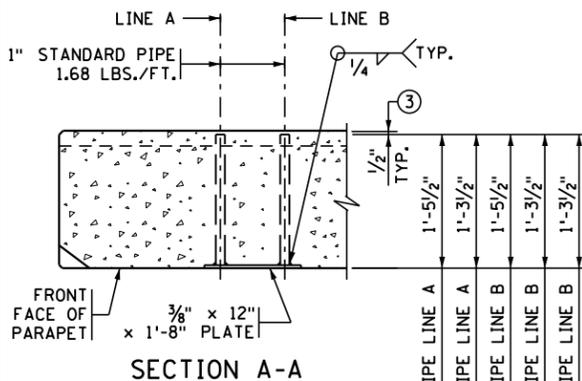


END VIEW

SECTION B-B



SECTION A-A

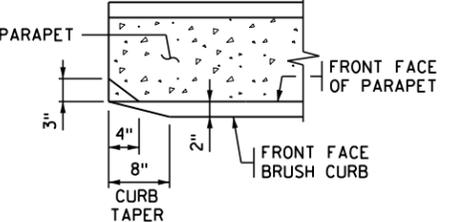
(REINFORCEMENT NOT SHOWN)
 TRIM GUARDRAIL BOLTS SUCH THAT NO MORE THAN 1/2" PROTRUDES FROM BACK FACE OF PARAPET.
 ☆ DIMENSIONS INCLUDE 3/8" PLATE

DESIGNER NOTE (REMOVE PRIOR TO PRINTING FINAL PLAN):
 MINIMUM PARAPET LENGTH ON APPROACH PANEL IS 13'-4" WITH MINIMUM OF 18 R502E AND R503E DOWELS WITH ACCOMPANYING APPROPRIATE PARAPET VERTICAL BARS, 12" MAX. SPACING. VERIFY APPROACH PARAPET LENGTH, NEED FOR A GUARDRAIL CONNECTION, WITH ROADWAY DESIGNER. REFER TO MEMO TO DESIGNERS *2020-01 FOR ADDITIONAL REQUIREMENTS REGARDING PARAPET PLACEMENT.

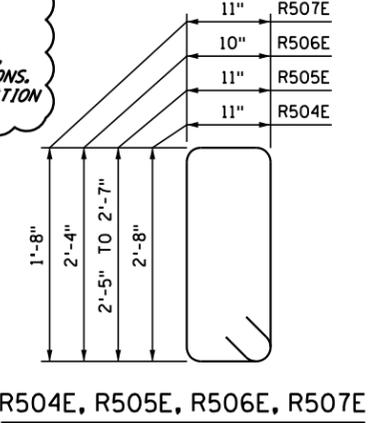
DESIGNER NOTE (REMOVE PRIOR TO PRINTING FINAL PLAN):
 FOR BRIDGES WITH SUPERELEVATION EXCEEDING 2%, SHOW THE PARAPET FRONT FACE DIMENSIONS AS INDICATED ON THIS SHEET, AND ALSO CALCULATE AND SHOW THE PARAPET BACK FACE DIMENSIONS. ALSO VERIFY THAT BAR R501E, R502E & R503E HAS 10" MIN. PROJECTION WHEN CROSS SLOPE VARIES FROM NORMAL 0.02 FT/FT

