

\*\* DIMENSION SHOWN IS TO THE TOP OF THE WEARING COURSE AT GUTTERLINE.

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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 AND LINK WITH ADJACENT RETAINING WALLS.

EXPANSION JOINT ④  
 EXPANSION DEVICE NOT SHOWN

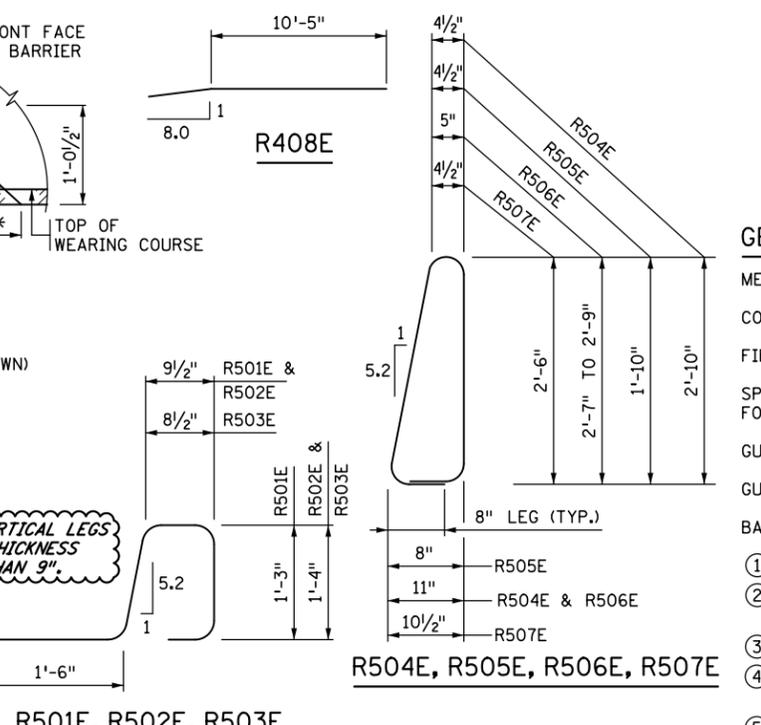
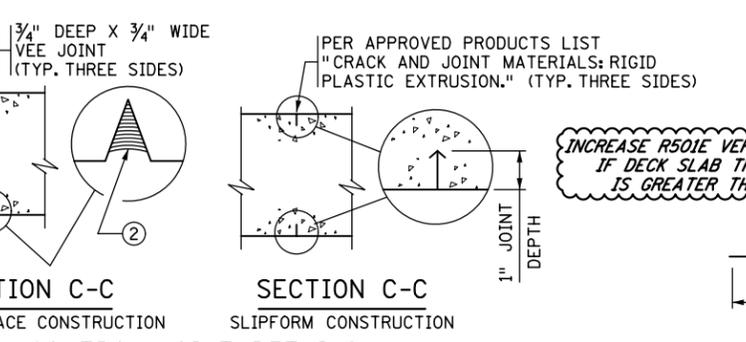
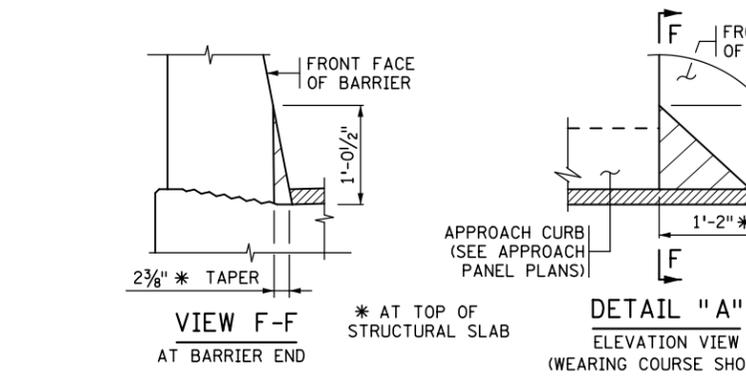
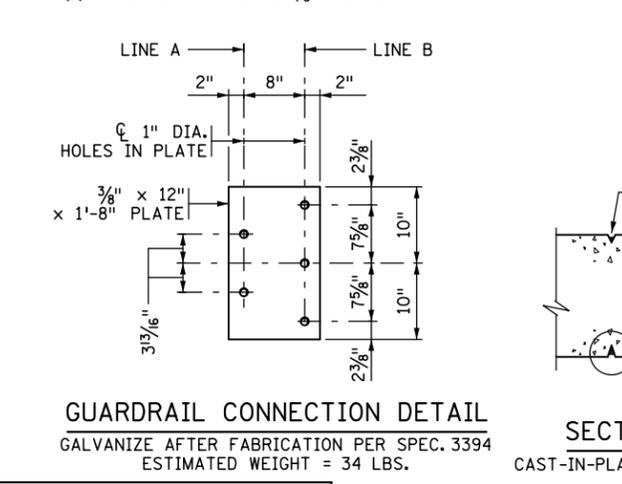
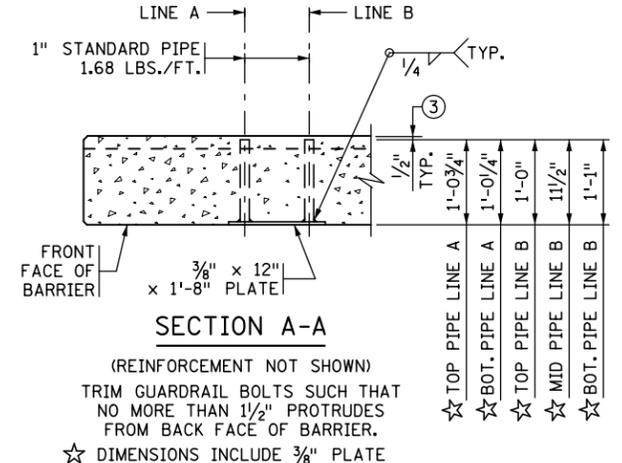
CONTROL JOINT

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"		BARRIER DOWEL
R502E		5'-6"		BARRIER DOWEL
R503E		5'-5"		BARRIER DOWEL
R504E		7'-5"		BARRIER VERTICAL
R505E		5'-5"		BARRIER VERTICAL
R506E	-- SER. OF 4	6'-11" TO 7'-3"		BARRIER VERTICAL
R507E		6'-9"		BARRIER VERTICAL
R408E		11'-7"		BARRIER LONGIT.
R4_E				BARRIER LONGIT.
R4_E				BARRIER LONGIT.
R4_E				BARRIER LONGIT.
R4_E				BARRIER LONGIT.
R4_E				BARRIER LONGIT.



**GENERAL NOTES**

- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE BARRIER.
- CONCRETE BARRIER = 513 LBS./FT. (0.127 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.
- ④ REFER TO "WATERPROOF EXPANSION DEVICE" STANDARD PLANS FOR COVER PLATE DETAILS.
- ⑤ MATCH GUTTERLINE ELEVATION.

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

**CONTROL JOINT DETAILS**  
 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)  
 PARAPET ABUTMENT WITH GUARDRAIL CONNECTION  
 (WITH 2" CONCRETE WEARING COURSE)

DES: \_\_\_\_\_ DR: \_\_\_\_\_  
 CHK: \_\_\_\_\_ CHK: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_  
 SHEET NO. OF SHEETS \_\_\_\_\_  
 BRIDGE NO. \_\_\_\_\_

FIG. 5-397.139(B)