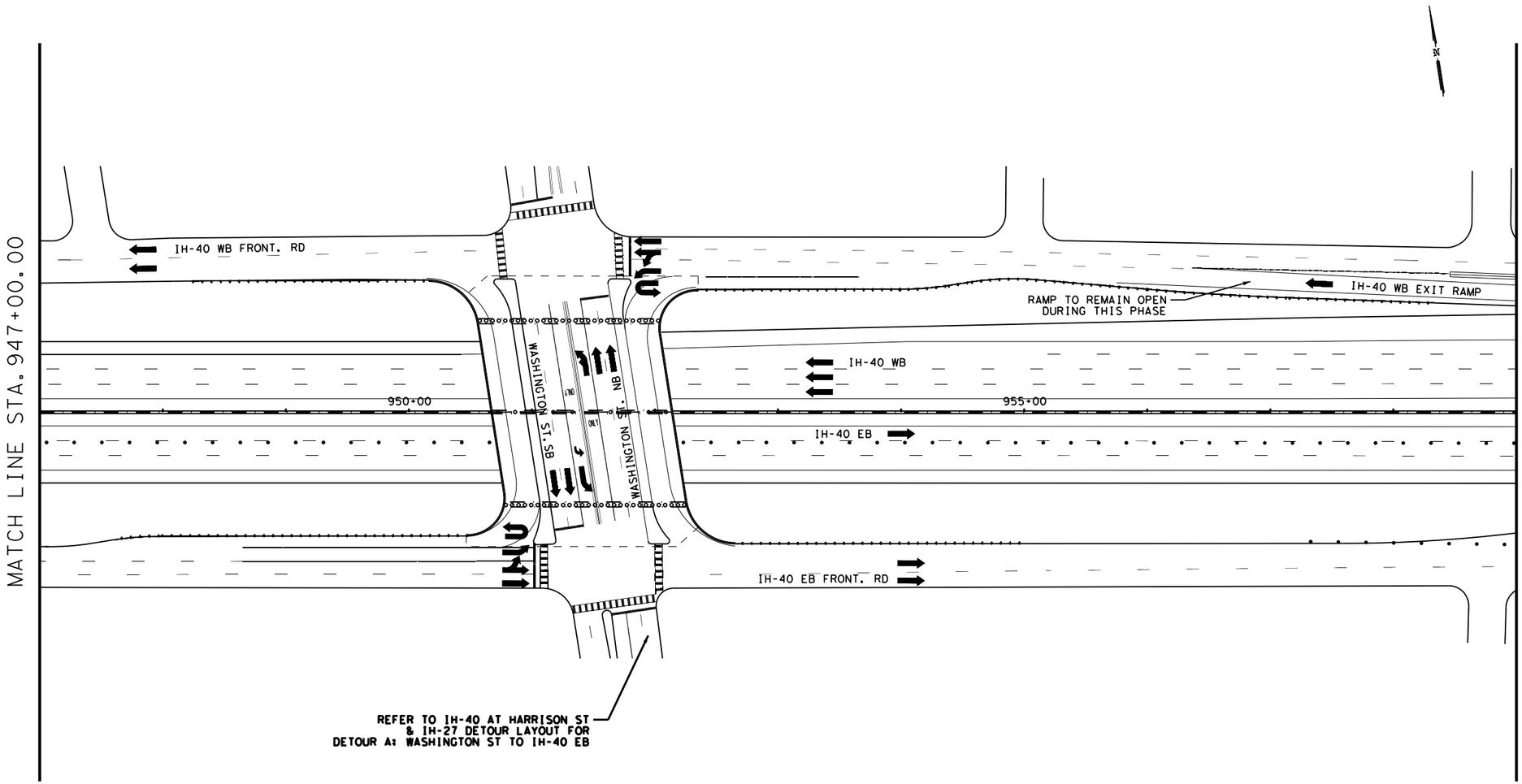
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 4 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		75

DATE: 11/28/2022 3:36:01 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

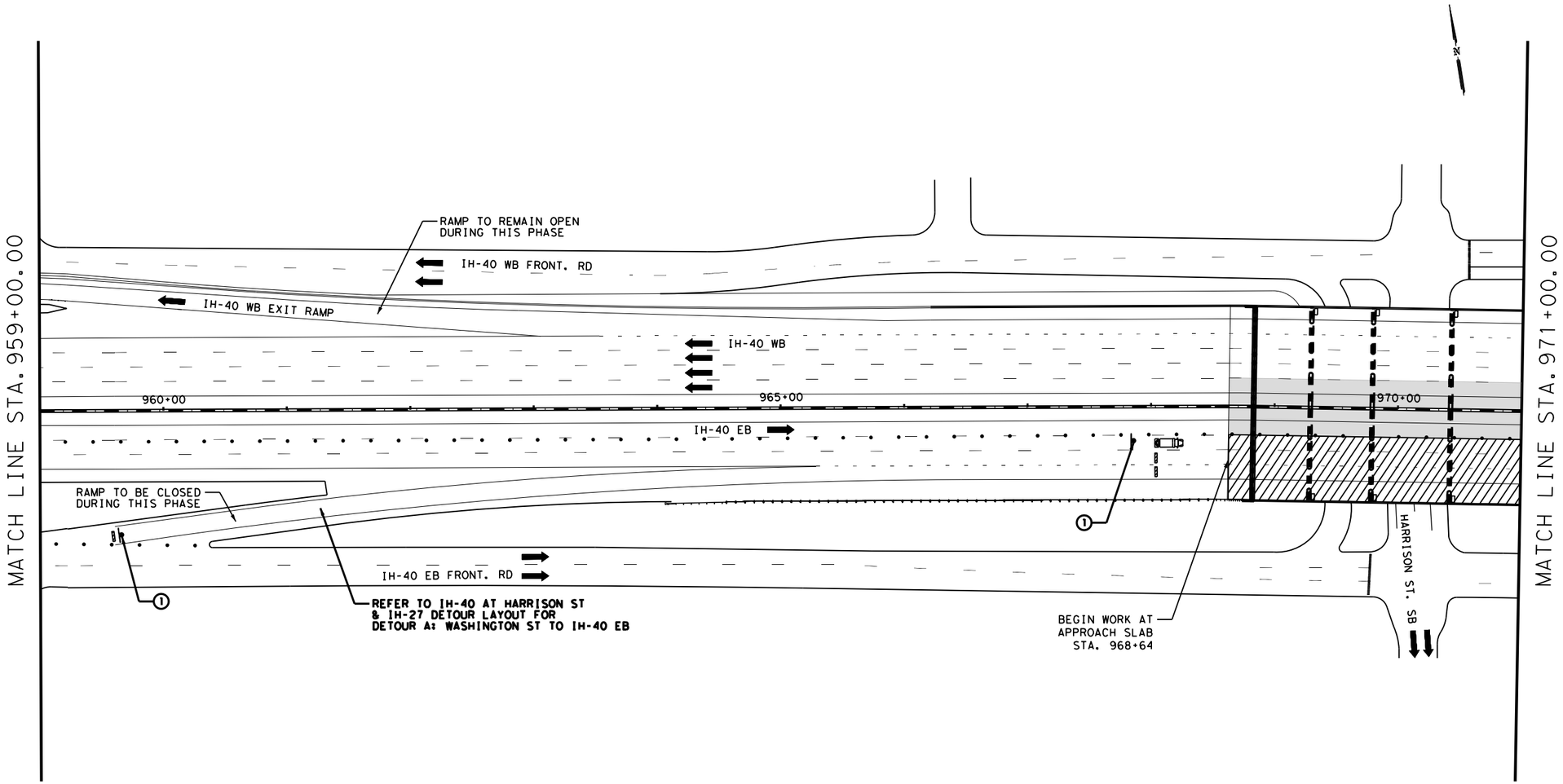
SHEET 5 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		76

DATE: 11/28/2022 3:36:02 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

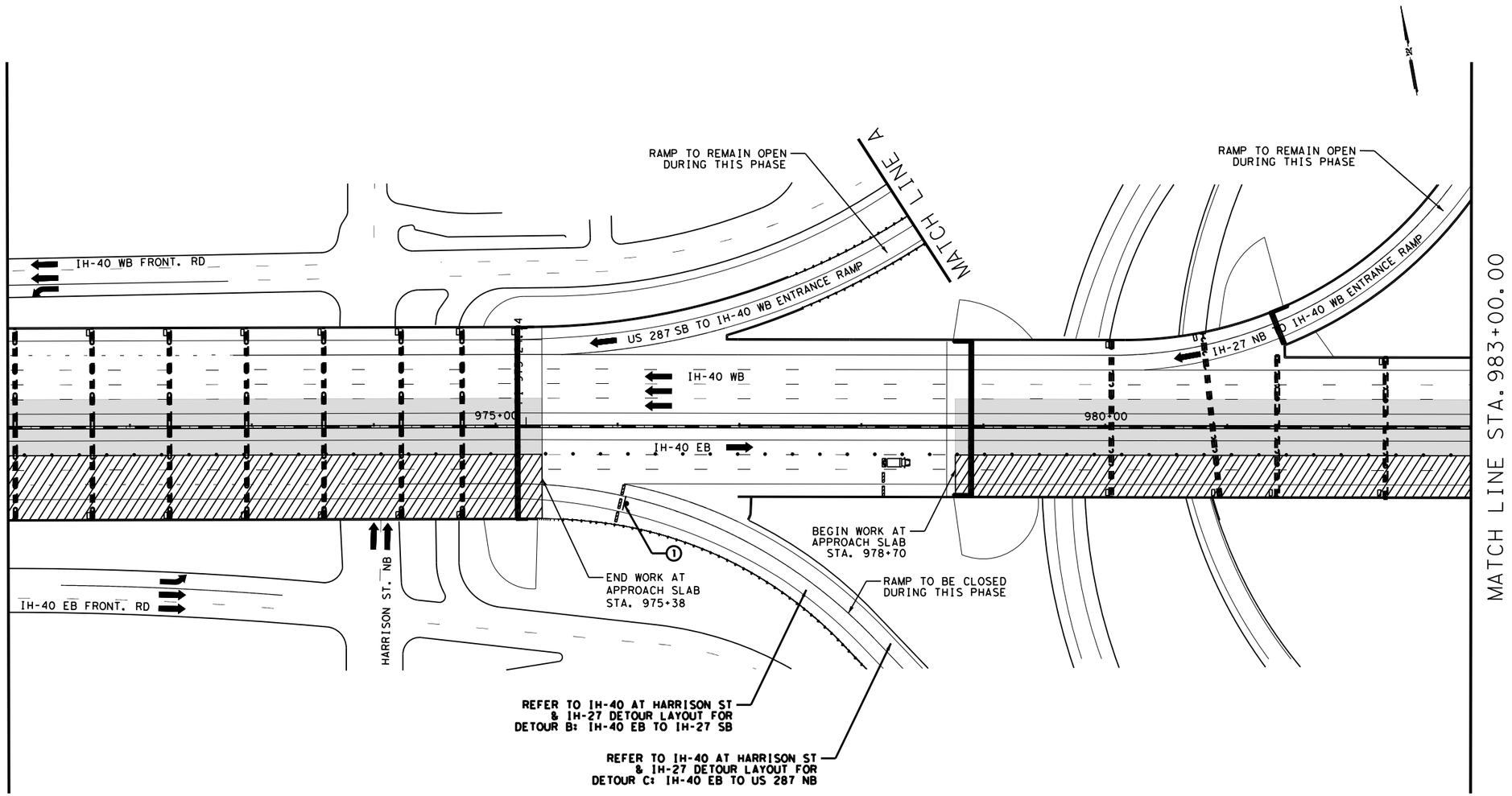
SHEET 6 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		77

DATE: 11/28/2022 3:36:16 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

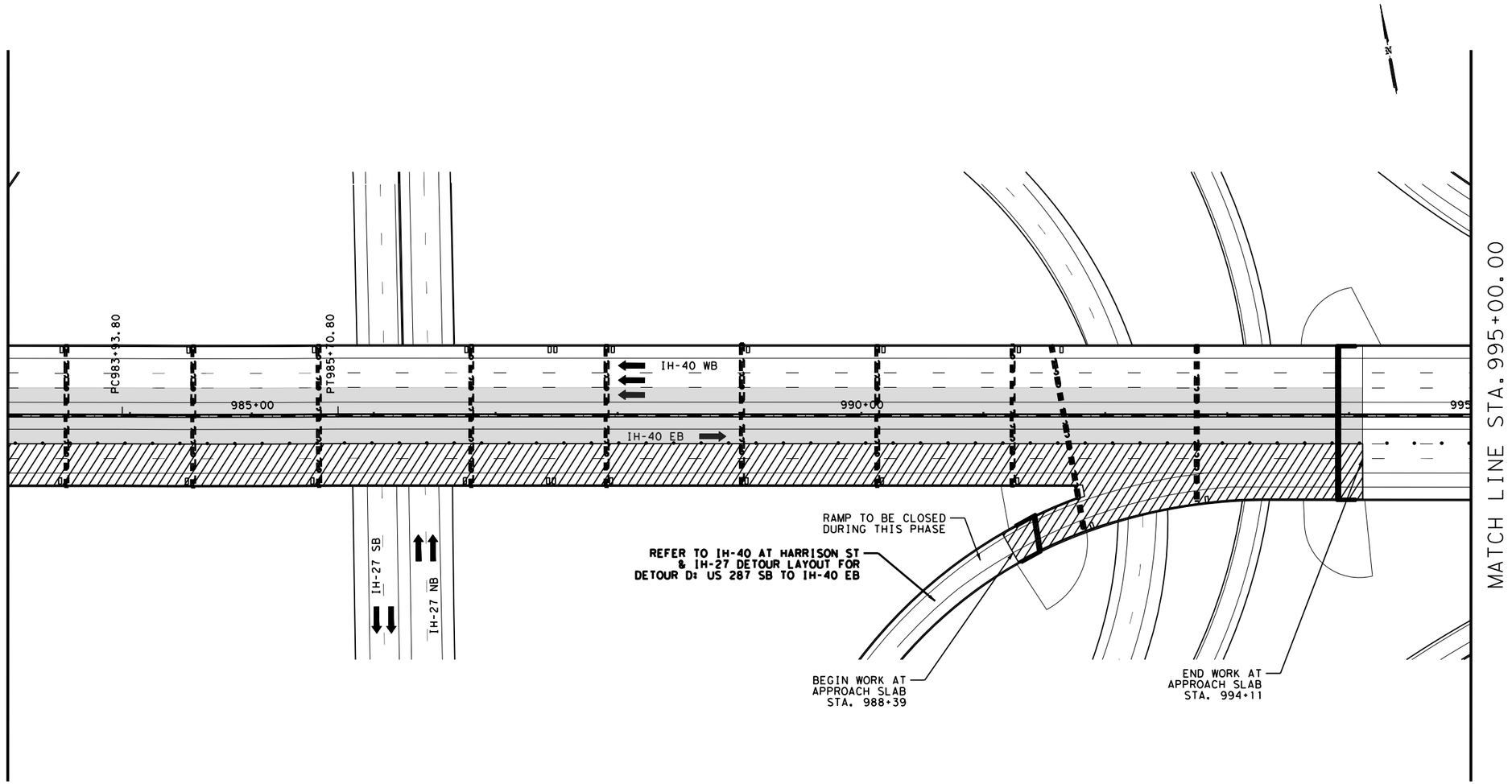
SHEET 7 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		78

DATE: 11/28/2022 3:36:18 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

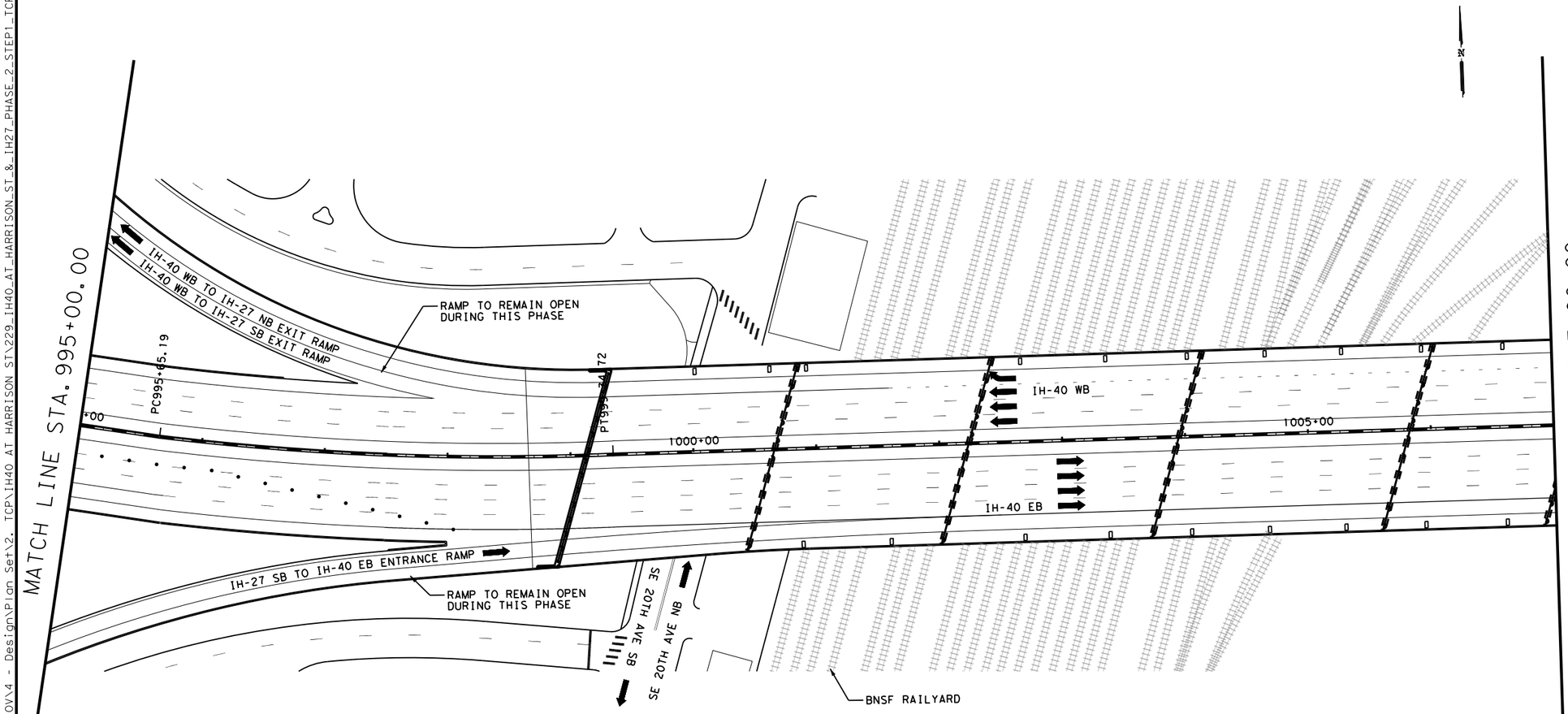
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 8 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		79

DATE: 11/28/2022 3:36:20 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

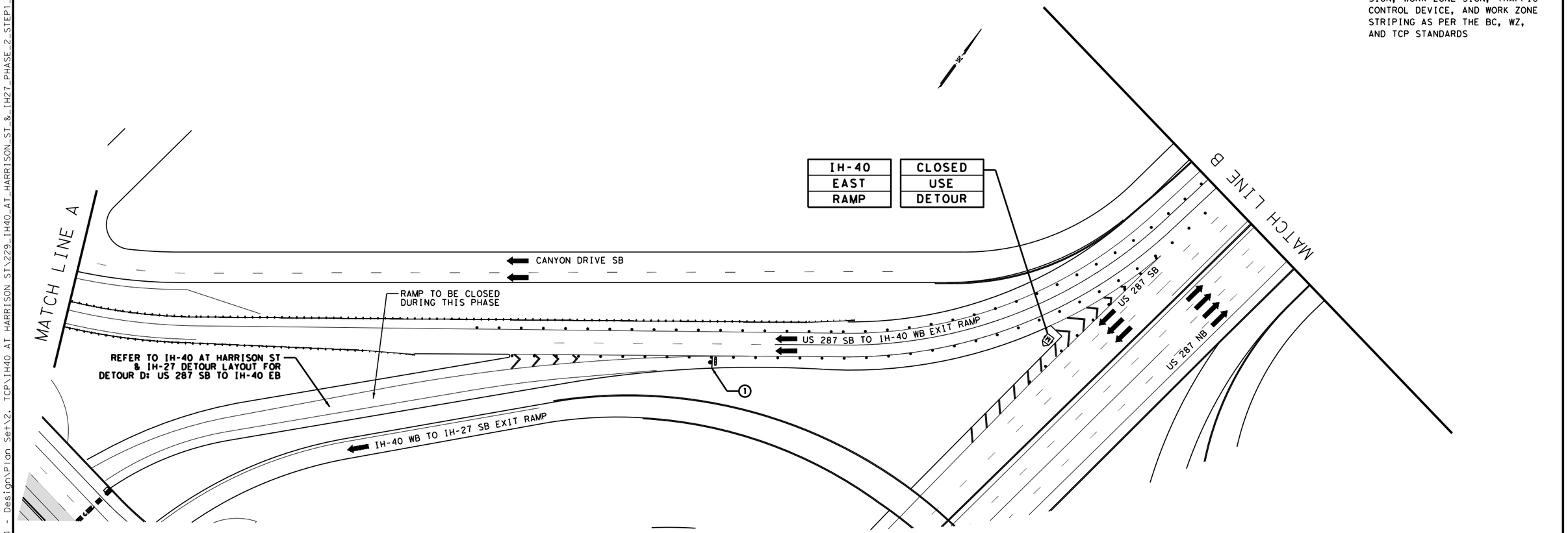
SHEET 9 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		80

DATE: 11/28/2022 3:36:22 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

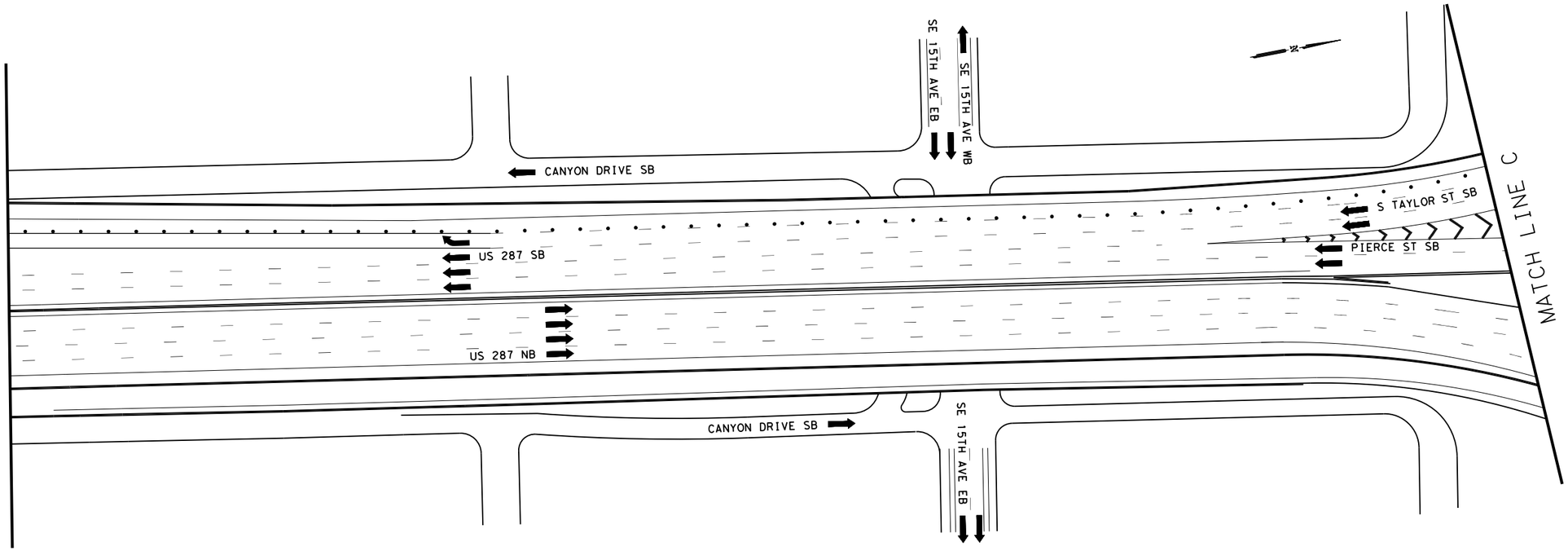
SCALE: 1" = 100'

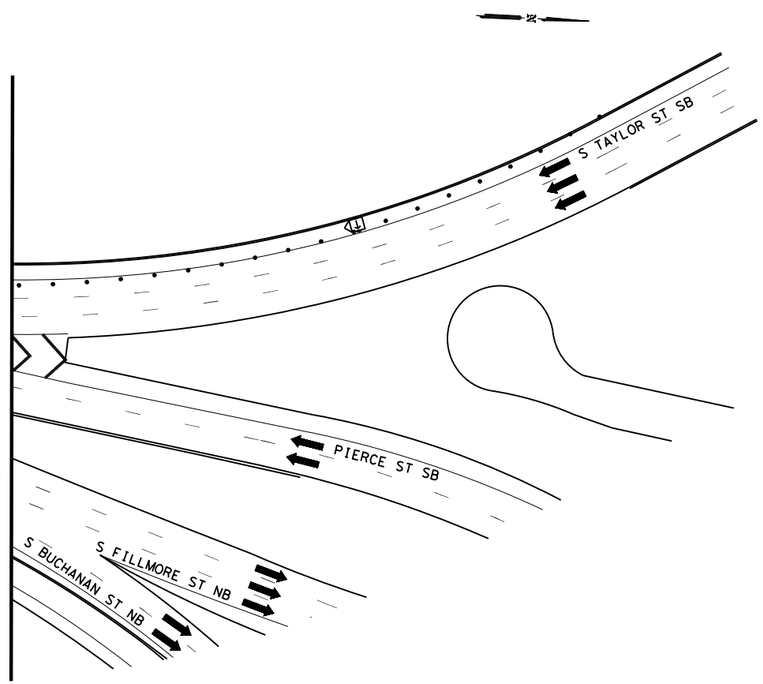
2022 Texas Department of Transportation

SHEET 10 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		81

DATE: 11/28/2022 3:36:24 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn





NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

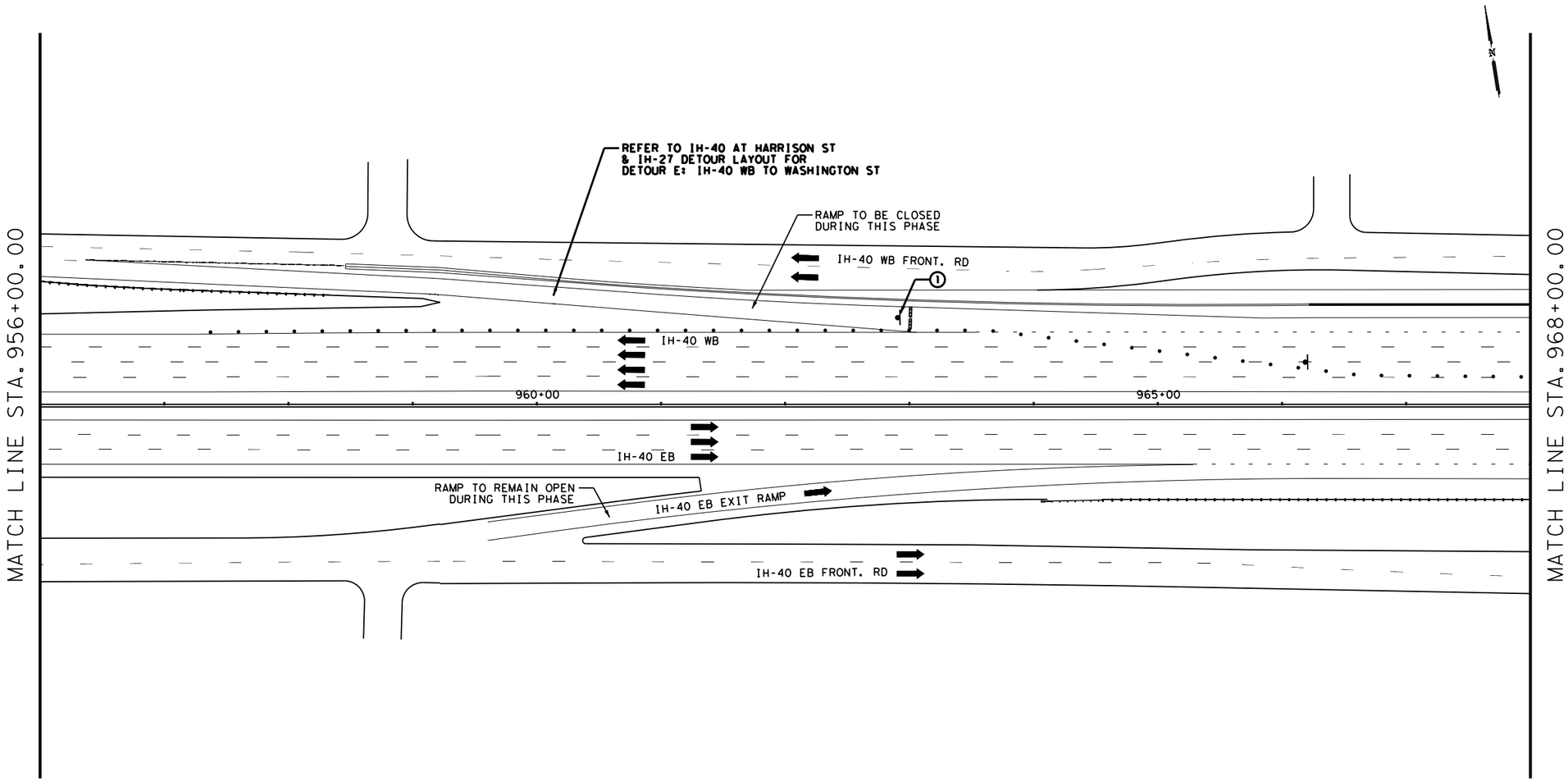
SHEET 11 OF 11

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		82

DATE: 11/28/2022 3:36:27 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

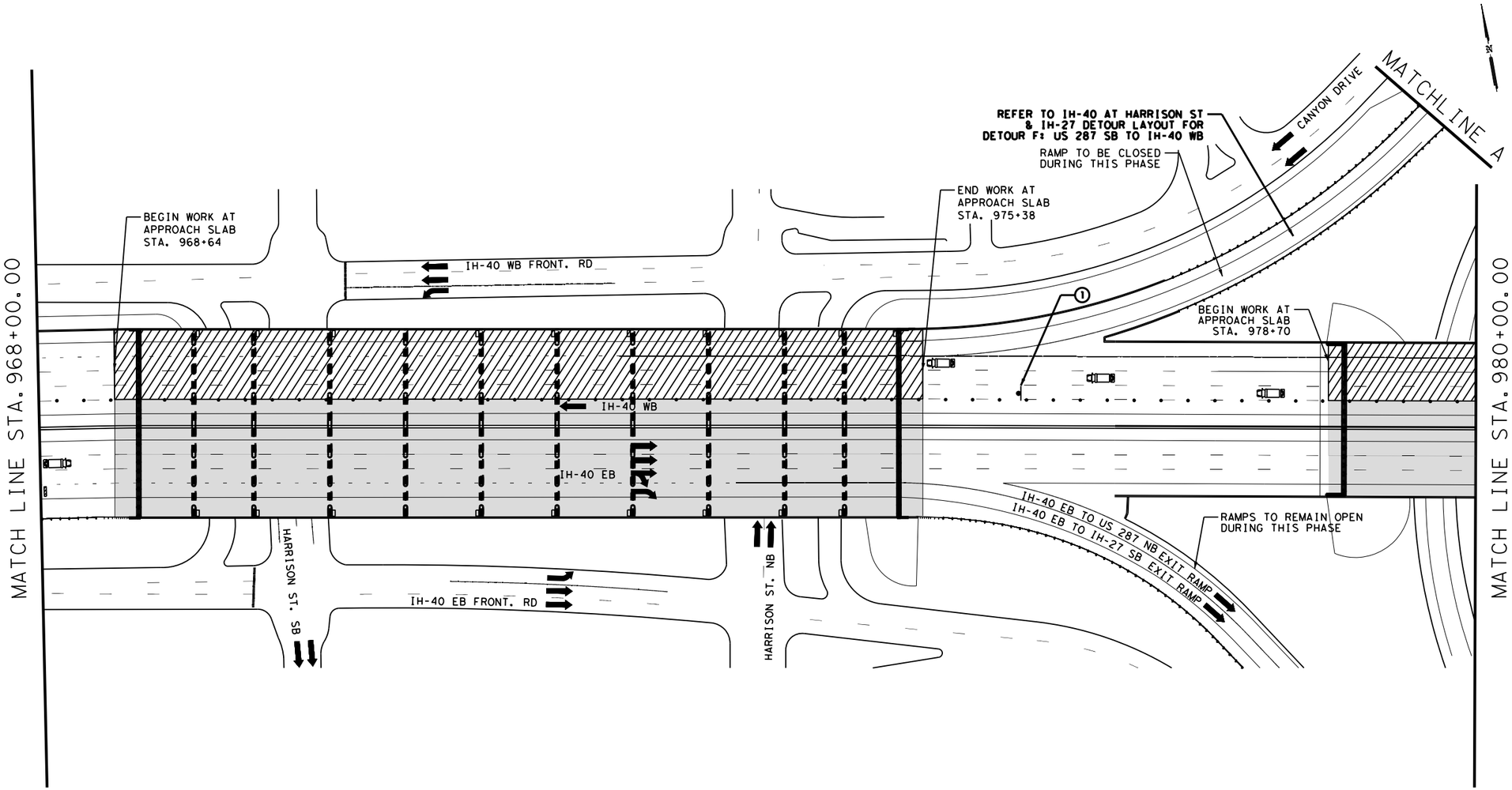
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 1 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		83

DATE: 11/28/2022 3:36:30 PM
FILE: I:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

CW20RP-3D
48"X48"

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

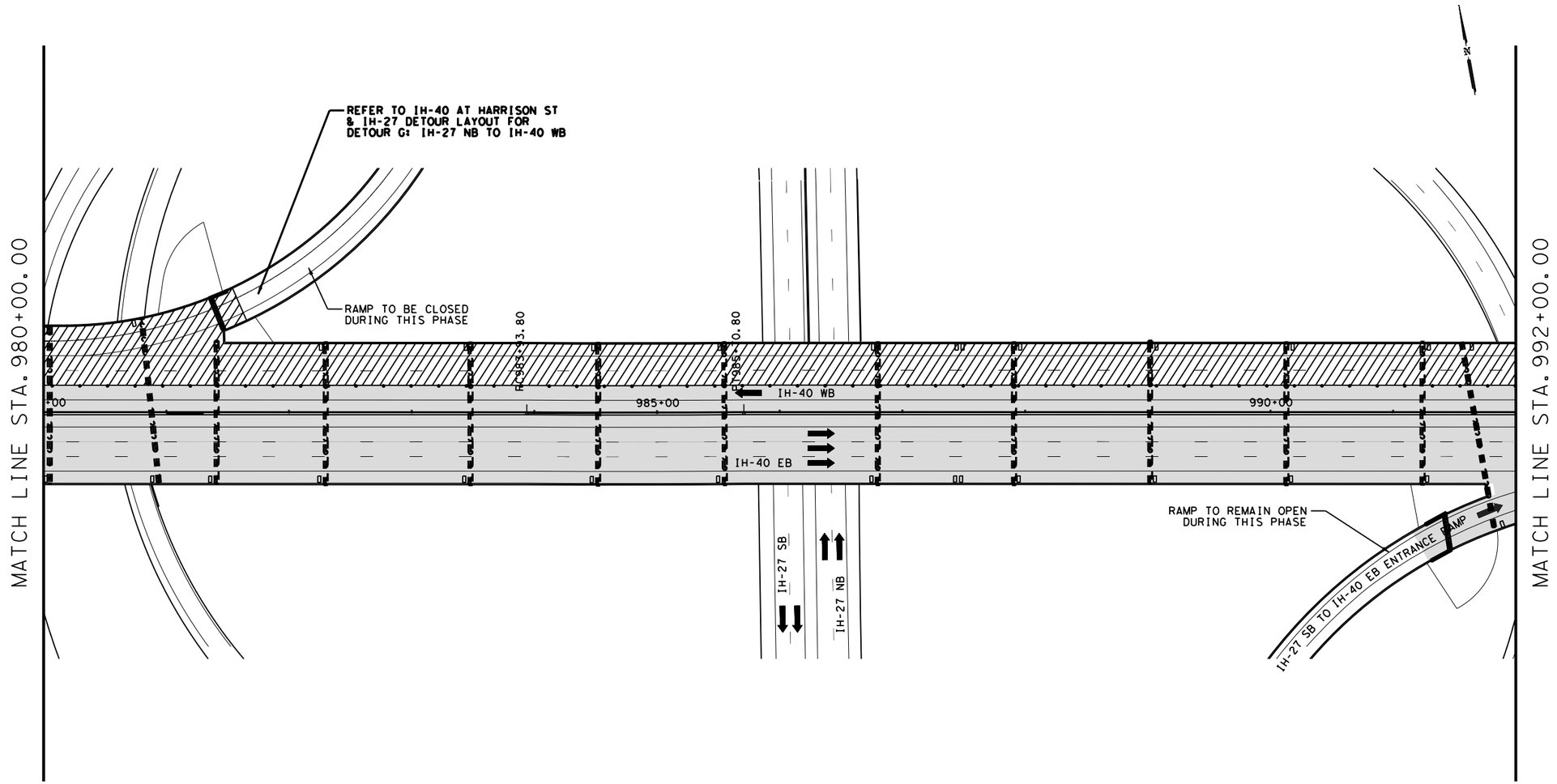
SHEET 2 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		84

DATE: 1/24/2023 10:39:30 AM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

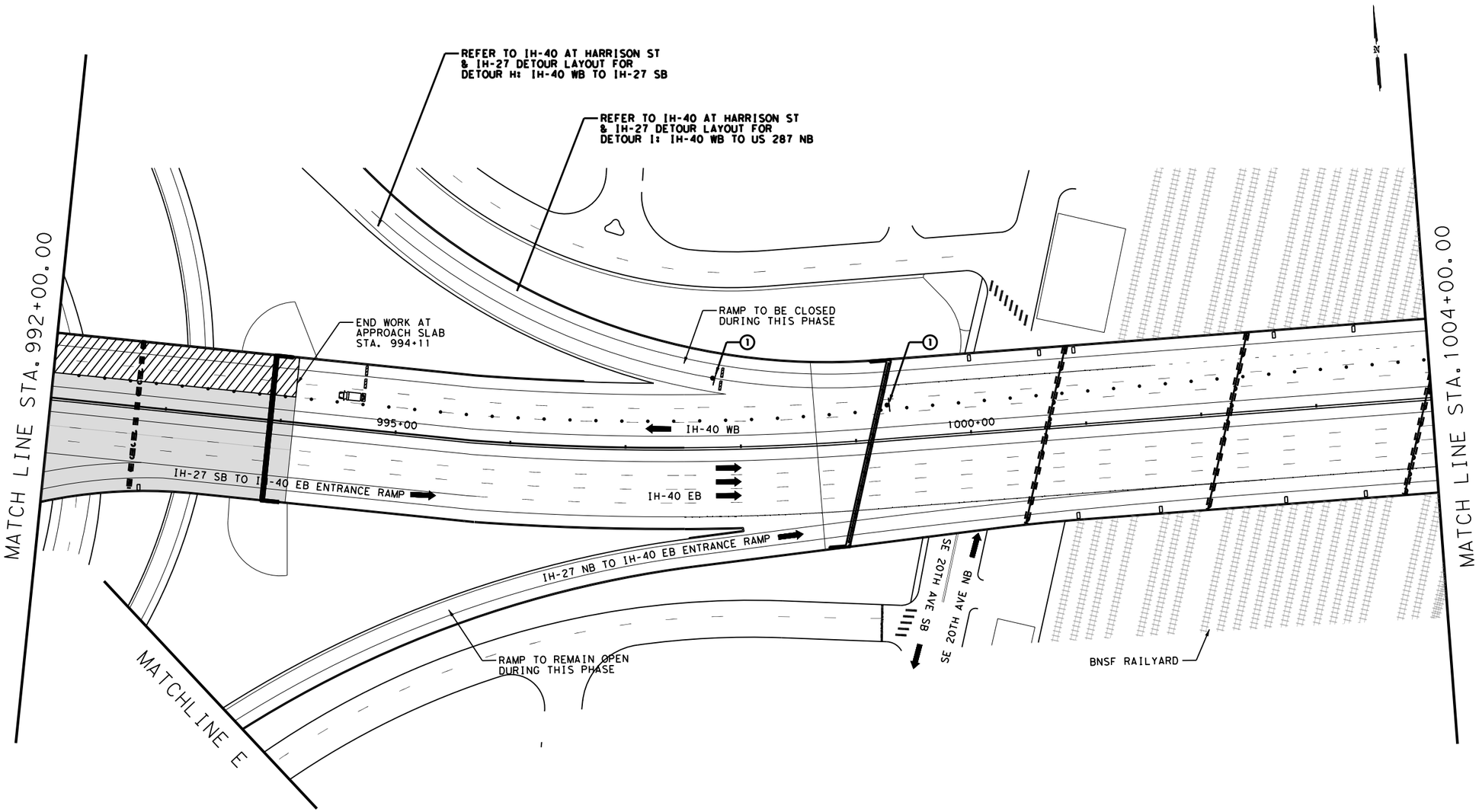
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 3 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		85

DATE: 11/28/2022 3:36:35 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

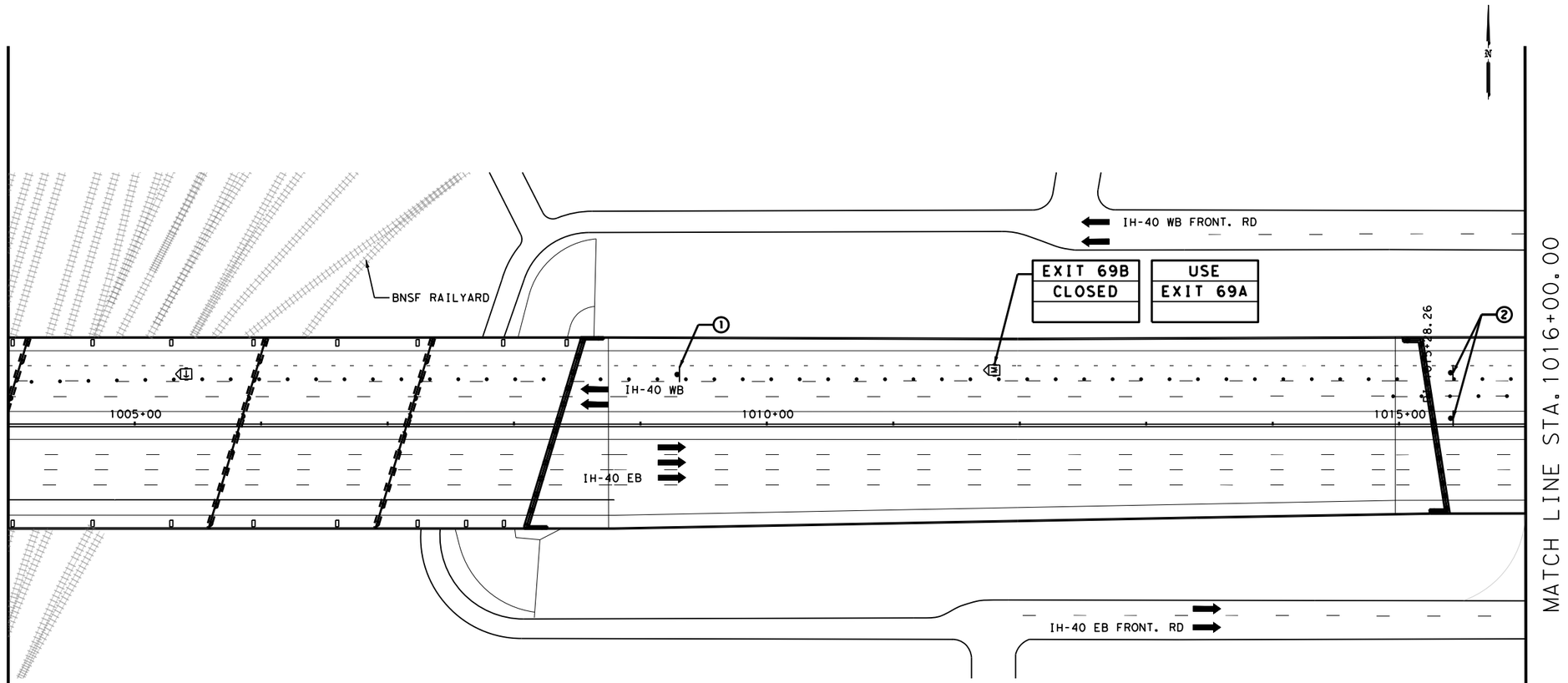
SHEET 4 OF 14

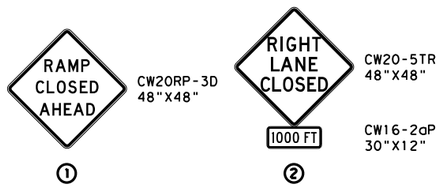
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		86

DATE: 11/28/2022 3:36:36 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS





LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

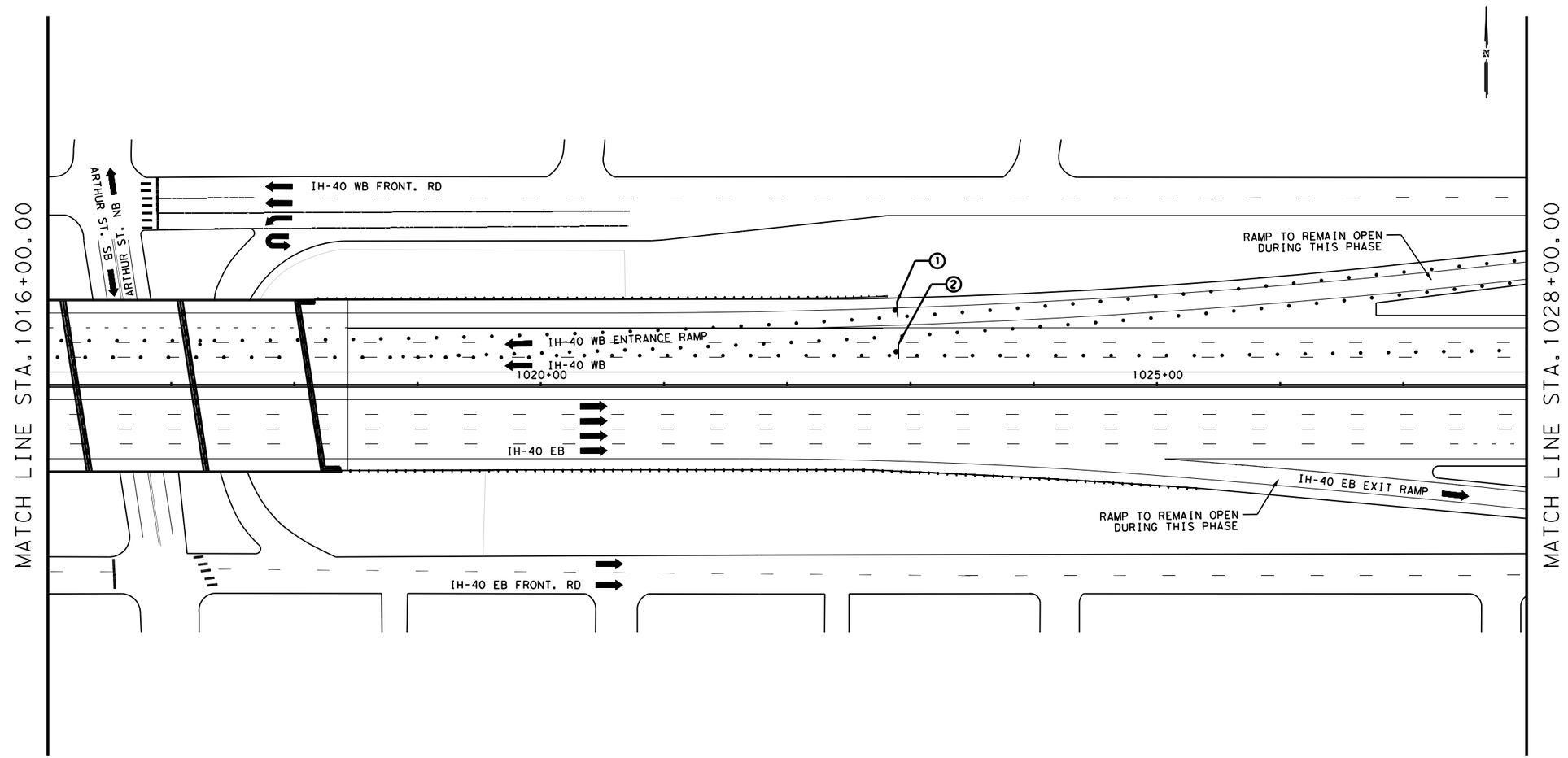
SHEET 5 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		87

DATE: 11/28/2022 3:36:38 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



CW4-6
48" X 48"

①

CW4-3R
48" X 48"

②

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

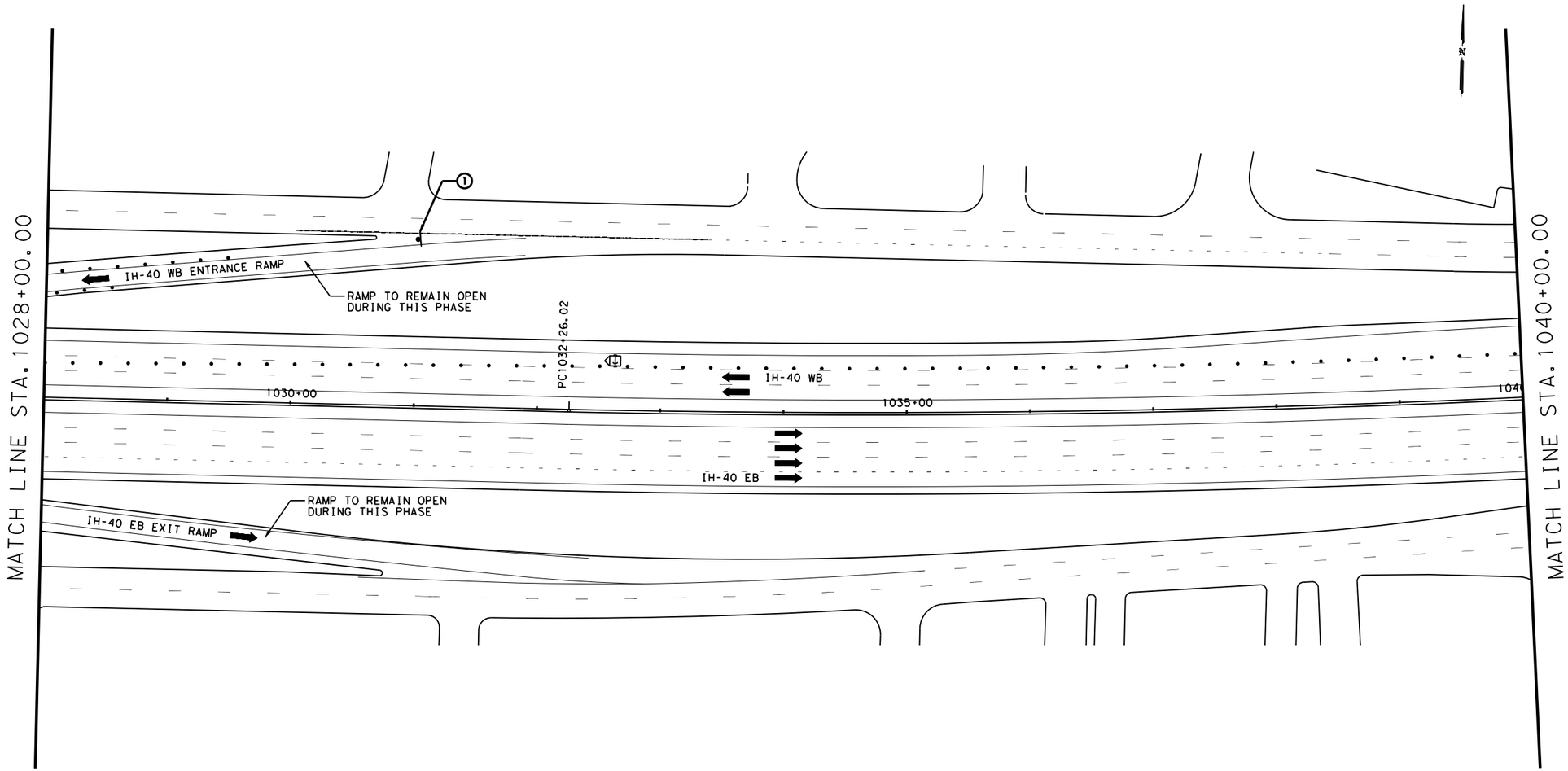
SHEET 6 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		88

DATE: 11/28/2022 3:36:40 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

CW20-1D
48" X 48"

CW13-1P
24" x 24"

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

L. Clint Harms

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

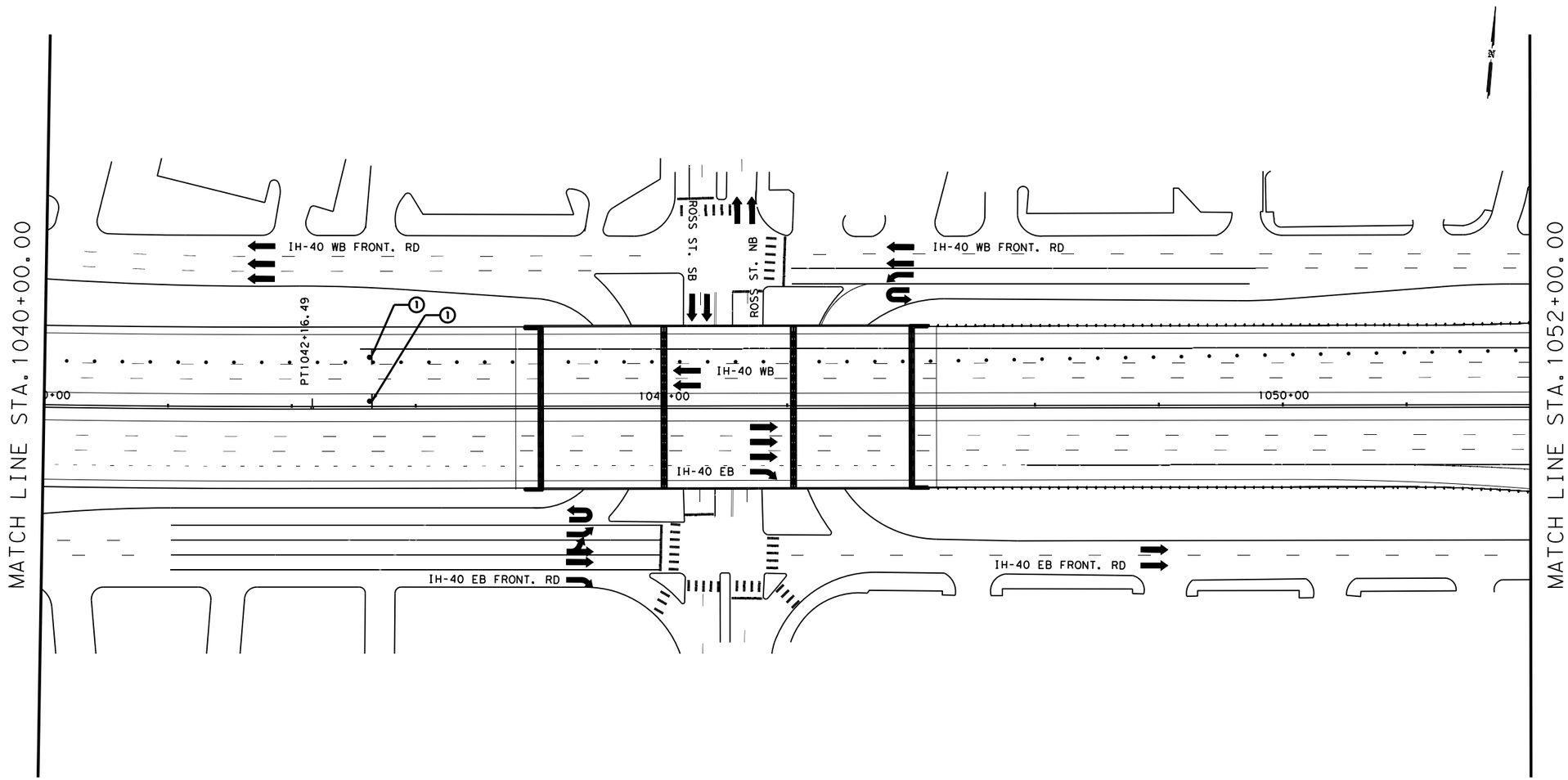
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 7 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		89

DATE: 11/28/2022 3:36:43 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - DesignPlan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

RIGHT LANE CLOSED
1000 FT
①

CW20-5TR
48"X48"

CW16-2aP
30"X12"

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

L. Clint Harms
02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

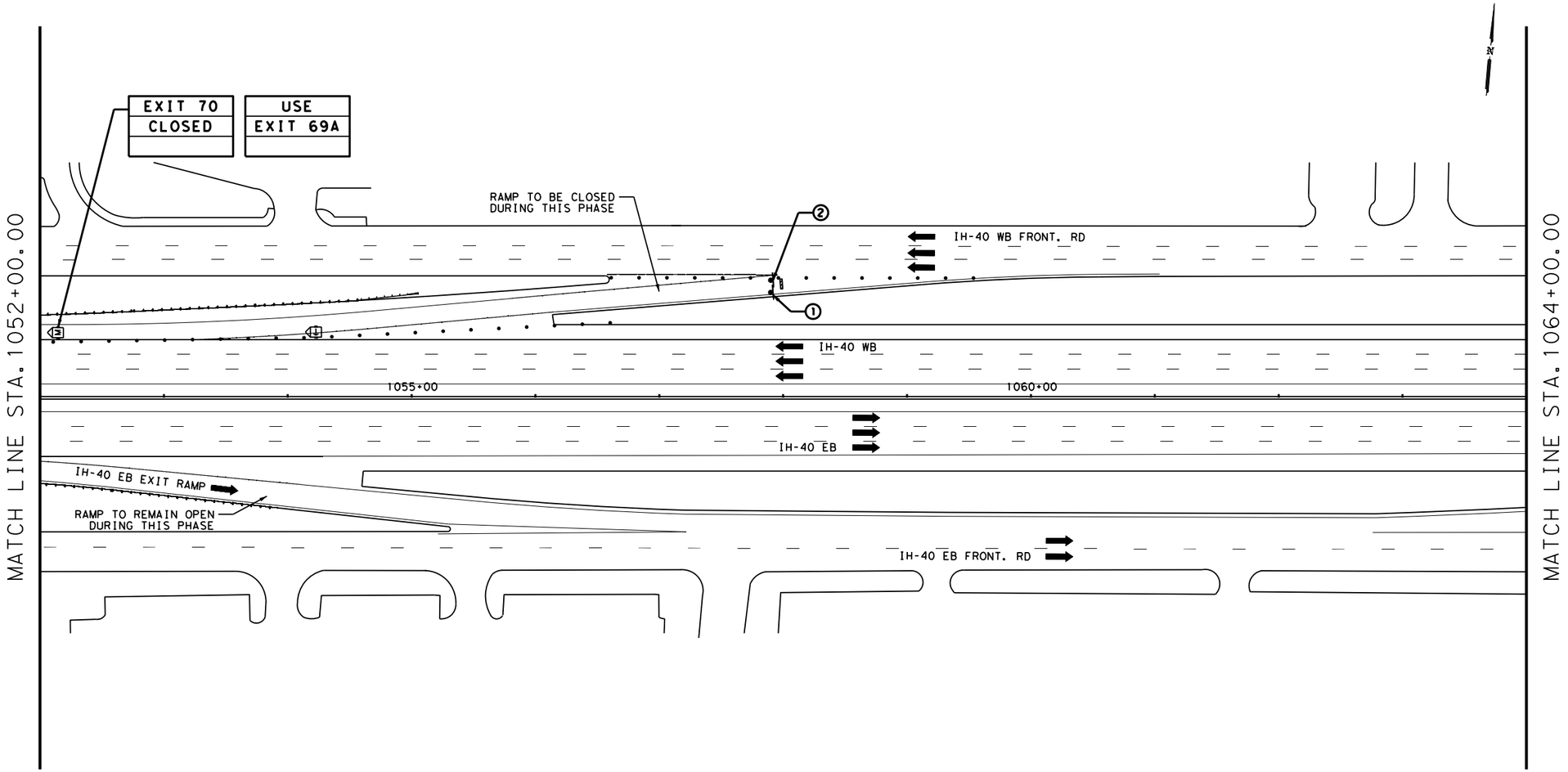
SHEET 8 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		90

DATE: 11/28/2022 3:36:44 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30" ①

USE NEXT RAMP CW25-1T 48"X48" ②

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

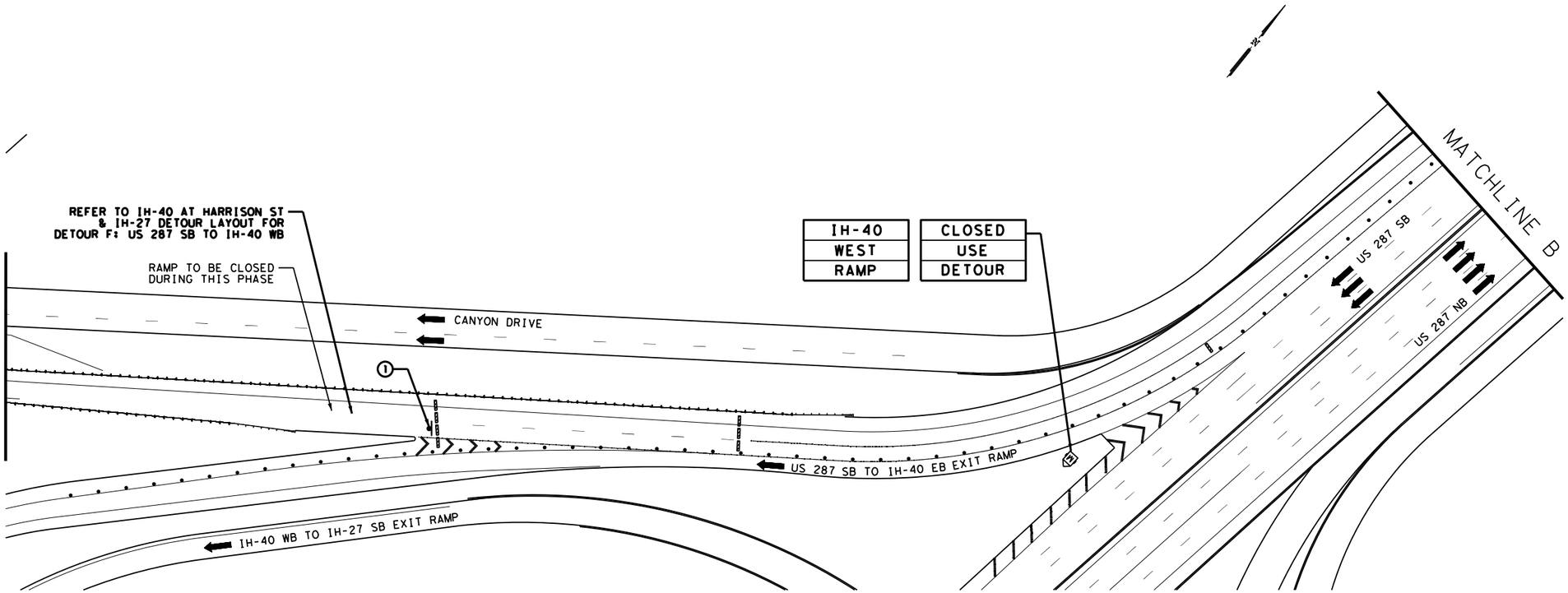
SHEET 9 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		91

DATE: 11/28/2022 3:36:46 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

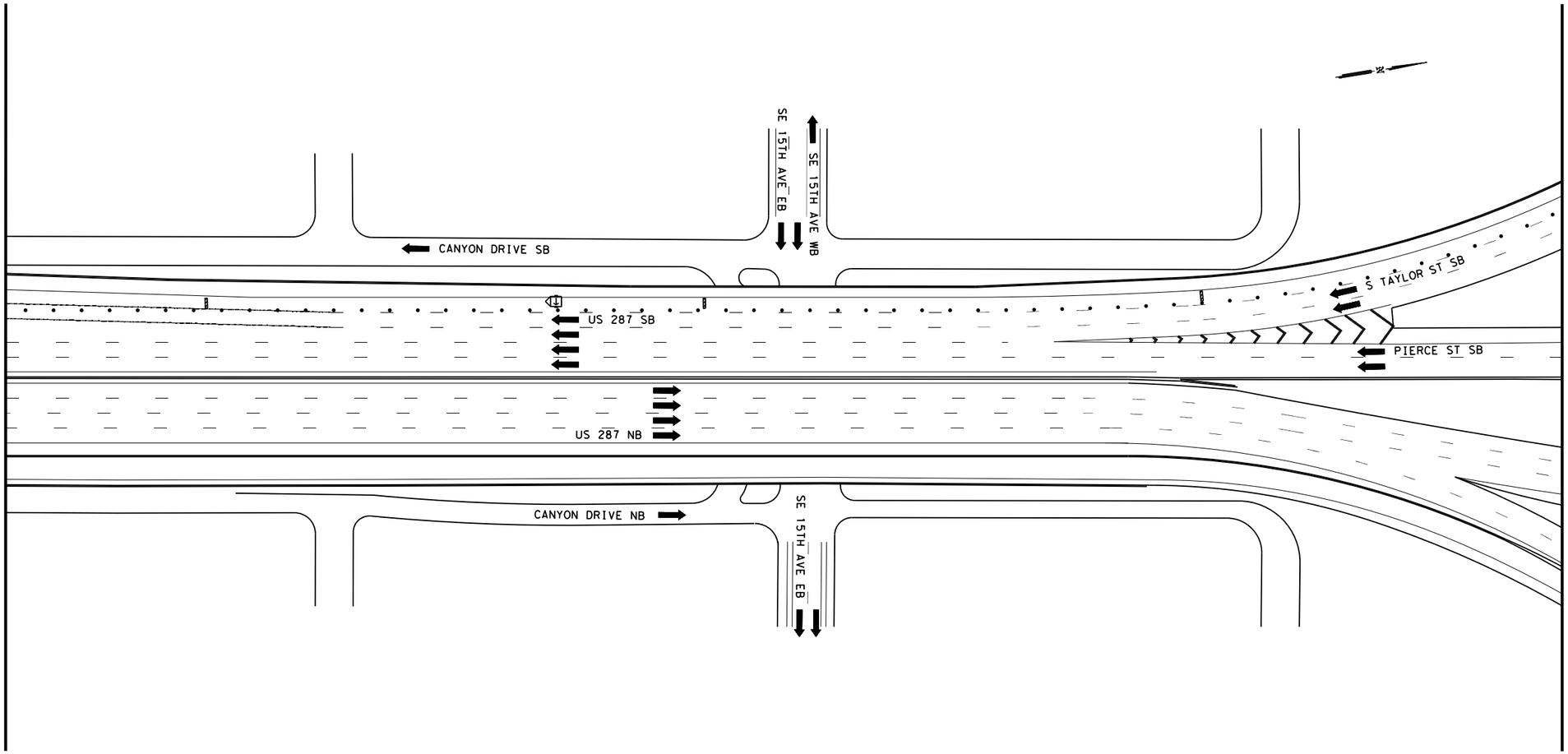
SHEET 10 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		92

DATE: 11/28/2022 3:36:48 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

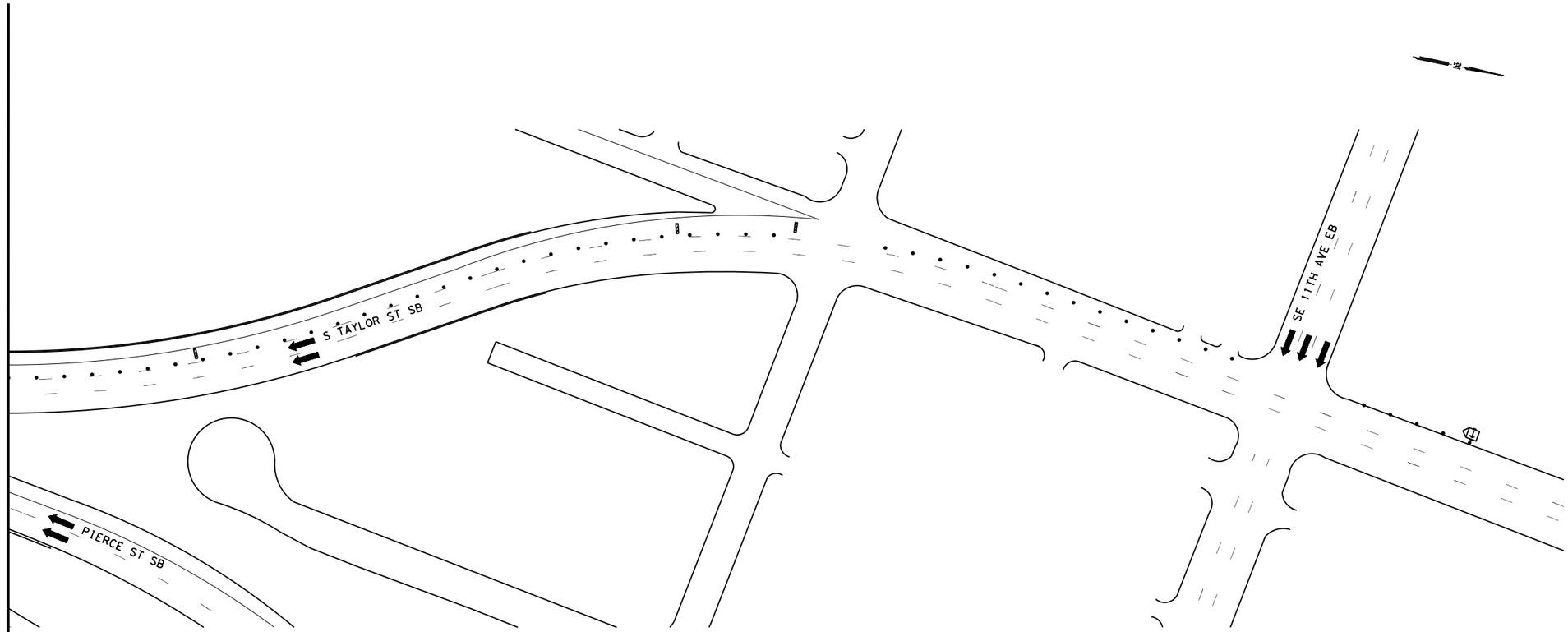
SHEET 11 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		93

DATE: 11/28/2022 3:36:51 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

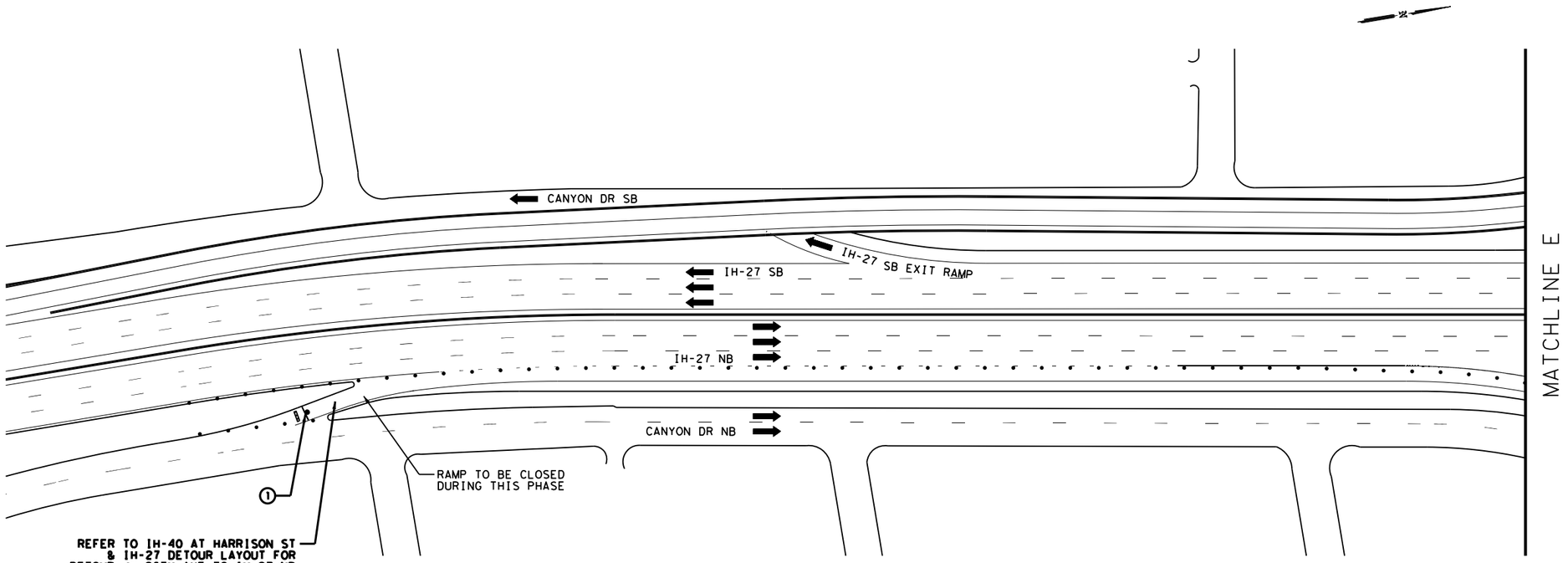
SHEET 12 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		94

DATE: 11/28/2022 3:36:52 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

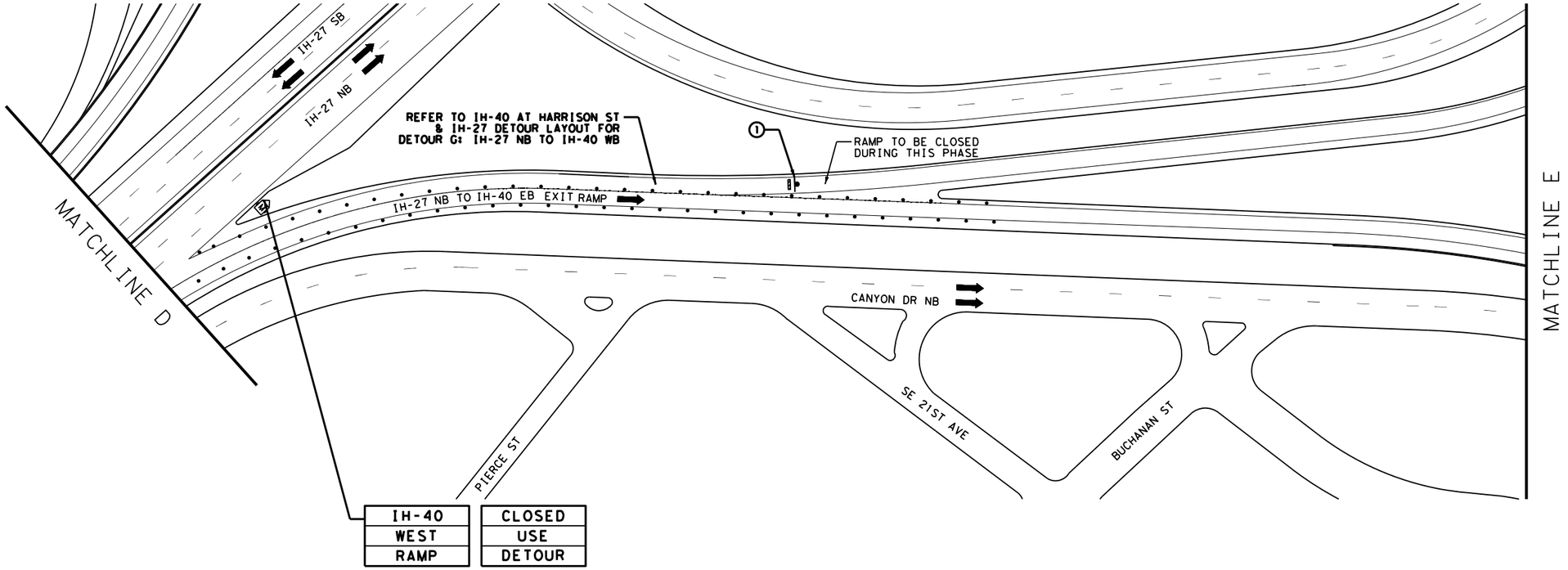
SHEET 13 OF 14

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		95

DATE: 11/28/2022 3:36:54 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST AND IH-27

PHASE 2 STEP 2 TCP

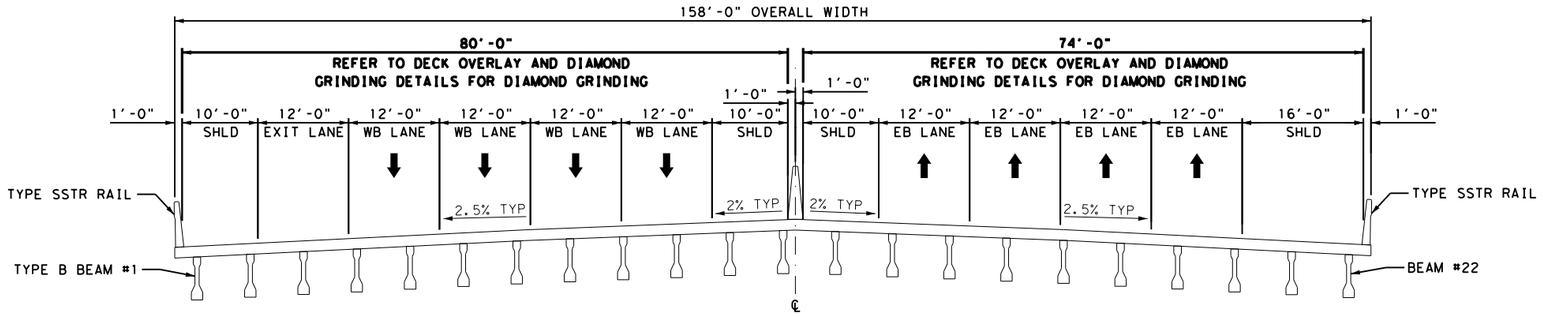
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 14 OF 14

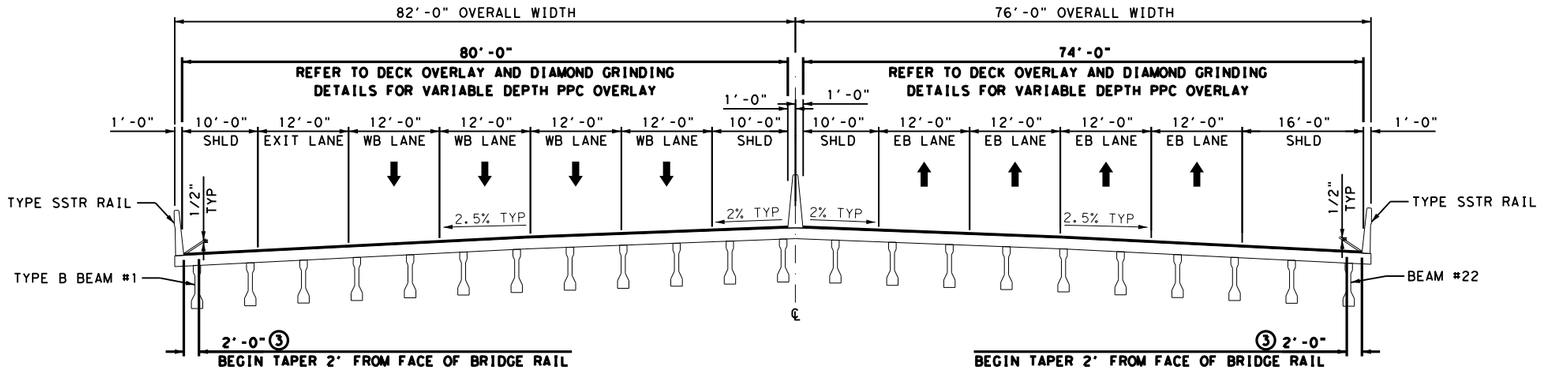
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		96

DATE: 11/28/2022 3:36:55 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT HARRISON ST\229_IH40_AT_HARRISON_ST_&_IH27_PHASE_2_STEP_2_TCP.dgn



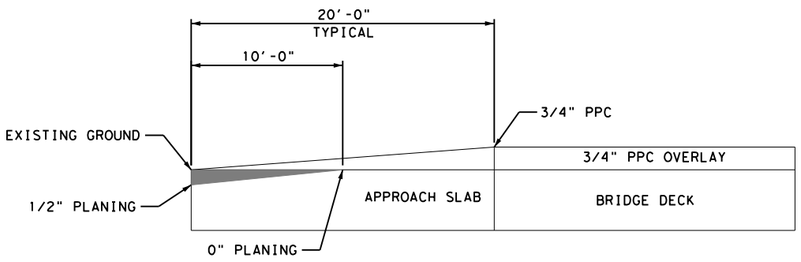
EXISTING TYPICAL SECTION

STA. 968+64 TO STA. 975+42



PROPOSED TYPICAL SECTION

STA. 968+64 TO STA. 975+42



APPROACH SLAB TIE-IN

NTS

NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.

