South Carolina
Department of Transportation

DM0604

May 26, 2004

MEMORANDUM TO TEAM LEADERS AND CONSULTANTS

SUBJECT: Concrete Bridge Barrier Parapet Transitions and Approach Slabs

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Effective with the November 2004 Letting, the Department will begin using a concrete bridge barrier parapet transition at all barrier ends where a thrie beam guardrail bridge connector is required. For bridges having parallel wing walls (wing walls that are parallel to the centerline of bridge), the transition shall be detailed as shown on the attached drawings. For bridges having straight wing walls (wing walls that are parallel to the centerline of bearing), the transition shall be placed on the end span, using details similar to the details shown on the attached drawing.

To accommodate the barrier parapet transition, approach slabs will be required for all bridges having parallel wing walls. For bridges with straight wing walls, approach slabs shall be detailed when any one of the following conditions exist:

1. The bridge is located on a primary route.
2. The bridge is located on a secondary or county road having a current ADT of 400 VPD or greater.
3. The bridge is located on a secondary or county road with a new approach fill height exceeding 10 feet.

For previously completed plans that do not conform to the requirements of this memorandum, the State Bridge Design Engineer will, on a case-by-case basis, assess the need for revisions.

Douglas E. McClure

Douglas E. McClure, P. E.
State Bridge Design Engineer

Attachments

cc: Assistant State Bridge Design Engineers
Bridge Construction Engineer
Road Design Engineer
FHWA
CRM East
CRM West

File: PC/BWB

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Columbia, South Carolina 29202-0191

