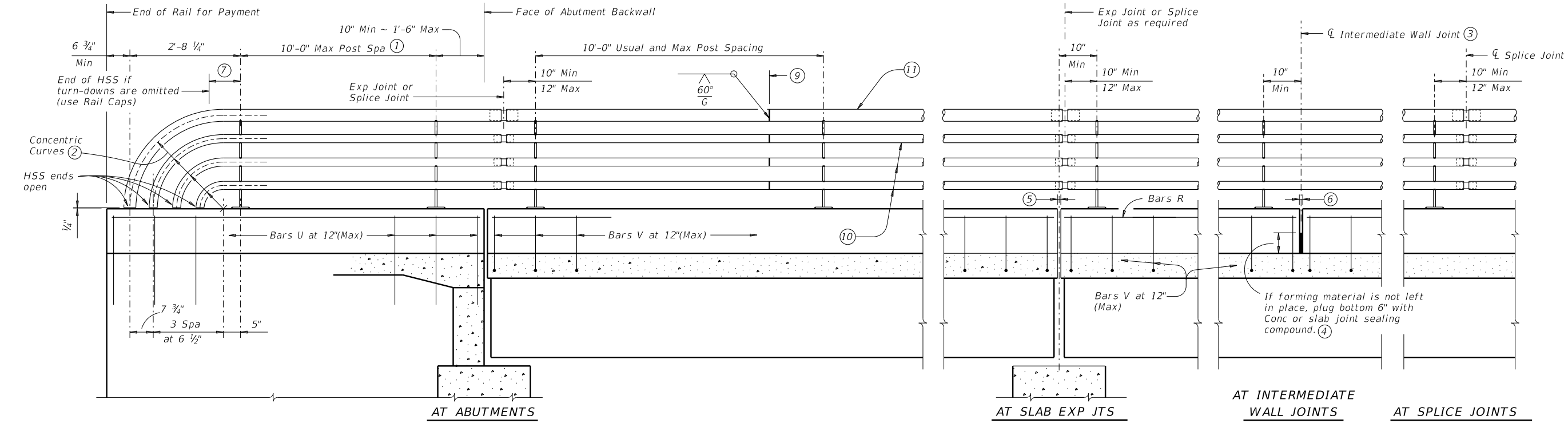
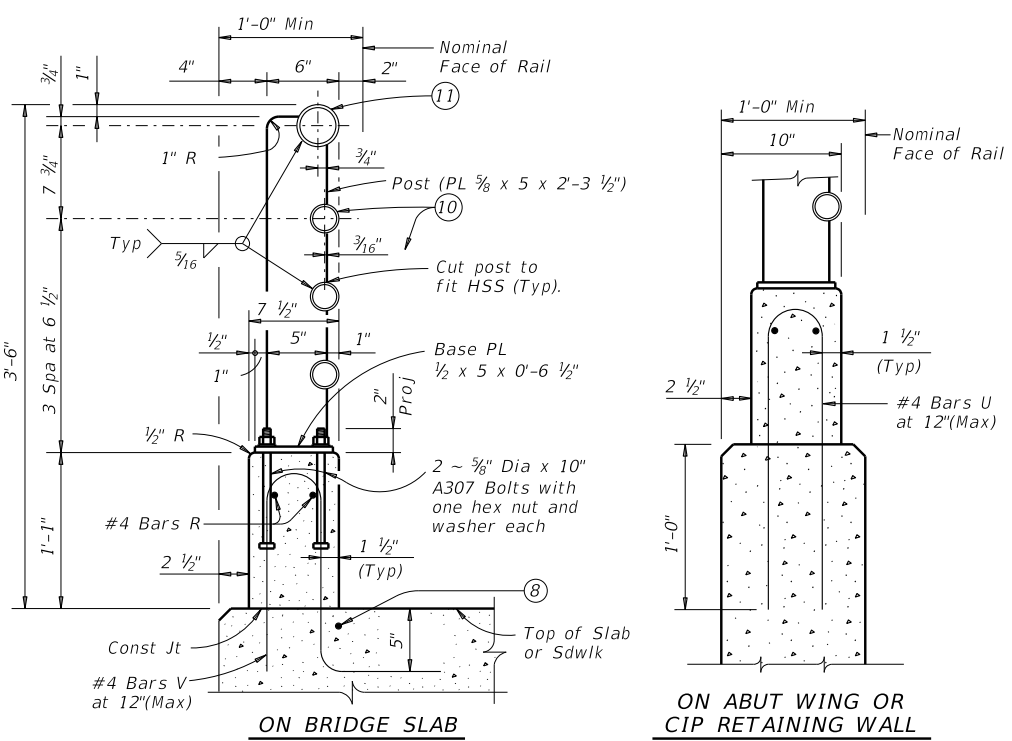


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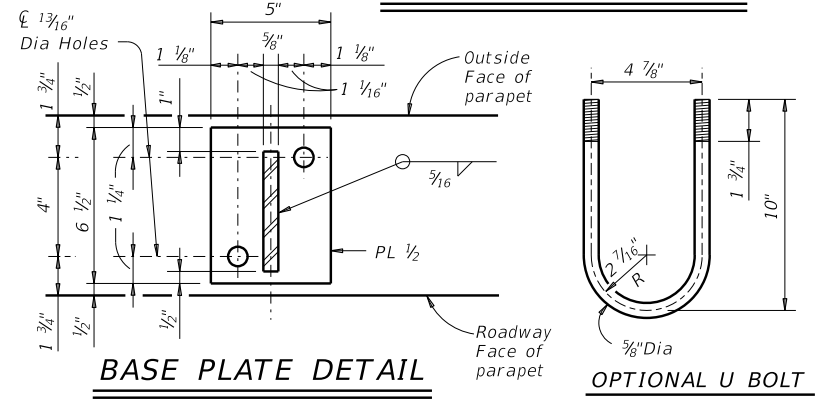
DATE: FILE:



ROADWAY ELEVATION OF RAIL

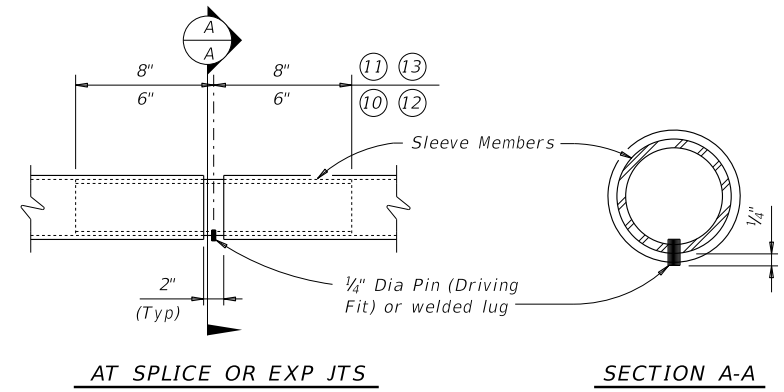


SECTIONS THRU RAIL



BASE PLATE DETAIL

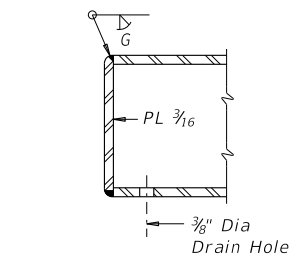
OPTIONAL U BOLT



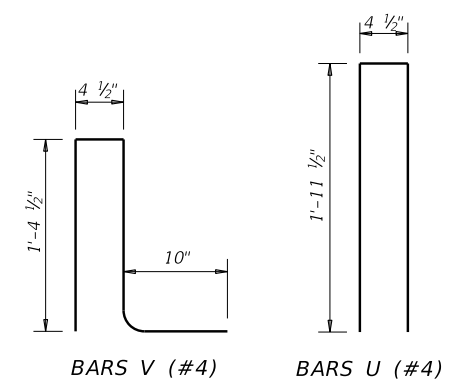
AT SPLICE OR EXP JTS

SECTION A-A

PIPE SPLICE DETAIL



RAIL CAP DETAIL



BARS V (#4)

BARS U (#4)

- ① Min of 2 posts required on wingwall.
- ② Portion of railing with turn-downs to be used or omitted as indicated on Bridge Layout.
- ③ Provide at all interior bents without slab expansion joints. Location independent of HSS rail splices.
- ④ Material used in forming joint may be left in place if it is compressible and light in color such as the following materials: polystyrene, molded cork granules, sponge rubber sheet, etc.
- ⑤ Same as Slab opening
- ⑥ 1/4" Min ~ 3/4" Max
- ⑦ 10" Min ~ 1'-6" Max if turn-downs are omitted.
- ⑧ Top longitudinal slab bar may be adjusted laterally 3" plus or minus to tie rail reinforcing.
- ⑨ One shop splice per panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single vee groove. Grind smooth.
- ⑩ HSS 2.375 x 0.154
- ⑪ HSS 3.500 x 0.216
- ⑫ HSS 1.900 x 0.145
- ⑬ HSS 2.875 x 0.203

CONSTRUCTION NOTES:

Panel lengths of railing must be attached to a minimum of three posts except on abutment wingwalls. Face of rail, posts and parapet must be vertical transversely unless otherwise approved. Rail posts must be perpendicular to top of adjacent concrete parapet grade. Use Type VIII epoxy mortar under post base plates if gaps larger than 1/16" exist. For curved railing applications, fabricate the HSS rail to the radius when the radius is 600' or less. Submit shop drawings for approval when tubes are required to be fabricated to a radius. Shop drawings must be submitted to the Engineer for approval. Round or chamfer exposed edges of HSS rail and HSS rail posts to approximately 1/16" by grinding.

MATERIAL NOTES:

Provide ASTM-A500 Grade B, A1085 or A53 Grade B for all HSS. Provide ASTM-A36 for post and plates. Galvanize all steel components unless otherwise shown. Anchor bolts must be 3/8" Dia ASTM A307 Grade A bolts (or A36 threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer at each bolt. Threaded rods may be 0.557" minimum diameter with rolled threads. Nuts must conform to A563 requirements. Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere. Epoxy coat all reinforcing if slab bars are epoxy coated. Provide Grade 60 reinforcing steel. Deformed Welded Wire Reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars U, and V unless noted otherwise. Provide bar laps, where required, as follows:
 Uncoated ~ #4 = 1'-5"
 Epoxy coated ~ #4 = 2'-1"

GENERAL NOTES:

Designed according to AASHTO LRFD Specifications. 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. For all rails, submit erection drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval. Average weight of railing: 102 plf ~ Conc (with no Overlay) 23 plf ~ Steel

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

		Bridge Division Standard	
<h1>PEDESTRIAN RAIL</h1>			
<h2>TYPE PR2</h2>			
FILE: r1st0029.dgn	DN: TxDOT	CK: TxDOT	DW: JTR
CON: TxDOT	SECT:	JOB:	HIGHWAY:
REVISIONS			
DIST:	COUNTY:	SHEET NO.:	