LEGEND

PLANE CONC PAV (0" TO 1/2")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST

TYPICAL SECTIONS

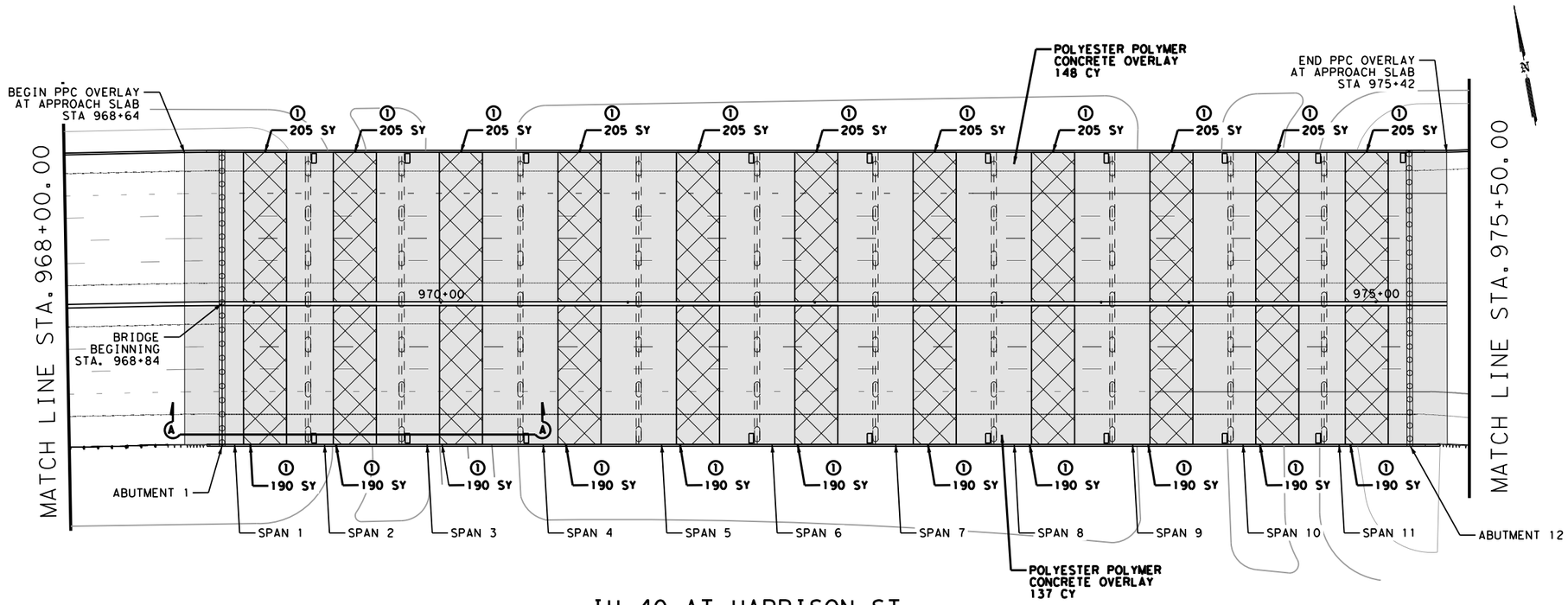
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

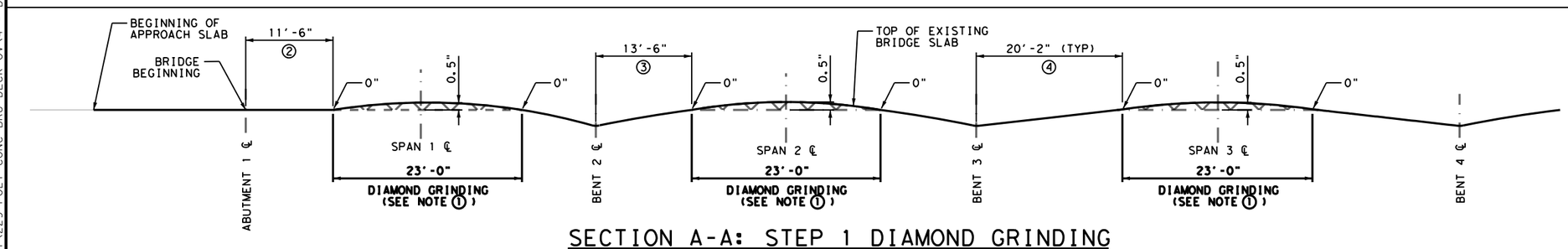
SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		97

DATE: 11/28/2022 3:36:59 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\1. General\IH-40 AT HARRISON ST\229_IH 40 @ HARRISON ST TYPICAL SECTIONS.dgn

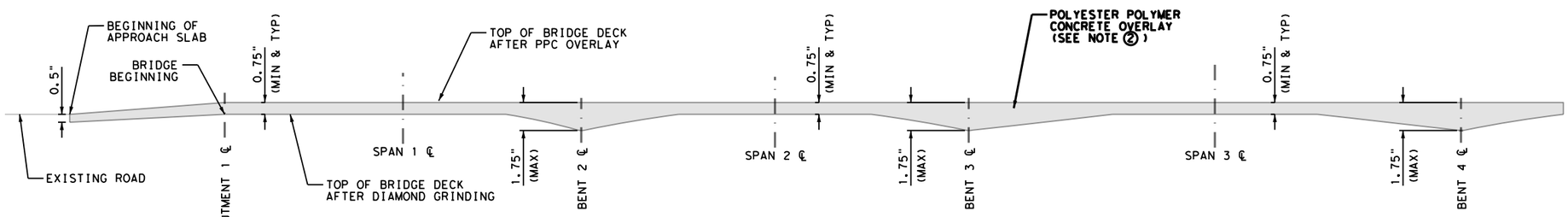


IH-40 AT HARRISON ST



SECTION A-A: STEP 1 DIAMOND GRINDING

SCALE: N.T.S.



SECTION A-A: STEP 2 POLYESTER POLYMER CONCRETE OVERLAY

SCALE: N.T.S.

NOTES

① DIAMOND GRINDING IS TO BE PERFORMED TO IMPROVE RIDE QUALITY BY REDUCING THE EFFECTS OF CAMBER AT BRIDGE DECK MIDSPANS. THE MAXIMUM DEPTH OF DIAMOND GRINDING ANYWHERE ON THE BRIDGE IS TO BE 0.5". RIDE QUALITY VERIFICATION ASSOCIATED WITH DIAMOND GRINDING MUST BE PERFORMED IN ACCORDANCE WITH ITEM 585.

② VARIABLE DEPTH POLYESTER POLYMER CONCRETE OVERLAY IS TO BE PERFORMED TO IMPROVE RIDE QUALITY BY REDUCING THE EFFECTS OF CAMBER AT BRIDGE DECK MIDSPANS. VARIABLE DEPTH OVERLAY TO BE 0.75" AT BRIDGE DECK MIDSPANS TO 1.75" NEAR INTERIOR BENTS. RIDE QUALITY VERIFICATION ASSOCIATED WITH POLYESTER POLYMER CONCRETE OVERLAY MUST BE PERFORMED IN ACCORDANCE WITH ITEM 422.

③ SPAN 1 AND 11 HAVE THE SAME DISTANCE FROM THEIR RESPECTIVE ABUTMENT/ BENT TO START OF DIAMOND GRINDING.

④ SPAN 2 AND SPAN 10 HAVE THE SAME DISTANCE FROM THEIR RESPECTIVE BENTS TO START OF DIAMOND GRINDING.

⑤ SPANS 3 THRU 9 HAVE THE SAME DISTANCE FROM THEIR RESPECTIVE BENTS TO START OF DIAMOND GRINDING.

LEGEND

3004 6001 - CONTINUOUS DIAMOND GRINDING CONC PVMT (SY)

4106 6006 - POLYESTER POLYMER CONC OVERLAY (CY)

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST

DECK OVERLAY AND DIAMOND GRINDING DETAILS

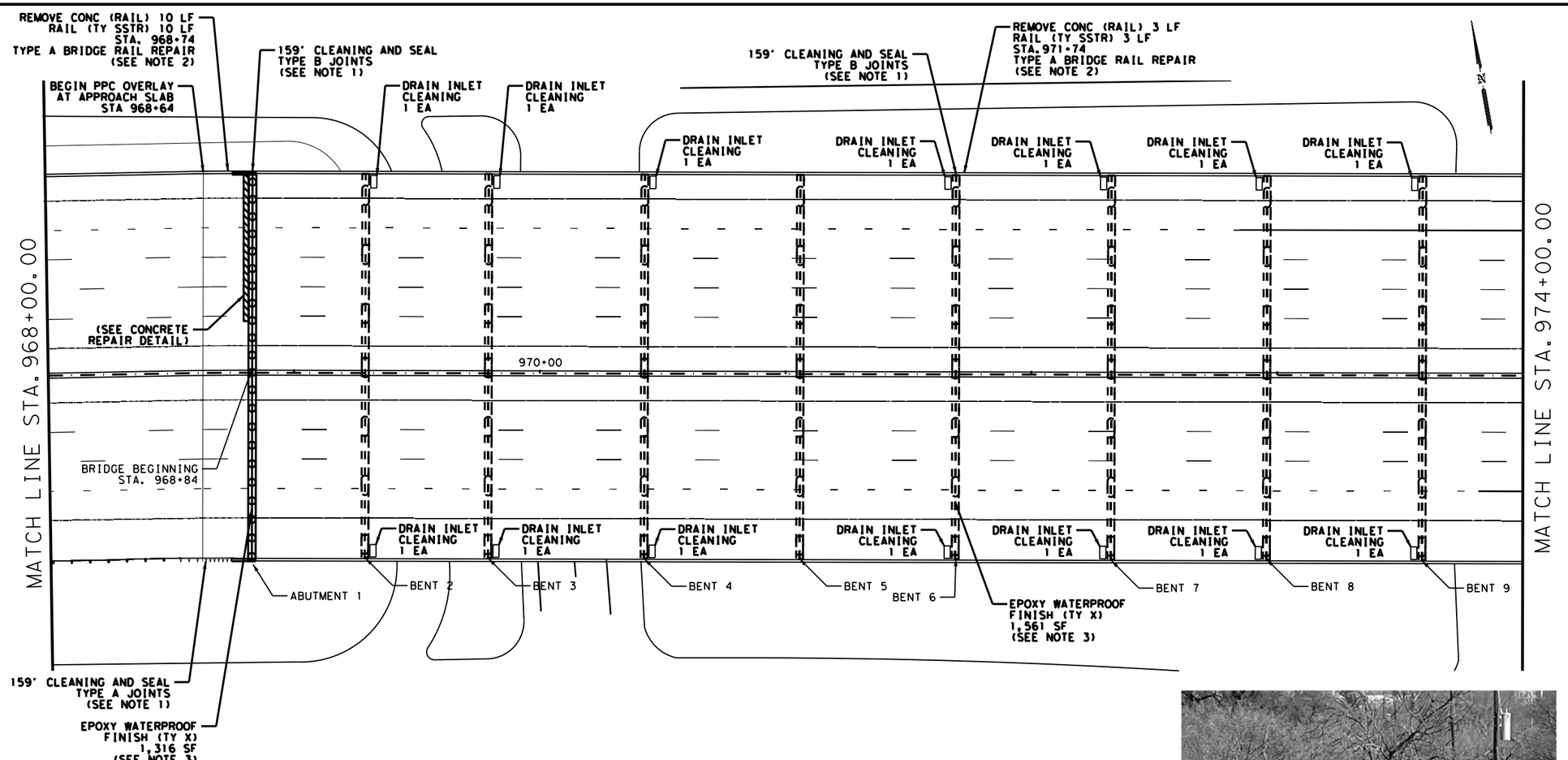
SCALE: 1" = 70'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		98

DATE: 11/28/2022 3:37:00 PM
FILE: T:\AMATPO\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH40 HARRISON ST\229_IH40_AT_HARRISON_ST_DIAMOND_GRINDING.dgn



NOTES

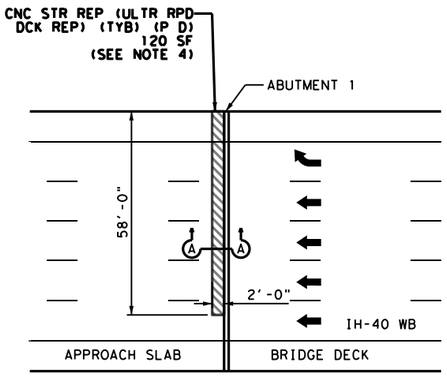
1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE IH-40 AT HARRISON ST BRIDGE RAIL REPAIR DETAIL FOR MORE INFORMATION.
3. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.
4. FLATTEN DAMAGED JOINT STEEL SO IT IS FLUSH WITH ADJACENT STEEL BY GRINDING OR HAMMERING.

CONCRETE REPAIR NOTES

5. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMMENCING WORK, PERFORM ALL CONCRETE REPAIRS IN ACCORDANCE WITH TXDOT CONCRETE REPAIR MANUAL. REPAIRS TO CONCRETE DECK AND APPROACHES WILL BE COMPLETED PRIOR TO THE APPLICATION OF THE POLYESTER POLYMER OVERLAY.
6. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON 3/14/22 CONDITION ASSESMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.

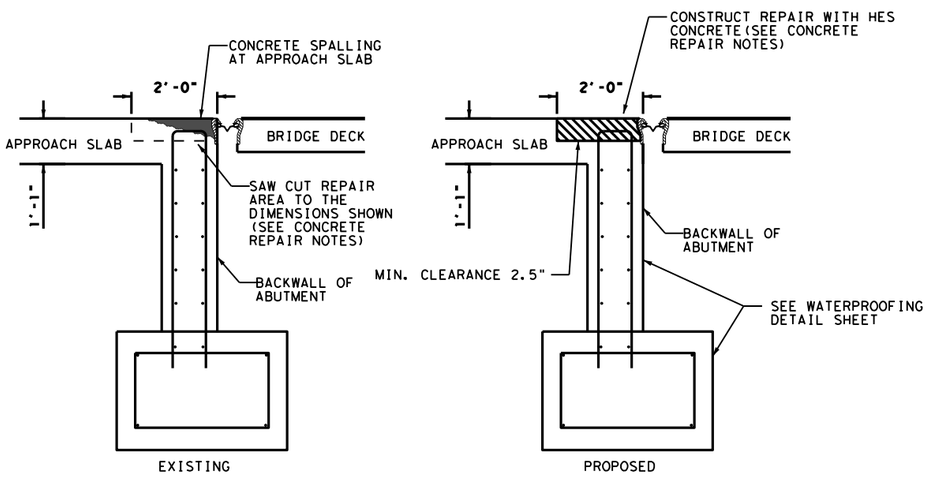
LEGEND

429 6016
CNC STR REP (ULTR RPD DCK REP)
(TYB) (P D)



CONCRETE REPAIR DETAIL

NTS



SECTION A-A

NTS

BRIDGE RAIL DAMAGE AT BENT 6

STA. 971+74 FAR INSIDE LANE
FACING NORTH
PHOTO TAKEN MAY 2022

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

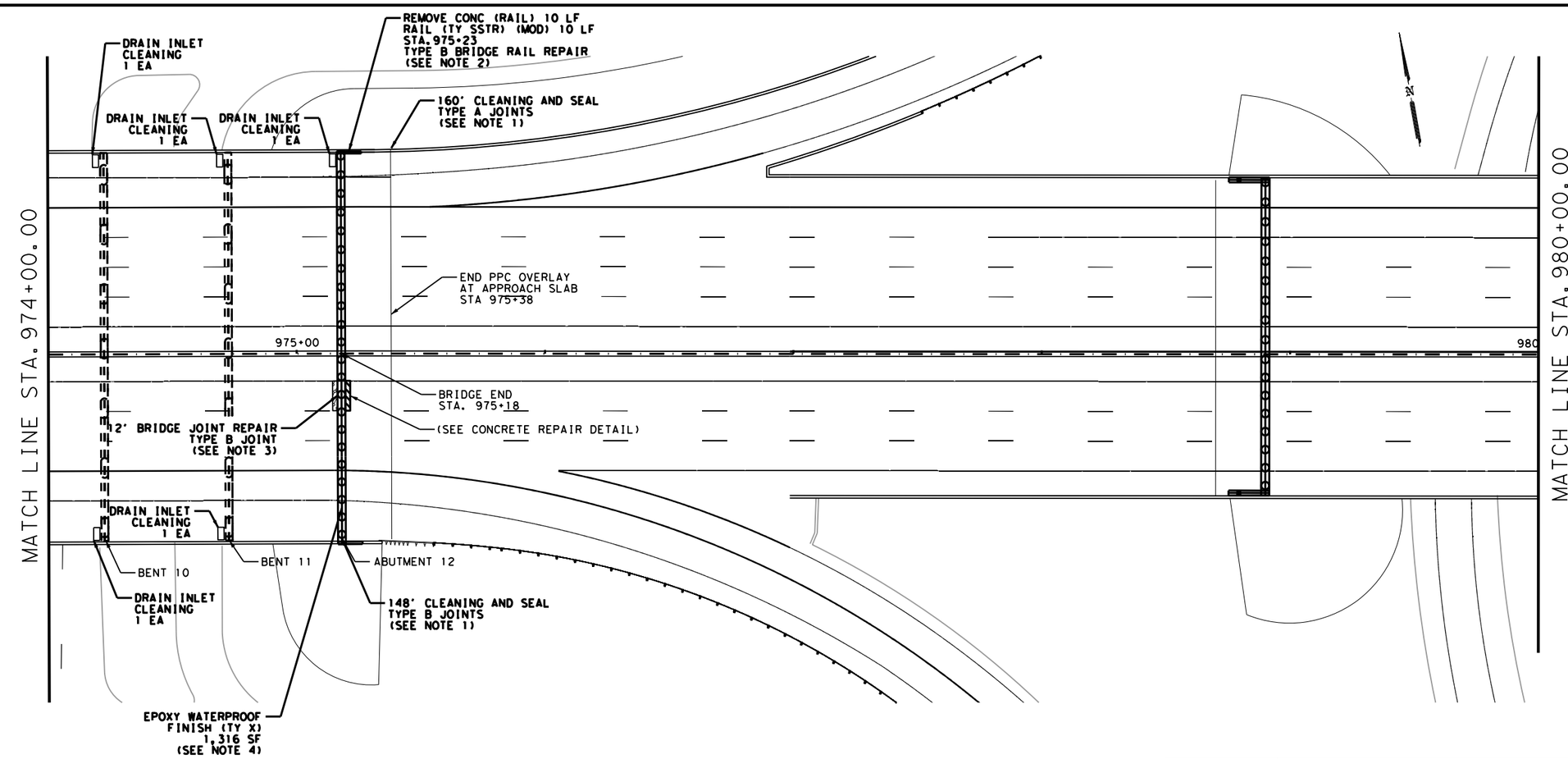
2022 Texas Department of Transportation

SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		99

DATE: 11/28/2022 3:37:05 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH40 HARRISON ST\229_IH40_AT_HARRISON_ST_BRIDGE_REPAIR_DETAILS.dgn

IH-40 AT HARRISON ST



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE IH-40 AT HARRISON ST BRIDGE RAIL REPAIR DETAIL FOR MORE INFORMATION.
3. SEE BRIDGE JOINT REPAIR DETAIL FOR MORE INFORMATION.
4. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

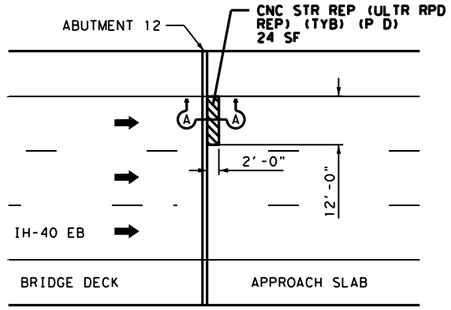
CONCRETE REPAIR NOTES

5. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMMENCING WORK, PERFORM ALL CONCRETE REPAIRS IN ACCORDANCE WITH TXDOT CONCRETE REPAIR MANUAL. REPAIRS TO CONCRETE DECK AND APPROACHES WILL BE COMPLETED PRIOR TO THE APPLICATION OF THE POLYESTER POLYMER OVERLAY.
6. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON 3/14/22 CONDITION ASSESEMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.

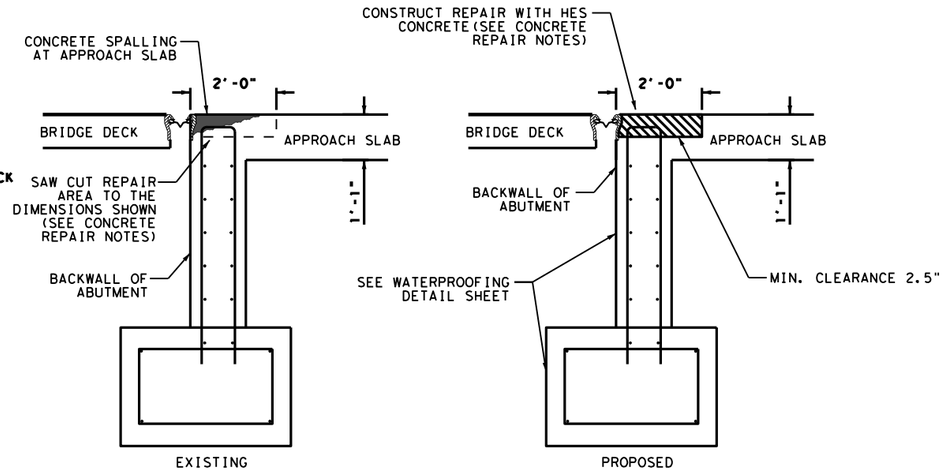
LEGEND

429 6016
CNC STR REP (ULTR RPD DCK REP) (TYB) (P D)

BRIDGE JOINT REPAIR



CONCRETE REPAIR DETAIL
NTS



SECTION A-A
NTS

PROTRUDING BRIDGE RAIL
ABUTMENT 12
FACING EAST
PHOTO TAKEN JULY 2021

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT HARRISON ST

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

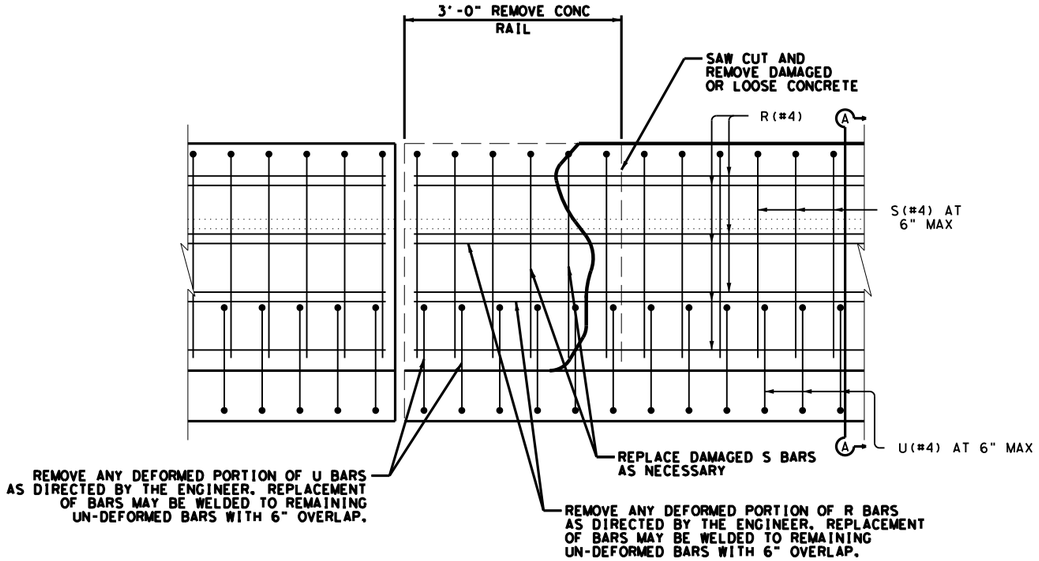
2022 Texas Department of Transportation

SHEET 2 OF 2

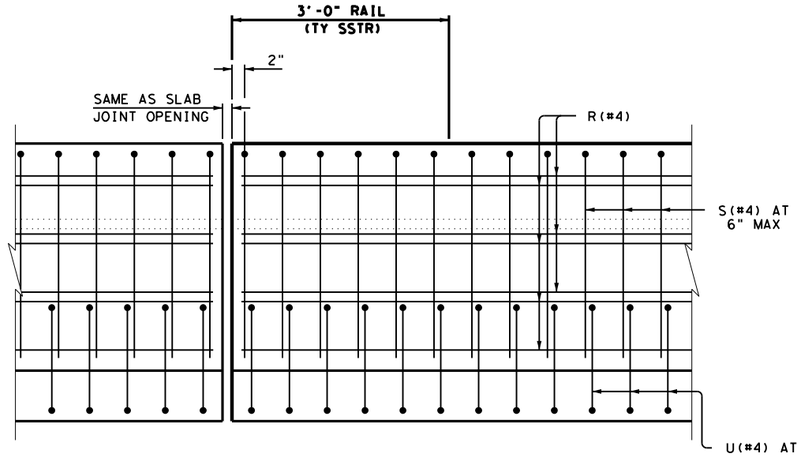
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		100

IH-40 HARRISON ST

DATE: 11/28/2022 3:37:07 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH40 HARRISON ST\229_IH40_AT_HARRISON_ST_BRIDGE_REPAIR_DETAILS.dgn



EXISTING



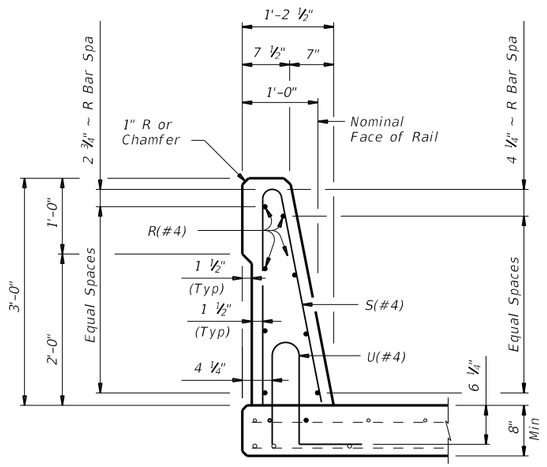
PROPOSED

CONCRETE REPAIR NOTES

1. CLASS C CONCRETE WILL BE USED FOR CONCRETE RAIL REPAIR.
2. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMMENCING WORK. PERFORM ALL CONCRETE REPAIRS IN ACCORDANCE WITH TXDOT CONCRETE REPAIR MANUAL.
3. A CERTIFIED WELDER IS NOT REQUIRED IF WELDING REINFORCEMENT IS NEEDED/REQUIRED.
4. REFER TO SSTR STANDARD ADDITIONAL INFORMATION.

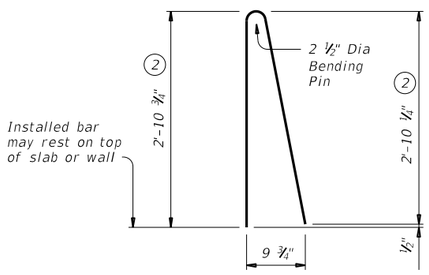
BRIDGE RAIL REPAIR TYPE A:

NTS

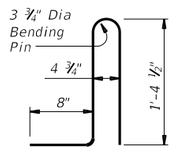


SECTION A-A

NTS



BARS S (#4)



BARS U (#4)

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST

BRIDGE RAIL REPAIR DETAIL

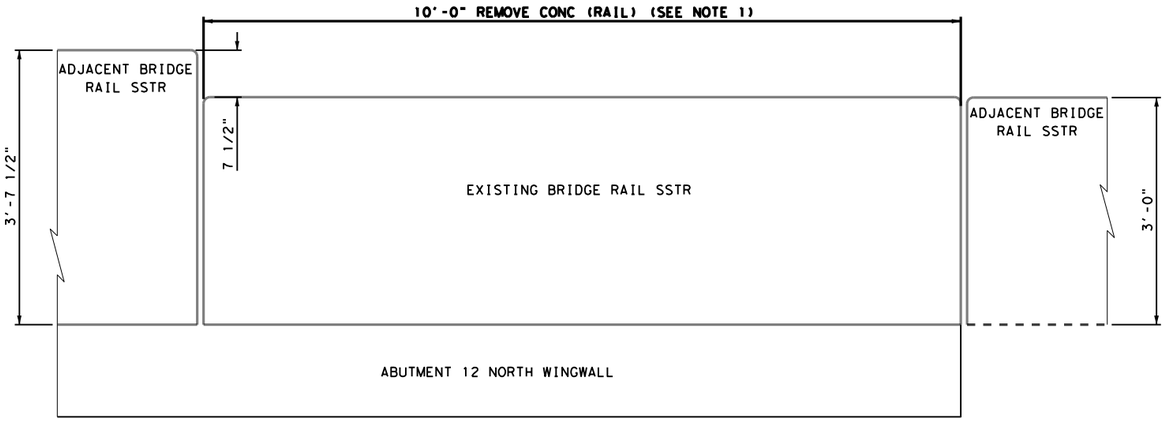
SCALE: NTS

2022 Texas Department of Transportation

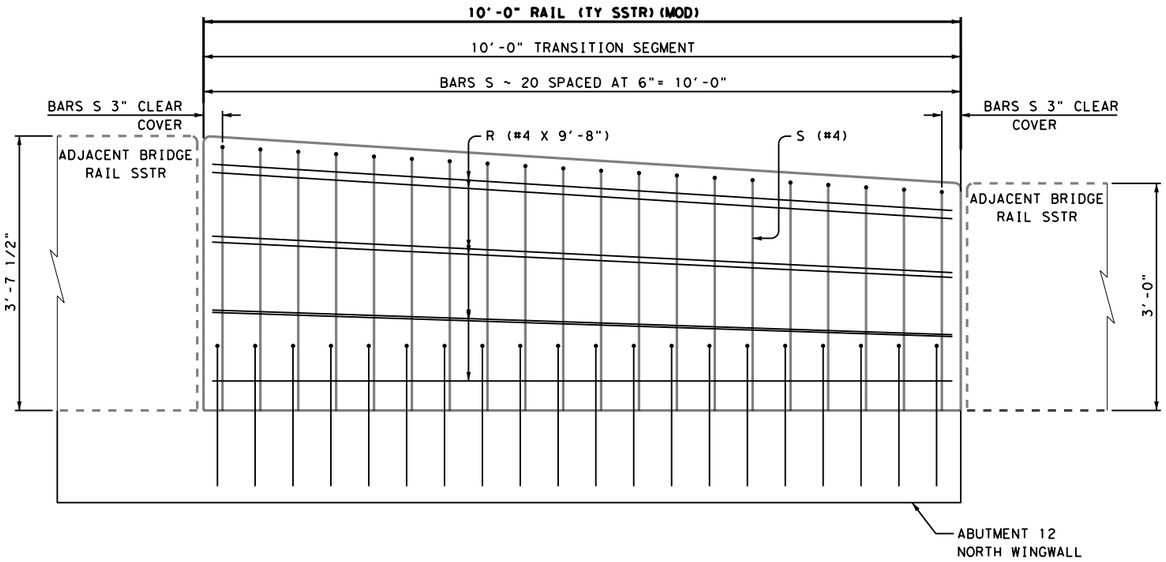
SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		101

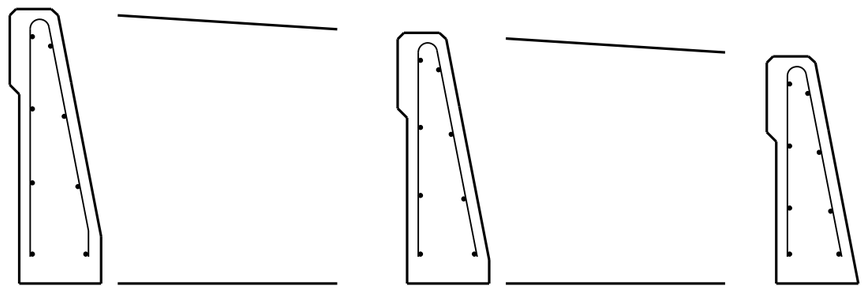
DATE: 11/28/2022 3:37:12 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\7. Bridge\IH40 HARRISON ST\229_IH-40_AT_HARRISION_ST_BRIDGE_RAIL_REPAIR_DETAIL.dgn



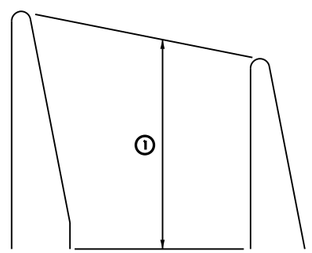
BRIDGE RAIL REPAIR TYPE B: EXISTING SIDE ELEVATION VIEW



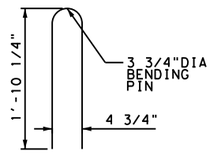
BRIDGE RAIL REPAIR TYPE B: PROPOSED SIDE ELEVATION VIEW



TYPICAL SECTIONS THRU TRANSITION SEGMENT



BARS S #4



BARS WU (#4)

SCALE: 1"= 10' (TYPICAL)

NOTES:

1. CARE MUST BE TAKEN AS TO NOT DAMAGE WU BARS DURING BRIDGE RAIL REMOVAL PROCESS. EXISTING WU BARS WILL BE USED TO TIE-IN PROPOSED BRIDGE RAIL TO EXISTING ABUTMENT WINGWALL. SEE SSTR STANDARDS FOR MORE DETAILS.
2. BARS S WITHIN THE TRANSITION SHALL BE ADJUSTED TO THE TRANSITION'S FACES AND HEIGHT. CARE SHALL BE TAKEN DURING REINFORCING ADJUSTMENT AND INSTALLATION TO ENSURE THAT COVER AND SPACING REQUIREMENTS ARE MET.
3. SEE SSTR STANDARDS FOR JOINT DETAILS.

GENERAL NOTES:

REINFORING FOR THE TRANSITION SEGMENT SHALL BE GRADE 60. ALL CONCRETE SHALL BE CLASS "C" UNLESS OTHERWISE SPECIFIED IN PLANS. CHAMFER ALL EXPOSED CORNERS 3/4" x 3/4".

THIS TRANSITION SEGMENT IS CAST-IN-PLACE. THE TRANSITION SEGMENT SHALL HAVE END FACES THAT ARE PARALLEL TO THE ADJACENT BARRIER.

HEIGHT AND FACE PROFILE OF THE TRANSITION SEGMENT SHALL BE GRADUALLY CHANGED, WITHIN THE LIMITS DETAILED, SO AS TO MATCH THE HEIGHT AND PROFILE OF THE ADJACENT BARRIERS. ADJUST (BEND AND RELOCATE) THE REINFORCING WITHIN THE TRANSITION PORTION OF THE SEGMENT AS NECESSARY TO CONFORM TO THE ALTERED BARRIER SHAPE. COVER AND MINIMUM SPACING REQUIREMENT OF THE REINFORCING SHALL NOT BE VIOLATED.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT HARRISON ST

BRIDGE RAIL REPAIR DETAIL

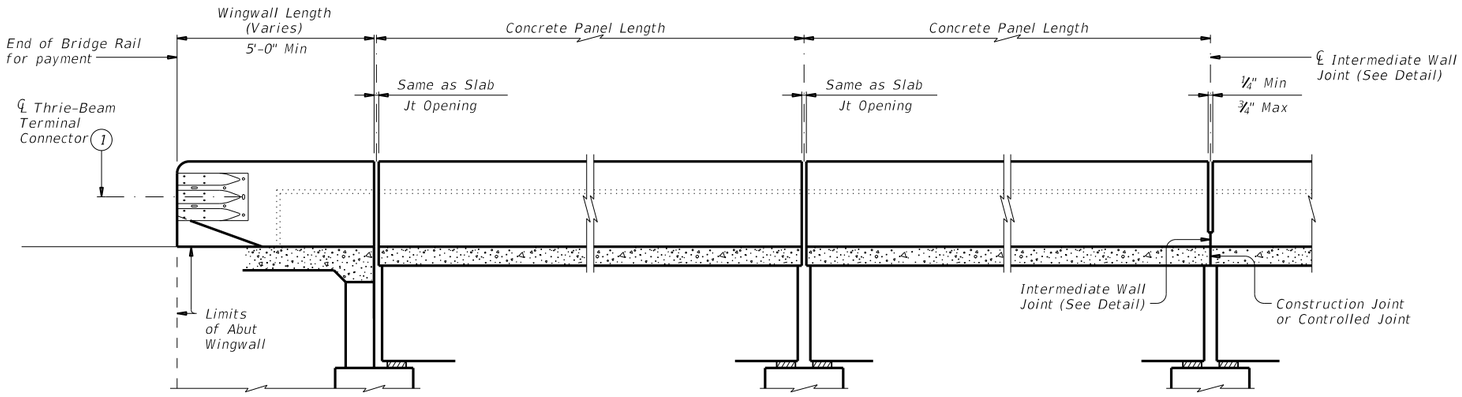
SCALE: NTS

2022 Texas Department of Transportation

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		102

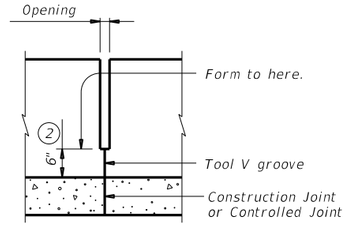
DATE: 11/28/2022 3:37:14 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\7. Bridge\IH40 HARRISON ST\229_IH-40_AT_HARRISION_ST_BRIDGE_RAIL_REPAIR_DETAIL.dgn

DATE: 11/28/2022 3:37:15 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY\Traffic Rail\"SINGLE"SLOPE TYPE SSTR.dgn
DESIGN AGENCY: TxDOT



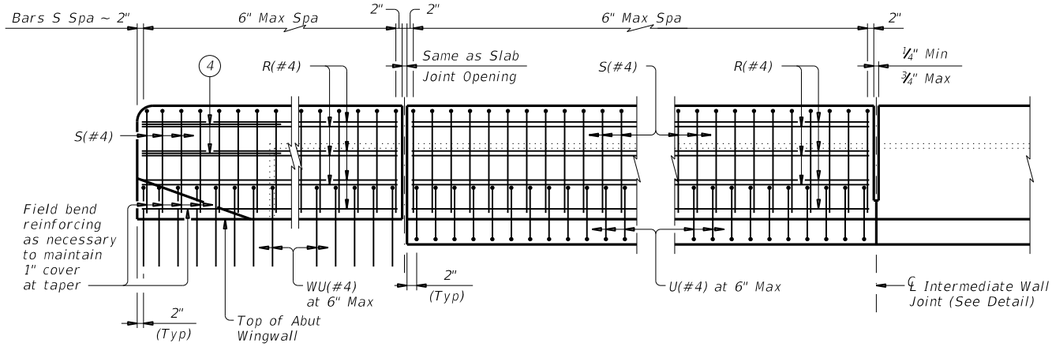
AT ABUTMENTS | AT BENTS WITH SLAB EXP JOINTS | AT BENTS WITHOUT SLAB EXP JOINTS

ROADWAY ELEVATION OF RAIL

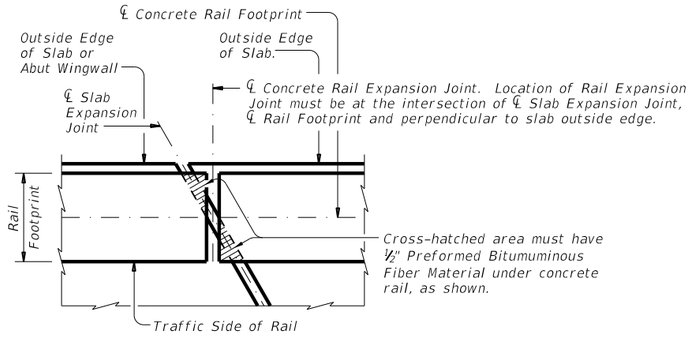


INTERMEDIATE WALL JOINT DETAIL

Provide at all interior bents without slab expansion joints.



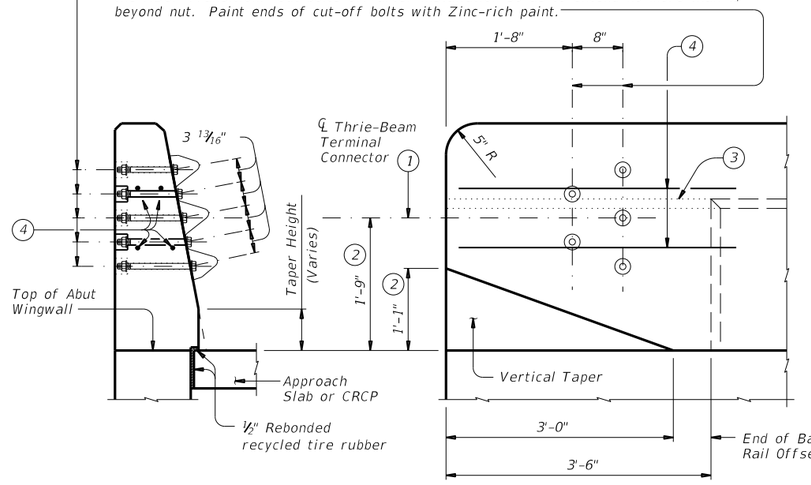
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



PLAN OF RAIL AT EXPANSION JOINTS

Example showing Slab Expansion Joints without breakbacks.

℄ 5 ~ 1" Dia holes and 2 ½" Dia x 2" deep recesses. Form or core holes and recesses. Percussion drilling is not permitted. Adjust placement of reinforcing steel as necessary to avoid bolt holes and recesses. Bolt recesses are only required when pedestrian sidewalks are adjacent to back of rail. Tighten the 5 Terminal Connection Bolts in a well distributed pattern so to prevent damage or distortion of the Thrie-Beam Connection and the MBGF Transition. Cut bolts off after installation so as to extend no more than ¾" beyond nut. Paint ends of cut-off bolts with Zinc-rich paint.



SECTION | ELEVATION

TERMINAL CONNECTION DETAILS

1. Terminal Connectors and associated hardware are to be paid for under the Item "Metal Beam Guard Fence". Attach Metal Beam Guard Fence Transitions to the bridge rail and extend along the embankment unless otherwise shown in the plans.
2. Increase 2" for structures with Overlay.
3. Back of rail offset may, with Engineer's approval, be continued to the end of the railing.
4. Place 4 additional Bars R(#4) 3'-8" in length inside Bars S(#4) and centered 2'-0" from end of rail when Terminal Connections are required.

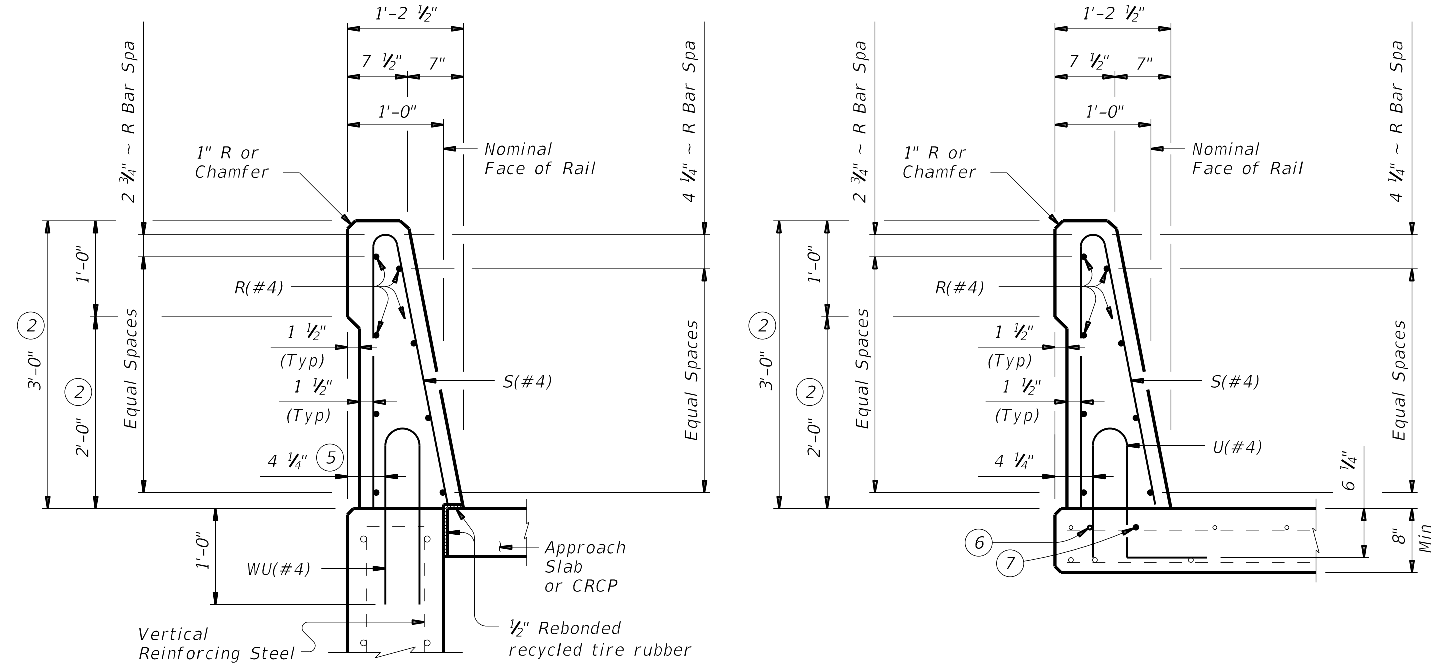
SHEET 1 OF 2

Texas Department of Transportation | Bridge Division Standard

TRAFFIC RAIL SINGLE SLOPE

TYPE SSTR

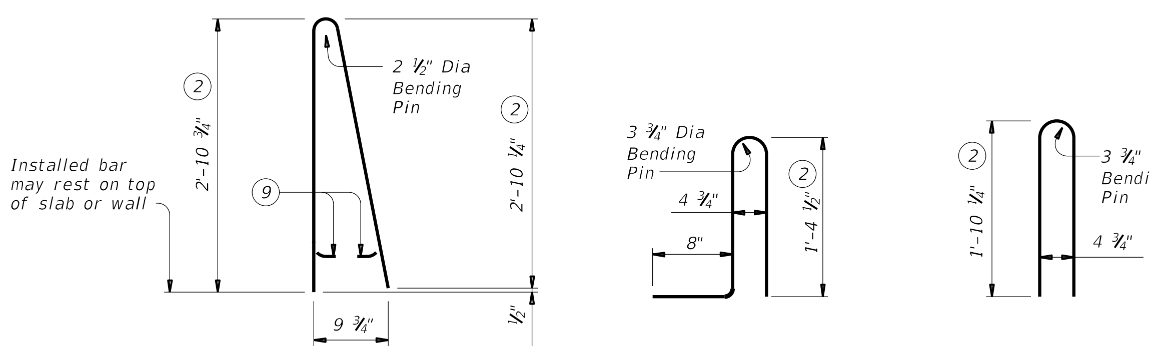
FILE: rlstd014-19.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: TxDOT
©TxDOT September 2019	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		103



ON ABUTMENT WINGWALLS OR CIP RETAINING WALLS

ON BRIDGE SLAB

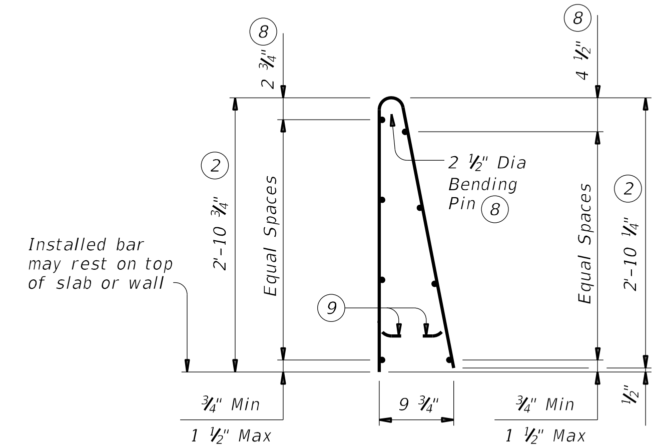
SECTIONS THRU RAIL



BARS S (#4)

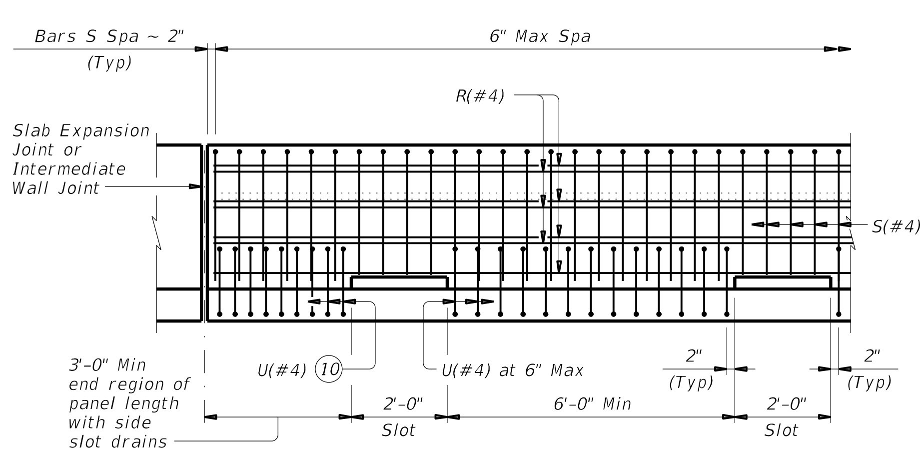
BARS U (#4)

BARS WU (#4)



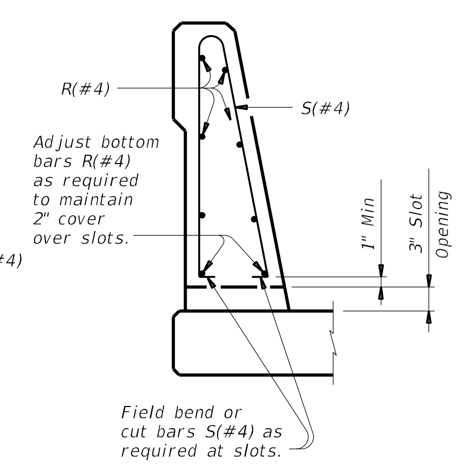
OPTIONAL WELDED WIRE REINFORCEMENT (WWR)

DESCRIPTION	LONGITUDINAL WIRES	VERTICAL WIRES
Minimum (Cumulative Total) Wire Area	1.067 Sq In.	0.267 Sq In. per Ft
	No. of Wires	Spacing
Minimum	8	4"
Maximum	10	8"
Maximum Wire Size Differential	The smaller wire must have an area of 40% or more of the larger wire.	



OPTIONAL SIDE SLOT DRAIN DETAIL

Note: Side Slot Drains may be used where shown elsewhere on the plans or as directed by the Engineer. Drains should not be placed over railroad tracks, lower roadways, or sidewalks. When this rail is used as a separator between a roadway surface and a sidewalk surface, side drain slots will not be permitted.



SECTION THRU OPTIONAL SIDE SLOT DRAIN

(2) Increase 2" for structures with Overlay.

(5) 5 ¼" when vertical reinforcing has closer clear cover over horizontal reinforcing in abutment wingwalls or retaining walls on traffic side of wall.

(6) As an aid in supporting reinforcement, additional longitudinal bars may be used in the slab with the approval of the Engineer. Such bars must be furnished at the Contractor's expense.

(7) Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie reinforcing.

(8) No longitudinal wires may be within upper bend.

(9) Bend or cut as required to clear drain slots.

(10) Space U(#4) bars at 4" Max when end region of panel length is less than 6'-0" to side slot drain. Space U(#4) bars at 6" Max when end region of panel length is 6'-0" and greator to side slot drain.

CONSTRUCTION NOTES:

This railing may be constructed by the slipform process when approved by the Engineer, with equipment approved by the Engineer. Provide sensor control for both line and grade. Tack welding to provide bracing for slipform operations is acceptable. Welding may be performed at a minimum spacing of 3 ft between the cage and the anchorage. It is permissible to weld to bars U, WU and S at any location on the cage. If increased bracing is needed, provide additional anchorage devices and weld in the upper two thirds of the cage. Paint welded areas on epoxy coated and/or galvanized reinforcing with an organic zinc rich paint in accordance with Item 445 "Galvanizing".

If rail is slipformed, apply an heavy epoxy bead 1" behind toe of traffic side of rail to concrete deck just prior to slip forming. Provide a ⅜" width x ¼" tall heavy epoxy bead with Type III, Class C or a Type V epoxy.

The back of railing must be vertical unless otherwise shown in the plans or approved by the Engineer.

MATERIAL NOTES:

Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere.

Provide Grade 60 reinforcing steel.

Epoxy coat or galvanize all reinforcing steel if slab bars are epoxy coated or galvanized.

Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U and WU unless noted otherwise. Deformed WWR (ASTM A1064) may be substituted for Bars R and S, as shown. Combinations of reinforcing steel and WWR or configurations of WWR other than shown are permitted if conditions in the table are satisfied. Provide the same laps as required for reinforcing bars.

Provide bar laps, where required, as follows:
Uncoated or galvanized ~ #4 = 1'-7"
Epoxy coated ~ #4 = 2'-5"

GENERAL NOTES:

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This rail can be used for speeds of 50 mph and greater when a TL-3 rated guard fence transition is used. When a TL-2 rated guard fence transition is used, this rail can only be used for speeds of 45 mph and less.

Do not use this railing on bridges with expansion joints providing more than 5" movement.

Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.

Shop drawings will not be required for this rail.

Average weight of railing with no overlay is 376 plf.

Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are out-to-out of bar.

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

TRAFFIC RAIL SINGLE SLOPE

TYPE SSTR

FILE: rlstd014-19.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: TxDOT
©TxDOT September 2019	CONT 0275	SECT 01	JOB 229, ETC	HIGHWAY IH-40, ETC
REVISIONS	DIST AMA		COUNTY POTTER	SHEET NO. 104

DATE: 11/28/2022 3:37:17 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Plan Set\7. Bridge\Bridge Standards\TRAFFIC RAIL SINGLE SLOPE TYPE SSTR.dgn

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT IH-27

LOCATION	427 6007 EPOXY WATERPROOF FINISH (TY X) SF	438 6001 CLEANING AND SEALING EXIST JOINTS LF	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7) LF	668 6016 PREFAB PAV MARK TY B (W)(12")(SLD) LF	6019 6006 PREFB PV MK W/WNTY TY B (W)(6")(SLD) LF	6019 6014 PREFB PV MK W/WNTY TY B (Y)(6")(SLD) LF	6019 6007 PREFB PV MK W/WNTY TY B(W)6"(BRK)CN TST LF	764 6001 DRAIN INLET CLEANING EA	4106 6007 POLYESTER POLYMER CONC OVERLAY (1") SY
TYPICAL SECTIONS SHEET 1 OF 1				393	3,379	3,290	1,550		19,177
BRIDGE REPAIR DETAIL SHEET 1 OF 3	4,225	408	158					9	608
BRIDGE REPAIR DETAIL SHEET 2 OF 3	2,612	232						14	
BRIDGE REPAIR DETAIL SHEET 3 OF 3	4,474	430	155					7	646
CSJ: 0275-01-229 TOTALS:	**11,311**	**1,070**	**313**	**393**	**3,379**	**3,290**	**1,550**	**30**	**20,431**

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT IH-27
QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		105

DATE: 1/18/2023 5:18:53 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\1. General\IH-40 AT I27\229_IH40_AT_IH27_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).

2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.

5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.

7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.

8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.

9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.

IH-40 AT IH-27 PHASE 1:

11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 INSIDE LANES AND INSIDE SHOULDERS.

IH-40 AT IH-27 PHASE 2 STEP 1:

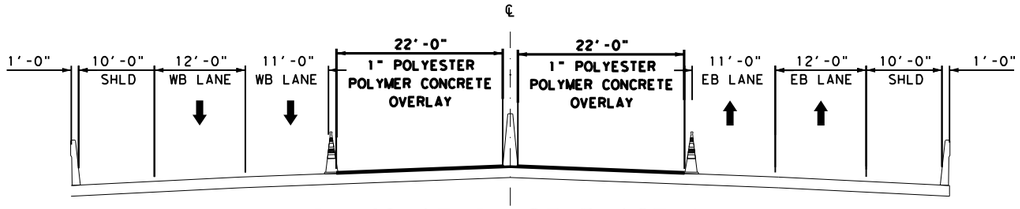
13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 THREE EB OUTSIDE LANES, AND EB OUTSIDE SHOULDER. REFER TO IH-40 AT HARRISON ST AND IH-27 DETOUR LAYOUT AND IH-40 AT HARRISON ST AND IH-27 TCP FOR MORE INFORMATION.

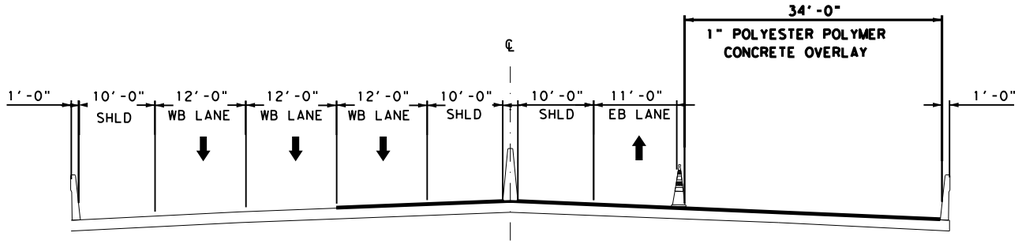
IH-40 AT IH-27 PHASE 2 STEP 2:

15. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

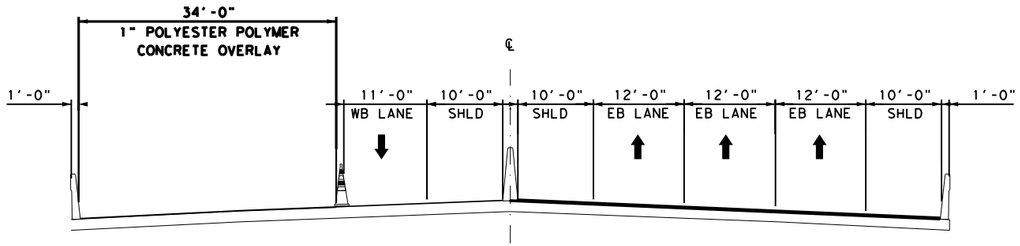
16. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 THREE WB OUTSIDE LANES, AND WB OUTSIDE SHOULDER. REFER TO IH-40 AT HARRISON ST AND IH-27 DETOUR LAYOUT AND IH-40 AT HARRISON ST AND IH-27 TCP FOR MORE INFORMATION.



IH-40 AT IH-27 PHASE 1:
STA. 978+70 TO STA. 994+11



IH-40 AT IH-27 PHASE 2 STEP 1:
STA. 978+70 TO STA. 994+11



IH-40 AT I-27 PHASE 2 STEP 2:
STA. 978+70 TO STA. 994+11

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT IH-27
TCP NARRATIVE

SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		106

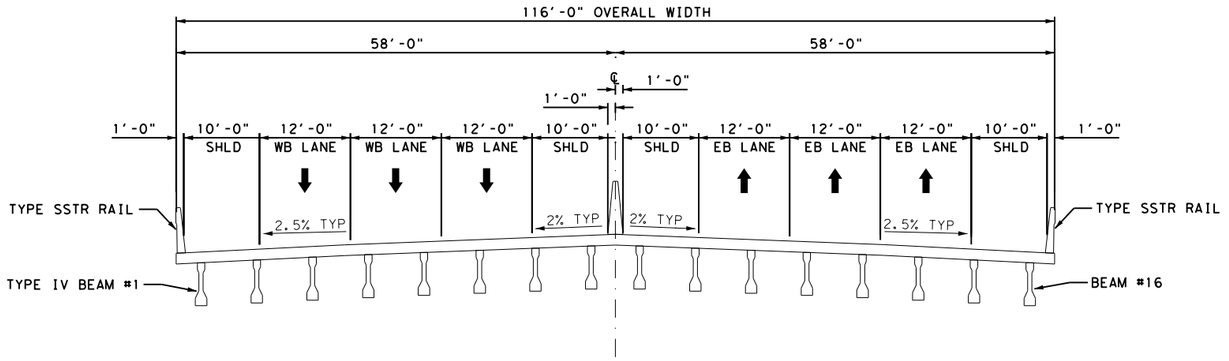
DATE: 11/28/2022 3:37:22 PM
FILE: T:\AMA\PDW\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT IH27\229_IH40_AT_IH27_TCP_NARRATIVE.dgn

NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. MATCH EXISTING PROFILE EXCEPT ON APPROACH SLABS AS SHOWN AND CROSS SLOPE EXCEPT ON SHOLDERS AS SHOWN.
4. TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.

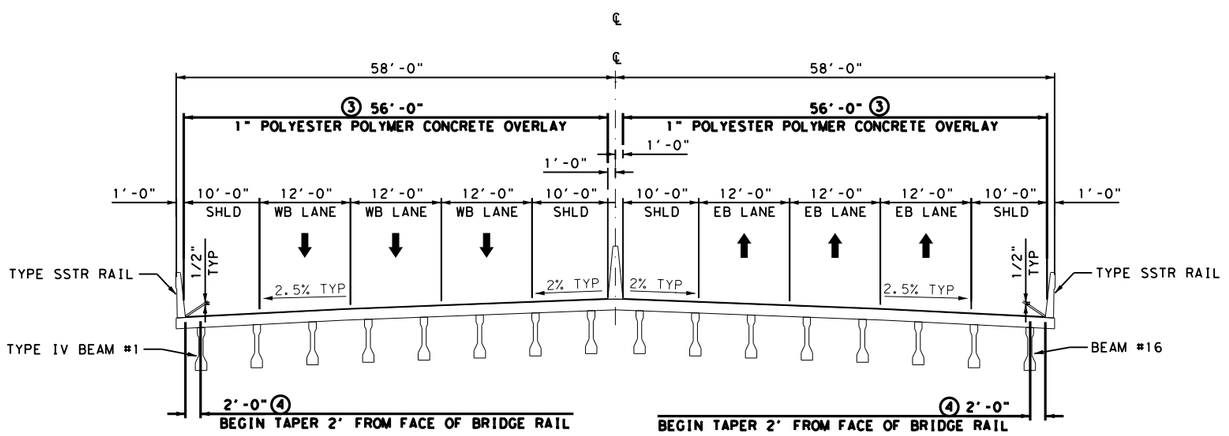
LEGEND

PLANE CONC PAV (0" TO 1/2")



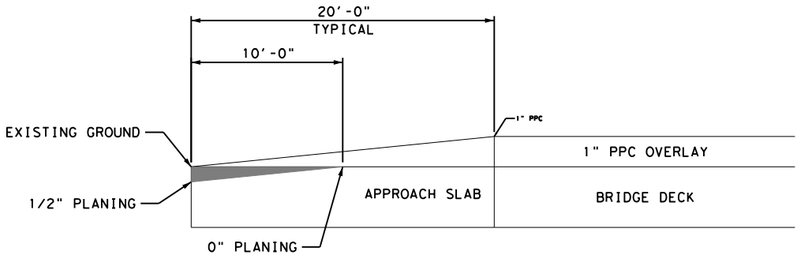
EXISTING TYPICAL SECTION

STA. 978+70 TO STA. 994+11



PROPOSED TYPICAL SECTION

STA. 978+70 TO STA. 994+11



APPROACH SLAB TIE-IN

NTS

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT IH-27

TYPICAL SECTIONS

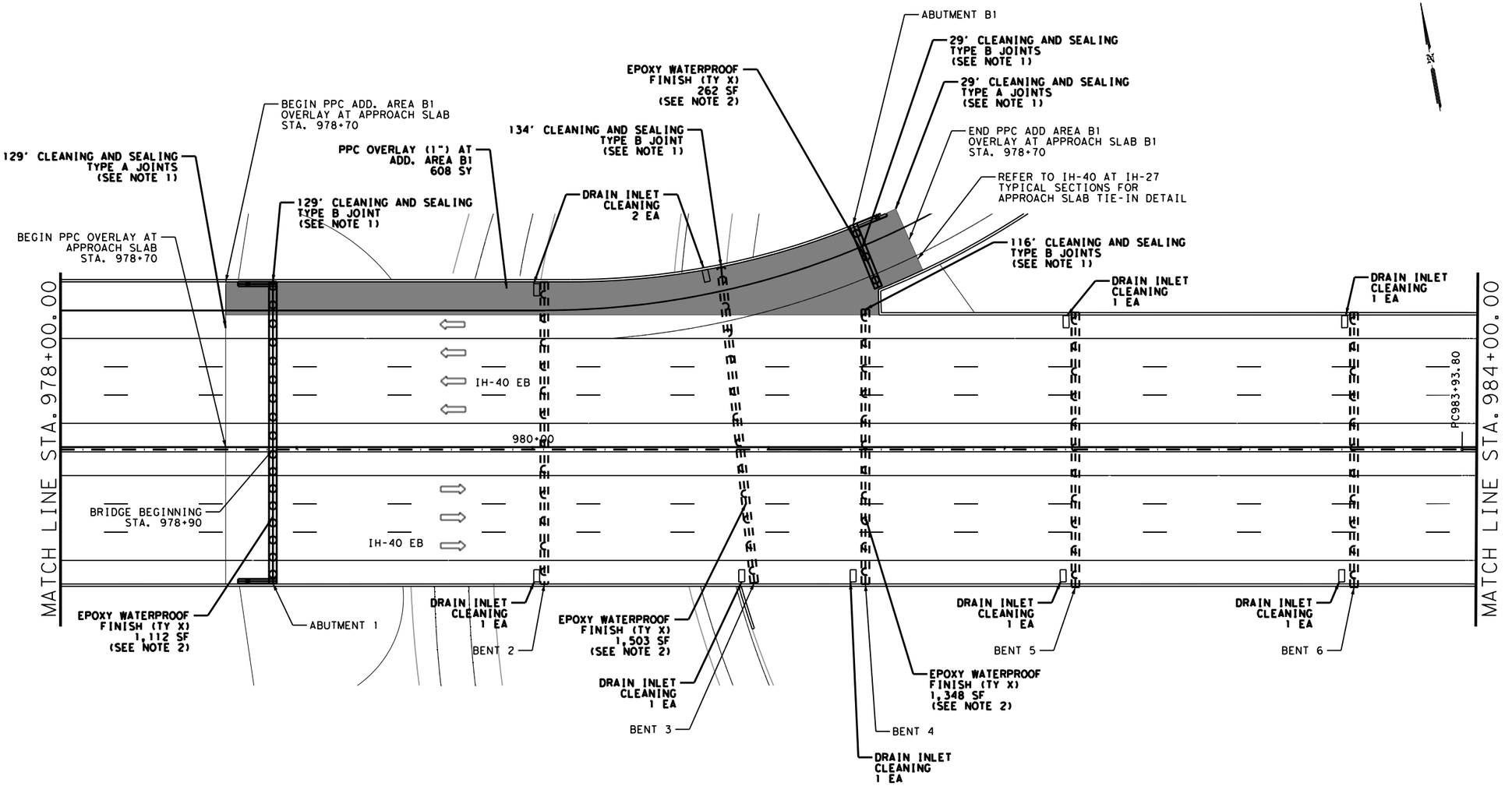
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		107

DATE: 11/28/2022 3:37:24 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY 4 - Design\Plan Set\1. General\IH-40 AT I27\229_IH 40_AT_IH27_TYPICAL_SECTIONS.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

IH-40 AT IH-27

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT IH-27

BRIDGE REPAIR DETAILS

SCALE: 1" =50'

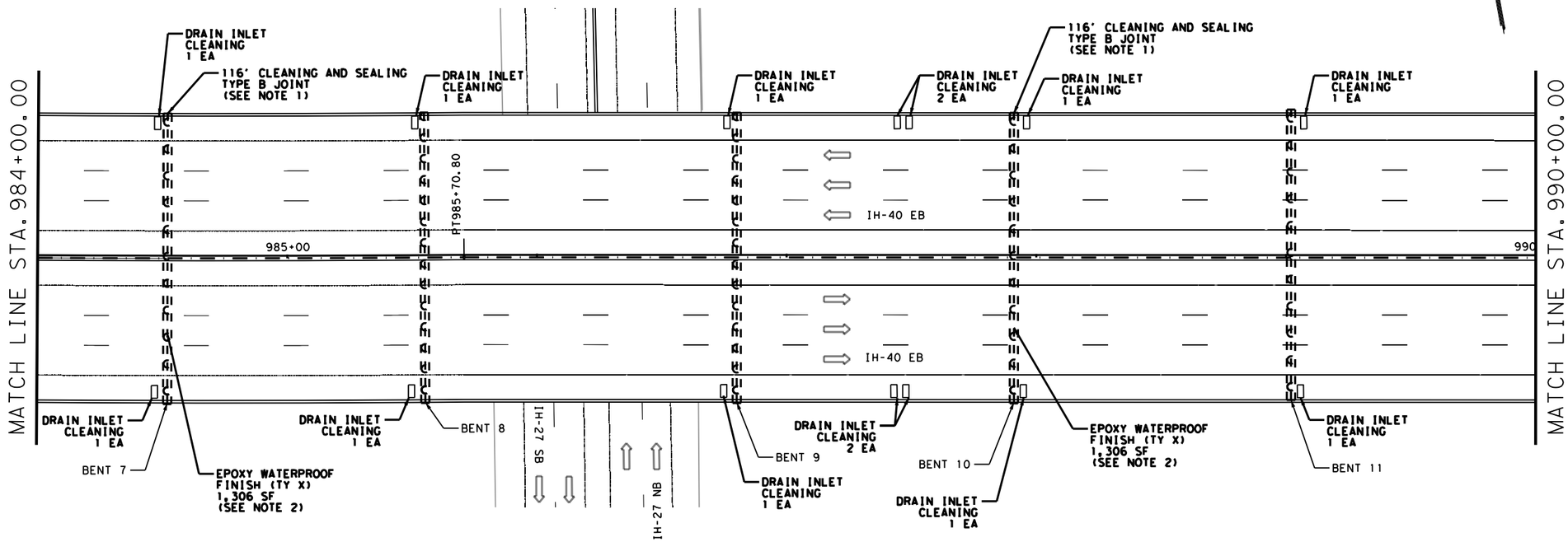
2022 Texas Department of Transportation

SHEET 1 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		108

IH-40 AT IH-27

DATE: 11/28/2022 3:37:27 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH 40 @ I27\229_I40_AT_I27_BRIDGE_REPAIR_DETAILS.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

IH-40 AT IH-27

L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

02/02/2023

IH-40 AT IH-27

BRIDGE REPAIR DETAILS

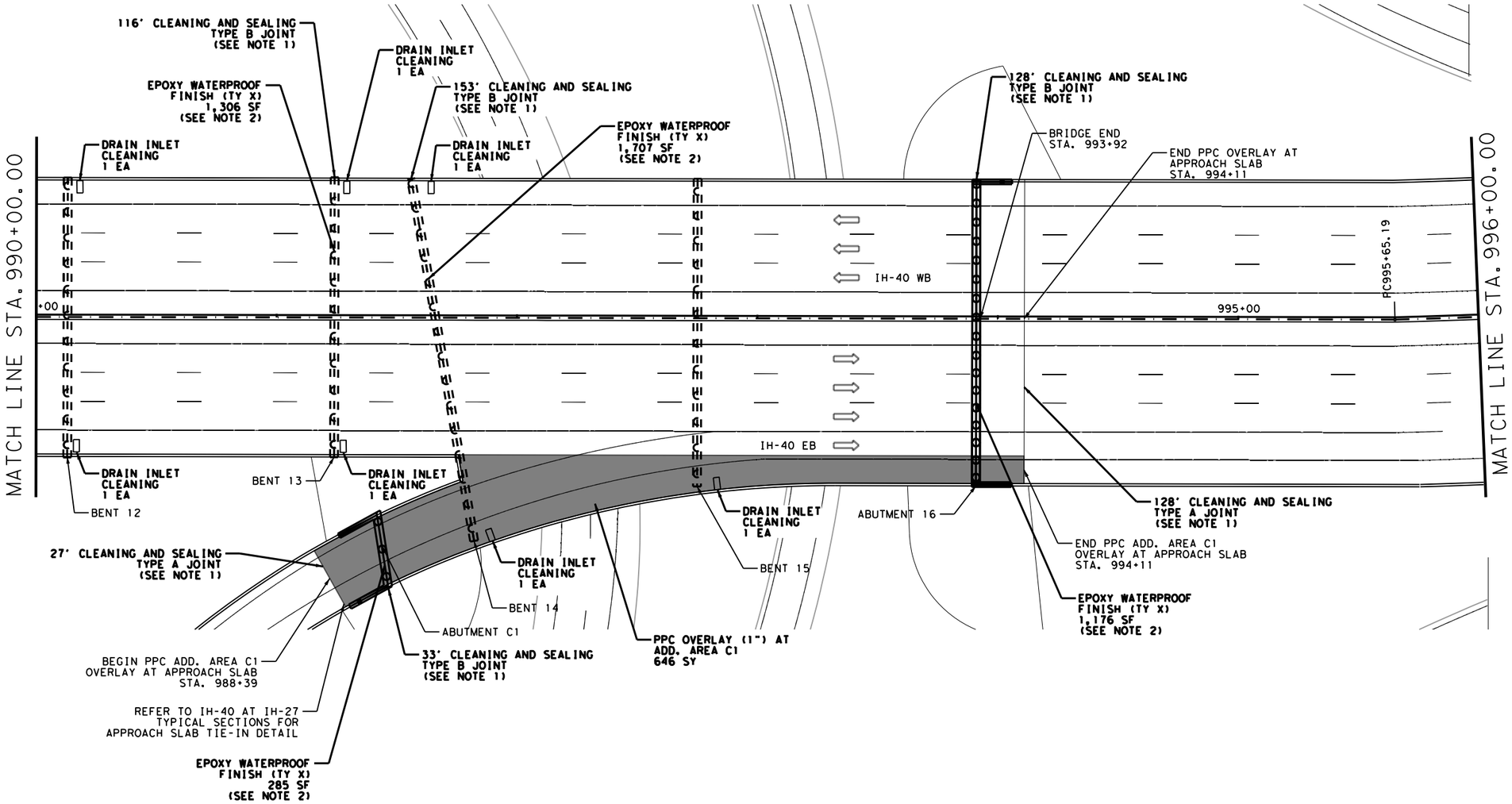
SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 2 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		109

DATE: 11/28/2022 3:37:29 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\7. Bridge\IH 40 @ I27\229_I40_AT_I27_BRIDGE_REPAIR_DETAILS.dgn



IH-40 AT IH-27

NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT IH-27

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 3 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		110

DATE: 11/28/2022 3:37:30 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH 40 @ I27\229_I40_AT_I27_BRIDGE_REPAIR_DETAILS.dgn

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT BNSF RAILYARD

LOCATION	427 6007 EPOXY WATERPROOF FINISH (TY X) SF	438 6001 CLEANING AND SEALING EXIST JOINTS LF	438 6004 CLEANING AND SEALING JOINTS (CL 7) LF	438 6009 CLEANING EXISTING JOINTS LF	438 6010 RESIZING AND SEALING JOINTS LF	668 6015 PREfAB PAV MARK TY B (W) (12") (LNDP) LF	668 6016 PREFAB PAV MARK TY B (W) (12") (SLD) LF	6019 6006 PREFB PV MK W/WNTY TY B (W) (6") (SLD) LF
TYPICAL SECTIONS SHEET 1 OF 1						179	918	2,406
BRIDGE REPAIR DETAILS SHEET 1 OF 2	3,008	315	89		70			
BRIDGE REPAIR DETAILS SHEET 2 OF 2	2,854	134		158				
CSJ: 0275-01-235 TOTALS	**5,862**	**449**	**89**	**158**	**70**	**179**	**918**	**2,406**

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT BNSF RAILYARD (CONT'D)

LOCATION	6019 6014 PREFB PV MK W/WNTY TY B (Y) (6") (SLD) LF	6019 6007 PREFB PV MK W/WNTY TY B(W)6"(BRK)CN TST LF	764 6001 DRAIN INLET CLEANING EA	785 6005 BRIDGE JOINT REPAIR (SEJ) LF	4106 6007 POLYESTER POLYMER CONC OVERLAY (1") SY
TYPICAL SECTIONS SHEET 1 OF 1	2,018	1,270			16,617
BRIDGE REPAIR DETAILS SHEET 1 OF 2			9	12	102
BRIDGE REPAIR DETAILS SHEET 2 OF 2			16	24	
CSJ: 0275-01-235 TOTALS	**2,018**	**1,270**	**25**	**36**	**16,719**

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD
QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		111

DATE: 1/18/2023 5:19:20 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\1. General\IH-40 AT BNSF RRY229_IH40_AT_BNSF_RR_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).

2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.

