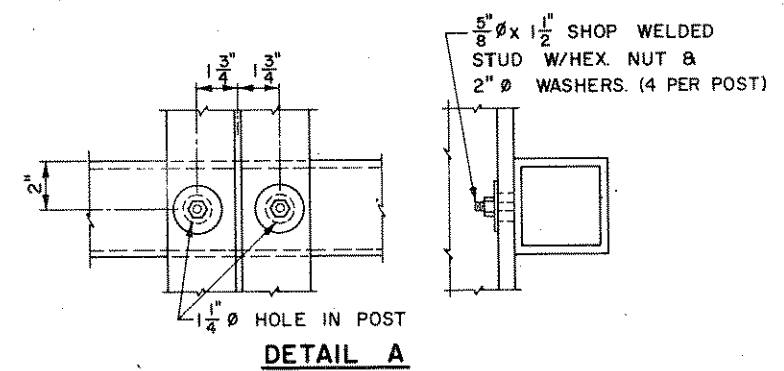
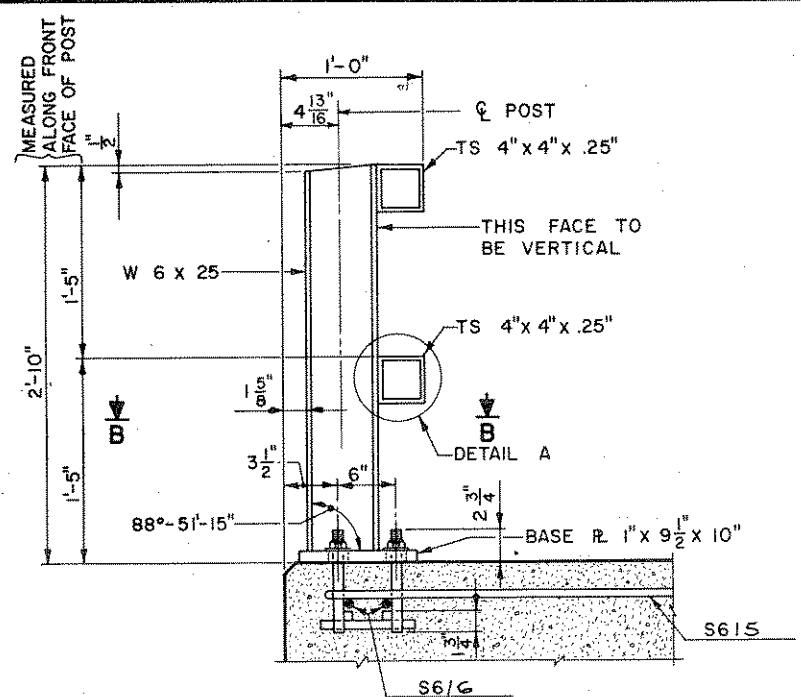


