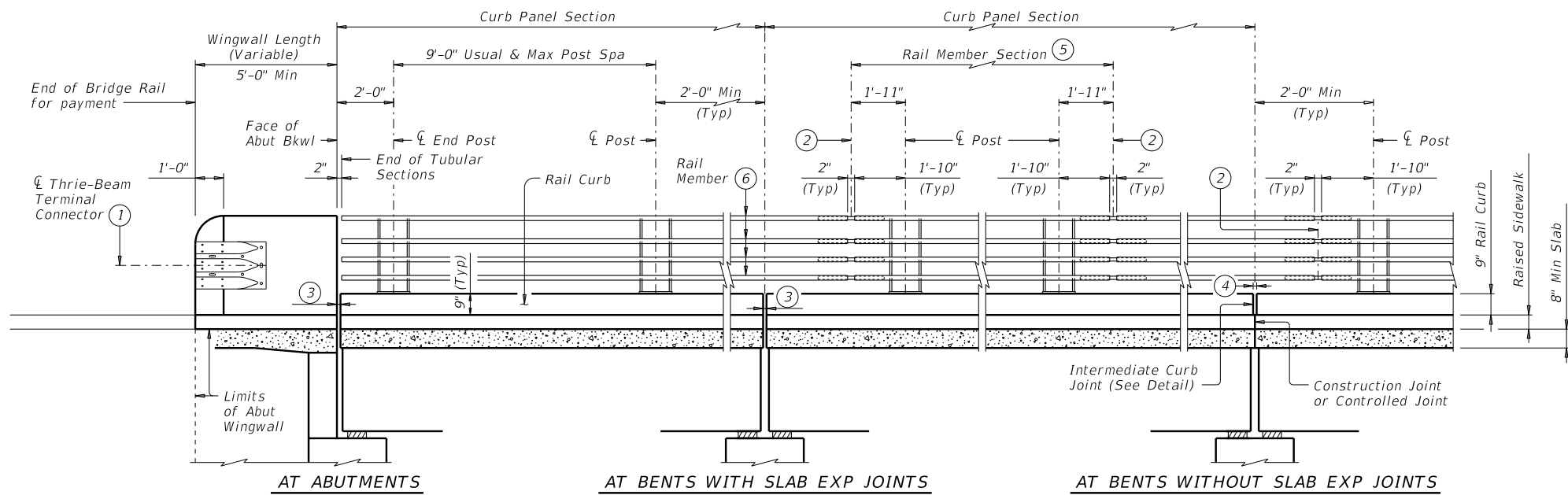
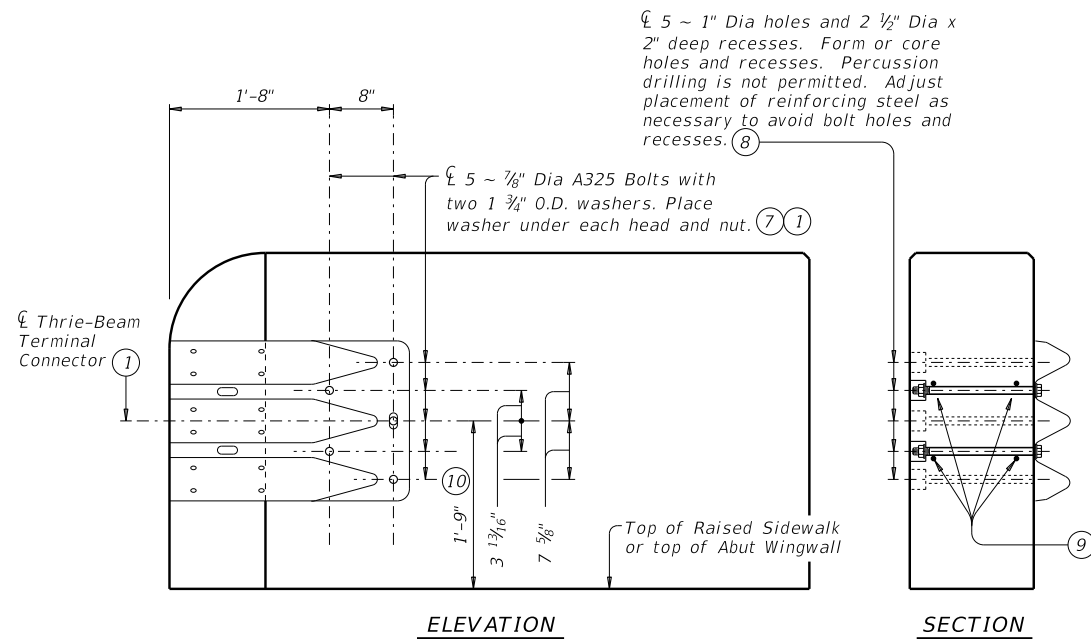


