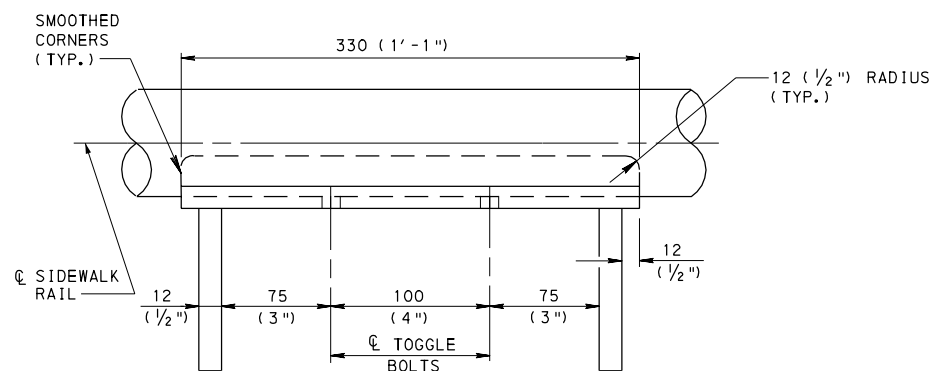
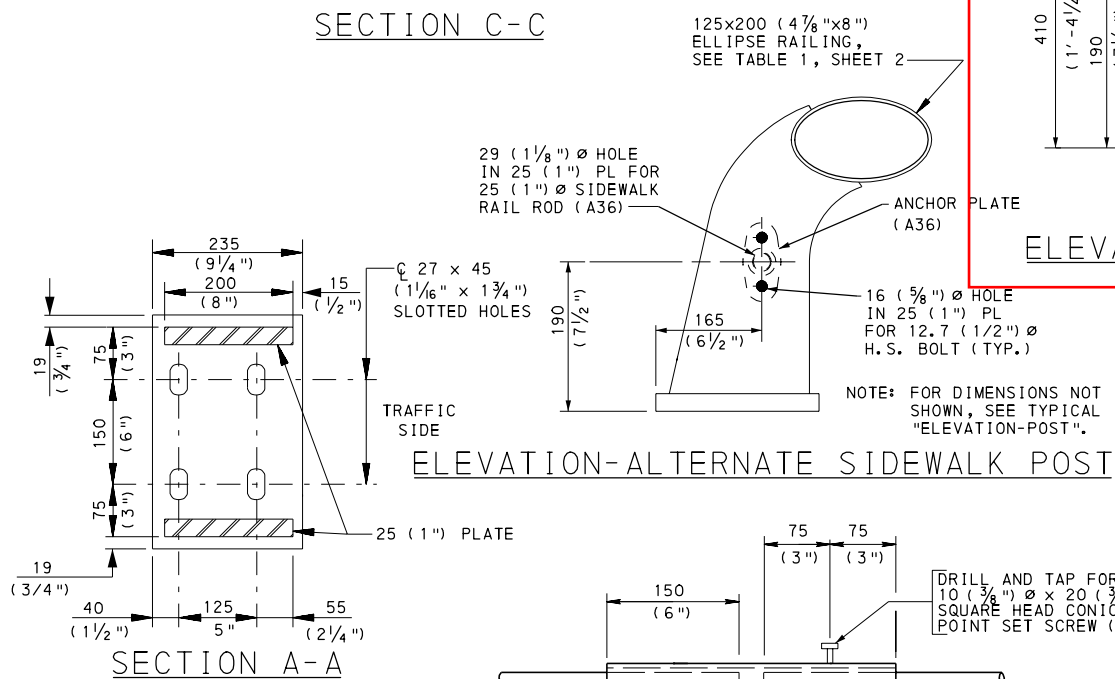


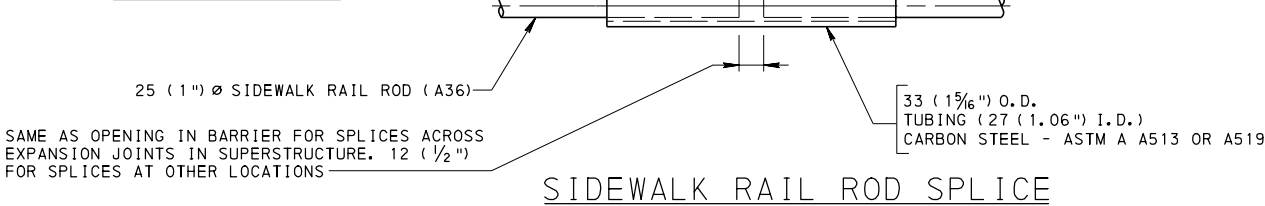
ELEVATION-POST
(TYPICAL)



