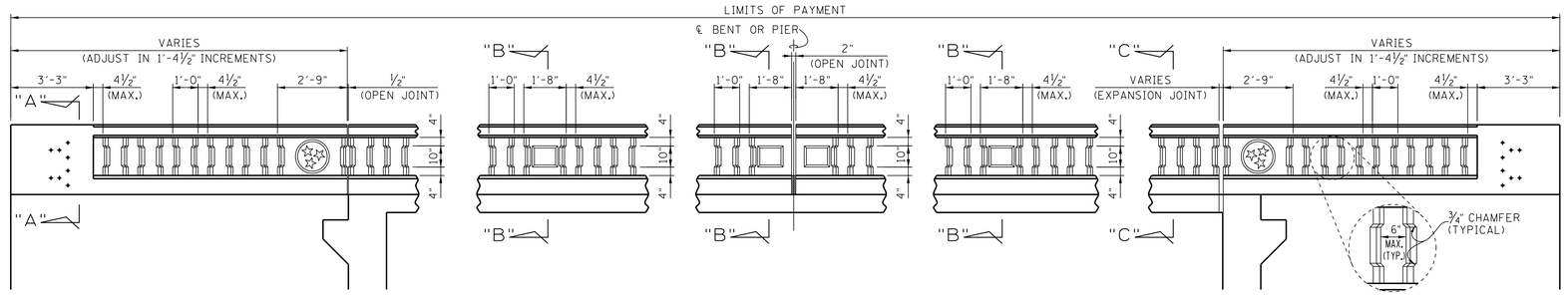
STD_11_2.DGN



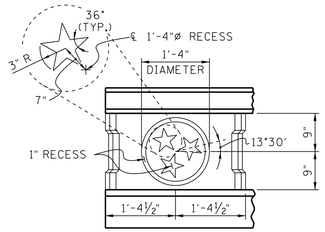
ABUTMENT PILASTER
(WITH CONSTRUCTION JOINT)

SPAN PILASTER
(AT THIRD POINTS OF SPAN)

BENT PILASTER

SPAN PILASTER
(AT THIRD POINTS OF SPAN)

ABUTMENT PILASTER
(WITH EXPANSION JOINT)



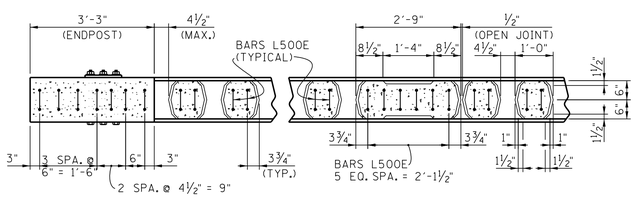
⚠1 STATE SEAL DETAIL
(SEAL TO BE ON BOTH FACES OF RAIL)

CONST. NO.

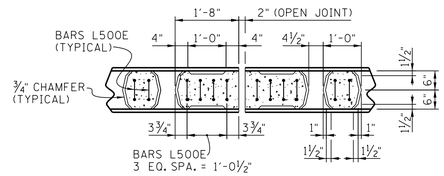
PROJECT NO.	YEAR	SHEET NO.
	2007	

REVISIONS

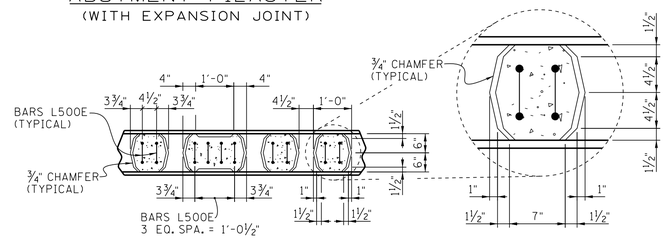
NO.	DATE	BY	BRIEF DESCRIPTION
1	5-1-14	JHW	REVISED DIMENSIONS ℄ QUANTITIES



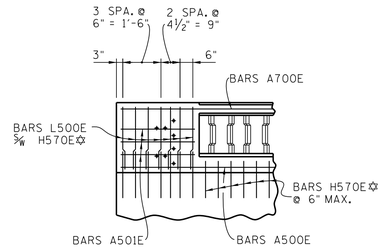
TYPICAL SECTION ℄ ABUTMENT PILASTER
(SHOWN @ CONSTRUCTION JOINT, EXPANSION JOINT SIMILAR)