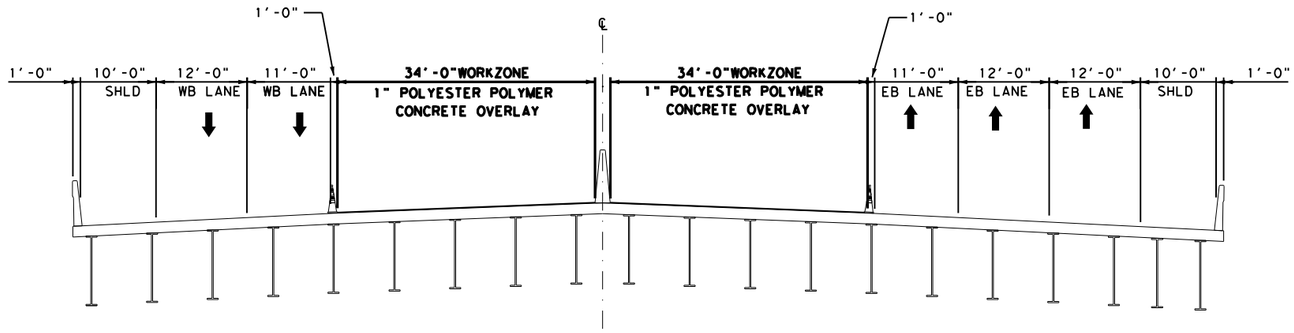
5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.

7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.

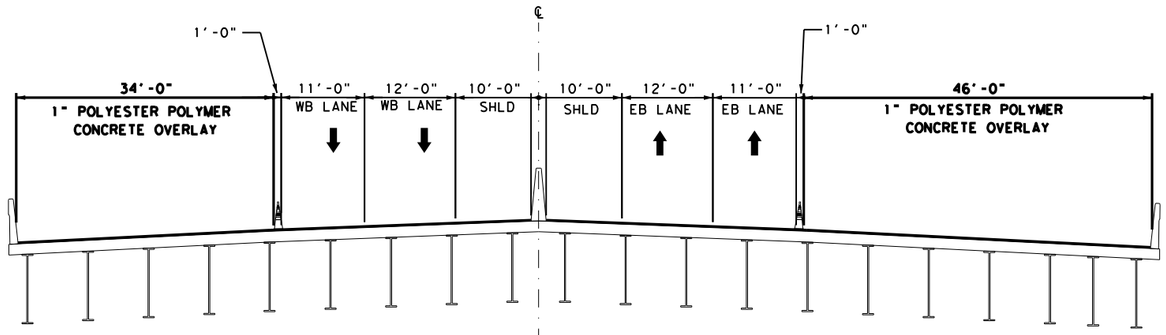
8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.

9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.



IH-40 AT BNSF RR PHASE 1

STA. 998+66 TO STA. 1008+75



IH-40 AT BNSF RR PHASE 2

STA. 998+66 TO STA. 1008+75

TRAFFIC CONTROL PLAN:

IH-40 AT BNSF RAILYARD PHASE 1:

11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 TWO INSIDE LANES AND INSIDE SHOULDERS.

IH-40 AT BNSF RAILYARD PHASE 2:

13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 TWO OUTSIDE WB LANES THREE OUTSIDE EB LANE AND OUTSIDE SHOULDERS.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD
TCP NARRATIVE

SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		112

DATE: 11/28/2022 3:37:34 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_TCP_NARRATIVE.dgn

DETOUR LENGTH:
1.6 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR A: US 287 SB TO IH-40 EB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

④ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
L. Clint Harms
02/02/2023

IH-40 AT BNSF RAILYARD

DETOUR LAYOUT

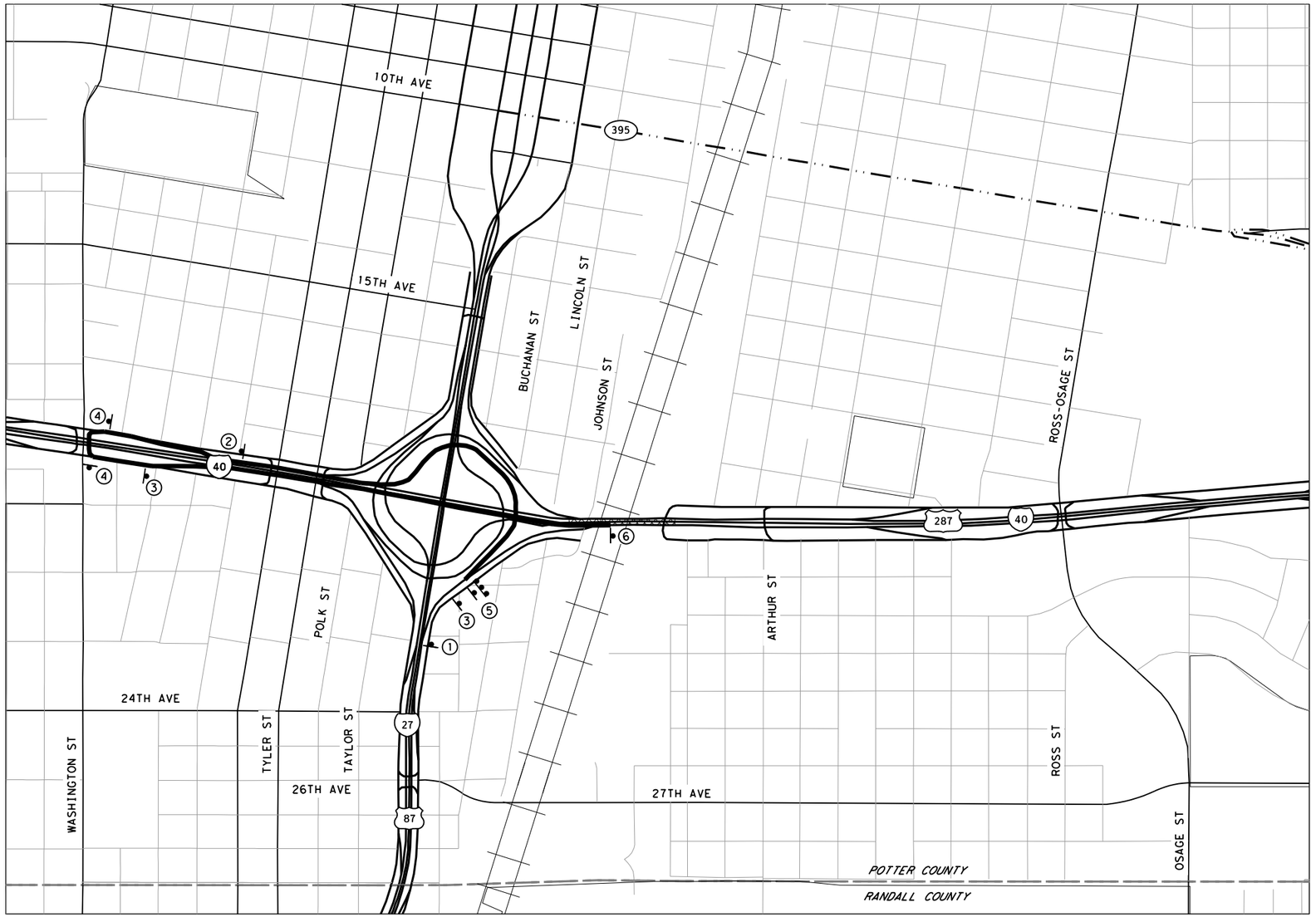
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 1 OF 6

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		113

DATE: 11/28/2022 3:37:40 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RAILYARD_DETOUR_LAYOUT.dgn



DETOUR LENGTH:
2.1 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR B: IH-27 NB TO IH-40 EB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

④ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
L. Clint Harms
02/02/2023

IH-40 AT BNSF RAILYARD

DETOUR LAYOUT

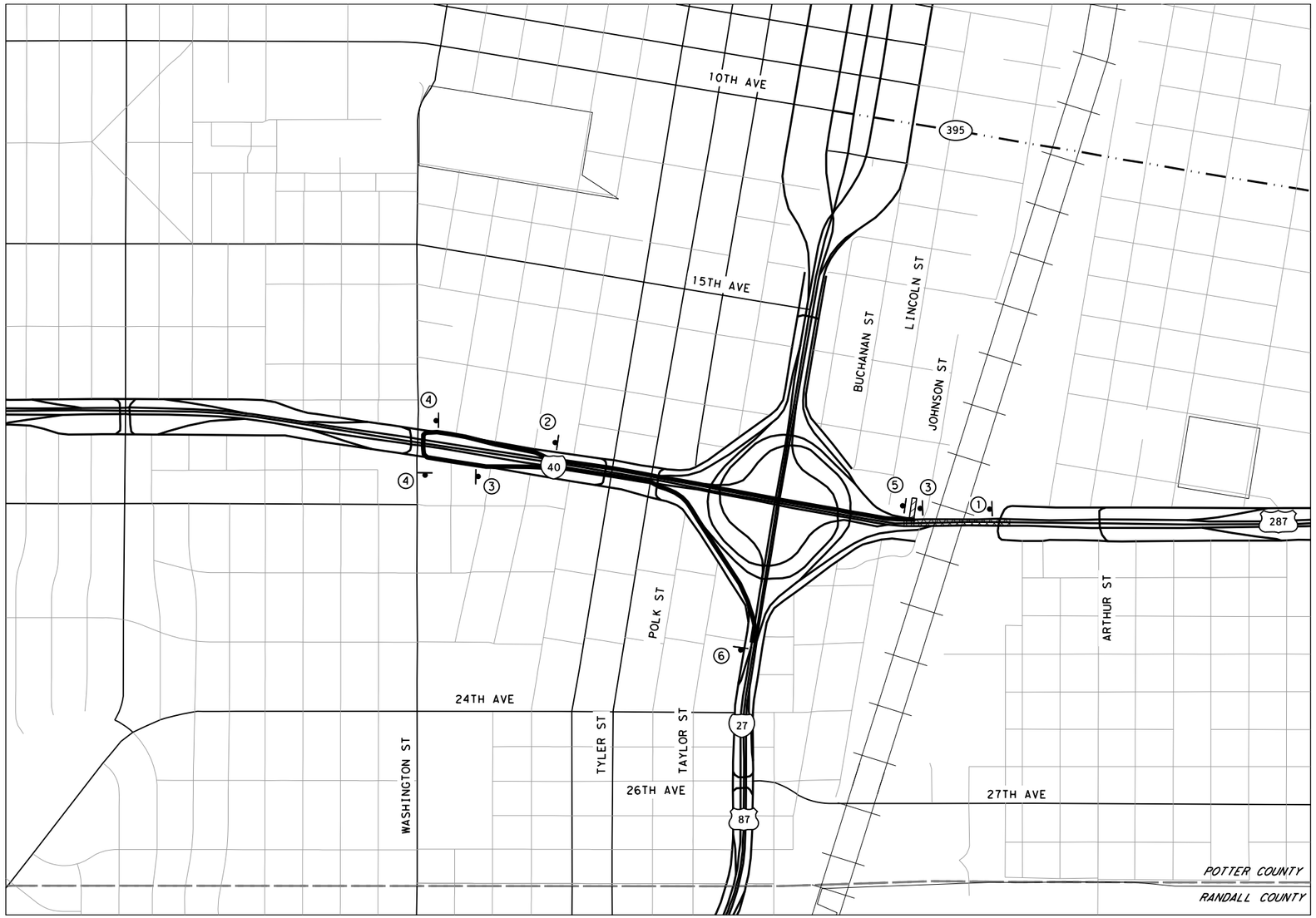
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 2 OF 6

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		114

DATE: 11/28/2022 3:37:42 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RAILYARD_DETOUR_LAYOUT.dgn



DETOUR LENGTH:
1.7 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR C: IH-40 WB TO IH-27 SB

① DETOUR AHEAD — CW20-2D (36" X 36")

② DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

③ DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

④ DETOUR — M4-8 (24" X 12")
SOUTH — M3-3 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT BNSF RAILYARD

DETOUR LAYOUT

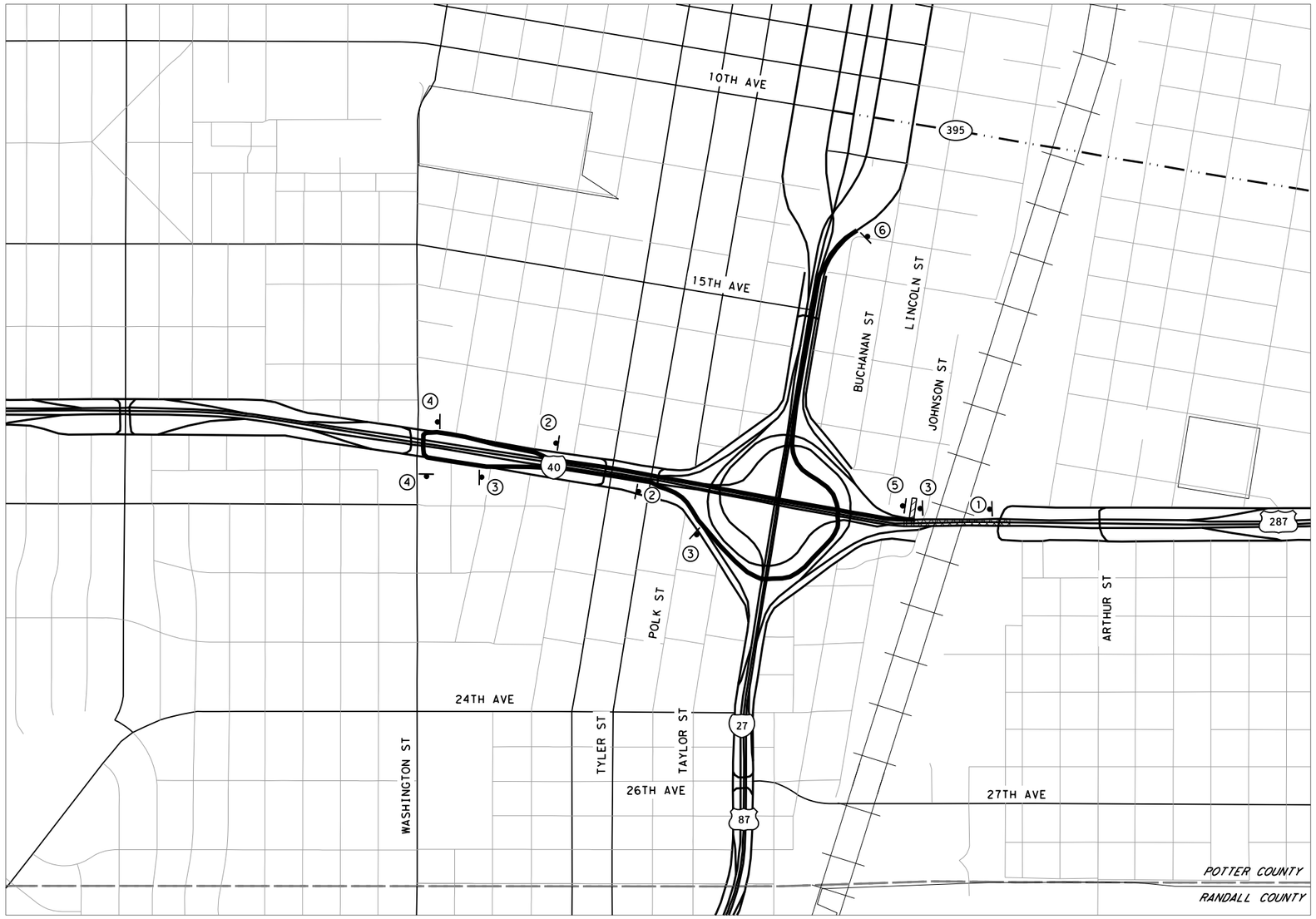
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 3 OF 6

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		115

DATE: 11/28/2022 3:37:43 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RAILYARD_DETOUR_LAYOUT.dgn



DETOUR LENGTH:
3.5 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR D: IH-40 WB TO US 287 NB

① DETOUR AHEAD — CW20-2D (36" X 36")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-7PL (21" X 15")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
287 — M1-4 (30" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT BNSF RAILYARD

DETOUR LAYOUT

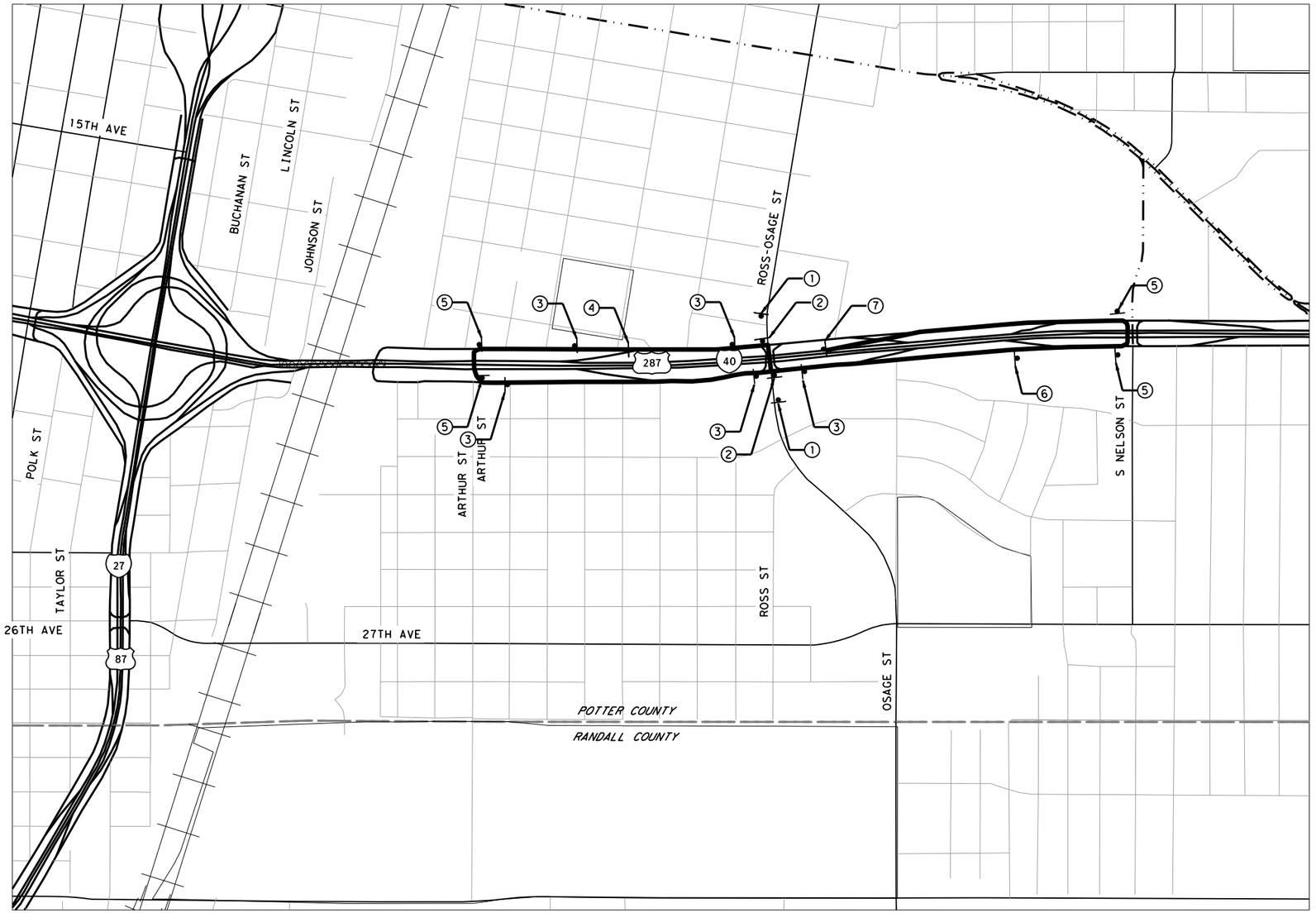
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 4 OF 6

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		116

DATE: 11/28/2022 3:37:44 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RAILYARD_DETOUR_LAYOUT.dgn



DETOUR LENGTH:
1.2 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR E: ROSS ST TO IH-40 WB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

③ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

④ RAMP CLOSED — R11-2BT (48" X 30")

⑤ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑥ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
M5-1L (21" X 15")

⑦ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT BNSF RAILYARD

DETOUR LAYOUT

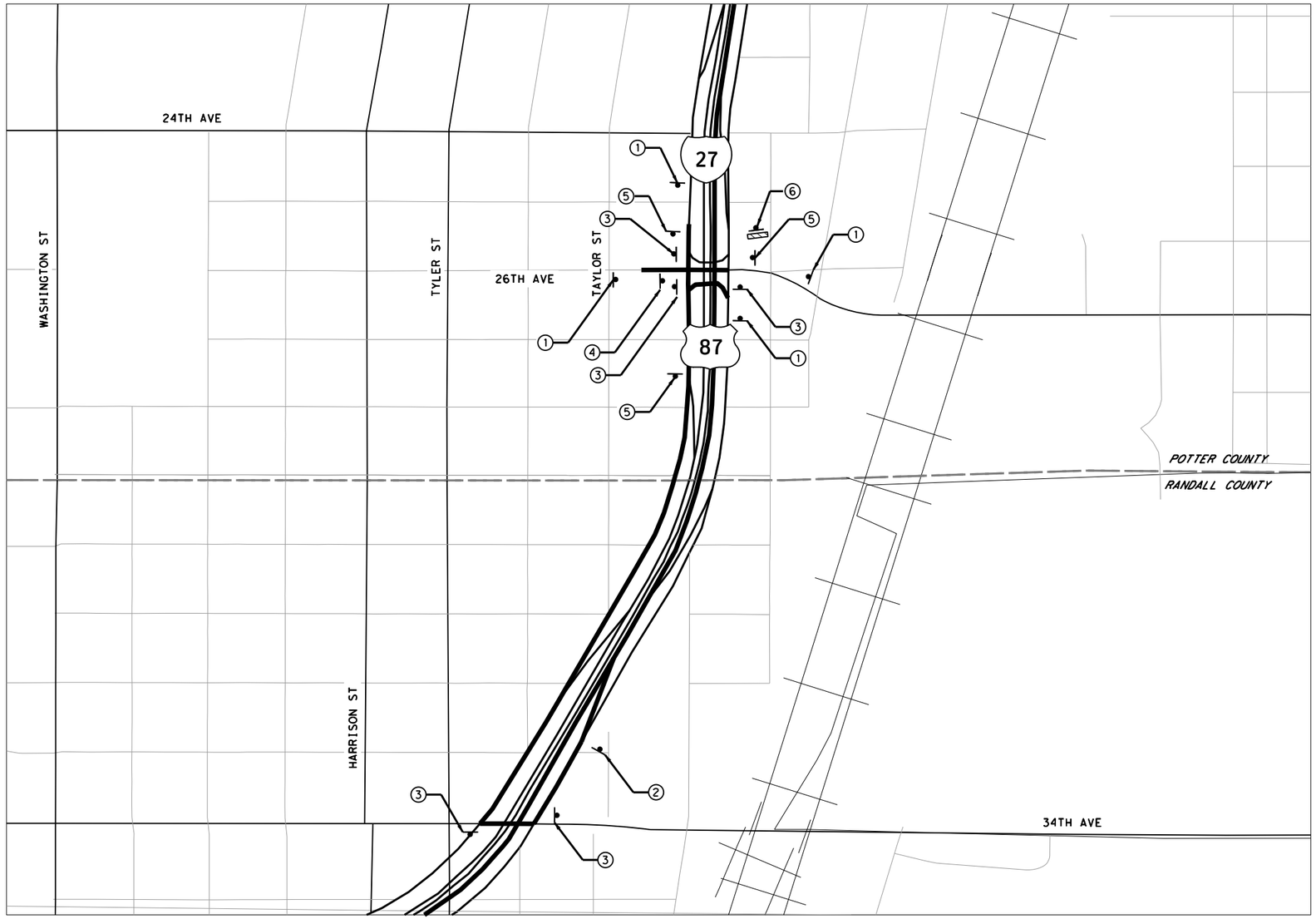
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 5 OF 6

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		117

DATE: 11/28/2022 3:37:46 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RAILYARD_DETOUR_LAYOUT.dgn



DETOUR LENGTH:
1.3 MILES

LEGEND:

- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR F: 26TH AVE TO IH-27 NB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑤ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑥ RAMP CLOSED — R11-2BT (48" X 30")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT BNSF RAILYARD

DETOUR LAYOUT

SCALE: 1" = 600'

2022 Texas Department of Transportation

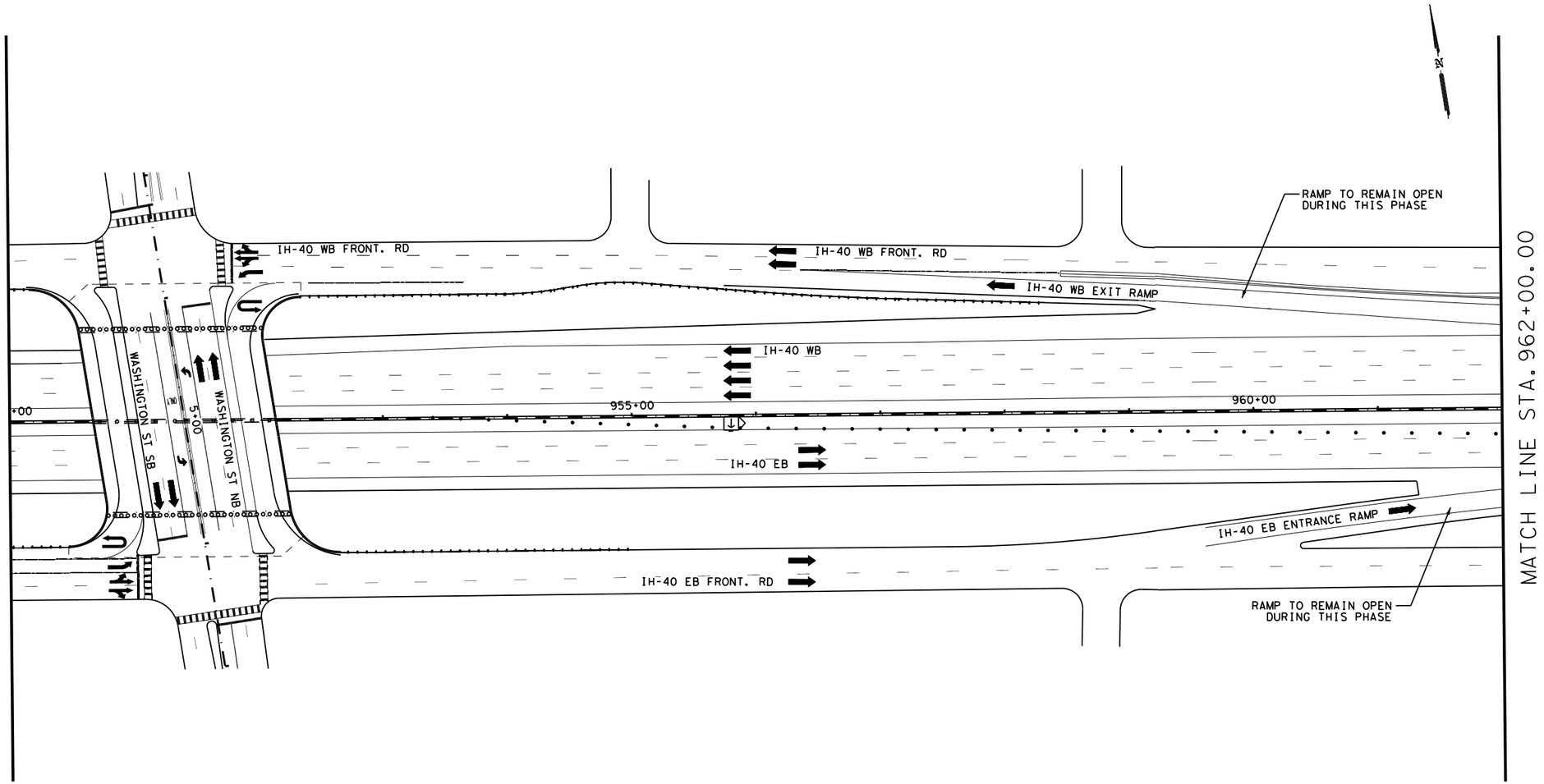
SHEET 6 OF 6

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		118

DATE: 11/28/2022 3:37:47 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RAILYARD_DETOUR_LAYOUT.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

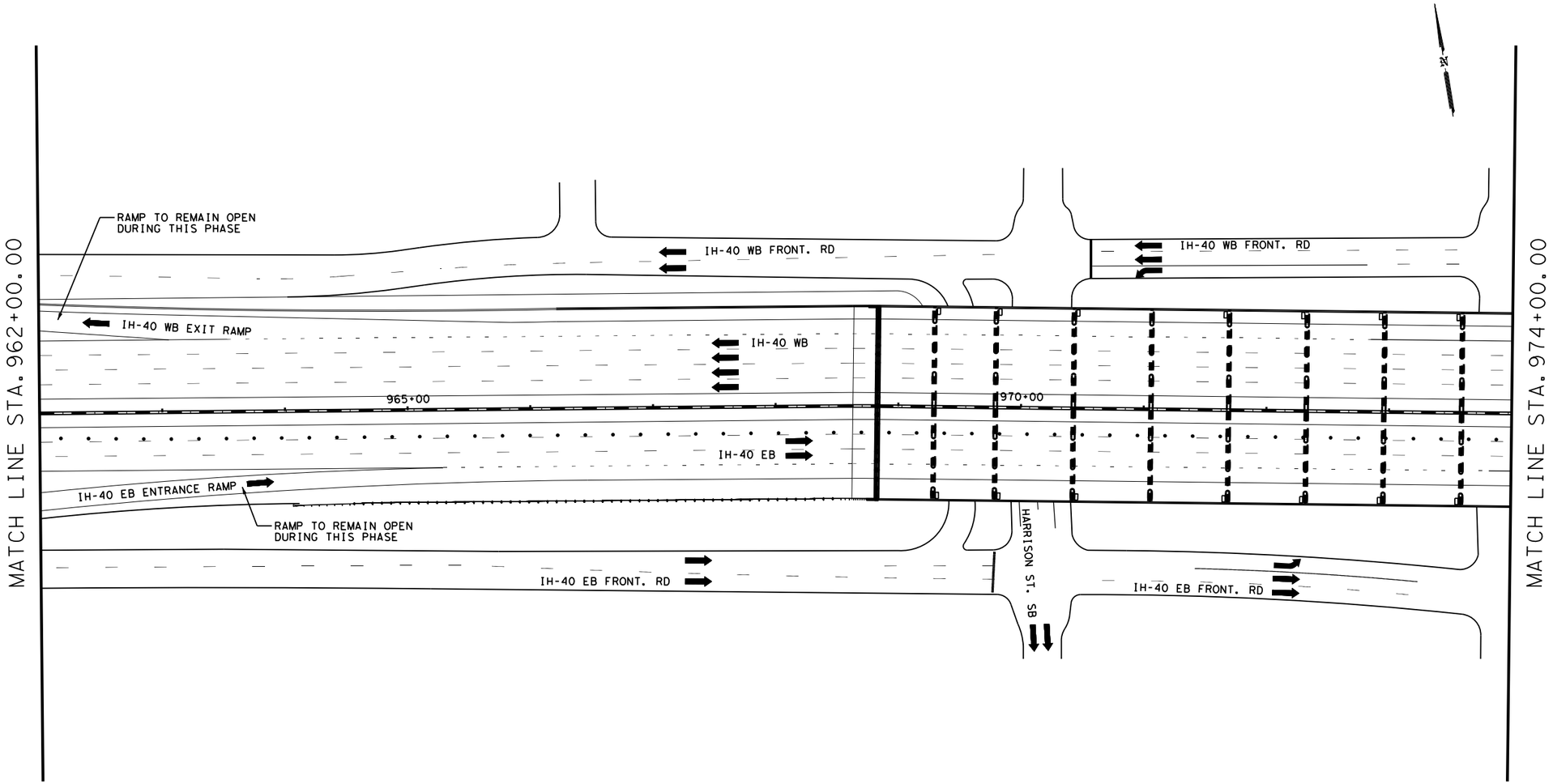
SHEET 1 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		119

DATE: 11/28/2022 3:37:51 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD
PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

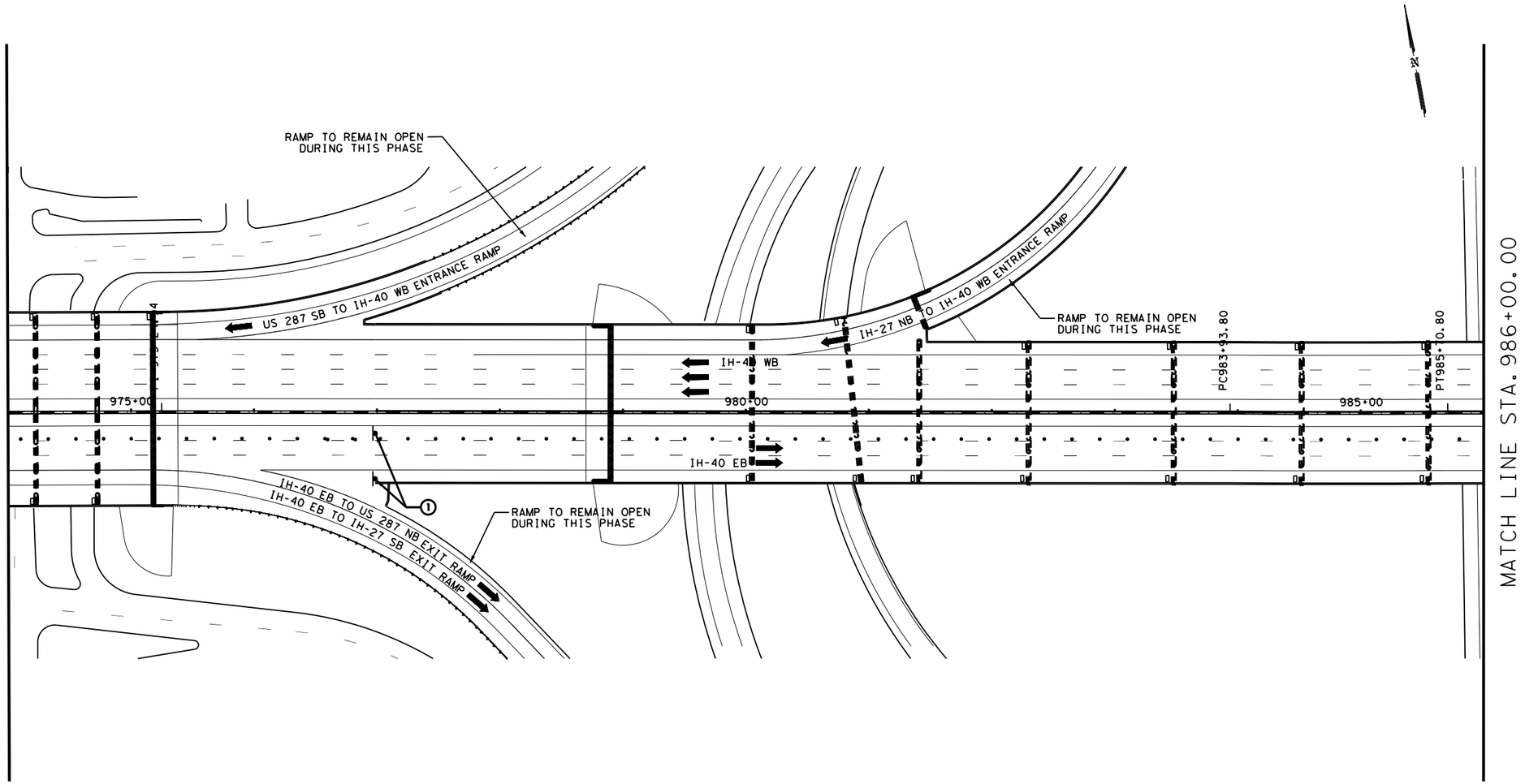
SHEET 2 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		120

DATE: 11/28/2022 3:37:53 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



CW20-5TR
48"X48"

CW16-2aP
30"X12"

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

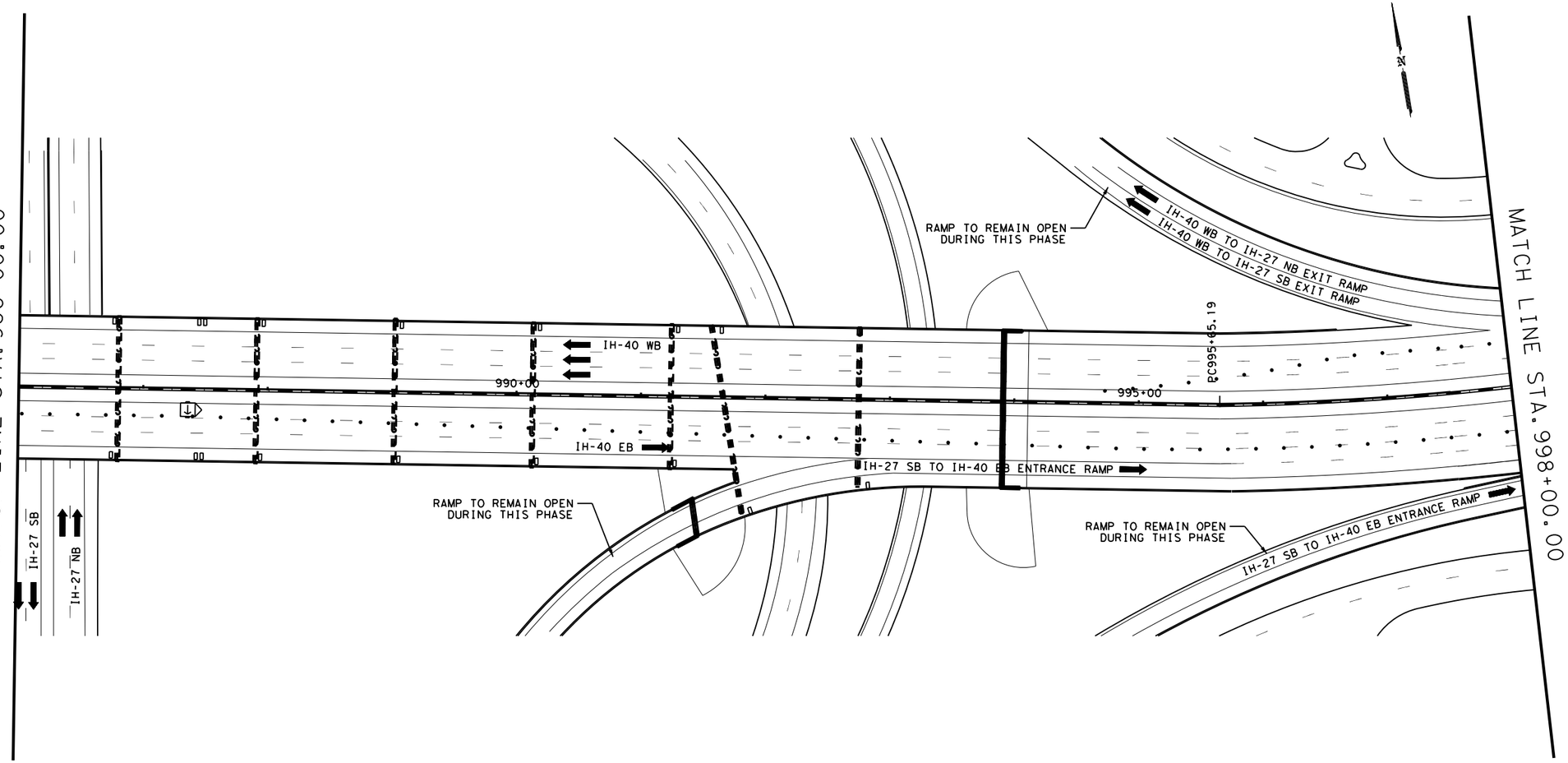
SHEET 3 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		121

DATE: 11/28/2022 3:37:55 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

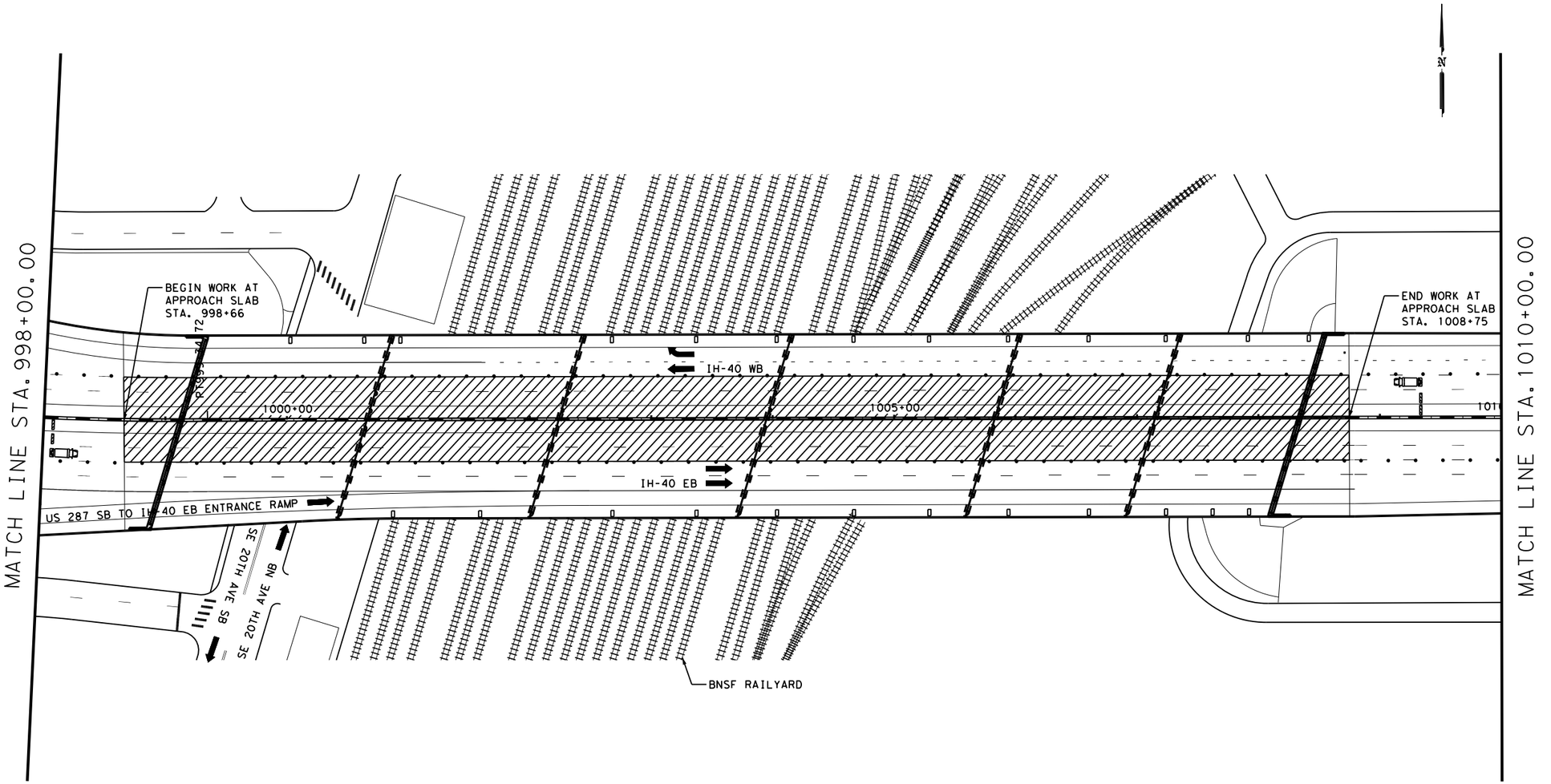
SHEET 4 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		122

DATE: 11/28/2022 3:37:56 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

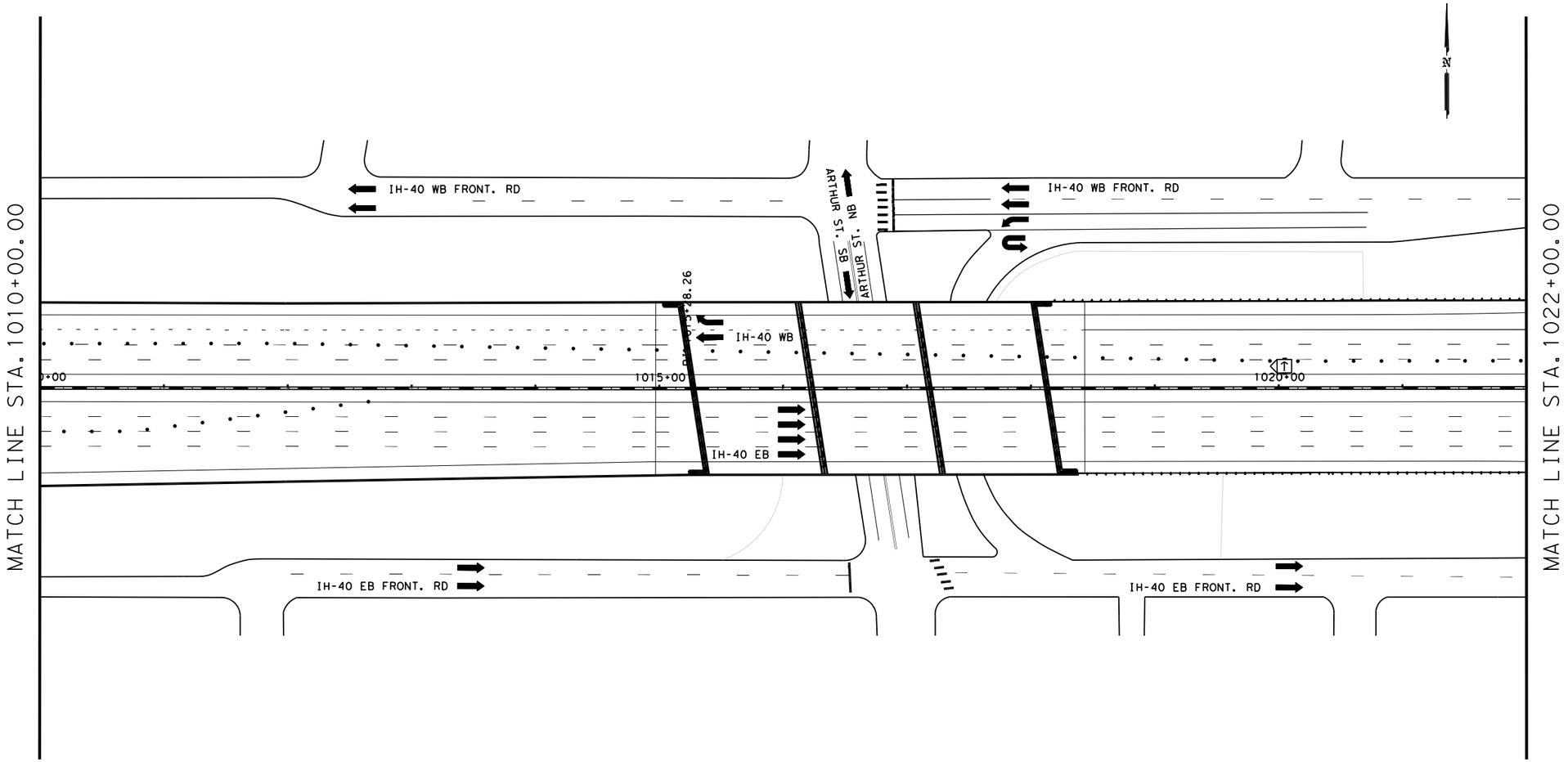
SHEET 5 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		123

DATE: 11/28/2022 3:37:58 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

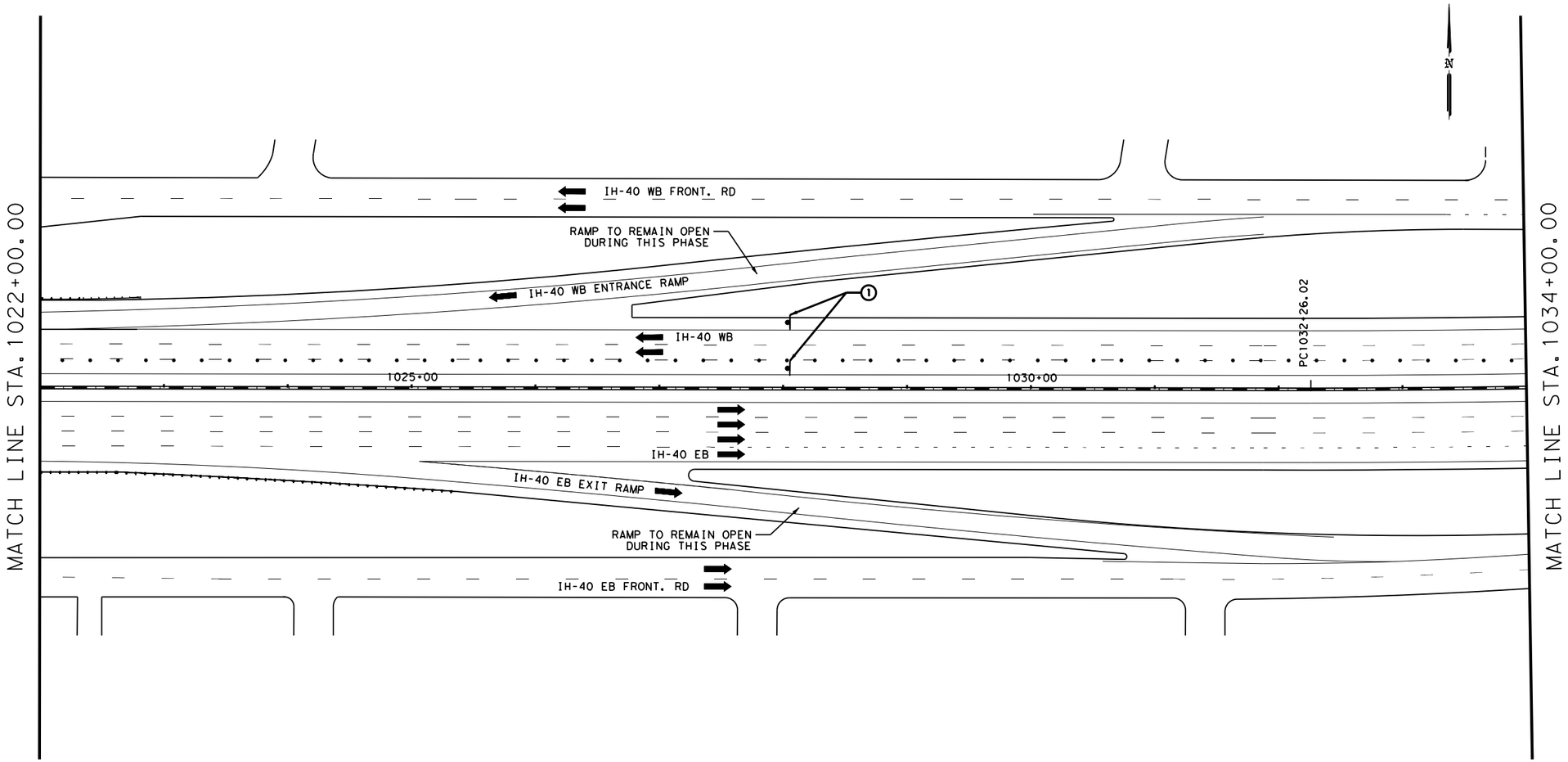
SHEET 6 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		124

DATE: 11/28/2022 3:38:00 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



CW20-5TR
48"X48"

CW16-2aP
30"X12"

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

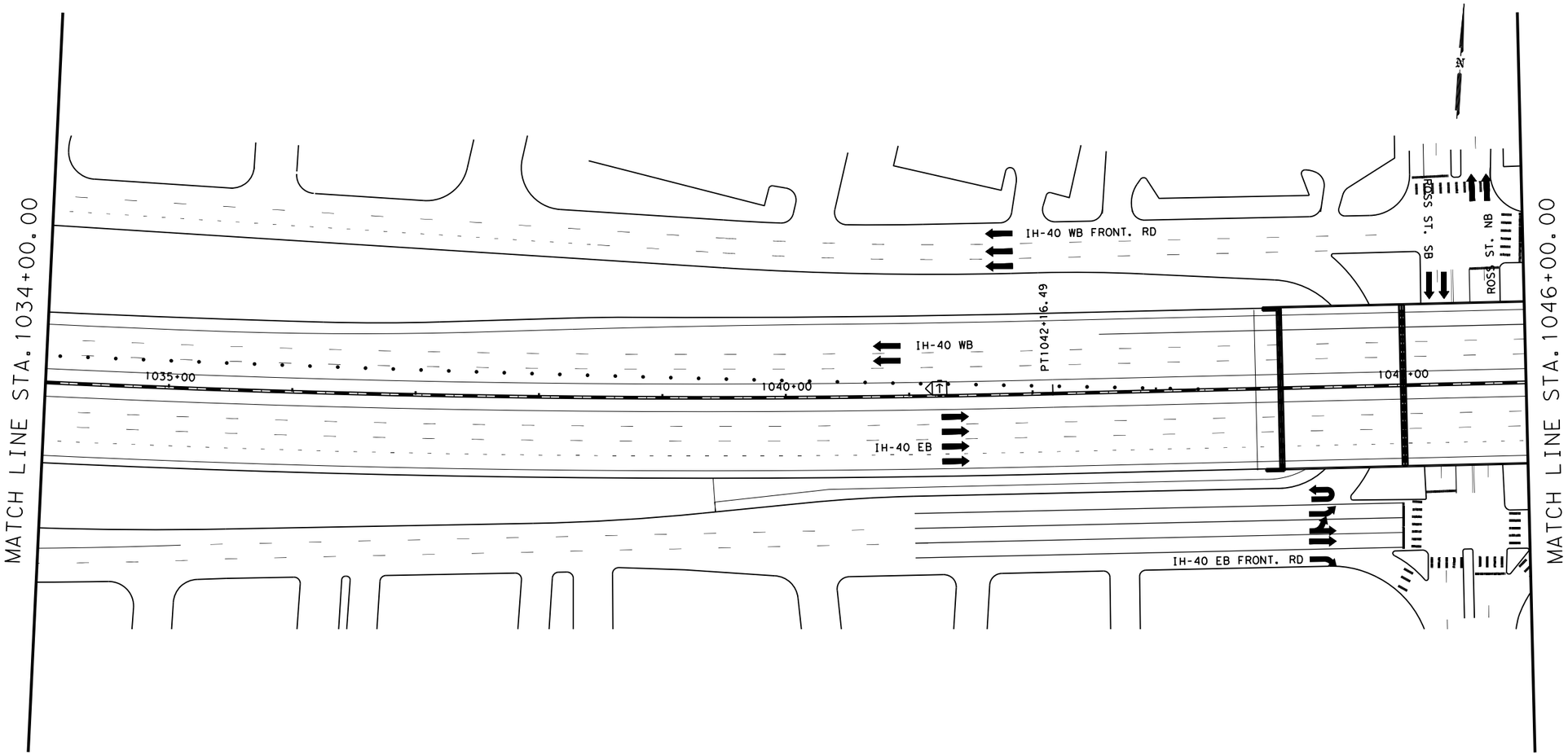
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 7 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		125

DATE: 11/28/2022 3:38:02 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

L. Clint Harms

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

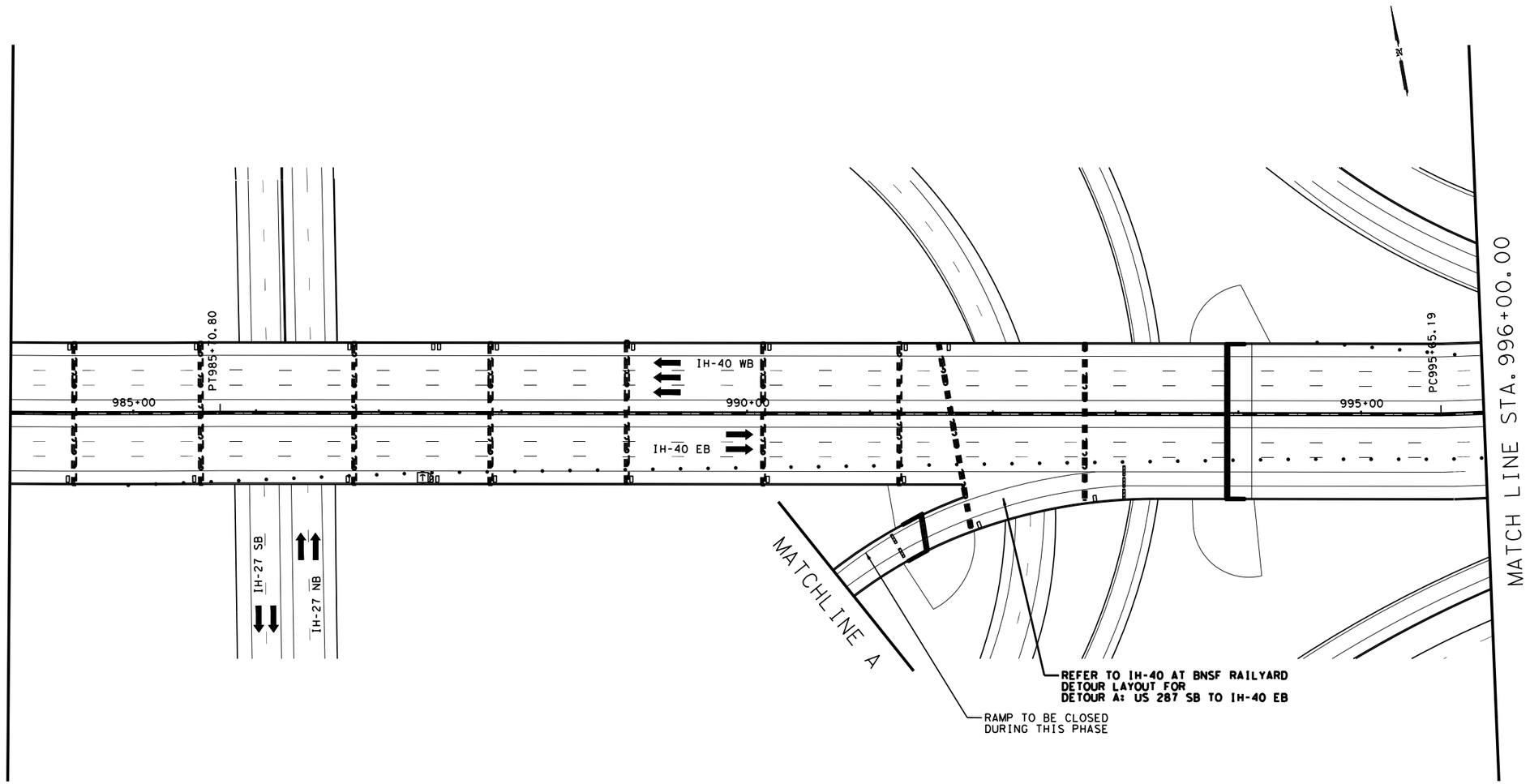
SHEET 8 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		126

DATE: 11/28/2022 3:38:03 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

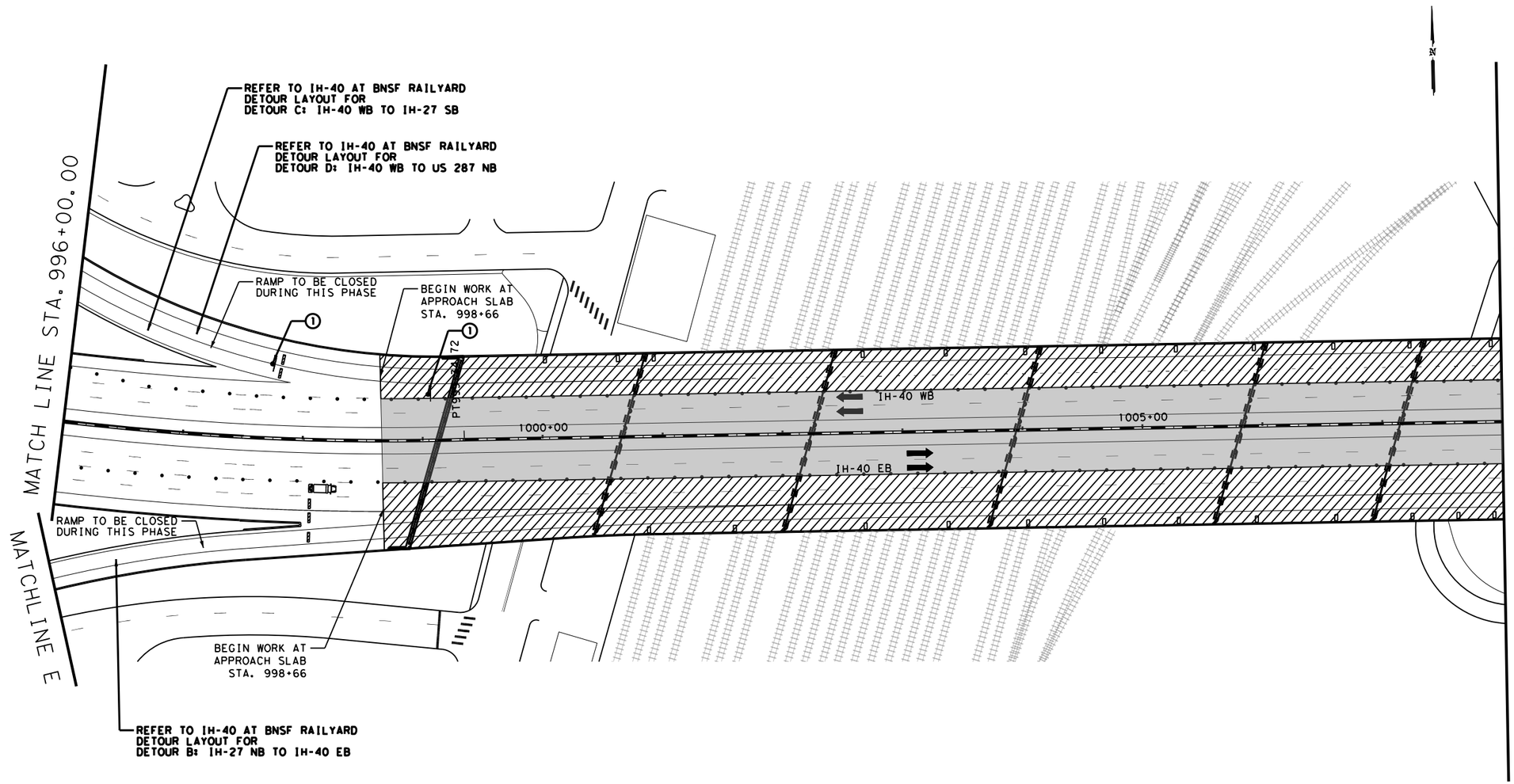
SHEET 1 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		127

DATE: 11/28/2022 3:38:06 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RRV229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

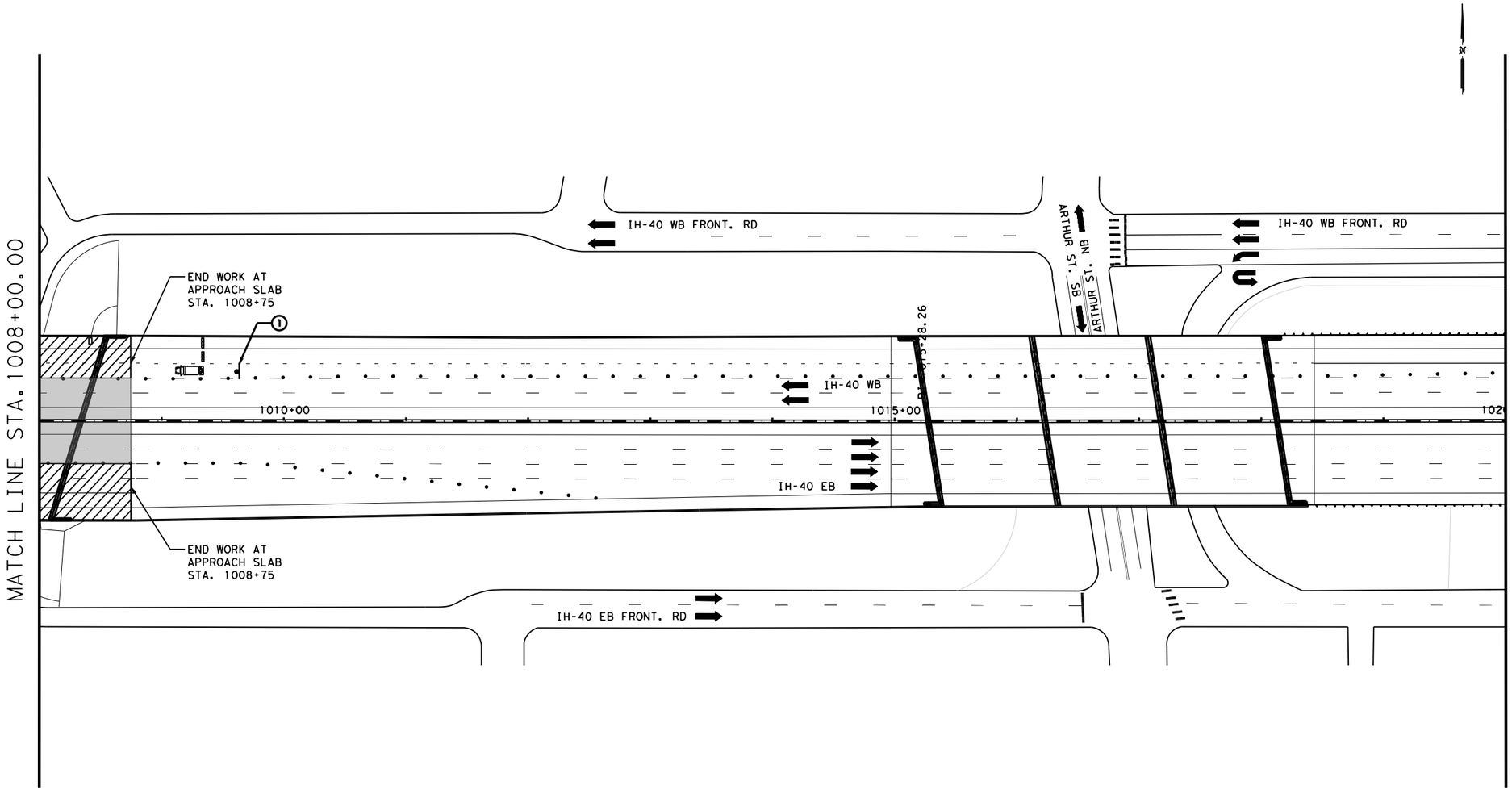
SHEET 2 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		128

DATE: 11/28/2022 3:38:07 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED AHEAD

CW20RP-3D
48"X48"

1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

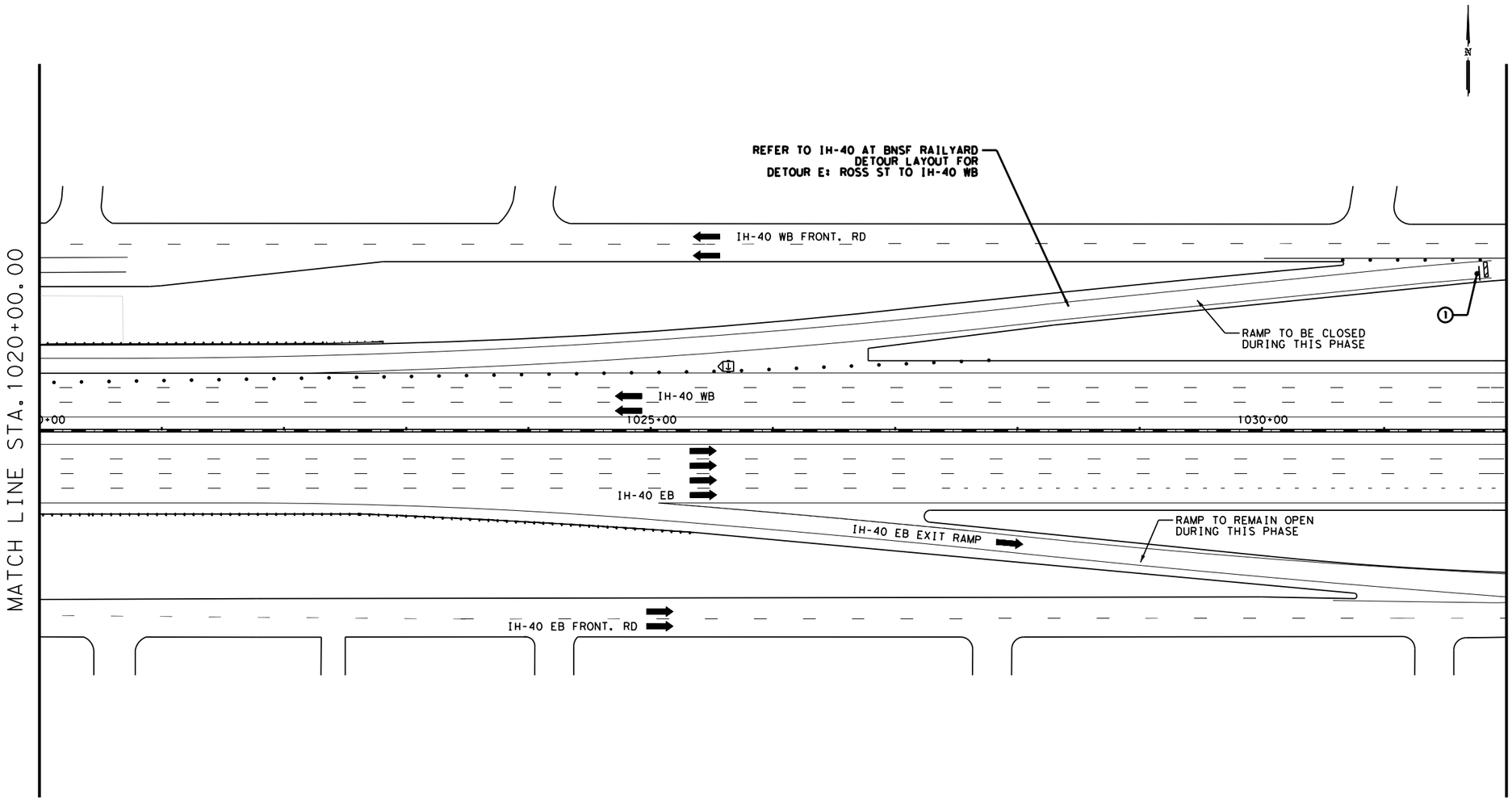
SHEET 3 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		129

DATE: 11/28/2022 3:38:09 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

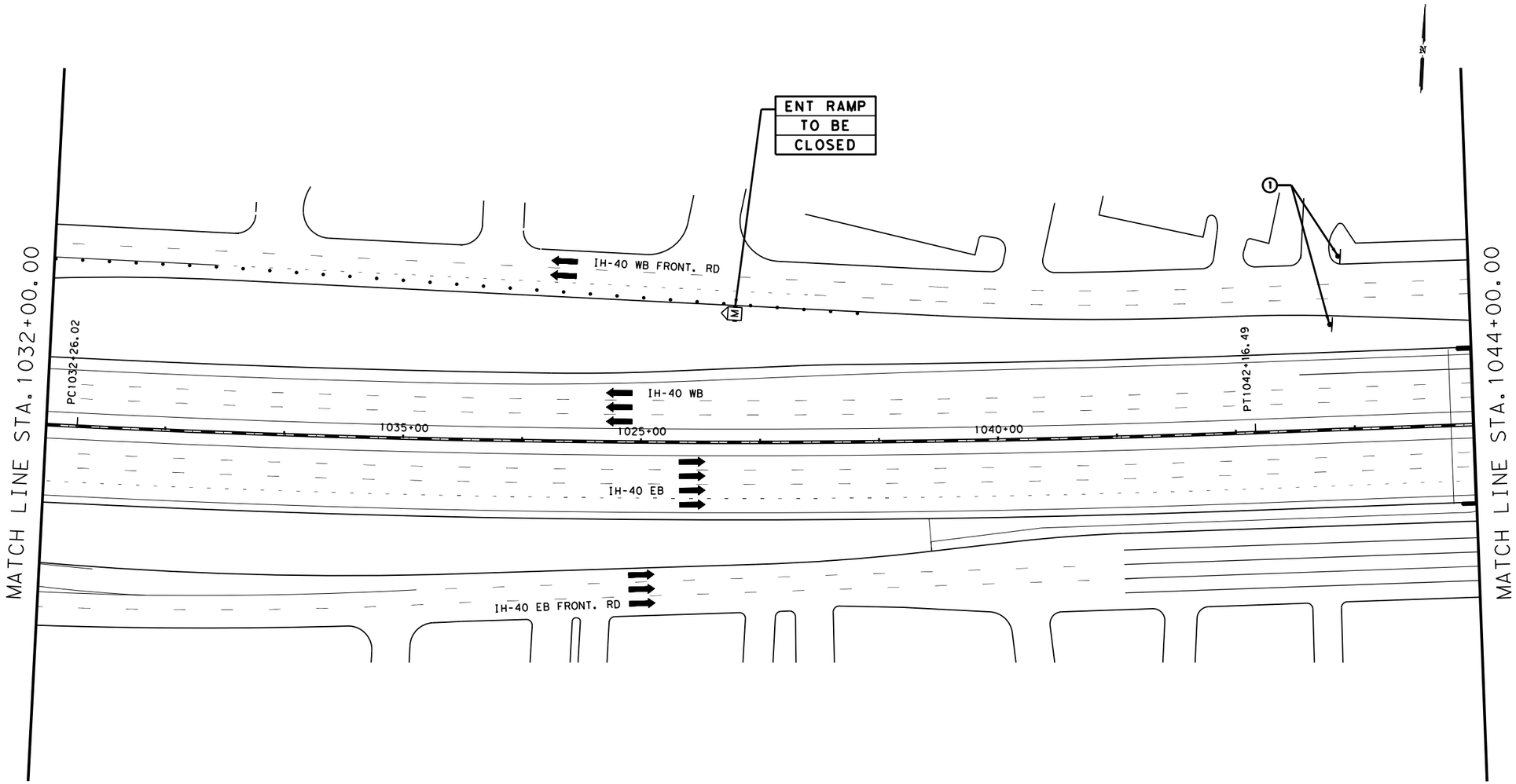
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 4 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		130

DATE: 11/28/2022 3:38:11 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT BNSF RRY229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

RAMP CLOSED AHEAD

CW20RP-3D
48"X48"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

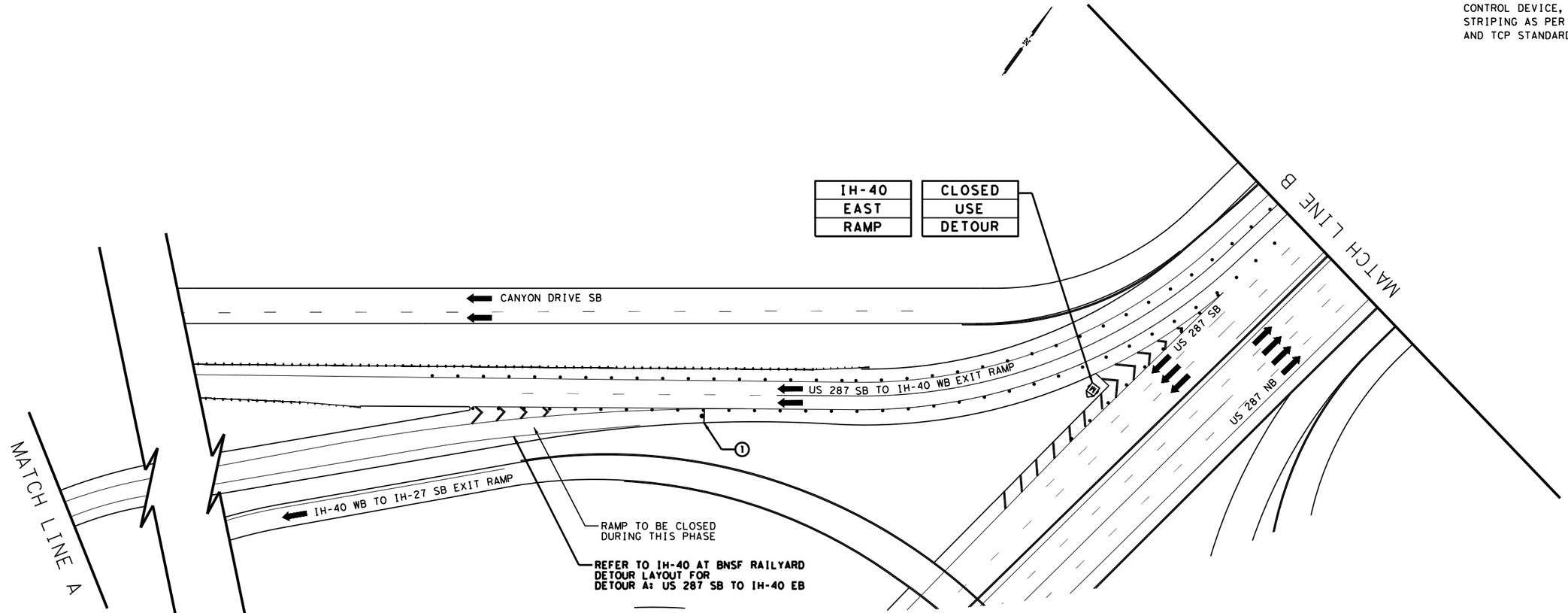
SHEET 5 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		131

DATE: 11/28/2022 3:38:13 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

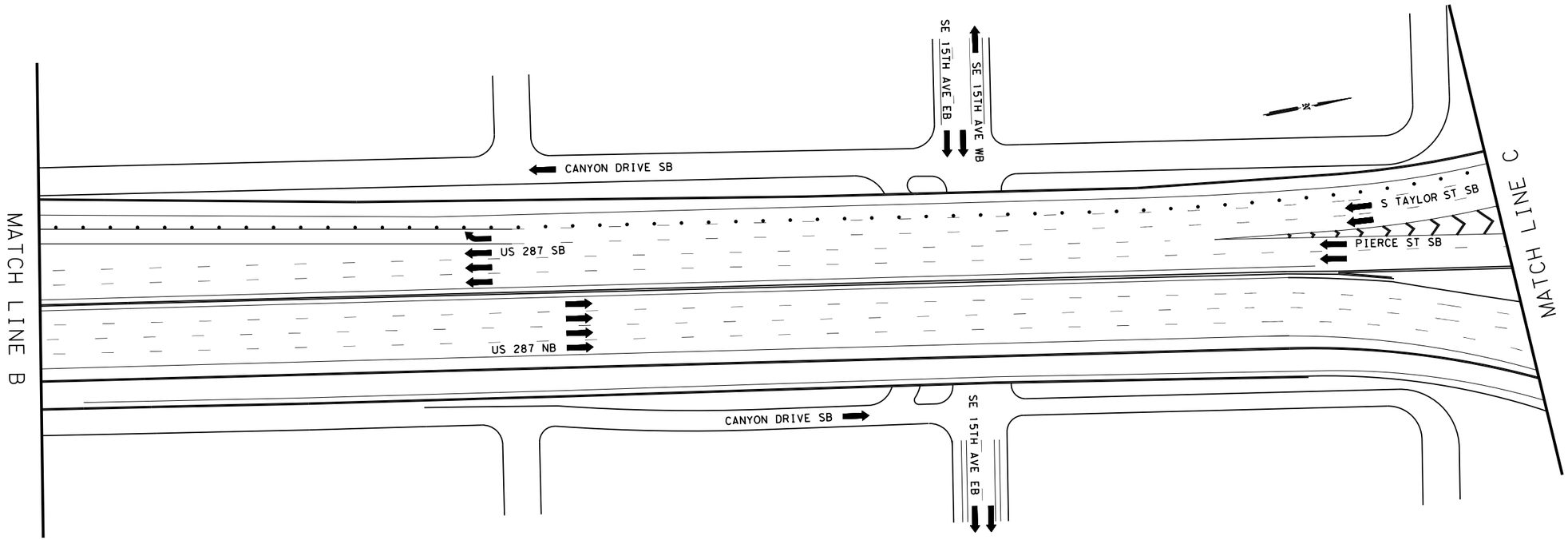
SCALE: 1" = 100'

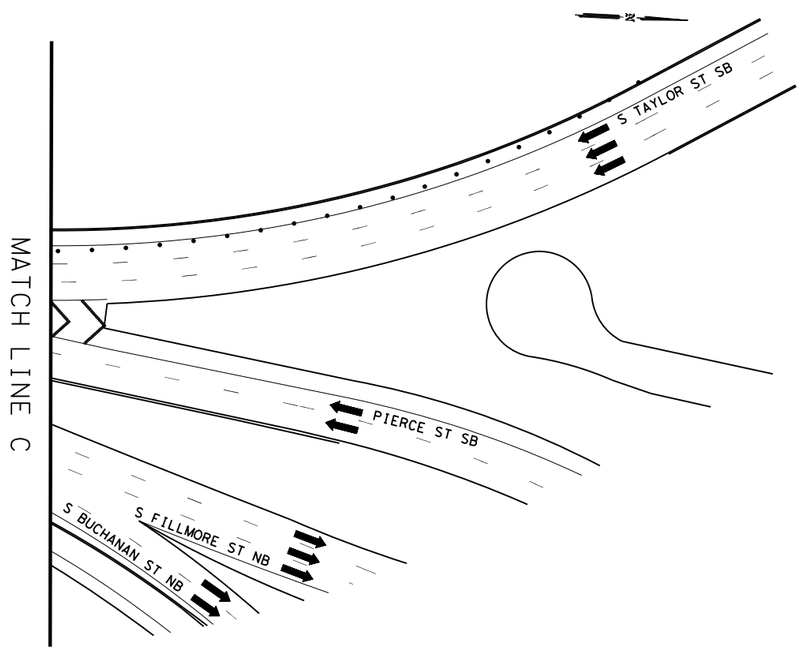
2022 Texas Department of Transportation

SHEET 6 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		132

DATE: 11/28/2022 3:38:15 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn





NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 7 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		133

DATE: 11/28/2022 3:38:17 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

CANYON DR SB

IH-40 EB TO IH-27 SB ENTRANCE RAMP

IH-27 SB

IH-27 NB

CANYON DR NB

MATCH LINE D

SE 24TH AVE

SE 23TH AVE

SE 22TH AVE

RAMP TO BE CLOSED DURING THIS PHASE

REFER TO IH-40 AT ARTHUR ST DETOUR LAYOUT FOR DETOUR F: 26TH AVE TO IH-27 NB

IH-40 EAST RAMP	CLOSED USE DETOUR

IH-27 SB

IH-27 NB

IH-27 NB TO IH-40 WB

IH-27 NB TO IH-40 WB

CANYON DR NB

MATCH LINE D

MATCH LINE E

PIERCE ST

BUCHANAN ST

RAMP CLOSED	R11-2bT 48"X30"
①	

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

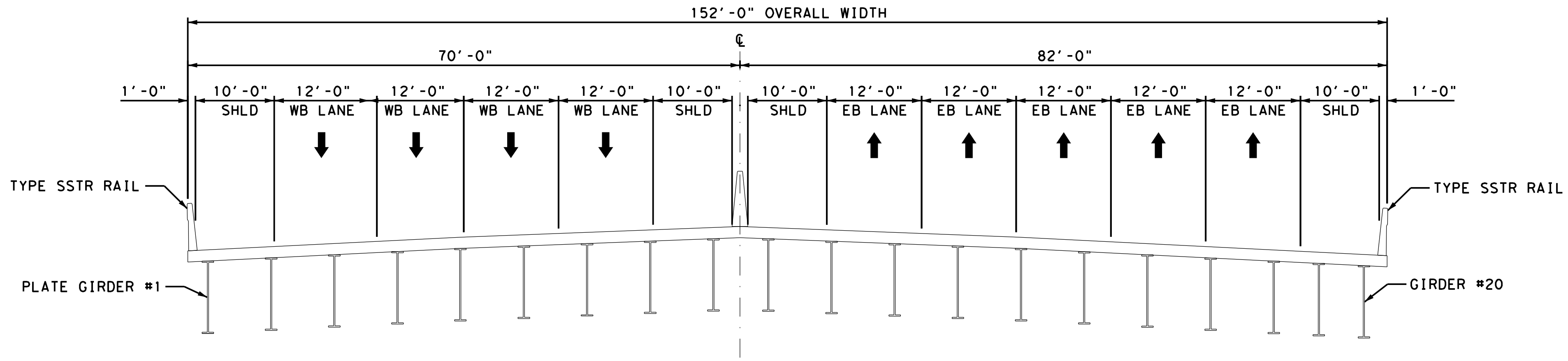
SHEET 8 OF 8

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		134

DATE: 11/28/2022 3:38:18 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT BNSF RR\229_IH40_AT_BNSF_RR_PHASE_2_TCP.dgn

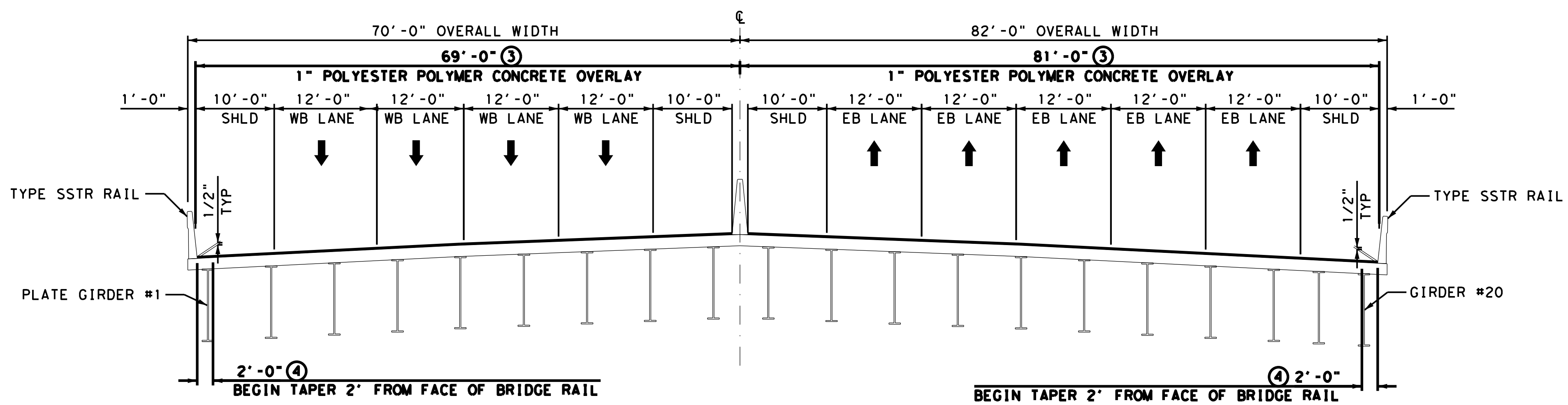
NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. (3) MATCH EXISTING PROFILE EXCEPT ON APPROACH SLABS AS SHOWN AND CROSS SLOPE EXCEPT ON SHOLDERS AS SHOWN.
4. (4) TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.



