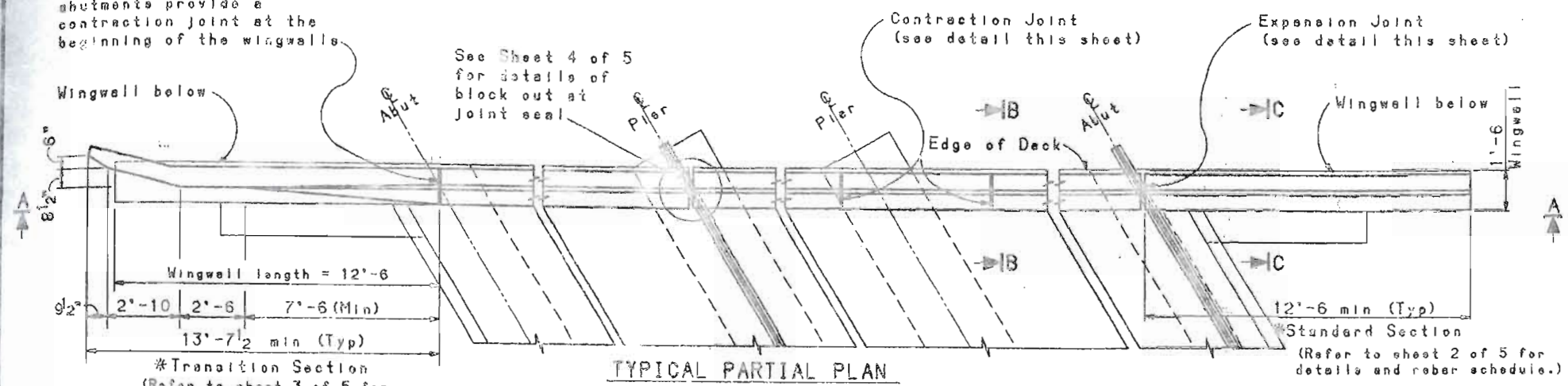


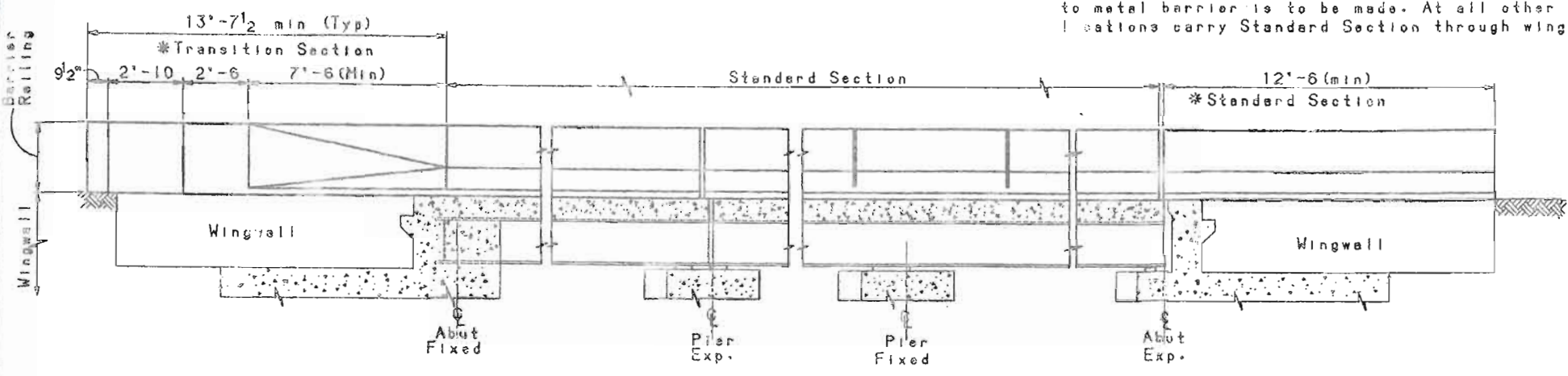
For structures with integral abutments provide a contraction joint at the beginning of the wingwalls



