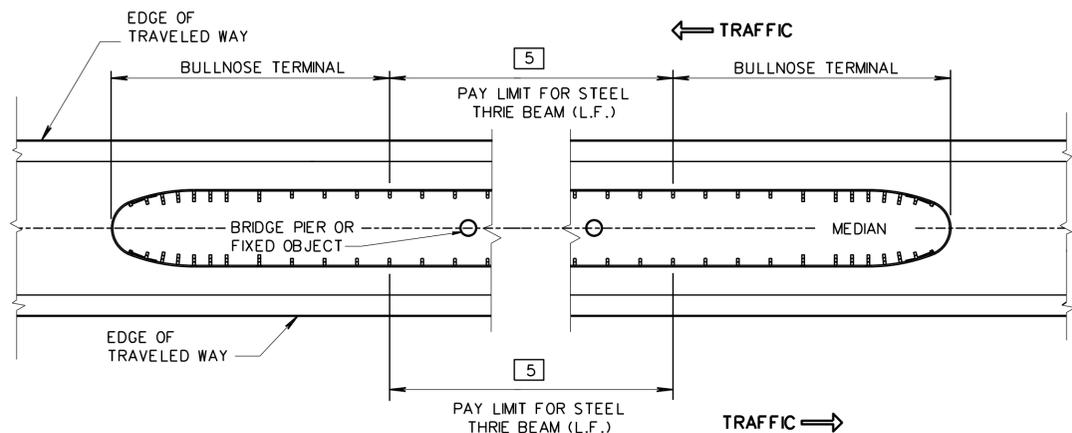
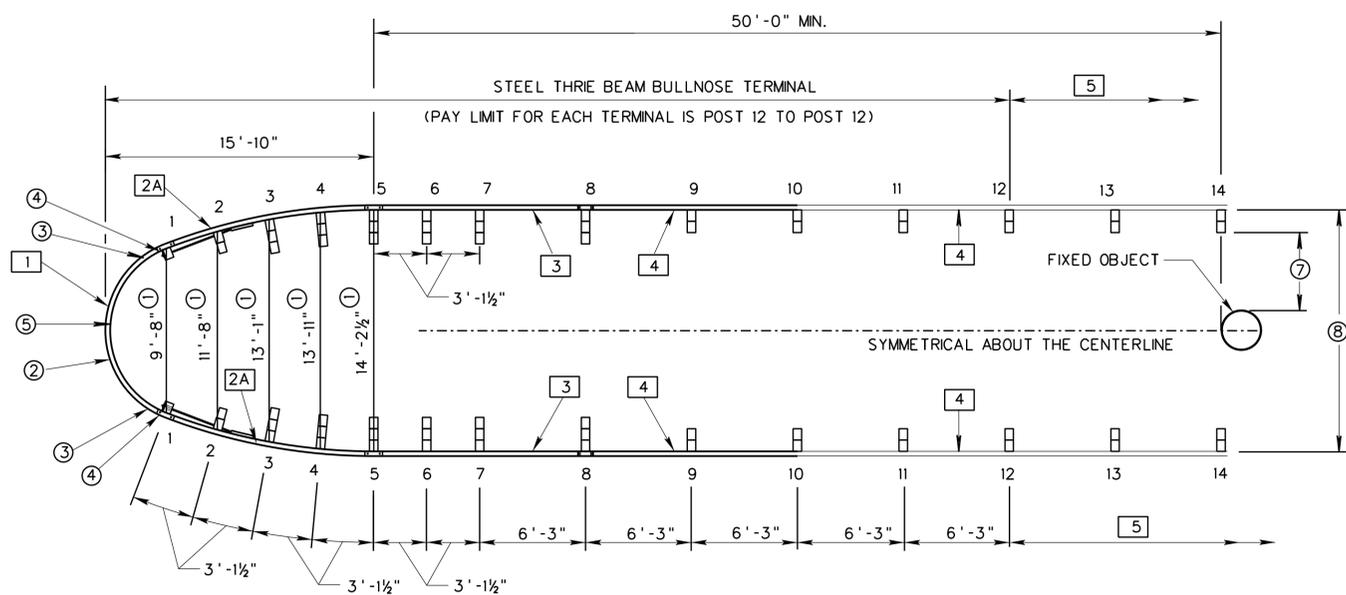


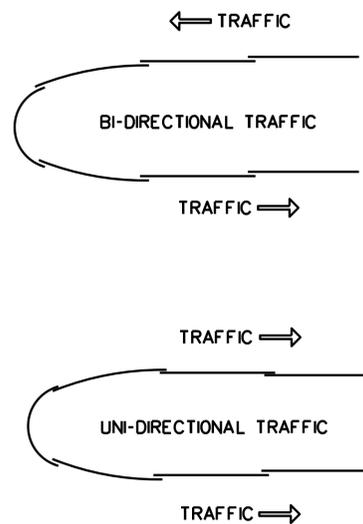
PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



MEDIAN HAZARD PROTECTION PAY LIMITS



PLAN VIEW
TYPICAL BULLNOSE LAYOUT



LAPPING DETAIL
(ALL INSTALLATIONS)

GENERAL NOTES

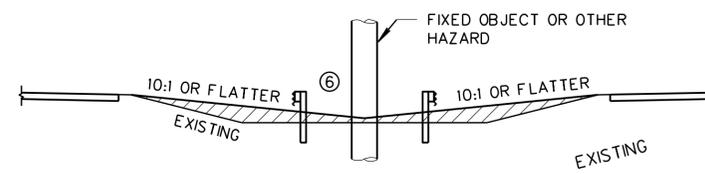
- SEE STANDARD DETAIL DRAWINGS GR8 SHEETS 1-5
- PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.
- OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.
- FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.
- BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
- THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.
- ALL THRIE BEAM SHALL BE 12-GAUGE.