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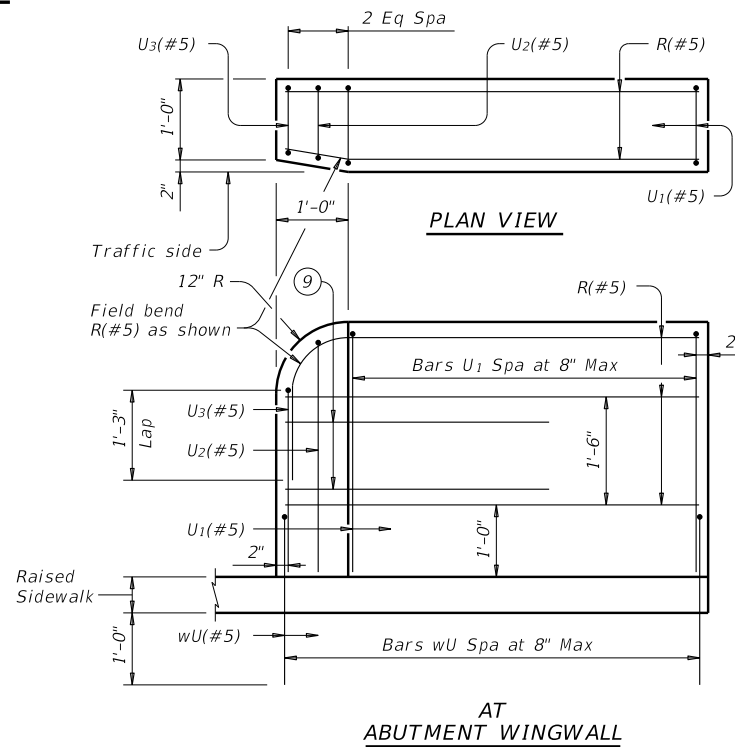
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FILE:



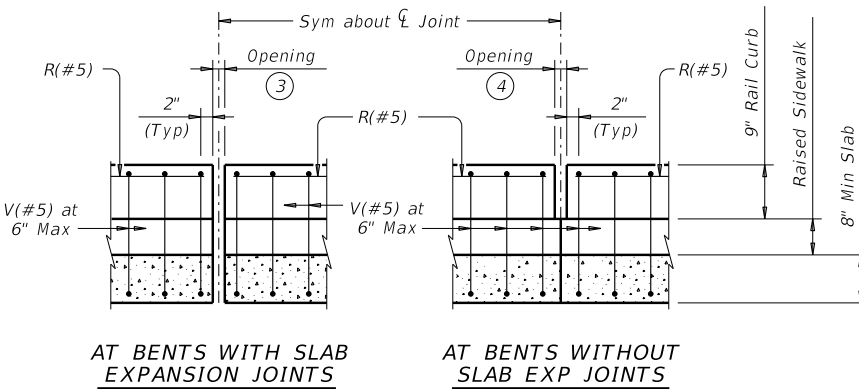
ROADWAY ELEVATION OF RAIL
Showing combination rail on a raised sidewalk.



TERMINAL CONNECTION DETAILS

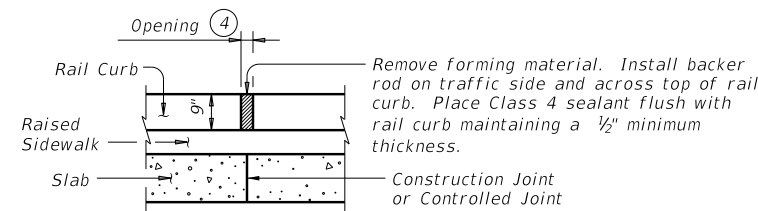


ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



INTERMEDIATE CURB JOINT DETAIL

Provide at all interior bents without slab expansion joints. Location independent of rail member splices.



SHEET 1 OF 4



COMBINATION RAIL

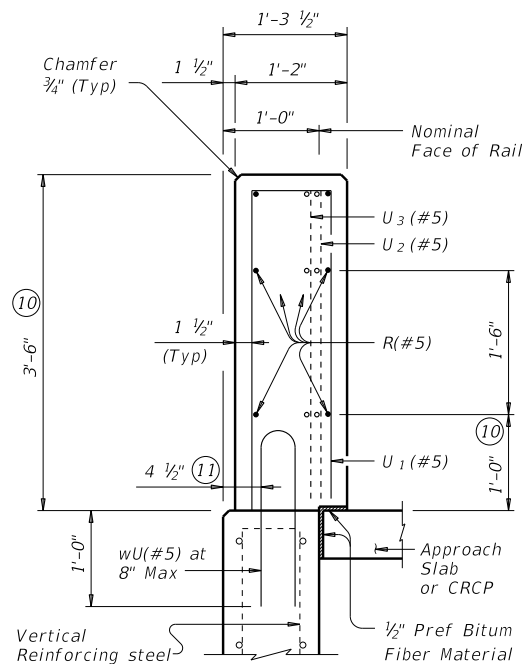
TYPE C1W

FILE: r1st0017.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: JMH
©TxDOT July 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST		COUNTY	SHEET NO.