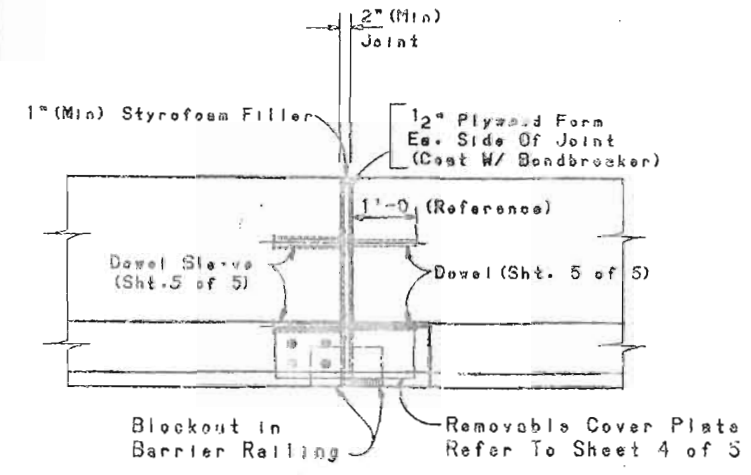
GENERAL NOTES

1. CONCRETE FOR BARRIER RAILING SHALL BE SUPERSTRUCTURE CONCRETE CLASS "AA". BARRIER RAILING SHALL BE PAID FOR AT THE UNIT PRICE PER LINEAR FOOT, INCLUDING COMPLETELY EMBEDDED REINFORCING STEEL, ANCHOR BOLTS AND ANY OTHER COMPLETELY EMBEDDED OR APPURTENANT STEEL ITEMS. BARRIER RAILING SHALL BE CAST-IN-PLACE USING REMOVABLE FORMS.
2. REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL CONFORM TO A.A.S.H.T.O. SPECIFICATION M 31, GRADE 60. DIMENSIONS REFER TO CENTERLINE OF BAR UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. BARRIER RAILING INSTALLATIONS ON DECK SLABS MAY BE TYPE 1, 2, OR 3 AT THE OPTION OF THE CONTRACTOR. DECK THICKNESS (NEW OR EXISTING) MUST BE APPROPRIATE FOR THE TYPE OF INSTALLATION SELECTED.
4. FOR DETAILS OF BARRIER RAILING CONNECTION TO THE APPROACH METAL BARRIER - SEE TRAFFIC PLANS.
5. REFLECTIVE BARRIER DELINEATORS SHALL BE MOUNTED ON TOP OF THE BARRIER RAILING IN CONFORMANCE WITH THE TRAFFIC PLANS.
6. APPLY PENETRATING WATER REPELLANT TREATMENT TO ALL EXPOSED SURFACES OF THE BARRIER RAILING.
7. DISCONTINUE HORIZONTAL REINFORCEMENT AT ALL EXPANSION AND CONTRACTION JOINT OPENINGS.
8. STRUCTURAL STEEL FOR REMOVABLE COVER PLATES AT THE EXPANSION JOINTS SHALL CONFORM TO A.A.S.H.T.O. SPECIFICATION M-103, AND SHALL BE GIVEN A PROTECTIVE COATING IN CONFORMANCE WITH THE SPECIFICATIONS. GALVANIZE ALL BOLTS AND HARDWARE.
9. COST OF REMOVABLE COVER PLATES, IN PLACE, SHALL BE CONSIDERED INCIDENTAL TO THE COST OF BARRIER RAILING.
10. CONSTRUCTION JOINTS BETWEEN BARRIER RAILING AND BRIDGE DECK CONCRETE SHALL BE CLEANED AND ROUGHENED PRIOR TO PLACEMENT OF BARRIER RAILING CONCRETE AS IS REQUIRED BY THE SPECIFICATIONS. THE APPLICATION OF A MORTAR COATING TO THE SURFACE OF THE BRIDGE DECK CONCRETE WILL HOWEVER NOT BE REQUIRED.

* Use Transition Section only where an attachment to metal barrier is to be made. At all other locations carry Standard Section through wingwell.

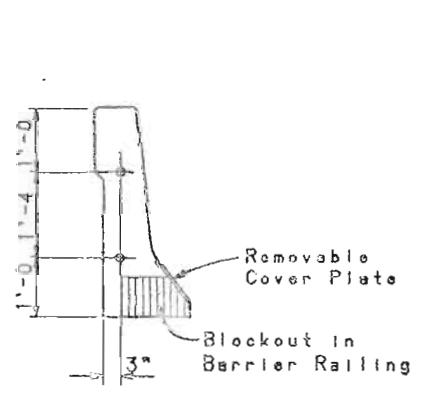


SECTION A-A

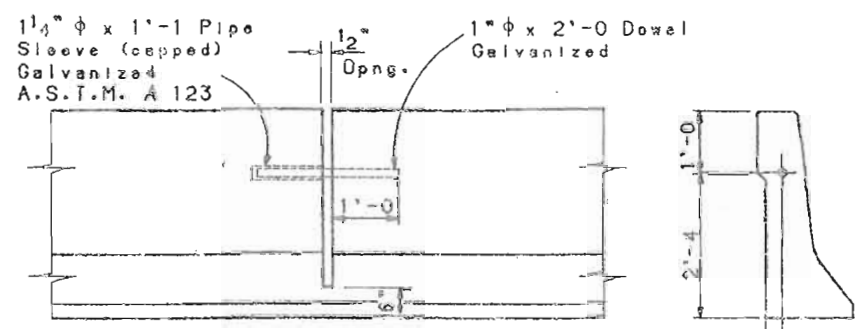


EXPANSION JOINT DETAIL

Provide Expansion Joints at each deck slab joint. Refer to Drawing O40 Sht.5 of 5 for details of the joint, forming materials and dowels.



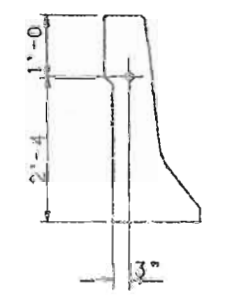
SECTION



ELEVATION

CONTRACTION JOINT DETAIL

Provide Contraction Joints at equally spaced intervals (15' min, 30' max) between Expansion Joints or, for structures with integral abutments, between contraction joints at wingwalls.