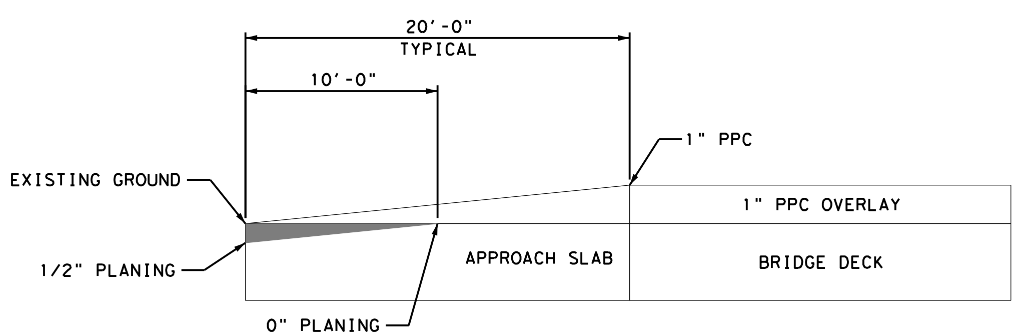
EXISTING TYPICAL SECTION

STA. 998+93 TO STA. 1008+54



PROPOSED TYPICAL SECTION

STA. 998+93 TO STA. 1008+54



APPROACH SLAB TIE-IN

NTS

LEGEND

PLANE CONC PAV (0" TO 1/2")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

TYPICAL SECTIONS

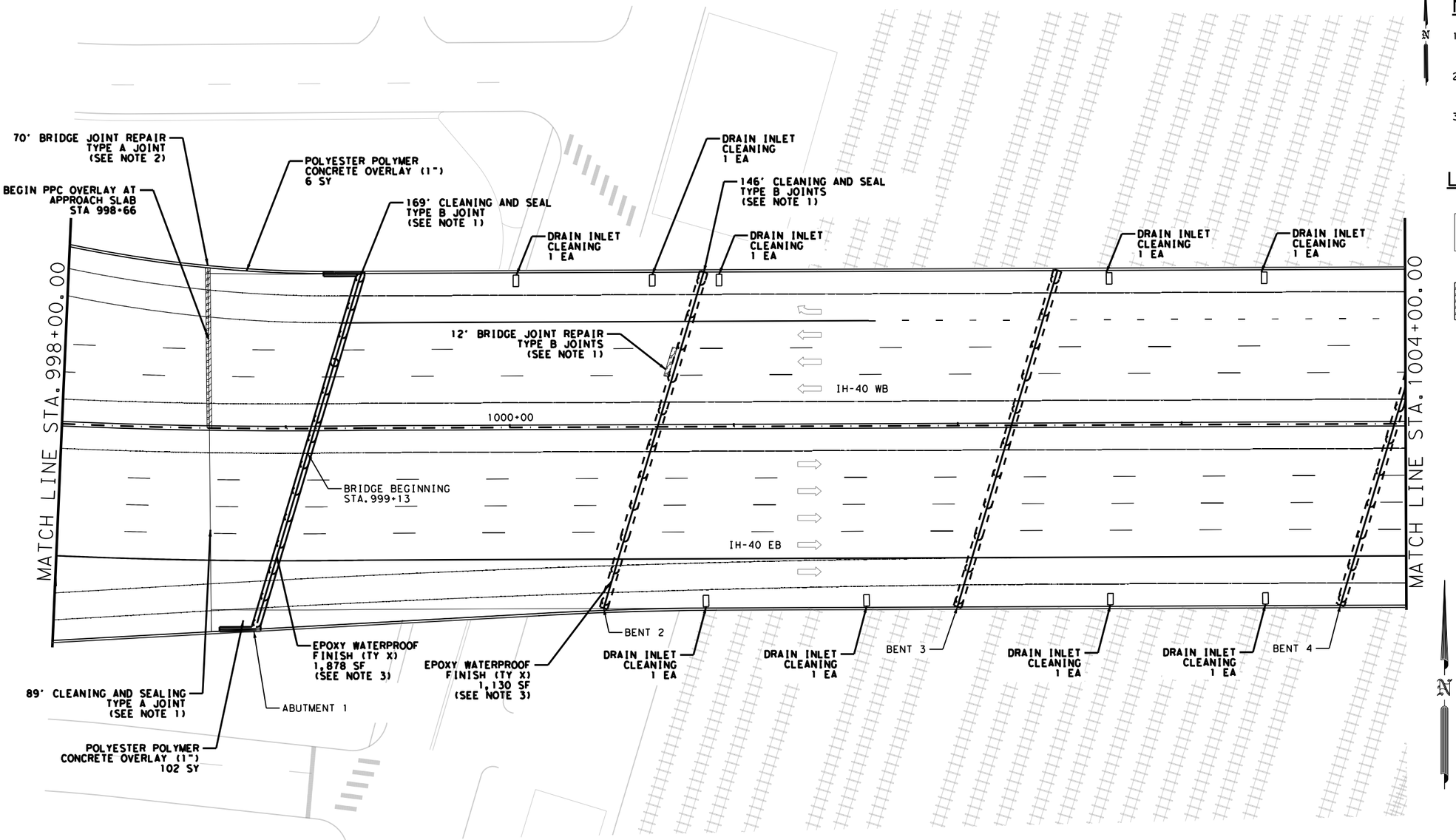
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST		COUNTY	SHEET NO.
JR	JR	AMA		POTTER	135

DATE: 11/28/2022 3:38:22 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\1. General\IH-40 AT BNSF RR\229_IH 40 @ BNSF RR YARD TYPICAL SECTIONS.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE BRIDGE JOINT REPAIR DETAIL FOR MORE INFORMATION.
3. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

BRIDGE JOINT REPAIR

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

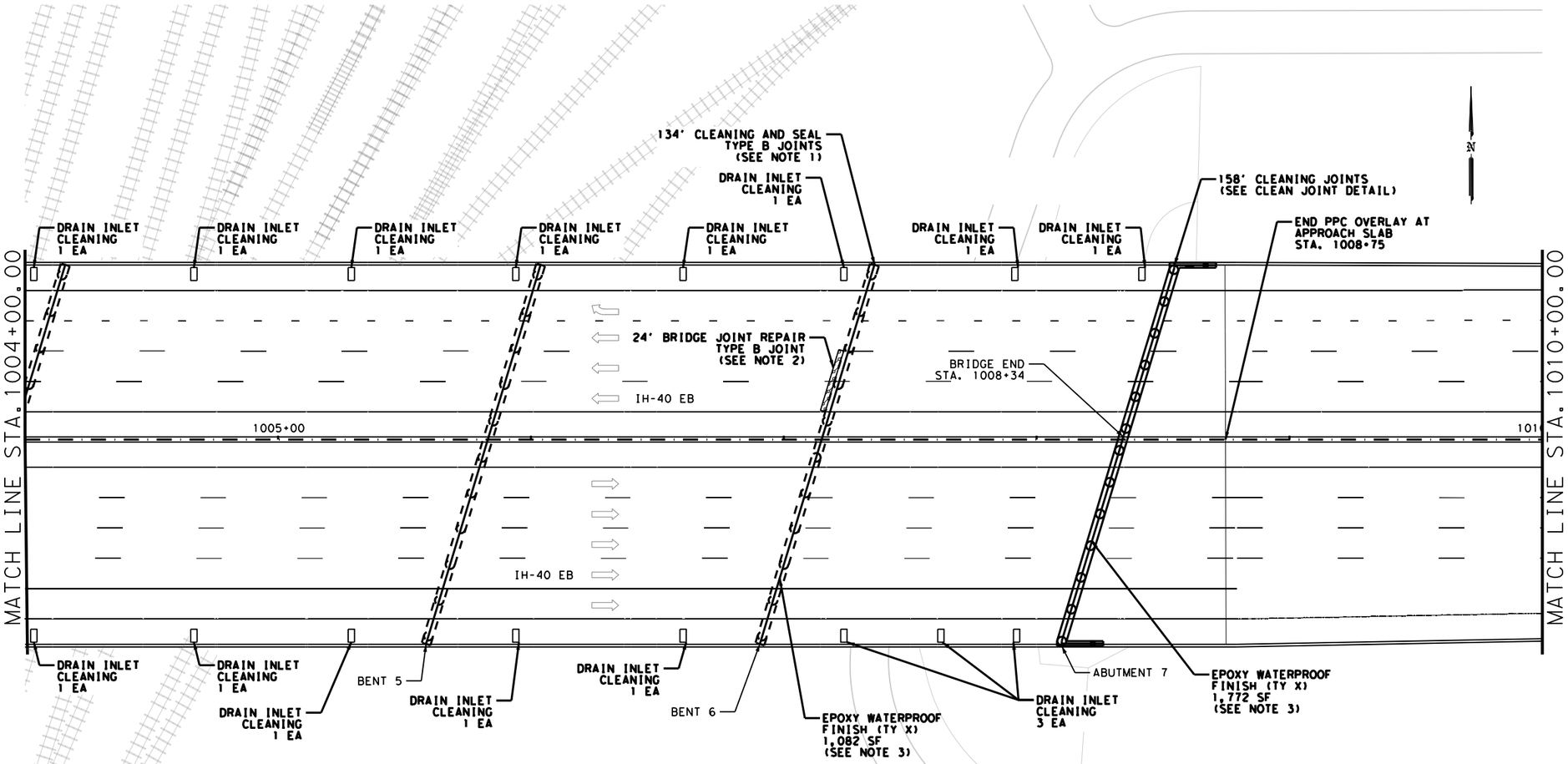
2022 Texas Department of Transportation

SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		136

IH-40 AT BNSF RAILYARD

DATE: 11/28/2022
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\7. Bridge\140 BNSF RR YARD\229_140_AT_BNSF_BRIDGE_REPAIR_DETAILS.dgn



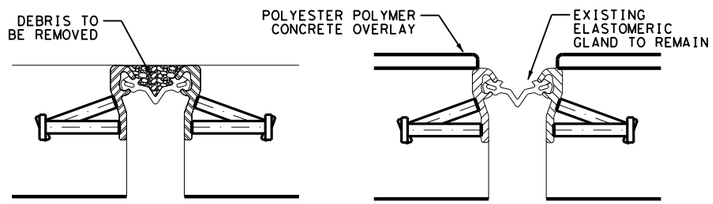
NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE BRIDGE JOINT REPAIR DETAIL FOR MORE INFORMATION.
3. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

BRIDGE JOINT REPAIR



CLEAN JOINT DETAIL

NTS

IH-40 AT BNSF RAILYARD

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD
BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 2 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		137

DATE: 11/28/2022 3:38:27 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\7. Bridge\140 BNSF RR YARD\229_140_AT_BNSF_BRIDGE_REPAIR_DETAILS.dgn

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT ARTHUR ST

LOCATION	438	438	668	6019	6019	6019	4106
	6001	6004	6015	6006	6014	6007	6007
	CLEANING AND SEALING EXIST JOINTS	CLEANING AND SEALING EXIST JOINTS (CL7)	PREfAB PAV MARK TY B (W) (12") (LNDP)	PREFB PV MK W/WNTY TY B (W) (6") (SLD)	PREFB PV MK W/WNTY TY B (Y) (6") (SLD)	PREFB PV MK W/WNTY TY B(W)6"(BRK)CN TST	POLYESTER POLYMER CONC OVERLAY (1")
	LF	LF	LF	LF	LF	LF	SY
IH-40 WB AT ARTHUR ST. TYPICAL SECTIONS SHEET 1 OF 1			87	346	346	180	2,622
IH-40 WB AT ARTHUR ST. BRIDGE REPAIR DETAIL SHEET 1 OF 1	144	140					
CSJ: 0275-01-237 TOTALS:	**144**	**140**	**87**	**346**	**346**	**180**	**2,622**
IH-40 EB AT ARTHUR ST. TYPICAL SECTIONS SHEET 1 OF 1				346	346	260	2,622
IH-40 EB AT ARTHUR ST. BRIDGE REPAIR DETAIL SHEET 1 OF 1	144	140					
CSJ: 0275-01-238 TOTALS:	**144**	**140**		**346**	**346**	**260**	**2,622**
SHEET TOTALS:	**288**	**280**	**87**	**692**	**692**	**440**	**5,244**

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		138

DATE: 1/18/2023 5:20:05 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\1. General\IH-40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).

2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.

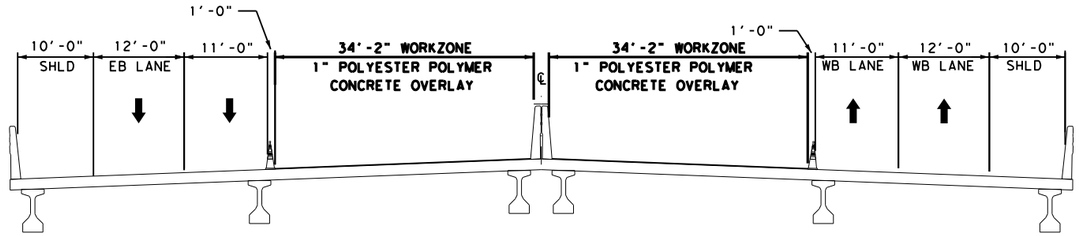
5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.

7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.

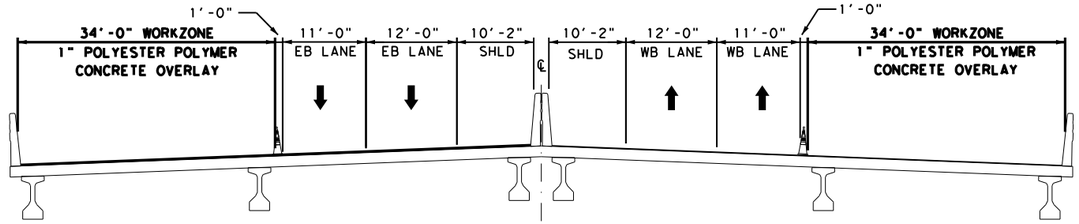
8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.

9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.



IH-40 AT ARTHUR ST PHASE 1

STA. 1014+98 TO 1018+44



IH-40 AT ARTHUR ST PHASE 2

STA. 1014+98 TO 1018+44

TRAFFIC CONTROL PLAN:

IH-40 AT ARTHUR ST PHASE 1:

11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 TWO INSIDE LANES, AND INSIDE SHOULDERS.

IH-40 AT ARTHUR ST PHASE 2:

13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 TWO OUTSIDE LANES AND OUTSIDE SHOULDERS.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

TCP NARRATIVE

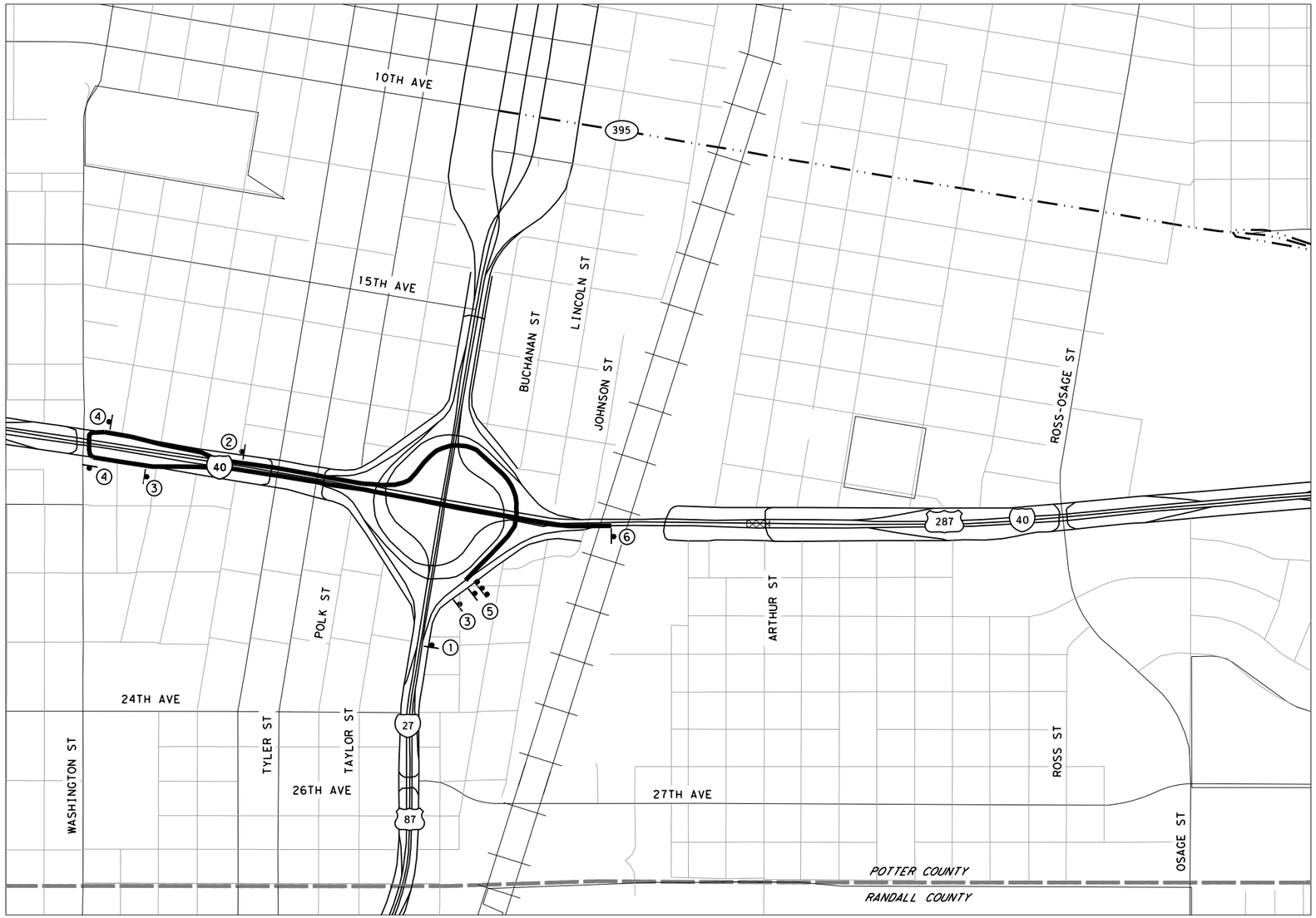
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		139

DATE: 11/28/2022 3:38:32 PM
FILE: I:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_TCP_NARRATIVE.dgn



DETOUR LENGTH:
2.1 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR A: IH-27 NB TO IH-40 EB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

④ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
02/02/2023

IH-40 AT ARTHUR ST

DETOUR LAYOUT

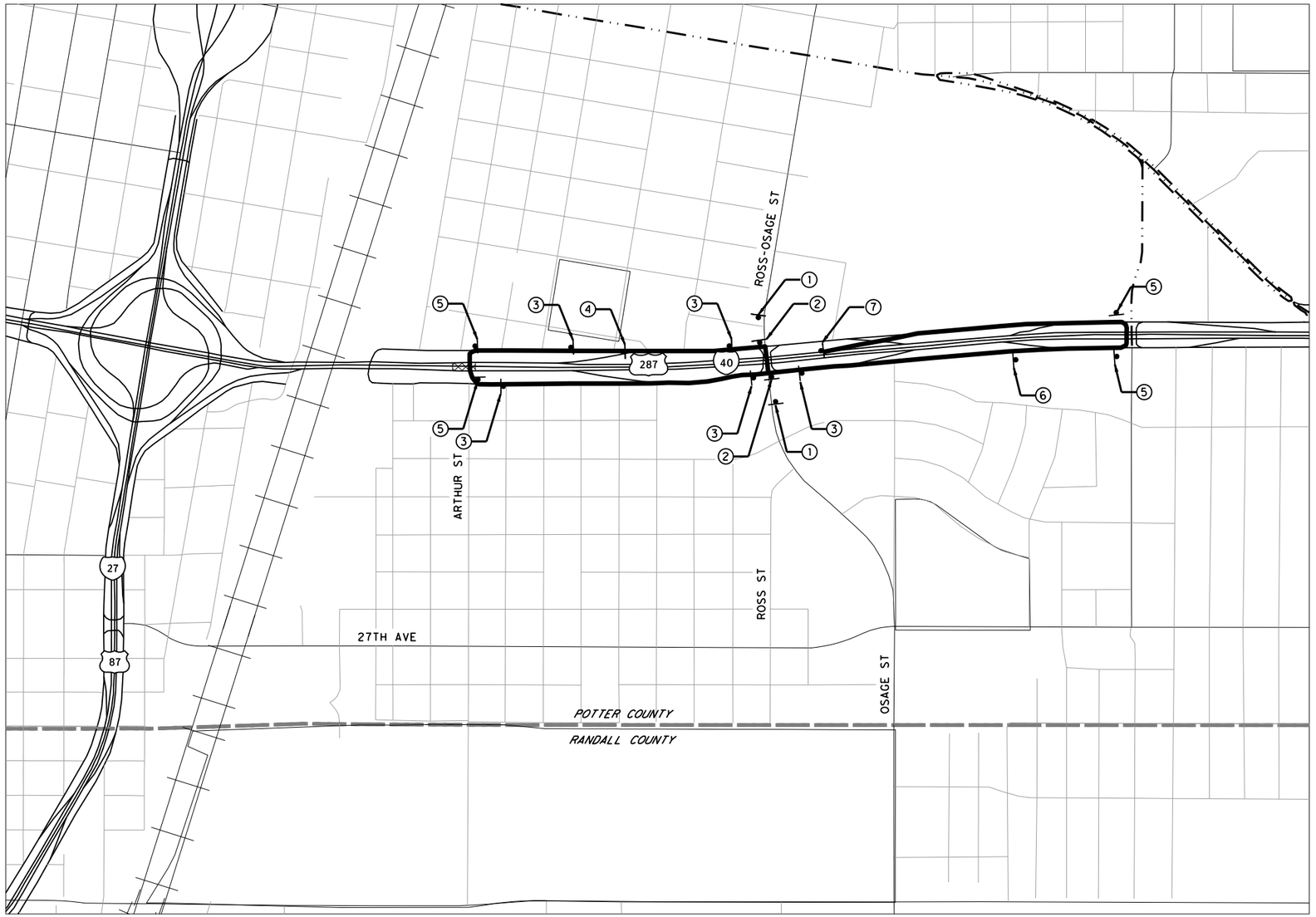
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 1 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		140

DATE: 11/28/2022 3:38:38 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229 IH-40 AT ARTHUR ST DETOUR LAYOUT.dgn



N

DETOUR LENGTH:
1.2 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR B: ROSS ST TO IH-40 WB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

③ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

④ RAMP CLOSED — R11-2BT (48" X 30")

⑤ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑥ DETOUR — M4-8 (24" X 12")
WEST — M3-4 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
M5-1L (21" X 15")

⑦ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT ARTHUR ST

DETOUR LAYOUT

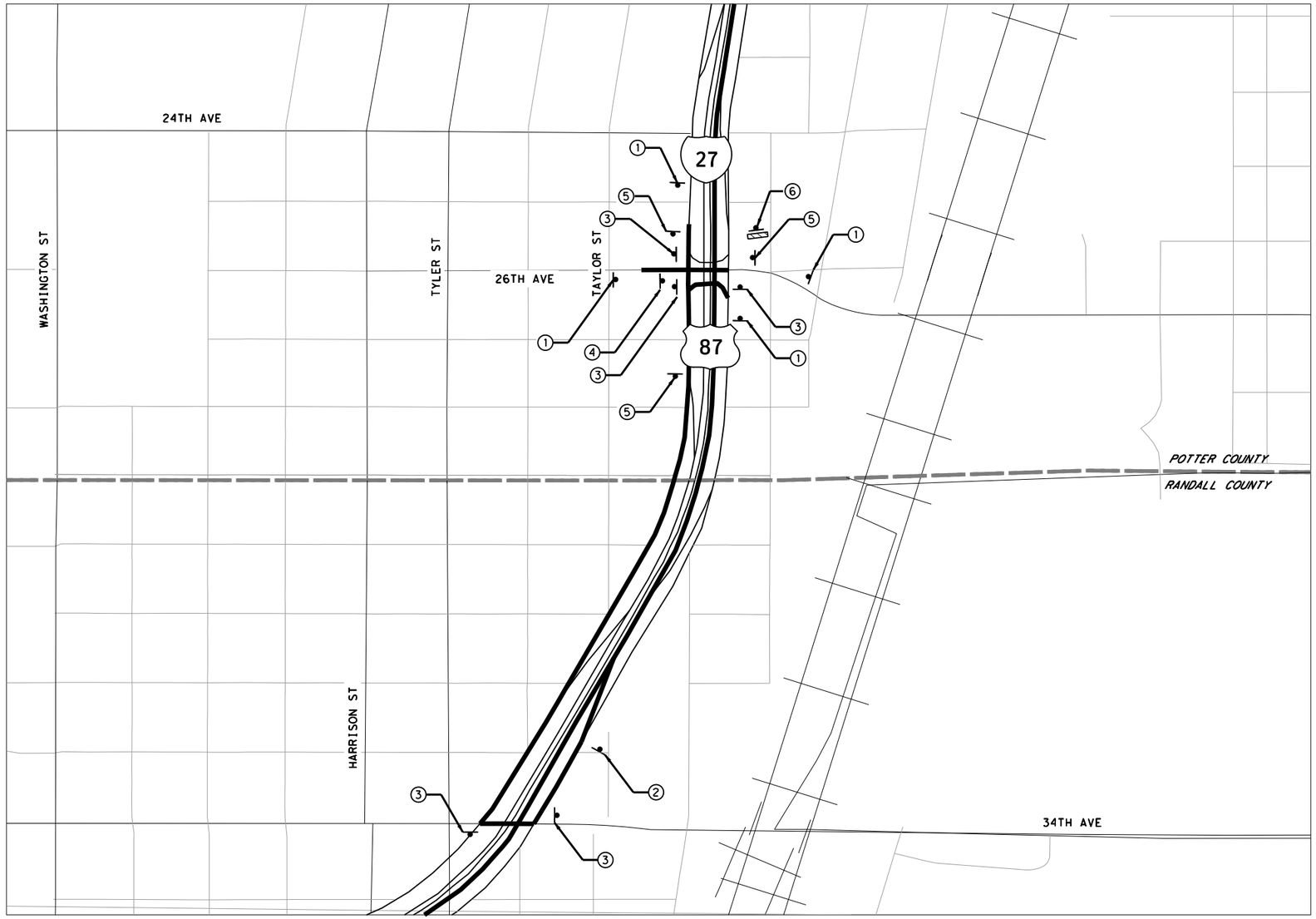
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 2 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		141

DATE: 11/28/2022 3:38:39 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229 IH-40 AT ARTHUR ST DETOUR LAYOUT.dgn



N

DETOUR LENGTH:
1.3 MILES

LEGEND:

- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR C: 26TH AVE TO IH-27 NB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑤ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑥ RAMP CLOSED — R11-2BT (48" X 30")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

DETOUR LAYOUT

SCALE: 1" = 600'

2022 Texas Department of Transportation

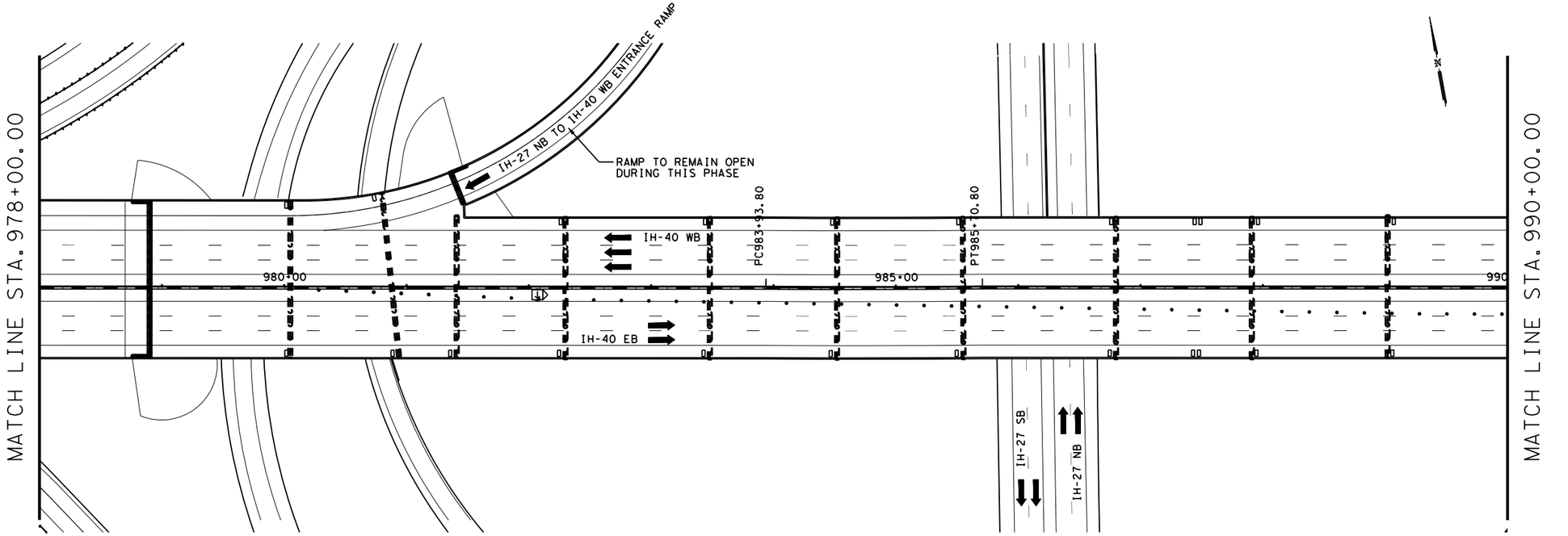
SHEET 3 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		142

DATE: 11/28/2022 3:38:41 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229 IH-40 AT ARTHUR ST DETOUR LAYOUT.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

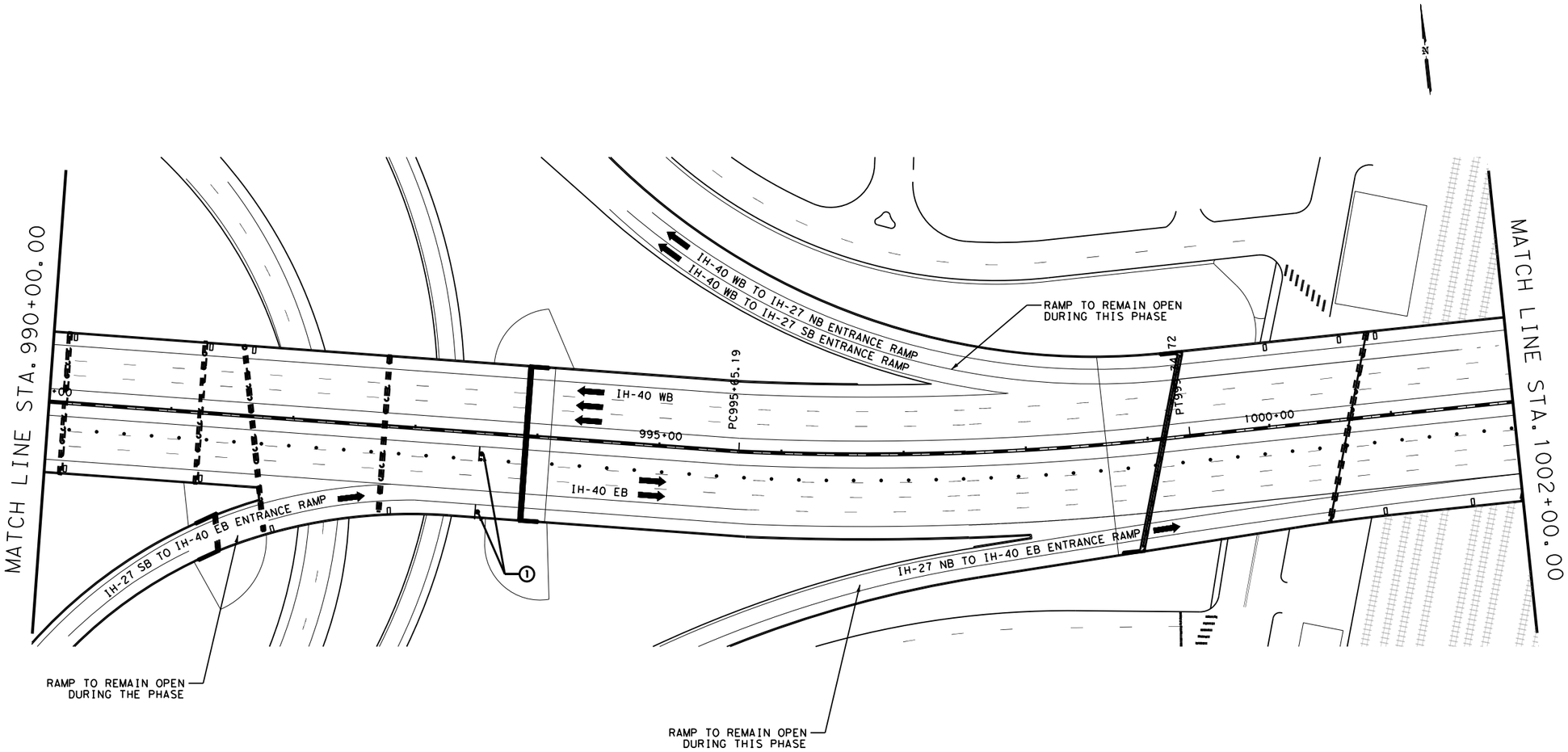
SHEET 1 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		143

DATE: 11/28/2022 3:38:44 PM
FILE: I:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEFT LANE CLOSED
1000 FT
1

CW20-5TL
48" X 48"

CW16-2aP
30" X 12"

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

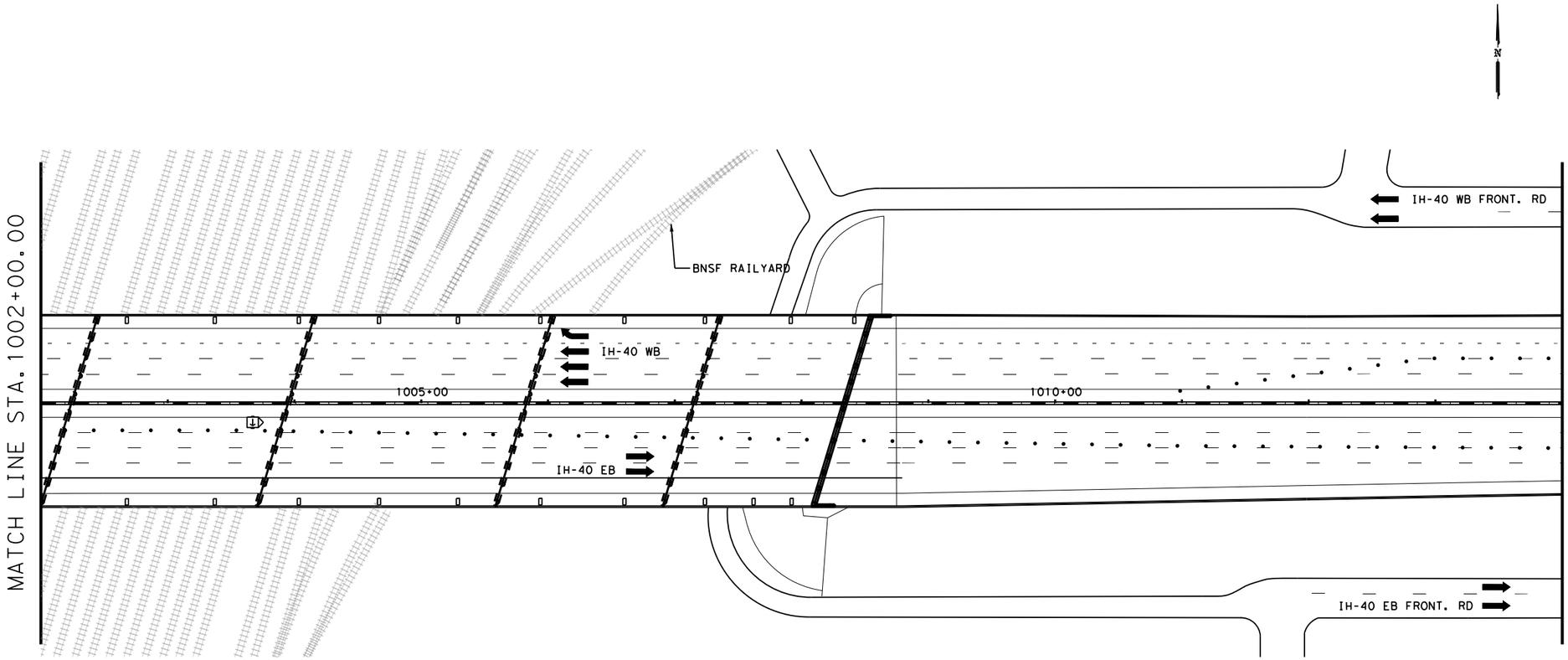
SHEET 2 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		144

DATE: 11/28/2022 3:38:45 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

IH-40 AT ARTHUR ST
PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

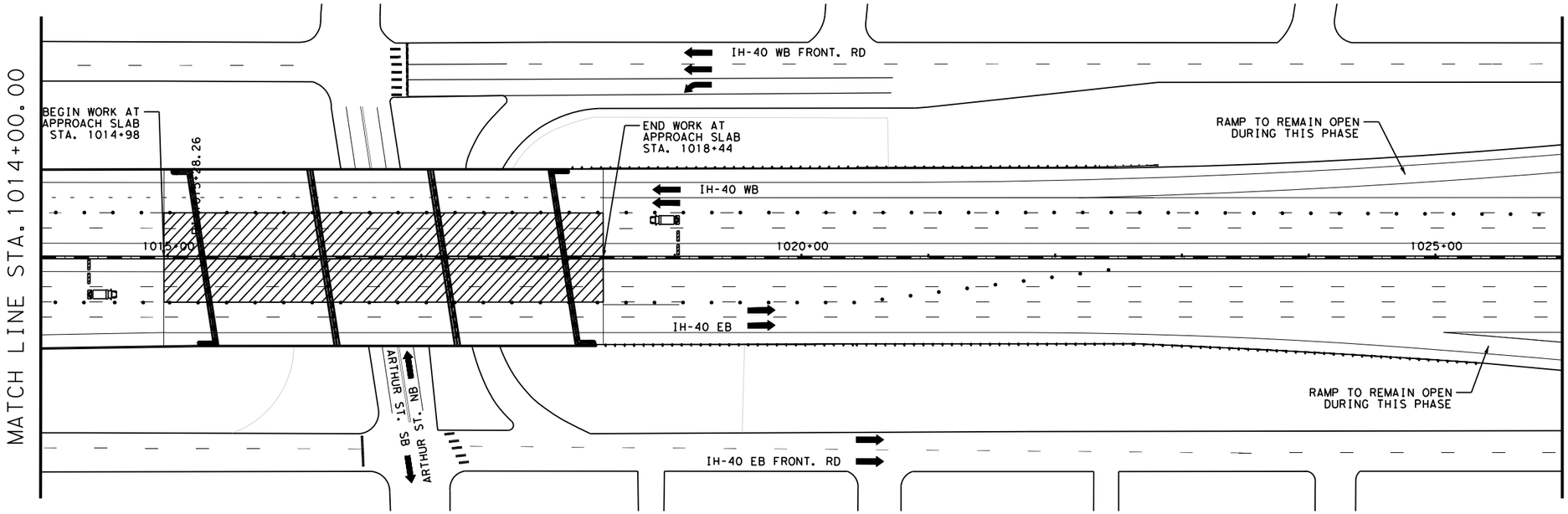
SHEET 3 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		145

DATE: 11/28/2022 3:38:47 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

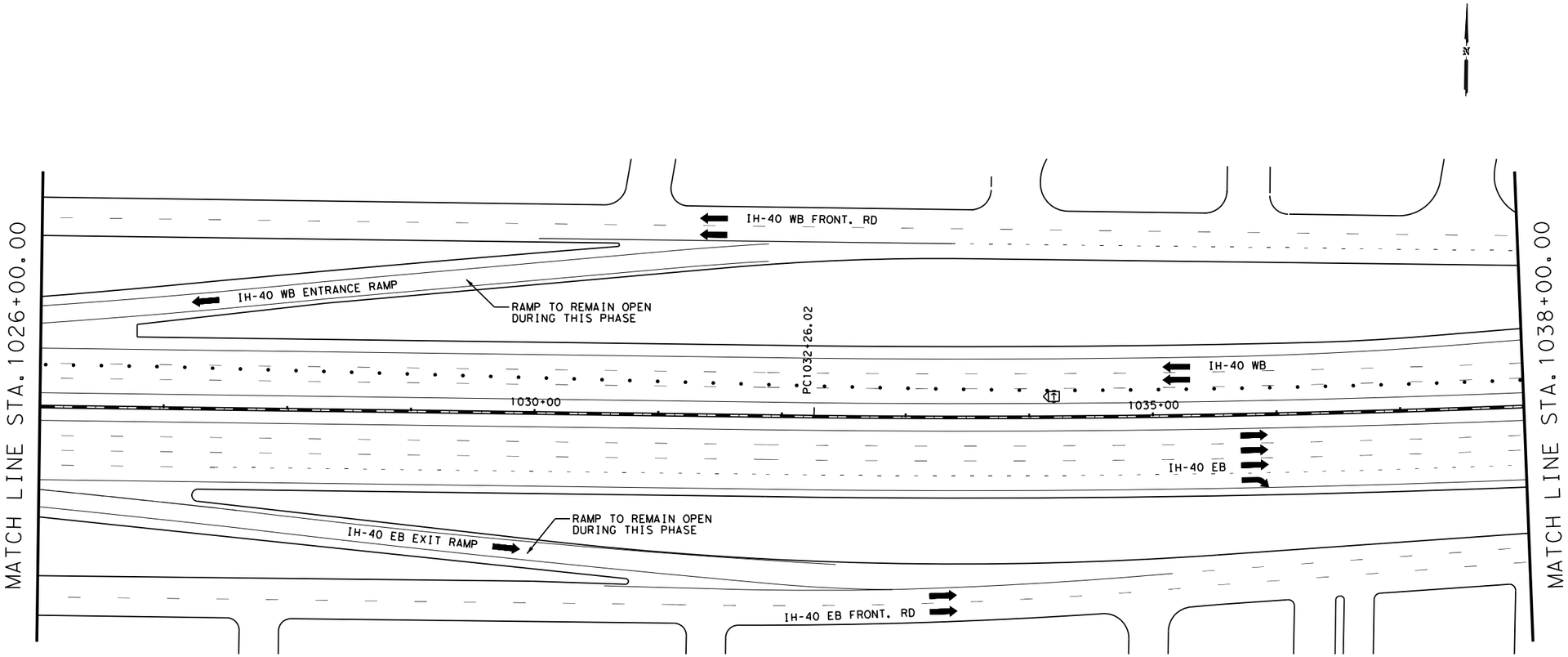
SHEET 4 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		146

DATE: 11/28/2022 3:38:48 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVR\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

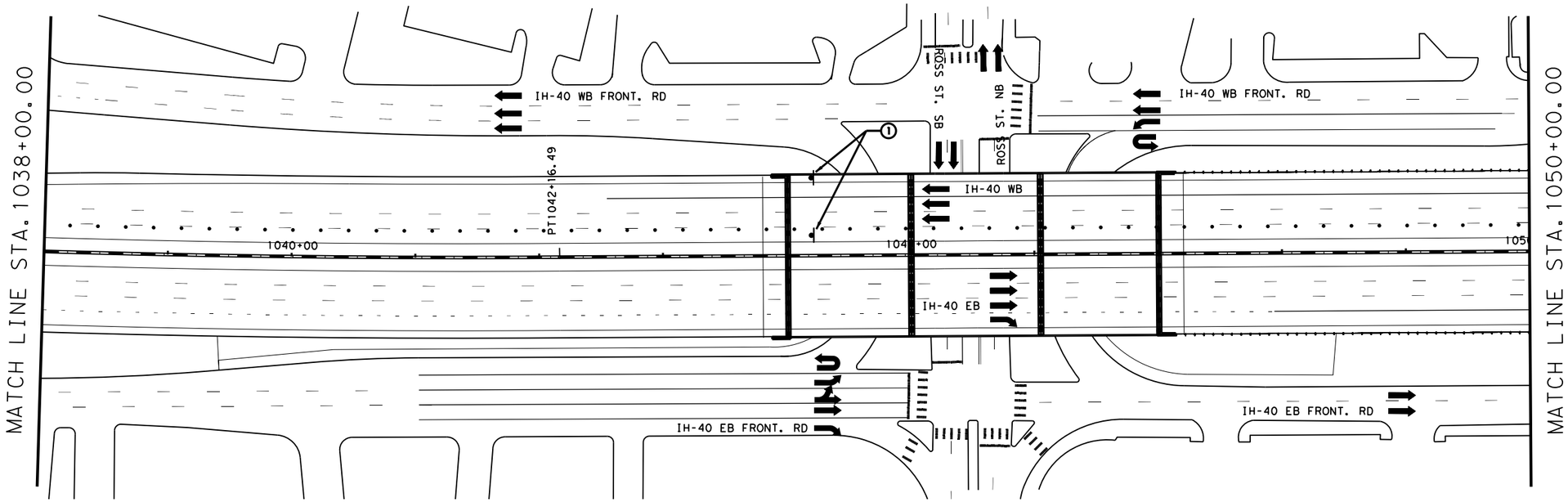
SHEET 5 OF 7

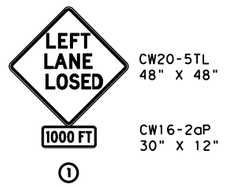
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		147

DATE: 11/28/2022 3:38:51 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS





CW20-5TL
48" X 48"

CW16-2aP
30" X 12"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 1 TCP

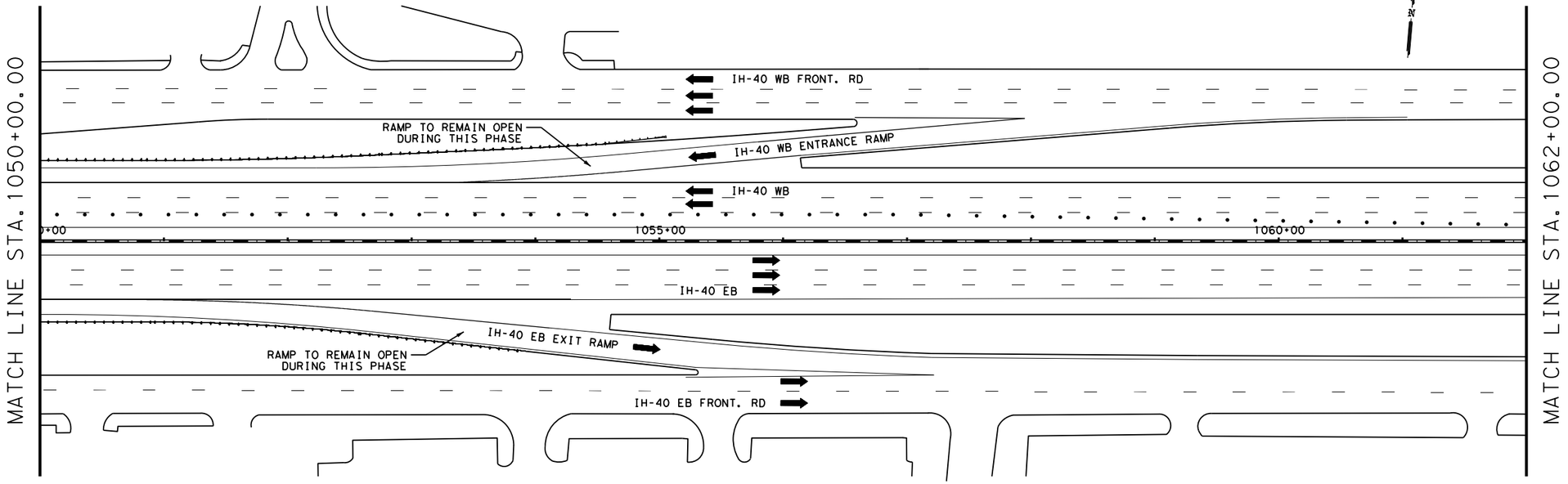
SCALE: 1" = 100'

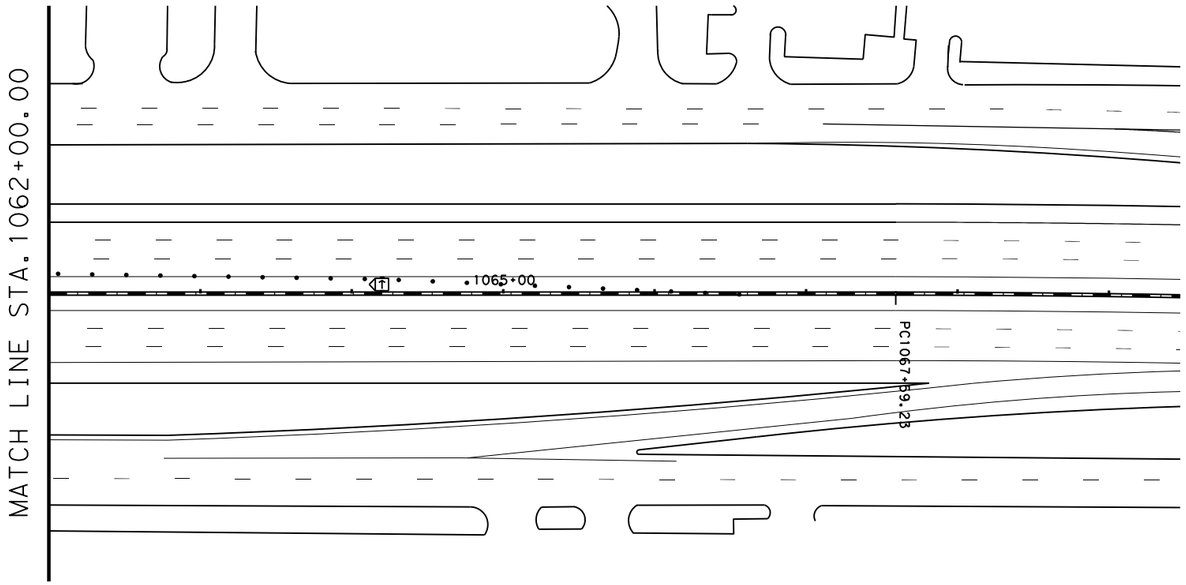
2022 Texas Department of Transportation

SHEET 6 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		148

DATE: 11/28/2022 3:38:53 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR STX229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn





NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

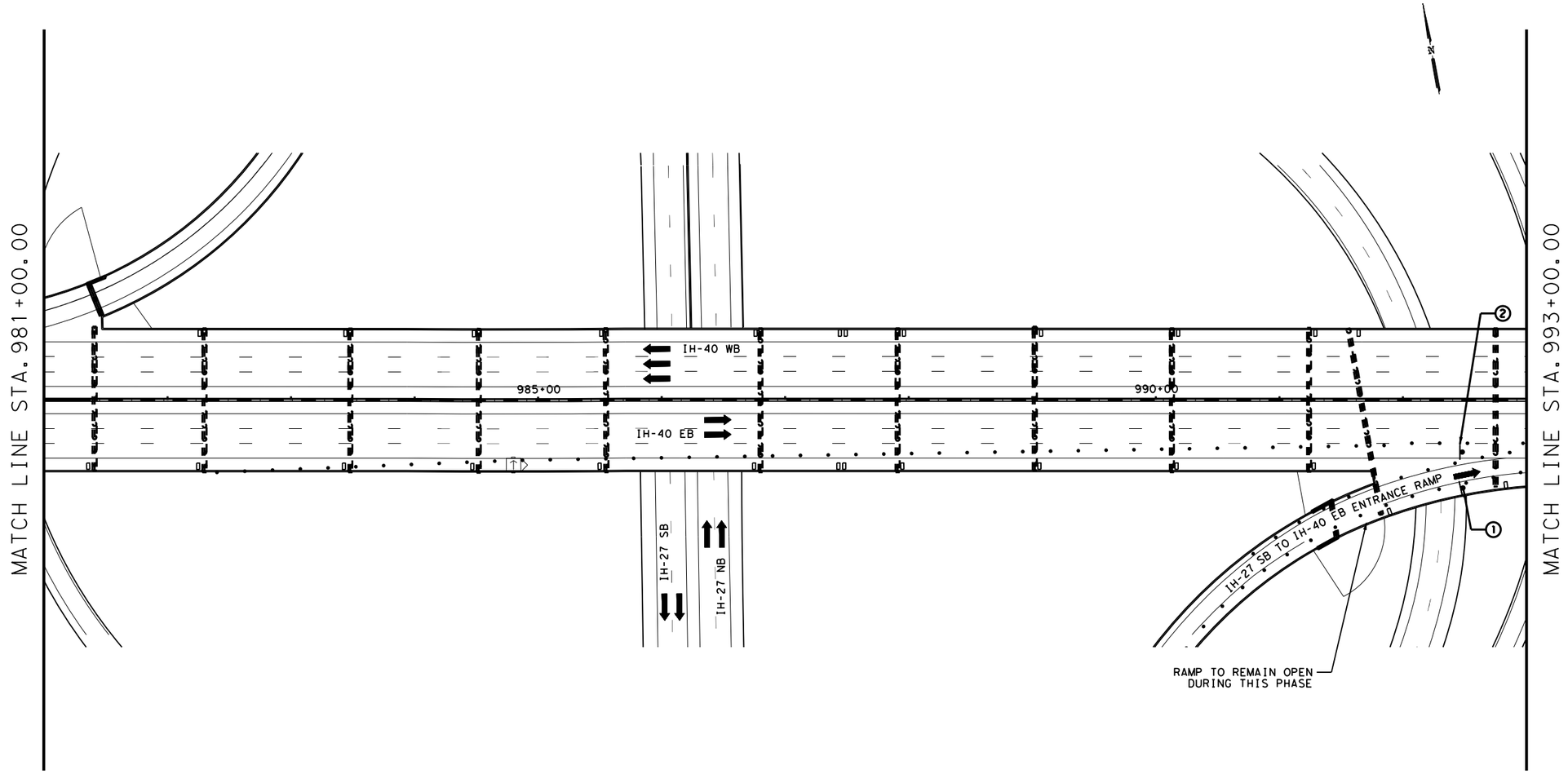
SHEET 7 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		149

DATE: 11/28/2022 3:38:54 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



CW4-3R
48" X 48"

①

CW4-6
48" X 48"

②

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

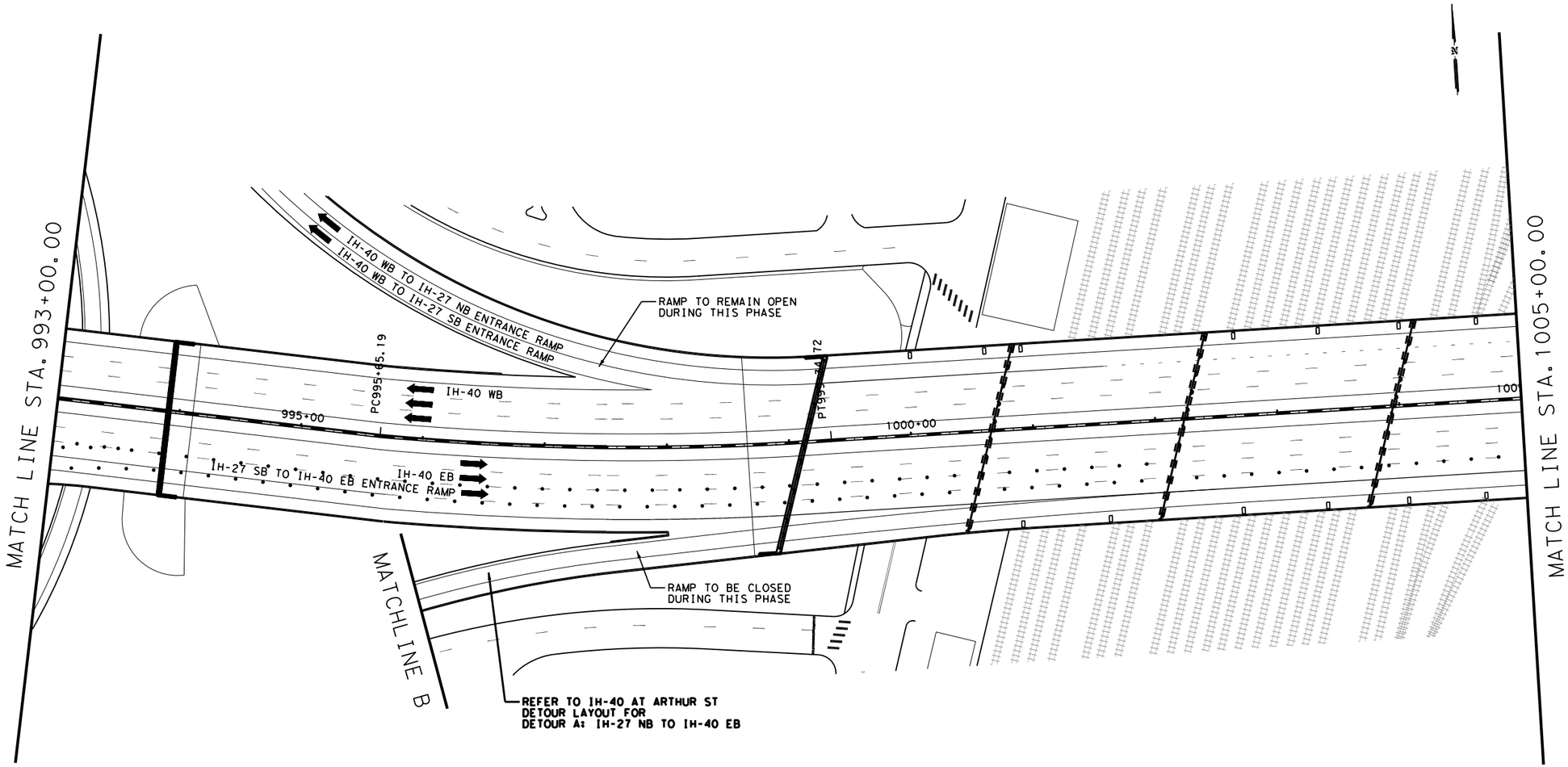
SHEET 1 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		150

DATE: 11/28/2022 3:39:02 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

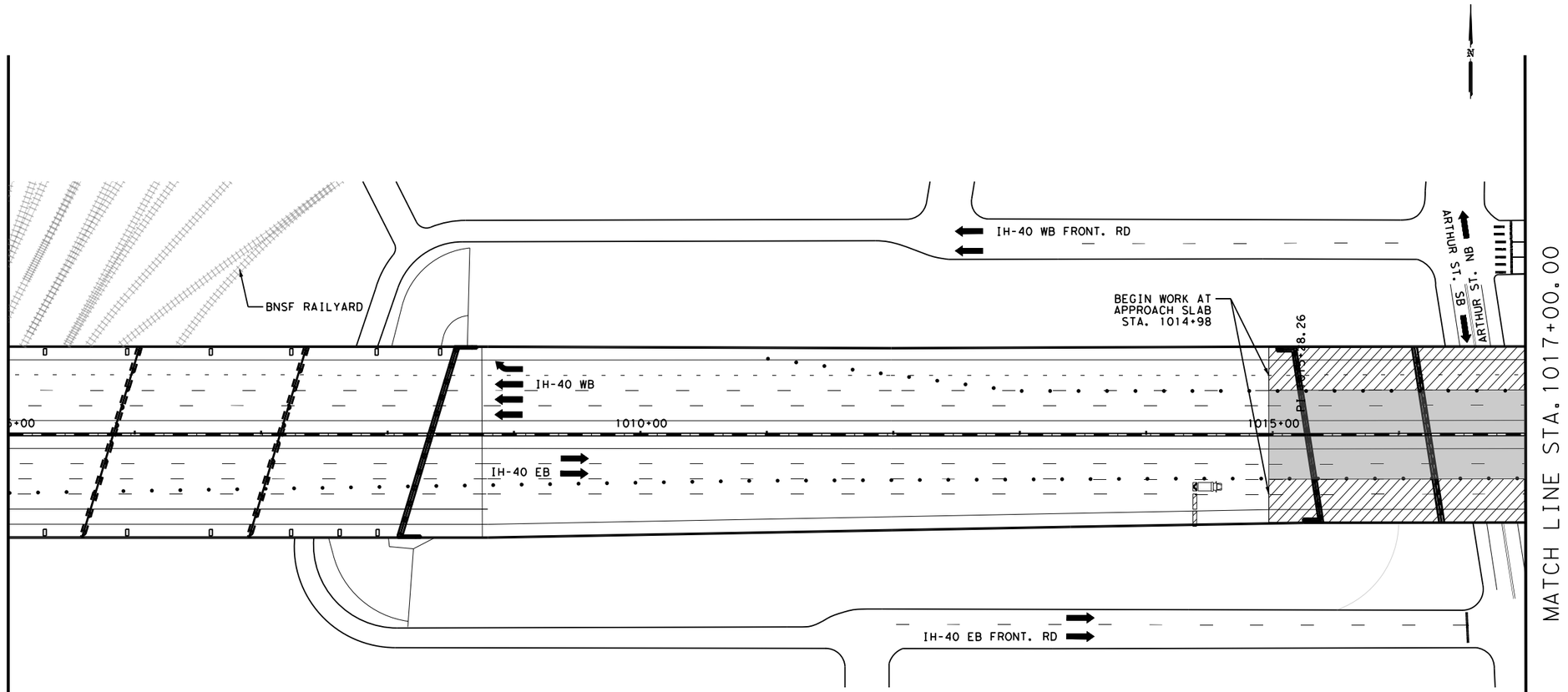
SHEET 2 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		151

DATE: 11/28/2022 3:39:03 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

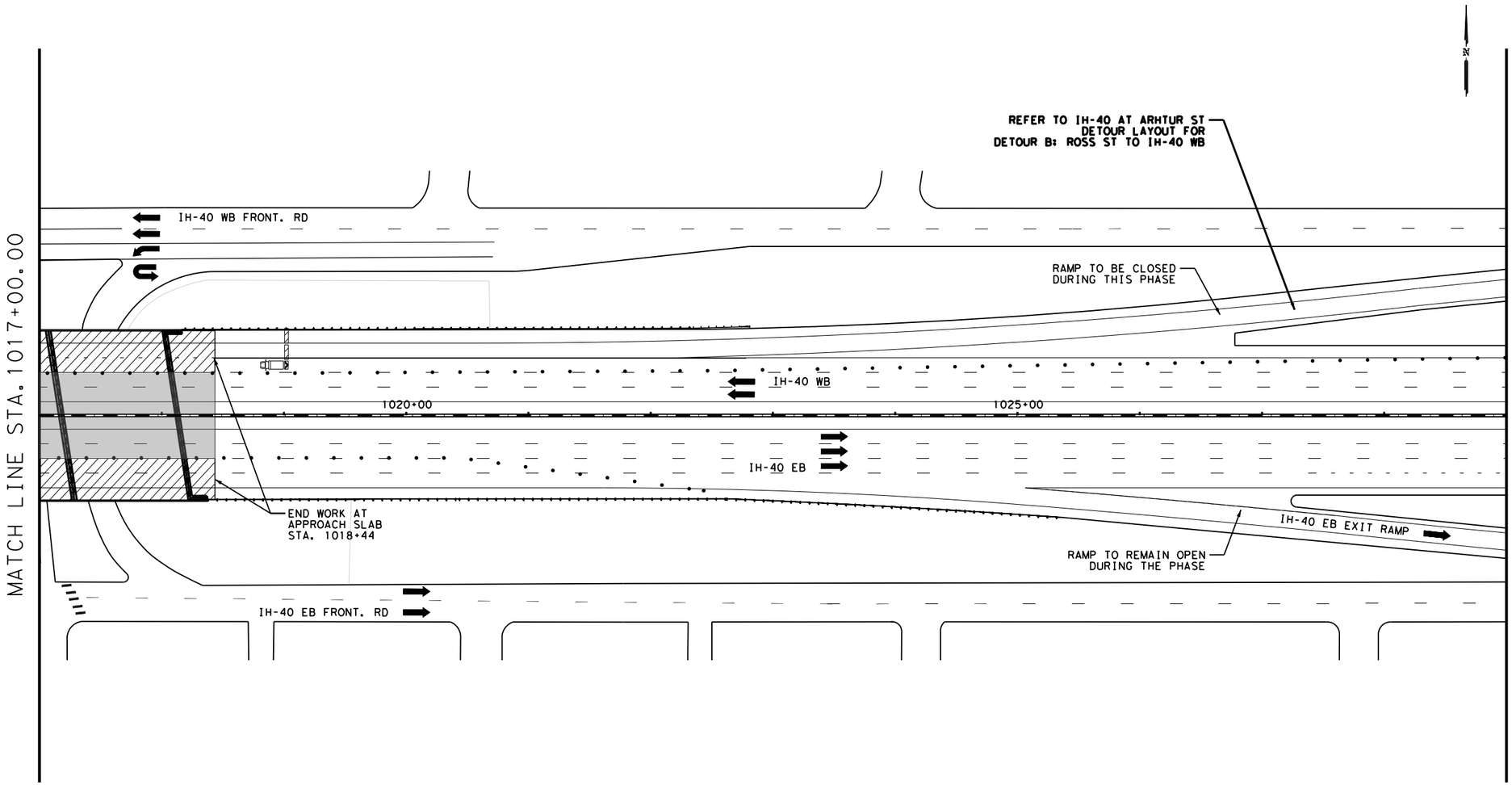
SHEET 3 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		152

DATE: 11/28/2022 3:39:05 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

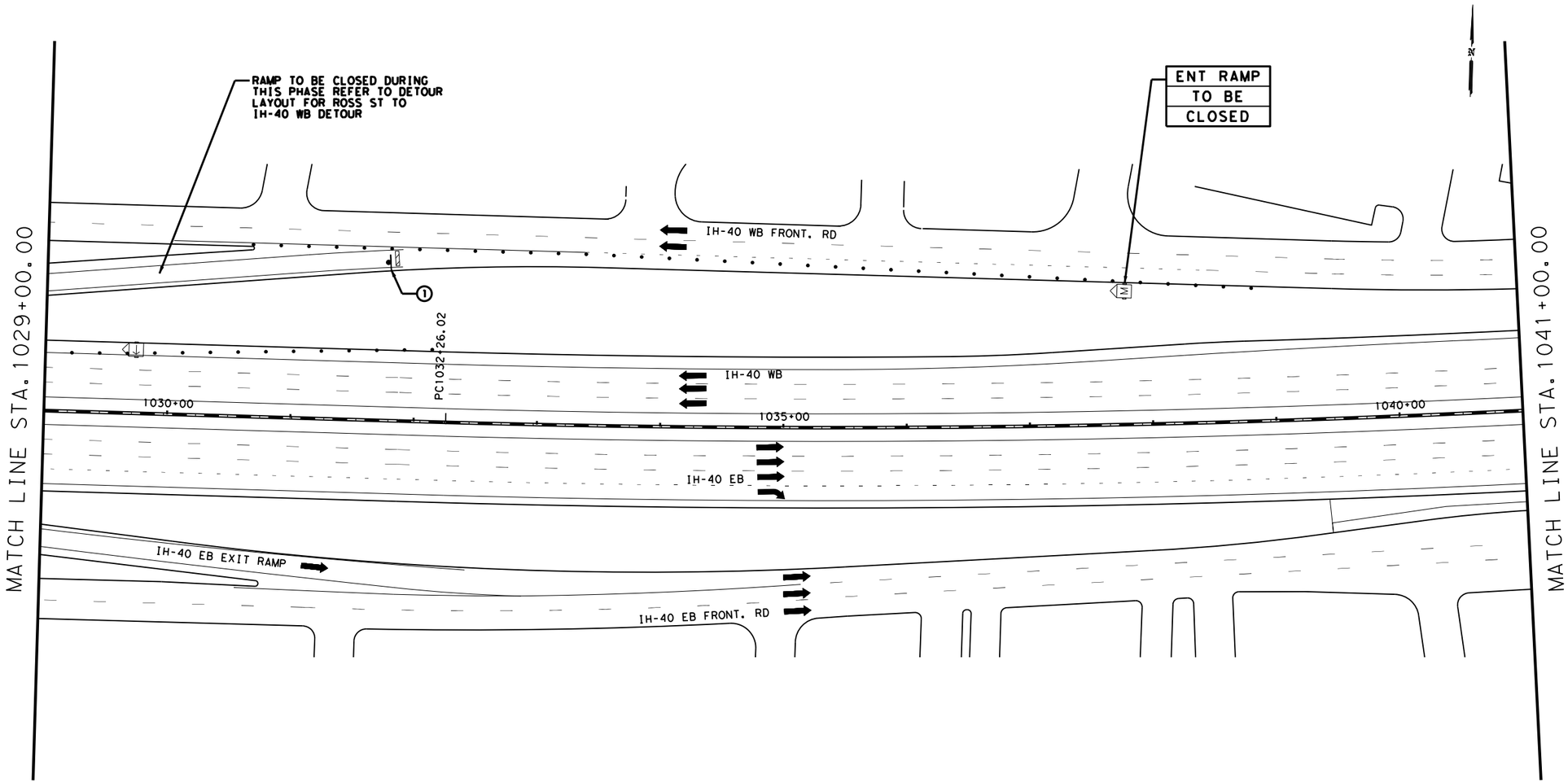
SHEET 4 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		153

DATE: 11/28/2022 3:39:07 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

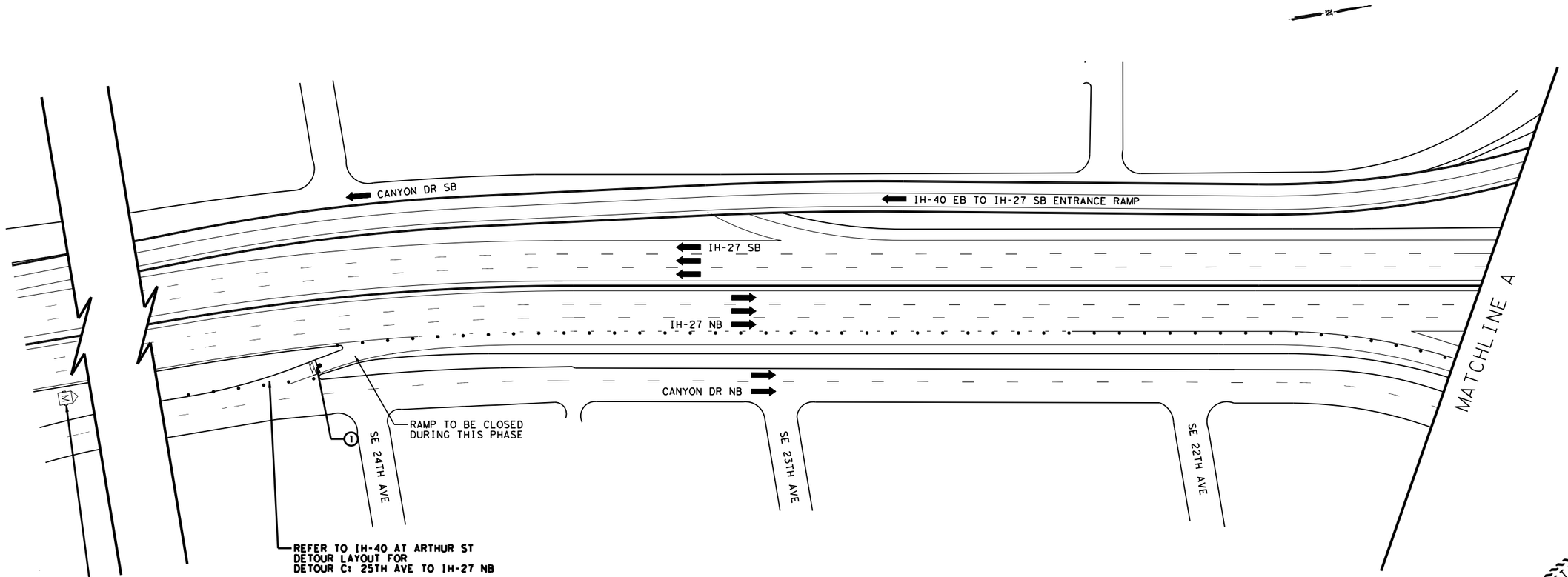
SHEET 5 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		154

DATE: 11/28/2022 3:39:10 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

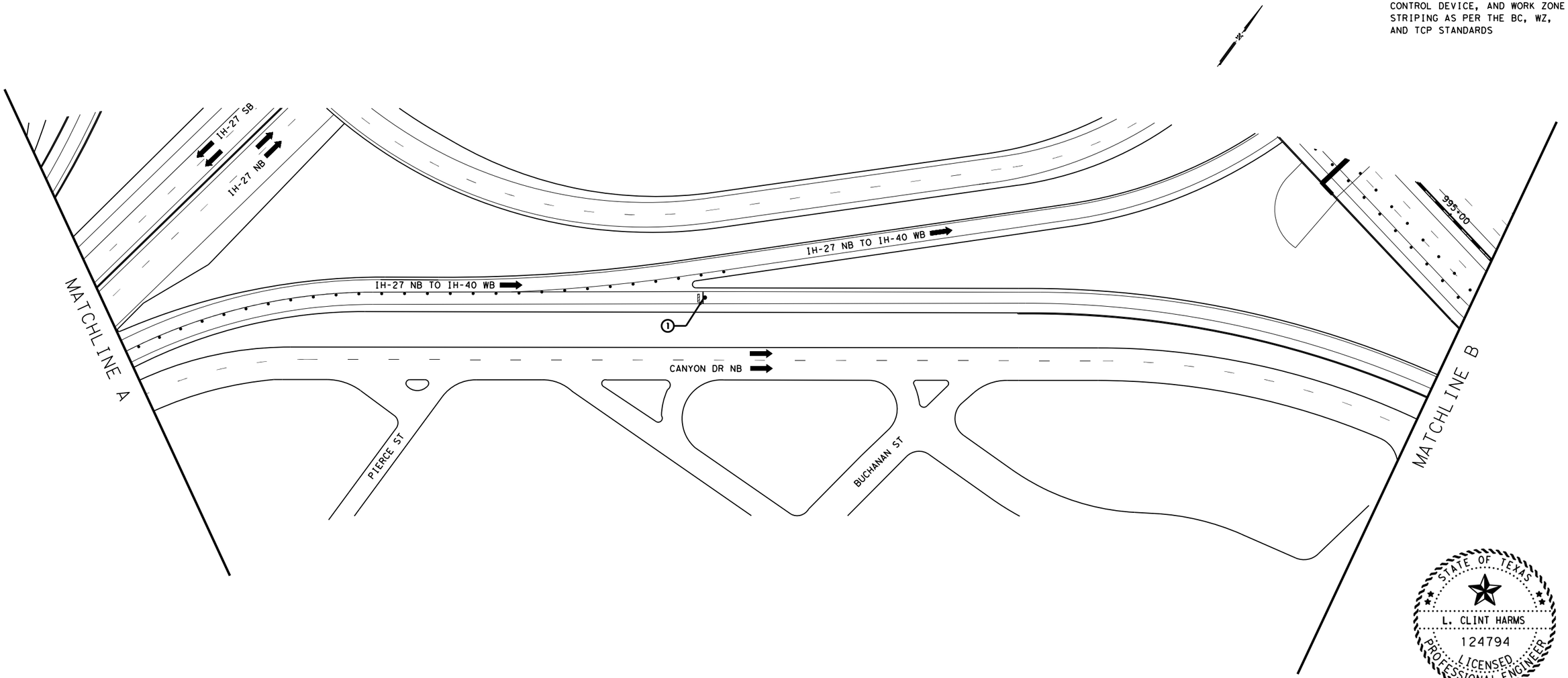
SHEET 6 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		155

DATE: 11/28/2022 3:39:12 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR STY229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST
PHASE 2 TCP

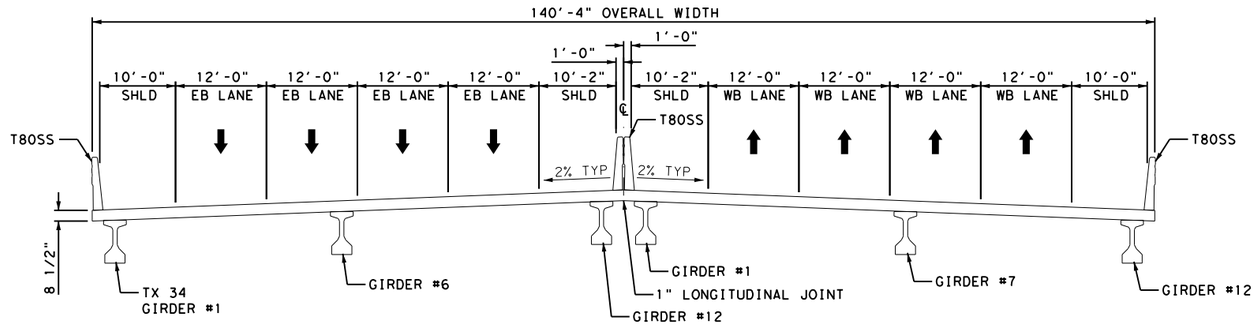
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 7 OF 7

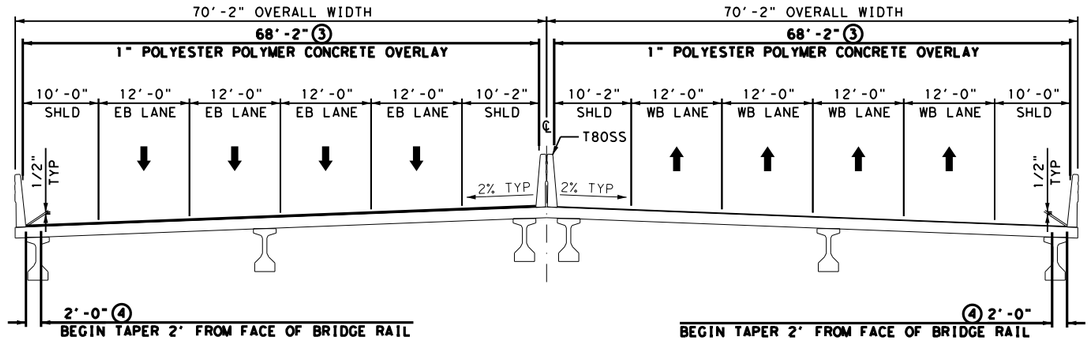
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		156

DATE: 11/28/2022 3:39:13 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ARTHUR ST\229_IH40_AT_ARTHUR_ST_PHASE_2_TCP.dgn



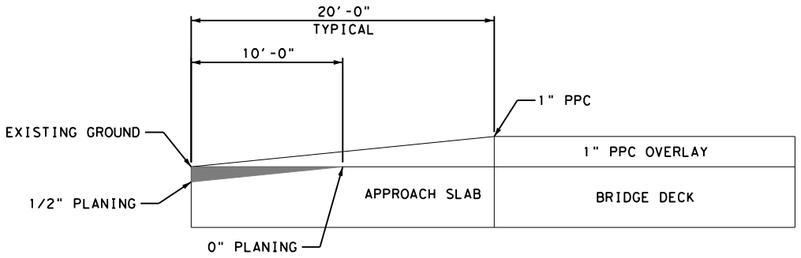
EXISTING TYPICAL SECTION

STA. 1014+98 TO STA. 1018+44



PROPOSED TYPICAL SECTION

STA. 968+64 TO STA. 975+42



APPROACH SLAB TIE-IN

NTS

NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. MATCH EXISTING PROFILE EXCEPT ON APPROACH SLABS AS SHOWN AND CROSS SLOPE EXCEPT ON SHOLDERS AS SHOWN.
4. TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.

