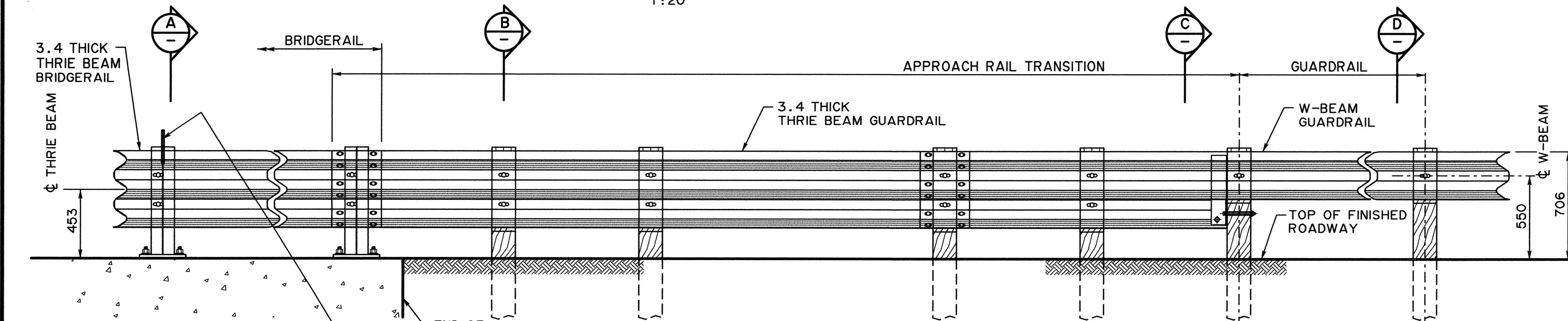
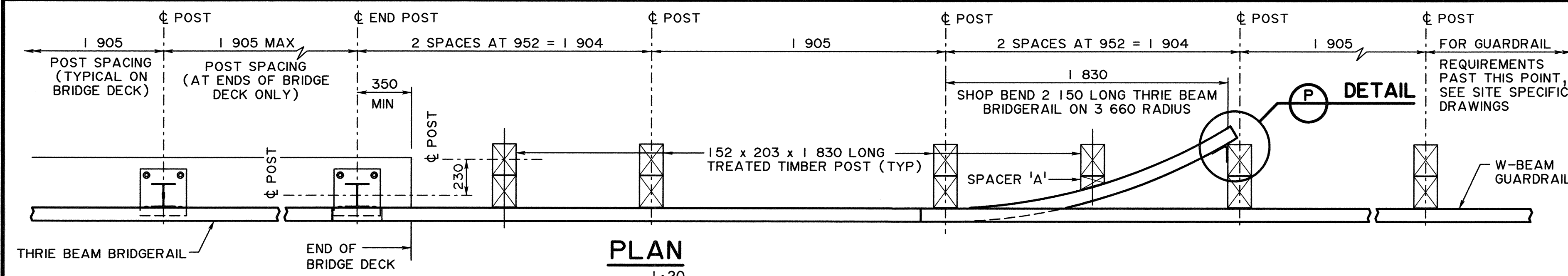
