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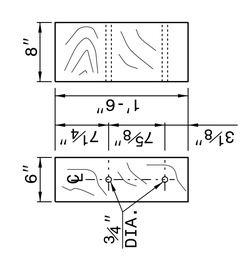
PROJECT REFERENCE NO.	SHEET NO.
U-4751	2C-19

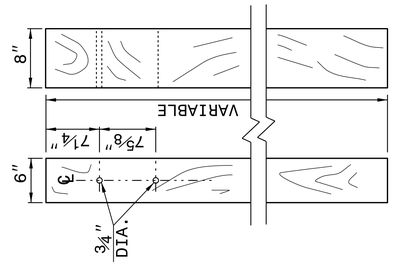
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

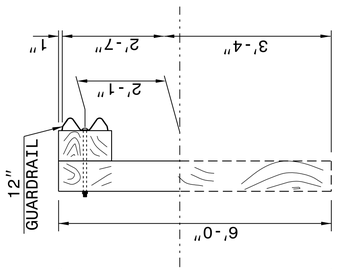
SHEET 3 OF 7
862D03



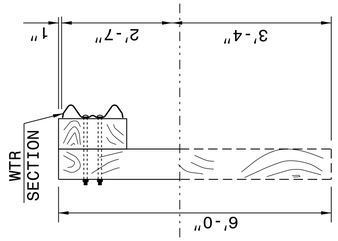
THRIE BEAM OFFSET BLOCK



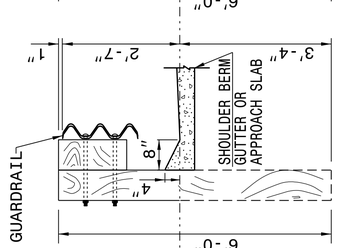
THRIE BEAM LINE POST



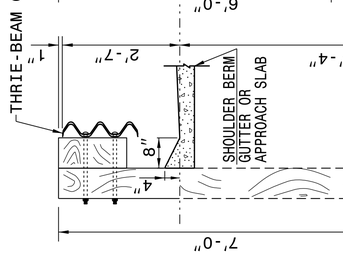
SECTION OF 'W' BEAM POST 9



SECTION OF WTR BEAM POST 8

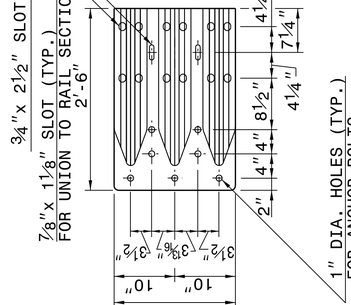


SECTION OF THRIE BEAM POST 7

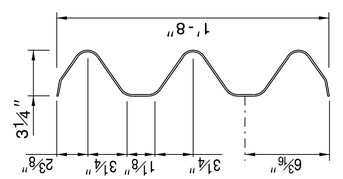


SECTION OF THRIE BEAM POSTS 1 THRU 6

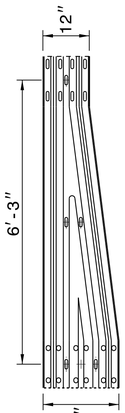
NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.