RAIL ELEMENT INDEX

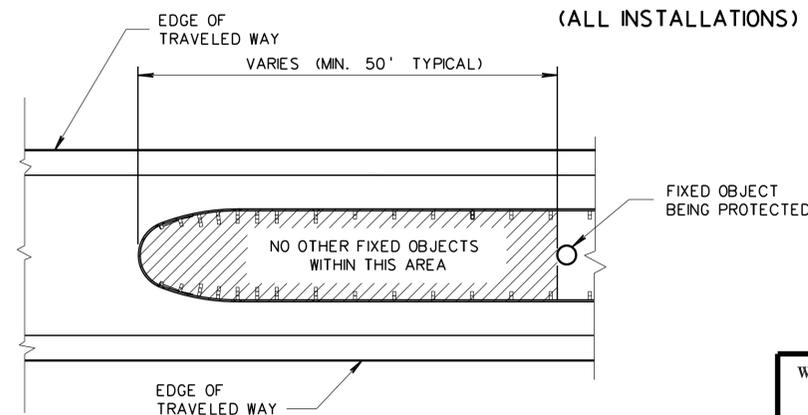
- 1 SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)
- 2A SLOTTED THRIE BEAM RAIL NO. 2A. (POST 1 TO POST 5)
- 3 SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)
- 4 UNBENT STANDARD THRIE-BEAM RAIL NO.4. (POST 8 TO POST 10 & POST 10 TO POST 12)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

INDEXED NOTES

- 1 DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
- 2 U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
- 3 NOSE CABLE W/SWAGGED END BUTTONS.
- 4 NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
- 5 THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
- 6 PROVIDE SUITABLE DRAINAGE AS SHOWN ON THE PLANS.
- 7 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.
- 8 MAXIMUM WIDTH OF SYSTEM IS 14'-2 1/2" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



MEDIAN GRADING SECTION
(ALL INSTALLATIONS)



HAZARD FREE
AREA INSIDE BULLNOSE

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

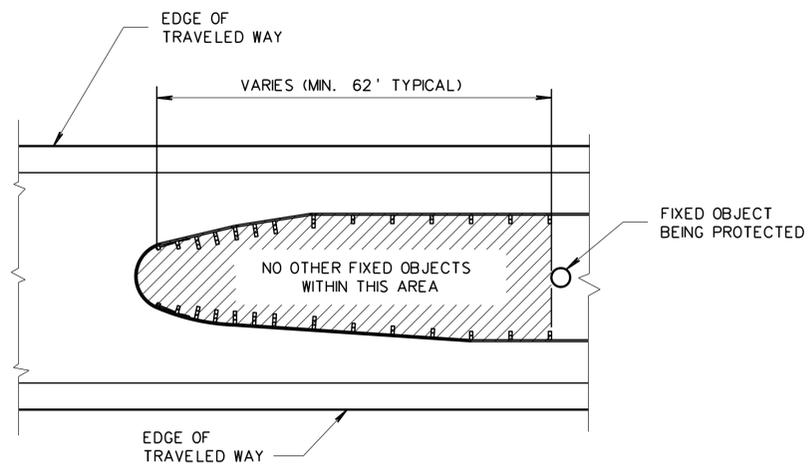
SPECIAL DETAIL

PREPARED 4-20-15

REVISION DATE

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STEEL THRIE BEAM
BULLNOSE TERMINAL



HAZARD FREE
AREA INSIDE BULLNOSE

GENERAL NOTES

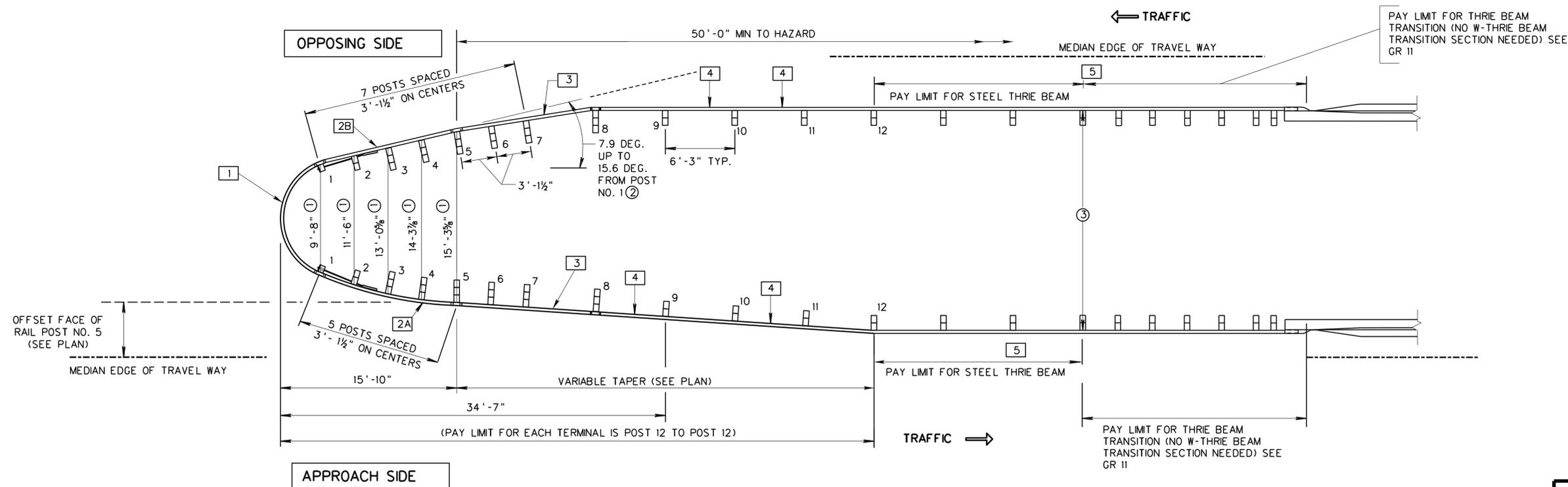
SEE STANDARD DETAIL DRAWINGS GR8 SHEETS 1-5
FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

