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DESIGNER NOTE
 (REMOVE PRIOR TO PLOTTING FINAL PLAN):
 MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 10'-8" WITH MINIMUM OF 22 R502E AND R503E DOWELS WITH ACCOMPANYING APPROPRIATE BARRIER VERTICAL BARS, 12" MAX. SPACING. VERIFY APPROACH BARRIER LENGTH, NEED FOR A GUARDRAIL CONNECTION, AND VERTICAL TAPER WITH ROADWAY DESIGNER. REFER TO MEMO TO DESIGNERS (2016-01) FOR ADDITIONAL REQUIREMENTS REGARDING BARRIER PLACEMENT.

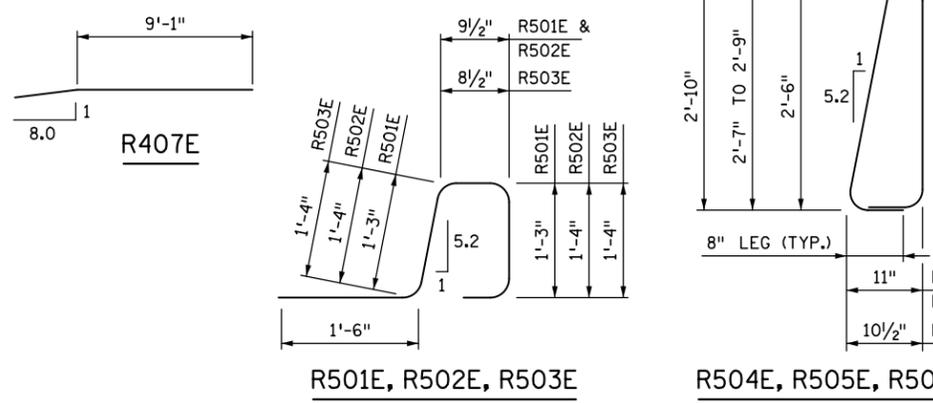
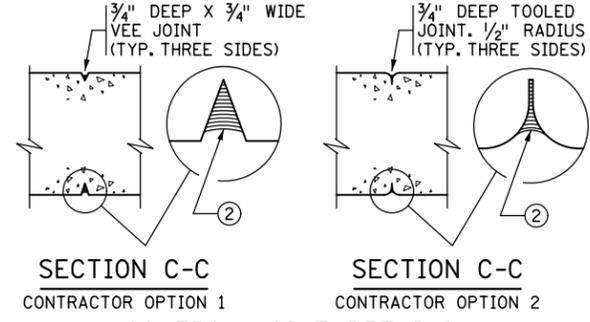
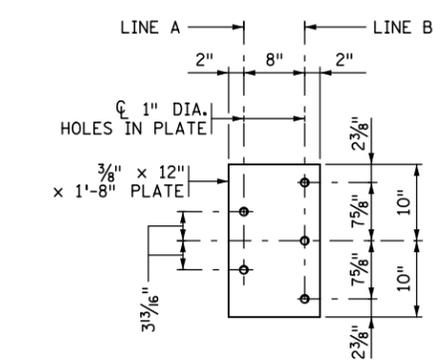
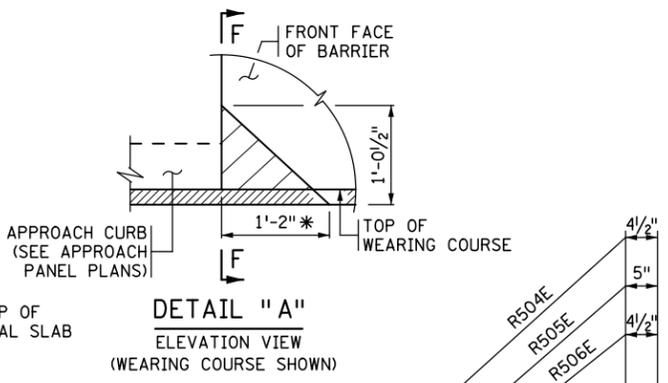
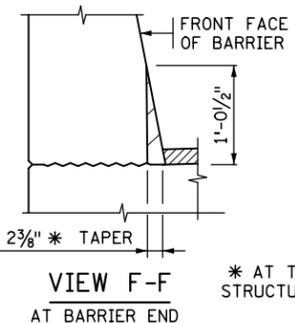
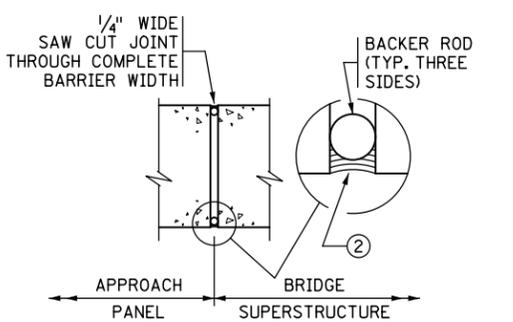
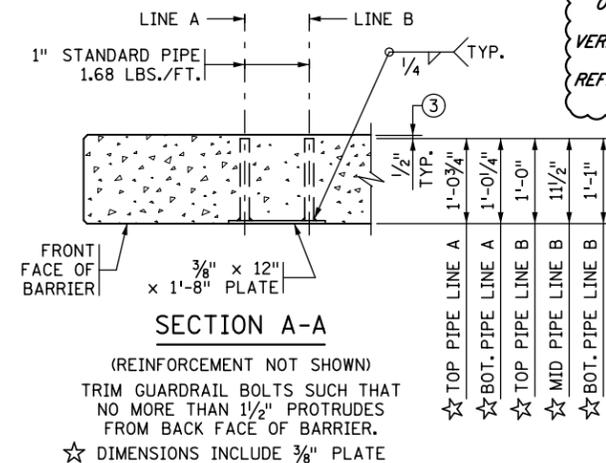
JOINT AT ABUTMENT
 (INTEGRAL OR SEMI-INTEGRAL ABUTMENT)