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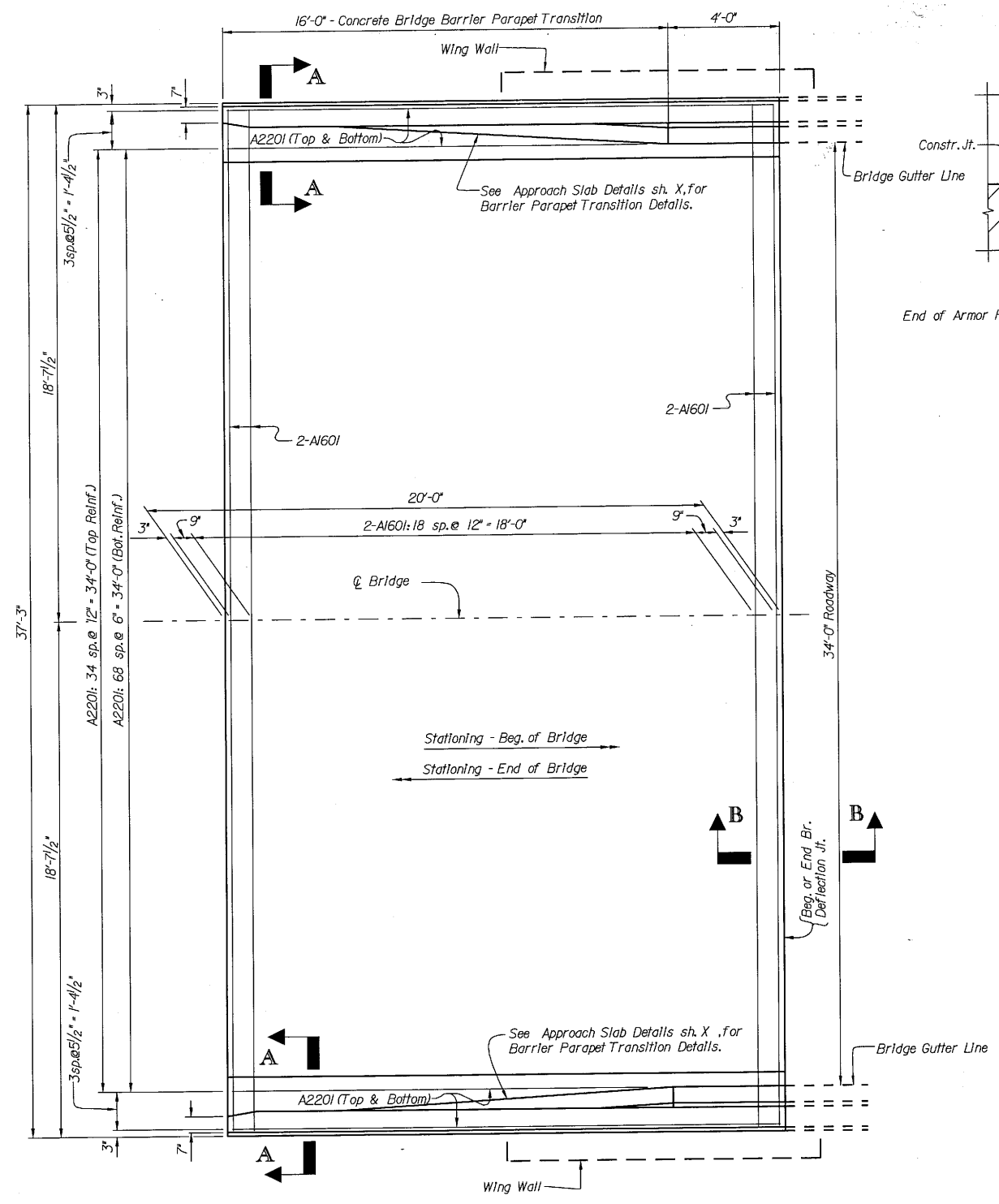
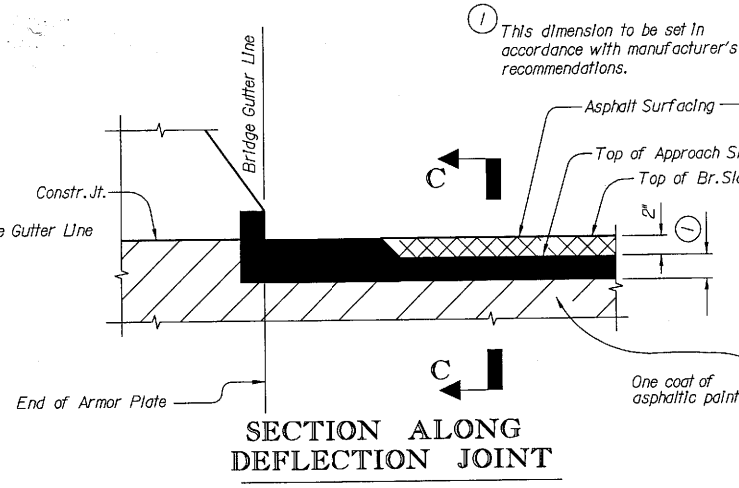
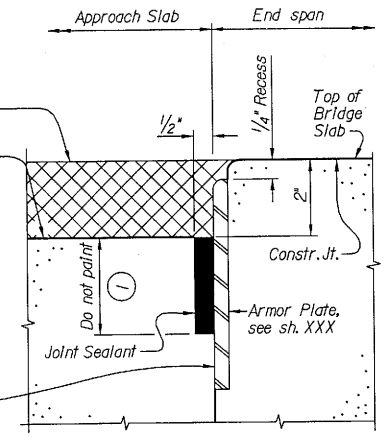
ASBM.Dgn



PLAN



SECTION ALONG DEFLECTION JOINT



SECTION C-C

DEFLECTION JOINT DETAIL

Deflection Joint may be formed or saw cut.

One coat of asphaltic paint shall be applied to the joint to prevent bonding of end span and approach slab concrete. An alternate method of preventing bonding may be used if desired by the Contractor. Asphaltic paint or alternate method shall be approved by the Resident Construction Engineer.

Joint sealant shall be a cold applied bridge joint sealant meeting the requirements of Subsection 702.03H of the Standard Specifications.