SECTION

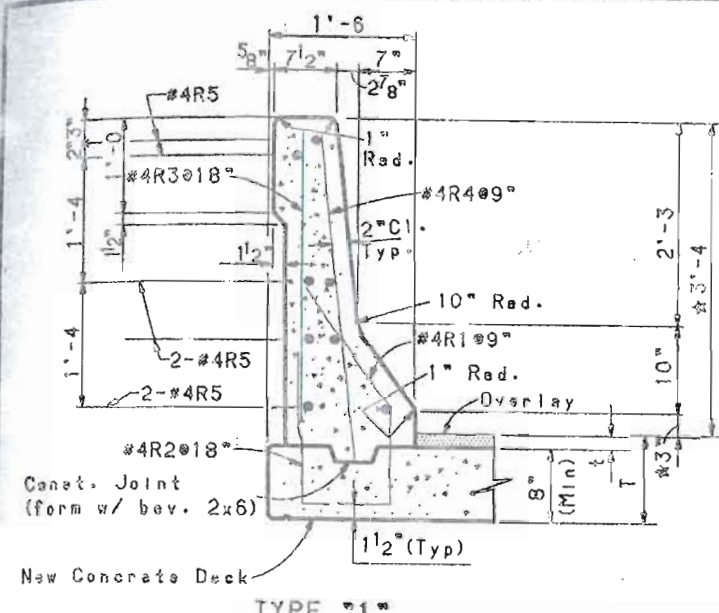
DESIGN DATA

DESIGN IS IN ACCORDANCE WITH AASHTO SPECIFICATIONS DATED 1998 AND LATEST INTERIMS.
 $f'_c=3,000$ psi @ 28 days, $f_c=1,200$ psi
 $f_y=50,000$ psi, $f_s=24,000$ psi, $n=9.2$

NO.	DESCRIPTION	DATE	BY
2	GENERAL REVISIONS	5/27/03 P.H.	
1	REVISED EXPANSION JOINT DETAIL	3/4/98 P.H.	
NO.	DESCRIPTION	DATE	BY
REVISIONS FOR CHANGE NOTICES			
NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT			

**40" BARRIER RAILING
GENERAL DETAILS**

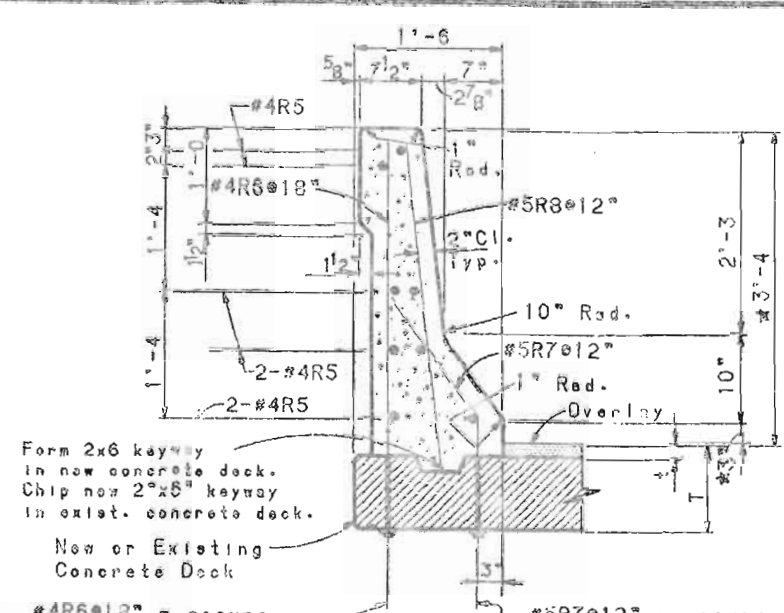
DESIGNED BY: S.J.M. 1/92
 CHECKED BY: J.A.K. 1/92
 PLOT DATE: 6/27/95
 S.J.M. 1/92
 S.J.M. 1/92



TYPE #1

Place #4R1 and #4R2 bars with bridge deck reinforcement.

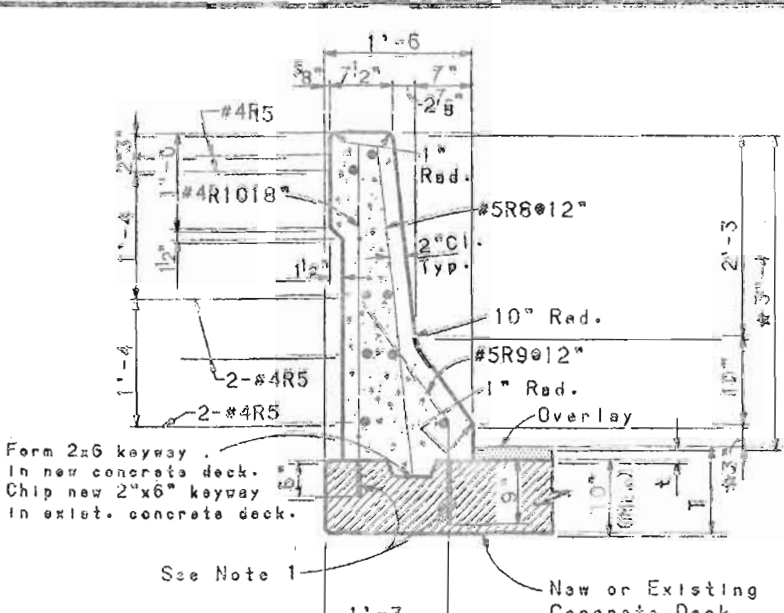
* These dimensions shall be measured above top of wearing surface, (top of concrete deck, or top of overlay - if any). In determining dimensions of the #4R1, #4R5 or #5R7 bars, the "T" dimension used shall include the thickness ("t") of any overlay.



