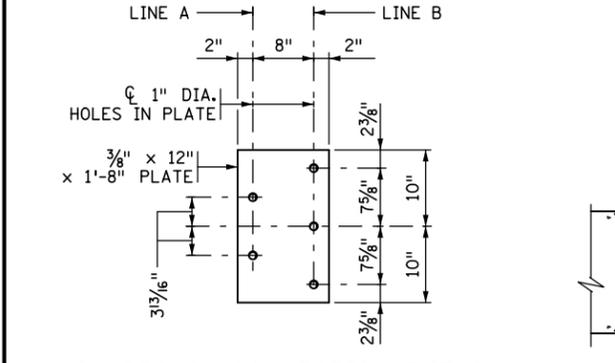
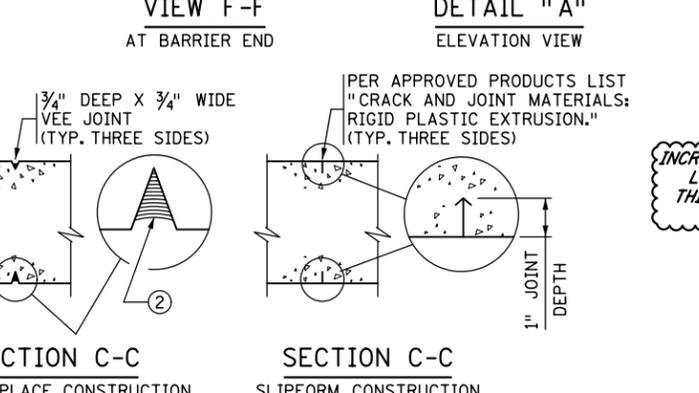
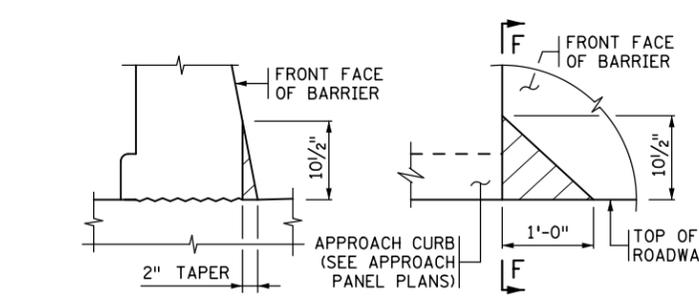


SECTION A-A
 (REINFORCEMENT NOT SHOWN)
 TRIM GUARDRAIL BOLTS SUCH THAT NO MORE THAN 1 1/2\"/>

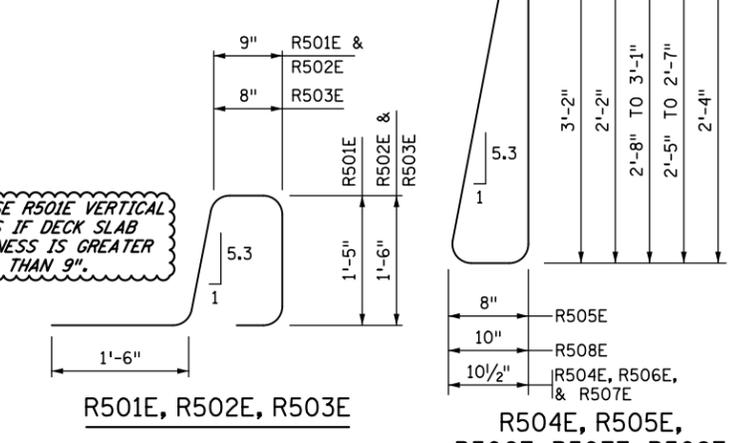
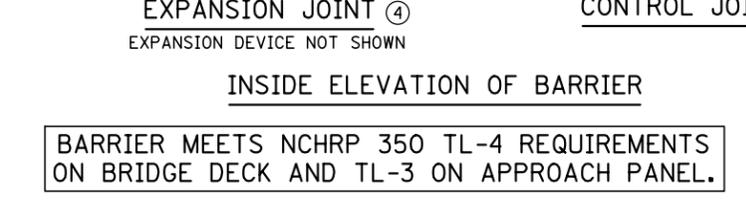


GUARDRAIL CONNECTION DETAIL
 GALVANIZE AFTER FABRICATION PER SPEC. 3394
 ESTIMATED WEIGHT = 34 LBS.

DESIGNER NOTE
 (REMOVE PRIOR TO PLOTTING FINAL PLAN):
 MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 10'-8\"/>



CONTROL JOINT DETAILS



R501E, R502E, R503E

BILL OF REINFORCEMENT FOR BARRIER

BAR NO.	LENGTH	SHAPE	LOCATION
R501E	5'-7"	[Symbol]	BARRIER DOWEL
R502E	5'-9"	[Symbol]	BARRIER DOWEL
R503E	5'-8"	[Symbol]	BARRIER DOWEL
R504E	7'-2"	[Symbol]	BARRIER VERTICAL
R505E	5'-0"	[Symbol]	BARRIER VERTICAL
R506E	-- SER. OF 4 6'-3" TO 7'-1"	[Symbol]	BARRIER VERTICAL
R507E	-- SER. OF 4 5'-9" TO 6'-1"	[Symbol]	BARRIER VERTICAL
R508E	5'-6"	[Symbol]	BARRIER VERTICAL
R409E	11'-7"	[Symbol]	BARRIER LONGIT.
R4_E		[Symbol]	BARRIER LONGIT.
R4_L		[Symbol]	BARRIER LONGIT.
R4_E		[Symbol]	BARRIER LONGIT.
R4_L		[Symbol]	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.
 - 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.

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

TITLE: **CONCRETE BARRIER 42"**
 (TYPE S, TL-4)
 PARAPET ABUTMENT WITH BRIDGE SLAB SIDEWALK AND GUARDRAIL CONNECTION (WITHOUT CONCRETE WEARING COURSE)

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

FIG. 5-397.141(C)