

General Notes

PIPE RAILING & POSTS: Structural Tube, Pipe and Bar shall be in accordance with ASTM B221 or ASTM B429, Alloy 6061-T6. For curved longitudinal alignments the top and bottom rails and handrails shall be shop bent to match the alignment radius.

BASE PLATES: Base Plates shall be in accordance with ASTM B209, Alloy 6061-T6.

COATINGS: The aluminum railing shall be mill finish unless otherwise noted in the Contract Documents. All nuts, anchor bolts, and washers shall be hot-dip galvanized in accordance with AASHTO M232.

ANCHOR BOLTS: Anchor bolts shall be in accordance with ASTM F1554 Grade 36. Headless anchor bolts for Adhesive Anchors shall be threaded full length. Cutting of reinforcing steel is permitted for drilled hole installation. All anchor bolts shall have single self-locking hex nuts. Tack welding of the nut to the anchor bolt may be used in lieu of self-locking nuts. All nuts shall be in accordance with ASTM A563 or ASTM A194. Flat Washers shall be in accordance with ASTM F436. After the nuts have been snug tightened, the anchor bolt threads shall be distorted to prevent removal of the nuts. Distorted threads and tack welds shall be coated with a zinc rich paint. Mechanical anchors may be allowed. Submit calculations by a professional engineer and manufacture data for proposed mechanical anchor to the engineer for approval along with the shop drawings.

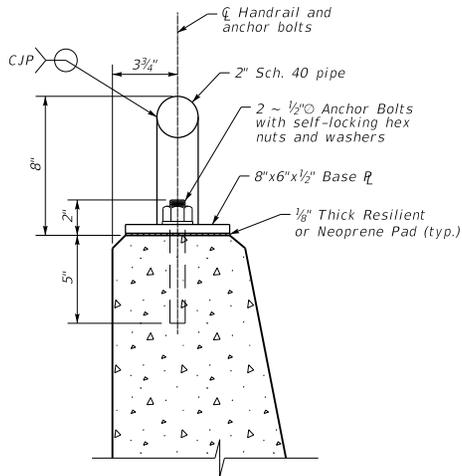
RESILIENT AND NEOPRENE PADS: Resilient and Neoprene pads shall be in accordance with Specification Section 932, except that testing of the finished pads shall not be required. Neoprene pads shall be durometer hardness 60 or 70.

JOINTS: All fixed joints are to be welded all around and ground smooth. Expansion Joints shall be spaced at a maximum of 20'-0". Field splices similar to the expansion joint detail may be approved by the Engineer to facilitate shipping and handling, but rails must be continuous across a minimum of two posts.

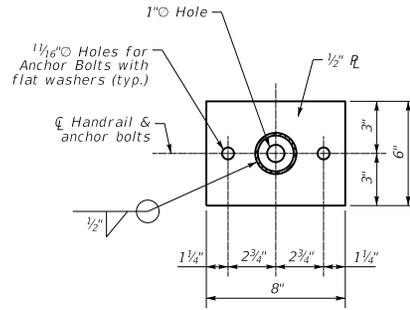
WELDING: All welding shall be in accordance with the American Welding Society Structural Welding Code (Aluminum) ANSI/AWS D1.2 (current edition). Filler metal shall be either ER5183, ER5356 or ER5556. Nondestructive testing of welds is not required.

SHOP DRAWINGS: Details addressing project specific geometry (line & grade) showing post and expansion joint locations must be submitted by the Contractor for the Engineer's approval prior to fabrication of the railing. Shop drawings shall be in accordance with the Specifications.

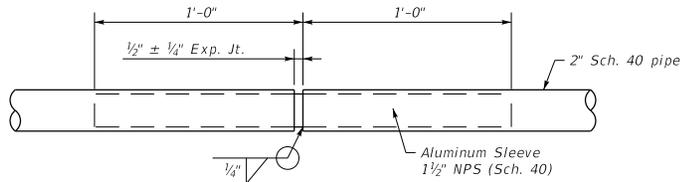
PAYMENT: Aluminum handrail shall be paid for under the contract unit price for Aluminum Handrail, LF. Payment for the handrail will be plan quantity measured as the length along the center line of the top rail, and includes rails, posts, rail splice assembly, base plates, anchor bolts, nuts, washers, resilient or neoprene pads and all incidental materials and labor required to complete installation of the handrail.



TYPICAL SECTION



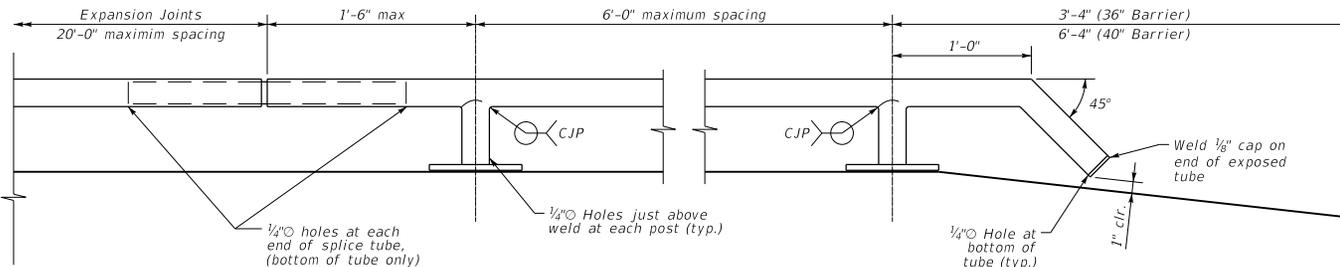
BASE PLATE DETAIL



EXPANSION JOINT

*Note: Expansion Joints shall be placed at bridge expansion joint locations and shall match Bridge Expansion Joint Size. This handrail shall not be used where bridge expansion and contraction will leave less than 6 inch overlap in handrail joint.

RAILING MEMBER DIMENSIONS TABLE			
MEMBER	DESIGNATION	OUTSIDE DIMENSION	WALL THICKNESS
Posts and Rails	2" NPS (Sch. 40)	2.375"	0.154"
Rail Joint/Splice Sleeves	1 1/2" NPS (Sch. 40)	1.900"	0.145"



ELEVATION

KENTUCKY DEPARTMENT OF HIGHWAYS	
ALUMINUM HANDRAIL	
STANDARD DRAWING NO. BHS-015	
SUBMITTED	02-26-20 DATE
DIRECTOR DIVISION OF STRUCTURAL DESIGN	
APPROVED	02-26-20 DATE
STATE PROFESSIONAL ENGINEER	