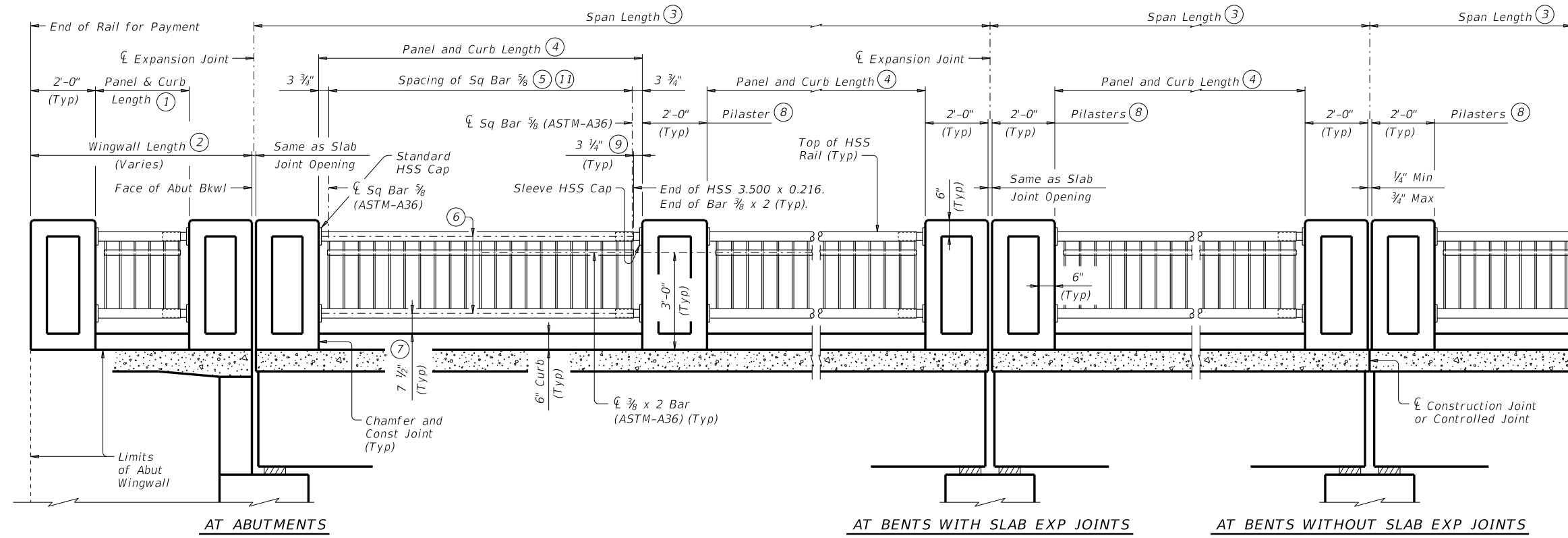
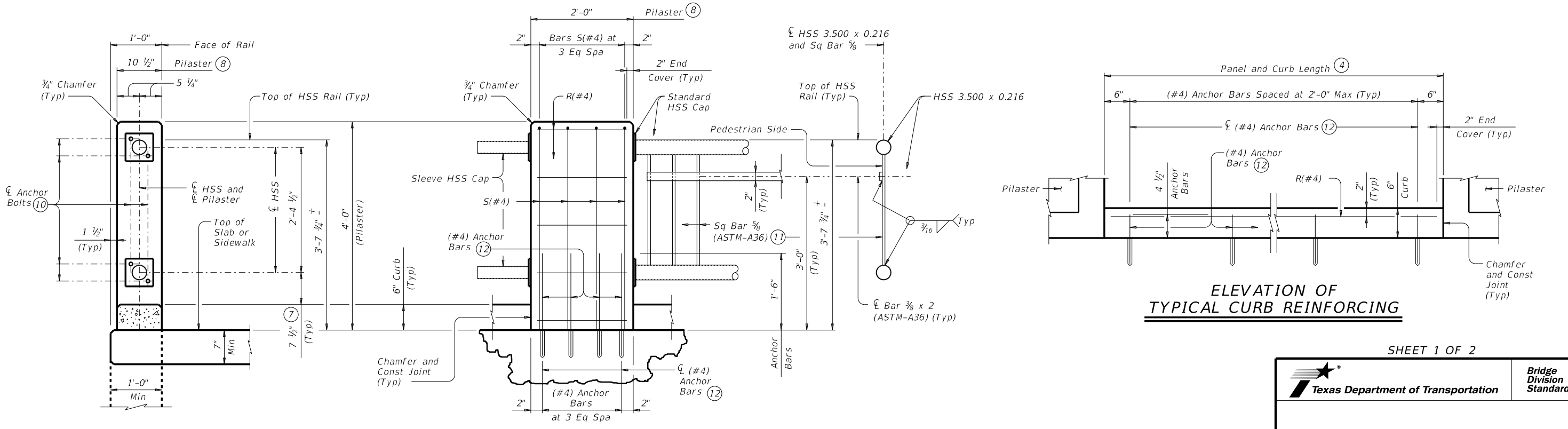