LEGEND

PLANE CONC PAV (0" TO 1/2")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

TYPICAL SECTIONS

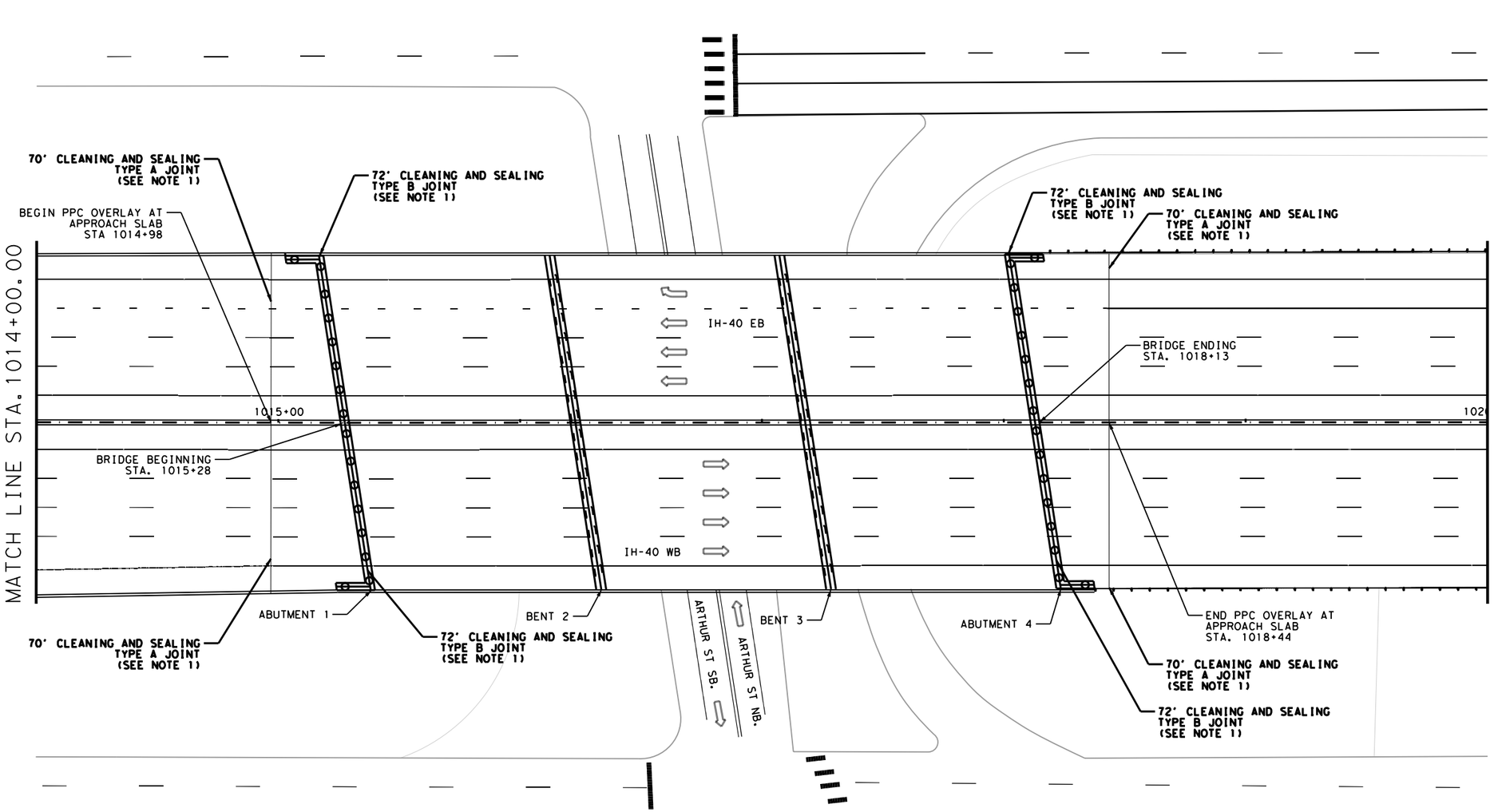
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		157

DATE: 11/28/2022 3:39:16 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL4 - Design\Plan Set\1. General\IH-40 AT ARTHUR ST\229_IH 40 @ ARTHUR TYPICAL SECTIONS.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ARTHUR ST

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		158

IH-40 AT ARTHUR ST

DATE: 11/28/2022 3:39:19 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH 40 ARTHUR\229_140_AT_ARTHUR_ST_BRIDGE_REPAIR_DETAILS.dgn

SUMMARY OF ESTIMATED QUANTITIES - IH-40 AT ROSS ST

LOCATION	438 6001 CLEANING AND SEALING EXIST JOINTS LF	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7) LF	668 6015 PREFAB PAV MARK TY B (W) (12") (LNDP) LF	668 6016 PREFAB PAV MARK TY B (W) (12") (SLD) LF	6019 6006 PREFB PV MK W/WNTY TY B (W) (6") (SLD) LF	6019 6014 PREFB PV MK W/WNTY TY B (Y) (6") (SLD) LF	6019 6007 PREFB PV MK W/WNTY TY B(W)6"(BRK)CN TST LF	4106 6007 POLYESTER POLYMER CONC OVERLAY (1") SY
IH-40 WB AT ROSS ST. TYPICAL SECTIONS SHEET 1 OF 1				340	340	340	170	2,399
IH-40 WB AT ROSS ST. BRIDGE REPAIR DETAIL SHEET 1 OF 1	130	130						
CSJ: 0275-01-239 TOTALS:	**130**	**130**		**340**	**340**	**340**	**170**	**2,399**
IH-40 EB AT ROSS ST. TYPICAL SECTIONS SHEET 1 OF 1			85		340	340	170	2,399
IH-40 EB AT ROSS ST. BRIDGE REPAIR DETAIL SHEET 1 OF 1	130	130						
CSJ: 0275-01-240 TOTALS:	**130**	**130**	**85**		**340**	**340**	**170**	**2,399**
SHEET TOTALS:	**260**	**260**	**85**	**340**	**680**	**680**	**340**	**4,798**

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST
QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		159

DATE: 1/18/2023 5:20:47 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\1. General\IH-40 ROSS OSAGE\229_IH40_AT_ROSS_ST_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).

2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.

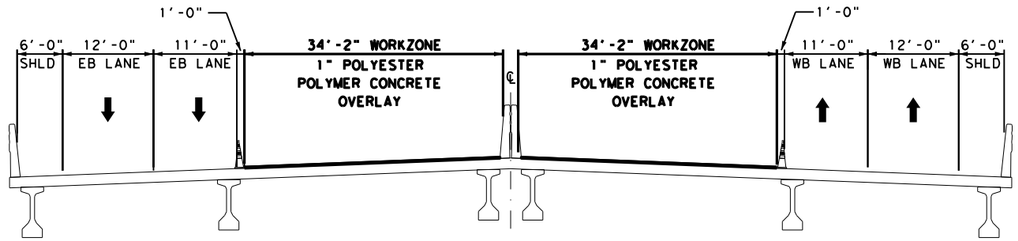
5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.

7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.

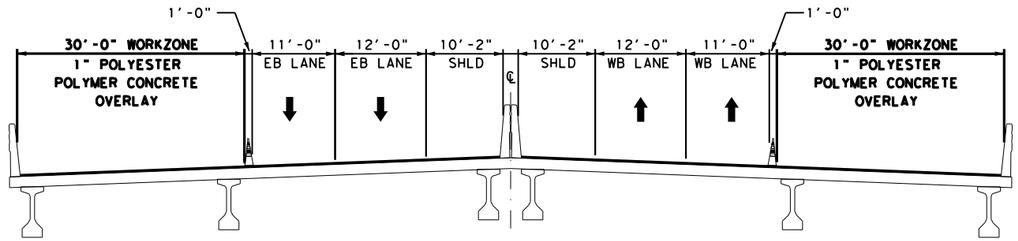
8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.

9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.



IH-40 AT ROSS ST PHASE 1

STA. 1043+81 TO 1047+21



IH-40 AT ROSS ST PHASE 2

STA. 1043+81 TO 1047+21

TRAFFIC CONTROL PLAN:

IH-40 AT ROSS ST PHASE 1:

11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 TWO INSIDE LANES AND INSIDE SHOULDERS.

IH-40 AT ROSS ST PHASE 2:

13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON IH-40 TWO OUTSIDE LANES AND OUTSIDE SHOULDERS.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

TCP NARRATIVE

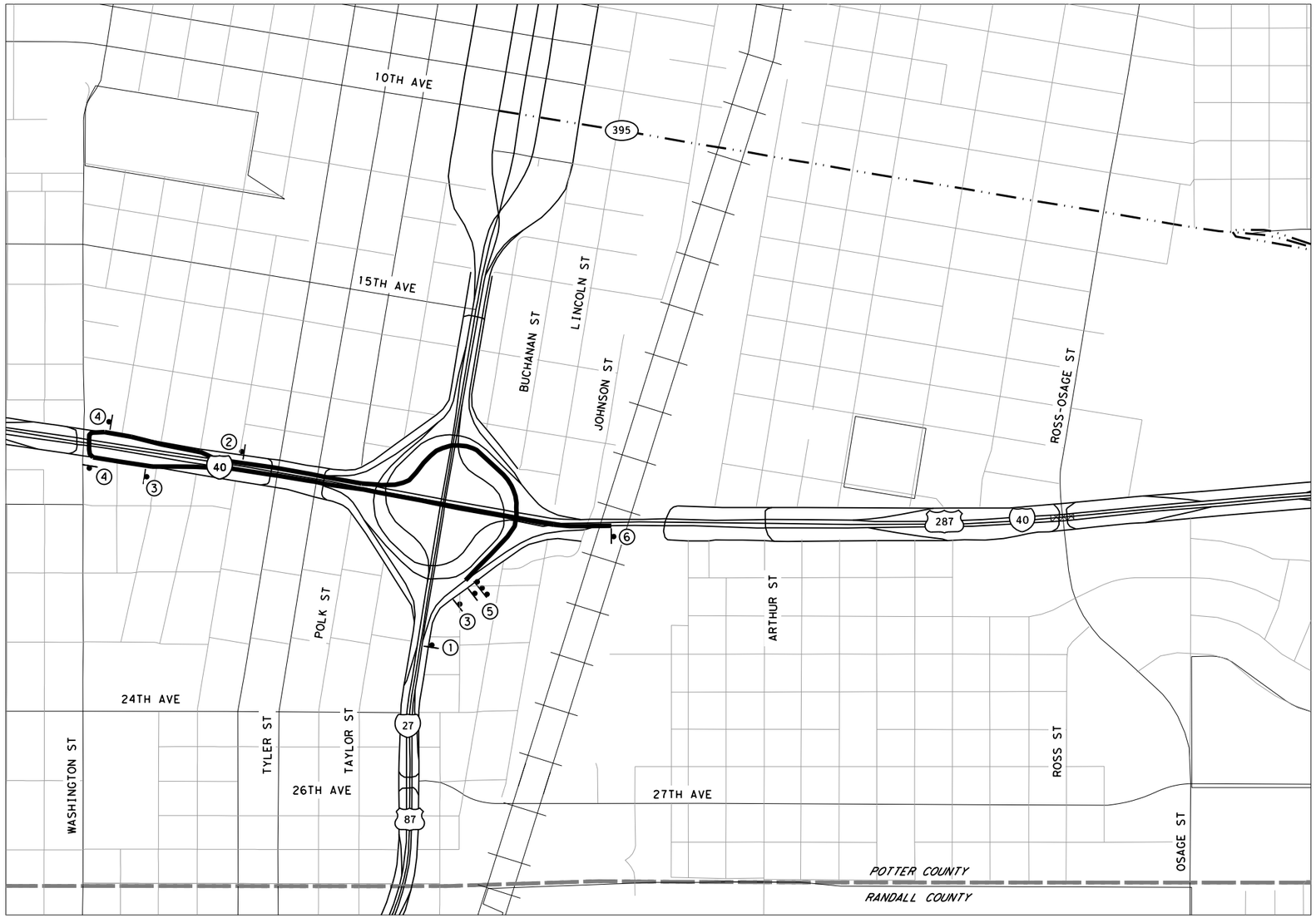
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		160

DATE: 11/28/2022 3:39:24 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_TCP_NARRATIVE.dgn



DETOUR LENGTH:
2.1 MILES

LEGEND:
- WORK ZONE
- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR A: IH-27 NB TO IH-40 EB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-7PL (21" X 15")

④ DETOUR — M4-8 (24" X 12")
EAST — M3-2 (24" X 12")
INTERSTATE TEXAS 40 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

⑤ RAMP CLOSED — R11-2BT (48" X 30")

⑥ END DETOUR — M4-8A (24" X 18")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT ROSS ST

DETOUR LAYOUT

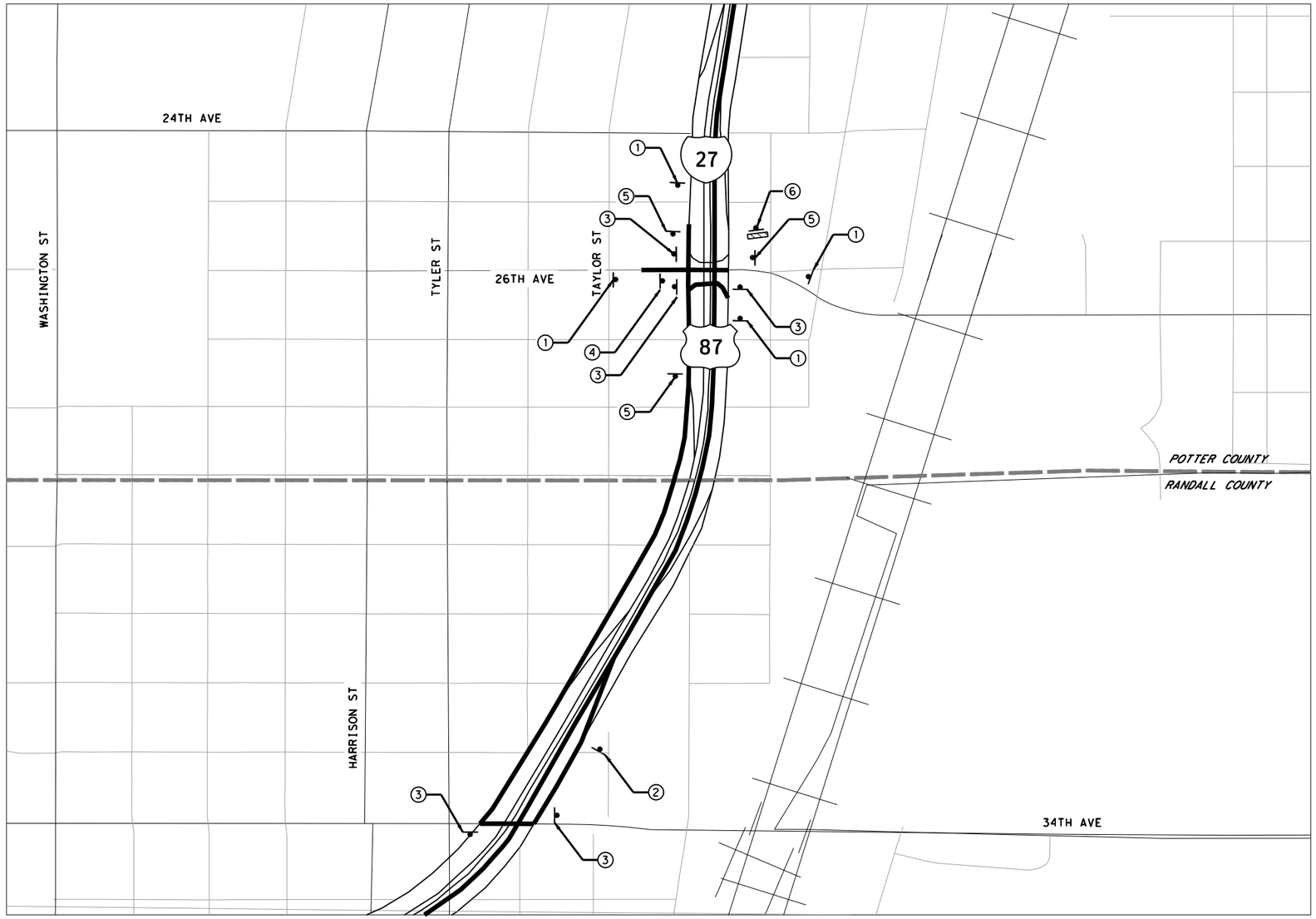
SCALE: 1" = 1200'

2022 Texas Department of Transportation

SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		161

DATE: 11/28/2022 3:39:30 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229 IH-40 AT ROSS ST DETOUR LAYOUT.dgn



N

DETOUR LENGTH:
1.3 MILES

LEGEND:

- TYPE 3 BARRICADE
- SIGN
- PROPOSED DETOUR ROUTE

DETOUR B: 26TH AVE TO IH-27 NB

① DETOUR AHEAD — CW20-2D (48" X 48")

② DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-7PR (21" X 15")

③ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PL (24" X 18")

④ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑤ DETOUR — M4-8 (24" X 12")
NORTH — M3-1 (24" X 12")
INTERSTATE TEXAS 27 — M1-1 (24" X 24")
CW16-5PR (24" X 18")

⑥ RAMP CLOSED — R11-2BT (48" X 30")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

DETOUR LAYOUT

SCALE: 1" = 600'

2022 Texas Department of Transportation

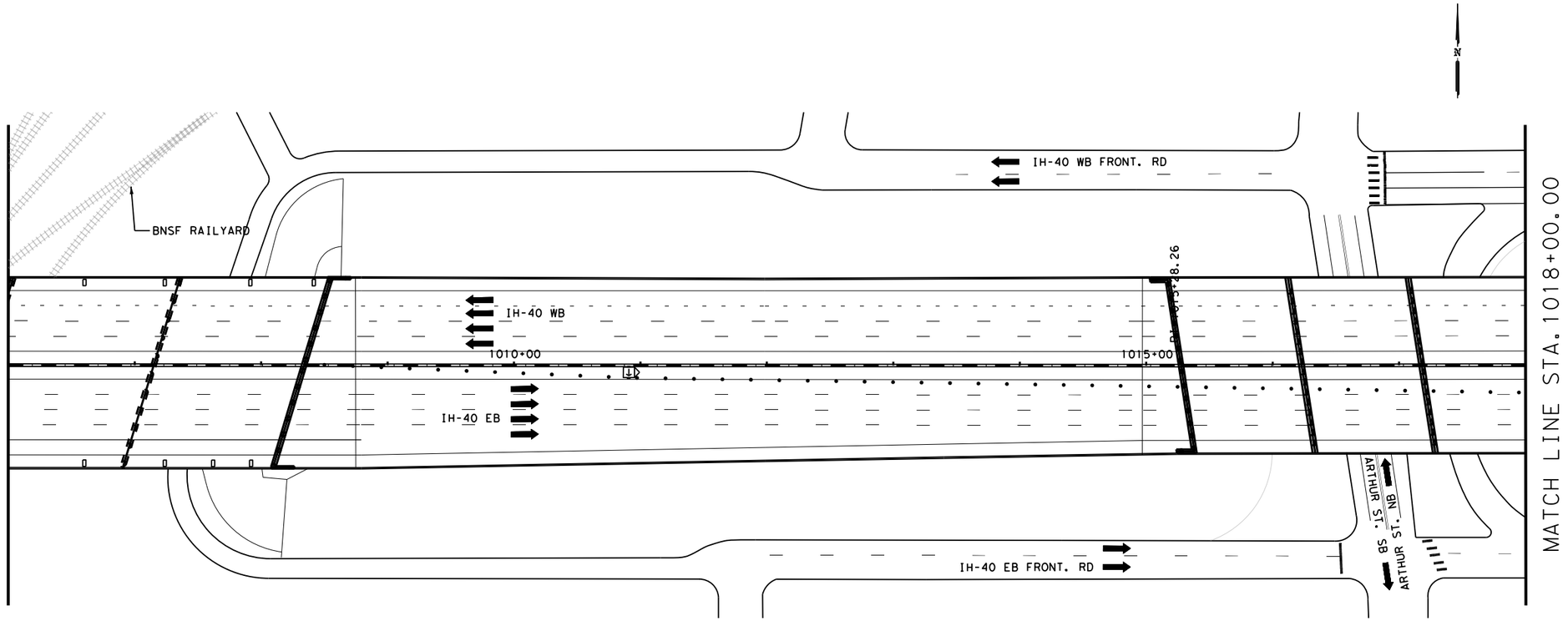
SHEET 2 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		162

DATE: 11/28/2022 3:39:31 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229 IH-40 AT ROSS ST DETOUR LAYOUT.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 1 TCP

SCALE: 1" = 100'

Texas Department of Transportation

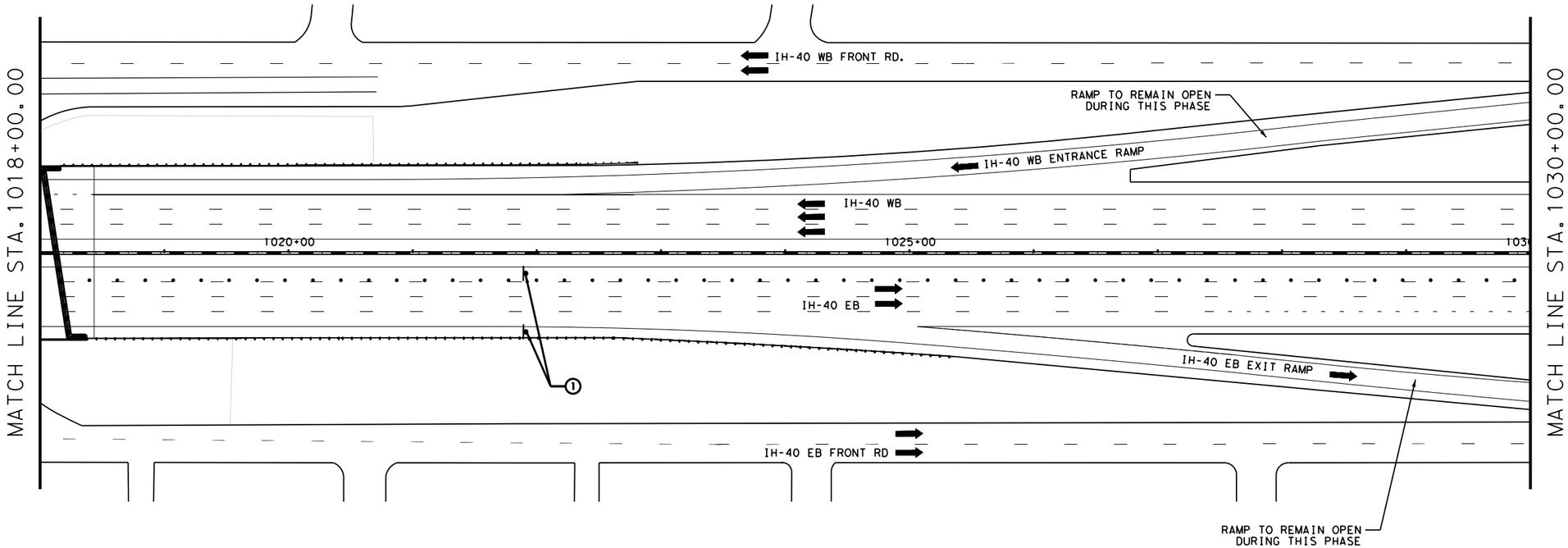
SHEET 1 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		163

DATE: 11/28/2022 3:39:37 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



CW20-5TL
48" X 48"

CW16-2aP
30" X 12"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

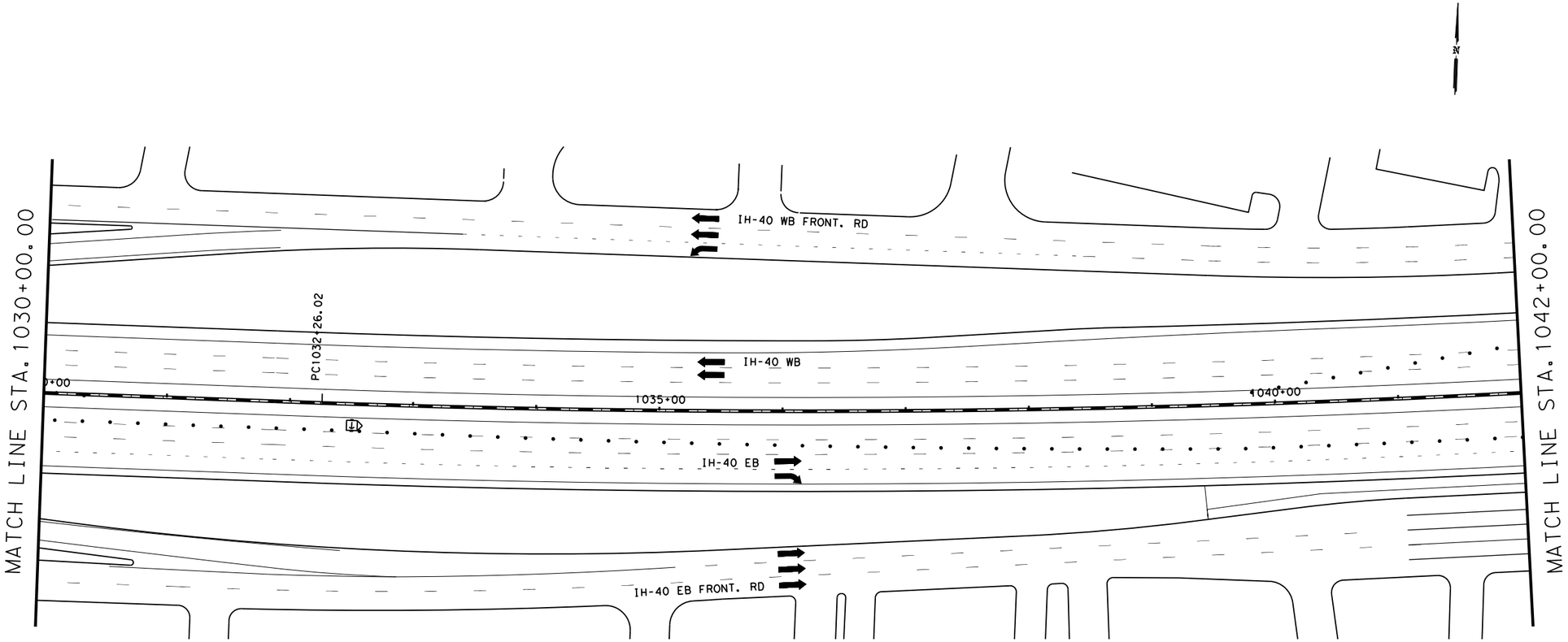
SHEET 2 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		164

DATE: 11/28/2022 3:39:38 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

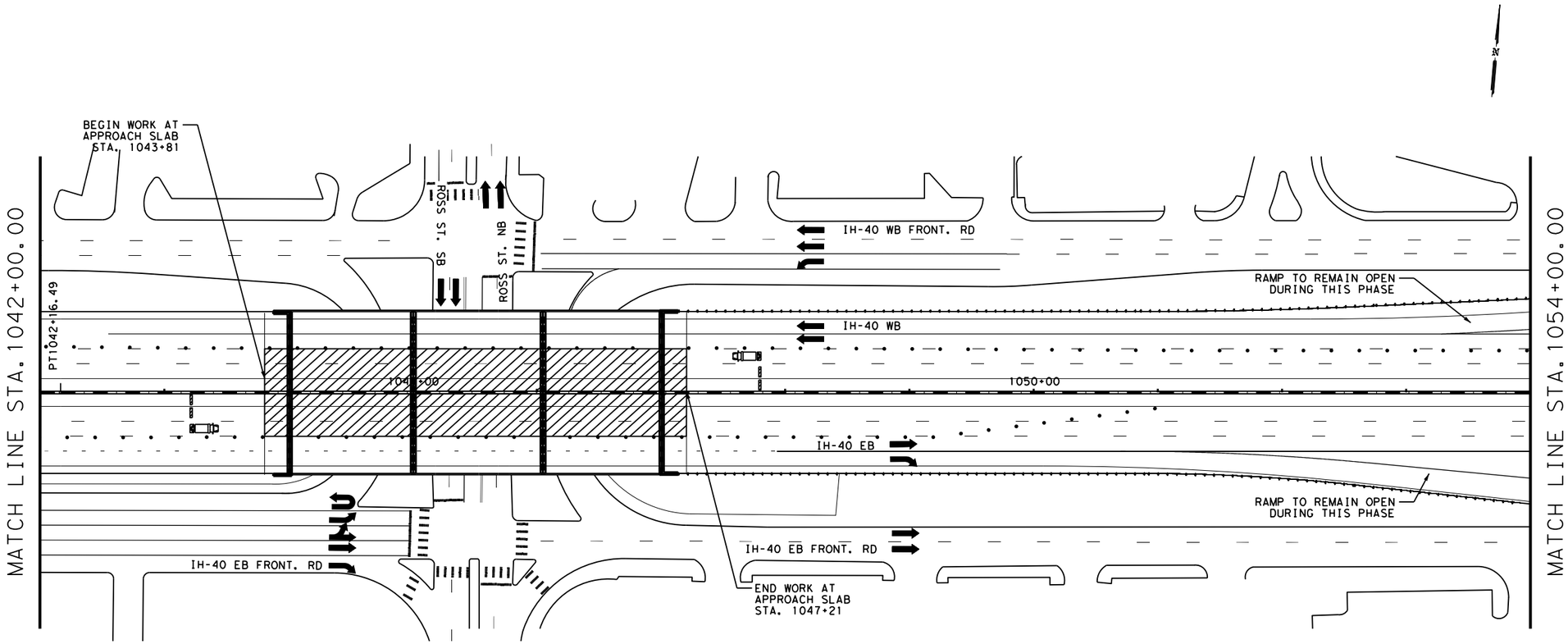
SHEET 3 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		165

DATE: 11/28/2022 3:39:41 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

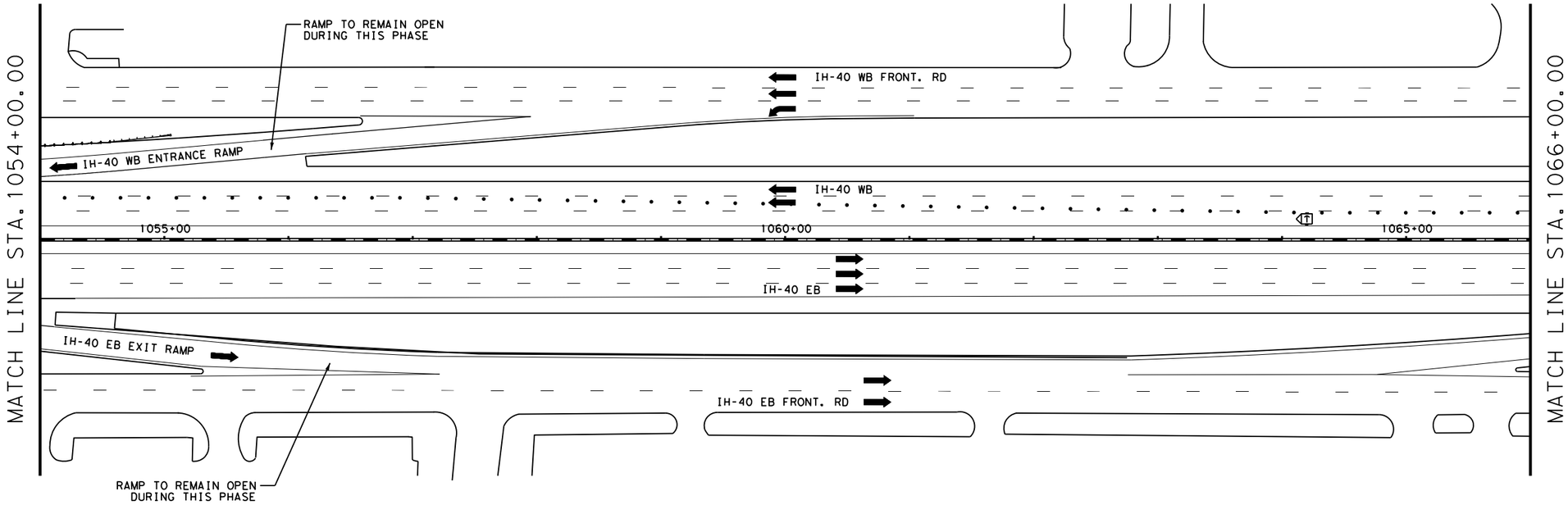
SHEET 4 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		166

DATE: 11/28/2022 3:39:42 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

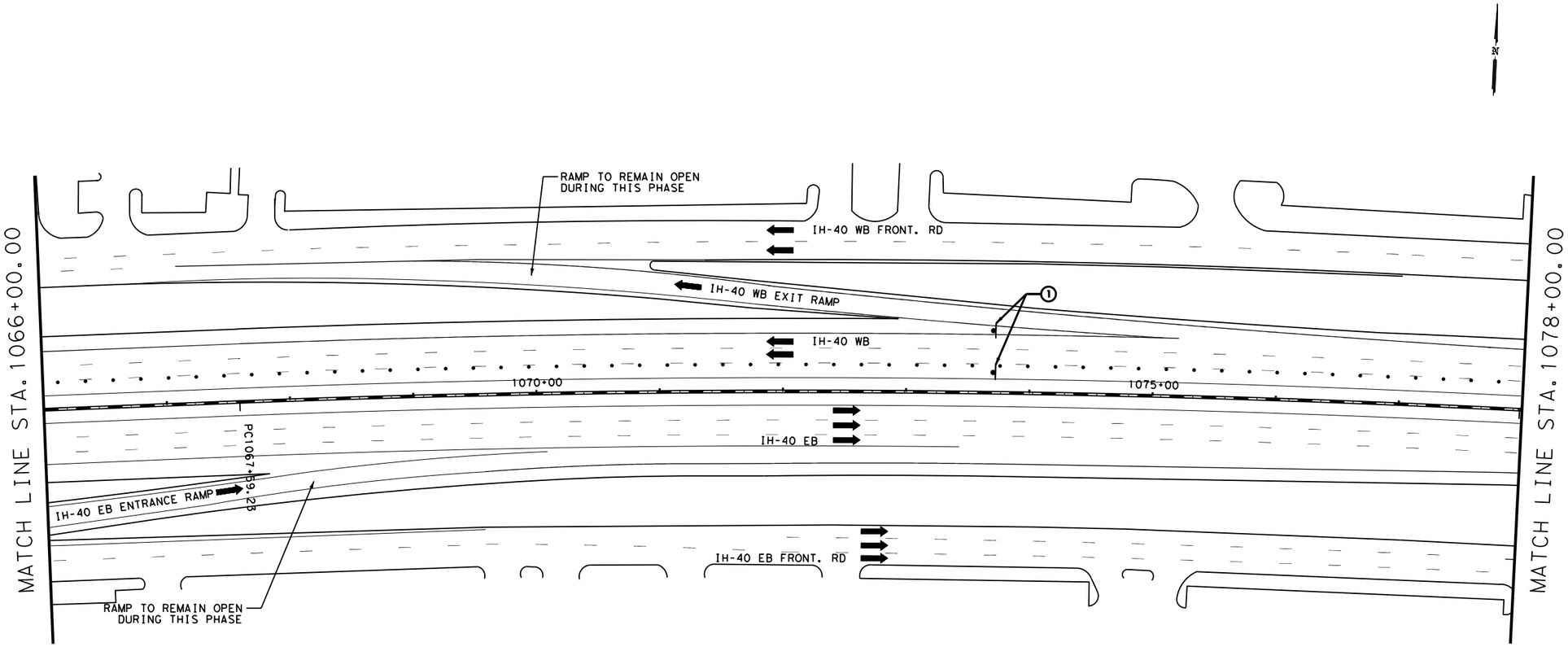
SHEET 5 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		167

DATE: 11/28/2022 3:39:44 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - DesignPlan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEFT LANE CLOSED
1000 FT

CW20-5TL
48" X 48"

CW16-2aP
30" X 12"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST
PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

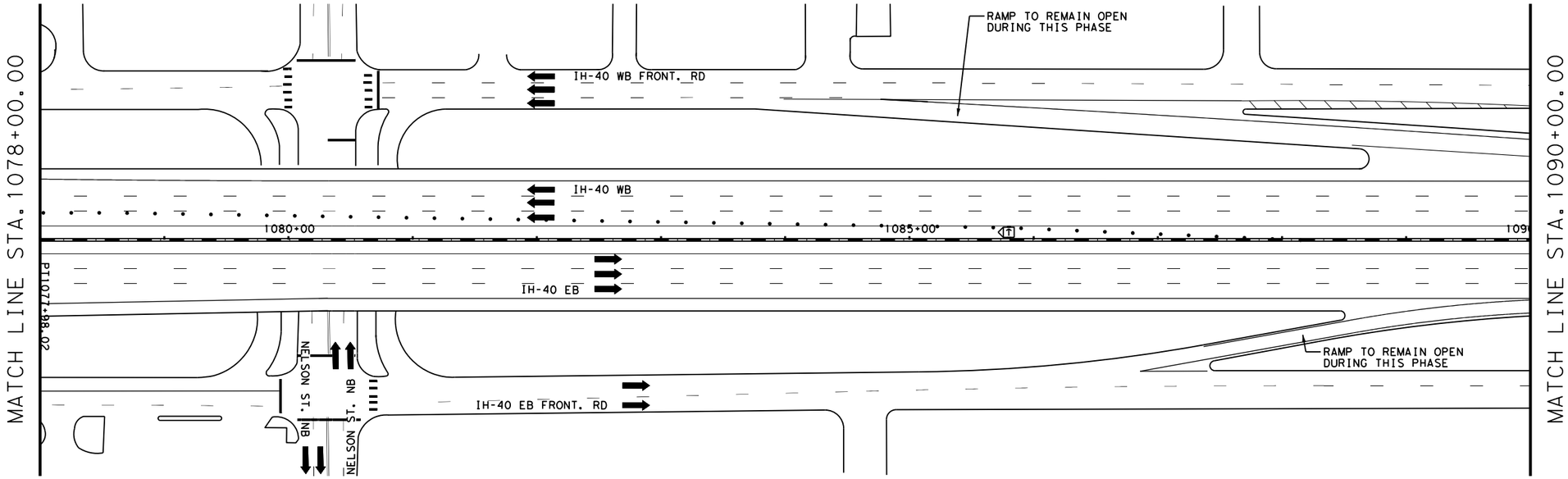
SHEET 6 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		168

DATE: 11/28/2022 3:39:45 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

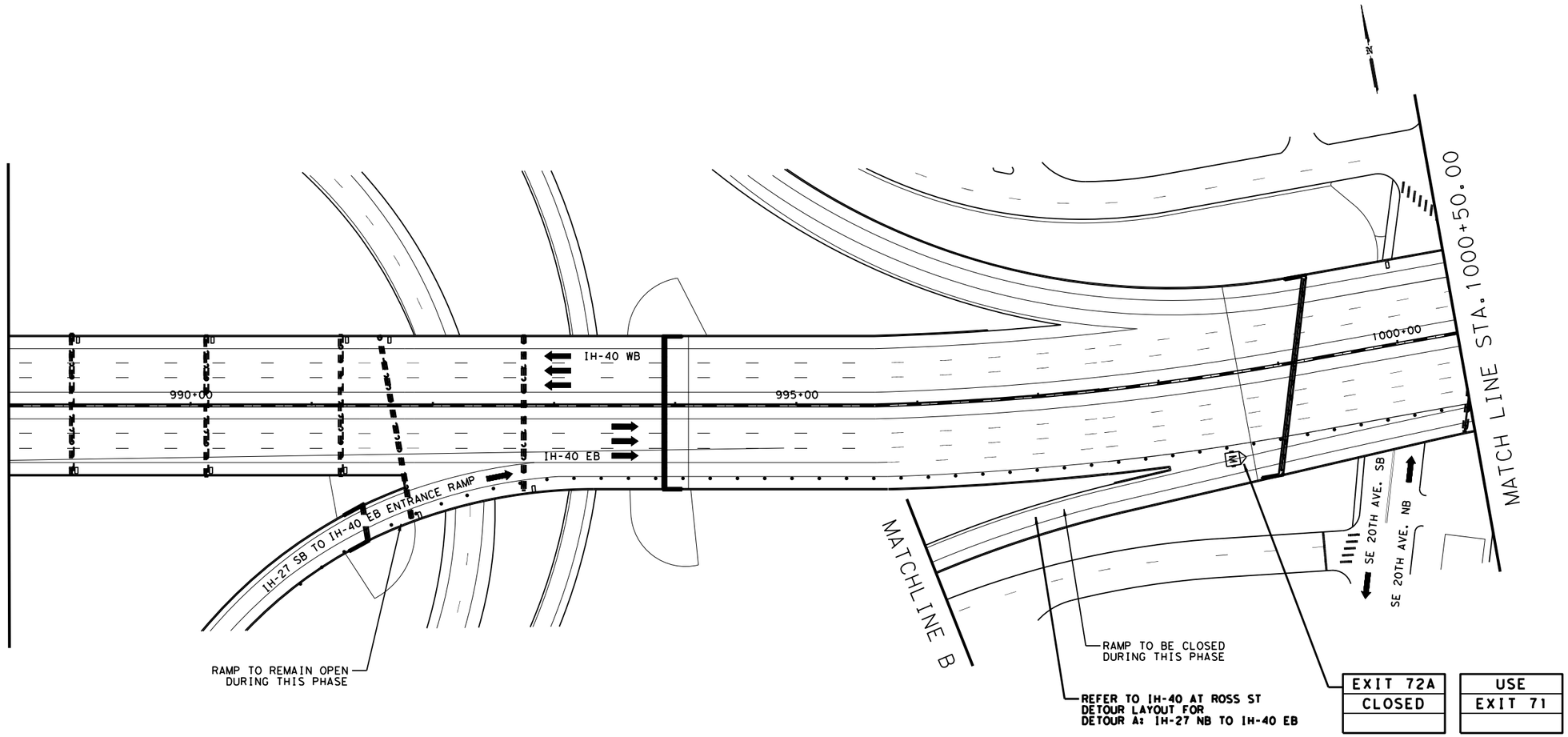
SHEET 7 OF 7

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		169

DATE: 11/28/2022 3:39:47 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_1_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



EXIT OPEN
E5-2
48"X36"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

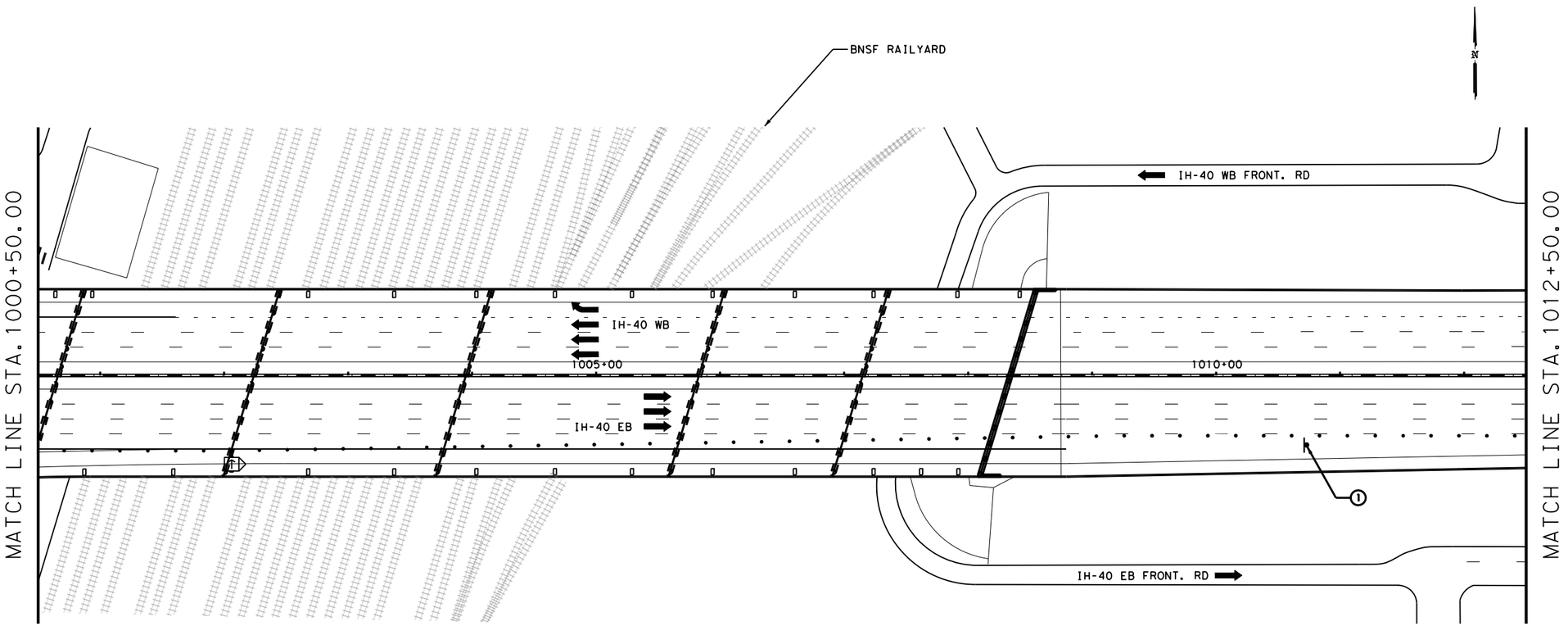
SHEET 1 OF 9

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		170

DATE: 11/28/2022 3:39:50 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



EXIT OPEN
E5-2
48"X36"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER
02/02/2023

IH-40 AT ROSS ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

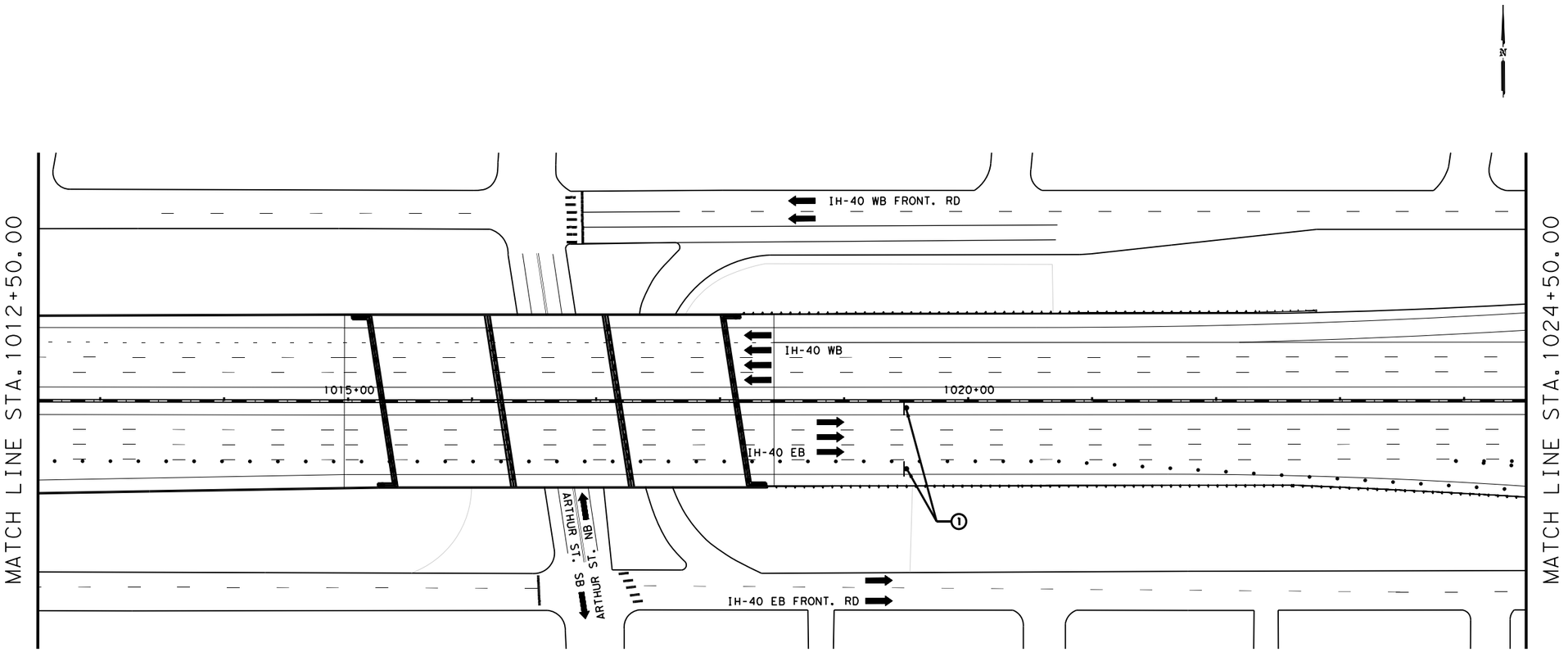
SHEET 2 OF 9

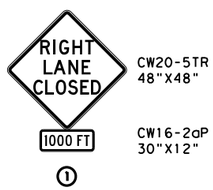
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		171

DATE: 11/28/2022 3:39:51 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVX4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS





CW20-5TR
48"X48"

CW16-2aP
30"X12"

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

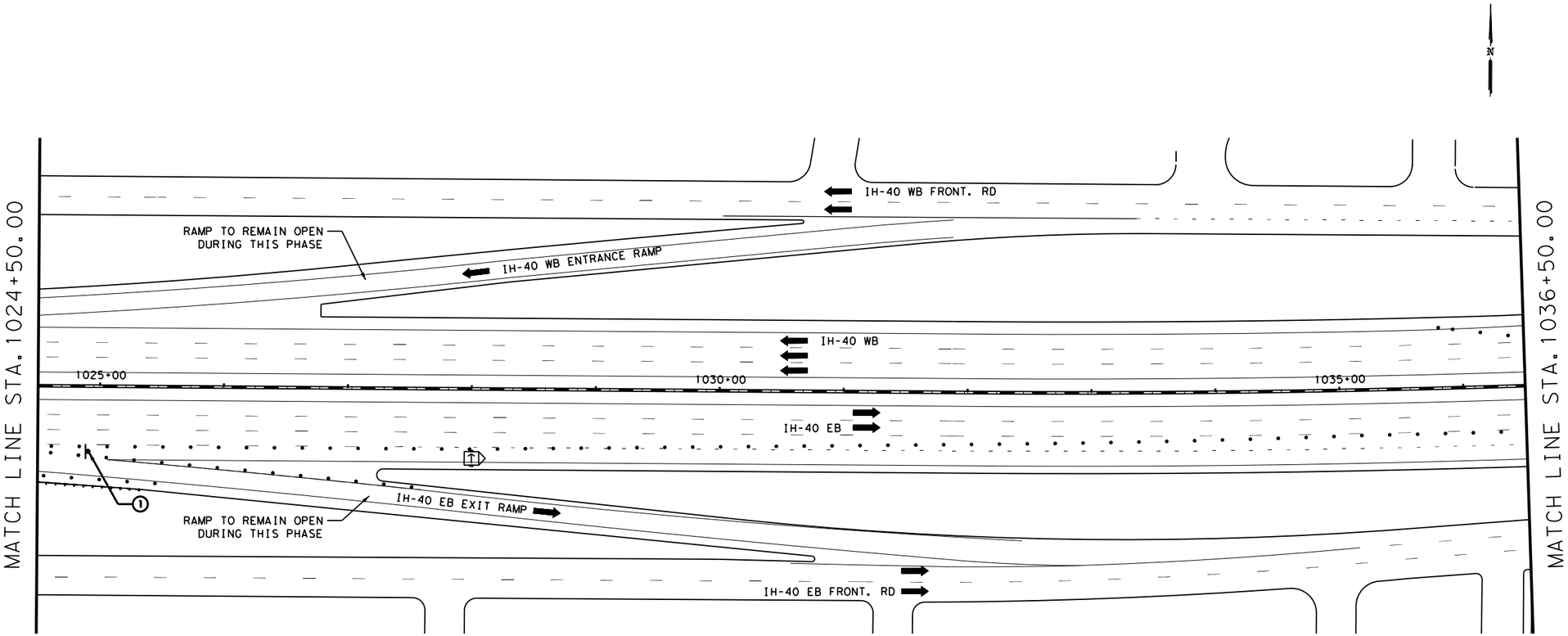
SHEET 3 OF 9

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		172

DATE: 11/28/2022 3:39:53 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



EXIT
E5-4aT
48"X42"
①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

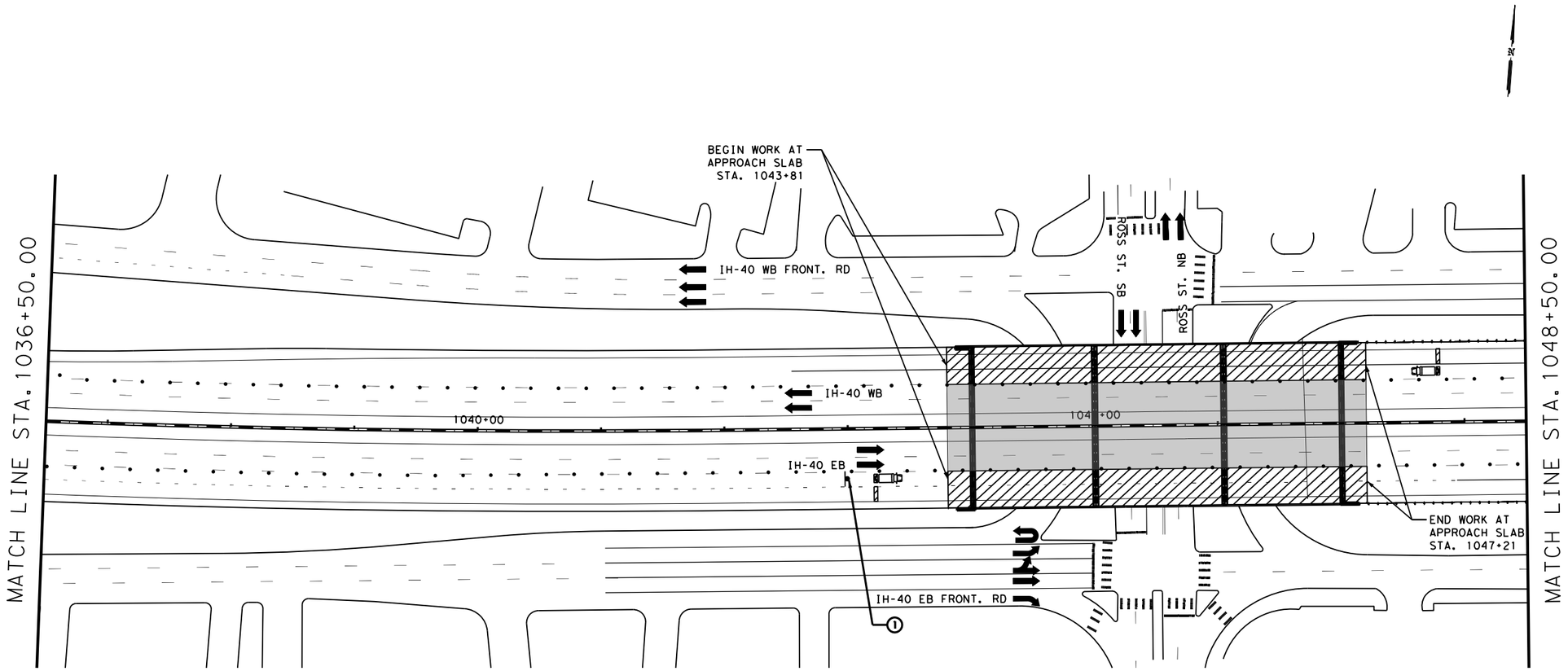
SHEET 4 OF 9

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		173

DATE: 11/28/2022 3:39:56 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED R11-2bT 48"X30"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

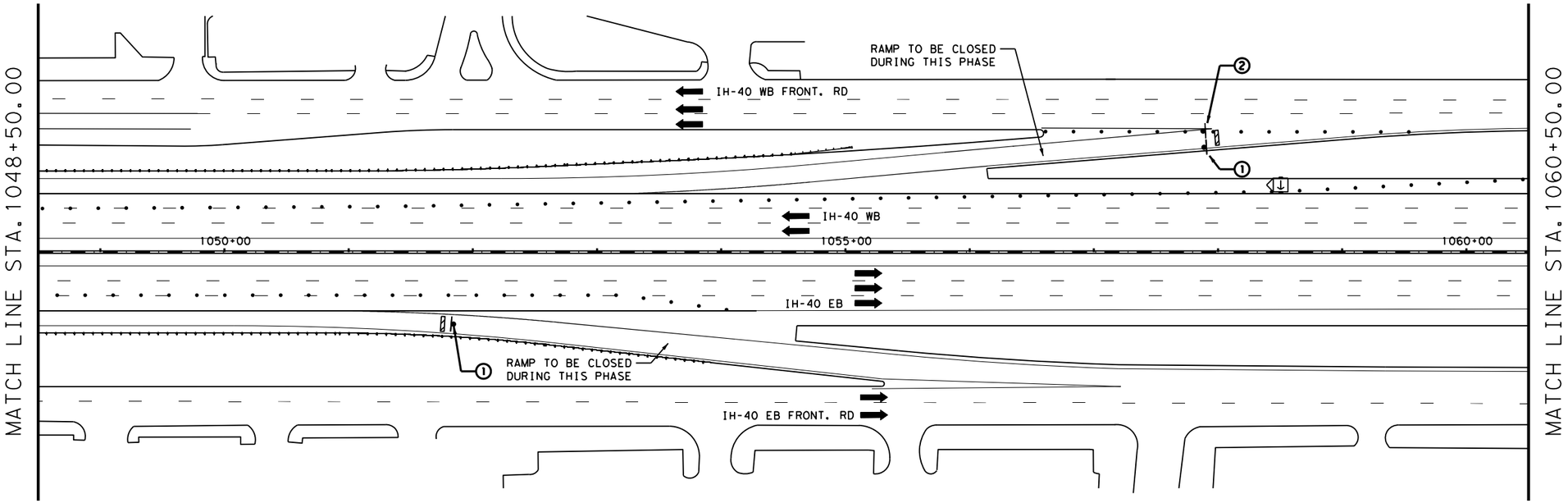
SHEET 5 OF 9

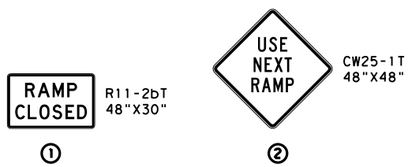
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		174

DATE: 11/28/2022 3:39:58 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS





LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

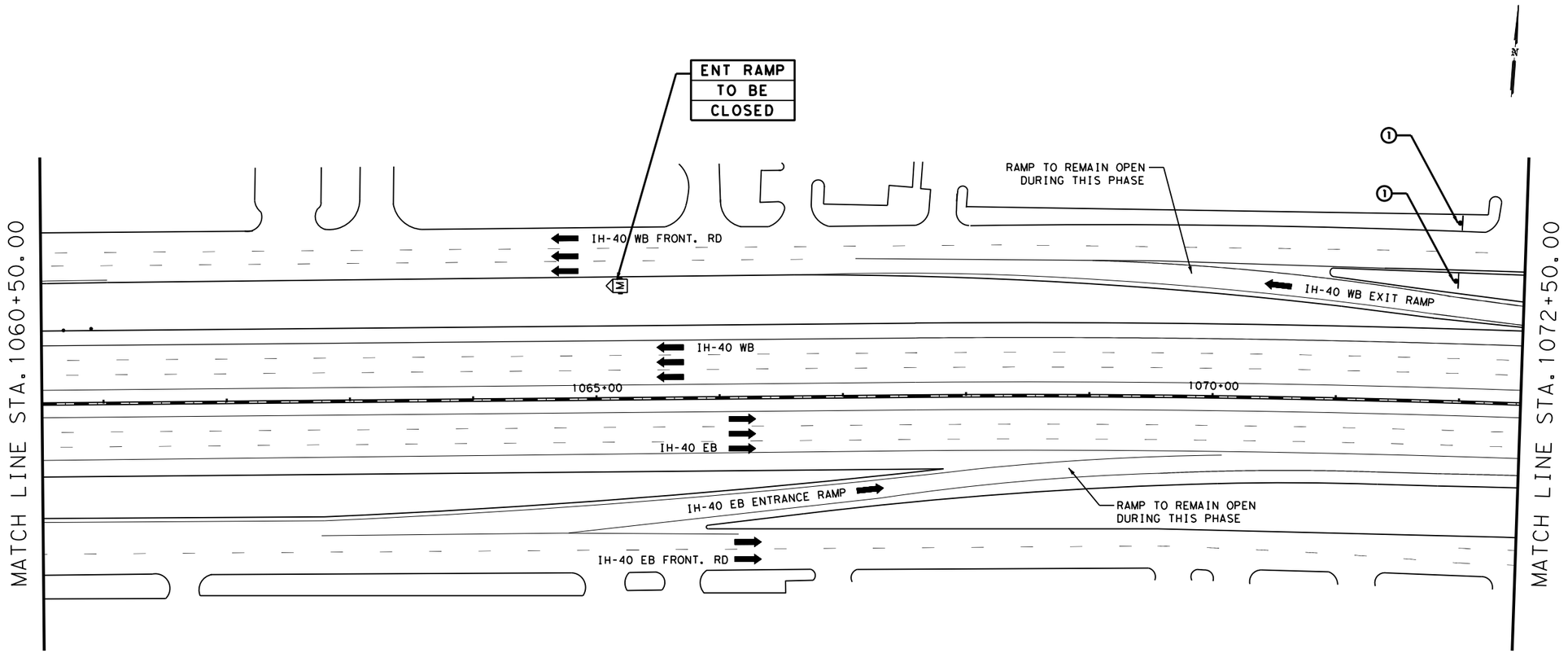
SHEET 6 OF 9

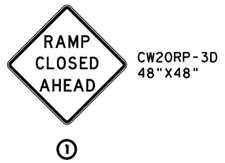
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		175

DATE: 11/28/2022 3:39:59 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS





CW20RP-3D
48"X48"

①

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

L. Clint Harms

02/02/2023

IH-40 AT ROSS ST

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

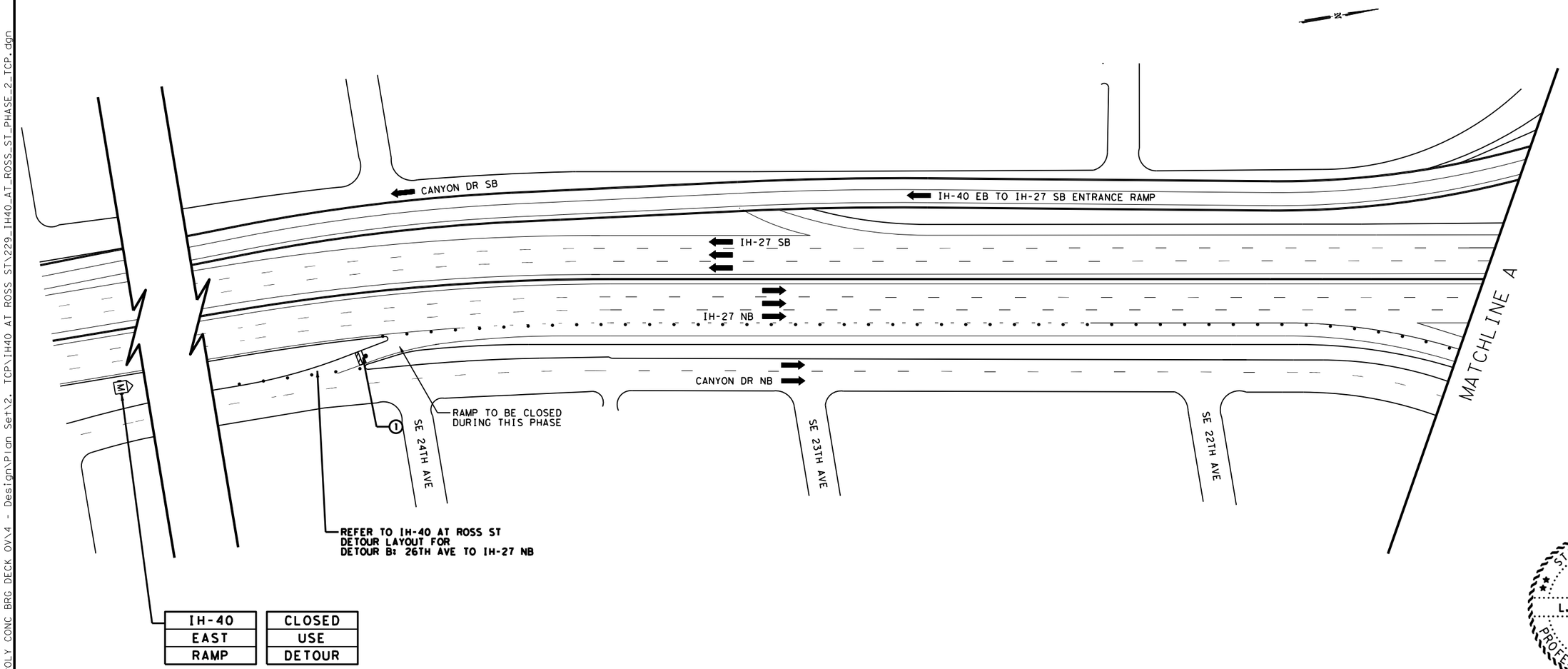
SHEET 7 OF 9

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		176

DATE: 11/28/2022 3:40:02 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST
PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

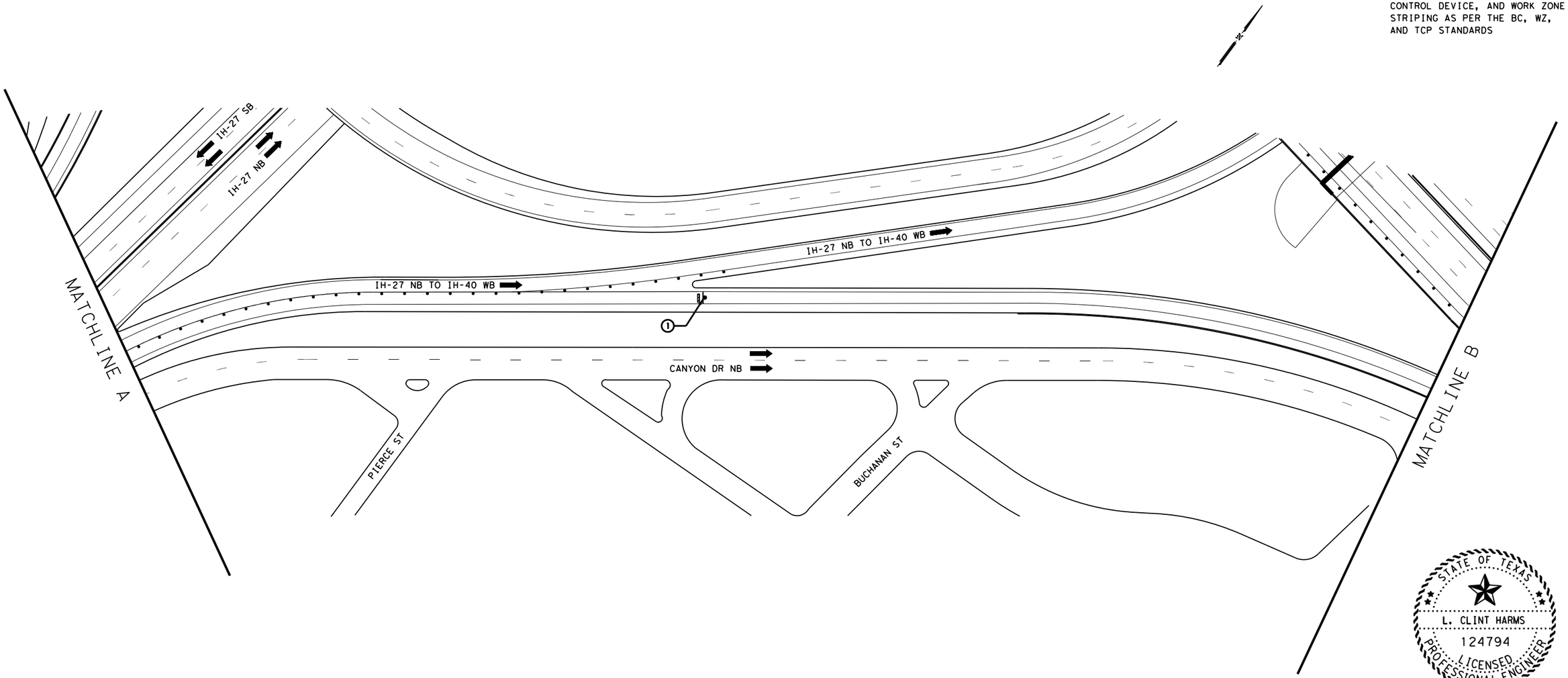
SHEET 8 OF 9

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		177

DATE: 11/28/2022 3:40:13 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



RAMP CLOSED
R11-2bT
48"X30"
1

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

PHASE 2 TCP

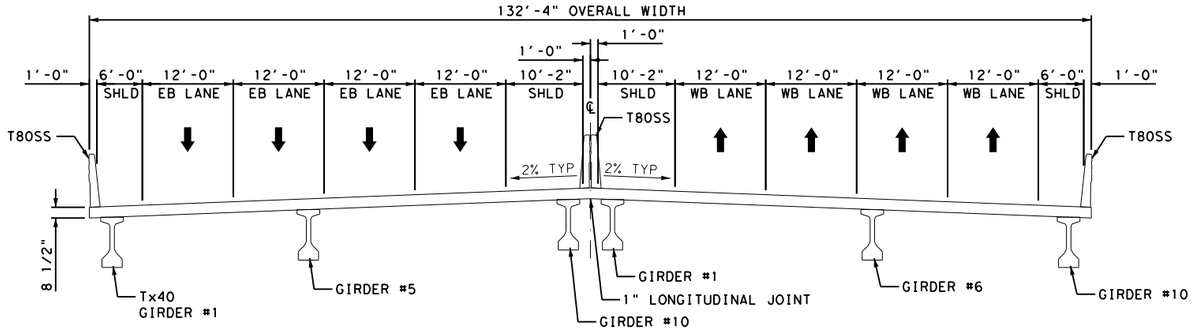
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 9 OF 9

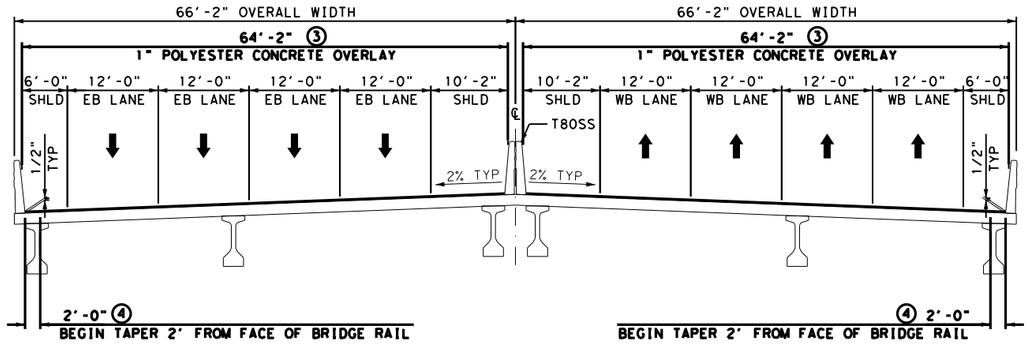
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		178

DATE: 11/28/2022 3:40:15 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\IH40 AT ROSS ST\229_IH40_AT_ROSS_ST_PHASE_2_TCP.dgn



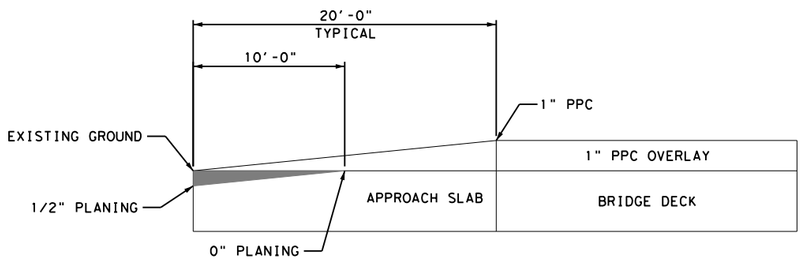
EXISTING TYPICAL SECTION

STA. 1043+81 TO STA. 1047+21



PROPOSED TYPICAL SECTION

STA. 1043+81 TO STA. 1047+21



APPROACH SLAB TIE-IN

NTS

NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. MATCH EXISTING PROFILE EXCEPT ON APPROACH SLABS AS SHOWN AND CROSS SLOPE EXCEPT ON SHOLDERS AS SHOWN.
4. TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.