All costs for furnishing and installing cold applied joint sealant shall be included in the unit price bid for Concrete for Structures - Class 4000.

SHEET NO.	TOTAL SHEETS
XX	XX

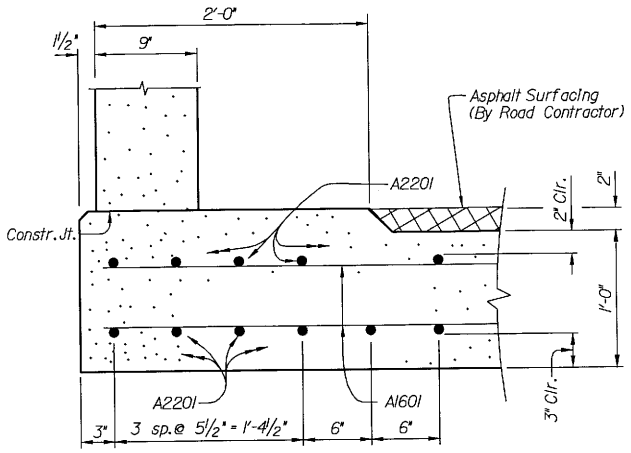
REINF. STEEL SCHED.

MARK	NO. REQ'D	DIMENSION "a"	"b"	"c"	"d"	LENGTH
A1601	42	36'-11"	—	—	—	36'-11"
A1602	12	19'-8"	—	—	—	19'-8"
A1603	2	16'-0"	—	—	—	16'-0"
A2201	116	19'-8"	—	—	—	19'-8"
C1601	42	2'-3"	10"	—	—	3'-1"
L 1601	88	10"	3'-4"	5"	3'-4"	7'-11"
U1601	2	2'-0"	5"	—	—	4'-3"
CHCU	4" Ht.	As Necessary				

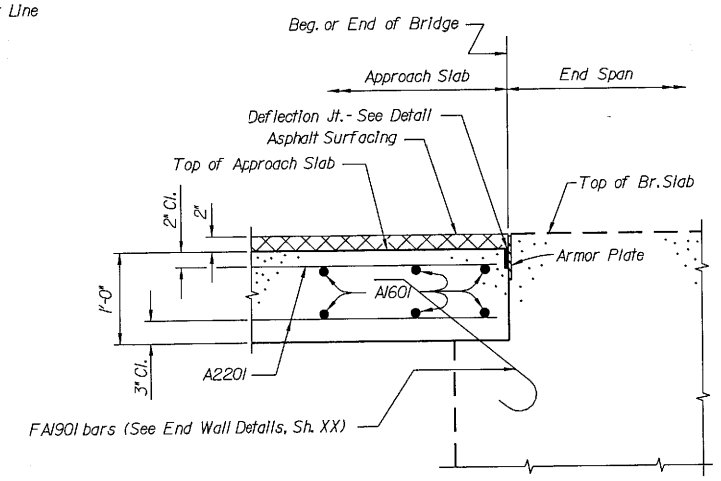
QUANTITIES

ITEM	UNIT	ONE APPR. SLAB
Concrete, Class 4000	C.Y.	281
Reinforcing Steel	Lbs.	7430
Barrier Parapet Transition	EA	2

For Bar Bending Details, see Sh. XXX



SECTION A-A



SECTION B-B

Notes:

Fill under approach slab shall be thoroughly compacted in accordance with paragraph 208.02 of the Standard Specifications and graded to a uniform surface 1'-2" below finished surface of roadway. Bottom reinforcing steel shall be supported by concrete block or similar material, so as to provide a minimum concrete cover of 3" below bottom reinforcing steel.

Approach slab shall be constructed to the grades and elevations shown on the Bridge Plan & Profile sheet, and approach slabs shall be constructed to the same crown as bridge roadway.