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- ① 10'-0" Max Panel and Curb Length.
- ② Wingwall will have pilasters at each end (Typ).
- ③ Span will have a pilaster at each end (Typ).
- ④ 10'-0" Usual and Max Panel and Curb Length.
- ⑤ Space Sq Bar  $\frac{5}{8}$  Equally at 5  $\frac{3}{4}$ " Max along center of HSS 3.500 x 0.216 (Typ).
- ⑥  $\bar{\bar{C}}$  HSS 3.500 x 0.216 (Typ).
- ⑦ Parallel to top of curb (Typ).
- ⑧ Pilasters will be plumb on all sides (Typ).
- ⑨ Terminate HSS 3.500 x 0.216 as shown on one end only of each HSS Rail Panel. This allows for future repairs and/or replacement. Terminate Bar  $\frac{3}{8}$  x 2 as shown on each end of HSS Rail Panel.
- ⑩ See "Material Notes" for anchor bolt information.
- ⑪ Sq Bar  $\frac{5}{8}$  will be Plumb.
- ⑫ Embed (#4) anchor bars 5" with a Type III, Class C, D, E, or F epoxy, meeting the requirements of DMS-6100, "Epoxyes and Adhesives".

**ELEVATION OF RAIL**



SHEET 1 OF 2

Texas Department of Transportation **Bridge Division Standard**

**PEDESTRIAN RAIL**

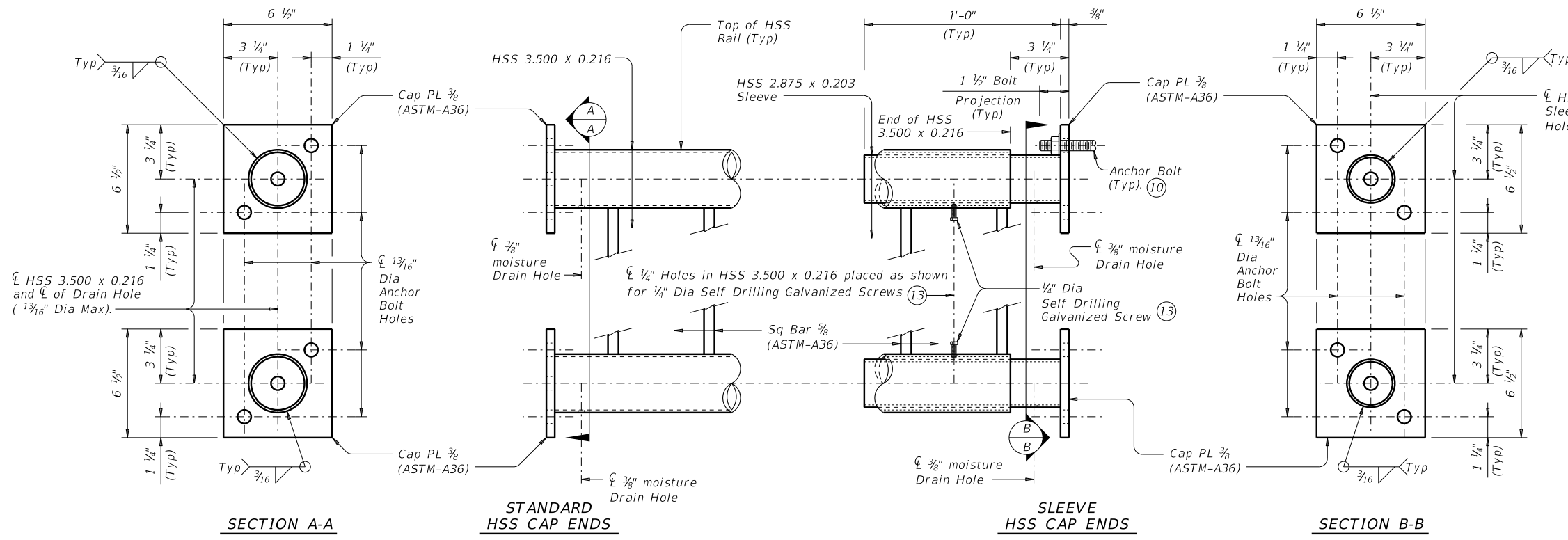
**TYPE PR3**

FILE: r1stds30.dgn	DN: TxDOT	CK: TxDOT	DW: JTR	CK: JMH
©TxDOT July 2014	CONT	SECT	JOB	HIGHWAY
REVISIONS				
03-16: Added additional epoxy classes.	DIST	COUNTY		SHEET NO.

DATE: FILE:

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DATE: FILE:



**HSS RAIL DETAILS**

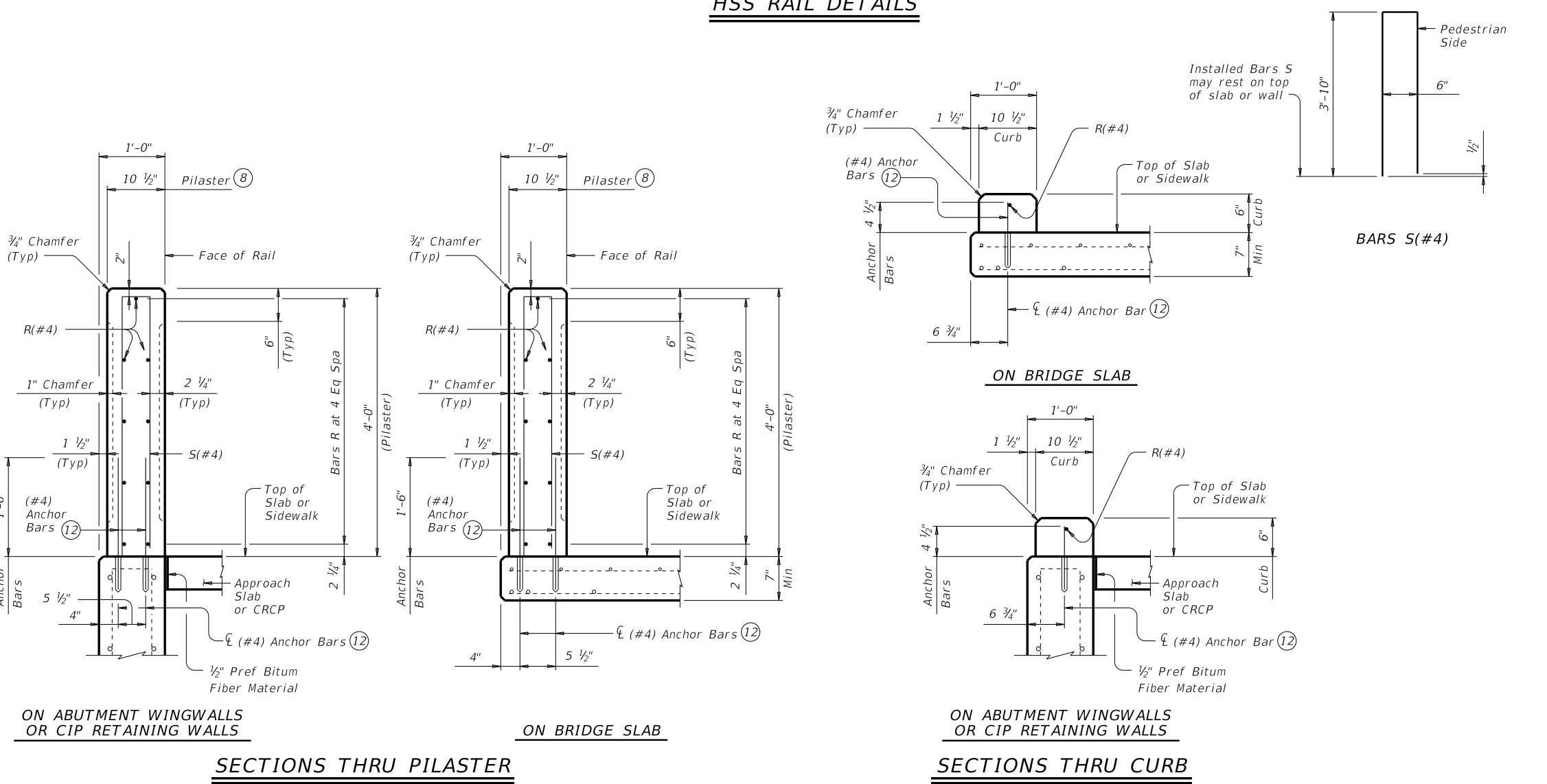
- 8 Pilasters will be plumb on all sides (Typ).
- 10 See "Material Notes" for anchor bolt information.
- 12 Embed (#4) anchor bars 5" with a Type III, Class C, D, E, or F epoxy, meeting the requirements of DMS-6100, "Epoxies and Adhesives".
- 13 Firmly tighten Self Drilling Screws after pipe rail has been attached to Pilasters.