TYPE #2

#4R6@12" - secure w/ 1/2"x2" Sq. Wehr. & Hex Nut (Tighten Nuts & Burr Threads). 3/8" φ formed or cored holes in slab. Support during construction w/ spring clips. Fill void between hole and rebar with non-shrink grout after placing rebar.

#5R7@12" - secure w/ 1/2"x2" Sq. Wehr. & Hex Nut (Tighten Nuts & Burr Threads). 7/8" φ formed or cored holes in slab. Support during construction w/ spring clips. Fill void between hole and rebar with non-shrink grout after placing rebar.



TYPE #3

Note 1

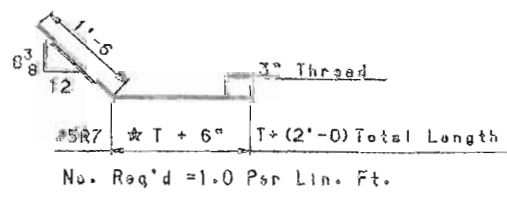
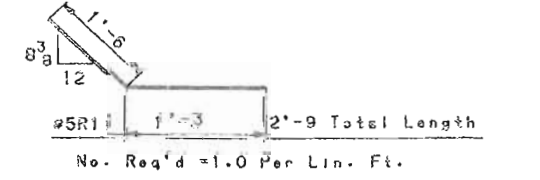
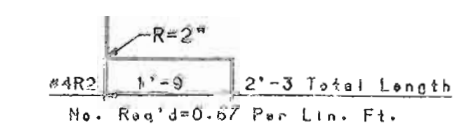
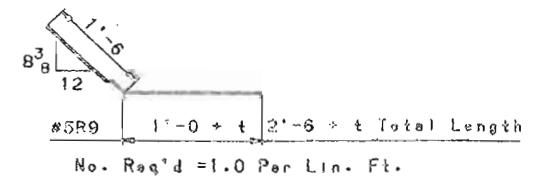
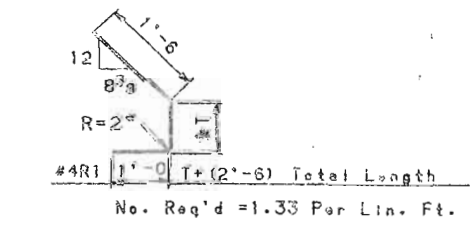
Reinforcing bars shall be placed in 7/8" diameter cored holes, and grouted into place using a neat cement paste of portland cement and water. The water content shall be not more than 4 gallons per 94 pounds of cement. Retempering of grout will not be permitted. Immediately prior to placing the dowels the holes shall be cleaned of dust and other deleterious materials, shall be thoroughly saturated with water, have all free water removed and the holes shall be dried to a saturated surface dry condition. Sufficient grout shall be placed in the holes so that no voids remain after the dowels are inserted. Grout shall be cured for a period of 3 days or until the dowels are encased in concrete, whichever occurs first, by either the curing compound method or by keeping the surface of the grout continuously damp. Any dowels or grout which fail to bond or are damaged before the concrete is placed shall be removed and replaced. Cost of coring and grouting are to be included in the unit price bid for "BARRIER RAILING".

ESTIMATED QUANTITIES
 (FOR CONTRACTORS INFORMATION ONLY)

ITEM	UNIT	TOTAL
EPOXY COATED REINFORCING BARS, GRADE 60	LB./FT.	13.08
SUPERSTRUCTURE CONCRETE CLASS "AA"	CU. YD./FT.	0.101

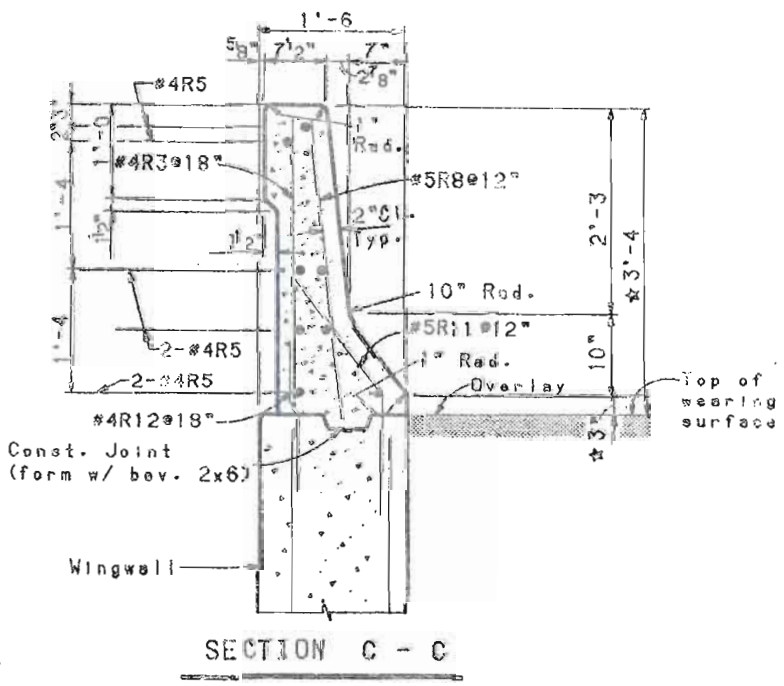
The quantities shown in the above table are approximate only and may vary with the type of barrier rail selected.