C.H.C.U. Bolsters shall be spaced so as to provide adequate support for top reinforcing steel and spaced approximately 2'-6" on center, parallel to center line of approach slab. Weights of bar supports are not included in the reinforcing steel quantities. Bar supports shall be considered incidental to the reinforcing steel and all costs for furnishing and placing bar supports shall be included in the unit price bid for Reinforcing Steel.

All costs of materials, equipment and labor necessary to compact the fill beneath the approach slab to not less than 95% of maximum density using suitable construction procedure shall be included in the unit price bid for Concrete for Structures - Class 4000.

THIS DRAWING IS FURNISHED FOR INFORMATION ONLY. ALL DIMENSIONS SHOWN ARE SHEET SPECIFIC. ANY USE OF THIS DESIGN AND DRAWING, INCLUDING DIMENSIONS, MUST BE CHECKED BY THE USER'S ENGINEER TO ENSURE DESIGN IS ADEQUATE FOR THE INTENDED USE. ALL DRAWINGS MUST BE SIGNED AND SEALED BY A SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER WHEN USED.

REV.			
REV.			
REV.	JAR	JP	4/04
	Barrier Parapet		
REVIEWED			
QUAN.	XXX		
DR.	XXX		
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN COLUMBIA, S.C.

APPROACH SLABS (34'-0" ROADWAY)

FILE NO.	ROUTE	COUNTY	DRAWING NO.
XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXXXXXXXX	702-30a

Printed: Wednesday, May 19, 2004 8:06:06 AM

AS.dgn

SHEET NO.	TOTAL SHEETS
XX	XX

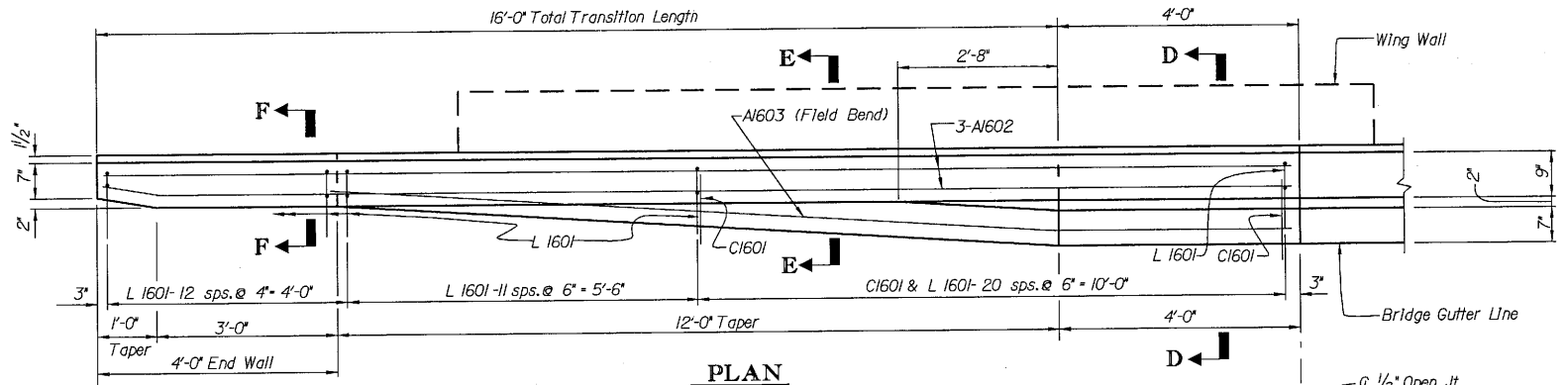
① THRIE BEAM GUARD RAIL ATTACHMENT TO PARAPET

THE 1" DIAM. HOLES MAY BE FORMED WITH PLASTIC OR PVC PIPE HAVING AN I.D. OF 1" (± 1/8") OR 1" I.D. GALVANIZED STANDARD WEIGHT STEEL PIPE.