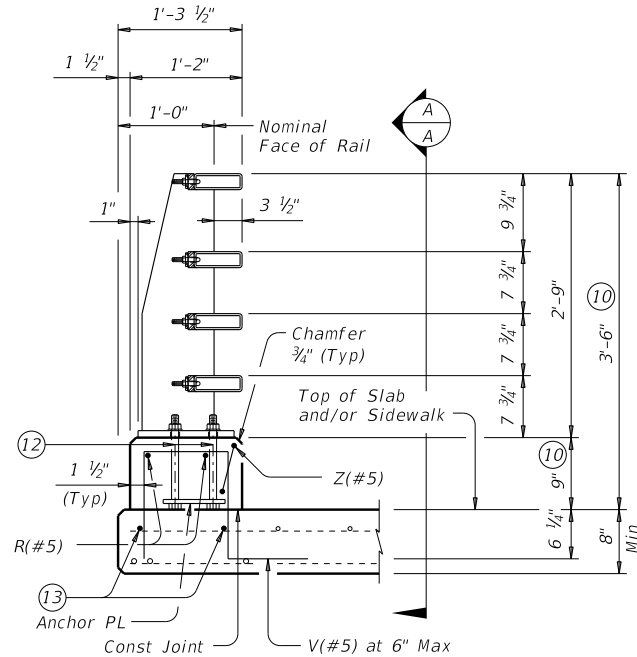
- Terminal Connectors and associated hardware are to be paid for under the Item "Metal Beam Guard Fence". Attach Metal Beam Guard Fence Transitions to the bridge rail and extend along the embankment unless otherwise shown in the plans.
- Expansion Joint or Splice Joint as required.
- Same as slab joint opening. (5" Max Expansion Joint).
- 1/4" Min, 3/4" Max.
- Rail member sections must have at least two posts but not more than four.
- HSS 6 x 2 x 1/4 (ASTM-A1085 or A500 Grade B).
- Provide bolts of sufficient length to extend 1/2" to 3/4" beyond nut.
- Bolt recesses are only required when pedestrian sidewalks are adjacent to back of rail.
- Place 4 additional Bars R(#5) 3'-8" in length inside Bars U(#5) and centered 2'-0" from end of rail when Terminal Connections are required. Field bend as needed.
- Increase 2" for structures with Overlay.

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DATE: FILE:

