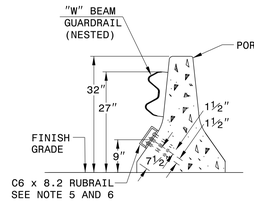
PROJECT REFERENCE NO.	SHEET NO.
B-2500AB	2C-2



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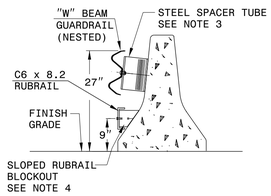

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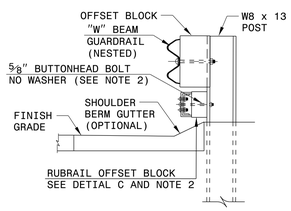

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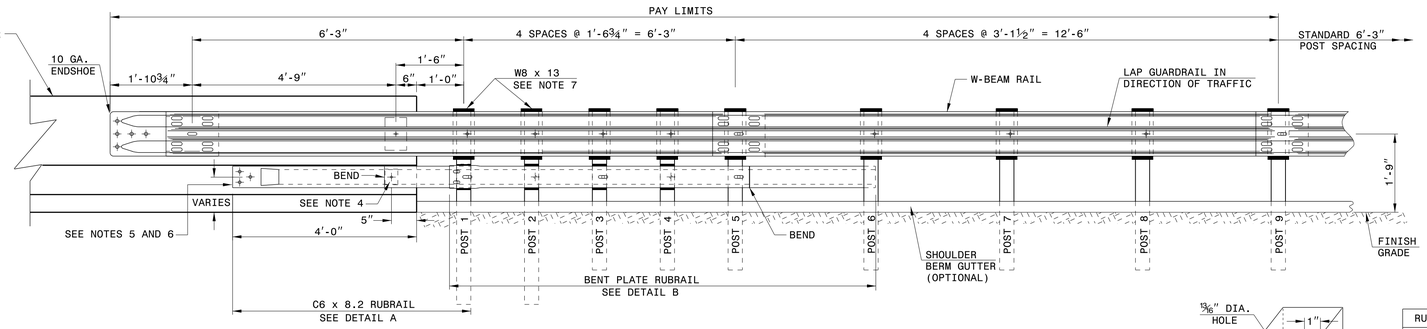
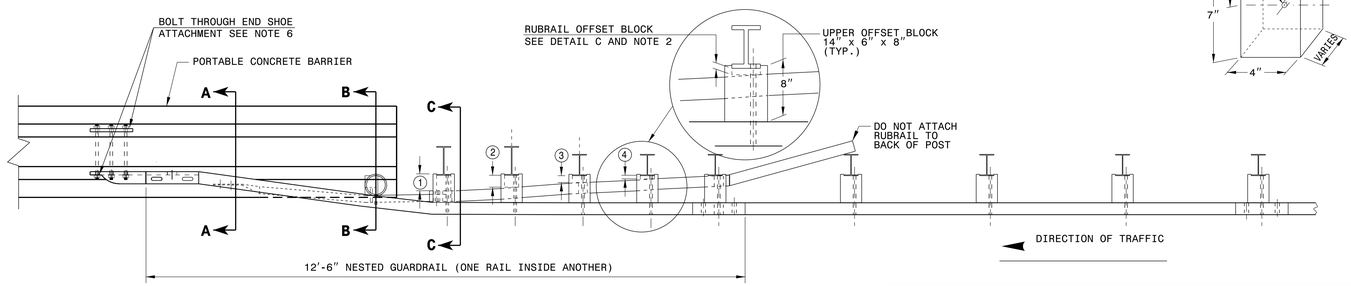
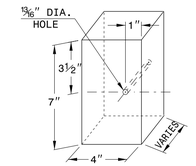


ELEVATION



PLAN



RUBRAIL BLOCKS 7" HIGH x 4" WIDE		
POST	THICKNESS	BOLT LENGTH
1	4¼"	9"
2	3¼"	5" *
3	2"	6"
4	1"	3" *

* BOLTS FOR POSTS 2 AND 4 ARE USED TO ATTACH BLOCK TO POST. RUBRAIL NOT ATTACHED TO BLOCK.

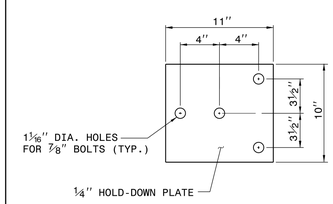
DETAIL C
RUBRAIL BLOCKOUT

GENERAL NOTES:

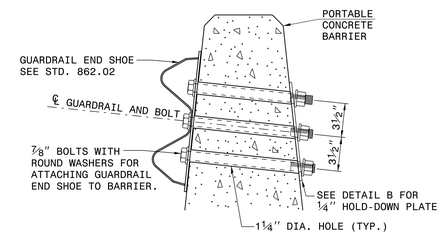
1) POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL.
2) RUBRAIL BLOCKOUTS LOCATED ON POSTS 1 THROUGH 4 ARE OFFSET DRILLED AND SECURED WITH ⅝" BUTTONHEAD BOLTS (SEE CHART FOR BOLT LENGTHS). SECURE BLOCKS ONLY TO POSTS 2 AND 4. SECURE RUBRAIL AND BLOCKOUTS TO POSTS 1 AND 3. RUBRAIL IS SECURED TO POST 5 WITH A ⅝" x 4½" BUTTONHEAD BOLT. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
3) STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER x 9" LONG. ATTACH TUBE TO GUARDRAIL ONLY WITH ⅝" x 1¼" LONG BUTTONHEAD BOLT AND RECTANGULAR PLATE WASHER.
4) SEE DETAIL D FOR SLOPED RUBRAIL BLOCKOUT. BLOCKOUT IS ATTACHED TO RAIL ELEMENT ONLY. USE ⅜" x 3" LAG BOLT WITH FLAT WASHER.
5) SHOP FABRICATE THE C6 x 8.2 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE JERSEY SHAPE AND ATTACH FLUSH WITH THE SLOPED TOE OF THE BARRIER OR BRIDGE RAIL.
6) ANCHORAGE:
   (a) AT PORTABLE CONCRETE BARRIER, ANCHOR RUBRAIL USING THREE ⅝" x 6" CHEMICALLY ANCHORED BOLTS WITH WASHERS.
   (b) AT PORTABLE CONCRETE BARRIER, ANCHOR THE W-BEAM END SHOE USING A 4 BOLT HOLD-DOWN PLATE AS SHOWN.
   INSTALL THE W-BEAM END SHOE BEHIND THE NESTED W-BEAM ELEMENTS.
7) POSTS 1 AND 2 ARE W8 x 13, 7'-6" LONG. ALL OTHER POSTS IN THE ANCHOR UNIT ARE W6 x 8.5.

NOTES FOR 4 BOLT HOLD DOWN PLATE

1) THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A ¼" HOLD DOWN PLATE AND 4 - ⅞" DIA. BOLTS WITH NUTS AND WASHERS.
2) THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.
3) AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL. THE 1¼" DIA. HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.

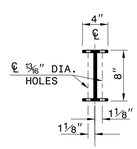


4 BOLT HOLD DOWN PLATE

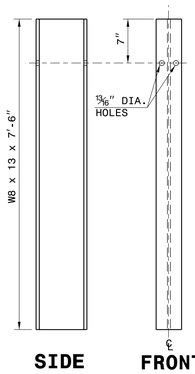


PART SECTION OF BARRIER OR RAIL

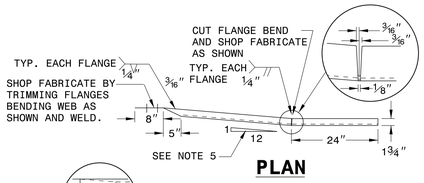
THRU END SHOE SECTION AND 4 BOLT HOLD DOWN PLATE



PLAN



DETAIL F
"W8 X 13 X 7'-6". STEEL POST



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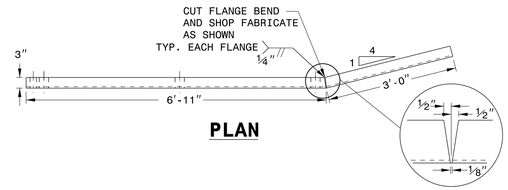

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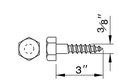
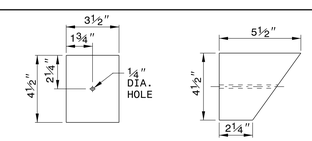
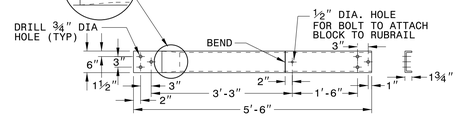


DETAIL E
LAG BOLT



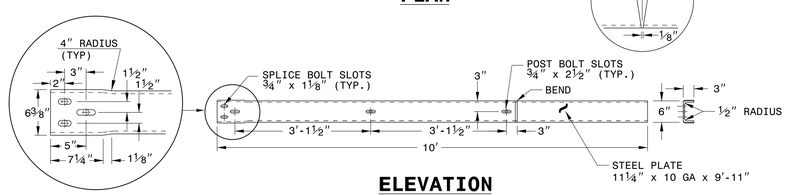
FRONT SIDE

DETAIL D
SLOPED RUBRAIL BLOCKOUT



ELEVATION

DETAIL A
C6 x 8.2 RUBRAIL



ELEVATION

DETAIL B
BENT PLATE RUBRAIL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022966 JOEL S. HOWERTON

DocuSigned by: Joel Howerton 8/11/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

TEMPORARY GUARDRAIL ANCHOR UNIT TYPE B-77

ORIGINAL BY:	E.E. WARD	DATE:	04-07-04
MODIFIED BY:	E.E. WARD	DATE:	07-14-05
CHECKED BY:		DATE:	
FILE SPEC.:			

$$$$SYSTIME$$$$ $$$$SYSTIME$$$$
$$$$USERNAME$$$$ $$$$USERNAME$$$$