

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STA. E	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	69	

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1961.
 Loading: H20-316-44 (15 #/sq. ft. Future Wearing Surface). Modified 24,000² Tandem Axle.
 Structural Steel Stress: 18,000 #/sq. in.
 Reinforcing Steel Stress: 20,000 #/sq. in.
 Concrete, Class B1 Stress: 1,600 #/sq. in.
 All concrete shall be Class B1 air-entrained.
 Superstructure deck to be surface sealed. (See Special Provisions).
 Qualification of welding operators will be required.
 Paint: Shop, none; Field, three coats of red lead for surfaces inaccessible after erection. All other exposed surfaces first coat red lead, second coat brown, third coat aluminum except that final coat on access doors and frames shall be gray. Payment for paint, cleaning and painting such surfaces shall be included in the unit price bid for Fabricated Structural Carbon Steel.

See Section 52.4.7 of Standard Specifications for required painting of steel piles in End Bents 1 & 5 and in walls.

Where joint filler is specified on the plans it shall conform to the requirements for Gray Sponge Rubber Compound Joints, Section 157.2.4 of the Standard Specifications.

Permits must be obtained for all truck loads over legal length.

Firms for top slab may be left in place in accordance with Section 53.4.2.4 of Standard Specifications.

ESTIMATED QUANTITIES

	Bridge	Retaining Walls	Totals
	Subst.	Superst.	
Class 1 Excav. for Structures Cu. Yd.	460	40	500
Class B1 Concrete Cu. Yd.	339.1	223.7	2,537.1
Bridge Rail (Single Tube Type) Lin. Ft.	1,552	329	1,881
Fabr. Struct. Carbon Steel Lb.	14,440		14,440
Reinforcing Steel Lb.	35,520	742,690	794,730
10" Steel Piles in Place Lin. Ft.	1,406	1,289	2,695
Steel Pile Cut-offs Lin. Ft.	204	141	345

All excavation for bridge and retaining walls shall be paid for as Class 1 Excavation for Structures.

No payment for Class 1 Excavation for Structures will be allowed at End Bents No. 1 and Walls A, B, E, and G.

All concrete and reinforcement for bridge above footings of intermediate bents are included in Superstructure quantities. All concrete and reinforcement in end bents and in end posts thereon and in footings of intermediate bents are included in Substructure quantities. All remaining concrete and reinforcement are included in Retaining Wall quantities (including end posts thereon).

Bridge Rail quantity for Bridge includes only rail actually on the bridge deck. All other rail is included in quantities for Retaining Walls.

Class 1 Excavation for Structures will be measured from the ground line (1955) or from the lower limits of roadway excavation, whichever is lower, regardless of the sequence of operations and method of removal.

Bench Mark: B.M. #21 Elev. 1010.73, X S.E. Cor. H'dw'l. N. Side Rte. 40, 65' Lt. Sta. 464+70.

BRIDGE OVER OLD ROUTE 40

STATE ROAD INTERSTATE ROUTE 70

IN KANSAS CITY

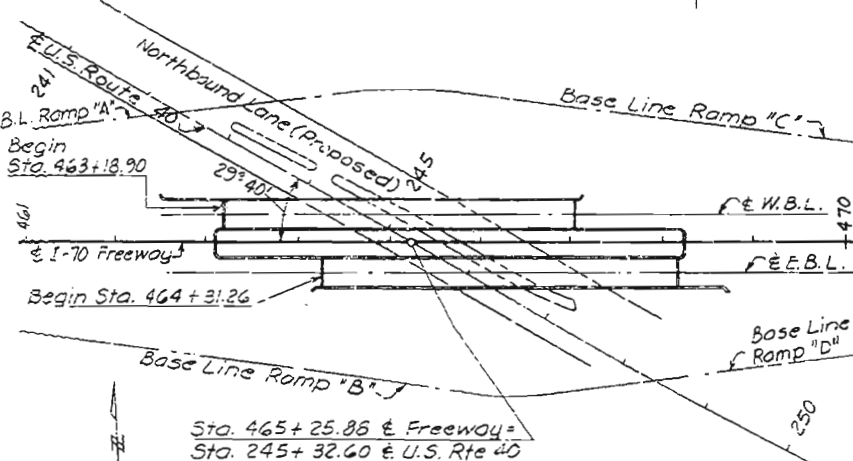
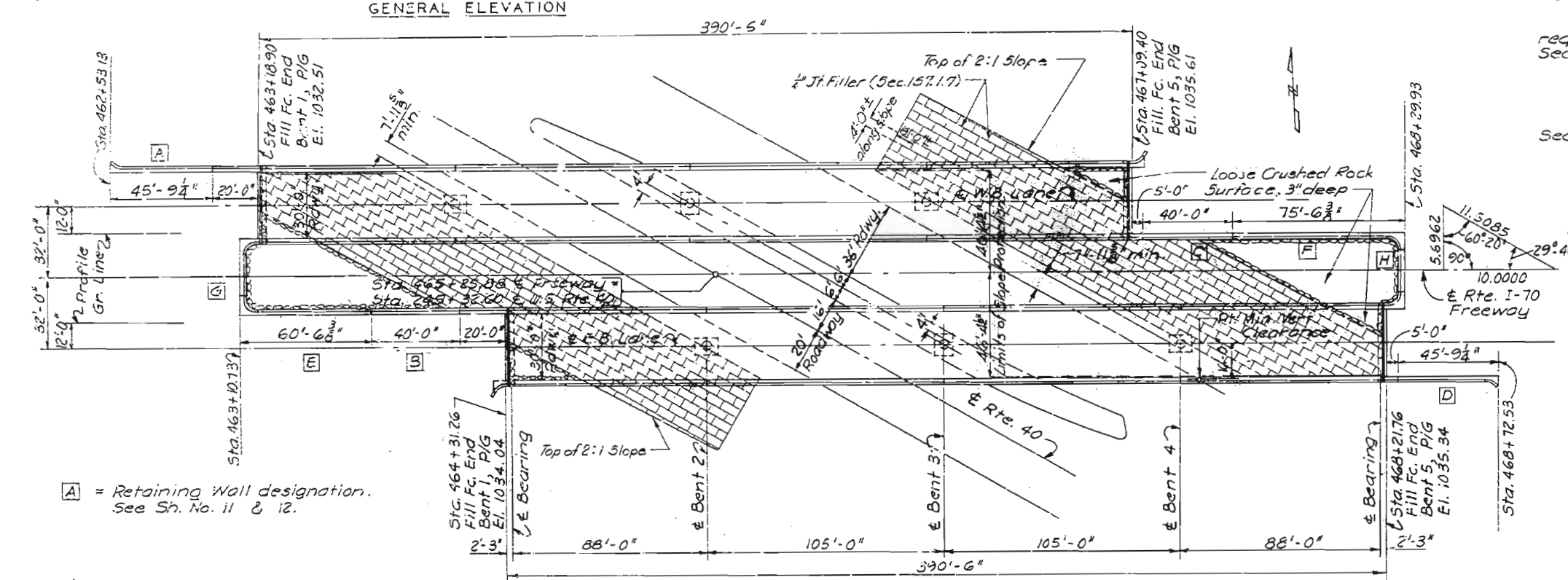
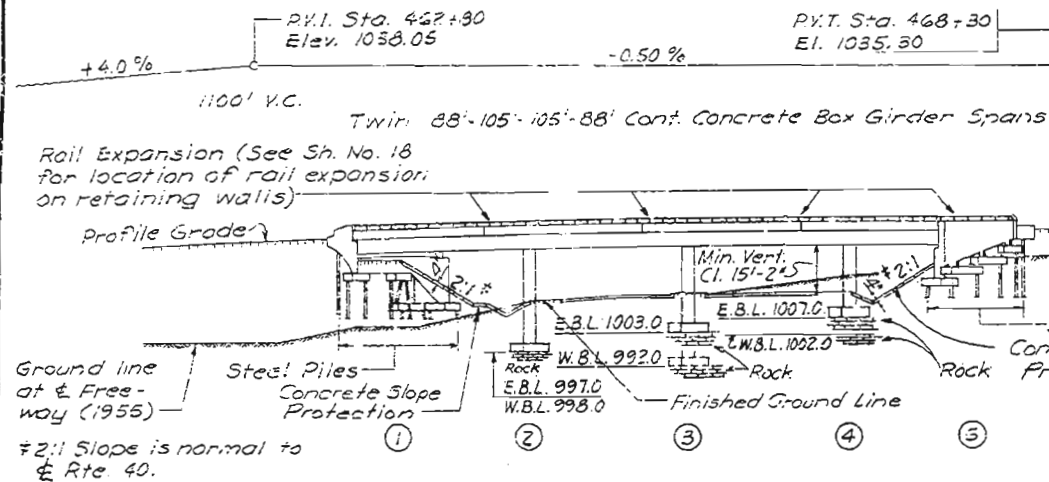
PROJECT NO. I-70-1 (46XRT. I-70) STA. 463+18.90 (W.B. LANE) 464+31.26 (E.B. LANE)

JACKSON COUNTY

SUBMITTED BY: *DB Jensen* DATE: 2/14/62
 APPROVED BY: *JJ Confort* DATE: 2/14/62
 HARRINGTON AND CORTELYOU
 CONSULTING ENGINEERS KANSAS CITY, MO.

STD. 54.00

L-973



LOCATION SKETCH

Drawn Oct 1961 by FJD
 Checked Feb. 1962 by GHK

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 18

Compacted roadway fill (full roadway width) shall be placed at least up to bottom of each footing of End Bents 1 and Walls A, B, E and G, in front of the bents and back to Station 462+50, before steel piles are driven for Bents 1 and Walls A, B, E and G.

All loose, shelly or disintegrated rock shall be removed and the footings for Bents 2, 3 and 4 placed on hard, solid, undisturbed rock. If soft rock or shale is encountered, the footings shall be carried at least 18" into and cast against vertical faces of same.

Bearing of 12 ton per square foot used in design of footings for Bents 2, 3 and 4 on rock. In no case shall footings at Bents 2, 3 and 4 be placed higher than elevations shown.

All piling shall be 10" BP 42* Bearing Piles and splices, if required, shall conform to details on Sheet No. 12. Estimated Quantity shown is based on the following lengths: 16 @ 15', 27 @ 20', 23 @ 25', 13 @ 30', 15 @ 35', 4 @ 40', 3 @ 45', and 4 @ 50'. These indicated lengths are approximate only. Proper lengths to give required bearing and/or penetration will be authorized by the Engineer.

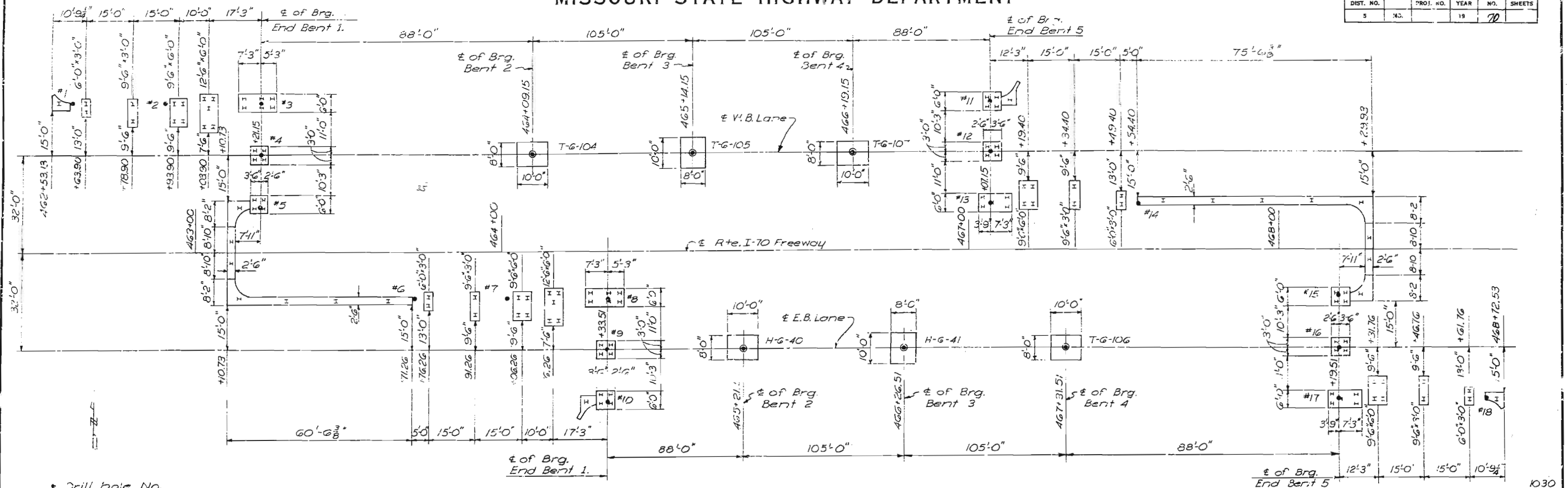
All piles shall be driven to or into solid rock, cemented gravel, boulders or shale; or to not less than the full length authorized and to sustain a load of at least 37 tons per pile. All piles shall be driven with a power hammer.

Note: Concrete protection on front slopes at end bents to be included under road contract. Provide 2" filler between slope protection pavement and end bents and 1" filler around columns at intermediate bents. Joints shall consist of material conforming to Section 157.1.7 of the Standard Specifications.

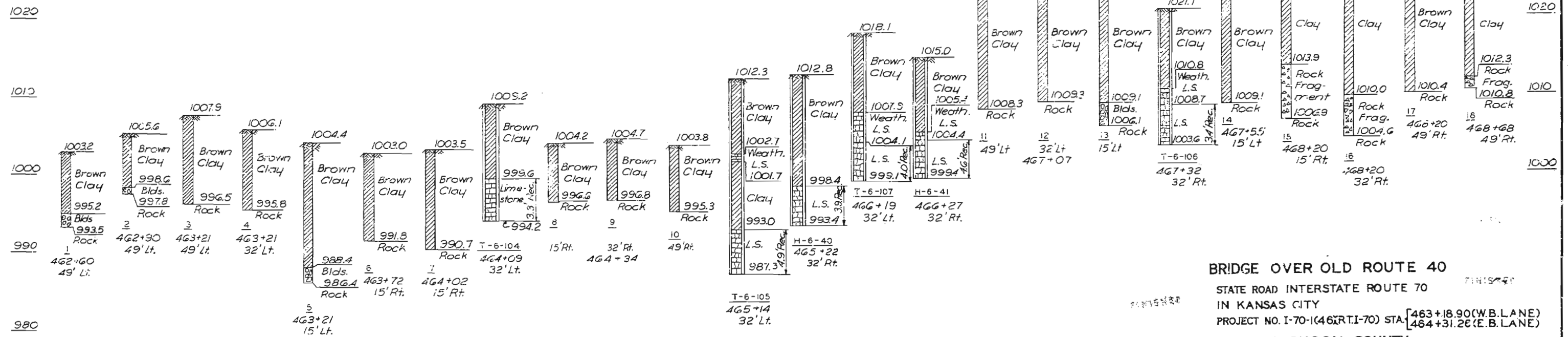
Loose Crushed Rock Surface to be included in price bid item for Concrete Slope Protection.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	70	



FOOTING PLAN



LOG OF BORINGS

BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-1(46 RT. I-70) STA. 463+18.90 (W.B. LANE)
464+31.26 (E.B. LANE)
JACKSON COUNTY

Drawn Nov. 1961 by Q.C.C.
Checked Feb. 1962 by G.H.K.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 18

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

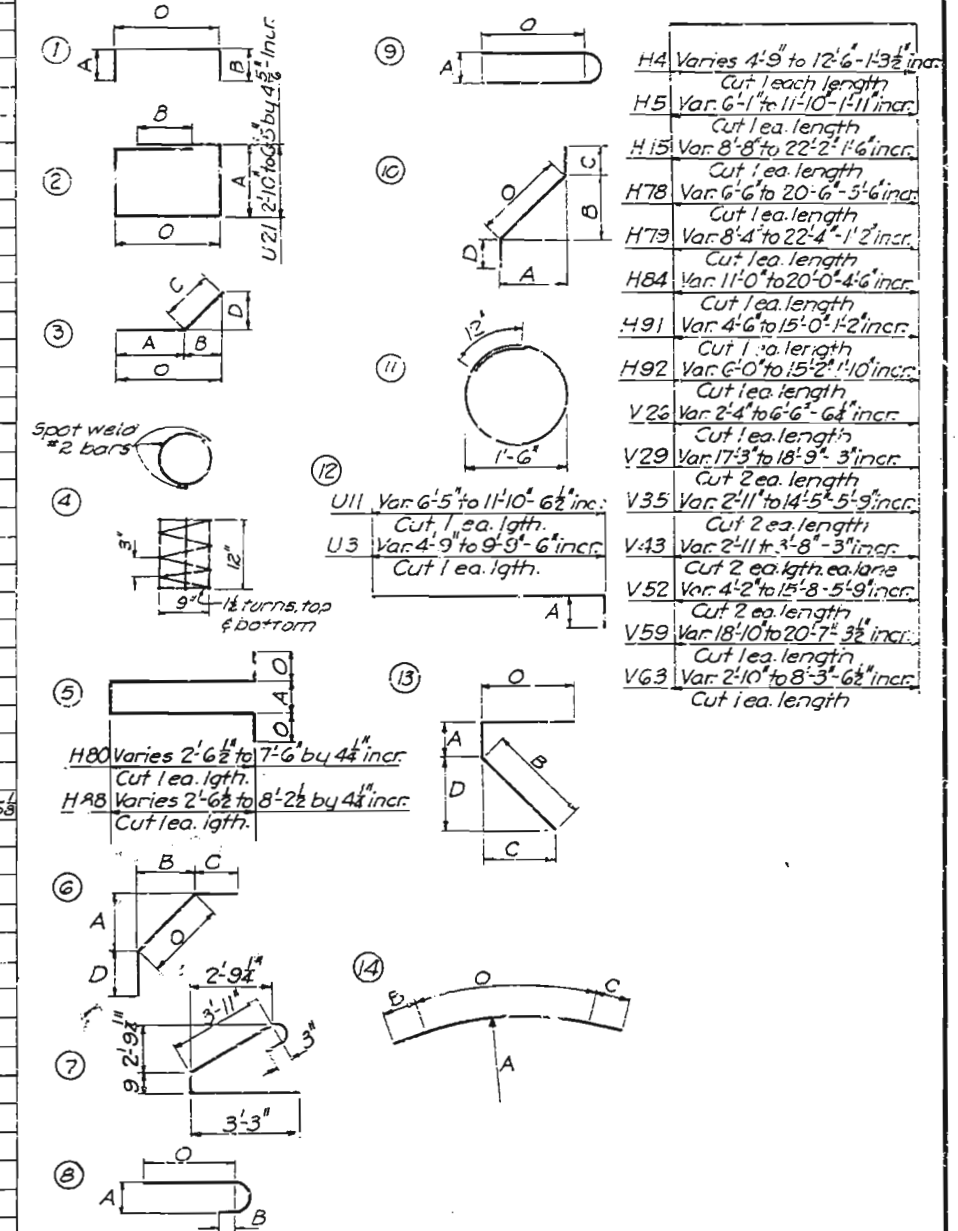
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		10	21	

BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	
Constant Reinf. for End Bent 1 E.B.L. & W.B.L.											Variable Reinf. for End Bent 1 E.B.L. (cont'd.)											Variable Reinf. for End Bent 1 W.B.L. (cont'd.)											
Quantities for One Bent (2 req'd.)																																	
62	5	3'-4"	D6		Footings						1	4	6'-4"	H59	14	S. Wing	5'-6"	6'-5"	0	10			1	4	10'-0"	H34		S. Wing					
28	6	8'-4"	F1	9	do	3'-0"	1'-6"				1	4	6'-10"	H60	14	do	6'-0"	5'-11"	0	10			1	4	9'-1"	H35	14	do	8'-3"	5'-11"	0	10	
2	6	5'-9"	F2	11	S. Wing						1	4	7'-4"	H61	14	do	6'-6"	6'-5"	0	10			1	4	9'-10"	H36	14	do	9'-0"	6'-5"	0	10	
8	6	14'-10"	F3	9	Footings	6'-3"	1'-6"				1	5	1'-3"	H62		do							1	4	9'-10"	H37	14	do	9'-0"	5'-11"	0	10	
23	5	5'-6"	F4		do						1	5	2'-6"	H63		do							4	5	8'-10"	H38	14	do	9'-11"	5'-5"	0	10	
7	9	12'-0"	F5		do						1	5	3'-0"	H64		do							1	5	8'-6"	H39	14	do					
6	5	12'-0"	F6		do						1	5	4'-10"	H65		do							1	5	7'-2"	H40		do					
2	6	34'-6"	H1		Backwall						2	5	5'-8"	H66		do							5	5	10'-9"	H41	14	do	9'-11"	5'-11"	0	10	
10	4	34'-6"	H2		do						2	5	5'-0"	H67		do							1	5	2'-2"	H42		do					
8	6	8'-10"	H8	7	Curtain Wall						3	5	7'-1"	H68	3	do	6'-9"	4'-7"	2'-2"	2'-6"	1'-3"		1	5	2'-9"	H43	14	do					
7	8	34'-6"	H12		Beam						5	5	6'-5"	H69		do							1	5	2'-4"	H44		do					
5	9	20'-0"	H13		do						3	5	9'-4"	H70	14	do	6'-2"	5'-11"	2'-4"	10			1	5	3'-2"	H45		do					
10	6	8'-2"	H14		No. Wing						2	5	6'-7"	H71	14	do	5'-9"	5'-11"	0	10			1	5	2'-11"	H46		do					
6	6	20'-8"	H18		do						1	5	5'-0"	H72	14	do	4'-2"	5'-11"	0	10			1	5	3'-9"	H47		do					
8	4	21'-4"	H20		do						1	5	4'-6"	H73		do							1	5	3'-10"	H48		do					
6	4	5'-6"	H21		do						1	5	5'-6"	H74		do							1	5	5'-0"	H49		do					
9	4	20'-9"	H22		do						15	6	*12'-9"	H75	5	No. Wing	1'-0"	9	Var.				1	5	5'-10"	H50		do					
2	6	9'-6"	H23		do						4	5	4'-5"	H76		S. Wing							1	5	7'-7"	H51		do					
2	5	20'-9"	H24		do						7	5	8'-10"	H77		No. Wing							2	5	7'-10"	H52		do					
											3	4	*15'-6"	H78		do							5	4	*13'-6"	H53		do					
											21	4	16'-8"	H79	2	Beam	3'-2"	4'-8"	1'-0"				13	6	*15'-4"	H54		No. Wing					
											11	4	*10'-5"	H80	12	Beam & C. Wall	Var.	3'-2"					6	5	4'-5"	H55		S. Wing					
											4	4	17'-9"	H81	12	do	3'-2"	14'-7"					9	5	8'-10"	H56		No. Wing					
											1	5	16'-6"	H82	2	S. Wing	4'-4"	3'-5"	1'-0"				2	5	5'-9"	H57		S. Wing					
											1	5	19'-0"	H83	2	do	4'-0"	5'-0"	1'-0"				17	4	*13'-6"	H58	5	No. Wing	1'-0"	9	Var.		
											9	4	*4'-5"	H84		Beam & C. Wall							2	6	16'-6"	H59		Curtain Wall					
											4	4	14'-6"	H85		No. Wing							2	9	18'-0"	H60	3	do	17'-7"	15'-0"	2'-7"	3'-0"	1'-5"
											14	4	22'-7"	H86		do							10	6	*9'-9"	H61		do					
											14	4	*18'-0"	H87		do							6	4	*10'-7"	H62		do					
											12	4	18'-11"	H88		do							2	4	23'-2"	H63	2	Beam	3'-2"	6'-5"	1'-0"		
											2	4	15'-8"	H89		do							11	4	*12'-3"	H64	12	Beam & C. Wall	Var.	3'-2"			
											2	4	18'-4"	H90	3	do	16'-0"	15'-4"	8	3'-0"	2'-11"		4	4	19'-9"	H65	12	do	3'-2"	16'-7"			
											2	9	21'-3"	H91	8	do	19'-6"	11'-4"	4'-8"				1	5	23'-6"	H66	2	S. Wing	7'-10"	3'-5"	1'-0"		
											6	4	*8'-8"	H92		do	10'-3"	10	4				1	5	25'-6"	H67	2	do	7'-10"	4'-5"	1'-0"		
											1	5	10'-9"	H93	10	S. Wing	7'-1"	4'-4"	5'-7"	1'-8"	2'-0"		1	5	24'-6"	H68	2	do	6'-0"	5'-9"	1'-0"		
											4	5	6'-8"	H94		do							1	5	16'-6"	H69	1	do	4'-0"	6'-3"	6'-3"		
											2	5	11'-1"	H95	10	do	7'-4"	4'-6"	5'-10"	1'-8"	2'-0"		1	5	8'-0"	H70	1	do	4'-0"	2'-0"	2'-0"		
											8	4	4'-2"	H96		S. Wing Post							2	9	22'-6"	H71	8	No. Wing	20'-3"	11'-4"	4'-8"		
											3	5	3'-5"	H97		S. Wing							14	4	4'-2"	H72		S. Wing Post					
											6	5	2'-8"	H98		do							5	5	3'-5"	H73		S. Wing					
																							1	5	5'-4"	H74		do					
																							1	5	5'-6"	H75		do					
																							2	8	13'-0"	H76	8	No. Wing	11'-6"	10	4		
																							6	4	*9'-11"	H77		do					
																							3	4	14'-3"	H78		do					
																							2	5	13'-9"	H79	10	S. Wing	9'-0"	6'-10"	5'-8"	1'-0"	3'-9"
																							1	5	12'-10"	H80	3	do	11'-6"	9'-1"	2'-5"	5'-9"	2'-10"
																							4	5	8'-5"	H81		do					
																							1	4	16'-6"	H82		No. Wing					
																							7	4	24'-6"	H83		do					
																							7	4	*19'-8"	H84		do					
																							6	4	20'-2"	H85		do					
																							2	4	16'-8"	H86		do					
																							2	4	19'-4"	H87	3	do	17'-2"	16'-4"	10	3'-0"	2'-10"
																							11	4	*5'-6"	H88		Beam & C. Wall					

CUTTING & BENDING DIAGRAMS



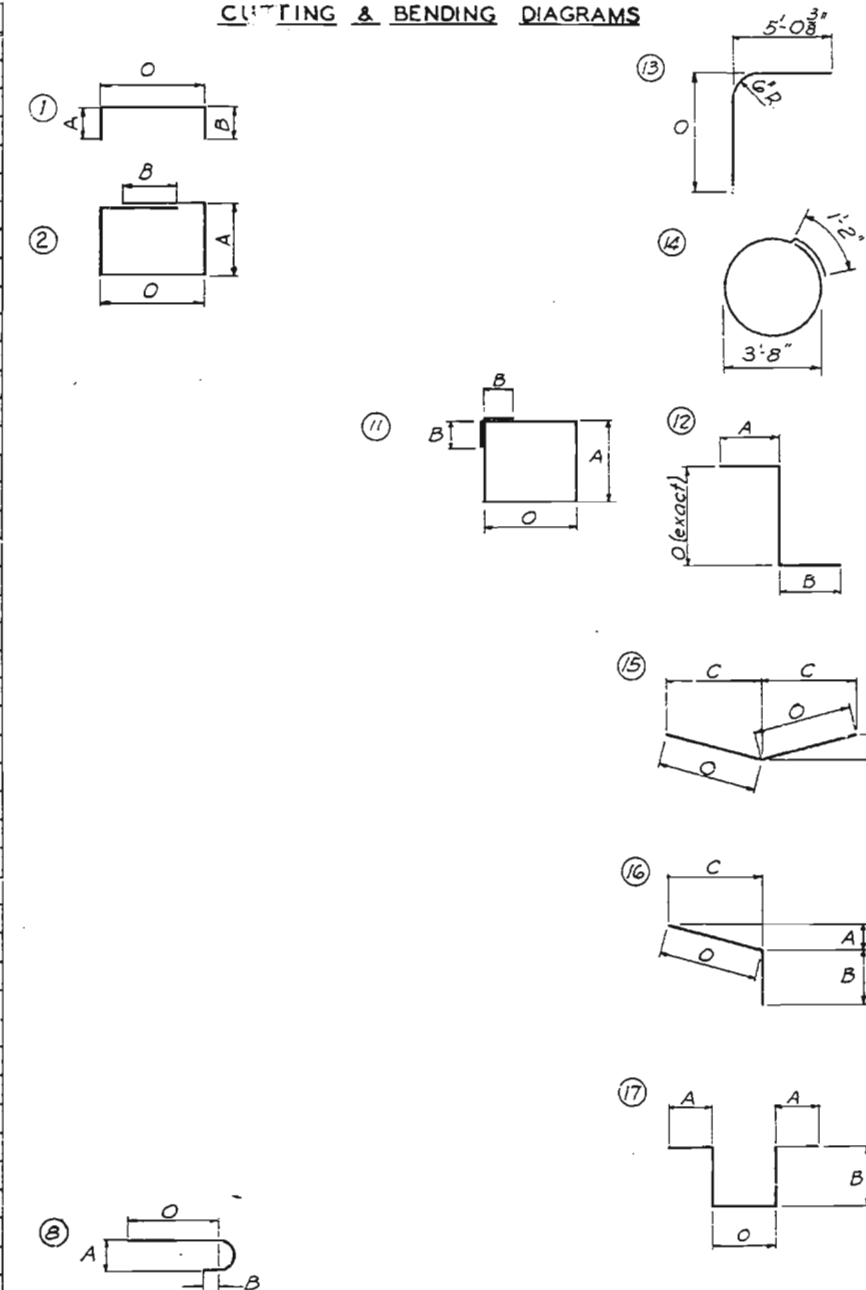
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	72	

BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	
SUBSTRUCTURE Intermed. Bents 2-3-4 E.B.L. & W.B.L.											SUPERSTRUCTURE E.B.L. & W.B.L.											SUPERSTRUCTURE (continued)											
Quantities for One Bent (6 reqd.)											Quantities for One Lane (2 reqd.)																						
3	11	8'-1"	D1	8	Footing	5'-11"	1'-2"	5'-3"			776	5	6'-0"	C1	1	Parapet	7'-2"	2'-8"	2'-8"			40	11	24'-9"	L17	---	Bott. Slab						
8	145	9'-1	D2	8	do	6'-7	1'-5	6'-2"			776	5	4'-3	C2	1	Curb	2'-0	1'-1/2	1'-1/2			108	9	24'-0	L18	---	do						
16	9	9'-6	D3	---	do						24	5	30'-8	C3	---	do, Sp. 1,4						37	6	30'-0	L19	---	do						
20	7	7'-6	D4	---	do						36	6	31'-0	C4	---	do, Sp. 1,4						32	6	5'-9	L20	---	do						
											24	5	36'-0	C5	---	do, Sp. 2,3						492	5	31'-8	L21	---	do						
											36	6	36'-4	C6	---	do, Sp. 2,3																	
SUPERSTRUCTURE Intermed. Bents 2-3-4 E.B.L. & W.B.L.																																	
Constant Reinf. for One Intermed. Bent (6 reqd.)																																	
15	145	31'-6	B1	---	Trans. Beam						2784	5	8'-4	G1	12	Girders	4'-9 3/4	1'-9 3/4	1'-9 3/4			176	5	32'-7	S1	---	Top Slab, top						
7	145	22'-0	B2	---	do						804	5	7'-9	G2	12	do	4'-7 3/4	1'-4 3/4	1'-4 3/4			144	11	54'-0	S2	---	do, T.&B.						
6	145	18'-0	B3	---	do						804	5	8'-4	G3	1	do	4'-9 3/4	1'-9 3/4	1'-9 3/4			66	10	18'-0	S3	---	do, top						
5	145	14'-0	B4	---	do						96	6	3'-4	G4	---	do						75	11	28'-0	S4	---	do, T.&B.						
7	10	31'-6	B5	---	do						48	8	4'-7	G5	---	do						176	5	28'-0	S5	---	do, top						
6	6	31'-6	B6	---	do						16	8	36'-6	G6	---	do						1752	5	34'-6	S6	---	do, T.&B.						
72	6	18'-6	B7	2	do	3'-7	4'-8	2'-0			48	4	35'-2	G7	---	do						264	4	31'-9"	S7	---	do, bott.						
											24	8	38'-0	G8	---	do						264	4	39'-3"	S8	---	do, bott.						
											72	4	36'-8	G9	---	do						264	4	26'-7"	S9	---	do, bott.						
											10	8	40'-0	G10	---	do						8	6	34'-3	W1	---	End Diaphragm						
																						20	6	31'-6	W2	---	do						
																						4	4	6'-2	W3	11	do	1'-3	1'-C	4			
																						64	5	13'-2	W4	2	do	1'-6	1'-7	1'-0			
																						16	6	6'-1	W5	1	do	1'-3	2'-5	2'-5			
																						72	6	8'-6	W6	16	Diaphs. A' & B'	6'-3	1'-2	2'-3	6'-12		
																						144	4	6'-2	W7	17	do	7	1'-4	1'-5 1/2			
																						144	4	5'-7	W8	17	do	7	1'-4	1'-2			
																						72	4	5'-0	W9	17	do	7	1'-4	10 1/2			
																						108	6	12'-0	W10	15	do	6'-0	1'-1 1/2	-	5'-10 1/2		
Variable Reinf. for One Intermediate Bent																																	
8	145	32'-6	V2	---	Column						12	8	32'-0	G12	---	do																	
8	11	36'-3	V8	13	do	31'-7	Bent 2 W.B.L.				36	4	32'-0	G13	---	do																	
53	5	12'-8	V14	14	do						12	8	34'-10	G14	---	do																	
											36	4	33'-6	G15	---	do																	
											24	8	35'-9	G16	---	do																	
8	145	39'-6	V3	---	do						72	4	34'-5	G17	---	do																	
8	11	43'-4	V9	13	do	38'-8	Bent 3 W.B.L.				12	8	36'-4	G18	---	do																	
68	5	12'-8	V14	14	do						36	4	35'-0	G19	---	do																	
8	145	30'-2	V4	---	do						74	6	30'-0	L1	---	Bott. Slab																	
8	11	33'-11	V10	13	do	29'-3	Bent 4 W.B.L.				54	9	54'-9	L2	---	do																	
18	5	12'-8	V14	14	do						20	11	54'-9	L3	---	do																	
											8	11	61'-0	L4	---	do																	
8	145	34'-7	V5	---	do						28	10	61'-0	L5	---	do																	
8	11	38'-5	V11	13	do	33'-9	Bent 2 E.B.L.				8	11	47'-0	L6	---	do																	
59	5	12'-8	V14	14	do						28	10	47'-0	L7	---	do																	
											4	11	61'-0	L8	---	do																	
8	145	29'-2	V6	---	do						4	11	47'-0	L9	---	do																	
8	11	33'-0	V12	13	do	28'-4	Bent 3 E.B.L.				20	11	58'-0	L10	---	do																	
47	5	12'-8	V14	14	do																												
											54	9	58'-0	L11	---	do																	
8	145	25'-3	V7	---	do						8	11	55'-0	L12	---	do																	
8	11	29'-1	V13	13	do	24'-5	Bent 4 E.B.L.				28	9	60'-0	L13	---	do																	
43	5	12'-8	V14	14	do						8	11	36'-0	L14	---	do																	
											28	9	45'-0	L15	---	do																	
											4	11	55'-0	L16	---	do																	

CUTTING & BENDING DIAGRAMS



NOTE

All bar dimensions are out to out of bar.

BRIDGE OVER OLD ROUTE 40

STATE ROAD INTERSTATE ROUTE 70

IN KANSAS CITY

PROJECT NO. I-70-1(46)(RT.I-70) STA. [463+18.90(W.B. LANE)
464+31.26(E.B. LANE)]

JACKSON COUNTY

Drawn Dec. 1961 by JER
Checked Feb. 1962 by GHK

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 18

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

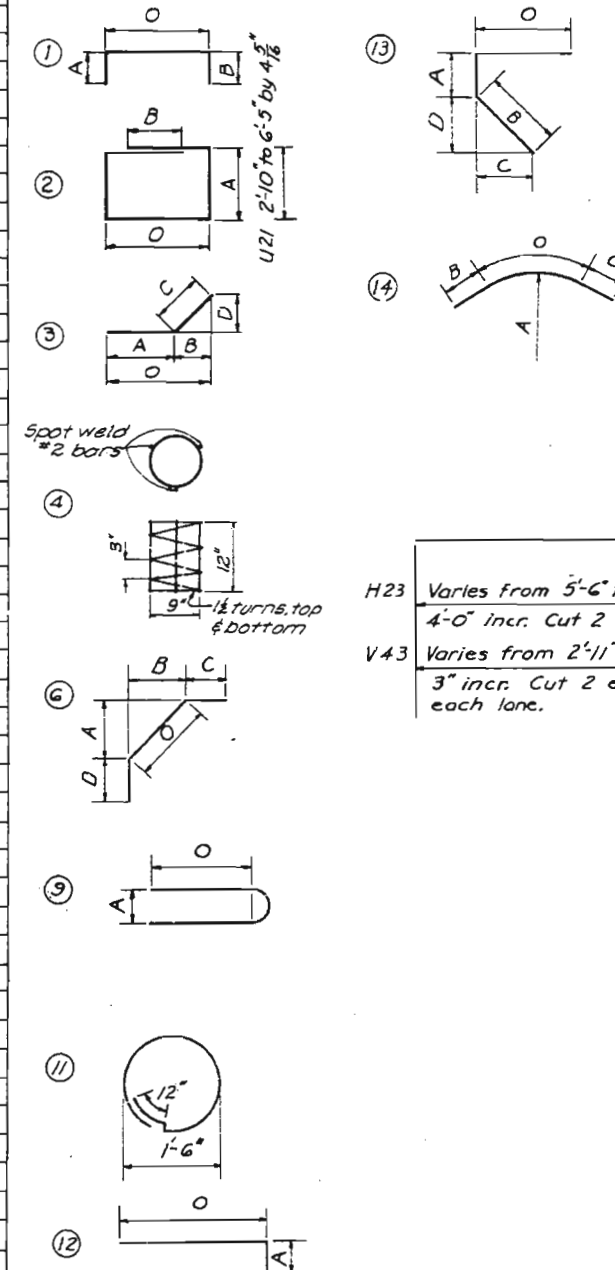
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	23	

BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	
Constant Reinf. For End Bent 5 E.B.L. & W.B.L.											Variable Reinf. For End Bent 5 E.B.L.											Variable Reinf. For End Bent 5 W.B.L.											
Quantities For One Bent (2 Reqd)																																	
48	5	3'-4"	D6	—	Footings						4	6	7'-0"	H29	—	No. Wing						1	4	7'-0"	H56	—	No. Wing						
											2	5	7'-0	H30	—	do						1	4	7'-9	H57	—	do						
22	6	8'-4	F1	9	do	3'-0"	1'-6"				2	5	13'-10	H31	6	do	8'-10	6'-9	5'-8	1'-0	4'-0	1	4	5'-6	H58	14	do	4'-8	5'-11	0	10		
2	6	5'-9	F2	11	No. Wing						1	5	6'-0	H32	3	do	5'-7	4'-0	1'-7	2'-0	1'-3	1	4	6'-4	H59	14	do	5'-6	6'-5	0	10		
4	5	5'-6	F4	—	Footings						2	5	5'-6	H33	—	do						1	4	6'-10	H60	14	do	6'-0	5'-11	0	10		
1	8	10'-6	F8	—	do						1	4	10'-0	H34	—	do						1	4	7'-4	H61	14	do	6'-6	6'-5	0	10		
4	6	13'-4	F9	9	do	5'-6	1'-6				1	4	10'-9	H35	—	do						4	6	5'-8	H62	—	do						
											1	4	9'-1	H36	14	do	8'-3	5'-11	0	10		1	5	1'-3	H63	—	do						
2	6	34'-6	H1	—	Backwall						1	4	9'-10	H37	14	do	9'-0	6'-5	0	10		1	5	2'-6	H64	—	do						
10	4	34'-6	H2	—	do						1	4	9'-10	H38	14	do	9'-0	5'-11	0	10		1	5	3'-0	H65	—	do						
2	6	34'-6	H3	—	Beam						1	4	10'-9	H39	14	do	9'-11	6'-5	0	10		1	5	4'-10	H66	—	do						
8	9	34'-6	H21	—	do						4	5	8'-10	H40	—	do						2	5	12'-2	H67	6	do	7'-2	4'-3 1/2	5'-6 1/2	1'-0	4'-0	
7	9	35'-5	H22	3	do	34'-6	20'-5	14'-1	15'-0	5'-1 1/2	1	5	8'-6	H41	—	do						1	5	6'-0	H68	3	do	5'-2 1/2	4'-0	1'-2 1/2	2'-0	1'-5	
6	6	*9'-6	H23	—	do						1	5	7'-2	H42	—	do						2	5	5'-8	H69	—	do						
10	6	8'-2	H24	—	So. Wing						5	5	10'-9	H43	14	do	9'-11	5'-11	0	10		2	5	5'-0	H70	—	do						
10	4	8'-2	H25	—	do						1	5	2'-2	H44	—	No. Wing						3	5	7'-1	H71	3	do	6'-9	4'-7	2'-2	2'-6	1'-3	
4	4	6'-10	H26	12	do	5'-6	1'-4				1	5	2'-9	H45	—	do						5	5	6'-5	H72	—	do						
11	4	5'-8	H27	—	do						1	5	2'-4	H46	—	do						3	5	9'-4	H73	14	do	6'-2	5'-11	2'-4	10		
2	5	5'-6	H28	—	do						1	5	3'-2	H47	—	do						2	5	6'-7	H74	14	do	5'-9	5'-11	0	10		
											1	5	2'-11	H48	—	do						1	5	5'-0	H75	14	do	4'-2	5'-11	0	10		
13	4	4'-0	U1	1	Beam	3'-0	1'-6	1'-6			1	5	3'-5	H49	—	do						1	5	4'-6	H76	—	do						
8	6	6'-2	U3	1	Shear Block	1'-2	2'-6	2'-6			1	5	3'-10	H50	—	do						1	5	5'-6	H77	—	do						
2	4	6'-8	U6	2	do	1'-0 1/2	1'-10	11 1/2			1	5	5'-0	H51	—	do																	
6	4	6'-7	U7	13	So. Wing	2'-1	1'-6	3'-0	2'-1 1/2	2'-1 1/2	1	5	5'-10	H52	—	do						1	5	16'-6	U35	2	do	4'-4	3'-5	1'-0			
6	4	5'-8	U9	1	Parapet	8	2'-6	2'-6			1	5	7'-7	H53	—	do						1	5	19'-0	U36	2	do	4'-0	5'-0	1'-0			
21	4	12'-8	U20	2	Beam	3'-2	2'-8	1'-0			2	5	7'-10	H55	—	do																	
11	4	*16'-7	U21	2	do	3'-2	Var.	1'-0														8	4	4'-2	V44	—	do						
3	4	22'-8	U22	1	do	3'-2	9'-9	9'-9			1	5	23'-6	U24	2	No. Wing	7'-10	3'-5	1'-0			3	5	3'-5	V45	—	do						
2	6	13'-8	U23	2	do	3'-2	3'-2	1'-0			1	5	25'-6	U25	2	do	7'-10	4'-5	1'-0			1	5	8'-2	V49	—	do						
2	5	14'-8	U27	1	No. Wings	2'-2	6'-3	6'-3			1	5	24'-6	U26	2	do	6'-0	5'-9	1'-0			6	5	2'-8	V50	—	do						
1	5	14'-10	U28	1	do	2'-4	6'-3	6'-3			1	5	16'-6	U30	1	do	4'-0	6'-3	6'-3														
1	5	15'-6	U29	1	do	3'-0	6'-3	6'-3			1	5	8'-0	U31	1	do	4'-0	2'-0	2'-0														
1	5	9'-0	U32	1	do	3'-0	3'-0	3'-0																									
1	5	10'-4	U33	1	do	2'-4	4'-0	4'-0			14	4	4'-2	V44	—	No. Wing																	
4	5	4'-0	U34	—	do						5	5	3'-5	V45	—	do																	
											1	5	5'-4	V46	—	do																	
62	4	7'-3	V25	—	Backwall						1	5	5'-6	V47	—	do																	
12	4	16'-4	V40	—	So. Wing						1	5	8'-0	V48	—	do																	
2	7	16'-4	V41	—	do																												
3	4	9'-9	V42	—	do																												
8	4	*3'-3 1/2	V43	—	No. Wing																												
10	2	19'-9	W11	4	Anch. Bolt Wells																												

CUTTING & BENDING DIAGRAMS



H23 Varies from 5'-6" to 13'-6" by 4'-0" incr. Cut 2 each length.
V43 Varies from 2'-11" to 3'-8" by 3" incr. Cut 2 each length each lane.

NOTE

All bar dimensions are out to out of bar.
* Average length, see cutting diagram.

BRIDGE OVER OLD ROUTE 40

STATE ROAD INTERSTATE ROUTE 70

IN KANSAS CITY

PROJECT NO. I-70-1(46)(RTI-70) STA. 463+18.90(W.B. LANE) 464+31.26(E.B. LANE)

JACKSON COUNTY

Drawn Jan. 1962 by J.W.
Checked Feb. 1962 by G.E.G.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 18

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

FINISHED

L-973

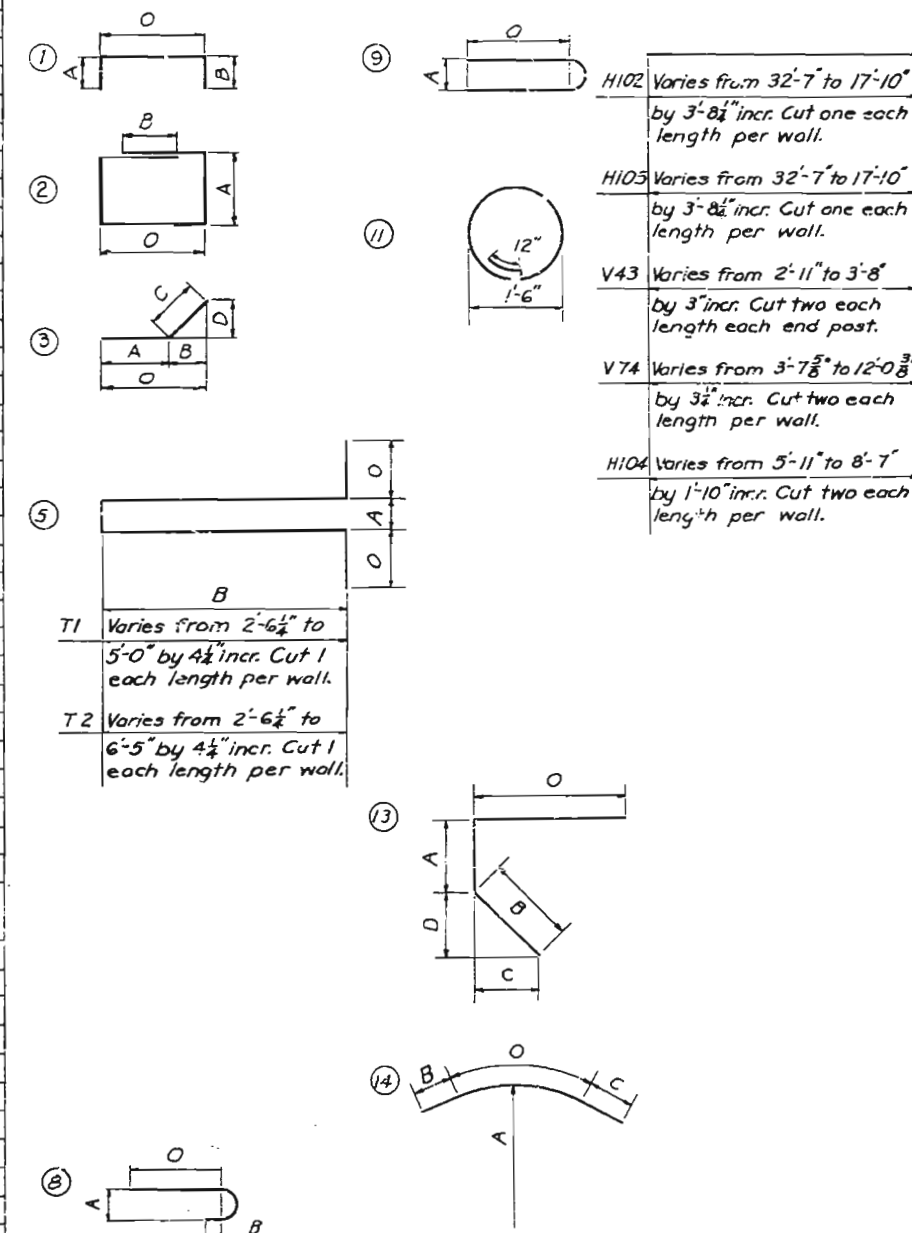
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SCALE	SHEET NO.	TOTAL SHEETS
3	MO.		19	74	

BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D	No.	Size	Length	Mark	Shape	Location	O	A	B	C	D					
Constant Reinf. For Walls A-B-C & D											Constant Reinf. For Walls A & D Only, Continued											Constant Reinf. For Walls E & F Only															
Quantities For One Wall (4 Reqd.)																						Quantities For One Wall (2 Reqd.)															
22	5	3'-4"	D6	—	Footings						39	4	5'-8	U9	1	Parapet	8'-2'-6"	2'-6"				1	4	10'-0	H34	—	End Post										
12	5	4'-11	D7	—	do						1	5	12'-10	U13	2	Wall	2'-6"	3'-5"	1'-0				1	4	10'-9	H35	—	do									
											1	5	12'-2	U14	2	do	2'-2"	3'-5"	1'-0				1	4	9'-1	H36	14	do	8'-3"	5'-11"	5'	10'					
6	6	8'-4	F1	9	do	3'-0"	1'-6"				1	5	15'-10	U16	2	do	4'-0"	3'-5"	1'-0				1	4	9'-10	H37	14	do	9'-0"	6'-5"	0	10'					
6	6	11'-4	F10	9	do	4'-6"	1'-6"				1	5	13'-10	U17	2	do	3'-0"	3'-5"	1'-0				1	4	9'-11	H38	14	do	9'-1"	5'-11"	0	10'					
																						1	4	10'-9	H39	14	do	9'-11"	6'-5"	0	10'						
2	5	39'-8	H100	—	Parapet						8	4	* 3'-3 1/2	V43	—	End Post							4	5	2'-2	H44	—	Footings									
8	4	35'-0	H101	—	Wall						8	4	1'-2	V44	—	do							2	5	2'-4	H46	—	do									
5	4	* 25'-2 1/2	H102	—	do						6	5	3'-6	V73	—	Wall							2	5	2'-11	H48	—	do									
18	5	8'-0	H103	—	do																	2	5	3'-10	H50	—	do										
10	6	* 12'-3	H104	—	do						Variable Reinf. For Wall A (1 Reqd.)											2	5	5'-10	H52	—	do										
5	6	* 25'-2 1/2	H105	—	do						6	6	7'-8	H106	—	Wall							2	5	7'-10	H55	—	do									
5	5	35'-0	H107	—	do																	2	5	12'-5	H95	—	do										
1	5	5'-3	H109	—	do						16	4	14'-8	V75	—	do							4	5	17'-7	H96	14	do	9'-2"	5'-11"	8'-5"	0					
3	5	7'-6	H113	1	do	2'-2	2'-8	2'-8																													
											Variable Reinf. For Wall B (1 Reqd.)											1	5	12'-10	U13	2	Footings	2'-6"	3'-5"	1'-0							
8	4	* 10'-3 1/2	T1	5	Counterfort	1'-0	9'	Var.			1	6	8'-3	H54	3	Wall	6'-9 1/2"	6'-3"	6 1/2"	2'-0"	1'-11"		1	5	12'-2	U14	2	do	2'-2"	3'-5"	1'-0						
12	4	* 11'-8 1/2	T2	5	do	1'-0	9'	Var.			4	6	7'-8	H106	—	do							1	5	15'-10	U16	2	do	4'-0"	3'-5"	1'-0						
											9	5	6'-0	H114	—	do							1	5	13'-10	U17	2	do	3'-0"	3'-5"	1'-0						
34	4	6'-7	U7	13	Wall	2'-1	1'-6	3'-0	2'-1 1/2	2'-1 1/2	40	4	5'-8	U9	1	Parapet	8'-2'-6"	2'-6"				1	5	19'-10	U19	2	do	6'-0"	3'-5"	1'-0							
6	4	4'-2	U15	1	do	2'-2	1'-0	1'-0														2	5	23'-6	U24	2	do	7'-10"	3'-5"	1'-0							
											8	4	13'-10	V71	—	Wall							8	4	* 3'-3 1/2	V43	—	End Post									
2	7	13'-1	V64	8	Counterfort	11'-11 1/2	7'	3 1/2														14	4	4'-2	V44	—	do										
2	4	9'-6	V65	—	do						Variable Reinf. For Wall C (1 Reqd.)											7	5	3'-5	V45	—	Footings										
2	4	3'-6	V66	—	do						1	6	8'-3	H54	3	Wall	6'-9 1/2"	6'-3"	6 1/2"	2'-0"	1'-11"																
2	9	17'-11	V67	8	do	16'-2	11 1/2	5			6	6	7'-8	H106	—	do																					
2	4	13'-6	V68	—	do						9	5	6'-0	H114	—	do																					
2	4	8'-8	V69	—	do																																
2	4	2'-11	V70	—	do						40	4	5'-8	U9	1	Parapet	8'-2'-6"	2'-6"																			
64	4	* 7'-10	V74	—	Wall						8	4	14'-2	V72	—	Wall																					
2	6	37'-2	V77	3	do	35'-8	35'-2	6 1/2	2'-0	1'-11																											
Constant Reinf. For Walls A & D Only											Variable Reinf. For Wall D (1 Reqd.)											Variable Reinf. For Wall E (1 Reqd.)															
Quantities For One Wall (2 Reqd.)											Quantities For One Wall (2 Reqd.)											Quantities For One Wall (2 Reqd.)															
1	6	5'-9	F2	11	Wall						4	6	7'-8	H106	—	Wall							6	5	23'-7	H97	—	Parapet									
																							49	5	16'-5	H99	—	Footings									
1	6	8'-2	H14	—	do						16	4	13'-6	V76	—	do																					
1	4	7'-0	H56	—	End Post						Constant Reinf. For Walls G & H Only											67	4	5'-8	U9	1	Parapet	8'-2'-6"	2'-6"								
1	4	7'-9	H57	—	do						Quantities For One Wall (2 Reqd.)											68	4	12'-2	U18	2	Footings	2'-2"	3'-5"	1'-0							
1	4	5'-6	H58	14	do	4'-8	5'-11	0	10		13	5	17'-4	H94	—	Parapet & Ftg.																					
1	4	6'-4	H59	14	do	5'-6	6'-5	0	10																												
1	4	6'-10	H60	14	do	6'-0	5'-11	0	10		18	4	5'-8	U9	1	Parapet	8'-2'-6"	2'-6"																			
1	4	7'-4	H61	14	do	6'-6	6'-5	0	10		18	4	12'-2	U18	2	Footings	2'-2"	3'-5"	1'-0																		
2	5	3'-6	H108	—	Wall																																
2	5	1'-7	H110	—	do																																
4	5	12'-3	H111	14	do	6'-0	5'-10	6'-3	0																												
6	5	11'-9	H112	—	do																																
4	5	5'-4	H115	3	do	4'-11 1/2	4'-7	4 1/2	9	8																											

CUTTING & BENDING DIAGRAMS



NOTE

All bar dimensions are cut to out of bar.
Average length, see cutting diagram.

BRIDGE OVER OLD ROUTE 40

STATE ROAD INTERSTATE ROUTE 70

IN KANSAS CITY

PROJECT NO. I-70-1(46XRT.I-70) STA. 463+18.90 (W.B. LANE)
464+31.26 (E.B. LANE)

JACKSON COUNTY

Drawn Jan. 1962 by J.W.
Checked Feb. 1962 by F.J.D.

Note: This drawing is not to scale. Follow dimensions.

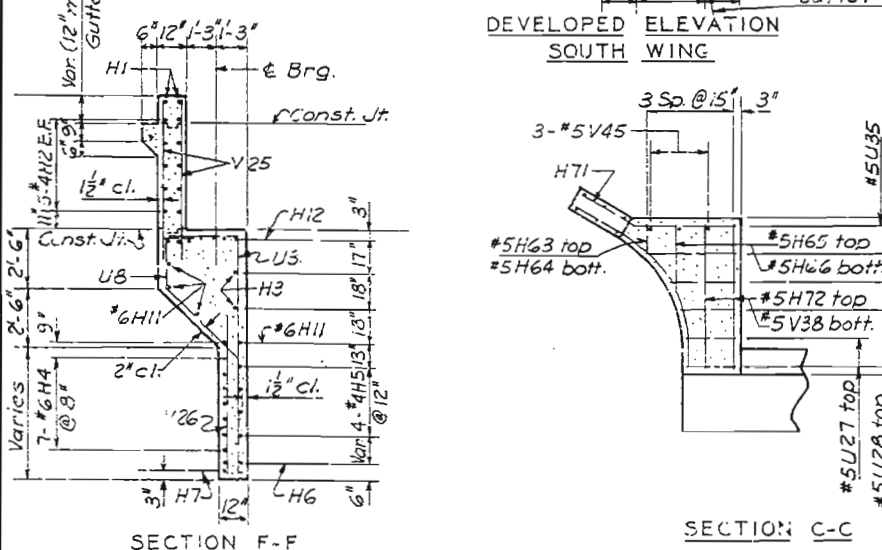
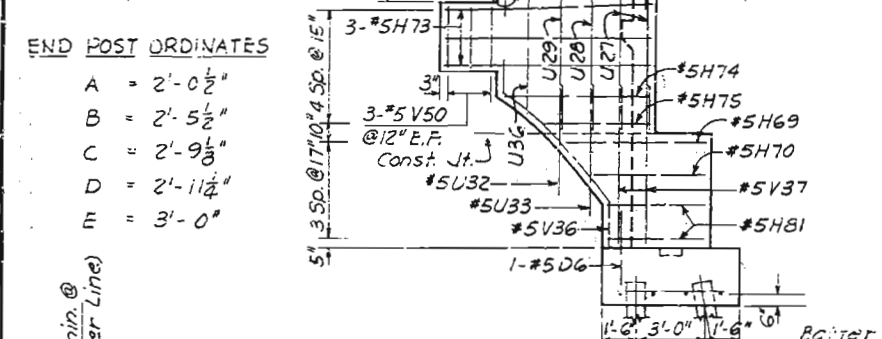
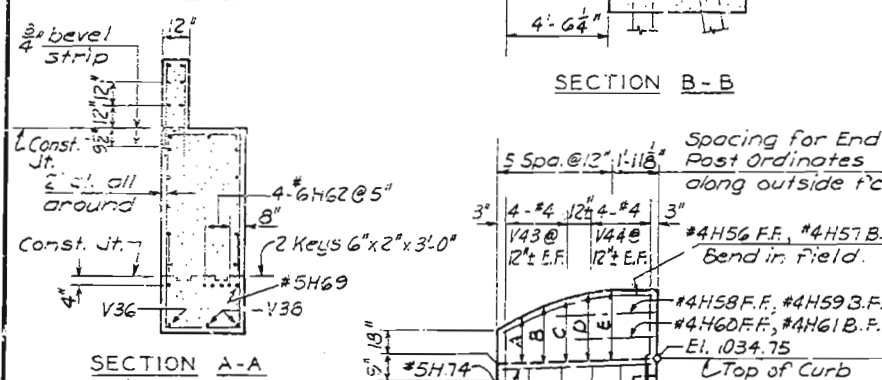
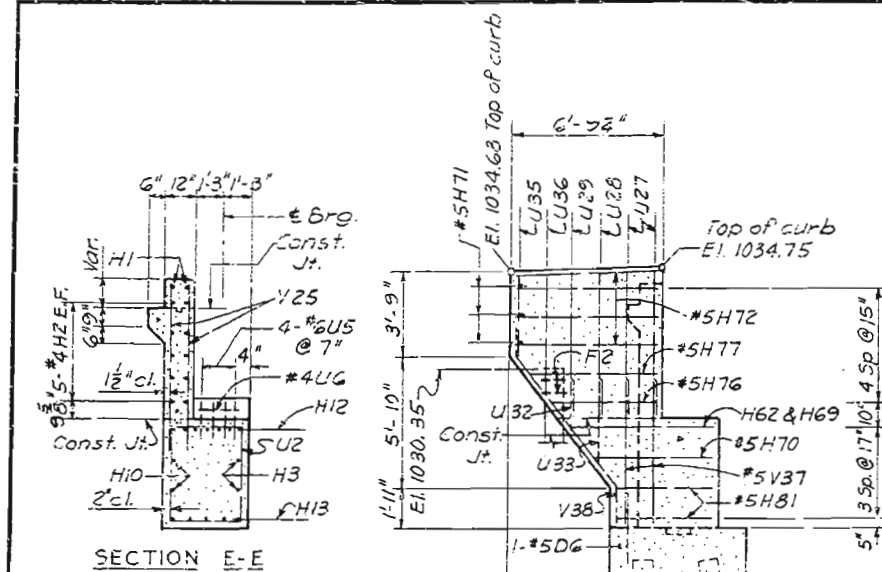
Sheet No. 6 of 18

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS
KANSAS CITY, MO.

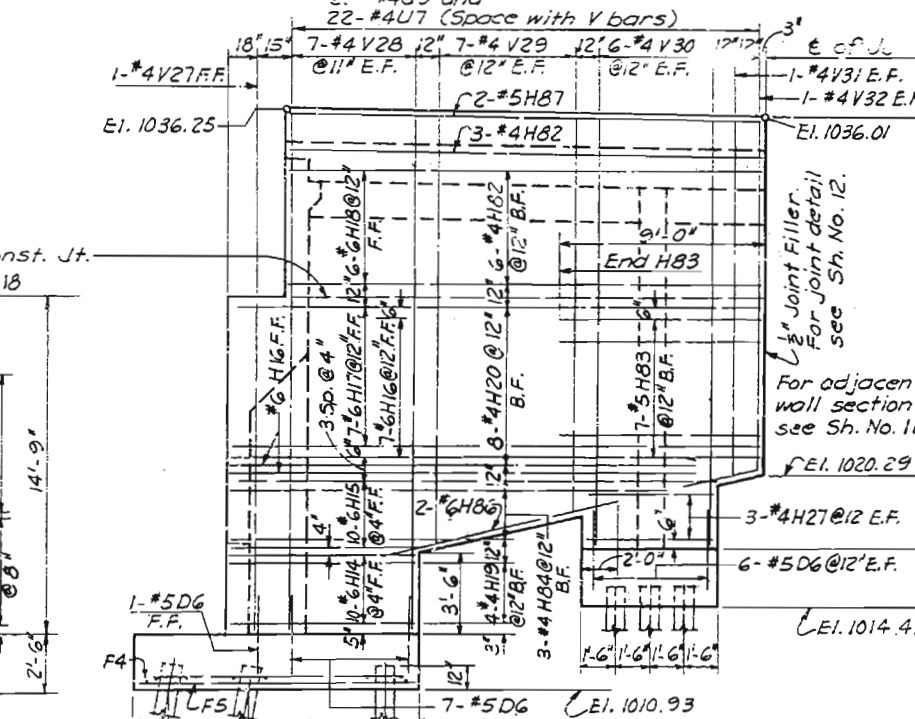
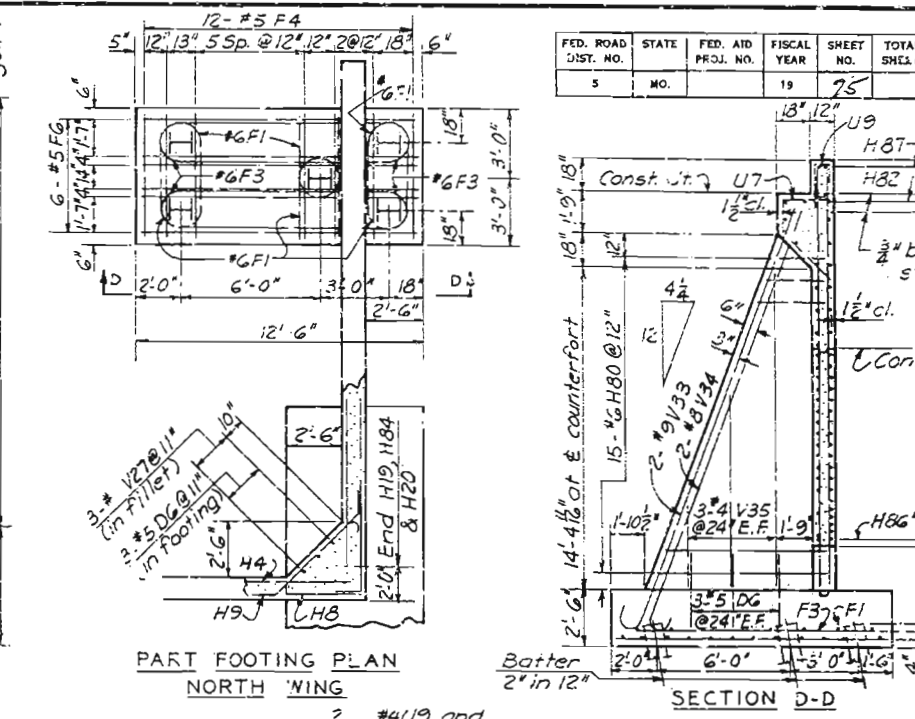
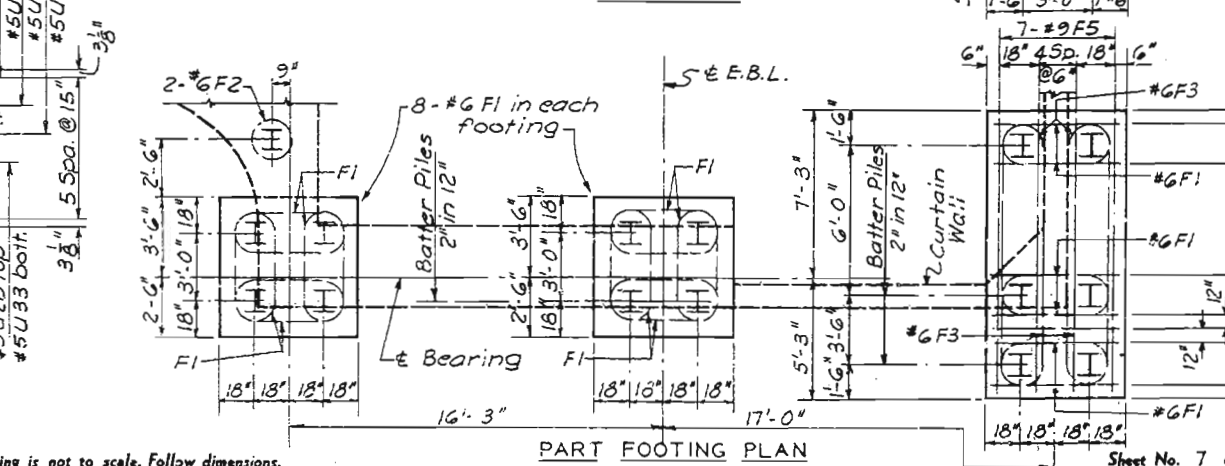
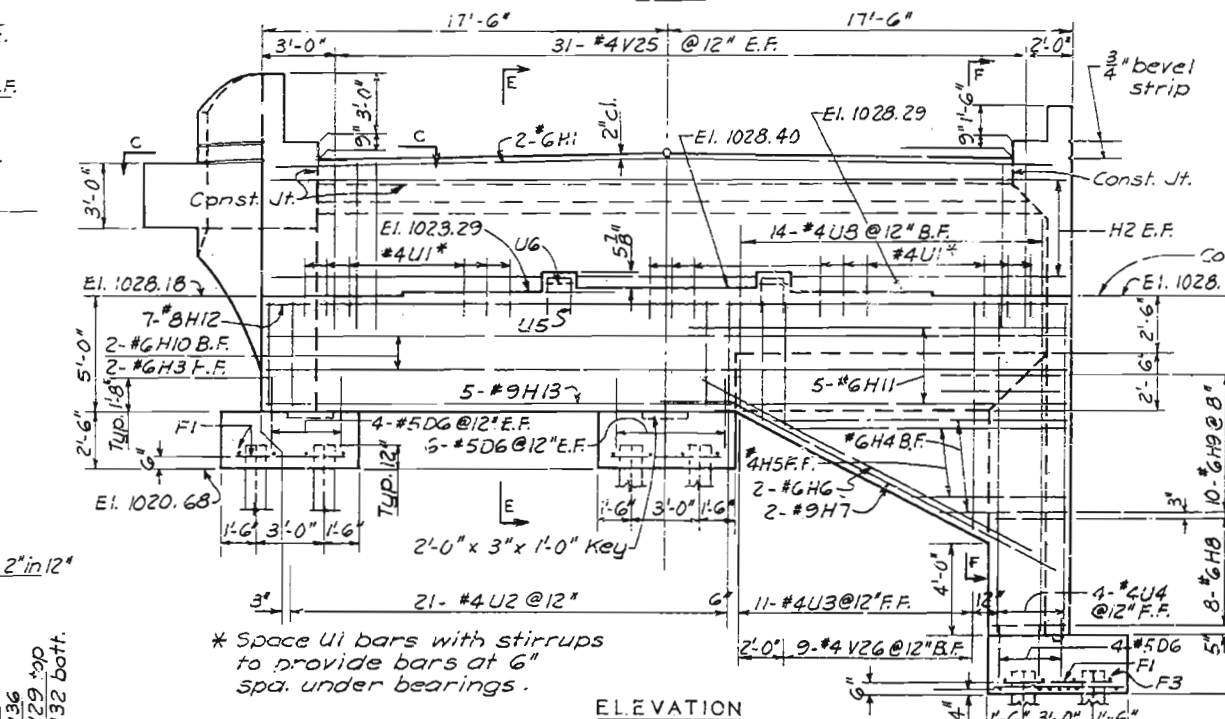
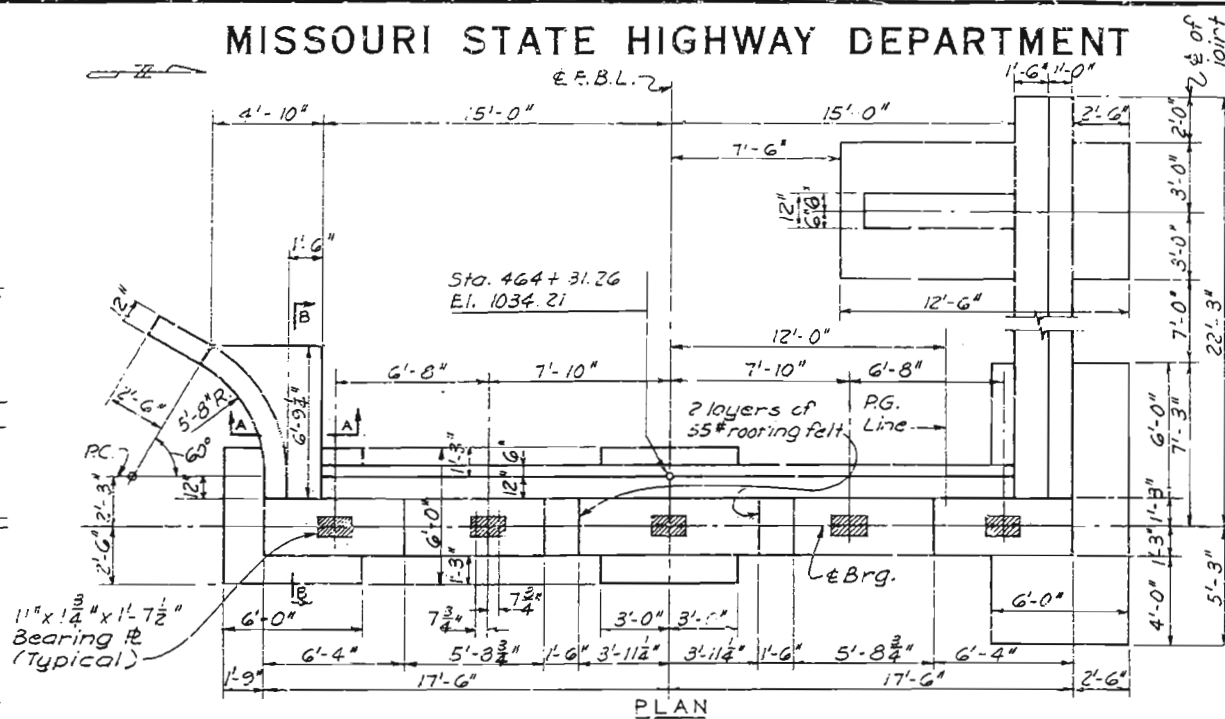
L-973

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	25	

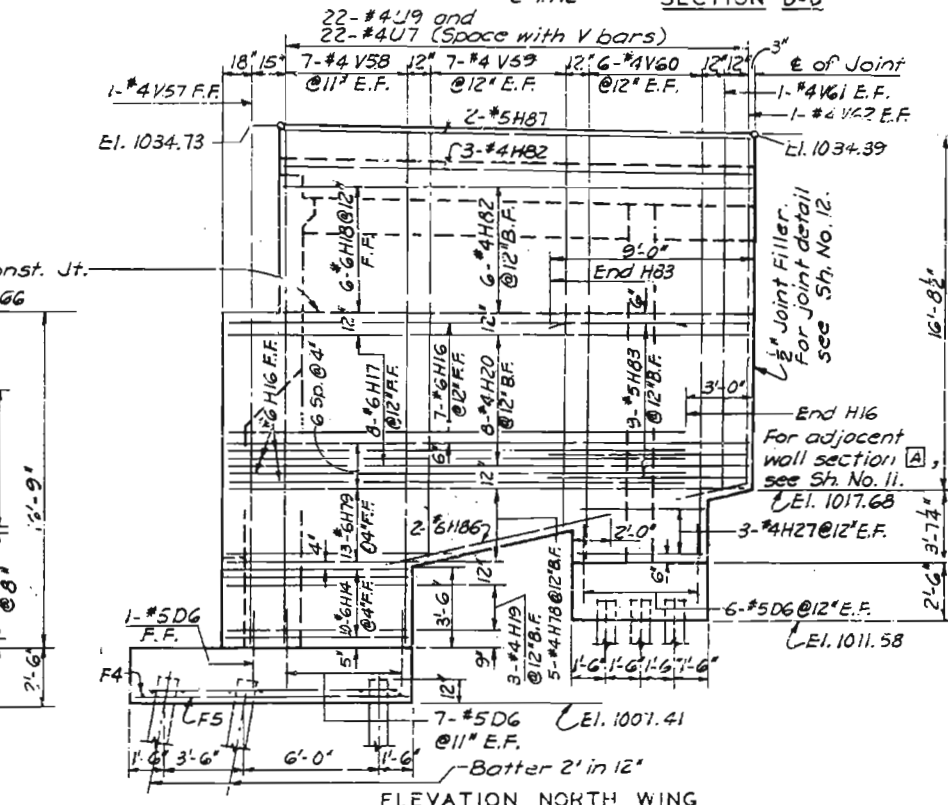
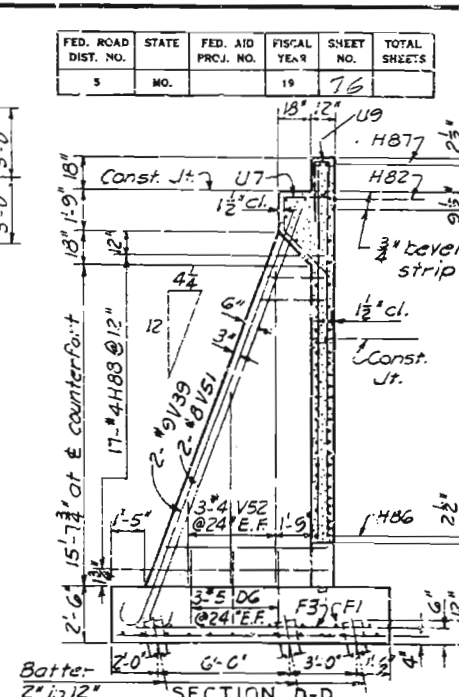
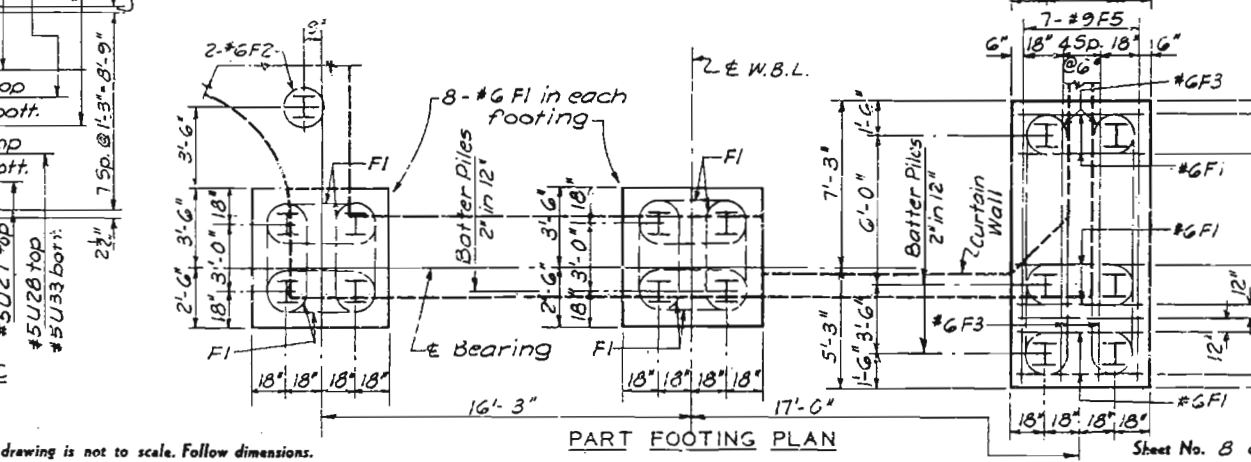
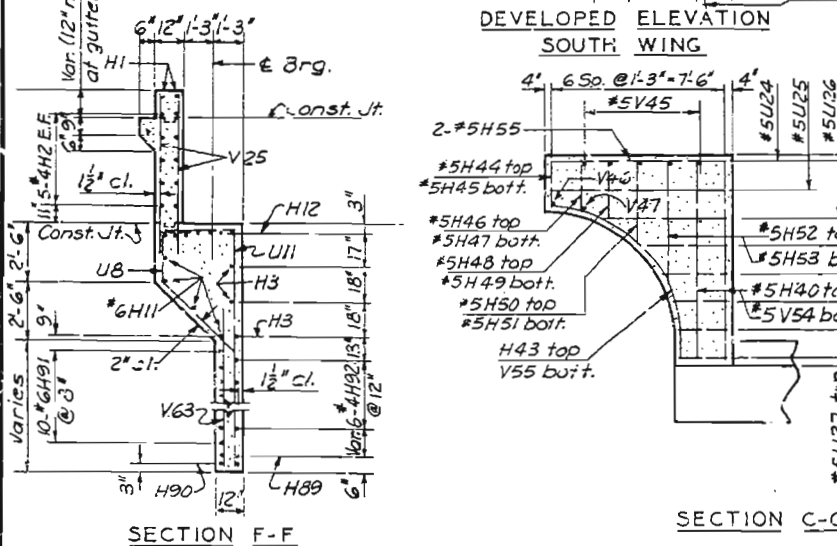


Drawn Nov. 1961 by F.J.D.
Checked Feb. 1962 by G.E.G.