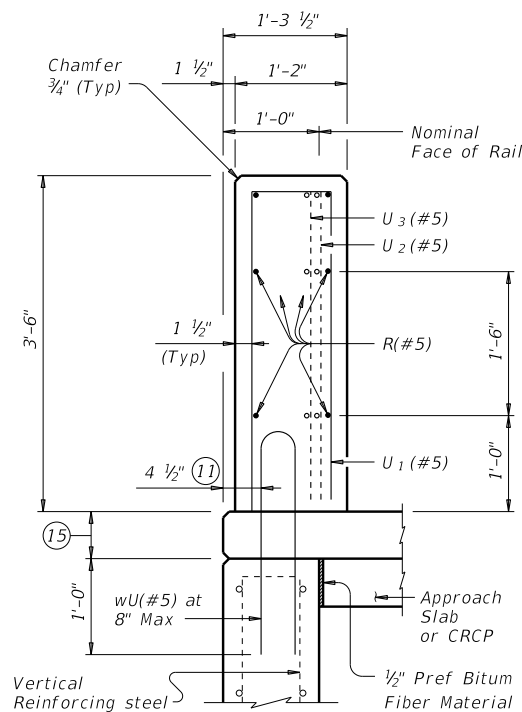


ON ABUTMENT WINGWALLS
OR CIP RETAINING WALLS

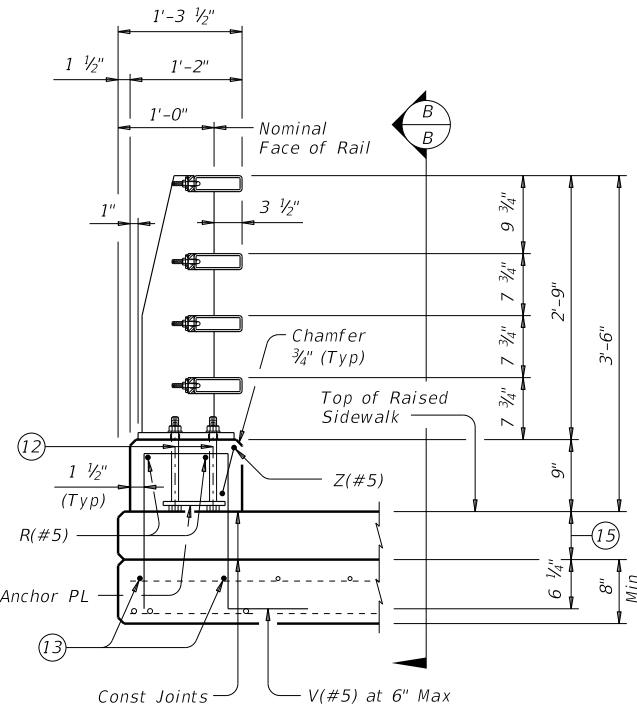


ON BRIDGE SLAB

SECTIONS THRU RAIL WITHOUT RAISED SIDEWALK

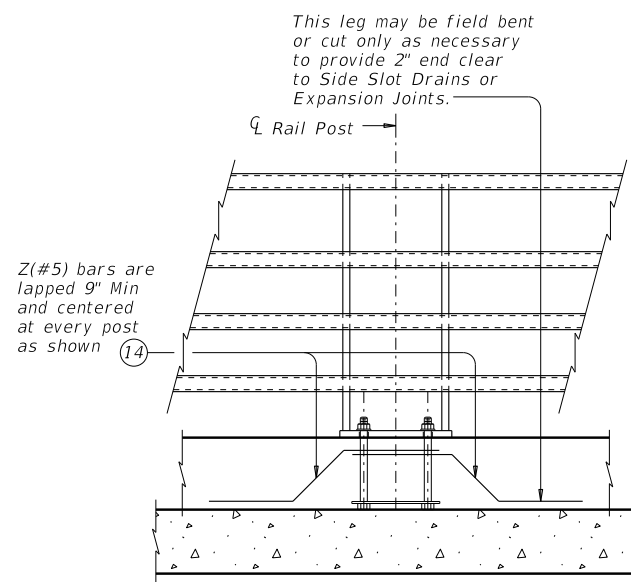


ON ABUTMENT WINGWALLS
OR CIP RETAINING WALLS



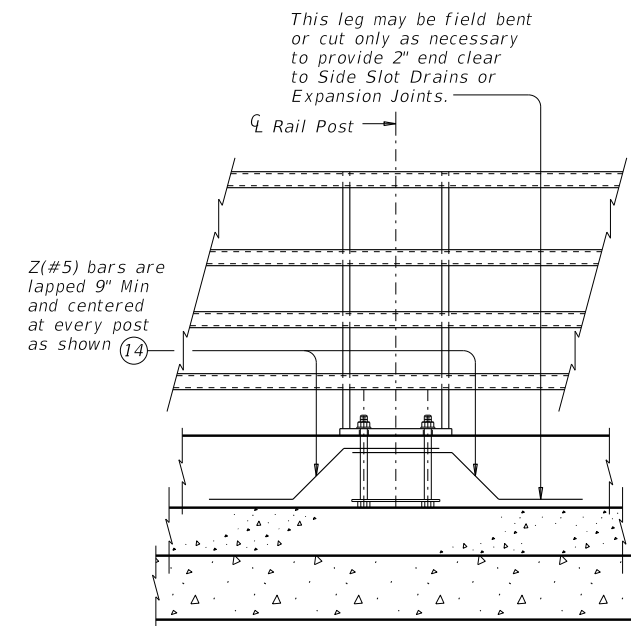
ON BRIDGE SLAB

SECTIONS THRU RAIL WITH RAISED SIDEWALK



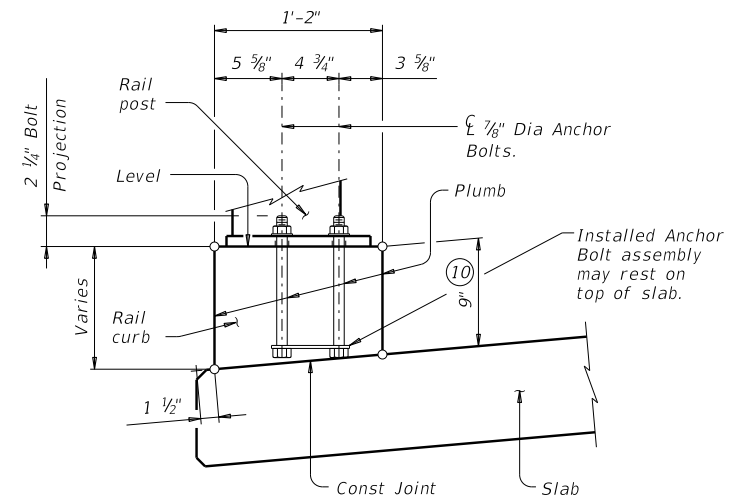
VIEW A-A

Bars V and R omitted for clarity.
Showing without raised sidewalk.

