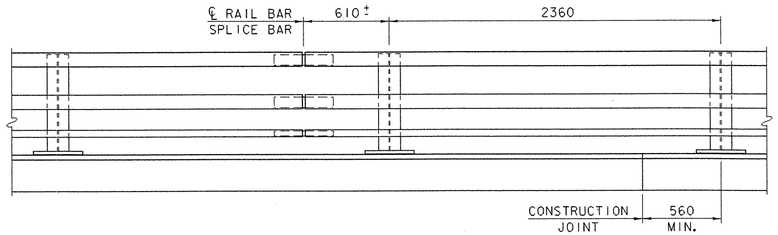
Metric

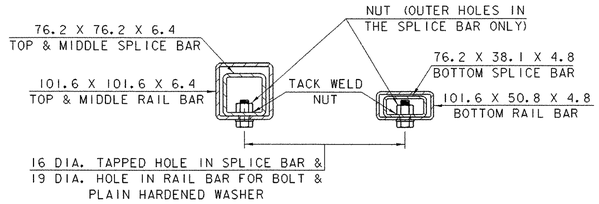


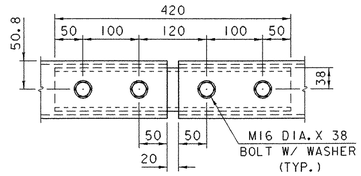
BRIDGE RAIL ELEVATION

0 1 2

SCALE = 1:20

(ORNAMENTAL RAILING NOT SHOWN)





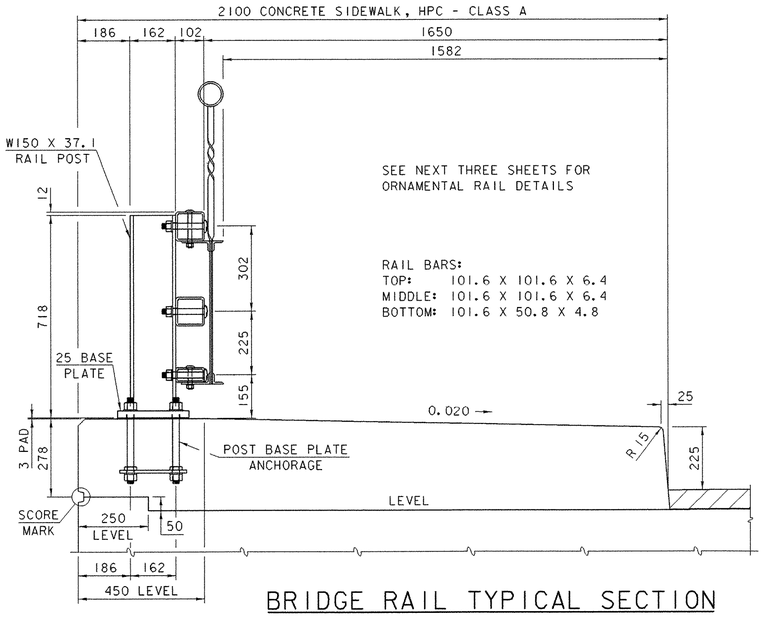
RAIL SPLICE BAR DETAILS

0 0.25 0.5

SCALE = 1:5

NOTES

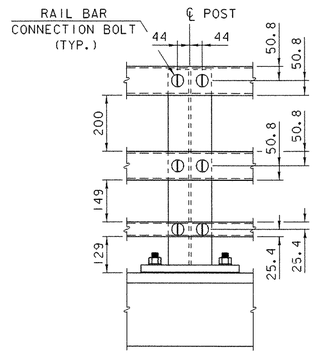
1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525 - RAILINGS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732 - RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1.6 mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL BAR SHALL BE ATTACHED TO A MINIMUM OF TWO [2] RAIL POSTS AND PREFERABLY TO AT LEAST FOUR [4] POSTS.
6. ALL RAILING PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SUBSECTION 506.15 AND PAINTED BLACK, COLOR CHIP #27038 IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 513.
7. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
8. RAIL BARS SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164M (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE BAR. HOLES IN POSTS SHALL BE 2 mm LARGER THAN THE BOLT SIZE.
9. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
10. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, DRAWINGS AND PROCEDURES. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
11. THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING ON THESE DETAILS.
12. HOLES IN RAILS FOR RAIL BAR ATTACHMENT MAY BE FIELD DRILLED. THE HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH BLACK PAINT.