NOTES:
F.F.=front face, B.F.=back face & E.F.=each face.
For notes, spiral around anchor bolts, and pile splice see Sh. No. 12.
DETAILS OF END BENT 1 E.B.L.
BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-1(46)(RT.1-70) STA. 463+18.90(W.B.LANE)
464+31.26(E.B.LANE)
JACKSON COUNTY
HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.
Sheet No. 7 of 18
L-973

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	76	



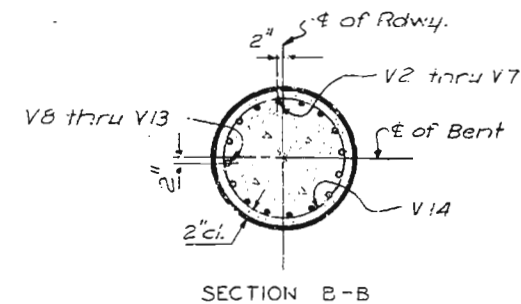
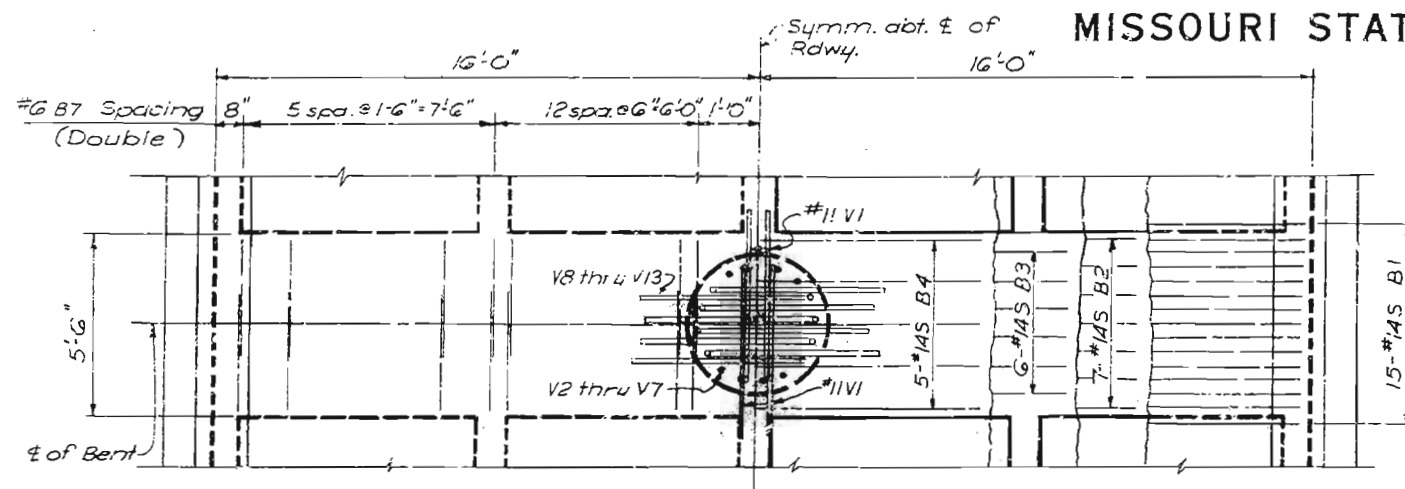
NOTES:
F.F. = Front face, B.F. = Back Face & E.F. = each face.
For notes, spiral around anchor bolts, and pile
splice see Sh. No. 12.

BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-(46)(RT.I-70) STA. [463+18.90 (W.B. LANE)
[464+31.26 (E.B. LANE)
JACKSON COUNTY

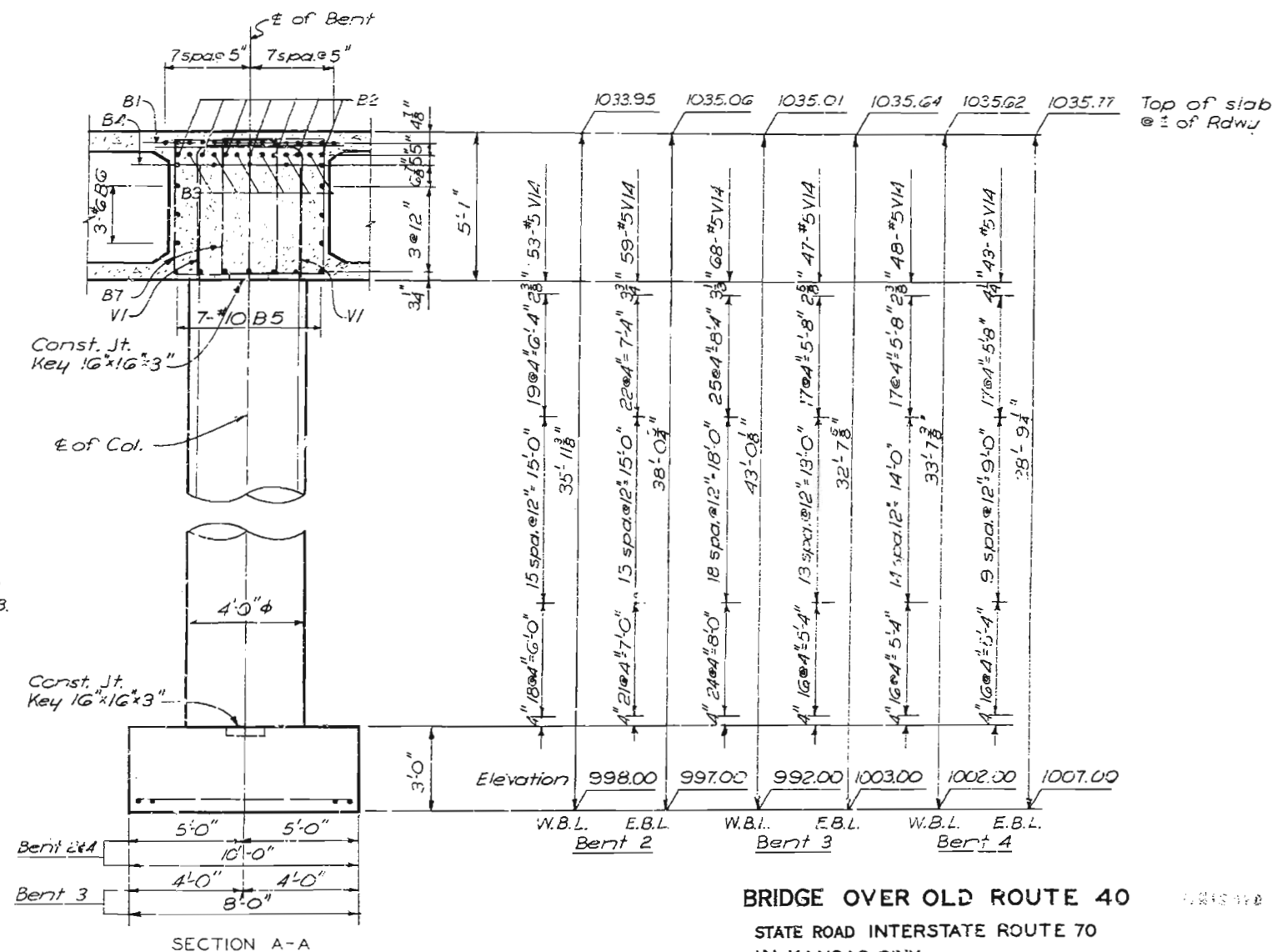
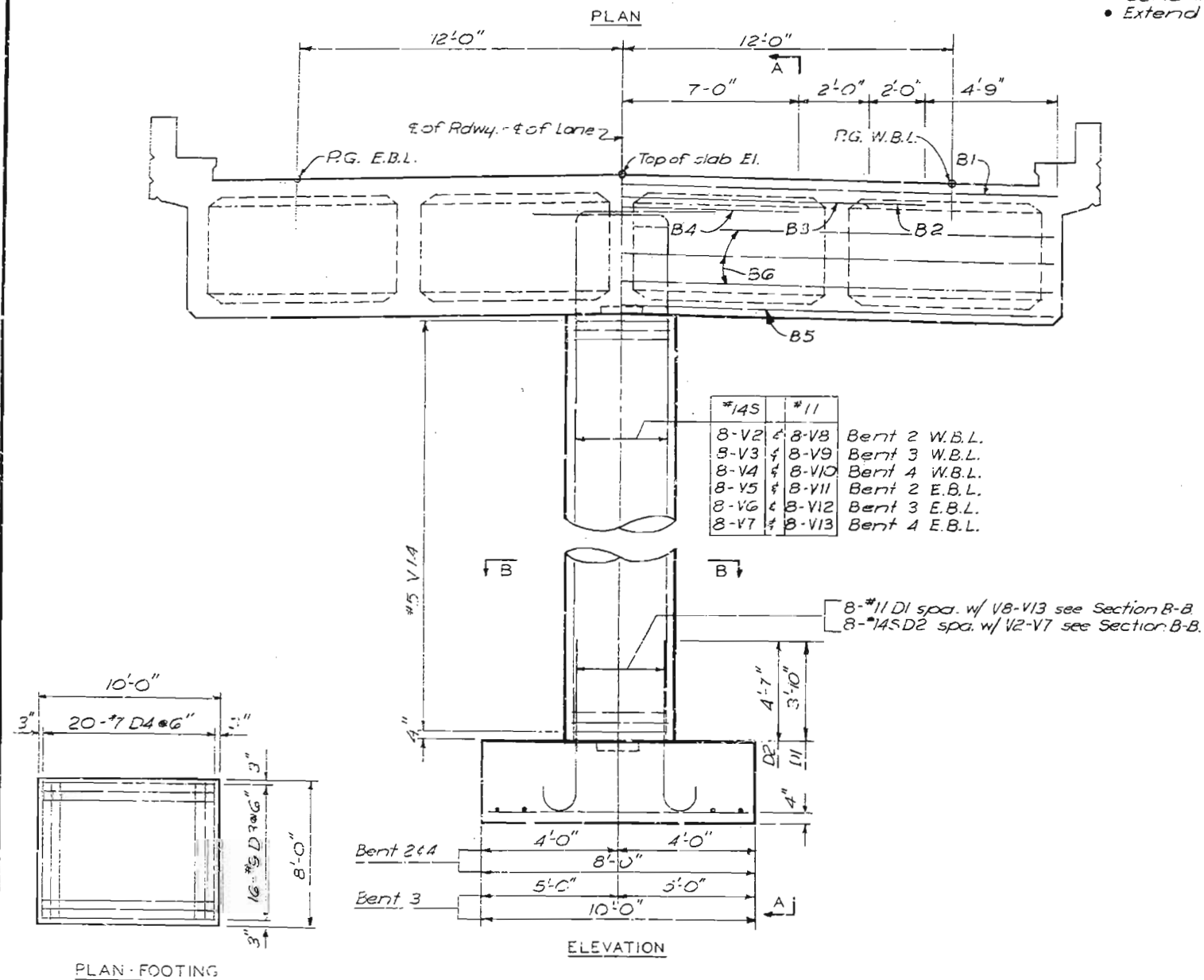
HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	77	



• Bend into Beam
• Extend into Beam



DETAILS OF INTERMEDIATE BENTS 2,3 & 4
W.B.L. & E.B.L.

BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-146 (RT. I-70) STA. 163+18.90 (W.B.L. LANE)
164+31.26 (E.B.L. LANE)
JACKSON COUNTY

Drawn Oct. 1961 by Q.C.C.
Checked Feb. 1962 by GHK

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 18

HARRINGTON AND CORTLYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

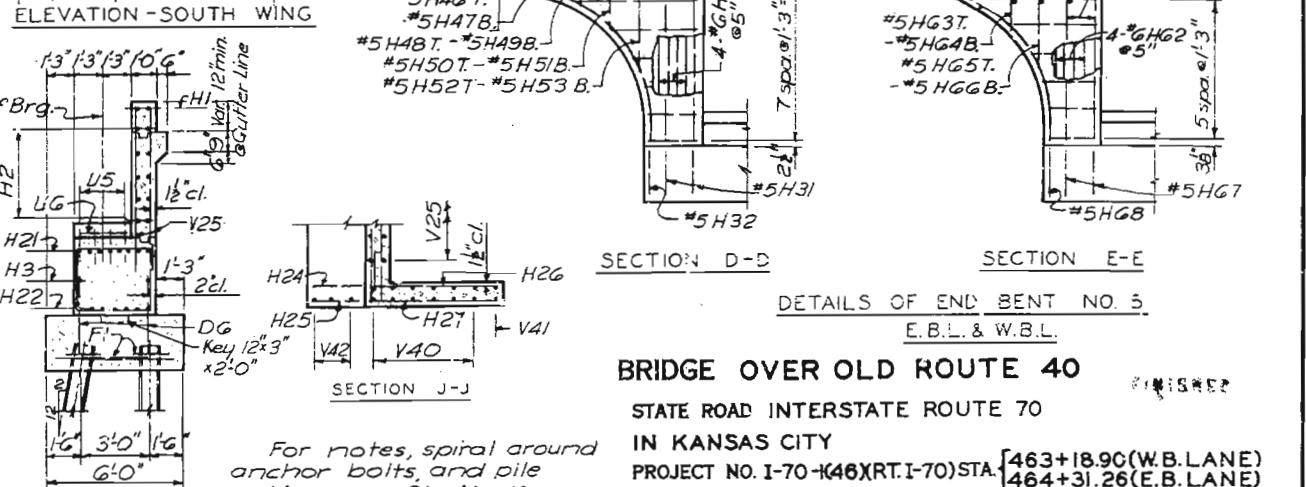
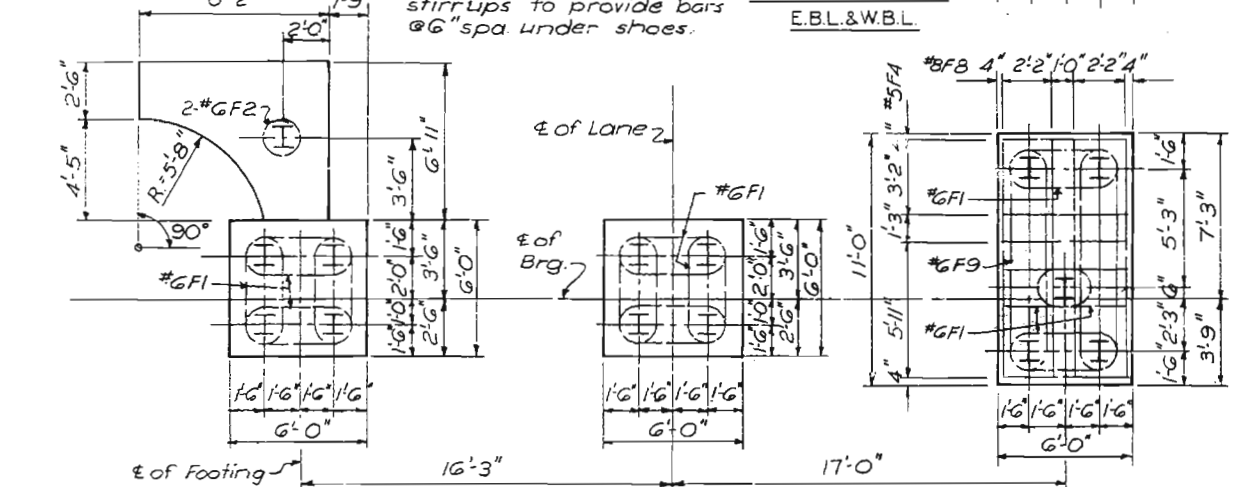
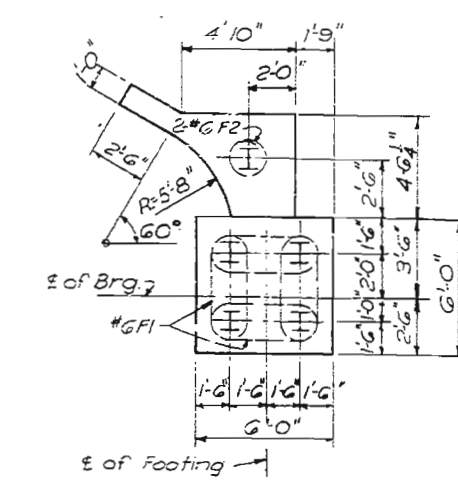
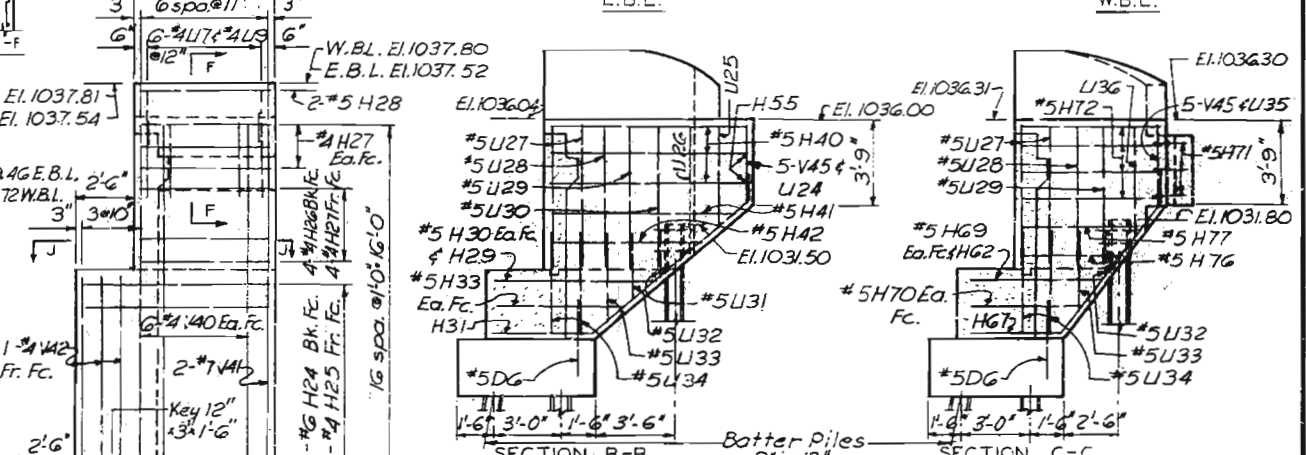
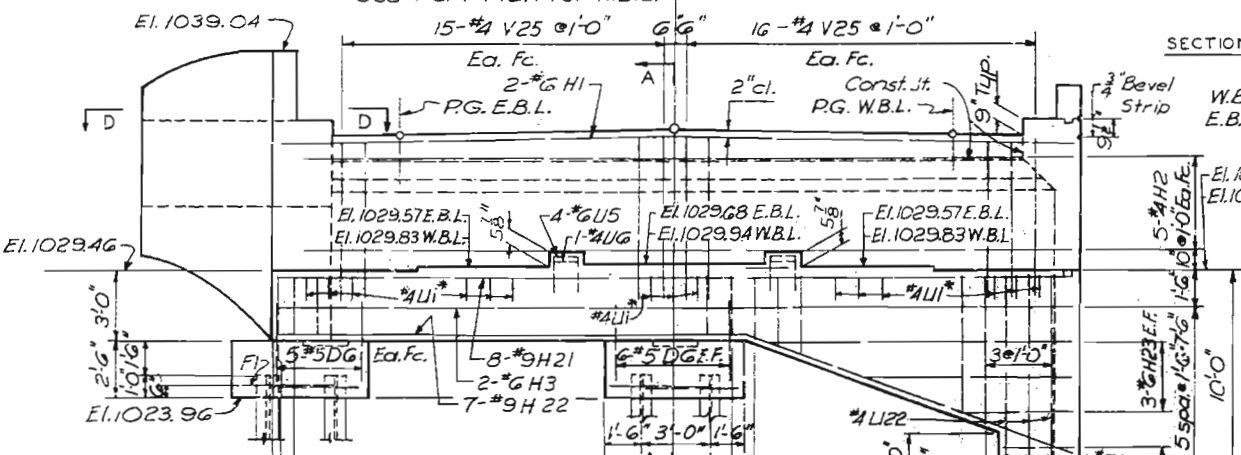
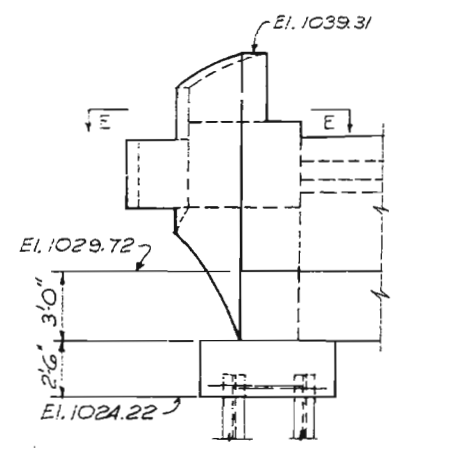
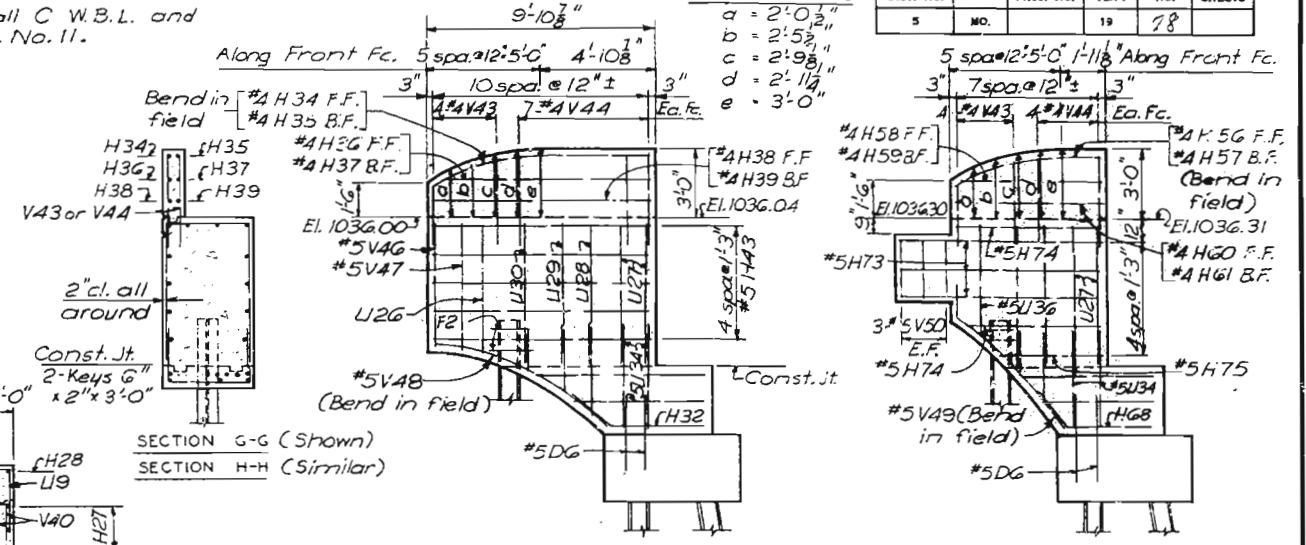
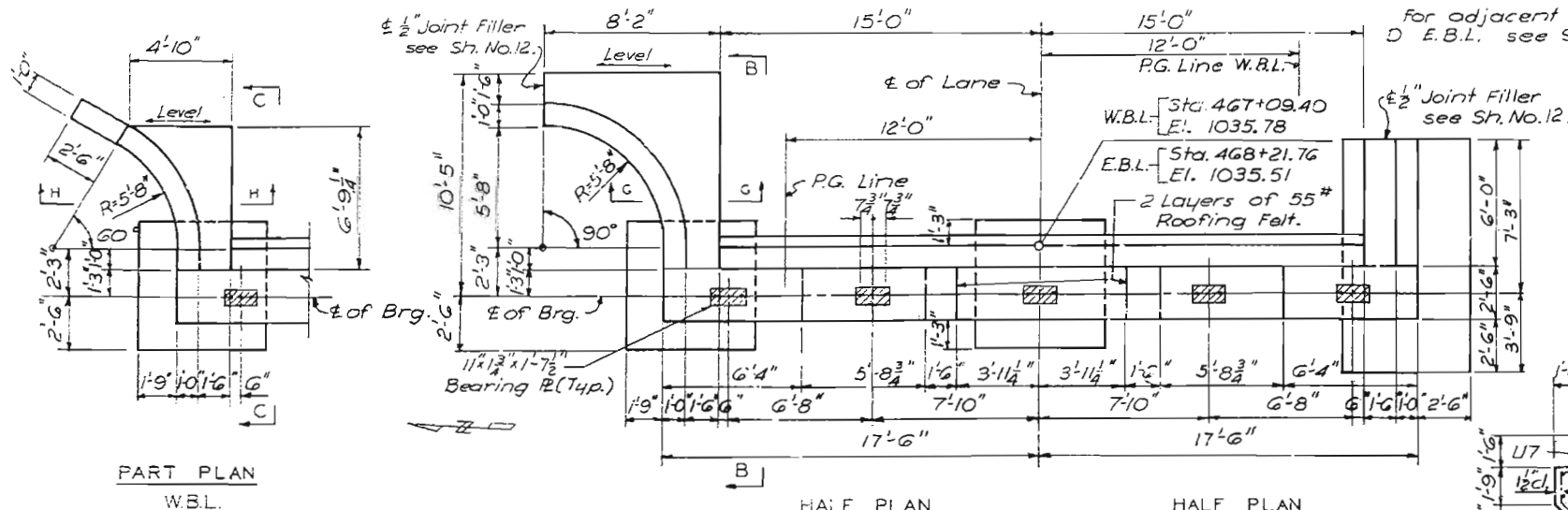
L-973

MISSOURI STATE HIGHWAY DEPARTMENT

For adjacent wall
section H see SH.No.12

For adjacent wall C W.B.L. and
D E.B.L. see Sh. No.11.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	78	



BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-146XRT.I-70) STA. [463+18.90(W.B.LANE)
[464+31.26(E.B.LANE)]
JACKSON COUNTY

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

Drawn Nov. 1961 by O.C.C.
Checked Feb. 1962 by G.E.G.

Note: This drawing is not to scale. Follow dimensions.

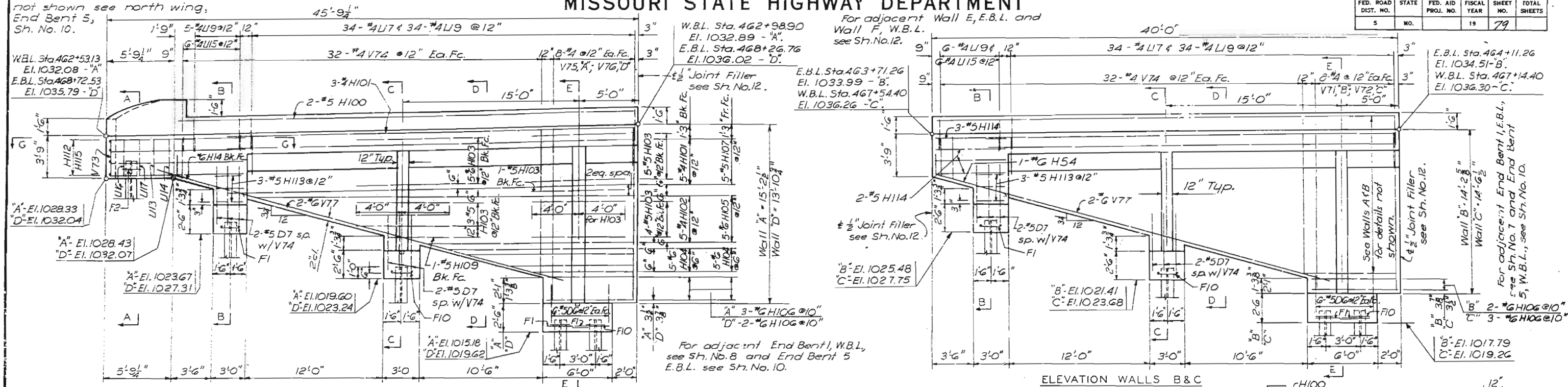
Sheet No. 10 of 18

For notes, spiral around
anchor bolts, and pile
splice see Sh. No.12.

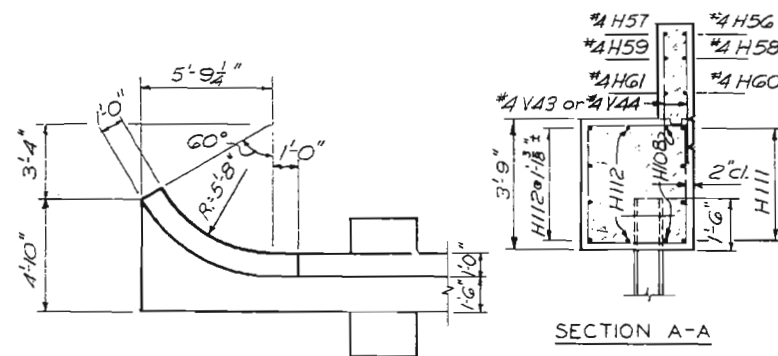
For details of End Post
not shown see north wing,
End Bent 5,
Sh. No. 10.

MISSOURI STATE HIGHWAY DEPARTMENT

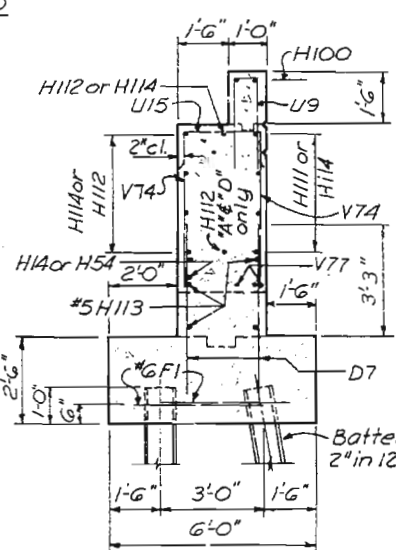
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5	MO.		19	79	



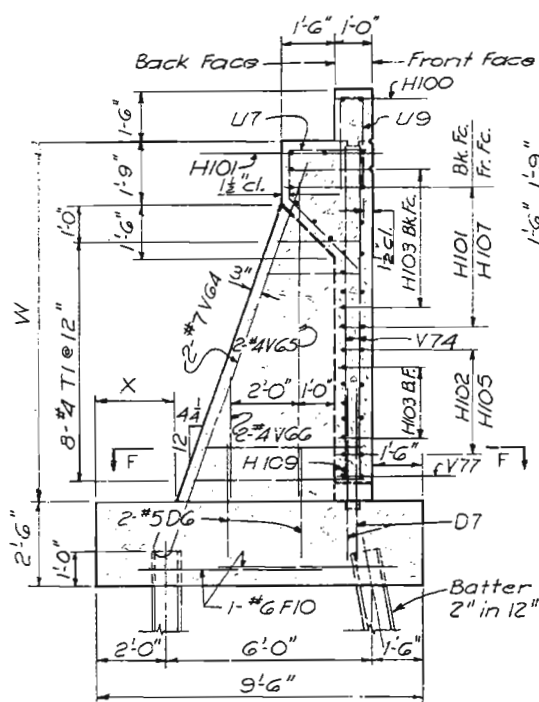
ELEVATION WALLS A & D



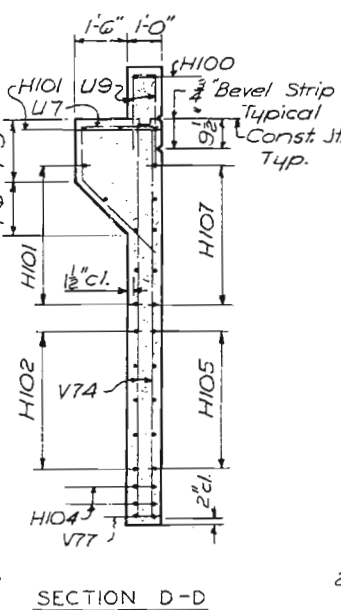
PART PLAN WALLS A&D



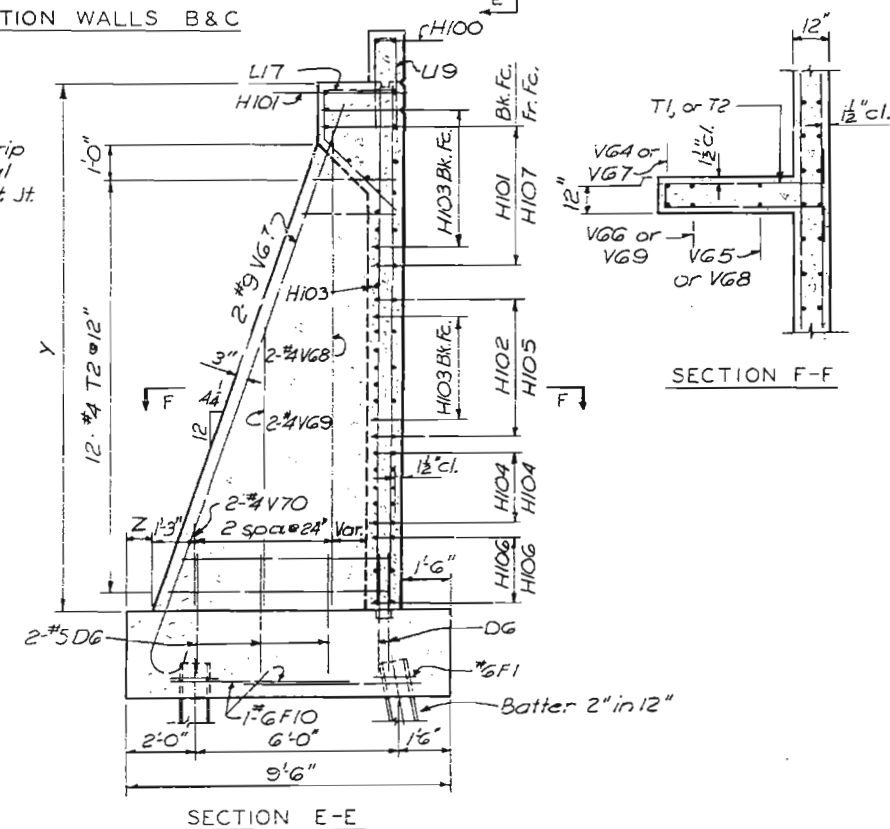
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

DETAILS OF WALLS A,B,C,&D

BRIDGE OVER OLD ROUTE 40

STATE ROAD INTERSTATE ROUTE 70

IN KANSAS CITY

PROJECT NO. I-70-1(46)(RT.I-70) STA. 463+18.90 (W.B. LANE)
464+31.26 (E.B. LANE)

JACKSON COUNTY

Days/ Week	W	X	Y	Z
A	$10\frac{1}{2}5\frac{1}{4}$ "	$2\frac{1}{2}$ "	$15\frac{1}{2}1\frac{1}{2}$ "	$9\frac{1}{8}$ "
B	$10\frac{1}{2}4\frac{1}{4}$	$2\frac{1}{2}5\frac{1}{2}$	$14\frac{1}{2}1\frac{1}{8}$	$1\frac{1}{2}1\frac{1}{4}$
C	$10\frac{1}{2}1\frac{3}{8}$	$2\frac{1}{2}6\frac{1}{2}$	$14\frac{1}{2}6\frac{1}{2}$	$11\frac{1}{8}$
D	$10\frac{1}{2}2\frac{1}{2}$	$2\frac{1}{2}6\frac{1}{2}$	$13\frac{1}{2}10\frac{1}{2}$	$1\frac{1}{2}2\frac{1}{2}$

For notes and pile splice
see Sh. No. 12.

Drawn Nov. 1961 by O.C.C.
Checked Feb. 1962 by F.J.D.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 11 of 18

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

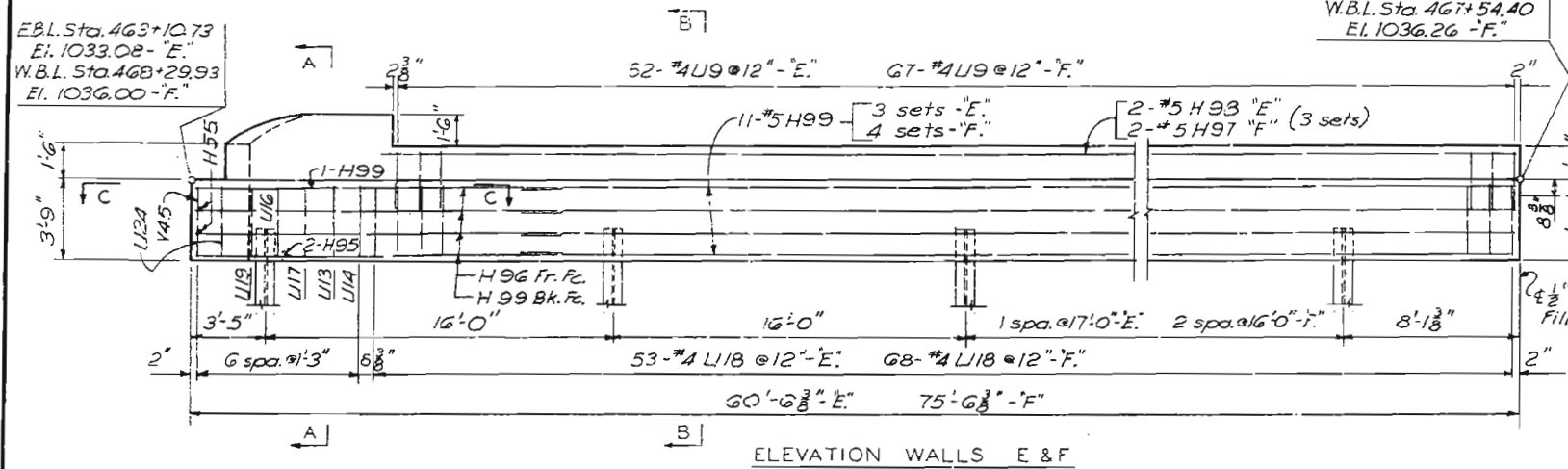
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STA. NO.	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	80	

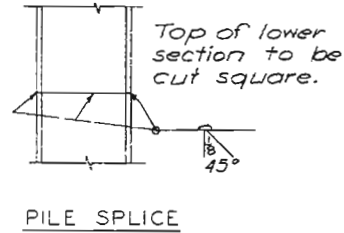
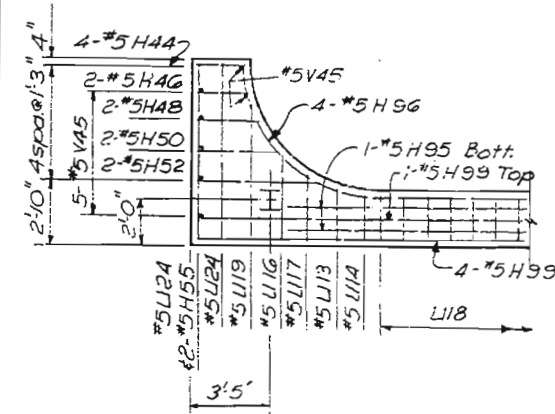
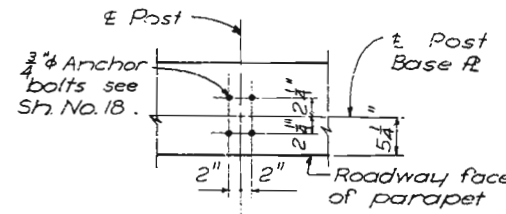
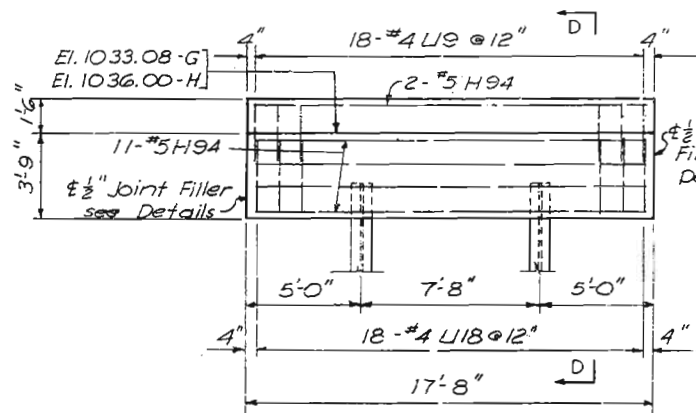
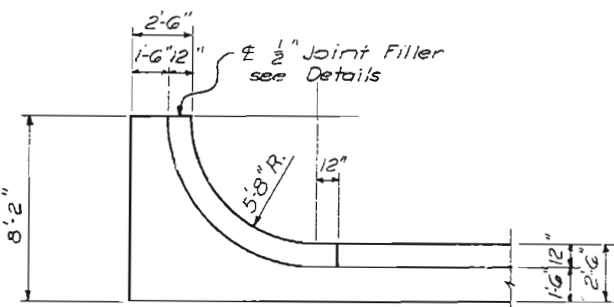
For details of End Post not shown see, North wing, End Bent 5, E.B.L., Sh. No. 10.

E.B.L. Sta. 463+10.73
El. 1033.08 - "E."
W.B.L. Sta. 468+29.93
El. 1036.00 - "F."

E.B.L. Sta. 463+71.26
El. 1033.99 - "E."
W.B.L. Sta. 467+54.40
El. 1036.26 - "F."



ELEVATION WALLS E & F



Note: Anchor bolts may be set in wells as shown or in holes drilled into concrete substructure. See Specification 55.4.4 for setting Anchor bolts.

NOTES FOR END BENTS & WALLS

- All piles shall be 10 BP 42.
- Reinforcing steel shall be placed to clear anchor bolts.
- Bridge seats to be sloped to drain between bearing areas.
- Top of backwall and expansion device to conform to crown of roadway slab.
- For Handrail Post spacing see Sheet No. 18.
- Plastic waterstop to extend from bottom of wall to top of curb. Payment for furnishing and placing waterstop shall be included in the unit contract price for Class B1 Concrete.
- Top slab in adjacent spans shall not be poured until structural steel of the expansion device has been installed and backwalls have been completed.
- Top of walls shall be built parallel to profile grade.

DETAILS OF WALLS E, F, G, & H

BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-146 (RT. I-70) STA. 463+18.90 (W.B. LANE)
464+31.26 (E.B. LANE)
JACKSON COUNTY

Drawn Dec 1961 by OCC.
Checked Feb 1962 by W.B.H.

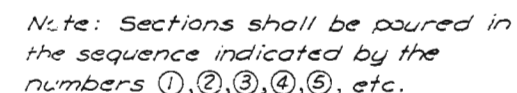
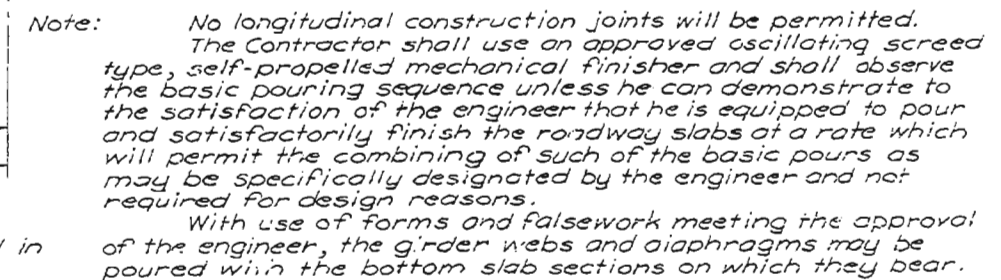
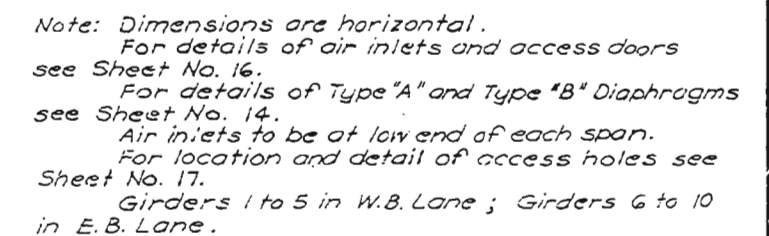
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12 of 18

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	81	

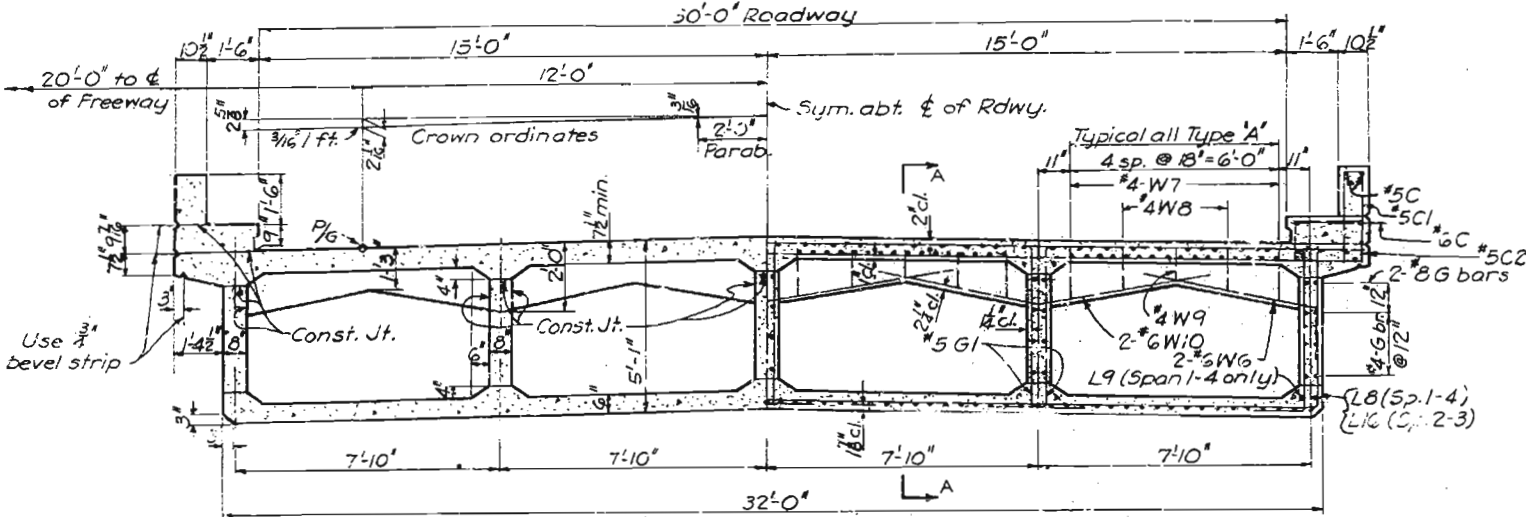


Backwall of end bents to be poured and forms to be removed prior to pouring of top slab.

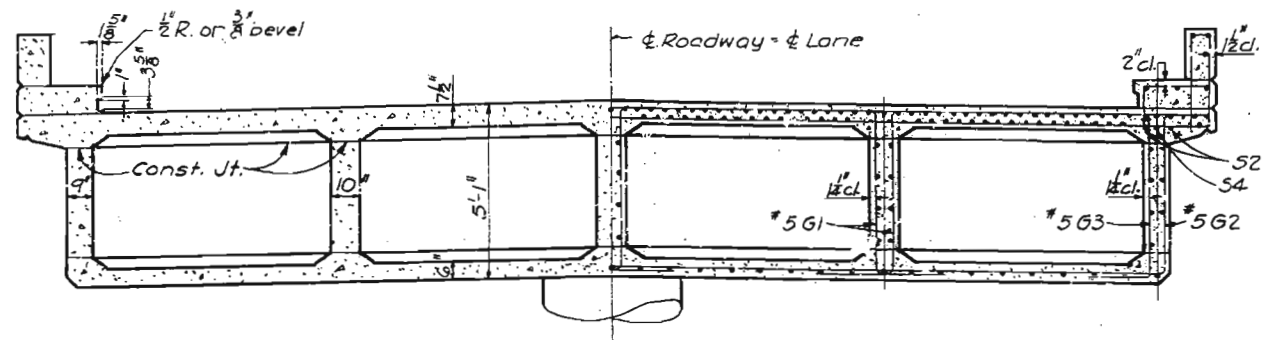
BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-146(XRT.I-70) STA. [463+18.90(W.B. LANE)
464+31.26(E.B. LANE)
JACKSON COUNTY

MISSOURI STATE HIGHWAY DEPARTMENT

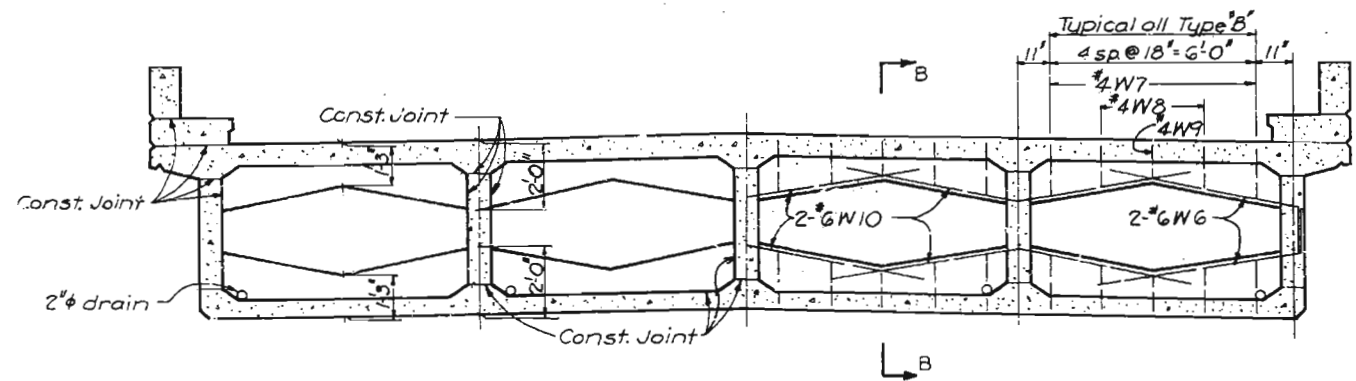
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5	MO.		19	22	



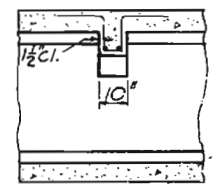
SECTION NEAR CENTER OF SPAN SHOWING TYPE 'A' DIAPHRAGM
E.B.L. shown; W.B.L. similar



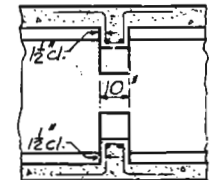
SECTION NEAR INT. BENTS



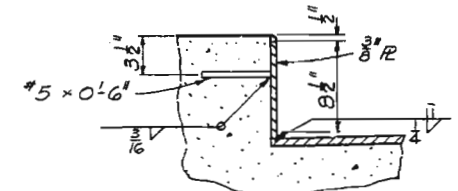
SECTION NEAR TYPE 'B' DIAPHRAGM



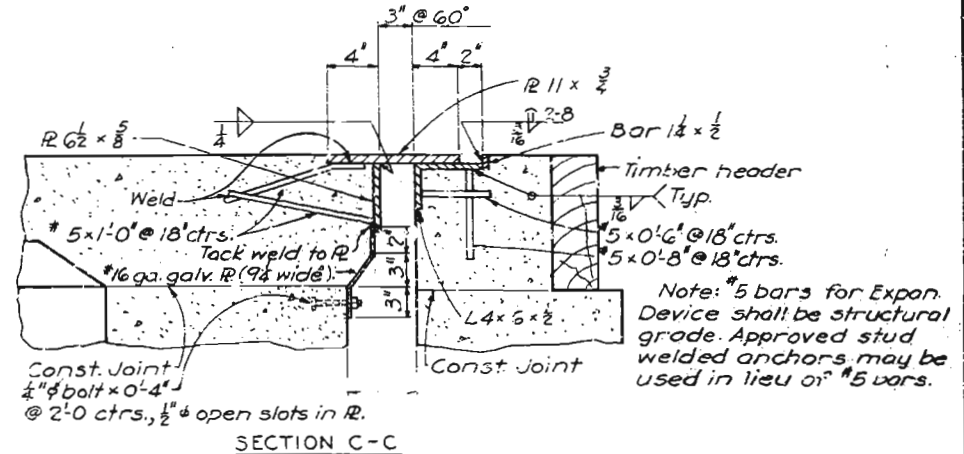
SECTION A-A



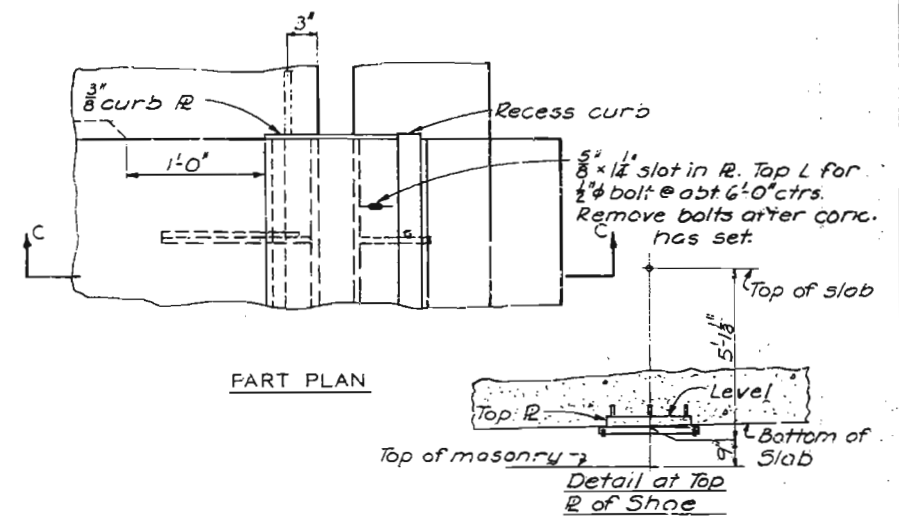
SECTION B-B



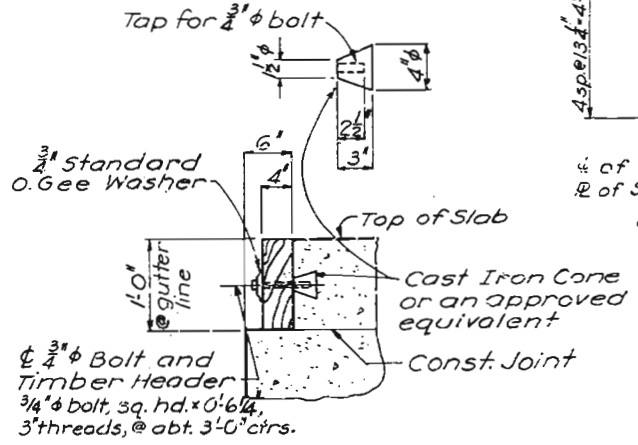
CURB PLATE



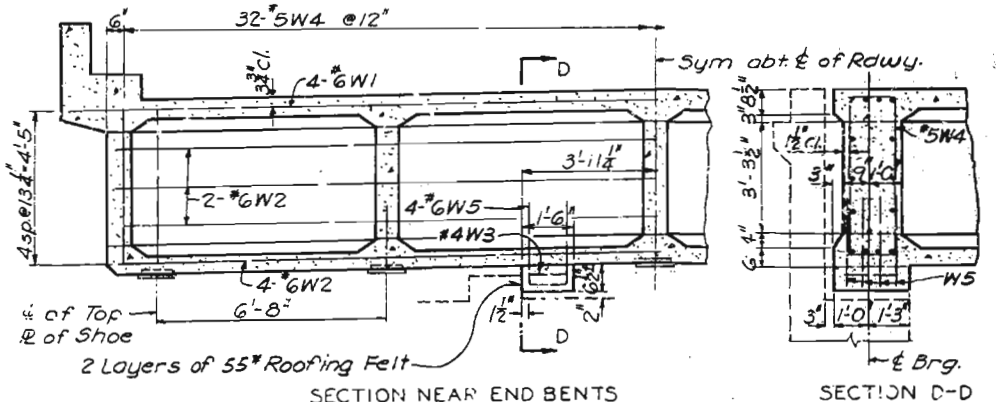
SECTION C-C



PART PLAN



DETAILS OF TIMBER HEADER



SECTION NEAR END BENTS

SECTION D-D

BRIDGE OVER OLD ROUTE 40
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-K46(RT. I-70) STA. 463+18.90(W.B. LANE)
464+31.26(E.B. LANE)
JACKSON COUNTY

Drawn Oct. 1961 by JER
Checked Feb. 1962 by GHK

Note: This drawing is not to scale. Follow dimensions.

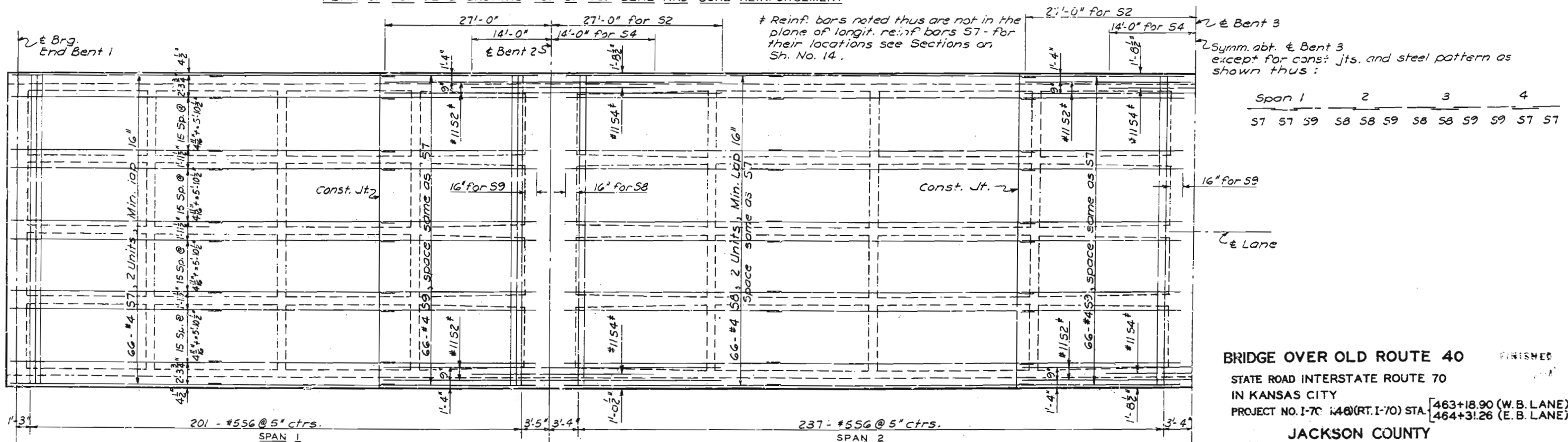
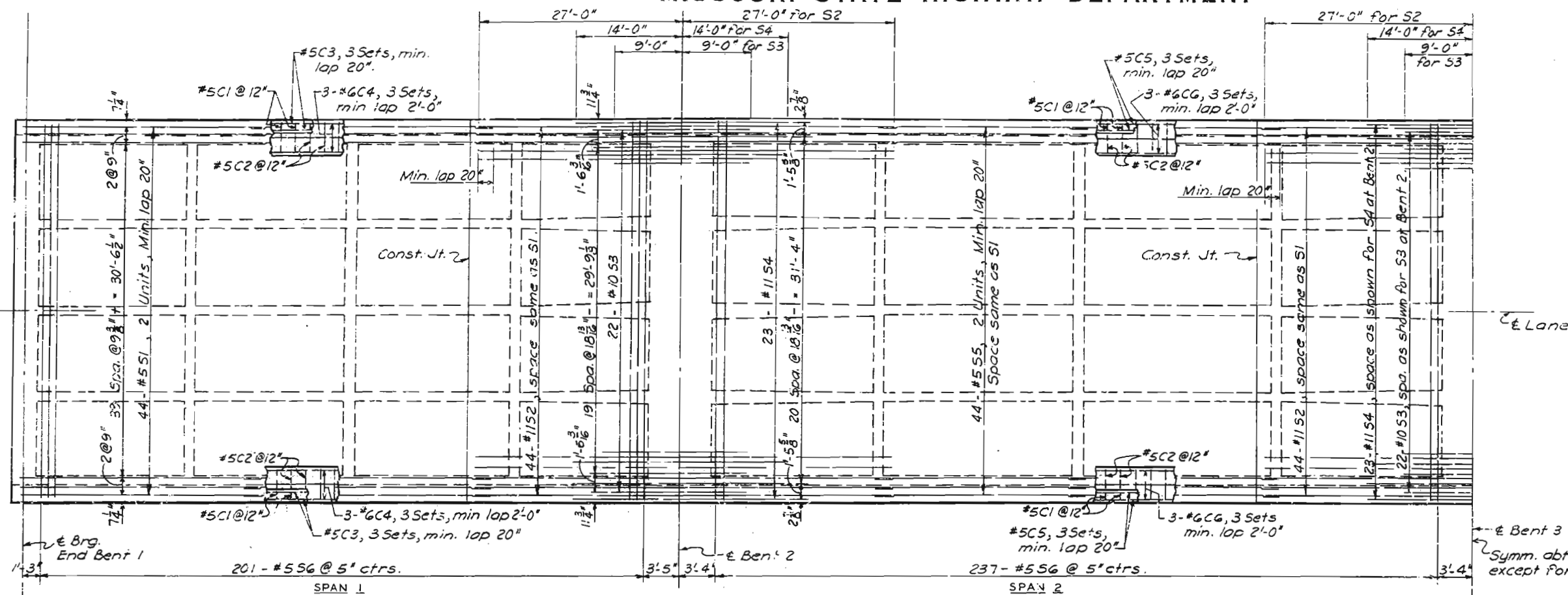
Sheet No. 14 of 18

HARPINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		13	83	



BRIDGE OVER OLD ROUTE 40
 STATE ROAD INTERSTATE ROUTE 70
 IN KANSAS CITY
 PROJECT NO. I-70 140(RT. I-70) STA. 463+18.90 (W.B. LANE)
 464+31.26 (E.B. LANE)
 JACKSON COUNTY

Drawn Oct. 1961 by J.D.
 Checked Feb. 1962 by G.H.K.

Note: This drawing is not to scale. Follow dimensions.

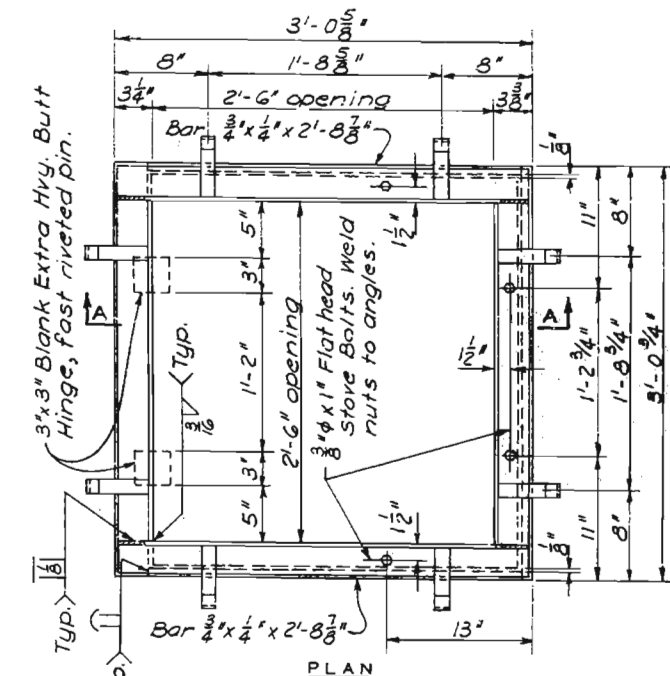
Sheet No. 15 of 18

HARRINGTON AND CORTELYOU
 CONSULTING ENGINEERS KANSAS CITY, MO.

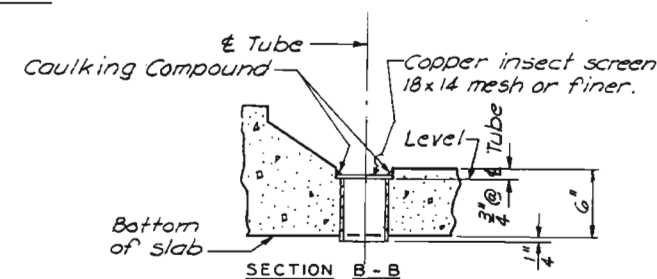
L-973

NO CONSTRUCTION CHANGES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	24	

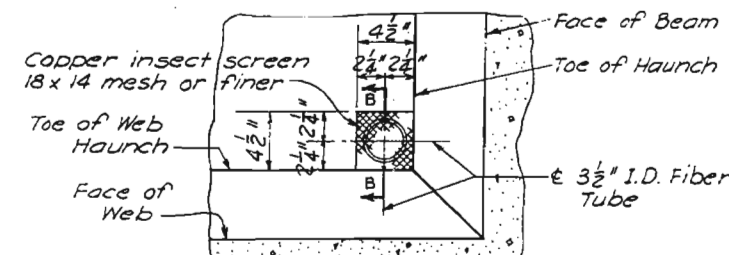


HORIZONTAL SECTION SHOWING
BOTTOM SLAB REINFORCEMENT
All dimensions are horizontal.



SECTION A - A

Note: Access doors to be assembled and in place before slab is poured.
Bottom surface of door to be flush with bottom slab.



Note: Payment for furnishing and placing fiber tube, copper screen and caulking compound shall be included in price bid for other items of work.

BEARING NOTES

BEARING NOTES

Material for Type "D" Bearings shall be as noted except A.S.T.M. A7 steel meeting the carbon and manganese requirements of A373 steel may be substituted for A373.

Anchor Bolts for Type "D" Bearings shall be $1\frac{1}{2}$ " swaged bolts and shall extend 12" into concrete.

Lead plates under bearings shall be approximately $\frac{3}{8}$ " thickness and 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.

Material for Bearings will be paid for as Fabricated Structural Carbon Steel.

DETAILS OF AIR INLET
(32- Required for 2 bridges)

DETAILS OF ACCESS DOORS

BRIDGE OVER OLD ROUTE 40 FINISHED
STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-I(48)(PT I-70) STA. [463+18.90(W.B. LANE)
[464+31.26(E.B. LANE)
JACKSON COUNTY

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

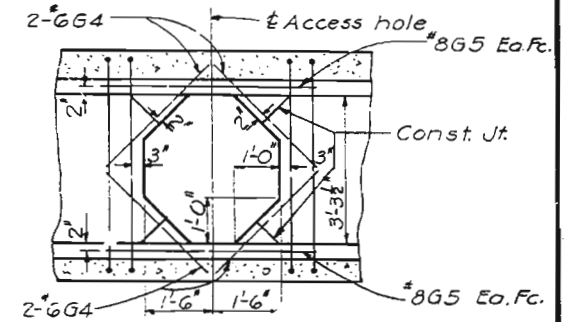
L-973

Drawn Oct. 1961 by E.B.L. & F.B.L., = 5184.0 lbs.
Checked Feb. 1962 by F.B.D.
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 16 of 18

CONSTITUTION CHANGES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	85	



Longitudinal dimensions of the bridge deck. The diagram shows the layout of interior girders across two spans. Key dimensions and details include:

- Span I:** 33'-1" long, starting with a bearing end bent and an access hole.
- Interior Girders:** 49'-7" long, including bent dimensions.
- Span II:** 105'-0" long, also featuring an access hole.
- Reinforcement:**
 - Top: #8G12 Ea. Fc. x 32'-0", #8G14 Ea. Fc. x 34'-10", #8G16 Ea. Fc. 2 units @ 35'-9", #8G18 Ea. Fc. x 36'-4", #8G10 Ea. Fc. Sym. gbt & Bent 3 except const. jts., #8G11 Ea. Fc.
 - Bottom: 3-#4G13 Ea. Fc. x 32'-0", 3-#4G15 Ea. Fc. x 33'-6", 3-#4G17 Ea. Fc. 2 units @ 34'-5", 3-#4G19 Ea. Fc. x 35'-0"
- Dimensions:**
 - Top: 14@10=11'-8", 4@15=7@20"=10'-8", 3'-6", 5'-15", 10@20=16'-8", 4@15", 12@10=10'-0", 40@5=16'-8", 3'-2", 3'-2", 40@5=16'-8", 12@10", 4@15=7@20"=10'-0", 3'-6", 6", 11 sp. @ 20=18'-4", 4@15", 12@10=10'-0", 40@5=16'-8", 3'-2"
 - Bottom: 33'-1", 88'-0" (Access hole), 6'-0", 15'-0", 49'-7", 105'-0" (Access hole), 6'-0", 15'-0"

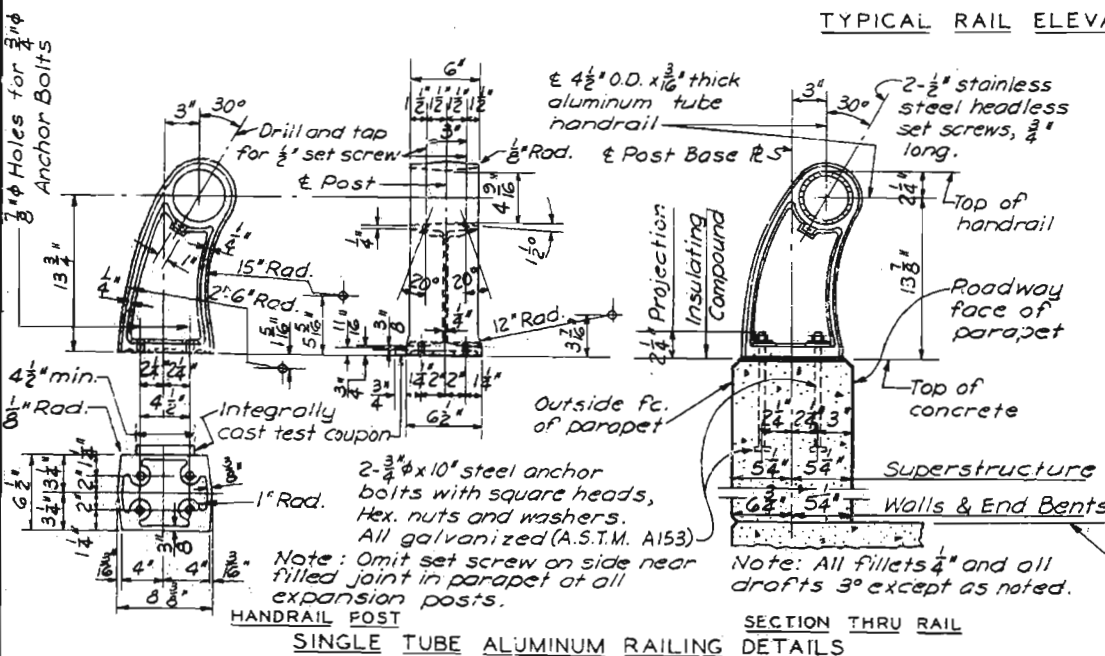
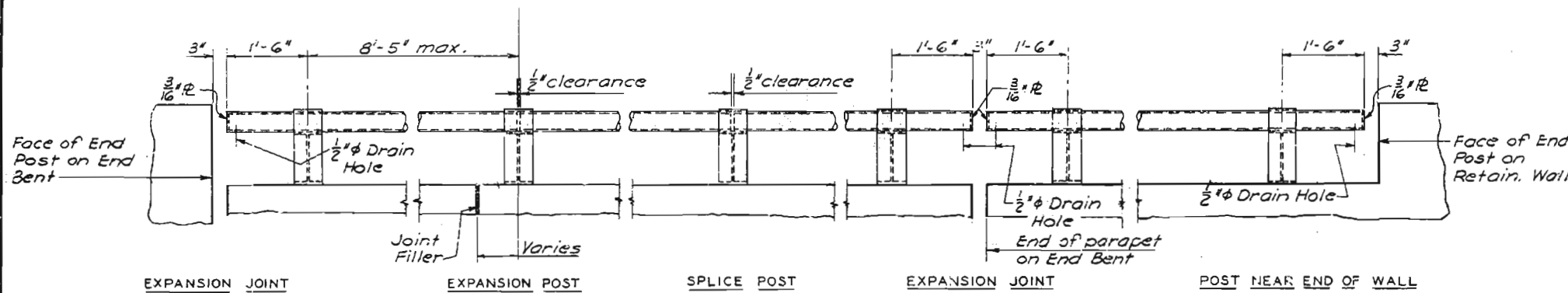
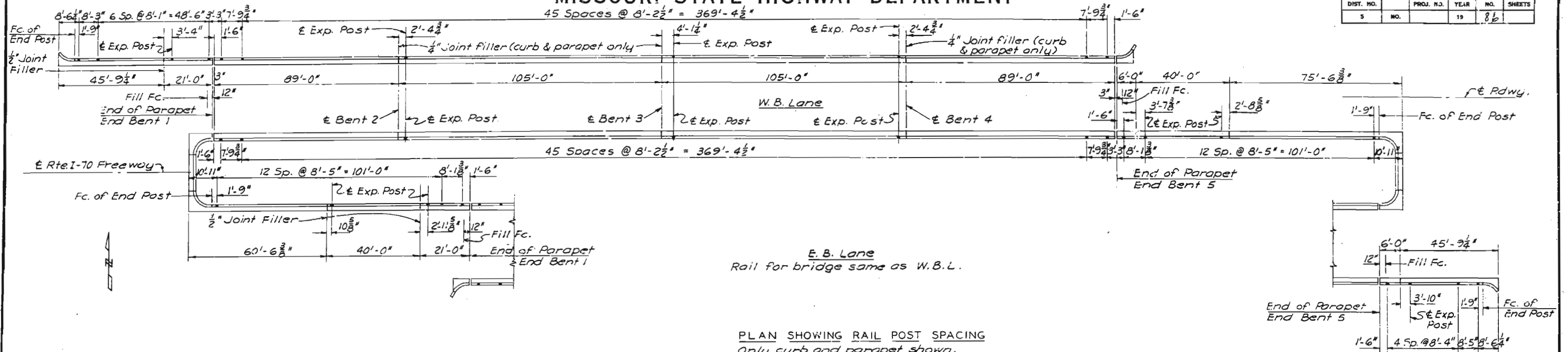
Profile view of the bridge showing the longitudinal section. The diagram includes the following details:

- Vertical Alignment:** A vertical curve (V.C.) with a length of 1100'. The grade changes from +4.07% to -0.50% at the P.I. station 1038.05.
- Elevations:** A series of elevations are marked along the profile, starting from 1031.32 on the left and ending at 1035.05 on the right.
- Stations:** Key stations are labeled, including 462+50, 462+80, 463+00, 464+00, 464+50, 466+00, 467+00, 468+00, and 468+50.
- Structural Features:**
 - Bents:** Five bents are identified: Bent #1, Bent #2, Bent #3, Bent #4, and Bent #5. Each bent has associated elevations for the top of the pier (T.O.P.) and the top of the abutment (T.O.A.).
 - Ends:** The bridge has five ends, labeled F.F.C. End Bt. #1-W.B.L. through F.F.C. End Bt. #5-E.B.L.
 - Grades:** The profile shows a +4.07% grade on the left and a -0.50% grade on the right.

L-973

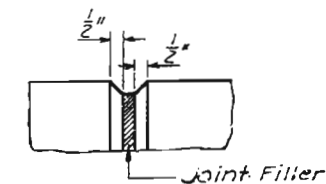
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	86	



GENERAL NOTES:

- All handrail posts shall be set normal to grade.
- Aluminum tube handrail shall be bent to conform to vertical and horizontal alignment of parapet.
- Aluminum washer shims between insulating compound and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 3/8". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.
- All parts of handrail, except anchor bolts, nuts, washers and set screws are to be of aluminum material.
- The contract unit price per linear foot of "Bridge Rail (Single Tube Type)" shall include furnishing and erecting the handrail complete with anchor bolts, shims and insulating compound.
- Pipe rail to be fabricated in two or three panel lengths unless otherwise approved.
- Top of curbs and parapets to be built parallel to grade.



Note: Use bevel as shown for exposed faces of all filled joints.

BRIDGE OVER OLD ROUTE 40

STATE ROAD INTERSTATE ROUTE 70
IN KANSAS CITY
PROJECT NO. I-70-K46XRT. I-70) STA. 463+18.90 (W.B. LANE)
464+31.26 (E.B. LANE)
JACKSON COUNTY

Drawn Nov. 1961 by FJD
Checked Feb. 1962 by GHK

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 18 of 18

NO CONSTRUCTION CHANGES

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

L-973

MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	MO.		19	69	

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1961.
Loading: H20-S16-44 (15 #/sq. Ft. Future Wearing Surface) Modified 24,000 Tandem Axle.
Structural Steel Stress: 18,000 #/sq. in.
Reinforcing Steel Stress: 20,000 #/sq. in.
Concrete, Class B1 Stress: 1,600 #/sq. in.
All concrete shall be Class B1 air-entrained.
Superstructure deck surface sealed. (See Special Provisions).
Qualification of welding operators required.
Paint: Shop, none; field, three coats of red lead for surfaces inaccessible after erection. All other exposed surfaces first coat red lead, second coat brown, third coat aluminum except that final coat on access doors and frames gray. Payment for paint, cleaning and painting such surfaces included in the unit price bid for Fabricated Structural Carbon Steel.

See Section 52.4.1 of Standard Specifications for required painting of steel piles in End Bents 1 & 5 and in walls.

Where joint filler is specified on the plans it conform to the requirements for Gray Sponge Rubber Compound Joints, Section 157.2.4 of the Standard Specifications.

Permits obtained for all truck loads over legal length.

Forms for top slab left in place in accordance with Section 55.4.2.4 of Standard Specifications.

	QUANTITIES			
	Subst.	Superst.	Retaining Walls	Totals
Class 1 Excav. for Structures Cu. Yd.	4520		415	4935
Class B1 Concrete Cu. Yd.	339.1	1975.1	2237	25379
Bridge Rail (Single Tube Type) Lin. Ft.		1552	329	1881
Fabr. Struct. Carbon Steel Lb.		14400		14400
Reinforcing Steel Lb.	35520	743810	16520	795850
10" Steel Piles in Place Lin. Ft.	1395		1213	2608
Steel Pile Cut-offs Lin. Ft.	240		124	364
* Test Holes Lin. Ft.	41			41
Class 1 Excav. +25%	6.5			6.5

All excavation for bridge and retaining walls paid for as Class 1 Excavation for Structures.

No payment for Class 1 Excavation for Structures allowed at End Bents No. 1 and Walls A, B, E, and G.

All concrete and reinforcement for bridge above footings of intermediate bents are included in Superstructure quantities. All concrete and reinforcement in end bents and in end posts thereon and in footings of intermediate bents are included in Substructure quantities. All remaining concrete and reinforcement are included in Retaining Wall quantities (including end posts thereon).