INSIDE ELEVATION OF BARRIER
 CONCRETE WEARING COURSE NOT SHOWN

BARRIER MEETS NCHRP 350 TL-4 REQUIREMENTS ON BRIDGE DECK AND TL-3 ON APPROACH PANEL.

BILL OF REINFORCEMENT FOR BARRIER

| BAR NO. | LENGTH | SHAPE | LOCATION |
|---------|--------------|----------|------------------|
| R501E | 5'-4" | [Symbol] | BARRIER DOWEL |
| R502E | 5'-6" | [Symbol] | BARRIER DOWEL |
| R503E | 5'-5" | [Symbol] | BARRIER DOWEL |
| R504E | 7'-5" | [Symbol] | BARRIER VERTICAL |
| R505E | -- SER. OF 4 | [Symbol] | BARRIER VERTICAL |
| R506E | 6'-9" | [Symbol] | BARRIER VERTICAL |
| R407E | 10'-3" | [Symbol] | BARRIER LONGIT. |
| R4...E | | [Symbol] | BARRIER LONGIT. |
| R4...E | | [Symbol] | BARRIER LONGIT. |
| R4...E | | [Symbol] | BARRIER LONGIT. |
| R4...E | | [Symbol] | BARRIER LONGIT. |



- GENERAL NOTES**
- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE BARRIER.
 - CONCRETE BARRIER = 530 LBS./FT. (0.131 CU. YDS./FT.)
 - FINISH ALL EDGES OF BARRIER WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
 - SPACE CONTROL JOINTS AT 10 FT. MAXIMUM. REFER TO SUPERSTRUCTURE SHEET FOR SPECIFIC SPACING INFORMATION.
 - GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.
 - GUARDRAIL CONNECTION AND NAME PLATE TO BE CONSIDERED INCIDENTAL TO BARRIER.
 - BARRIER QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
 - PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT IN DECK.
 - JOINT SEALANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
 - REMOVE CONCRETE FROM PIPE ENDS AFTER SLIPFORMING OR FORM REMOVAL.

REVISION:
 APPROVED: AUGUST 24, 2016
 Kevin Weston
 STATE BRIDGE ENGINEER

WHEN USING SLIP FORM METHOD TO PLACE THE CONCRETE, CUT JOINT 3 INCHES DEEP USING MARGIN TROWEL OR SIMILAR MEANS IMMEDIATELY AFTER CONCRETE PLACEMENT (TYP. THREE SIDES).

CERTIFIED BY _____ DATE _____
 LICENSED PROFESSIONAL ENGINEER
 NAME: _____ LIC. NO. _____

TITLE: SINGLE SLOPE CONCRETE BARRIER 36" (TYPE S, TL-4)
 INTEGRAL OR SEMI-INTEGRAL ABUTMENT WITH GUARDRAIL CONNECTION (WITH 2" CONCRETE WEARING COURSE)

APPROVED: _____
 BRIDGE NO. _____
 SHEET NO. OF SHEETS

FIG. 5-397.138(B)