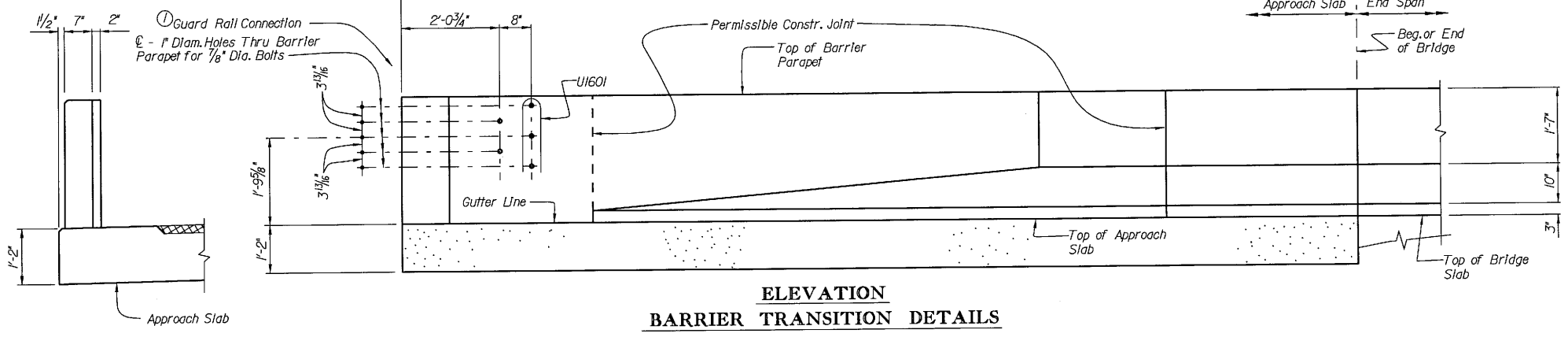
ALL COST OF PIPE AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR REINFORCING STEEL.

ALL PIPE TO REMAIN IN PLACE WHEN FORMS ARE REMOVED.

THE RESIDENT ENGINEER SHALL CHECK THE LOCATION OF THE HOLES TO INSURE THAT THE GUARDRAIL SHOE WILL FIT PROPERLY WHEN INSTALLED.

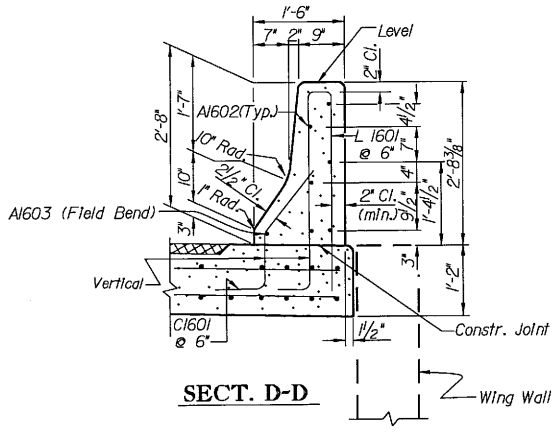


PLAN
(Approach Slab not shown)

