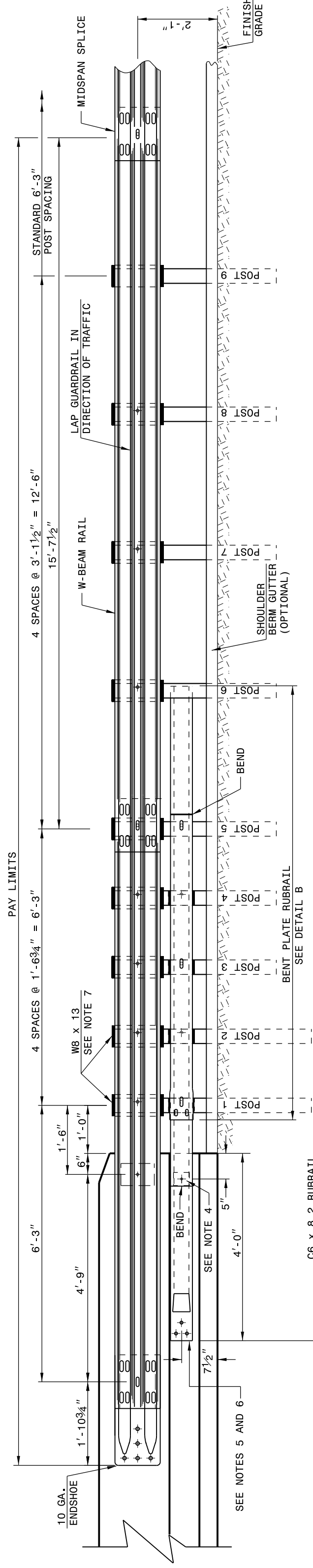


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 DIVISION OF HIGHWAYS  
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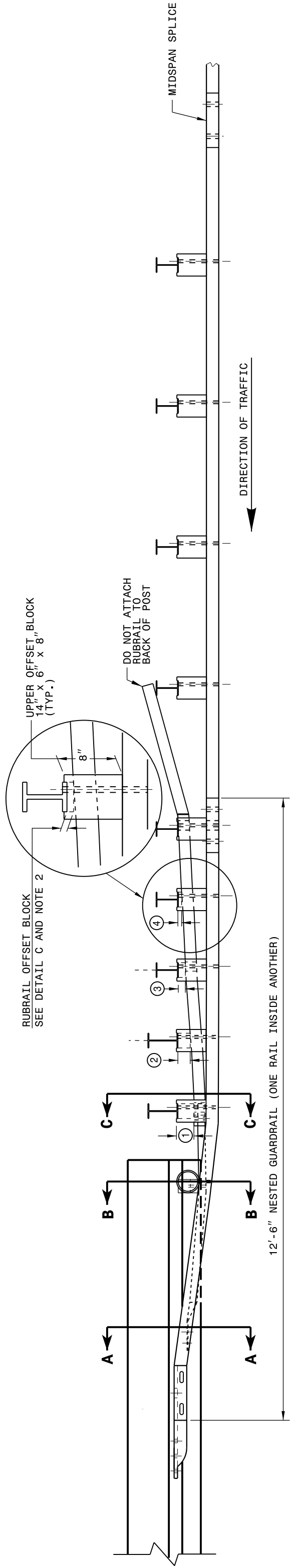
ROADWAY DETAIL DRAWING FOR  
**GUARDRAIL ANCHOR UNIT**  
 GUARDRAIL ANCHOR UNIT TYPE B-77  
 FOR F-SHAPE BARRIER