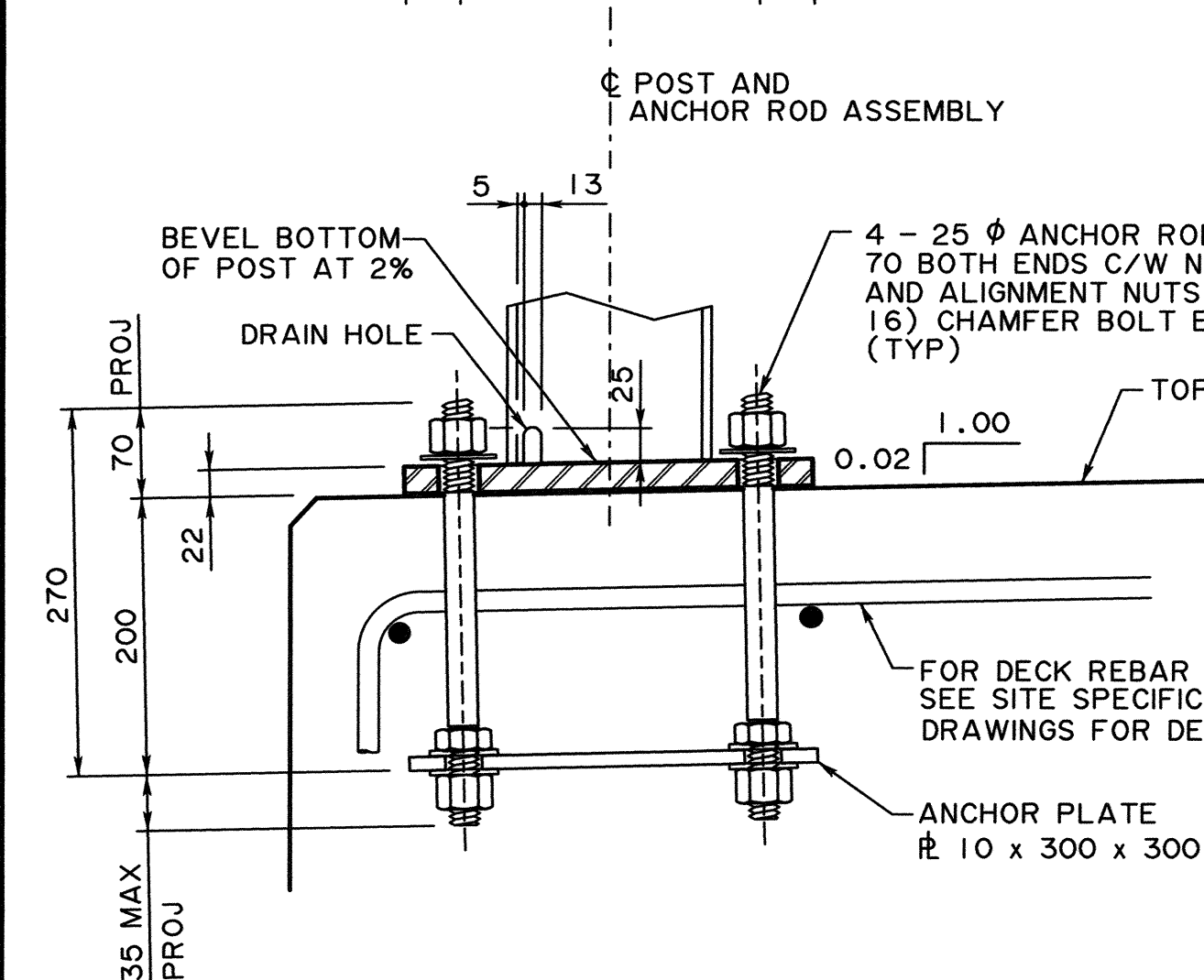
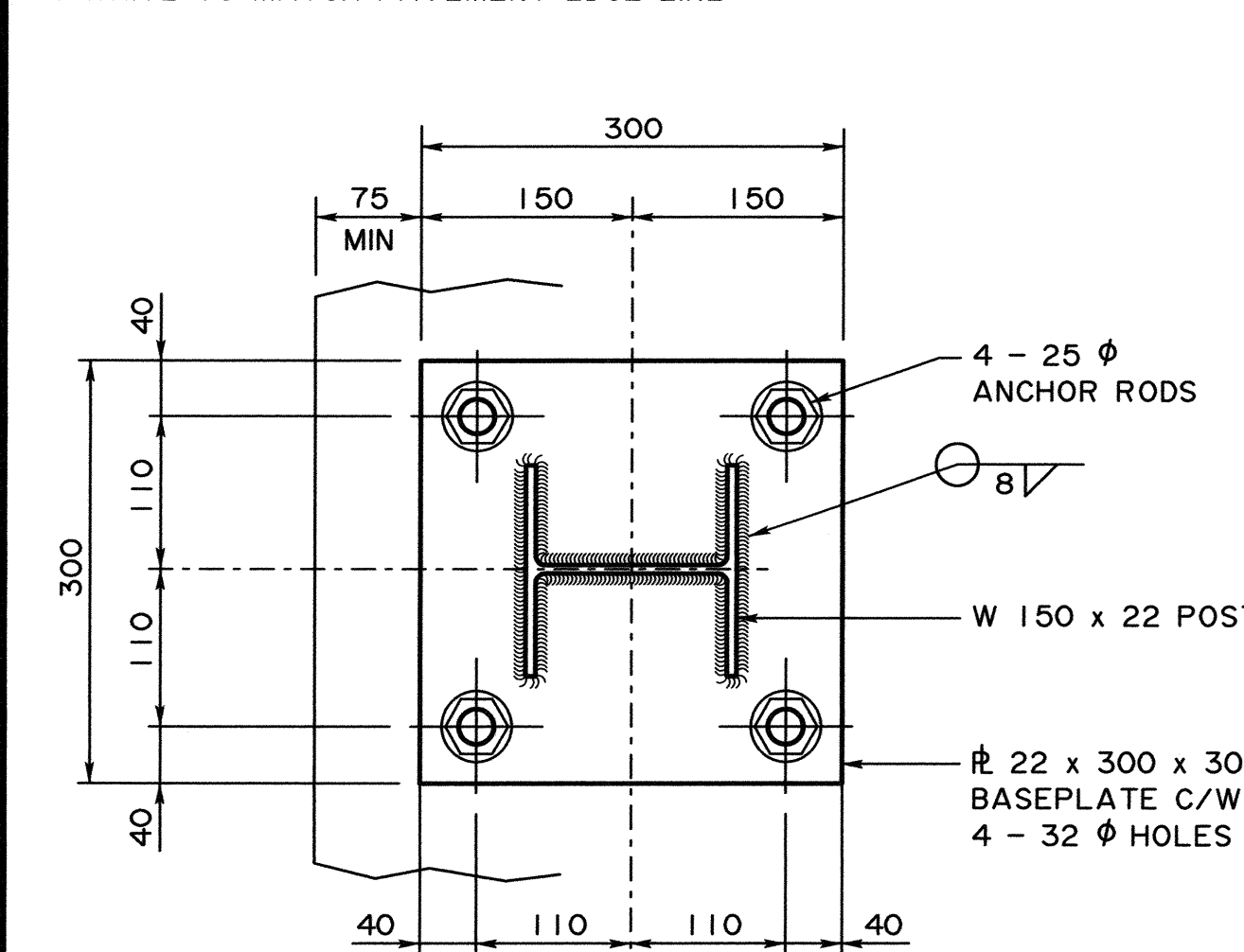


