

**END POST DETAIL**  
 ■ INDICATES END POST REQUIRED AT THIS LOCATION

**NOTES:**

JOINTS IN RAILING (SPLICE GAP) SHALL BE LOCATED AS SHOWN IN HANDRAIL AND POST SPACING PLAN.

ALUMINUM PIPE TO BE ASTM B-429, ALLOY 6061-T6 AND BASE PLATE TO BE ASTM B-209, ALLOY 6061-T6.

STAINLESS STEEL BOLTS, CAP SCREWS, AND NUTS TO BE ASTM A-276 TYPE 304. STAINLESS STEEL WASHERS TO BE ASTM A-276 TYPE 302.

POSTS TO BE SET PERPENDICULAR TO TOP OF PARAPET AND RAILS SHALL BE PLACED PARALLEL TO THE GRADE OF THE BRIDGE.

CERTIFIED MILL REPORTS ARE REQUIRED FOR RAIL AND POSTS. SHOP INSPECTIONS ARE NOT REQUIRED.

AFTER ANCHOR ROD NUTS HAVE BEEN TIGHTENED, THREADS SHALL BE NICKED TO LOCK NUTS.

CURVED RAIL USAGE: WHERE RAILS ARE TO BE USED ON BRIDGES ON HORIZONTAL AND/OR VERTICAL CURVATURE THE CONTRACTOR MAY AT HIS OPTION HAVE THE REQUIRED CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. IN EITHER EVENT THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

ANCHOR PLATES SHALL BE STEEL CONFORMING TO ASTM SPECIFICATION A36.

ANCHOR RODS SHALL CONFORM TO ASTM SPECIFICATION A276 TYPE 302 OR 304, STAINLESS STEEL AND THREADS SHALL BE ROLLED, NOT CUT.

UPPER ANCHOR ROD NUTS SHALL BE HEAVY HEX NUTS, PER ASTM A276 TYPE 302 OR 304 STAINLESS STEEL.

LOWER ANCHOR ROD NUTS SHALL BE HEAVY HEX STEEL NUTS, PER ASTM A563.

THE CENTERLINE OF ANY SPLICE AND/OR EXPANSION JOINT IS TO BE LOCATED AT LEAST 2'-0" AWAY FROM CENTERLINE OF POST. EXPANSION AND/OR SPLICE JOINTS FOR EACH RAIL OF TWO RAILINGS ARE TO BE PLACED IN THE SAME LOCATION AND IN THE SAME PANEL.

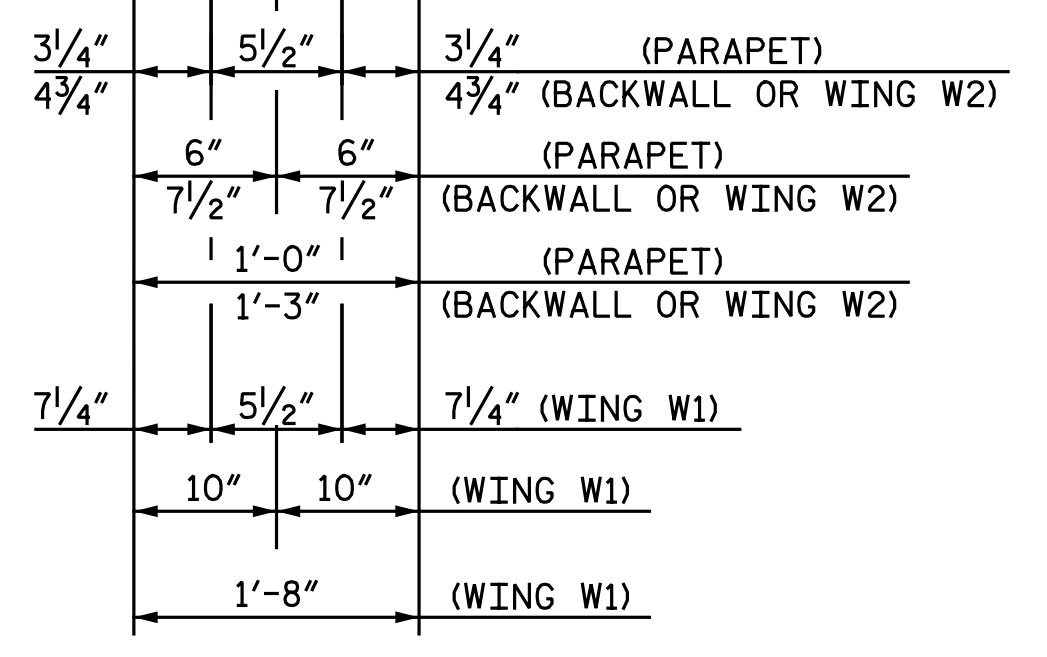
WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT AWS STRUCTURAL WELDING CODE - ALUMINUM.