Bridge Rail quantity for Bridge includes only rail actually on the bridge deck. All other rail is included in quantities for Retaining Walls.

Class 1 Excavation for Structures measured from the ground line (1955) or from the lower limits of roadway excavation, whichever is lower, regardless of the sequence of operations and method of removal.

*Contingent Item

Bench Mark: Conc. Nail Wall H Elev. 1036.02
Conc. Nail Wall B Elev. 1034.00

BRIDGE OVER OLD ROUTE 40 FINISHED

STATE ROAD INTERSTATE ROUTE 7C

IN KANSAS CITY

PROJECT NO. I-70-1(46XRT. I-70) STA. 463+18.90 (W.B. LANE)

464+31.26 (E.B. LANE)

JACKSON COUNTY

FINISHED

SUBMITTED BY: D.B. Jennings DATE: 3/14/62
APPROVED BY: J.J. Conner DATE: 3/14/62

HARRINGTON AND CORTELYOU
CONSULTING ENGINEERS KANSAS CITY, MO.

FINISHED

STD. 54.00

L-973

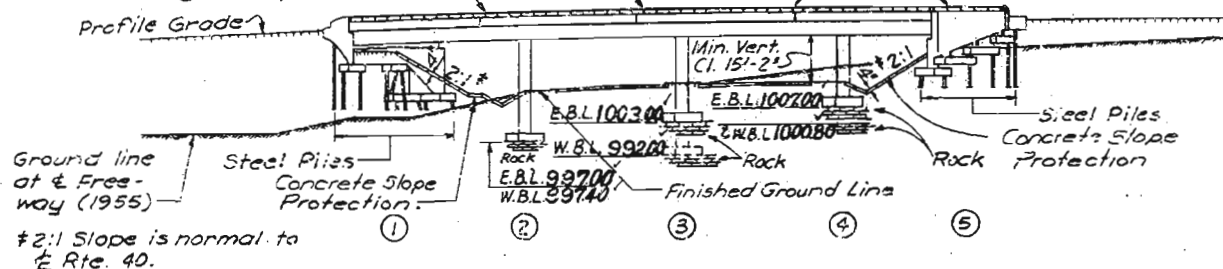
Sheet No. 1A of 2

FINAL PLANS

P.V.I. Sta. 462+80 Elev. 1038.05
P.V.T. Sta. 468+30 Elev. 1035.30

+4.0%
-0.50%
1100' V.C.
Twin 88'-105'-105'-88' Cont. Concrete Box Girder Spans

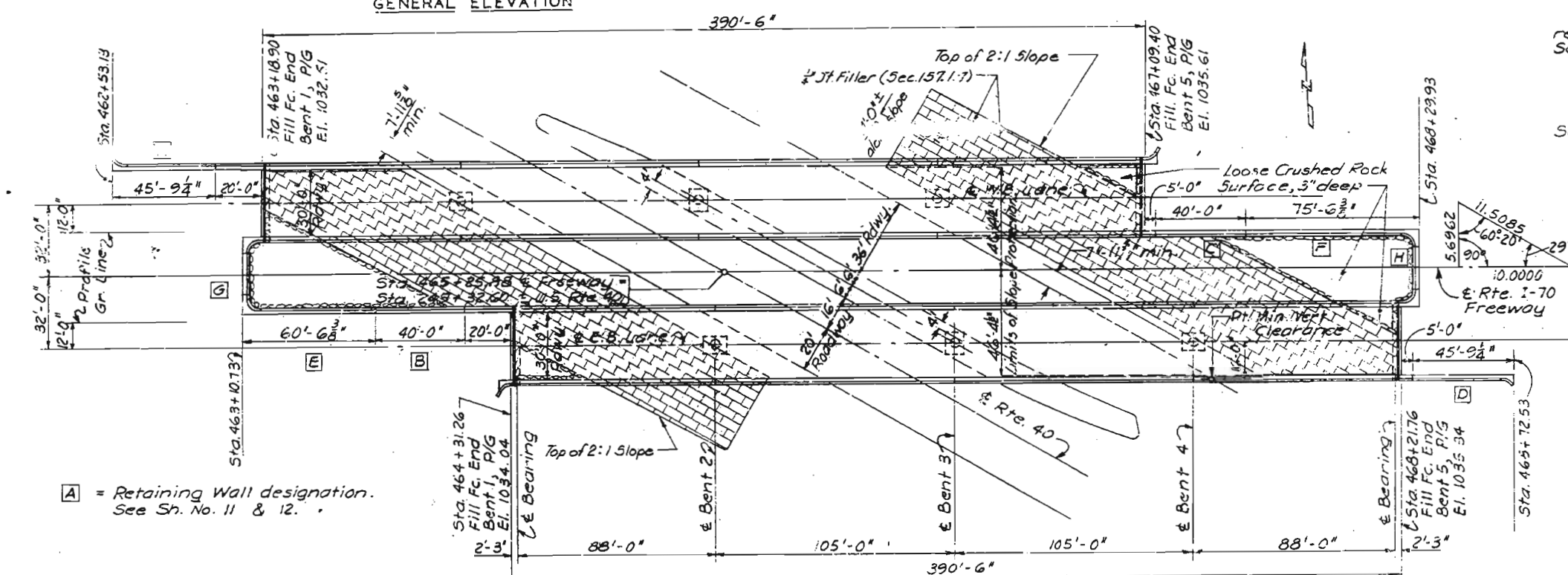
Rail Expansion (See Sh. No. 18 for location of rail expansion on retaining walls)



Compacted roadway fill (full roadway width) placed at least up to bottom of each footing of End Bents 1 and Walls A, B, E and G, in front of the bents and back to Station 462+50, before steel piles driven for Bents 1 and Walls A, B, E and G.

All loose, shelly or disintegrated rock removed and the footings for Bents 2, 3 and 4 placed on hard, solid, undisturbed rock. If soft rock or shale is encountered, the footings carried at least 18" into and cast against vertical faces of same.

Bearing of 12 ton per square foot used in design of footings for Bents 2, 3 and 4 on rock. In no case footings at Bents 2, 3 and 4 placed higher than elevations shown.



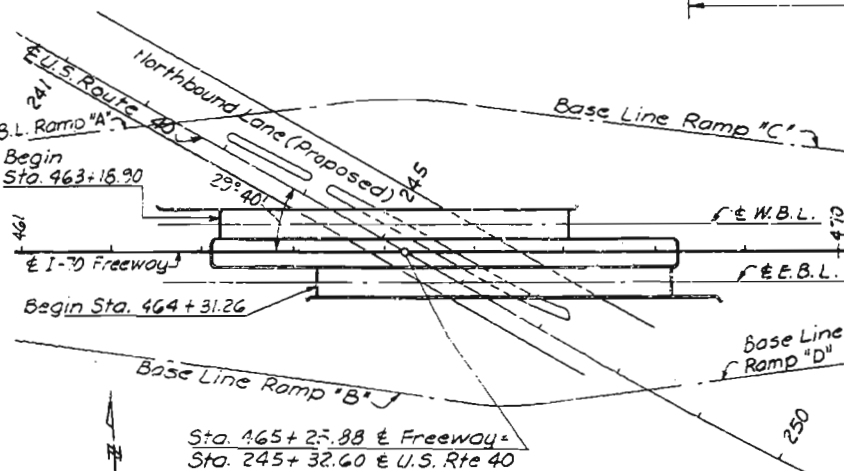
PLAN

All piling 10" BP 42# Bearing Piles and splices, if required, conform to details on Sheet No. 12. Estimated Quantity shown is based on the following lengths: 16 @ 15', 27 @ 20', 28 @ 25', 18 @ 30', 15 @ 35', 4 @ 40', 3 @ 45', and 4 @ 50'. These indicated lengths are approximate only. Proper lengths to give required bearing and/or penetration authorized by the Engineer.

All piles driven to or into solid rock, cemented gravel, boulders or shale; or to not less than the full length authorized and to sustain a load of at least 37 tons per pile. All piles driven with a power hammer.

Note: Concrete protection on front slopes at end bents included under road contract. Provide 1" filler between slope protection pavement and end bents and 1" filler around columns at intermediate bents. Joints consist of material conforming to Section 157.1.7 of the Standard Specifications.

Loose Crushed Rock Surface included in price bid item for Concrete Slope Protection.

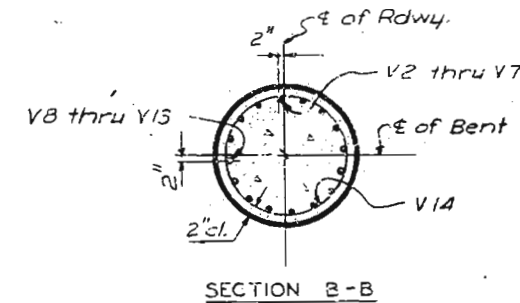


LOCATION SKETCH

Drawn Oct 1961 by FJD
Checked Feb. 1962 by GHK

Note: This drawing is not to scale. Follow dimensions.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	27	

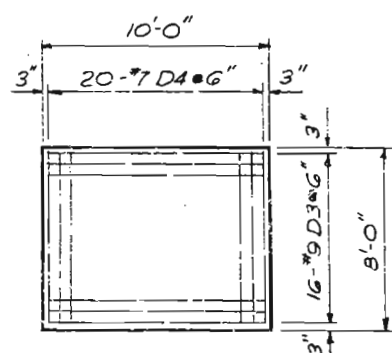


PLAN

Dimensions: 12'-0" (left half), 12'-0" (right half).
 Right half sub-dimensions: 7'-0" (from centerline to start of reinforcement), 2'-0" (width of reinforcement area), 2'-0" (width of reinforcement area), 4'-9" (width of reinforcement area).
 Labels: P.G. E.B.L., Top of slab E.I., P.G. W.B.L., B1, B2, B3, B4, B5, B6.
 Note: 2 of Rdwy. = 2 of Lane 2

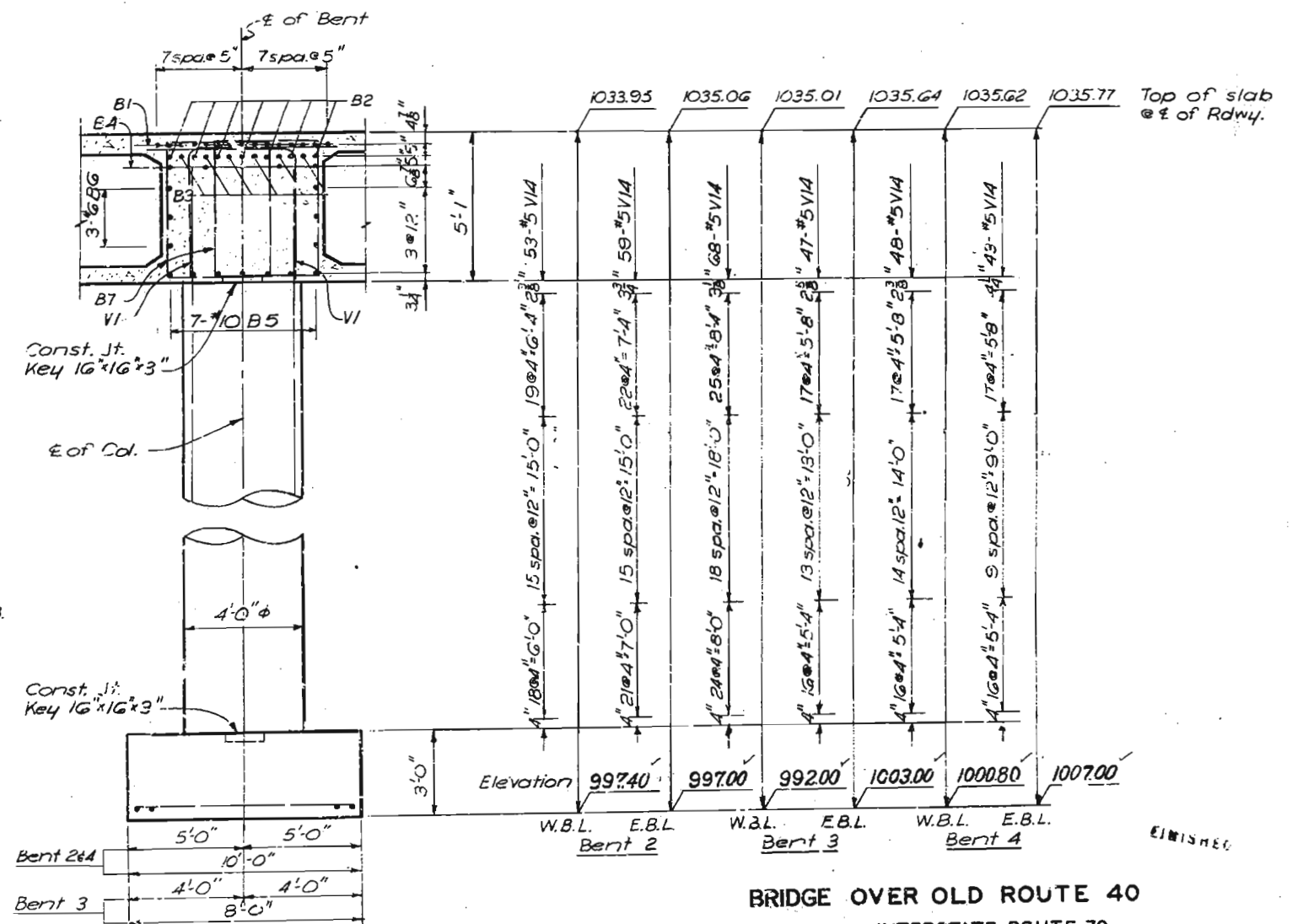
#14S	#11	
8-V2	8-V8	Bent 2 W.B.L.
8-V3	8-V	Bent 3 W.B.L.
8-V4	8-V10	Bent 4 W.B.L.
8-V5	8-V11	Bent 2 E.B.L.
8-V6	8-V12	Bent 3 E.B.L.
8-V7	8-V13	Bent 4 E.B.L.

8-#11 DI spa. w/ V8-V13 see Section B-B
8-#14S D2 spa. w/ V2-V7 see Section B-B.



The drawing shows a cross-section of a building elevation. The central vertical element has a height of 4'-7" and a width of 3'-10". The side sections have a height of 4'-0" and a width of 4'-0". The total width of the structure is 10'-0". The drawing is labeled with dimensions and notes:

- Height dimensions: 4'-7", 3'-10", 4'-0", 4'-0", 10'-0"
- Width dimensions: 4'-0", 8'-0", 4'-0", 10'-0"
- Notes: "Bent 2", "Bent 3", "10'-0"



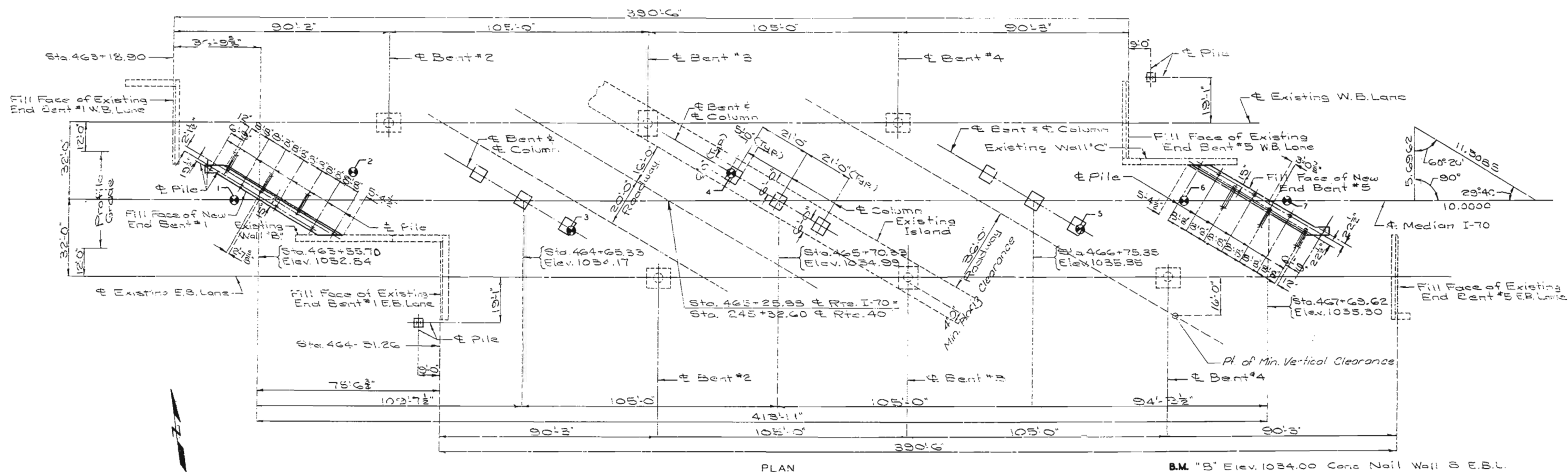
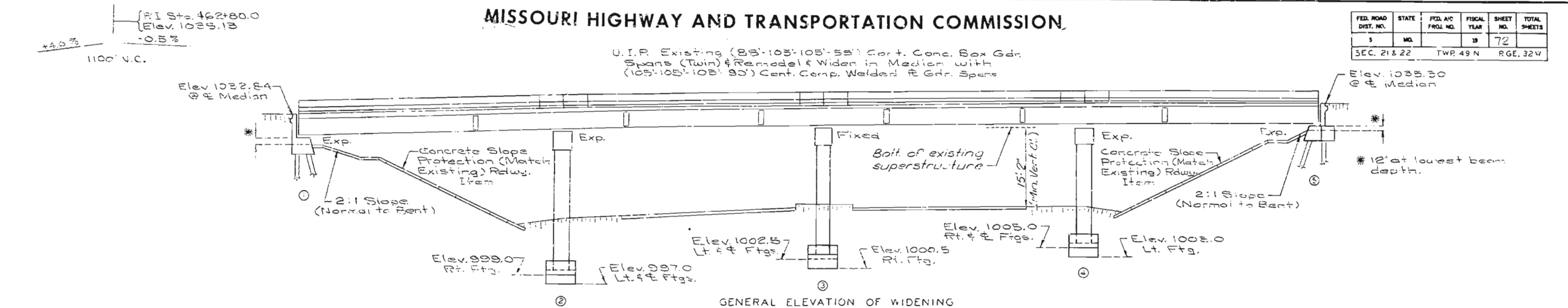
DETAILS OF INTERMEDIATE BENTS 2,3&4
W.B.L. & E.B.L.

L-973

FINAL PLANS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
5	MO.		19	72	

SEC. 21 & 22 TWP. 49 N RGE. 32 E



Note: "0" Indicates location of borings.
See sheet No. 3 for boring data.
All longitudinal dimensions are horizontal.

B.M. "B" Elev. 1034.00 Conc Nail Wall S.E.B.L.
Sta. 463+71.26

BRIDGE OVER RTE. 40

STATE ROAD FROM RTE. I-435 TO RTE. I-470

ABOUT 2.4 MILES EAST OF RTE. I-435

PROJECT NO. STA. 463+55.70

JOB NO. 4 1070 343

RTE. I-70

JACKSON

COUNTY

STD. 811.60

STD. 706.35

L-973R

DESIGNED / JUL 1981

DETAILED MAY 19 61

CHECKED OCT. 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. of

DATE December 14, 1983

ESTIMATED QUANTITIES			
ITEM		SUBSTR.	SUPERSTR. TOTAL
Class 1 Excavation	Cu.Yd.	290	290
Structural Steel Pile (10")	Lin. Ft.	416	416
Class B Concrete	Cu.Yd.	275.0	275.0
Class B1 Concrete	Cu.Yd.		127.2 127.2
Class B2 Concrete	Cu.Yd.		541.0 541.0
Latex Concrete Wearing Surface	Sq.Yd.		3058 3058
Type "N" PTFE Bearings	Each		20 20
Elastomeric Expansion Jt Seal (30 in.)	Lin.Ft.		1115 1115
Reinforcing Steel (Grade 60)	Lb.	37120	93430 130550
Reinforcing Steel (Epoxy Coated)	Lb.	1850	77140 78990
Fabricated Structural Carbon Steel R Grd.	Lb.		369,320 369,320
Painting (System A or B) Aluminum	Ten		183.4 183.4
Repairing Concrete Deck (Half Soling)	Sq.Ft.		468 468
Full Depth Repair	Sq.Ft.		234 234
Special Work	Lump Sum		1 1
Conduit System on Structure	Lump Sum		1 1

Note: All concrete and reinforcement in safety barrier and median barrier curbs are included with structure.

All concrete and reinforcement in end bents (except pile cap beam) are included with superstructure quantities.

In order to maintain grade and a minimum 1 1/2" Latex Modified Concrete it is anticipated that areas of scarification in excess of the minimum 1/2" will be encountered. The contractor may, at his option, raise the grade uniformly throughout the structure in lieu of this excess scarification. No payment will be allowed for any additional labor, materials or equipment required for this grade adjustment option.

PILE & FOOTING DATA					
BENT NO		1	2	3	4 5
BEARING PILE	Pile Type and Size	HP10x42			HP10x42
	Number	8			3
	Approximate Length Ft.	30			22
	Design Bearing Tons	46			45
SPREAD FOOTING	Hammer Energy required Ft.lbs	12,400			12,100
	Foundation Material		Rock	Rock	Rock
	Design Bearing Tons/Sq.Ft.		9.9	8.2	9.0

Minimum energy requirement of hammer based on plan length and design bearing value of piles.
All piles shall be driven to practical refusal.

Design Specifications: A.A.S.H.T.O.-1977 Load Factor Design
Design Loading:

HS20-44
15# per sq. ft. Future Wearing Surface
Modified 24,000# Tandem Axle
Earth 120#/cu.ft., Equivalent Fluid Pressure 30#/cu.ft.
Fatigue Stress-Case I

Design Unit Stresses:

Class B Concrete (Substructure) $f_c = 1,200$ psi
Class B1 Concrete (Safety Barrier & Median Barrier Curbs)
 $f_c = 4,000$ psi
Class B2 Concrete (Superstructure-except Safety Barrier & Median Barrier Curbs) $f_c = 4,000$ psi
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi
Structural Carbon Steel $f_y = 36,000$ psi
Steel Pile $f_b = 2,000$ psi

Connections

Field connections, High Strength Bolts 3/4" ϕ , holes 1 1/8" ϕ except as noted.

Joint Filler

All joint filler shall meet the requirement of Std. Spec. 1057.2.4.

Reinforcing Steel

Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.

Paint Item

Paint: System A or B (Aluminum) by contractor in accordance with Std. Spec. 712.12.

Construction Clearance

A minimum vertical clearance of 14'-0" from crown of existing lanes and a minimum lateral clearance of 40'-0" centered on each existing 36' Roadway shall be maintained during construction.

Traffic Maintained

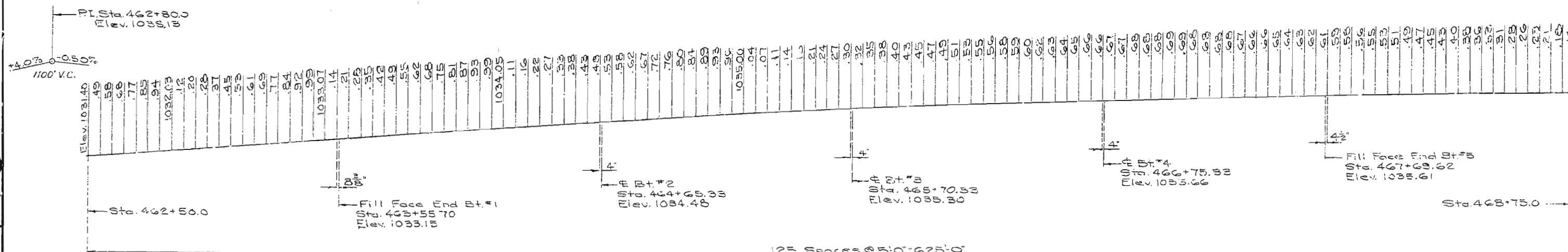
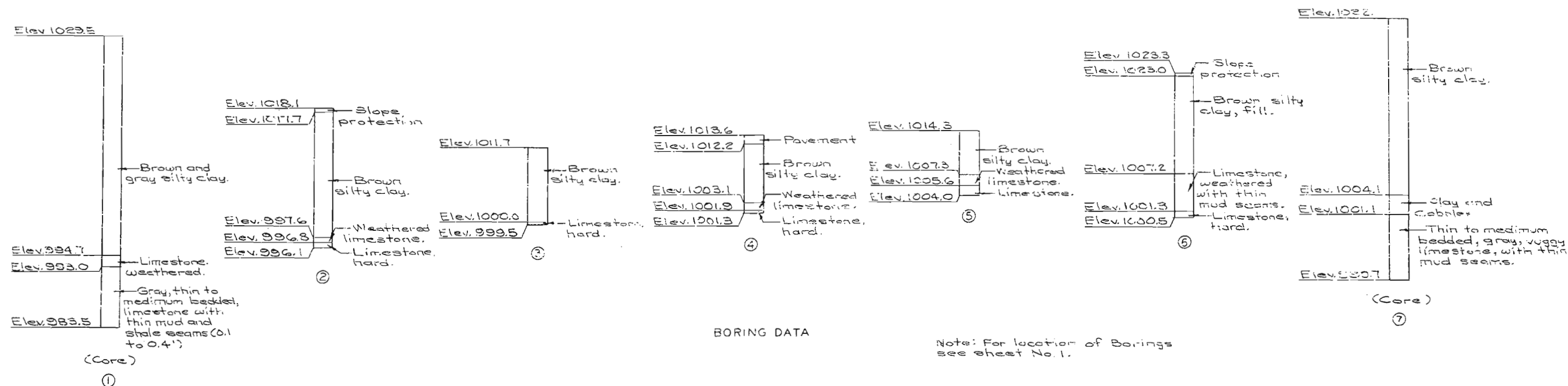
Traffic over structure to be maintained during construction.

All reinforcing bars in tops of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least 1/2".

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	74	



DETAILED FEB. 1981
CHECKED Aug. 1981

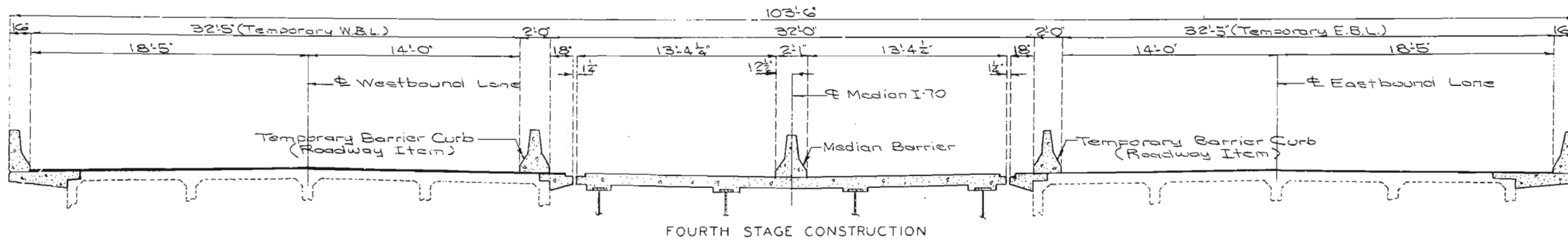
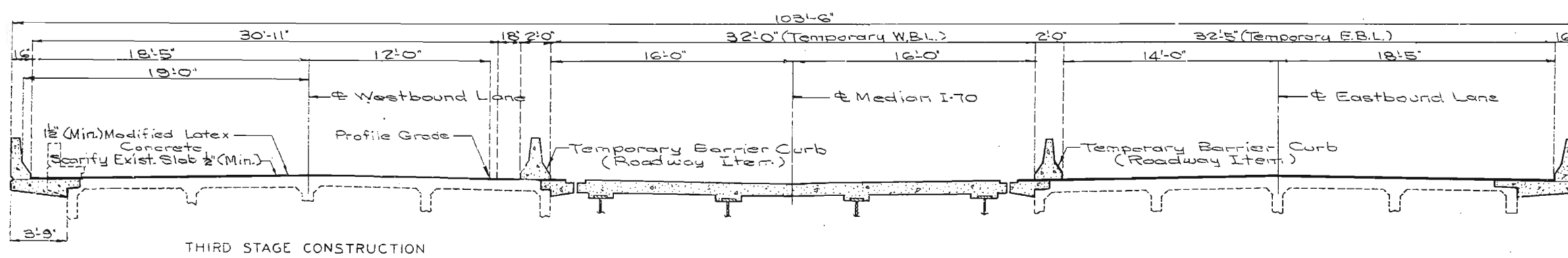
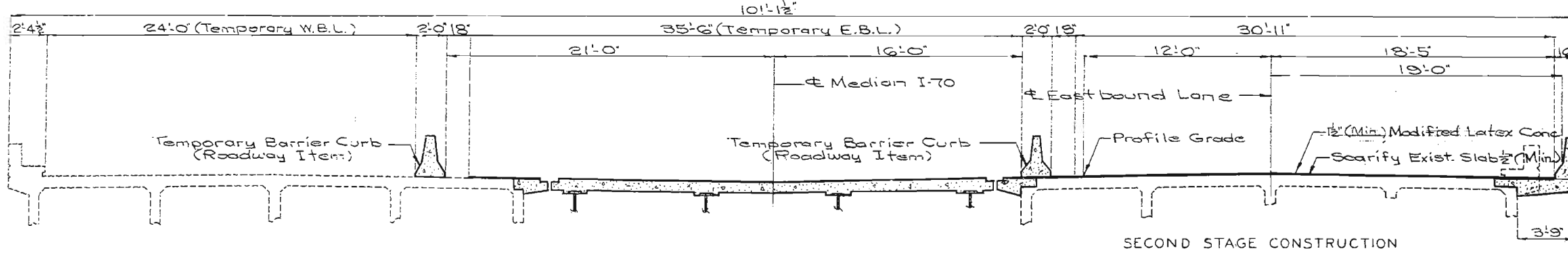
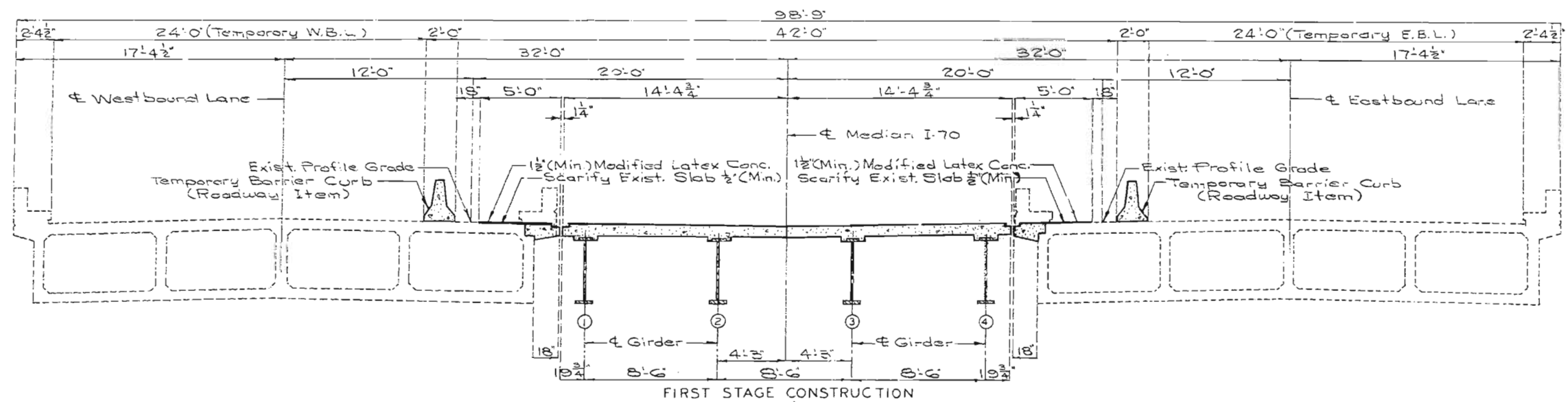
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 of 30.

JACKSON COUNTY

L-973R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	75	



197
 DETAILED FEB. 1981
 CHECKED J.W.G. 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 36.

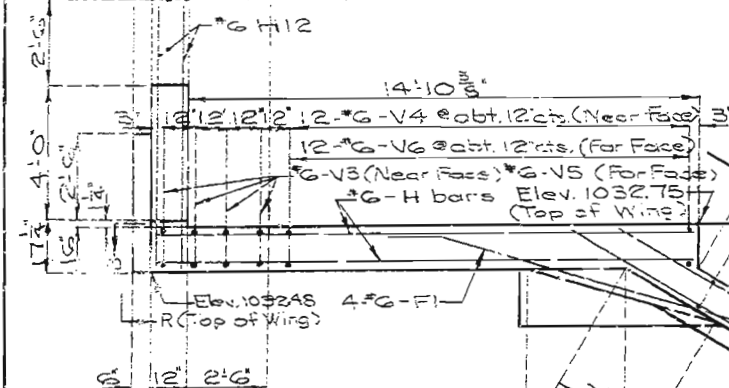
JACKSON COUNTY

L-973R

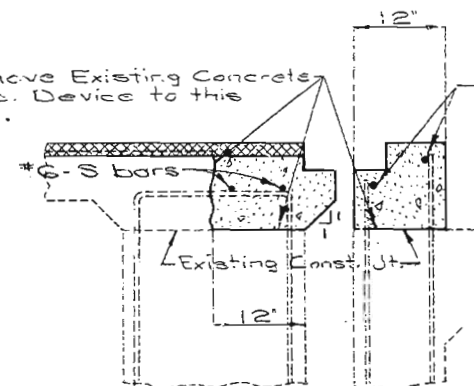
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	75	

Fill Face of End Bent #1 (W.B.L.)

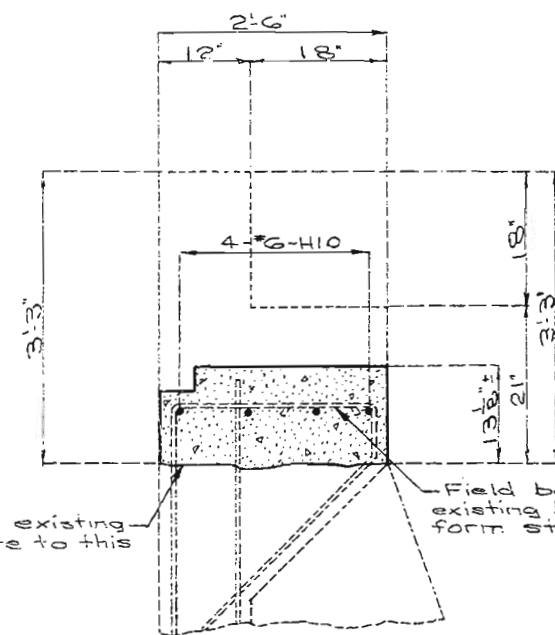
Remove Top of Existing Backwall & Exp. Device to this line.



Remove Existing Concrete & Exp. Device to this line.

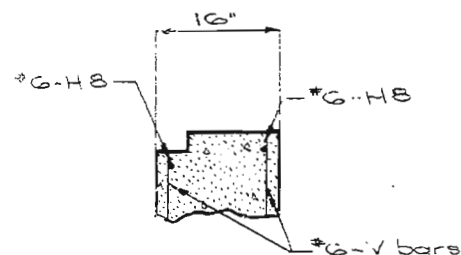


SECTION C-C



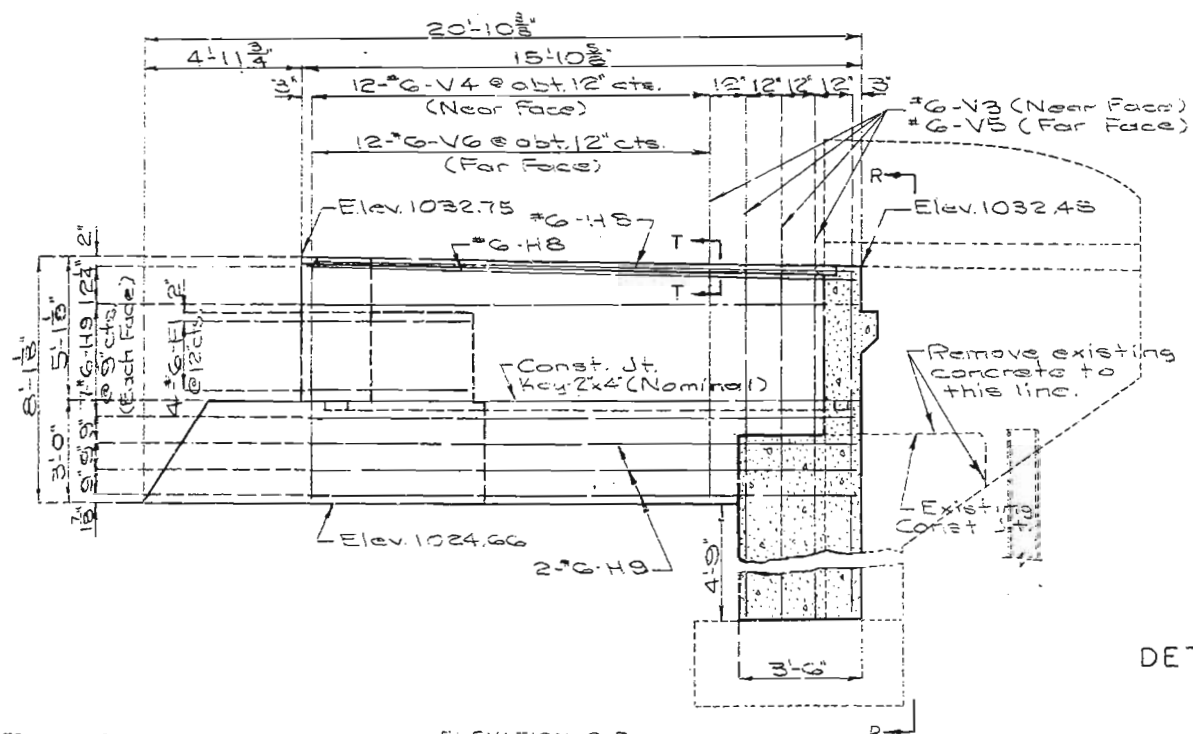
SECTION A-A

Note: For details of Elevation P-P, Section M-M and Part Elevation R-R see sheet No. B.



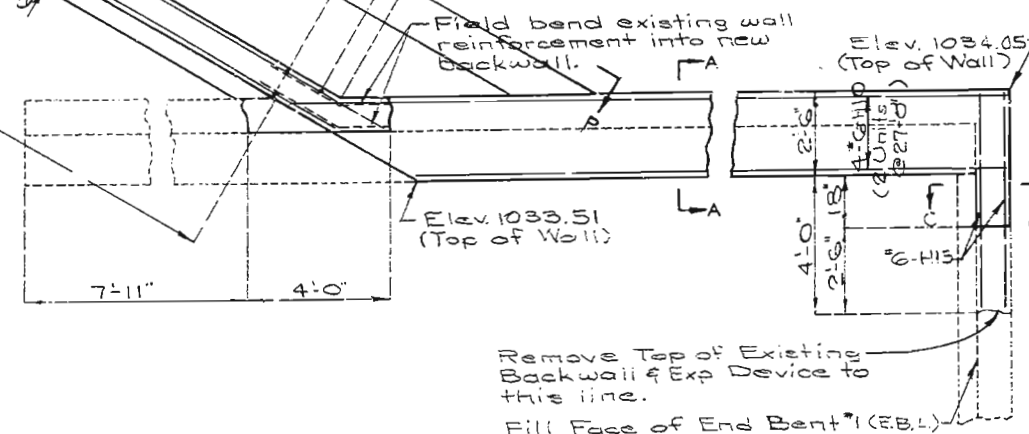
SECTION T-T

PLAN OF NEW WING & BACKWALL



ELEVATION B-B

DETAILS OF END BENT NO. 1
(STAGE I CONSTRUCTION)



Remove Top of Existing Backwall & Exp. Device to this line.
Fill Face of End Bent #1 (E.B.L.)

200
DETAILED AUG. 1981
CHECKED OCT. 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 32.

JACKSON COUNTY

L-973R

SECTION M-M

Diagram showing a cross-section of a pile cap (Section M-M) with various dimensions and reinforcement details.

Dimensions:

- Overall width: 12' - 2' 6" = 13' 6"
- Overall height: 8' - 2' 8" = 10' 8"
- Section cut location: 3' - 11' 4" from the left edge.
- Cap width at base: 15' - 2' 1 1/2" = 17' 1 1/2"
- Cap height at base: 4' - 7 1/2"
- Cap width at top: 12' - 2' 6" = 13' 6"
- Cap height at top: 3' - 11' 4"
- Cap width at base (inner): 15' - 2' 1 1/2" = 17' 1 1/2"
- Cap height at base (inner): 4' - 7 1/2"
- Cap width at top (inner): 12' - 2' 6" = 13' 6"
- Cap height at top (inner): 3' - 11' 4"

Reinforcement Details:

- #6-H6
- #5-U27
- #4-H5
- #5-V2
- #4-B-H3
- #4-H5
- Cons. #4
- #6-H2
- #5-U1
- #4-B-H1

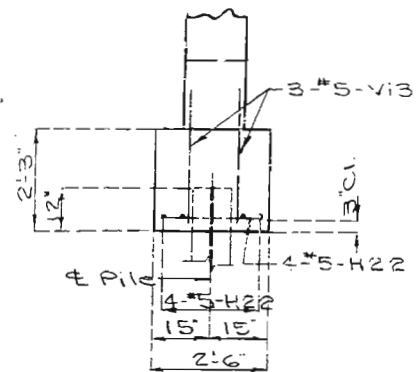
Other Labels:

- Elev. 1032.84
- Timber Header
- Notes
- Key 2"x4" (Nominal)
- Elev. 1024.66
- Batter 4 1/2" per 12
- Pile

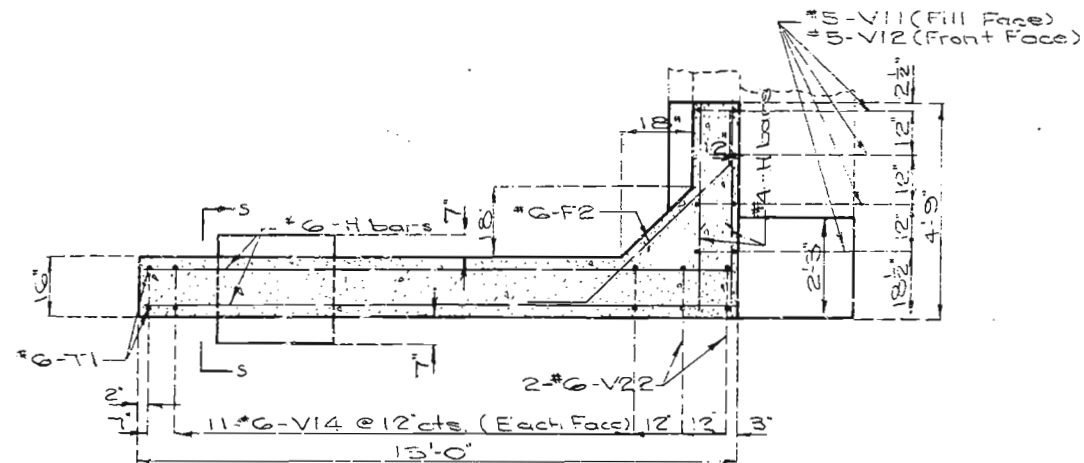
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L-973R

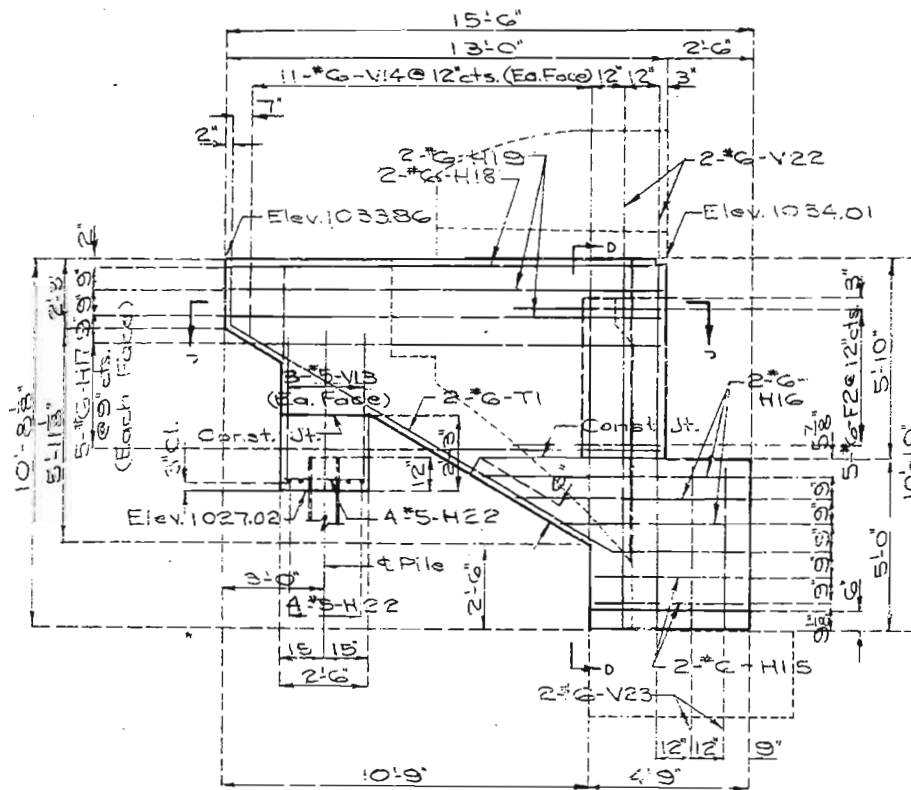
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	80	



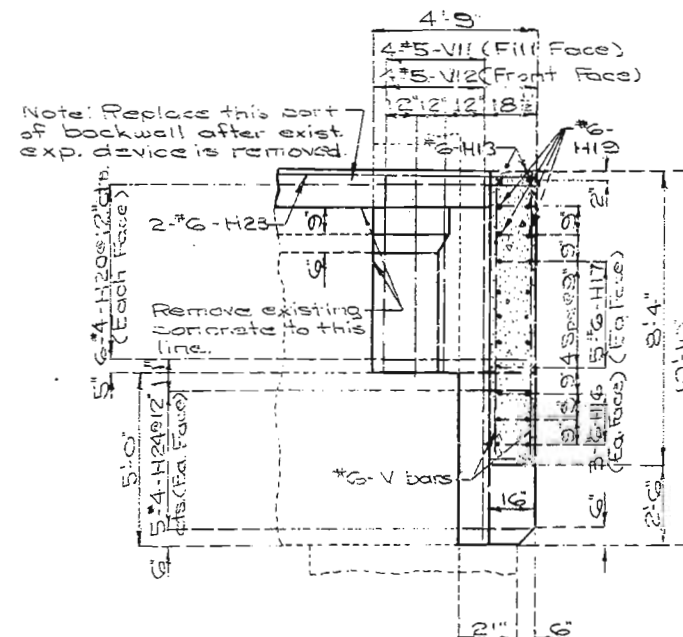
PART ELEVATION S-S



PART SECTION J-J

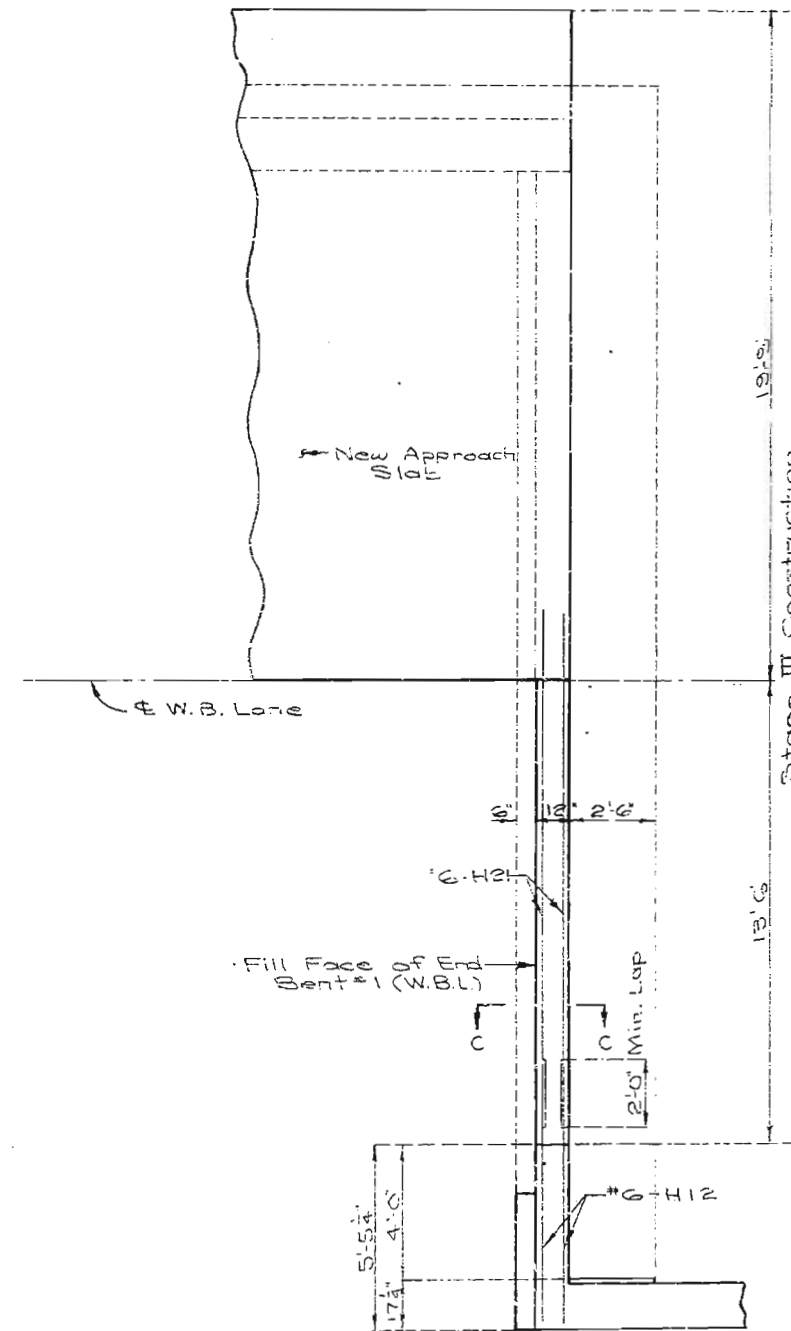
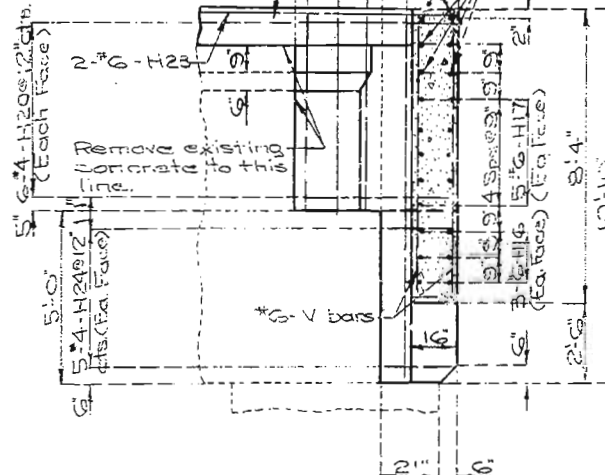


ELEVATION E-E



PART SECTION D-D

Note: Replace this part of backwall after exist. exp. device is removed.



PART PLAN
DETAILS OF END BENT NO. 1
(STAGE III CONSTRUCTION)

Note: For details of Section C-C see sheet No. 7.
For location of Elevation E-E see sheet No. 5.

DETAILS OF END BENT NO. 1
(STAGE II CONSTRUCTION)

Note: This drawing is not to scale. Follow dimensions.

DETAILED SEPT. 1981
CHECKED: Oct. 1981

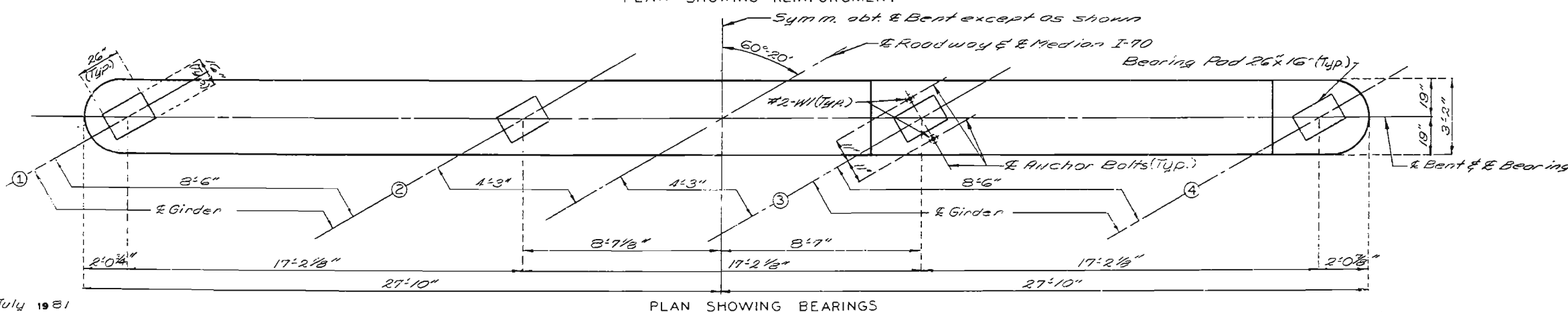
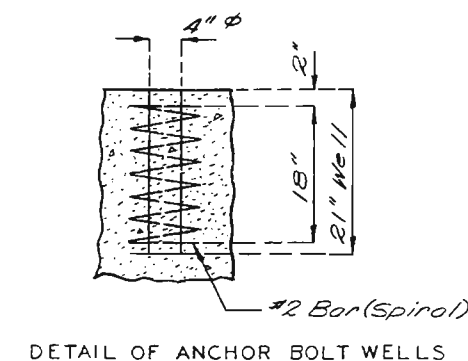
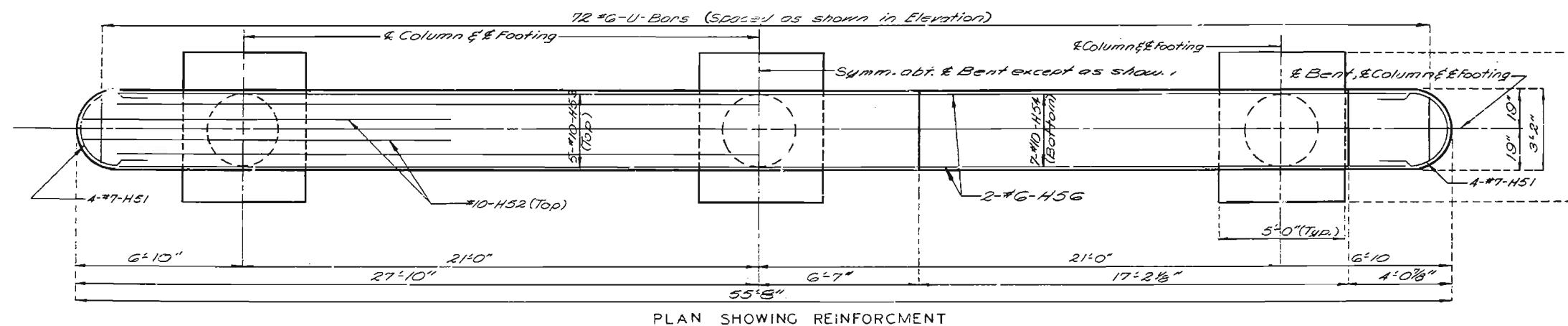
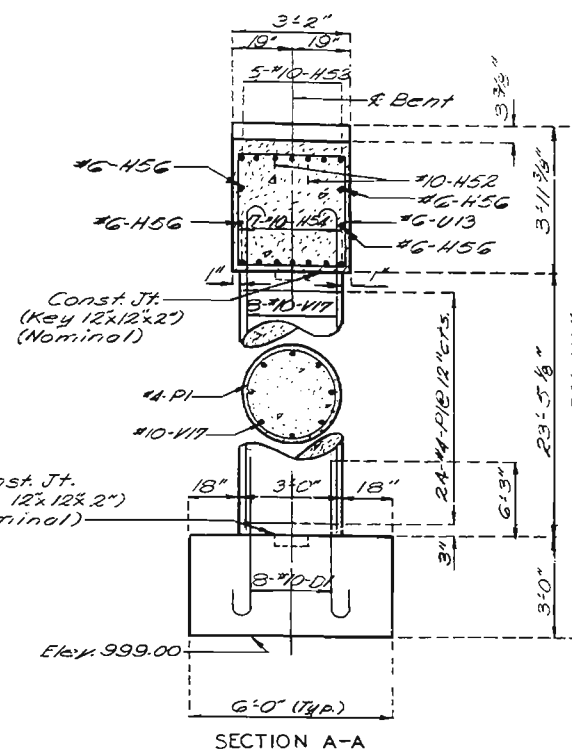
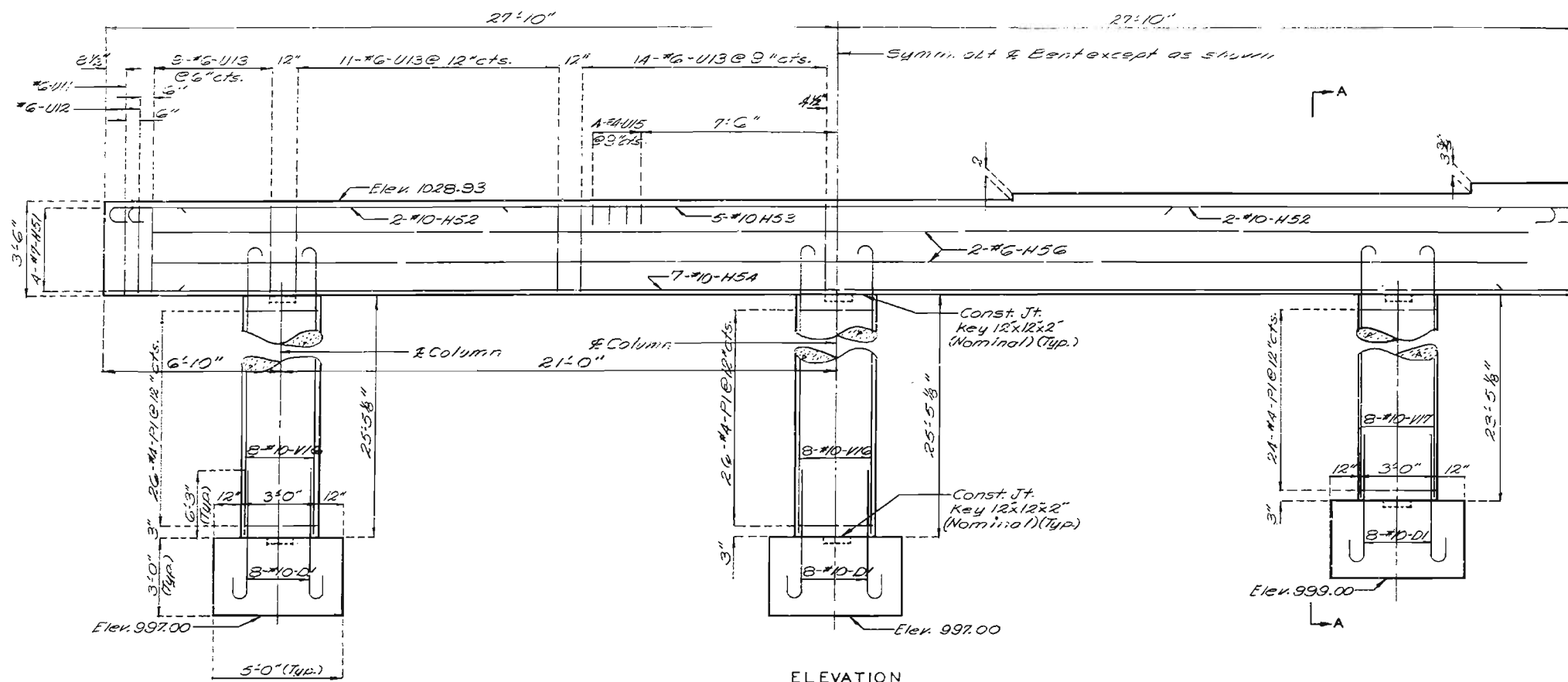
Sheet No. 9 of 80

JACKSON COUNTY

L-973R

202

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	81	



DETAILS OF INT. BENT NO. 2

205
 DETAILED July 1981
 CHECKED July 1981

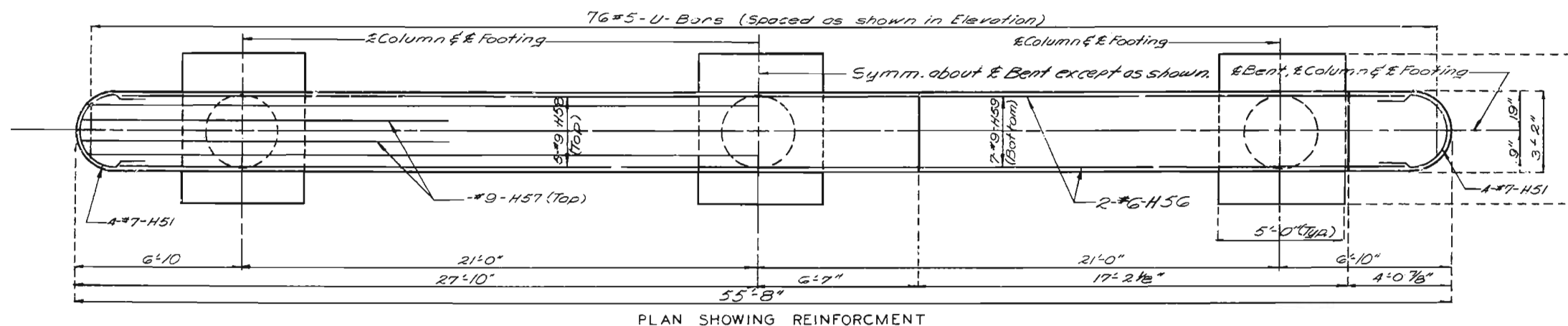
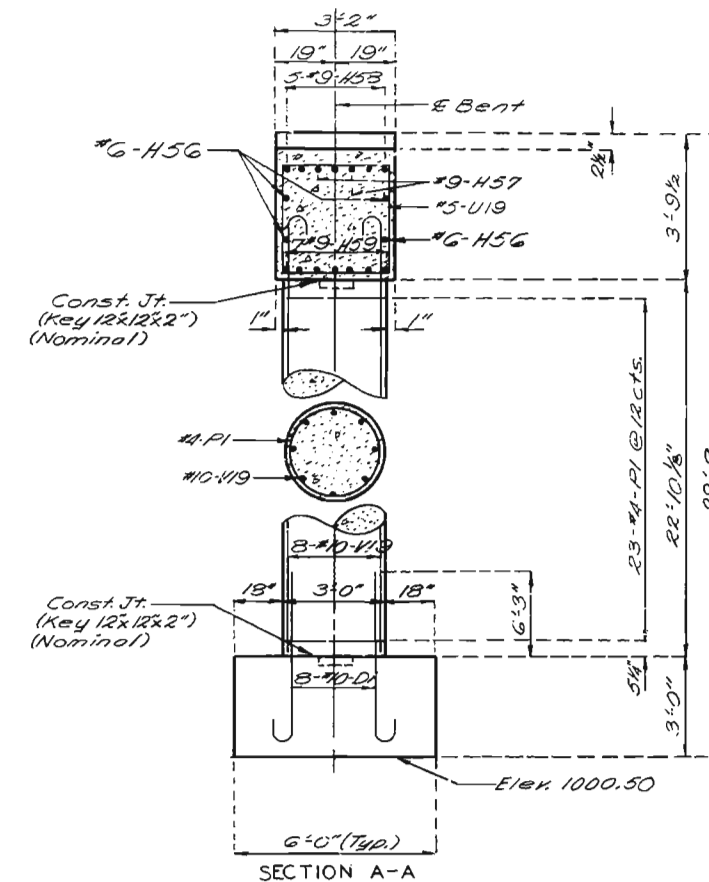
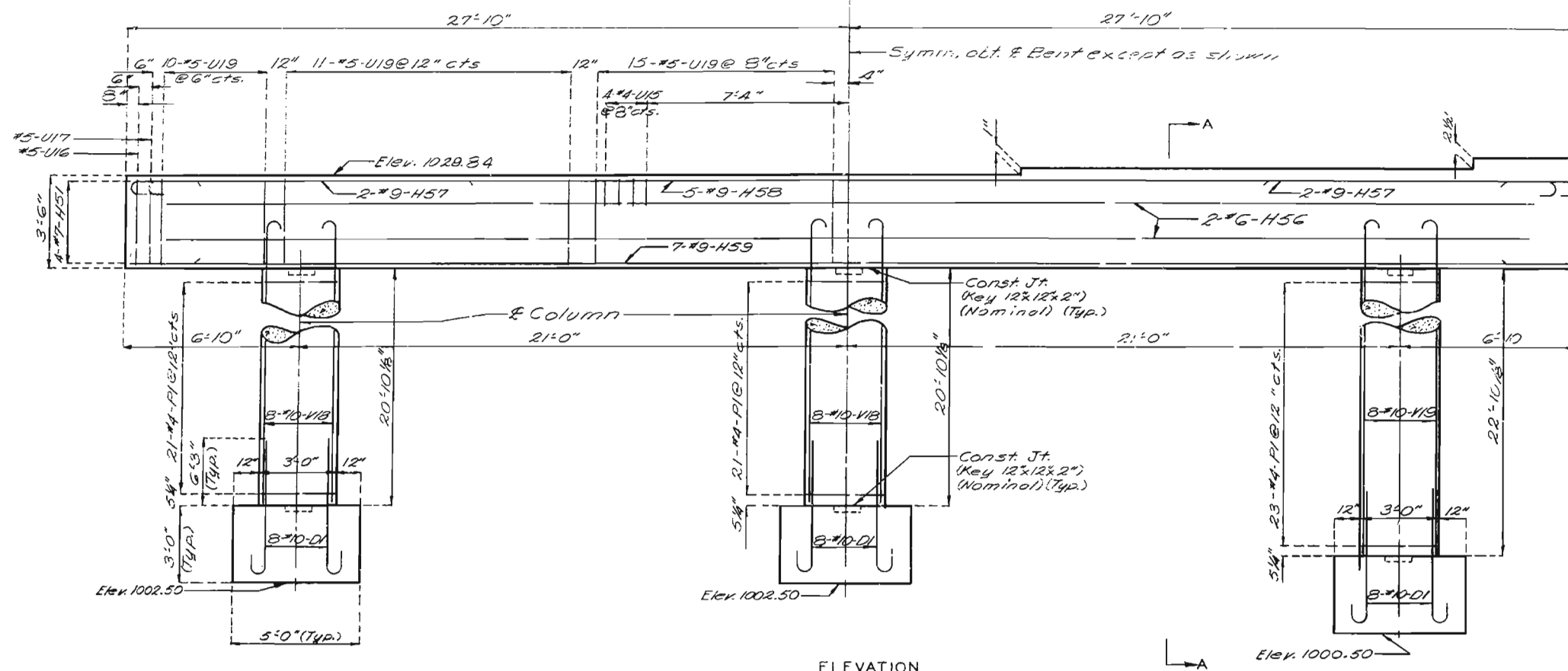
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 10 of 36.

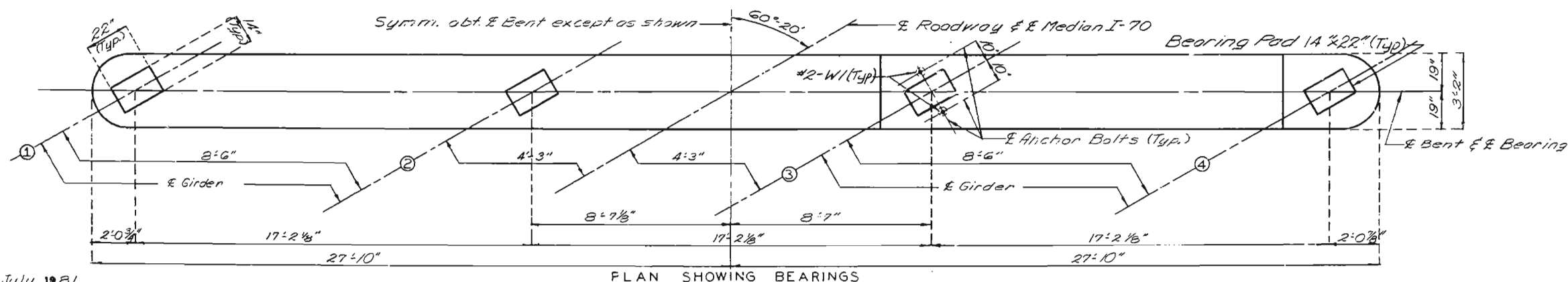
JACKSON COUNTY

L-973R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	82	



Note: For detail of anchor bolt wells see sheet No. 10.



DETAILS OF INT. BENT NO. 3

204

DETAILED July 1981
CHECKED July 1981

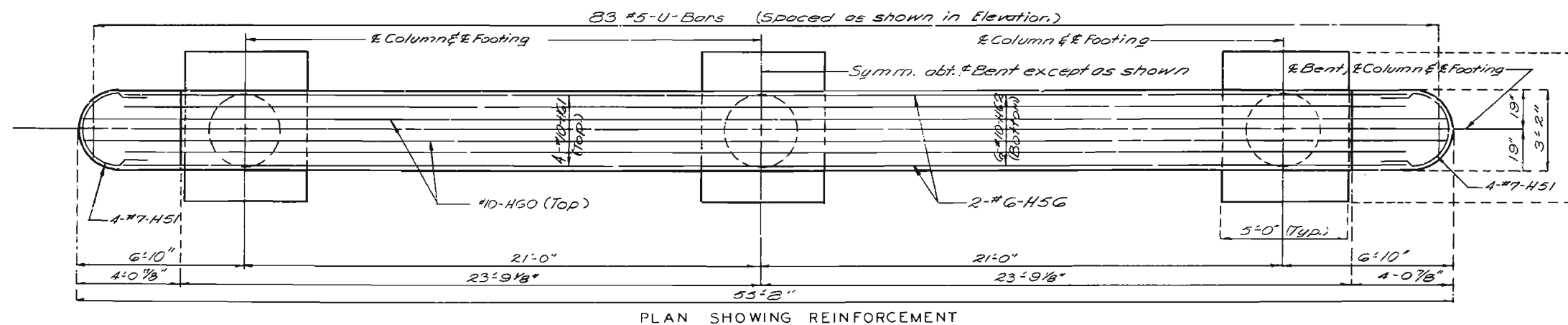
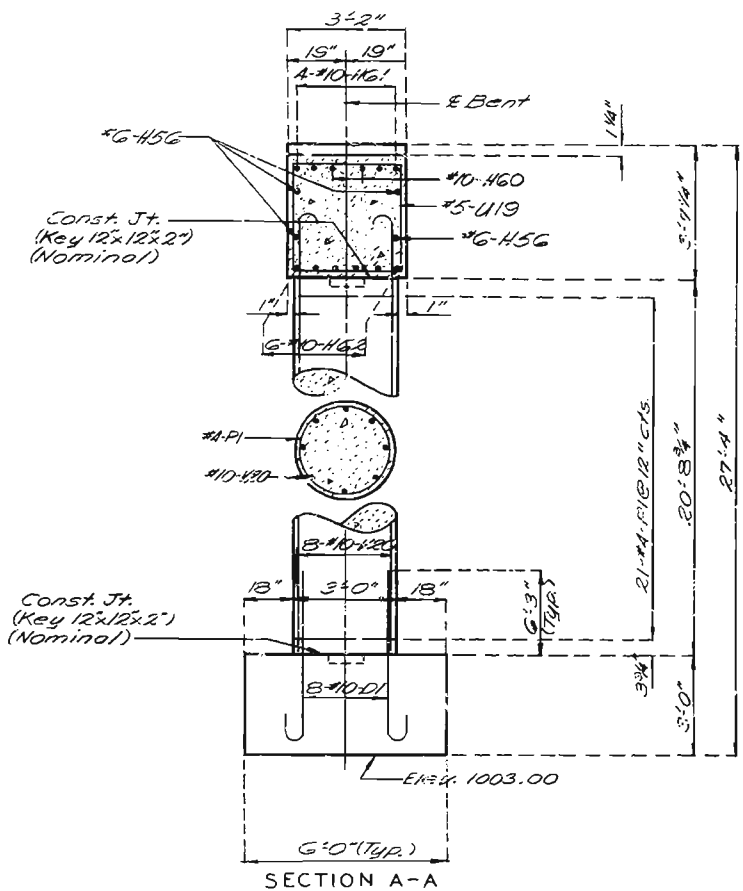
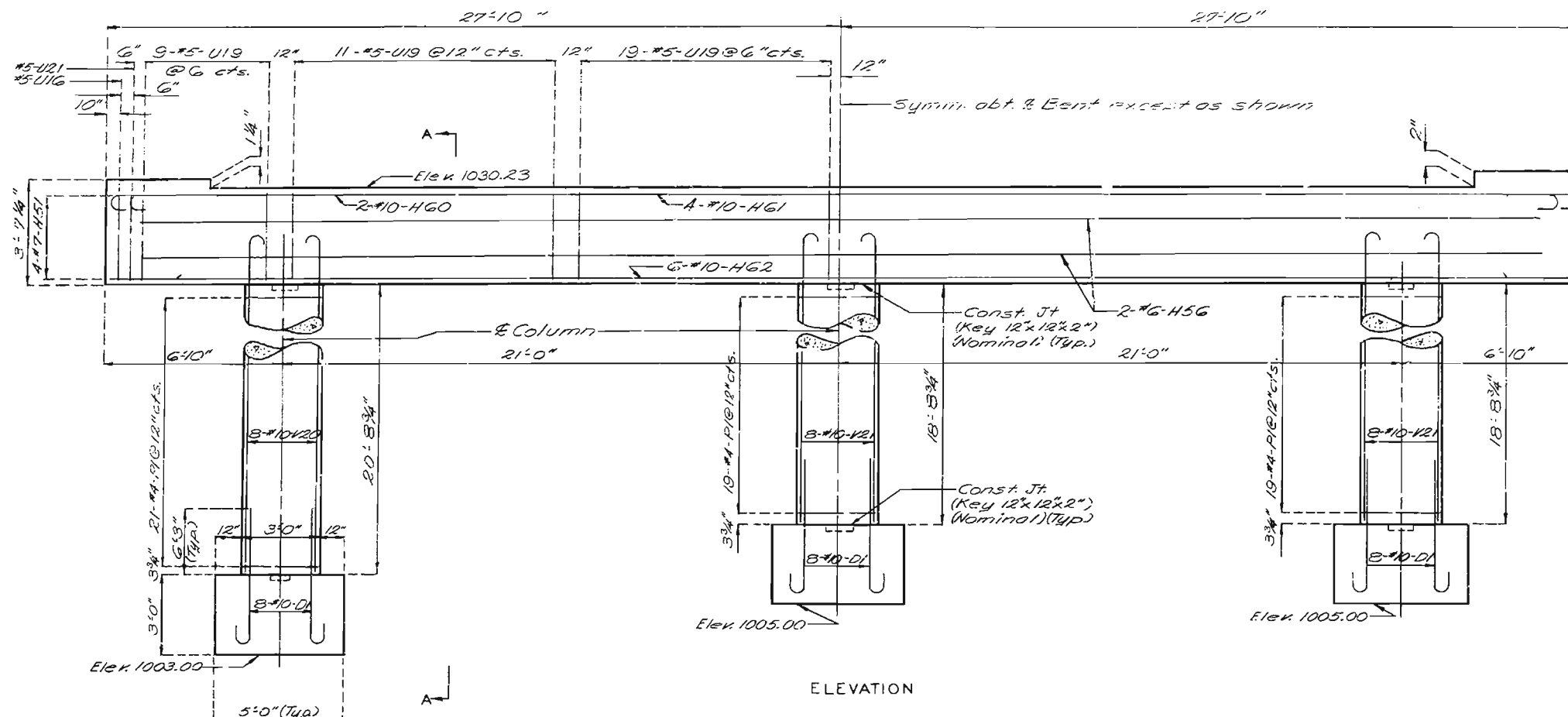
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 11 of 12

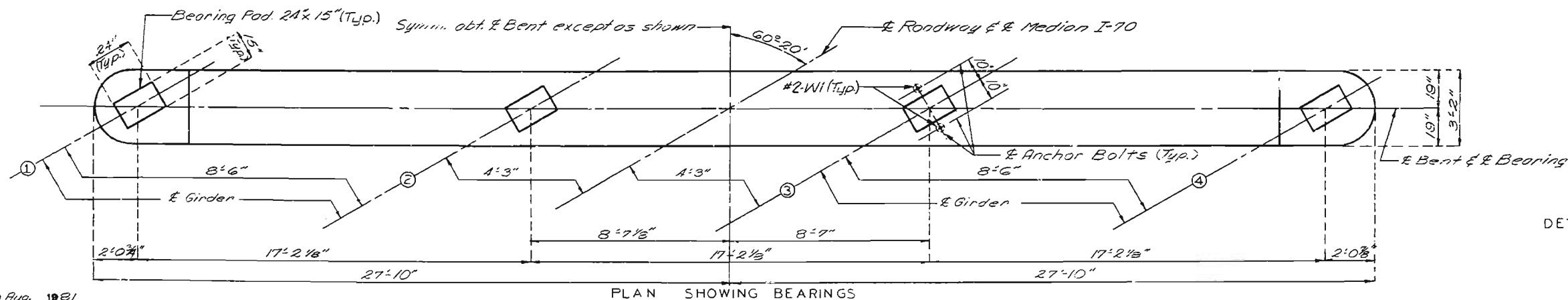
JACKSON COUNTY

L-9735

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	83	



Note: For detail of anchor bolt wells see sheet No. 10.