SECTION B - B



Mark	Length	No. Req'd Lin. Ft.
#4R3	3'-2" + t	0.67
#4R4	3'-4" + t	1.33
#4R5	Varies	3
#4R5	*T + 3'-5"	0.67
#5R8	3'-4" + t	1.0
#4R10	3'-8" + t	0.67
#4R12	2'-9"	0.67

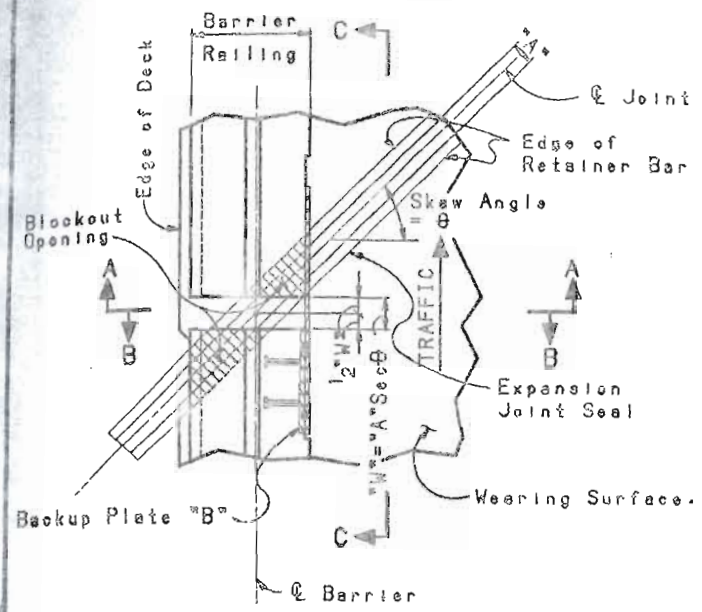
‡ Thread one end 3"
 t = Thickness of overlay



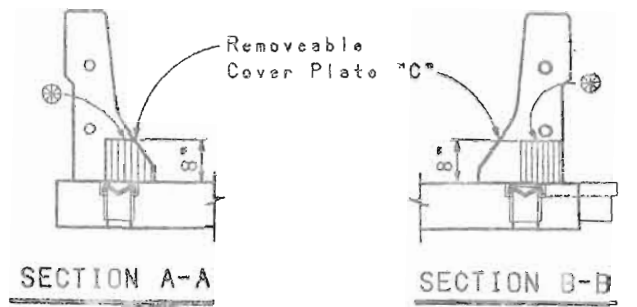
SECTION C - C

DESIGNED BY: S.J.M. 1/92 CHECKED BY: S.J.M. 1/92
 DETAILED BY: J.A.K. 1/92 CHECKED BY: S.J.M. 1/92
 PLOT DATE: 5/27/95

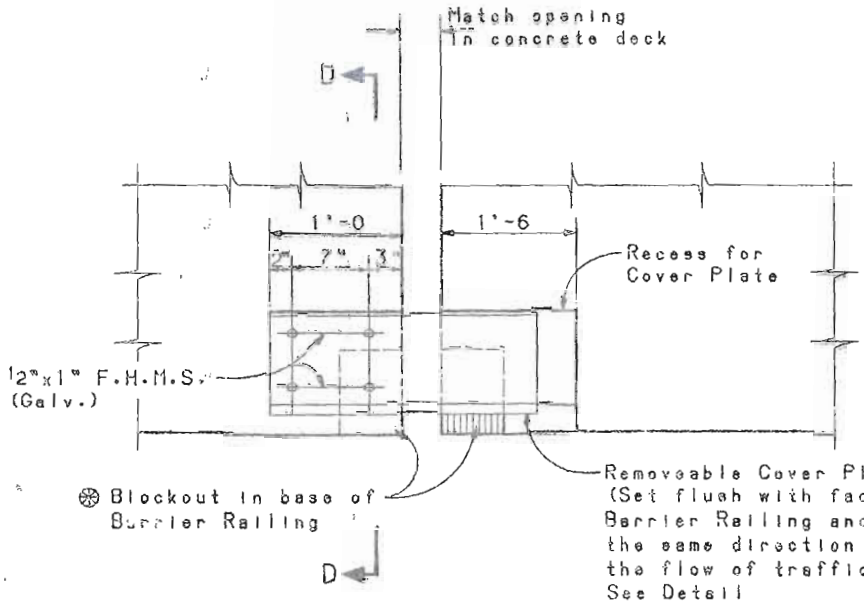
NO.	DESCRIPTION	DATE	BY
1	CHANGED SHEET NUMBER	8/27/95 P.H.	
REVISIONS (OR CHANGE NOTICES)			
NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT			
40" BARRIER RAILING STANDARD SECTION DETAILS			
DATE OF P.L.S.	APPROVED	DATE	BY
DATE OF P.L.S.	APPROVED	DATE	BY
DRAWING #40		SHEET 2 OF 3	



