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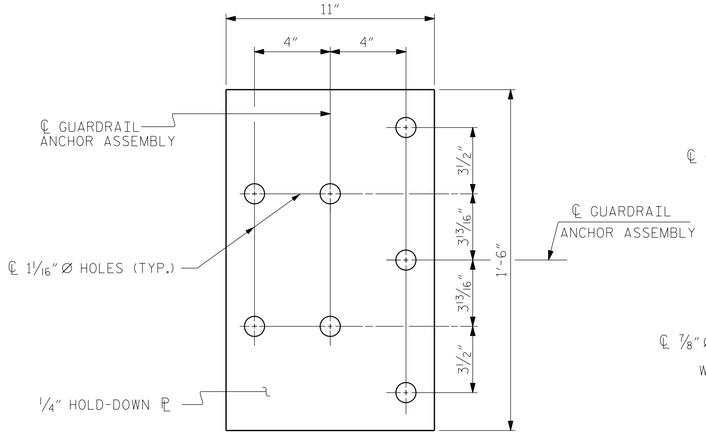
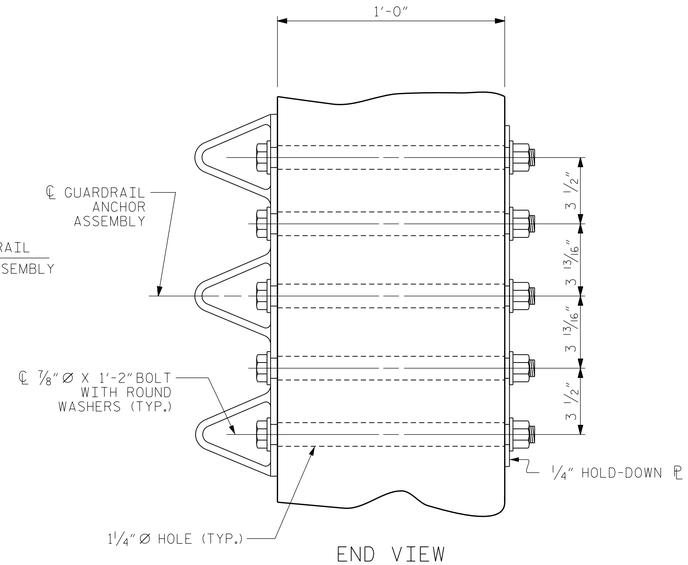
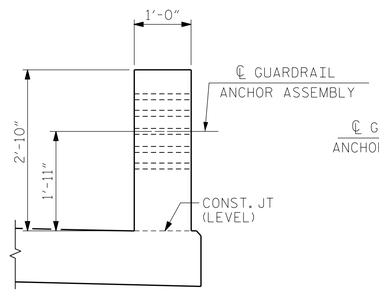


PLAN

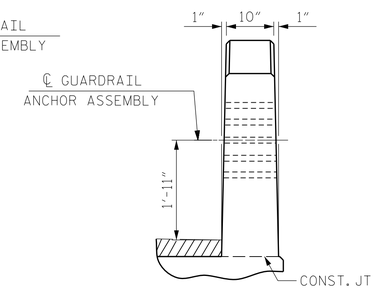


END VIEW

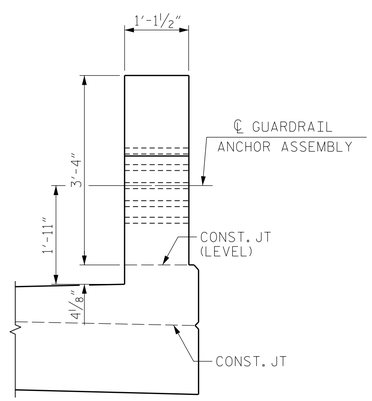
GUARDRAIL ANCHOR ASSEMBLY DETAILS



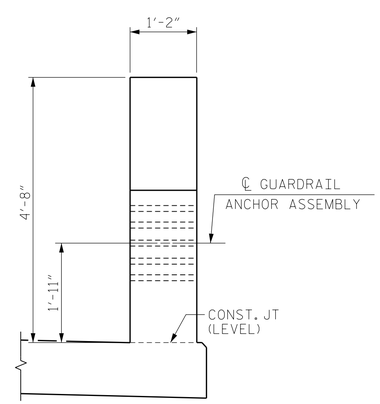
END VIEW
(ONE BAR METAL RAIL)



END VIEW
(VERTICAL CONCRETE BARRIER RAIL)



END VIEW
(THREE BAR METAL RAIL)



END VIEW
(TWO BAR METAL RAIL)

LOCATION OF GUARDRAIL ANCHOR AT END POST

NOTES (FOR METAL RAILS)

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4'' HOLD DOWN PLATE AND 7 - 7/8'' Ø BOLTS WITH NUTS AND WASHERS.

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.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8'' Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF THE PARAPET. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLIES WITH BOLTS, NUTS AND WASHERS COMPLETE IN PLACE, SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE END POST TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4'' Ø 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.

NOTES (FOR VERTICAL CONCRETE BARRIER RAIL)

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4'' HOLD DOWN PLATE AND 7 - 7/8'' Ø BOLTS WITH NUTS AND WASHERS.

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.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8'' Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

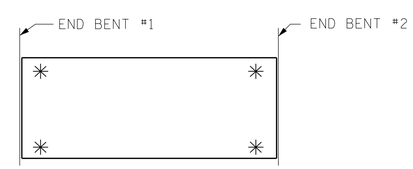
THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4'' Ø 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.



SKETCH SHOWING POINTS OF ATTACHMENT

✳ DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. 17BP.9.R.3
DAVIDSON COUNTY
STATION: 12+65.20 -L-

NORTH CAROLINA PROFESSIONAL SEAL 030046 ENGINEER MATTHEW PAYNE
DocuSigned by: 3C4001644640F4D7...
6/10/2015

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
GUARDRAIL ANCHORAGE FOR VERTICAL CONCRETE BARRIER RAIL

REVISIONS							
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3				
2			4				

SHEET NO. S-11
TOTAL SHEETS 22

ASSEMBLED BY : C. BLAKES DATE : 2/13
CHECKED BY : M. PAYNE DATE : 5/15
DRAWN BY : MAA 5/10
CHECKED BY : GM 5/10
REV. 12/5/11 MAA/GM
REV. 6/13 MAA/GM
REV. 1/15 MAA/TMG

ATKINS
1616 E. MILLBROOK ROAD, SUITE #310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

STD. NO. GRA3