DETAIL OF INT. BENT NO. 4

205
 DETAILED Aug. 1981
 CHECKED Aug. 1981

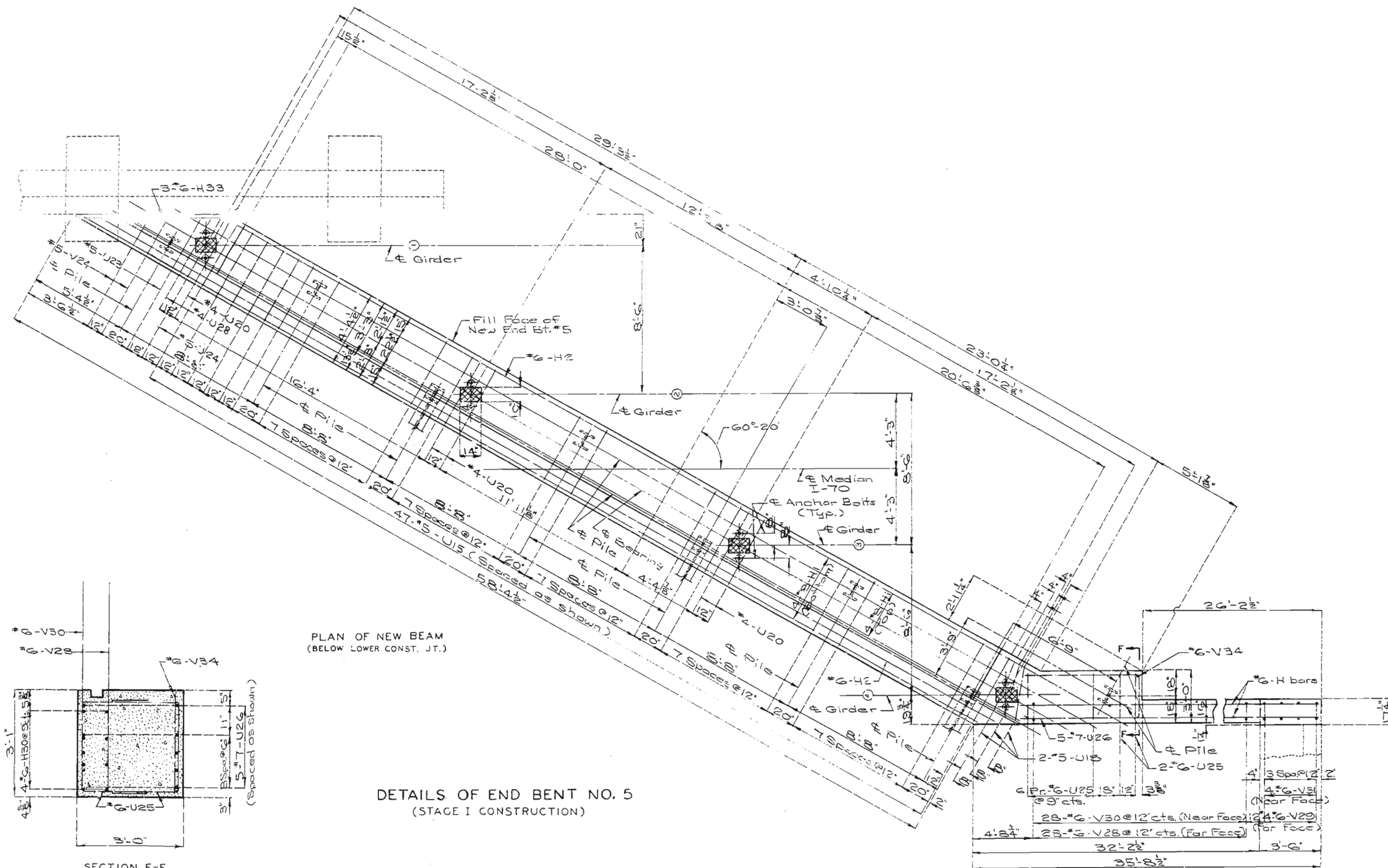
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12 of 36.

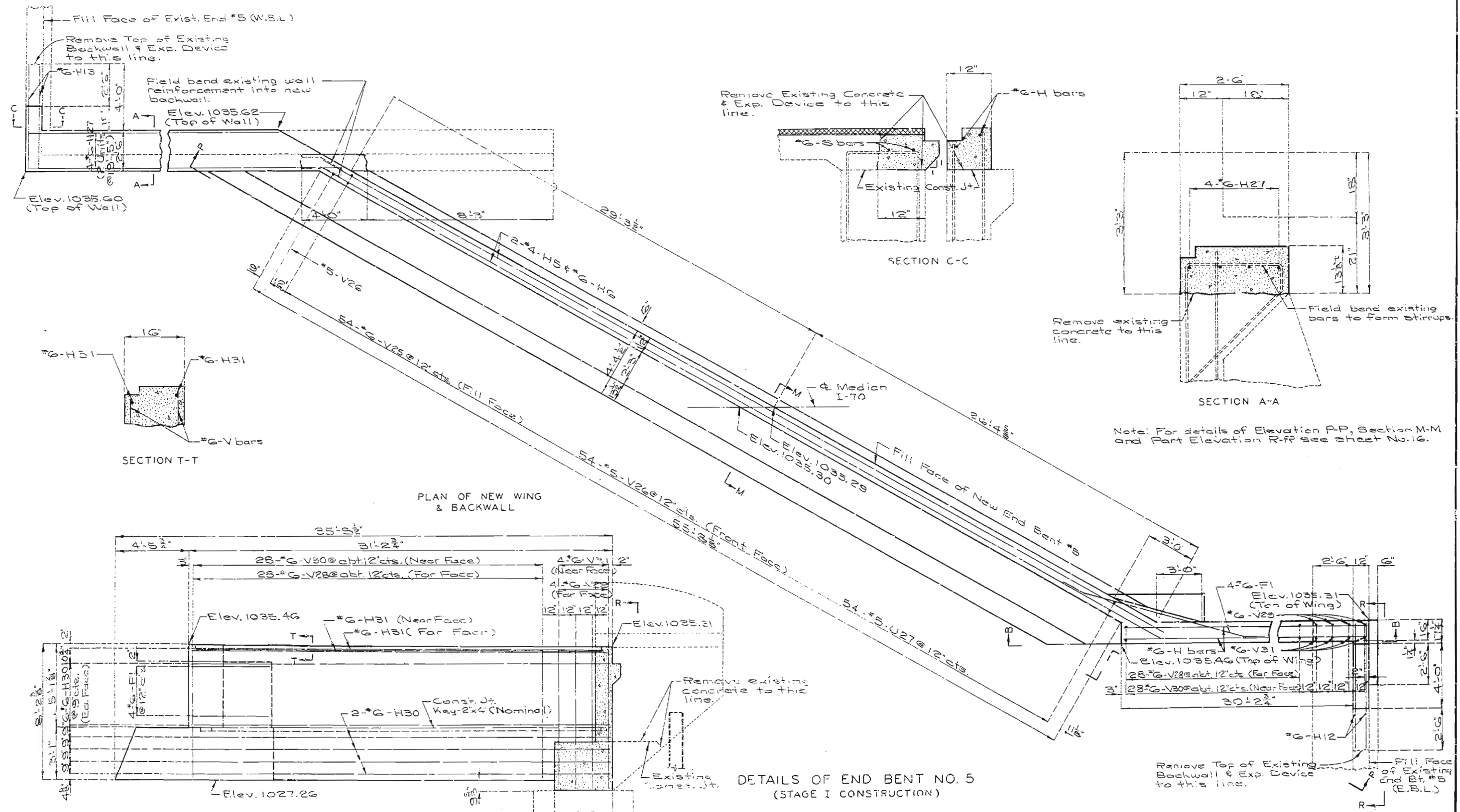
JACKSON COUNTY

L-973R

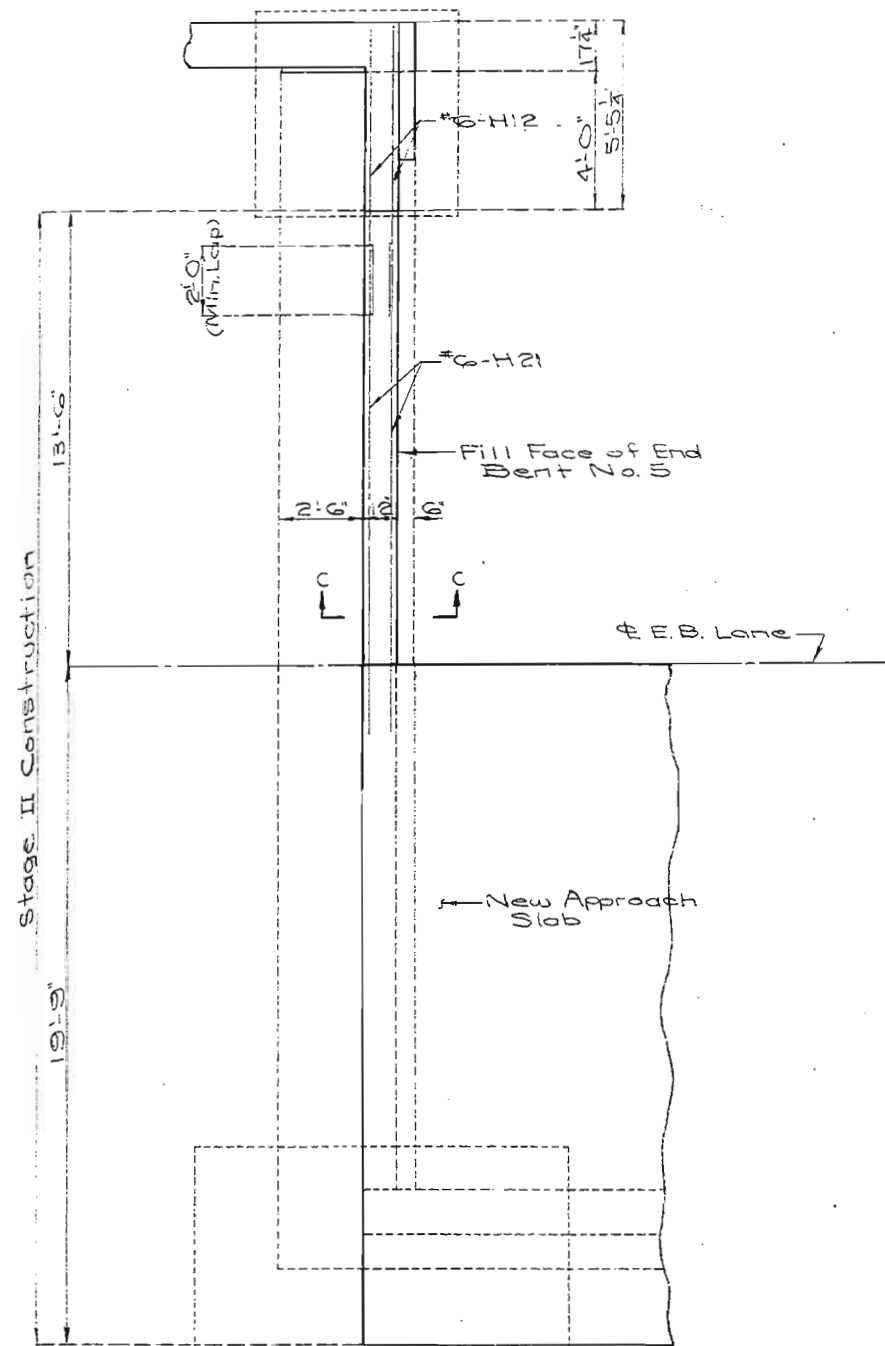
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		18	85	



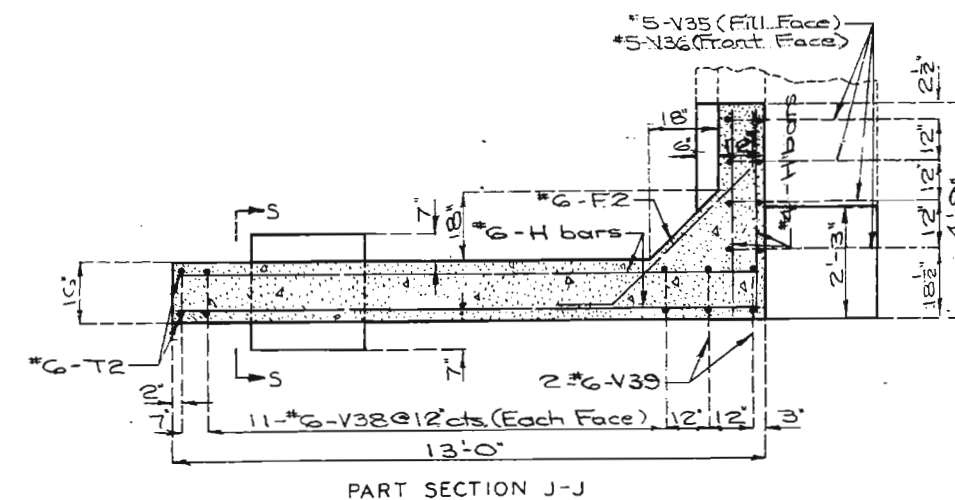
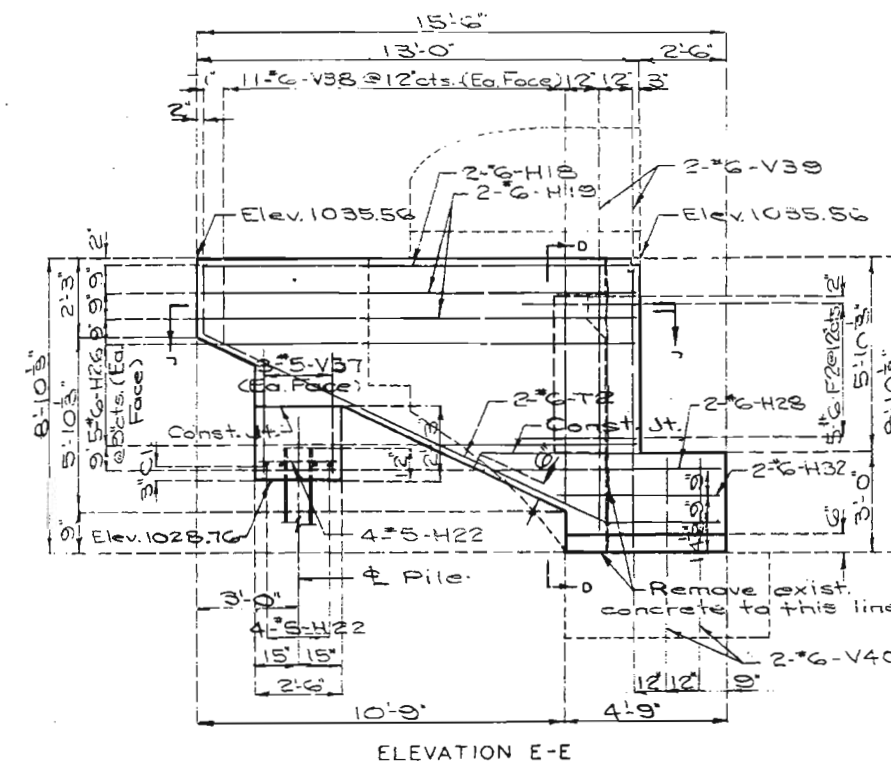
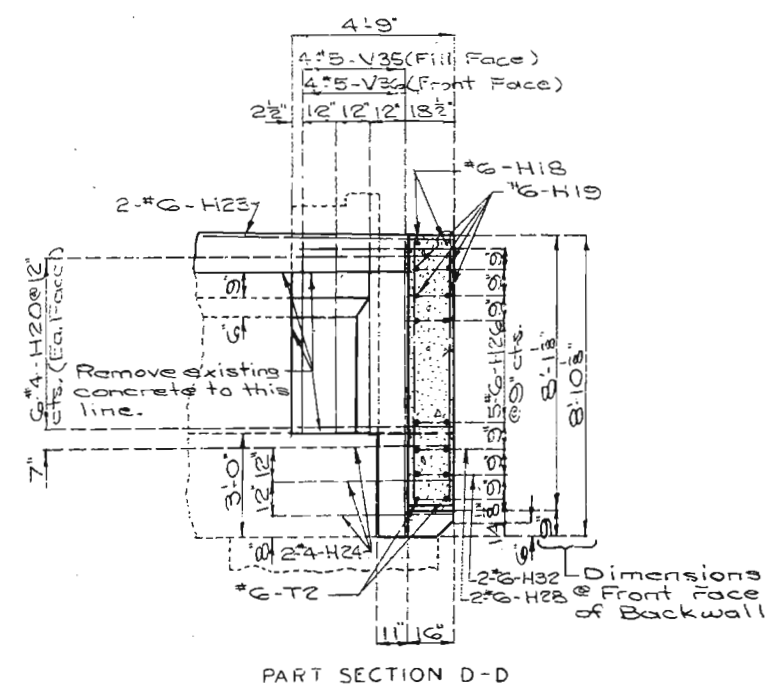
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	86	



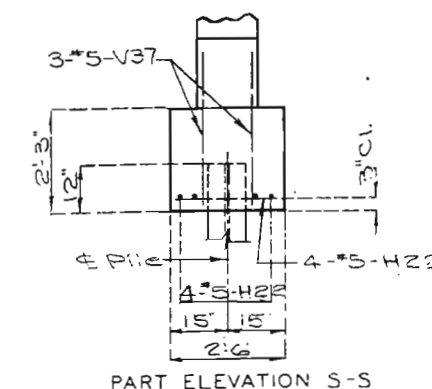
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5	MO.		19	88	

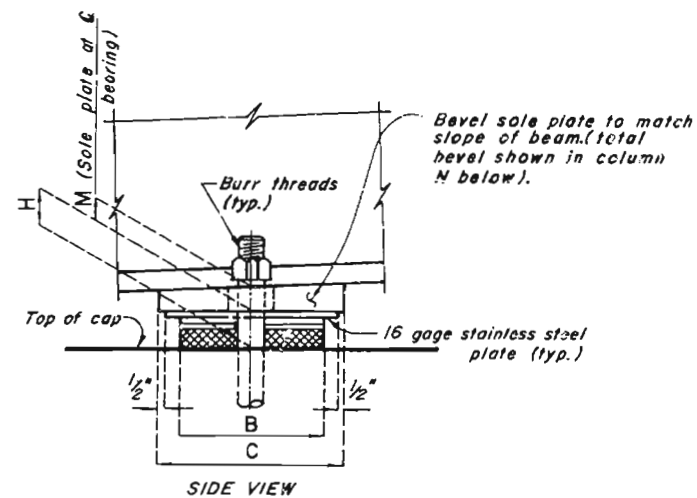
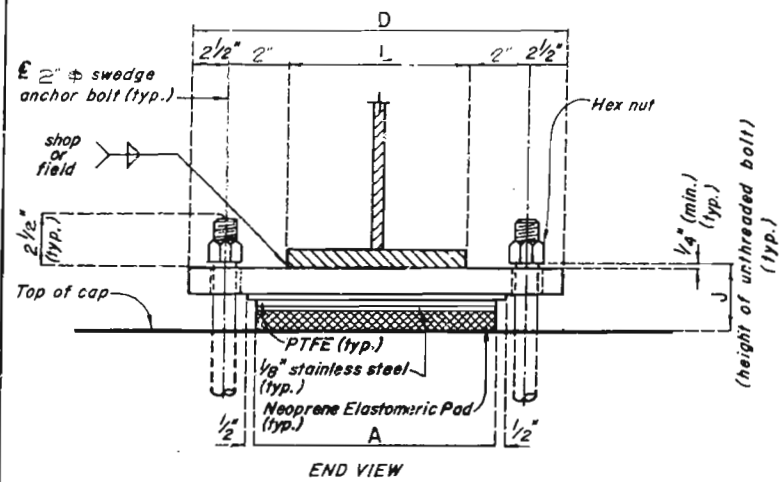


PART PLAN
DETAILS OF END BENT NO. 5
(STAGE II CONSTRUCTION)

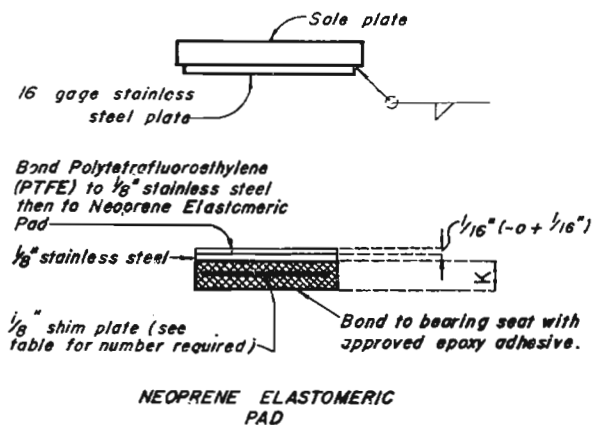
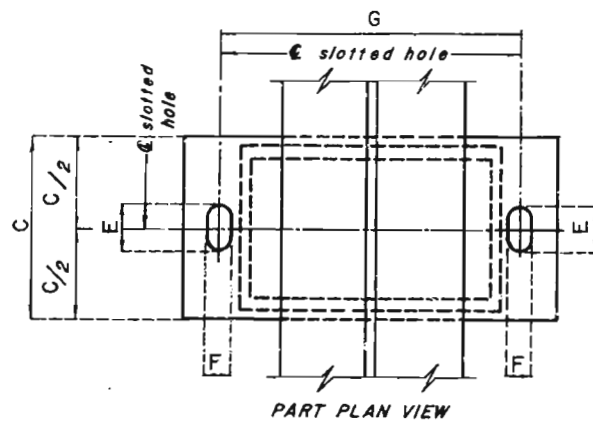


DETAILS OF END BENT NO. 5
STAGE III CONSTRUCTION





Note: The location of anchor bolts in relation to the slotted holes in the sole plate shall correspond with the temperature at the time of erection. At 60°F. the slotted holes should center on the anchor bolts.



PTFE SLIDING BEARINGS

PTFE SLIDING BEARINGS														NUMBER OF SHIM PLATES (*)
BENT NO.	A	B	C	D	E	F	G	H	J	K	L	M	N	
1 (All Gdr.s.)	10"	14"	19 1/2"	25"	30 1/2"	36 1/2"	42 1/2"	48 1/2"	54 1/2"	60 1/2"	66 1/2"	72 1/2"	78 1/2"	2
2 (Gdr. 1, 3 & 4)	16"	20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	2
3 (Gdr. 2)	16"	20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	2
4 (Gdr. 1, 2 & 4)	15"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	68"	2
4 (Gdr. 3)	15"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	68"	2
5 (Gdr. 1, 3 & 4)	10"	14"	19"	21"	25"	29"	33"	37"	41"	45"	49"	53"	57"	2
5 (Gdr. 2)	10"	14"	19"	21"	25"	29"	33"	37"	41"	45"	49"	53"	57"	2

NUMBER REQUIRED: 16

(*) The required shim plates shall be placed between equal layers of elastomer and molded together to form an integral unit.

GENERAL NOTES:

Anchor bolts shall be 2" x swaged bolts and shall extend 18" into concrete with hexagon nuts.

Weight of anchor bolts for bearings shall be included in weight of fabricated structural steel.

Neoprene elastomeric pads shall be 70 durometer.

The sole plate shall be furnished with the bearing and field a: shop welded to the stringers or girders.

Payment for the sole plate will be included in the cost of the bearing assembly. See special provisions.

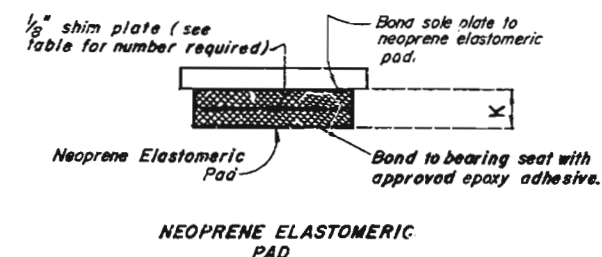
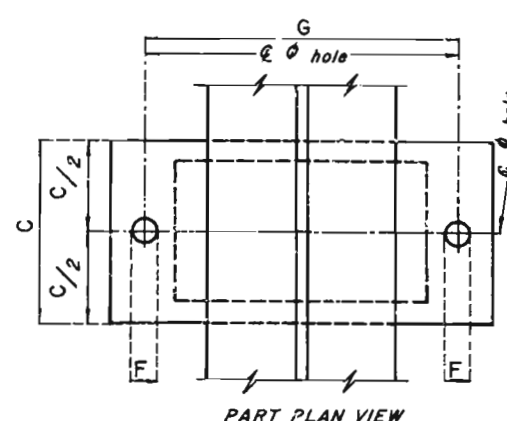
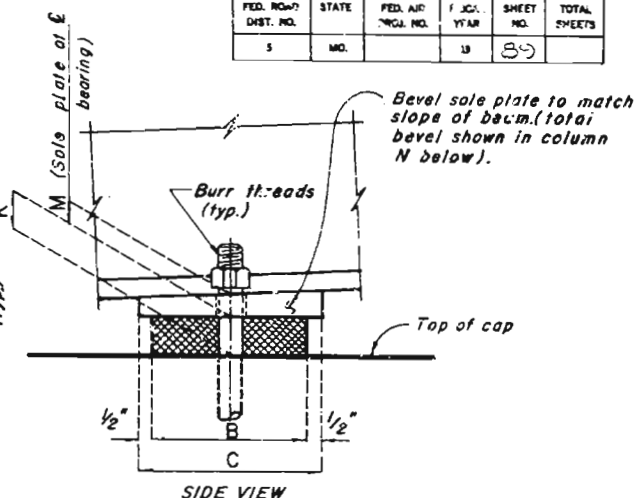
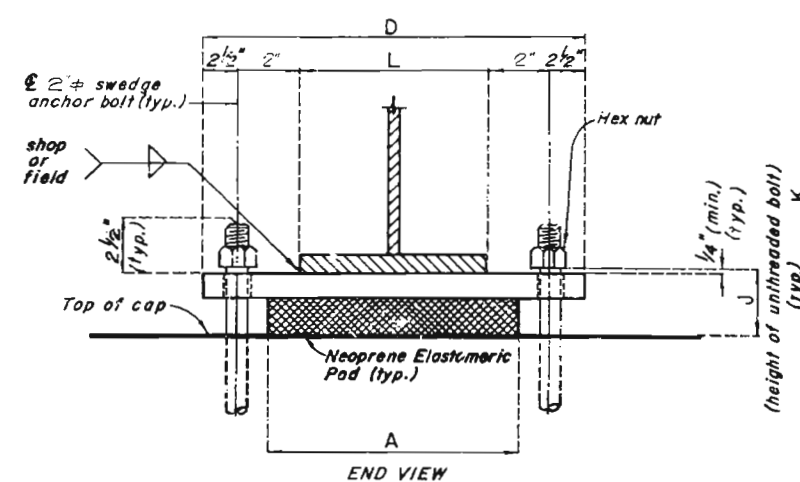
Structural steel for sole plate shall be A-36.

All anchor bolts shall be A-588 Steel.

The accepted quantity of elastomeric bearing assemblies, complete in place, will be paid for at the contract unit price for "Type N" PTFE Bearings, each.

TYPE "N" PTFE BEARINGS

Note: This drawing is not to scale. Follow dimensions.



FIXED BEARINGS

FIXED BEARINGS														NUMBER OF SHIM PLATES (*)
BENT NO.	A	B	C	D	F	G	J	K	L	M	N			
3 (Gdr. 2, 3, 4)	14"	22"	23"	25"	28"	20"	(3 1/8")	2 1/2"	16"	1 1/2"	1 1/8"			2
3 (Gdr. 1)	14"	22"	23"	25"	28"	20"	(4 1/8")	2 1/2"	16"	(1 1/2")	1 1/8"			2

NUMBER REQUIRED: 4

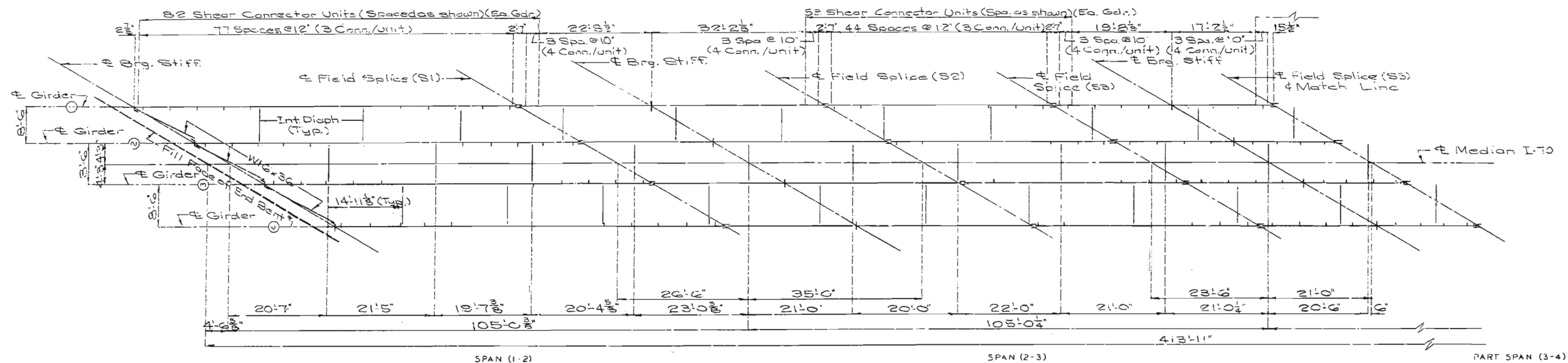
(*) The required shim plate shall be placed between equal layers of elastomer and molded together to form an integral unit.

Sheet No. 18 of 20. Revised June 3, 1984

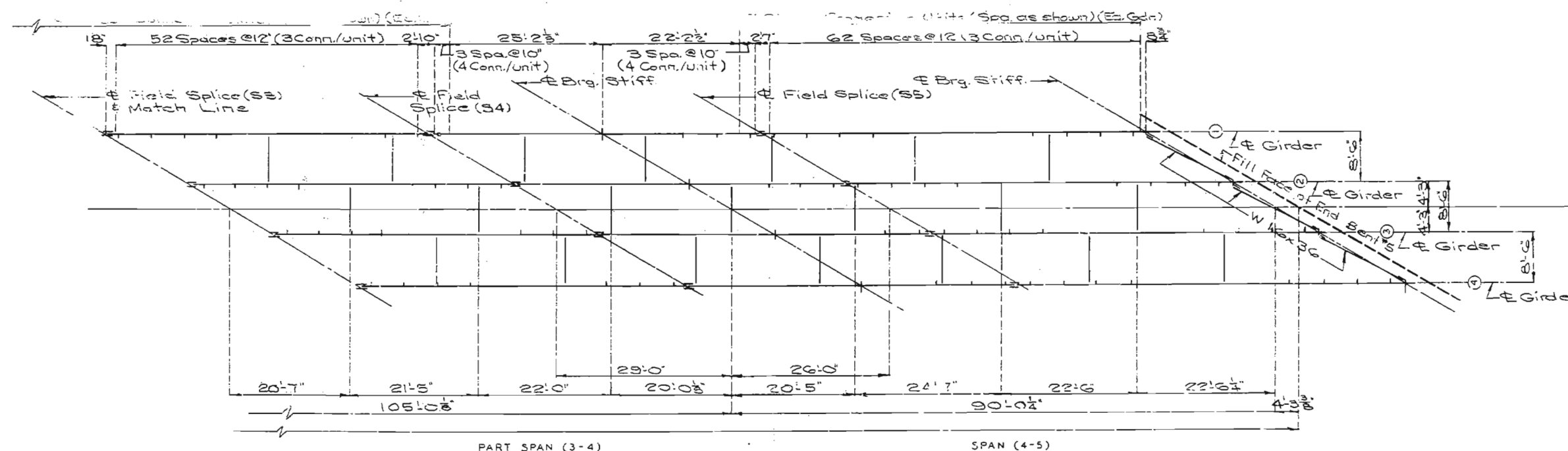
JACKSON COUNTY

L-973R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		18	91	

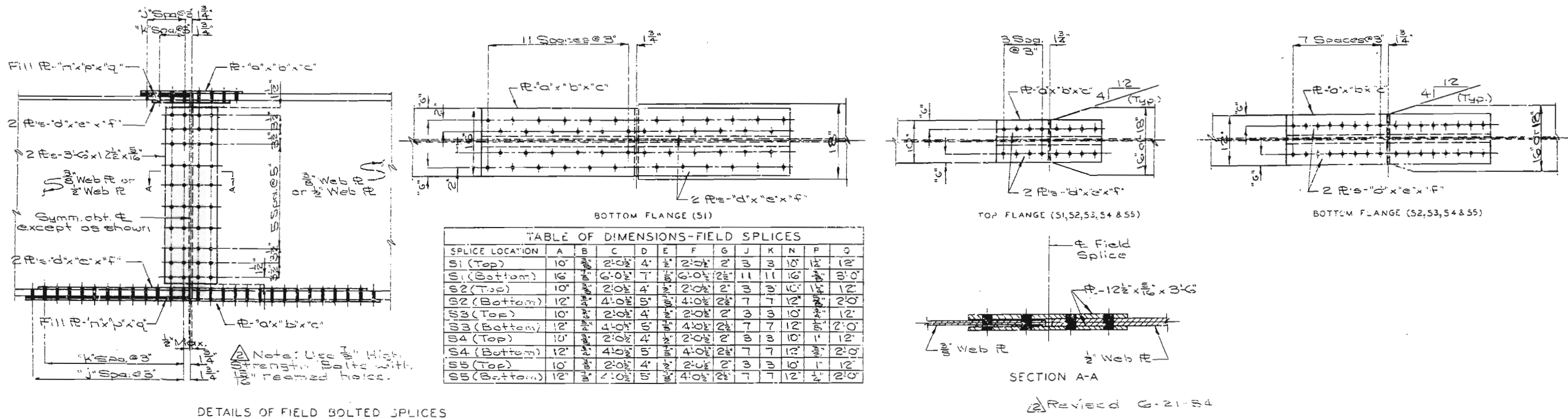
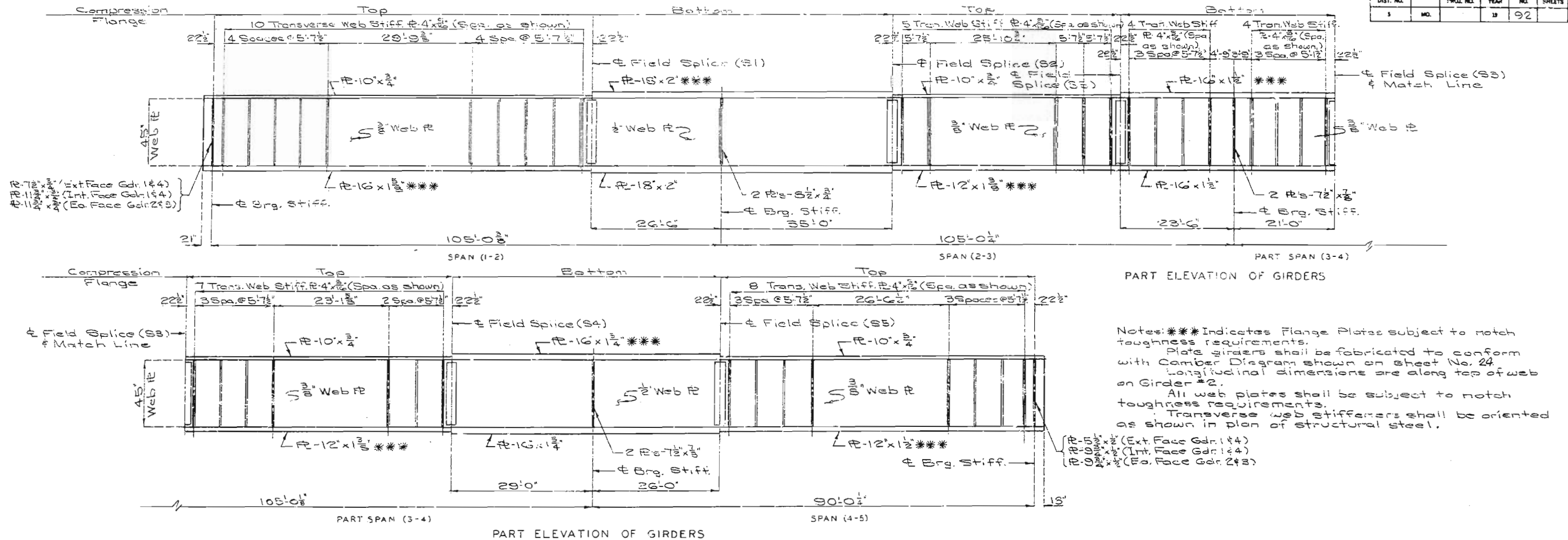


PART PLAN OF STRUCTURAL STEEL

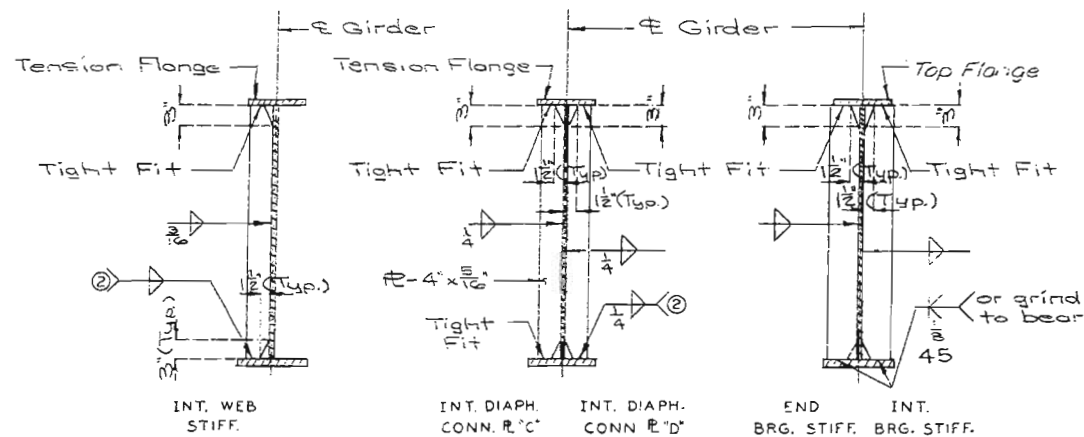


PART PLAN OF STRUCTURAL STEEL

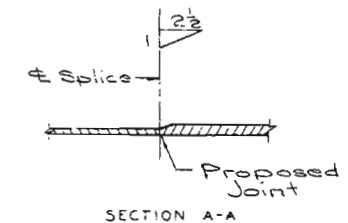
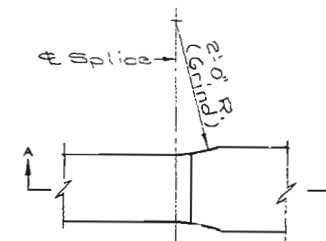
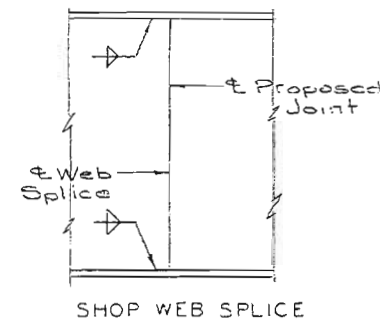
Note: Longitudinal dimensions are along top of web on Girder #2.



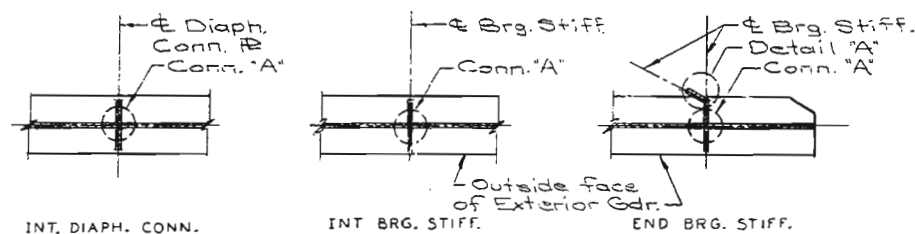
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	93	



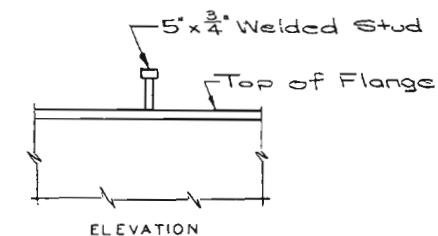
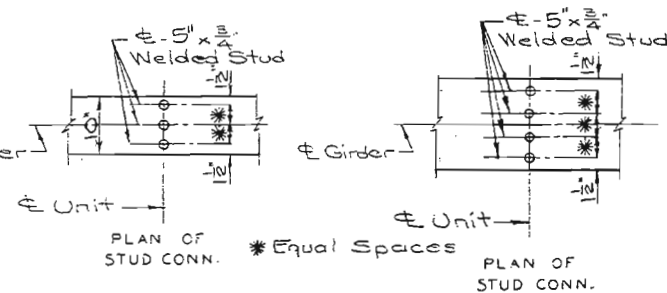
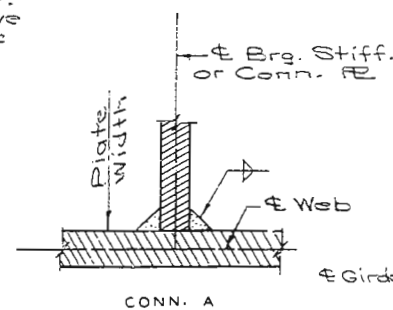
** When dimension exceeds $\frac{1}{2}$ " bevel Stiffener Plate.



② Weld to compression flange as located on Elevation of Girder. Use Conn. R 'C' for int. diaphragms when R does not serve as an int. web stiffener and Conn. R 'D' when plate does serve as int. web stiffener.

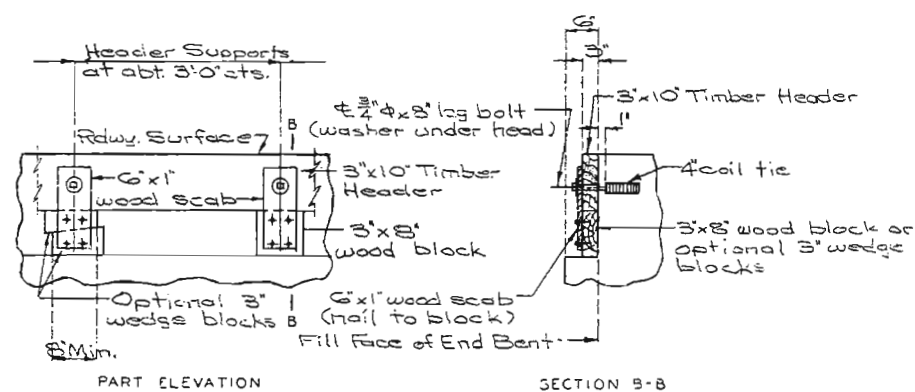
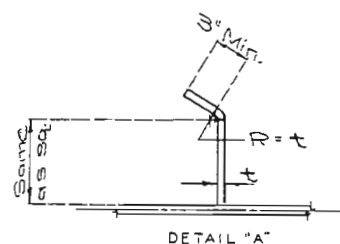


WELDING DETAILS



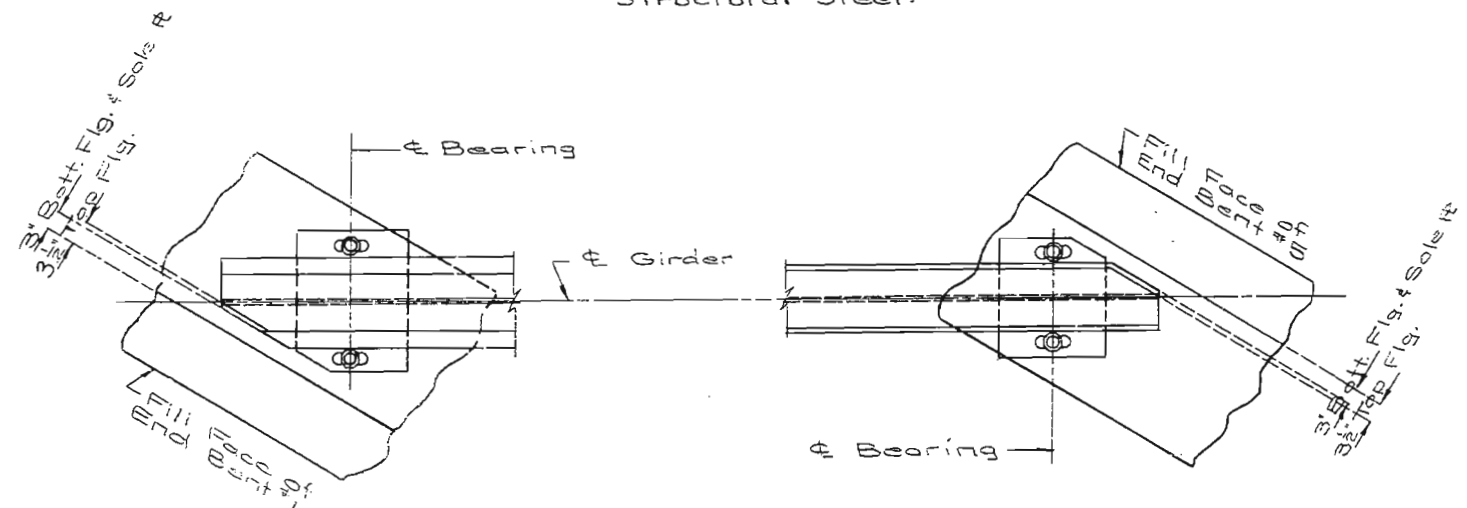
DETAILS OF SHEAR CONNECTORS

Note: Weight of 2455 lbs. of shear connectors is included in weight of Fabricated Structural Steel.



DETAILS OF TIMBER HEADER

Note: Cost of timber headers complete in place to be included in price bid for concrete.



Note: When intermediate diaphragm connection R's or web stiffener R's interfere with flange splice R's and bolts, clip connection or stiffener plates as shown.

DETAILED MAY 1981
CHECKED AUG. 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 22 of 30.

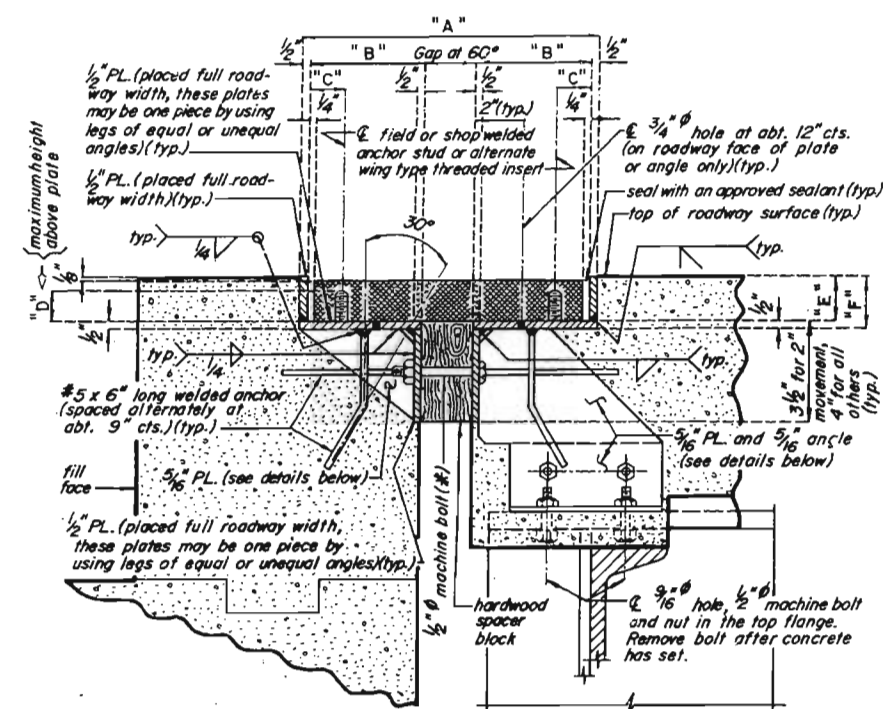
JACKSON COUNTY

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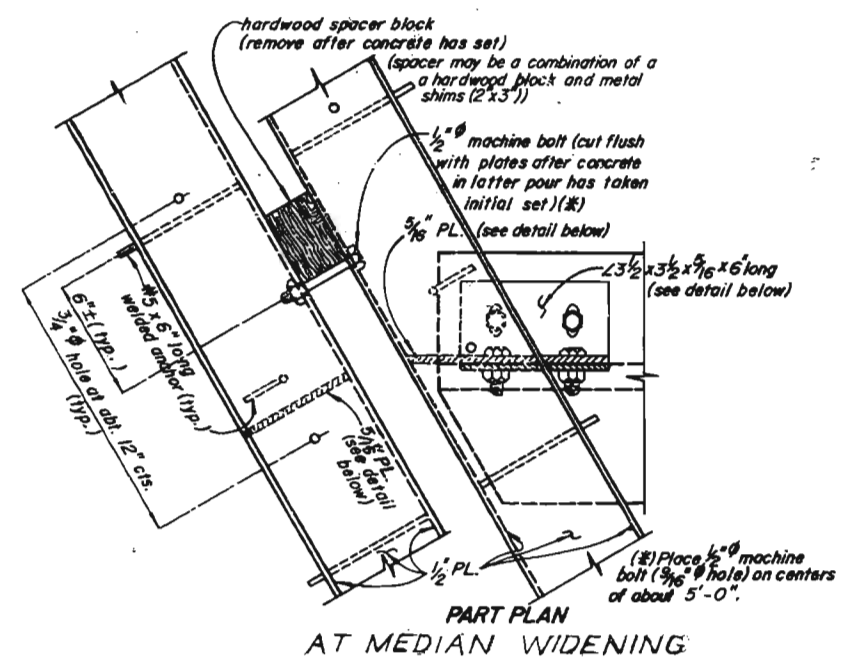
216

SPS - END BT. REVISED APRIL 1982
FEB. 1978

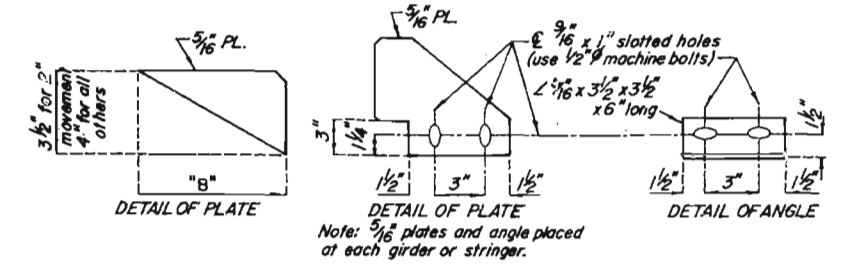
DETAILED AUG. 1983
CHECKED AUG. 1983



PART SECTION THRU ARMORED JOINT AT MEDIAN WIDENING



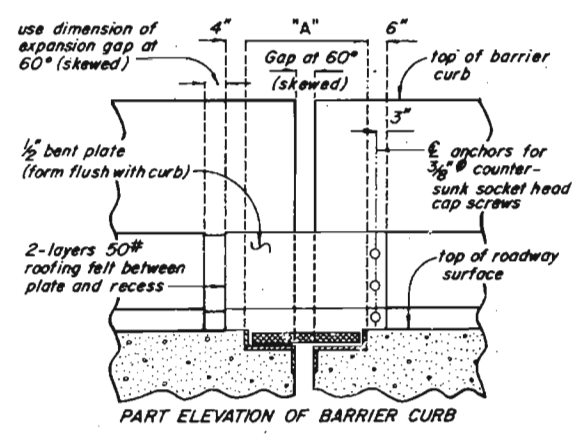
PART PLAN AT MEDIAN WIDENING



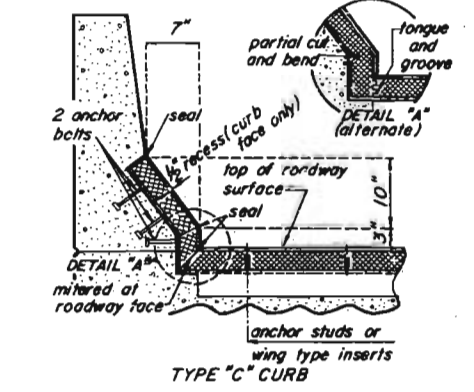
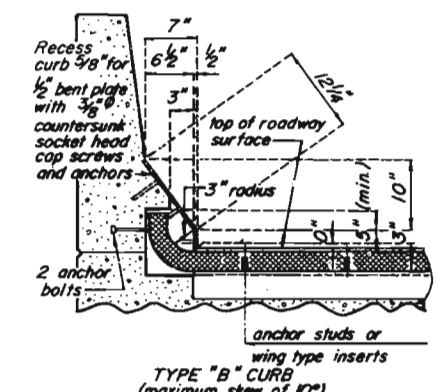
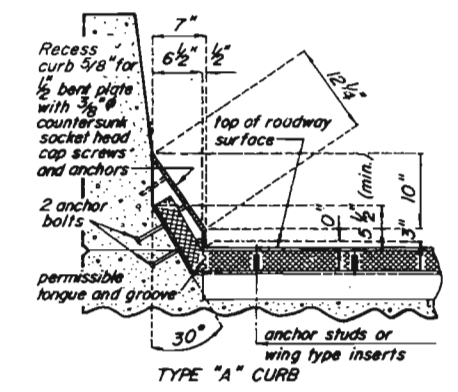
Note: 3/16 inch plates and angle placed at each girder or stringer.

TABLE OF DIMENSIONS									
LOCATION	ACCEPTABLE ALTERNATE TYPES	EXP. GAP AT 60°	"A" AT 60°	"B"	"C"	"D"	"E"	"F"	ANCHOR STUDS SIZE "G"
End Bents #1 & 5	ON-FLEX 45	2"	11 1/2"	4 1/2"	1 1/2"	1 1/2"	2 1/2"	3 1/2"	1/2" G5
	WABO BENDOFLEX 450	2"	11 1/2"	4 1/2"	1 1/2"	1 1/2"	2 1/2"	3 1/2"	1/2" 50
	FEL-SPAN T40 CS	2"	12"	4 1/2"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1/2" 50
Long. Joint	ON-FLEX 45	1 1/2"	10 1/2"	4 1/2"	1 1/2"	1 1/2"	2 1/2"	3 1/2"	1/2" G5
	WABO BENDOFLEX 450	1 1/2"	10 1/2"	4 1/2"	1 1/2"	1 1/2"	2 1/2"	3 1/2"	1/2" 50
	FEL-SPAN T40 CS	1 1/2"	11 1/2"	4 1/2"	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1/2" 50

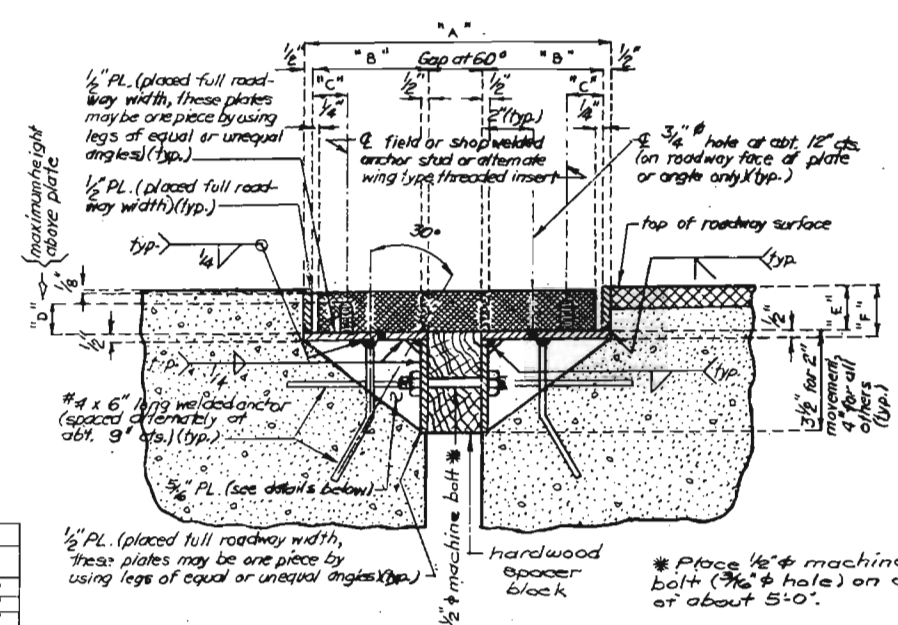
NOTE: All dimensions are at right angles.
Expansion gap and dimension "A" shall be increased * for each 10° fall in temperature and decreased * for each 10° rise in temperature.
* Existing End Bents #1 & 5.
* At Median Widening End Bents #1 & 5.
* None required for Longitudinal Joints.



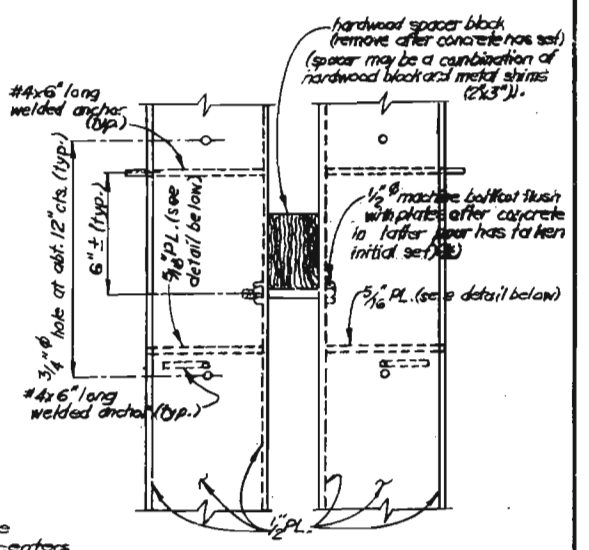
Note: For details of Elastomeric Expansion Joint Seal at Median Barrier Curb see sheet No. 32.



ALTERNATE CURB TREATMENTS



PART SECTION THRU ARMORED JOINT AT EXISTING END BENTS AND NEW LONG. JTS.



PART PLAN AT EXISTING END BENTS AND NEW LONG. JTS.

Bolt Diameter	Safe Load Tension (lbs.) (min.)	Approx. Ult. Cap. Tension (lbs.) (min.)	Dimensions		
			a	b	c
1/2"	800	8,000	1-5/8"	5"	.218"
5/8"	1,300	9,200	1-5/8"	5"	.218"
3/4"	1,800	13,200	2-1/4"	6"	.262"
7/8"	2,000	16,200	2-1/2"	6-1/2"	.306"
1"	2,000	16,200	2-1/2"	6-1/2"	.306"

DETAILS OF ALTERNATE WING TYPE THREADED INSERT
(Machine bolts need only be used to secure the Wing Type Threaded Inserts to the steel plate until the concrete has attained 3,000 p.s.i.)

DETAILS OF ELASTOMERIC EXPANSION JOINT SEAL AT BENT NO.

Sheet No. 23 of 36.

JACKSON

COUNTY

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#5-S20 Same spacing as longitudinal reinforcement on bottom of slab and placed parallel to E. Roadway

26" LOP

#5-S22

#5-S17

1" CL (Min.)

12" LOP

#5-S24

#5-S21

Diagram illustrating the bottom of a sloped concrete slab. The slab is shown with a 3" depth and a 6" gap below it.

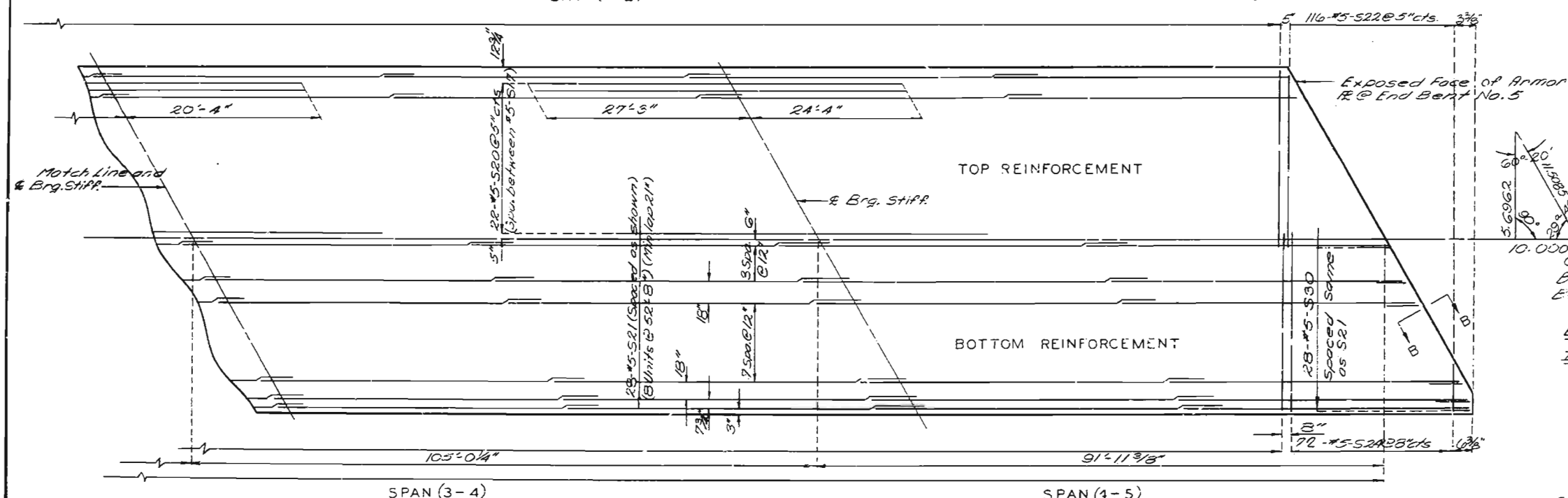
Note: 3" Dimension may vary if girder camber after erection differs from plan camber by more than the 4% of Dead Load Deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variation in haunching.

Note: Camber includes allowance for vertical curve and for dead load deflection due to concrete, slab, curb and structural steel.

** % of dead load deflection due to weight of structural steel.

** 20% for Ext. Gdr.
** 14% for Int. Gdr.

For Dead Load Deflection Diagram see sheet No. 27.



Note: The contractor shall pour and satisfactorily finish the slab pour at the rate given. Retarder, if used, shall be an approved type and retard the set of the concrete to 2.5 hours.

	SEQUENCE OF POURS							MIN. RATE OF POUR CU. YDS./HR.		
	DIRECTION							WITH REBAR	NO REBAR	
BASIC SEQUENCE	1	2	3	4	5	6	7	25	23	
	EITHER DIRECTION									
ALTERNATE POURS TO THE BASIC SKIP SEQUENCE ARE SUBJECT TO THE APPROVAL OF THE ENGINEER IN ACCORDANCE WITH SECTION 703.3.12.4 OF MISSOURI STANDARD SPECIFICATIONS										
ALTERNATE 'A' POURS	1		7 + 2		6 + 3		5 + 4		25	40
	END TO 7		1 TO 6		2 TO 5		3 TO END			
ALTERNATE 'B' POURS	1 + 7 + 2		6 + 3		5 + 4		25			40
	END TO 6		2 TO 3		TO END					
ALTERNATE 'C' POURS	1 + 7 + 2			6 + 3 + 5 + 4			25			40
	END TO 6			2 TO END						
ALTERNATE 'D' POURS	1 + 7 + 2			6 + 3 + 5 + 4			25			40
	END TO END			END TO END						

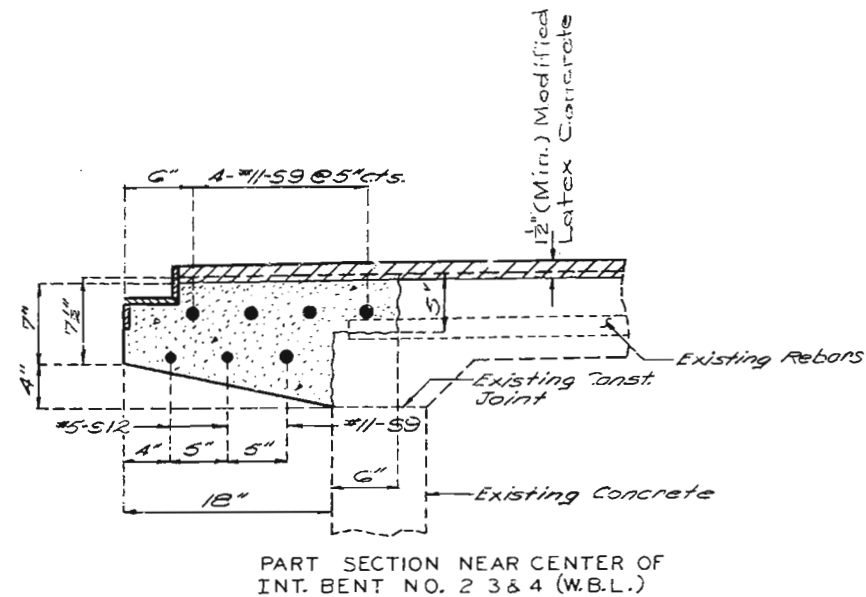
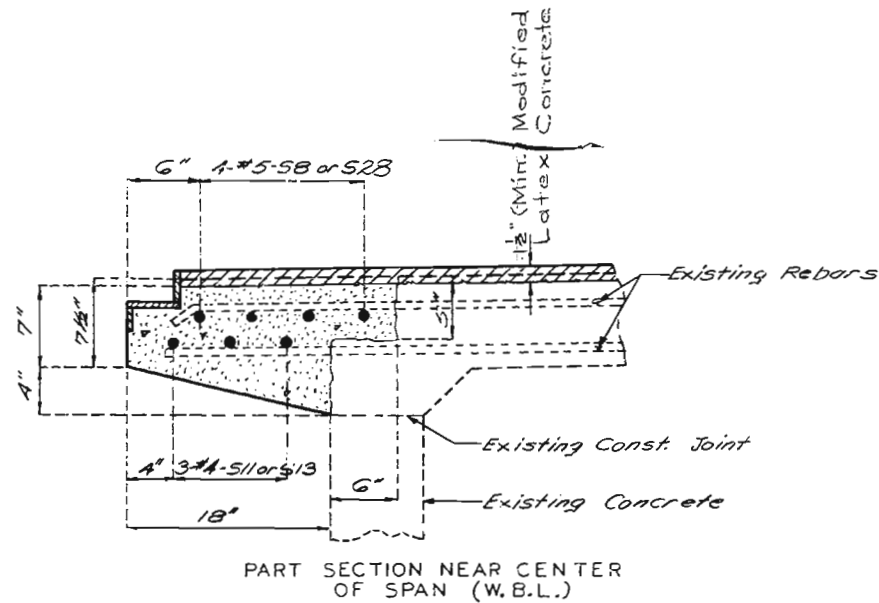
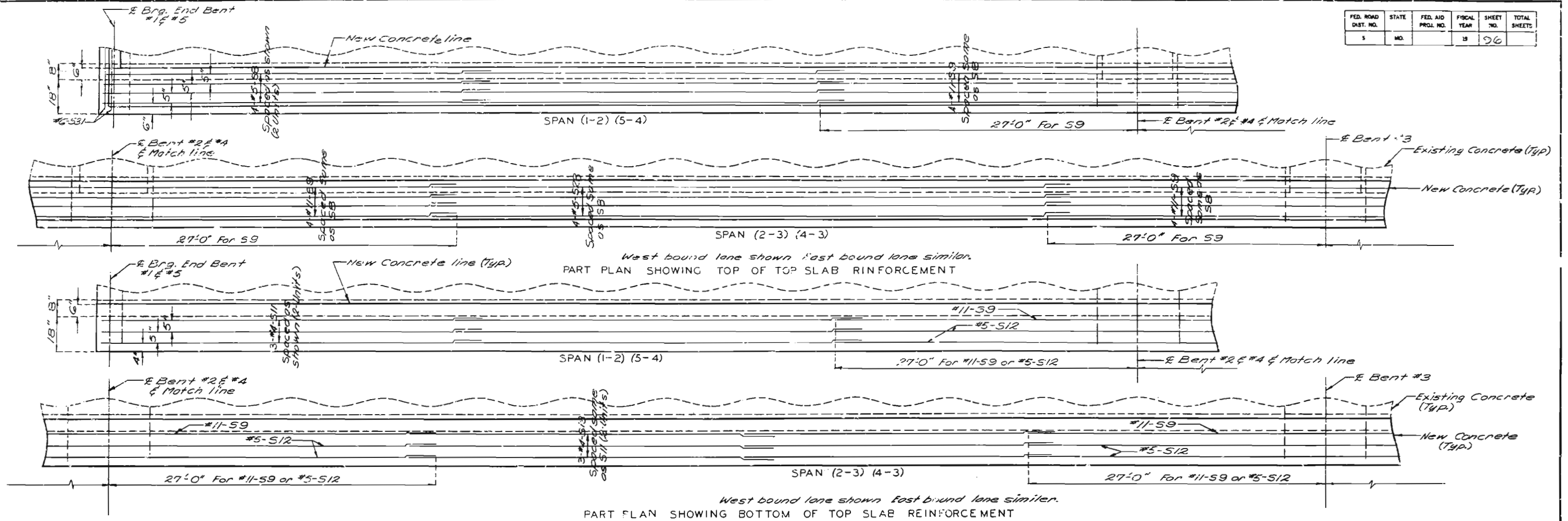
Sheet No. 24 of 36.

JACKSON

COUNTY

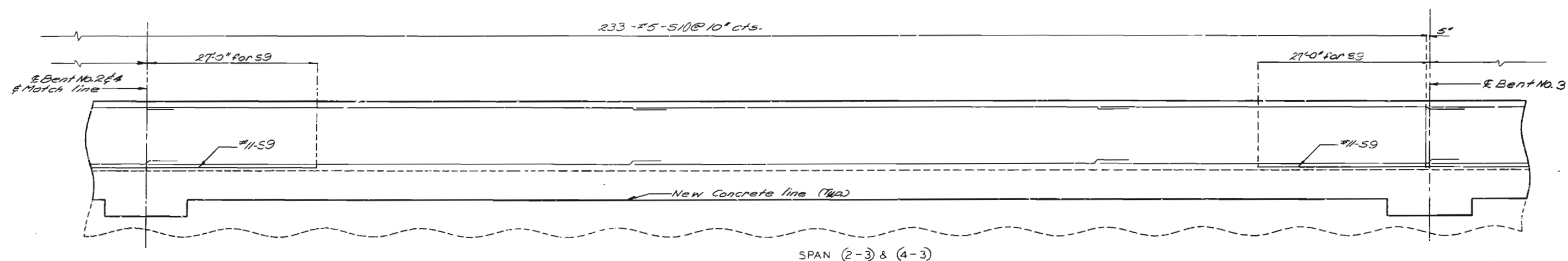
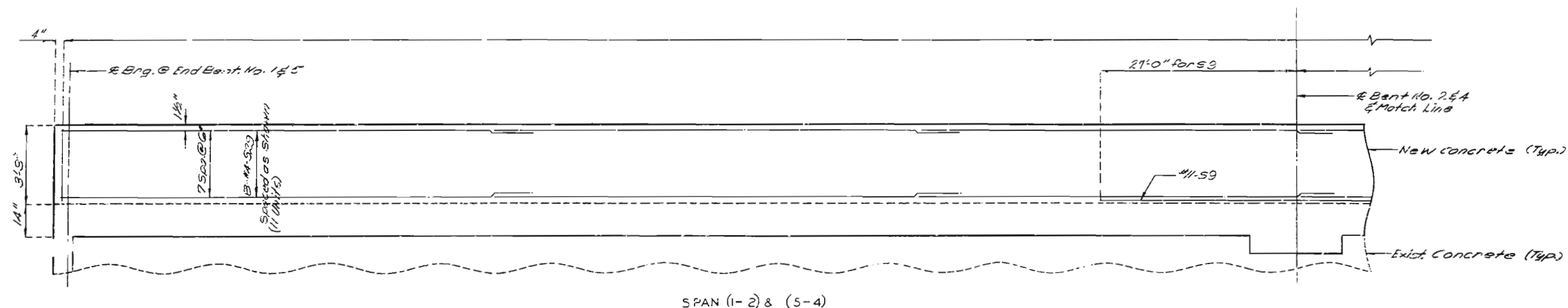
L-973R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	96	



WIDENING OF EXISTING SLAB (FIRST STAGE CONSTRUCTION)

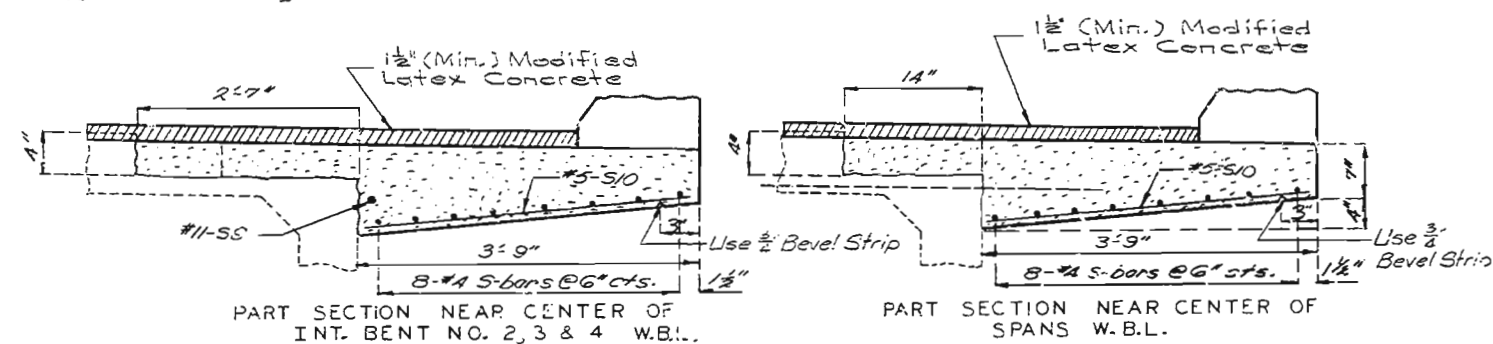
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		89	97	



Note: Lap all longitudinal Bars a minimum of 20\"

PART PLAN SHOWING BOTTOM OF TOP SLAB REINFORCEMENT

West bound lane shown, East bound lane similar.
East bound lane = Second Stage Construction
West bound lane = Third Stage Construction



WIDENING OF EXIST. SLAB

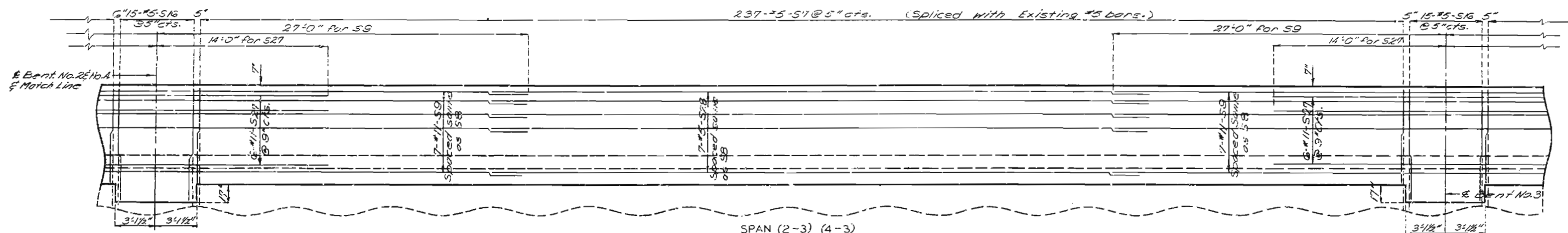
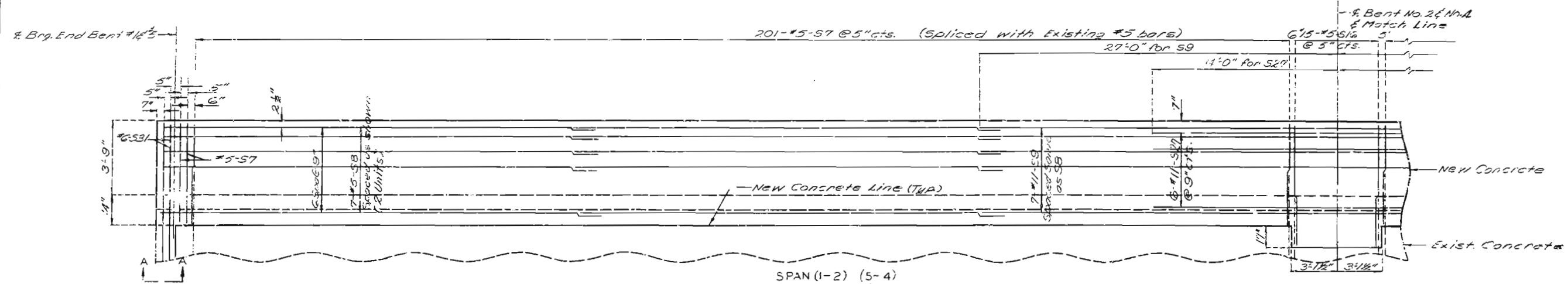
219
DETAILED Aug. 1981
CHECKED Aug. 1981

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 26 of 36.