RAIL ELEMENT INDEX

- 1 SLOTTED THRIE BEAM RAIL NO. 1. (POST 1 TO POST 1)
- 2A SLOTTED THRIE BEAM RAIL NO. 2A, (POST 1 TO POST 5)
- 2B SLOTTED THRIE BEAM RAIL NO. 2B, (POST 1 TO POST 5)
- 3 SLOTTED THRIE BEAM RAIL NO. 3. (POST 5 TO POST 8)
- 4 UNBENT STANDARD THRIE-BEAM RAIL NO. 4, (POST 8 TO POST 10 & POST 10 TO POST 12)
- 5 BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

INDEXED NOTES

- ① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.
- ② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)
- ③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.



PLAN VIEW
WIDENED BULLNOSE DESIGN
(INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN)

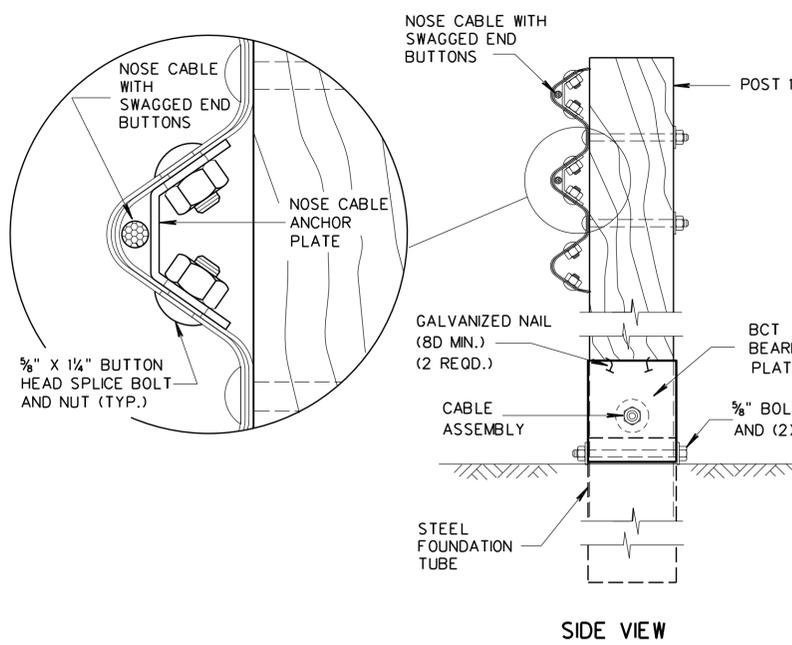
WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SPECIAL DETAIL