END SHOE



THRIE-BEAM SECTION

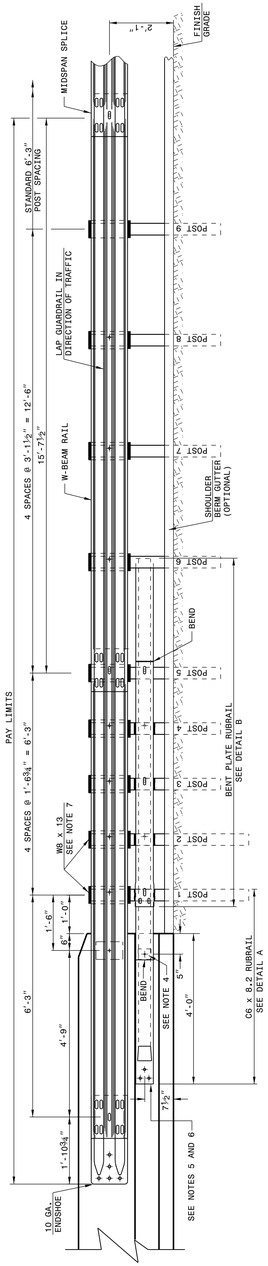


WTR SECTION
ELEVATION VIEW

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

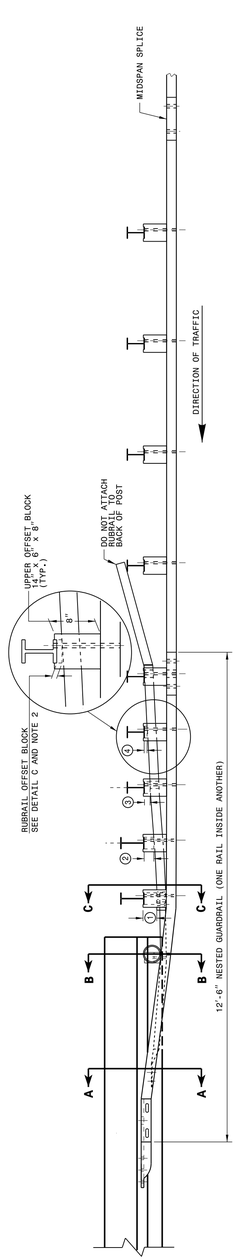
ROADWAY DETAIL DRAWING FOR
STRUCTURE ANCHOR UNIT
GUARDRAIL ANCHOR UNIT TYPE B-77
FOR F-SHAPE BARRIER

SHEET 4 OF 7
862D03



ELEVATION

GENERAL NOTES:
1) POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL; 4 OFFSET BLOCKS ARE REQUIRED AND SECURED WITH ⅝" BUTTONHEAD BOLTS (SEE CHART FOR BOLT LENGTHS). RUBRAIL IS SECURED TO POST 5 WITH A ⅝" x 4½" BUTTONHEAD BOLT. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
2) RUBRAIL BLOCKOUTS CONSIST OF TWO 4" x 8" x 14" BLOCKS AND SECURE RUBRAIL AND BLOCKOUTS TO POSTS 1 AND 3. RUBRAIL IS SECURED TO POST 2 WITH A ⅝" x 4½" BUTTONHEAD BOLT AND RECTANGULAR PLATE WASHER.
3) SECURE BLOCKS ONLY TO POSTS 2 AND 4. SECURE RUBRAIL AND BLOCKOUTS TO POSTS 1 AND 3. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
4) STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER x 9" LONG. ATTACH TUBE TO RAIL ELEMENT ONLY. USE ⅜" x 3" LAG BOLT WITH FLAT WASHER.
5) SEE DETAIL C FOR SLOTTED RUBRAIL BLOCKOUT DETAILS. RUBRAIL IS FLARED TO RAIL ELEMENT AND ATTACH FLUSH WITH THE SLOPED SHOULDER BERM GUTTER OR APPROACH SLAB.
6) SHOP FABRICATE THE C6 x 8.2 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE F-SHAPE AND ATTACH TO RAIL ELEMENT AT THE TOE OF THE BARRIER OR BRIDGE RAIL.
7) ANCHORAGE:
   (a) AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, ANCHOR RUBRAIL USING THREE ⅝" x 6" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS IS 1½".
   (b) 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). INSTALL THE W-BEAM END SHOE BEHIND THE NESTED W-BEAM ELEMENTS.
   (c) AT NEW BRIDGE RAIL, ANCHORAGE DETAILS ARE DETAILED ON THE STRUCTURE PLANS.
8) POSTS 1 AND 2 ARE W6 x 13, 7'-6" LONG. ALL OTHER POSTS IN THE ANCHOR UNIT ARE W6 x 8.5.



PLAN

GUARDRAIL ANCHOR UNIT TYPE B-77

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY DETAIL DRAWING FOR
GUARDRAIL ANCHOR UNIT
GUARDRAIL ANCHOR UNIT TYPE B-77
FOR F-SHAPE BARRIER

SHEET 4 OF 7
862D03

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SEE TITLE BLOCK

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