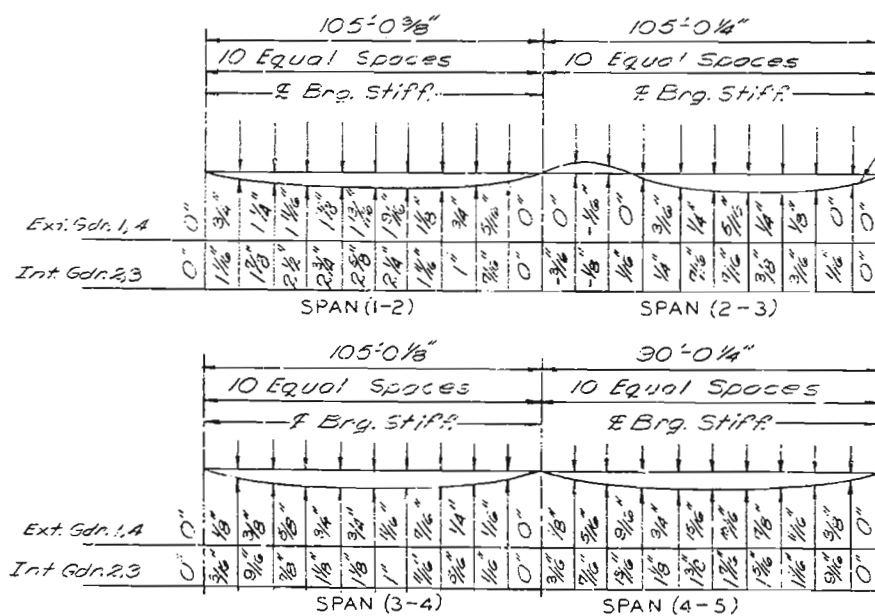
JACKSON COUNTY

L-973R

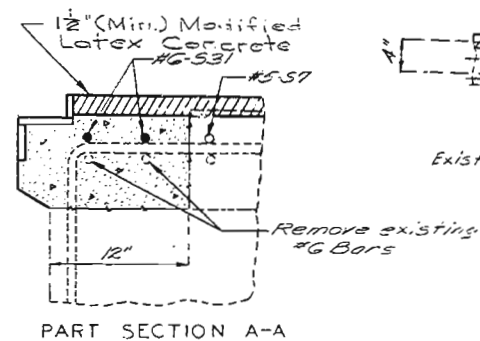


PART PLAN SHOWING TOP OF TOP SLAB REINFORCEMENT
West bound lane shown, East bound lane similar
East bound lane = Second Stage Construction
West bound lane = Third Stage Construction

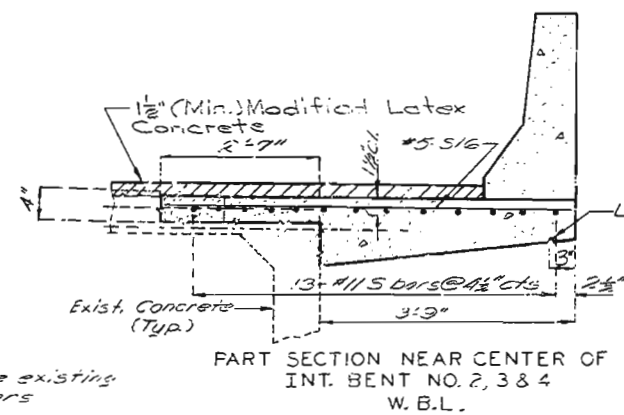
Note: Lap all longitudinal bars a minimum of 20"



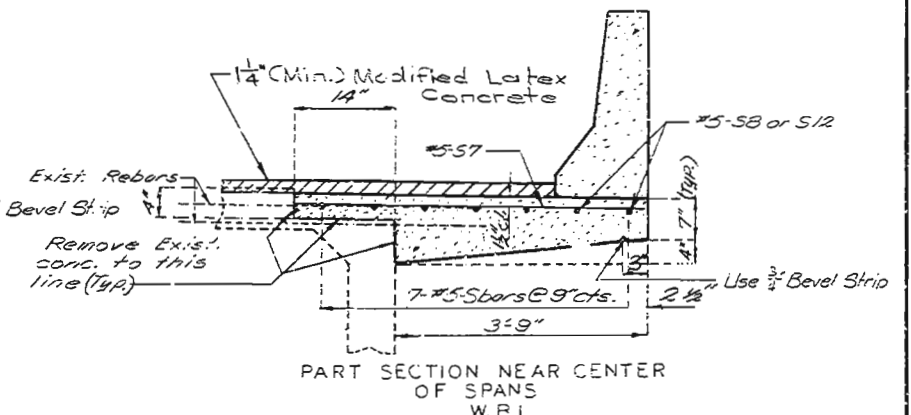
DEAD LOAD DEFLECTION



PART SECTION A-A



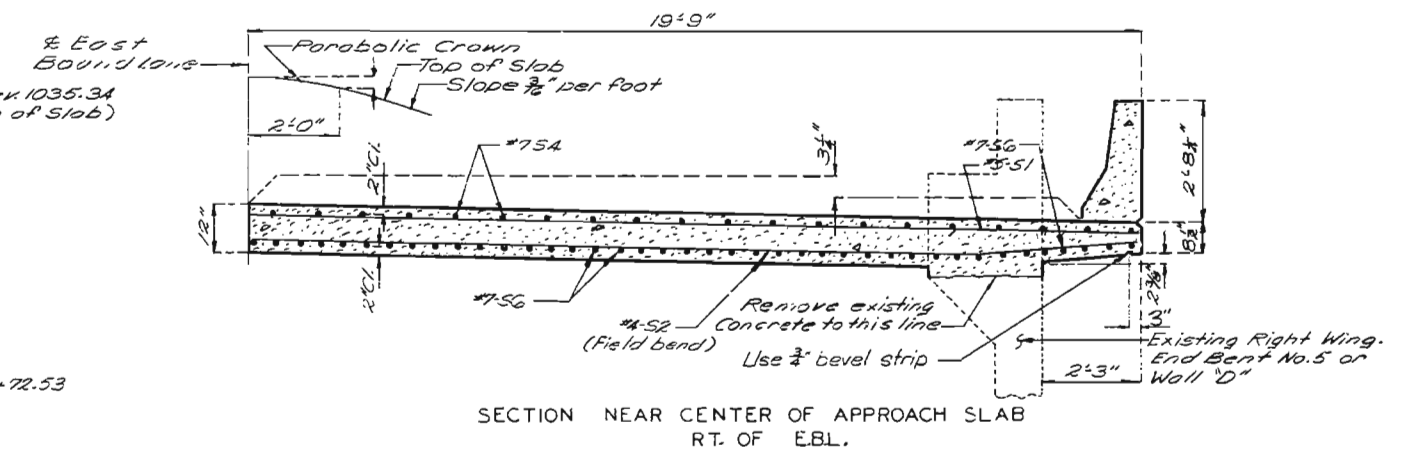
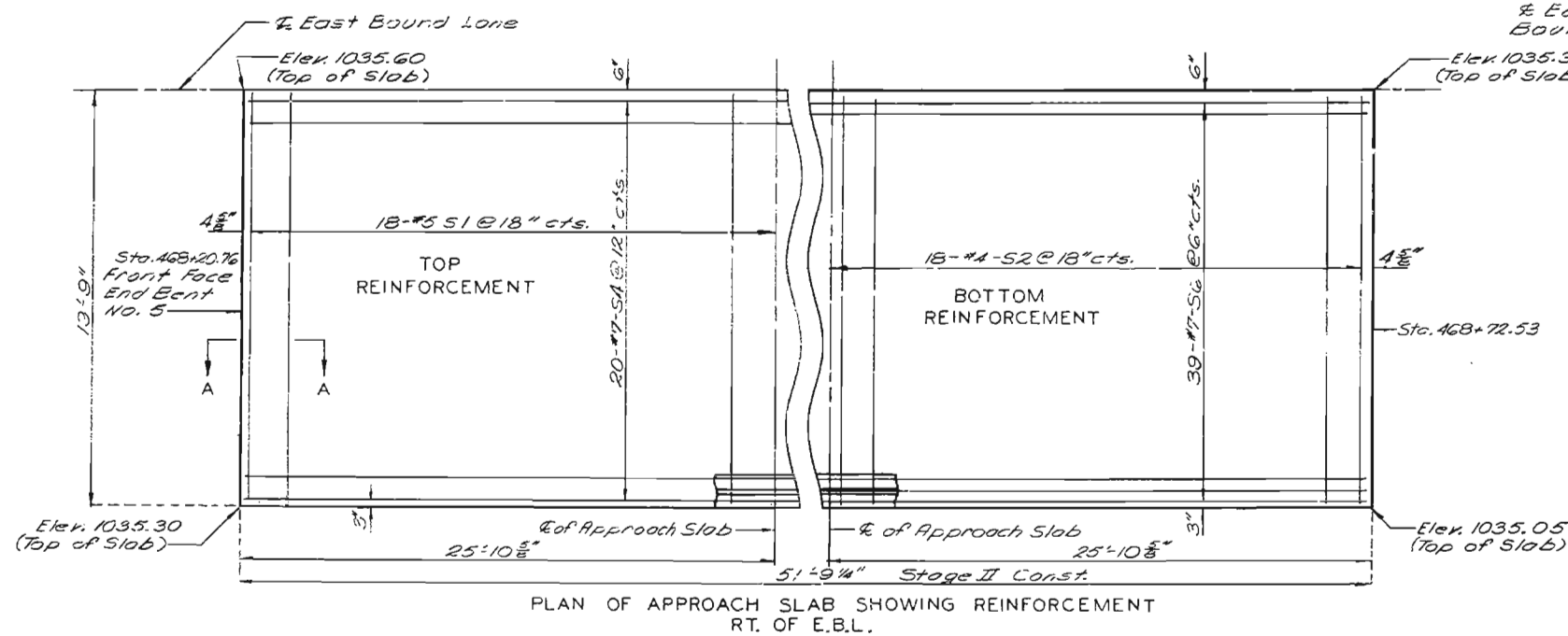
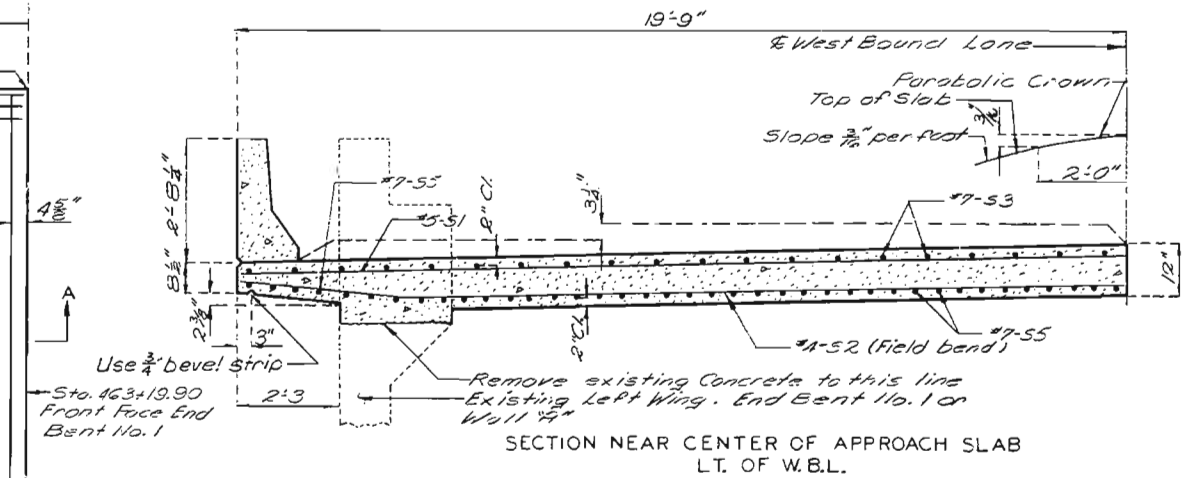
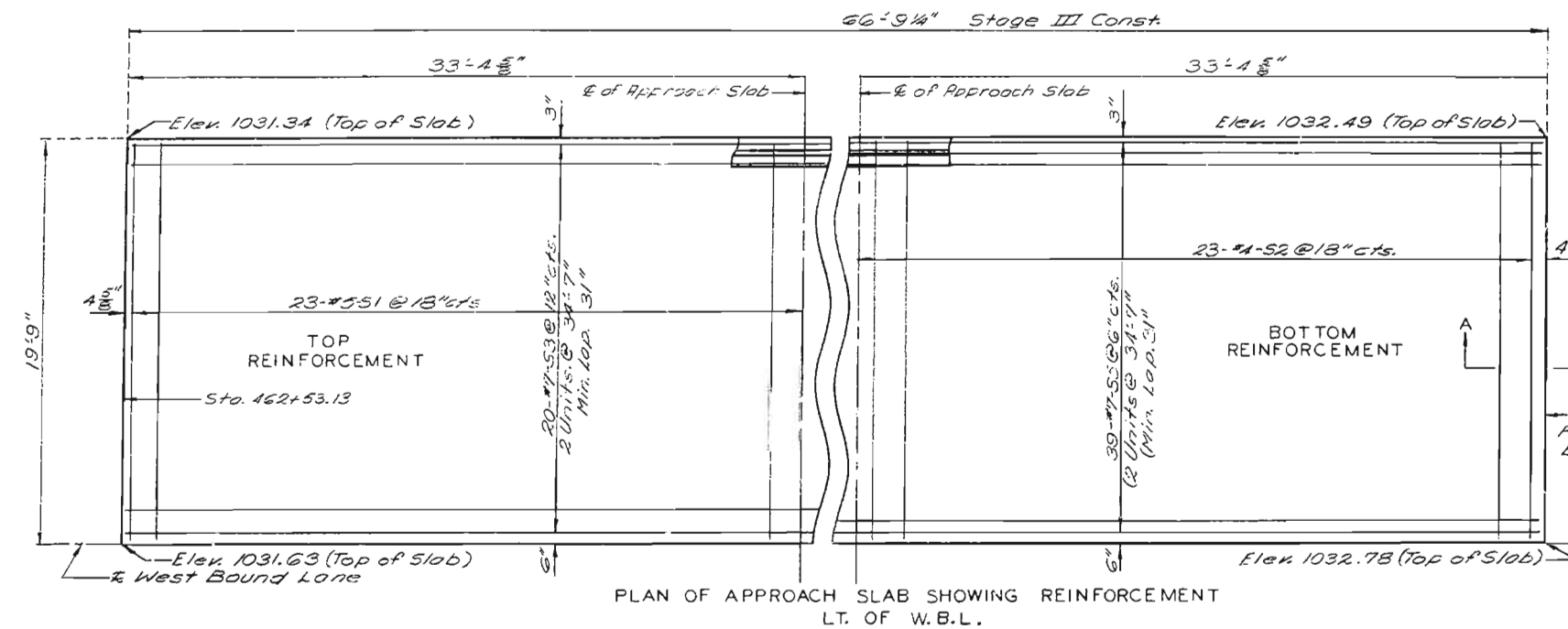
PART SECTION NEAR CENTER OF INT. BENT NO. 2, 3 & 4 W.B.L.



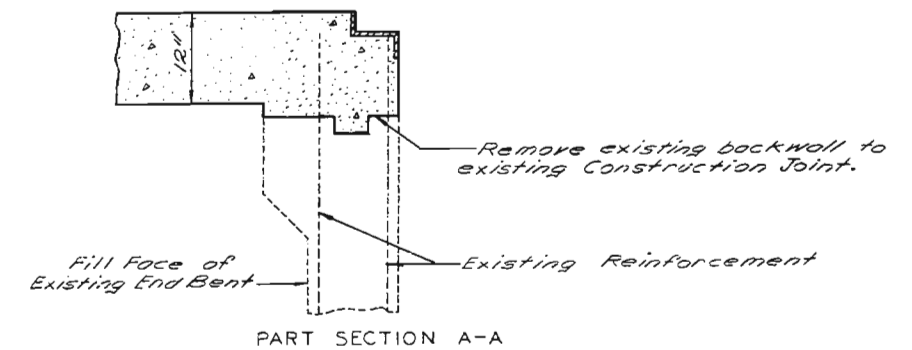
PART SECTION NEAR CENTER OF SPANS W.R.L.

WIDENING OF EXIST. SLAB

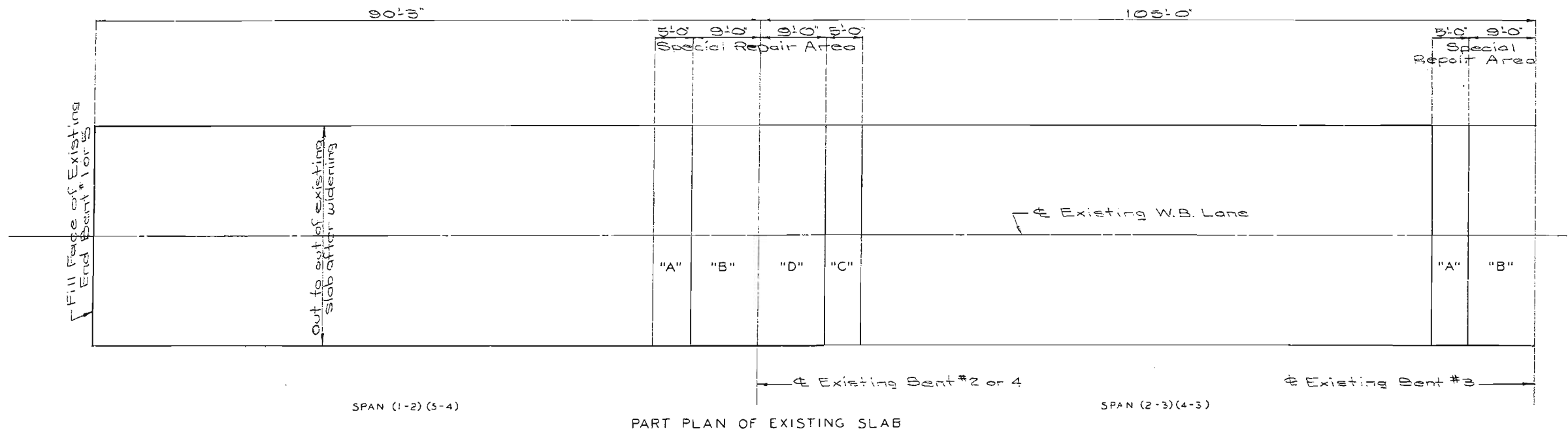
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	99	



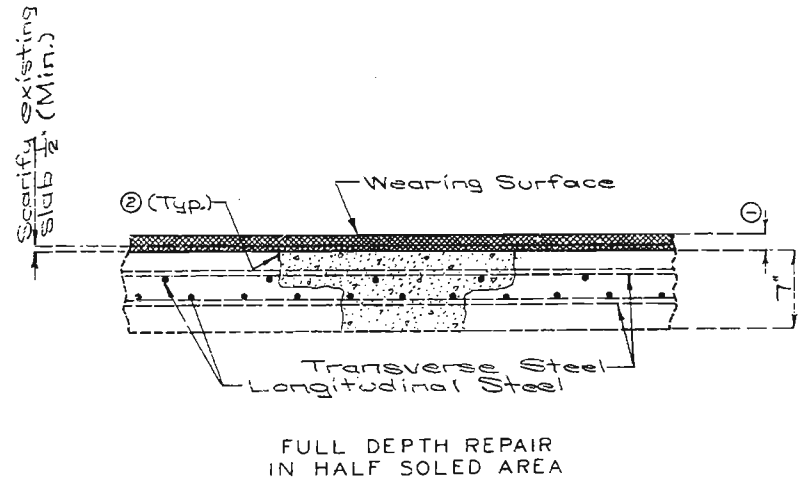
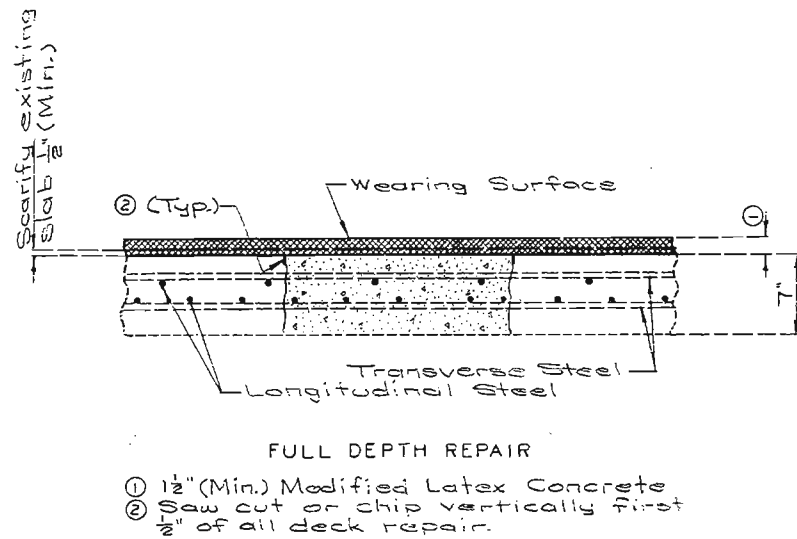
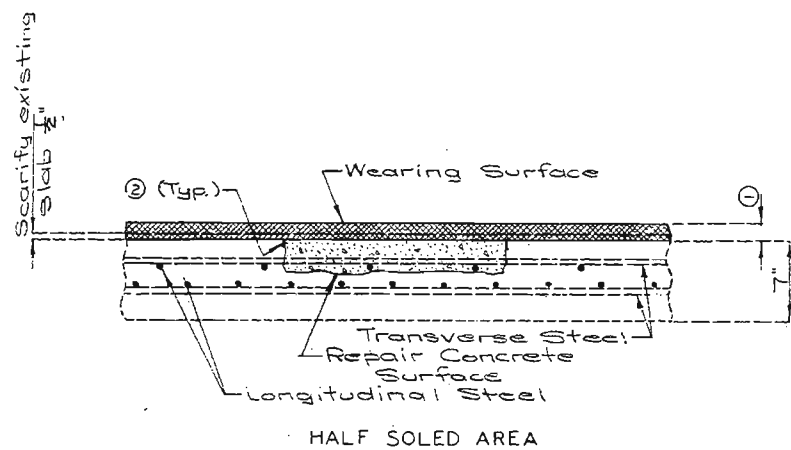
Note: Field bend existing reinforcement in wings or walls and extend into approach slab as far as possible.



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		89	100	

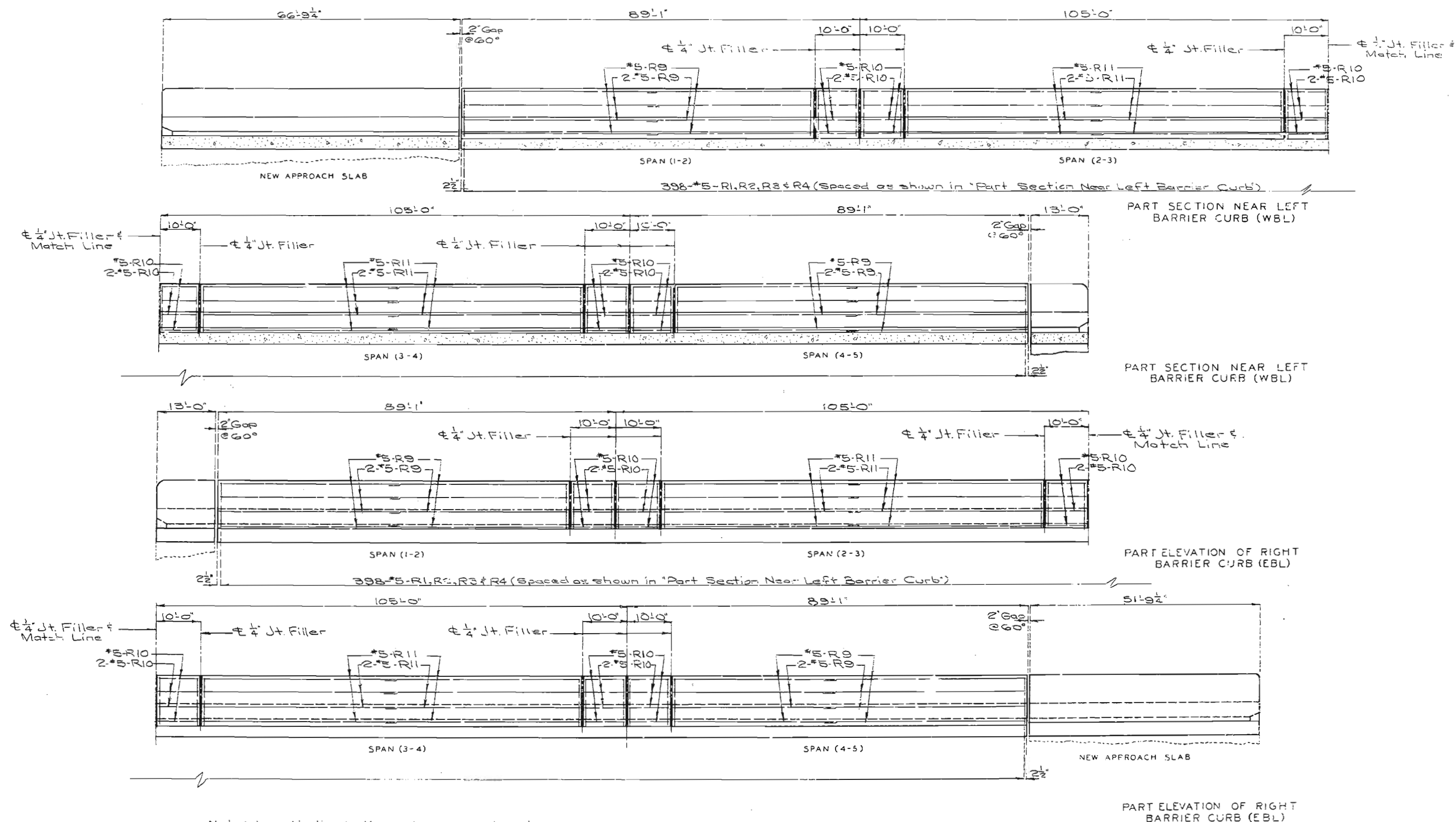


Note: W.B. Lane shown, E.B. Lane similar. Any concrete removal for half sole or full depth repair in areas designated "A", "B", "C" and "D" shall be repaired in alphabetical order. (See Special Provisions)



TYPICAL SECTIONS THRU EXISTING SLABS (NEAR & SPAN)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	101	



223

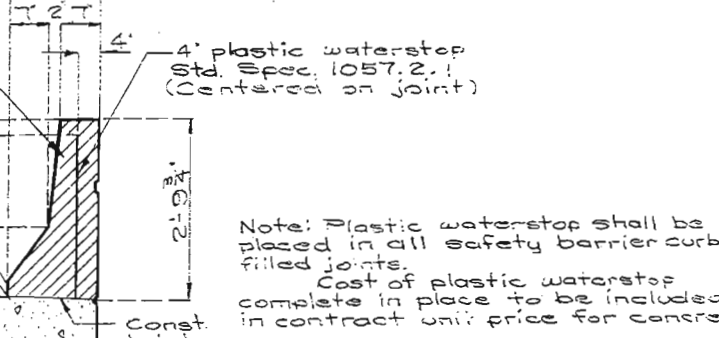
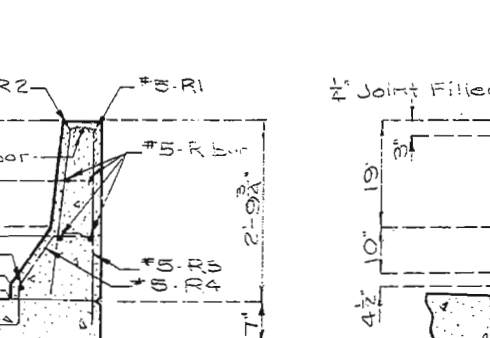
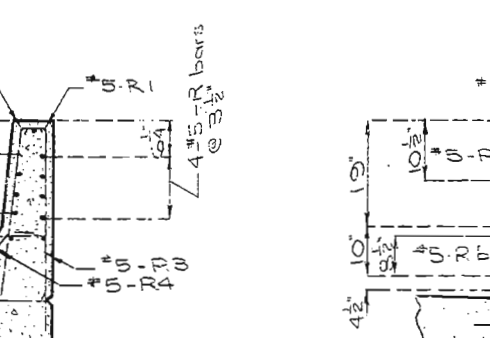
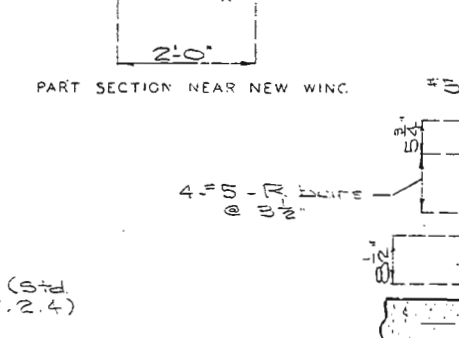
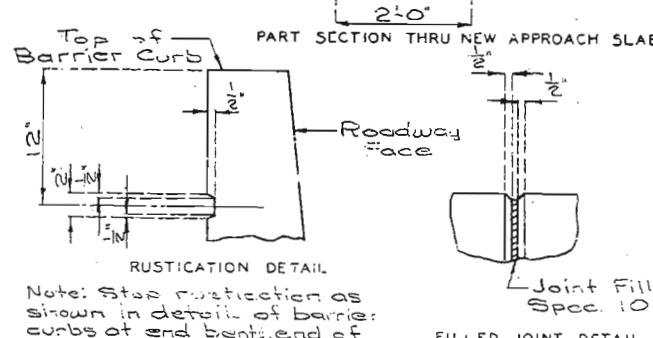
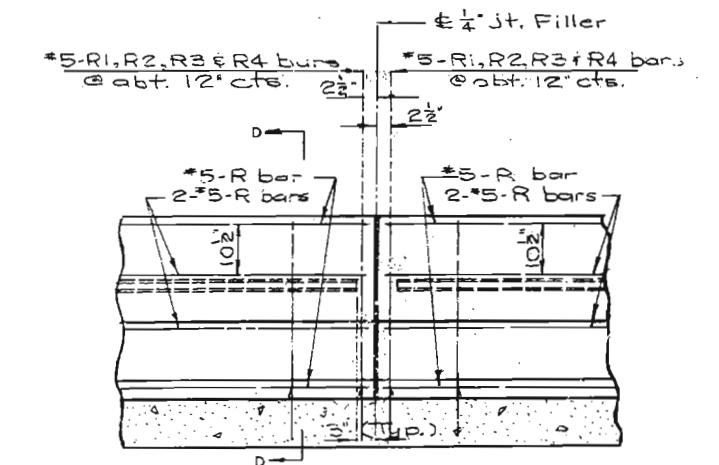
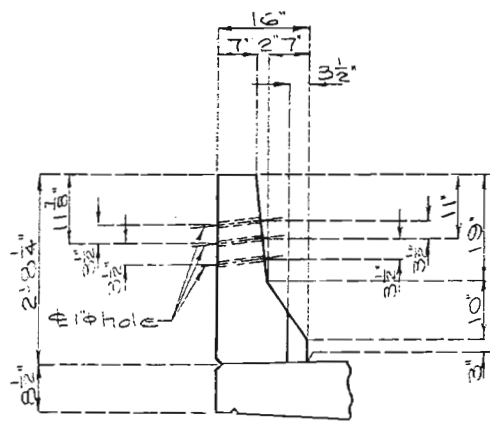
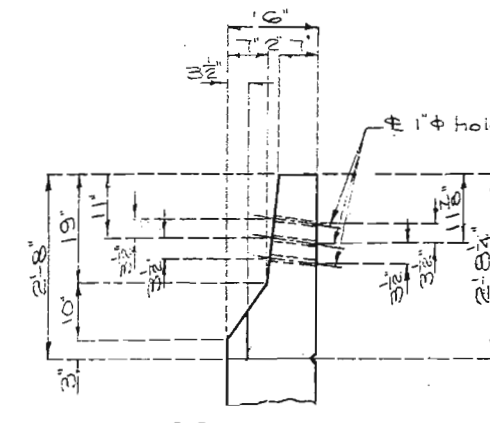
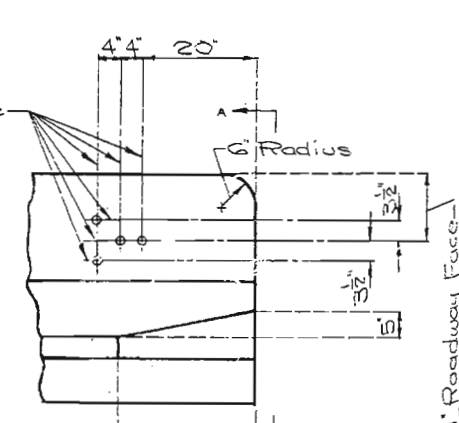
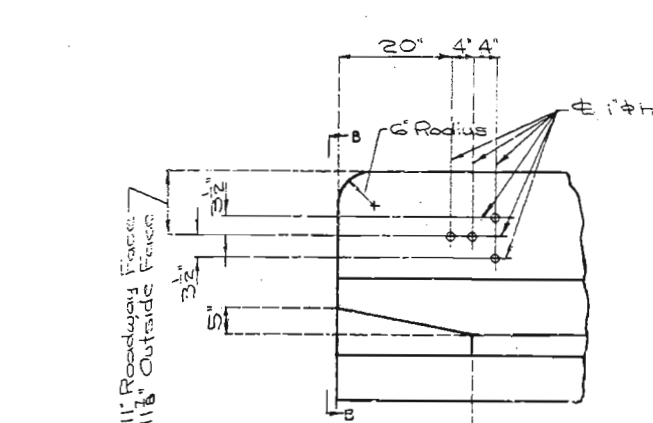
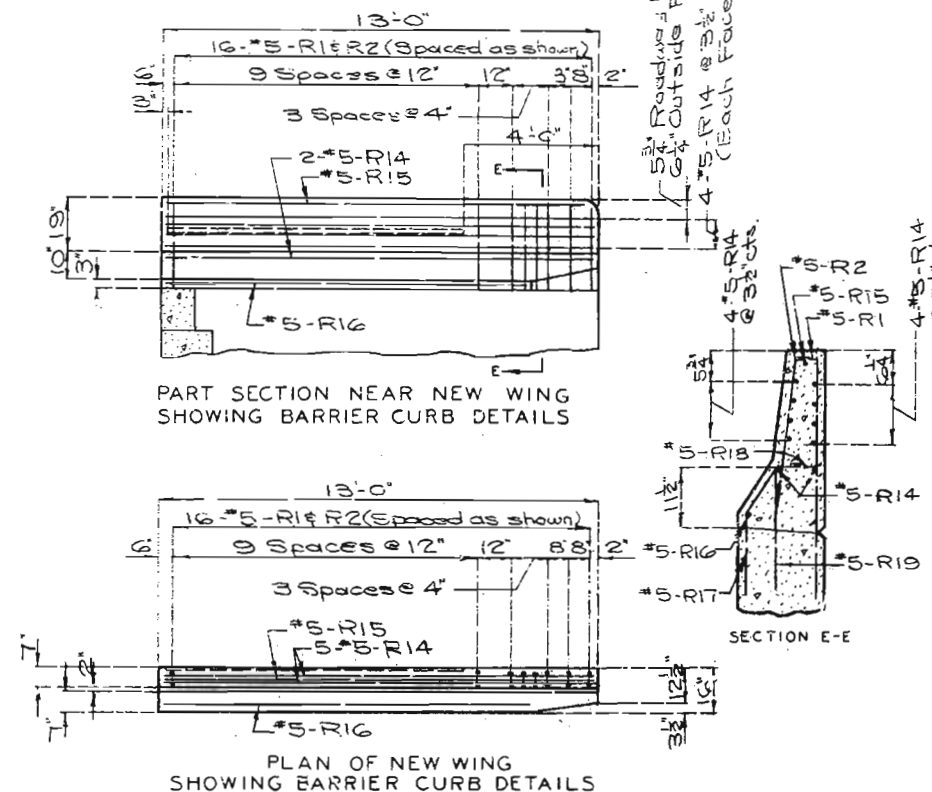
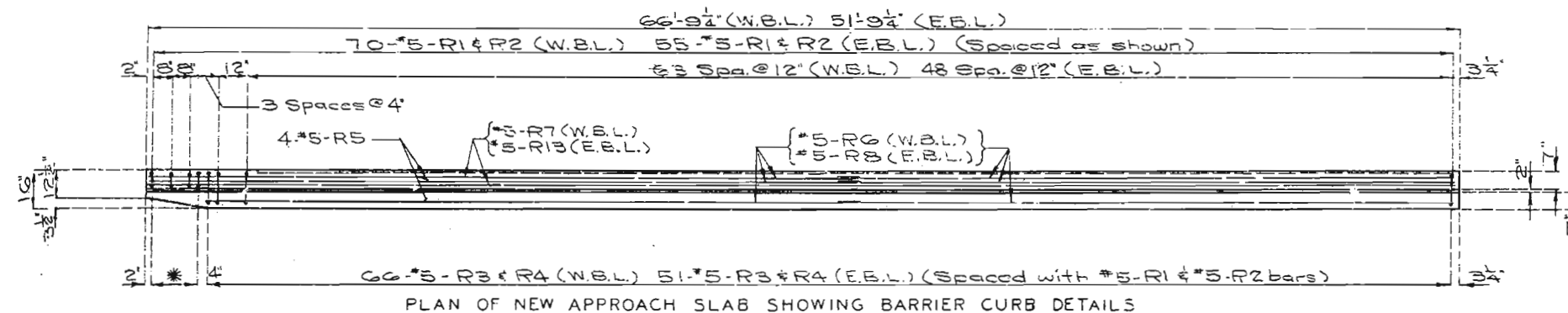
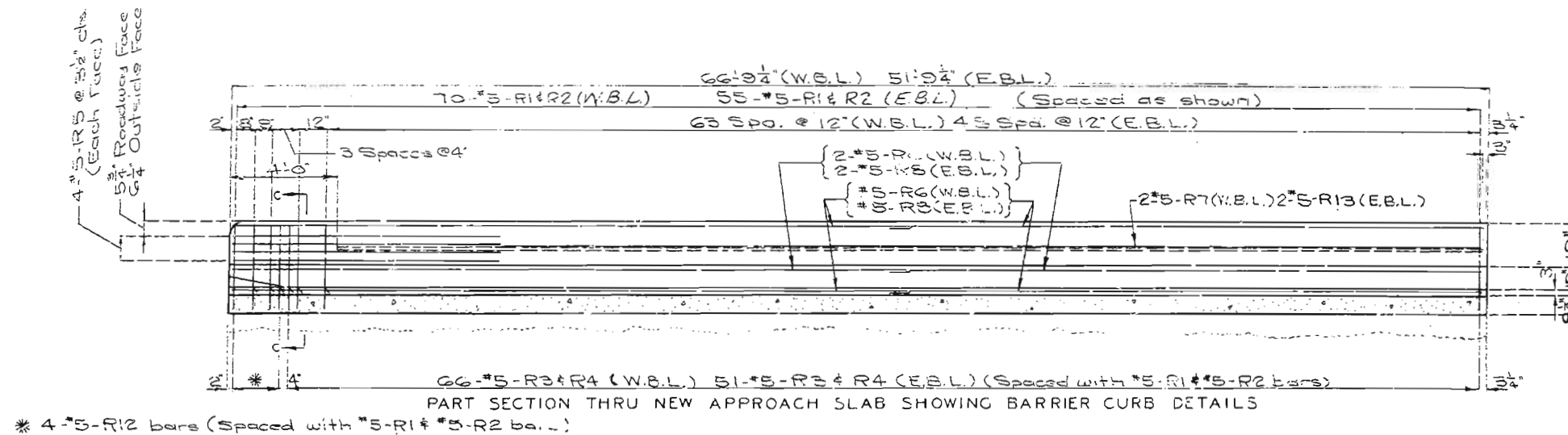
DETAILED MARCH 1981
CHECKED Aug. 1981

Sheet No. 30 of 30.

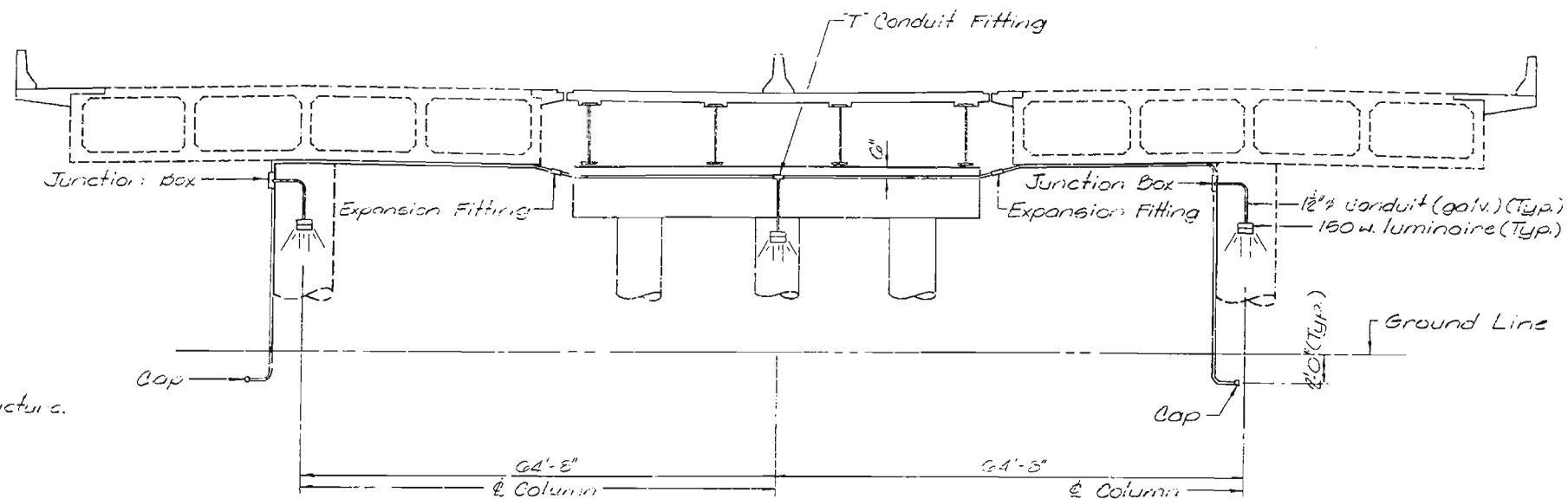
JACKSON COUNTY

L-973R

FED. ROAD	STATE	FED. AID	FISCAL	SHEET	TOTAL
5	MO		19	102	

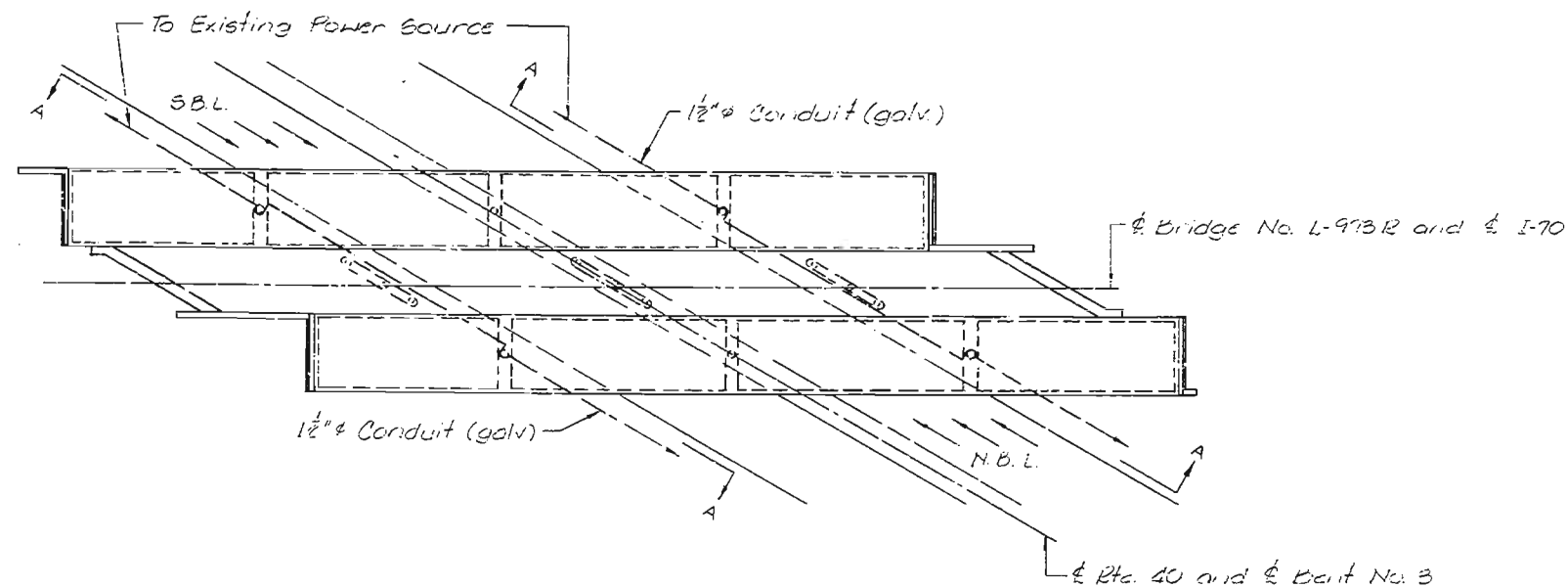


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	104	



Note: Dashed lines indicate existing structure.
Solid lines indicate new construction.

ELEVATION A-A



PLAN

General Notes:

Conduit shall be 1 1/2" as shown.

All conduit shall be rigid steel, galvanized, complete with couplings, elbows, expansion fittings, junction boxes, caps and clamps.

Provide 4 - 1 1/2" Type "AX" or "AF" expansion fittings as shown. They shall provide a minimum movement of 2" in either direction. They shall be equal to O.Z. Gedney Co. Type "AX" or Spring City Electrical Mfg. Co. Type "AF".

Provide 4 - 10" x 8" x 4" junction boxes as shown. They shall be O.Z. Gedney Co. Type "YH" or Spring City Electrical Mfg. Co. Type "HF". Wall thickness shall be sufficient to provide 5 full threads for watertight conduit joint.

Conduit shall be secured to the concrete with clamps at about 5'-0" centers.

This conduit system, complete in place, including 4 - 150 watt high pressure sodium luminaires, shall be paid for as Conduit System on Structure, Lump Sum.

The wiring shall be furnished and installed by others (See Roadway Plans).

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
										B		C		D		E		F		H				
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
4	6H56	BEAM		20	X				53	1.000									53	1	53	1	319	
2	10H60	BEAM		18	X				55	4.000									58	2	58	2	501	
4	10H61	BEAM		18	X				53	1.000									55	11	55	11	962	
6	10H62	BEAM		20	X				53	1.000									53	1	53	1	1371	
59	4P1	COLUMN		16	X				2	9.000									9	6	9	6	374	
2	5U16	BEAM		13	S	X			2	6.000	3	3.000	2	6.000	3	3.000			12	5	12	1	25	
79	5U19	BEAM		13	S	X			2	11.000	3	3.000	2	11.000	3	3.000			13	3	12	11	1064	
2	5U21	BEAM		13	S	X			2	10.500	3	3.000	2	10.500	3	3.000			13	2	12	10	27	
8	10V20	COLUMN		17	X				22	4.000									23	9	23	9	818	
16	10V21	COLUMN		17	X				20	4.000									21	9	21	9	1497	
8	2W1	BEAM		22	X				18.000	9.125									26	1	26	1	35	
END BENT NO. 5																								
4	6F1	WING & BACKWALL		15	S	X			13.875	12	9.000	13.875	3.250	13.500	3.250	13.500			15	1	15	1	91	
5	6F2	WING-STAGE 3		15	S	X			14.125	4	9.000	14.125	10.000	10.000	10.000	10.000			7	1	7	0	53	
8	8H1	NEW BEAM		18	X				58	1.000									59	11	59	11	1280	
2	6H2	NEW BEAM		20	X				58	1.000									58	1	58	1	174	
8	4H5	NEW BACKWALL		20	X				31	0.000									31	0	31	0	166	
4	6H6	NEW BACKWALL		20	X				31	7.000									31	7	31	7	190	
12	4H11	BK WALL.-EBL		20	X				3	8.000									3	8	3	8	29	
2	6H12	BK WALL.-EBL		20	X				7	8.000									7	8	7	8	23	
2	6H13	BK WALL.-WBL		20	X				6	3.000									6	3	6	3	19	
6	4H24	BK WALL.-WBL		20	X				2	0.000									2	0	2	0	8	
4	6H18	WING-WBL		20	X				12	5.000									12	5	12	5	74	
4	6H19	WING-WBL		20	X				12	9.000									12	9	12	9	77	
12	4H20	BK WALL.-WBL		20	X				4	6.000									4	6	4	6	36	
2	6H21	BK WALL.-EBL		20	X				14	6.000									14	6	14	6	44	
8	5H22	WING FTG.-WBL		20	X				2	3.000									2	3	2	3	19	
2	6H23	BK WALL.-WBL		20	X				33	0.000									33	0	33	0	99	
10	6H26	WING-WBL		20	X	V	2		6	9.500									6	10	6	10	10	
		INCR = 16.500 IN							12	3.500									12	4	12	4	144	
8	6H27	TOP OF WALL-WBL		20	X				19	5.000									19	5	19	5	233	
2	6H28	WING-WBL		20	X				7	11.500									8	0	8	0	24	
20	6H30	WING-STAGE 1		20	X				31	0.000									31	0	31	0	931	
2	6H31	WING-STAGE 1		20	X				31	0.000									31	0	31	0	93	
2	6H32	WING-WBL		20	X				6	7.000									6	7	6	7	20	
3	6H33	NEW BEAM		20	X	V	1		6	1.000									6	1	6	1	1	
		INCR = 13.000 IN							8	3.000									8	3	8	3	32	
2	6T2	WING-WBL		25	S	X			2	0.750	11	6.250	5	2.000			5	6.000	18	9	18	9	56	
47	5U15	NEW BEAM		13	S	X			3	1.000	2	9.125	4	0.750	2	7.000			13	5	13	1	641	
6	5U18	NEW BEAM		17	S	X			2	4.000	2	7.000							7	3	7	1	44	
5	4U20	NEW BEAM		10	S	X				6.000	3	0.000							4	0	3	10	13	
1	4U28	NEW BEAM		10	S	X				6.000	2	5.000							3	5	3	3	2	
1	5U23	NEW BEAM		13	S	X			2	3.000	2	9.125	3	2.500	2	7.000			11	9	11	4	12	
1	5U24	NEW BEAM		13	S	X			2	9.500	2	9.250	3	9.500	2	7.000			12	10	12	6	13	
16	6U25	NEW BEAM		10	S	X				22.500	2	7.000							6	4	6	0	144	
5	7U26	NEW BEAM		10	X				6	9.000	2	7.500							16	2	15	9	161	
54	5U27	NEW BACKWALL		10	S	X				12.000	9.000								2	9	2	7	145	
2	5V24	NEW BEAM		21	S	X			2	9.250	21.000	9.000			2	7.000	12.000		5	3	5	0	10	
54	6V25	NEW BACKWALL		20	X				6	5.000									6	5	6	5	520	
55	5V26	NEW BACKWALL		20	X				5	11.000									5	11	5	11	339	
28	6V28	WING-STAGE 1		20	X	V	1		7	9.875									7	10	7	10	331	
		INCR = 0.000 IN							7	11.375									7	11	7	11	331	
4	6V29	WING-STAGE 1		20	X				8	7.000									8	7	8	7	311	

COMPLETE BILL OF REINFORCING STEEL

NO. REQD.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
									B		C		D		E		F		H				
									FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
28	6V30	WING-STAGE 1		20	X	V	1		7	7.000									7	7	7	7	
		INCR = 0.125 IN							7	8.500									7	9	7	9	322
4	6V31	WING-STAGE 1		20	X				8	4.000									8	4	8	4	50
3	5V32	BACKWALL-EBL		20	X				5	5.000									5	5	5	5	18
3	5V33	BACKWALL-EBL		20	X				5	8.000									5	8	5	8	4
1	6V34	NEW BEAM		20	X				2	10.000									2	10	2	10	23
4	5V35	BACKWALL-WBL		20	X				5	7.000									5	7	5	7	22
4	5V36	BACKWALL-WBL		20	X				5	4.000									5	4	5	4	21
6	5V37	WING FTG.-WBL		20	X				3	5.000									3	5	3	5	21
22	6V38	WING-WBL		20	X	V	2		2	4.000									2	4	2	4	50
		INCR = 6.500 IN							7	9.250									7	9	7	9	167
4	6V39	WING-WBL		20	X				8	3.000									8	3	8	3	50
4	6V40	WING-WBL		20	X				2	4.500									2	5	2	5	15
8	2W1	NEW BEAM		22	X				18.000	9.125									26	1	26	1	35
		SUPERSTRUCTURE																					
		NEW BARRIER CURB																					
48	5R9	BARRIER CURB	E	20					40	2.000									40	2	40	2	2011
74	5R10	BARRIER CURB	E	20					9	9.000									9	9	9	9	753
48	5R11	BARRIER CURB	E	20					43	1.000									43	1	43	1	2157
796	5R1	BARRIER CURB	E	19	S				2	6.000	3.500								2	10	2	8	2214
796	5R2	BARRIER CURB	E	15	S				2	6.125	3.500			2	6.000	3.000			2	10	2	9	2283
796	5R3	BARRIER CURB	E	19	S				18.500	6.000									2	1	23		1591
796	5R4	BARRIER CURB	E	27	S				6.000		11.125	8.500	12.000	9.125	6.375	3	2	3	0				2491
		MEDIAN BARRIER																					
		CURB																					
834	5M1	MED BARRIER CURB	E	50	S				8.000		1.500	10.000		9.125	4.875	2	7	2	5				2102
834	5M2	MED BARRIER CURB	E	15	S				2	5.125	3.500			2	5.000	3.000			2	9	2	8	2320
14	5M3	MED BARRIER CURB	E	20					49	9.500									49	10	49	10	728
42	5M4	MED BARRIER CURB	E	20					9	9.000									9	9	9	9	427
28	5M5	MED BARRIER CURB	E	20					43	1.000									43	1	43	1	1258
14	5M6	MED BARRIER CURB	E	20					42	2.000									42	2	42	2	616
		SUPERSTRUCTURE																					
		BARRIER CURBS																					
		OVER APPROACH																					
		SLABS & WINGS																					
157	5R1	BARRIER CURB	E	19	S				2	6.000	3.500								2	10	2	8	437
157	5R2	BARRIER CURB	E	15	S				2	6.125	3.500			2	6.000	3.000			2	10	2	9	450
117	5R3	BARRIER CURB	E	19	S				18.500	6.000									2	1	23		234
117	5R4	BARRIER CURB	E	27	S				6.000		11.125	8.500	12.000	9.125	6.375	3	2	3	0				366
16	5R5	BARRIER CURB	E	20					10	0.000									10	0	10	0	167
8	5R6	BARRIER CURB	E	20					34	0.000									34	0	34	0	784
2	5R7	BARRIER CURB	E	20					57	9.000									57	9	57	9	120
8	5R8	BARRIER CURB	E	20					26	6.000									26	6	26	6	221
8	5R12	BARRIER CURB	E	10	S						17.750	6.500	12.000						4	6	4	2	35
2	5R13	BARRIER CURB	E	20					42	9.000									42	9	42	9	85
20	5R14	BARRIER CURB	E	20					12	9.000									12	9	12	9	266
2	5R15	BARRIER CURB	E	20					12	6.000									12	6	12	6	26
2	5R16	BARRIER CURB	E	20					11	0.000									11	0	11	0	23
24	5R17	BARRIER CURB	E	27	S						6.000	11.125	15.200		9.125	6.375			2	8	2	7	65
24	5R18	BARRIER CURB	E	19	S				2	0.000	6.000								2	6	2	5	60
8	5R19	BARRIER CURB	E	13	S						2	3.000	6.500						4	7	4	4	36



L-973R



B.M. "B" Elev. 1034.00 Conc Nail Wall B E.B.L.
Sta. 463+71.26

DATE December 14, 1983

STD. 611.60
STD. 706.35
L-973R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		13	73	

FINAL QUANTITIES			
ITEM		SUBSTR.	SUPERSTR. TOTAL
Class I Excavation	Cu.Yd.	288	288
Structural Steel Pile (10")	Lin. Ft.	507	507
Class B Concrete	Cu.Yd.	276.2	276.2
Class B1 Concrete	Cu.Yd.		127.2
Class B2 Concrete	Cu.Yd.		541.0
Latex Concrete Wearing Surface	Sq. Yd.		3058
Type "N" PTFE Bearings	Each		20
Elastomeric Expansion Jt. Seal (30 in.) Lin. Ft.			1115
Reinforcing Steel (Grade 60)	Lb.	36620	93430
Reinforcing Steel (Epoxy Coated)	Lb.	1850	77140
Fabricated Structural Carbon Steel R.Gdr. Lb.			369230
Painting (System A or B) Aluminum	Ton		183.4
Repairing Concrete Deck (Half Soling)	Sq. Ft.		3182
Full Depth Repair	Sq. Ft.		0
Special Work	Lump Sum		1
Conduit System on Structure	Lump Sum		1

Note: All concrete and reinforcement in safety barrier and median barrier curbs were included with superstructure quantities.
 All concrete and reinforcement in end bents (except pile cap beam) were included with superstructure quantities.

PILE & FOOTING DATA					
BEARING PILE	BENT NO		1	2	3
	Pile Type and Size		HP10x42		HP10x42
	Number		8		8
	Approximate Length Ft.		30		22
	Design Bearing Tons		46		45
SPREAD FOOTING	Foundation Material		Rock	Rock	Rock
	Design Bearing Tons/Sq. Ft.		9.9	8.2	9.0

Minimum energy requirement of hammer based on plan length and design bearing value of piles.
 All piles were driven to practical refusal.

Design Specifications: A.A.S.H.T.O.-1977 Load Factor Design
 Design Loading:

HS20-44
 15" per sq. ft. Future Wearing Surface
 Modified 24,000# Tandem Axle
 Earth 120#/cu.ft., Equivalent Fluid Pressure 30#/cu.ft.
 Fatigue Stress-Case I

Design Unit Stresses:

Class B Concrete (Substructure) $f_c = 4,000$ psi
 Class B1 Concrete (Safety Barrier & Median Barrier Curbs)
 $f_c = 4,000$ psi
 Class B2 Concrete (Superstructure-except Safety Barrier & Median Barrier Curbs) $f_c = 4,000$ psi
 Reinforcing Steel (Grade 60) $f_y = 60,000$ psi
 Structural Carbon Steel $f_y = 36,000$ psi
 Steel Pile $f_b = 9,000$ psi

Connections

Field connections, High Strength Bolts $\frac{3}{4}"$, holes $\frac{11}{16}"$ except as noted.

Joint Filler

All joint filler to meet the requirement of Std. Spec. 103.

Reinforcing Steel

Minimum clearance to reinforcing steel was $\frac{1}{2}"$ unless otherwise shown.

Paint Item

Paint: System A or B (Aluminum) by contractor in accordance with Std. Spec. 712.12.

Construction Clearance

A minimum vertical clearance of 14'-0" from crown of existing lanes and a minimum lateral clearance of 40'-0" centered on each existing 36' Roadway was maintained during construction.

Traffic Maintained

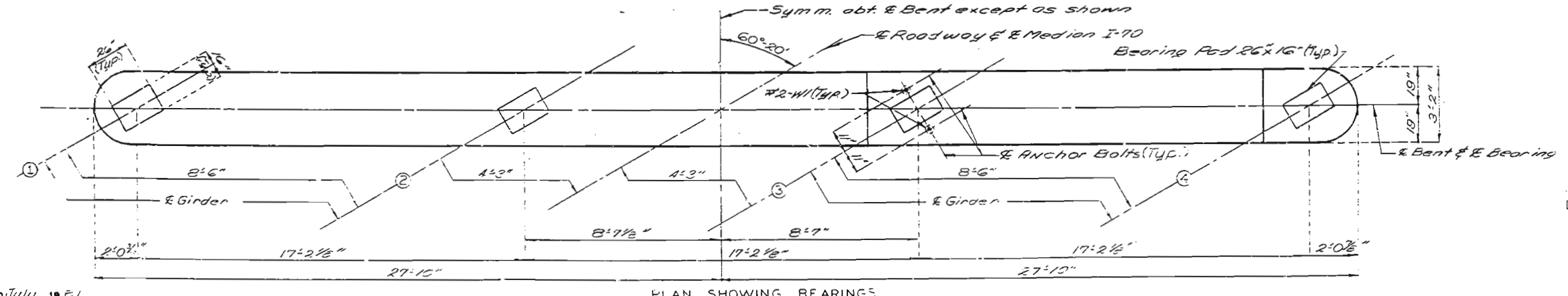
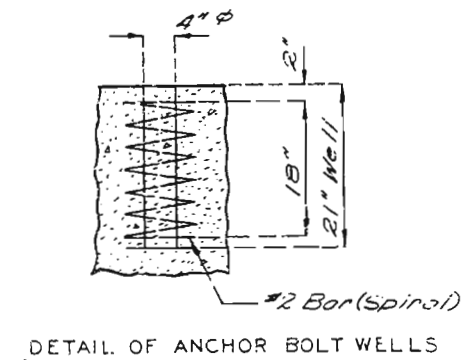
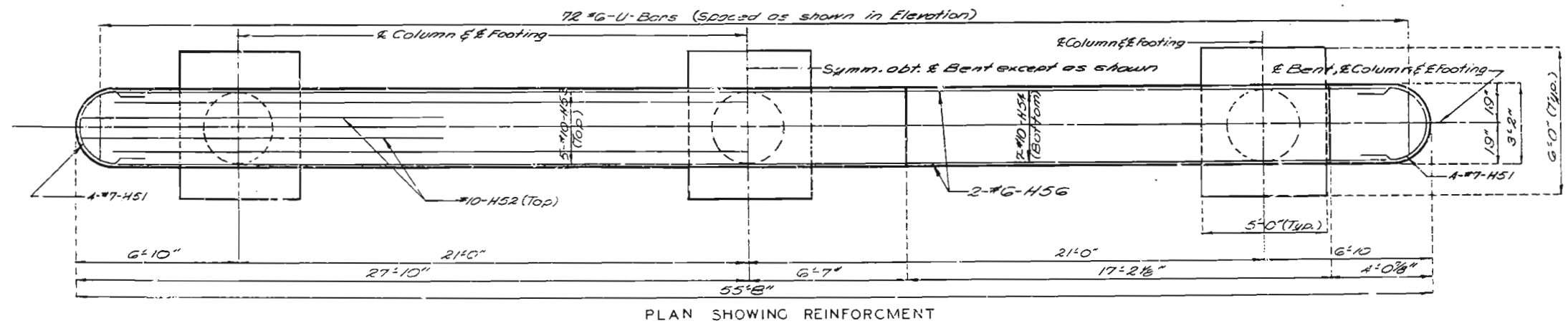
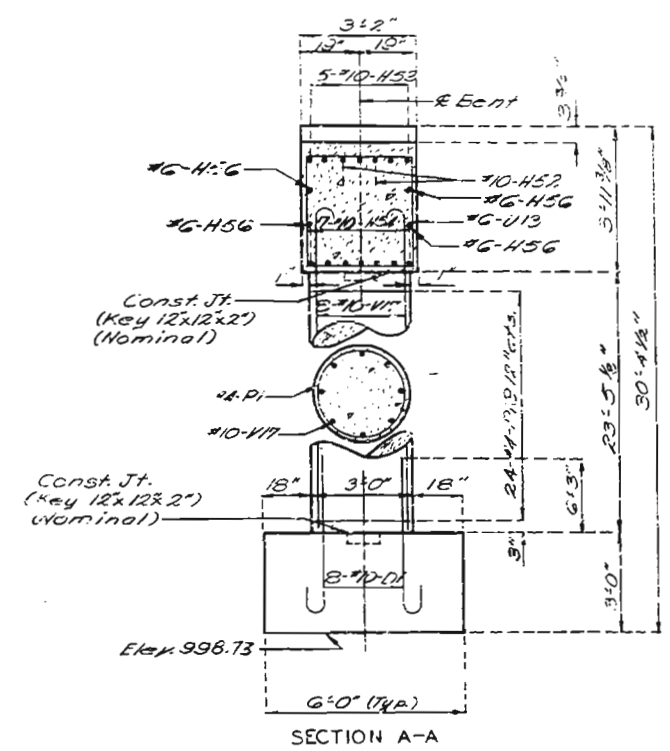
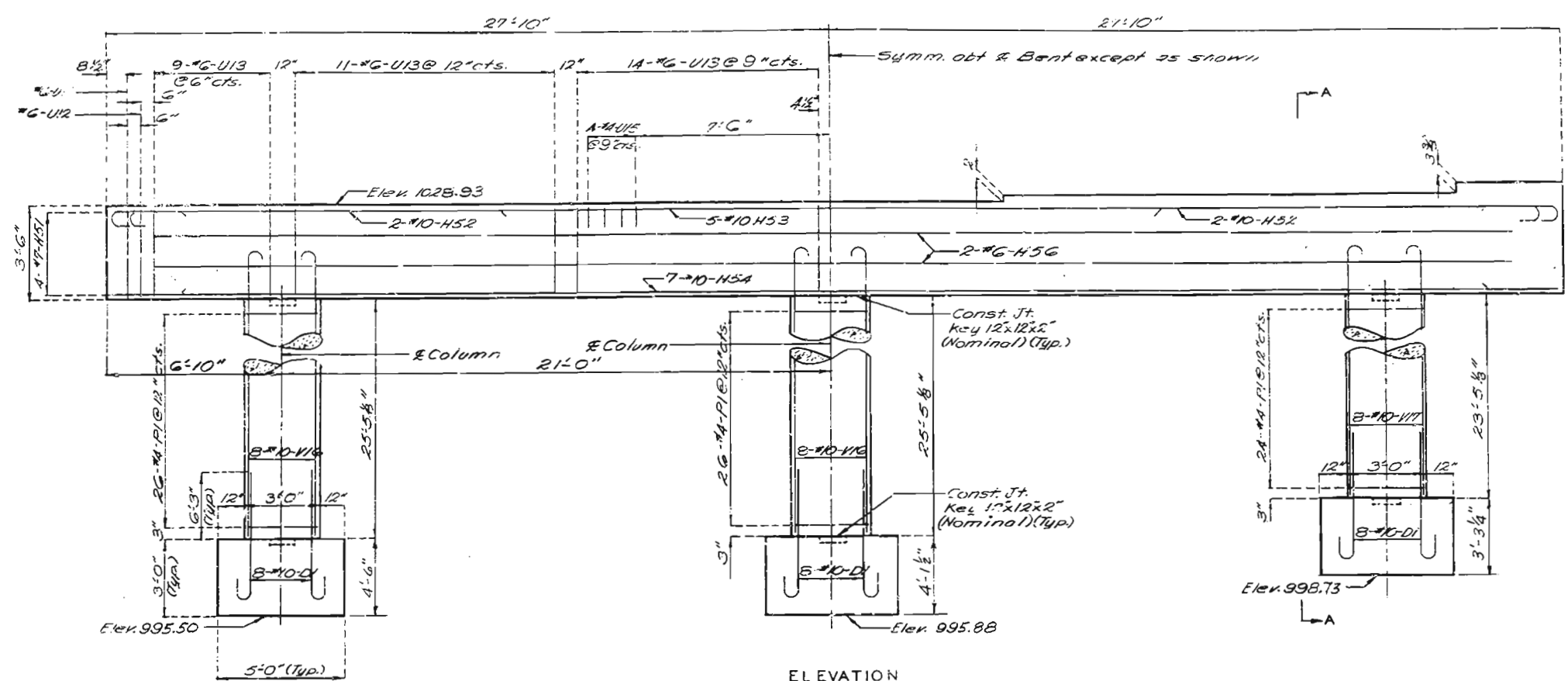
Traffic over structure was maintained during construction.

All reinforcing bars in tops of substructure beams or caps were spaced to clear anchor bolts for bearings by at least $\frac{1}{2}"$.

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

Bars bonded in old concrete not removed cleanly stripped and embedded into new concrete where possible. If length was available, old bars did extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	40		18	51	



DETAILS OF INT. BENT NO. 2

236
 DETAILED July 1981
 CHECKED July 1981

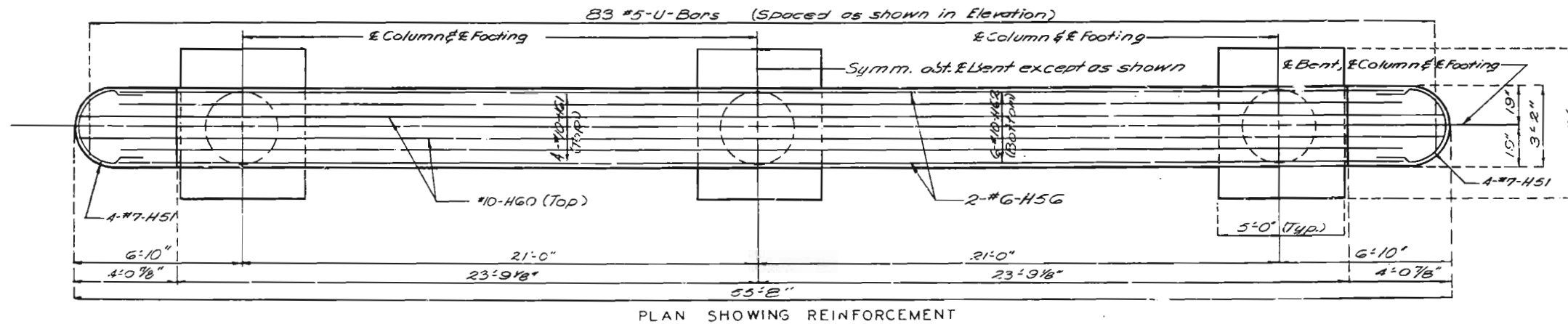
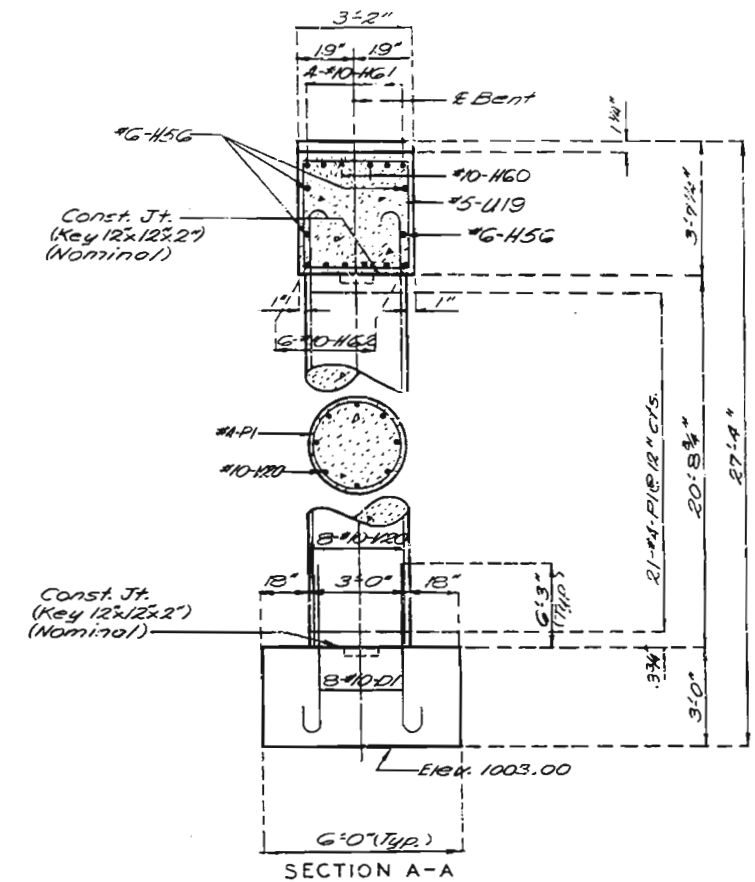
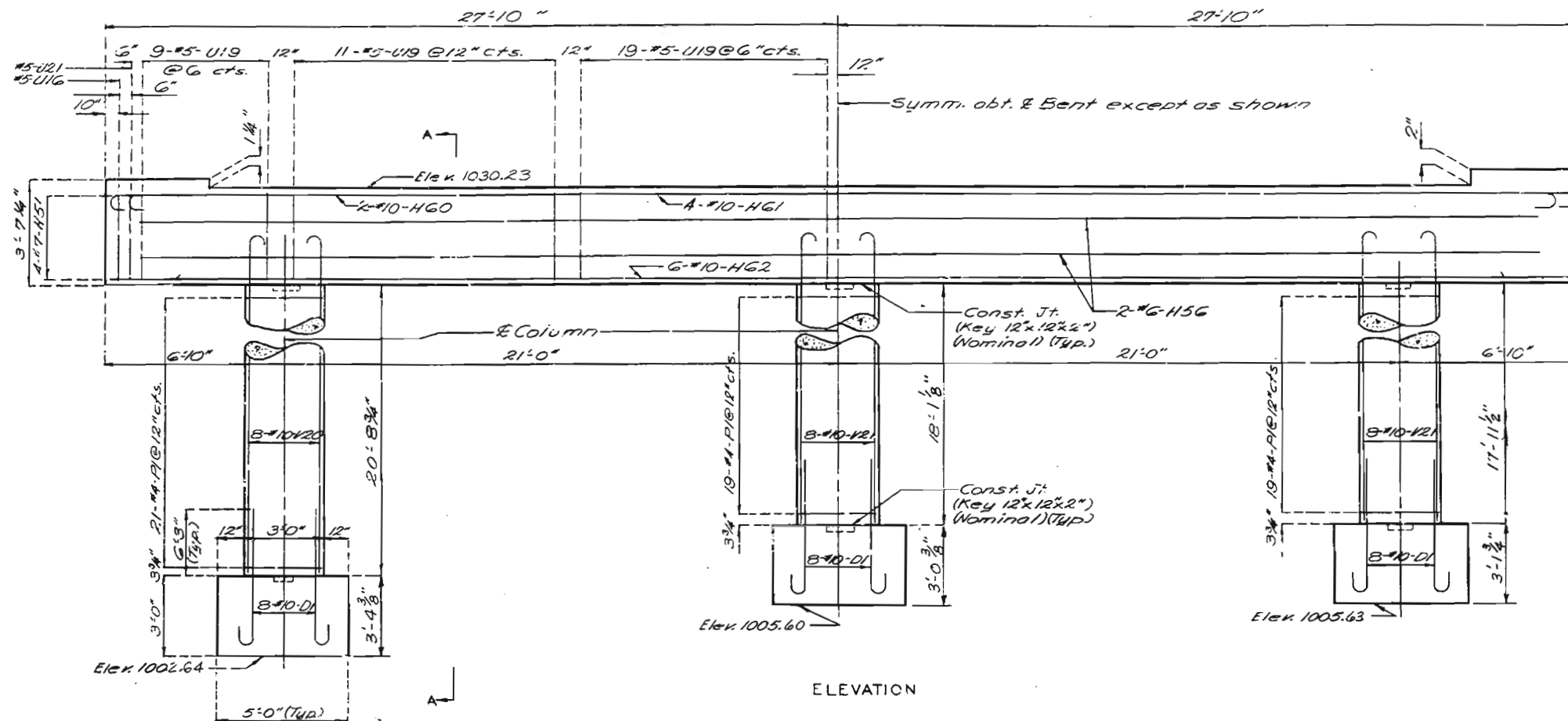
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 10 of 30.

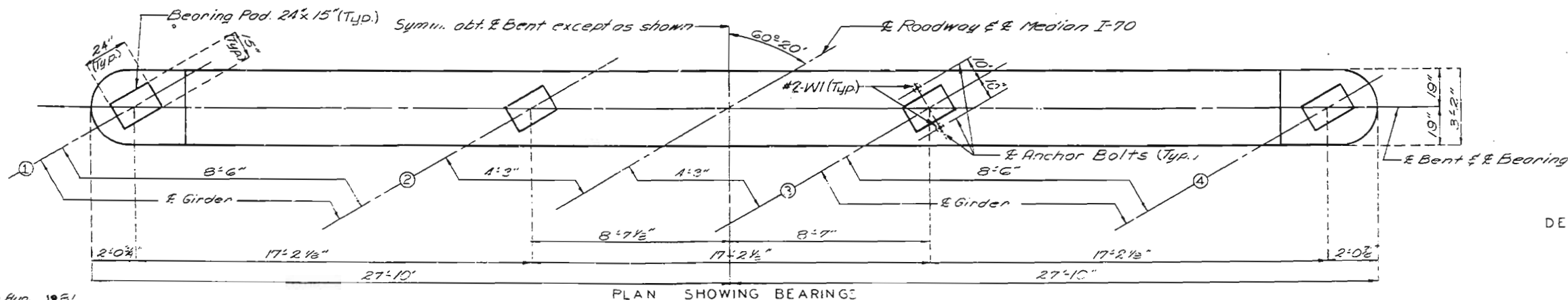
JACKSON COUNTY

L-973R

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO.		19	83	



Note: For detail of anchor bolt wells see sheet No. 10.



DETAIL OF INT. BENT NO. 4

234
 DETAILED Aug. 1981
 CHECKED Aug. 1981

Note: This drawing is not to scale. Follow dimensions.

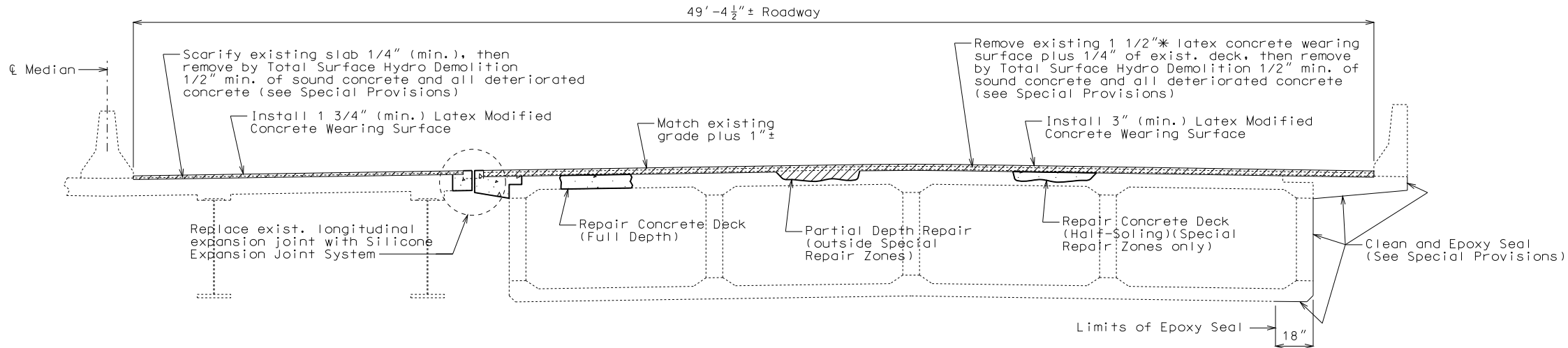
Sheet No. 12 of 35.

JACKSON COUNTY

L-973R

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
U.I.P. & REHAB EXISTING (88'-105'-105'-88') CONTINUOUS CONCRETE BOX GIRDER SPANS
WIDENED IN MEDIAN WITH (105'-105'-105'-90') CONTINUOUS COMPOSITE PLATE GIRDER SPANS

SEC/SUR 21 TWP 49N RGE 32W



Estimated Quantities		
Item		Total
Scarification of Bridge Decks	sq. yard	565
Removal of Concrete Wearing Surface	sq. foot	13,065
Removal of Existing Expansion Joints & Adjacent Concrete	linear foot	569
Latex Modified Concrete Wearing Surface	sq. yard	2,055
Class B-1 Concrete	cu. yard	54.3
Substructure Repair (Formed)	sq. foot	75
Substructure Repair (Unformed)	sq. foot	50
Repairing Concrete Deck (Half-Soling)	sq. foot	1,700
Full Depth Repair	sq. foot	3,000
Total Surface Hydro Demolition	sq. yard	2,016
Clean and Epoxy Seal	sq. foot	4,080
Reinforcing Steel (Epoxy Coated)	pound	10,870
Protective Coating - Concrete Bents and Piers (Epoxy)	lump sum	1
Surface Preparation for Recoating Structural Steel	sq. foot	200
Field Application of Inorganic Zinc Primer	sq. foot	200
Intermediate Field Coat (System G)	sq. foot	200
Finish Field Coat (System G)	sq. foot	200
Rocker Bearing Replacement	each	10
Strip Seal Expansion Joint System	linear foot	131
Silicone Expansion Joint Sealant System	linear foot	438

SECTION THRU EXISTING SLAB

General Notes:

Design Specifications:
2002 - AASHTO 17th Edition
Bridge Deck Rating = 4

Design Unit Stresses:

Class B-1 Concrete (Slab & Safety Barrier Curb) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars, unless otherwise noted.

The contractor shall use a mechanical bar splice for #6-S Bars at Median between Bridges L09733 & L09734. The total bar lengths for bars indicated in the bill of reinforcing steel are determined based on bars being placed up to Median. No additional payment will be made for any additional bar lengths required for the mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 except that no measurement will be made for mechanical bar splice and will be considered completely covered by the contract unit price for the reinforcing steel.

Traffic Control:

Close structure during construction and maintain EB traffic on WB bridge (L09734). See Roadway Plans for traffic control.

Miscellaneous:

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

Roadway surfacing adjacent to bridge ends shall match bridge overlay (Rdwy. Item).

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

Contractor shall verify all dimensions in field before ordering new material.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. See Special Provisions for Method of Measurement.

