

END VIEW

SECTION B-B

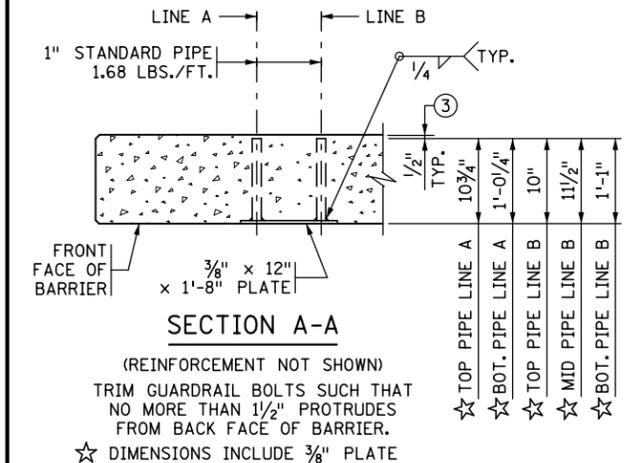
DESIGNER NOTE
 (REMOVE PRIOR TO PLOTTING FINAL PLAN):
 MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 10'-8" WITH MINIMUM OF 22 R502E AND R503E DOWELS WITH ACCOMPANYING APPROPRIATE BARRIER VERTICAL BARS, 12" MAX. SPACING. VERIFY APPROACH BARRIER LENGTH, NEED FOR A GUARDRAIL CONNECTION, AND VERTICAL TAPER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

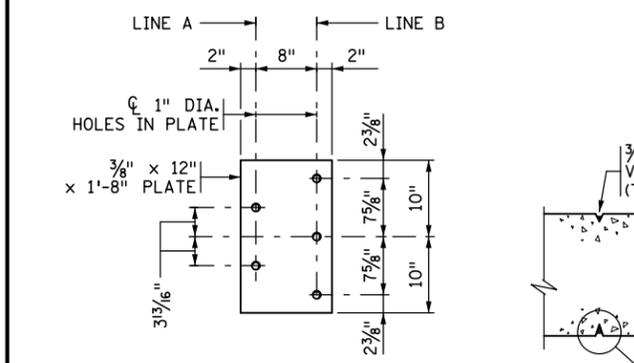
BARRIER MEETS NCHRP 350 TL-4 REQUIREMENTS ON BRIDGE DECK AND TL-3 ON APPROACH PANEL.

BILL OF REINFORCEMENT FOR BARRIER				
BAR	NO.	LENGTH	SHAPE	LOCATION
R501E		5'-7"		BARRIER DOWEL
R502E		5'-9"		BARRIER DOWEL
R503E		5'-8"		BARRIER DOWEL
R504E		7'-1"		BARRIER VERTICAL
R505E	-- SER. OF 4	6'-7" TO 6'-11"		BARRIER VERTICAL
R506E		6'-5"		BARRIER VERTICAL
R407E		10'-3"		BARRIER LONGIT.
R4__E				BARRIER LONGIT.
R4__E				BARRIER LONGIT.
R4__E				BARRIER LONGIT.
R4__E				BARRIER LONGIT.

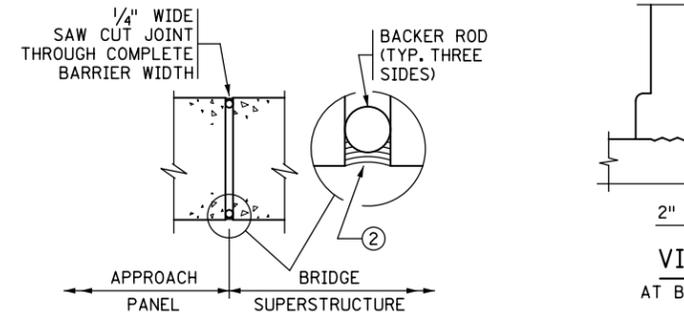


SECTION A-A

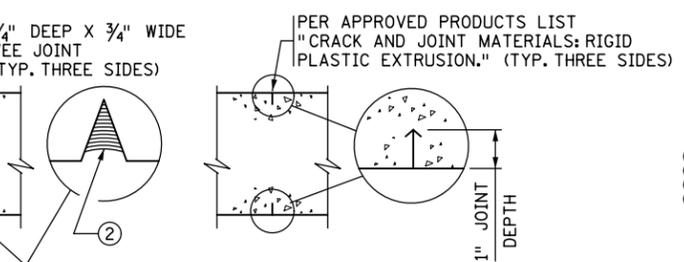
(REINFORCEMENT NOT SHOWN)
 TRIM GUARDRAIL BOLTS SUCH THAT NO MORE THAN 1/2" PROTRUDES FROM BACK FACE OF BARRIER.
 ☆ DIMENSIONS INCLUDE 3/8" PLATE



GUARDRAIL CONNECTION DETAIL
 GALVANIZE AFTER FABRICATION PER SPEC. 3394
 ESTIMATED WEIGHT = 34 LBS.