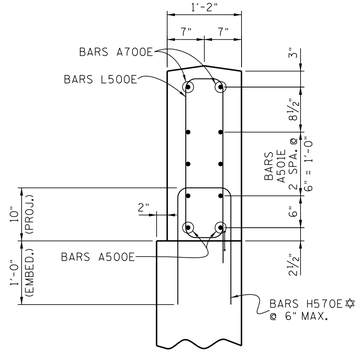
TYPICAL SECTION ℄ BENT PILASTER



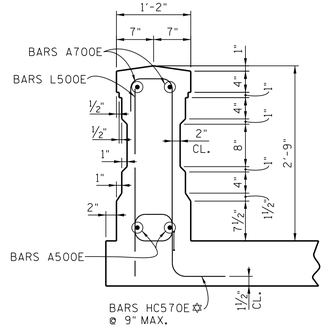
TYPICAL SECTION ℄ SPAN PILASTER



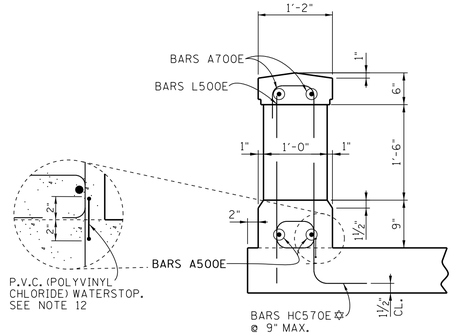
⚠1 ELEVATION



SECTION "A"-"A" ⚠1



SECTION "B"-"B"



SECTION "C"-"C"

GENERAL NOTES:

1) SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION CURRENT EDITION.

2) DESIGN SPECIFICATIONS: AASHTO CURRENT EDITION WITH ADDENDA.

3) CONCRETE: TO BE CLASS "A".f'c = 3,000 psi. SEE SPECIAL PROVISION REGARDING SECTION 604 - CONCRETE STRUCTURES.

4) REINFORCING STEEL: TO BE ASTM A615 GRADE 60. STANDARD CRSI HOOK DETAILS APPLY UNLESS OTHERWISE NOTED ON THE BILL OF STEEL. SPACING DIMENSIONS ARE CENTER TO CENTER UNLESS OTHERWISE NOTED ON DETAIL DRAWINGS. ALL STEEL TO BE EPOXY COATED. COST TO BE INCLUDED IN UNIT PRICE BID FOR RAIL.

5) SPAN PILASTERS MAY BE SPACED AT FIFTH POINTS IN LONG SPANS. SEE BRIDGE LAYOUT.

6) ALL POSTS SHALL BE PERPENDICULAR TO ROADWAY GRADE AND VERTICAL IN CROSS-SECTION.

7) PAYMENT FOR CONCRETE RAIL SHALL BE BASED ON LINEAR FEET FROM END OF ENDPOST TO END OF ENDPOST.

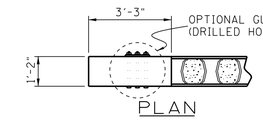
8) RAILING SHALL NOT BE CONSTRUCTED ON ANY STRUCTURE UNTIL THE ENTIRE BRIDGE DECK HAS BEEN POURED AND ALL FALSEWORK HAS BEEN STRUCK.

9) BASIS OF PAYMENT: ALL MISCELLANEOUS ITEMS, LABOR, MATERIALS, TOOLS AND INCIDENTALS FOR CONSTRUCTING THE ENTIRE CONCRETE RAIL SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 620-05.02.