"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

General Notes (Cont.):

Existing Structural Steel Protective Coatings:

Protective Coating: System G in accordance with Sec 1081.

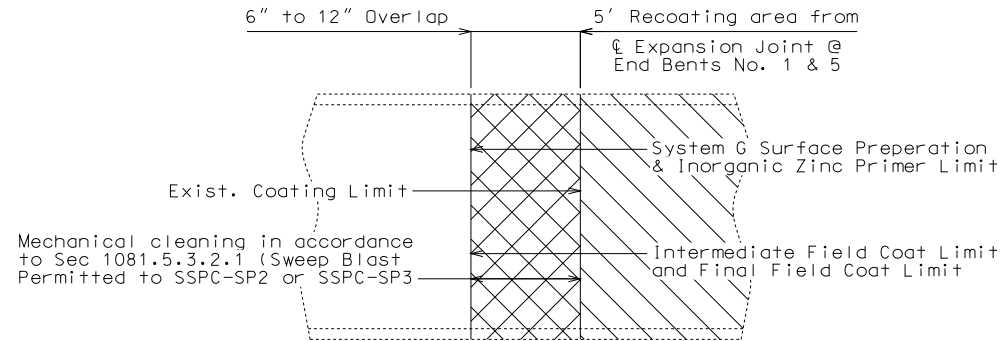
Protective Coating Limits: All structural steel within 5 feet beyond expansion joint at End Bents No. 1 & 5 of plate girder spans. Within this limit, items to be recoated shall include all surfaces of girders, diaphragms, stiffeners and miscellaneous structural steel items.

Surface Preparation: Surface preparation of the existing steel shall be in accordance with Sec 1081 for "Recoating of Structural Steel (System G or H)". The cost of surface preparation will be considered completely covered by the contract unit price per square foot for "Surface Preparation for Recoating Structural Steel".

Prime Coat: The cost of the prime coat will be considered completely covered by the contract unit price per square foot for "Field Application of Inorganic Zinc Primer". Tint of the prime coat for System G shall be similar to the color of the field coat to be used.

Field Coats: The color of the field coats shall be Gray (Federal Standard #26373). The cost of the intermediate field coat will be considered completely covered by the contract unit price per square foot for "Intermediate Field Coat (System G)". The cost of the finish field coat will be considered completely covered by the contract unit price per square foot for "Finish Field Coat (System G)".

Sec 1081.4.5 shall be modified such that the word "RECOATED" is replaced by the word "RECOATED - SYSTEM G - END BENTS ONLY".



PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP
(Vertical or horizontal paint limit. Horizontal limit shown)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 13

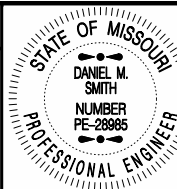
REPAIRS TO BRIDGE: RTE. I-70 EBL
OVER RTE. 40

STATE ROAD FROM RTE I-435 TO RTE I-470

ABOUT 2.4 MILES EAST OF RTE. I-435

STA. 463+55.70± (Median) (Match Exist.)

STD. 706.35



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
12/22/2010

ROUTE
I-70

STATE
MO

DISTRICT
BR

SHEET NO.
1

COUNTY
JACKSON

JOB NO.
J411790B

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L09733

DESCRIPTION

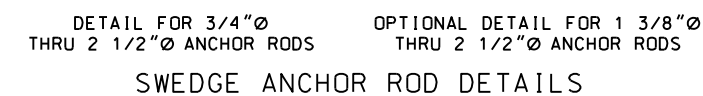
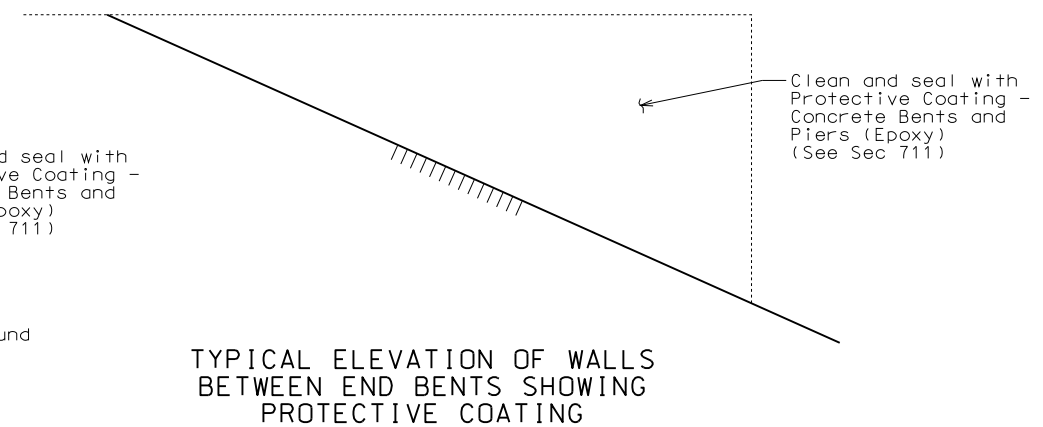
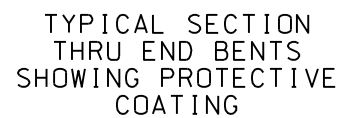
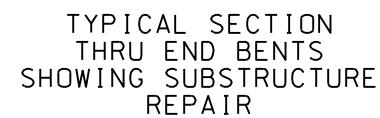
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MoDOT

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



Payment for new concrete, complete-in-place, required for bearing replacement will be considered completely covered by the contract unit price for Substructure Repair (Formed).

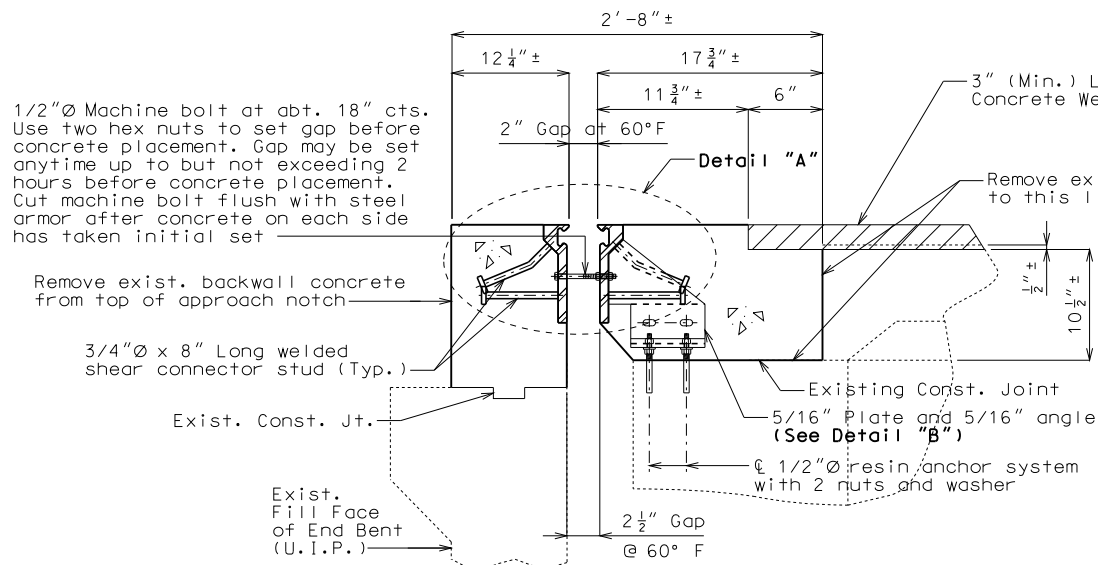
"☞" Indicates machine finish surface.

DETAILS OF ROCKER BEARING REPLACEMENT AT END BENTS NO. 1 & 5 (BOX GIRDER STRUCTURE ONLY)

Sheet No. 3 of 13

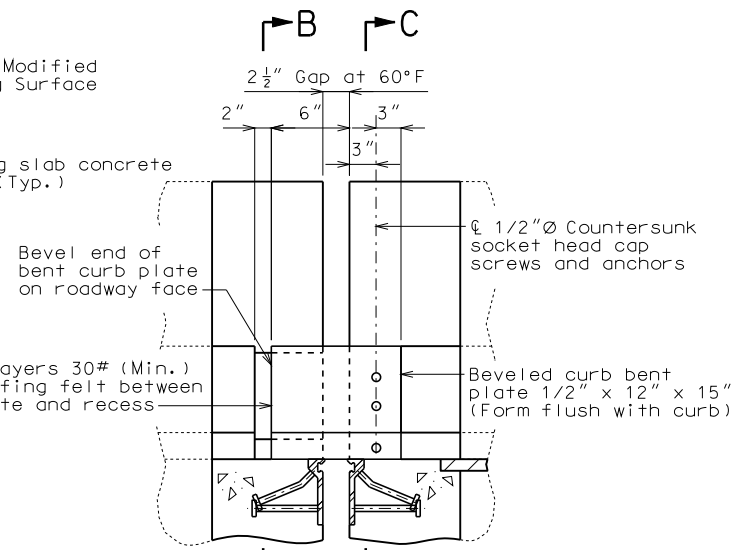


IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



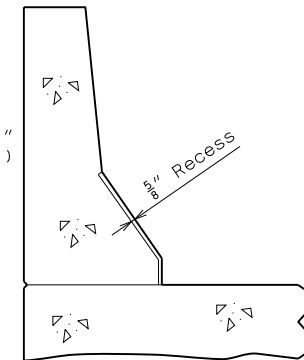
Note: Strip seal gland and reinforcement not shown for clarity.

SECTION A-A



Note: Strip seal gland and reinforcement not shown for clarity.

PART ELEVATION OF BARRIER CURB



PART SECTION B-B

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

Exist. longitudinal reinforcing steel shall be cut so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

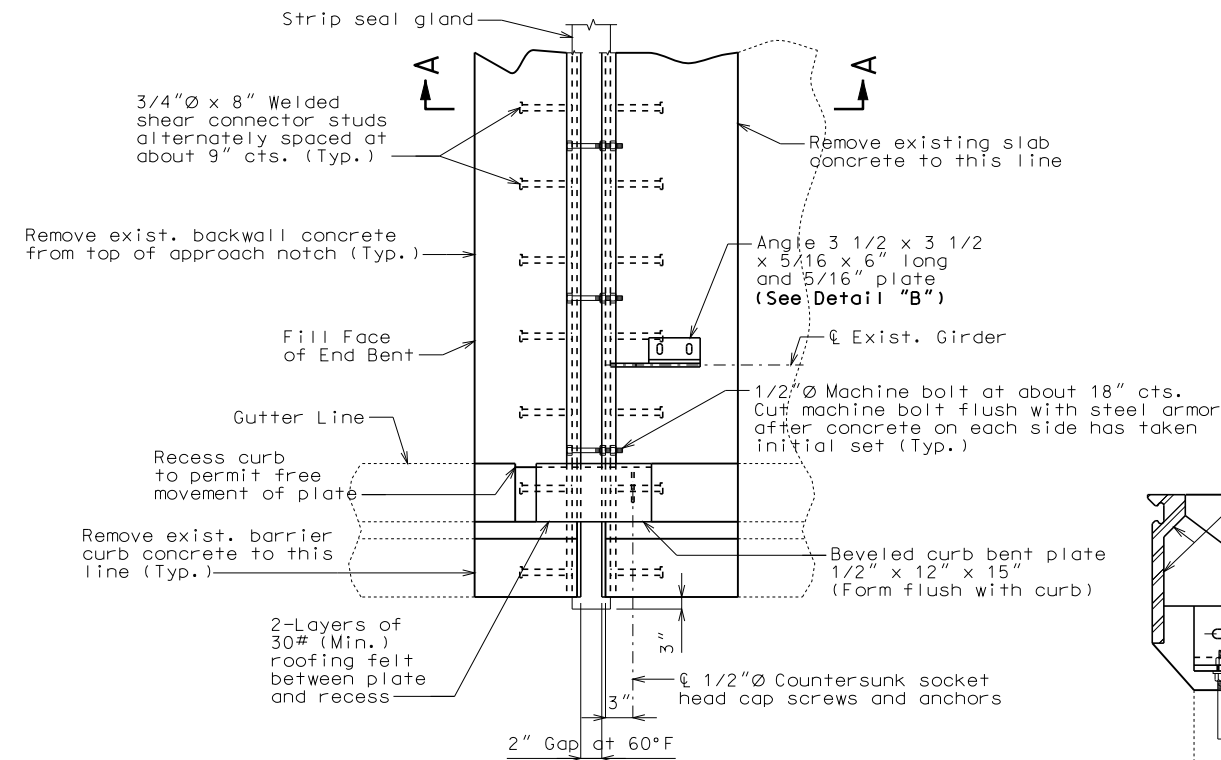
Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until the concrete is at least 7 days old.

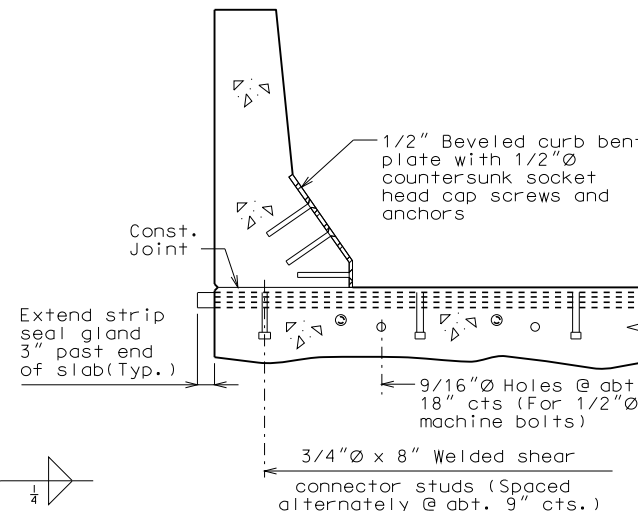
The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Class B-1 Concrete.

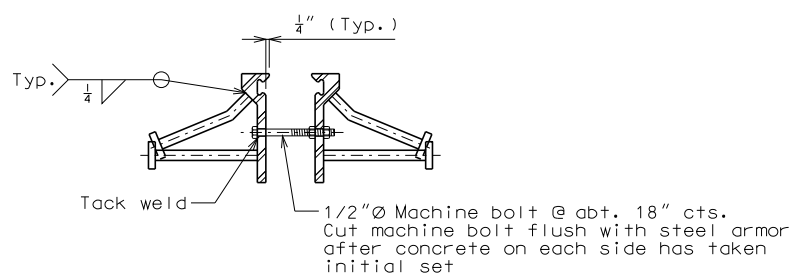
The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".



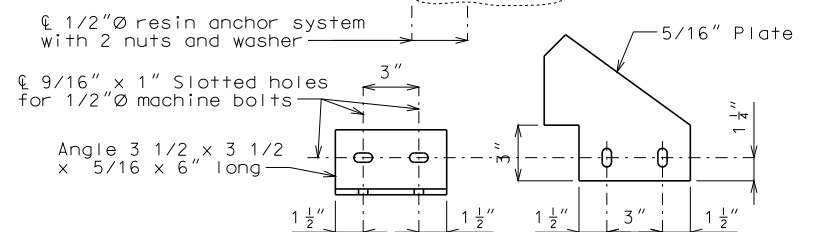
PART PLAN



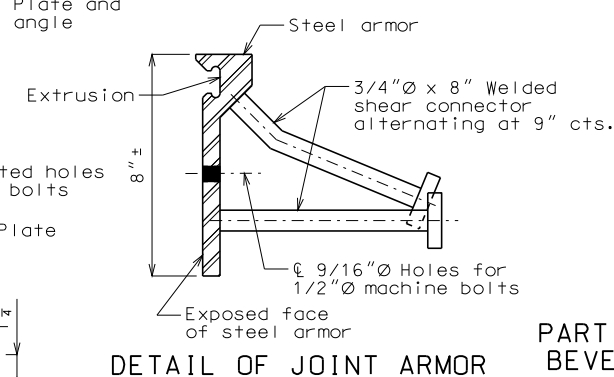
PART SECTION C-C



DETAIL "A"

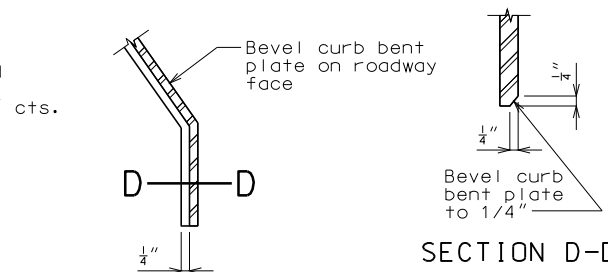


DETAIL "B"

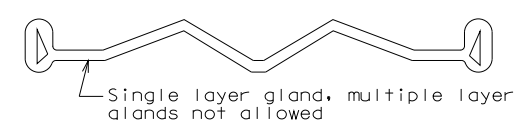


DETAIL OF JOINT ARMOR

PART ELEVATION AT END OF BEVELED CURB BENT PLATE



SECTION D-D



Strip seal gland size = 3"

DETAIL OF GLAND

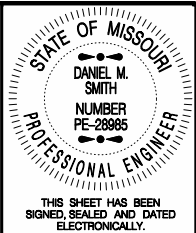
Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 13

DETAILS OF STRIP SEAL AT END BENTS NO. 1 & 5 (BOX GIRDER STRUCTURE)

(End Bent No. 1 shown, End Bent No. 5 similar)



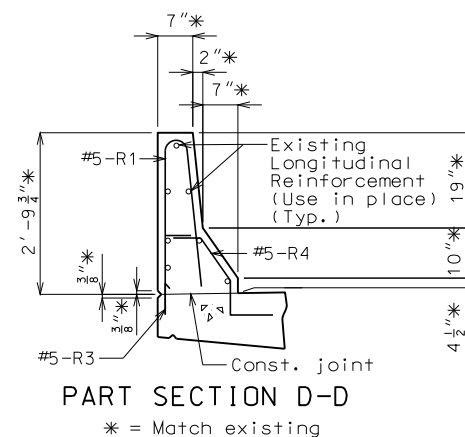
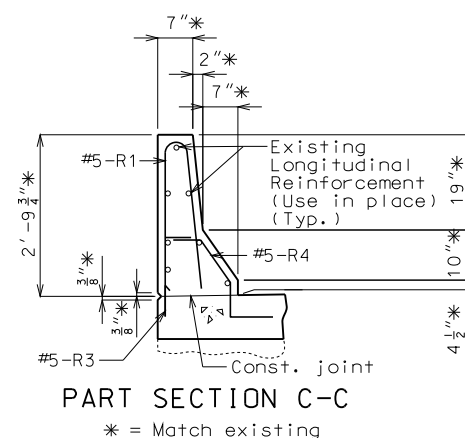
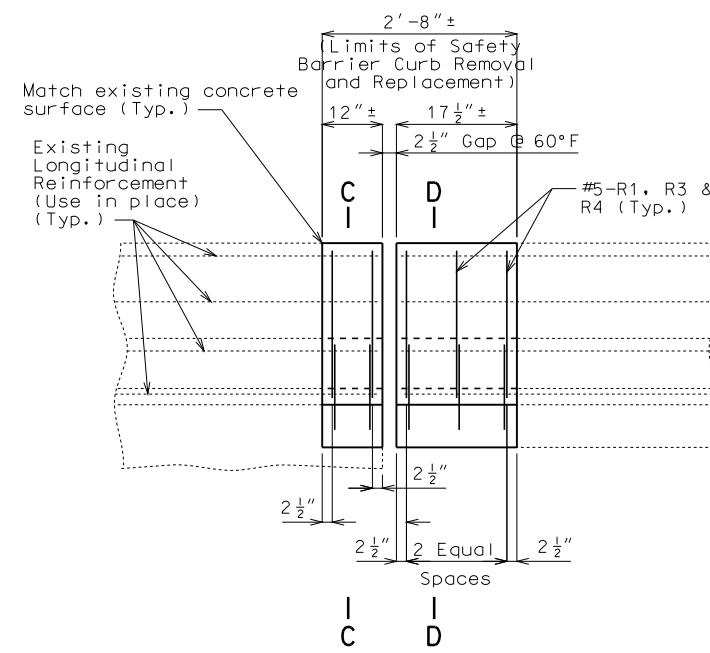
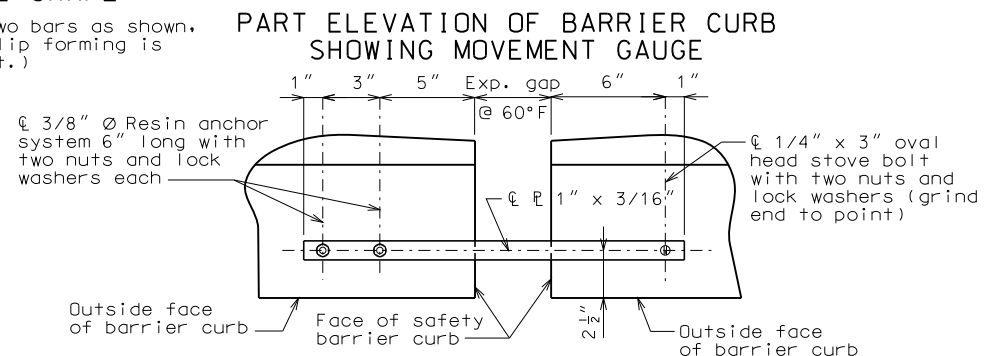
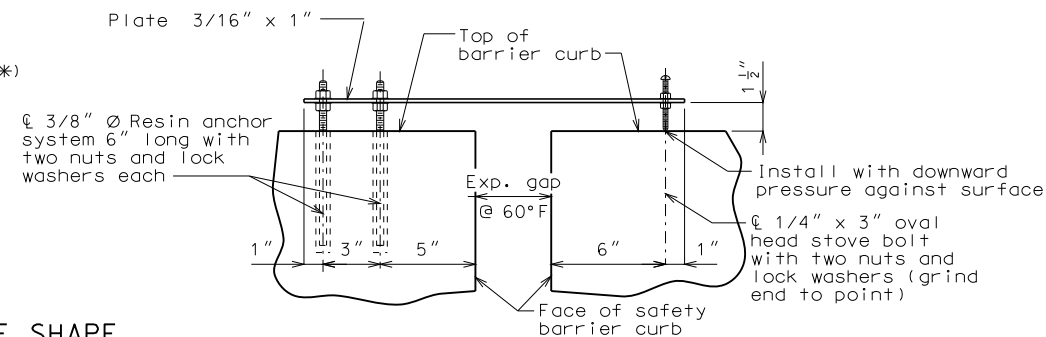
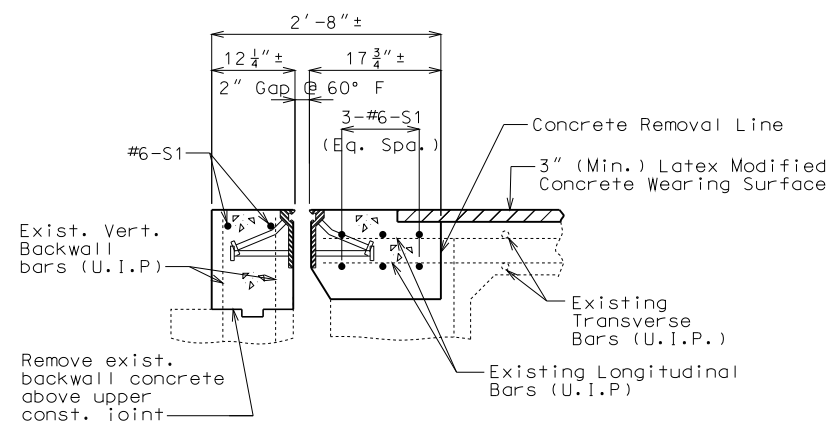
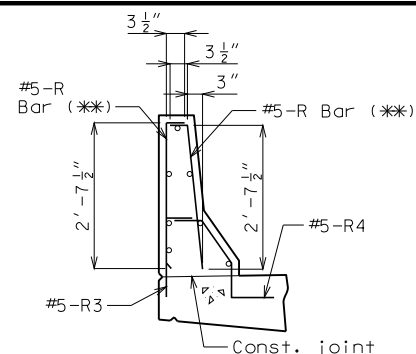
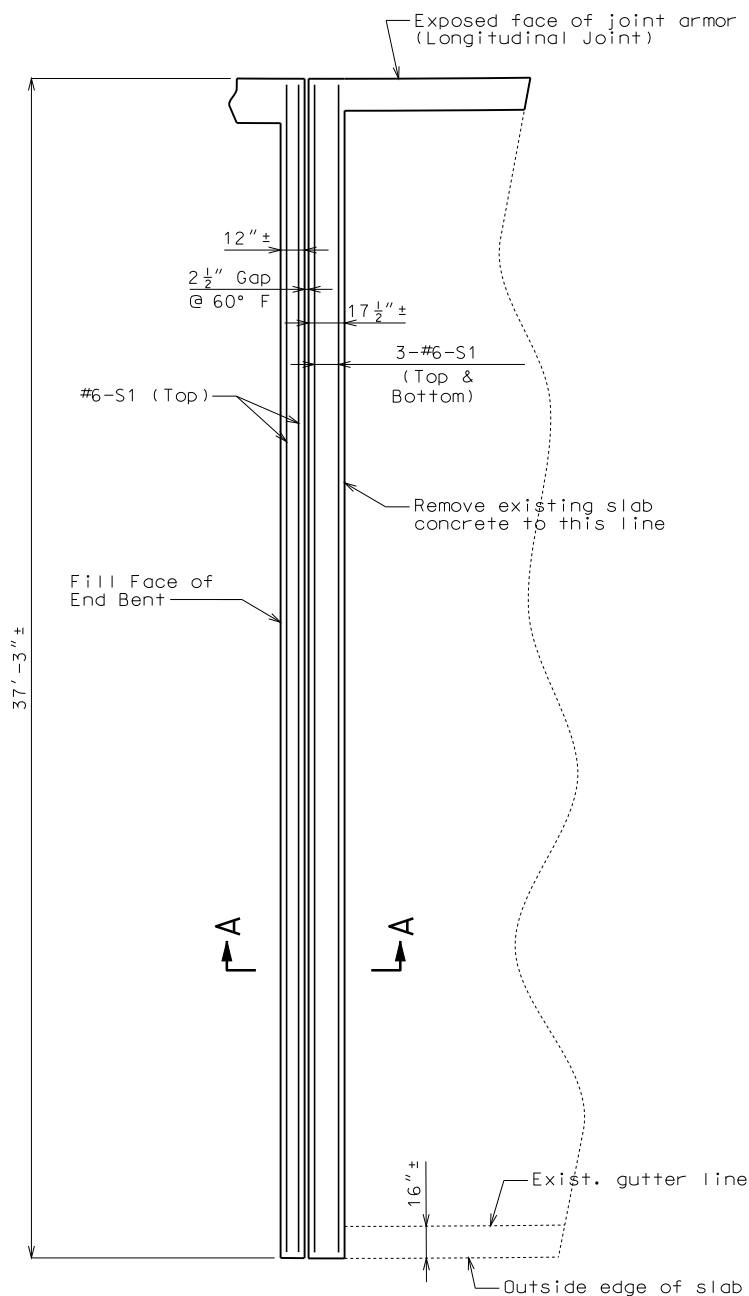
DATE PREPARED 11/8/2010	
ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. 4
COUNTY JACKSON	
JOB NO. J411790B	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. L09733	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

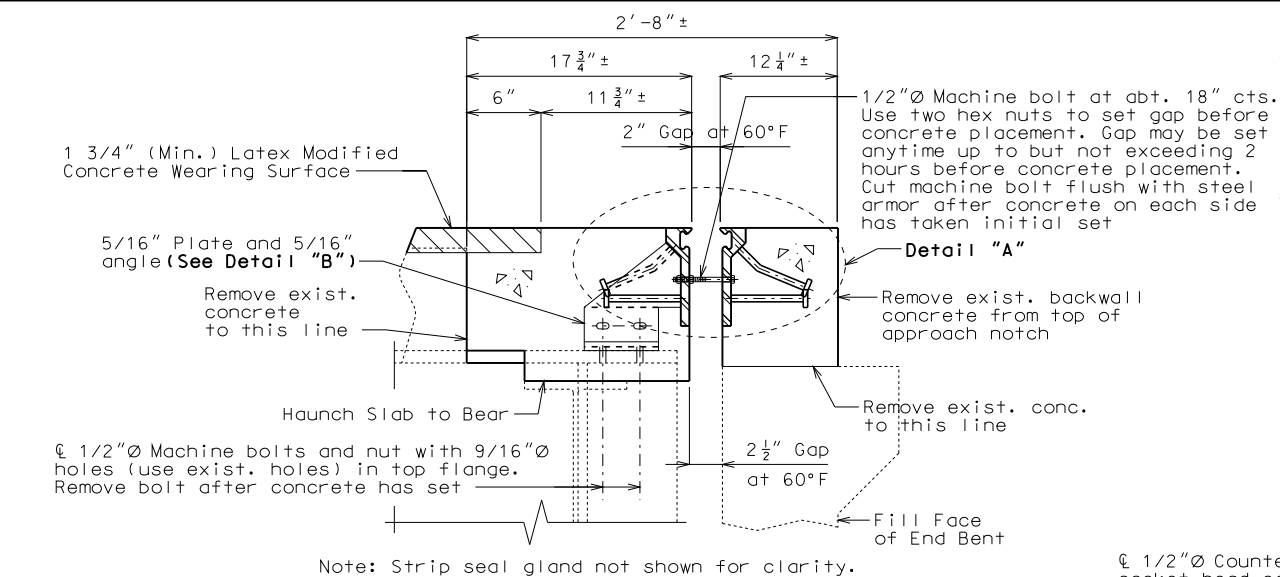


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JEFFERSON CITY, MO 65102
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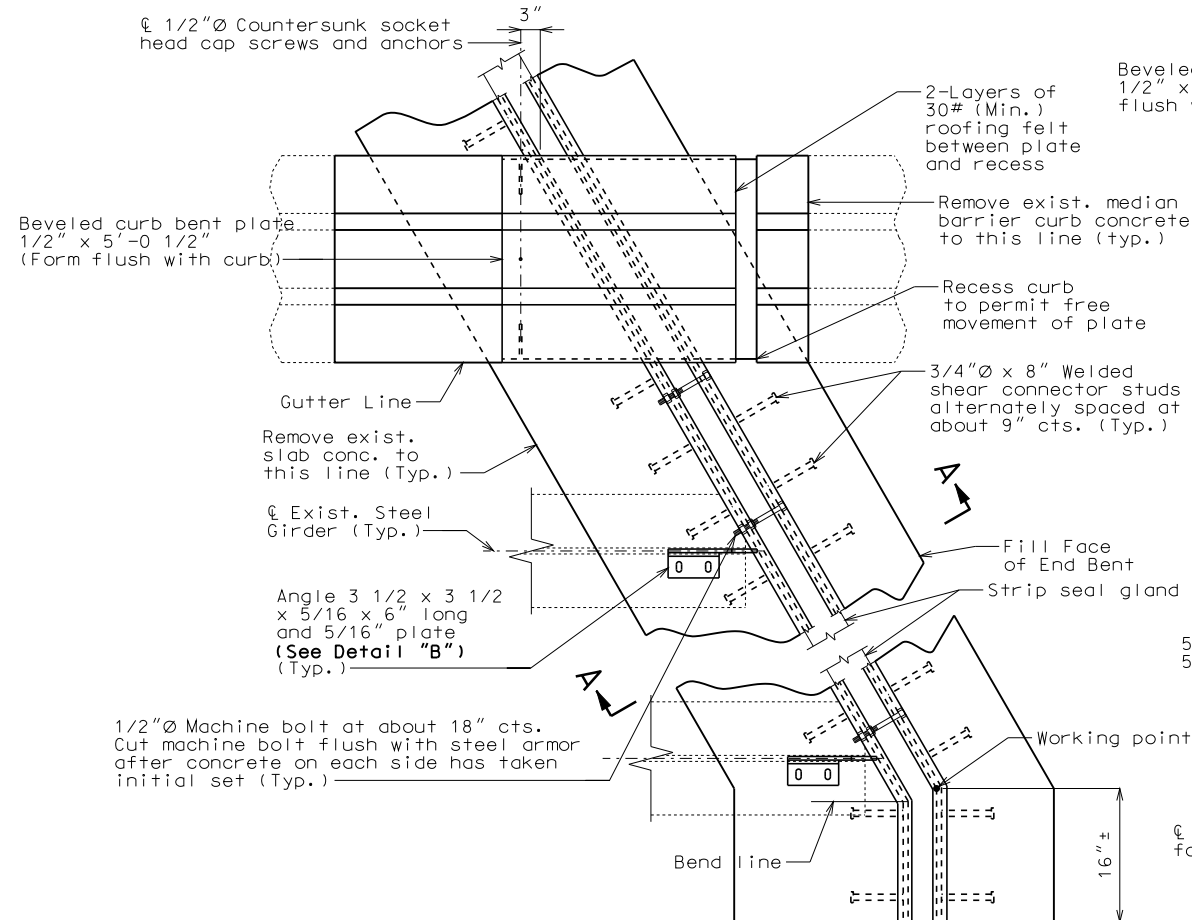
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



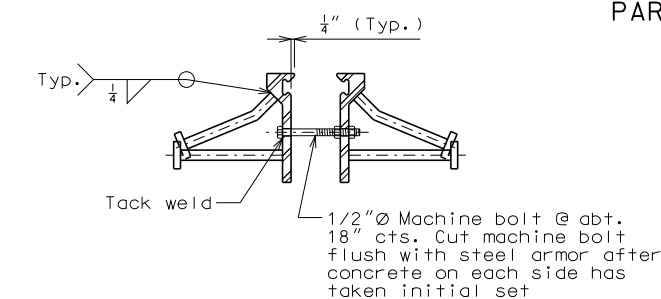
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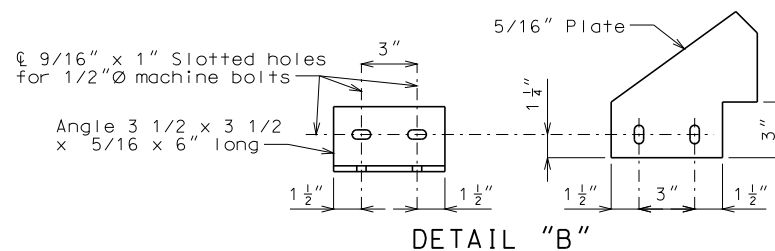
SECTION A-A



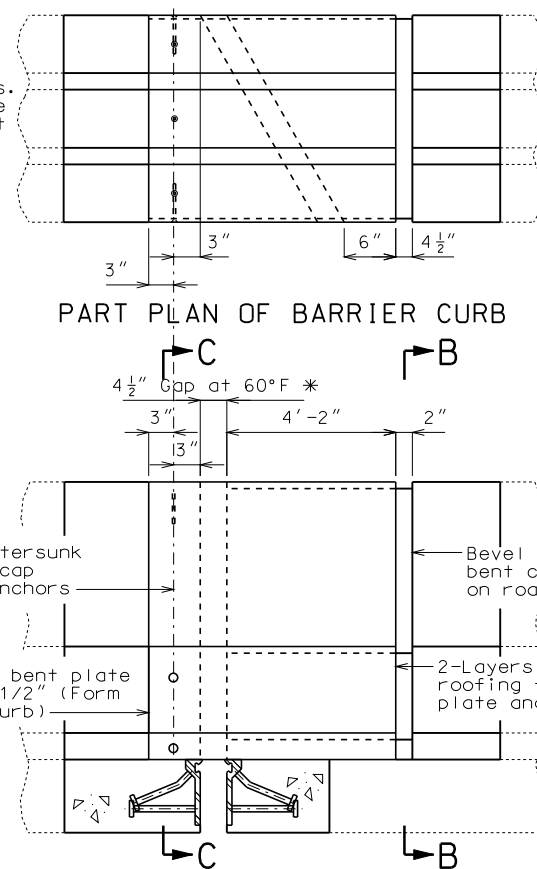
PART PLAN



DETAIL "A"

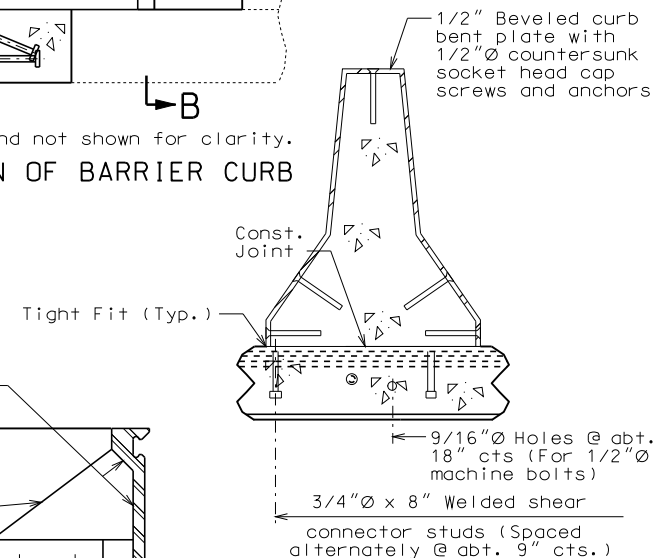


DETAIL "B"

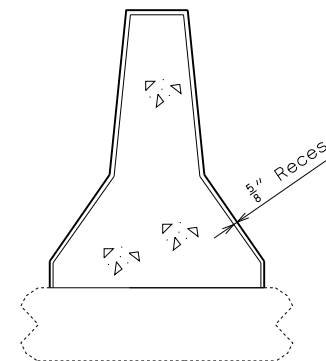


PART PLAN OF BARRIER CURB

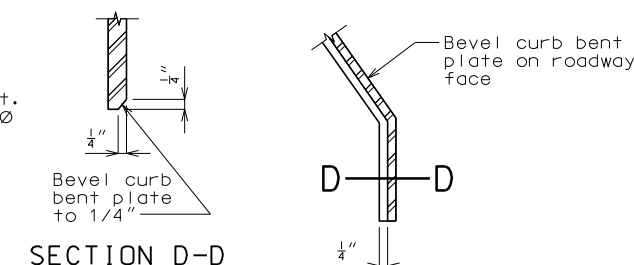
PART ELEVATION OF BARRIER CURB



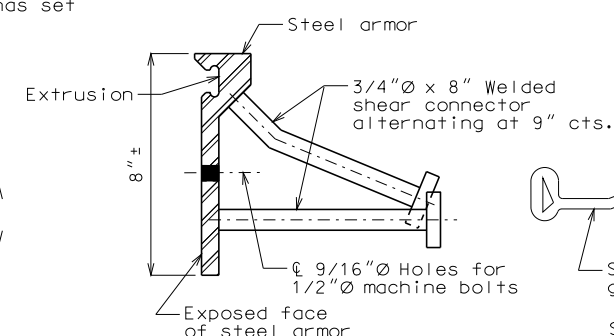
PART SECTION C-C



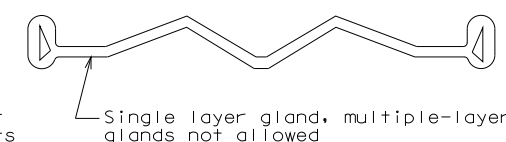
PART SECTION B-B



SECTION D-D



DETAIL OF JOINT ARMOR



DETAIL OF GLAND

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

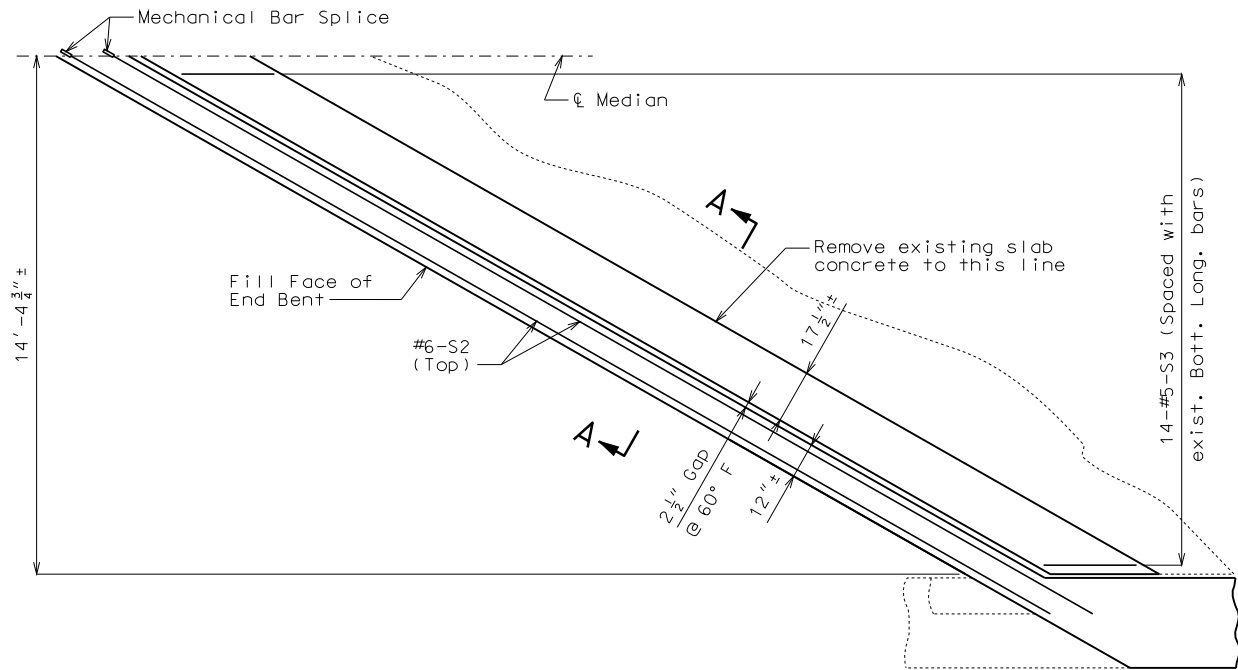
Structural steel for the expansion joint system and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

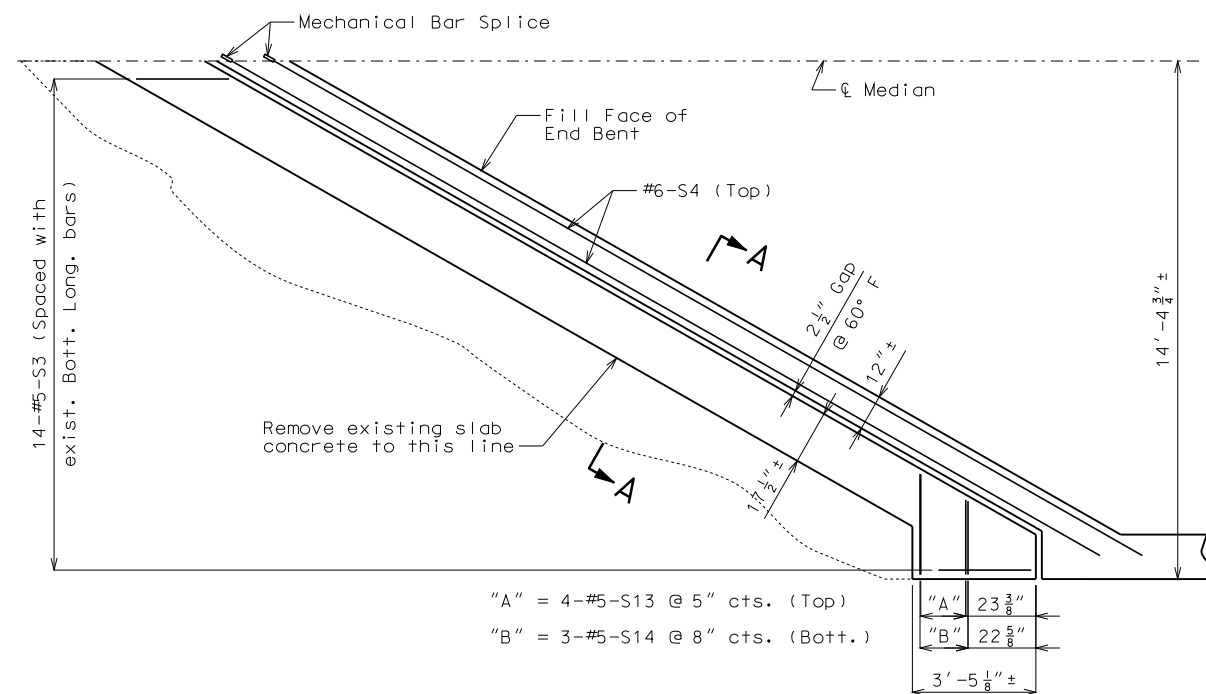
Exist. longitudinal reinforcing steel shall be cut so that ends shall not be more than $\pm 1"$ from vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

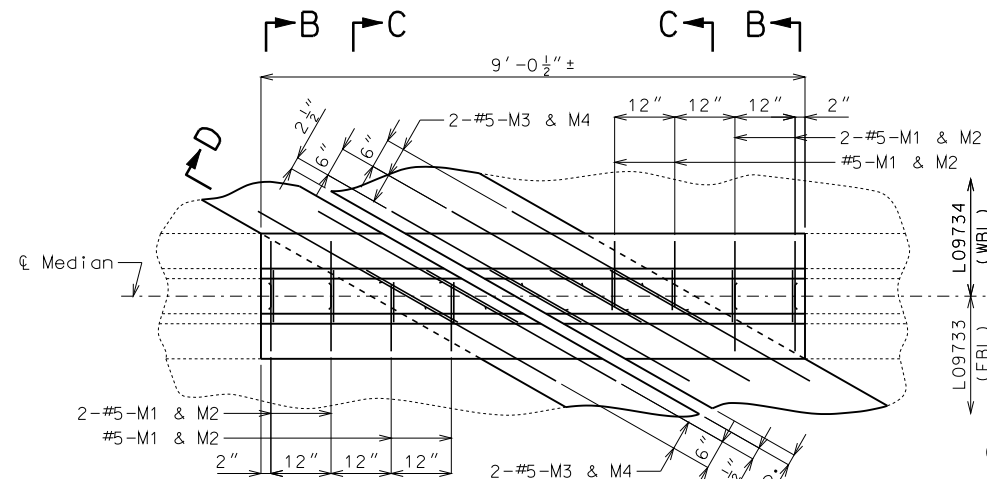
Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in $f'c = 4000$ psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until the concrete is at least 7 days old.



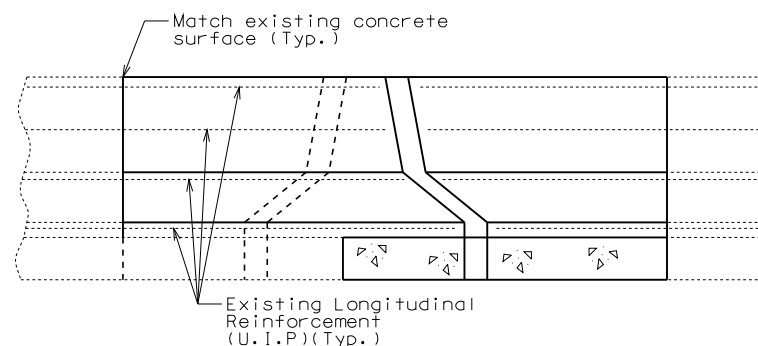
PART PLAN OF SLAB AT END BENT NO. 1 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)



PART PLAN OF SLAB AT END BENT NO. 5 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)



PART PLAN OF MEDIAN BARRIER CURB
(End Bent No. 1 shown, End Bent No. 5 similar)



PART ELEVATION OF MEDIAN BARRIER CURB
(End Bent No. 1 shown, End Bent No. 5 similar)
(#5-M Bars not shown for clarity)

Notes:

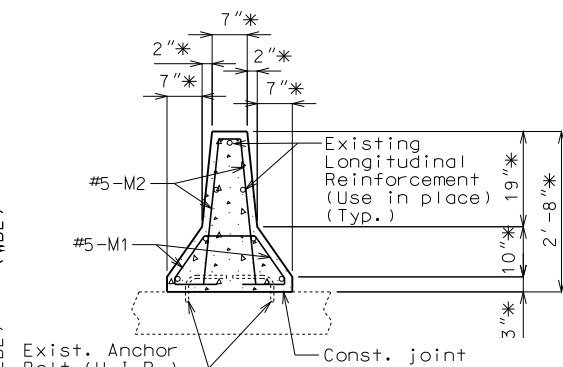
All exposed edges of new median barrier curb shall match existing barrier curb.

Shift #6-S bars where necessary to clear shear connector studs on the expansion joint system.

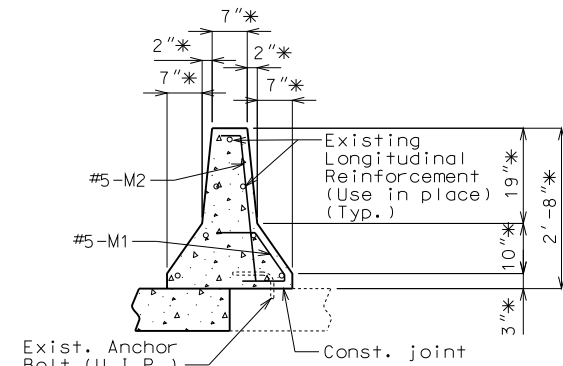
Payment for slab, backwall and median barrier curb concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Class B-1 Concrete.

Payment for furnishing and installing reinforcing steel in slab, backwall and barrier curb for expansion joint replacement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

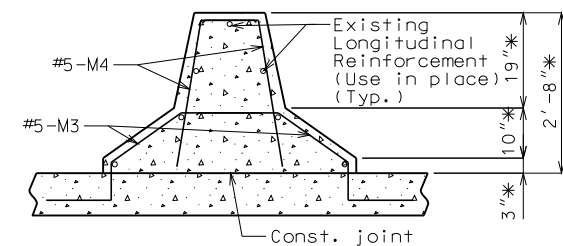
Cost of removing existing expansion joint, slab and backwall concrete, and barrier curb within the limits shown will be considered completely covered by the contract unit price for Removal of Existing Expansion Joints & Adjacent Concrete.



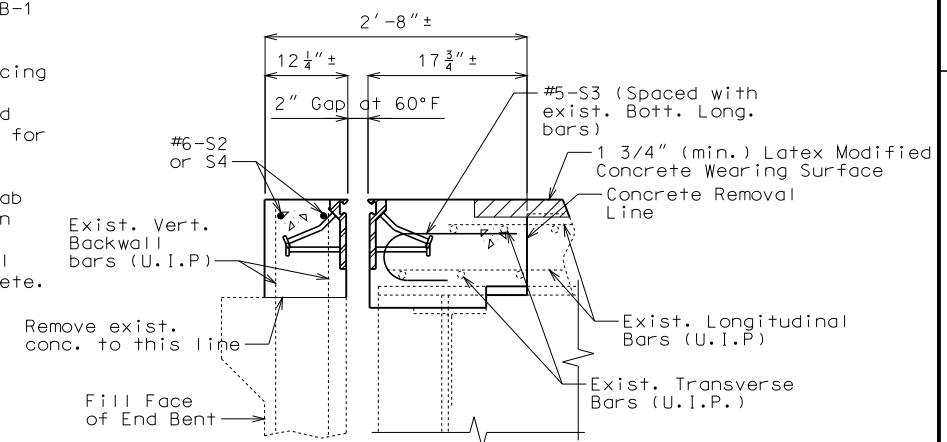
SECTION B-B
* = Match existing
(#5-M3 & M4 Bars not shown for clarity)



SECTION C-C
* = Match existing
(#5-M3 & M4 Bars not shown for clarity)

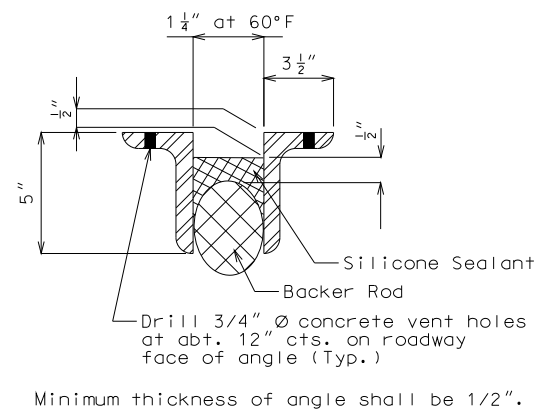
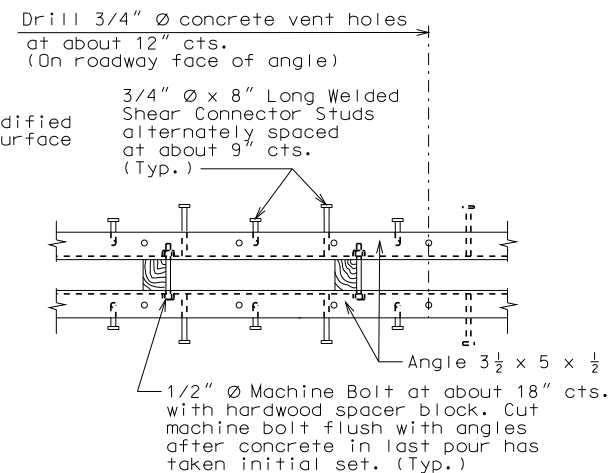
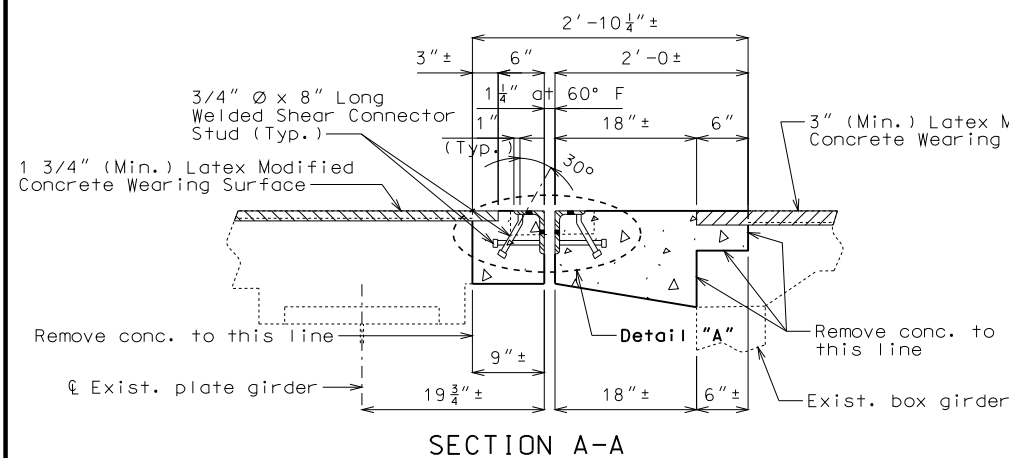


SECTION D-D
* = Match existing
(#5-M1 & M2 Bars not shown for clarity)



Note: for detail of strip seal, see Sheets No. 6 & 7.

SECTION A-A



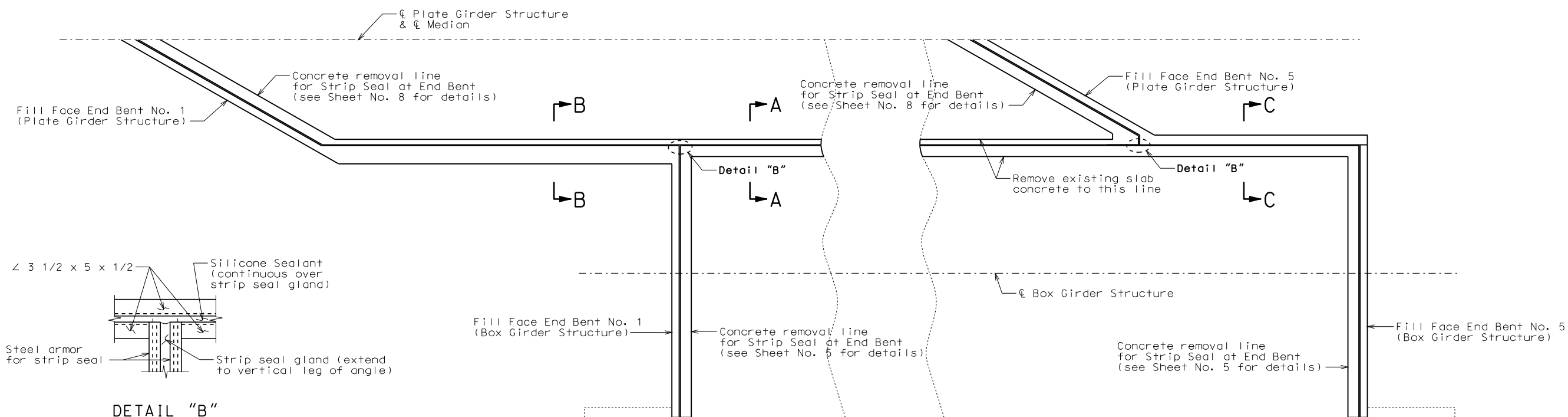
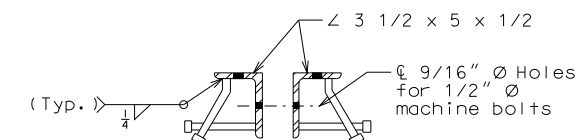
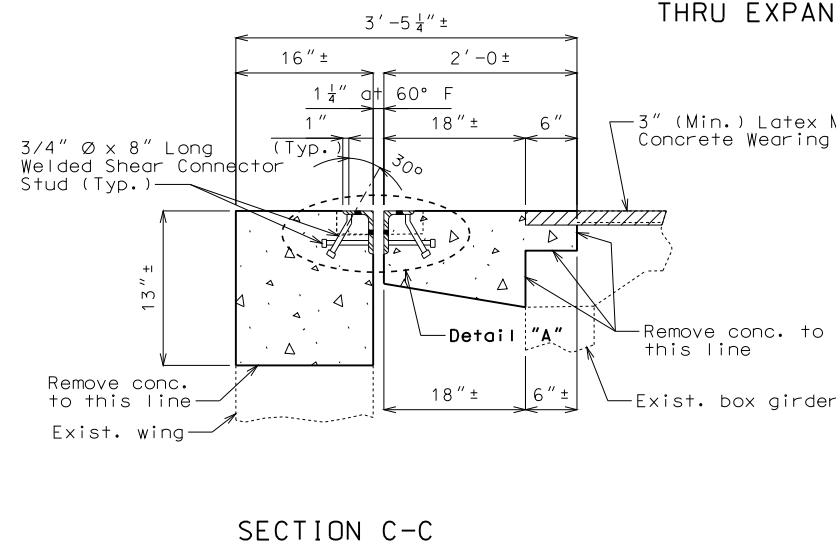
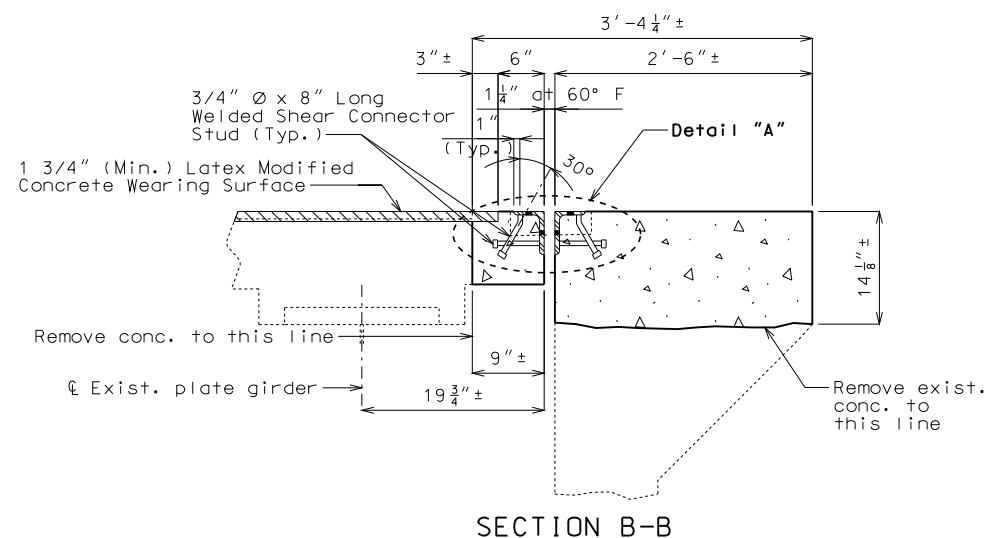
GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface.

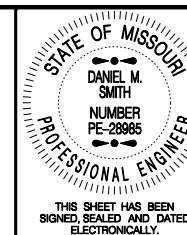
Structural steel for the expansion joint system shall be ASTM A709 Grade 36. Anchors for the expansion joint system shall be in accordance with Sec 1037. Silicone Expansion Joint Sealant Systems shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Concrete shall be forced under armor angle and around anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.



PLAN OF SLAB SHOWING SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT
DETAILS OF SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT
(BETWEEN BOX GIRDER AND PLATE GIRDER STRUCTURES)



DATE PREPARED
11/8/2010

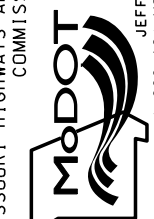
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO 9

COUNTY
JACKSON

JOB NO.
J4I1790B

CONTRACT ID.

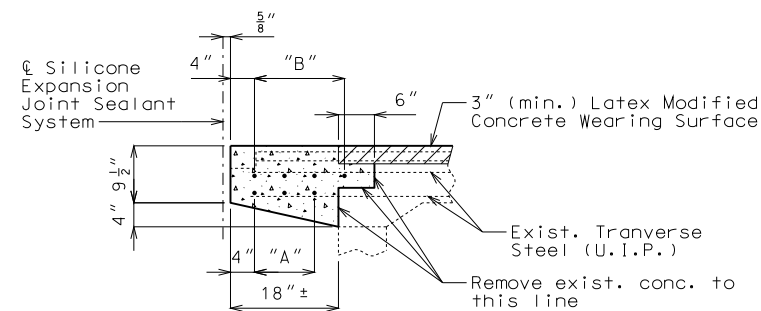
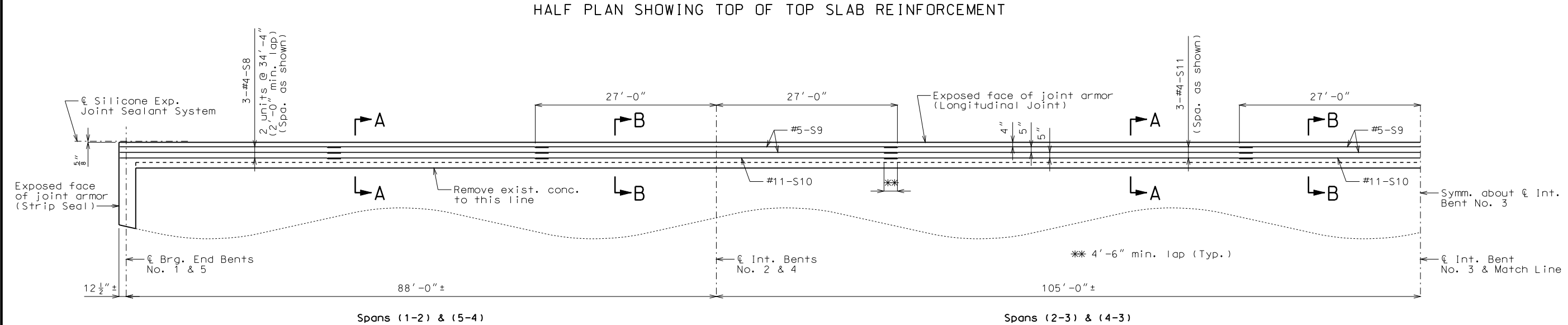
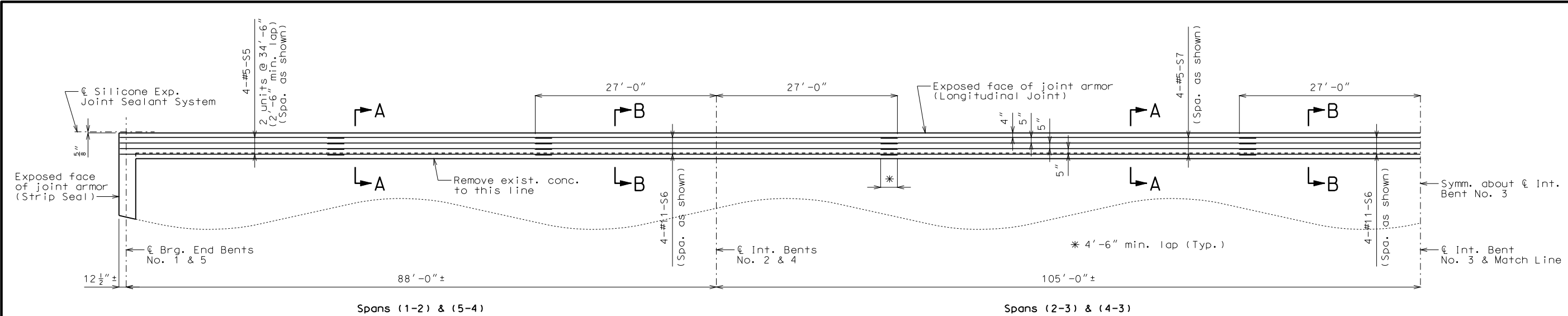
PROJECT NO.

BRIDGE NO.
L09733[illegible]MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

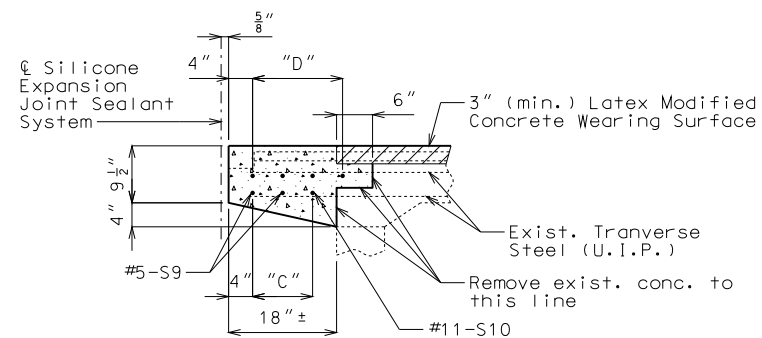
105 WEST CAPITOL
JEFFERSON CITY, MO 65102

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

THE A SEAL IS DEFECT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED



"A" - 3-#4-S8 or S11 @ 5" cts.
 "B" - 4-#5-S5 or S7 @ 5" cts.



"C" - 3 Spa. @ 5"
 "D" - 4-#11-S6 @ 5" cts.

Note:
 Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (BOX GIRDER STRUCTURE)



THIS SHEET HAS BEEN
 SIGNED, SEALED AND DATED
 ELECTRONICALLY.

DATE PREPARED
 11/8/2010

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. 10

COUNTY JACKSON

JOB NO. J411790B

CONTRACT ID.

PROJECT NO.

BRIDGE NO. L09733

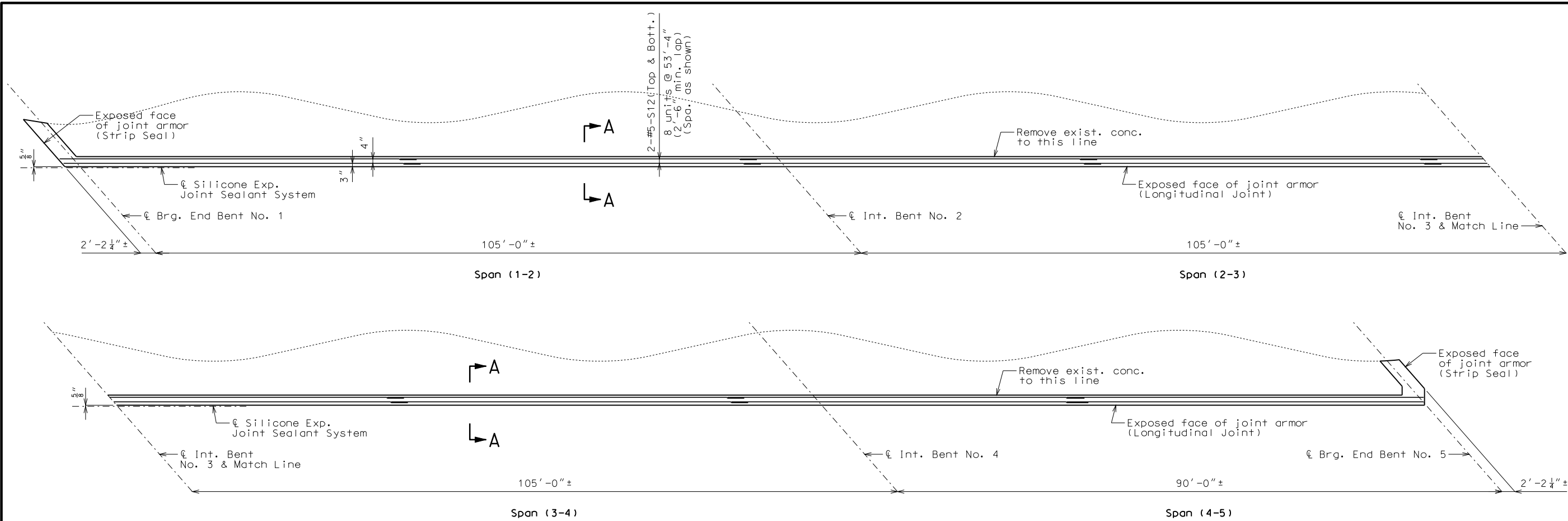
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
 COMMISSION

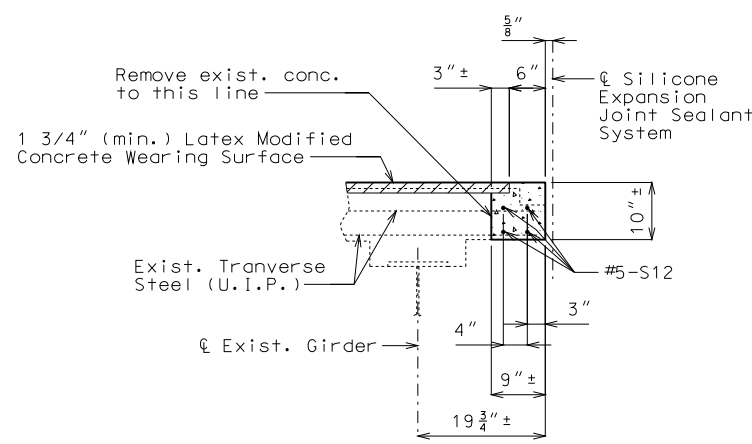


105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PART PLAN SHOWING SLAB REINFORCEMENT



SECTION A-A

Note:
Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (PLATE GIRDER STRUCTURE)

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER PE-28885
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

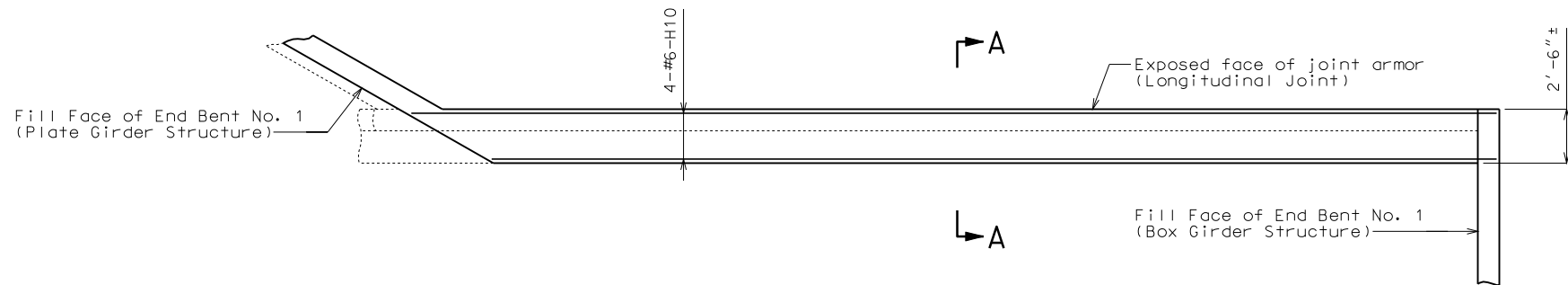
DATE PREPARED 11/8/2010	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 11
COUNTY JACKSON	
JOB NO. J4117908	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. L09733	

DATE	DESCRIPTION

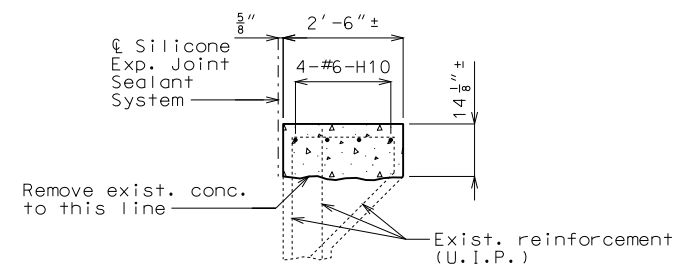
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

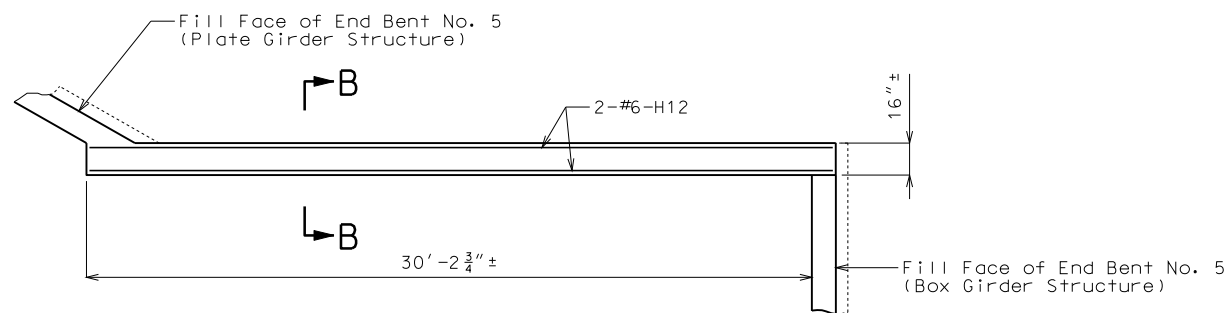
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



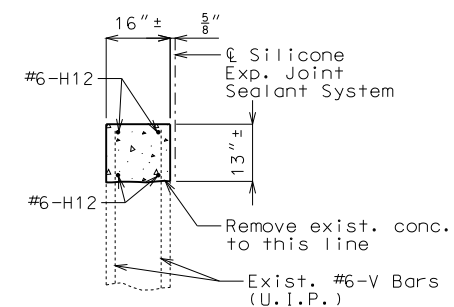
PART PLAN OF WING BETWEEN END BENTS NO. 1



SECTION A-A



PART PLAN OF WING BETWEEN END BENTS NO. 5



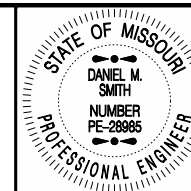
SECTION B-B

DETAILS SHOWING CONCRETE REMOVAL AND REPLACEMENT ON WINGS

Detailed Aug. 2010
Checked Sept 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12 of 13



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
11/8/2010

ROUTE 1-70	STATE MO
DISTRICT BR	SHEET NO. 12

COUNTY
JACKSON

JOB NO.
J411790B

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L09733

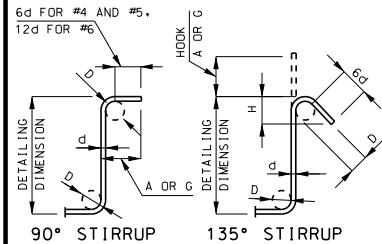
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

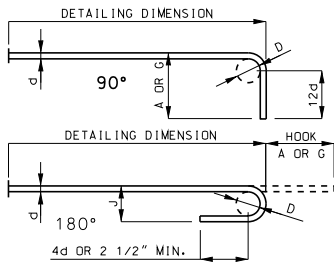
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

BILL OF REINFORCING STEEL																								
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT				
										B	C	D	E	F	H	K								
										FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.								
	4	6	H10	WINGS							50	10.000						50	10	50	10			
				WING	E	20			V	1	46	5.000						46	5	46	5	292		
				INCREMENT = 17.625 INCH																				
	6	6	H12	WING	E	20					30	11.000						30	11	30	11	279		
				SLAB																				
	16	6	S1	SLAB	E	20					37	0.000						37	0	37	0	889		
	2	6	S2	SLAB	E	20					31	3.000						31	3	31	3	94		
	28	5	S3	SLAB	E	26					2	7.000	5.000	15.000		15.000		4	0	4	0	117		
	2	6	S4	SLAB	E	20					28	11.000						28	11	28	11	87		
	18	5	S5	SLAB	E	20					34	6.000						34	6	34	6	648		
	14	11	S6	SLAB	E	20					54	0.000						54	0	54	0	4017		
	8	5	S7	SLAB	E	20					60	0.000						60	0	60	0	501		
	14	4	S8	SLAB	E	20					34	4.000						34	4	34	4	321		
	6	5	S9	SLAB	E	20					54	0.000						54	0	54	0	338		
	3	11	S10	SLAB	E	20					54	0.000						54	0	54	0	861		
	6	4	S11	SLAB	E	20					60	0.000						60	0	60	0	240		
	32	5	S12	SLAB	E	20					53	4.000						53	4	53	4	1780		
	4	5	S13	SLAB	E	20			V	1	2	1.000						2	1	2	1			
				INCREMENT = 2.625 INCH							2	9.000						2	9	2	9	10		
	3	5	S14	SLAB	E	20			V	1	2	0.000						2	0	2	0			
				INCREMENT = 4.500 INCH							2	9.000						2	9	2	9	7		
				BARRIER CURB																				
	10	5	R1	BARRIER CURB	E	26					2	7.500	4.250	2	7.625		2	7.500	3.000	5	5	5	5	56
	10	5	R3	BARRIER CURB	E	19	S					16.500	6.000					0	23	0	21	18		
	10	5	R4	BARRIER CURB	E	27	S					6.000		11.250	8.500	12.000	9.250	6.375	3	2	3	0	31	
				MEDIAN																				
				BARRIER CURB																				
	24	5	M1	BARRIER CURB	E	27	S					10.000	1.500	10.875	8.000		4.375	10.000	2	6	2	4	58	
	24	5	M2	BARRIER CURB	E	15	S					2	5.125	3.500			2	5.000	3.000	2	9	2	8	67
	20	5	M3	BARRIER CURB	E	27	S						16.000	16.125	7.500	13.000	9.875	12.750	4	5	4	3	89	
	20	5	M4	BARRIER CURB	E	15	S					2	5.500	11.000			2	5.125	4.750	3	5	3	4	70
				TOTALS																				
	4				E																		561	
	5				E																		3790	
	6				E																		1641	
	11				E																		4878	
				TOTAL																			0	
				TOTAL	E																		10870	
				Slab on Girder																				
	4				E																		561	
	5				E																		3401	
	6				E																		1641	
	11				E																		4878	
				TOTAL																			10481	



STIRRUP HOOK DIMENSIONS				
GRADES 40 - 50 - 60 KSI				
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	APPROX. H
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	6"	5 1/2"	3 3/4"
#6	4 1/2"	12"	8"	4 1/2"

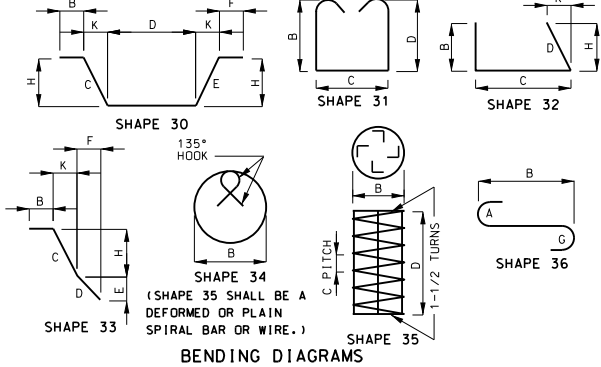
NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS				
ALL GRADES				
BAR SIZE	D (IN.)	180° HOOKS A OR G	90° HOOKS A OR G	
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	12"
#7	5 1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9 1/2"	15"	11 3/4"	19"
#10	10 3/4"	17"	13 1/4"	22"
#11	12"	19"	14 3/4"	2'-0"
#14	18 1/4"	2'-3"	21 3/4"	2'-7"

TWO ADDITIONAL #6-H12, #5-S5, #11-S6 & #4-S8 ARE INCLUDED IN THE BAR BILL FOR TESTING.