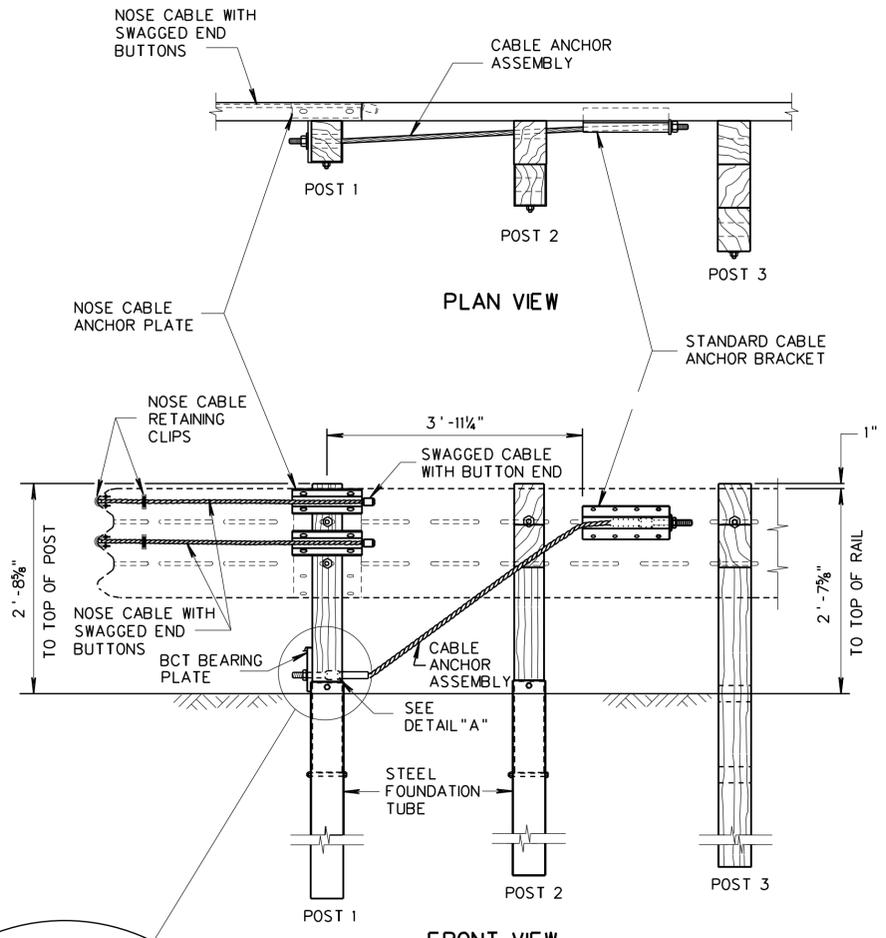
**STEEL THRIE BEAM
BULLNOSE TERMINAL**

PREPARED 4-20-15

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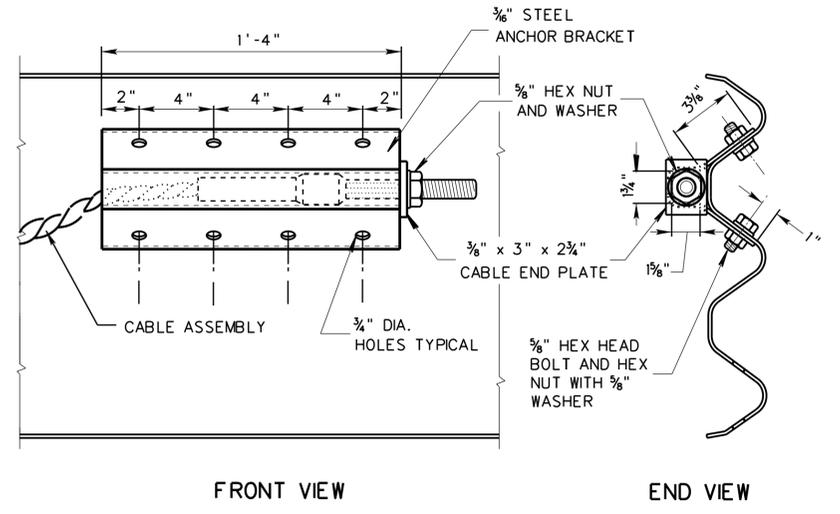
NOSE CABLE ASSEMBLY AT POST NO. 1



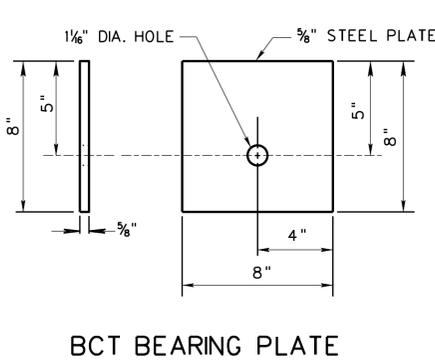
NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

GENERAL NOTES

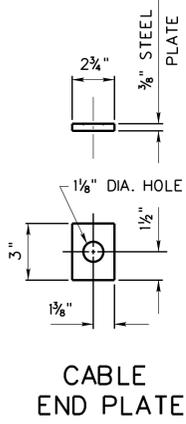
SEE STANDARD DETAIL DRAWINGS GR8 SHEETS 1-5



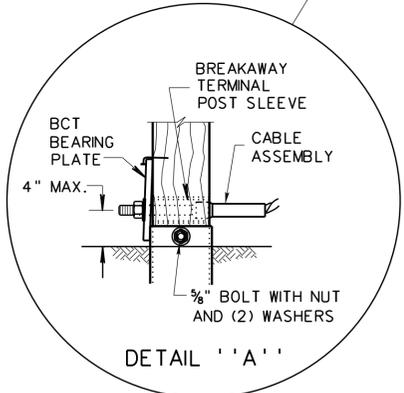
DETAILS OF CABLE ANCHOR BRACKET



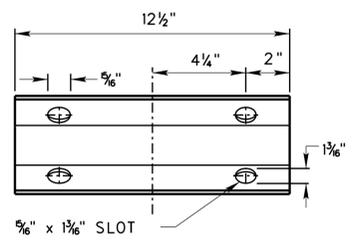
BCT BEARING PLATE



CABLE END PLATE

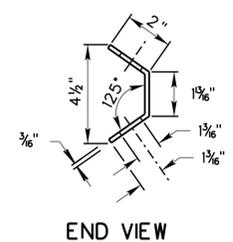


DETAIL 'A'

