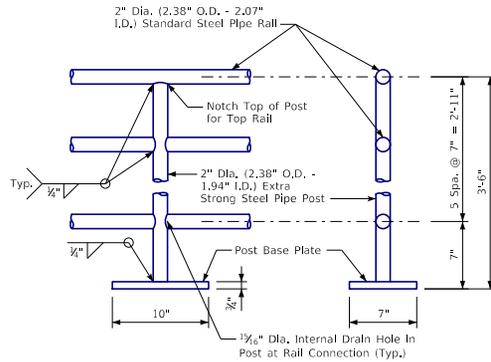
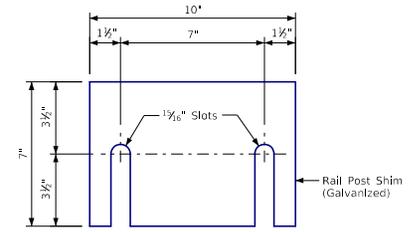
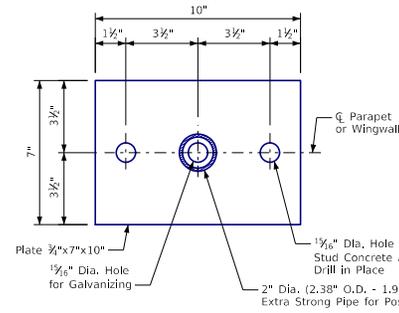


End Rail Details



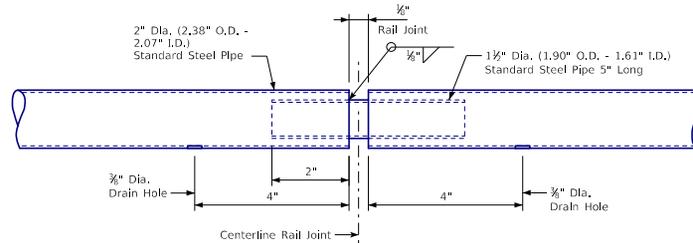
Pipe Handrail Details



Note:  
Provide 1/16" galvanized steel shim at each rail post. Use as required.

Post Base Plate and Shim Details

Note:  
Pipe handrail assembly to be galvanized after fabrication. Drilled-in drain holes, to facilitate the hot dip galvanizing process, shall be indicated on the shop drawings.



Rail Joint Detail

Pedestrian Hand Rail Notes:

1. The steel pipe pedestrian hand rail is to be bid on a linear foot basis measured end to end of rail. The price bid for "Steel Pipe Pedestrian Handrail" shall be full compensation for furnishing all material, including anchor bolts and shims, and all of the equipment and labor required to erect the rail in accordance with these Plans and Specifications.
2. The material for tube rails, posts and splice tubes shall be standard and extra strong steel pipe meeting the requirements of ASTM A53, Type E or S, Grade B. Base plates and shims shall meet the requirements of ASTM A36. Panels and end sections shall be galvanized, after fabrication, in accordance with the requirements of ASTM A123.
3. Ends of rail sections are to be sawed or milled. All cut ends are to be true, smooth, and free of burrs or ragged edges.
4. No painting will be required.
5. The stud concrete anchors shall be galvanized and have a minimum pull out strength of 8000 pounds based on 4000 PSI concrete.
6. Rail is to be centered along the centerline of wingwalls and parapets.
7. Posts shall be set plumb.

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER	
		Precast Standard Design - Walkways and Trails Precast Reinforced Concrete Pedestrian Tunnel August, 2020
		Safety Rail Details
		PPT-SR 2-20