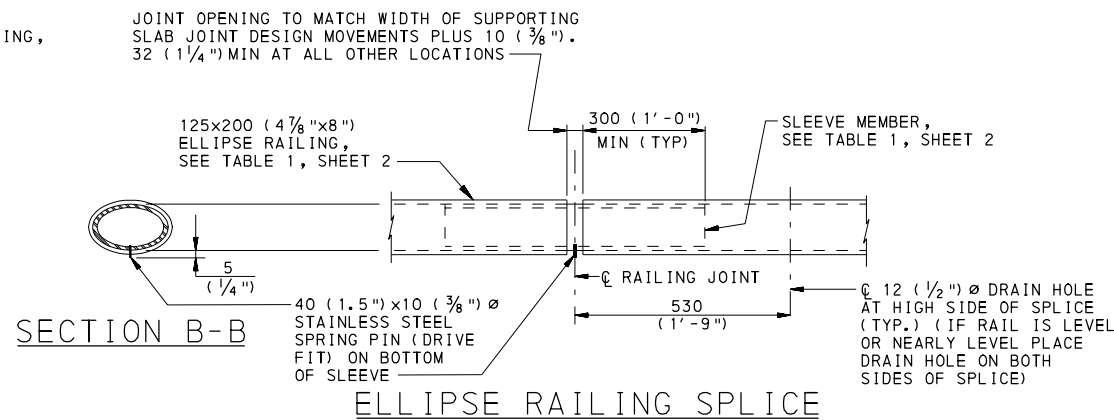
SECTION C-C



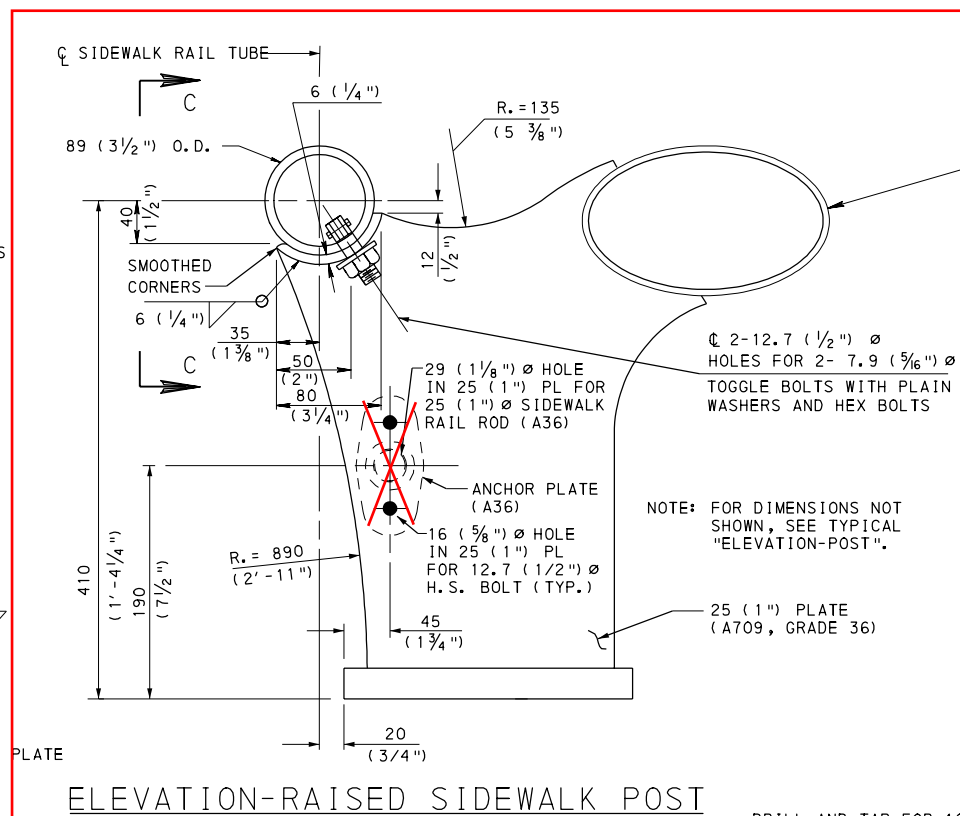
ELEVATION-ALTERNATE SIDEWALK POST



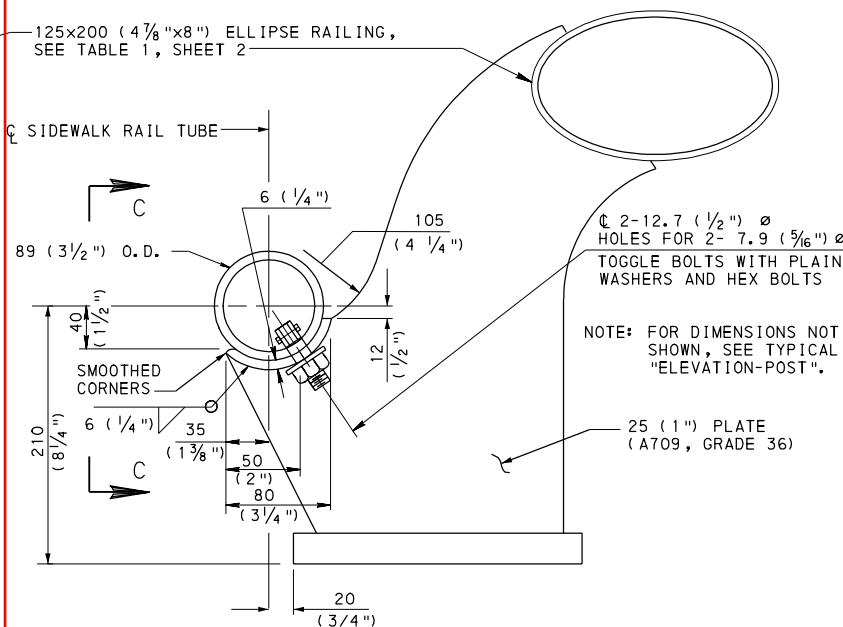
SIDEWALK RAIL ROD SPLICE



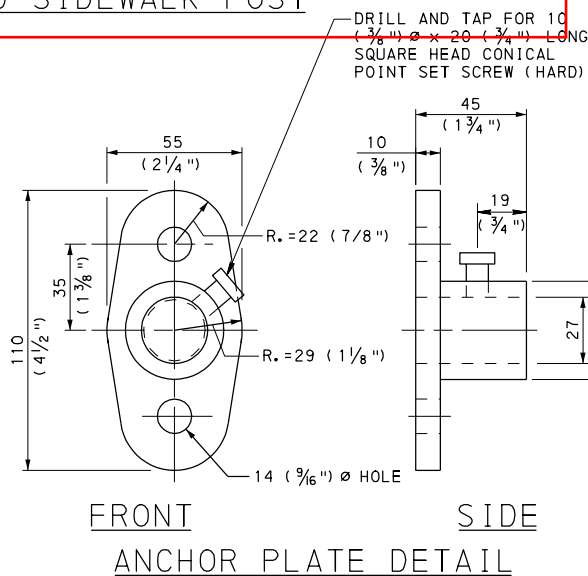
ELLIPSE RAILING SPLICE



ELEVATION-RAISED SIDEWALK POST



ELEVATION-SIDEWALK POST



FRONT
ANCHOR PLATE DETAIL
SIDE

- NOTES:
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.
 - PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PUBLICATION 408.
 - GALVANIZE ALL RAILING COMPONENTS (AFTER FABRICATION) IN ACCORDANCE WITH SECTION 1105.02(s), PUBLICATION 408 UNLESS OTHERWISE SHOWN ON THE PLANS.
 - COAT ALL SURFACES OF THE BASE PLATE IN CONTACT WITH CONCRETE WITH CAULKING COMPOUND PRIOR TO ERECTION. AFTER ERECTION AND ALIGNMENT, SEAL OPENINGS BETWEEN THE METAL SURFACES AND THE CONCRETE WITH CAULKING COMPOUND MEETING THE REQUIREMENTS OF SECTION 705, PUBLICATION 408.
 - THE MAJOR AND MINOR DIAMETERS OF THE RAIL MEMBER MAY VARY +/- 5 mm (0.1875 INCHES) FROM PLAN DIMENSION. HOWEVER, THE DIFFERENCE BETWEEN THE OUTSIDE DIAMETERS OF THE SLEEVE AND THE INSIDE DIAMETERS OF THE RAIL SHALL NOT EXCEED 3 mm (0.125 INCHES) ALONG THE MAJOR OR MINOR AXIS. THE MAXIMUM GAP ALONG THE 45° AXIS OF THE SLEEVE MAY BE 5 (1/4") MAX.
 - PLACE POST AND POST ANCHOR BOLTS NORMAL TO GRADE AND RAILS PARALLEL TO GRADE.