BRIDGE RAIL TYPICAL SECTION

0 0.5 1

SCALE = 1:10

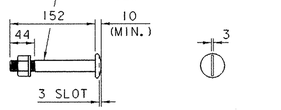


HOLES IN RAIL BARS SHALL BE 3 mm LARGER THAN CONNECTION BOLTS

POST ELEVATION

0 0.5 1

SCALE = 1:10



RAIL BAR CONNECTION BOLT

0 0.25 0.5

SCALE = 1:5

NOTE: ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.

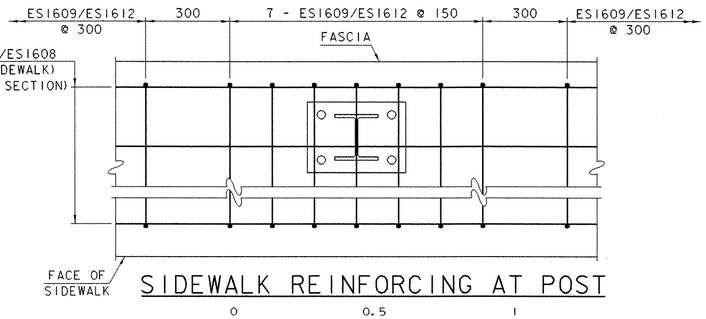
MATERIALS

RAIL BARS..... ASTM A500, GRADE B OR ASTM A501
RAIL POSTS..... ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES & PLATES..... ASTM A709/A709M, GRADE 250
ANCHOR STUDS..... ASTM F568M, CLASS 8.8
ALL OTHER BOLTS [UNLESS NOTED]..... AASHTO M164M, TYPE 1

NUTS FOR AASHTO M164M BOLTS SHALL COMPLY WITH AASHTO M291M. NUTS FOR ANCHOR BOLTS SHALL COMPLY WITH AASHTO M291M.

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATION.

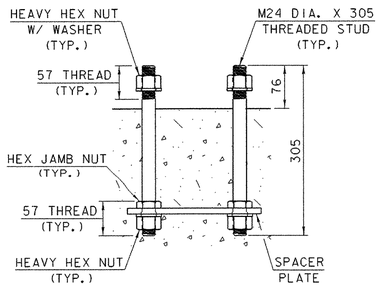
3 mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSCETION 731.01 OR 731.02.



SIDEWALK REINFORCING AT POST

0 0.5 1

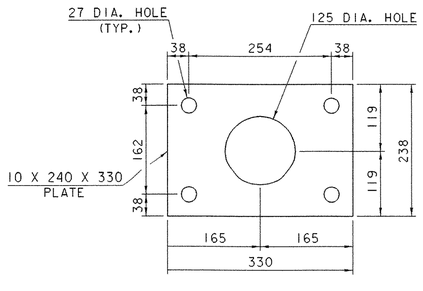
SCALE = 1:10



POST BASE PLATE ANCHORAGE

0 0.25 0.5

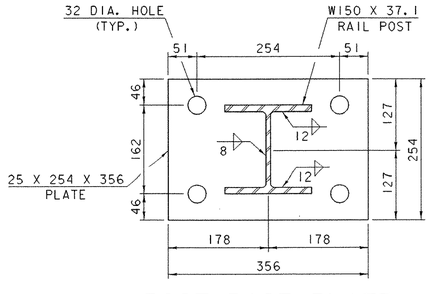
SCALE = 1:5



SPACER PLATE

0 0.25 0.5

SCALE = 1:5



POST BASE PLATE

0 0.25 0.5

SCALE = 1:5

BRIDGE RAIL DETAILS

PROJECT NAME: BRATTLEBORO
PROJECT NUMBER: BRO 2000 (17)

FILE NAME: 94J078\structures\sJ078brdl.i
PROJECT MANAGER: R. R. WHITCOMB
DESIGNED BY: G. ROY
PLOT DATE: 06-FEB-2003
DRAWN BY: G. ROY
CHECKED BY: T. SUMNER
SHEET 48 OF 71