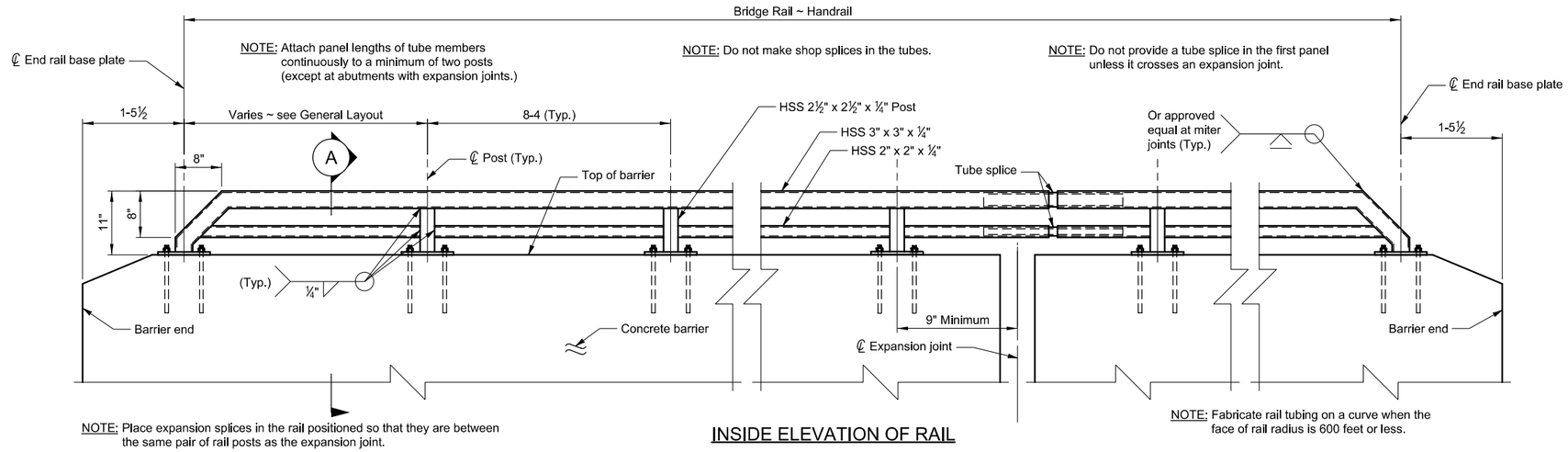
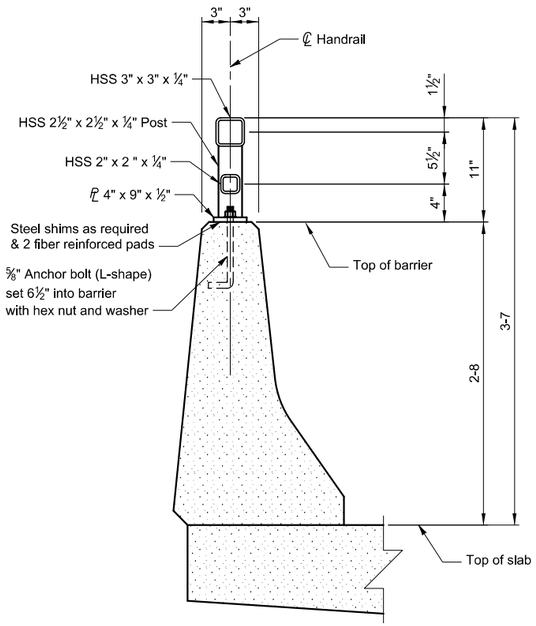
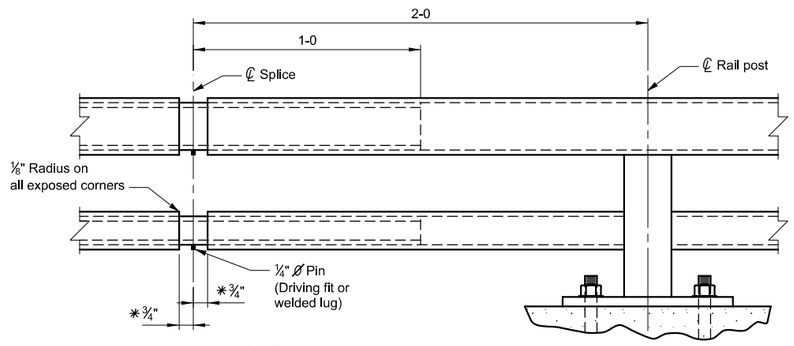


INSIDE ELEVATION OF RAIL



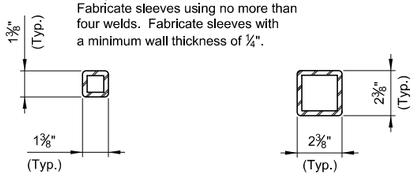
SECTION A



*NOTE: The dimension shown is for a standard tube splice. For splices crossing expansion joints, match the total width of the splice to the expansion gap shown elsewhere in the plans.