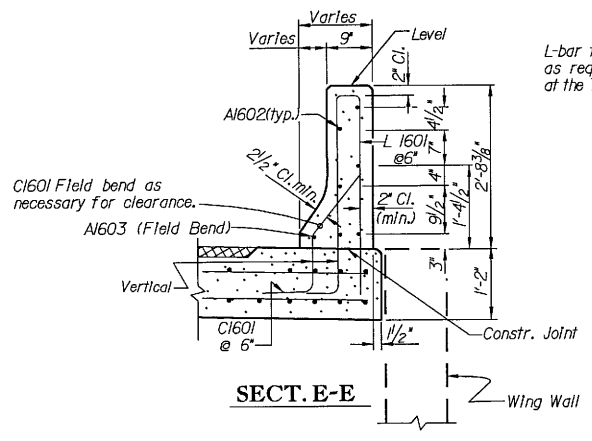


END ELEVATION

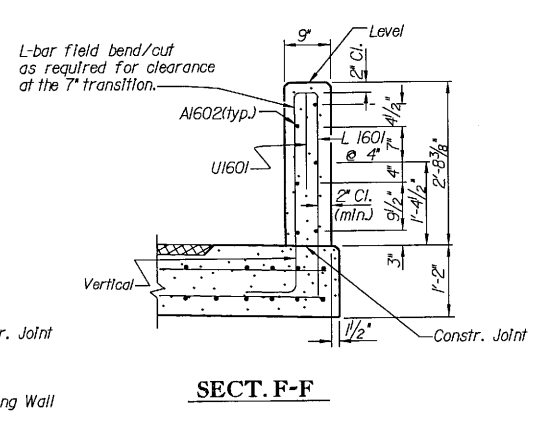
ELEVATION
BARRIER TRANSITION DETAILS



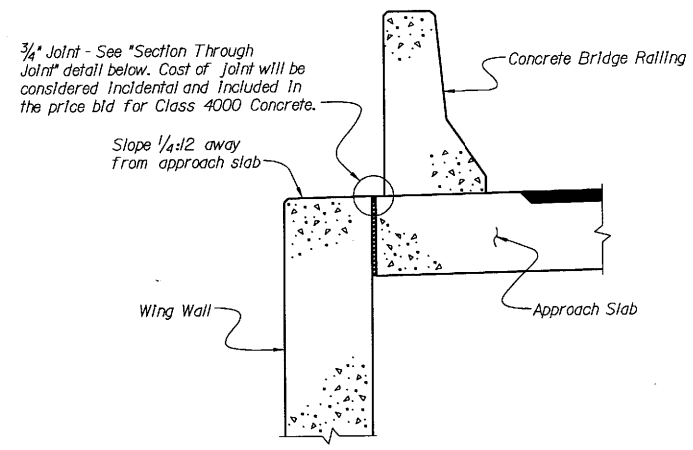
SECT. D-D



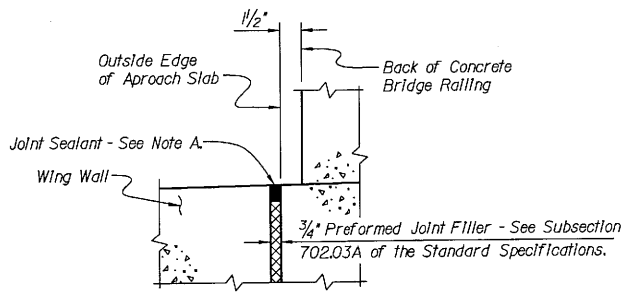
SECT. E-E



SECT. F-F



SECTION THROUGH WING WALL/APPROACH SLAB



SECTION THROUGH JOINT

Note A:
Joint sealant shall be a cold applied bridge joint sealant meeting the requirements of Subsection 702.03H of the Standard Specifications. The depth of the sealant shall be set in accordance with the Manufacturer's Instructions.

NOTE:
THE CONCRETE BRIDGE BARRIER PARAPET TRANSITION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 705 OF THE STANDARD SPECIFICATIONS. THE UNIT PRICE BID FOR CONCRETE BRIDGE BARRIER PARAPET TRANSITION SHALL INCLUDE ALL COSTS OF FURNISHING, PREPARING, AND PLACING CONRETE, EXPANSION JOINT MATERIAL, PIPE, AND ALL OF THE MATERIALS REQUIRED IN THE FINISHED RAILING TRANSITION, EXCEPT FOR THE REINFORCING STEEL. THE REINFORCING STEEL WILL BE PAID FOR AS SPECIFIED IN SECTION 703 OF THE STANDARD SPECIFICATIONS.

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REVIEWED				
QUAN.				
DR.	JAR	JP	4/04	
DES.				
	BY	CHK.	DATE	

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN COLUMBIA, S.C.

APPROACH SLABS DETAILS

FILE NO.	ROUTE	COUNTY	DRAWING NO.
XXXXX	XXXXX	XXXXX	702-30b

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