SHEET 4 OF 7  
**862D03**



**ELEVATION**

- GENERAL NOTES:**
- POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL.
  - RUBRAIL BLOCKOUTS LOCATED ON POSTS 1 THROUGH 4 ARE OFFSET DRILLED AND SECURED WITH 3/8" BUTTONHEAD BOLTS (SEE CHART FOR BOLT LENGTHS). SECURE RUBRAIL BLOCKOUTS TO POSTS 1 AND 4, SECURE RUBRAIL AND BLOCKOUTS TO POSTS 2 AND 3. RUBRAIL IS SECURED TO POST 5 WITH A 3/8" x 1 1/4" LONG BUTTONHEAD BOLT AND RECTANGULAR PLATE WASHER.
  - STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER x 9" LONG. ATTACH TUBE TO GUARDRAIL ONLY WITH 5/8" x 1 1/4" LONG BUTTONHEAD BOLT AND RECTANGULAR PLATE WASHER.
  - SEE DETAIL D FOR SLOPED RUBRAIL BLOCKOUT. BLOCKOUT IS ATTACHED TO RAIL ELEMENT ONLY. USE 3/8" x 3" LAG BOLT WITH FLAT WASHER.
  - SHOP FABRICATE THE C6 x 8.2 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE F SHAPE AND ATTACH FLUSH WITH THE SLOPED RUBRAIL OR BRIDGE RAIL.
  - ANCHORAGE: THE BARRIER OR BRIDGE RAIL.
    - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, ANCHOR RUBRAIL USING THREE 5/8" x 6" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS IS 1/2".
    - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, ANCHOR THE W-BEAM END SHOE USING A 4 BOLT HOLD DOWN PLATE (SEE STD. DWG. 862.04).
    - A 4 BOLT INSERT ASSEMBLY IS ALLOWED ON PRECAST REINFORCED CONCRETE BARRIER (SEE STD. DWG. 857.01).
  - ANCHORAGE: THE W-BEAM END SHOE AND RUBRAIL AS DETAILED ON THE STRUCTURE PLANS.
    - AT NEW BRIDGE RAIL AND NEW OR EXISTING BARRIERS, ANCHOR THE W-BEAM END SHOE AND RUBRAIL AS DETAILED ON THE STRUCTURE PLANS.
    - POSTS 1 AND 2 ARE W8 x 13, 7'-6" LONG. ALL OTHER POSTS IN THE ANCHOR UNIT ARE W6 x 8.5.