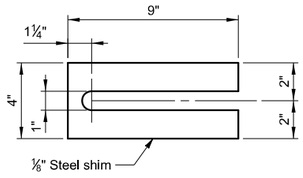
TUBE SPLICE DETAIL

NOTE: Fabricate sleeves using channels, angles, plates, or bent plates meeting the dimensions shown. Weld and grind smooth as required. Fabricate sleeves using no more than four welds. Fabricate sleeves with a minimum wall thickness of ¼".

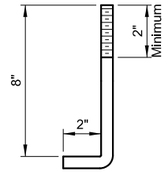


LOWER TUBE UPPER TUBE

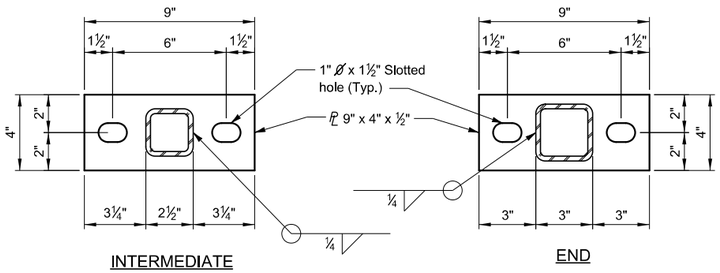
SPLICE FABRICATION OPTIONS



RAIL SHIM DETAIL



ANCHOR BOLT DETAIL



INTERMEDIATE END

RAIL BASE PLATES

NOTES

GALVANIZING: Galvanize all bolts, nuts, washers and pipe sleeves in accordance with ASTM F 2329.

PAYMENT: Handrail is paid for by the linear foot, which is full compensation for all resources necessary to complete the item. The General Layout shows the number of linear feet of Handrail for payment. Use posts and plates conforming to AASHTO M 270 Grade 36 and tubing conforming to ASTM A500 Grade B. Use anchor bolts conforming to AASHTO M 314 Grade 36, nuts conforming to ASTM A 563 Grade A and washers conforming to ASTM F 844.

ERECTION: Set the rail parallel to the top of barrier. Adjust the rail to the proper rail height using rail post shims.

PAINTING: Paint all posts, structural tubing and plates (except as noted) in accordance with the Standard Specifications. Galvanizing the posts, structural tubing and plates in accordance with AASHTO M 111 is allowed.

EXCEPTIONS: Use details shown on this drawing only as they apply to the project. Anchorage details may vary. Refer to other drawings for variations in these details.

FABRICATION: Consider this rail system an ancillary item for the purposes of fabrication. Meet the requirements of subsection 1.3.7 of AASHTO/AWS D1.5.

SHIMS: Place shims as necessary to adjust the rail to grade. Place the shims between fiber reinforced pads with the slots toward oncoming traffic.

FIBER REINFORCED PADS: Use fiber reinforced pads meeting the requirements of subsection 711.16 of the Standard Specifications. Size and position the pads so that not less than ½"of the pad protrudes on all sides of the base plate. Punch slotted holes in the pads to match the base plate.

FINISHING: Finish the top of the barrier under each rail post to a smooth and uniform surface to assure a proper alignment of the post and a tight fit between the fiber reinforced pad and concrete. Bush hammering is acceptable only to remove high spots.

CONCRETE BARRIER: See Dwg. No. SBR-BRR for additional barrier details.

RAIL WEIGHT: For informational purposes only, the rail weight is approximately 15.4 lb/ft.

STANDARD BRIDGE RAIL
TYPE HANDRAIL

No Scale

MDT MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

REVISED			
REVISED			
REVISED			
REVISED	3-15-17	D.F.-J.	
APPROVED	8-26-10	D.F.-J.	
CHECKED	8-26-10	N.N.M.	
DRAWN	10-1-09	T.J.B.	$FILEABBREV$
$DATE$	$TIME$		

DRAWING NO. SBR-HND