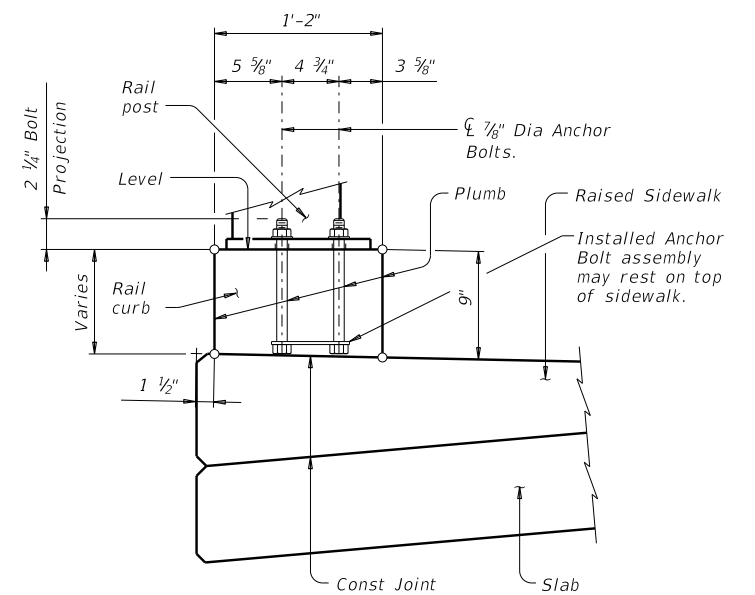


VIEW B-B

Bars V and R omitted for clarity.
Showing with raised sidewalk.



WITHOUT RAISED SIDEWALK




WITH RAISED SIDEWALK

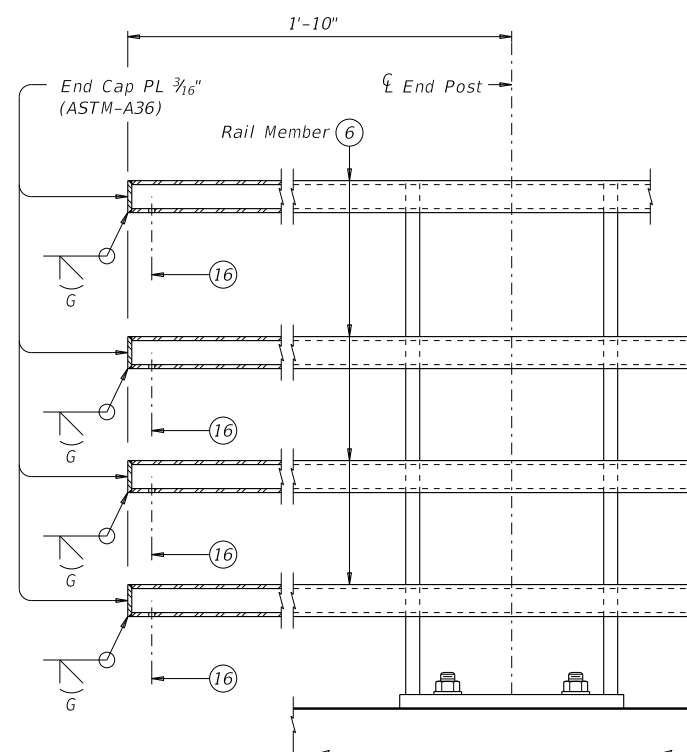
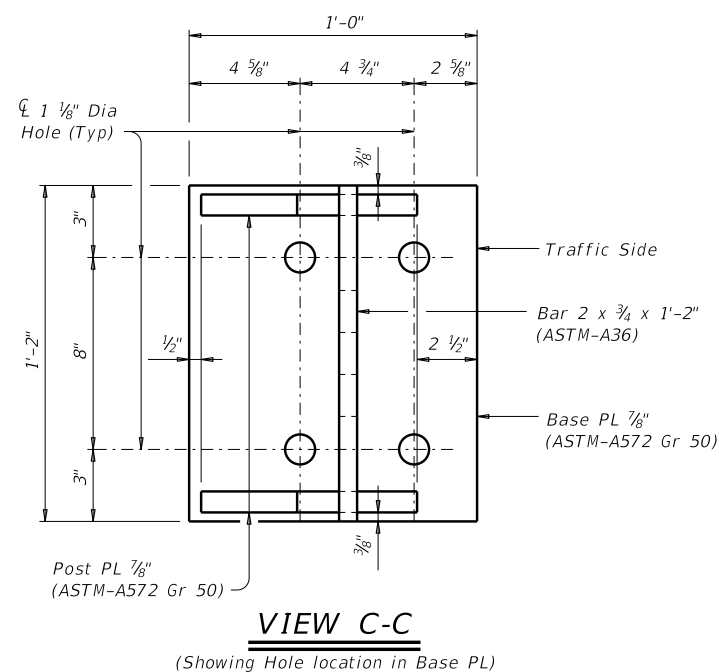
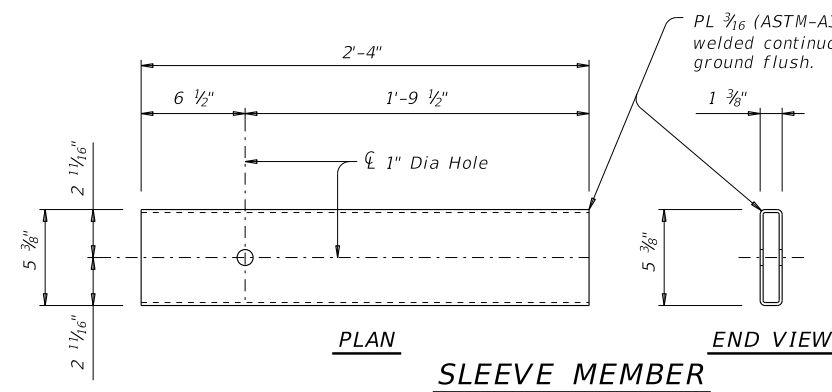
RAIL CURB FORMING DETAIL