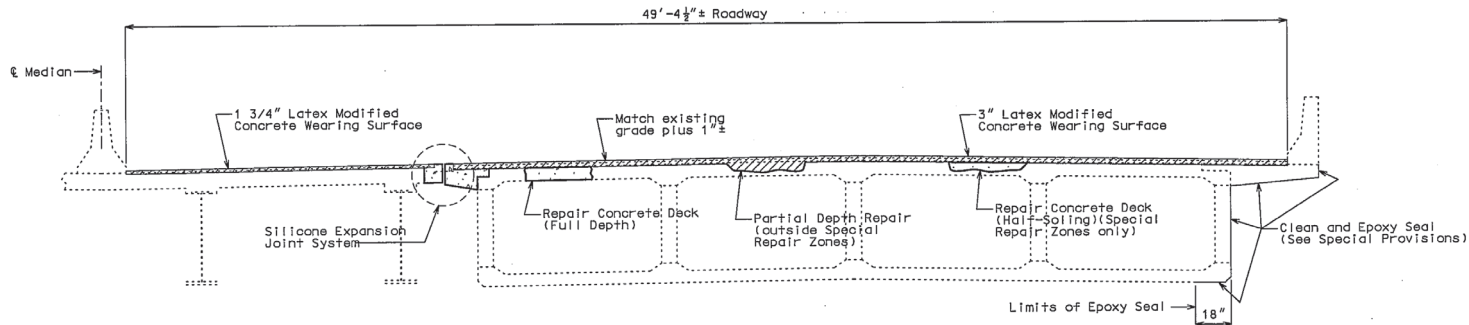
NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREE ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) F_y = 60,000 PSI.



MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
U.I.P. & REHAB EXISTING (88'-105'-105'-88') CONTINUOUS CONCRETE BOX GIRDER SPANS
WIDENED IN MEDIAN WITH (105'-105'-105'-90') CONTINUOUS COMPOSITE PLATE GIRDER SPANS.

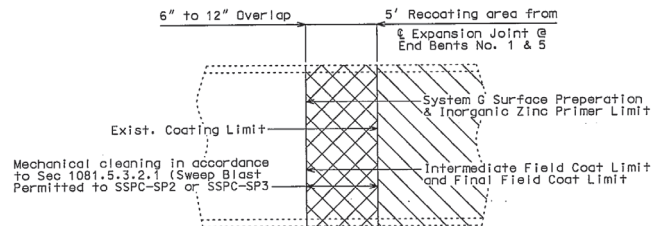
SEC/SUR 21 TWP 49N RGE 32W

FINAL PLANS



SECTION THRU EXISTING SLAB

Final Quantities			
Item		Total	Line No.
Sacrificion of Bridge Decks	sq. yard	565	1010
Removal of Concrete Wearing Surface	sq. foot	13,065	1020
Removal of Existing Expansion Joints & Adjacent Concrete	linear foot	569	1030
Latex Modified Concrete Wearing Surface	sq. yard	2,055	1040
Class B-1 Concrete	cu. yard	54.3	1050
Substructure Repair (Formed)	sq. foot	75	1060
Substructure Repair (Unformed)	sq. foot	0	1070
Repairing Concrete Deck (Half-Soling)	sq. foot	7,224	1080
Full Depth Repair	sq. foot	0	1090
Total Surface Hydro Demolition	sq. yard	2,016	1100
Clean and Epoxy Seal	sq. foot	4,080	1110
Reinforcing Steel (Epoxy Coated)	pounds	10,870	1120
Protective Coating - Concrete Bents and Piers (Epoxy)	linear foot	1	1130
Surface Preparation for Recoating Structural Steel	sq. foot	200	1140
Field Application of Inorganic Zinc Primer	sq. foot	200	1150
Intermediate Field Coat (System G)	sq. foot	200	1160
Finish Field Coat (System G)	sq. foot	200	1170
Rocker Bearing Replacement	each	10	1180
Strip Seal Expansion Joint System	linear foot	131	1190
Silicone Expansion Joint Sealant System	linear foot	438	1200
Partial Depth Repair	cu. yard	48	5009



PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP
(Vertical or horizontal paint limit. Horizontal limit shown)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 13

REPAIRS TO BRIDGE: RTE. I-70 EBL
OVER RTE. 40

STATE ROAD FROM RTE I-435 TO RTE I-470

ABOUT 2.4 MILES EAST OF RTE. I-435

STA. 463+55.70± (E Med.) (Match Exist.)

STD. 706.35

"THIS MEDIA SHOULD
NOT BE CONSIDERED
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DOCUMENT."

DATE PREPARED
6/12/2012

ROUTE I-70 STATE MO

DISTRICT BR SHEET NO. 1

COUNTY JACKSON

JOB NO. J411790B

CONTRACT ID. 110218-402

PROJECT NO. J411790B

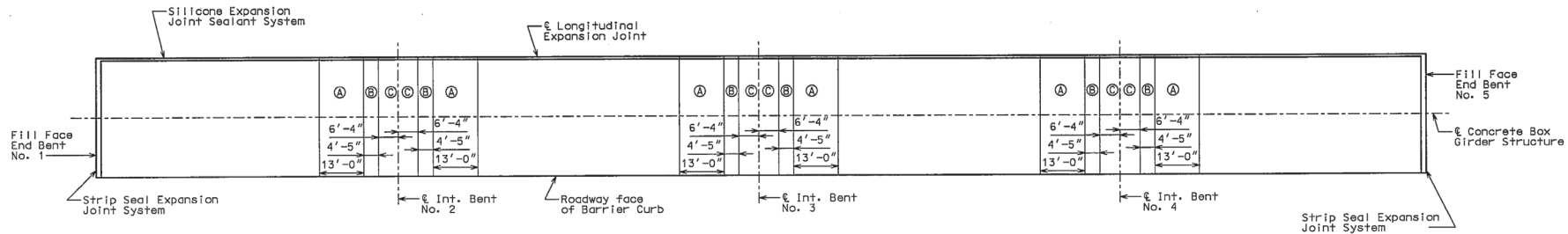
BRIDGE NO. L09733

DESCRIPTION

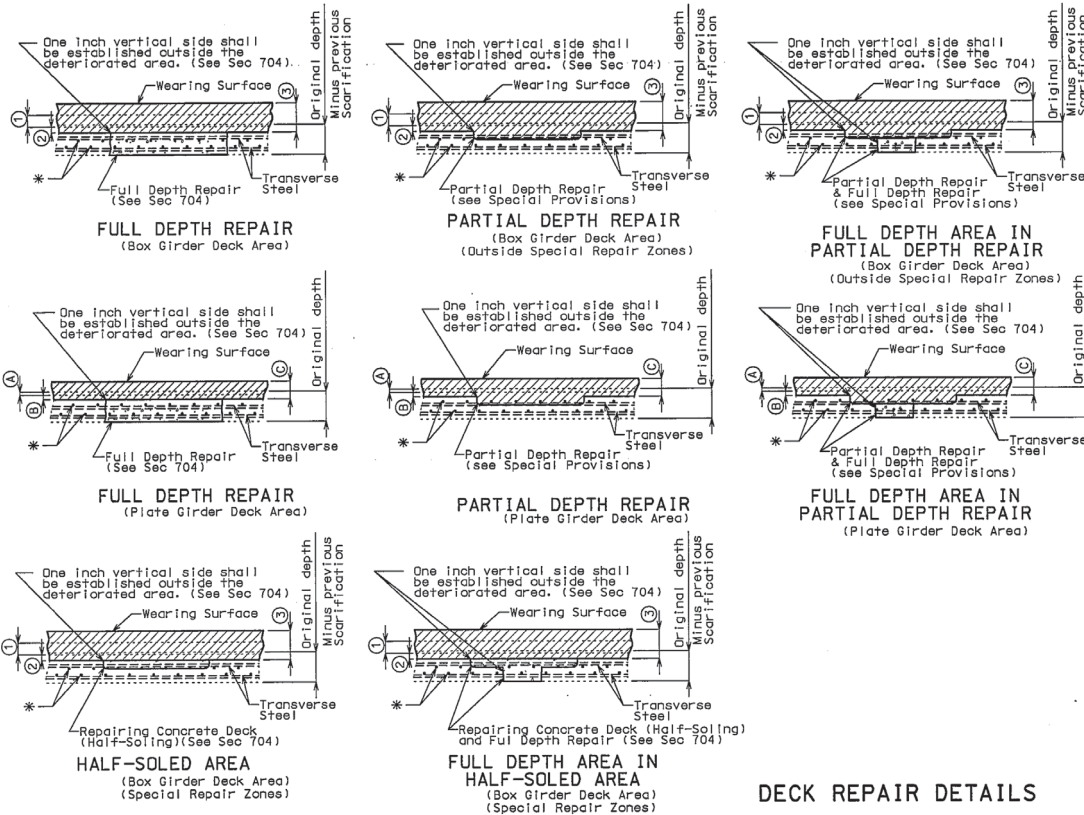
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

FINAL PLANS



PLAN OF EXISTING CONCRETE BOX GIRDER SLAB SHOWING SPECIAL REPAIR ZONES & LOCATION OF EXPANSION JOINT REPLACEMENT



DECK REPAIR DETAILS

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 13

V:\Contract Information Archive\004\400\110218-402\As Built Final Plans\J411790B-Bridges\L09733\B_L09733_002_J411790B.DGN

2:01:19 PM 6/12/2012

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NOT BE CONSIDERED
A CERTIFIED
DOCUMENT."

DATE PREPARED
6/12/2012
ROUTE
I-70
STATE
MO
DISTRICT
BR
SHEET NO.
2
COUNTY
JACKSON
JOB NO.
J411790B
CONTRACT ID.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09733

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION



105 WEST CAPITAL
JEFFERSON, MISSOURI 64601
1-888-ASK-MDOT (1-888-276-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

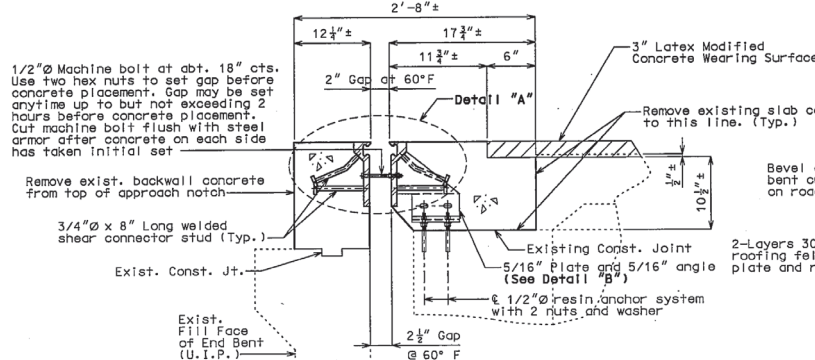
FINAL PLANS

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

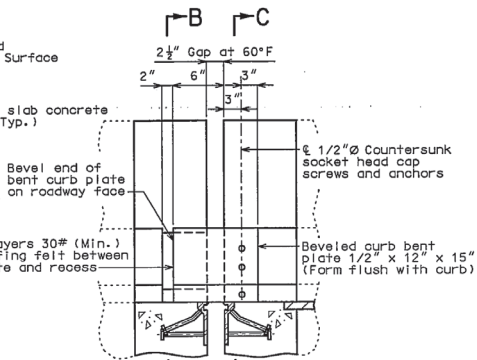
DATE PREPARED
6/12/2012
ROUTE I-70 STATE MO
DISTRICT BR SHEET NO. 4
COUNTY JACKSON
JOB NO. J411790B
CONTRACT ID. 110218-402
PROJECT NO. I-70-1 (192)
BIDDING NO. L09733

DESCRIPTION	DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MDOT (1-888-278-6362)	

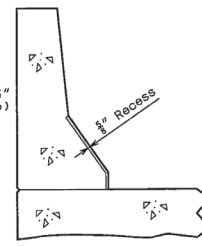
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



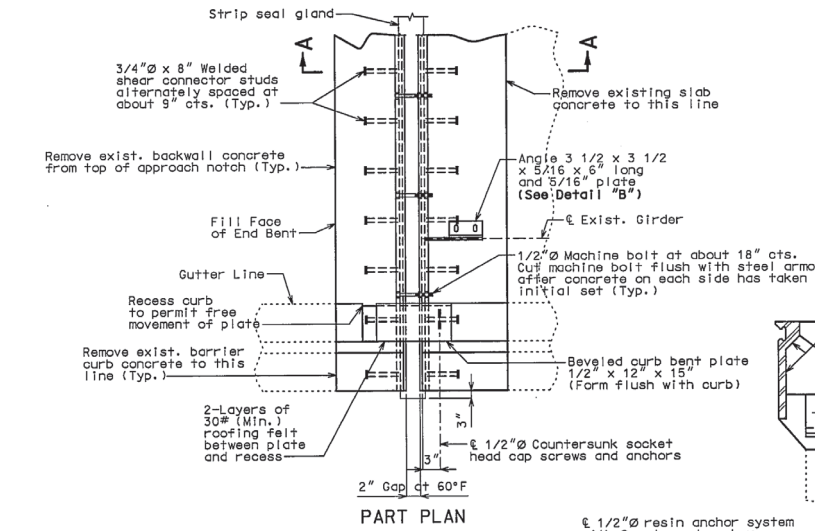
SECTION A-A



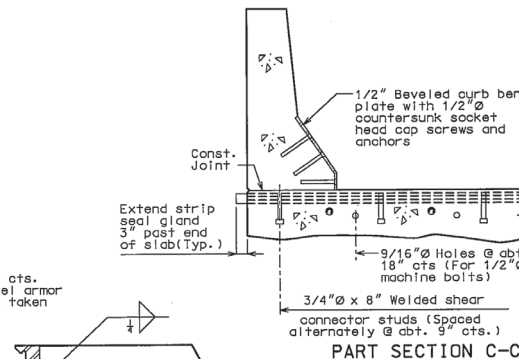
PART ELEVATION OF BARRIER CURB



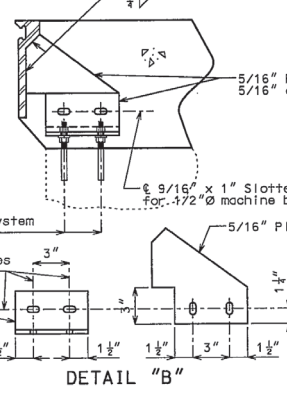
PART SECTION B-B



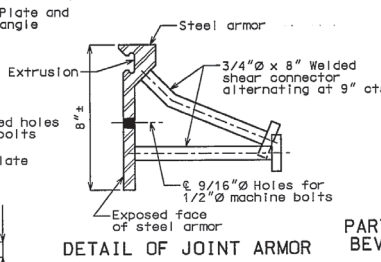
PART PLAN



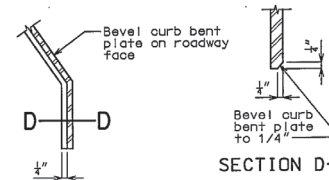
PART SECTION C-C



DETAIL "B"

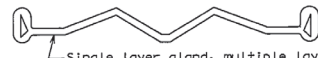


DETAIL OF JOINT ARMOR



SECTION D-D

PART ELEVATION AT END OF BEVELED CURB BENT PLATE



DETAIL OF GLAND

DETAIL "A"

DETAILS OF STRIP SEAL AT END BENTS NO. 1 & 5 (BOX GIRDER STRUCTURE)

(End Bent No. 1 shown, End Bent No. 5 similar)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 13

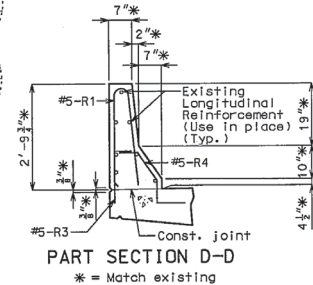
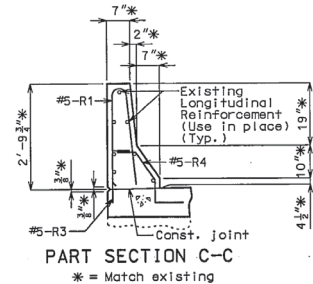
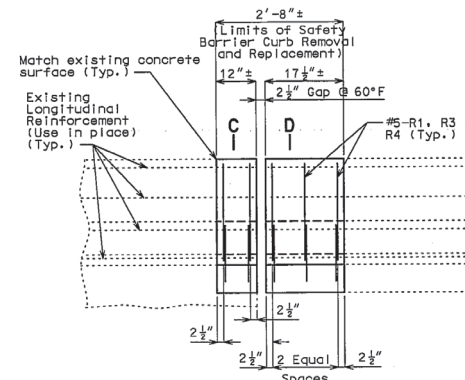
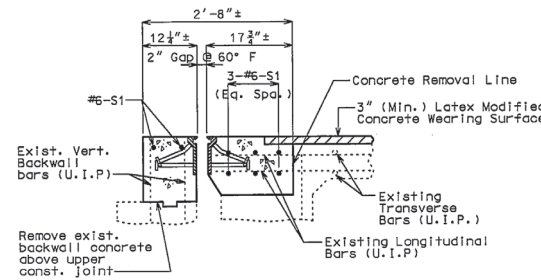
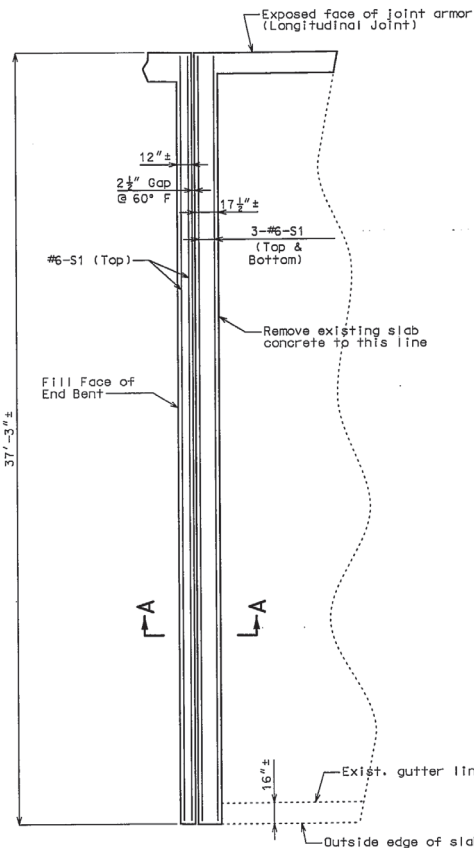
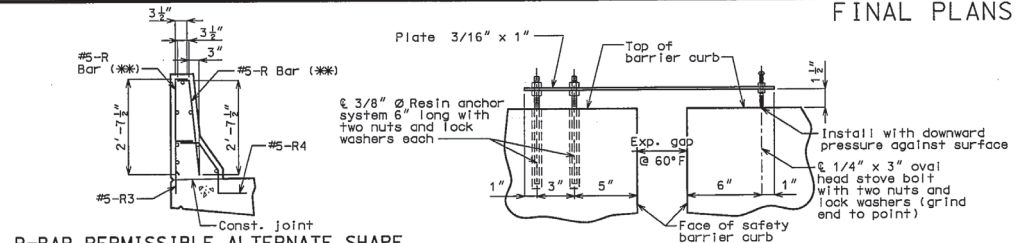
V:\Contract Information Archive\004\40D\110218-402\As Built Final Plans\J411790B-Bridges\L09733\B_L09733_004_J411790B.DGN 2/20/15 PM 6/12/2012

FINAL PLANS

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED
6/12/2012
ROUTE
I-70
STATE
MO
DISTRICT
BR
SHEET NO.
5
COUNTY
JACKSON
JOB NO.
J411790B
CONTRACT ID.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09733

DESCRIPTION
DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-276-6336)



Detailed Aug. 2010
Checked Sep. 2010

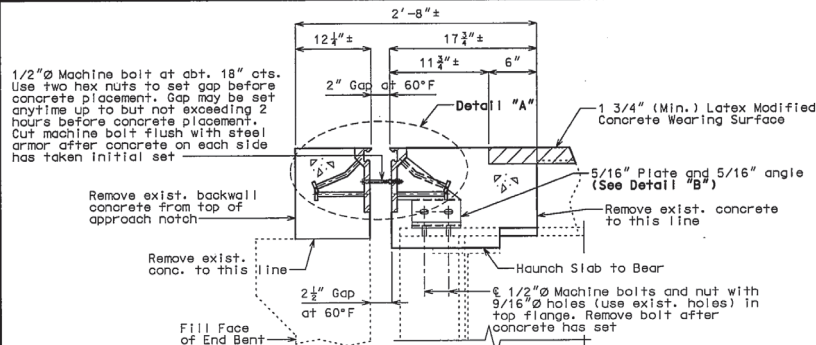
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 13

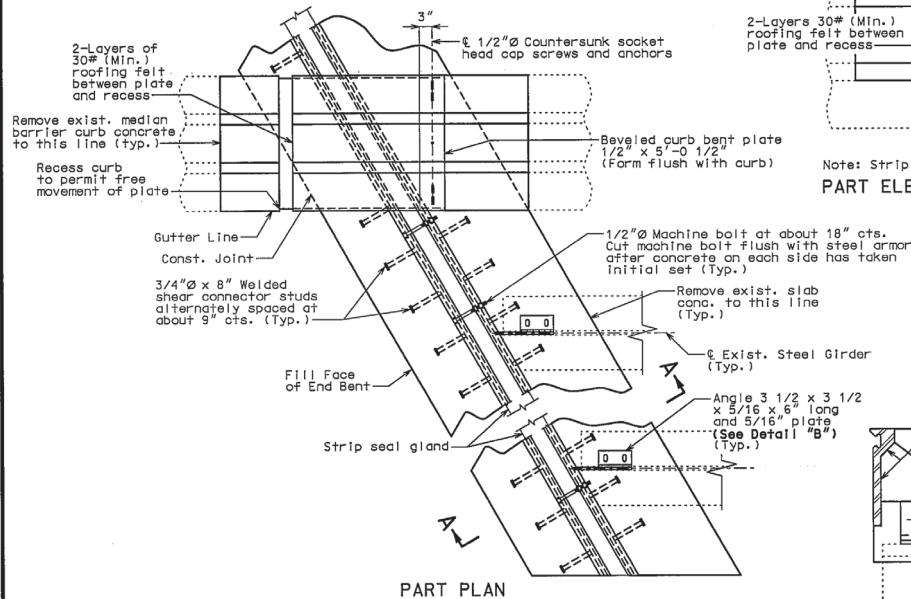
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IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

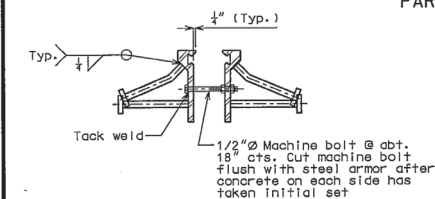
FINAL PLANS



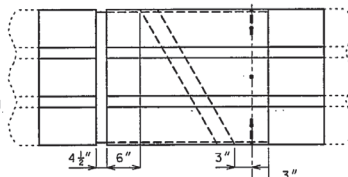
SECTION A-A



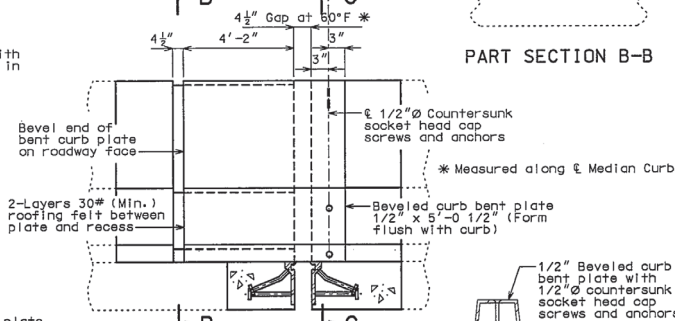
PART PLAN



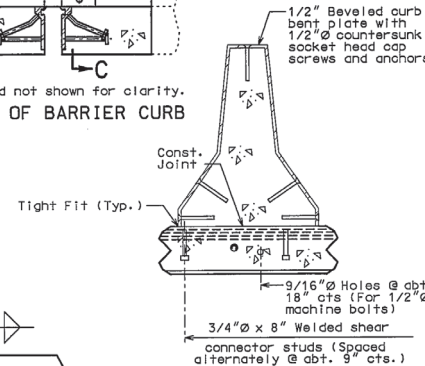
DETAIL "A"



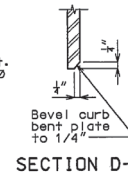
PART PLAN OF BARRIER CURB



PART ELEVATION OF BARRIER CURB

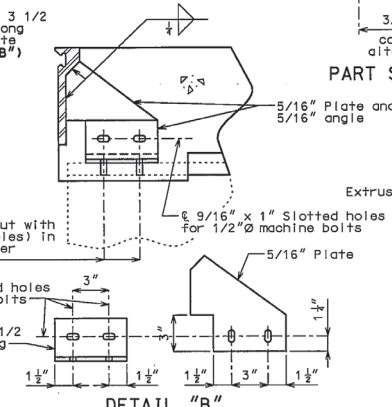


PART SECTION C-C

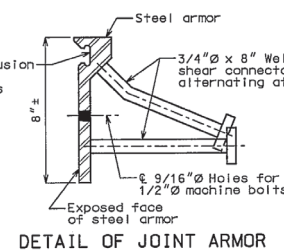


SECTION D-D

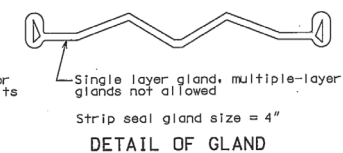
PART ELEVATION AT END OF BEVELED CURB BENT PLATE



DETAIL "B"



DETAIL OF JOINT ARMOR



DETAIL OF GLAND

DETAILS OF STRIP SEAL AT END BENT NO. 1 (PLATE GIRDER STRUCTURE)

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 13

Detailed Aug. 2010
Checked Sep. 2010

V:\Contract Information Archive\004\4CD\10218-402\As Built Final Plans\J411790B-Bridges\L09733\B_L09733_006_J411790B.dgn

2:39:41 PM 6/12/2012

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED
6/12/2012
ROUTE
I-70
DISTRICT
BR
STATE
MO
SHEET NO.
6
COUNTY
JACKSON
JOB NO.
J411790B
CONTRACT ID.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09733

DESCRIPTION
DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6361)

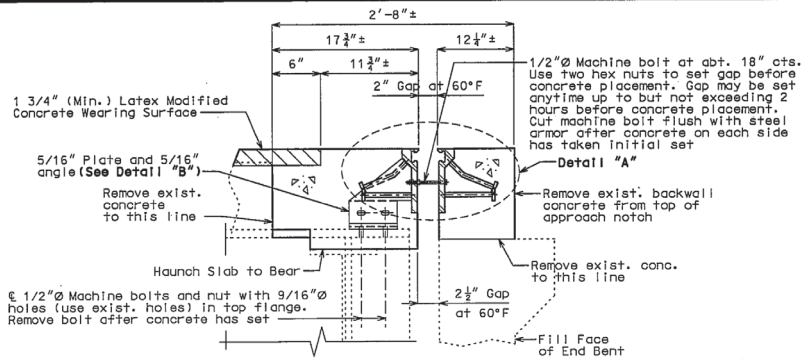
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

FINAL PLANS

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

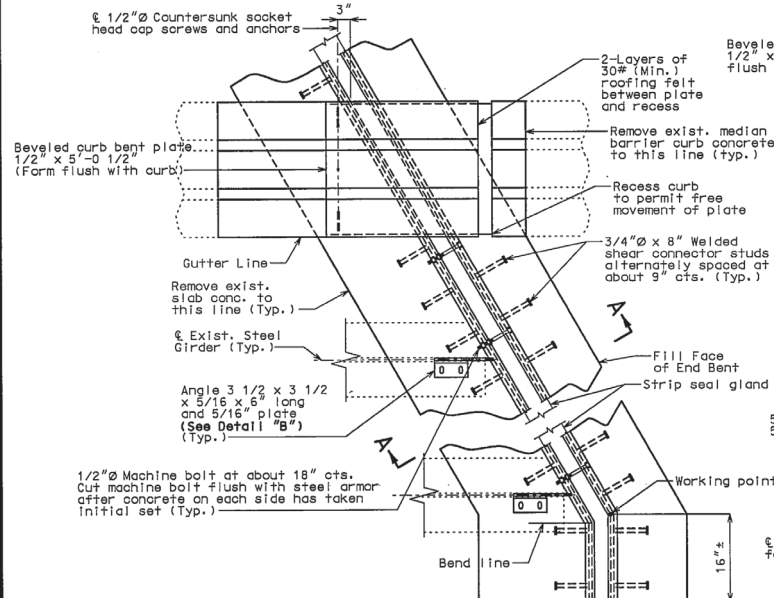
DATE PREPARED
6/12/2012
ROUTE
I-70 MO
DISTRICT
BR SHEET NO.
7
COUNTY
JACKSON
JOB NO.
J4117908
CONTRACT ID.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09733

DESCRIPTION
DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

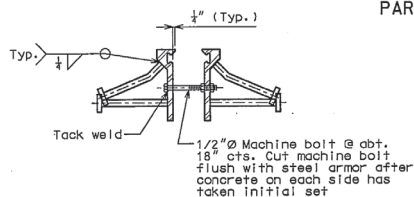


Note: Strip seal gland not shown for clarity.

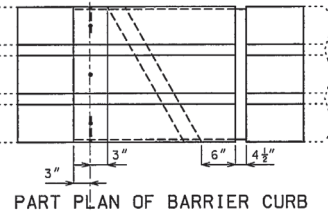
SECTION A-A



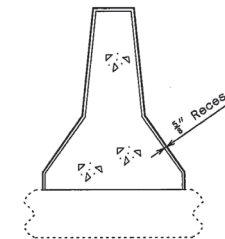
PART PLAN



DETAIL "A"

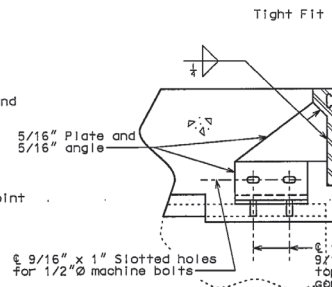


PART PLAN OF BARRIER CURB

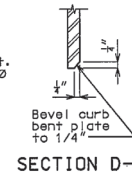


PART SECTION B-B

PART ELEVATION OF BARRIER CURB

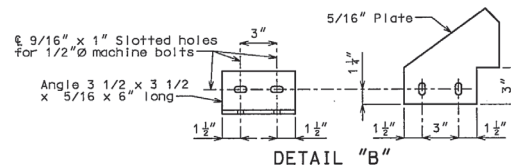


PART SECTION C-C



SECTION D-D

PART ELEVATION AT END OF BEVELED CURB BENT PLATE



DETAIL "B"

DETAIL OF JOINT ARMOR

DETAIL OF GLAND

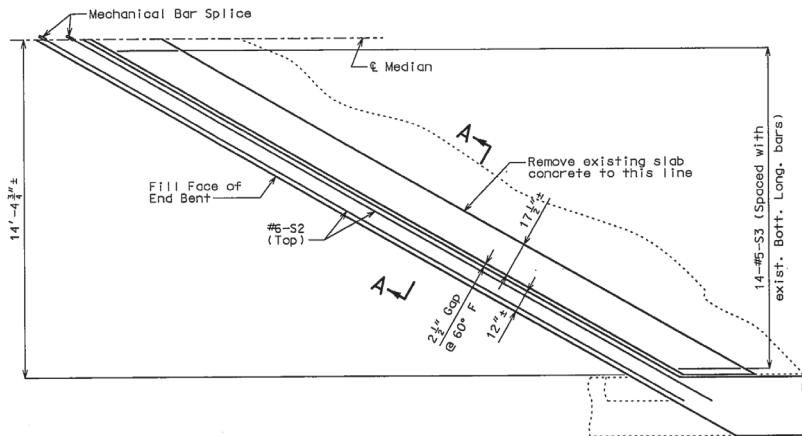
DETAILS OF STRIP SEAL AT END BENT NO. 5 (PLATE GIRDER STRUCTURE)

Note: This drawing is not to scale. Follow dimensions.

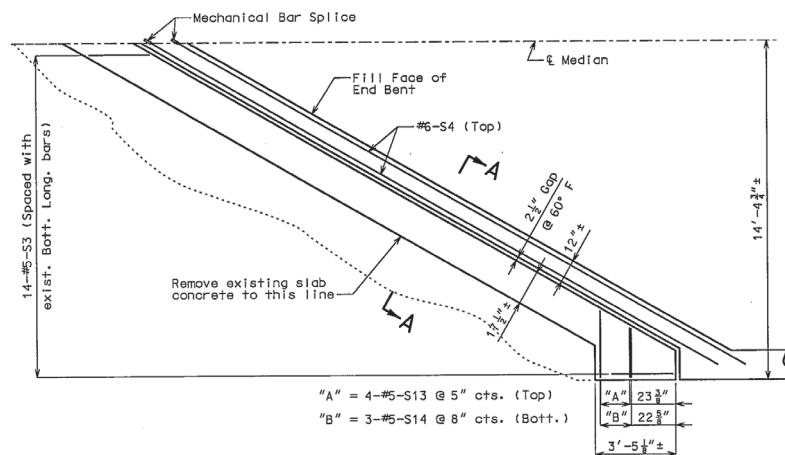
Sheet No. 7 of 13

Detailed Aug. 2010
Checked Sep. 2010

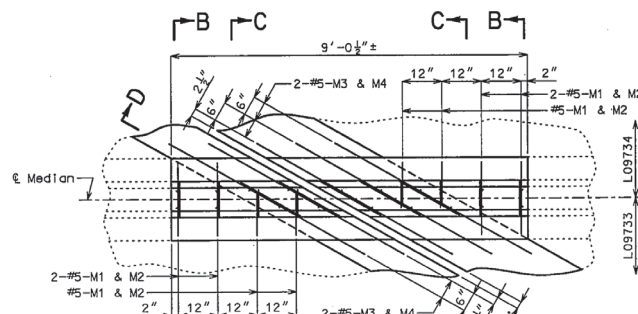
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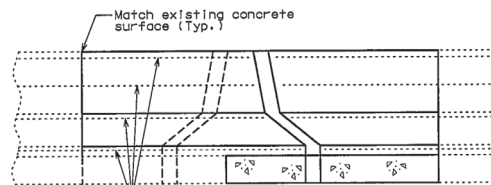
PART PLAN OF SLAB AT END BENT NO. 1 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)



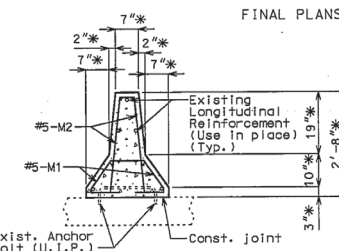
PART PLAN OF SLAB AT END BENT NO. 5 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)



PART PLAN OF MEDIAN BARRIER CURB
(End Bent No. 1 shown, End Bent No. 5 similar)

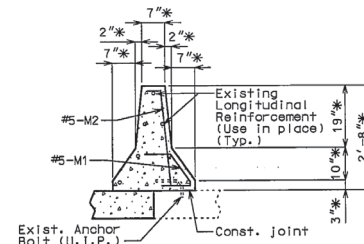


PART ELEVATION OF MEDIAN BARRIER CURB
(End Bent No. 1 shown, End Bent No. 5 similar)
(#5-M Bars not shown for clarity)



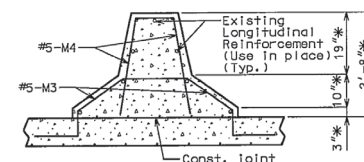
SECTION B-B

* = Match existing
(#5-M3 & M4 Bars not shown for clarity)



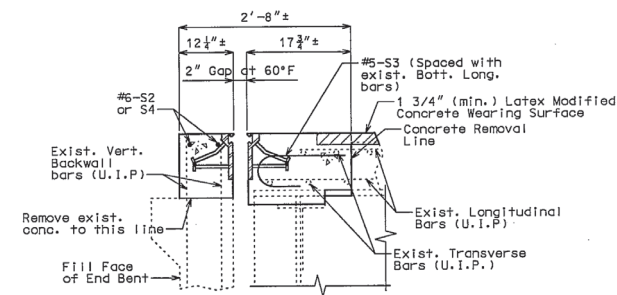
SECTION C-C

* = Match existing
(#5-M3 & M4 Bars not shown for clarity)



SECTION D-D

* = Match existing
(#5-M1 & M2 Bars not shown for clarity)



Note: for detail of strip seal, see Sheets No. 6 & 7.

SECTION A-A

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 13

V:\Contract Information Archive\004\4CD\110218-402\As Built Final Plans\J4117908-Bridges\L09733\B_L09733_008_J4117908.dgn

2:37:31 PM 6/12/2012

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED
6/12/2012

ROUTE
I-70
STATE
MO
DISTRICT
BR
SHEET NO.
8

COUNTY
JACKSON

JOB NO.
J4117908

CONTRACT ID.
110218-402

PROJECT NO.
I-70-1 (192)

BRIDGE NO.
L09733

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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DATE PREPARED
6/12/2012

ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 9

COUNTY
JACKSON
JOB NO.
11117005

J4117908
CONTRACT ID.
110218-402

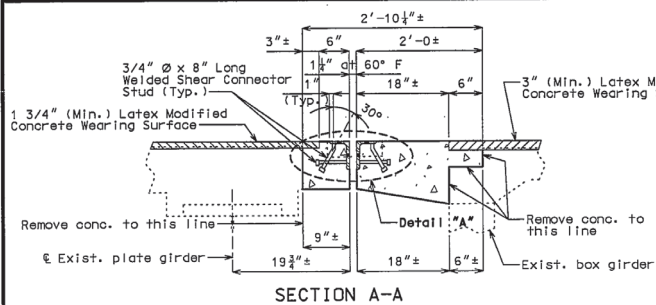
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09733

DESCRIPTION

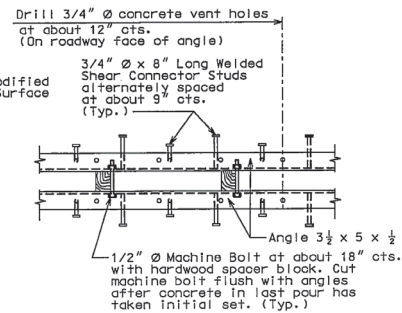
DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION

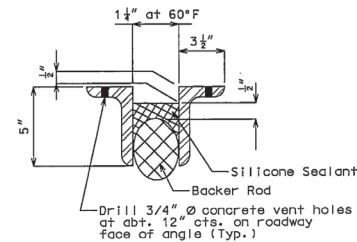
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



SECTION A-A

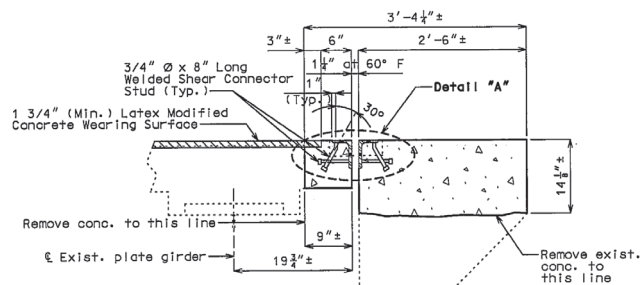


PART PLAN OF JOINT ARMOR

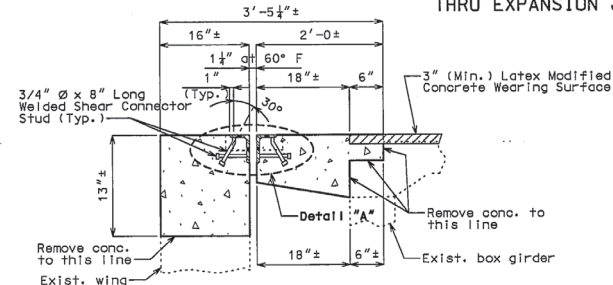


Minimum thickness of angle shall be 1/2".

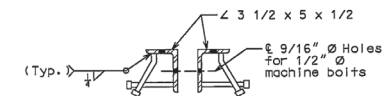
PART CROSS SECTION
THRU EXPANSION JOINT



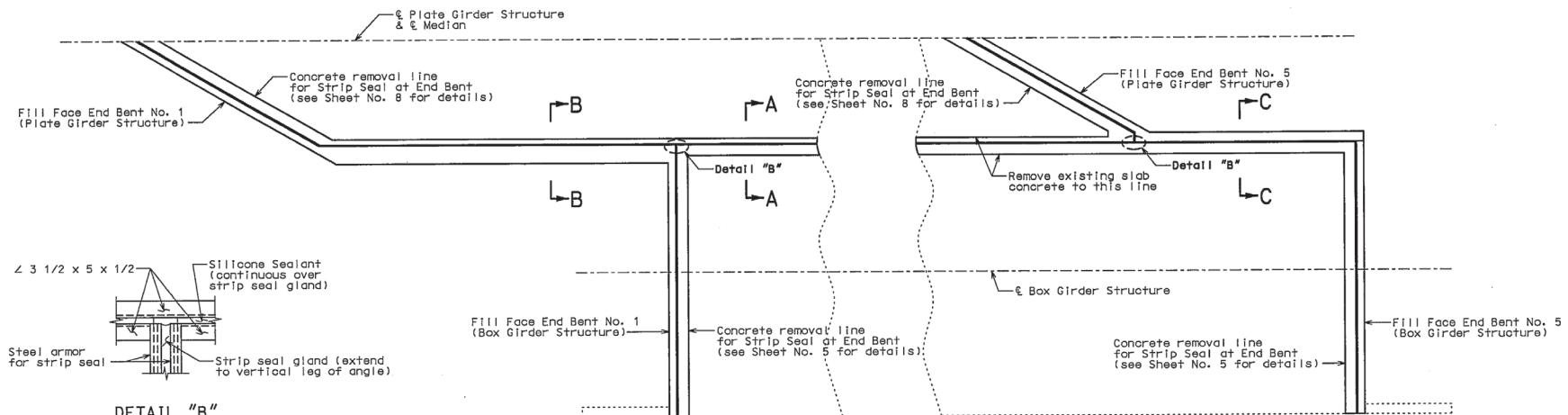
SECTION B-B



SECTION C-C



DETAIL "A"



DETAIL "B"

PLAN OF SLAB SHOWING SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT
DETAILS OF SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT
(BETWEEN BOX GIRDER AND PLATE GIRDER STRUCTURES)

Detailed Aug. 2010
Checked Sep. 2010

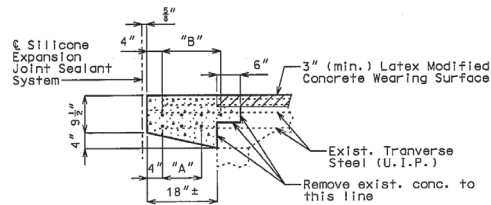
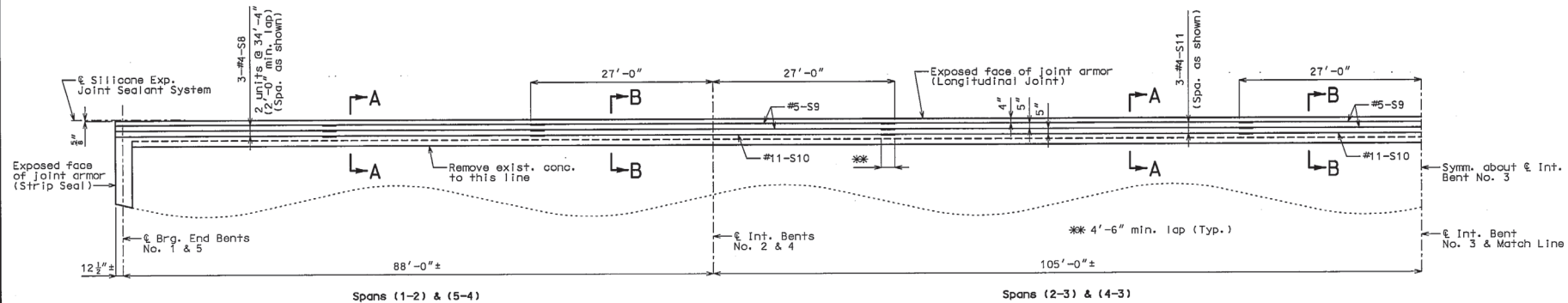
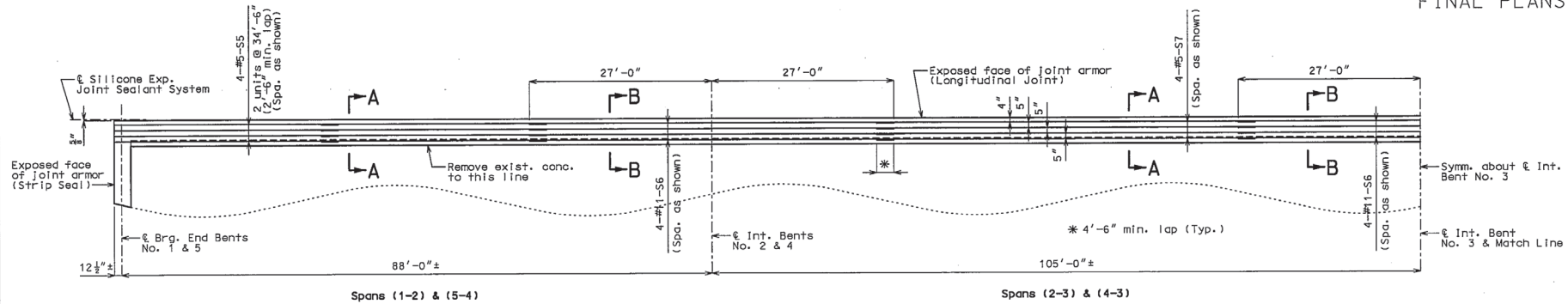
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 13

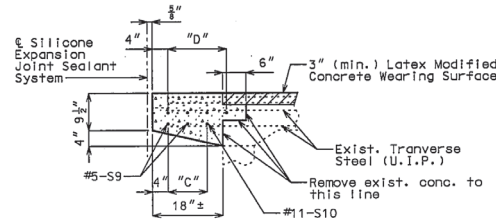
V:\Contract Information Archive\004\4CD\110218-402\As Built Final Plans\J411790B-Bridges\L09733\B_L09733_009_J411790B.dgn 2:44:28 PM 6/12/2012

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

FINAL PLANS



"A" - 3-#4-S8 or S11 @ 5" cts.
"B" - 4-#5-S5 or S7 @ 5" cts.



"C" - 3 Spd. @ 5"
"D" - 4-#1-S6 @ 5" cts.

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (BOX GIRDER STRUCTURE)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 10 of 13

V:\Contract Information Archive\04\4CD\110218-402\As Built Final Plans\J4117908-Bridges\L09733\B_L09733_010_J4117908.dgn

2:46:01 PM 6/12/2012

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DATE PREPARED
6/12/2012

ROUTE I-70 STATE MO
DISTRICT BR SHEET NO. 10

COUNTY JACKSON
JOB NO. J4117908

CONTRACT ID. 110218-402

PROJECT NO. I-70-1 (192)

BRIDGE NO. L09733

DESCRIPTION

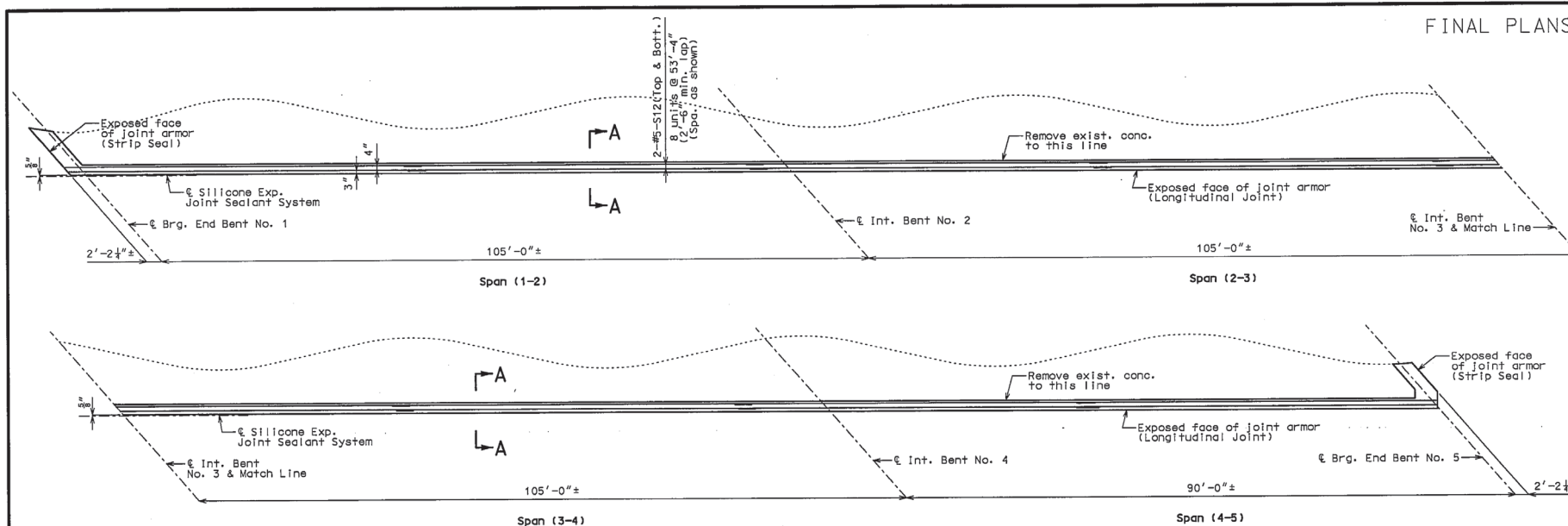
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

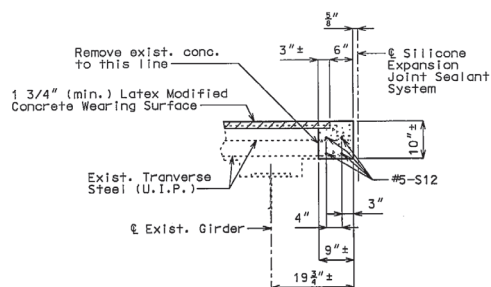
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-HDDOT (1-888-278-6363)

MDOT

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PART PLAN SHOWING SLAB REINFORCEMENT



SECTION A-A

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (PLATE GIRDER STRUCTURE)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 11 of 13

V:\Contract Information Archive\004\400\110218-402\As Built Final Plans\J411790B-Bridges\L09733\B_L09733_011_J411790B.dgn 2:47:48 PM 6/12/2012

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DATE PREPARED

6/12/2012

ROUTE STATE

I-70 MO

DISTRICT SHEET NO.

BR 11

COUNTY

JACKSON

JOB NO.

J411790B

CONTRACT ID.

110218-402

PROJECT NO.

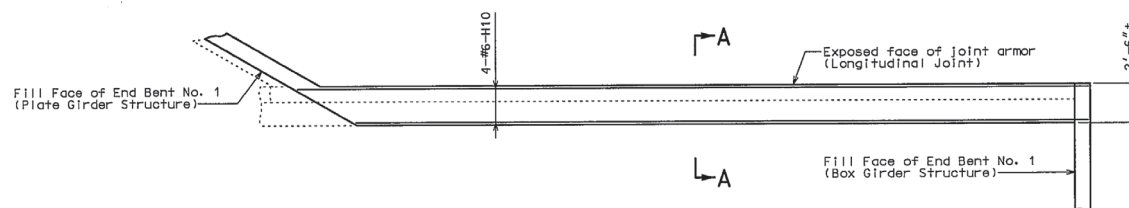
I-70-1 (192)

BRIDGE NO.

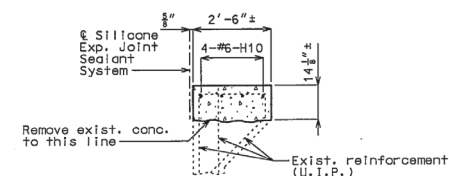
L09733

DESCRIPTION

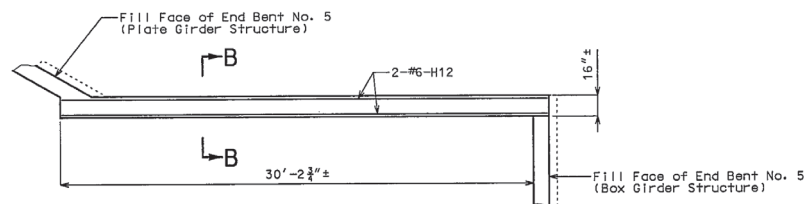
FINAL PLANS



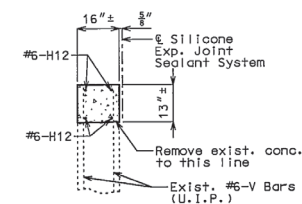
PART PLAN OF WING BETWEEN END BENTS NO. 1



SECTION A-A



PART PLAN OF WING BETWEEN END BENTS NO. 5



SECTION B-B

DETAILS SHOWING CONCRETE REMOVAL AND REPLACEMENT ON WINGS

Detailed Aug. 2010
Checked Sept 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 12 of 13

V:\Contract Information Archive\004\4CD\110218-402\As Built Final Plans\J4117908-Bridges\L09733\B_L09733_012_J4117908.dgn 2:52:05 PM 6/12/2012

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DATE PREPARED
6/12/2012

ROUTE I-70 STATE MO

DISTRICT BR SHEET NO. 12

COUNTY JACKSON

JOB NO. J4117908

CONTRACT ID. 110218-402

PROJECT NO. I-70-1 (192)

BRIDGE NO. L09733

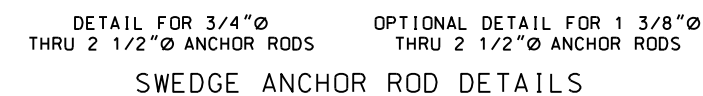
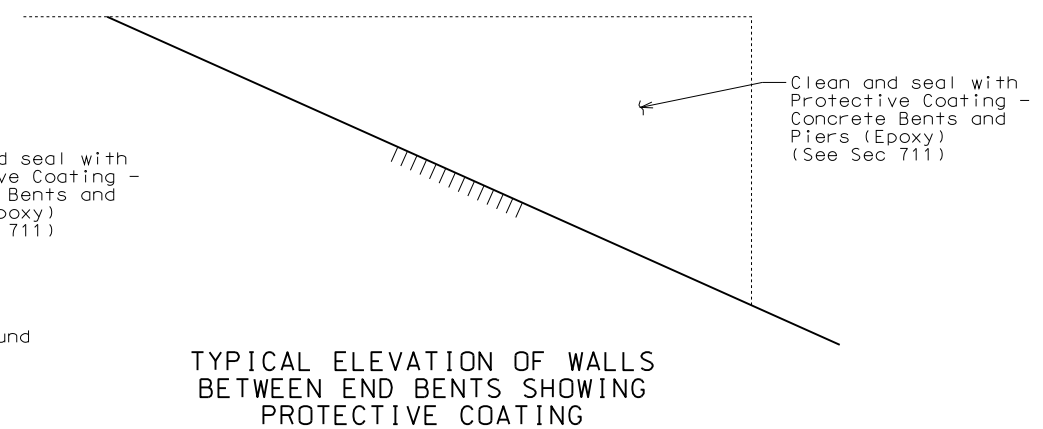
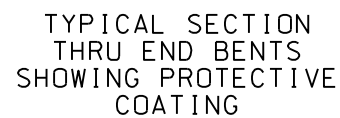
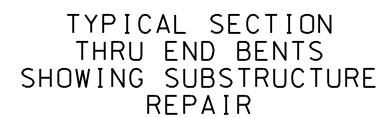
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

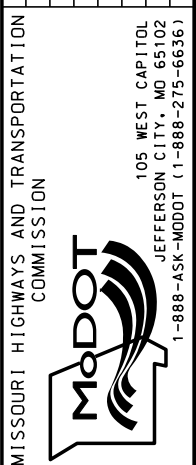


Payment for new concrete, complete-in-place, required for bearing replacement will be considered completely covered by the contract unit price for Substructure Repair (Formed).

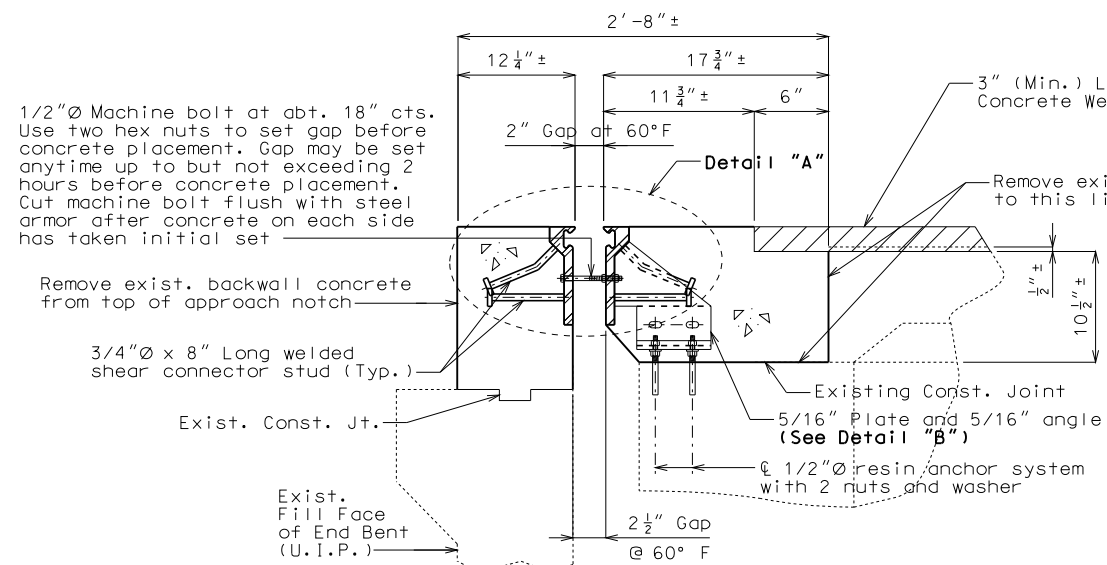
"" Indicates machine finish surface.

DETAILS OF ROCKER BEARING REPLACEMENT AT END BENTS NO. 1 & 5 (BOX GIRDER STRUCTURE ONLY)

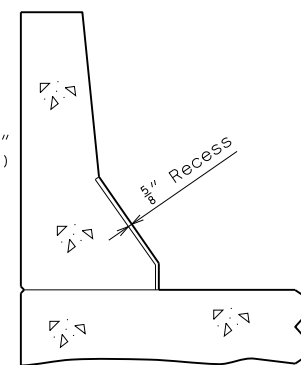
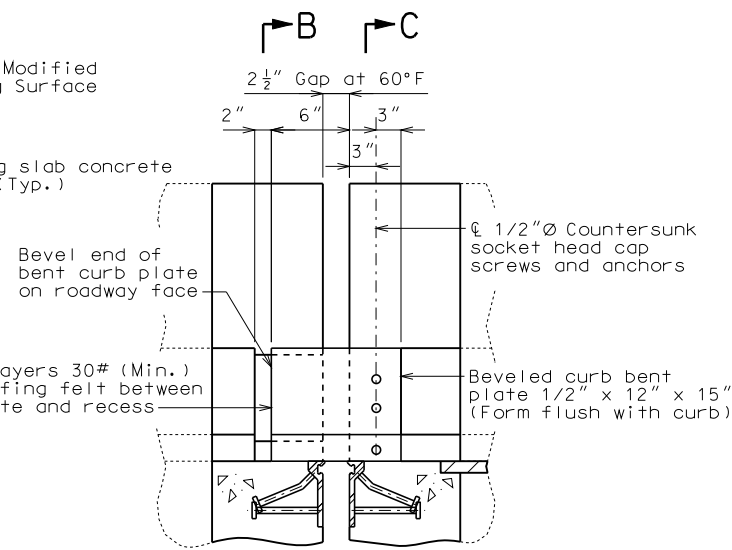
Sheet No. 3 of 13



IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



SECTION A-A



PART SECTION B-B

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

Exist. longitudinal reinforcing steel shall be cut so that ends shall not be more than $\pm 1"$ from vertical leg of the steel armor at the expansion joint system.

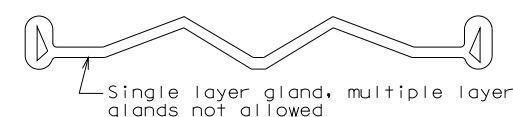
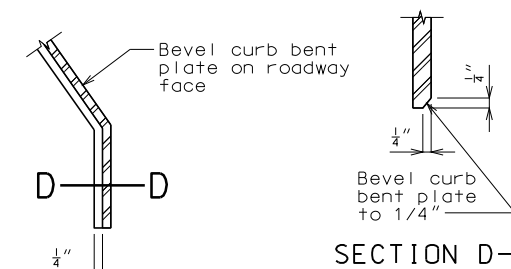
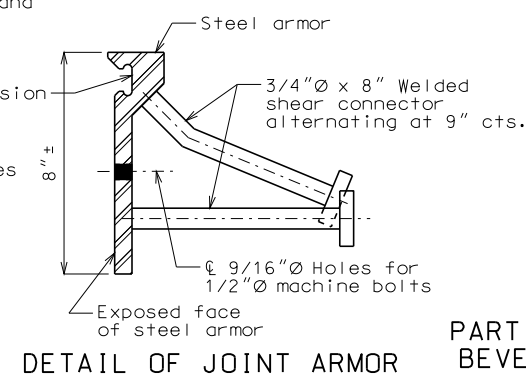
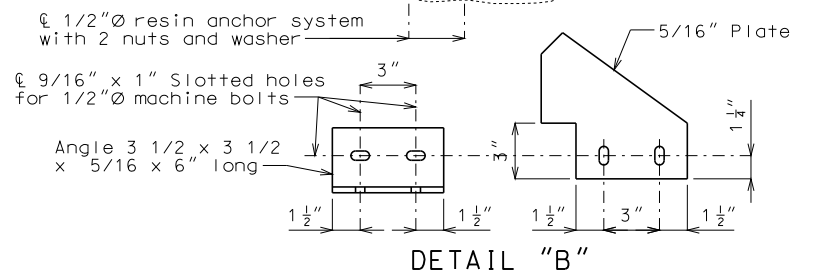
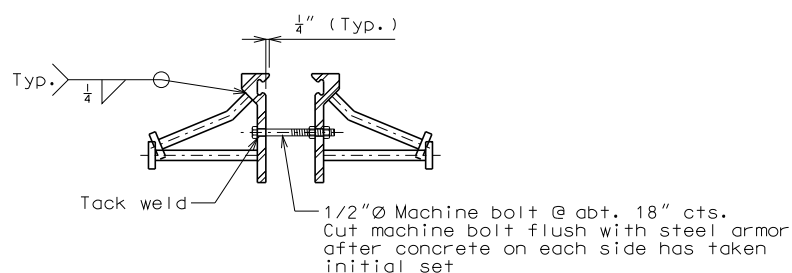
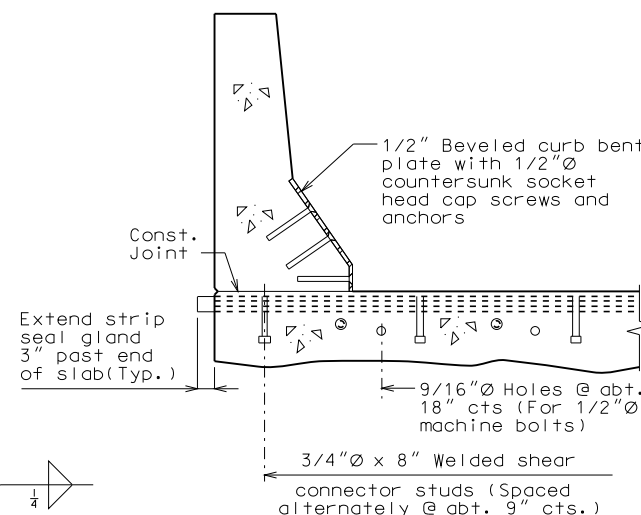
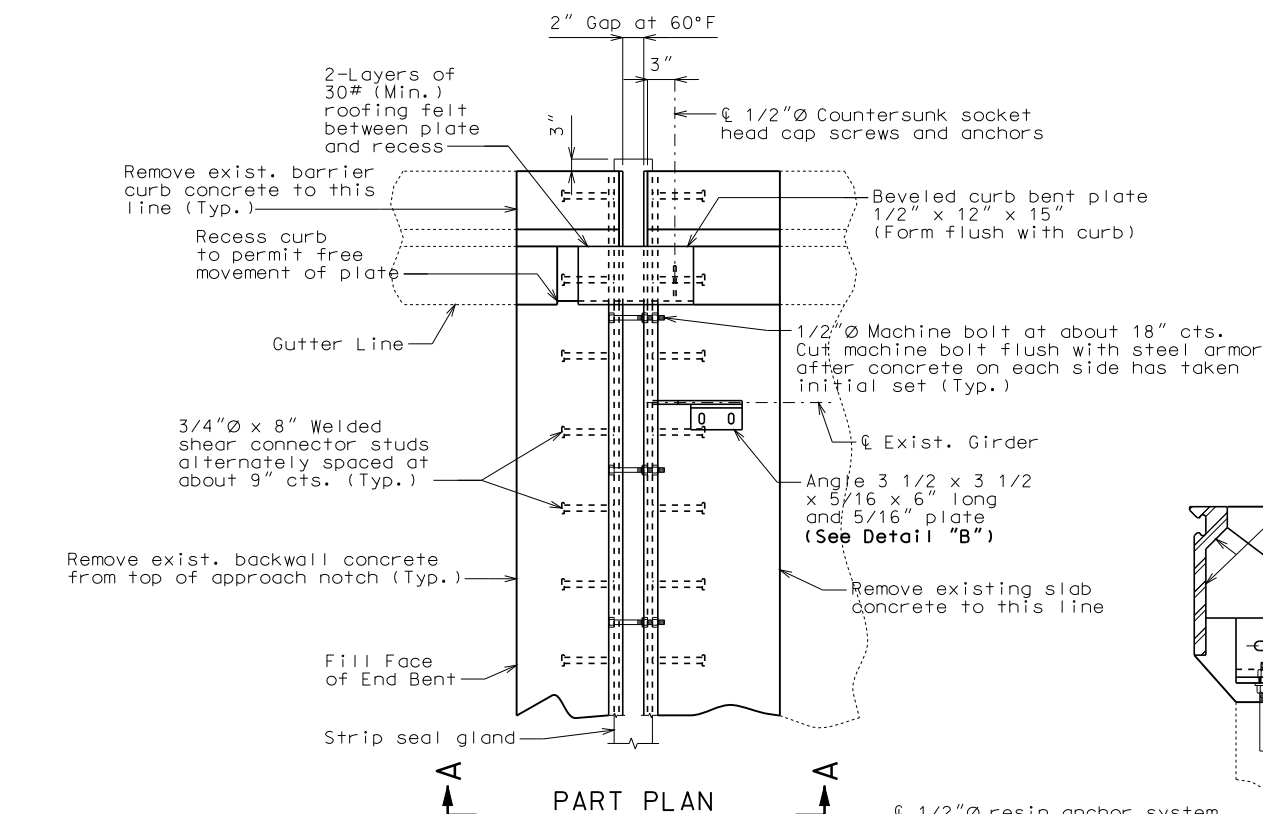
Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in $f'c = 4000$ psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until the concrete is at least 7 days old.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Class B-1 Concrete.

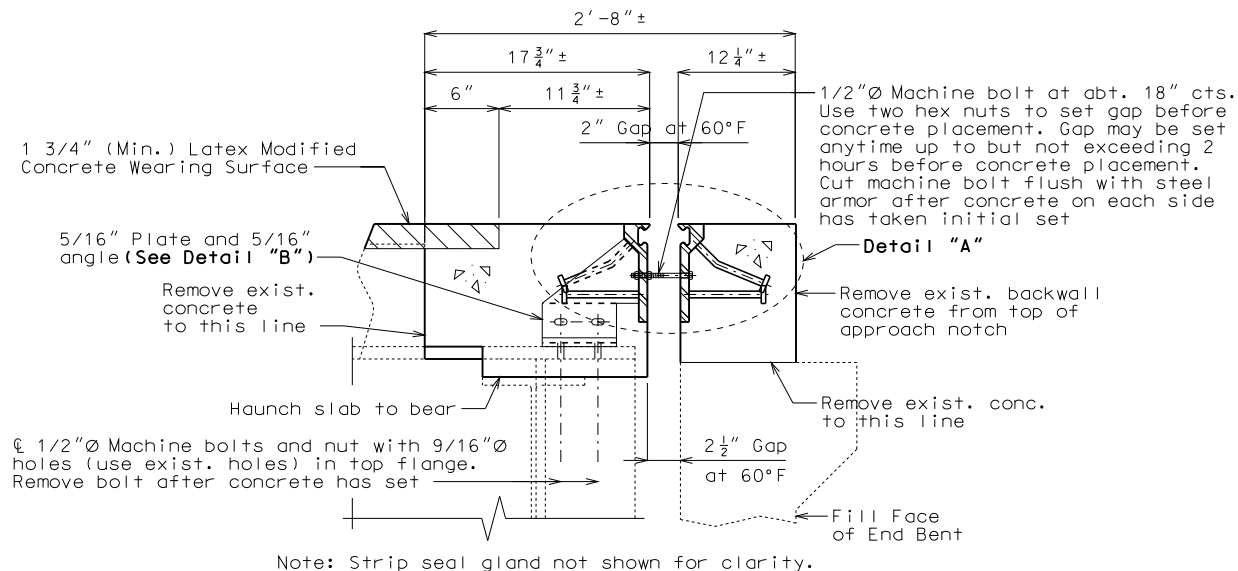
The minimum embedment depth in concrete with $f'c = 4,000$ psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".



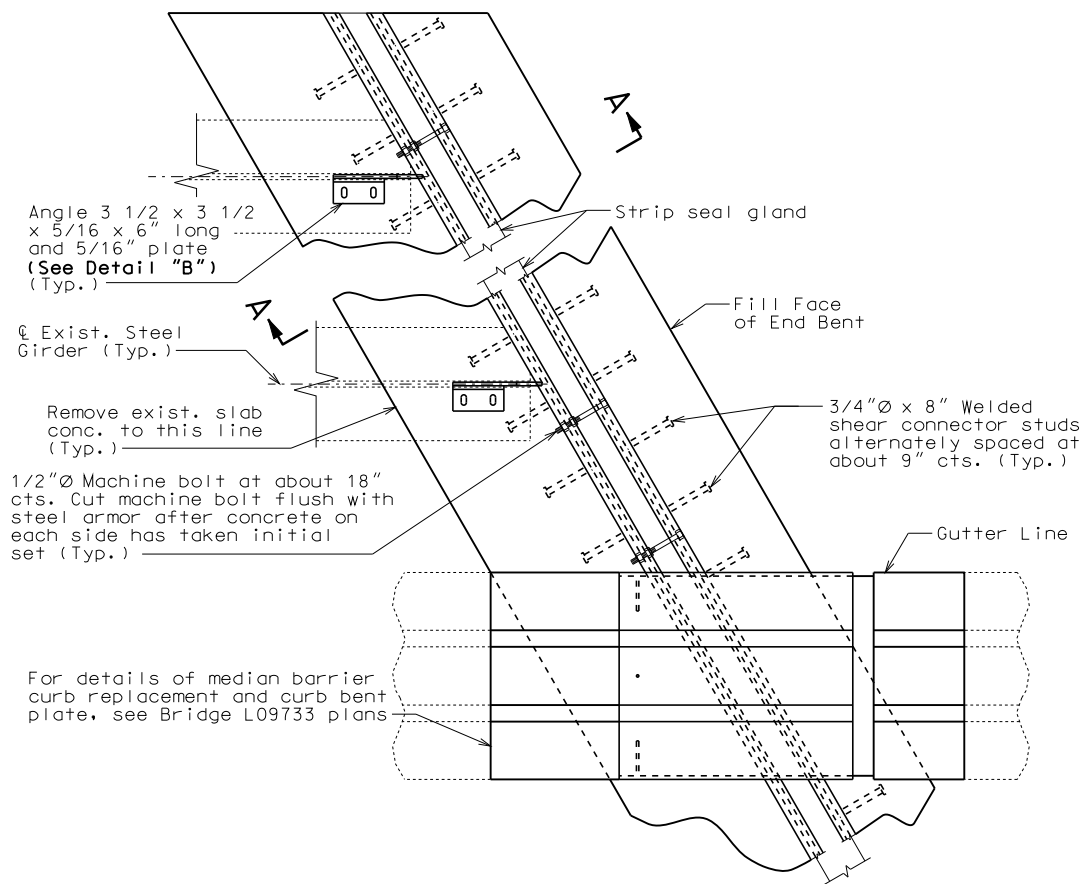
Strip seal gland size = 3"

DETAIL OF GLAND

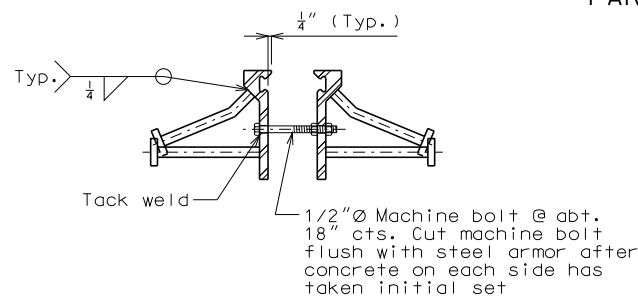
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED:



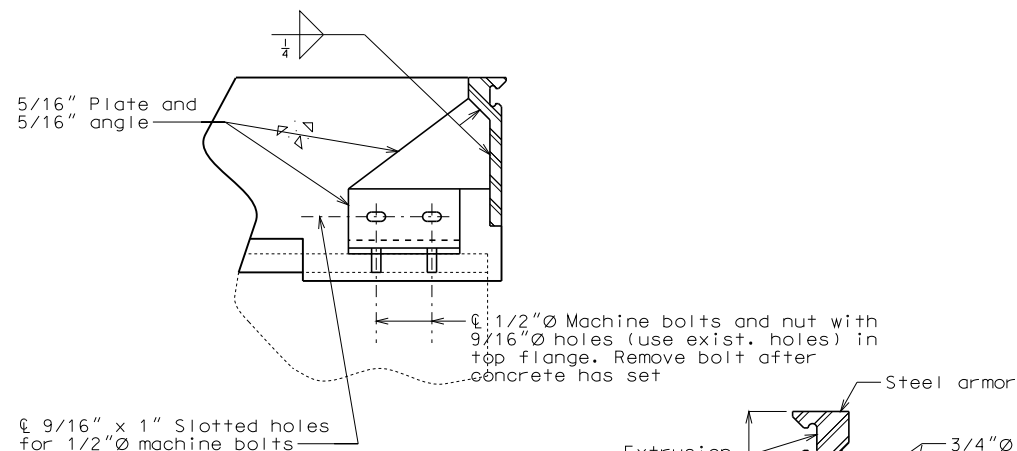
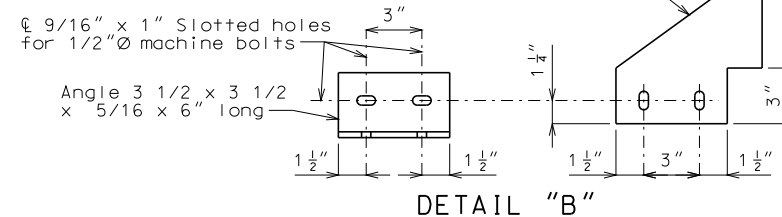
SECTION A-A



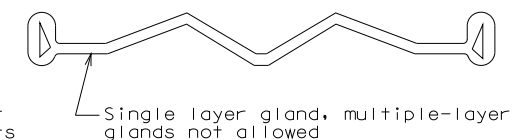
PART PLAN



DETAIL "A"



DETAIL OF JOINT ARMOR



DETAIL OF GLAND

DETAILS OF STRIP SEAL AT END BENT NO. 5 (PLATE GIRDER STRUCTURE)

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 13

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

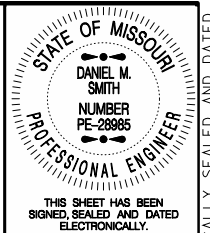
Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

Exist. longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 11/8/2010

ROUTE 1-70 STATE MO

DISTRICT BR SHEET NO. 7

COUNTY JACKSON

JOB NO. J411790B

CONTRACT ID.

PROJECT NO.