 - FOR SIDEWALK RAIL TUBE SPLICE DETAILS, SEE SHEET BC-720M.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF DESIGN			
STANDARD			
PA HT BRIDGE BARRIER MISCELLANEOUS DETAILS			
RECOMMENDED JUL.24, 2006 CHIEF BRIDGE ENGINEER <i>Thomas P. Neure</i>	RECOMMENDED JUL.24, 2006 DIR., BUREAU OF DESIGN <i>Scott Christen</i>	RECOMMENDED JUL.24, 2006 CHIEF ENG., HWY. ADMIN. <i>M. G. H. H. H.</i>	SHEET 1 OF 5 BC-707M



(DETAILS FOR ALTERNATE SIDEWALK RAIL SHOWN;
DETAILS FOR TYPICAL RAIL SIMILAR EXCEPT SIDEWALK
RAIL ROD NOT INCLUDED. FOR SECTION VIEWS, SEE SHEET 1)

C 125x200 (4 7/8 "x8 ") ELLIPSE
 RAILING, ASTM-A53E OR S GRADE B
 5mm (0.188 ") THICK

105
 (4 1/8 ")

165
 (6 1/2 ")

50
 (2 ")

150
 (6 ")

190
 (7 1/2 ")

ANCHOR PLATE
 (A36)

—16 (5/8 ") Ø HOLE
 IN 25 (1 ") PL
 FOR 12.7 (1/2 ") Ø
 H. S. BOLT (TYP.)

(MODIFIED RAILING POST SHOWN IS USED ON THE TRANSITION SECTION OF THE CONCRETE BARRIER AT THE ALTERNATE SIDEWALK RAIL AND TYPICAL RAIL ONLY.
FOR DIMENSIONS, MATERIAL AND CONNECTION DETAILS NOT SHOWN, SEE TYPICAL "ELEVATION-POST", SHEET 1)



THE DIFFERENCE BETWEEN THE OUTSIDE DIAMETERS OF THE SLEEVE SPLICE AND THE INSIDE DIAMETERS OF THE MAIN RAIL NOT TO EXCEED 0.125 INCHES ALONG THE MAJOR AND MINOR AXIS. GAPS EXCEEDING THIS AMOUNT UP TO 5 (1/4") ARE PERMISSIBLE ALONG THE 45° AXES OF THE SLEEVE SPLICE RAIL.