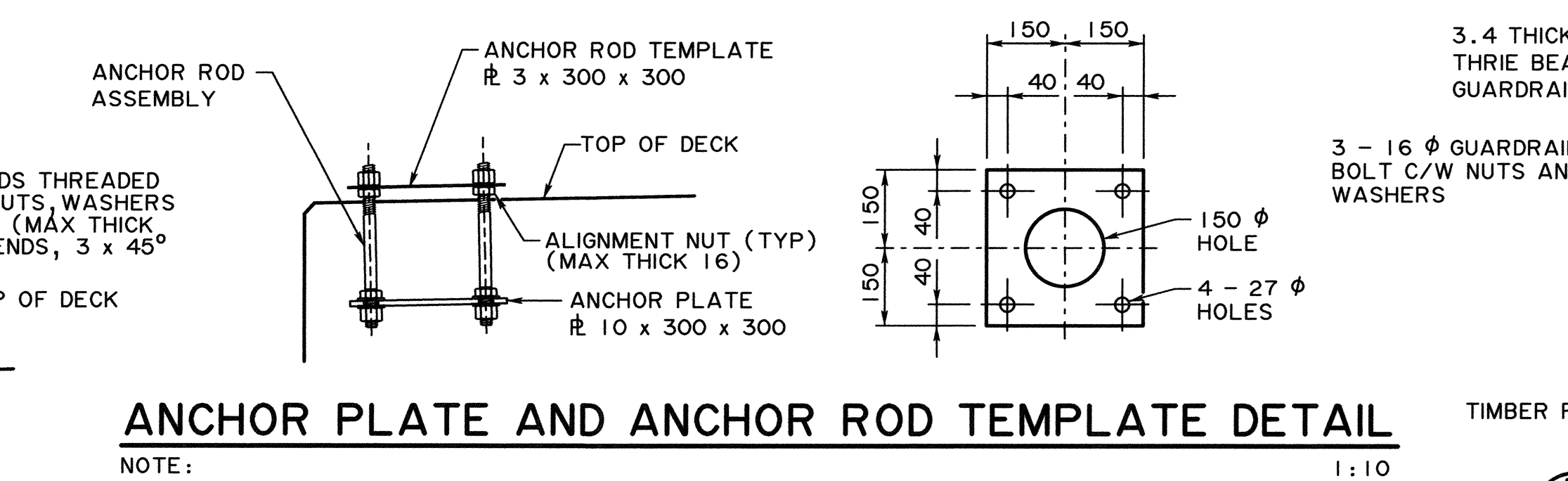
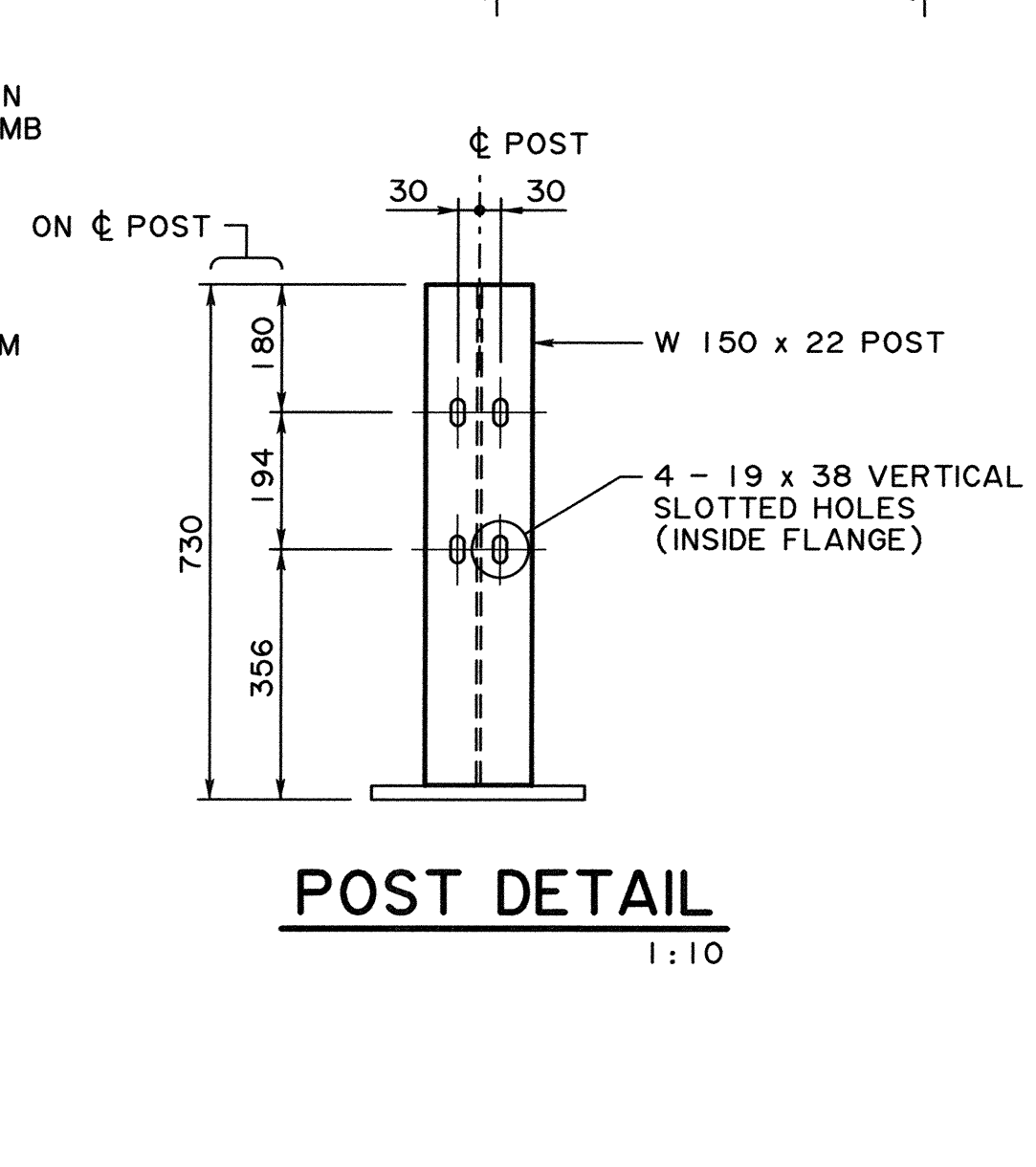