BRIDGE NO. L09734

DESCRIPTION

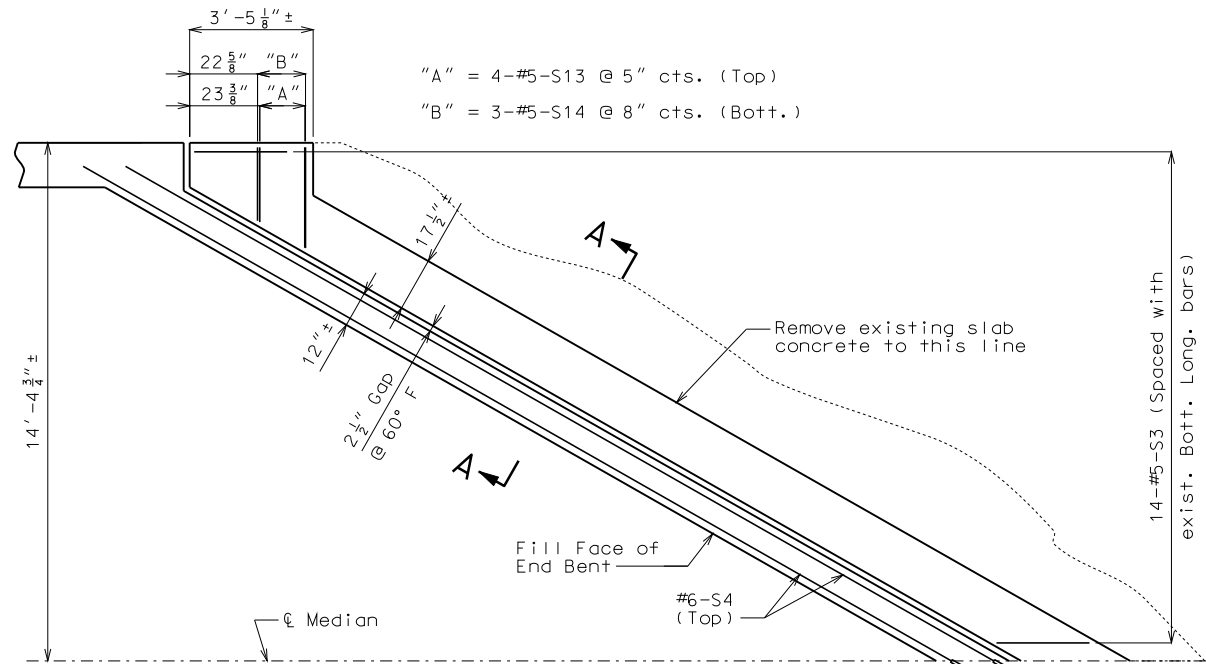
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

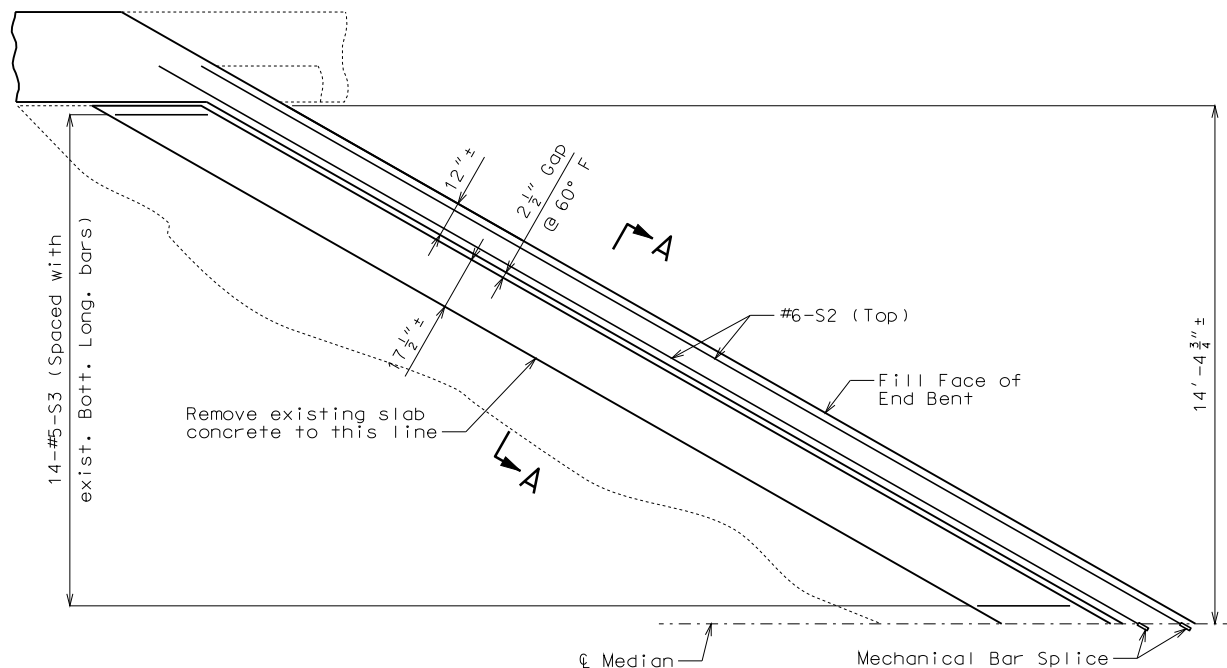
105 WEST CAPITOL JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PART PLAN OF SLAB AT END BENT NO. 1 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)



PART PLAN OF SLAB AT END BENT NO. 5 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)

Notes:
Shift #6-S bars where necessary to clear shear connector studs on the expansion joint system.

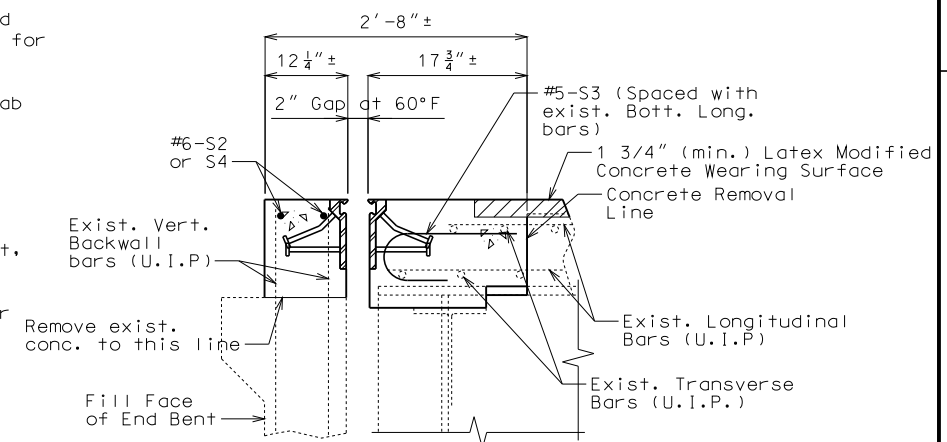
Payment for slab, backwall and safety barrier curb concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Class B-1 Concrete.

Payment for furnishing and installing reinforcing steel in slab, backwall and barrier curb for expansion joint replacement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

Cost of removing existing expansion joint, slab and backwall concrete, wearing surface and barrier curb within the limits shown will be considered completely covered by the contract unit price for Removal of Existing Expansion Joints & Adjacent Concrete.

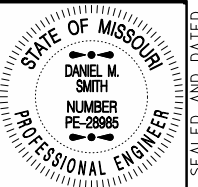
For details of median barrier curb replacement, see Bridge L09733 plans.

Payment for new concrete and reinforcement for median barrier curb replacement is included with Bridge L09733 Estimated Quantities.



Note: for detail of strip seal, see Sheets No. 6 & 7.

SECTION A-A



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
11/8/2010

ROUTE
I-70

STATE
MO

DISTRICT
BR

SHEET NO.
8

COUNTY
JACKSON

JOB NO.
J4117908

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L09734

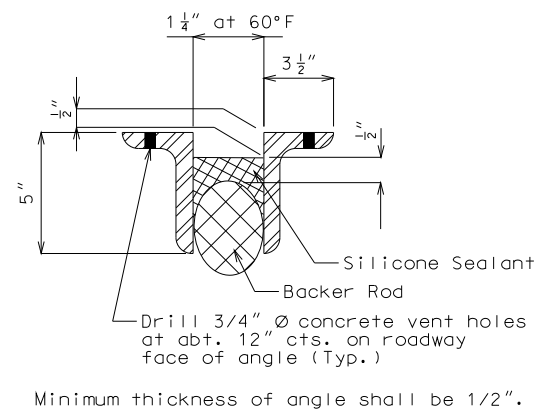
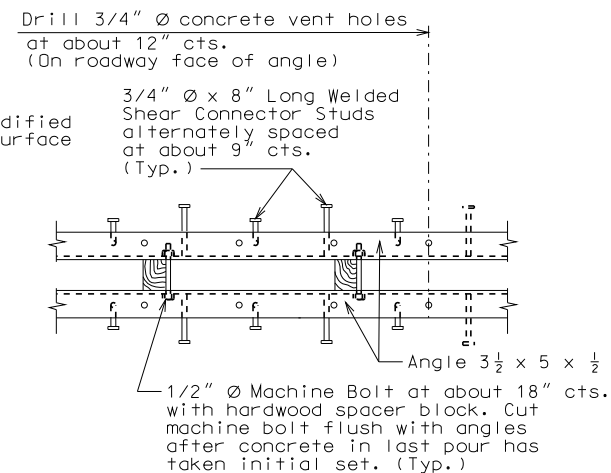
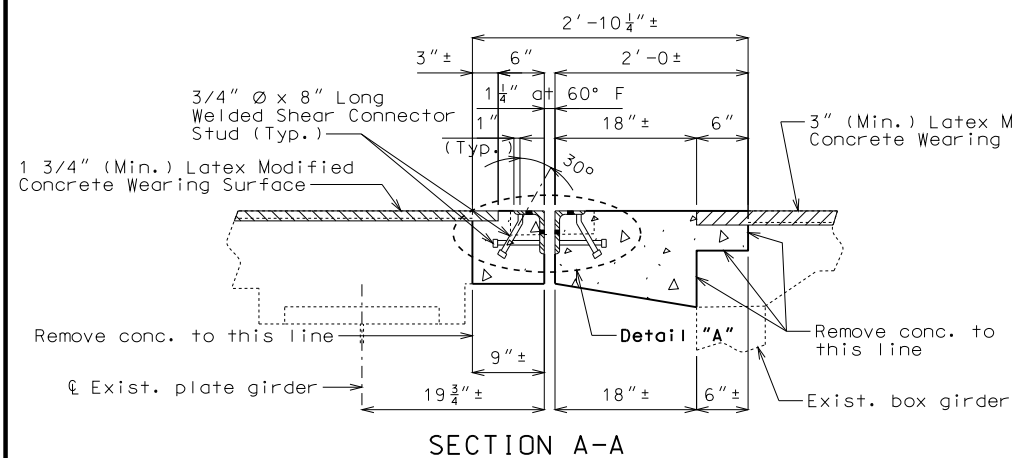
DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



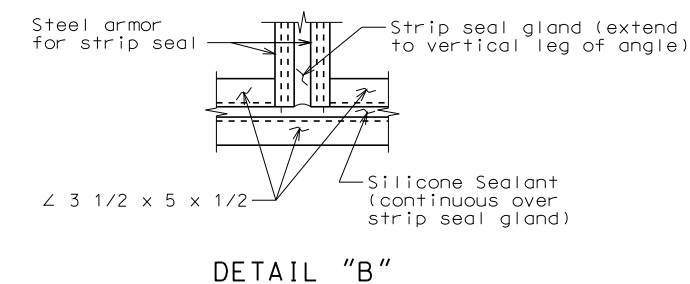
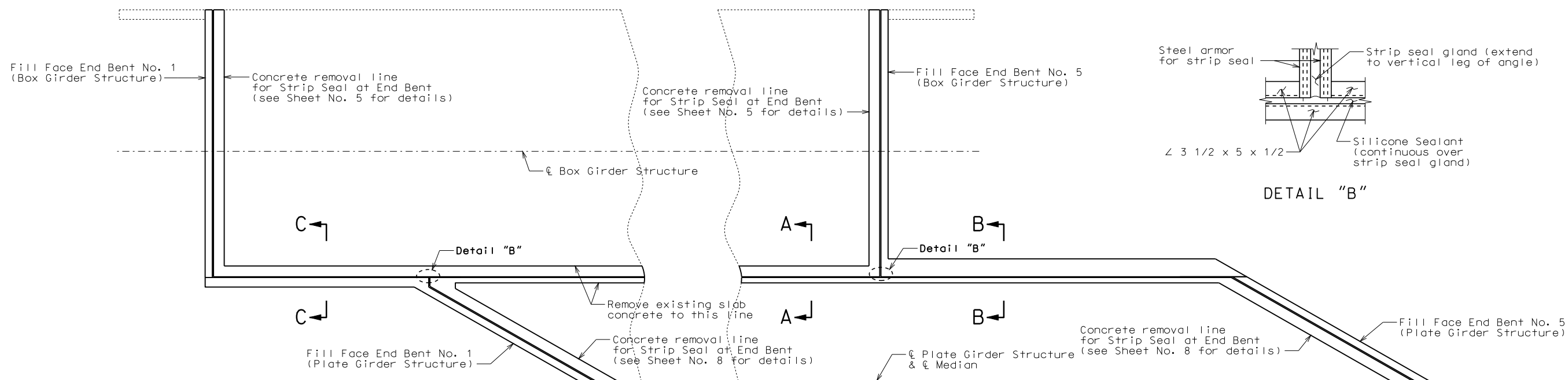
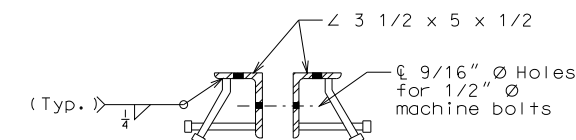
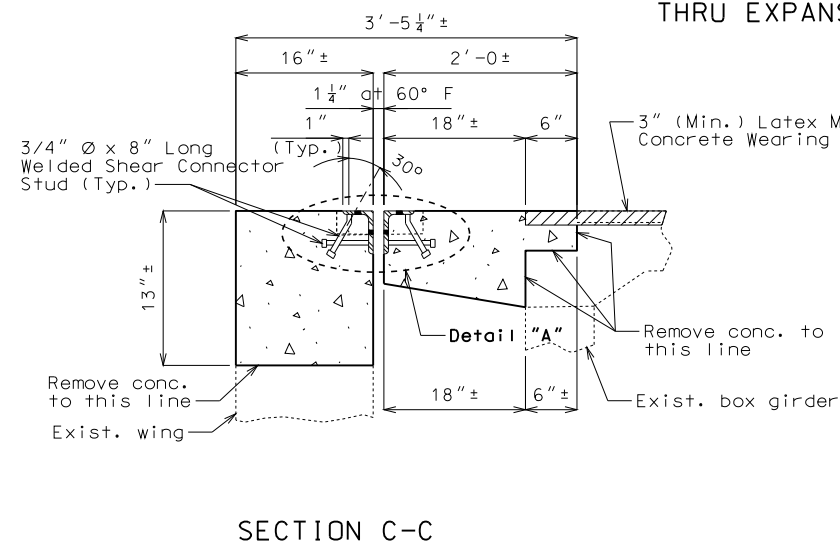
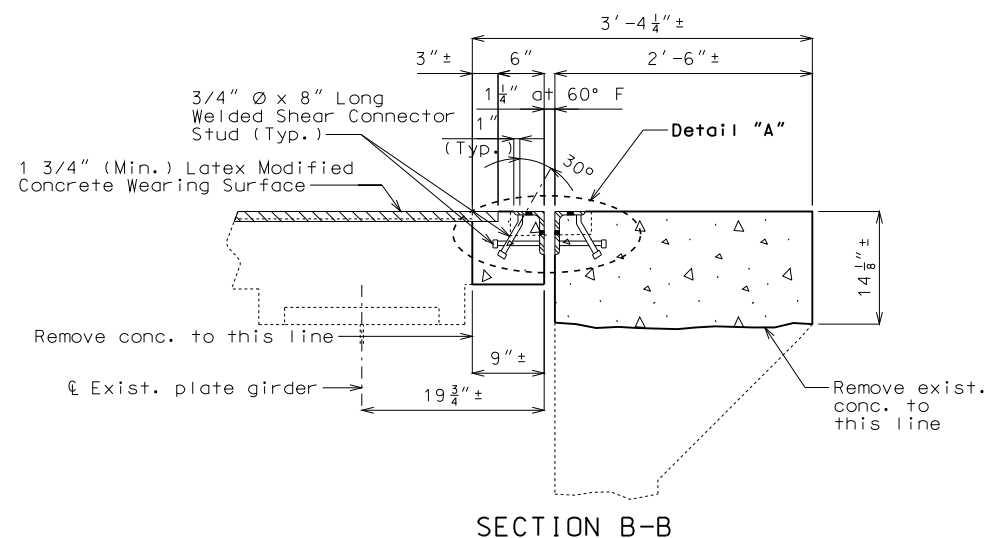
GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface.

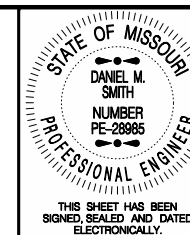
Structural steel for the expansion joint system shall be ASTM A709 Grade 36. Anchors for the expansion joint system shall be in accordance with Sec 1037. Silicone Expansion Joint Sealant Systems shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Concrete shall be forced under armor angle and around anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.



PLAN OF SLAB SHOWING SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT
DETAILS OF SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT
(BETWEEN BOX GIRDER AND PLATE GIRDER STRUCTURES)



DATE PREPARED

11/8/2010

ROUTE	STA
-------	-----

I - 70	MC
--------	----

DISTRICT	SHEET
----------	-------

BR	9
----	---

COUNTY

JACKSON

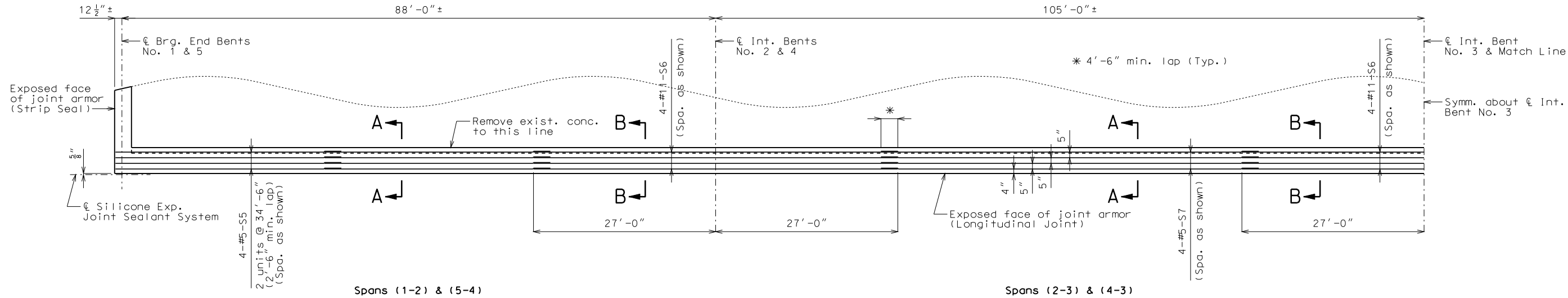
JOB NO.
1117005

DESCRIPTION

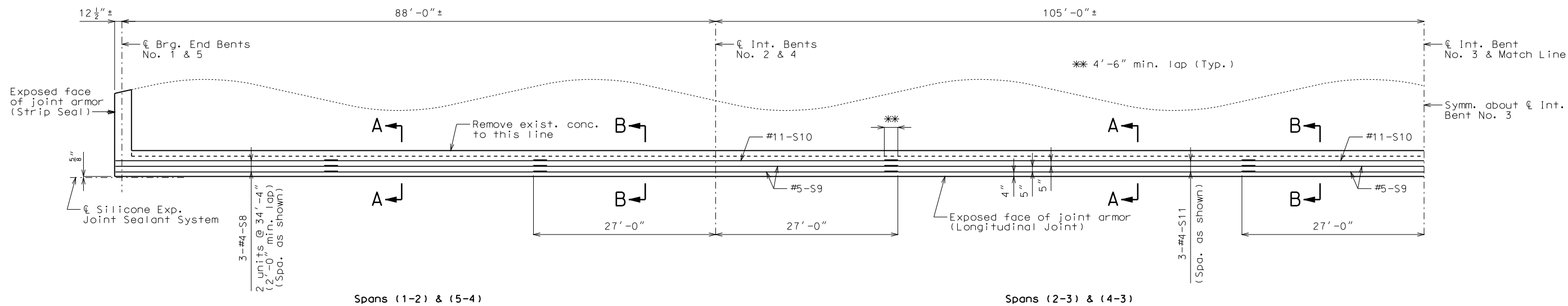
DATE _____

MISSOURI HIGHWAYS AND TRANSPORTATION

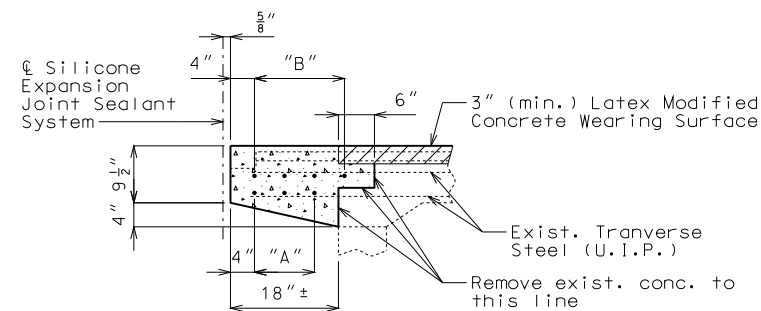




HALF PLAN SHOWING TOP OF TOP SLAB REINFORCEMENT

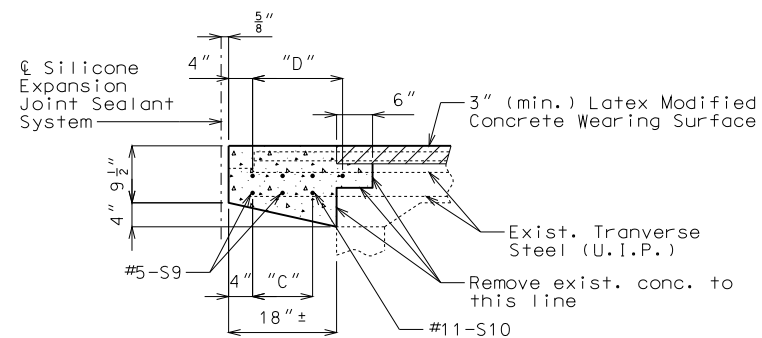


HALF PLAN SHOWING BOTTOM OF TOP SLAB REINFORCEMENT



SECTION A-A

"A" - 3-#4-S8 or S11 @ 5" cts.
"B" - 4-#5-S5 or S7 @ 5" cts.

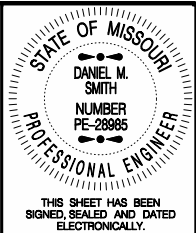


SECTION B-B

"C" - 3-#4-S8 or S11 @ 5" cts.
"D" - 4-#11-S6 @ 5" cts.

Note:
Longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (BOX GIRDER STRUCTURE)

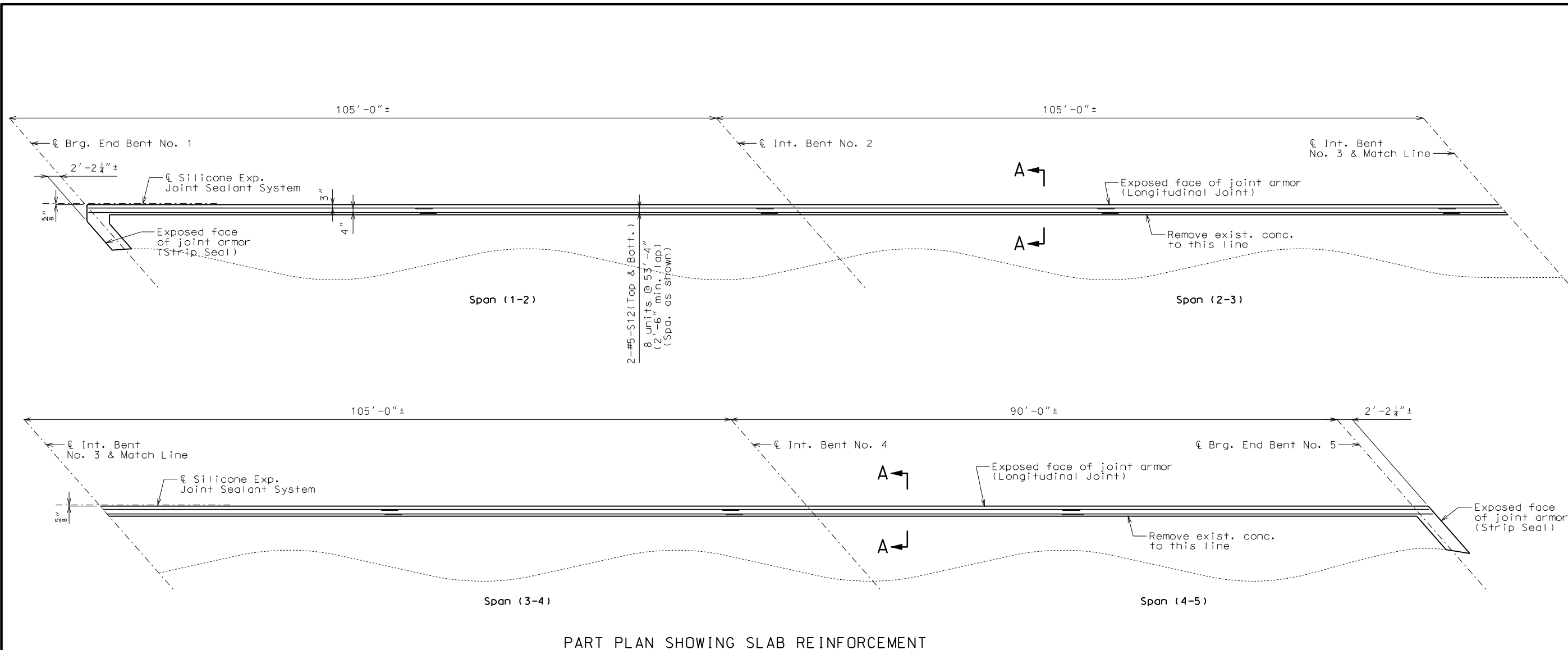


DATE PREPARED 11/8/2010	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 10
COUNTY JACKSON	
JOB NO. J411790B	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. L09734	

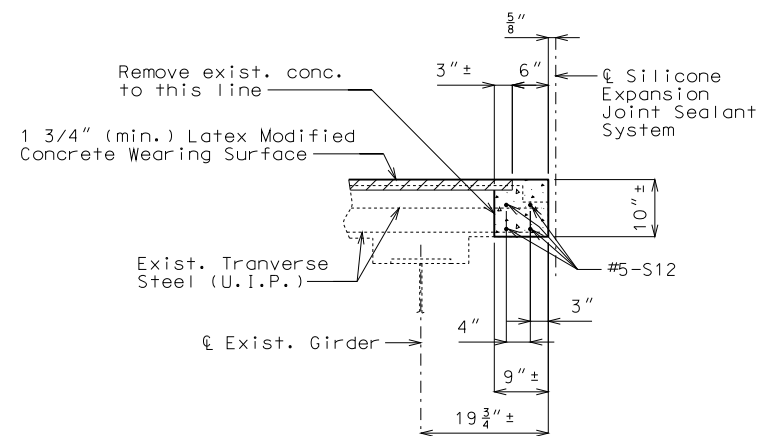
DATE	DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



PART PLAN SHOWING SLAB REINFORCEMENT



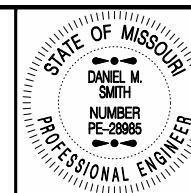
SECTION A-A

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (PLATE GIRDER STRUCTURE)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 11 of 13



THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
11/8/2010

ROUTE
I-70

STATE
MO

DISTRICT
BR

SHEET NO.
11

COUNTY
JACKSON

JOB NO.
J4117908

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
L09734

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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DETAILS SHOWING CONCRETE REMOVAL AND REPLACEMENT ON WINGS



MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
U.I.P. & REHAB EXISTING (88'-105'-105'-88') CONTINUOUS CONCRETE BOX GIRDER SPANS
WIDENED IN MEDIAN WITH (105'-105'-105'-90') CONTINUOUS COMPOSITE PLATE GIRDER SPANS

SEC/SUR 21

TWP 49N

RGE 32W

FINAL PLANS

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED

6/13/2012

ROUTE STATE

I-70 MO

DISTRICT SHEET NO.

BR 1

COUNTY

JACKSON

JOB NO.

J411790B

CONTRACT ID.

110218-402

PROJECT NO.

I-70-1 (192)

BRIDGE NO.

L09734

DESCRIPTION

DATE

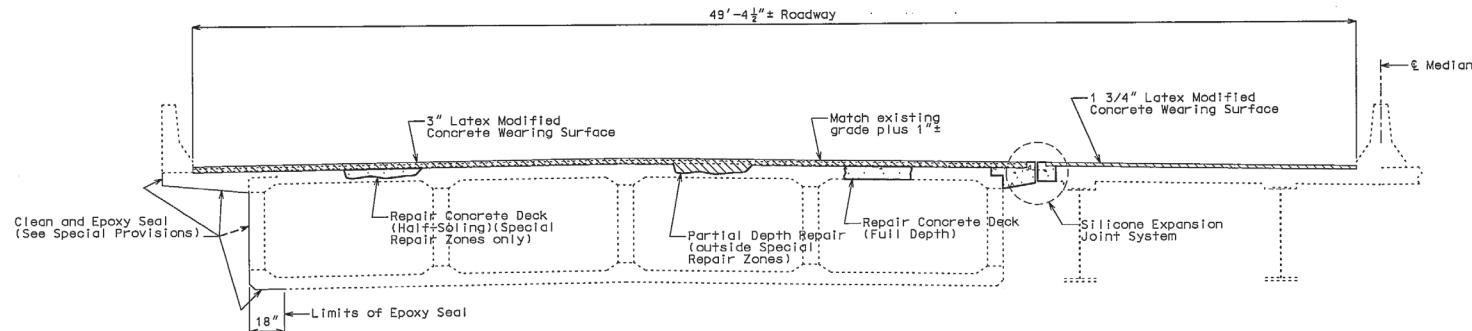
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITAL

JEFFERSON CITY, MO 65102

1-888-ASK-MODOT (1-888-275-6636)

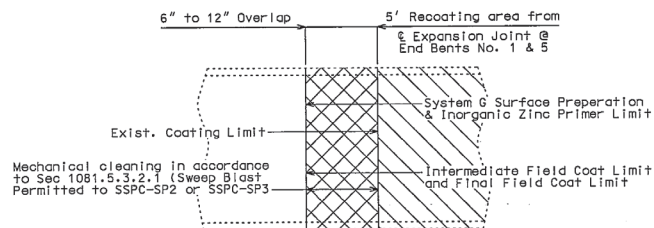
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



SECTION THRU EXISTING SLAB

Final Quantities

Item	Total	Line No.
Scarification of Bridge Decks	sq. yard 565	1210
Removal of Concrete Wearing Surface	sq. foot 13,065	1220
Removal of Existing Expansion Joints & Adjacent Concrete	linear foot 569	1230
Latex Modified Concrete Wearing Surface	sq. yard 2,055	1240
Class B-1 Concrete	cu. yard 52.3	1250
Substructure Repair (Formed)	sq. foot 75	1260
Substructure Repair (Unformed)	sq. foot 330	1270
Repairing Concrete Deck (Half-Soling)	sq. foot 9,769	1280
Full Depth Repair	sq. foot 4	1290
Total Surface Hydro Demolition	sq. yard 2,016	1300
Clean and Epoxy Seal	sq. foot 4,080	1310
Reinforcing Steel (Epoxy Coated)	pound 10,350	1320
Protective Coating - Concrete Bents and Piers (Epoxy)	linear foot 1	1330
Surface Preparation for Recoating Structural Steel	sq. foot 200	1340
Field Application of Inorganic Zinc Primer	sq. foot 200	1350
Intermediate Field Coat (System G)	sq. foot 200	1360
Finish Field Coat (System G)	sq. foot 200	1370
Rocker Bearing Replacement	each 10	1380
Strip Seal Expansion Joint System	linear foot 131	1390
Silicone Expansion Joint Sealant System	linear foot 438	1400
Partial Depth Repair	cu. yard 45.9	5010



PART ELEVATION SHOWING LIMITS OF PAINT OVERLAP
 (Vertical or horizontal paint limit. Horizontal limit shown)

REPAIRS TO BRIDGE: RTE. I-70 WBL OVER RTE. 40

STATE ROAD FROM RTE I-435 TO RTE I-470

ABOUT 2.4 MILES EAST OF RTE. I-435

STA. 463+55.70± (± Med.) (Match Exist.)

STD. 706.35

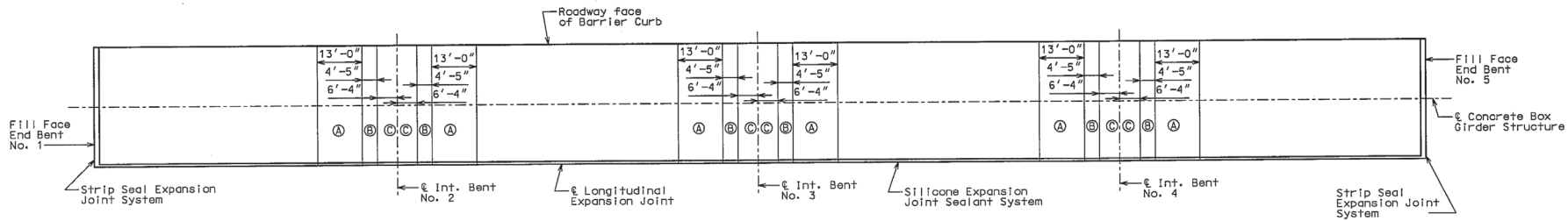
Detailed Aug. 2010
 Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

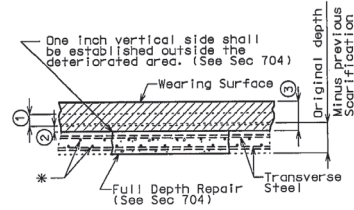
Sheet No. 1 of 13

V:\Contract Information Archive\004\4CD\110218-402\As Built Final Plans\J411790B-Bridges\L09734\B_L09734_001_J411790B.dgn 7/4/5/31 AM 6/13/2012

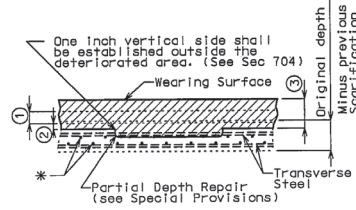
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



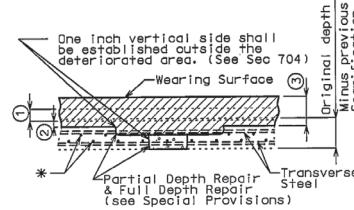
PLAN OF EXISTING CONCRETE BOX GIRDER SLAB SHOWING SPECIAL REPAIR ZONES & LOCATION OF EXPANSION JOINT REPLACEMENT



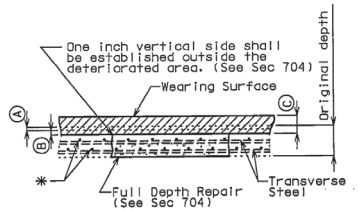
FULL DEPTH REPAIR
(Box Girder Deck Area)



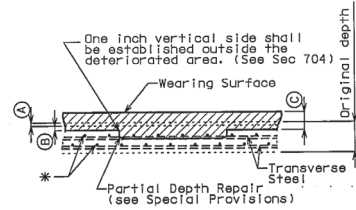
PARTIAL DEPTH REPAIR
(Box Girder Deck Area)
(Outside Special Repair Zones)



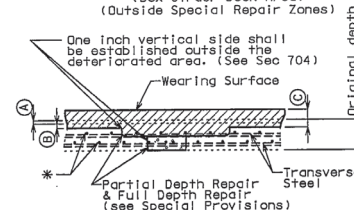
FULL DEPTH AREA IN
PARTIAL DEPTH REPAIR
(Box Girder Deck Area)
(Outside Special Repair Zones)



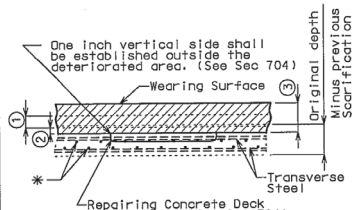
FULL DEPTH REPAIR
(Plate Girder Deck Area)



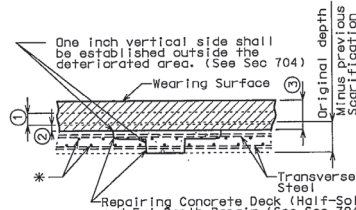
PARTIAL DEPTH REPAIR
(Plate Girder Deck Area)



FULL DEPTH AREA IN
PARTIAL DEPTH REPAIR
(Plate Girder Deck Area)



HALF-SOLED AREA
(Box Girder Deck Area)
(Special Repair Zones)



FULL DEPTH AREA IN
HALF-SOLED AREA
(Box Girder Deck Area)
(Special Repair Zones)

DECK REPAIR DETAILS

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 13

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FINAL PLANS

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system and curb plate shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

Exist. longitudinal reinforcing steel shall be cut so that ends shall not be more than 1" from vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

Curb plate anchors shall be a drilled cone expansion or a cast-in-place wing type threaded insert. The minimum ultimate pullout capacity for these anchors shall be 2700 lbs in f'c = 4000 psi concrete. Lead anchors will not be permitted. Holes in the barrier curb for anchors shall not be drilled until the concrete is at least 7 days old.

The contractor shall use one of the qualified resin anchor systems in accordance with Sec 1039.

Cost of furnishing and installing the resin anchor system complete-in-place will be considered completely covered by the contract unit price for Class B-1 Concrete.

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

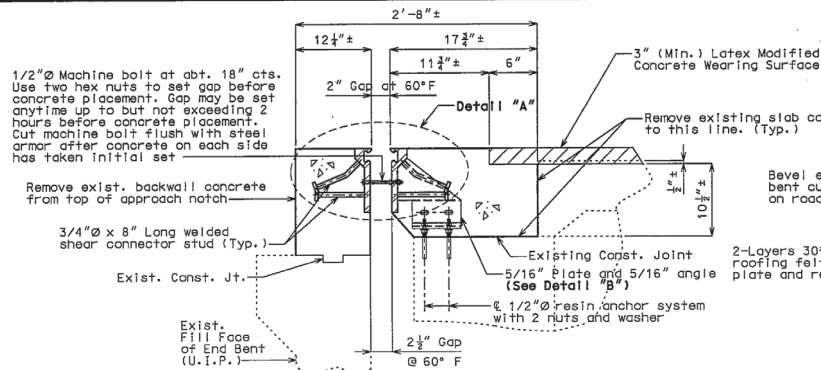
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DATE PREPARED
6/13/2012
ROUTE
I-70
STATE
MO
DISTRICT
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SHEET NO.
4
COUNTY
JACKSON
JOB NO.
J411790B
CONTRACT ID.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09734

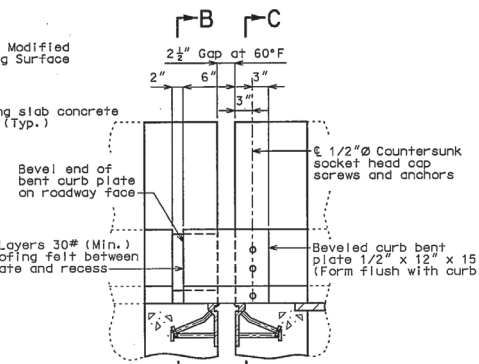
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DATE
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)



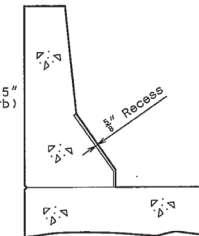
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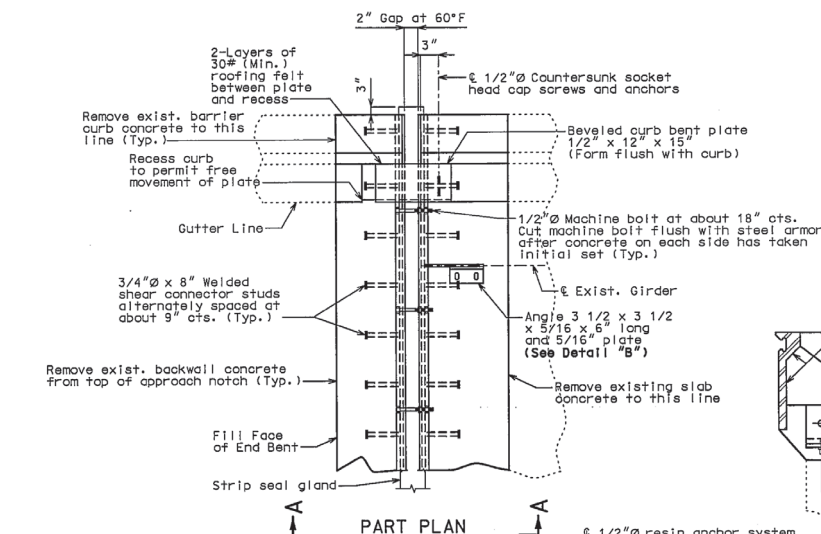
SECTION A-A



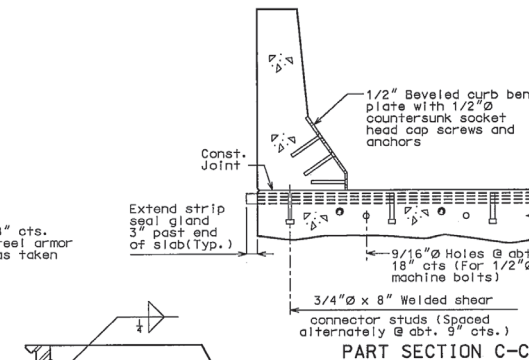
PART ELEVATION OF BARRIER CURB



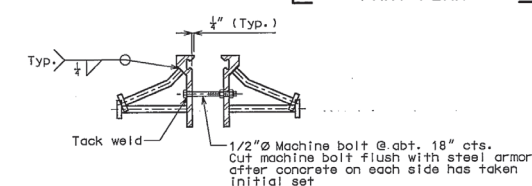
PART SECTION B-B



PART PLAN



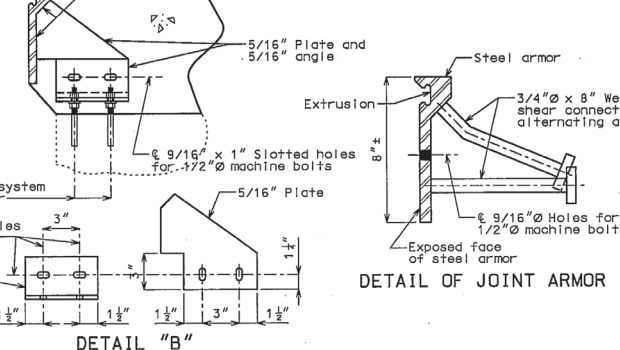
PART SECTION C-C



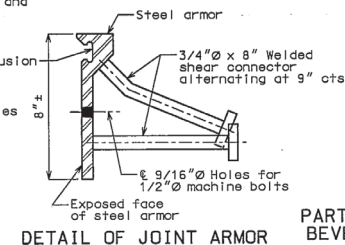
DETAIL "A"

DETAILS OF STRIP SEAL AT END BENTS NO. 1 & 5 (BOX GIRDER STRUCTURE)

(End Bent No. 1 shown, End Bent No. 5 similar)

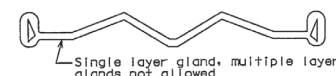


DETAIL "B"



DETAIL OF JOINT ARMOR

PART ELEVATION AT END OF BEVELED CURB BENT PLATE



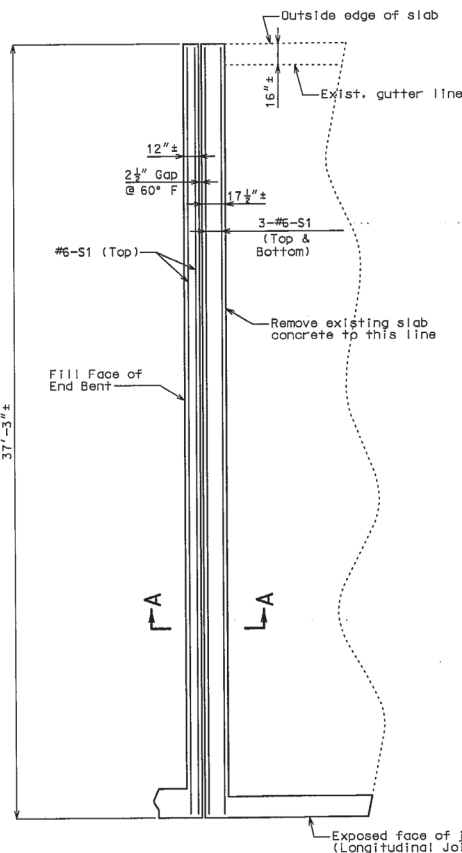
DETAIL OF GLAND

Detailed Aug. 2010
Checked Sep. 2010

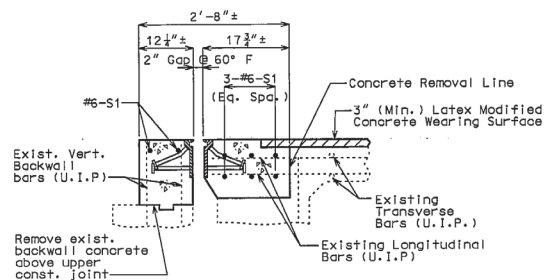
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 13

\\Contract Information Archive\004\4CD\110218-402\As Built Final Plans\J411790B-Bridges\L09734\B-L09734_004-J411790B.DGN 7/4/2016 6/13/2012



**PART PLAN OF SLAB AT END BENTS
SHOWING REINFORCEMENT**
(End Bent No. 1 shown, End Bent No. 5 similar)



PART SECTION A-A

Note: For details of strip seal, see Sheet No. 4.

Notes:

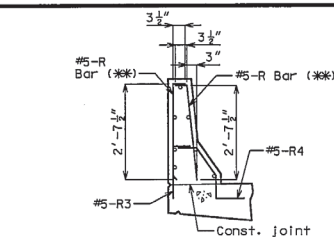
All exposed edges of new safety barrier curb shall match existing barrier curb.

Shift #6-S bars where necessary to clear shear connector studs on the expansion joint system.

Payment for slab, backwall and safety barrier curb concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Class B-1 Concrete.

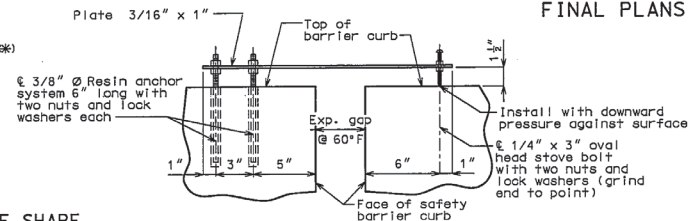
Payment for furnishing and installing reinforcing steel in slab, backwall and barrier curb for expansion joint replacement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

Cost of removing existing expansion joint, slab and backwall concrete, wearing surface and barrier curb within the limits shown will be considered completely covered by the contract unit price for Removal of Existing Expansion Joints & Adjacent Concrete.

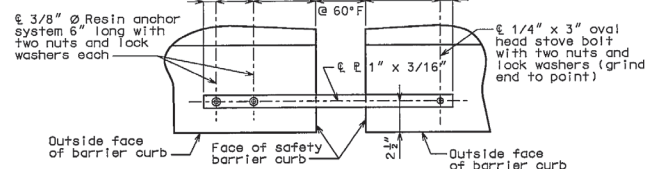


R-BAR PERMISSIBLE ALTERNATE SHAPE

(**) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are cut to out.)



**PART ELEVATION OF BARRIER CURB
SHOWING MOVEMENT GAUGE**

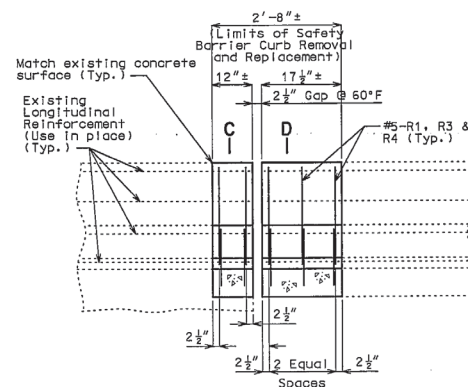


**PART PLAN OF BARRIER CURB
SHOWING MOVEMENT GAUGE**

Notes:
A movement gauge shall be provided on one side of bridge at all safety barrier curb expansion joints.

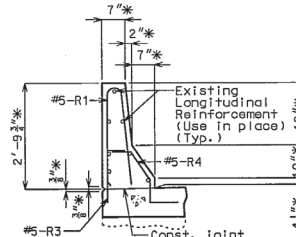
All steel shall be galvanized.

Cost of movement gauge complete in place shall be included in the contract unit price for Class B-1 Concrete.



PART SECTION C-C

* = Match existing



PART SECTION D-D

* = Match existing

FINAL PLANS

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DATE PREPARED
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ROUTE
I-70 STATE
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DISTRICT
BR 5

COUNTY
JACKSON

JOB NO.
J4117908

CONTRACT NO.
110218-402

PROJECT NO.
I-70-1 (192)

BRIDGE NO.
L09734

DESCRIPTION

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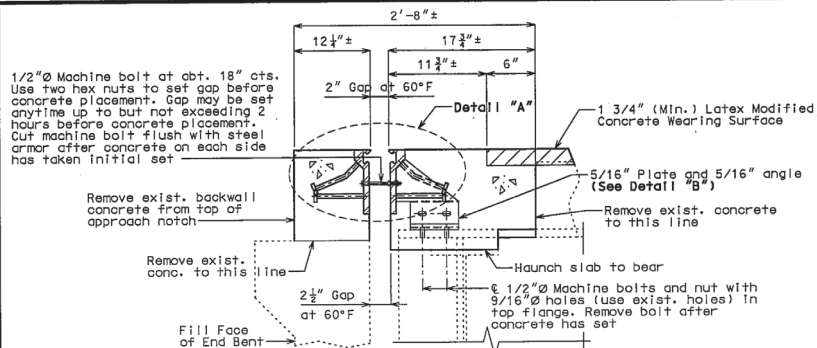
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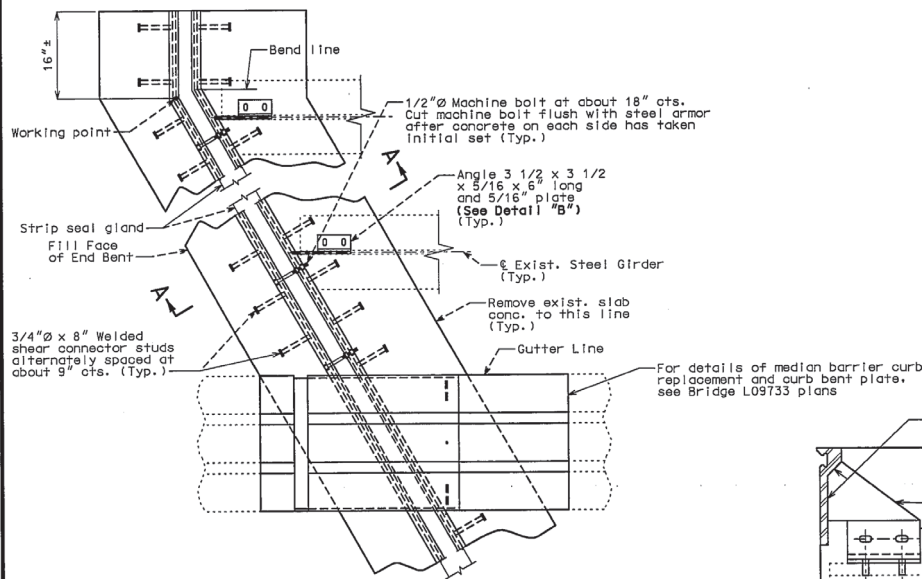
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FINAL PLANS

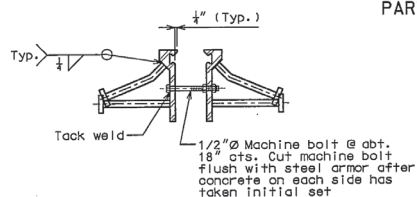


Note: Strip seal gland not shown for clarity.

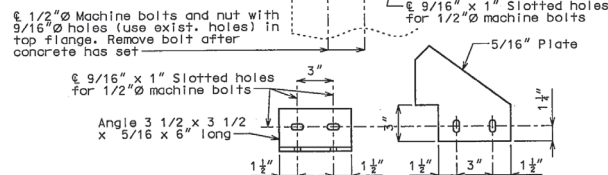
SECTION A-A



PART PLAN



DETAIL "A"

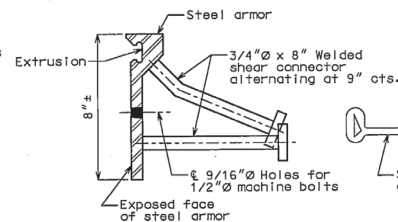


DETAIL "B"

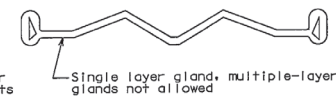
DETAILS OF STRIP SEAL AT END BENT NO. 1 (PLATE GIRDER STRUCTURE)

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 13



DETAIL OF JOINT ARMOR



DETAIL OF GLAND

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

Exist. longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" from vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

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ROUTE
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JOB NO.
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CONTRACT NO.
110218-402

PROJECT NO.
I-70-1 (192)

BRIDGE NO.
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Detailed Aug. 2010
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FINAL PLANS

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DATE PREPARED
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ROUTE
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JACKSON
JOB NO.
J411790B
CONTRACT NO.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09734

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MDOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion joint system shall be fabricated and installed to the crown and grade of the roadway.

The strip seal gland shall be installed in joints in one continuous piece without field splices. Factory splicing will be permitted for joints in excess of 53 feet.

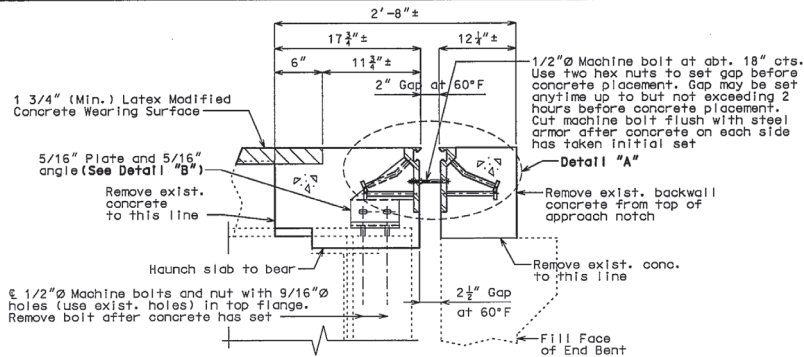
Structural steel for the expansion joint system shall be ASTM A709 Grade 36 except the steel armor may be ASTM A709 Grade 50W. Anchors for the expansion joint system shall be in accordance with Sec 1037. Strip seal expansion joint system shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/8" for each 10° fall or rise in temperature at installation.

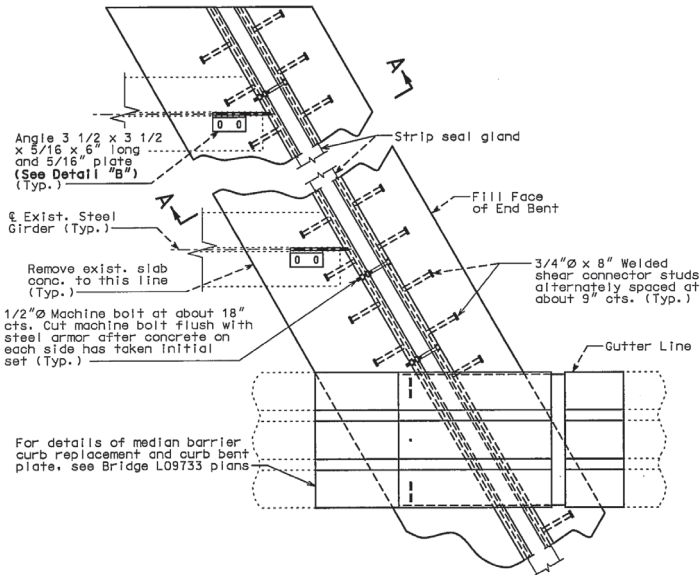
Exist. longitudinal reinforcing steel shall be placed so that ends shall not be more than ±1" from vertical leg of the steel armor at the expansion joint system.

Concrete shall be forced under and around steel armor and anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.

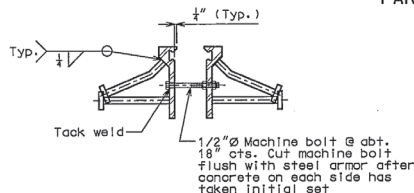


Note: Strip seal gland not shown for clarity.

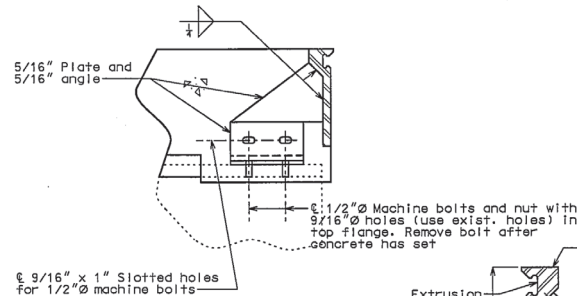
SECTION A-A



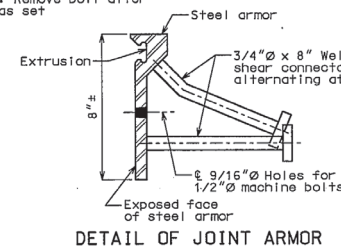
PART PLAN



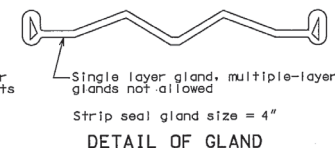
DETAIL "A"



DETAIL "B"



DETAIL OF JOINT ARMOR



DETAIL OF GLAND

DETAILS OF STRIP SEAL AT END BENT NO. 5 (PLATE GIRDER STRUCTURE)

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 13

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FINAL PLANS

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DATE PREPARED
6/13/2012

ROUTE
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SHEET NO.
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COUNTY
JACKSON

JOB NO.
J4117908

CONTRACT ID:
110218-402

PROJECT NO.
I-70-1 (192)

BRIDGE NO.
L09734

DESCRIPTION

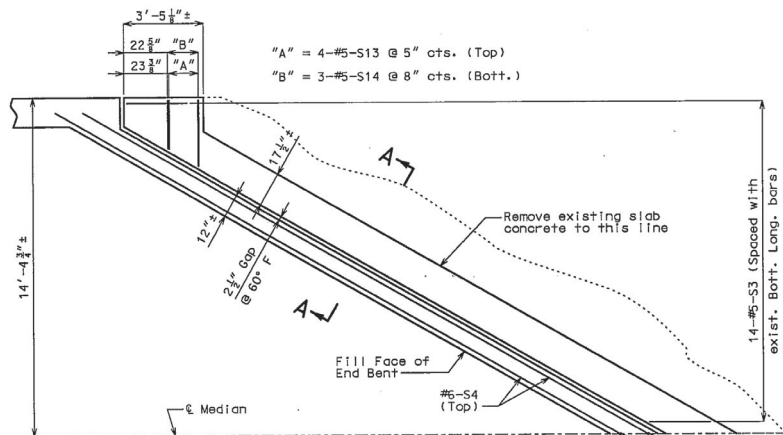
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MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

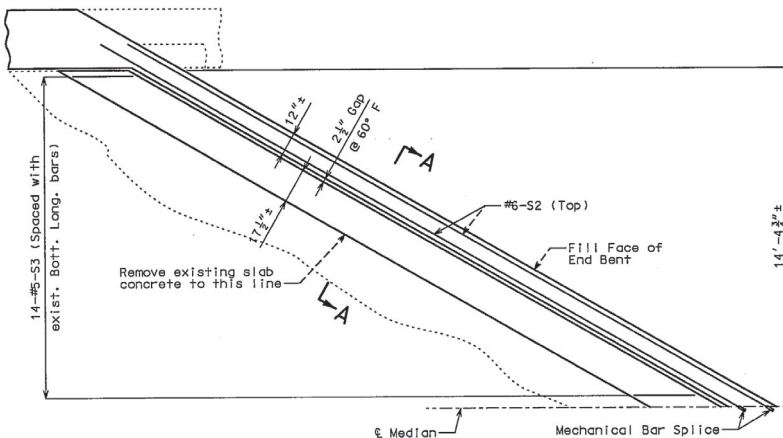
105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

MDOT

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PART PLAN OF SLAB AT END BENT NO. 1 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)



PART PLAN OF SLAB AT END BENT NO. 5 SHOWING REINFORCEMENT
(Median Barrier Curb not shown for clarity.)

Notes:
Shift #6-S bars where necessary to clear shear connector studs on the expansion joint system.

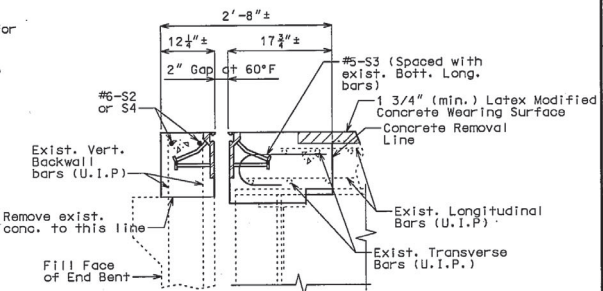
Payment for slab, backwall and safety barrier curb concrete, complete-in-place, for expansion joint replacement will be considered completely covered by the contract unit price for Class B-1 Concrete.

Payment for furnishing and installing reinforcing steel in slab, backwall and barrier curb for expansion joint replacement will be considered completely covered by the contract unit price for Reinforcing Steel (Epoxy Coated).

Cost of removing existing expansion joint, slab and backwall concrete, wearing surface and barrier curb within the limits shown will be considered completely covered by the contract unit price for Removal of Existing Expansion Joints & Adjacent Concrete.

For details of median barrier curb replacement, see Bridge L09733 plans.

Payment for new concrete and reinforcement for median barrier curb replacement is included with Bridge L09733 Estimated Quantities.



Note: for detail of strip seal, see Sheets No. 6 & 7.

SECTION A-A

Detailed Aug. 2010
Checked Sep. 2010

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 8 of 13

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FINAL PLANS

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DATE PREPARED
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COUNTY
JACKSON
JOB NO.
J411790B
CONTRACT NO.
110218-402
PROJECT NO.
I-70-1 (192)
BRIDGE NO.
L09734

DESCRIPTION

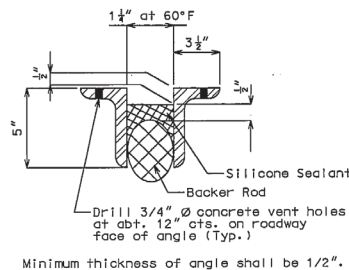
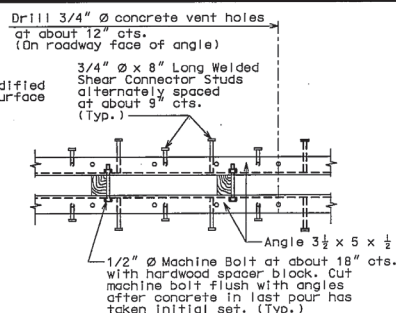
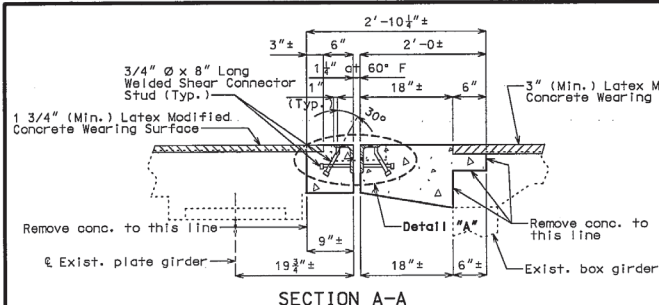
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



105 WEST CAPITAL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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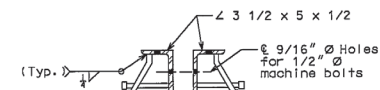
GENERAL NOTES:

Expansion joint system shall be fabricated in one section, except for stage construction and when the length is over 50 feet. A complete joint penetration groove welded splice shall be required. Welds shall be ground flush to provide a smooth surface.

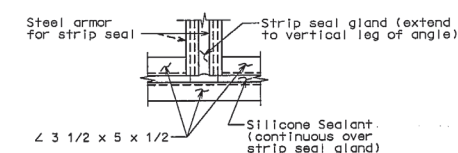
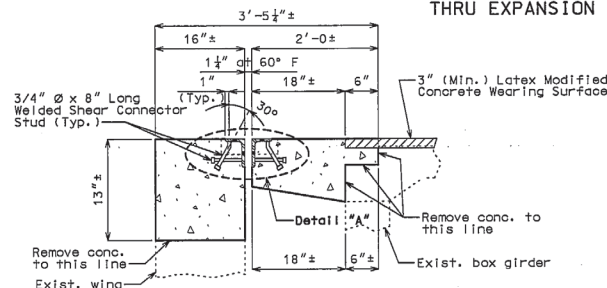
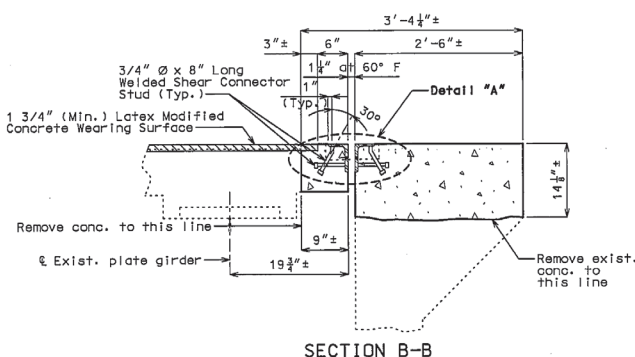
Structural steel for the expansion joint system shall be ASTM A709 Grade 56. Anchors for the expansion joint system shall be in accordance with Sec 1037. Silicone Expansion Joint Sealant Systems shall be in accordance with Sec 717.

Structural steel for the expansion joint system shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum) or galvanized in accordance with ASTM A123. Anchors need not be protected from overspray.

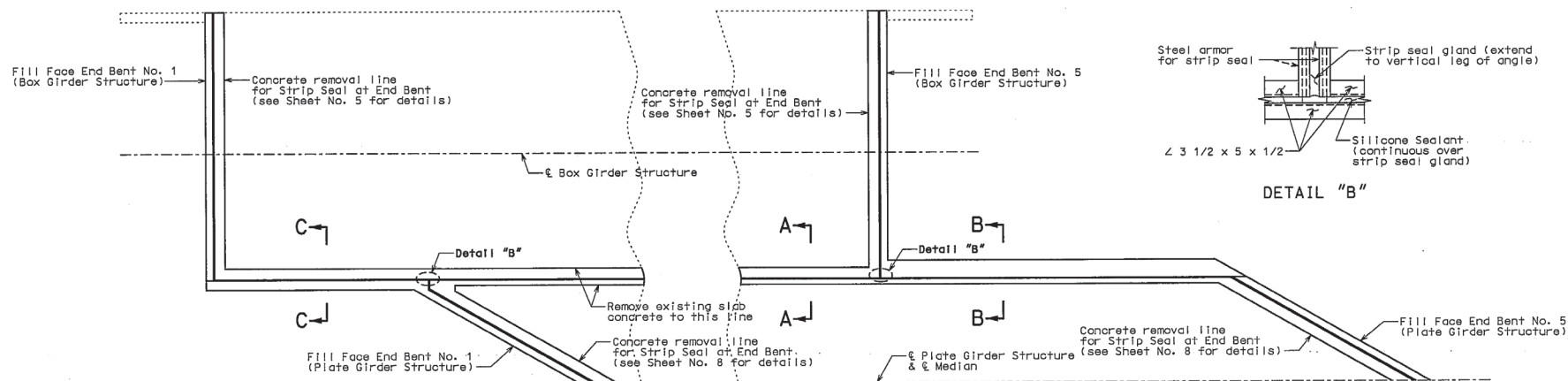
Concrete shall be forced under armor angle and around anchors. Proper consolidation of the concrete shall be achieved by localized internal vibration.



DETAIL "A"



DETAIL "B"



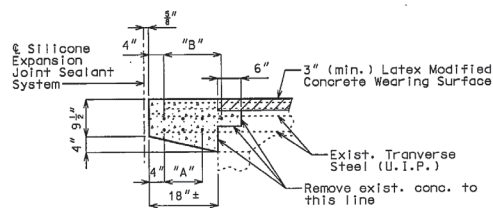
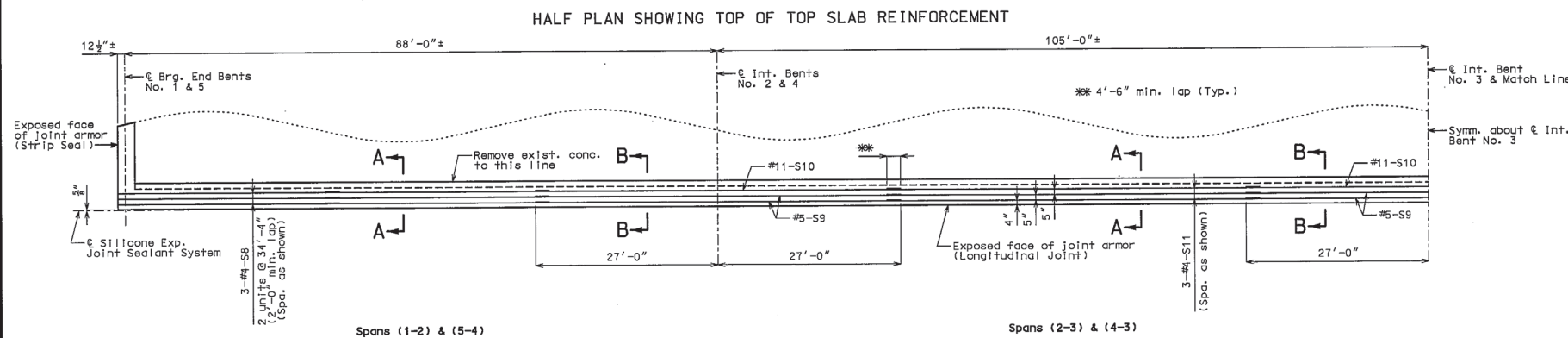
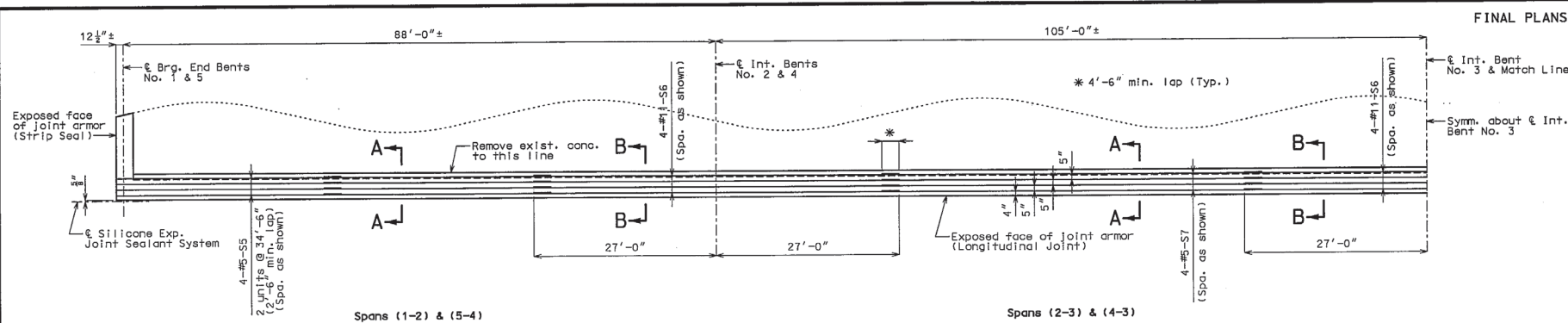
PLAN OF SLAB SHOWING SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT DETAILS OF SILICONE EXPANSION JOINT SEALANT SYSTEM AT LONGITUDINAL JOINT (BETWEEN BOX GIRDER AND PLATE GIRDER STRUCTURES)

Detailed Aug. 2010
Checked Sep. 2010

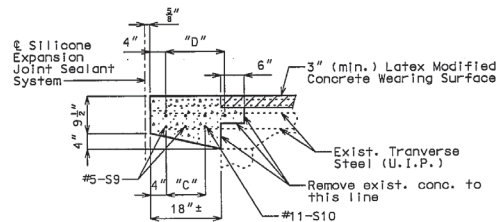
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 13

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"A" - 3-#4-S8 or S11 @ 5" cts.
 "B" - 4-#5-S5 or S7 @ 5" cts.



"C" - 3 Sp. @ 5"
 "D" - 4-#11-S6 @ 5" cts.

Note:
 Longitudinal reinforcing steel shall be placed so that ends shall not be more than $\pm 1"$ from vertical leg of the steel armor at the expansion joint system.

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (BOX GIRDER STRUCTURE)

Detailed Aug. 2010
 Checked Sep. 2010

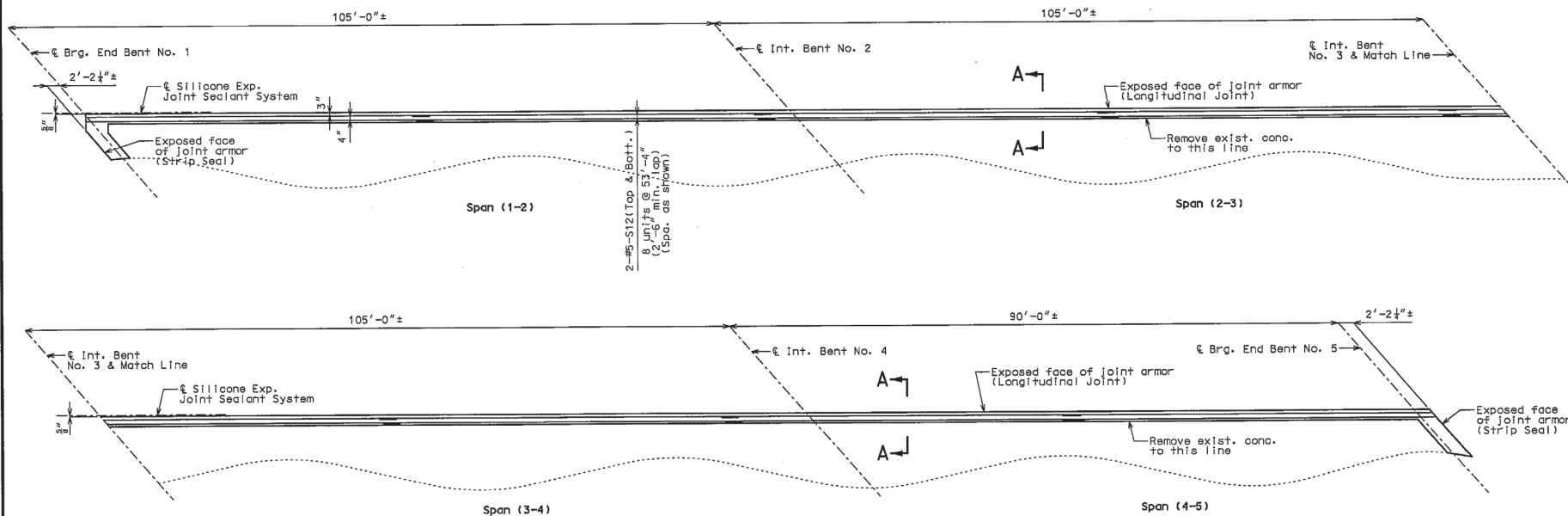
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 10 of 13

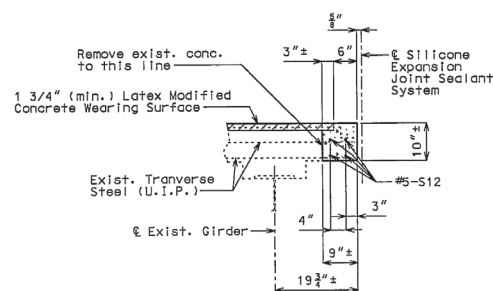
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DATE PREPARED	6/13/2012
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	10
COUNTY	JACKSON
JOB NO.	J411790B
CONTRACT NO.	110218-402
PRODUCT NO.	I-70-1 (192)
BRIDGE NO.	L09734
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	105 WEST CAPITAL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

FINAL PLANS



PART PLAN SHOWING SLAB REINFORCEMENT



SECTION A-A

DETAILS SHOWING SLAB REPLACEMENT AT LONGITUDINAL JOINT (PLATE GIRDER STRUCTURE)

Note:
Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" from vertical leg of the steel armor at the expansion joint system.

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DATE PREPARED 6/13/2012

ROUTE I-70 STATE MO

DISTRICT BR SHEET NO. 11

COUNTY JACKSON

JOB NO. J411790B

CONTRACT TO: 110218-402

PROJECT NO. I-70-1 (192)

BRIDGE NO. L09734

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102

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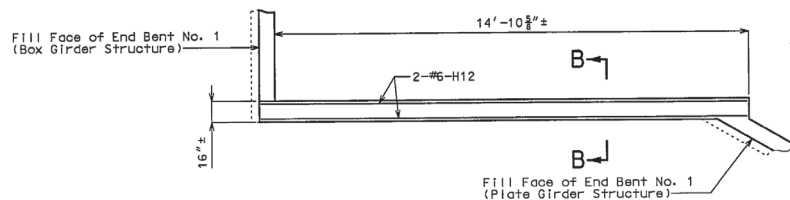
Detailed Aug. 2010
Checked Sep. 2010

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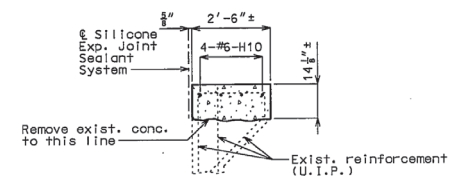
Sheet No. 11 of 13

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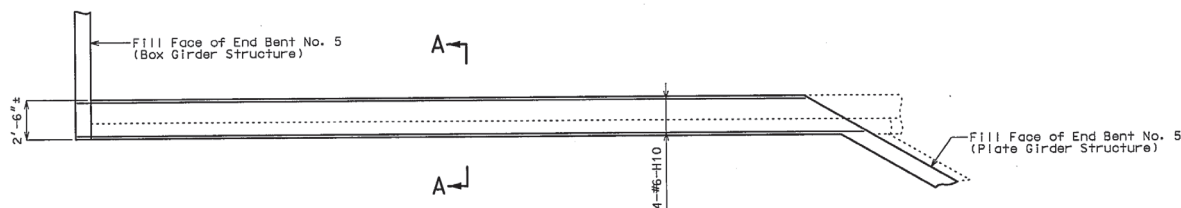
FINAL PLANS



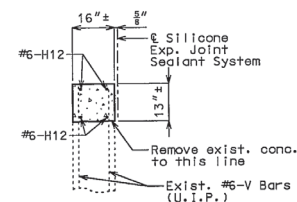
PART PLAN OF WING BETWEEN END BENTS NO. 1



SECTION A-A



PART PLAN OF WING BETWEEN END BENTS NO. 5



SECTION B-B

DETAILS SHOWING CONCRETE REMOVAL AND REPLACEMENT ON WINGS

Detailed Aug. 2010
Checked Sept 2010

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Sheet No. 12 of 13

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ROUTE I-70 STATE MO

DISTRICT BR SHEET NO. 12

COUNTY JACKSON

JOB NO. J411790B

CONTRACT ID. 110218-402

PROJECT NO. I-70-1 (192)

BRIDGE NO. L09734

DESCRIPTION

DATE

DATE

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