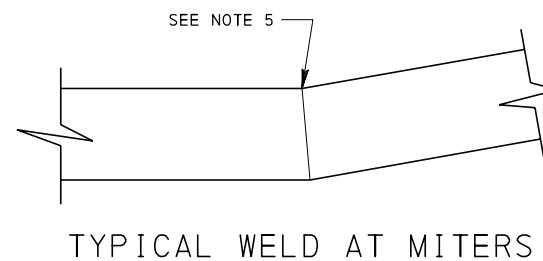


TABLE 1 U.S. CUSTOMARY UNITS		
APPROVED RAILING MATERIAL		
4 7/8" x 8" ELLIPSE RAILING	SLEEVE MEMBER (AT RAILING SPLICE)	
MATERIAL	MATERIAL	THICKNESS
6" DIA. STD. PIPE ASTM-A53 E OR S GRADE B	ASTM-A53-B	0.353"
	A36 OR A500 GR. B	0.339"
	API-5LX52	0.224"
6 5/8" O.D. x .188" TUBE API-5LX52	ASTM-A53-B	0.339"
	A36 OR A500 GR. B	0.325"
	API-5LX52	0.216"

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.
2. THE CONCRETE PORTION OF PA HT BRIDGE BARRIER IS THE SAME AS THE ALTERNATE BARRIER. FOR REINFORCEMENT DETAILS IN THE TRANSITION, SEE THE STRUCTURE PLANS.
3. FOR GUIDERAIL TRANSITION DETAILS, SEE BC-739M.
4. FOR ADDITIONAL NOTES, SEE SHEET 1.
5. COMPLETE JOINT PENETRATION GROOVE WELD. GRIND FLUSH ON OUTSIDE FACE. SHOW SPECIFIC WELD SYMBOL ON SHOP DRAWINGS.