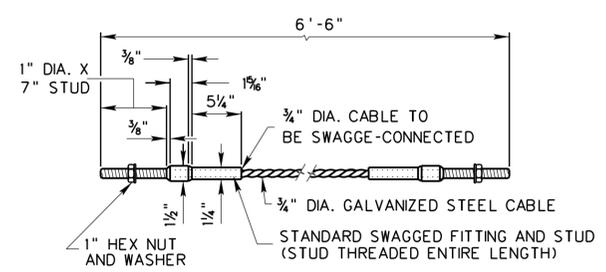


NOSE CABLE ANCHOR PLATE

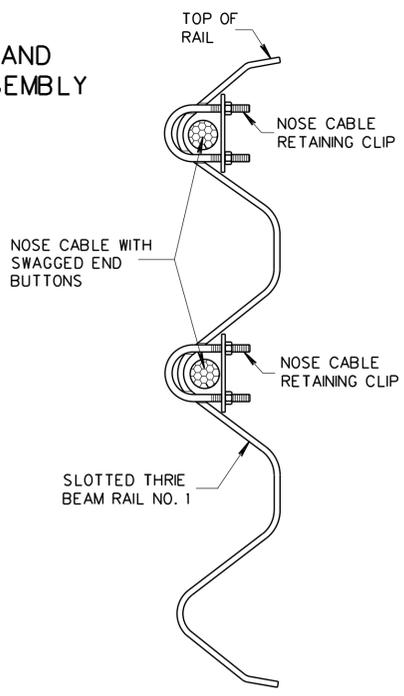
NOTE: 12 1/2" x 5 5/8" x 3/8" STEEL PLATE (A306)



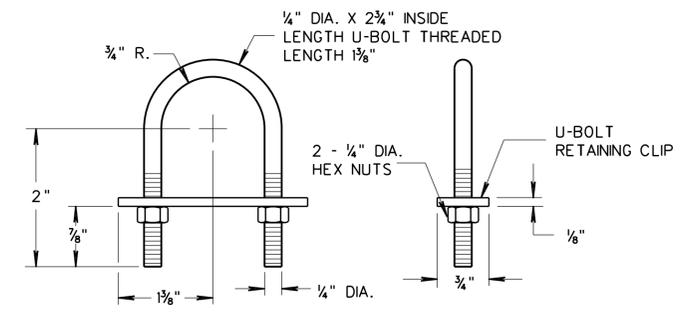
END VIEW



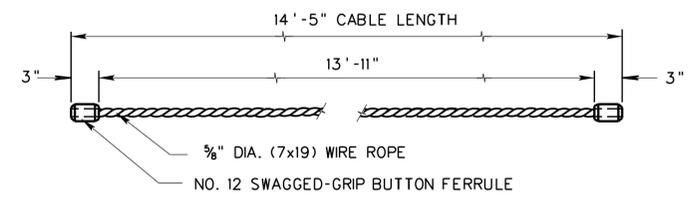
DETAILS OF CABLE ANCHOR ASSEMBLY



PLACEMENT OF NOSE CABLE RETAINING CLIP



NOSE CABLE RETAINING CLIP



NOSE CABLE WITH SWAGGED END BUTTONS

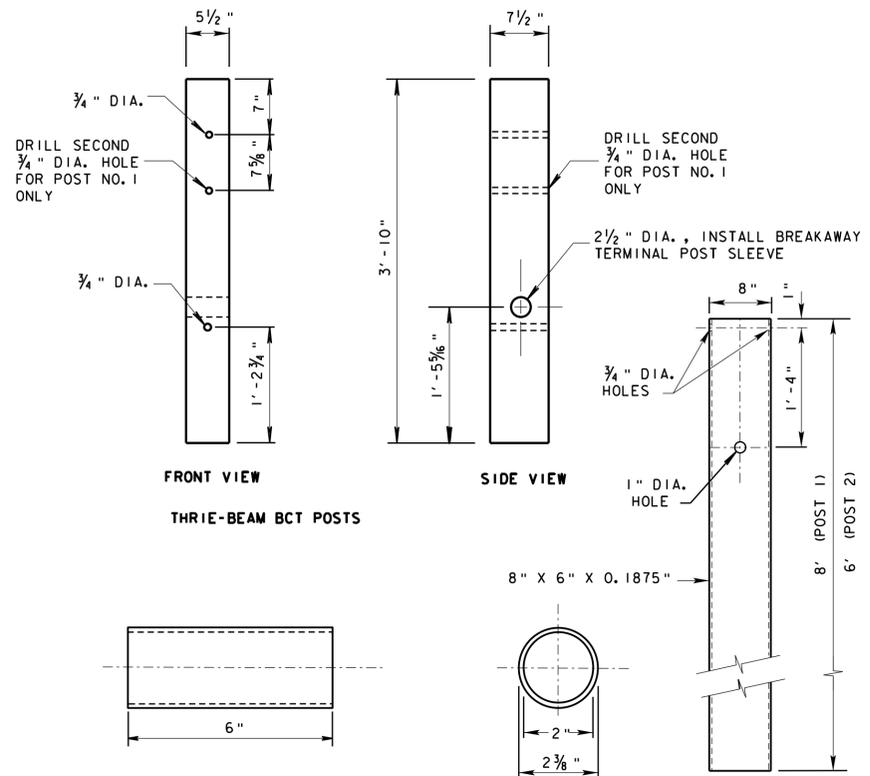
TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGTH.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SPECIAL DETAIL