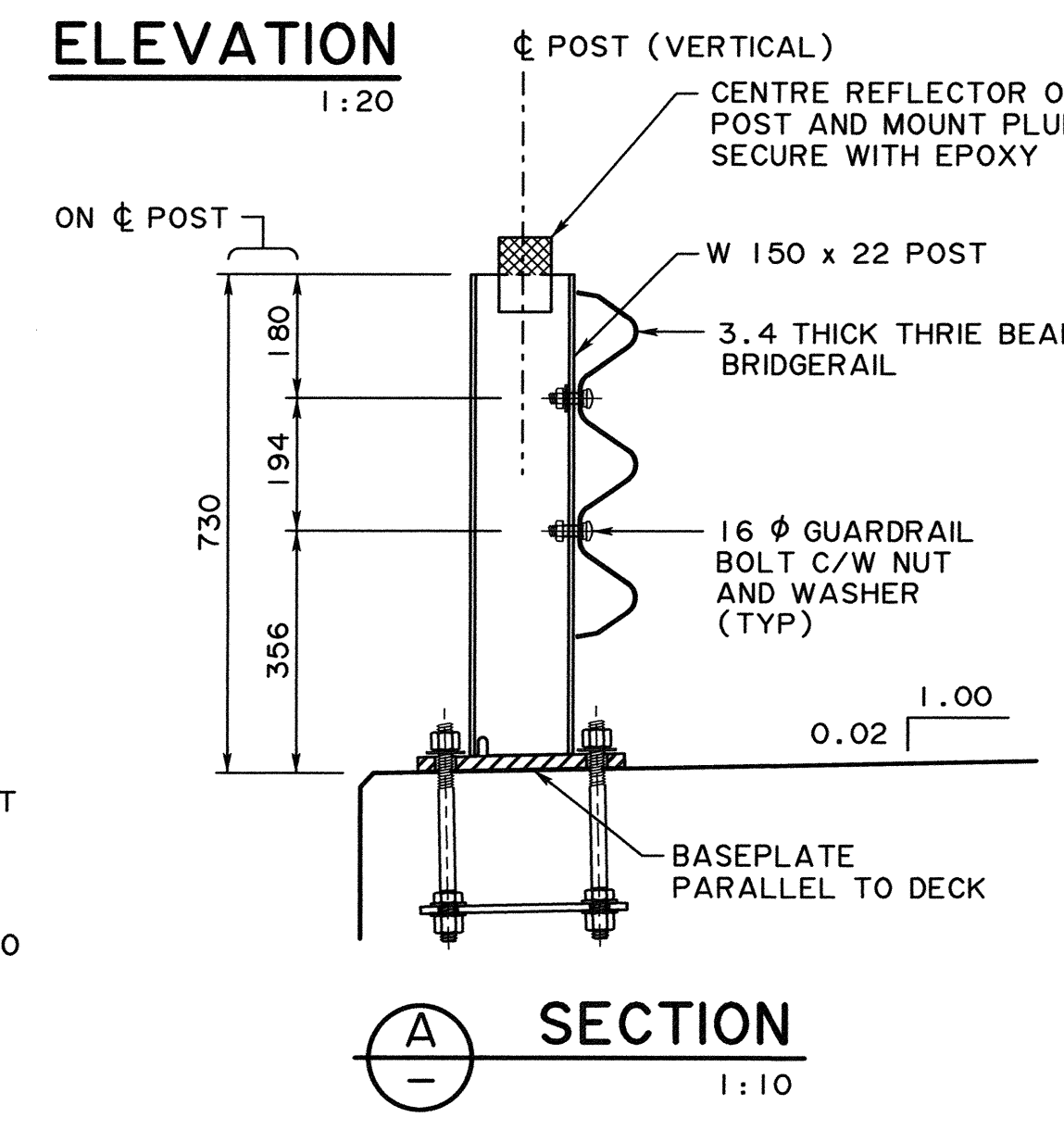