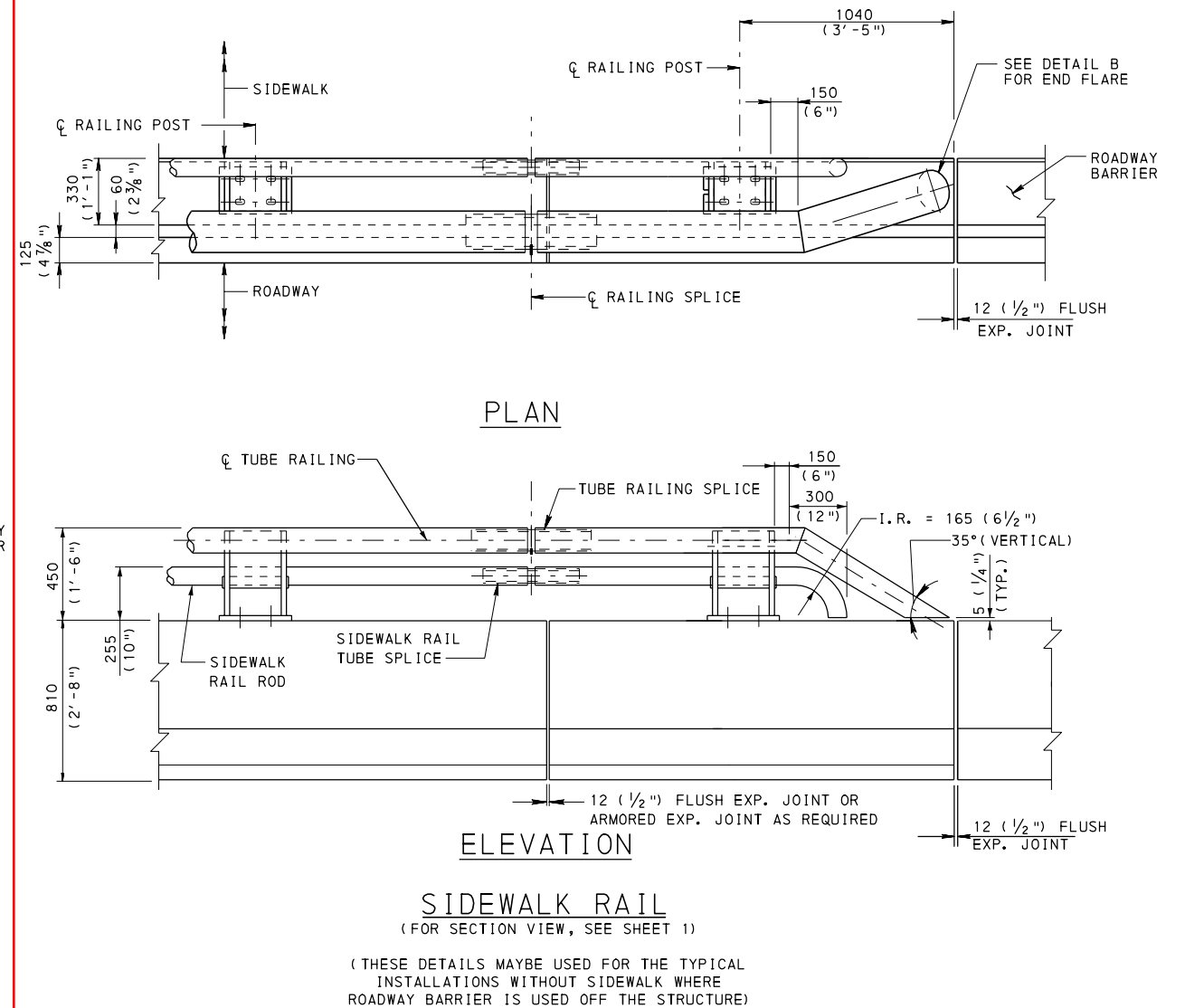
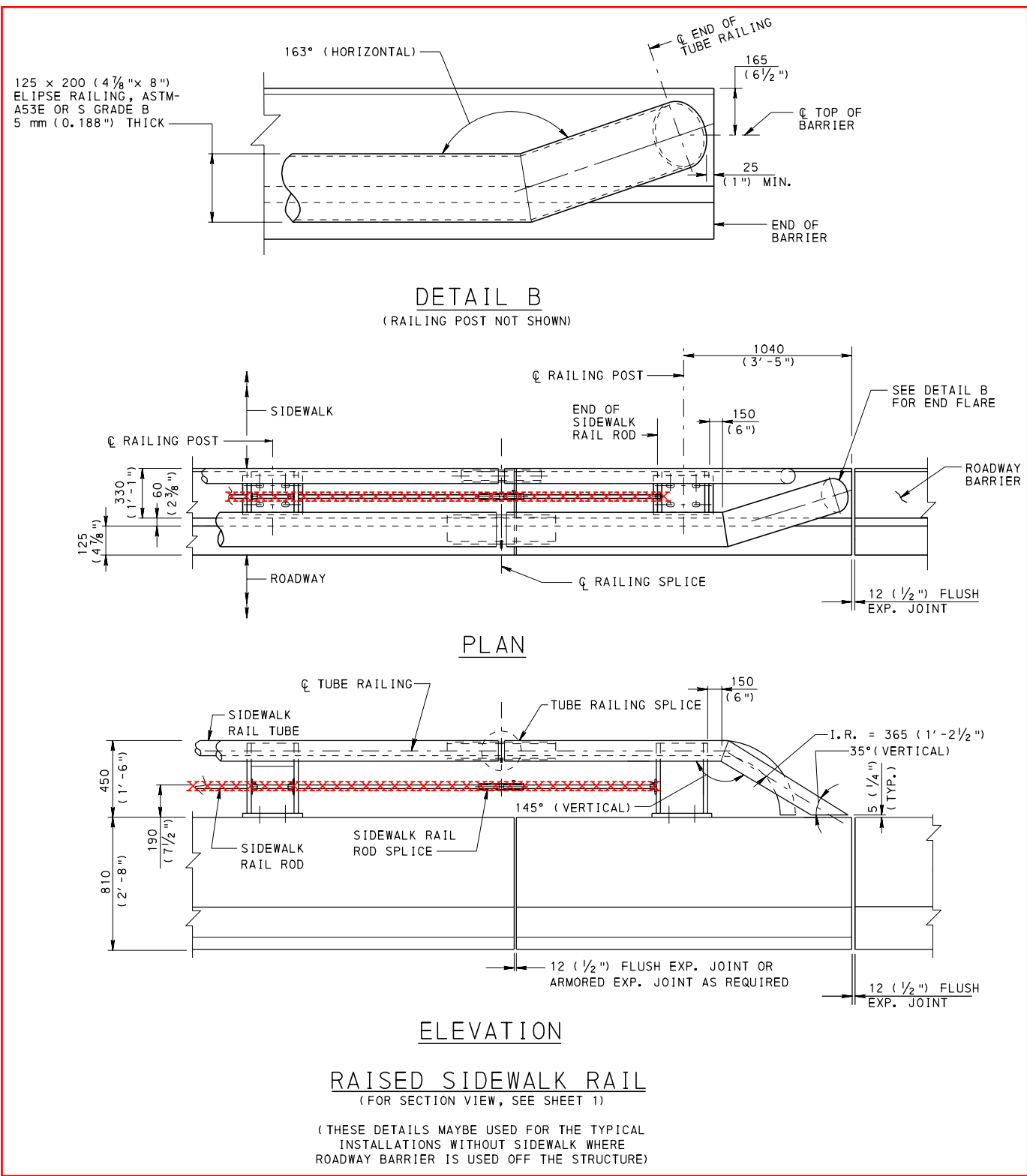
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES
MUST BE USED ON PLANS. METRIC AND
ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
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PA HT BRIDGE BARRIER
MISCELLANEOUS DETAILS

BC-720M	ALUMINUM OR STEEL BRIDGE HAND RAILING	RECOMMENDED JUL. 24, 2006	RECOMMENDED JUL. 24, 2006	RECOMMENDED JUL. 24, 2006	SHEET 2 OF 5
BC-739M	BRIDGE BARRIER TO GUIDE RAIL TRANSITION	Thomas P. Navarro CHIEF BRIDGE ENGINEER	Scott Christian DIR., BUREAU OF DESIGN	M. C. Patel CHIEF ENG., HWY. ADMIN.	
REFERENCE DRAWINGS		BC-707M			