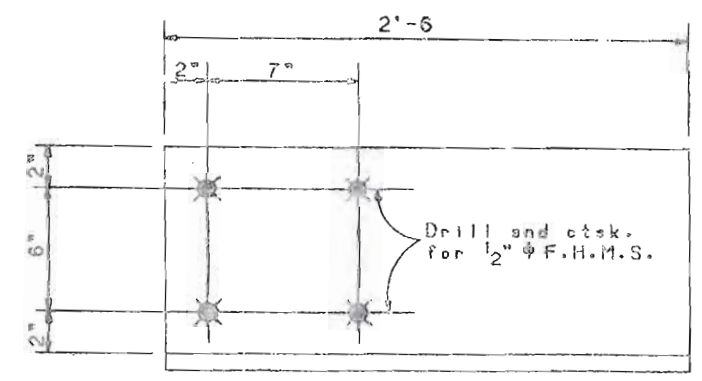
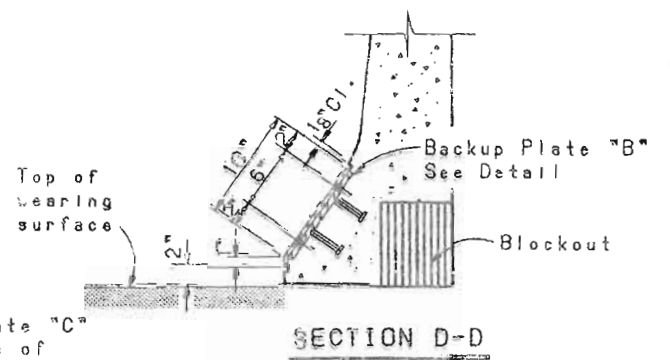
**PART PLAN-SKEW JOINT
 AT CONCRETE BARRIER RAILING**



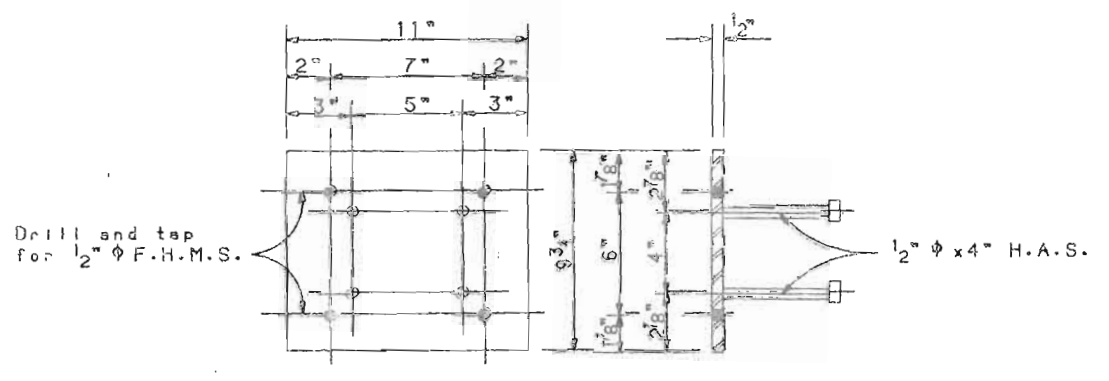
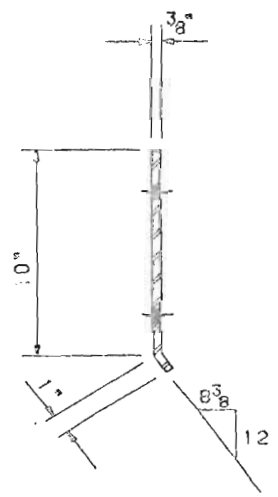
SECTION A-A
 SIMILAR DETAIL FOR CURB AND SIDEWALK.
 ⊗ Blockout in base of Barrier Railing.



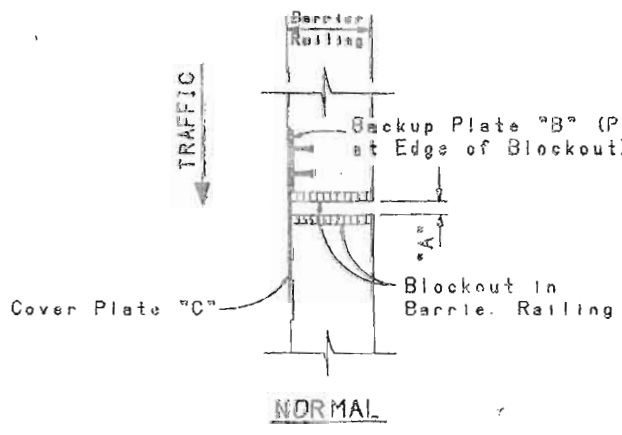
ELEVATION C-C
 Provide Expansion Joints at each deck slab joint.



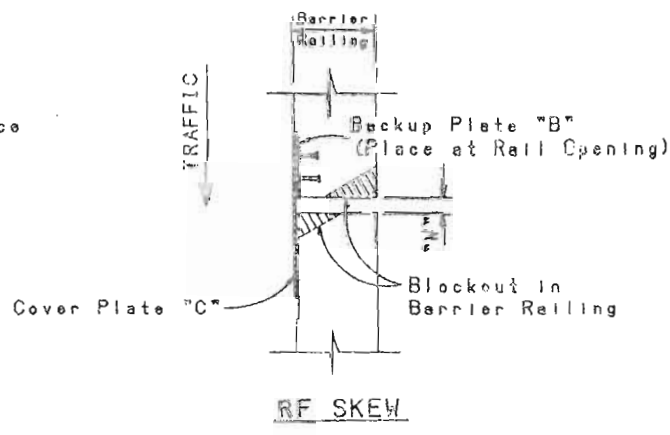
REMOVEABLE COVER PLATE "C"