STEEL THRIE BEAM BULLNOSE TERMINAL

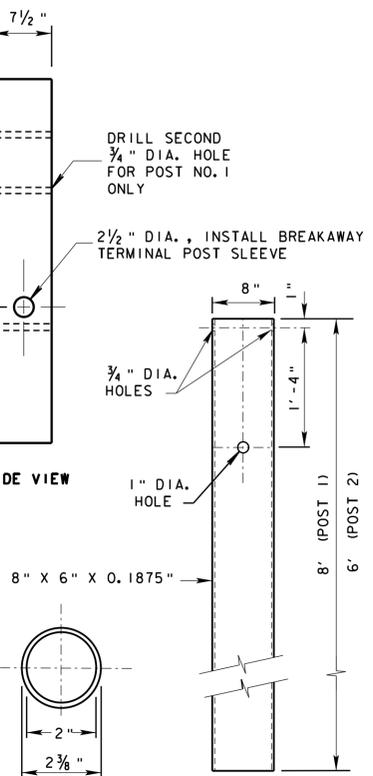
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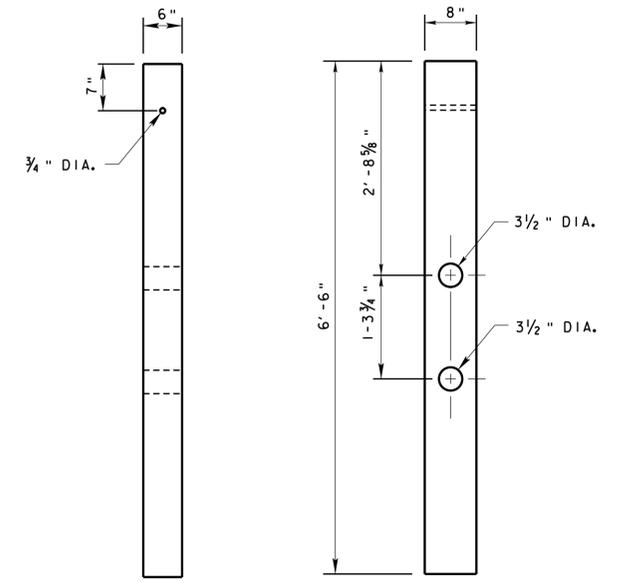
FRONT VIEW
THRIE-BEAM BCT POSTS