W-BEAM POST TYPE REFLECTOR COMPLETE WITH URETHANE HINGE AT 12 000 MAX SPACING. REFLECTOR IS DOUBLE SIDED SHEETING 108 x 76 (MIN) MEETING ASTM D4956 TYPE IX OR XI FOR LUMINANCE LEVEL. SHEETING COLOUR TO BE FLUORESCENT YELLOW OR WHITE TO MATCH PAVEMENT EDGE LINE

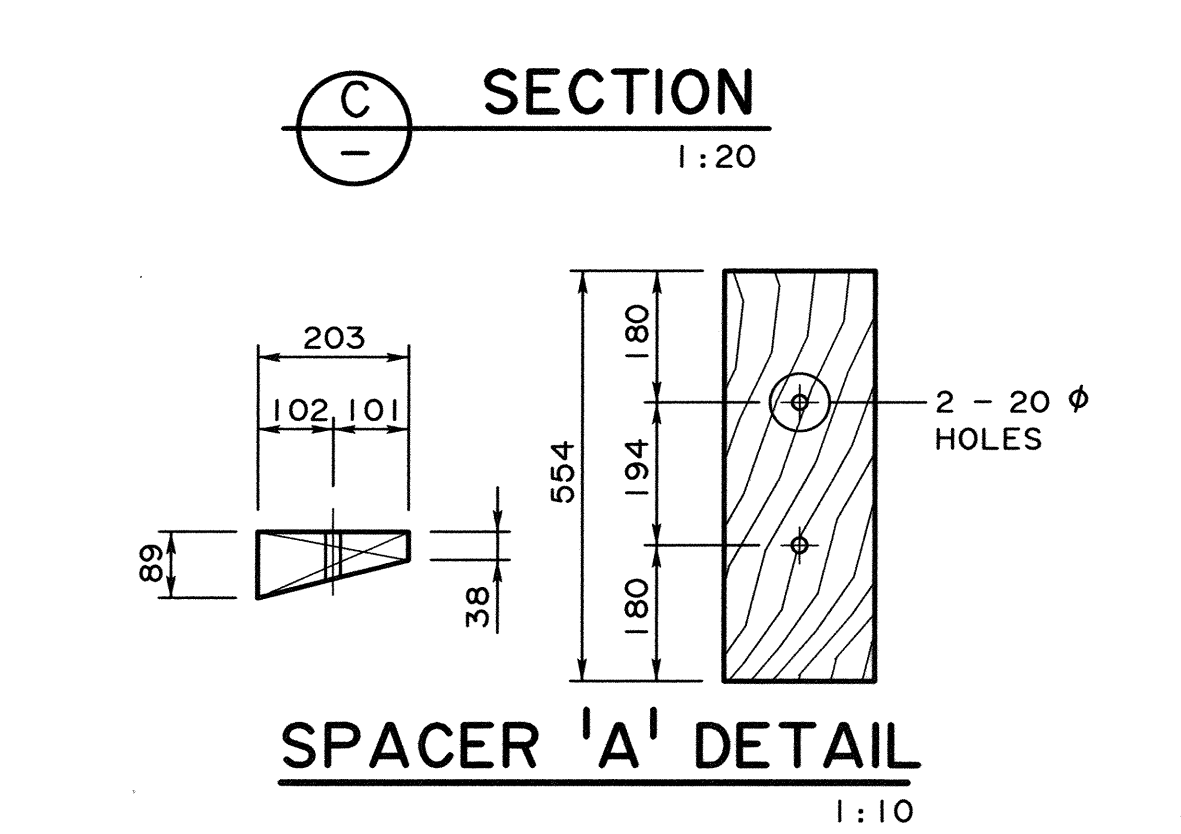
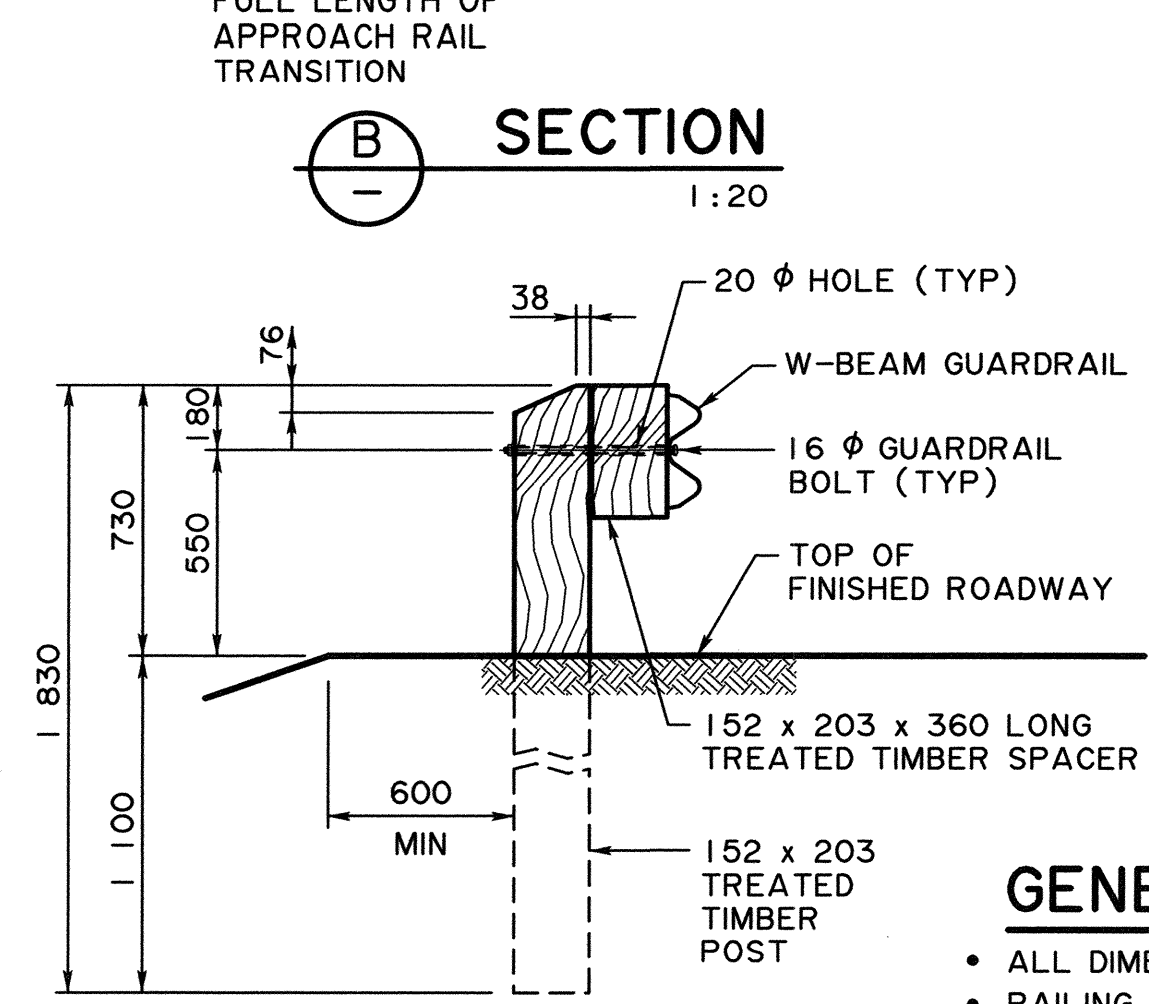
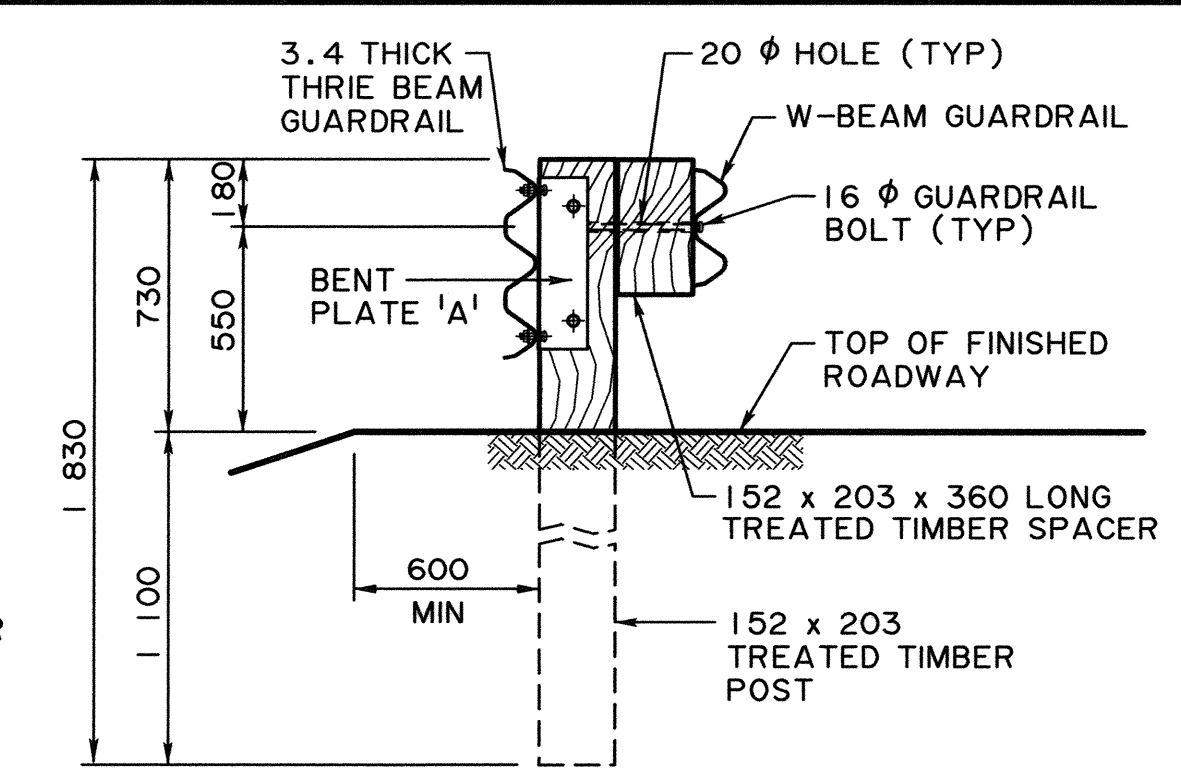
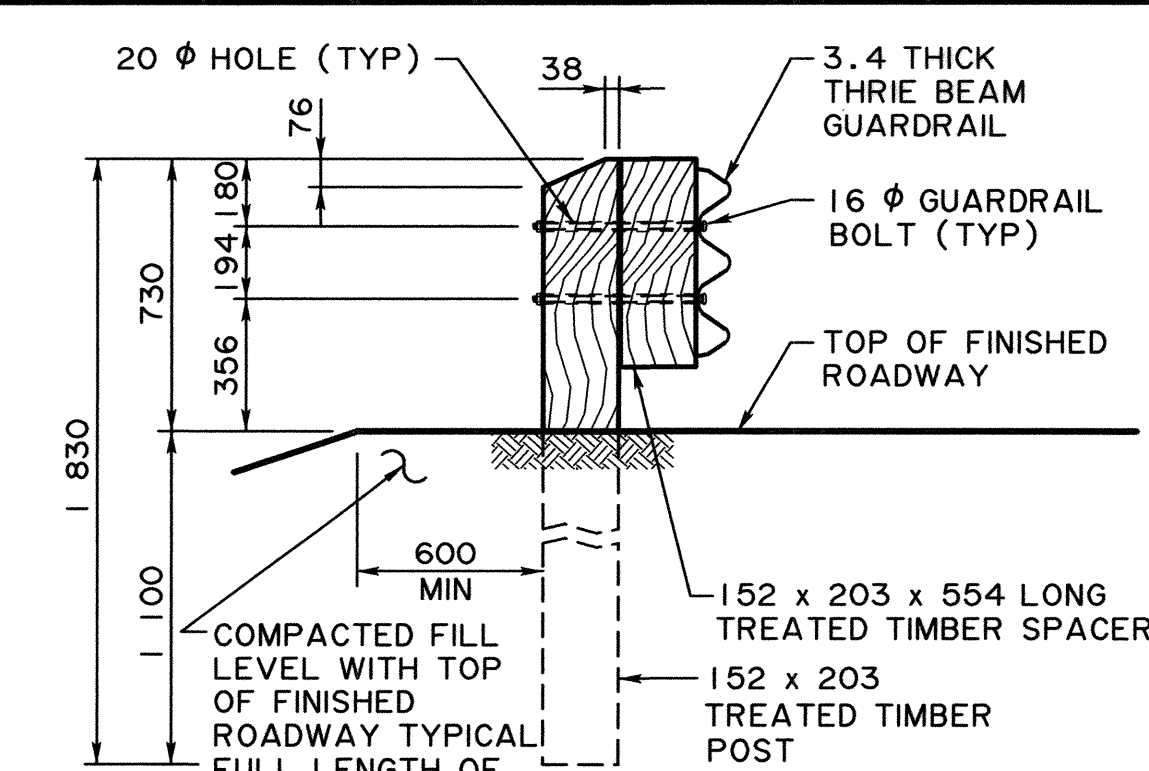