Reinforcing steel and rail curb chamfers not shown for clarity.

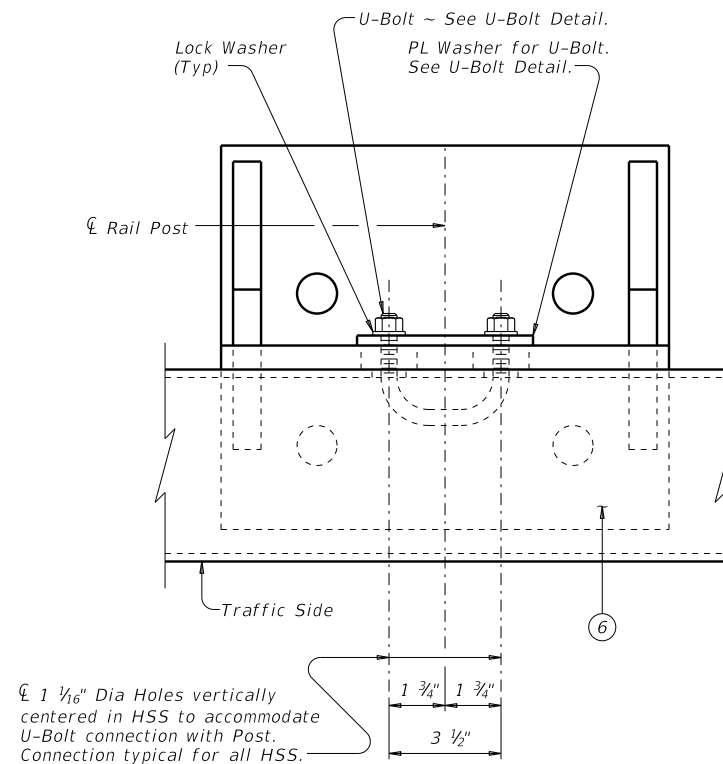
SHEET 2 OF 4

 Texas Department of Transportation				Bridge Division Standard	
<div>COMBINATION RAIL</div> <div>TYPE C1W</div>					
FILE: r1std017.dgn		DN: TxDOT	CK: TxDOT	DW: JTR	CK: JMH
©TxDOT July 2014		CONT	SECT	JOB	HIGHWAY
REVISIONS					
		DIST		COUNTY	SHEET NO.