LEGEND

PLANE CONC PAV (0" TO 1/2")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH 40 AT ROSS OSAGE ST

TYPICAL SECTIONS

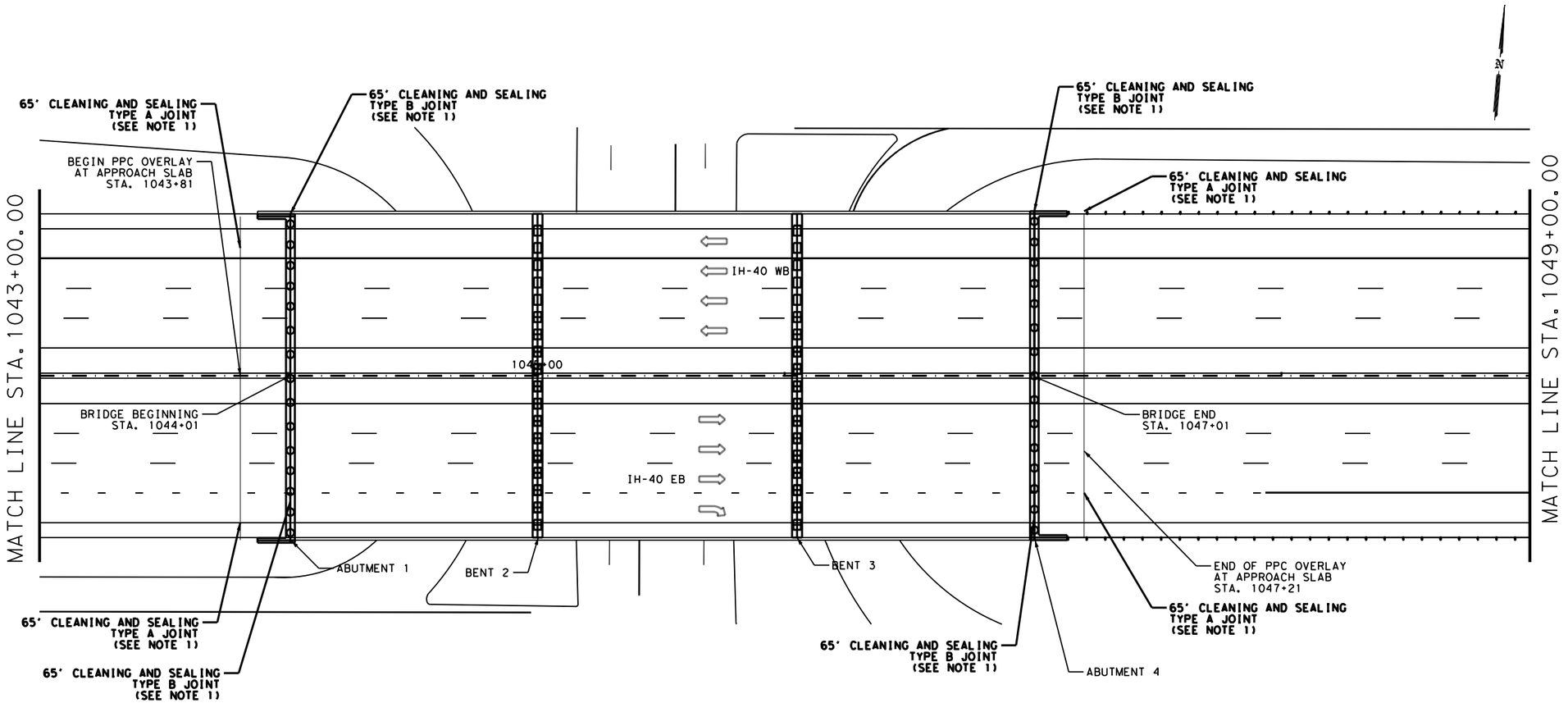
SCALE: H: 1" = 20'
V: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		179

DATE: 11/28/2022 3:40:17 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY\4 - Design\Plan Set\1. General\IH-40 ROSS OSAGE\229_IH 40 @ ROSS OSAGE TYPICAL SECTIONS.dgn



NOTES

1. SEE CLEAN AND SEAL JOINT DETAIL FOR MORE INFORMATION.

IH-40 AT ROSS ST

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT ROSS ST

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		180

DATE: 11/28/2022 3:40:20 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\IH 40 ROSS_OSAGE\229_IH40__AT_ROSS_BRIDGE_REPAIR_DETAILS.dgn

SUMMARY OF ESTIMATED QUANTITIES - US 87 SB (PIERCE ST) AT BNSF RAILYARD

LOCATON	427 6007 EPOXY WATERPROOF FINISH (TY X) SF	429 6002 CONC STR REPAIR (EPOXY MORTAR) SF	429 6007 CONC STR REPAIR (VERTICAL & OVERHEAD) SF	438 6001 CLEANING AND SEALING EXIST JOINTS LF	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7) LF	6019 6005 PREFB PV MK W/WNTY TY B (W)(6")(BRK) LF	778 6001 CONCRETE RAIL REPAIR (IN-KIND) LF	788 6001 CONCRETE BEAM REPAIR EA	4106 6007 POLYESTER POLYMER CONC OVERLAY (1") SY
TYPICAL SECTIONS SHEET 1 OF 1						800			4,792
BRIDGE REPAIR DETAIL SHEET 1 OF 2	814			41	82		4	14	
BRIDGE REPAIR DETAIL SHEET 2 OF 2	814			82	82		4	28	
SUBSTRUCTURE REPAIR DETAIL SHEET 1 OF 1		284							
RETAINING WALL REPAIR DETAIL SHEET 2 OF 2			76		180				
CSJ: 0041-07-119 TOTALS:	**1,628**	**284**	**76**	**123**	**344**	**800**	**8**	**42**	**4,792**

US 87 SB (PIERCE ST) AT BNSF RAILYARD
QUANTITY SUMMARY

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		181

DATE: 1/18/2023 5:21:48 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\1. General\US 87 AT SB PIERCE\229_US87_SB_PIERCE_ST_AT_BNSF_RR_QUANTITY_SUMMARY.dgn

TRAFFIC CONTROL GENERAL NOTES:

1. CONTRACTOR WILL PLACE ALL TEMPORARY PAVEMENT MARKINGS, SIGNS, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES ACCORDING TO THE MOST CURRENT TXDOT STANDARDS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TUMCD).

2. SUBMIT CONTRACTOR-PROPOSED TCP CHANGES, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER, FOR APPROVAL. CHANGES MUST CONFORM TO GUIDELINES ESTABLISHED IN THE TMUTCD USING APPROVED PRODUCTS FROM THE DEPARTMENT'S COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICE LIST, PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

3. THE ENGINEER WILL GIVE AT LEAST 7 CALENDAR DAYS NOTICE TO THE TRAVELING PUBLIC OF THE INTENDED START OF CONSTRUCTION. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

4. PLACE ADVANCED WARNING SIGNS PER BC STANDARDS PRIOR TO COMMENCING WORK. THE ADVANCED WARNING SIGNS WILL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT.

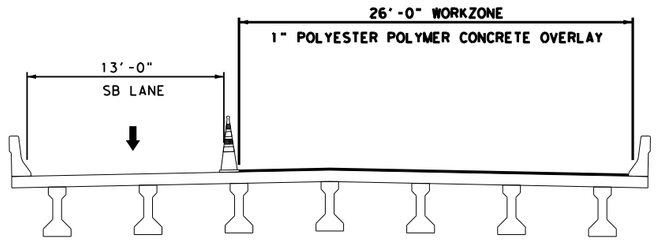
5. EXISTING SIGNS IN CONFLICT WITH THE TCP WILL BE COVERED TO AVOID CONFUSION FOR THE TRAVELING PUBLIC. PAYMENT WILL BE SUBSIDIARY TO ITEM 502.

6. THE CONTRACTOR WILL ENSURE THAT ALL SIGNS, BOTH TEMPORARY AND PERMANENT, ARE CLEARLY VISIBLE AND FREE OF OBSTRUCTIONS AT ALL TIMES.

7. USE BARRELS IN TAPERS. CHANNELIZING DEVICES ON TANGENT AND TAPERS SHOULD BE SPACED ACCORDING TO THE POSTED SPEED AS SPECIFIED IN THE TMUTCD OR TXDOT BC STANDARDS.

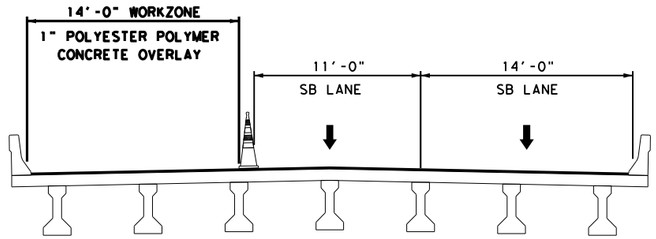
8. TRAFFIC CONTROL WILL BE IN ACCORDANCE WITH THE PLANS, BC, TCP, AND WZ STANDARDS, AND AS DIRECTED BY THE ENGINEER.

9. CONTRACTOR TO REFER TO TXDOT BC-21 STANDARDS FOR MORE INFORMATION NOT INCLUDING IN THE TRAFFIC CONTROL GENERAL NOTES.



US87 PIERCE ST AT BNSF RAILYARD PHASE 1

STA. 935+98 TO STA. 946+57



US87 PIERCE ST AT BNSF RAILYARD PHASE 2

STA. 935+98 TO STA. 946+57

TRAFFIC CONTROL PLAN:

US 87 (PIERCE ST) AT BNSF RAILYARD PHASE 1:

11. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

12. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON US 87 SB MIDDLE LANE AND EAST OUTTER LANE.

US 87 (PIERCE ST) AT BNSF RAILYARD PHASE 2:

13. PLACE TEMPORARY TRAFFIC CONTROL SIGNS, DEVICES, AND TEMPORARY WORK ZONE STRIPING AS PER THE APPLICABLE STANDARDS.

14. PERFORM WORK AS SHOWN IN PLANS AND TCP TYPICAL SECTIONS ON US 87 SB WEST OUTTER LANE.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

TCP NARRATIVE

SCALE: 1" = 10'

2022 Texas Department of Transportation

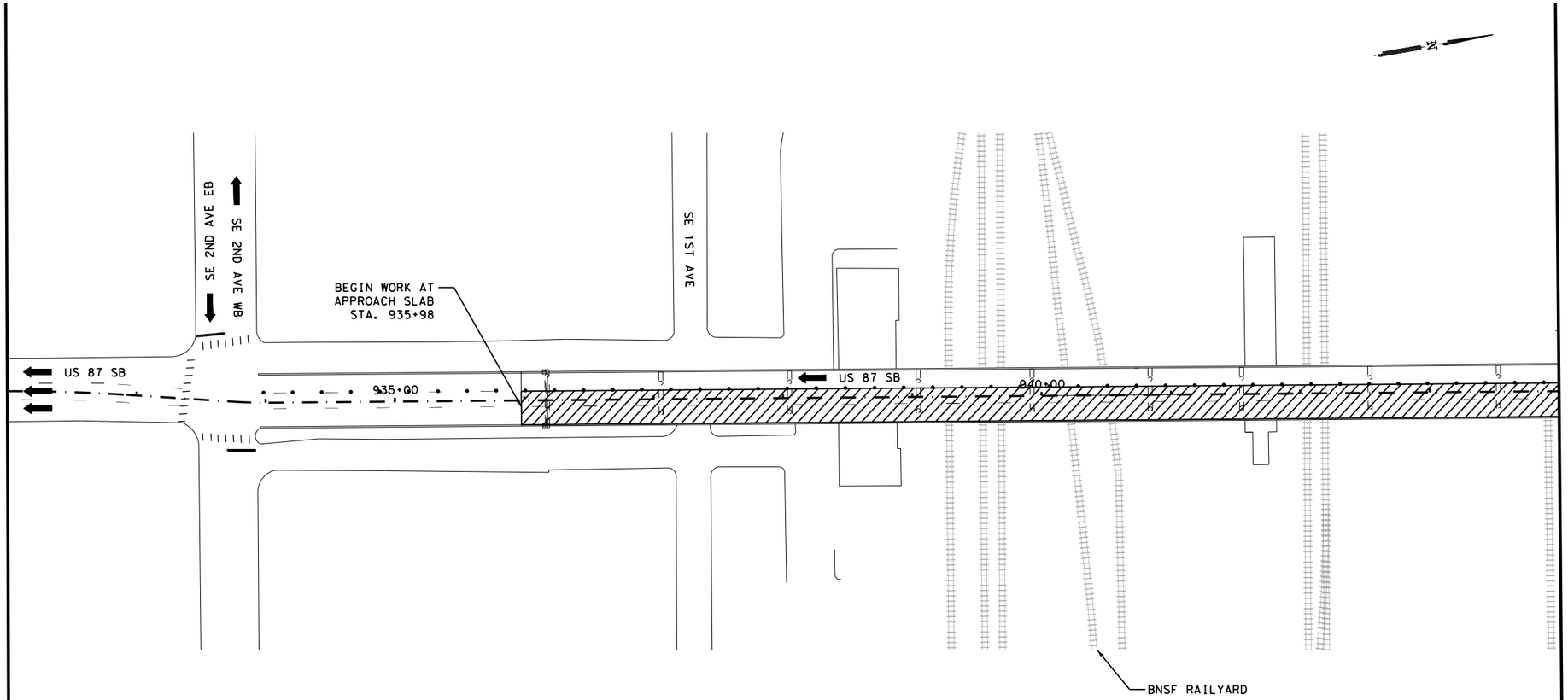
SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		182

DATE: 11/28/2022 3:40:24 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\US87 SB (PIERCE ST) AT BNSF RR\229_US87_PIERCE_ST_AT_BNSF_TCP_NARRATIVE.dgn

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

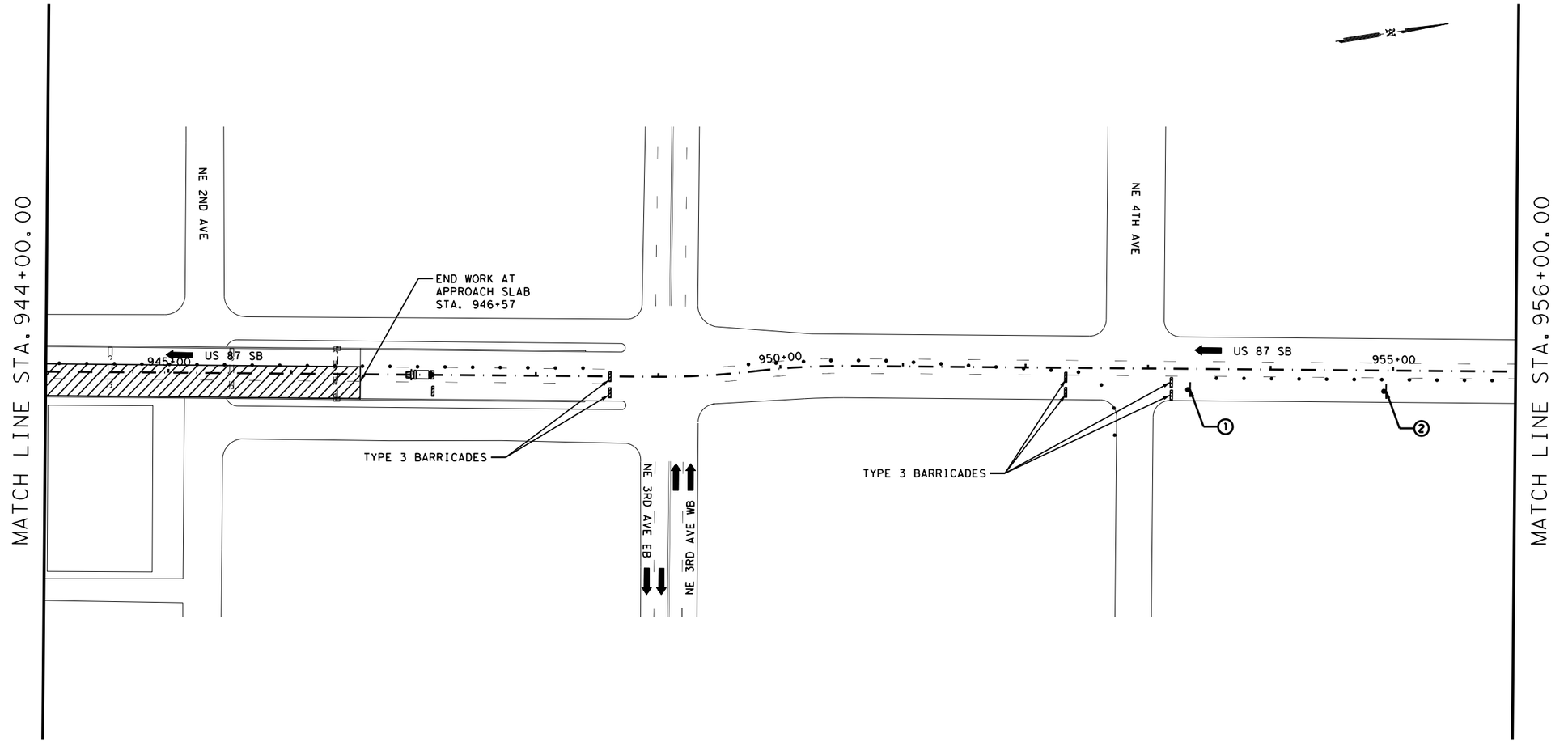
SHEET 1 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		183

DATE: 11/28/2022 3:40:28 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\US87 SB (PIERCE ST) AT BNSF RR\229_US 87 SB_(PIERCE ST)_AT_BNSF RAILYARD_PHASE_1-

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



CW1-6aT
36" X 36"
①

CW1-4R
48" X 48"

35 MPH

CW13-1P
24" X 24"
②

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

PHASE 1 TCP

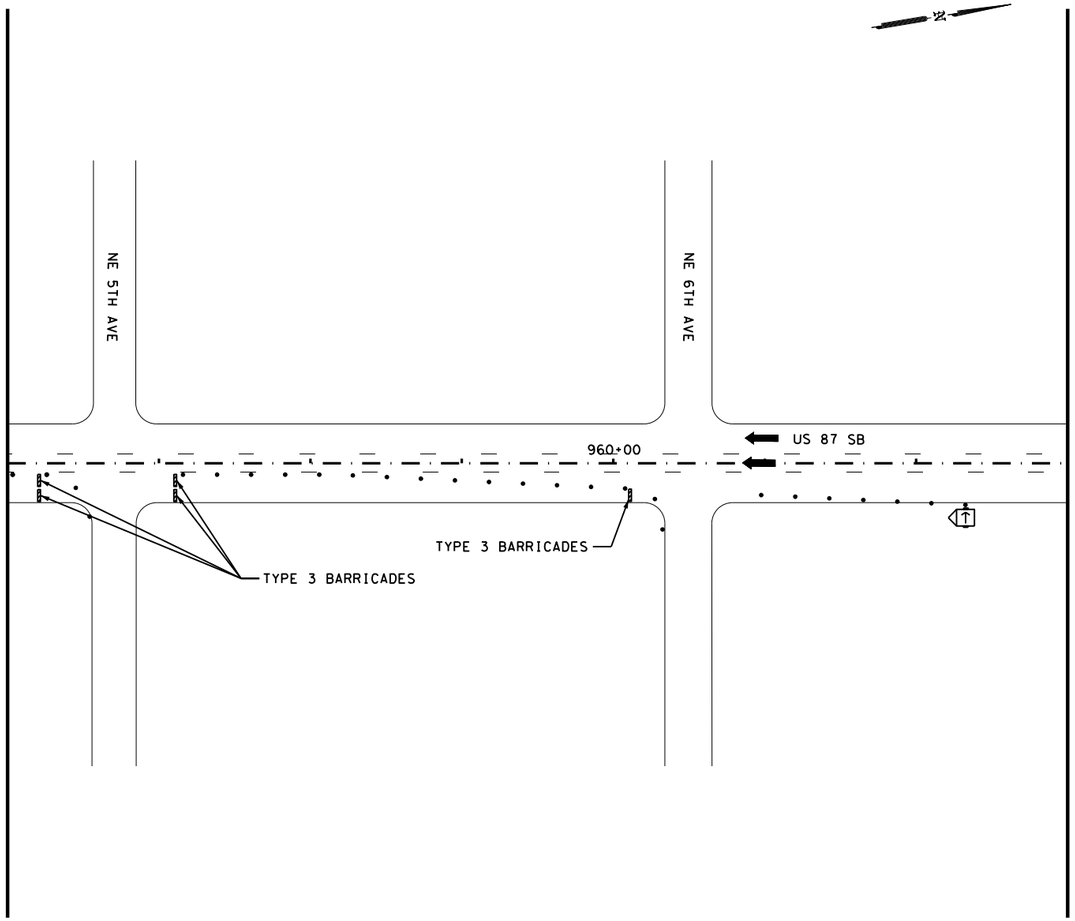
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 2 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		184

DATE: 11/28/2022 3:40:30 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\US87 SB (PIERCE ST) AT BNSF RR\229_US 87 SB_(PIERCE ST)_AT_BNSF RAILYARD_PHASE_1-



NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS

LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

L. Clint Harms

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

PHASE 1 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

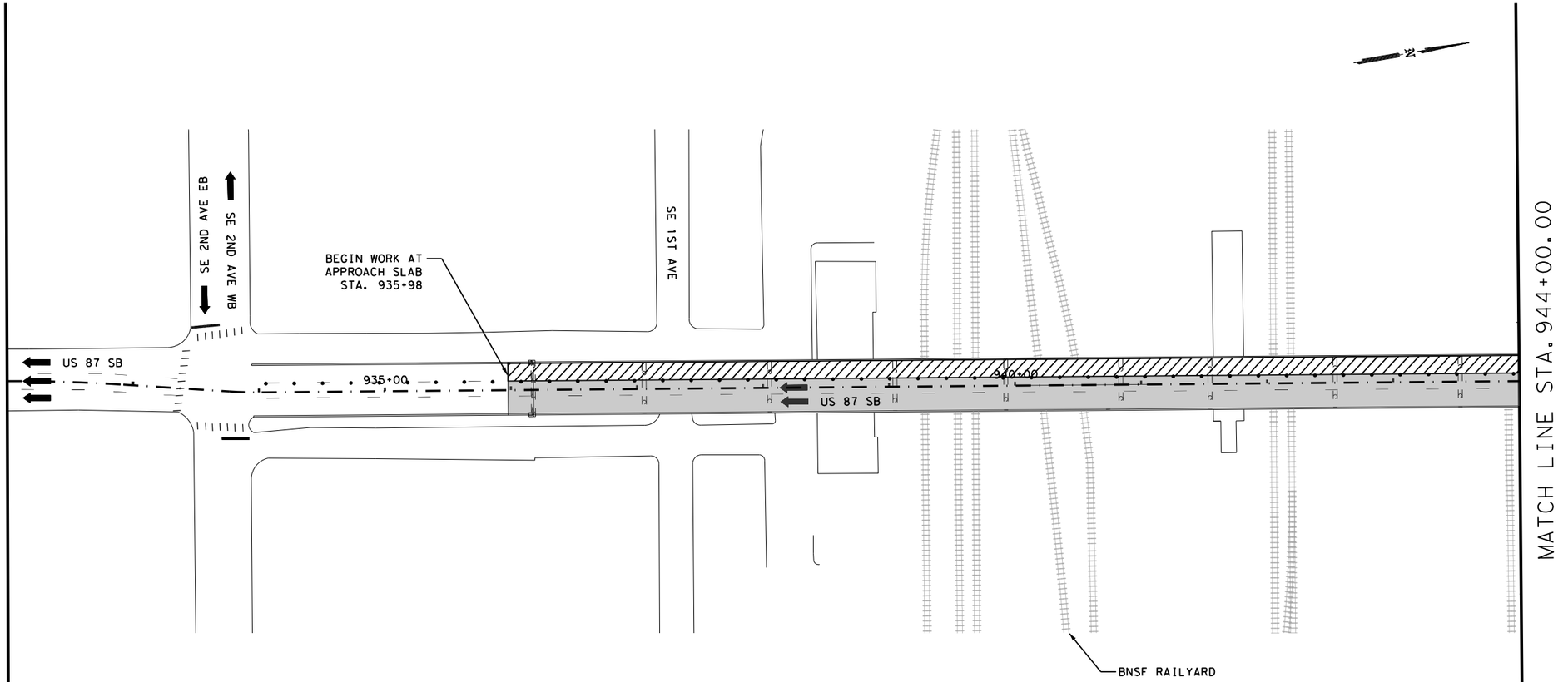
SHEET 3 OF 3

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		185

DATE: 11/28/2022 3:40:31 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\US87 SB (PIERCE ST) AT BNSF RR\229_US 87 SB_(PIERCE ST)_AT_BNSF RAILYARD_PHASE_1-

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

PHASE 2 TCP

SCALE: 1" = 100'

2022 Texas Department of Transportation

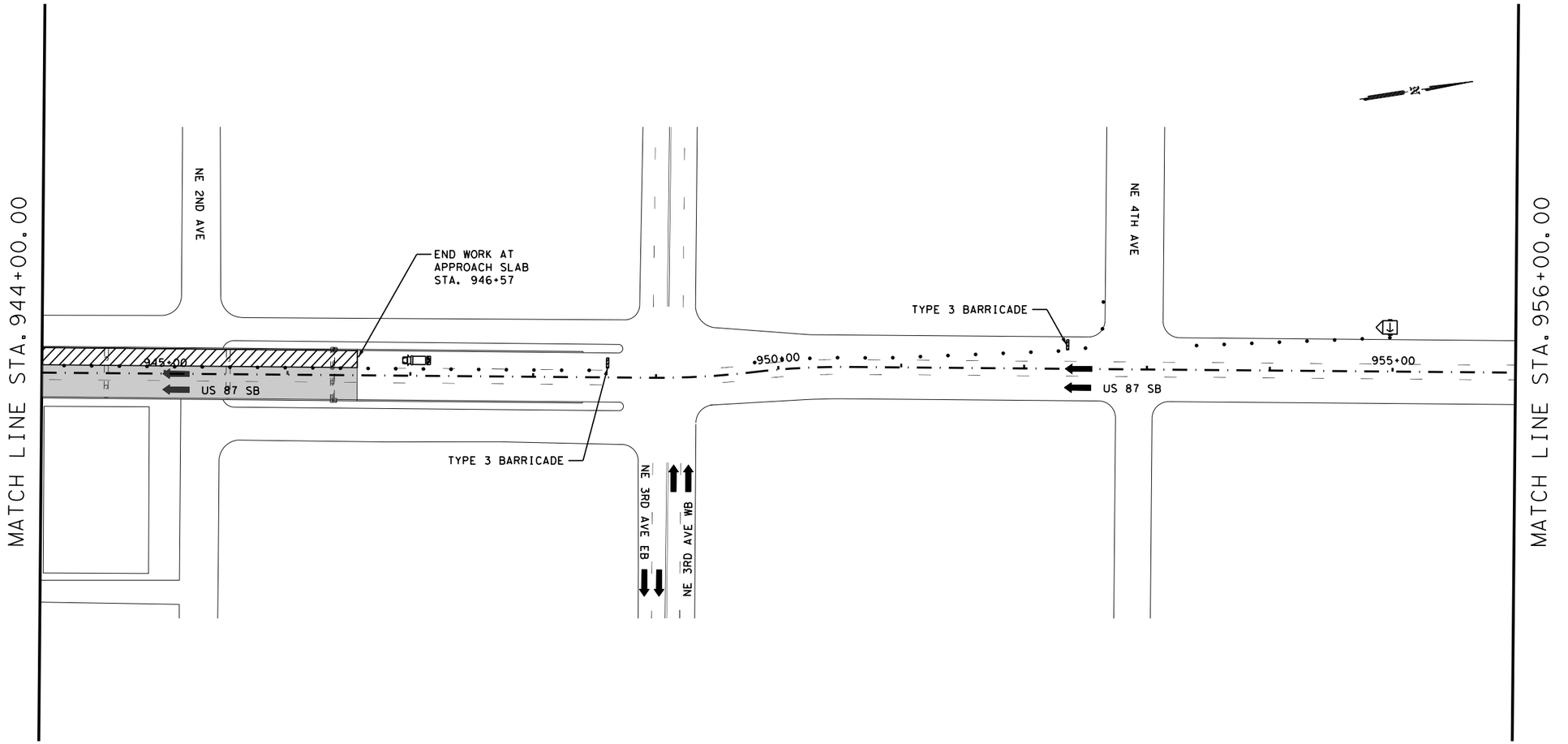
SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		186

DATE: 11/28/2022 3:40:33 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\US87 SB (PIERCE ST) AT BNSF RR\229_US_87_SB_(PIERCE ST)_AT_BNSF_RAILYARD_PHASE_2_

NOTES:

1. PLACE ALL ADVANCE WARNING SIGN, WORK ZONE SIGN, TRAFFIC CONTROL DEVICE, AND WORK ZONE STRIPING AS PER THE BC, WZ, AND TCP STANDARDS



LEGEND

- CHANNELIZING DEVICES
- TRUCK MOUNTED ATTENUATOR
- TEMPORARY WORKZONE SIGN
- TYPE 3 BARRICADES
- TRAILER MOUNTED FLASHING ARROW BOARD
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- PAVEMENT CONSTRUCTED THIS PHASE
- WORK PERFORMED FROM PREVIOUS PHASES

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

PHASE 2 TCP

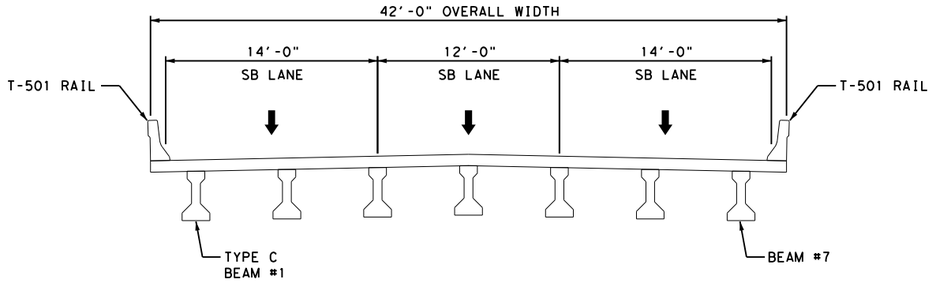
SCALE: 1" = 100'

2022 Texas Department of Transportation

SHEET 2 OF 2

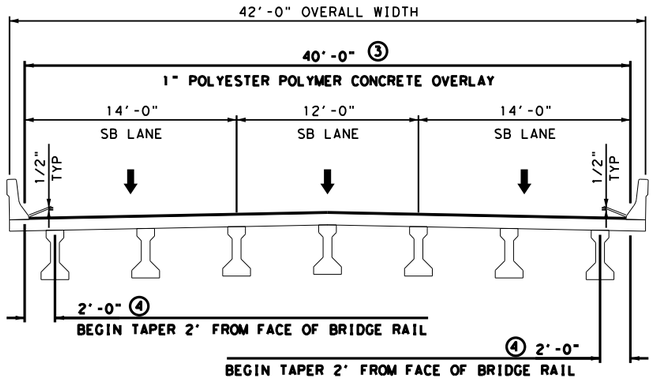
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		187

DATE: 11/28/2022 3:40:35 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\2. TCP\US87 SB (PIERCE ST) AT BNSF RR\229_US_87_SB_(PIERCE ST)_AT_BNSF_RAILYARD_PHASE_2



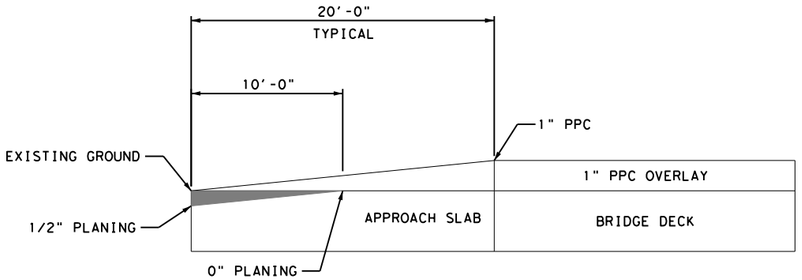
EXISTING TYPICAL SECTION

STA. 935+98 TO STA. 946+57



PROPOSED TYPICAL SECTION

STA. 935+98 TO STA. 946+57



APPROACH SLAB TIE-IN

NTS

SOUTH APPROACH SLAB

CRACKING AT SOUTH APPROACH SLAB
FACING NORTHWEST
PHOTO TAKEN MARCH 2022

NORTH APPROACH SLAB

CRACKING AT NORTH APPROACH SLAB
FACING SOUTHWEST
PHOTO TAKEN MARCH 2022

NOTES:

1. APPLY ROADWAY STRIPING TO MATCH ORIGINAL STRIPING.
2. SEAL JOINTS AFTER PLACEMENT OF OVERLAY.
3. MATCH EXISTING PROFILE EXCEPT ON APPROACH SLABS AS SHOWN AND CROSS SLOPE EXCEPT ON SHOLDERS AS SHOWN.
4. TAPER PPC OVERLAY IN SHOULDERS TO 1/2" AT THE TOE OF RAIL. TAPER SHALL BE NO STEEPER THAN 16:1, UNLESS APPROVED BY THE ENGINEER.

LEGEND

PLANE CONC PAV (0" TO 1/2")

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

TYPICAL SECTIONS

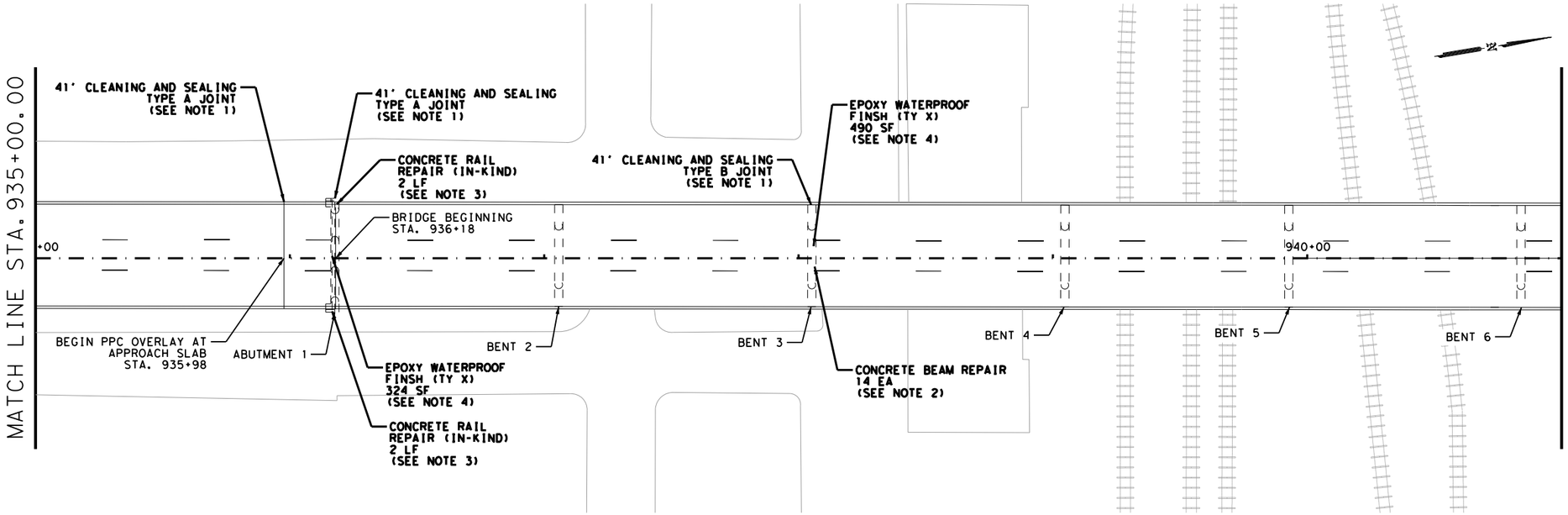
SCALE: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		188

DATE: 11/28/2022 3:40:39 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\1. General\US 87 AT SB PIERCE\229_US87_SB_PIERCE_ST_AT_BNSF_RR_TYPICAL SECTIONS.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION
2. SEE SUBSTRUCTURE REPAIR DETAIL FOR MORE INFORMATION.
3. SEE US 87 SB (PIERCE ST) AT BNSF RAILYARD BRIDGE RAIL REPAIR DETAIL FOR MORE INFORMATION.
4. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.
5. SOUND AREAS ON BOTH SIDES OF THE CRACKS ON THE APPROACH SLABS. REMOVE DELAMINATED CONCRETE PRIOR TO SHOT BLASTING. SEAL CRACKS WITH RECOMMENDED SEALER PER PPC SYSTEM MANUFACTURERS RECOMMENDATION.

BRIDGE RAIL AT WEST END OF SOUTH ABUTMENT

TYPICAL DAMAGE ON BRIDGE RAIL
FACING EAST
PHOTO TAKEN MARCH 2022

SOUTH APPROACH SLAB

CRACKING AT SOUTH APPROACH SLAB
FACING NORTHWEST
PHOTO TAKEN MARCH 2022

US 87 SB (PIERCE ST) AT BNSF RR

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

BRIDGE REPAIR DETAILS

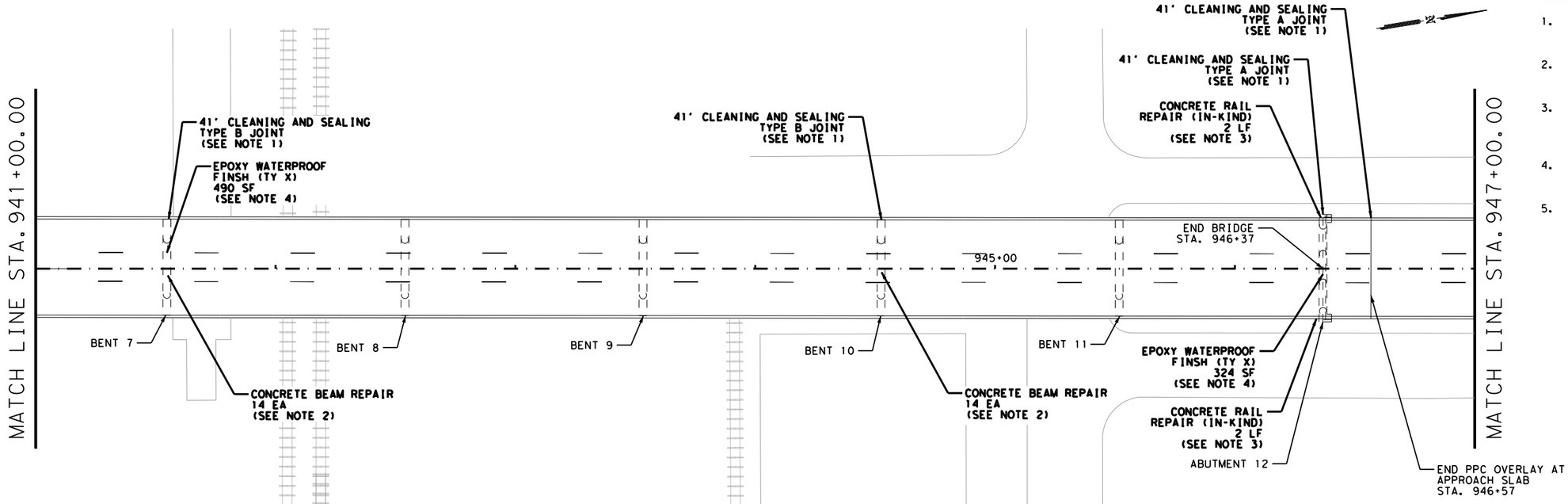
SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		189

DATE: 11/28/2022 3:40:45 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\US87 SB (PIERCE ST) AT BNSF RR\229_US87_PIERCE_ST_AT_BNSF_RR_BRIDGE_REPAIR_DET

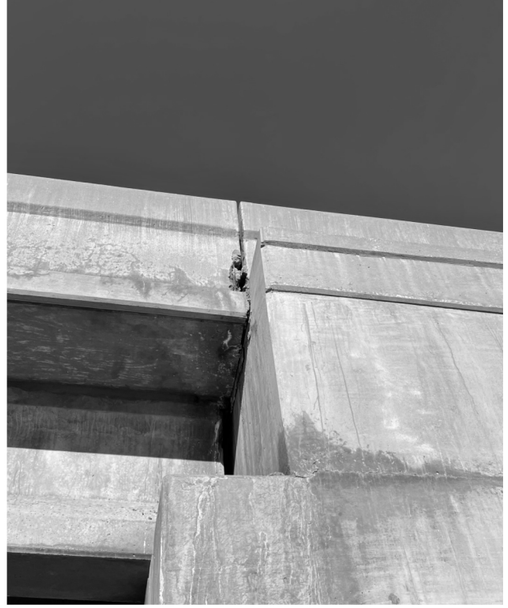


NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION
2. SEE SUBSTRUCTURE REPAIR DETAIL FOR MORE INFORMATION.
3. SEE US 87 SB (PIERCE ST) AT BNSF RAILYARD BRIDGE RAIL REPAIR DETAIL FOR MORE INFORMATION.
4. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.
5. SOUND AREAS ON BOTH SIDES OF THE CRACKS ON THE APPROACH SLABS. REMOVE DELAMINATED CONCRETE PRIOR TO SHOT BLASTING. SEAL CRACKS WITH RECOMMENDED SEALER PER PPC SYSTEM MANUFACTURERS RECOMMENDATION.

BRIDGE RAIL AT WEST
END OF NORTH ABUTMENT

TYPICAL DAMAGE ON BRIDGE RAIL
FACING NORTH EAST
PHOTO TAKEN MARCH 2022



BRIDGE RAIL AT EAST
END OF NORTH ABUTMENT

TYPICAL DAMAGE ON BRIDGE RAIL
FACING EAST
PHOTO TAKEN MARCH 2022

NORTH APPROACH SLAB

CRACKING AT NORTH APPROACH SLAB
FACING SOUTHWEST
PHOTO TAKEN MARCH 2022

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

BRIDGE REPAIR DETAILS

SCALE: 1" = 50'

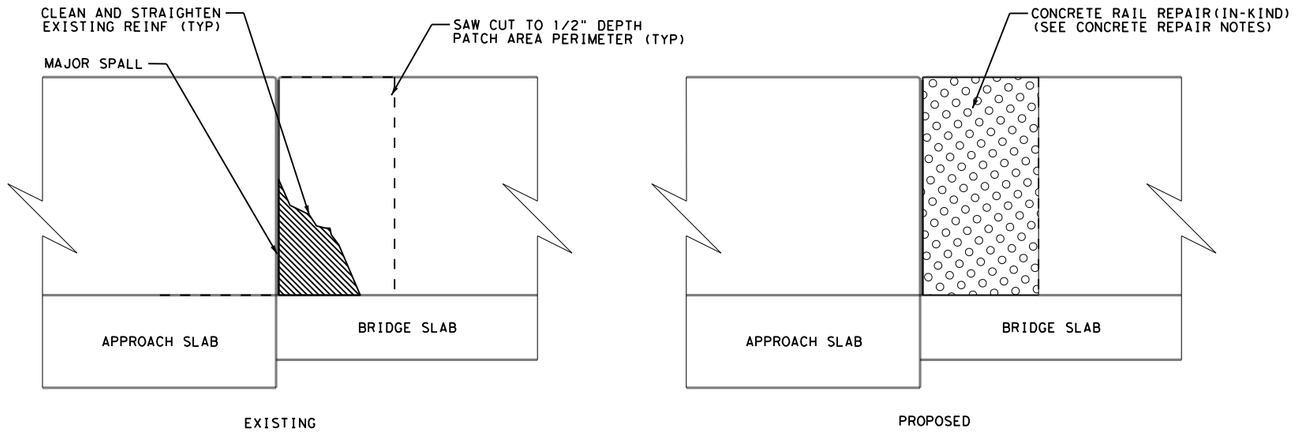
2022 Texas Department of Transportation

SHEET 2 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		190

US 87 SB (PIERCE ST) AT BNSF RR

DATE: 11/28/2022 3:40:48 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\US87 SB (PIERCE ST) AT BNSF RR\229_US87_PIERCE_ST_AT_BNSF_RR_BRIDGE_REPAIR



BRIDGE RAIL REPAIR DETAIL

NTS

CONCRETE REPAIR NOTES

1. CLASS C CONCRETE WILL BE USED FOR CONCRETE RAIL REPAIR(IN-KIND)
2. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMMENCING WORK. PERFORM ALL CONCRETE REPAIRS IN ACCORDANCE WITH TXDOT CONCRETE REPAIR MANUAL.

LEGEND

778 6001
CONCRETE RAIL REPAIR
(IN-KIND) LF

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB
(PIERCE ST)
AT BNSF RAILYARD

BRIDGE RAIL
REPAIR DETAIL

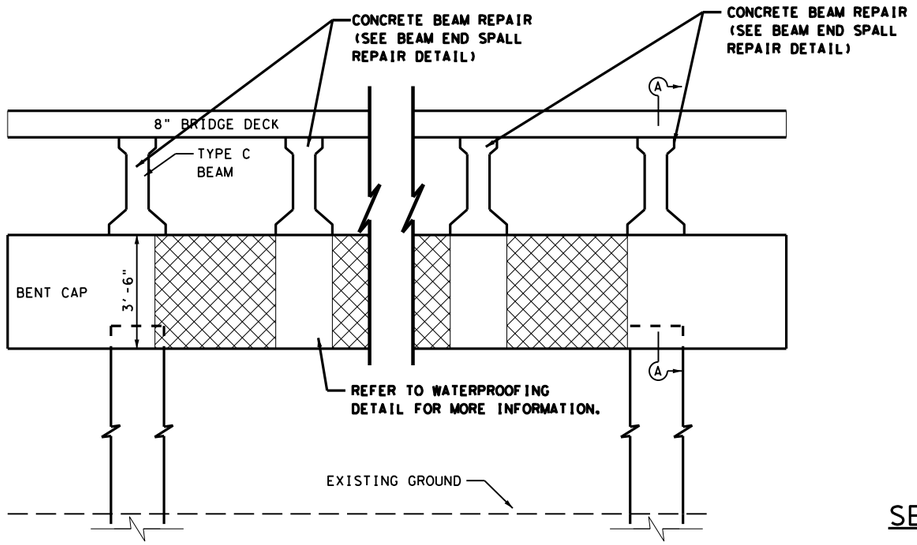
SCALE: NTS

2022 Texas Department of Transportation

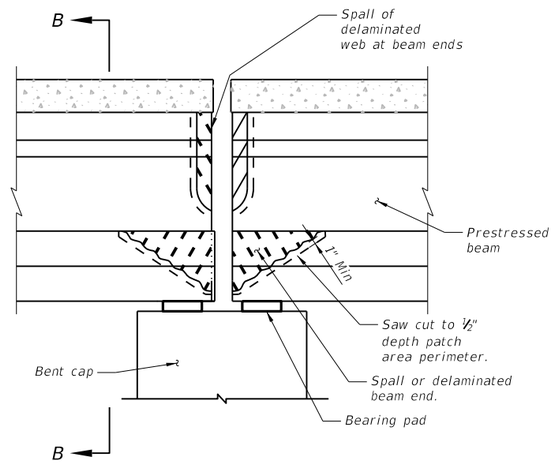
SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		191

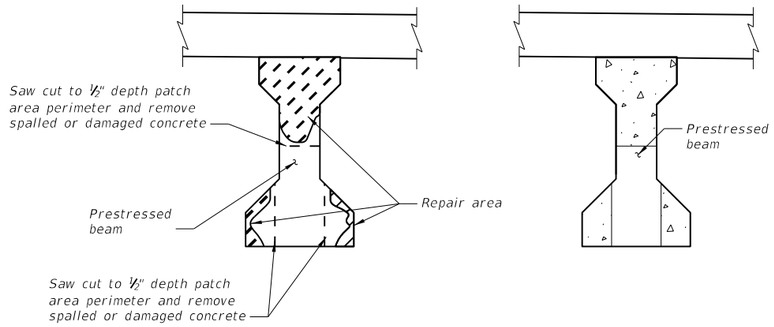
DATE: 11/28/2022 3:41:00 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVV4 - Design\Plan Set\7. Bridge\US87 SB (PIERCE ST) AT BNSF RR\229_US87_PIERCE_ST_AT_BNSF_RR_BRIDGE_RAIL_REPAIR.dgn



PARTIAL INTERIOR BENT: ELEVATION VIEW



SECTION A-A: BEAM END SPALL REPAIR



SECTION B-B

NTS

CONCRETE REPAIR NOTES

1. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON MARCH 2022 CONDITION ASSESSMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.
2. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMENCING WORK. DAMAGED LOCATIONS SHALL BE REPAIRED FOLLOWING CHAPTER 3, OF THE TXDOT CONCRETE REPAIR MANUAL.
3. SOME REPAIR AREAS INDICATED DO NOT EXHIBIT VISIBLE SPALLING AND WILL NEED TO BE IDENTIFIED BY SOUNDING THE CONCRETE WITH HAMMERS TO DETERMINE THE LOCATION AND LIMITS OF REPAIRS.
4. SOUND ALL SURFACES TO IDENTIFY AND MARK ALL DELAMINATED AREAS FOR REVIEW AND APPROVAL BY THE ENGINEER. CONFIRM SQUARE FOOTAGE REPAIR AREAS PRIOR TO COMMENCING REMOVAL AND NOTIFY ENGINEER OF ANY DISCREPENCIES. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION
5. NOTIFY ENGINEER ONCE EXISTING CONCRETE IS REMOVED AND REPAIR AREAS FOR EACH BENT HAVE BEEN PREPARED. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION OF PREPARED REPAIR AREAS.

LEGEND

429 6002 CONC STR REPAIR (EPOXY MORTAR)

788 6001 CONCRETE BEAM REPAIR

SUMMARY OF BENT CAP REPAIR ITEMS		
LOCATION	429 6002 CONC STR REPAIR (EPOXY MORTAR)	
	SF	
SPAN #1 - SOFFIT	6	
INTERIOR BENT #3	110	
INTERIOR BENT #7	110	
SPAN #7- SOFFIT	8	
INTERIOR BENT #10	44	
SPAN #11 - SOFFIT	6	
STRUCTURE TOTAL	284	

US 87 SB (PIERCE ST) AT BNSF RAILYARD

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

SUBSTRUCTURE REPAIR DETAIL

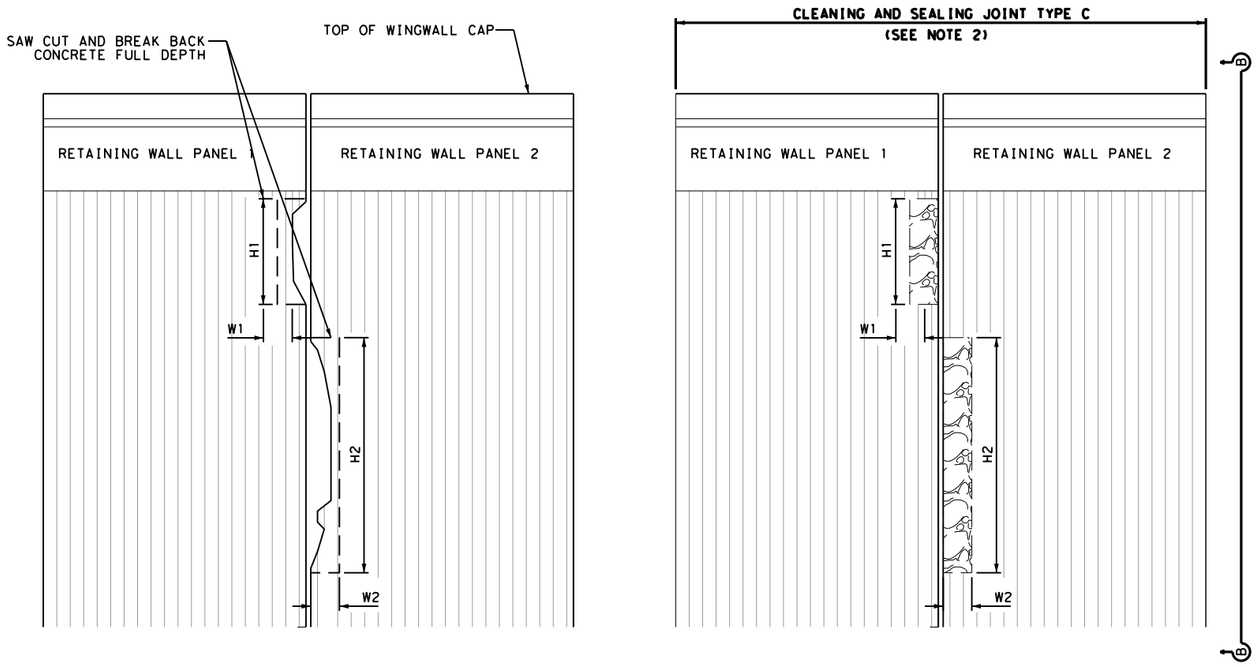
SCALE: 1" = 10'

2022 Texas Department of Transportation

SHEET 1 OF 1

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		192

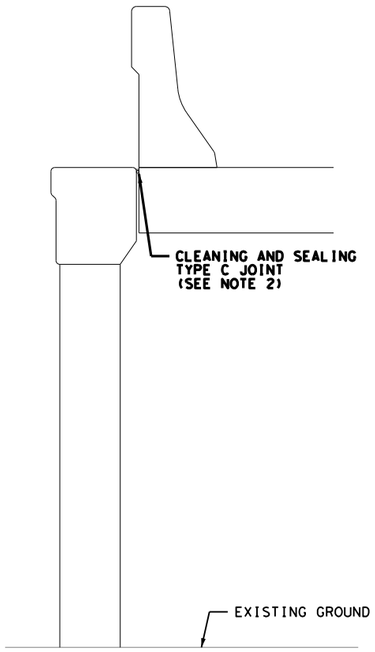
DATE: 11/28/2022 3:41:02 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\7. Bridge\US87 SB (PIERCE ST) AT BNSF RR\229_US87_PIERCE_ST_AT_BNSF_SUBSTRUCTURE_REPAIR_



EXISTING

PROPOSED

TYPE B
CONCRETE SPALLING/ RETAINING WALL CRACKING REPAIR



SECTION B-B

N.T.S

NOTES

1. REFER TO CLEAN AND SEAL JOINTS DETAIL SHEET 2 OF 2 FOR MORE INFORMATION.

CONCRETE REPAIR NOTES

1. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON MARCH 2022 CONDITION ASSESSMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.
2. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMENCING WORK. DAMAGED LOCATIONS SHALL BE REPAIRED FOLLOWING CHAPTER 3 OF THE TXDOT CONCRETE REPAIR MANUAL.
3. SOME REPAIR AREAS INDICATED DO NOT EXHIBIT VISIBLE SPALLING AND WILL NEED TO BE IDENTIFIED BY SOUNDING THE CONCRETE WITH HAMMERS TO DETERMINE THE LOCATION AND LIMITS OF REPAIRS.
4. SOUND ALL SURFACES TO IDENTIFY AND MARK ALL DELAMINATED AREAS FOR REVIEW AND APPROVAL BY THE ENGINEER. CONFIRM SQUARE FOOTAGE REPAIR AREAS PRIOR TO COMMENCING REMOVAL AND NOTIFY ENGINEER OF ANY DISCREPENCIES. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION
5. NOTIFY THE ENGINEER ONCE EXISTING CONCRETE IS REMOVED AND REPAIR AREAS FOR EACH RETAINING WALL HAVE BEEN PREPARED. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION OF PREPARED REPAIR AREAS.

LEGEND

429 6007 CONC STR REPAIR (VERTICAL & OVERHEAD)

SUMMARY OF RETAINING WALL REPAIR ITEMS

US 87 SB (PIERCE ST) AT BNSF RAILYARD	H1	H2	W1	W2	429 6007 CONC STR REPAIR (VERTICAL & OVERHEAD)	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7)
	FT	FT	FT	FT	SF	LF
SE RETAINING WALL PANEL 1	1		2		2	30
* SE RETAINING WALL PANEL 2		3		2	6	15
* SW RETAINING WALL PANEL 1	2		2		4	15
SW RETAINING WALL PANEL 2		10		2	20	30
* NE RETAINING WALL PANEL 1	6		2		12	15
NE RETAINING WALL PANEL 2		8		2	16	30
NW RETAINING WALL PANEL 1	2		2		4	30
* NW RETAINING WALL PANEL 2		6		2	12	15
RETAINING WALL REPAIR DETAIL SHEET 1 OF 1 TOTALS					76	180

* INDICATES RETAINING WALL PANEL WHICH IS ADJACENT TO RESPECTIVE ABUTMENT WINGWALL

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST.) AT BNSF RAILYARD

RETAINING WALL REPAIR DETAIL

SCALE: NTS

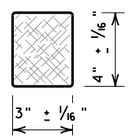
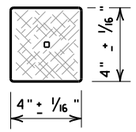
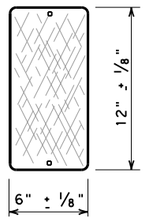
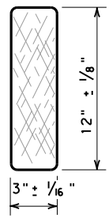
2022 Texas Department of Transportation

SHEET 1 OF 1

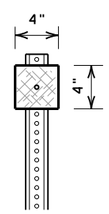
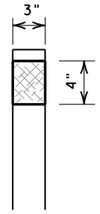
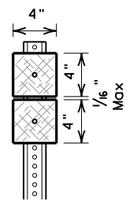
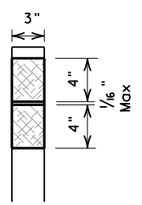
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		193

DATE: 11/28/2022 3:41:09 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY\dom1-20.dgn

REFLECTOR UNIT SIZES FOR DELINEATORS AND OBJECT MARKERS

	SIZE 1	SIZE 2	SIZE 3	SIZE 4
DEVICE				
SHEETING	Yellow, White or Red Type B or C reflective sheeting			
NOTE	1. Size 1 and 4 - Direct applied reflective sheeting for use on flexible post (flx). 2. Size 2 and 3 - For use on wing channel (wc) post only. Use approved metal, plastic or fiberglass backplate with 17/64" mounting holes.			

DELINEATORS

	SINGLE		DOUBLE	
DEVICE				
	1-Size 2 reflector unit	1-Size 1 reflector unit	2-Size 2 reflector units	2-Size 1 reflector units
SHEETING	Yellow, White or Red Type B or C Reflective Sheeting			
POST TYPE	WC	YFLX, WFLX	WC	YFLX, WFLX
MOUNT TYPE	GND	GND, SRF	GND	GND, SRF

D & OM DESCRIPTIVE CODES

INSTL DEL ASSM (D-XX)SZ X (XXXX)XXX(XX)

NUMBER OF REFLECTORS
S = Single
D = Double

COLOR OF REFLECTORS
W = White
Y = Yellow
R = Red

REFLECTOR UNIT SIZE
1 or 2

TYPE OF POST OR DELINEATOR
WC = Wing Channel Post
YFLX = Yellow Flexible Post
WFLX = White Flexible Post
BRF = Barrier Reflector

TYPE OF MOUNT
GND = Embedded (drivable or set in concrete)
CTB = Concrete Barrier Mount
GF1 or GF2 = Guard Fence Attachment
SRF = Surface Mount

DIRECTION
If Required
BI = Bi-Directional
BR = Bi-Directional with red on back

INSTL OM ASSM (OM-XX) (XXXX)XXX(XX)

TYPE OF OBJECT MARKER
1, 2, 3, or 4

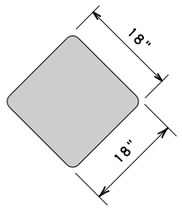
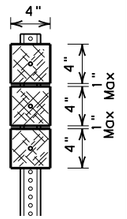
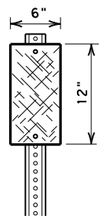
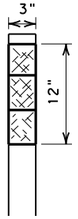
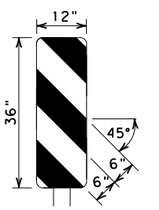
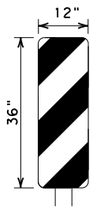
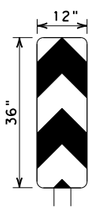
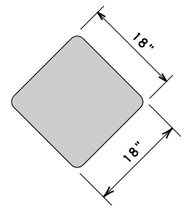
NUMBER OF REFLECTORS OR DIRECTION
X = 3-Size 2 reflector units (Type 2 only)
Y = 1-Size 3 reflector unit (Type 2 only)
Z = 3-Size 1 or 1-Size 4 reflector unit(s)(Type 2 only)
L = Left Side (Type 3 Object Marker only)
R = Right Side (Type 3 Object Marker only)
C = Center (Type 3 Object Marker only)

TYPE OF POST
WC = Wing Channel Post
WFLX = White Flexible Post
TWT = Thin Walled Tubing

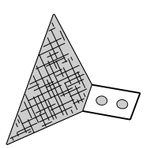
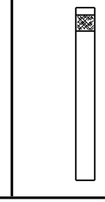
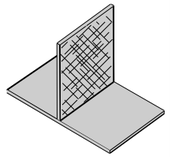
TYPE OF MOUNT
GND = Embedded (drivable)
SRF = Surface Mount
WAS = Wedge Anchor Steel
WAP = Wedge Anchor Plastic

DIRECTION
If Required
BI = Bi-Directional

OBJECT MARKERS

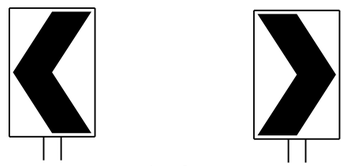
	Type 1 (OM-1)	Type 2 (OM-2)			Type 3 (OM-3)			Type 4 (OM-4)
	OM-1	OM-2X	OM-2Y	OM-2Z	OM-3L	OM-3R	OM-3C	OM-4
DEVICE								
		3-Size 2 reflector units	1-Size 3 reflector unit	3-Size 1 reflector units or 1-Size 4 reflector unit				
SHEETING	Yellow-Type B_{FL} or C_{FL} Sheeting	Yellow - Type B or C Sheeting			Alternating acrylic black and retroflective yellow - Type B_{FL} or C_{FL} Sheeting			Red -Type B_{FL} or C_{FL} Sheeting
POST TYPE	TWT	WC	WC	WFLX	TWT			TWT
MOUNT TYPE	WAS, WAP	GND	GND	GND, SRF	WAS, WAP			WAS, WAP

BARRIER REFLECTORS (BRF)

	GF1	GF2	CTB
DEVICE			
NOTE	1. Barrier reflectors shall meet the requirements of DMS 8600. 2. Approved Barrier Reflectors are listed on the "Barrier Reflectors" Material Producer List at: www.txdot.gov.		
SHEETING	Yellow, White, Red		
NOTE	1. Reflective sheeting shall have a minimum dimension of 3 inches and minimum surface area of 9 square inches.		

CHEVRONS

DEVICE



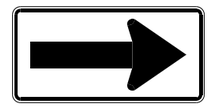
W1-8

SIZE (W x L)	18"x 24" (Conventional)	24"x 30" (Conventional Oversize)	30"x 36" (Expressway)	36" x 48" (Freeway)
MOUNTING HEIGHT	4'-0" or 7'-0"		7'-0" Only	

NOTE
1. CHEVRON (W1-8) signs and ONE DIRECTION LARGE ARROW (W1-6) Signs shall be installed per Sign Mounting Details (SMD) Standard Sheets and paid under Item 644 (Small Roadside Sign Assemblies).
2. When there is a need to increase conspicuity, the Texas version of the ONE DIRECTION LARGE ARROW sign (W1-9T) may be used instead of the ONE DIRECTION LARGE ARROW (W1-6).

ONE DIRECTION LARGE ARROW

DEVICE



W1-6

SIZE (W x L)	48" x 24" (Conventional)	60" x 30" (Expressway & Freeway)
MOUNTING HEIGHT	7'-0"	

DEPARTMENTAL MATERIAL SPECIFICATIONS

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

NOTE:

Delineator and object marker substrates and sign substrates shall be 0.080" Aluminum sign blank to conform to ASTM B-209 Alloy 6061-T6 or approved alternative.

Texas Department of Transportation

Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER MATERIAL DESCRIPTION

D & OM(1)-20

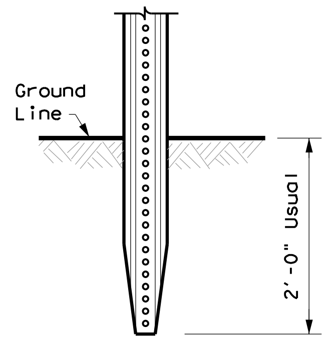
FILE: dom1-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
©TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
10-09 3-15	DIST	COUNTY		SHEET NO.
4-10 7-20	AMA	POTTER		194

20A

POST TYPE AND SUPPORT FOUNDATION DETAILS

WING CHANNEL (WC)

GND

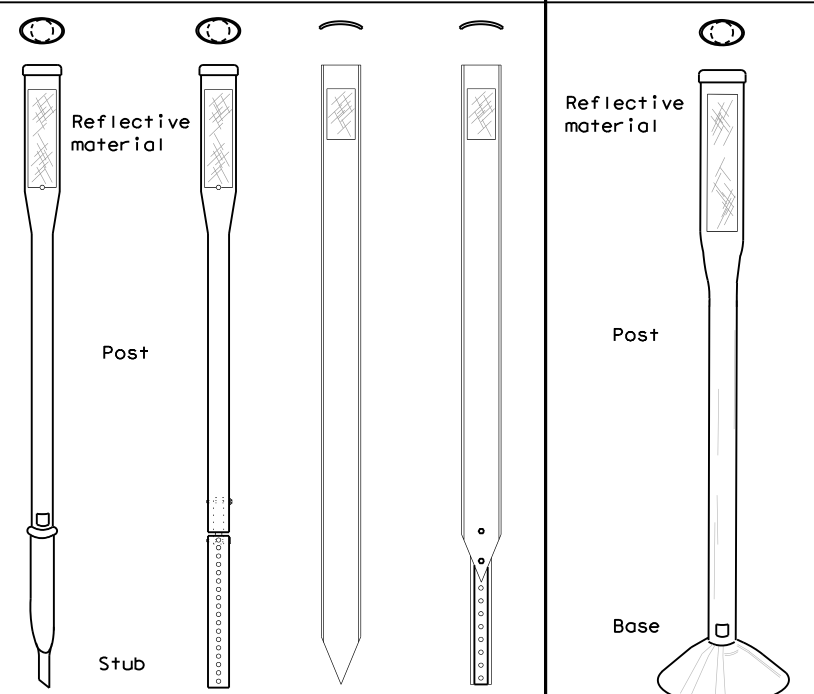


NOTES

1. Embedded Wing Channel (WC) post option may be used for Type 2 Object Markers and Delineators only.
2. 1.12 lbs/ft steel per ASTM A 1011 SS Gr. 50, or ASTM A499.

FLEXIBLE POSTS (YFLX, WFLX)

GND | SRF



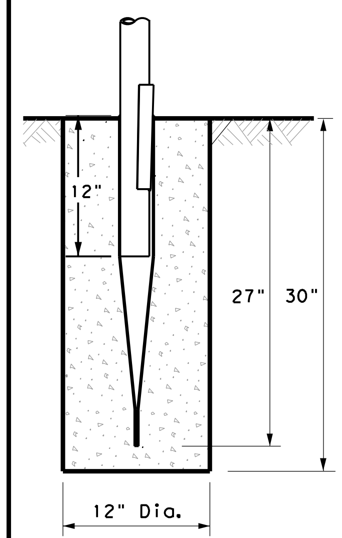
EMBEDDED | SURFACE MOUNT

NOTES

1. See "Flexible Delineator and Object Marker Posts" Material Producer List for approved devices.
2. Install per manufacturer's recommendations.
3. Post length may vary to meet field conditions.
4. When using yellow delineators with flexible posts to separate opposing direction of travel, such as centerline or median use, the flexible posts shall be yellow.

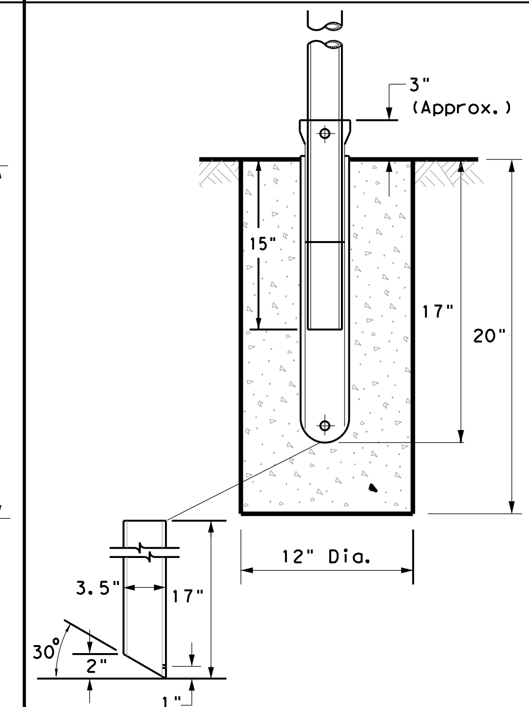
WEDGE ANCHOR SYSTEMS

WAS



STEEL

WAP



PLASTIC

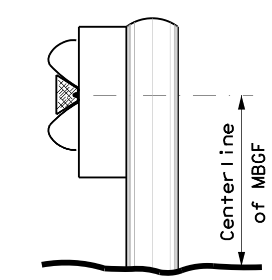
NOTE

1. Install per manufacturer's recommendations.

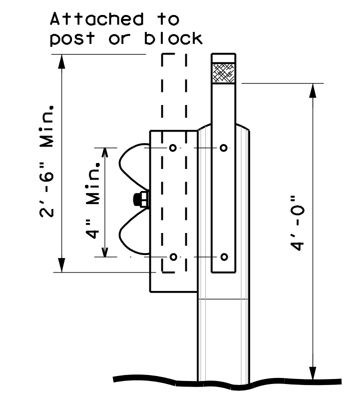
TYPE OF BARRIER MOUNTS

GUARD FENCE ATTACHMENT

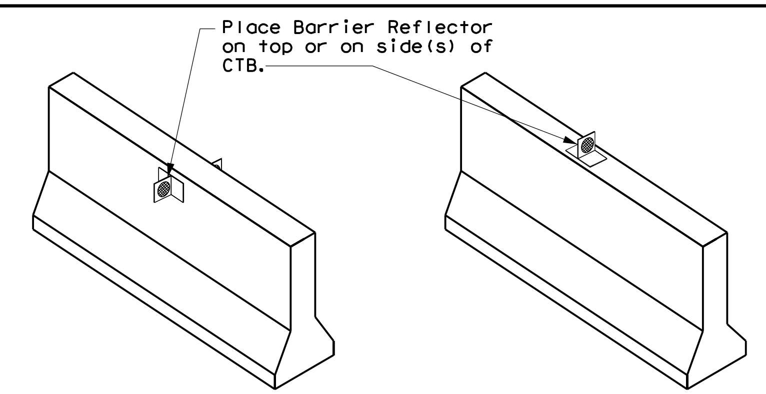
GF1



GF2



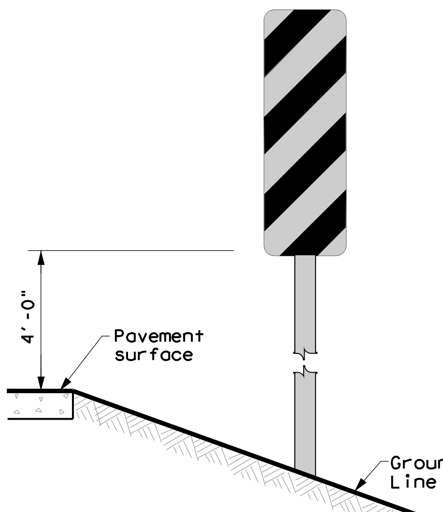
CONCRETE TRAFFIC BARRIER (CTB)



GENERAL NOTES

1. Place delineators on a section of roadway at a consistent distance from the edge of pavement.
2. Where a restriction prevents consistent placement from the pavement edge, place the affected object markers in line with the innermost edge of the obstruction.
3. When Type 2 object markers and delineators are more than 8'-0" from the edge of the pavement, it may not be possible to maintain a height of approximately 4'-0". If this is the case, place the object marker or delineator as close to the desired height as possible.
4. Install all delineators, object markers and barrier reflectors in accordance with the manufacturer's recommendation.
5. Barrier reflectors should be installed a minimum of 18 inches above the edge of the pavement surface.
6. Diagonal stripes on Type 3 object markers shall slope down toward the intended travel lane.

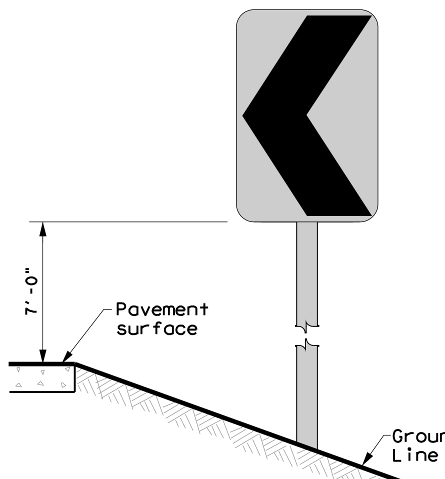
TYPES 1,3, AND 4 OBJECT MARKERS AND CHEVRONS



NOTE

Mounting at 4 feet to the bottom of the chevron is permitted for chevrons that will not exceed a height of 6'-6" to the top of the chevron (sizes 24" x 30" and smaller)

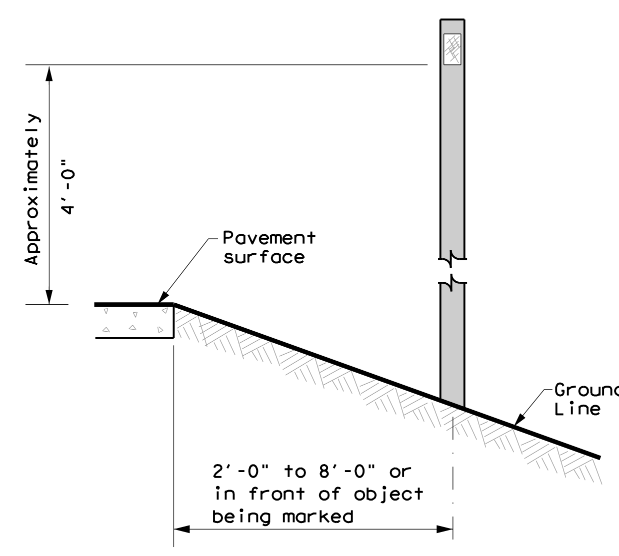
CHEVRONS AND ONE DIRECTION LARGE ARROW SIGN



NOTE

Chevrons 30" x 36" and larger shall be mounted at a height of 7' to the bottom of the chevron. Chevron sign and ONE DIRECTION LARGE ARROW sign (W1-9T) shall be installed per SMD standard sheets and paid under item 644.

DELINEATORS AND TYPE 2 OBJECT MARKERS



See general notes 1, 2 and 3.