**CONSTRUCTION NOTES:**  
 Pilasters must be plumb on all sides.  
 For curved railing applications, fabricate the rail to the curve if radius is less than 600 ft. Shop drawings are required when rail is fabricated to the curve.  
 Round or Chamfer exposed edges of HSS rail and HSS caps to approximately 1/16" by grinding.

**MATERIAL NOTES:**  
 Provide ASTM-A1085, A500 Grade B or A53 Grade B for all HSS.  
 Provide ASTM-A36 for steel plates and steel sq bars.  
 Galvanize all steel components except reinforcing steel unless noted otherwise.  
 When the plans require painted steel, follow the requirements for painting galvanized steel in Item 446, "Field Cleaning and Painting Steel".  
 Provide Grade 60 reinforcing steel.  
 Epoxy coat all rail reinforcement except embedded portion of anchor bars if slab bars are epoxy coated.  
 (#4) anchor bar used for the epoxied anchorage system must not be epoxy coated for the embedded portion.  
 Provide Class "C" concrete. Provide Class "C" (HPC) if required elsewhere. Chamfer all exposed corners.  
 Anchor bolts must be 3/8" Dia ASTM A36 threaded rods with one hex nut and one hardened steel washer at each bolt. Minimum embedment depth of 3/8" Dia threaded rod is 3 1/2". Embed threaded rods into pilasters with a Type III, Class C, D, E, or F epoxy, meeting the requirements of DMS-6100, "Epoxies and Adhesives". Anchor installation including hole size, drilling, and clean-out, must be in accordance with Manufacturer's instructions.

**GENERAL NOTES:**  
 Designed according to AASHTO LRFD Specifications.  
 Rail anchorage details shown on this standard may require modification for select structure types. See appropriate details elsewhere in plans for these modifications.  
 Do not use this railing on bridges with expansion joints providing more than 5" movement.  
 Shop drawings are not required unless otherwise noted.  
 For all rails, submit erection drawings for approval to ensure proper installation. Drawings must show pilaster spacing, sleeve HSS cap locations on pilasters, and panel lengths with identification showing where each panel goes on the layout.  
 Average weight of railing: 158 plf total  
 136 plf (Conc)  
 22 plf (Steel).

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



SHEET 2 OF 2

		<b>Bridge Division Standard</b>	
<h2>PEDESTRIAN RAIL</h2>			
<h3>TYPE PR3</h3>			
FILE: r1stds30.dgn	DN: TxDOT	CK: TxDOT	DW: JTR
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03-16: Added additional epoxy classes.	DIST	COUNTY	SHEET NO.