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.
2. THE CONCRETE PORTION OF PA HT BRIDGE BARRIER IS THE SAME AS THE ALTERNATE BARRIER. FOR REINFORCEMENT DETAILS IN THE TRANSITION, SEE THE STRUCTURE PLANS.
3. FOR TYPICAL WELD DETAIL AT MITERS, SEE SHEET 2.
4. FOR ADDITIONAL NOTES, SEE SHEET 1.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

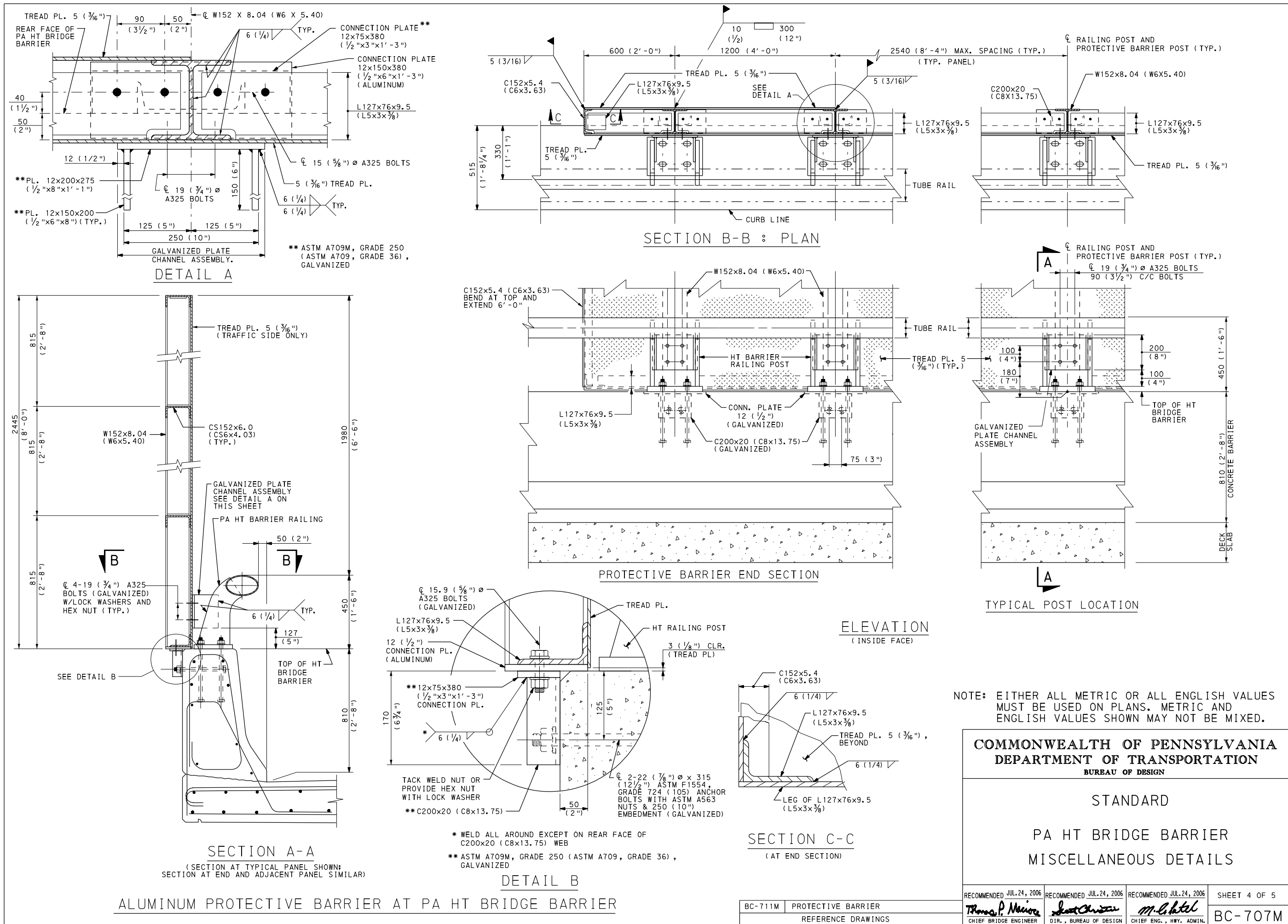
PA HT BRIDGE BARRIER END DETAILS

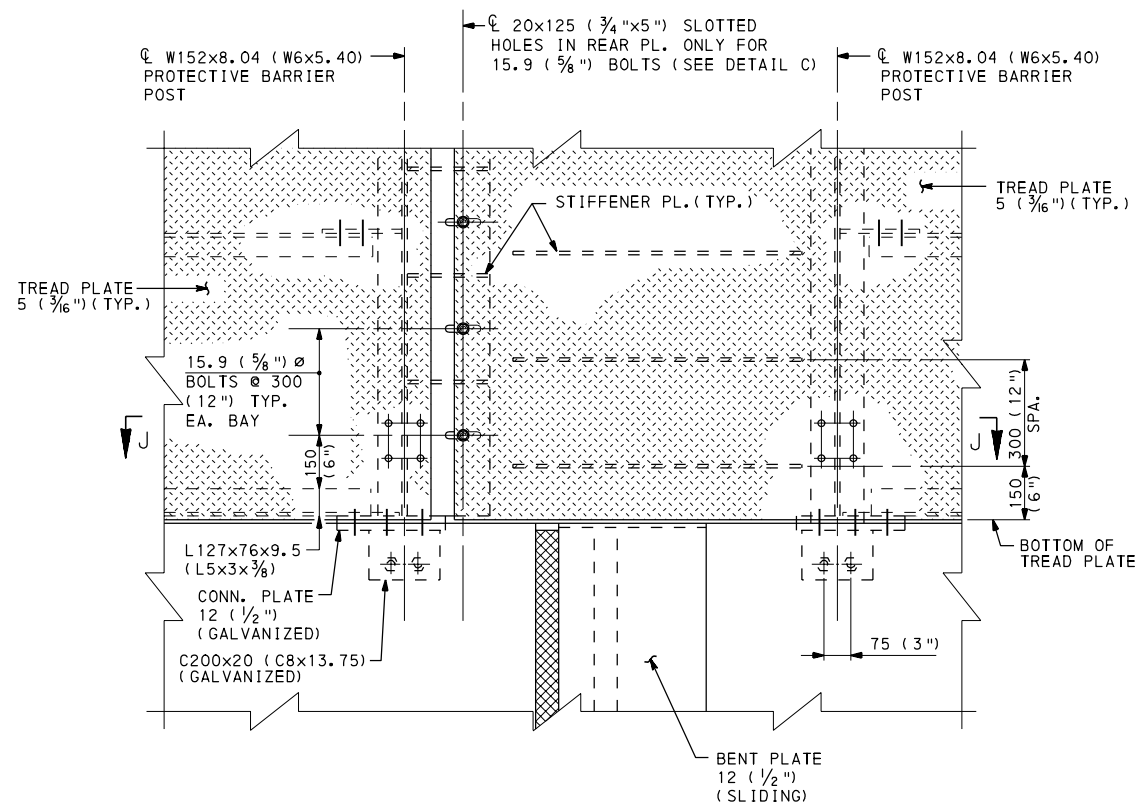
COMMONWEALTH OF PENNSYLVANIA