ANCHOR ROD ASSEMBLY DETAIL
1:5

NOTE:
ANCHOR ROD ASSEMBLY SHALL BE MINIMUM 25 CLEAR FROM BOTTOM OF DECK



NOTE:
ANCHOR ROD TEMPLATE C/W NUTS AND ALIGNMENT NUTS TO BE INSTALLED DURING FABRICATION OF ANCHOR ROD ASSEMBLIES. ANCHOR ROD TEMPLATE AND ALIGNMENT NUTS TO BE REMOVED AFTER PLACING OF DECK CONCRETE AND PRIOR TO INSTALLATION OF W 150 x 22 POST



GENERAL NOTES

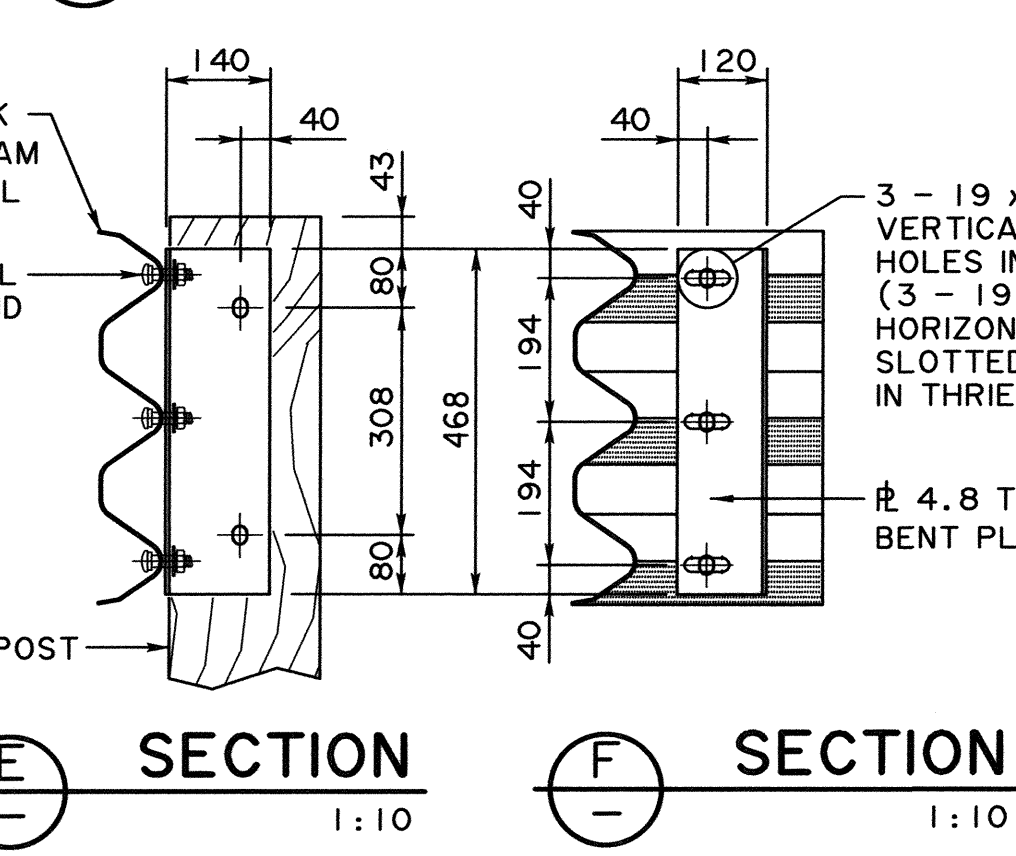
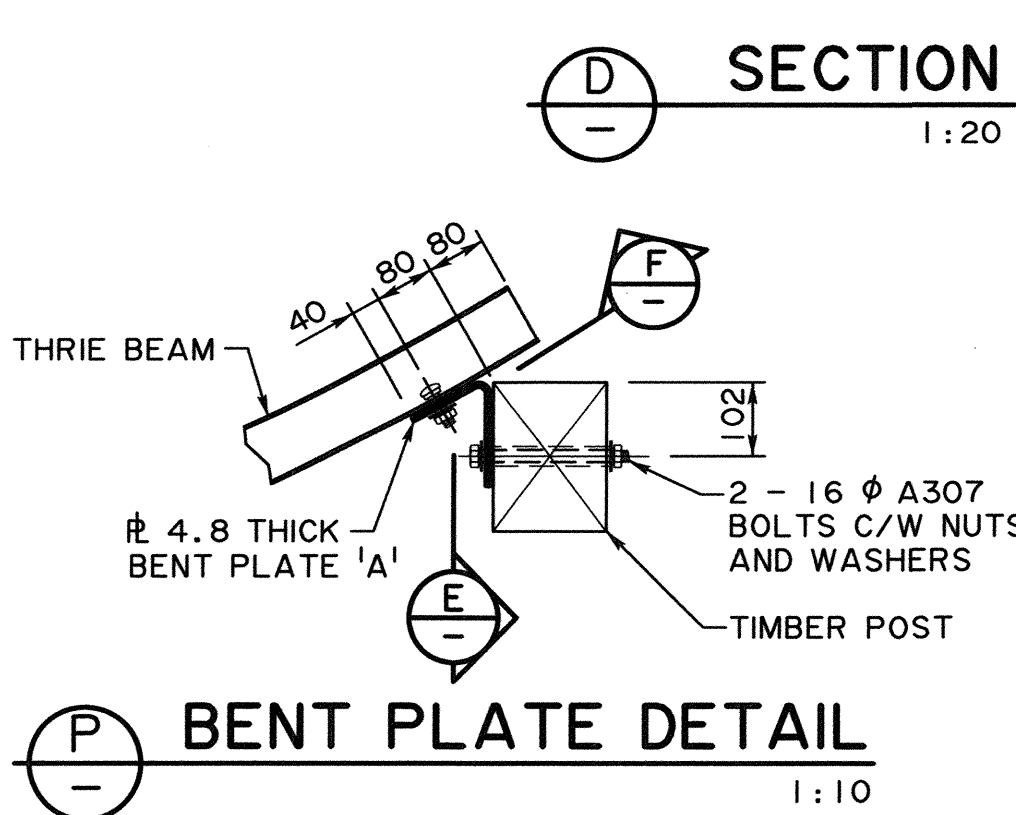
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
- RAILING CONFIGURATION IS BASED ON A RAILING CONFIGURATION THAT HAS BEEN CRASH TESTED AND MEETS THE REQUIREMENTS OF PERFORMANCE LEVEL 1 OF THE AASHTO GUIDE SPECIFICATIONS FOR BRIDGE RAILING, 1989
- RAILING SHALL NOT BE USED WITH CURB
- RAILING SHALL BE USED FOR CLEAR ROADWAYS LESS THAN 9.0 m WIDE ONLY
- DESIGN OF DECK REBAR SHALL BE CARRIED OUT ON A SITE SPECIFIC BASIS TO DEVELOP THE CAPACITY OF THE BRIDGERAIL POSTS BASED ON $F_y = 350 \text{ MPa}$

