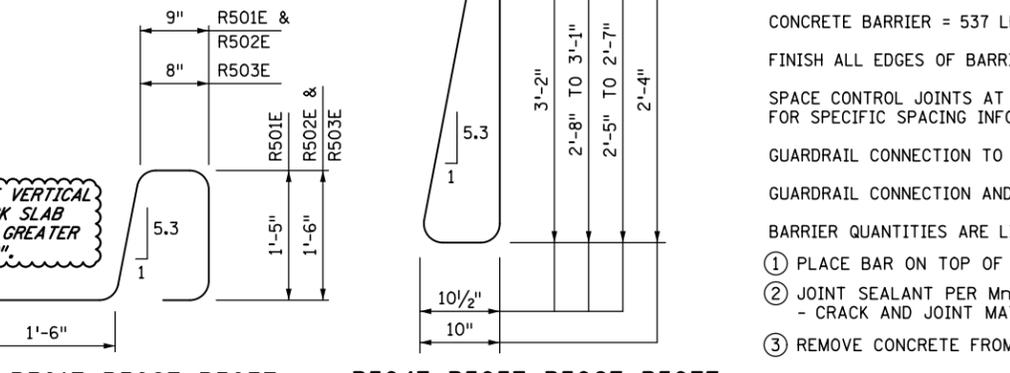
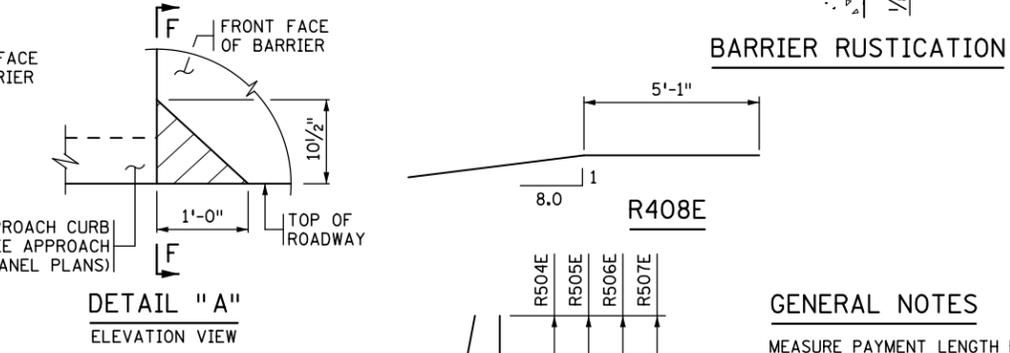
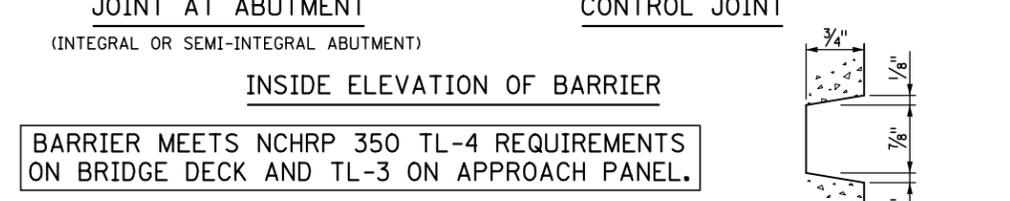
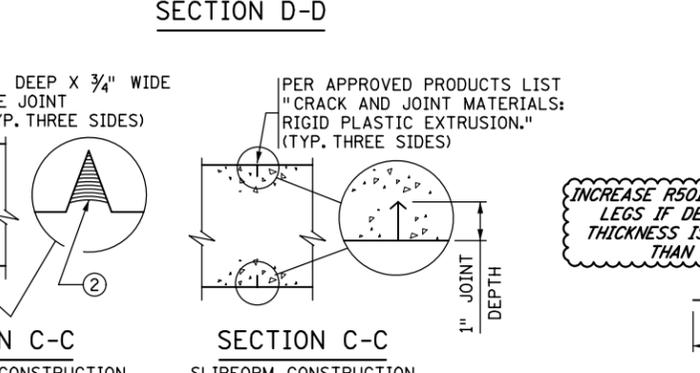
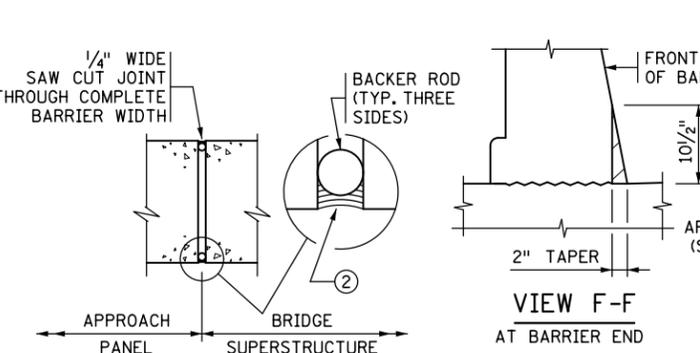


**DESIGNER NOTE**  
(REMOVE PRIOR TO PLOTTING FINAL PLAN):  
MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 10'-8" WITH MINIMUM OF 22 R502E AND R503E DOWELS WITH ACCOMPANYING APPROPRIATE BARRIER VERTICAL BARS, 12" MAX. SPACING. VERIFY APPROACH BARRIER LENGTH, NEED FOR A GUARDRAIL CONNECTION, AND VERTICAL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



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'-2"		BARRIER VERTICAL
R505E	-- SER. OF 4	6'-3" TO 7'-1"		BARRIER VERTICAL
R506E	-- SER. OF 4	5'-9" TO 6'-1"		BARRIER VERTICAL
R507E		5'-6"		BARRIER VERTICAL
R408E		10'-3"		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 = 537 LBS./FT. (0.133 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

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

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

FIG. 5-397.140(C)