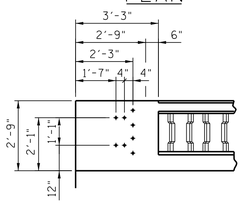
10) PRIOR TO CONSTRUCTING THE RAIL SYSTEM, SHOP DRAWINGS CONTAINING THE ENTIRE RAIL IN ELEVATION VIEW AND BILL OF STEEL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

11) OPEN JOINTS OR CONSTRUCTION JOINTS WILL BE REQUIRED AS SHOWN ON THIS SHEET OR AS MODIFIED ON CONTRACT DRAWINGS.

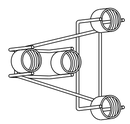
12) A ¾"×4" FLAT DUMBBELL OR FLAT RIBBED P.V.C. (POLYVINYL CHLORIDE) WATERSTOP. WATERSTOP MUST BE CONTINUOUS ENTIRE LENGTH OF PARAPET. RUBBER WATERSTOP MUST BE FACTORY OR FIELD VULCANIZED OR CEMENT SPLICED WITH THE AID OF REMOLDED JUNCTIONS, AND/OR UNIONS.



PLAN



ELEVATION ⚠1



INSERT ASSEMBLY

CAST IN PLACE THREADED STEEL INSERT
WITH ⅞" ø × 2" HEX HEAD GALVANIZED BOLTS (A307)
HOT DIP ZINC COATING ASTM A153

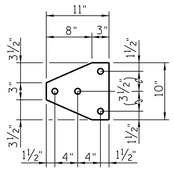
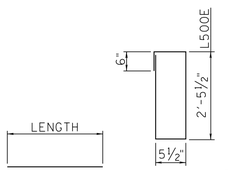
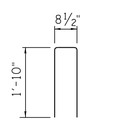


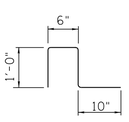
PLATE DETAIL

½" ASTM A36 GALVANIZED PLATE WITH
⅞" ø HEX HEAD GALVANIZED BOLTS (A307)
HOT DIP ZINC COATING A153





BARS H570E✡



BARS HC570E✡

BAR DETAILS

BAR DIMENSIONS ARE OUT TO OUT. THE FIRST DIGIT OF THE BAR NUMBER INDICATES SIZE.

✡ BARS H570E TO BE INCLUDED IN REINFORCING QUANTITIES AND BILL OF STEEL FOR WINGWALLS.
✡ BARS HC570E TO BE INCLUDED IN REINFORCING QUANTITIES AND BILL OF STEEL FOR SUPERSTRUCTURE.
NOTE: BARS LISTED IN ABOVE NOTES ARE NOT INCLUDED IN QUANTITIES SHOWN ON THIS SHEET.

ESTIMATED QUANTITIES

ITEMS	CLASS "A" CONCRETE CY.	REINF. STEEL LB.
⚠1 ONE POST	.0454	13.2
ONE ENDPOST	.3853	83.5
ONE ABUTMENT PILASTER	.1426	39.6
ONE SPAN PILASTER	.0824	26.4
ONE BENT PILASTER	.0875	26.4
ONE LINEAR FT. RAIL	.0512	6.2

THIS RAIL HAS BEEN EVALUATED AND ACCEPTED TO BE OF EQUAL STRENGTH TO OTHER SAFTY-SHAPED RAILINGS WITH LIKE GEOMETRY, WHICH HAVE BEEN CRASH TESTED TO MEET NCHRP REPORT 350 TL-2 RATING. THIS RAIL IS ONLY APPROVED FOR LOW SPEED USE, DESIGN SPEEDS OF 45 MPH AND LESS.

FOR USE WHEN GUARDRAIL ATTACHMENTS ARE REQUIRED

DESIGNED BY _____ DATE _____
DRAWN BY K.L. FRANKENFIELD DATE 2-07
SUPERVISED BY _____ DATE _____
CHECKED BY _____ DATE _____

M/R MINOR REVISION - FHWA APPROVAL NOT REQUIRED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD CONCRETE CLASSIC RAIL 2007

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

STD-11-2