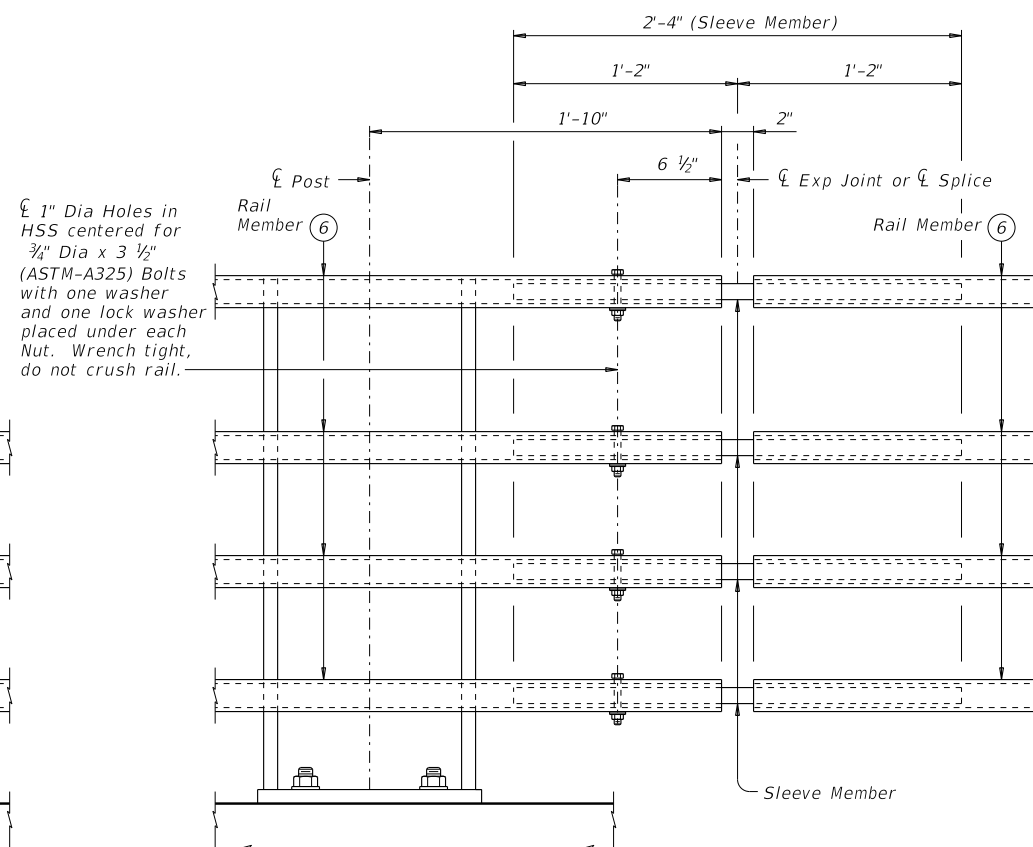
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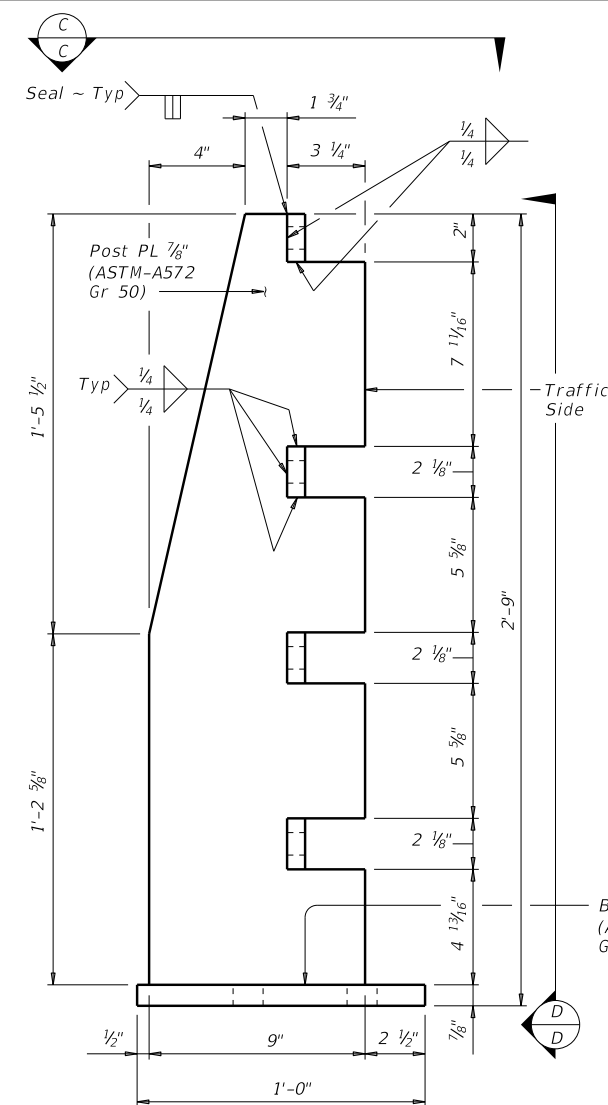
END CAPS ON HSS AT END POST



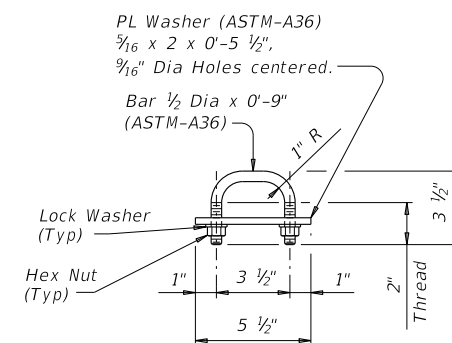
TOP VIEW OF RAIL POST
(Showing connection for rail post and HSS.)