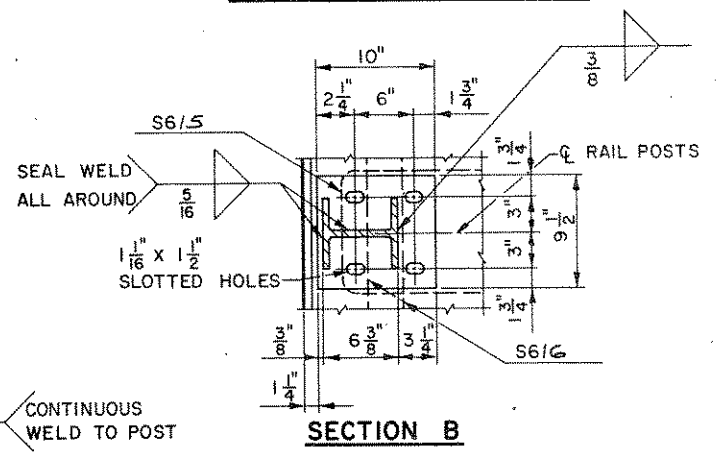
END DETAIL FOR WINGS



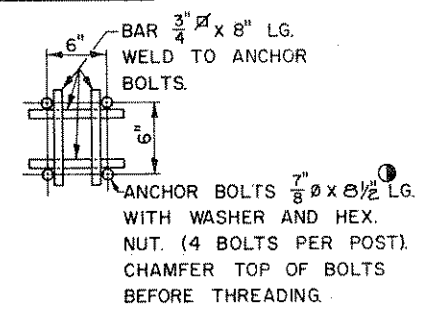
DETAIL A



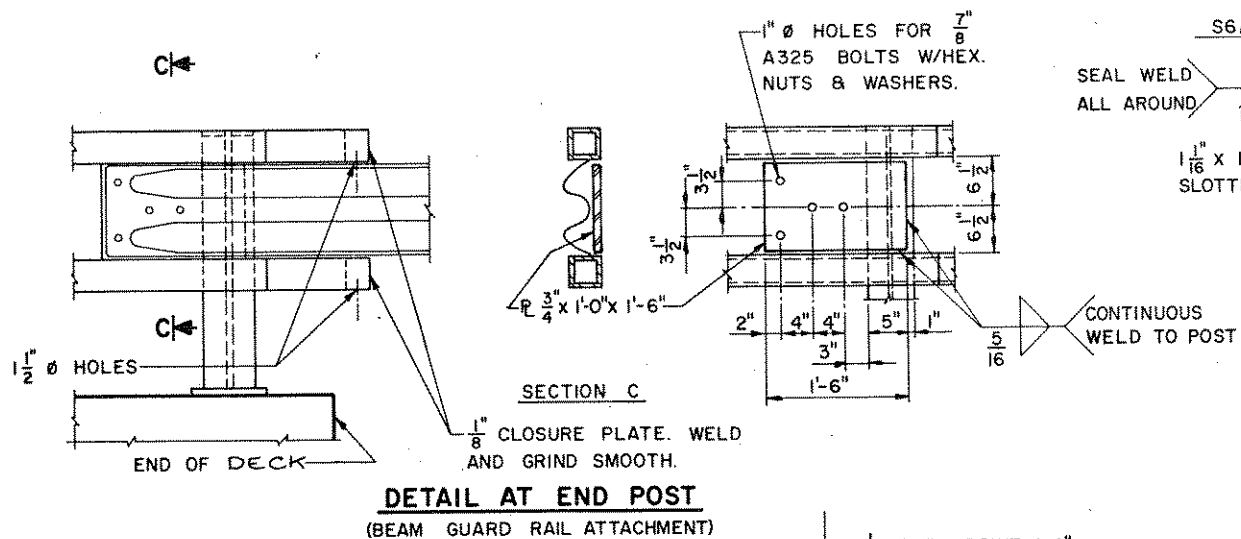
SECTION THRU RAILING



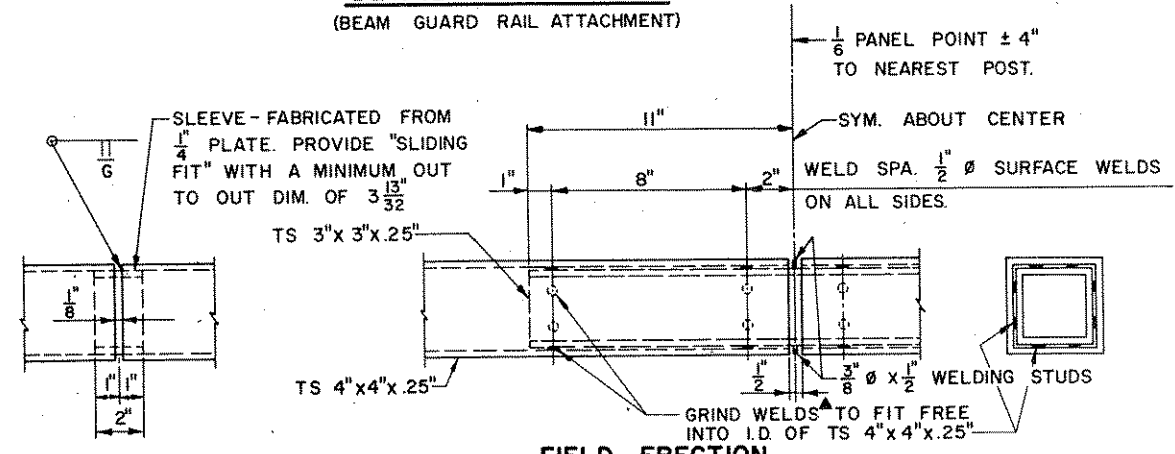
SECTION B



ANCHOR BOLT DETAIL

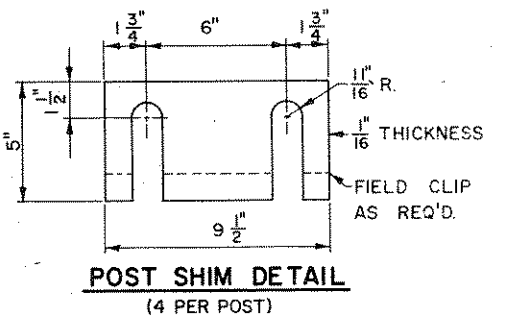


DETAIL AT END POST (BEAM GUARD RAIL ATTACHMENT)



FIELD ERECTION JOINT DETAIL

SHOP RAIL SPLICE DETAIL (LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



POST SHIM DETAIL (4 PER POST)

GENERAL NOTES

1. BID ITEM SHALL BE "TUBULAR RAILING, TYPE F"
2. POST BASE PLATE SHALL BE FLAT WITH ALL SURFACES SMOOTH & FREE FROM WARP & ALL EDGES SMOOTH, STRAIGHT & VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
3. RAILING SHALL BE 4" x 4" x .25" STRUCTURAL TUBING CONFORMING TO A.S.T.M. DESIGNATION A36.
4. ANCHOR BOLTS SHALL BE 7/8" NOMINAL CONFORMING TO A.S.T.M. A449 WITH 3" THREAD AND A325 NUTS AND WASHERS.
5. CAULK EXPOSED OPENINGS BETWEEN SHIMS.
6. POST, BASE PLATES & SHIMS SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A36. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST NORMAL TO GRADE LINE.
7. PLACE ANCHOR BOLTS NORMAL TO BASE PLATE.