SIDE VIEW

BREAKAWAY TERMINAL POST SLEEVE



STEEL FOUNDATION TUBE



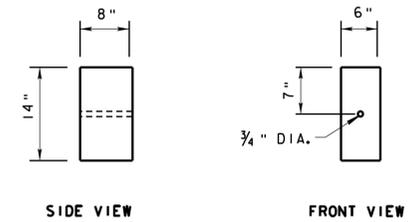
FRONT VIEW

SIDE VIEW

THRIE-BEAM CRT WOOD POSTS

GENERAL NOTES

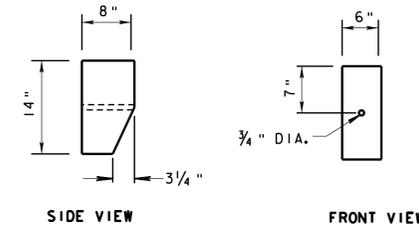
SEE STANDARD DETAIL DRAWINGS GR8 SHEETS 1-5



SIDE VIEW

FRONT VIEW

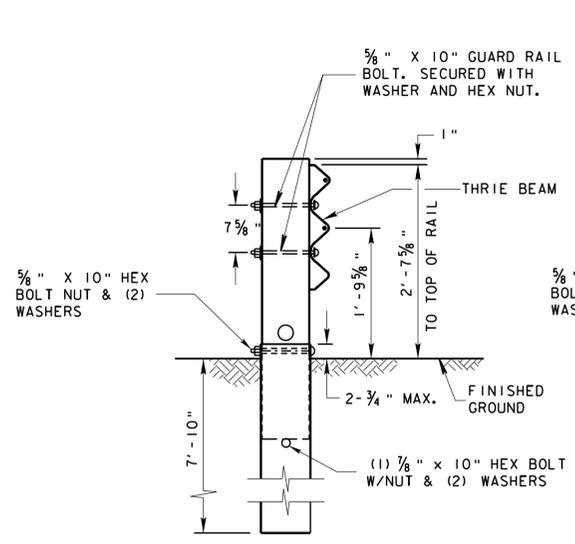
STANDARD WOOD BLOCK



SIDE VIEW

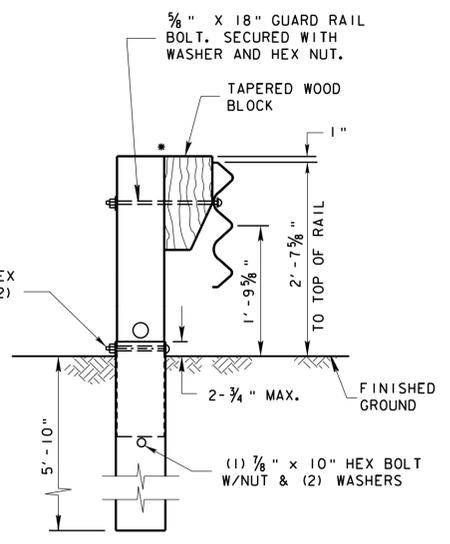
FRONT VIEW

TAPERED WOOD BLOCK



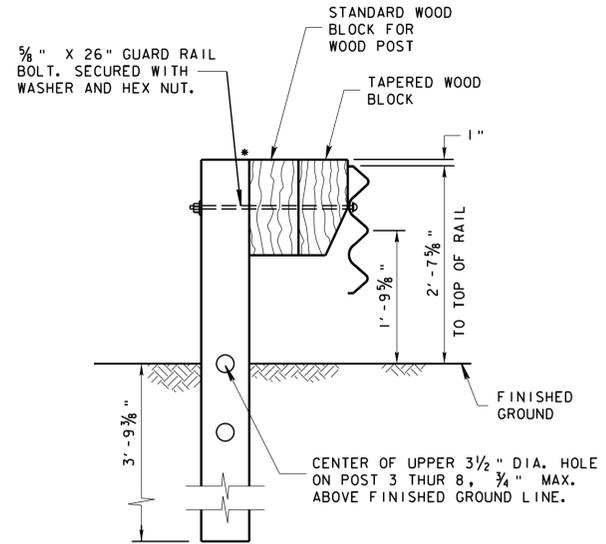
THRIE-BEAM BCT POST
(WITH 8'-0" FOUNDATION TUBE)
WITH 3'-10" POST

POST NO. 1



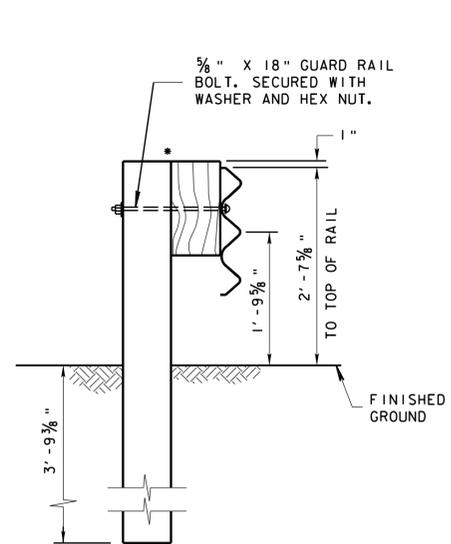
THRIE-BEAM BCT POST
(WITH 6'-0" FOUNDATION TUBE
AND 1'-2" TAPERED BLOCK)
WITH 3'-10" POST

POST NO. 2



THRIE-BEAM CRT POST
(6'-6" LONG POST WITH 1'-2" BLOCK
AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8



THRIE-BEAM POST
(6'-6" LONG POST
WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12
(ALSO USE FOR STEEL
THRIE BEAM BEYOND POST 12)

* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SPECIAL DETAIL

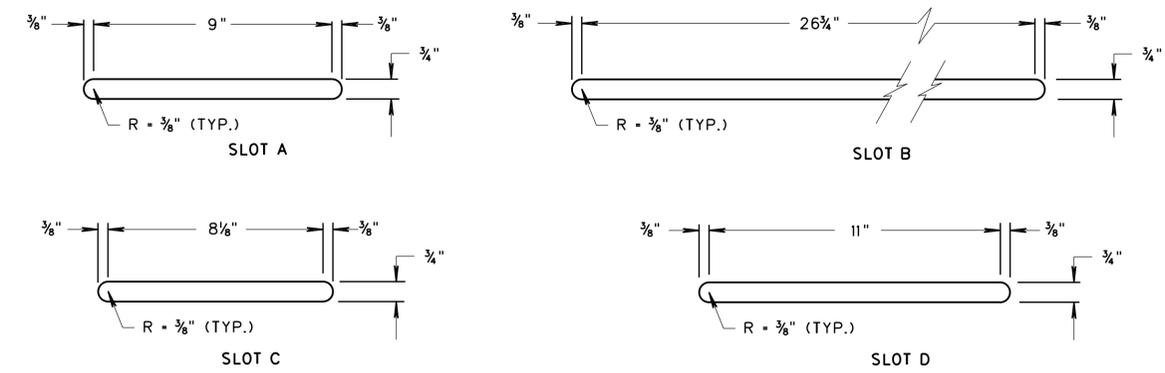
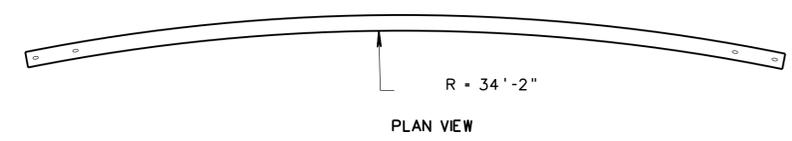
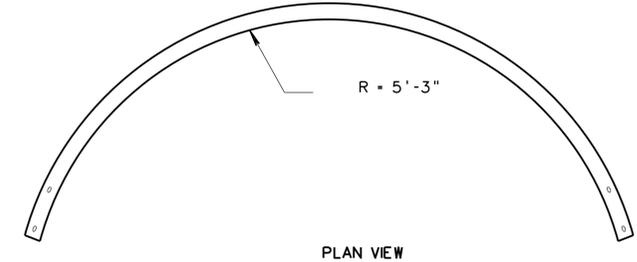
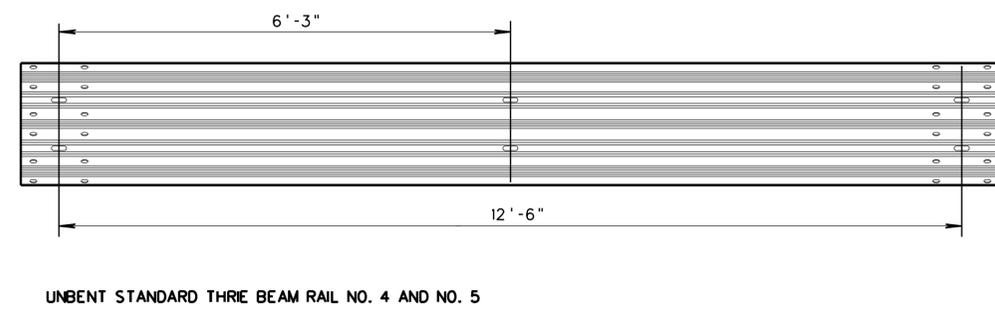
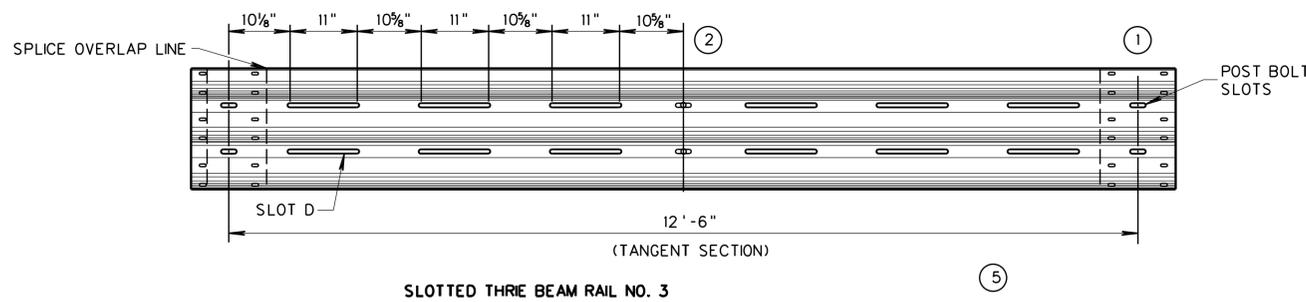
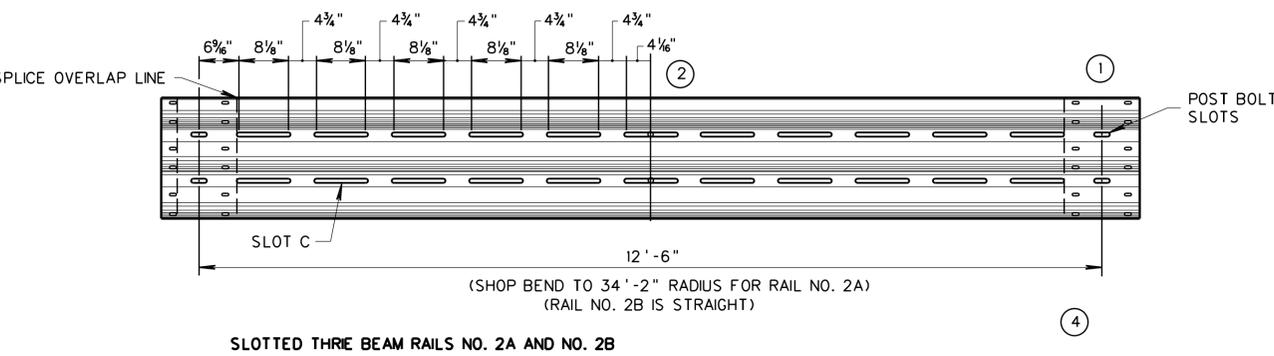
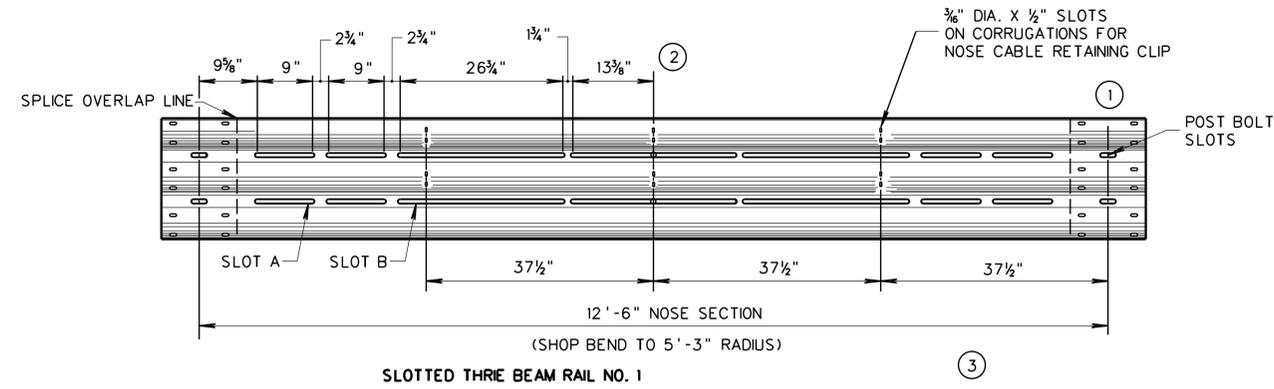
**STEEL THRIE BEAM
BULLNOSE TERMINAL**

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| PREPARED 4-20-15 |
| REVISION DATE |
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GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS GR8 SHEETS 1-5

- ① SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.
- ② SLOT SIZE AND SPACING SYMMETRIC.
- ③ SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".
- ④ SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.
- ⑤ SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SPECIAL DETAIL

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**STEEL THRIE BEAM
BULLNOSE TERMINAL**

SHEET 5 OF 5
SHEET GR 8