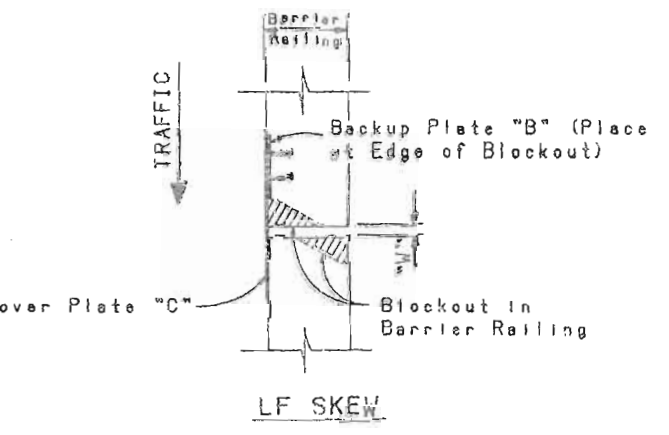
BACKUP PLATE "B"



NORMAL



RF SKEW



LF SKEW

BACKUP PLATE "B" LOCATIONS

NO.	DESCRIPTION	DATE	BY
1	CHANGED SHEET NUMBER	6/27/95 P.H.	
REVISIONS FOR CHANGE NOTICES			
NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT			
40" BARRIER RAILING DETAILS AT JOINT SEALS			
DESIGNED BY:	CHECKED BY:	DATE:	
DRAWN BY:	CHECKED BY:		
DRAWING 040			
			SHEET 4 OF 8

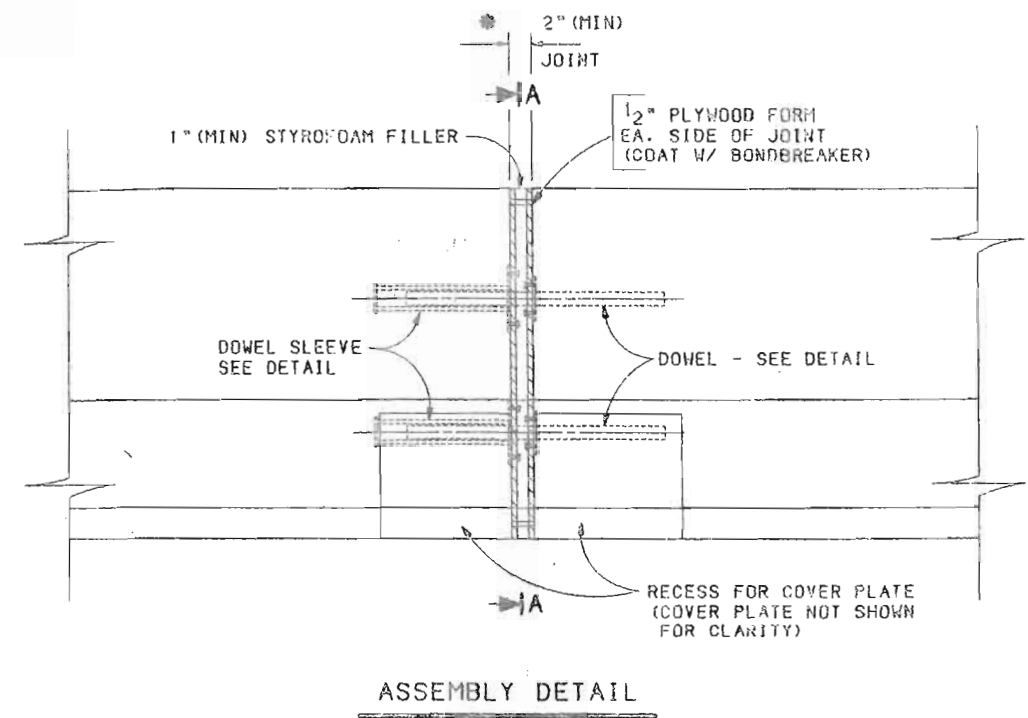
DESIGNED BY: S.J.M. 1/92 CHECKED BY: S.J.M. 1/92
 DRAWN BY: J.A.K. 1/92 CHECKED BY: J.A.K. 1/92
 PLO: DATE: 6/27/95

PLOT DATE: 6/27/95

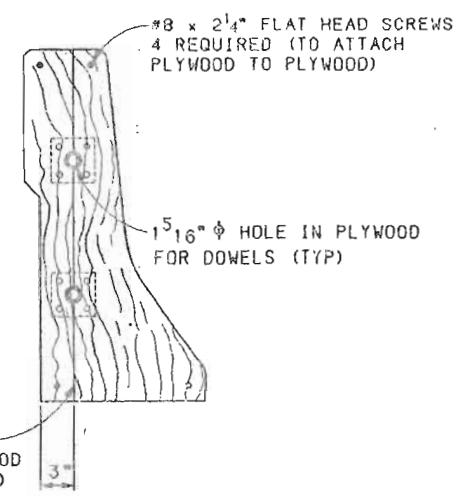
DESIGNED BY: M.J.K. 2/95 CHECKED BY: T.A.H. 3/95
 DETAILED BY: J.A.K. 3/95 CHECKED BY: P.H. 3/95