EXPANSION JOINT
 EXPANSION DEVICE NOT SHOWN
INSIDE ELEVATION OF PARAPET

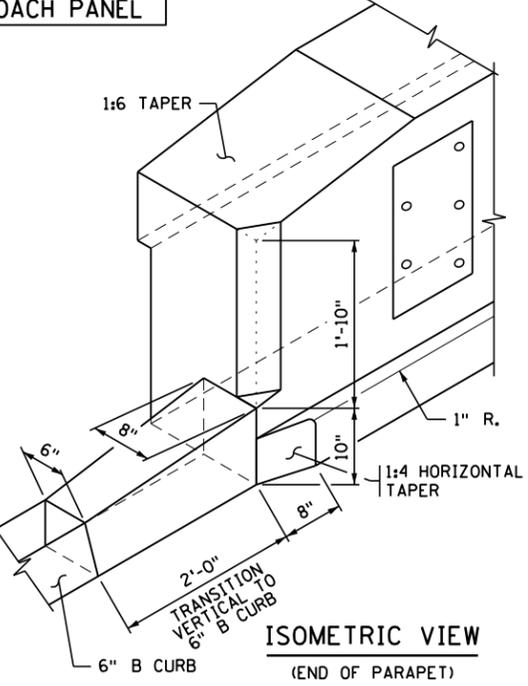
PARAPET MEETS MASH TL-4 REQUIREMENTS ON BRIDGE DECK AND TL-3 ON APPROACH PANEL



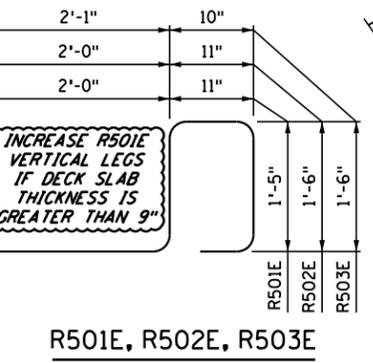
SECTION D-D



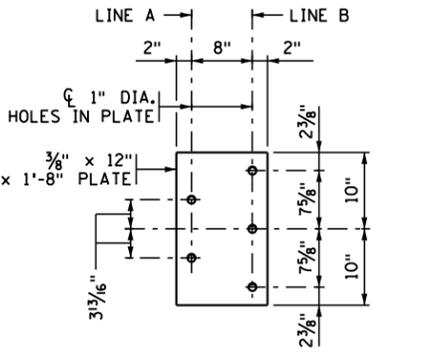
R504E, R505E, R506E, R507E



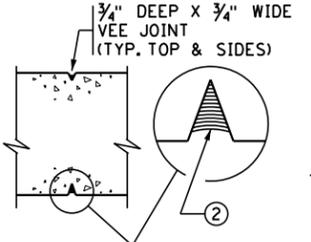
ISOMETRIC VIEW (END OF PARAPET)



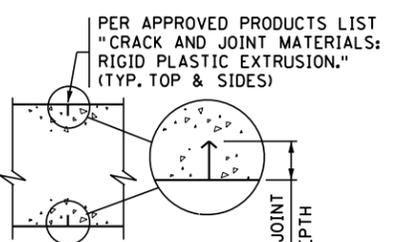
R501E, R502E, R503E



GUARDRAIL CONNECTION DETAIL
 GALVANIZE AFTER FABRICATION PER SPEC. 3394
 ESTIMATED WEIGHT = 37 LBS.



SECTION C-C
 CAST-IN-PLACE CONSTRUCTION



SECTION C-C
 SLIPFORM CONSTRUCTION

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.

BILL OF REINFORCEMENT FOR PARAPET

BAR	NO.	LENGTH	SHAPE	LOCATION
R501E		6'-3"	□	PARAPET DOWEL
R502E		6'-5"	□	PARAPET DOWEL
R503E		6'-5"	□	PARAPET DOWEL
R504E		8'-1"	□	PARAPET VERTICAL
R505E	--SER. OF 3 TO	7'-7" TO 7'-11"	□	PARAPET VERTICAL
R506E		7'-3"	□	PARAPET VERTICAL
R507E		6'-1"	□	PARAPET VERTICAL
R408E		4'-4"	—	PARAPET LONGIT.
R4...E			—	PARAPET LONGIT.
R4...E			—	PARAPET LONGIT.
R4...E			—	PARAPET LONGIT.
R4...E			—	PARAPET LONGIT.
R4...E			—	PARAPET LONGIT.
R4...E			—	PARAPET LONGIT.

GENERAL NOTES

- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE PARAPET.
- FOR SLIPFORM CONSTRUCTION, TIE 100% OF THE REINFORCEMENT BAR INTERSECTIONS IN THE PARAPET.
- CONCRETE PARAPET = 639 LBS./FT. (0.158 CU. YDS./FT.)
- FINISH ALL EDGES OF PARAPET 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 IN ACCORDANCE WITH SPEC. 3306.
- GUARDRAIL CONNECTION AND NAMEPLATE TO BE CONSIDERED INCIDENTAL.
- PARAPET 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.

REVISED:
 APPROVED: APRIL 09, 2020
Kevin Westrom
 STATE BRIDGE ENGINEER

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

TITLE: **CONCRETE PARAPET (TYPE P-4, TL-4)**
 PARAPET ABUTMENT
 (WITHOUT CONCRETE WEARING COURSE)

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

FIG. 5-397.173(C)

CODE 70