Texas Department of Transportation | Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER INSTALLATION

D & OM(2)-20

FILE: dom2-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
10-09 3-15	DIST		COUNTY	SHEET NO.
4-10 7-20	AMA		POTTER	195

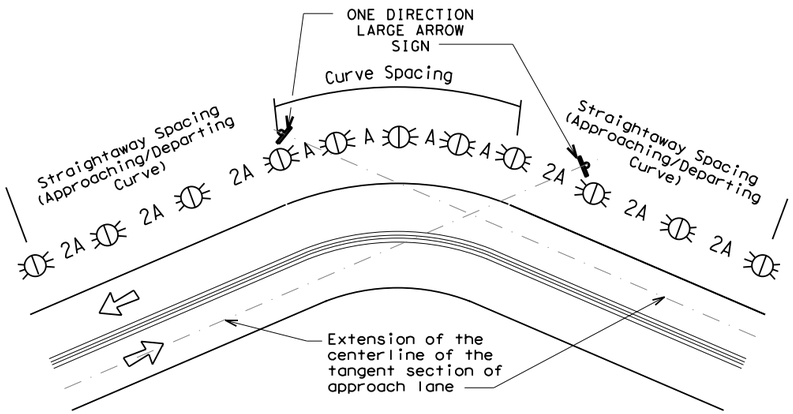
20B

DATE: 11/28/2022 3:41:13 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Details\dom3-20.dgn

MINIMUM WARNING DEVICES AT CURVES WITH ADVISORY SPEEDS

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

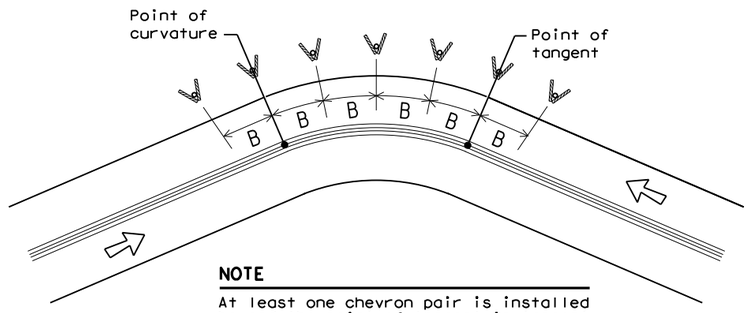
SUGGESTED SPACING FOR DELINEATORS ON HORIZONTAL CURVES



NOTE

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

SUGGESTED SPACING FOR CHEVRONS ON HORIZONTAL CURVES



NOTE

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

DELINEATOR AND CHEVRON SPACING

WHEN DEGREE OF CURVE OR RADIUS IS KNOWN

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

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

DELINEATOR AND CHEVRON SPACING

WHEN DEGREE OF CURVE OR RADIUS IS NOT KNOWN

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

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

DELINEATOR AND OBJECT MARKER APPLICATION AND SPACING

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

NOTES

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

LEGEND	
	Bi-directional Delineator
	Delineator
	Sign

Texas Department of Transportation

Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

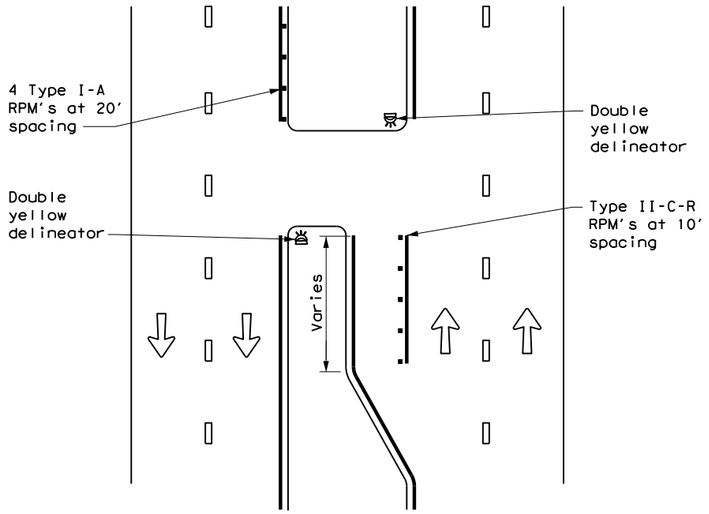
D & OM(3)-20

FILE: dom3-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
© TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
3-15 8-15 8-15 7-20	DIST	COUNTY		SHEET NO.
	AMA	POTTER		196

20C

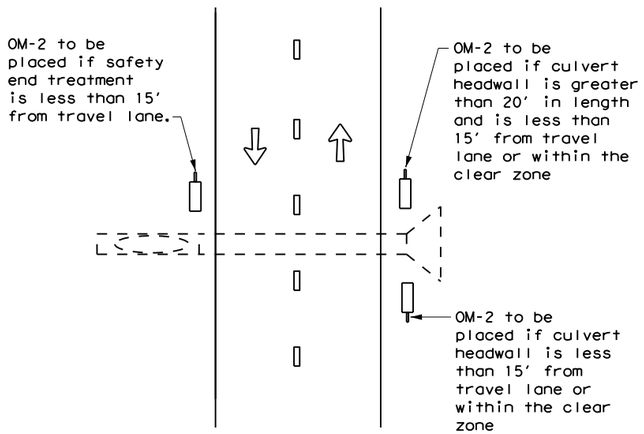
DATE: 11/28/2022 3:41:14 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Details\RAIL\dom4-20.dgn

CROSSOVERS



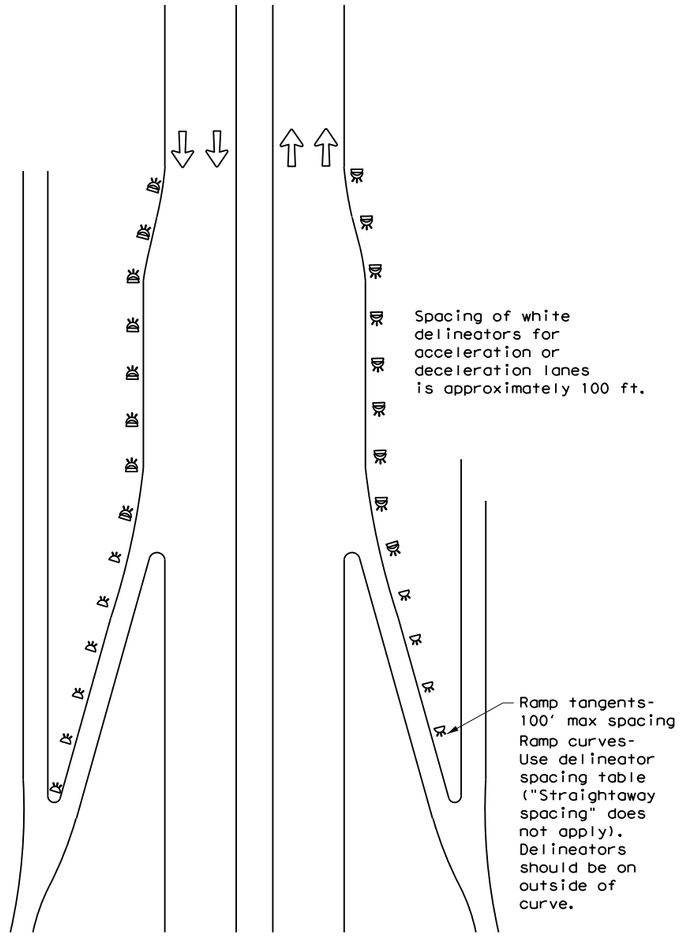
DETAIL 1

FOR CULVERTS WITHOUT MBGF



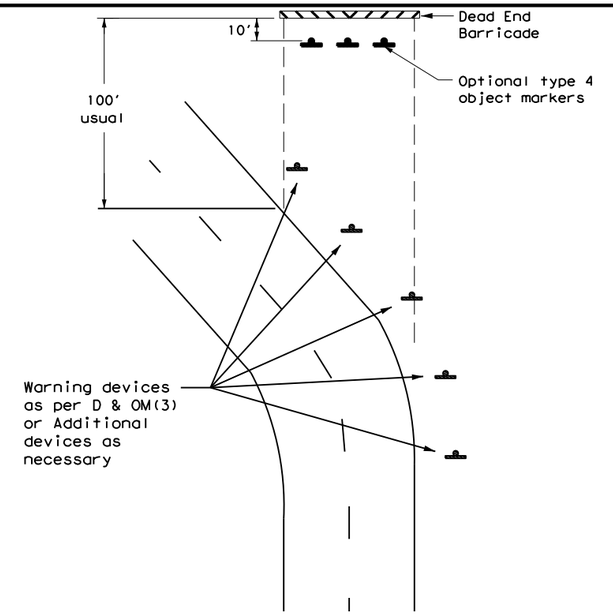
DETAIL 2

FREEWAY DELINEATION FOR RAMPS AND ACCELERATION/DECELERATION LANES



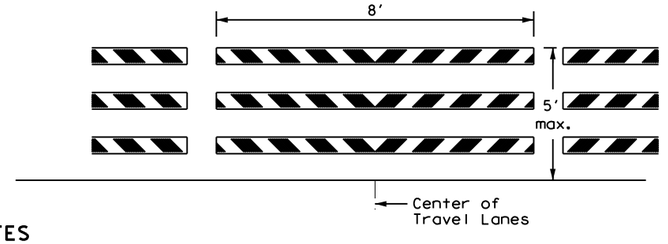
DETAIL 3

TYPICAL APPLICATION OF DEAD END BARRICADE



DETAIL 4

TYPICAL DEAD END BARRICADE INSTALLATION



NOTES

1. Barricade striping shall be red and white reflective sheeting for all permanent road closures.
2. Barricade striping is red and white sloping toward the center of the roadway.
3. Type 3 Barricade Supports should be anchored to soil or pavement as described in compliant Work Zone Traffic Control Devices List, section D.2.f and D.2.g.

DETAIL 5

LEGEND	
	Bidirectional Delineator
	Delineator
	OM-3
	Barricade
	Sign
	OM-2
	Double Delineator

Texas Department of Transportation

Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

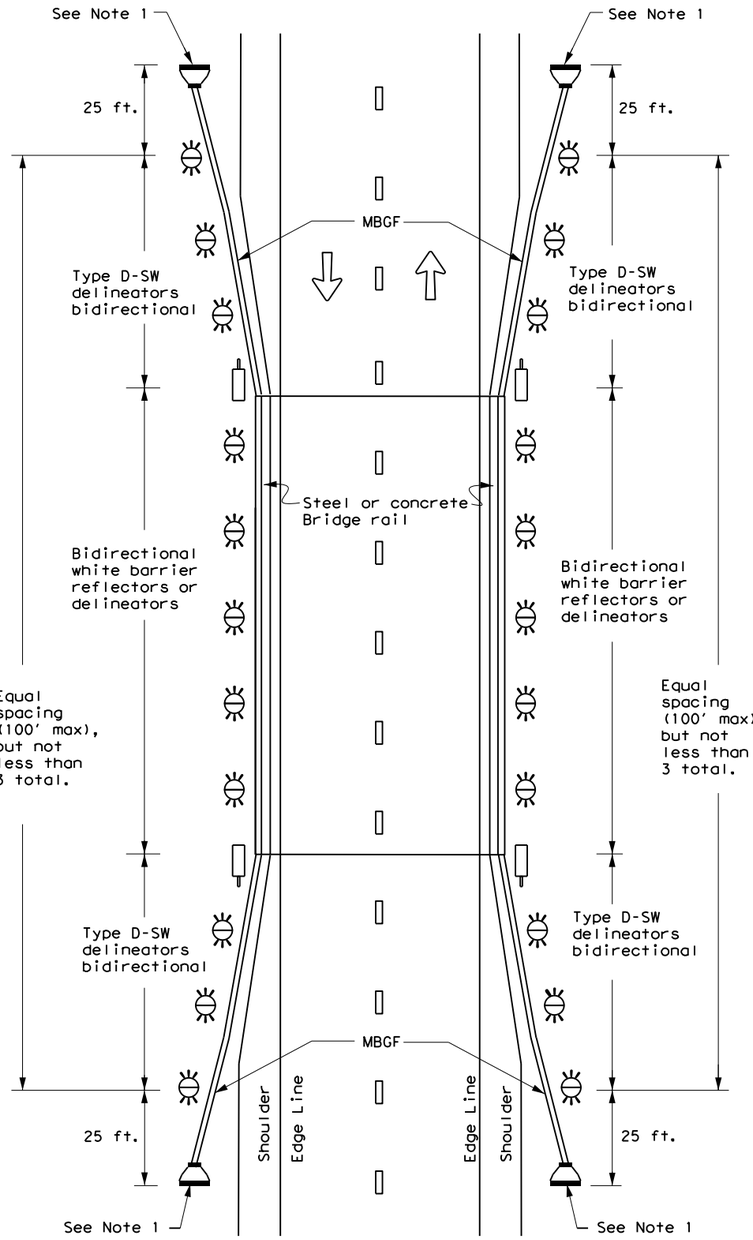
D & OM(4)-20

FILE: dom4-20.dgn	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
©TxDOT August 2004	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
3-15 7-20	DIST	COUNTY		SHEET NO.
	AMA	POTTER		197

20D

DATE: 11/28/2022 3:41:16 PM
FILE: I:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVL\4 Details\dom5-20.dgn

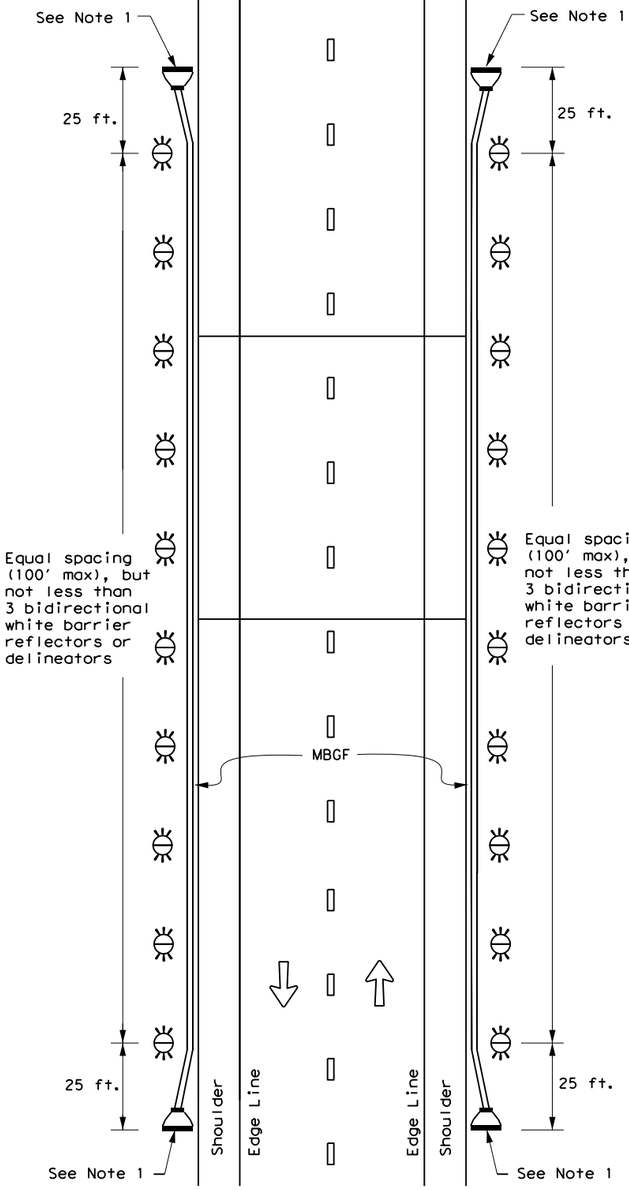
TWO-WAY, TWO LANE ROADWAY WITH REDUCED WIDTH APPROACH RAIL



NOTE:

1. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

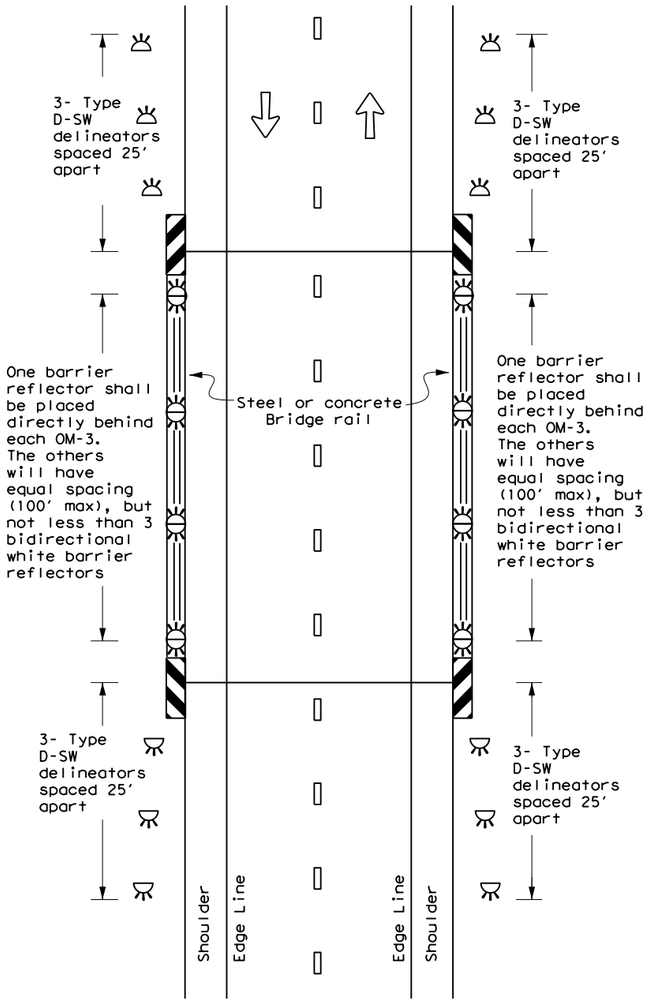
TWO-WAY, TWO LANE ROADWAY WITH METAL BEAM GUARD FENCE (MBGF)



NOTE:

1. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

TWO-WAY, TWO LANE ROADWAY BRIDGE WITH NO APPROACH RAIL



LEGEND

	Bidirectional Delineator
	Delineator
	OM-3
	OM-2
	Terminal End
	Traffic Flow

Texas Department of Transportation

Traffic Safety Division Standard

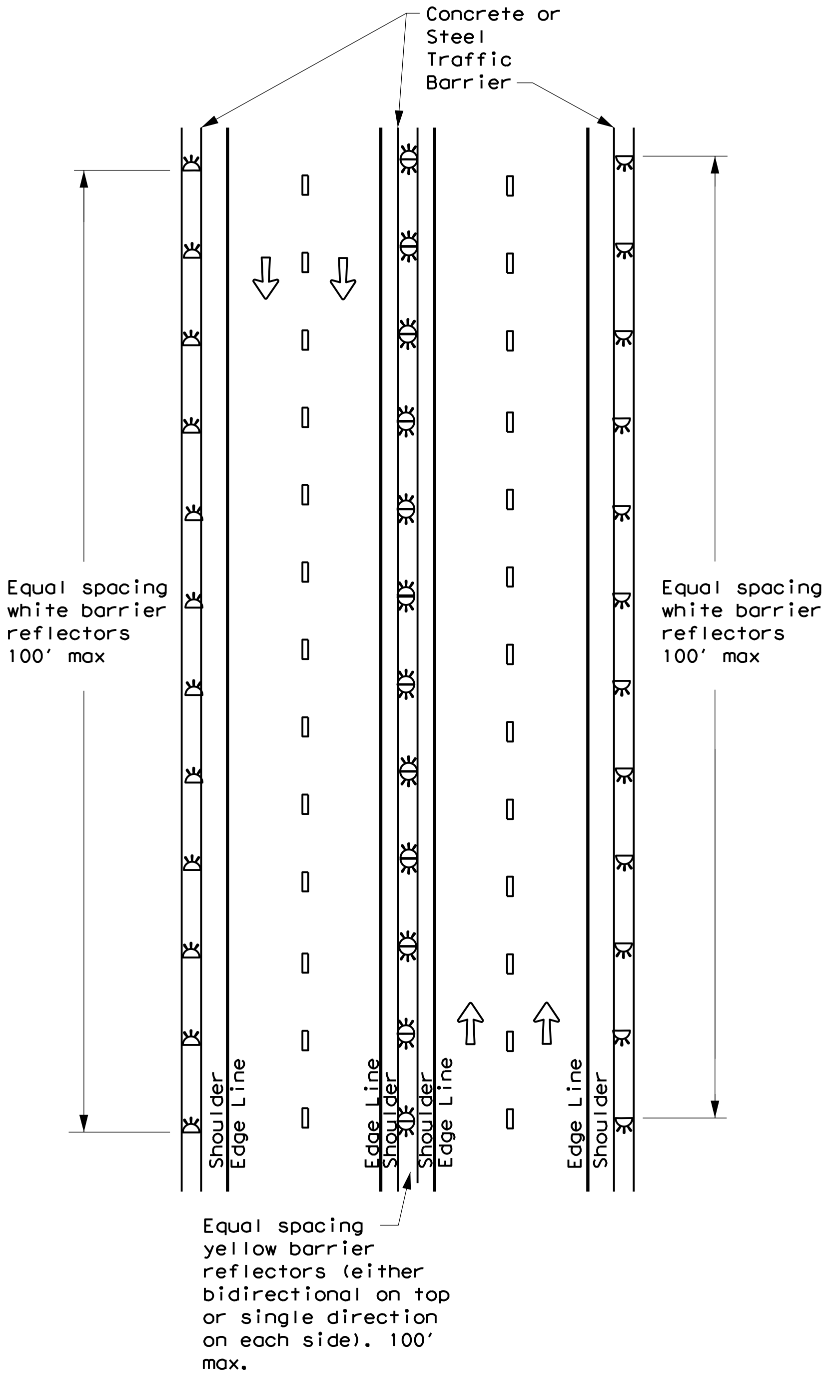
DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

D & OM(5)-20

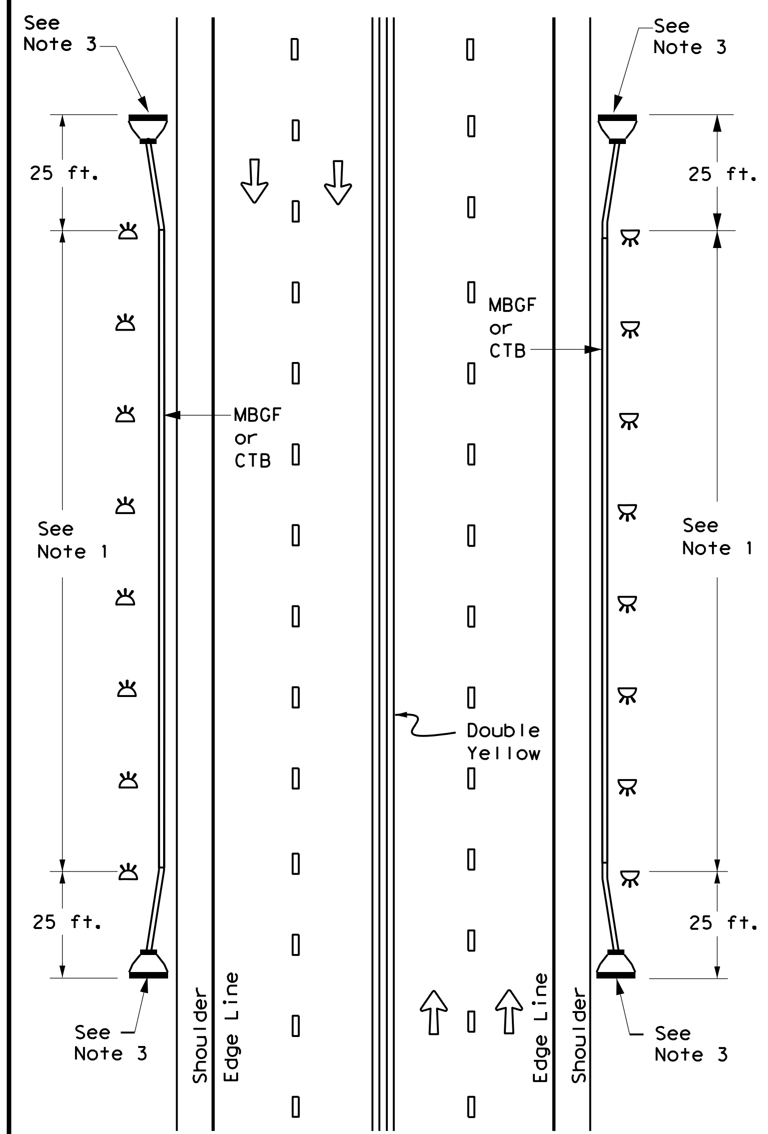
FILE: dom5-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
7-20	DIST	COUNTY		SHEET NO.
	AMA	POTTER		198

20E

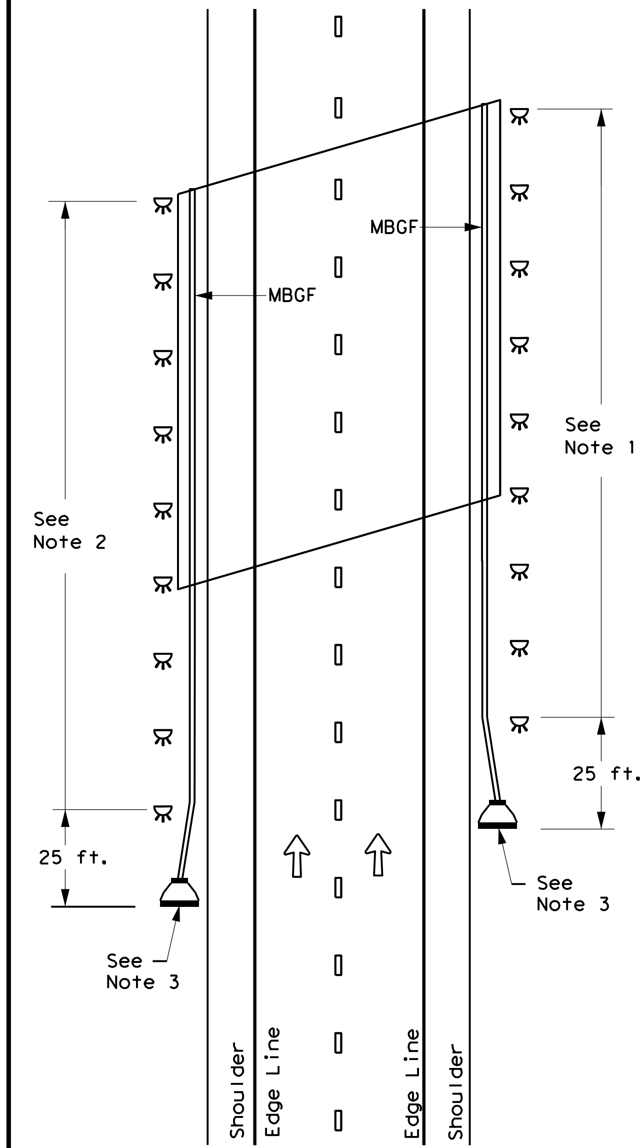
CONTINUOUS CONCRETE OR STEEL BARRIER



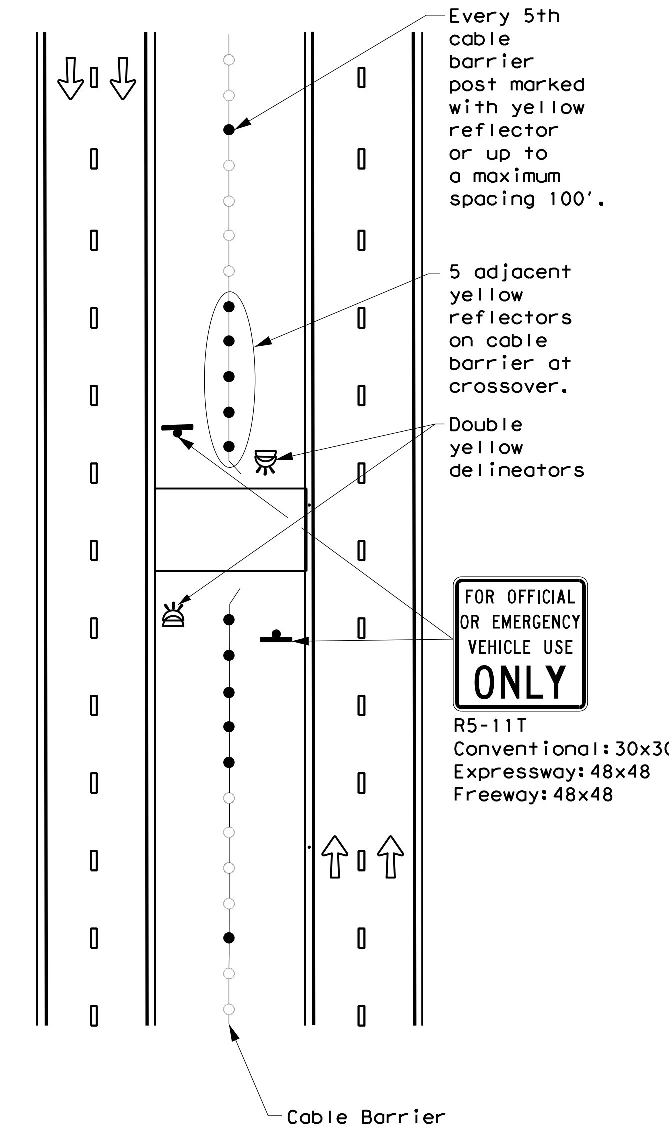
MULTI-LANE UNDIVIDED, TWO-WAY ROADWAY WITH METAL BEAM GUARD FENCE (MBGF)



DIVIDED ROADWAY WITH METAL BEAM GUARD FENCE (MBGF)



EMERGENCY CROSSOVER



NOTES

1. Equal spacing (100' max), but not less than 3 single directional white barrier reflectors or delineators. On Continuos Barrier, equal spacing (100' max.)

2. Equal spacing (100' max), but not less than 3 single directional yellow barrier reflectors or delineators.

3. Terminal ends require reflective sheeting provided by manufacturer per D & OM (VIA) or a Type 3 Object Marker (OM-3) in front of the terminal end.

LEGEND

Symbol	Description
	Bidirectional Delineator
	Delineator
	OM-3
	OM-2
	Terminal End
	Traffic Flow

Texas Department of Transportation

Traffic Safety Division Standard

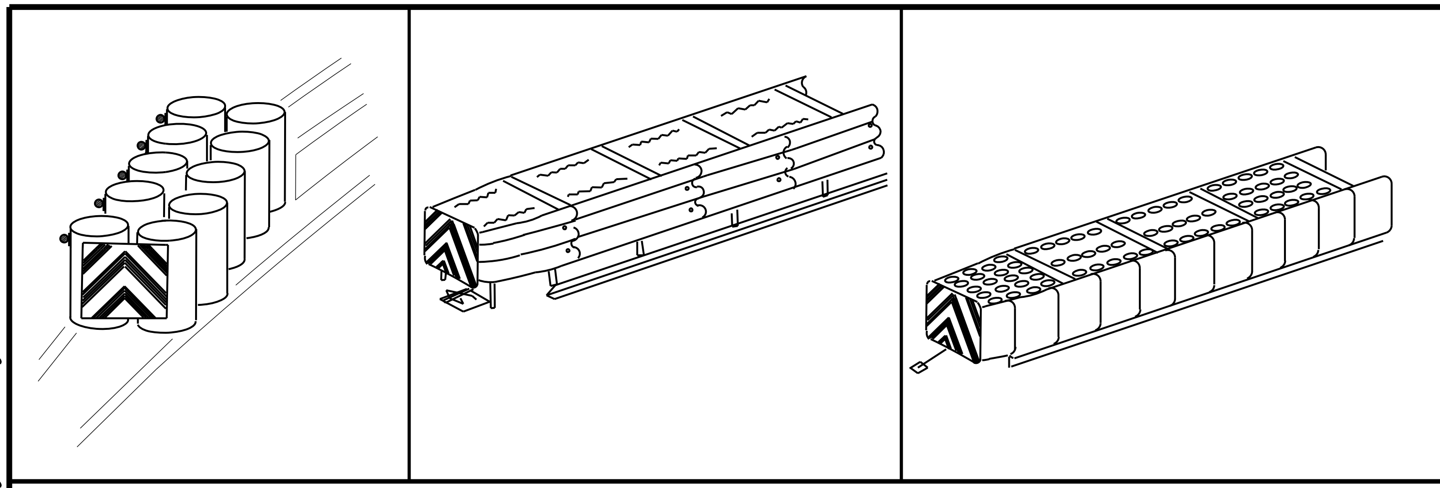
DELINEATOR & OBJECT MARKER PLACEMENT DETAILS

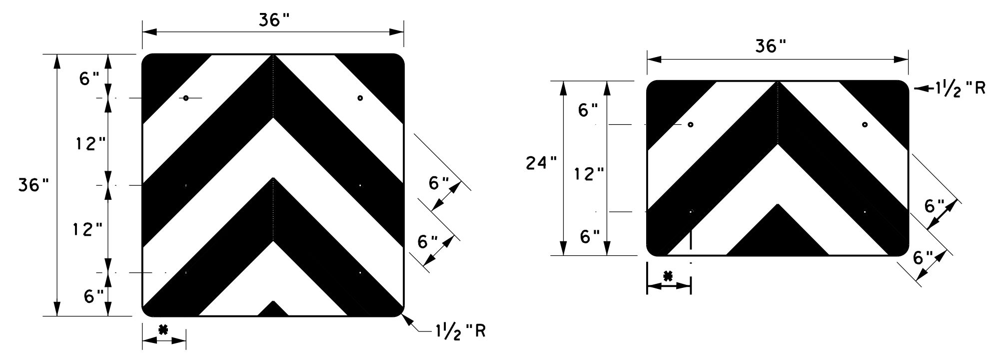
D & OM(6)-20

FILE: dom6-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT August 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
7-20	DIST		COUNTY	SHEET NO.
	AMA		POTTER	199

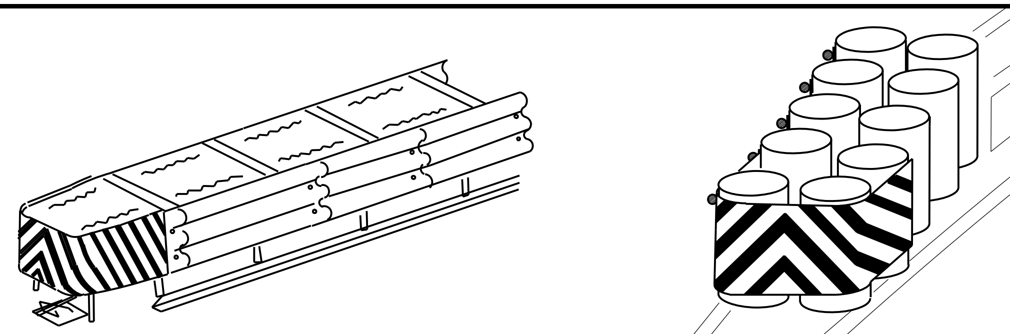
20F

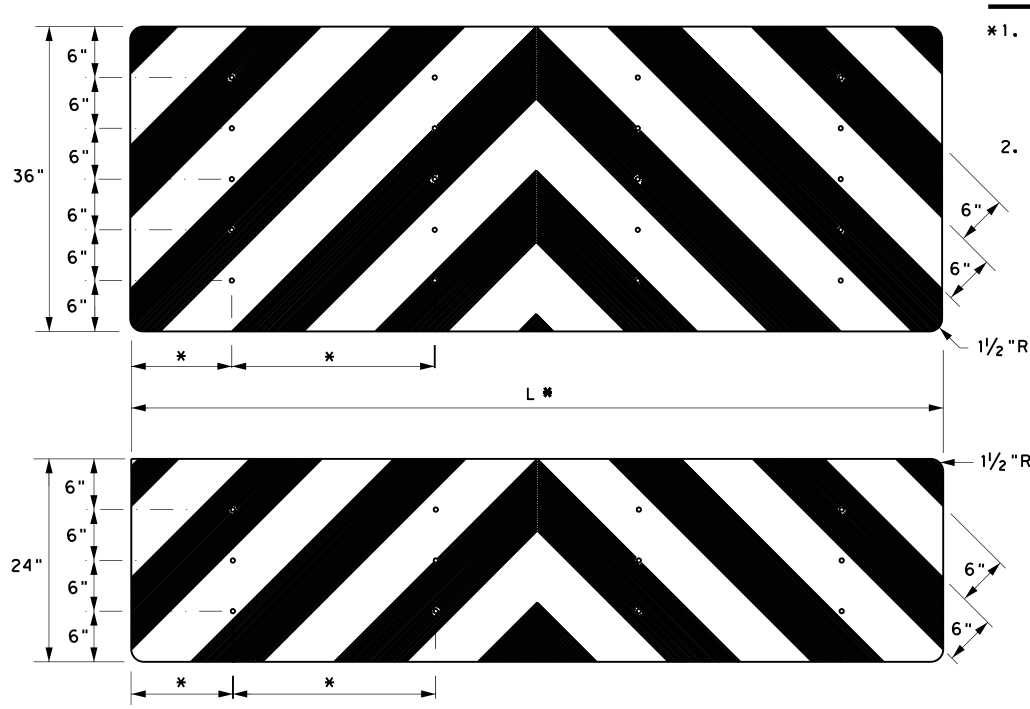
DATE: 11/28/2022 3:41:18 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4





* Adjust to fit attenuator per manufacturer's recommendation, or as directed by the Engineer

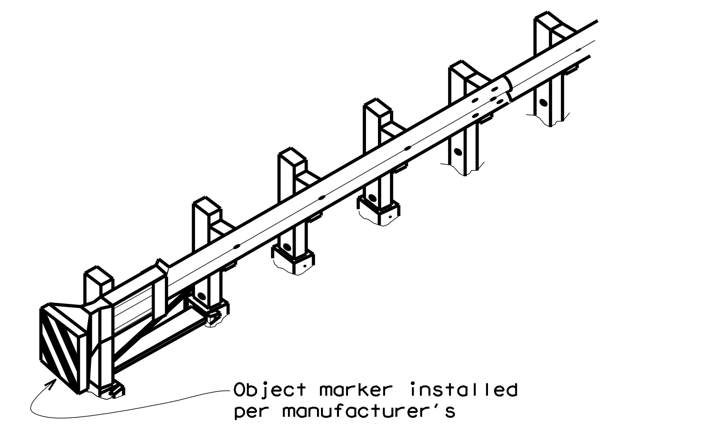


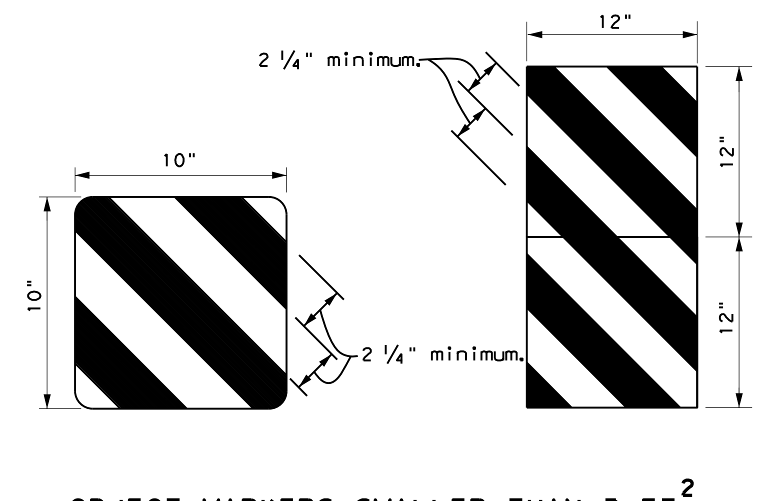


NOTES

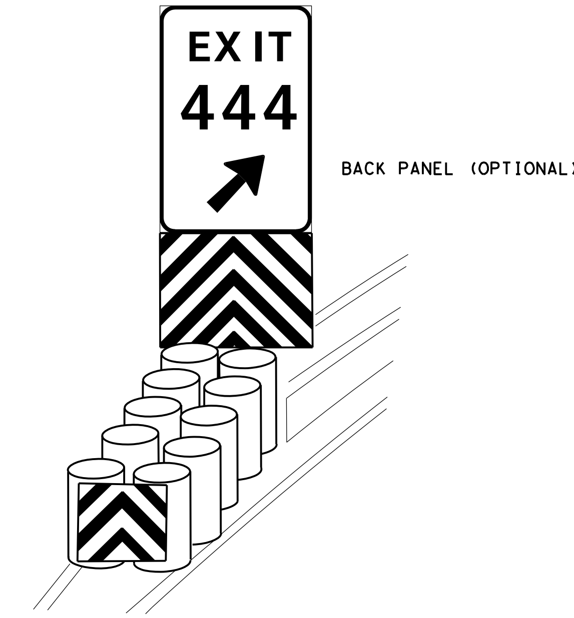
*1. Spacing should be adjusted to attach through centerline of drum, per attenuator manufacturers recommendation, or as directed by the Engineer.

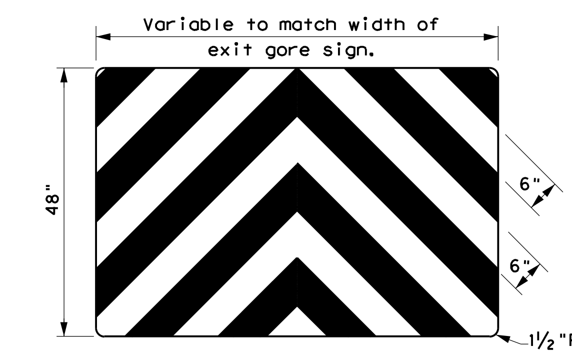
2. Mounting should be flush with top of attenuator. Minimum size 96" x 24".





OBJECT MARKERS SMALLER THAN 3 FT^2





NOTES

1. Object Markers shall conform to the Texas MUTCD and meet the color and reflectivity requirement of Department Material Specification DMS 8300. Background shall be yellow reflective sheeting (Type B or C) and Chevron shall be black.

2. Object Markers may be fabricated from adhesive backed reflective sheeting applied directly to guardrail end treatment, or applied directly to an "end cap" as per the manufacturer's recommendation. Direct applied sheeting shall provide a smooth surface and have no wrinkles, air bubbles, cuts or tears. A radius at the corners is not required for direct applied sheeting.

3. Object Marker size may be reduced to fit smaller devices. Width of alternating black and yellow stripes are typically 6". Object Markers smaller than 3ft may have reduced width stripes of a minimum of 2 ¼".

4. Pop rivets, screws, or nuts and bolts may be used to attach object markers and reflectors. Holes, slots or other openings may be cut or drilled through object markers to allow cable or other attachments.

5. Object Marker at nose of attenuator is subsidiary to the attenuator.

6. See D & OM (1-4) for required barrier reflectors.

DATE: 11/28/2022 3:41:20 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4

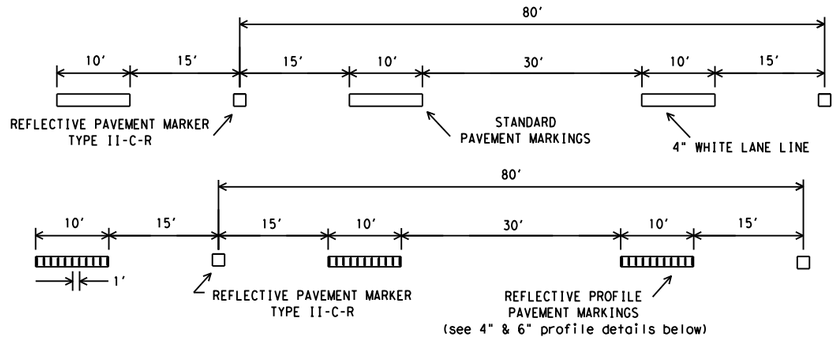
Texas Department of Transportation — Traffic Safety Division Standard

DELINEATOR & OBJECT MARKER FOR VEHICLE IMPACT ATTENUATORS

D & OM(VIA)-20

FILE: domvia20.dgn	DN: TXDOT		CK: TXDOT	DW: TXDOT		CK: TXDOT
©TxDOT December 1989	CONT	SECT	JOB		HIGHWAY	
REVISIONS	0275	01	229, ETC		IH-40, ETC	
4-92 8-04 8-95 3-15 4-98 7-20	DIST		COUNTY		SHEET NO.	
	AMA		POTTER		200	

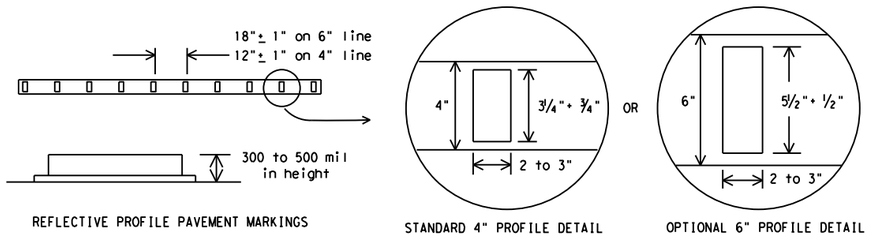
20G



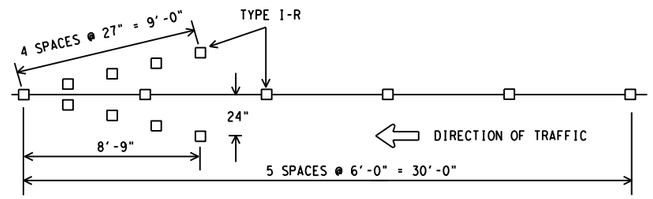
PAVEMENT MARKERS (REFL) TYPE II-C-R SHALL BE SPACED ON 80' CENTERS WITH THE CLEAR FACE TOWARD NORMAL TRAFFIC AND THE RED FACE TOWARD WRONG WAY TRAFFIC.

TRAFFIC LANE LINES PAVEMENT MARKING DETAILS

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



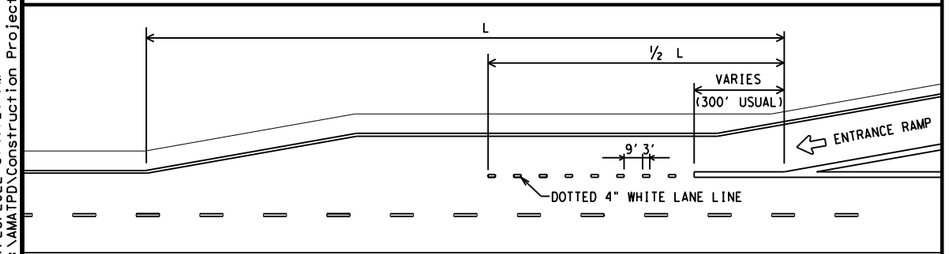
EDGELINE PAVEMENT MARKINGS



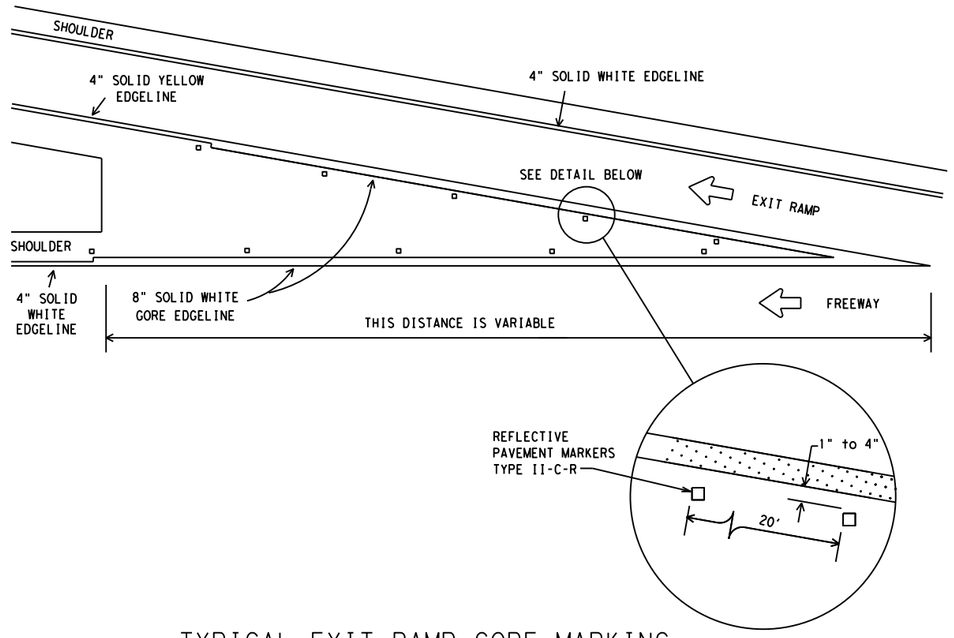
ALL RAISED MARKERS IN THE WRONG WAY ARROW SHALL BE TYPE I-R REFLECTORIZED PAVEMENT MARKERS WITH THE REFLECTORIZED SURFACE FACING THE WRONG WAY TRAFFIC. TYPE II-C-R SHALL NOT BE USED.

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

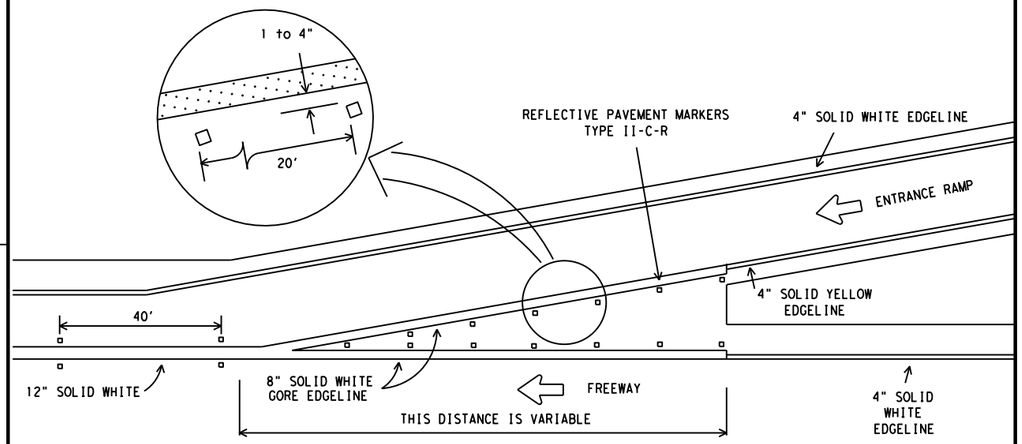
WRONG WAY ARROW DETAIL



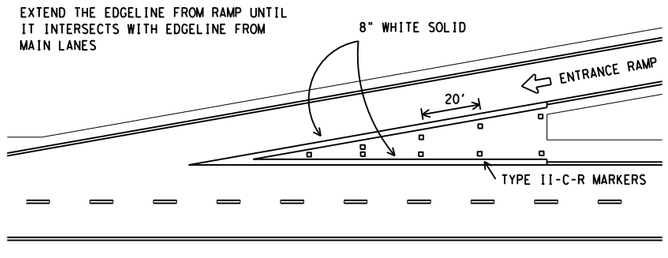
PARALLEL ACCELERATION LANE



TYPICAL EXIT RAMP GORE MARKING



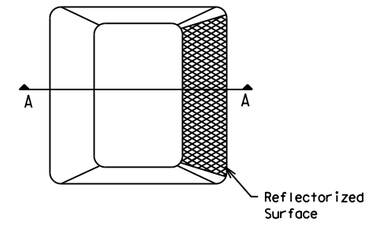
TYPICAL ENTRANCE RAMP GORE MARKING



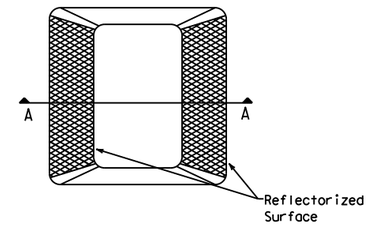
TAPERED ACCELERATION LANE

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

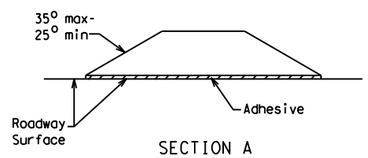
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)



Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS WITH RAISED PAVEMENT MARKERS

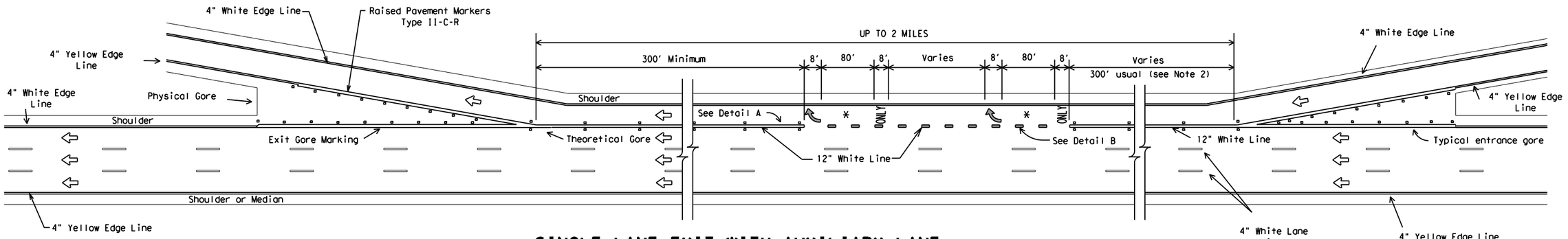
FPM(1)-12

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

REVISIONS		CONT	SECT	JOB	HIGHWAY
4-92	2-10	0275	01	229, ETC	IH-40, ETC
5-00	2-12	DIST	COUNTY		SHEET NO.
8-00		AMA	POTTER		201
2-08					

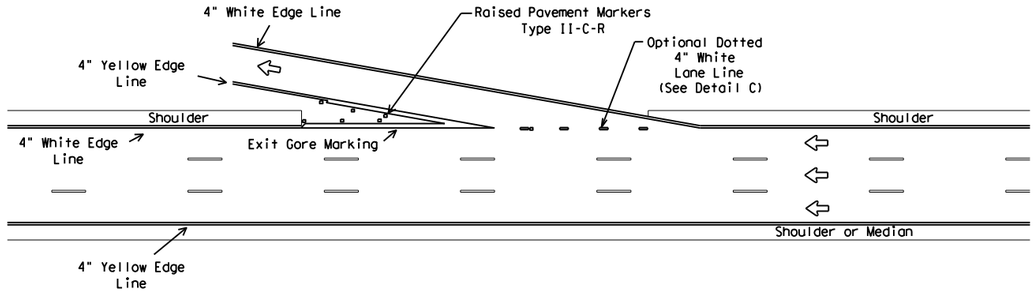
23A

DATE: 11/28/2022 3:41:21 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\3. Roadway\fpm1-12.dgn

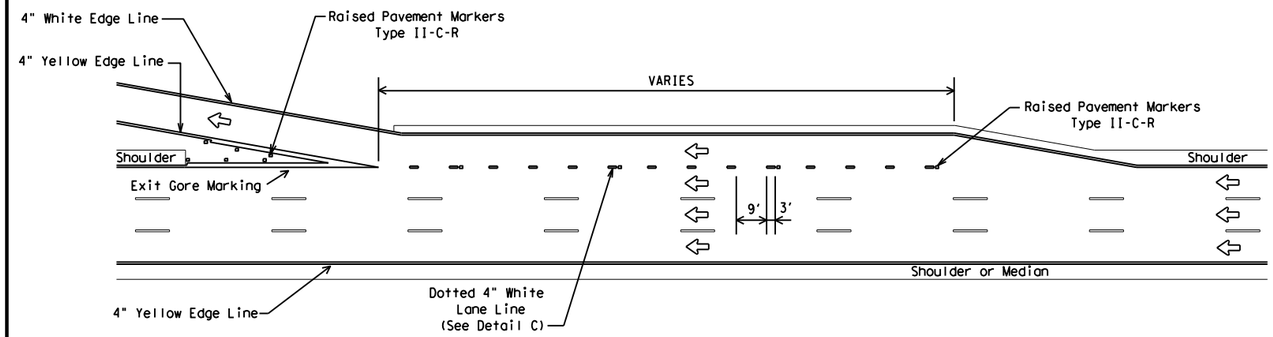


SINGLE LANE EXIT WITH AUXILIARY LANE

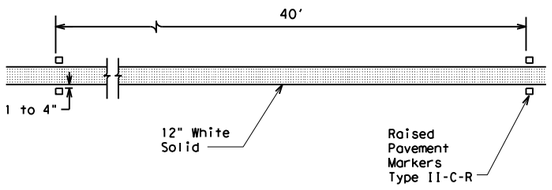
(See Note 2)



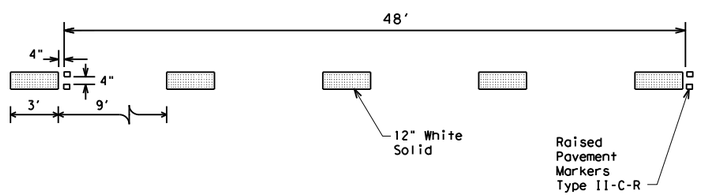
TAPERED DECELERATION LANE



PARALLEL DECELERATION LANE

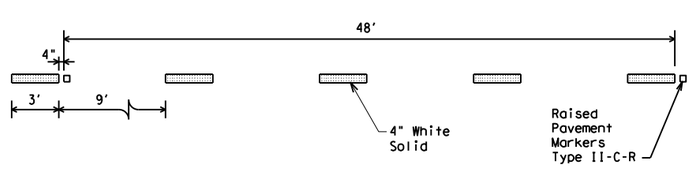


DETAIL A



DETAIL B

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



DETAIL C

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

GENERAL NOTES

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

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

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

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

Texas Department of Transportation
Traffic Operations Division

TYPICAL STANDARD FREEWAY PAVEMENT MARKINGS ENTRANCE AND EXIT RAMPS

FPM(2)-12

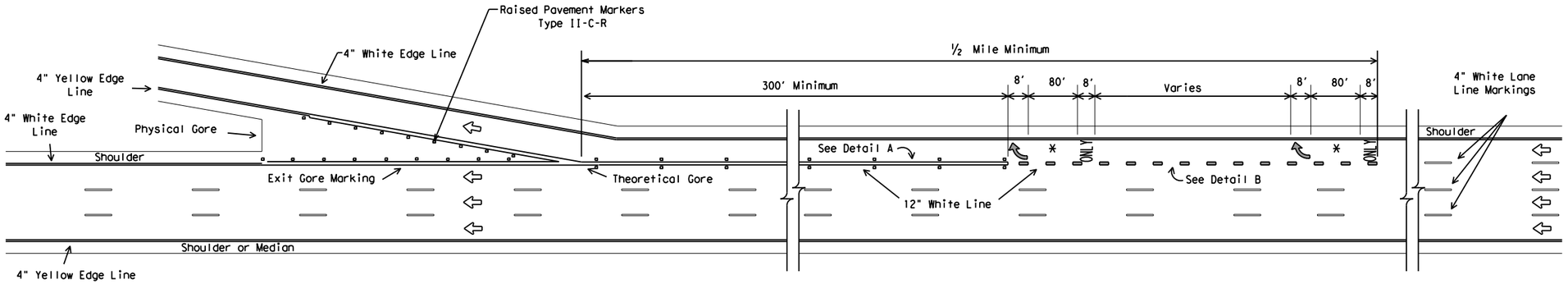
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

REVISIONS		CONT	SECT	JOB	HIGHWAY
4-92	2-10	0275	01	229, ETC	IH-40, ETC
8-95	2-12	DIST	COUNTY		SHEET NO.
5-00		AMA	POTTER		202
8-00					

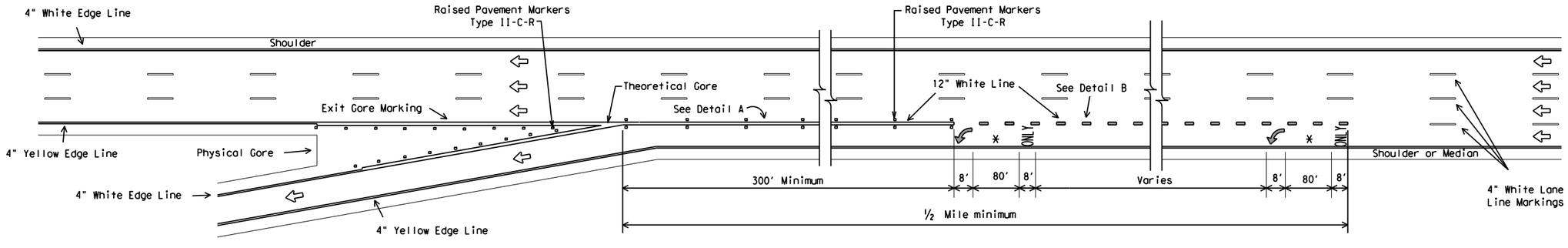
23B

DATE: 11/28/2022 3:41:23 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\3. Roadway\fpm2-12.dgn

DATE: 11/28/2022 3:41:24 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\3. Roadway\fpm3-12.dgn



SINGLE LANE EXIT - LANE DROP OR EXIT ONLY

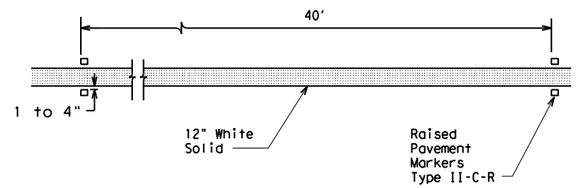


SINGLE LANE EXIT - LANE DROP OR EXIT ONLY (LEFTHAND)

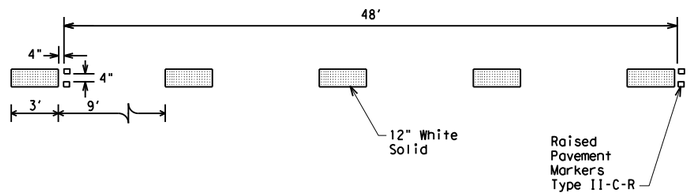
LEGEND	
⇦	Denotes direction of traffic.
↱	Pavement marking arrows (white)
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

GENERAL NOTES

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



DETAIL A



DETAIL B

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

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

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

Texas Department of Transportation
Traffic Operations Division

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

FPM(3)-12

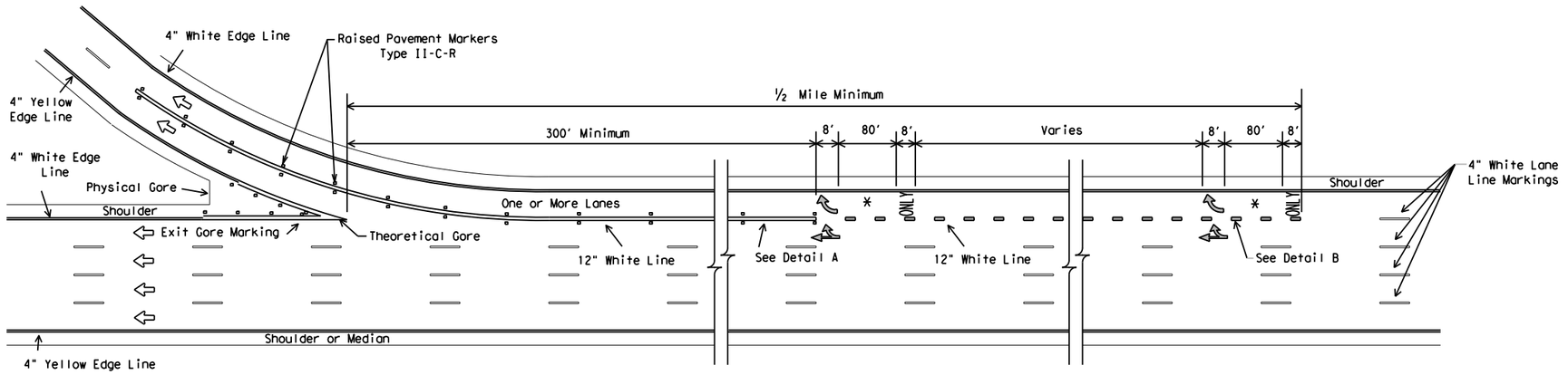
REVISIONS
5-00
8-00
2-10
2-12

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

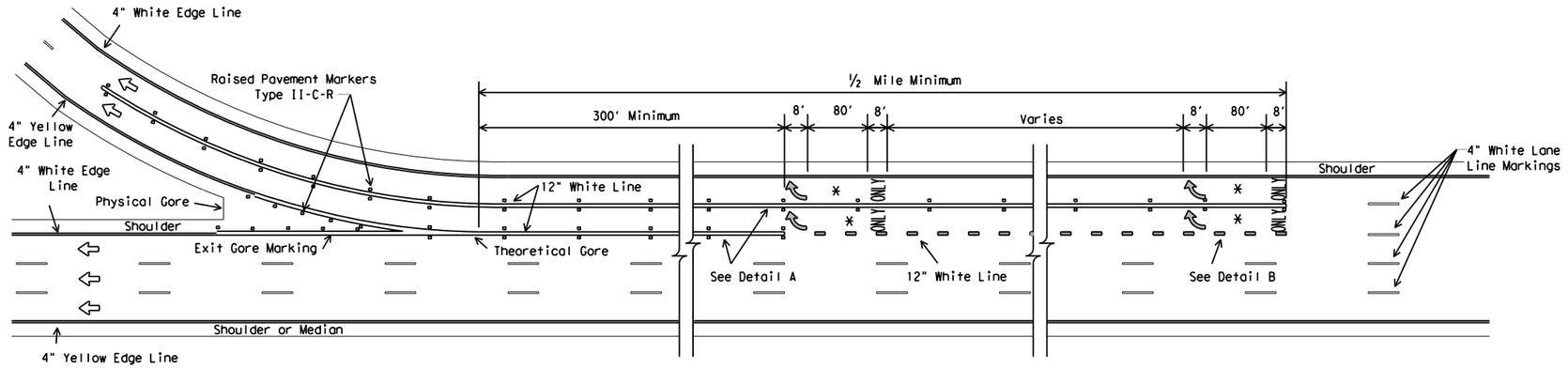
CONT	SECT	JOB	HIGHWAY
0275	01	229, ETC	IH-40, ETC

DIST	COUNTY	SHEET NO.
AMA	POTTER	203

23C



MULTIPLE LANE EXIT - EXIT ONLY WITH OPTION LANE

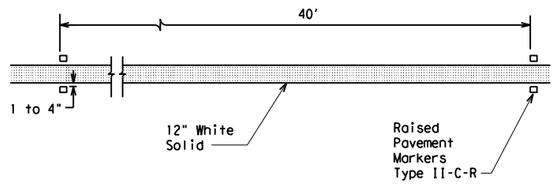


MULTIPLE LANE EXIT ONLY

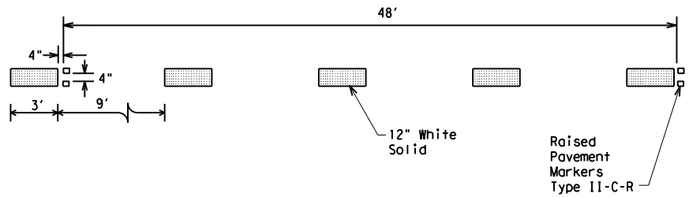
LEGEND	
⇦	Denotes direction of traffic
	Pavement marking arrow (white)
	Optional Pavement Marking Arrows (white)
✳	Arrow markings are optional, however "ONLY" is required if arrow is used

GENERAL NOTES

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



DETAIL A



DETAIL B

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

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

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

Texas Department of Transportation
Traffic Operations Division

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

FPM(4)-12

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

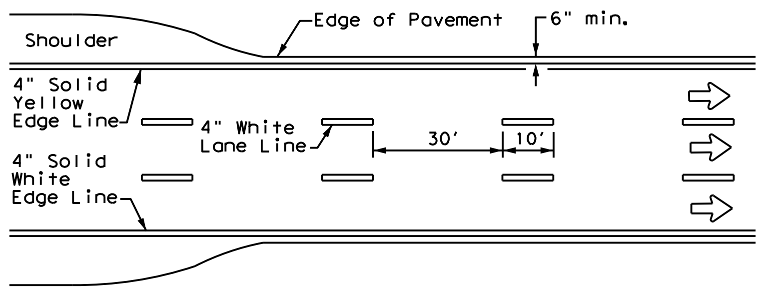
DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT

CONT	SECT	JOB	HIGHWAY
0275	01	229, ETC	IH-40, ETC

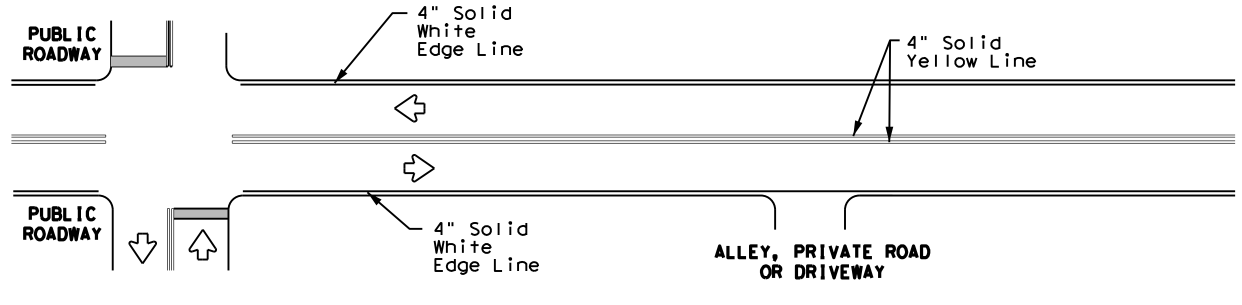
DIST	COUNTY	SHEET NO.
AMA	POTTER	204

23D

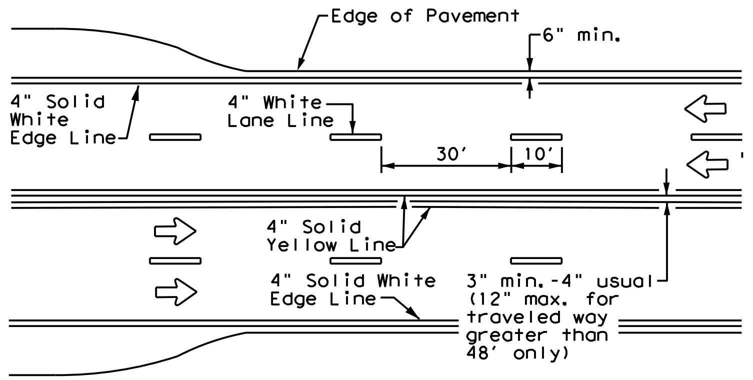
DATE: 11/28/2022 3:41:26 PM
FILE: T:\AMA\TPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\3. Roadway\fpm4-12.dgn



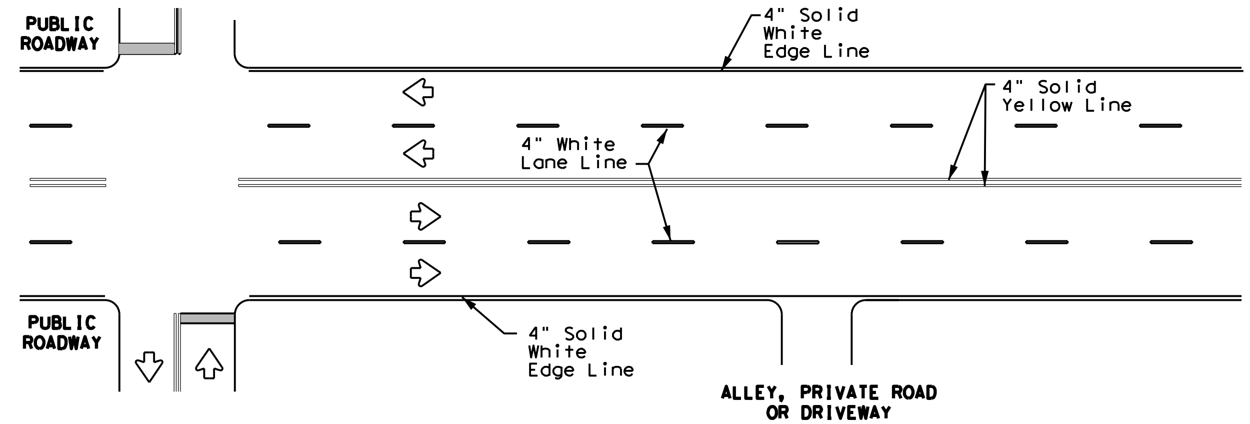
EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



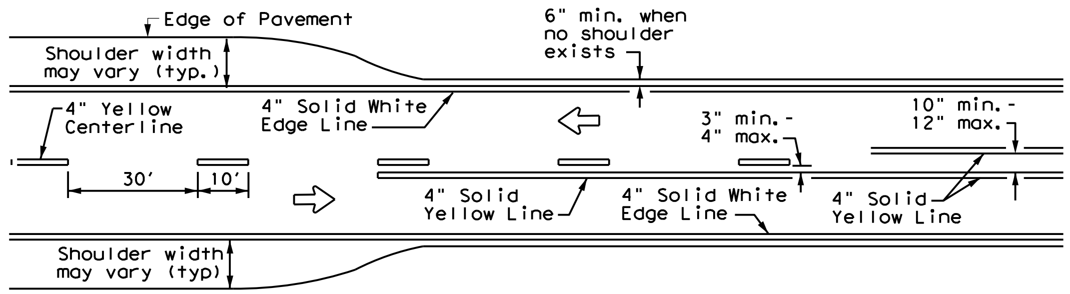
TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



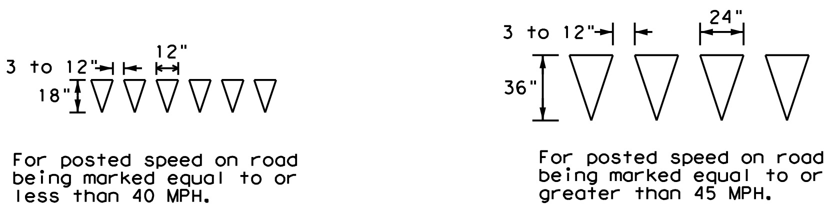
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



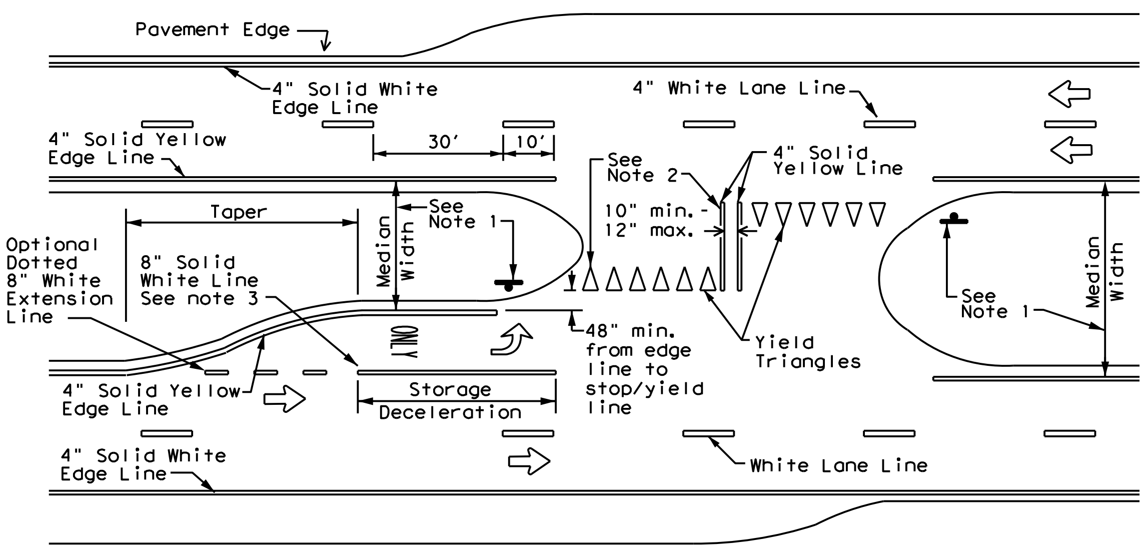
TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS



TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



YIELD LINES



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

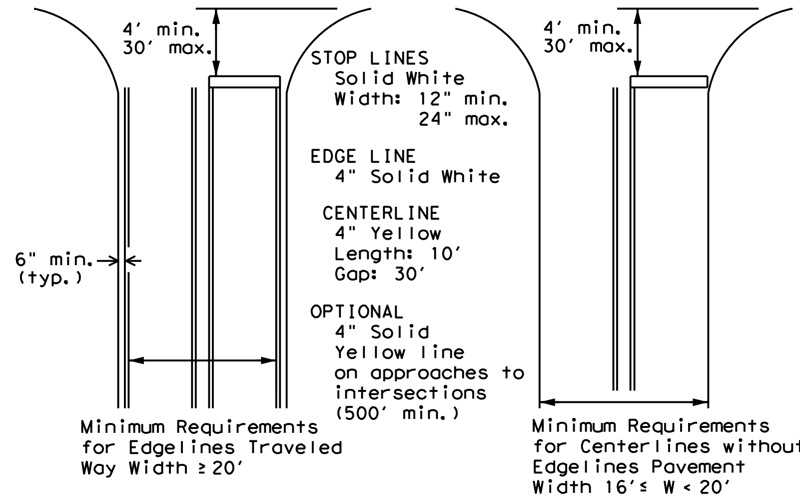
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop bars/yield triangles) when a 50' or greater median centerline can be placed. Stop bars shall only be used with stop signs. Yield traingles shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should not be placed less less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to the inside of edgeline of a two lane roadway.

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

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



GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Highways

Texas Department of Transportation
Traffic Safety Division Standard

TYPICAL STANDARD PAVEMENT MARKINGS

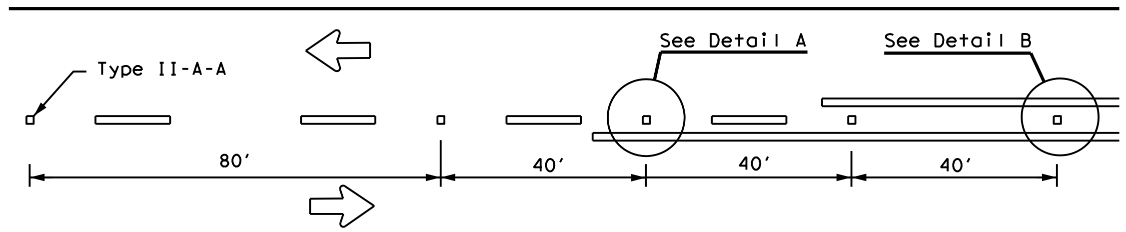
PM(1)-20

FILE: pm1-20.dgn	DN:	CK:	DW:	CK:
©TxDOT November 1978	CONT 0275	SECT 01	JOB 229, ETC	HIGHWAY IH-40, ETC
REVISIONS 8-95 3-03 5-00 2-12 8-00 6-20	DIST AMA		COUNTY POTTER	SHEET NO. 205

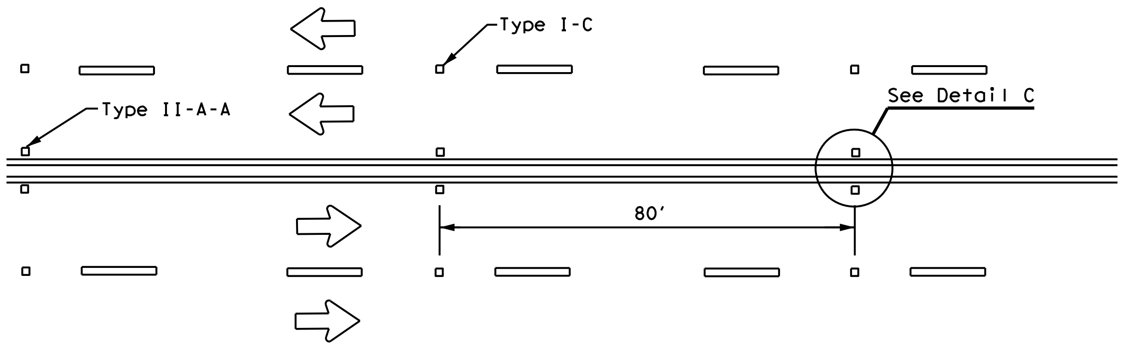
22A

DATE: 11/28/2022 3:41:28 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Plan Set\...