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PA HT BRIDGE BARRIER
MISCELLANEOUS DETAILS

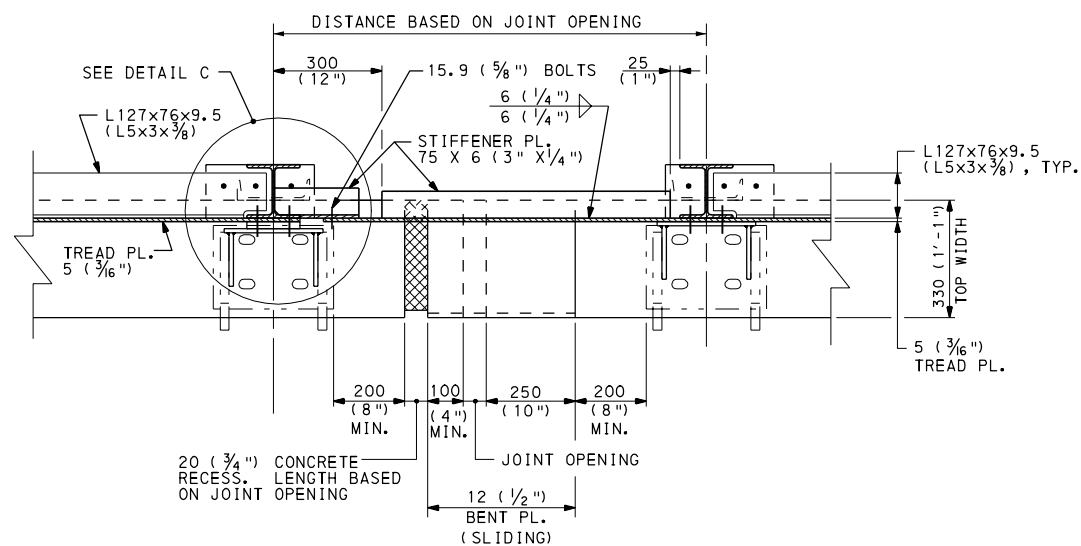
BC-720M	ALUMINUM OR STEEL BRIDGE HAND RAILING	RECOMMENDED JUL. 24, 2006	RECOMMENDED JUL. 24, 2006	RECOMMENDED JUL. 24, 2006	SHEET 3 OF 5
BC-739M	BRIDGE BARRIER TO GUIDE RAIL TRANSITION	<i>Thomas P. Neure</i>	<i>Scott Christen</i>	<i>M. L. H. H. H.</i>	BC-707M
REFERENCE DRAWINGS		CHIEF BRIDGE ENGINEER	DIR., BUREAU OF DESIGN	CHIEF ENG., HWY. ADMIN.	