8. ALL MEMBERS, INCLUDING UPPER 4" OF ANCHOR BOLTS, SHALL BE GALVANIZED AFTER FABRICATION.
9. WELD WITH E70 ELECTRODES.
10. FILL BOLT SLOT OPENINGS IN POST SHIMS AND BASE PLATE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
11. STEEL SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.
12. RAILING SHALL BE FABRICATED IN 2 AND 3 PANEL LENGTHS.
13. PRIOR TO GALVANIZING, ALL STEEL RAILING SHALL BE GIVEN A NO. 6 COMMERCIAL BLAST CLEANING BY S.S.P.C. SPECIFICATIONS. BLAST CLEANING IS NOT REQUIRED FOR COLD FORMED 4" x 4" x .25" STRUCTURAL TUBING, EXCEPT TO REMOVE WELDING SLAG AND IMPERVIOUS SUBSTANCES.

- ▲ MINIMUM 5/8" FLAT SURFACE DIAMETER PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.
- OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION. (MIN. YIELD OF 92 K.S.I. AND ELONGATION OF 14%).
- ① 1'-3" LG. ANCHOR BOLTS AT END POSTS.

No.	Date	Revision	By
AYRES ASSOCIATES Engineers / Architects Planners / Surveyors Owen Ayres & Associates Inc. Eau Claire, Wisconsin			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-35-110			
Const. Spec. 1989	Drawn By G.L.D.	Plans Checked C.B.M.	
TUBULAR RAILING TYPE "F"			SHEET 9 OF 9 X 82833