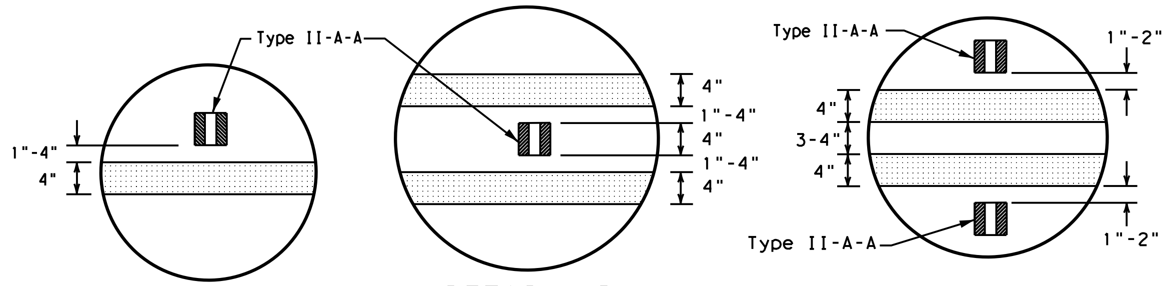
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE



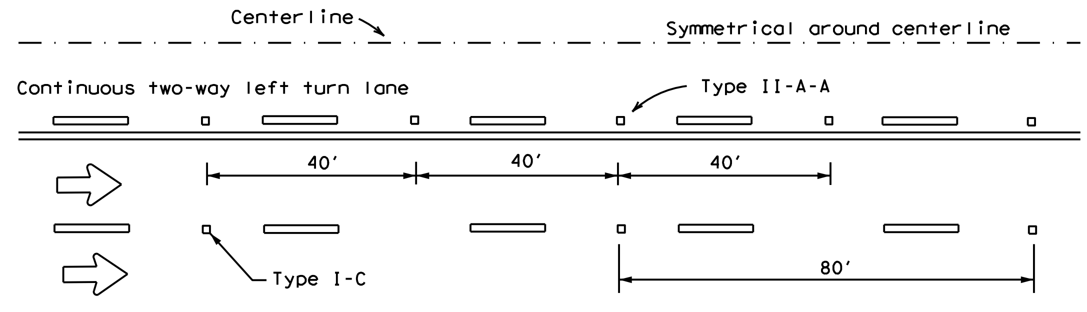
CENTERLINE FOR ALL TWO LANE ROADWAYS



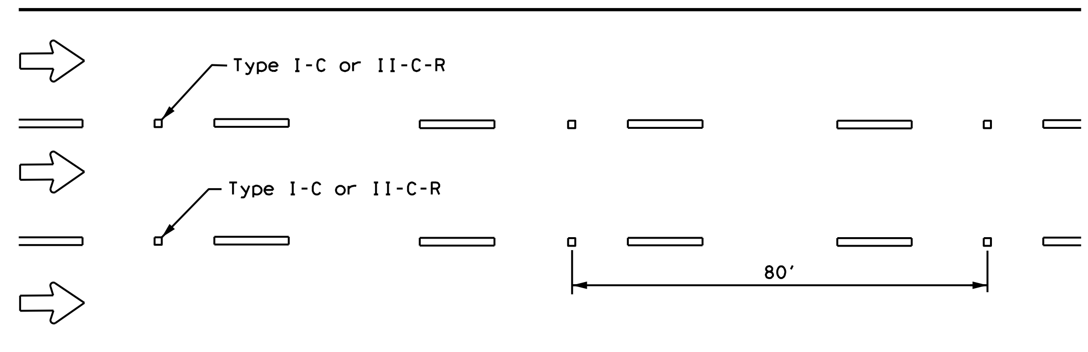
CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS



DETAIL "A" DETAIL "B" DETAIL "C"



CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE

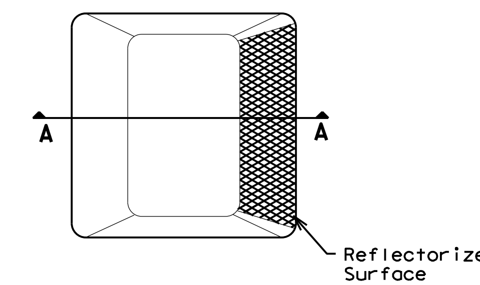


LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

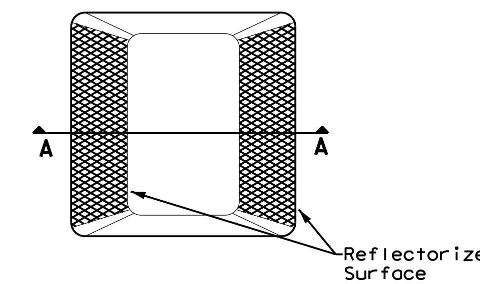
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

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

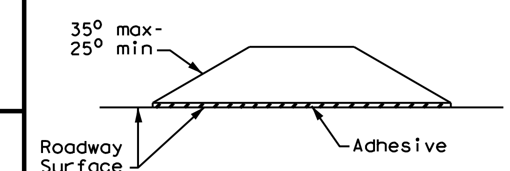
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

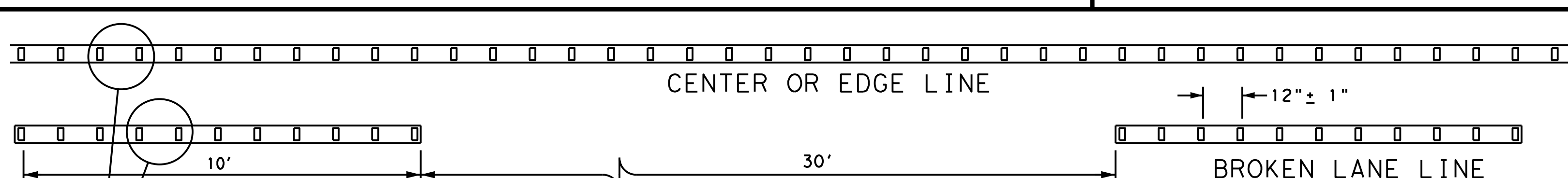


Type II (Top View)



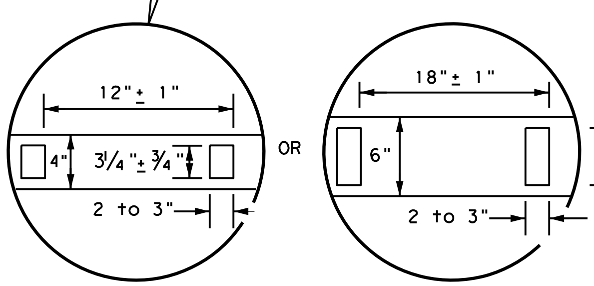
SECTION A

RAISED PAVEMENT MARKERS



REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS



4" EDGE LINE, CENTER LINE OR LANE LINE

OPTIONAL 6" EDGE LINE, CENTER LINE OR LANE LINE

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

NOTE

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

GENERAL NOTES

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

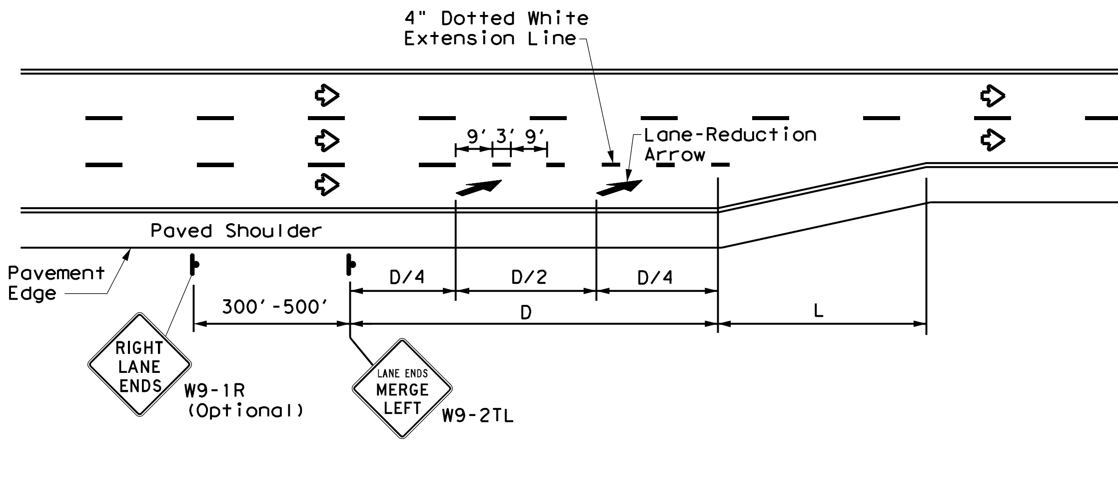
Texas Department of Transportation — Traffic Safety Division Standard

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

FILE: pm2-20.dgn	DN:	CK:	DW:	CK:
© TxDOT April 1977	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-92 2-10 5-00 2-12 8-00 6-20	0275	01	229, ETC	IH-40, ETC
	DIST		COUNTY	SHEET NO.
	AMA		POTTER	206

22B

DATE: 11/28/2022 3:41:30 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4



LANE REDUCTION

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

NOTES

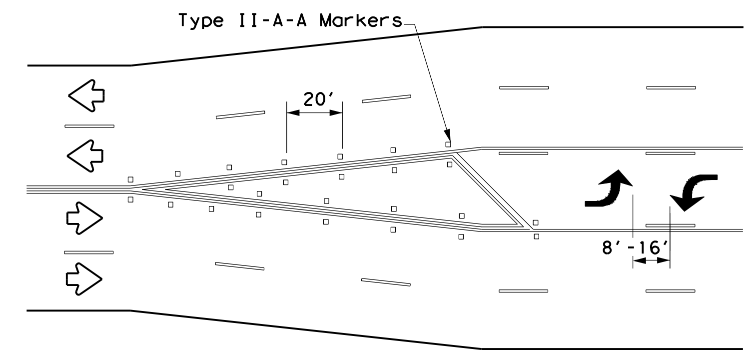
1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an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

GENERAL NOTES

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

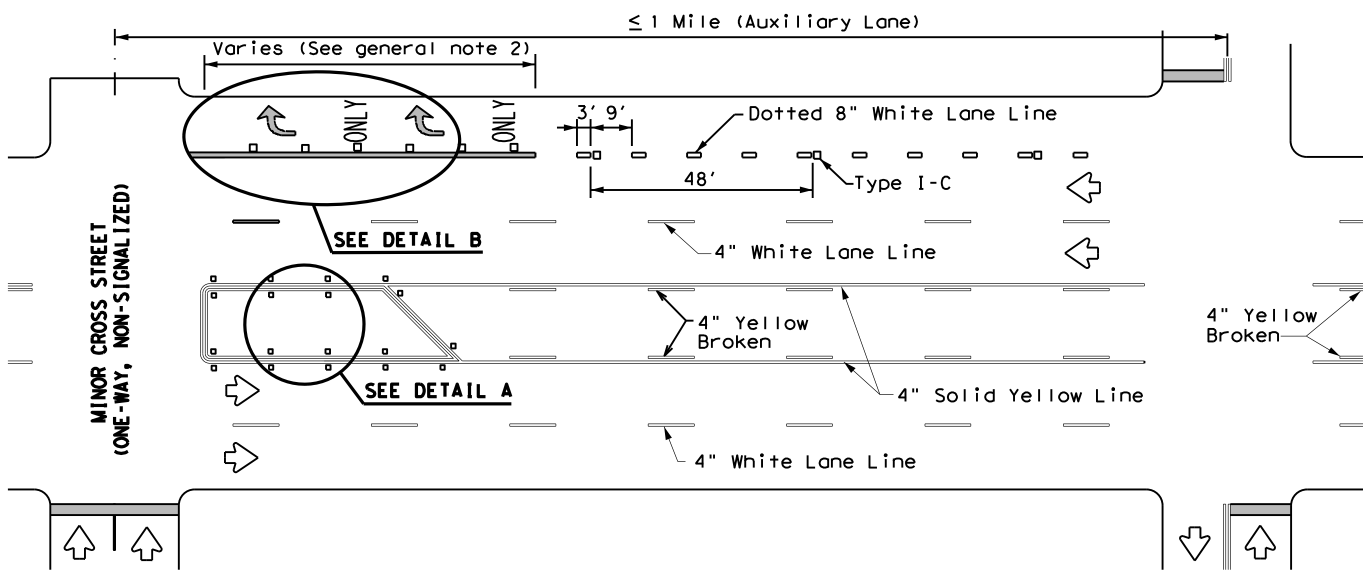
MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

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

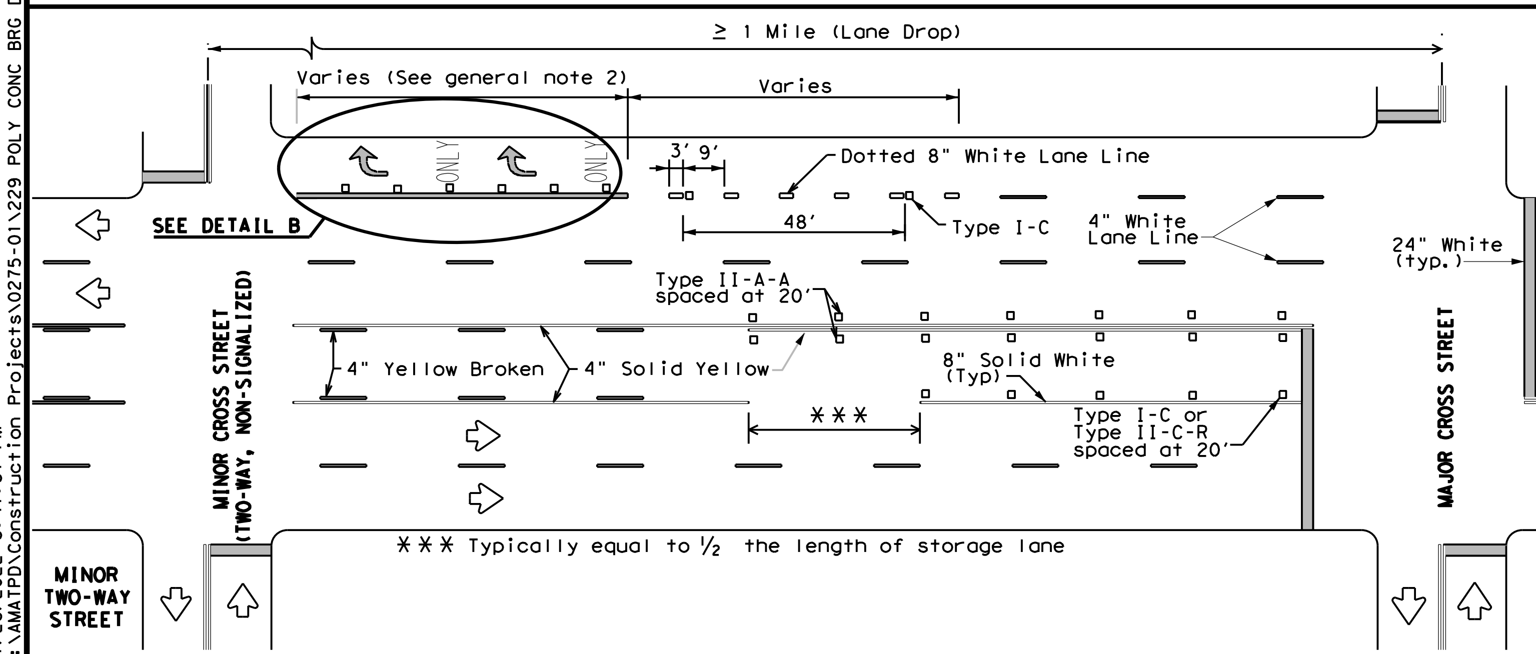


A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

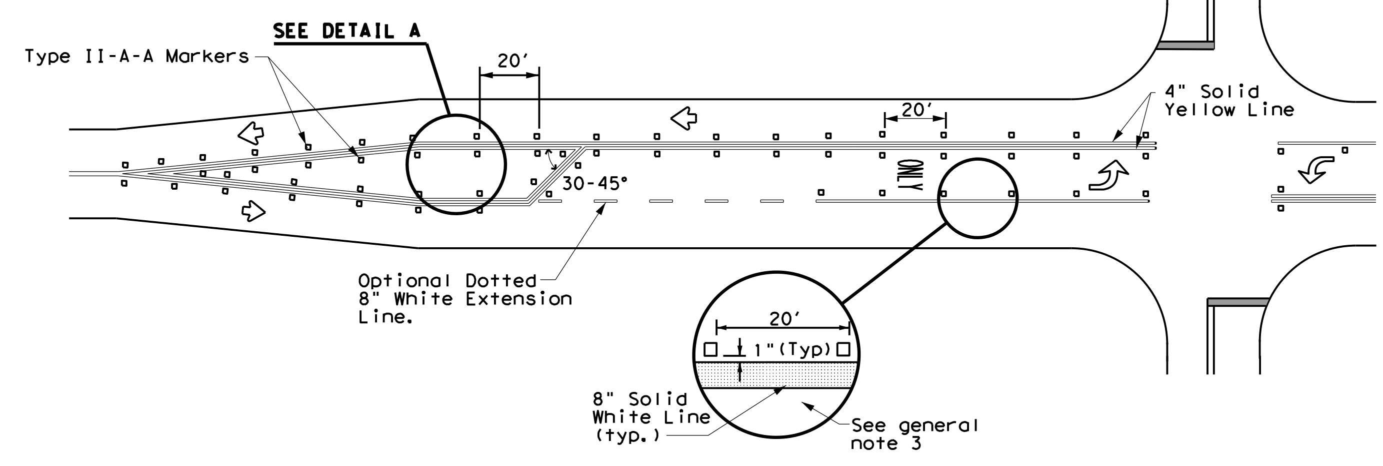
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY



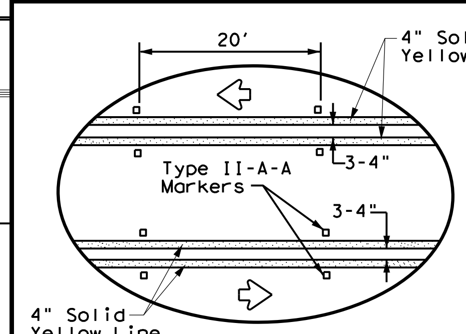
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



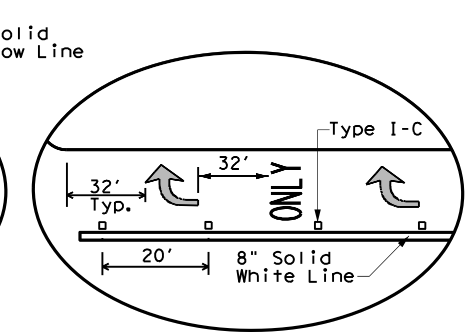
TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE HIGHWAY INTERSECTION WITH LEFT TURN BAYS



DETAIL A



DETAIL B

Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

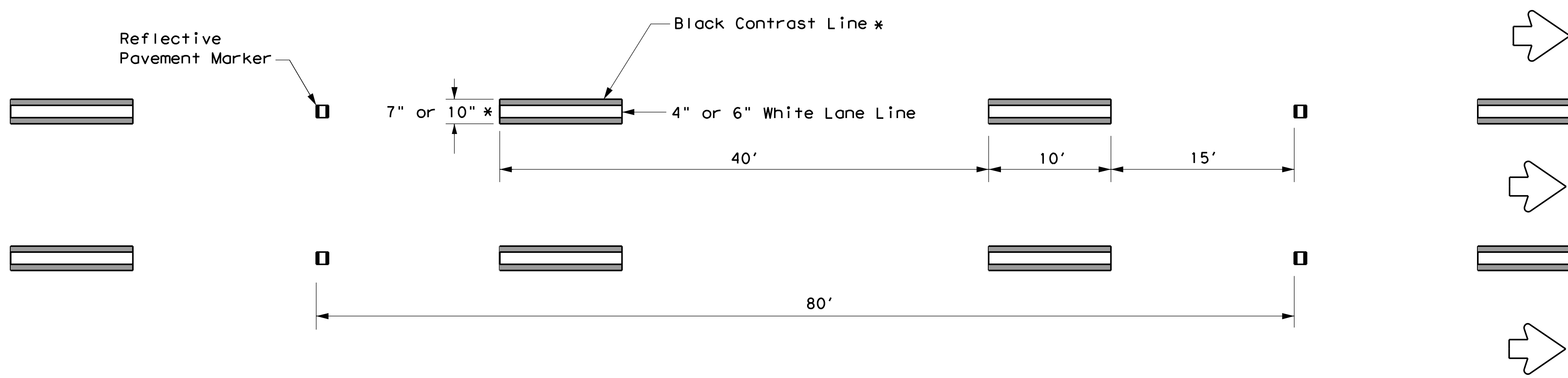
PM(3)-20

FILE: pm3-20.dgn	DN:	CK:	DW:	CK:
© TxDOT April 1998	CONT 0275	SECT 01	JOB 229, ETC	HIGHWAY IH-40, ETC
REVISIONS 5-00 2-10, 8-00 2-12, 3-03 6-20	DIST AMA		COUNTY POTTER	SHEET NO. 207

22C

DATE: 11/28/2022 3:41:31 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Plan Set\3 Roadway\pm3-20.dgn

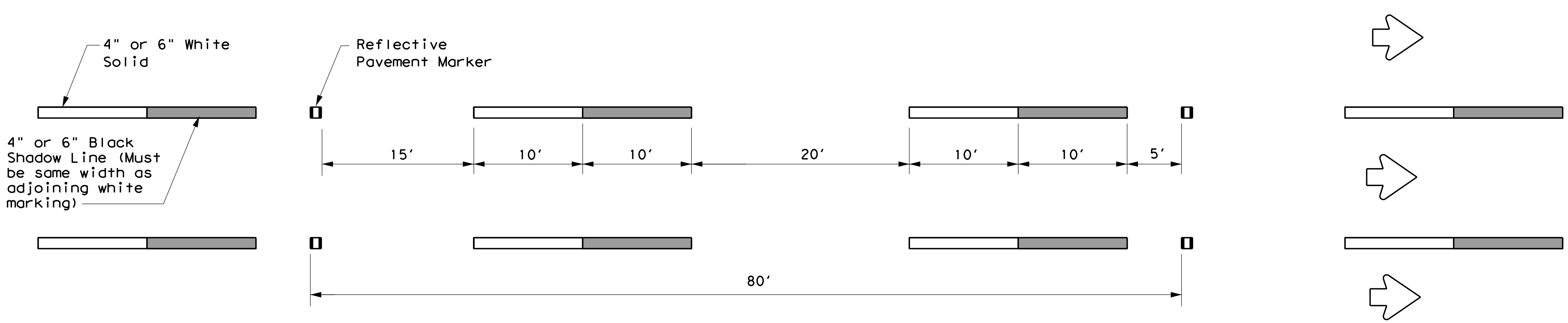
DATE: 11/28/2022 3:41:33 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4



CONTRAST LANE LINE DESIGN

* See contrast line dimensions table for width of black line.

CONTRAST LINE DIMENSIONS		
White	Black (per side)	Total Width
4"	1.5"	7"
6"	2"	10"



SHADOW LANE LINE DESIGN

GENERAL NOTES

1. Contrast and Shadow markings may only be used on concrete pavements.
2. Contrast and Shadow markings shall not be used on edge lines.
3. Contrast lane lines shall be permanent prefabricated pavement markings meeting DMS 8240.
4. Shadow lane line designs shall be a liquid markings system approved by TxDOT.
5. All raised reflective pavement markers placed in broken lines shall be placed in line with and midway between the white stripes.
6. See PM(2) for raised reflective pavement markings installation details.

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

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

Texas Department of Transportation

Traffic Operations Division Standard

CONTRAST AND SHADOW PAVEMENT MARKINGS

CPM(1)-14

FILE: CPM(1)14.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT May 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS	0275	01	229, ETC	IH-40, ETC
	DIST		COUNTY	SHEET NO.
	AMA		POTTER	208

22N

PART 1 - GENERAL

1.01 DESCRIPTION

This project includes construction work within the right of way and/or properties of the Railroad and adjacent to its tracks, wire lines and other facilities. These sheets describe the minimum special requirements for coordination with the Railroad when working upon, over or under Railroad Right of Way or when impacting current or future Railroad operations. Coordinate with the Railroad while performing the work outlined herein, and afford the same cooperation with the Railroad as with TxDOT. Complete all submittals and work in accordance with TxDOT Standard Specifications, Railroad Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the Railroad Designated Representative.

For purposes of this project, the Railroad Designated Representative is the person or persons designated by the Railroad Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 REQUEST FOR INFORMATION / CLARIFICATION

Submit Requests for Information ("RFI") involving work within any Railroad Right of Way to the TxDOT Engineer. The TxDOT Engineer will submit the RFI to the Railroad Designated Representative for review and approval for RFI's corresponding to work within Railroad Right of Way. Allow six (6) weeks total time for review and approval, which includes four (4) weeks for review and approval by the Railroad.

1.03 PLANS / SPECIFICATIONS

TxDOT has received written Railroad approval of the plans and specifications for this project. Any revisions or changes in the plans after award of the Contract must have the approval of TxDOT and the Railroad.

PART 2 - UTILITIES AND FIBER OPTIC

Construct all utility installations in accordance with current AREMA recommendations, Railroad, TxDOT and owning utility specifications and requirements. Railroad general guidelines can be found on the Railroad website or by contacting the Railroad Designated Representative.

PART 3 - CONSTRUCTION

3.01 GENERAL

A. Perform all work in compliance with all applicable Railroad, Federal Railroad Administration (FRA), and TxDOT rules and regulations. Arrange and conduct work in a manner that does not endanger or interfere with the safe operation of the tracks and property of the Railroad and the traffic moving on such tracks, or the wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the Work. The safe operation of railroad train movements takes precedence over any work to be performed by the Contractor. The Contractor is responsible for train delay cost and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction or other activities.

B. Construction activities within 15 feet of the operational tracks will only be allowed if absolutely necessary and the Railroad's Designated Representative grants approval. Construction activities within 15 feet of the operational track(s) preferably allow the tracks to stay operational. In such cases, coordination and approval by the Railroad Track Manager is required with regard to schedule, flagging, and slow orders. See Sections 3.07 and 3.08 for additional information.

C. Provide track protection for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail. When not in use, keep Contractor machinery and materials at least 50 feet from the Railroad's nearest track.

D. Vehicular crossings of railroad track are allowed only at existing crossings, or haul road crossings developed with Railroad approval.

E. The Contractor is also advised that new railroad facilities within the project may be built by the Railroad. If applicable, these facilities are delineated in the plans. Be aware of the limits of responsibilities and coordinate efforts with the Railroad and TxDOT.

F. Railroad requirements do not allow work within 50 feet of track centers when a train passes the work site and all personnel must clear the area within 50 feet of the track centerline and secure all equipment. Additional allowances may be pursued as outlined in 3.02 and 3.03.

G. All permanent clearances shall be verified before project closing.

3.02 RAILROAD OPERATIONS

A. Trains and/or equipment are expected on any track, at any time, in either direction. Become familiar with the train schedules in this location and structure bid assuming intermittent track windows in this period, as defined in Paragraph B that follows.

B. All railroad tracks within and adjacent to the contract site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. Coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Coordinate work windows with TxDOT and the Railroad's Designated Representative. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When construction activities may occur on and/or adjacent to the railroad tracks within 25 feet of the nearest track, a railroad flag person will be required. At the direction of the railroad flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the Railroad Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame, the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window, the railroad tracks and/or signals must be completely operational for train operations and all Railroad, Public Utilities Commission (PUC) and FRA requirements, codes and regulations for operational tracks must be satisfied. In the situation where the operating tracks and/or signals have been affected, the Railroad will perform inspections of the work prior to placing that track back into service. Railroad flag persons will be required for construction activities requiring an Absolute Work Window. Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for Railroad review.

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Do not perform any work within Railroad Right of Way without a valid executed Right of Entry Agreement if required on this project.

B. Give advance notice to the Railroad as required in the "Contractor's Right of Entry Agreement" before commencing work in connection with construction upon or over Railroad Right of Way and observe the Railroad's rules and regulations with respect thereto.

C. Perform all work upon Railroad Right of Way in a manner to avoid interference with or endanger the operations of the Railroad. Whenever work may affect the operations or safety of trains, submit the work method to the Railroad Designated Representative for approval. Approval does not relieve the Contractor from liability. Do not commence any work which requires flagging service or inspection service until the flagging protection required by the Railroad is available at the job site. See Section 3.15 for railroad flagging requirements.

D. Make requests in writing for both Absolute and Conditional Work Windows, at least 30 days in advance of any work. Include in the written request:
1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

Provide a written confirmation notice to the Railroad at least 48 hours before commencing work in connection with approved work windows when work is within 25 feet of nearest rail. Perform all work in accordance with previously approved work plans.

E. Make provisions to protect operations and property of the Railroad should a condition arising from, or in connection with the work, require immediate and unusual action. If in the judgment of the Railroad Designated Representative such provisions are insufficient, the Railroad Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the Railroad or TxDOT. The Railroad or TxDOT shall have the right to order the Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the Railroad Designated Representative, the Contractor's operations could endanger railroad operations. In the event of such an order, immediately notify TxDOT of the order.

3.04 INSURANCE

Do not begin work upon or over Railroad Right of Way until furnishing the Railroad with the insurance policies, binders, certificates and endorsements required by the "Contractor's Right of Entry Agreement", and until the Railroad Designated Representative has advised TxDOT that such insurance is in accordance with the Agreement.

3.05 RAILROAD SAFETY ORIENTATION

A. Complete the railroad course "Orientation for Contractor's Safety", and maintain current registration prior to working on railroad property. This course is required to be completed annually by Contractor and Subcontractor personnel working on site.

"UPRR, BNSF, KCS/TEXMEX will not accept on-track safety training certificates from other railroads. Refer to Railroad specific contractor right of entry for training information."

B. Know and follow the "Contractor's Right of Entry Agreement" EXHIBIT D, MINIMUM SAFETY REQUIREMENTS regarding clothing, personal protective equipment, and general safety requirements.

3.06 COOPERATION

The Railroad will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of Railroad Right of Way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

Abide by the following minimum temporary clearances during the course of construction:
A. 15' - 0" (BNSF)(UPRR)and 14'-0" (KCS) horizontal from centerline of track
B. 22' (KCS) and 21' - 6" (UPRR & BNSF) vertically above top of rail.

For construction clearance less than listed above, obtain local Railroad Operating Unit review and approval.

3.08 APPROVAL OF REDUCED CLEARANCES

A. Maintain minimum track clearances during construction as specified in Section 3.07.

B. Submit any proposed infringement on the specified minimum clearances to the Railroad Designated Representative through TxDOT at least 30 days in advance of the work. Do not proceed with such infringement without written approval by the Railroad Designated Representative.

C. Do not commence work involving an approved infringement without receiving written assurance from the Railroad Designated Representative that arrangements have been made for any necessary flagging service.

Texas Department of Transportation | Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		209

3.09 MAINTENANCE OF RAILROAD FACILITIES

A. Maintain all ditches and drainage structures free of silt or other obstructions resulting from Contractor's operations. Repair eroded areas and any other damage within Railroad Right of Way and repair any other damage to the property of the Railroad, or its tenants.

B. Perform all such maintenance and repair of damages due to the Contractors's operations at Contractor's expense.

C. Submit a proposed method of erosion control for review by the Railroad prior to beginning any grading on the project site. Comply with all applicable local, state and federal regulations when developing and implementing such erosion control.

3.10 SITE INSPECTIONS BY RAILROAD's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by the Railroad Designated Representative at significant points during construction, including the following if applicable:
   1. Pre-construction meetings.
   2. Pile driving/drilling of caissons or drilled shafts.
   3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.
   4. Erection of precast concrete or steel bridge superstructure.
   5. Placement of waterproofing (prior to placing ballast on bridge deck).
   6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad.

C. Provide a detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to TxDOT for submittal to the Railroad Designated Representative for review prior to commencement of work. Include the anticipated dates when the above listed events will occur. Update this schedule for the above listed events as necessary and each month at a minimum to allow the Railroad to schedule site inspections.

3.11 RAILROAD REPRESENTATIVES

Railroad representatives, conductors, flag person or watch person will be provided by the Railroad at expense of TxDOT to protect Railroad facilities, property and movements of its trains or engines. In general, the Railroad will furnish such personnel or other protective services as follows:

A. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from nearest rail of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

B. For any excavation below elevation of track subgrade if, in the opinion of the Railroad Designated Representative, track or other railroad facilities may be subject to settlement or movement.

C. During any clearing, grubbing, excavation or grading in proximity to railroad facilities, which, in the opinion of the Railroad Designated Representative, may endanger railroad facilities or operations.

D. During any Contractor's operations when, in the opinion of the Railroad Designated Representative, railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

E. Arrange with the Railroad Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.12 COMMUNICATIONS AND SIGNAL LINES

If required, the Railroad will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by the Railroad's forces in connection with its operation at expense of TxDOT. This work by the Railroad will be done by its own forces and it is not a part of the Work under this Contract.

3.13 TRAFFIC CONTROL

Coordinate any operations that control traffic across or around railroad facilities with the Railroad Designated Representative.

3.14 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. Take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of TxDOT, OSHA, AREMA and Railroad "Guidelines for Temporary Shoring".

B. The project plans indicate whether there are fiber optic lines or other such telecommunications systems that require consideration. Regardless, contact the necessary call center to determine if such cable systems are present:

   UPRR 1-800-336-9193
   7:00 AM to 9:00 PM CST Monday-Friday except holidays,
   staffed 24 hrs/day for emergencies
   48 hrs notice required

   BNSF 1-800-533-2891
   24 hour number
   5 working days notice required

   KCS 1-800-344-8377
   Texas One Call, a 24 hour number
   48 hrs notice required, excluding weekends and holidays

   If a telecommunications system is buried anywhere on or near railroad property, coordinate with TxDOT, the Railroad and the Telecommunication Company(ies) to arrange for relocation or protective measures prior to beginning work on or near railroad property. Refer to the project General Notes for additional information.

C. Projects involving a boring or jack and bore operation under track such as drainage pipes or culverts and utilities require an installation plan reviewed and approved by the Railroad and TxDOT prior to proceeding with such construction. A railroad inspector and contractor assisted monitoring of ground and track movement is required to maintain safe passage of rail traffic. Stop installation and do not allow passage of trains if movements in excess of $\frac{1}{4}$ inch vertical or horizontal is detected in the tracks. Immediately repair the damage to the satisfaction of TxDOT and the Railroad before proceeding.

3.15 RAILROAD FLAGGING

Per the Right of Entry Agreement for flagging, notify the Railroad Representative at least 10 working days in advance of Contractor's work and at least 30 working days in advance of any Contractor's work in which any person or equipment will be within 25 feet of nearest rail or as specified in the Contractor Right of Entry (CROE).

3.16 CLEANING OF RIGHT-OF-WAY

When work is complete, remove all tools, implements, and other materials brought into Railroad Right of Way and leave the right of Way in a clean and presentable condition to the satisfaction of TxDOT and the Railroad.

Texas Department of Transportation — Rail Division

RAILROAD REQUIREMENTS FOR NON-BRIDGE CONSTRUCTION PROJECTS

FILE:	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT October 2018	CONT	SECT	JOB	HIGHWAY
REVISIONS March 2020	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		210

DATE: 11/28/2022 3:41:39 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4

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

DOT #: 014688T
Crossing Type: PUBLIC
RR Company Owning Track at Crossing: BNSF
Operating RR Company at Track: BNSF
RR MP: 554.220
RR Subdivision: HEREFORD
City: AMARILLO
County: POTTER
CSJ at this Crossing: 0275-01
Highway/Roadway name crossing the railroad: IH40
# of regularly scheduled trains per day at this crossing: 98
# of switching movements per day at this crossing: 0
% of estimated contract cost of work within railroad ROW: $2,133,688.00

Scope of Work at this Crossing to Be Performed by State Contractor:
CLEANING AND SEALING JOINTS, PPC DECK OVERLAY, BRIDGE JOINT REPAIR, WATERPROOFING BENT CAPS

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

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

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

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

DOT #: 276519D
Crossing Type: PUBLIC
RR Company Owning Track at Crossing: BNSF
Operating RR Company at Track: BNSF
RR MP: 335.730
RR Subdivision: RED RIVER VALLEY
City: AMRILLO
County: POTTER
CSJ at this Crossing: 0041-07
Highway/Roadway name crossing the railroad: US 60
# of regularly scheduled trains per day at this crossing: 8
# of switching movements per day at this crossing: 0
% of estimated contract cost of work within railroad ROW: $394,317.50

Scope of Work at this Crossing to Be Performed by State Contractor:
PPC OVERLAY, RETAINING WALL REPAIR, CONCRETE REPAIR AT BENT CAPS, CONCRETE RAIL REPAIR, CLEANING AND SEALING JOINTS

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

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

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

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

DOT #: 602204A
Crossing Type: PUBLIC
RR Company Owning Track at Crossing: BNSF
Operating RR Company at Track: BNSF
RR MP: 760.47
RR Subdivision: BUSHLAND
City: AMARILLO
County: POTTER
CSJ at this Crossing: 0041-07
Highway/Roadway name crossing the railroad: US 60
# of regularly scheduled trains per day at this crossing: 1
# of switching movements per day at this crossing: 0
% of estimated contract cost of work within railroad ROW: $394,317.50

Scope of Work at this Crossing to Be Performed by State Contractor:
PPC OVERLAY, RETAINING WALL REPAIR, CONCRETE REPAIR AT BENT CAPS, CONCRETE RAIL REPAIR, CLEANING AND SEALING JOINTS

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

** Choose: Highway Overpass, Highway Underpass, At Grade, Pedestrian, or Closed/Abandoned

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

Texas Department of Transportation | Rail Division

RAILROAD SCOPE OF WORK

PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:
© TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS 9/2021	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		211

DATE: 11/28/2022 3:41:41 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\RR\RR Scope of Work.dgn

III. FLAGGING & INSPECTION

\# of Days of Railroad Flagging Expected: 10

On this project, night or weekend flagging is:

[X] Expected

[ ] Not Expected

Flagging services will be provided by:

[ ] Railroad Company: TxDOT will pay flagging invoices

[X] Outside Party: Contractor will pay flagging invoices, to be reimbursed by TxDOT

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

Contact Information for Flagging:

[ ] UPRR - UP.info@railpros.com
Call Center 877-315-0513, Select #1 for flagging
- UP.request@nrssinc.net
Call Center 877-984-6777

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

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

[ ] OTHERS _____

Contractor must incorporate Construction Inspection into anticipated construction schedule.

[X] Not Required

[ ] Required: Contact Information for Construction Inspection:

_____

_____

_____

IV. CONSTRUCTION WORK TO BE PERFORMED BY THE RAILROAD

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

[ ] Required

[X] Not Required

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

V. RAILROAD INSURANCE REQUIREMENTS

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

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

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

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

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

Railroad Protective Liability		
[ ]	Not Required	
[X]	Non - Bridge Projects	$2,000,000 / $6,000,000
[ ]	Bridge Projects	$5,000,000 / $10,000,000
[ ]	Other	

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

On this project, an ROE agreement is:

[ ] Not Required

[ ] Required: TxDOT CST to assist in obtaining with the UPRR (see Item 5, Article 8.3)

[ ] Required: UPRR Maintenance Consent Letter. TxDOT CST to assist.

[X] Required: Contractor to obtain (see Item 5, Article 8.4)

With the following railroad companies: JONES, LANGG, LASALLE/BNSF TEMPORARY OCCUPANCY PERMIT

To view previously approved ROE Agreement templates agreed upon between the State and Railroad, see:

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

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

Contractor shall not operate within Railroad Right of Way without an executed Construction & Maintenance Agreement between the State and the Railroad and an executed ROE agreement between the Contractor and the Railroad if required on project.

VII. RAILROAD COORDINATION MEETING

On this project, a Railroad Coordination Meeting is:

[X] Not Required

[ ] Required

See Item 5, Article 8.1 for more details.

VIII. SUBCONTRACTORS

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

IX. EMERGENCY NOTIFICATION

In Case of Railroad Emergency
Call BNSF RAILWAY RAILROAD EMERGNECY LINE
Railroad Emergency Line at 800-832-5452, OPTION 1

Location: DOT# 014688T
RR Milepost: 544.220
Subdivision: HEREFORD

Location: DOT 276519D
RR Milepost: 335.730
Subdivision: RED RIVER VALLEY

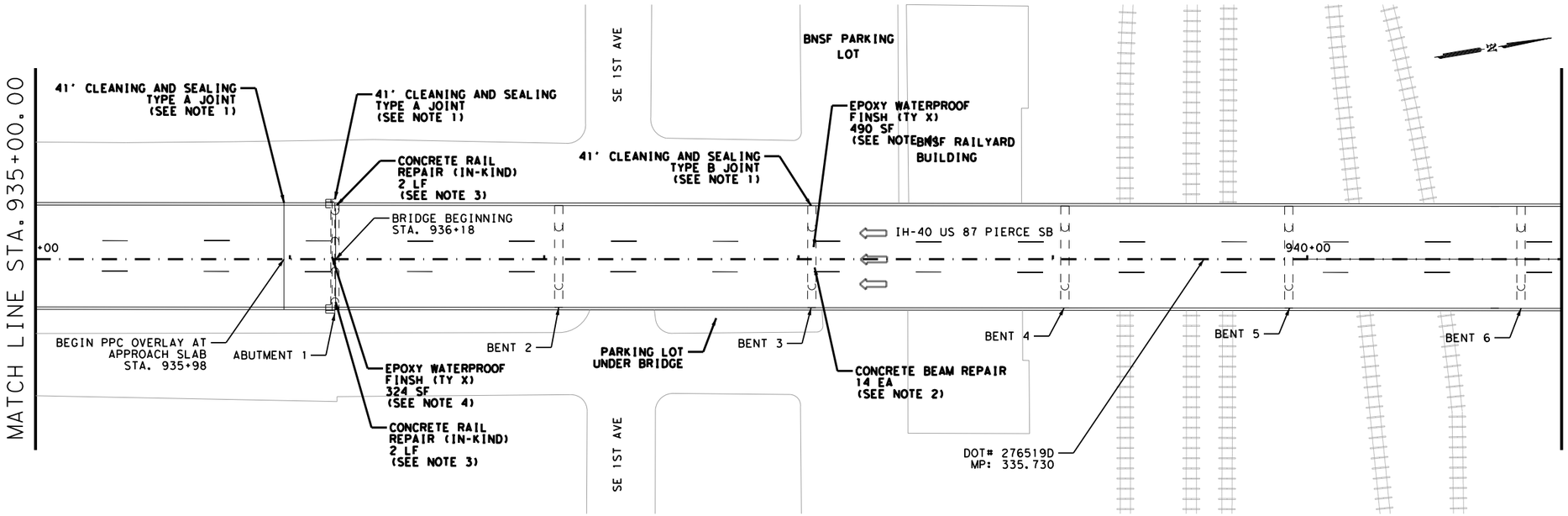
Location: DOT 602204A
RR Milepost: 760.47
Subdivision: BUSHLAND

Texas Department of Transportation | Rail Division

RAILROAD SCOPE OF WORK

PROJECT SPECIFIC DETAILS

FILE: RR Scope of Work.dgn	DN: TxDOT	CK:	DW:	CK:
© TxDOT June 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS 9/2021	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		212



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION
2. SEE SUBSTRUCTURE REPAIR DETAIL FOR MORE INFORMATION.
3. SEE BRIDGE RAIL REPAIR DETAIL FOR MORE INFORMATION.
4. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.
5. SOUND AREAS ON BOTH SIDES OF THE CRACKS ON THE APPROACH SLABS. REMOVE DELAMINATED CONCRETE PRIOR TO SHOT BLASTING. SEAL CRACKS WITH RECOMMENDED SEALER PER PPC SYSTEM MANUFACTURERS RECOMMENDATION.

BRIDGE RAIL AT WEST END OF SOUTH ABUTMENT

TYPICAL DAMAGE ON BRIDGE RAIL
FACING EAST
PHOTO TAKEN MARCH 2022

SOUTH APPROACH SLAB

CRACKING AT SOUTH APPROACH SLAB
FACING NORTHWEST
PHOTO TAKEN MARCH 2022

US 87 SB (PIERCE ST) AT BNSF RAILYARD

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

EXHIBIT A
DOT# 276519D
DOT# 602204A

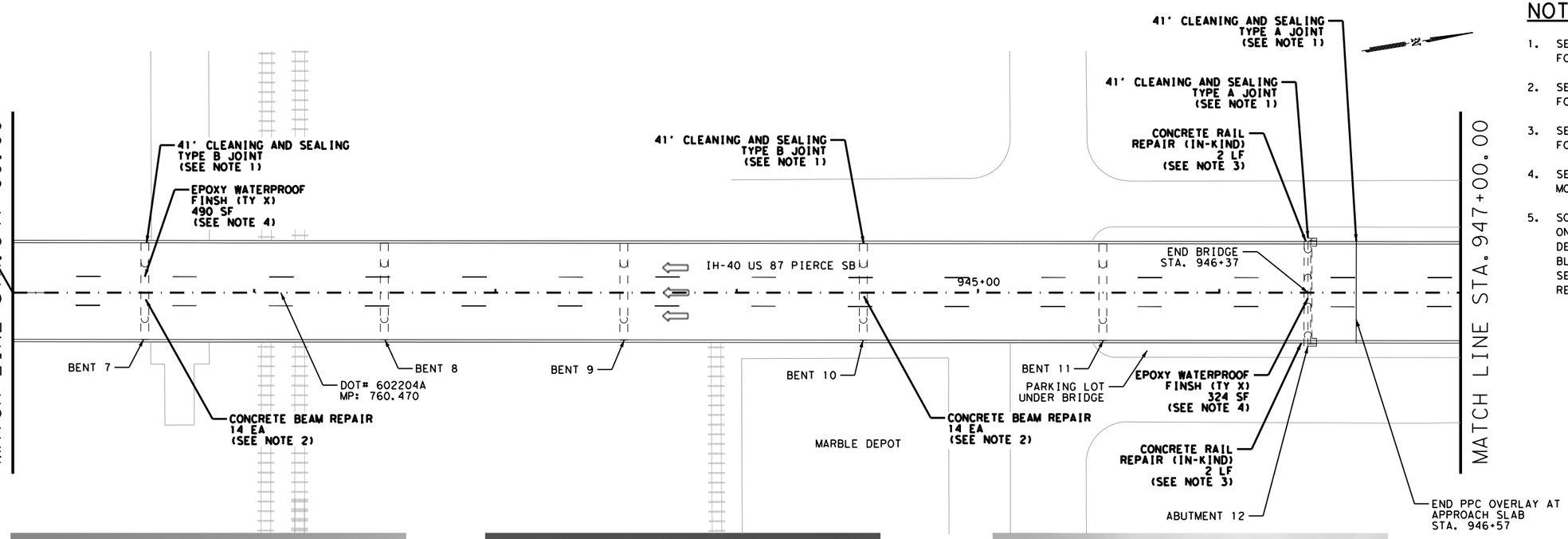
SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 1 OF 4

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		213

DATE: 11/28/2022 3:41:46 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\8a. Railroad\229_US87_SB_PIERCE_ST_RR_EXHIBIT A.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION
2. SEE SUBSTRUCTURE REPAIR DETAIL FOR MORE INFORMATION.
3. SEE BRIDGE RAIL REPAIR DETAIL FOR MORE INFORMATION.
4. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.
5. SOUND AREAS ON BOTH SIDES OF THE CRACKS ON THE APPROACH SLABS. REMOVE DELAMINATED CONCRETE PRIOR TO SHOT BLASTING. SEAL CRACKS WITH RECOMMENDED SEALER PER PPC SYSTEM MANUFACTURERS RECOMMENDATION.

BRIDGE RAIL AT WEST
END OF NORTH ABUTMENT

TYPICAL DAMAGE ON BRIDGE RAIL
FACING NORTH EAST
PHOTO TAKEN MARCH 2022

BRIDGE RAIL AT EAST
END OF NORTH ABUTMENT

TYPICAL DAMAGE ON BRIDGE RAIL
FACING EAST
PHOTO TAKEN MARCH 2022

NORTH APPROACH SLAB

CRACKING AT NORTH APPROACH SLAB
FACING SOUTHWEST
PHOTO TAKEN MARCH 2022

US 87 SB (PIERCE ST) AT BNSF RAILYARD

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

EXHIBIT A

DOT# 276519D
DOT# 602204A

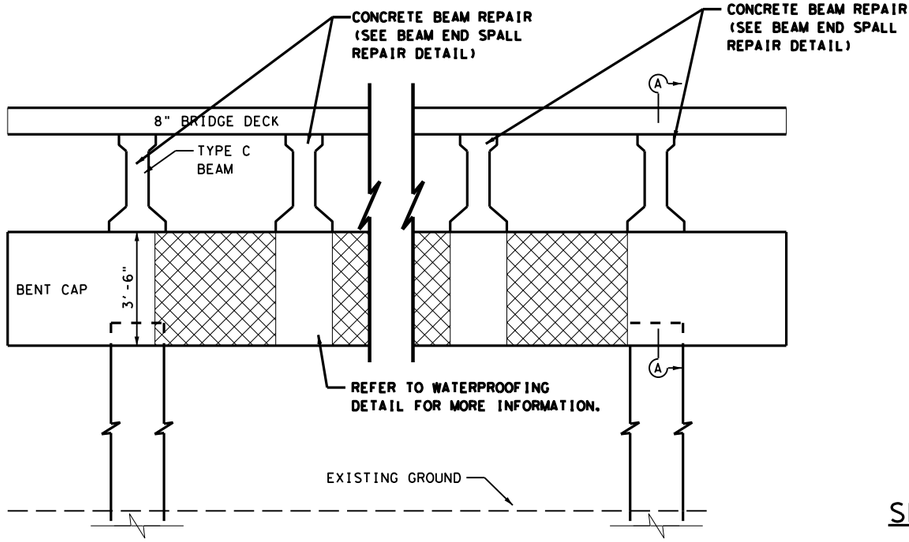
SCALE: 1" = 50'

2022 Texas Department of Transportation

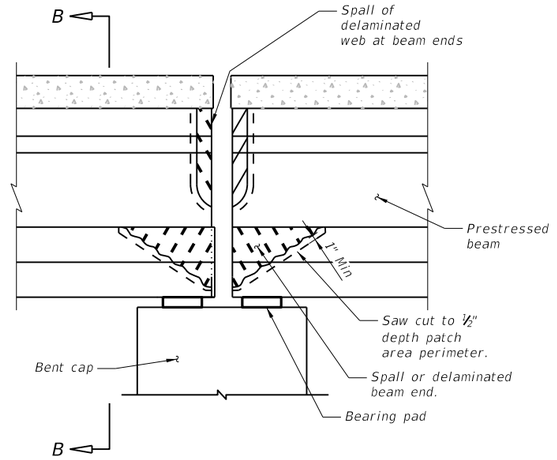
SHEET 2 OF 4

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		214

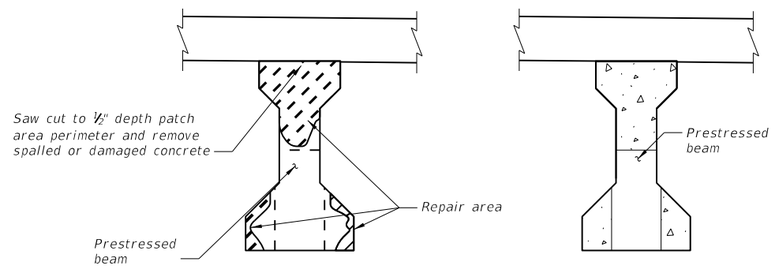
DATE: 11/28/2022 3:41:49 PM
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\8a. Railroad\229_US87_SB_PIERCE_ST_RR_EXHIBIT A.dgn



PARTIAL INTERIOR BENT: ELEVATION VIEW



SECTION A-A: BEAM END SPALL REPAIR



SECTION B-B

NTS

CONCRETE REPAIR NOTES

1. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON MARCH 2022 CONDITION ASSESSMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.
2. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMENCING WORK. DAMAGED LOCATIONS SHALL BE REPAIRED FOLLOWING CHAPTER 3, OF THE TXDOT CONCRETE REPAIR MANUAL.
3. SOME REPAIR AREAS INDICATED DO NOT EXHIBIT VISIBLE SPALLING AND WILL NEED TO BE IDENTIFIED BY SOUNDING THE CONCRETE WITH HAMMERS TO DETERMINE THE LOCATION AND LIMITS OF REPAIRS.
4. SOUND ALL SURFACES TO IDENTIFY AND MARK ALL DELAMINATED AREAS FOR REVIEW AND APPROVAL BY THE ENGINEER. CONFIRM SQUARE FOOTAGE REPAIR AREAS PRIOR TO COMMENCING REMOVAL AND NOTIFY ENGINEER OF ANY DISCREPENCIES. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION
5. NOTIFY ENGINEER ONCE EXISTING CONCRETE IS REMOVED AND REPAIR AREAS FOR EACH BENT HAVE BEEN PREPARED. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION OF PREPARED REPAIR AREAS.

LEGEND

429 6002 CONC STR REPAIR (EPOXY MORTAR)

788 6001 CONCRETE BEAM REPAIR

SUMMARY OF BENT CAP REPAIR ITEMS		
LOCATION	429 6002 CONC STR REPAIR (EPOXY MORTAR)	
	SF	
SPAN #1 - SOFFIT	6	
INTERIOR BENT #3	110	
INTERIOR BENT #7	110	
SPAN #7- SOFFIT	8	
INTERIOR BENT #10	44	
SPAN #11 - SOFFIT	6	
STRUCTURE TOTAL	284	

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

US 87 SB
(PIERCE ST)
AT BNSF RAILYARD

EXHIBIT A
DOT# 276519D
DOT# 602204A

SCALE: 1" = 10'

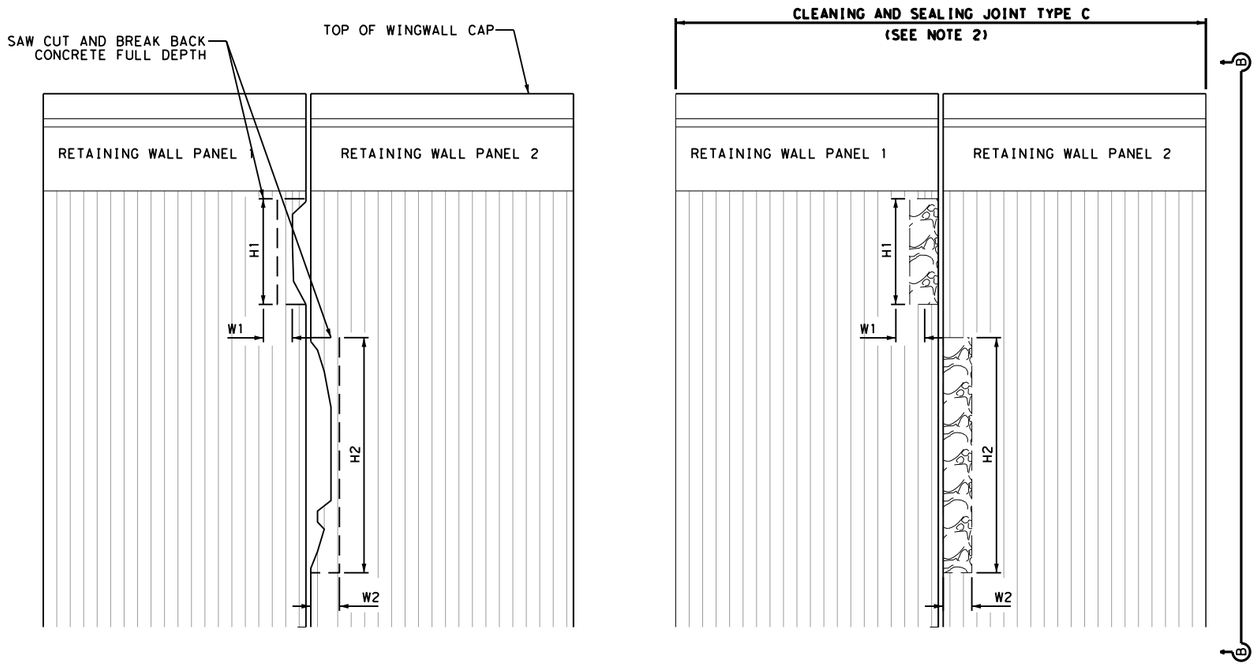
2022 Texas Department of Transportation

SHEET 3 OF 4

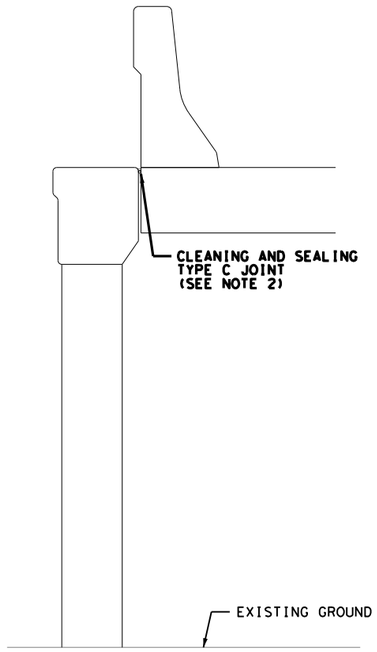
DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		215

US 87 SB (PIERCE ST) AT BNSF RAILYARD

DATE: 11/28/2022 3:41:53 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\8a. Railroad\229_US87_SB_PIERCE_ST_RR_EXHIBIT A.dgn



TYPE B
CONCRETE SPALLING/ RETAINING WALL CRACKING REPAIR



SECTION B-B

N.T.S

SUMMARY OF RETAINING WALL REPAIR ITEMS						
US 87 SB (PIERCE ST) AT BNSF RAILYARD	H1	H2	W1	W2	429 6007 CONC STR REPAIR (VERTICAL & OVERHEAD)	438 6004 CLEANING AND SEALING EXIST JOINTS (CL7)
	FT	FT	FT	FT	SF	LF
SE RETAINING WALL PANEL 1	1		2		2	30
* SE RETAINING WALL PANEL 2		3		2	6	15
* SW RETAINING WALL PANEL 1	2		2		4	15
SW RETAINING WALL PANEL 2		10		2	20	30
* NE RETAINING WALL PANEL 1	6		2		12	15
NE RETAINING WALL PANEL 2		8		2	16	30
NW RETAINING WALL PANEL 1	2		2		4	30
* NW RETAINING WALL PANEL 2		6		2	12	15
RETAINING WALL REPAIR DETAIL SHEET 1 OF 1 TOTALS					76	180

* INDICATES RETAINING WALL PANEL WHICH IS ADJACENT TO RESPECTIVE ABUTMENT WINGWALL

NOTES

1. REFER TO CLEAN AND SEAL JOINTS DETAIL SHEET 2 OF 2 FOR MORE INFORMATION.

CONCRETE REPAIR NOTES

1. DAMAGED LOCATIONS AND QUANTITIES ARE BASED ON MARCH 2022 CONDITION ASSESSMENT. IMMEDIATELY NOTIFY TXDOT IF ANY DISCREPANCIES ARE NOTED BETWEEN THE PLANS AND ACTUAL CONDITIONS.
2. SUBMIT DETAILED REPAIR PROCEDURES, INCLUDING PROPOSED PROPRIETARY MATERIALS, FOR APPROVAL PRIOR TO COMENCING WORK. DAMAGED LOCATIONS SHALL BE REPAIRED FOLLOWING CHAPTER 3 OF THE TXDOT CONCRETE REPAIR MANUAL.
3. SOME REPAIR AREAS INDICATED DO NOT EXHIBIT VISIBLE SPALLING AND WILL NEED TO BE IDENTIFIED BY SOUNDING THE CONCRETE WITH HAMMERS TO DETERMINE THE LOCATION AND LIMITS OF REPAIRS.
4. SOUND ALL SURFACES TO IDENTIFY AND MARK ALL DELAMINATED AREAS FOR REVIEW AND APPROVAL BY THE ENGINEER. CONFIRM SQUARE FOOTAGE REPAIR AREAS PRIOR TO COMMENCING REMOVAL AND NOTIFY ENGINEER OF ANY DISCREPENCIES. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION
5. NOTIFY THE ENGINEER ONCE EXISTING CONCRETE IS REMOVED AND REPAIR AREAS FOR EACH RETAINING WALL HAVE BEEN PREPARED. PROVIDE ACCESS TO ENGINEER FOR VERIFICATION OF PREPARED REPAIR AREAS.

LEGEND

429 6007 CONC STR REPAIR (VERTICAL & OVERHEAD)

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

US 87 SB (PIERCE ST) AT BNSF RAILYARD

EXHIBIT A
DOT# 276519D
DOT# 602204A

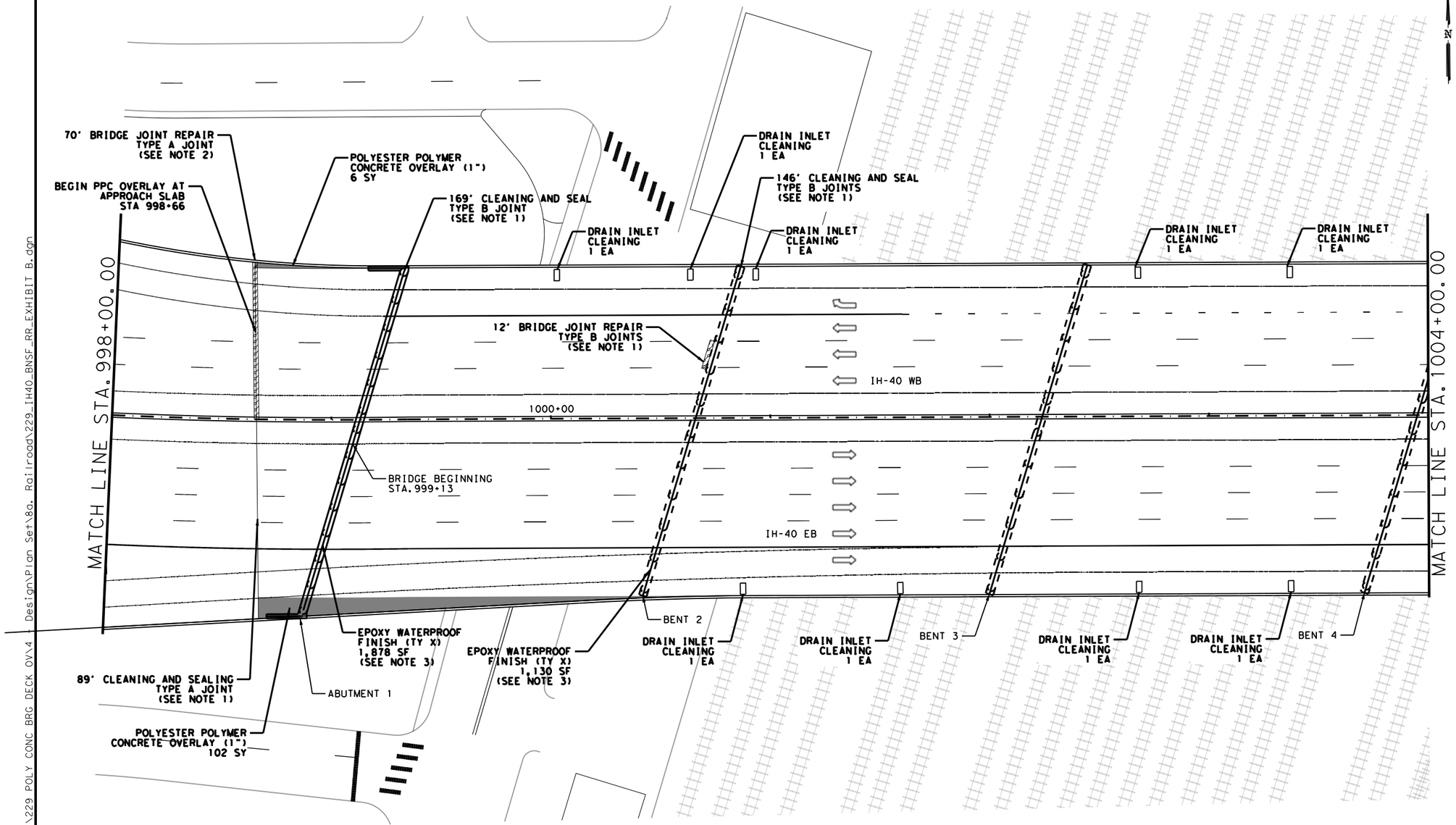
SCALE: 1" = 10'

2022 Texas Department of Transportation

SHEET 4 OF 4

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		216

DATE: 11/28/2022 3:41:54 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY4 - Design\Plan Set\8a. Railroad\229_US87_SB_PIERCE_ST_RR_EXHIBIT A.dgn



NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE BRIDGE JOINT REPAIR DETAIL FOR MORE INFORMATION.
3. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

BRIDGE JOINT REPAIR

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

EXHIBIT B

DOT # 014688T

SCALE: 1" = 50'

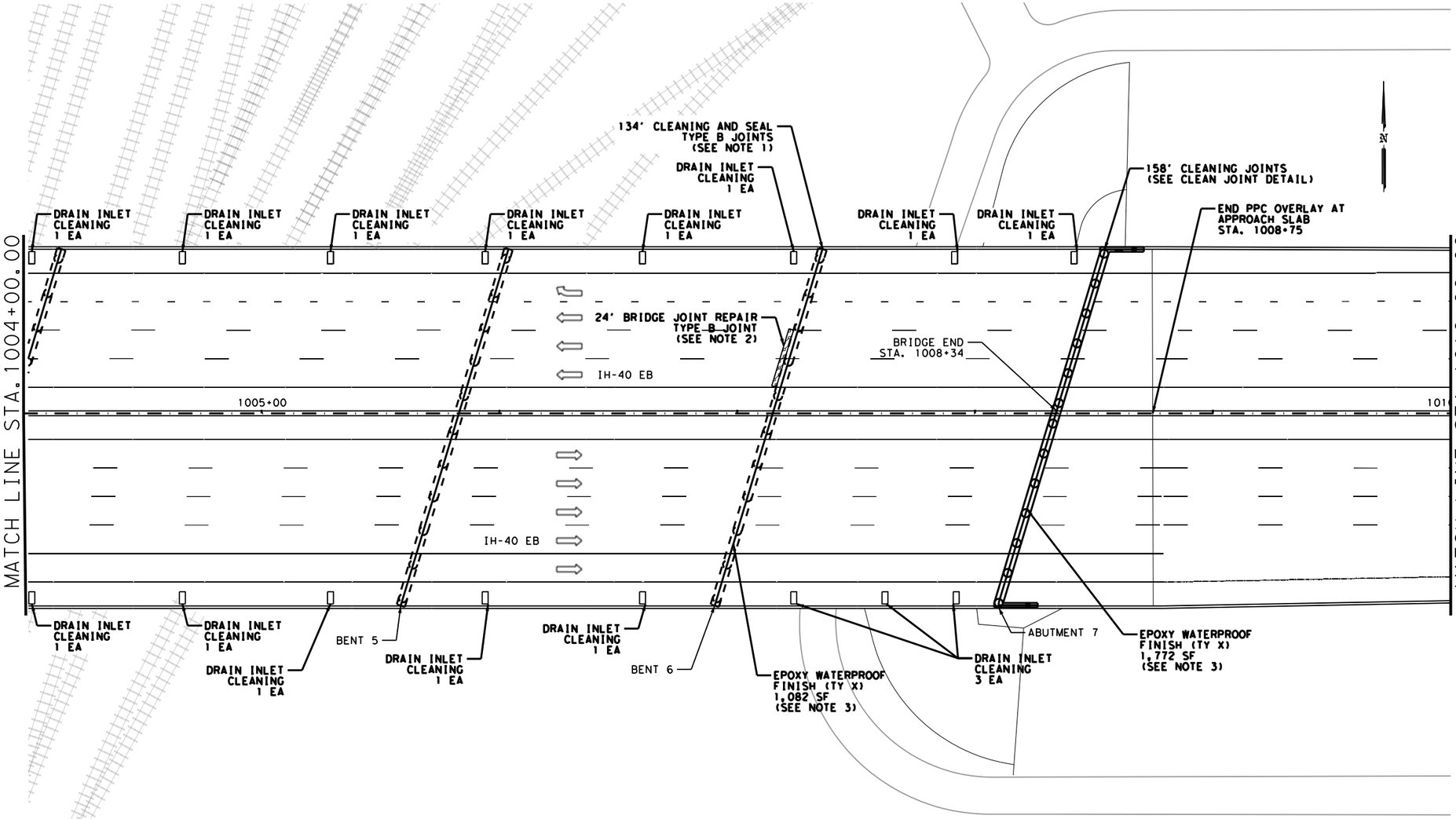
2022 Texas Department of Transportation

SHEET 1 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		217

IH-40 AT BNSF RAILYARD

DATE: 11/28/2022
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 Design\Plan Set\8a. Railroad\229_IH40_BNSF_RR_EXHIBIT B.dgn



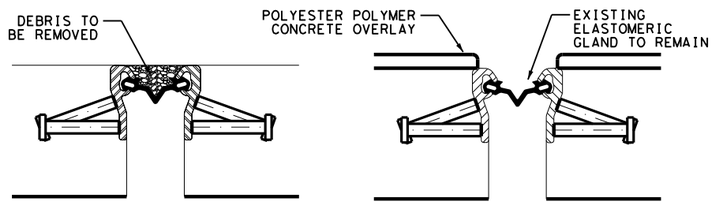
NOTES

1. SEE CLEAN AND SEAL JOINTS DETAIL FOR MORE INFORMATION.
2. SEE BRIDGE JOINT REPAIR DETAIL FOR MORE INFORMATION.
3. SEE WATERPROOFING DETAIL FOR MORE INFORMATION.

LEGEND

POLYESTER POLYMER CONC OVERLAY (1")

BRIDGE JOINT REPAIR



CLEAN JOINT DETAIL

NTS

IH-40 AT BNSF RAILYARD

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED PROFESSIONAL ENGINEER

02/02/2023

IH-40 AT BNSF RAILYARD

EXHIBIT B

DOT # 014688T

SCALE: 1" = 50'

2022 Texas Department of Transportation

SHEET 2 OF 2

DSN	CK	CONT	SECT	JOB	HIGHWAY
JR	CH	0275	01	229, ETC	IH-40, ETC
DRWN	CK	DIST	COUNTY		SHEET NO.
JR	JR	AMA	POTTER		218

DATE: 11/28/2022 3:42:00 PM
FILE: T:\AMA\PD\Construction Projects\0275-01\229 POLY CONC BRG DECK OVLY 4 - Design\Plan Set\8a. Railroad\229_IH40_BNSF_RR_EXHIBIT B.dgn

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with the TPDES Construction General Permit TXR150000 (CGP). The Texas Department of Transportation (TxDOT) ensures that project specifications include adequate best management practices (BMPs) for this project.

For all projects with any soil disturbing activities, TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office. If no field office is available, then this SWP3 shall be kept in the appropriate TxDOT Area Office.

This SWP3 is consistent with requirements specified in applicable stormwater plans and the projects environmental permits, issues, and commitments (EPICs). A copy of the CGP is included in Attachment 2.12 of the SWP3 binder.

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):
0275-01-229

1.2 PROJECT LIMITS:

At: IH-40 at IH-27, IH-40 at Tyler & Harrison St, IH-40 at BNSF Railyard, Washington St at IH-40, IH-40 WB at Arthur St IH-40 EB at Arthur St, IH-40 WB at Ross St, IH-40 EB at Ross St, US 87 SB (Pierce St) at BNSF Railyard

1.3 PROJECT COORDINATES:

Washington St at IH-40: (Lat) 35.1943, (Long) -101.8485
IH-40 at Harrison & Tyler St: (Lat) 35.1938, (Long) -101.8428
IH-40 at IH-27: (Lat) 35.1931, (Long) -101.8383
IH-40 at BNSF Railyard: (Lat) 35.1924, (Long) -101.8328
IH-40 EB at Arthur St: (Lat) 35.1923, (Long) -101.3827
IH-40 WB at Arthur St: (Lat) 35.1926, (Long) -101.8266
IH-40 EB at Ross St: (Lat) 35.1925, (Long) -101.8179
IH-40 WB at Ross St: (Lat) 35.1925, (Long) -101.8181
US 87 SB (Pierce St) at BNSF Railyard: (Lat) 35.2147, (Long) -101.8318

1.4 TOTAL PROJECT AREA (Acres): 14.00

1.5 TOTAL AREA TO BE DISTURBED (Acres): 0.00

1.6 NATURE OF CONSTRUCTION ACTIVITY:

Bridge repair type work including polyester polymer concrete overlay, cleaning and sealing bridge joints, bridge substructure concrete repair, waterproofing.

1.7 MAJOR SOIL TYPES:

Soil Type	Description
Pullman Clay Loam	0-1% Slopes

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
N/A	N/A

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.5.)

☒ 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
☐ 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
	Non-Jurisdictional Playa Lakes

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

☒ Development of plans and specifications
☐ Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
☐ Post Construction Site Notice
☐ Submit NOI/CSN to local MS4
☒ Perform SWP3 inspections
☒ Maintain SWP3 records and update to reflect daily operations
☒ Complete and submit Notice of Termination to TCEQ
☒ Maintain SWP3 records for 3 years
☒ Other: Less than 1 acre of disturbed area including any PSLs within 1 mile needs no project notice posting. binder needs to be maintained and inspection completed by TXDOT weekly.

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

☒ Day To Day Operational Control
☐ Submit Notice of Intent (NOI) to TCEQ (≥5 acres)
☐ Post Construction Site Notice
☐ Submit NOI/CSN to local MS4
☒ Maintain schedule of major construction activities
☒ Install, maintain and modify BMPs
☒ Complete and submit Notice of Termination to TCEQ
☒ Maintain SWP3 records for 3 years
☒ Other: Less than 1 acre of disturbed area including any PSLs within 1 mile needs no project notice posting. binder needs to be maintained and inspection completed by TXDOT weekly.

1.14 LOCAL MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OPERATOR COORDINATION:

MS4 Entity

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

L. Clint Harms
02/02/2023

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6	BR 2023(596), ETC		219
STATE	STATE DIST.	COUNTY	
TEXAS	AMA	POTTER	
CONT.	SECT.	JOB	HIGHWAY NO.
0275	01	229, ETC	IH-40, ETC

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ 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
- ☐ X Other: Preservation of Natural Resources
- ☐ ☐ 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

Sediment control BMPs requiring design capacity calculations (See SWP3 Attachment 1.3.):

T / P

- ☐ ☐ Sediment Trap
  - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
  - ☐ 3,600 cubic feet of storage per acre drained
- ☐ ☐ Sedimentation Basin
  - ☐ Not required (<10 acres disturbed)
  - ☐ Required (>10 acres) and implemented.
    - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
    - ☐ 3,600 cubic feet of storage per acre drained
  - ☐ Required (>10 acres), but not feasible due to:
    - ☐ Available area/Site geometry
    - ☐ Site slope/Drainage patterns
    - ☐ Site soils/Geotechnical factors
    - ☐ Public safety
    - ☐ Other: _____

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To
N/A	N/A	N/A

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- X Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ 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: _____
- ☐ 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
N/A	N/A	N/A

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- X Fire hydrant flushings
- X Irrigation drainage
- X Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- X Potable water sources
- X Springs
- X Uncontaminated groundwater
- X Water used to wash vehicles or control dust
- X Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3 .

2.9 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

STATE OF TEXAS
L. CLINT HARMS
124794
LICENSED
PROFESSIONAL ENGINEER

02/02/2023

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

Sheet 2 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6	BR 2023(596), ETC		220
STATE	STATE DIST.	COUNTY	
TEXAS	AMA	POTTER	
CONT.	SECT.	JOB	HIGHWAY NO.
0275	01	229, ETC	IH-40, ETC

DATE: 11/28/2022
FILE: T:\AMATPD\Construction Projects\0275-01\229 POLY CONC BRG DECK OV\4 - Design\Plan Set\9. Environmental\229_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. CITY OF AMARILLO

☐ No Action Required ☒ **Required Action**

Action No.

1. COMPLY WITH PROJECT SW3P.
2. PROJECTS WITH LESS THAN 1 ACRE OF DISTURBED AREA INCLUDING PSLS WITHIN 1 MILE NEED NO POSTING ON THE PROJECT. THE PROJECT BINDER NEEDS TO BE MAINTAINED AND INSPECTION COMPLETED BY TXDOT WEEKLY.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas.

The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

☒ **No Permit Required**

☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)

☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)

☐ Individual 404 Permit Required

☐ Other Nationwide Permit Required: NWP# _____

Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices planned to control erosion, sedimentation and post-project TSS.

1.

2.

3.

4.

The elevation of the ordinary high water marks of any areas requiring work to be performed in the waters of the US requiring the use of a nationwide permit can be found on the Bridge Layouts.

Best Management Practices:

Erosion	Sedimentation	Post-Construction TSS
☐ Temporary Vegetation	☐ Silt Fence	☐ Vegetative Filter Strips
☐ Blankets/Matting	☐ Rock Berm	☐ Retention/Irrigation Systems
☐ Mulch	☐ Triangular Filter Dike	☐ Extended Detention Basin
☐ Sodding	☐ Sand Bag Berm	☐ Constructed Wetlands
☐ Interceptor Swale	☐ Straw Bale Dike	☐ Wet Basin
☐ Diversion Dike	☐ Brush Berms	☐ Erosion Control Compost
☐ Erosion Control Compost	☐ Erosion Control Compost	☐ Mulch Filter Berm and Socks
☐ Mulch Filter Berm and Socks	☐ Mulch Filter Berm and Socks	☐ Compost Filter Berm and Socks
☐ Compost Filter Berm and Socks	☐ Compost Filter Berm and Socks	☐ Vegetation Lined Ditches
	☐ Stone Outlet Sediment Traps	☐ Sand Filter Systems
	☐ Sediment Basins	☐ Grassy Swales

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☐ No Action Required ☒ **Required Action**

Action No.

1. IN THE EVENT THAT UNANTICIPATED ARCHAEOLOGICAL DEPOSITS ARE ENCOUNTERED DURING CONSTRUCTION, WORK IN THE IMMEDIATE AREA WILL CEASE, AND TXDOT ARCHAEOLOGICAL STAFF WILL BE CONTACTED TO INITIATE POST-REVIEW DISCOVERY PROCEDURES.

IV. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.
Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☒ **No Action Required** ☐ Required Action

Action No.

1.

V. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

☐ No Action Required ☒ **Required Action**

Action No.

1. IF ANY SPECIES ON THE POTTER COUNTY T&E LIST IS SIGHTED IN THE PROJECT AREA DURING CONSTRUCTION, STOP CONSTRUCTION AND NOTIFY THE AREA ENGINEER.

2. BIRD BMP'S: A) DO NOT DISTURB, DESTROY, OR REMOVE ACTIVE NESTS, INCLUDING GROUND NESTING BIRDS, DURING THE NESTING SEASON; B) AVOID THE REMOVAL OF UNOCCUPIED, INACTIVE NESTS, AS PRACTICABLE; C) DO NOT COLLECT, CAPTURE, RELOCATE, OR TRANSPORT BIRDS, EGGS, YOUNG, OR ACTIVE NESTS WITHOUT A PERMIT.

3. THE MIGRATORY BIRD TREATY ACT OF 1918 STATES THAT IT IS UNLAWFUL TO KILL, CAPTURE, COLLECT, POSSESS, BUY, SELL, TRADE, OR TRANSPORT ANY MIGRATORY BIRD, NEST, YOUNG, FEATHER, EGG IN PART OR IN WHOLE, WITHOUT A FEDERAL PERMIT ISSUED IN ACCORDANCE WITHIN THE ACT'S POLICIES AND REGULATIONS. IN THE EVENT THAT MIGRATORY BIRDS ARE ENCOUNTERED ON-SITE DURING PROJECT CONSTRUCTION, ADVERSE IMPACTS ON PROTECTED BIRDS, ACTIVE NESTS, EGGS, AND/OR YOUNG WOULD BE AVOIDED.

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.

VII. OTHER ENVIRONMENTAL ISSUES

(includes regional issues such as Edwards Aquifer District, etc.)

☒ **No Action Required** ☐ Required Action

Action No.

1.

Texas Department of Transportation — *Design Division Standard*

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

FILE: epic.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT: February 2015	CONT	SECT	JOB	HIGHWAY
REVISIONS 12-12-2011 (DS) 05-07-14 ADDED NOTE SECTION IV. 01-23-2015 SECTION I CHANGED ITEM 1122 TO ITEM 506, ADDED GRASSY SWALES.	0275	01	229, ETC	IH-40, ETC
	DIST	COUNTY		SHEET NO.
	AMA	POTTER		221