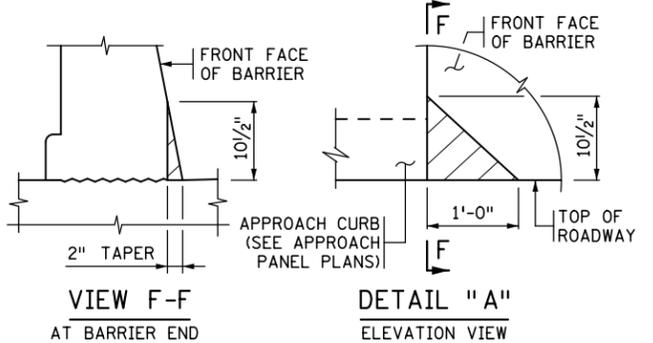


SECTION D-D

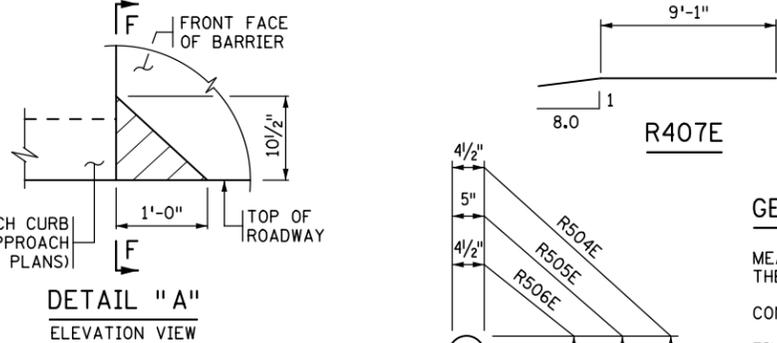


SECTION C-C

CAST-IN-PLACE CONSTRUCTION
 SLIPFORM CONSTRUCTION

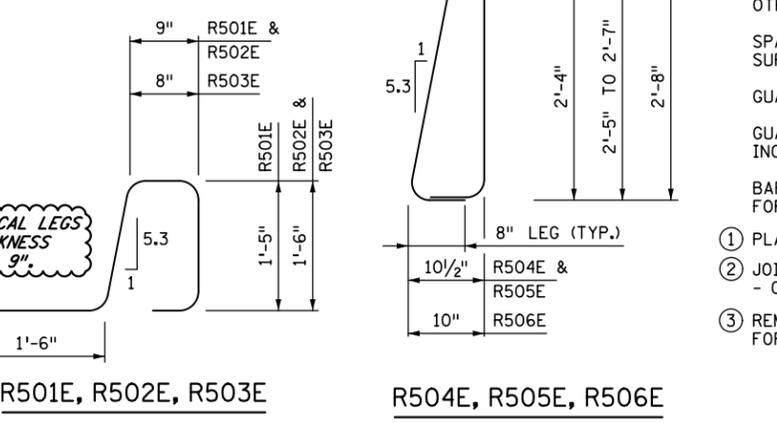


VIEW F-F AT BARRIER END



DETAIL "A" ELEVATION VIEW

INCREASE R501E VERTICAL LEGS IF DECK SLAB THICKNESS IS GREATER THAN 9"



R501E, R502E, R503E
 R504E, R505E, R506E

GENERAL NOTES

- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE BARRIER.
- CONCRETE BARRIER = 481 LBS./FT. (0.119 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.
- ① PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT IN DECK.
- ② JOINT SEALANT PER MnDOT APPROVED/QUALIFIED PRODUCTS LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
- ③ REMOVE CONCRETE FROM PIPE ENDS AFTER SLIPFORMING OR FORM REMOVAL.

REVISION: MAY 10, 2017
 APPROVED: AUGUST 24, 2016
 Kevin Weston
 STATE BRIDGE ENGINEER

FOR SLIPFORM CONSTRUCTION: IMMEDIATELY AFTER CONCRETE IS PLACED AND WHILE IT IS STILL WET, CREATE A ONE INCH STRAIGHT GROOVE USING A TROWEL. INSERT RIGID PLASTIC EXTRUSION INTO GROOVE TO A DEPTH 1/8" BELOW THE SURFACE; FINISH OVER GROOVE COMPLETELY HIDING THE EXTRUSION.

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

TITLE: CONCRETE BARRIER 36" (TYPE S, TL-4)
 INTEGRAL OR SEMI-INTEGRAL ABUTMENT WITH BRIDGE SLAB SIDEWALK AND GUARDRAIL CONNECTION (WITHOUT CONCRETE WEARING COURSE)

DES: _____ DR: _____
 CHK: _____ CHK: _____
 APPROVED: _____
 SHEET NO. OF SHEETS
 BRIDGE NO. _____

FIG. 5-397.138(C)