FABRICATION

- BRIDGERAIL INCLUDING APPROACH RAIL TRANSITION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION SECTION 12 AND SECTION 14
- ALL PLATE STEEL AND STRUCTURAL SHAPES SHALL CONFORM TO CSA G40.21M GRADE 350W OR ASTM A36
- ALL GUARDRAIL BOLTS, NUTS AND WASHERS SHALL CONFORM TO AASHTO M180
- ANCHOR RODS SHALL CONFORM TO OF ASTM A193 GRADE B7 ($F_y = 725 \text{ MPa}$, $F_u = 860 \text{ MPa}$). GALVANIZING OF ANCHOR RODS SHALL BE IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE STANDARD SPECIFICATIONS FOR BRIDGE CONSTRUCTION
- ANCHOR ROD NUTS AND WASHERS SHALL CONFORM TO ASTM A563 AND F436 RESPECTIVELY UNLESS NOTED OTHERWISE
- ALL W-BEAM AND THRIE BEAM GUARDRAIL (INCLUDING W-THRIE BEAM TRANSITION SECTION) SHALL HAVE A MINIMUM YIELD STRENGTH OF 345 MPa
- TIMBER POSTS AND SPACERS SHALL BE COAST DOUGLAS FIR, PACIFIC COAST HEMLOCK OR LODGEPOLE PINE CONFORMING TO THE STRESS GRADE "SELECT STRUCTURAL POSTS AND TIMBERS" (NLGA PARAGRAPH 131 a)
- ALL WELDING SHALL CONFORM TO CURRENT AWS SPECIFICATION D1.5
- ALL STEEL MATERIALS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123/A123M AND ASTM F2329 UNLESS NOTED OTHERWISE

ERECTION

- ALL ALIGNMENT NUTS MUST BE "SNUG- TIGHT" BEFORE ANCHOR RODS ARE FULLY PRETENSIONED
- BRIDGERAIL ANCHOR RODS SHALL BE TIGHTENED AN ADDITIONAL $\frac{1}{2}$ TURN OF THE NUT PAST THE "SNUG TIGHT" CONDITION
- ALL POSTS SHALL BE PERPENDICULAR TO GRADE
- ALL DIMENSIONS ARE MEASURED PARALLEL TO TOP OF BRIDGE DECK AND ALONG THE CENTRELINE OF ANCHOR ROD ASSEMBLIES
- LINE AND ELEVATION OF RAIL SHALL HAVE A TOLERANCE OF 6 mm
- ALL NON-STANDARD GUARDRAIL LENGTHS SHALL BE SAW CUT TO SUIT AND ALL NON-STANDARD GUARDRAIL HOLES SHALL BE DRILLED. FLAME CUTTING OF GUARDRAIL SHALL NOT BE ALLOWED. APPLY TWO COATS OF ZINC RICH PAINT ON AREAS DAMAGED BY SAW CUTTING OR DRILLING



RECOMMENDED DIRECTOR BRIDGE ENGINEERING		APPROVED EXECUTIVE DIRECTOR TECHNICAL STANDARDS BRANCH	
DESIGNER CM CM		CHECKER MC MT	
DATE 2021.3.2		DATE 2020-09-04	
SHEET 1 OF 1		DRAWING S-1653-20	

Alberta Transportation

**TL-2 LOW HEIGHT
THRIE BEAM BRIDGERAIL**