GENERAL NOTES

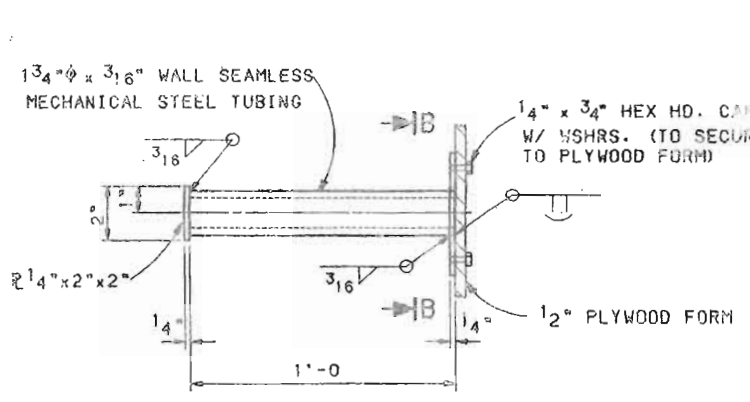
1. WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, 1994 EDITION.
2. STRUCTURAL STEEL SHALL CONFORM TO AASHTO M-183 UNLESS OTHERWISE NOTED ON THE DETAILS, AND SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M-111.
3. THE SLEEVE ASSEMBLY SHALL BE SET PARALLEL TO THE BRIDGE DECK GRADE AND THE OUTSIDE FACE OF THE CONCRETE BARRIER RAILING.
4. PLYWOOD FORMS AND STYROFOAM FILLER SHALL BE CUT TO THE CROSS SECTION OF THE CONCRETE BARRIER RAILING. PLYWOOD FORMS SHALL BE COATED WITH AN APPROVED BOND-BREAKER.
5. AFTER CONCRETE HAS TAKEN INITIAL SET, REMOVE STYROFOAM FILLER, 1/4" HEX. HD. CAP SCREWS, AND THE 1/2" PLYWOOD FORMS FROM THE JOINT. (CUT THE #8 SCREWS TO FACILITATE THE PLYWOOD FORM REMOVAL).
6. FOR MOVEMENT LENGTHS IN EXCESS OF 250 FEET, INCREASE JOINT OPENING (⊕) AS REQUIRED.
7. THE COST OF ALL FORMING MATERIALS FOR THE EXPANSION JOINT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONCRETE BARRIER RAILING AND NO DIRECT PAYMENT WILL BE MADE THEREFOR.



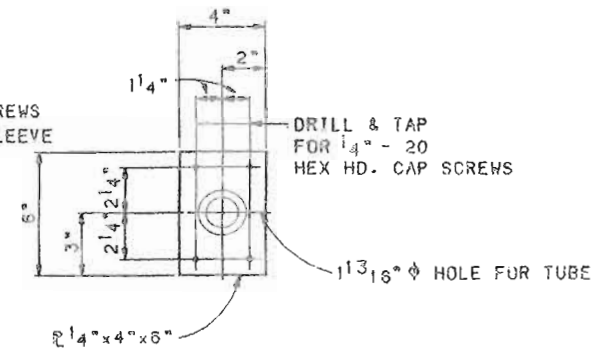
ASSEMBLY DETAIL



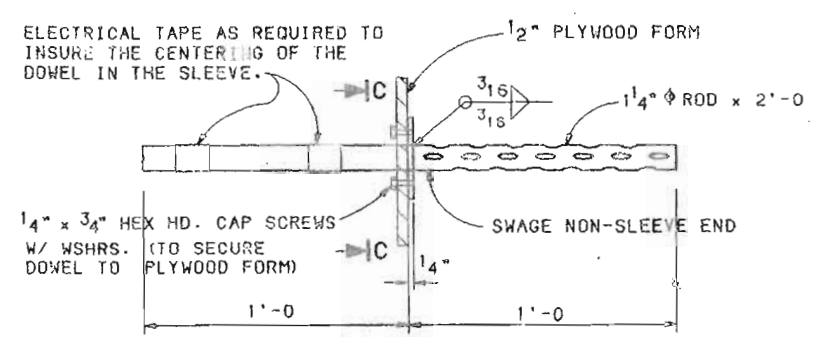
SECTION A-A



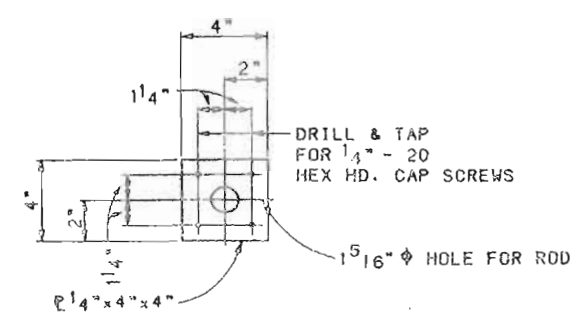
DOWEL SLEEVE DETAIL



SECTION B-B



DOWEL DETAIL



SECTION C-C

5			
4			
3			
2			
1			
NO.	DESCRIPTION	DATE	BY
REVISIONS (OR CHANGE NOTICES)			
NEW MEXICO STATE HIGHWAY AND TRANSPORTATION DEPARTMENT			
DOWEL ASSEMBLY DETAILS FOR EXPANSION JOINTS 40" BARRIER RAILING			
LAYOUT BY: M.J.K.	OFFICIAL		
DRAWN BY: J.A.K.	REVIEWED		
CHECKED BY: P.H.	APPROVED		
DRAWING 040		SHEET 5 OF 5	