THE LENGTH OF METAL RAIL TO BE PAID FOR SHALL BE THE CONTINUOUS LENGTH MEASURED FROM END TO END OF RAIL, ALONG THE TOP RAIL.

SHOP DRAWINGS SHALL BE REQUIRED.

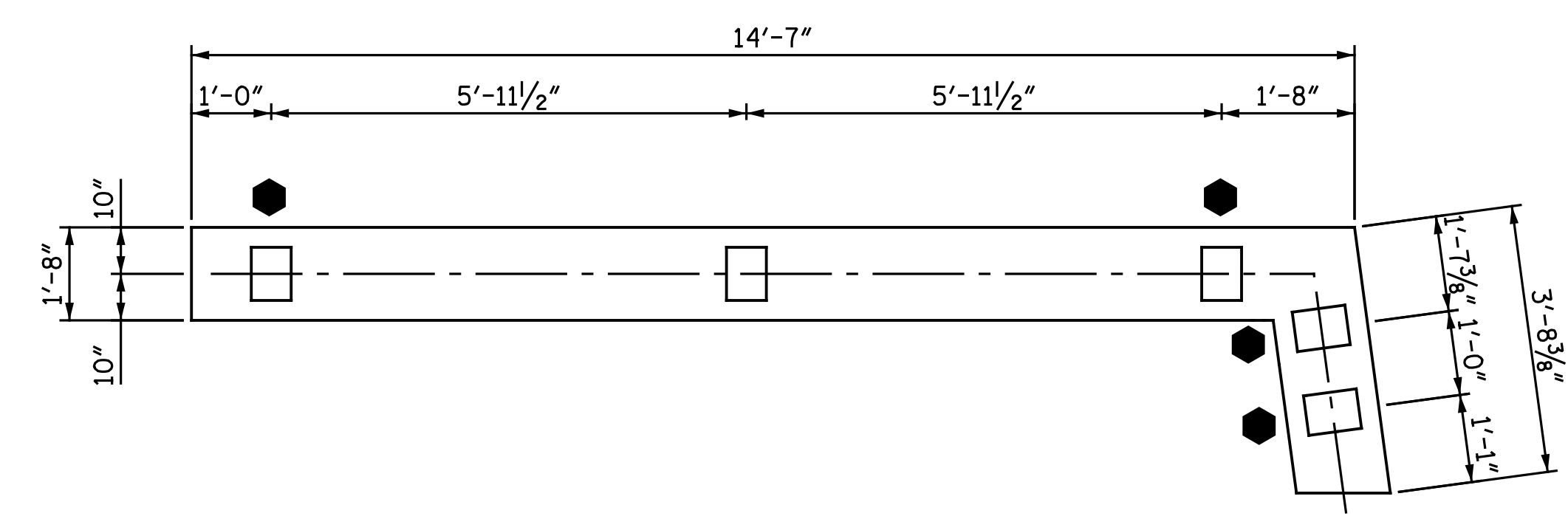
FOR METAL HANDRAIL, SEE SPECIAL PROVISIONS.

LENGTH = 369.80 LIN. FT.