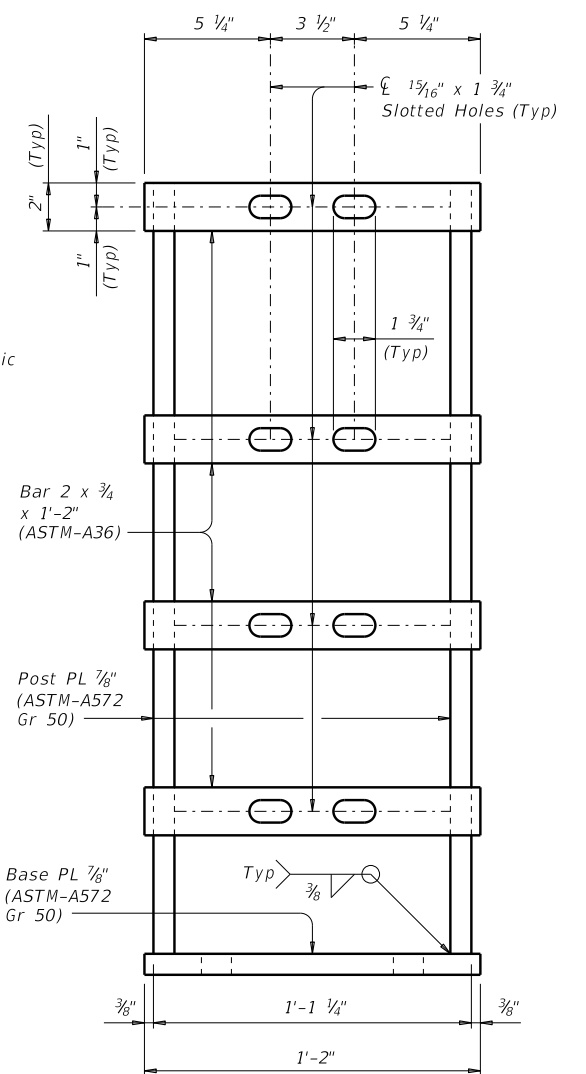
EXPANSION JOINT OR SPLICE



POST DETAIL



U-BOLT DETAIL
(Showing U-Bolt for rail post and HSS.)



VIEW D-D

⑥ HSS 6 x 2 x 1/4 (ASTM-A1085 or A500 Grade B).

⑩ 1/2" Dia Drain Hole in bottom of HSS.

SHEET 3 OF 4



Texas Department of Transportation

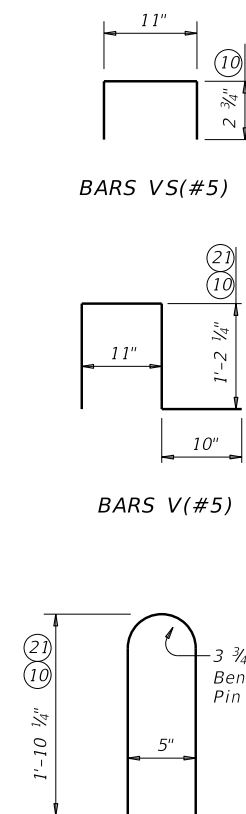
**Bridge
Division
Standard**

COMBINATION RAIL

TYPE C1W

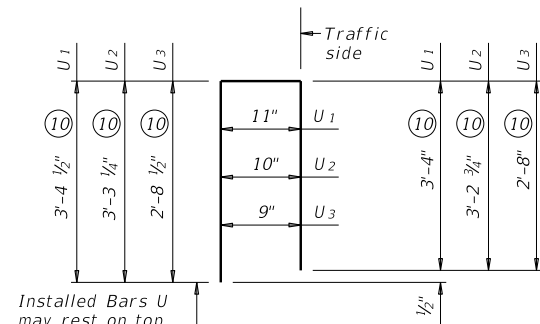
FILE:	r1std017.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: JMH
©TxDOT	July 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS					
		DIST	COUNTY	SHEET NO.	

DATE: _____
FILE: _____

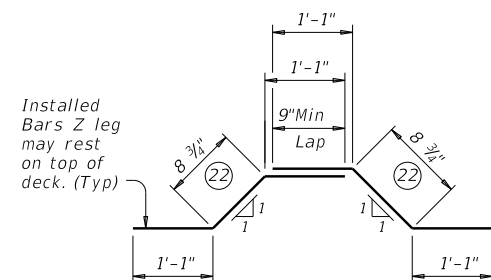


SECTION THRU
SIDE SLOT DRAIN

Showing side slot drain on raised sidewalk, without raised sidewalk similar

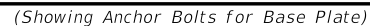


BARS U(#5)



BARS Z(#5)

ANCHOR BOLT OPTIONS



205 plf total
131 plf (Conc)
74 plf (Steel)

SHEET 4 OF 4