**PLAN**

**GUARDRAIL ANCHOR UNIT TYPE B-77**

SHEET 4 OF 7  
**862D03**

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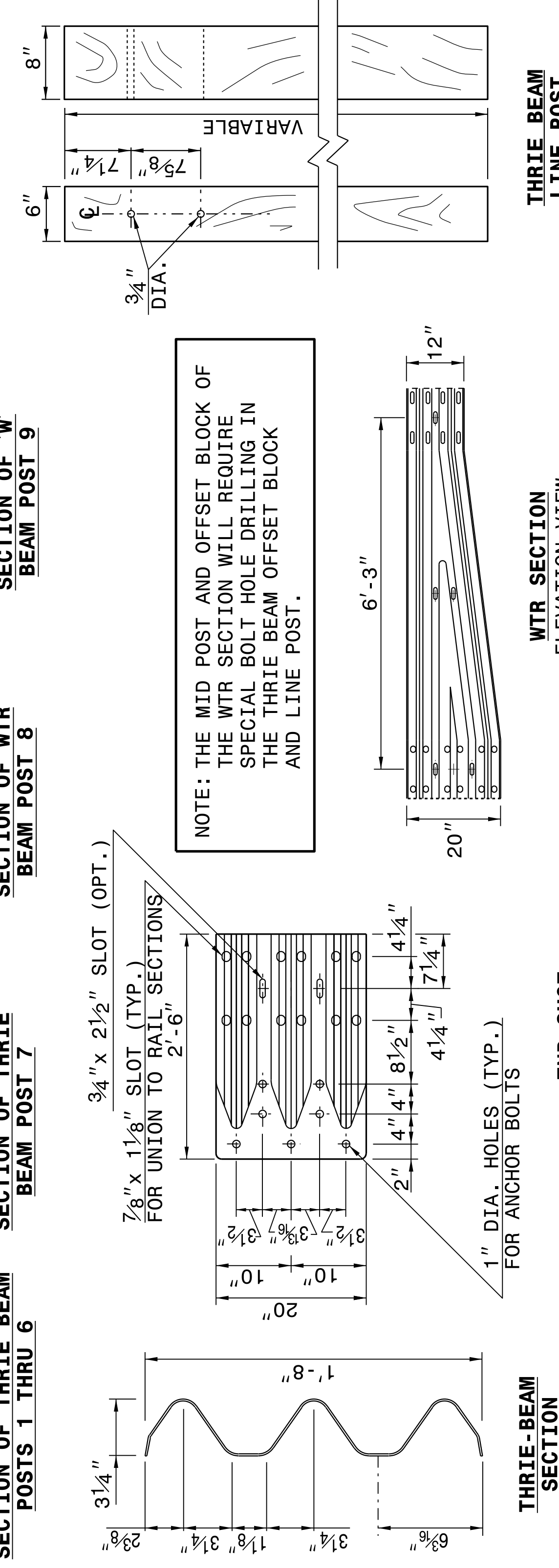
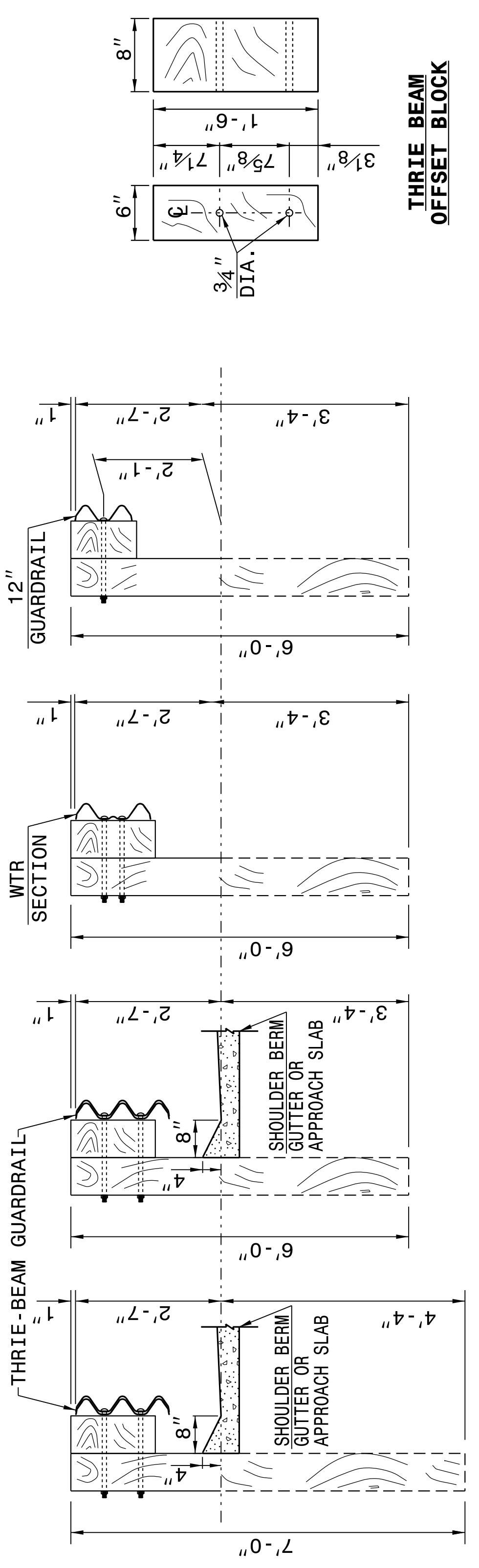
ROADWAY DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNIT**  
 FOR F-SHAPE BARRIER

SHEET 4 OF 7  
**862D03**

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ROADWAY DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
 GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7  
**862D03**



**THRIE BEAM OFFSET BLOCK**

**THRIE BEAM LINE POST**

**WTR SECTION ELEVATION VIEW**

**END SHOE**

**THRIE-BEAM SECTION**

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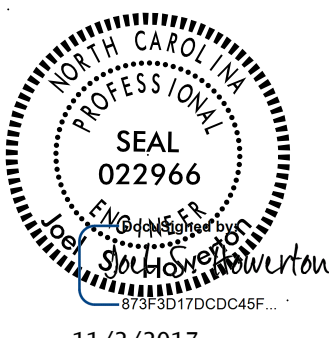
ROADWAY DETAIL DRAWING FOR  
**STRUCTURE ANCHOR UNITS**  
 GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7  
**862D03**

**CONTRACT STANDARDS AND DEVELOPMENT UNIT**  
 Office 919-707-6950 FAX 919-250-4119

**SEE TITLE BLOCK**

ORIGINAL BY: J. HOWERTON DATE: 06-22-12  
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 FILE SPEC.:



11/2/2017

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