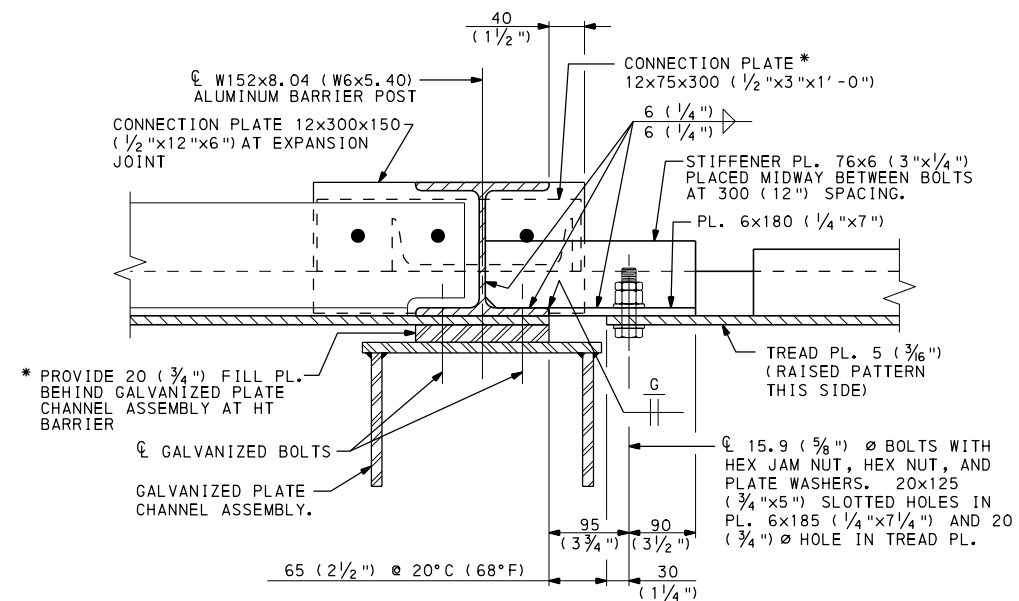
ELEVATION

NOTE: FOR CLARITY, HT RAILING POSTS, TUBE RAILS AND BASE PLATES ARE NOT SHOWN.



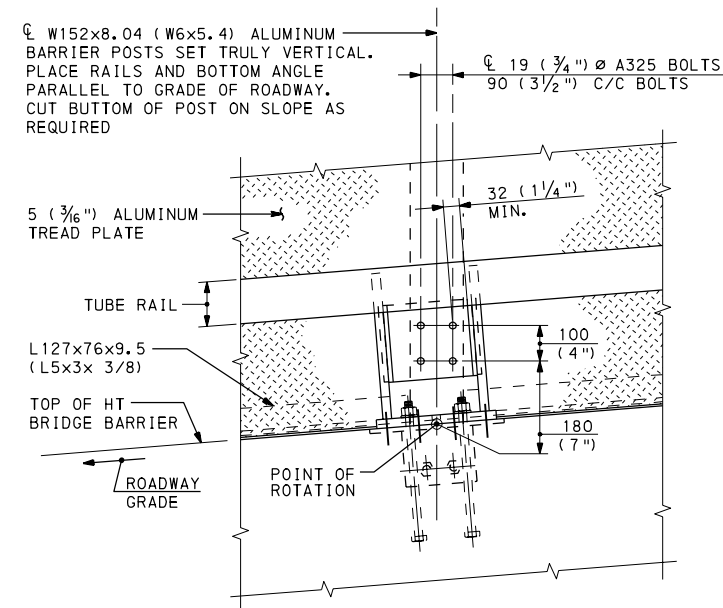
SECTION J-J

EXPANSION JOINT AT PIERS



DETAIL C

* ASTM A709M, GRADE 250
(ASTM A709, GRADE 36),
GALVANIZED



POST MOUNTING ON GRADE

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESES.
2. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH PUBLICATION 408.
3. PROVIDE ELASTOMERIC PADS OR WASHERS 3 (1/8) MIN. THICKNESS CONFORMING TO PUB. 408, SECTION 1107.02(P), TYPE I, BETWEEN CONTACT SURFACES WHEREVER ALUMINUM COMPONENTS COME IN CONTACT WITH GALVANIZED STEEL. ALSO PROVIDE FABRIC BUSHING MATERIAL CONFORMING TO SECTION 1107.02 (P), TYPE II, WHEREVER GALVANIZED STEEL BOLTS COME IN CONTACT WITH ALUMINUM.
4. PROVIDE ALL COMPONENTS AND DETAILS OF ALUMINUM PROTECTIVE BARRIER AS SHOWN ON BC-711M, EXCEPT AS MODIFIED HERE.
5. EXPANSION DETAILS, SLOTTED OPENINGS, AND CLEARANCES SHOWN ARE FOR MOVEMENTS UP TO 50 (2) INCH, EXPANSION OR 50 (2) INCH CONTRACTION. ADJUST ALL EXPANSION JOINT DETAILS SHOWN AND PROVIDE SPECIAL DETAILS AS REQUIRED FOR LARGER MOVEMENTS.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

STANDARD

PA HT BRIDGE BARRIER
MISCELLANEOUS DETAILS

ALUMINUM PROTECTIVE BARRIER AT PA HT BRIDGE BARRIER