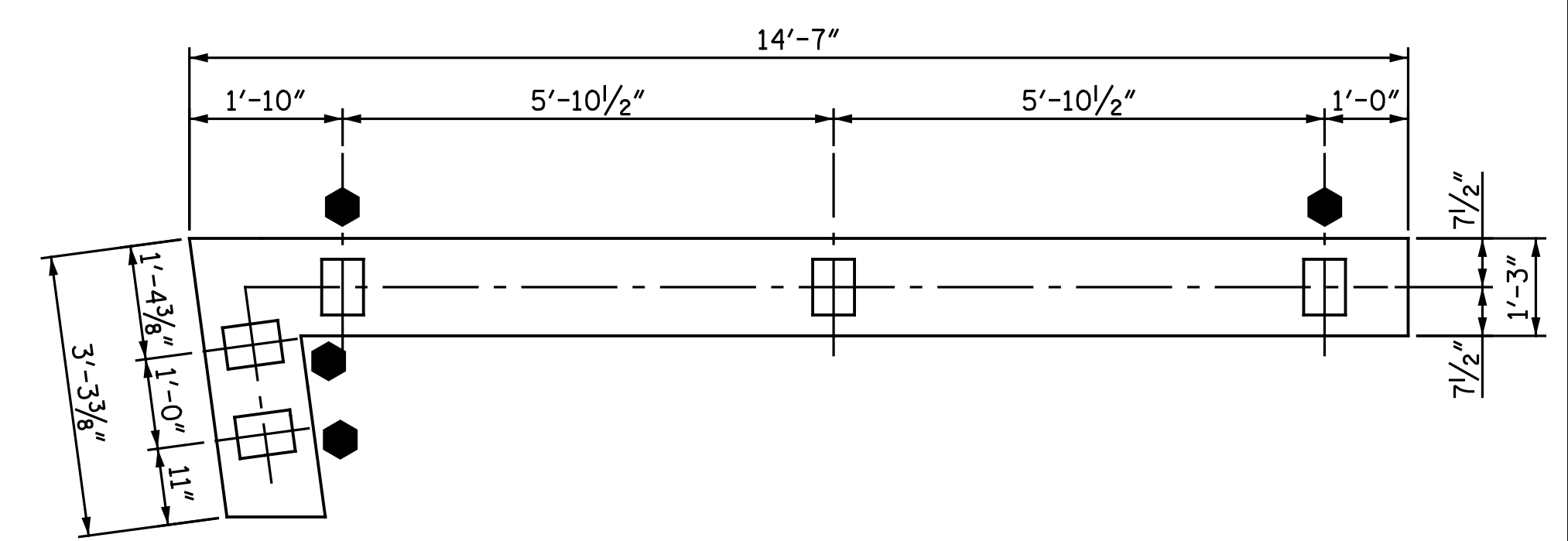


**SECTION A-A**

**FRONT VIEW**

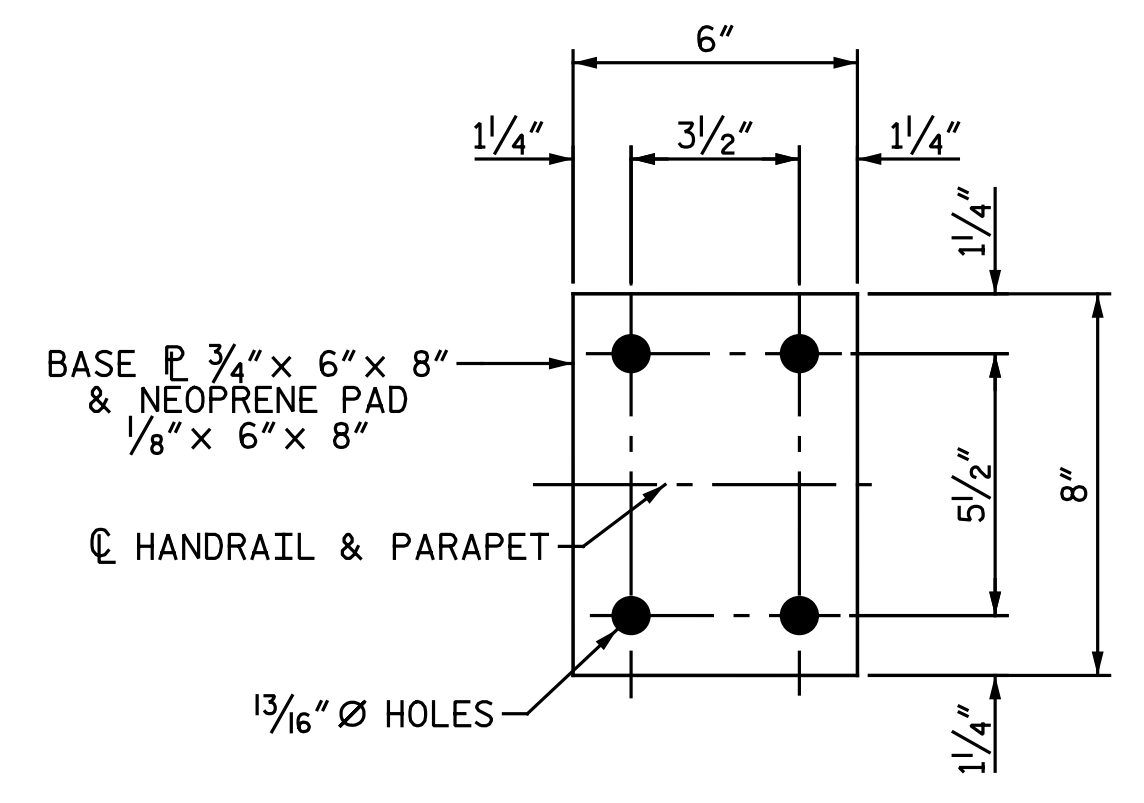


**HANDRAIL DETAIL WING W1**

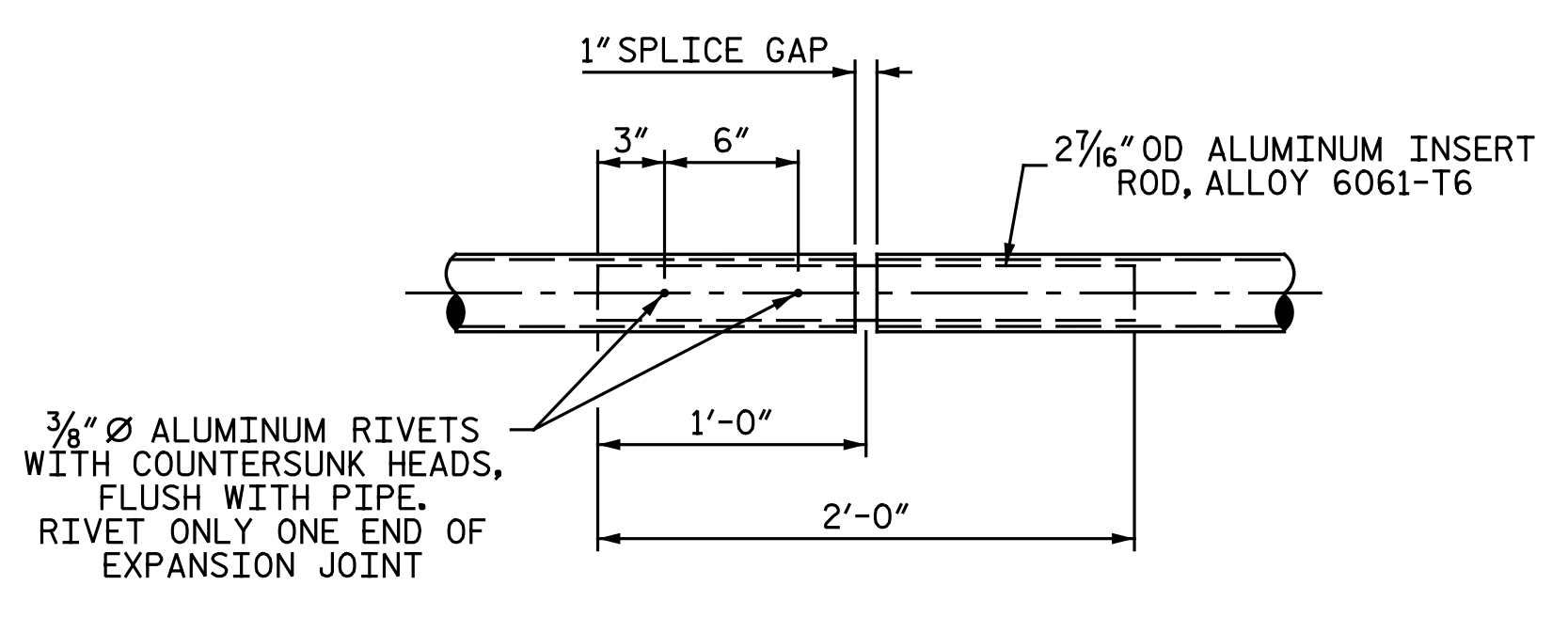


**HANDRAIL DETAIL WING W2**

**HANDRAIL POST SPACING - WINGWALLS**

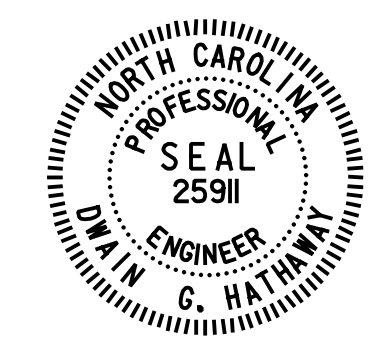


**BASE PLATE & NEOPRENE PAD DETAIL**



**RAIL EXPANSION JOINT DETAIL**  
 (TYPICAL 14 PLACES)

PROJECT NO. U-3308  
DURHAM COUNTY  
 STATION: 24+55.20 -LALT-  
13+22.18 -CSXN-  
 SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**HANDRAIL DETAILS**



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 Cary, North Carolina 27618  
 NC License No.: F-1084

REVISIONS						SHEET NO. S4-26
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 68
2			4			

5/3/2016 9:37:11 AM  
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DRAWN BY: M. D. MAYHEW DATE: 1-8-14  
 CHECKED BY: S. A. DENNEY DATE: 3-3-14